Sovereign Consulting Inc.
16 Chestnut Street, Suite 520
Foxboro, MA 02035
508-339-3200

MONITORING WELL SAMPLING LOG

Low Flow Sampling

Sovereign Consulting Inc.
4 Open Square Way, Suite #307
Holyoke, MA 01040
413-540-0650

PROJECT NAME: SHEPLEY'S HILL LANDFILL	PROJECT LOCATION: DEVENS, MA	DATE: 5/21/13	WELL ID: SHN-96-5B
PROJECT NUMBER: AC001.02C-06	WELL DIAMETER: (inches) 5	DEPTH TO WATER: (feet) 6.91	DEPTH TO BOTTOM: (feet) 90.0	PID READING: (ppmv) Ø

PURGING DATA

TUBING DIAMETER (inches): 1/4	TUBING MATERIAL CODE: (see below) PE	PURGE PUMP TYPE: peri	PUMP EQUIPMENT MODEL & SERIAL #s: geopump; F6 36641
WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY			GALLONS: 4.04 LITERS: -

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88 | 1 GALLON = 3.785 LITERS | TOTAL VOLUME PURGED: GALLONS: 4.04 LITERS: -

WELL SCREEN INTERVAL DEPTH (feet):	INITIAL PUMP OR TUBING DEPTH IN WELL (feet):	FINAL PUMP OR TUBING DEPTH IN WELL (feet):	PURGING INITIATED AT:	PURGING ENDED AT:
80.0-90.0	85.0	85.0	1015	1115

WATER LEVEL STABLIZATION DEPTH TO WATER WITH PUMP: (feet) 6.91

TIME INTERVAL (min)	FLOW RATE (mL/min)	PUMP SETTINGS	DEPTH TO WATER (feet) START	DEPTH TO WATER (feet) END	Water Level Stable (Yes or No)	VOLUME PURGED DURING INTERVAL (mL)
1015	300	pump set at 1 oclock	6.91	7.19	Y	300

TIME (min)*	FLOW RATE (mL/min) (100-500 mL/min)**	DEPTH TO WATER (feet) (+/- 0.3)**	TURBIDITY (NTU) (+/- 10%)or <5**	DISSOLVED OXYGEN (mg/L) (+/- 10%)or <0.5**	pH (+/- 0.1)**	TEMP (°C) (+/- 3%)**	SPECIFIC CONDUCTIVITY (µS/cm) (+/- 3%)**	ORP (mV) (+/- 10mV)**	COLOR (describe)	ODOR (describe)
1025	300	6.91	11.15	0.51	6.40	10.75	653	-41.1	clear	NONE
1030		7.18	7.73	0.41	6.42	10.84	651	-44.2		
1035		7.18	8.48	0.41	6.42	10.79	653	-44.8		
1040		7.18	8.92	0.38	6.42	10.73	653	-44.1		
1045		7.19	8.95	0.36	6.42	10.84	652	-44.5		
1050		7.19	9.65	0.36	6.42	10.79	652	-43.7		
1055		7.19	9.49	0.36	6.42	10.79	653	-43.7		
1100		7.19	9.01	0.36	6.42	10.75	652	-43.7		

* every 5 or more minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

** EPA stabilization parameters from EPA/540/S-95/504 April 1996

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Katie Priess / ECC	SAMPLER(S) SIGNATURES: Katie Priess	SAMPLING INITIATED AT: 1105	SAMPLING ENDED AT: 1115
PUMP OR TUBING DEPTH IN WELL (feet):	SAMPLE PUMP FLOW RATE (mL per minute): 300	FIELD PARAMETER MONITORING EQUIPMENT MODEL & SERIAL #s: YSI 650 MDS ; 02C0985AJ	
FIELD DECONTAMINATION: (Y) N	FIELD-FILTERED: Y N FILTER SIZE: 0.45 µm Filtration Equipment Type:		DUPLICATE: Y (N)

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

WELL CONDITION CHECKLIST (circle appropriate item(s), cross out if not applicable)

Type: Flush Mount / (Stand Pipe) General Condition: (Good) / Needs Repair Well Caps: (Good) / Broken / None Lock: Good / Broken / (None)

Evidence of Rain Water Between Steel & PVC? Y / (N) Is Well Plumb?: Y / (N) PVC Riser: (Good) / Damaged / None

Evendence of Ponding Around Welll? Y / (N) Concrete Collar: (Good) / Cracked / Leaking / None

REMARKS:

NO lock

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MONITORING WELL SAMPLING LOG

Low Flow Sampling

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Holyoke, MA 01040
413-540-0650

PROJECT NAME: SHEPLEY'S HILL LANDFILL	PROJECT LOCATION: DEVENS, MA	DATE: 5-21-13	WELL ID: SHL-8D
PROJECT NUMBER: AC001.02C-06	WELL DIAMETER: (inches) 2	DEPTH TO WATER: (feet) 8.09	DEPTH TO BOTTOM: (feet) 70
PID READING: (ppmv) 0			

PURGING DATA

TUBING DIAMETER (inches): 3/8	TUBING MATERIAL CODE: (see below) PE	PURGE PUMP TYPE: Peristaltic	PUMP EQUIPMENT MODEL & SERIAL #s: Peristaltic 401
WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY			GALLONS: 9.91 LITERS: 37.49
WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88			1 GALLON = 3.785 LITERS
WELL SCREEN INTERVAL DEPTH (feet): 68-70	INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 69.5	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 69.5	PURGING INITIATED AT: 0957
PURGING ENDED AT: 1045	TOTAL VOLUME PURGED: GALLONS: 2.54 LITERS: 9.60		

WATER LEVEL STABLIZATION DEPTH TO WATER WITH PUMP: (feet) 8.09

TIME INTERVAL (min)	FLOW RATE (mL/min)	PUMP SETTINGS	DEPTH TO WATER (feet) START	DEPTH TO WATER (feet) END	Water Level Stable (Yes or No)	VOLUME PURGED DURING INTERVAL (mL)
1020 - 1025	200	Dial @ 8 o'clock Position	8.24	8.24	Yes	1000

TIME (min)*	FLOW RATE (mL/min) (100-500 mL/min)**	DEPTH TO WATER (feet) (+/- 0.3')**	TURBIDITY (NTU) (+/- 10%)or <5**	DISSOLVED OXYGEN (mg/L) (+/- 10%)or <0.5**	pH (+/- 0.1)**	TEMP (°C) (+/- 3%)**	SPECIFIC CONDUCTIVITY (µS/cm) (+/- 3%)**	ORP (mV) (+/- 10mV)**	COLOR (describe)	ODOR (describe)
1000	200	8.32	1.55	1.48	6.28	13.08	87	5.8	clear	None
1005	200	8.25	0.51	0.93	6.24	13.34	93	-15.6	clear	None
1010	200	8.24	0.75	1.14	6.18	13.57	118	-10.8	clear	None
1015	200	8.24	0.11	1.39	6.14	13.46	133	7.1	clear	None
1020	200	8.24	0.32	1.48	6.13	13.43	135	11.7	clear	None
1025	200	8.24	0.41	1.55	6.12	13.47	137	25.6	clear	None
1030	200	8.24	0.27	1.61	6.12	13.33	138	39.3	clear	None
1035	200	8.24	0.44	1.65	6.12	13.65	138	43.1	clear	None
1040	200	8.24	0.32	1.67	6.12	13.65	138	48.7	clear	None

* every 5 or more minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

** EPA stabilization parameters from EPA/540/S-95/504 April 1996

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: David Gomez / ECC	SAMPLER(S) SIGNATURES: [signature]	SAMPLING INITIATED AT: 1045	SAMPLING ENDED AT: 1105
PUMP OR TUBING DEPTH IN WELL (feet): 69.5	SAMPLE PUMP FLOW RATE (mL per minute): 200	FIELD PARAMETER MONITORING EQUIPMENT MODEL & SERIAL #s: YSI 650 MDS 02F0329 AF	
FIELD DECONTAMINATION: (Y) N	FIELD-FILTERED: (Y) N Filtration Equipment Type: FILTER SIZE: 0.45 µm 0.45 Micron Filter	DUPLICATE: Y (N)	

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

WELL CONDITION CHECKLIST (circle appropriate item(s), cross out if not applicable)

Type: Flush Mount / (Stand Pipe) General Condition: (Good) / Needs Repair Well Caps: Good / (Broken) / None Lock: Good / (Broken) / None

Evidence of Rain Water Between Steel & PVC? Y / (N) Is Well Plumb?: (Y) / N PVC Riser: (Good) / Damaged / None

Evendence of Ponding Around Welll? Y / (N) Concrete Collar: Good / (Cracked) / Leaking / None

REMARKS:

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PROJECT NAME: SHEPLEY'S HILL LANDFILL	PROJECT LOCATION: DEVENS, MA		DATE: 5/29/13	WELL ID: SHM-13-02
PROJECT NUMBER: AC001.02C-06	WELL DIAMETER: (inches) 2"	DEPTH TO WATER: (feet) 12.29	DEPTH TO BOTTOM: (feet)	PID READING: (ppmv) 0.0

PURGING DATA

TUBING DIAMETER (inches): 1/2	TUBING MATERIAL CODE: (see below) PE	PURGE PUMP TYPE: peristaltic	PUMP EQUIPMENT MODEL & SERIAL #s: geopump / 13395
			GALLONS: 0 / LITERS:

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88 — 1 GALLON = 3.785 LITERS — TOTAL VOLUME PURGED: GALLONS: 4.0 / LITERS:

WELL SCREEN INTERVAL DEPTH (feet): 60-70	INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 65	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 65'	PURGING INITIATED AT: 1013	PURGING ENDED AT: 1057	

WATER LEVEL STABLIZATION — DEPTH TO WATER WITH PUMP: (feet)

TIME INTERVAL (min)	FLOW RATE (mL/min)	PUMP SETTINGS	DEPTH TO WATER (feet) START	DEPTH TO WATER (feet) END	Water Level Stable (Yes or No)	VOLUME PURGED DURING INTERVAL (mL)
1min	300	>1/4 turn	12.30	12.30	yes	300

TIME (min)*	FLOW RATE (mL/min) (100-500 mL/min)**	DEPTH TO WATER (feet) (+/- 0.3')**	TURBIDITY (NTU) (+/- 10%)or <5**	DISSOLVED OXYGEN (mg/L) (+/- 10%)or <0.5**	pH (+/- 0.1)**	TEMP (°C) (+/- 3%)**	SPECIFIC CONDUCTIVITY (µS/cm) (+/- 3%)**	ORP (mV) (+/- 10mV)**	COLOR (describe)	ODOR (describe)
1017	300	12.30	3.26	0.32	7.18	11.66	286	-8.4	trace particles	none
1022	300	12.30	1.73	0.23	7.15	11.61	290	-11.9	"	"
1027	300	12.30	1.54	0.20	7.14	11.59	296	-25.8	"	"
1032	300	12.30	1.05	0.19	7.32	11.59	311	-60.0	clear	none
1037	300	12.30	0.24	0.18	7.29	11.52	306	-76.7	"	"
1042	300	12.30	0.22	0.19	7.26	11.54	310	-120.1	"	"
1047	300	12.30	0.00	0.17	7.24	11.52	308	-106.3	"	"
1052	300	12.30	0.00	0.17	7.25	11.46	311	-105.9	"	"
1057	300	12.30	0.22	0.16	7.23	11.50	311	-107.7	"	"

* every 5 or more minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

** EPA stabilization parameters from EPA/540/S-95/504 April 1996

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Mykel Mendes / SOVCON	SAMPLER(S) SIGNATURES: Mykel Mendes	SAMPLING INITIATED AT: 1057	SAMPLING ENDED AT: 1106
PUMP OR TUBING DEPTH IN WELL (feet): 65'	SAMPLE PUMP FLOW RATE (mL per minute): 300	FIELD PARAMETER MONITORING EQUIPMENT MODEL & SERIAL #s: YSI 556 MPS / 13D101141	Lamotte 2020 we 240-4110
FIELD DECONTAMINATION: (Y) N	FIELD-FILTERED: (Y) N — Filtration Equipment Type:	FILTER SIZE: ____ µm 0.45 DOC/metals	DUPLICATE: Y (N)

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

WELL CONDITION CHECKLIST (circle appropriate item(s), cross out if not applicable)

Type: Flush Mount / (Stand Pipe) — General Condition: (Good) / Needs Repair — Well Caps: (Good) / Broken / None — Lock: Good / Broken / (None)

Evidence of Rain Water Between Steel & PVC? Y (N) — Is Well Plumb?: Y / N — PVC Riser: (Good) / Damaged / None

Evendence of Ponding Around Well? Y (N) — Concrete Collar: (Good) / Cracked / Leaking / None

REMARKS:

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MONITORING WELL SAMPLING LOG

Low Flow Sampling

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Holyoke, MA 01040
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PROJECT NAME: SHEPLEY'S HILL LANDFILL	PROJECT LOCATION: DEVENS, MA	DATE: 5/29/13	WELL ID: SHM-10-01
PROJECT NUMBER: AC001.02C-06	WELL DIAMETER: (inches) .5"	DEPTH TO WATER: (feet) 3.31	DEPTH TO BOTTOM: (feet)
			PID READING: (ppmv) 0.0

PURGING DATA

TUBING DIAMETER (inches): 1/2	TUBING MATERIAL CODE: (see below) PE	PURGE PUMP TYPE: peristaltic	PUMP EQUIPMENT MODEL & SERIAL #s: geopump / 1395

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY

GALLONS: LITERS:

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88

1 GALLON = 3.785 LITERS

WELL SCREEN INTERVAL DEPTH (feet): 60.5-70.5	INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 65	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 65	PURGING INITIATED AT: 0945	PURGING ENDED AT: 0930	TOTAL VOLUME PURGED: GALLONS: 5.0 LITERS:

WATER LEVEL STABLIZATION DEPTH TO WATER WITH PUMP: (feet)

TIME INTERVAL (min)	FLOW RATE (mL/min)	PUMP SETTINGS	DEPTH TO WATER (feet) START	DEPTH TO WATER (feet) END	Water Level Stable (Yes or No)	VOLUME PURGED DURING INTERVAL (mL)
1 min	400	1/4 turn	3.35	3.35	yes	

TIME (min)*	FLOW RATE (mL/min) (100-500 mL/min)**	DEPTH TO WATER (feet) (+/- 0.3')**	TURBIDITY (NTU) (+/- 10%)or <5**	DISSOLVED OXYGEN (mg/L) (+/- 10%)or <0.5**	pH (+/- 0.1)**	TEMP (°C) (+/- 3%)**	SPECIFIC CONDUCTIVITY (µS/cm) (+/- 3%)**	ORP (mV) (+/- 10mV)**	COLOR (describe)	ODOR (describe)
0950	400	3.35	2.54	0.42	6.62	10.43	153	146.3	clear	none
0955	400	3.35	1.69	0.20	6.49	10.47	153	108.2	"	"
0900	400	3.35	1.06	0.17	6.51	10.50	156	86.2	"	"
0905	400	3.35	0.00	0.18	6.51	10.57	158	76.5	"	"
0910	400	3.35	0.00	0.17	6.52	10.59	159	67.1	"	"
0915	400	3.35	0.00	0.18	6.52	10.54	159	61.8	"	"
0920	400	3.35	0.00	0.21	6.53	10.56	159	57.5	"	"
0925	400	3.35	0.00	0.17	6.53	10.57	161	52.8	clear	none
0930	400	3.35		0.16	6.53	10.58	160	51.2	"	"

* every 5 or more minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

** EPA stabilization parameters from EPA/540/S-95/504 April 1996

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Mikel Mendes / sov con	SAMPLER(S) SIGNATURES: Mikel Mendes	SAMPLING INITIATED AT: 0930	SAMPLING ENDED AT: 0935
PUMP OR TUBING DEPTH IN WELL (feet): 65'	SAMPLE PUMP FLOW RATE (mL per minute): 400	FIELD PARAMETER MONITORING EQUIPMENT MODEL & SERIAL #s: YSI 556 MPS / 13D101141 Lamotte 2020we 240-4110	
FIELD DECONTAMINATION: (Y) N	FIELD-FILTERED: (Y) N Filtration Equipment Type: DOC/metals only	FILTER SIZE: ____ µm	DUPLICATE: Y (N)

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

WELL CONDITION CHECKLIST (circle appropriate item(s), cross out if not applicable)

Type: Flush Mount / (Stand Pipe) General Condition: (Good) / Needs Repair Well Caps: (Good) / Broken / None Lock: Good / Broken / (None)

Evidence of Rain Water Between Steel & PVC? Y / (N) Is Well Plumb?: Y / N PVC Riser: (Good) / Damaged / None

Evendence of Ponding Around Well? Y / (N) Concrete Collar: (Good) / Cracked / Leaking / None

REMARKS:

DTW: 3.31' 5/29/13

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MONITORING WELL SAMPLING LOG

Low Flow Sampling

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PROJECT NAME: SHEPLEY'S HILL LANDFILL	PROJECT LOCATION: DEVENS, MA		DATE: 5-29-13	WELL ID: SHM-10-10
PROJECT NUMBER: AC001.02C-06	WELL DIAMETER: (inches)	DEPTH TO WATER: (feet) 11.41 ~~5.83~~	DEPTH TO BOTTOM: (feet)	PID READING: (ppmv)

PURGING DATA

TUBING DIAMETER (inches): 1/4	TUBING MATERIAL CODE: (see below) PE	PURGE PUMP TYPE: Geopump	PUMP EQUIPMENT MODEL & SERIAL #s: 41616

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY | GALLONS: | LITERS:

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88 | 1 GALLON = 3.785 LITERS | TOTAL VOLUME PURGED:

WELL SCREEN INTERVAL DEPTH (feet): 56-66	INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 61'	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 61'	PURGING INITIATED AT: 0955	PURGING ENDED AT: 1040	GALLONS: LITERS:

WATER LEVEL STABLIZATION | DEPTH TO WATER WITH PUMP: (feet)

TIME INTERVAL (min)	FLOW RATE (mL/min)	PUMP SETTINGS	DEPTH TO WATER (feet) START	DEPTH TO WATER (feet) END	Water Level Stable (Yes or No)	VOLUME PURGED DURING INTERVAL (mL)
1min	350		11.43	11.43	yes	

TIME (min)*	FLOW RATE (mL/min) (100-500 mL/min)**	DEPTH TO WATER (feet) (+/- 0.3')**	TURBIDITY (NTU) (+/- 10%)or <5**	DISSOLVED OXYGEN (mg/L) (+/- 10%)or <0.5**	pH (+/- 0.1)**	TEMP (°C) (+/- 3%)**	SPECIFIC CONDUCTIVITY (µS/cm) (+/- 3%)**	ORP (mV) (+/- 10mV)**	COLOR (describe)	ODOR (describe)
1000	350	11.43	0.59	2.78	6.68	11.01	[illegible]	102.4	clear	None
1005	350	11.43	0.68	3.36	6.55	11.01	545	59.1	"	"
1010	350	11.43	0.42	2.50	6.59	11.08	574	51.0	"	"
1015	350	11.43	0.45	3.04	6.59	11.13	576	49.4	"	"
1020	350	11.43	0.55	3.00	6.62	11.15	577	49.6	"	"
1025	350	11.43	0.48	3.06	6.63	11.16	579	44.0	"	"
1030	350	11.43	0.50	3.05	6.63	11.22	579	48.0	"	"
1035	350	11.43	0.46	3.07	6.62	11.22	579	48.8	"	"
1040	Sample									

* every 5 or more minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

** EPA stabilization parameters from EPA/540/S-95/504 April 1996

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Erin Foley	SAMPLER(S) SIGNATURES: Erin Foley	SAMPLING INITIATED AT: 1040	SAMPLING ENDED AT: 1050
PUMP OR TUBING DEPTH IN WELL (feet): 61'	SAMPLE PUMP FLOW RATE (mL per minute): 350	FIELD PARAMETER MONITORING EQUIPMENT MODEL & SERIAL #s:	

FIELD DECONTAMINATION: (Y) N | FIELD-FILTERED: (Y) N FILTER SIZE: ____ µm Filtration Equipment Type: | DUPLICATE: Y (N)

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

WELL CONDITION CHECKLIST (circle appropriate item(s), cross out if not applicable)

Type: Flush Mount / Stand-Pipe General Condition: Good / Needs Repair Well Caps: Good / Broken / None Lock: Good / Broken / None

Evidence of Rain Water Between Steel & PVC? Y / N Is Well Plumb?: Y / N PVC Riser: Good / Damaged / None

Evendence of Ponding Around Well? Y / N Concrete Collar: Good / Cracked / Leaking / None

REMARKS:

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413-540-0650

PROJECT NAME: SHEPLEY'S HILL LANDFILL	PROJECT LOCATION: DEVENS, MA	DATE: 5-29-13	WELL ID: SHM-10
PROJECT NUMBER: AC001.02C-06	WELL DIAMETER: (inches) 2"	DEPTH TO WATER: (feet) 17.45	DEPTH TO BOTTOM: (feet) 63'
PID READING: (ppmv)			

PURGING DATA

TUBING DIAMETER (inches): 3/8"	TUBING MATERIAL CODE: (see below) T	PURGE PUMP TYPE: Peri	PUMP EQUIPMENT MODEL & SERIAL #s:

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY

GALLONS: LITERS:

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88

1 GALLON = 3.785 LITERS

TOTAL VOLUME PURGED:

WELL SCREEN INTERVAL DEPTH (feet): 53-63	INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 60'	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 60'	PURGING INITIATED AT: 1025	PURGING ENDED AT:	GALLONS: LITERS:

WATER LEVEL STABLIZATION DEPTH TO WATER WITH PUMP: (feet)

TIME INTERVAL (min)	FLOW RATE (mL/min)	PUMP SETTINGS	DEPTH TO WATER (feet) START	DEPTH TO WATER (feet) END	Water Level Stable (Yes or No)	VOLUME PURGED DURING INTERVAL (mL)
4 min	400/min		17.45	17.45	y	1600

TIME (min)*	FLOW RATE (mL/min) (100-500 mL/min)**	DEPTH TO WATER (feet) (+/- 0.3')**	TURBIDITY (NTU) (+/- 10%)or <5**	DISSOLVED OXYGEN (mg/L) (+/- 10%)or <0.5**	pH (+/- 0.1)**	TEMP (°C) (+/- 3%)**	SPECIFIC CONDUCTIVITY (µS/cm) (+/- 3%)**	ORP (mV) (+/- 10mV)**	COLOR (describe)	ODOR (describe)
1030	400/min	17.45	1.71	0.24	6.52	11.39	543	78.3	clear	none
1035		17.47	1.81	0.38	6.52	11.49	542	77.9	clear	none
1040		17.46	1.91	0.34	6.53	11.54	543	78.0	clear	none
1045		17.46	1.70	0.30	6.53	11.43	540	77.4	clear	none
1050		17.46	1.69	0.25	6.53	11.38	539	77.3	clear	none
1055		17.46	1.05	0.25	6.68	11.39	538	74.8	clear	none
1100		17.47	1.05	0.24	6.53	11.40	538	74.7	clear	none
1105		17.47	1.06	0.22	6.53	11.36	537	73.8	clear	none
1110		17.46	1.04	0.20	6.53	11.37	537	73.2	clear	none

* every 5 or more minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

** EPA stabilization parameters from EPA/540/S-95/504 April 1996

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: JAG	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 1115	SAMPLING ENDED AT: 1125
PUMP OR TUBING DEPTH IN WELL (feet): 60'	SAMPLE PUMP FLOW RATE (mL per minute): 400/min	FIELD PARAMETER MONITORING EQUIPMENT MODEL & SERIAL #s: YSI 556 13D101143	
FIELD DECONTAMINATION: Y N	FIELD-FILTERED: (Y) / N Filtration Equipment Type:	FILTER SIZE: 5 µm	DUPLICATE: Y (N)

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

WELL CONDITION CHECKLIST (circle appropriate item(s), cross out if not applicable)

Type: Flush Mount / Stand Pipe General Condition: Good / Needs Repair Well Caps: Good / Broken / None Lock: Good / Broken / None

Evidence of Rain Water Between Steel & PVC? Y / N Is Well Plumb?: Y / N PVC Riser: Good / Damaged / None

Evendence of Ponding Around Welll? Y / N Concrete Collar: Good / Cracked / Leaking / None

REMARKS:

Sovereign Consulting Inc.
16 Chestnut Street, Suite 520
Foxboro, MA 02035
508-339-3200

MONITORING WELL SAMPLING LOG

Low Flow Sampling

Sovereign Consulting Inc.
4 Open Square Way, Suite #307
Holyoke, MA 01040
413-540-0650

PROJECT NAME: SHEPLEY'S HILL LANDFILL	PROJECT LOCATION: DEVENS, MA	DATE: 5-29-13	WELL ID: SHM-10-04
PROJECT NUMBER: AC001.02C-06	WELL DIAMETER: (inches) 2"	DEPTH TO WATER: (feet) 5.94	DEPTH TO BOTTOM: (feet) 65'	PID READING: (ppmv) BDL

PURGING DATA

TUBING DIAMETER: (inches): 3/8"	TUBING MATERIAL CODE: (see below) T	PURGE PUMP TYPE: Peri	PUMP EQUIPMENT MODEL & SERIAL #s:

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY

GALLONS: LITERS:

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88

1 GALLON = 3.785 LITERS

TOTAL VOLUME PURGED: GALLONS: LITERS:

WELL SCREEN INTERVAL DEPTH (feet): 55-65	INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 60'	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 60'	PURGING INITIATED AT: 0840	PURGING ENDED AT: 0940	

WATER LEVEL STABLIZATION DEPTH TO WATER WITH PUMP: (feet)

TIME INTERVAL (min)	FLOW RATE (mL/min)	PUMP SETTINGS	DEPTH TO WATER (feet) START	DEPTH TO WATER (feet) END	Water Level Stable (Yes or No)	VOLUME PURGED DURING INTERVAL (mL)
1 min	400/min		5.95	5.95	y	400 ml

TIME (min)*	FLOW RATE (mL/min) (100-500 mL/min)**	DEPTH TO WATER (feet) (+/- 0.3')**	TURBIDITY (NTU) (+/- 10%)or <5**	DISSOLVED OXYGEN (mg/L) (+/- 10%)or <0.5**	pH (+/- 0.1)**	TEMP (°C) (+/- 3%)**	SPECIFIC CONDUCTIVITY (µS/cm) (+/- 3%)**	ORP (mV) (+/- 10mV)**	COLOR (describe)	ODOR (describe)
0845	400	5.95	11.2	0.16	5.97	10.16	400	175.3	Clear	none
0850		5.95	7.64	0.16	5.98	10.16	399	176.3	Clear	none
0855		5.95	6.19	0.14	5.99	10.15	399	176.7	Clear	none
0900		5.95	5.04	0.17	6.00	10.16	396	177.6	Clear	none
0905		5.97	1.94	0.26	6.00	10.13	392	178.4	Clear	none
0910		5.97	1.96	0.27	6.00	10.16	391	179.5	Clear	none
0915		5.97	0.68	0.19	6.01	10.15	387	180.6	Clear	none
0920		5.97	1.68	0.16	6.01	10.16	385	179.6	Clear	none
0925		5.97	1.67	0.16	6.01	10.18	382	180.1	Clear	none

* every 5 or more minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

** EPA stabilization parameters from EPA/540/S-95/504 April 1996

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: JAG	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 0930	SAMPLING ENDED AT:
PUMP OR TUBING DEPTH IN WELL (feet): 60'	SAMPLE PUMP FLOW RATE (mL per minute): 400	FIELD PARAMETER MONITORING EQUIPMENT MODEL & SERIAL #s:	
FIELD DECONTAMINATION: Y N	FIELD-FILTERED: Y N FILTER SIZE: .5 µm Filtration Equipment Type:		DUPLICATE: (Y) N

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

WELL CONDITION CHECKLIST (circle appropriate item(s), cross out if not applicable)

Type: Flush Mount / Stand Pipe General Condition: Good / Needs Repair Well Caps: Good / Broken / None Lock: Good / Broken / None

Evidence of Rain Water Between Steel & PVC? Y / N Is Well Plumb?: Y / N PVC Riser: Good / Damaged / None

Evendence of Ponding Around Well? Y / N Concrete Collar: Good / Cracked / Leaking / None

REMARKS: Dup taken

Sovereign Consulting Inc.
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508-339-3200

MONITORING WELL SAMPLING LOG

Low Flow Sampling

Sovereign Consulting Inc.
4 Open Square Way, Suite #307
Holyoke, MA 01040
413-540-0650

PROJECT NAME: SHEPLEY'S HILL LANDFILL	PROJECT LOCATION: DEVENS, MA		DATE: 5-29-13	WELL ID: SHM-13-03
PROJECT NUMBER: AC001.02C-06	WELL DIAMETER: (inches) 2"	DEPTH TO WATER: (feet) 5.83	DEPTH TO BOTTOM: (feet)	PID READING: (ppmv) 0.0

PURGING DATA

TUBING DIAMETER (inches): 1/4	TUBING MATERIAL CODE: (see below) PE	PURGE PUMP TYPE: Geopump	PUMP EQUIPMENT MODEL & SERIAL #s: Pump: 4666
			GALLONS: / LITERS:

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88

1 GALLON = 3.785 LITERS

WELL SCREEN INTERVAL DEPTH (feet): 42-52	INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 48'	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 48'	PURGING INITIATED AT: 0839	PURGING ENDED AT: 0915	TOTAL VOLUME PURGED: GALLONS: ~3 / LITERS:

WATER LEVEL STABLIZATION — DEPTH TO WATER WITH PUMP: (feet)

TIME INTERVAL (min)	FLOW RATE (mL/min)	PUMP SETTINGS	DEPTH TO WATER (feet) START	DEPTH TO WATER (feet) END	Water Level Stable (Yes or No)	VOLUME PURGED DURING INTERVAL (mL)
1min	275		5.83	5.83	yes	

TIME (min)*	FLOW RATE (mL/min) (100-500 mL/min)**	DEPTH TO WATER (feet) (+/- 0.3')**	TURBIDITY (NTU) (+/- 10%)or <5**	DISSOLVED OXYGEN (mg/L) (+/- 10%)or <0.5**	pH (+/- 0.1)**	TEMP (°C) (+/- 3%)**	SPECIFIC CONDUCTIVITY (µS/cm) (+/- 3%)**	ORP (mV) (+/- 10mV)**	COLOR (describe)	ODOR (describe)
0845	275	5.83	2.02	0.49	8.12	11.93	596	121.6	clear	None
0850	275	5.83	1.83	0.24	6.66	11.82	613	-110.4	" "	" "
0855	275	5.83	2.20	0.20	6.56	11.74	614	-106.6	" "	" "
0900	275	5.83	1.14	0.16	6.57	11.74	718	-96.5	" "	" "
0905	275	5.83	1.18	0.15	6.55	11.71	728	-99.3	" "	" "
0910	275	5.83	1.20	0.14	6.56	11.72	730	-99.2	" "	" "
0915					sample					

* every 5 or more minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

** EPA stabilization parameters from EPA/540/S-95/504 April 1996

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Erin Foley	SAMPLER(S) SIGNATURES: Erin Foley	SAMPLING INITIATED AT: 0915	SAMPLING ENDED AT: 0925
PUMP OR TUBING DEPTH IN WELL (feet): 48'	SAMPLE PUMP FLOW RATE (mL per minute): 275	FIELD PARAMETER MONITORING EQUIPMENT MODEL & SERIAL #s:	
FIELD DECONTAMINATION: (Y) N	FIELD-FILTERED: (Y) N Filtration Equipment Type:	FILTER SIZE: ____ µm	DUPLICATE: Y (N)

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

WELL CONDITION CHECKLIST (circle appropriate item(s), cross out if not applicable)

Type: Flush Mount / (Stand Pipe) General Condition: (Good) / Needs Repair Well Caps: (Good) / Broken / None Lock: Good / Broken / (None)

Evidence of Rain Water Between Steel & PVC? Y / (N) Is Well Plumb?: Y / N PVC Riser: (Good) / Damaged / None

Evendence of Ponding Around Welll? Y / (N) Concrete Collar: (Good) / Cracked / Leaking / None

REMARKS:

Sovereign Consulting Inc.
16 Chestnut Street, Suite 520
Foxboro, MA 02035
508-339-3200

MONITORING WELL SAMPLING LOG

Low Flow Sampling

Sovereign Consulting Inc.
4 Open Square Way, Suite #307
Holyoke, MA 01040
413-540-0650

PROJECT NAME: SHEPLEY'S HILL LANDFILL	PROJECT LOCATION: DEVENS, MA	DATE: 5/28/13	WELL ID: SH m-13-04
PROJECT NUMBER: AC001.02C-06	WELL DIAMETER: (inches) 2"	DEPTH TO WATER: (feet) 18.95'	DEPTH TO BOTTOM: (feet)
			PID READING: (ppmv) 0.4

PURGING DATA

TUBING DIAMETER (inches): 1/2"	TUBING MATERIAL CODE: (see below) PE	PURGE PUMP TYPE: peristaltic	PUMP EQUIPMENT MODEL & SERIAL #s: geopump 2 / 447
WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY			GALLONS: / LITERS:

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88 — 1 GALLON = 3.785 LITERS

WELL SCREEN INTERVAL DEPTH (feet): 20-30'	INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 25'	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 25'	PURGING INITIATED AT: 1230	PURGING ENDED AT: 1344	TOTAL VOLUME PURGED: GALLONS: 7.0 / LITERS:

WATER LEVEL STABLIZATION — DEPTH TO WATER WITH PUMP: (feet)

TIME INTERVAL (min)	FLOW RATE (mL/min)	PUMP SETTINGS	DEPTH TO WATER (feet) START	DEPTH TO WATER (feet) END	Water Level Stable (Yes or No)	VOLUME PURGED DURING INTERVAL (mL)
1min	400	3/4 turn	18.95	18.95	yes	400

TIME (min)*	FLOW RATE (mL/min) (100-500 mL/min)**	DEPTH TO WATER (feet) (+/- 0.3')**	TURBIDITY (NTU) (+/- 10%)or <5**	DISSOLVED OXYGEN (mg/L) (+/- 10%)or <0.5**	pH (+/- 0.1)**	TEMP (°C) (+/- 3%)**	SPECIFIC CONDUCTIVITY (µS/cm) (+/- 3%)**	ORP (mV) (+/- 10mV)**	COLOR (describe)	ODOR (describe)
1239	400	18.95	151	1.47	7.02	11.55	587	-64.1	pale orange	none
1244	400	18.95	40.9	0.91	6.57	11.47	622	-68.5	opaque	none
1249	400	18.95	27.9	0.66	6.53	11.62	662	-72.3	"	none
1254	400	18.95	35.5	0.71	6.50	11.58	678	-71.6	trace particulates	none
1259	400	18.95	19.5	0.60	6.47	11.48	688	-68.9	clear	none
1304	400	18.95	13.25	0.55	6.48	11.55	698	-74.7	clear	"
1309	400	18.95	12.38	0.55	6.49	11.57	710	-73.5	clear	"
1314	400	18.95	10.38	0.45	6.47	11.67	709	-72.7	"	"
1319	400	18.95	9.21	0.74	6.47	11.65	729	-72.8	"	"
1324	400	18.95	7.18	0.66	6.47	11.48	704	-75.2	"	"
1329	400	18.95	5.97	0.68	6.47	11.53	712	-73.9	"	"
1334	400	18.95	4.72	0.69	6.45	11.53	713	-73.4	"	"
1339	400	18.95	3.75	0.68	6.46	11.60	709	-75.3		
1344	400	18.95	3.63	0.71	6.46	11.70	717	-73.6		

* every 5 or more minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

** EPA stabilization parameters from EPA/540/S-95/504 April 1996

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Mykel Mendes / SovCon	SAMPLER(S) SIGNATURES: Mykel Mendes	SAMPLING INITIATED AT: 1345	SAMPLING ENDED AT: 1400
PUMP OR TUBING DEPTH IN WELL (feet): 25'	SAMPLE PUMP FLOW RATE (mL per minute):	FIELD PARAMETER MONITORING EQUIPMENT MODEL & SERIAL #s: YSI 556 MPS / 08D101029 Lamotte 2020we 210-4110	
FIELD DECONTAMINATION: (Y) N	FIELD-FILTERED: (Y) N FILTER SIZE: .45 µm Filtration Equipment Type: DOC/metals only		DUPLICATE: Y (N)

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

WELL CONDITION CHECKLIST (circle appropriate item(s), cross out if not applicable)

Type: (Flush Mount) / Stand Pipe — General Condition: (Good) / Needs Repair — Well Caps: (Good) / Broken / None — Lock: Good / Broken / (None)

Evidence of Rain Water Between Steel & PVC? Y / (N) — Is Well Plumb? (Y) / N — PVC Riser: (Good) / Damaged / None

Evendence of Ponding Around Welll? Y / (N) — Concrete Collar: (Good) / Cracked / Leaking / None

REMARKS:

Sovereign Consulting Inc.
16 Chestnut Street, Suite 520
Foxboro, MA 02035
508-339-3200

MONITORING WELL SAMPLING LOG

Low Flow Sampling

Sovereign Consulting Inc.
4 Open Square Way, Suite #307
Holyoke, MA 01040
413-540-0650

PROJECT NAME: SHEPLEY'S HILL LANDFILL	PROJECT LOCATION: DEVENS, MA	DATE: 5-28-13	WELL ID: SHL-9-052913
PROJECT NUMBER: AC001.02C-06	WELL DIAMETER: (inches)	DEPTH TO WATER: (feet) 9.10	DEPTH TO BOTTOM: (feet)
PID READING: (ppmv) 0.0			

PURGING DATA

TUBING DIAMETER (inches): 1/4	TUBING MATERIAL CODE: (see below) PE	PURGE PUMP TYPE: Geopump	PUMP EQUIPMENT MODEL & SERIAL #s: 466

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY

GALLONS: LITERS:

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88 | 1 GALLON = 3.785 LITERS | TOTAL VOLUME PURGED:

WELL SCREEN INTERVAL DEPTH (feet): 15-25	INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 20'	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 20'	PURGING INITIATED AT: 1248	PURGING ENDED AT: 1325	GALLONS: ~3.5 LITERS:

WATER LEVEL STABLIZATION DEPTH TO WATER WITH PUMP: (feet)

TIME INTERVAL (min)	FLOW RATE (mL/min)	PUMP SETTINGS	DEPTH TO WATER (feet) START	DEPTH TO WATER (feet) END	Water Level Stable (Yes or No)	VOLUME PURGED DURING INTERVAL (mL)
1min	150		9.50	9.50	yes	
1min	200		9.50	9.50	yes	

TIME (min)*	FLOW RATE (mL/min) (100-500 mL/min)**	DEPTH TO WATER (feet) (+/- 0.3')**	TURBIDITY (NTU) (+/- 10%)or <5**	DISSOLVED OXYGEN (mg/L) (+/- 10%)or <0.5**	pH (+/- 0.1)**	TEMP (°C) (+/- 3%)**	SPECIFIC CONDUCTIVITY (µS/cm) (+/- 3%)**	ORP (mV) (+/- 10mV)**	COLOR (describe)	ODOR (describe)
1305	200	9.50	4.09	0.36	6.51	9.11	199	-49.8	Clear	None
1310	200	9.50	2.33	0.30	6.50	9.23	199	-50.9	"	"
1315	200	9.50	3.21	0.27	6.50	9.09	199	-52.3	"	"
1320	200	9.50	3.62	0.27	6.50	9.04	200	-52.8		
1325	200	9.50	1.71	0.27	6.51	9.04	199	-54.1		

* every 5 or more minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

** EPA stabilization parameters from EPA/540/S-95/504 April 1996

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Erin Foley	SAMPLER(S) SIGNATURES: Erin Foley	SAMPLING INITIATED AT: 1325	SAMPLING ENDED AT: 1410
PUMP OR TUBING DEPTH IN WELL (feet):	SAMPLE PUMP FLOW RATE (mL per minute):	FIELD PARAMETER MONITORING EQUIPMENT MODEL & SERIAL #s:	

FIELD DECONTAMINATION: (Y) N | FIELD-FILTERED: (Y) N FILTER SIZE: ____ µm Filtration Equipment Type: | DUPLICATE: Y (N)

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

WELL CONDITION CHECKLIST (circle appropriate item(s), cross out if not applicable)

Type: Flush Mount / Stand Pipe General Condition: Good / Needs Repair Well Caps: Good / Broken / None Lock: Good / Broken / None

Evidence of Rain Water Between Steel & PVC? Y / N Is Well Plumb?: Y / N PVC Riser: Good / Damaged / None

Evendence of Ponding Around Well? Y / N Concrete Collar: Good / Cracked / Leaking / None

REMARKS:

* MS/MSD

Sovereign Consulting Inc.
16 Chestnut Street, Suite 520
Foxboro, MA 02035
508-339-3200

MONITORING WELL SAMPLING LOG

Low Flow Sampling

Sovereign Consulting Inc.
4 Open Square Way, Suite #307
Holyoke, MA 01040
413-540-0650

PROJECT NAME: SHEPLEY'S HILL LANDFILL	PROJECT LOCATION: DEVENS, MA	DATE: 5-28-13	WELL ID: SHM-13-05
PROJECT NUMBER: AC001.02C-06	WELL DIAMETER: (inches) 2"	DEPTH TO WATER: (feet) 16.55	DEPTH TO BOTTOM: (feet) 86.50
PID READING: (ppmv)			

PURGING DATA

TUBING DIAMETER (inches): 3/8"	TUBING MATERIAL CODE: (see below) T	PURGE PUMP TYPE: Pen	PUMP EQUIPMENT MODEL & SERIAL #s:
WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY			GALLONS: / LITERS:
WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88			1 GALLON = 3.785 LITERS / TOTAL VOLUME PURGED: GALLONS: / LITERS:
WELL SCREEN INTERVAL DEPTH (feet): 75-85	INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 80'	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 80'	PURGING INITIATED AT: 1145 / PURGING ENDED AT: 1250
WATER LEVEL STABLIZATION	DEPTH TO WATER WITH PUMP: (feet)		

TIME INTERVAL (min)	FLOW RATE (mL/min)	PUMP SETTINGS	DEPTH TO WATER (feet) START	DEPTH TO WATER (feet) END	Water Level Stable (Yes or No)	VOLUME PURGED DURING INTERVAL (mL)
1min	400/min		16.56	16.58	y	400

TIME (min)*	FLOW RATE (mL/min) (100-500 mL/min)**	DEPTH TO WATER (feet) (+/- 0.3')**	TURBIDITY (NTU) (+/- 10%)or <5**	DISSOLVED OXYGEN (mg/L) (+/- 10%)or <0.5**	pH (+/- 0.1)**	TEMP (°C) (+/- 3%)**	SPECIFIC CONDUCTIVITY (µS/cm) (+/- 3%)**	ORP (mV) (+/- 10mV)**	COLOR (describe)	ODOR (describe)
1150	400	16.55	4.68	0.44	7.09	11.44	553	71.8	Clear	none
1155		16.56	4.50	0.33	6.94	11.26	591	-106.8	Clear	"
1200		16.57	4.50	0.25	6.88	11.29	614	-110.6	Clear	none
1205		16.58	2.50	0.25	6.89	11.33	614	-112.7	Clear	none
1210		16.56	1.95	0.24	6.88	11.20	624	-128.6	Clear	"
1215		16.56	1.95	0.27	6.86	11.18	631	-129.1	Clear	none
1220		16.56	2.00	0.26	6.86	11.20	630	-132.1	Clear	none
1225		16.56	2.01	0.27	6.87	11.17	627	-134.1	Clear	"
1230		16.56	2.06	0.27	6.88	11.13	629	-136.6	Clear	"
1235		16.56	2.05	0.27	6.88	11.14	629	-136.0	Clear	"

* every 5 or more minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

** EPA stabilization parameters from EPA/540/S-95/504 April 1996

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: SJV	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 1240	SAMPLING ENDED AT: 1250
PUMP OR TUBING DEPTH IN WELL (feet): 80'	SAMPLE PUMP FLOW RATE (mL per minute): 400/min	FIELD PARAMETER MONITORING EQUIPMENT MODEL & SERIAL #s: YSI 556	
FIELD DECONTAMINATION: Y (N)	FIELD-FILTERED: (Y) N / Filtration Equipment Type:	FILTER SIZE: 5 µm	DUPLICATE: Y (N)

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

WELL CONDITION CHECKLIST (circle appropriate item(s), cross out if not applicable)

Type: (Flush Mount) / (Stand Pipe) General Condition: (Good) / Needs Repair Well Caps: (Good) / Broken / None Lock: Good / Broken / (None)

Evidence of Rain Water Between Steel & PVC? Y / (N) Is Well Plumb?: (Y) / N PVC Riser: (Good) / Damaged / None

Evendence of Ponding Around Well? Y / (N) Concrete Collar: (Good) / Cracked / Leaking / None

REMARKS:

Sovereign Consulting Inc.
16 Chestnut Street, Suite 520
Foxboro, MA 02035
508-339-3200

MONITORING WELL SAMPLING LOG

Low Flow Sampling

Sovereign Consulting Inc.
4 Open Square Way, Suite #307
Holyoke, MA 01040
413-540-0650

PROJECT NAME: SHEPLEY'S HILL LANDFILL	PROJECT LOCATION: DEVENS, MA	DATE: 5/28/13	WELL ID: SHM-93-22C
PROJECT NUMBER: AC001.02C-06	WELL DIAMETER: (inches) 4"	DEPTH TO WATER: (feet) 8.00	DEPTH TO BOTTOM: (feet)
			PID READING: (ppmv) 0.0

PURGING DATA

TUBING DIAMETER (inches):	TUBING MATERIAL CODE: (see below) Poly	PURGE PUMP TYPE: Peristaltic	PUMP EQUIPMENT MODEL & SERIAL #s: Geotech 1595
			GALLONS: / LITERS:

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88

1 GALLON = 3.785 LITERS

WELL SCREEN INTERVAL DEPTH (feet): 124-134	INITIAL PUMP OR TUBING DEPTH IN WELL (feet):	FINAL PUMP OR TUBING DEPTH IN WELL (feet):	PURGING INITIATED AT: 1128	PURGING ENDED AT: 1220	TOTAL VOLUME PURGED: GALLONS: 3.0 LITERS:

WATER LEVEL STABLIZATION DEPTH TO WATER WITH PUMP: (feet)

TIME INTERVAL (min)	FLOW RATE (mL/min)	PUMP SETTINGS	DEPTH TO WATER (feet) START	DEPTH TO WATER (feet) END	Water Level Stable (Yes or No)	VOLUME PURGED DURING INTERVAL (mL)
1	300	2/3 (230 rpm)	8.00	8.40	N	300
1	200	1/3 (170 rpm)	8.40	8.46	N	200

TIME (min)*	FLOW RATE (mL/min) (100-500 mL/min)**	DEPTH TO WATER (feet) (+/- 0.3')**	TURBIDITY (NTU) (+/- 10%)or <5**	DISSOLVED OXYGEN (mg/L) (+/- 10%)or <0.5**	pH (+/- 0.1)**	TEMP (°C) (+/- 3%)**	SPECIFIC CONDUCTIVITY (µS/cm) (+/- 3%)**	ORP (mV) (+/- 10mV)**	COLOR (describe)	ODOR (describe)
1135	200	8.46	8.17	0.94	7.80	10.31	194	-88.6	Clear	None
1140	↓	8.48	5.76	0.74	7.80	10.25	193	-111.8	Clear	None
1145	↓	9.17	3.96	0.66	7.78	10.47	194	-132.5	Clear	None
1150	↓	9.24	3.53	0.43	7.83	10.66	195	-143.4	Clear	None
1155	↓	9.45	3.96	0.44	7.83	10.68	196	-143.8	Clear	None
1200	↓	9.73	3.37	0.45	7.83	10.73	196	-145.7	Clear	None

* every 5 or more minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

** EPA stabilization parameters from EPA/540/S-95/504 April 1996

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: JG	SAMPLER(S) SIGNATURES: [signature]	SAMPLING INITIATED AT: 1205	SAMPLING ENDED AT: 1220
PUMP OR TUBING DEPTH IN WELL (feet):	SAMPLE PUMP FLOW RATE (mL per minute): 1/3 (170 rpm)	FIELD PARAMETER MONITORING EQUIPMENT MODEL & SERIAL #s: YSI 556 MPS 13D101141	
FIELD DECONTAMINATION: (Y) N	FIELD-FILTERED: (Y) N Filtration Equipment Type:	FILTER SIZE: ____ µm	DUPLICATE: Y (N)

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

WELL CONDITION CHECKLIST (circle appropriate item(s), cross out if not applicable)

Type: Flush Mount / (Stand Pipe) General Condition: (Good) / Needs Repair Well Caps: (Good) / Broken / None Lock: Good / Broken / (None)

Evidence of Rain Water Between Steel & PVC? Y / (N) Is Well Plumb?: (Y) / N PVC Riser: (Good) / Damaged / None

Evendence of Ponding Around Well? Y / (N) Concrete Collar: Good / Cracked / Leaking / (None)

REMARKS: Historically, well has not had stable water level while sampling

Sovereign Consulting Inc.
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MONITORING WELL SAMPLING LOG

Low Flow Sampling

Sovereign Consulting Inc.
4 Open Square Way, Suite #307
Holyoke, MA 01040
413-540-0650

PROJECT NAME: SHEPLEY'S HILL LANDFILL	PROJECT LOCATION: DEVENS, MA	DATE: 5.28.13	WELL ID: SHM-910-5C
PROJECT NUMBER: AC001.02C-06	WELL DIAMETER: (inches) 4"	DEPTH TO WATER: (feet) 5.40	DEPTH TO BOTTOM: (feet) / PID READING: (ppmv)

PURGING DATA

TUBING DIAMETER (inches): 1/4	TUBING MATERIAL CODE: (see below) PE	PURGE PUMP TYPE: Geopump	PUMP EQUIPMENT MODEL & SERIAL #s: Pump 4606

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88

1 GALLON = 3.785 LITERS

WELL SCREEN INTERVAL DEPTH (feet): 50-60	INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 55'	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 55'	PURGING INITIATED AT: 1024	PURGING ENDED AT: 1110	TOTAL VOLUME PURGED: GALLONS: ~4 Gall / LITERS:

GALLONS: / LITERS:

WATER LEVEL STABLIZATION — DEPTH TO WATER WITH PUMP: (feet)

TIME INTERVAL (min)	FLOW RATE (mL/min)	PUMP SETTINGS	DEPTH TO WATER (feet) START	DEPTH TO WATER (feet) END	Water Level Stable (Yes or No)	VOLUME PURGED DURING INTERVAL (mL)
1min	350		5.40	5.40	yes	

TIME (min)*	FLOW RATE (mL/min) (100-500 mL/min)**	DEPTH TO WATER (feet) (+/- 0.3')**	TURBIDITY (NTU) (+/- 10%)or <5**	DISSOLVED OXYGEN (mg/L) (+/- 10%)or <0.5**	pH (+/- 0.1)**	TEMP (°C) (+/- 3%)**	SPECIFIC CONDUCTIVITY (µS/cm) (+/- 3%)**	ORP (mV) (+/- 10mV)**	COLOR (describe)	ODOR (describe)
1030	350	5.40	11.4	0.20	6.27	9.94	500	-45.6	lightsed	None
1035	350	5.40	11.3	0.30	6.27	9.90	493	-56.3	" "	" "
1040	350	5.40	9.49	0.29	6.28	10.00	490	-59.5	" "	" "
1045	350	5.40	8.31	0.21	6.28	9.96	488	-61.3	" "	" "
1050	350	5.40	7.63	0.19	6.28	9.94	485	-62.8	" "	" "
1055	350	5.40	6.00	0.20	6.28	9.97	484	-64.1	" "	" "
1100	350	5.40	5.00	0.19	6.29	9.97	482	-64.4	clear	" "
1105	350	5.40	4.82	0.18	6.29	9.98	482	-64.9	clear	" "
1110	Sample									

* every 5 or more minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

** EPA stabilization parameters from EPA/540/S-95/504 April 1996

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Erin Foley	SAMPLER(S) SIGNATURES: Erin Foley	SAMPLING INITIATED AT: 1110	SAMPLING ENDED AT: 1120
PUMP OR TUBING DEPTH IN WELL (feet): 55'	SAMPLE PUMP FLOW RATE (mL per minute): 350	FIELD PARAMETER MONITORING EQUIPMENT MODEL & SERIAL #s:	
FIELD DECONTAMINATION: (Y) N	FIELD-FILTERED: (Y) N Filtration Equipment Type:	FILTER SIZE: ____ µm	DUPLICATE: Y (N)

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

WELL CONDITION CHECKLIST (circle appropriate item(s); cross out if not applicable)

Type: ~~Flush Mount~~ / Stand Pipe — General Condition: Good / Needs Repair — Well Caps: Good / Broken / None — Lock: Good / Broken / None

Evidence of Rain Water Between Steel & PVC? Y / N — Is Well Plumb?: Y / N — PVC Riser: Good / Damaged / None

Evendence of Ponding Around Welll? Y / N — Concrete Collar: Good / Cracked / Leaking / None

REMARKS:

Sovereign Consulting Inc.
16 Chestnut Street, Suite 520
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508-339-3200

MONITORING WELL SAMPLING LOG

Low Flow Sampling

Sovereign Consulting Inc.
4 Open Square Way, Suite #307
Holyoke, MA 01040
413-540-0650

PROJECT NAME: SHEPLEY'S HILL LANDFILL	PROJECT LOCATION: DEVENS, MA	DATE: 5/28/13	WELL ID: SHM-10-16
PROJECT NUMBER: AC001.02C-06	WELL DIAMETER: (inches) 2"	DEPTH TO WATER: (feet) 7.0	DEPTH TO BOTTOM: (feet)
			PID READING: (ppmv) 0.0

PURGING DATA

TUBING DIAMETER (inches): 1/4"	TUBING MATERIAL CODE: (see below) T	PURGE PUMP TYPE: peristaltic	PUMP EQUIPMENT MODEL & SERIAL #s: geopump 2 / 447
			GALLONS: / LITERS:

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88 | 1 GALLON = 3.785 LITERS | TOTAL VOLUME PURGED: GALLONS: 3.0 LITERS:

WELL SCREEN INTERVAL DEPTH (feet):	INITIAL PUMP OR TUBING DEPTH IN WELL (feet):	FINAL PUMP OR TUBING DEPTH IN WELL (feet):	PURGING INITIATED AT: 1049	PURGING ENDED AT: 1118

WATER LEVEL STABLIZATION | DEPTH TO WATER WITH PUMP: (feet)

TIME INTERVAL (min)	FLOW RATE (mL/min)	PUMP SETTINGS	DEPTH TO WATER (feet) START	DEPTH TO WATER (feet) END	Water Level Stable (Yes or No)	VOLUME PURGED DURING INTERVAL (mL)
1min	350	1/4 < x < 3/4 turn	7.04	7.04	YES	350

TIME (min)*	FLOW RATE (mL/min) (100-500 mL/min)**	DEPTH TO WATER (feet) (+/- 0.3')**	TURBIDITY (NTU) (+/- 10%)or <5**	DISSOLVED OXYGEN (mg/L) (+/- 10%)or <0.5**	pH (+/- 0.1)**	TEMP (°C) (+/- 3%)**	SPECIFIC CONDUCTIVITY (µS/cm) (+/- 3%)**	ORP (mV) (+/- 10mV)**	COLOR (describe)	ODOR (describe)
1053	350	7.04	7.55	1.06	6.42	9.35	594	-94.2	clear	none
1058	350	7.04	3.30	0.42	6.56	9.39	629	-115.9	clear	none
1103	350	7.04	0.48	0.27	6.65	9.36	631	-122.1	clear	none
1108	350	7.04	0.24	0.30	6.68	9.35	631	-125.2	clear	none
1113	350	7.04	0.13	0.37	6.69	9.38	632	-126.0	clear	none
1118	350	7.04	0.08	0.15	6.71	9.39	632	-128.0	clear	none

* every 5 or more minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

** EPA stabilization parameters from EPA/540/S-95/504 April 1996

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Mikel Mendes / Sovcon	SAMPLER(S) SIGNATURES: Mikel Mendes	SAMPLING INITIATED AT: 1118	SAMPLING ENDED AT: 1130
PUMP OR TUBING DEPTH IN WELL (feet):	SAMPLE PUMP FLOW RATE (mL per minute): 350	FIELD PARAMETER MONITORING EQUIPMENT MODEL & SERIAL #s: YSI 556 MPS / 08D101079	Lamotte 2020 we 240-410
FIELD DECONTAMINATION: (Y) N	FIELD-FILTERED: (Y) N FILTER SIZE: ___ µm Filtration Equipment Type: DOC/metals only		DUPLICATE: Y (N)

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

WELL CONDITION CHECKLIST (circle appropriate item(s), cross out if not applicable)

Type: Flush Mount / (Stand Pipe) General Condition: (Good) / Needs Repair Well Caps: (Good) / Broken / None Lock: Good / Broken / (None)

Evidence of Rain Water Between Steel & PVC? Y / (N) Is Well Plumb?: Y / (N) PVC Riser: (Good) / Damaged / None

Evendence of Ponding Around Well? Y / (N) Concrete Collar: (Good) / Cracked / Leaking / None

REMARKS:

Sovereign Consulting Inc.
16 Chestnut Street, Suite 520
Foxboro, MA 02035
508-339-3200

MONITORING WELL SAMPLING LOG

Low Flow Sampling

Sovereign Consulting Inc.
4 Open Square Way, Suite #307
Holyoke, MA 01040
413-540-0650

PROJECT NAME: SHEPLEY'S HILL LANDFILL	PROJECT LOCATION: DEVENS, MA	DATE: 5/28/13	WELL ID: SHM-07-06
PROJECT NUMBER: AC001.02C-06	WELL DIAMETER: (inches) 2"	DEPTH TO WATER: (feet) 19.71'	DEPTH TO BOTTOM: (feet) 33.3 / PID READING: (ppmv) 0.1

PURGING DATA

TUBING DIAMETER (inches): 1/2	TUBING MATERIAL CODE: (see below) PE	PURGE PUMP TYPE: peristaltic	PUMP EQUIPMENT MODEL & SERIAL #: geopump 2 / 1447

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY

GALLONS: LITERS:

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88

1 GALLON = 3.785 LITERS

TOTAL VOLUME PURGED: GALLONS: 3.0 LITERS:

WELL SCREEN INTERVAL DEPTH (feet):	INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 25'	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 25'	PURGING INITIATED AT: 0850	PURGING ENDED AT: 0956

WATER LEVEL STABLIZATION DEPTH TO WATER WITH PUMP: (feet)

TIME INTERVAL (min)	FLOW RATE (mL/min)	PUMP SETTINGS	DEPTH TO WATER (feet) START	DEPTH TO WATER (feet) END	Water Level Stable (Yes or No)	VOLUME PURGED DURING INTERVAL (mL)
1min	150	1/4 < x < 3/4 turn	20.4	20.35	yes	

TIME (min)*	FLOW RATE (mL/min) (100-500 mL/min)**	DEPTH TO WATER (feet) (+/- 0.3')**	TURBIDITY (NTU) (+/- 10%)or <5**	DISSOLVED OXYGEN (mg/L) (+/- 10%)or <0.5**	pH (+/- 0.1)**	TEMP (°C) (+/- 3%)**	SPECIFIC CONDUCTIVITY (µS/cm) (+/- 3%)**	ORP (mV) (+/- 10mV)**	COLOR (describe)	ODOR (describe)
0856	150	20.31'	39.2	5.22	6.38	12.47	127	143.2	lots of particul	none
0901	150	20.3'	39.0	5.02	5.59	12.53	153	167.3	"	"
0906	150	20.31'	34.8	4.96	5.76	12.52	163	157.2	"	"
0911	150	20.35'	27.5	4.92	5.75	12.44	151	154.2	"	"
0916	150	20.36'	26.6	4.96	5.78	12.41	152	152.1	"	"
0921	150	20.36'	24.3	4.84	5.79	12.48	152	148.4	"	"
0926	150	20.36'	20.1	4.82	5.82	12.53	150	143.2	"	"
0931	150	20.3	17.7	4.87	5.83	13.05	150	140.0	fine part.	none
0936	150	20.30'	16.5'	4.86	5.89	13.36	151	132.5	"	"
0941	150	20.30'	12.9	5.06	5.87	13.12	150	133.3	clear	none
0946	150	20.24'	13.13	4.98	5.84	12.88	147	134.8	"	"
0951	150	20.25'	12.93	4.69	5.83	12.95	146	136.7	"	"
0956	150	20.25'	12.02	4.82	5.81	12.84	147	129.2	"	"

* every 5 or more minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

** EPA stabilization parameters from EPA/540/S-95/504 April 1996

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Mikel Mendes / Sovcon	SAMPLER(S) SIGNATURES: Mikel Mendes	SAMPLING INITIATED AT: 0956	SAMPLING ENDED AT: 1015
PUMP OR TUBING DEPTH IN WELL (feet): 25'	SAMPLE PUMP FLOW RATE (mL per minute): 150	FIELD PARAMETER MONITORING EQUIPMENT MODEL & SERIAL #: YSI 556 MPS / 08D101029 Lamotte 2020 we 240-4110	
FIELD DECONTAMINATION: (Y) N	FIELD-FILTERED: (Y) N Filtration Equipment Type: DOC / metals only	FILTER SIZE: ____ µm	DUPLICATE: Y (N)

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

WELL CONDITION CHECKLIST (circle appropriate item(s), cross out if not applicable)

Type: Flush Mount / Stand Pipe General Condition: Good / Needs Repair Well Caps: Good / Broken / None Lock: Good / Broken / None

Evidence of Rain Water Between Steel & PVC? Y / N Is Well Plumb? Y / N PVC Riser: Good / Damaged / None

Evendence of Ponding Around Well? Y / N Concrete Collar: Good / Cracked / Leaking / None missing 1 bolt

REMARKS:

Sovereign Consulting Inc.
16 Chestnut Street, Suite 520
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MONITORING WELL SAMPLING LOG

Low Flow Sampling

Sovereign Consulting Inc.
4 Open Square Way, Suite #307
Holyoke, MA 01040
413-540-0650

PROJECT NAME: SHEPLEY'S HILL LANDFILL	PROJECT LOCATION: DEVENS, MA	DATE: 5-28-13	WELL ID: SHM-11-06
PROJECT NUMBER: AC001.02C-06	WELL DIAMETER: (inches) 2"	DEPTH TO WATER: (feet) 20.36	DEPTH TO BOTTOM: (feet) 35.46
			PID READING: (ppmv)

PURGING DATA

TUBING DIAMETER (inches): 3/8"	TUBING MATERIAL CODE: (see below) T	PURGE PUMP TYPE: Peri	PUMP EQUIPMENT MODEL & SERIAL #s: Peri

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY

GALLONS: LITERS:

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88

1 GALLON = 3.785 LITERS

TOTAL VOLUME PURGED: GALLONS: LITERS:

WELL SCREEN INTERVAL DEPTH (feet): 25 35	INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 20'	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 30'	PURGING INITIATED AT: 1015	PURGING ENDED AT:

WATER LEVEL STABLIZATION DEPTH TO WATER WITH PUMP: (feet)

TIME INTERVAL (min)	FLOW RATE (mL/min)	PUMP SETTINGS	DEPTH TO WATER (feet) START	DEPTH TO WATER (feet) END	Water Level Stable (Yes or No)	VOLUME PURGED DURING INTERVAL (mL)
1min	300/min		20.37	20.38	Y	300/min

TIME (min)*	FLOW RATE (mL/min) (100-500 mL/min)**	DEPTH TO WATER (feet) (+/- 0.3')**	TURBIDITY (NTU) (+/- 10%)or <5**	DISSOLVED OXYGEN (mg/L) (+/- 10%)or <0.5**	pH (+/- 0.1)**	TEMP (°C) (+/- 3%)**	SPECIFIC CONDUCTIVITY (µS/cm) (+/- 3%)**	ORP (mV) (+/- 10mV)**	COLOR (describe)	ODOR (describe)
1020	300/min	20.37	3.21	0.44	6.57	12.17	500	-114.4	Clear	none
1025		20.36	3.11	0.46	6.57	12.19	500	-114.3	Clear	none
1030		20.36	3.18	0.33	6.54	12.05	494	-109.3	Clear	none
1035		20.36	3.20	0.34	6.54	12.07	495	-106.7	Clear	none
1040		20.38	3.21	0.31	6.54	12.10	497	-106.5	Clear	none
1045		20.36	3.22	0.33	6.54	12.10	497	-106.9	Clear	none
1050		20.36	3.21	0.33	6.54	12.09	496	-105.8	Clear	none
1055		20.36	3.19	0.34	6.54	12.08	495	-105.7	Clear	none

* every 5 or more minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

** EPA stabilization parameters from EPA/540/S-95/504 April 1996

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: SOV	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 1100	SAMPLING ENDED AT: 1110
PUMP OR TUBING DEPTH IN WELL (feet): 30'	SAMPLE PUMP FLOW RATE (mL per minute): 300/min	FIELD PARAMETER MONITORING EQUIPMENT MODEL & SERIAL #s: YSI 556 111K	
FIELD DECONTAMINATION: Y N	FIELD-FILTERED: Y N FILTER SIZE: ____ µm Filtration Equipment Type:		DUPLICATE: Y (N)

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

WELL CONDITION CHECKLIST (circle appropriate item(s), cross out if not applicable)

Type: Flush Mount / (Stand-Pipe) General Condition: (Good) / Needs Repair Well Caps: (Good) / Broken / None Lock: Good / Broken / (None)

Evidence of Rain Water Between Steel & PVC? Y / (N) Is Well Plumb?: Y / N PVC Riser: (Good) / Damaged / None

Evendence of Ponding Around Well? Y / (N) Concrete Collar: Good / Cracked / Leaking / (None)

REMARKS:

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16 Chestnut Street, Suite 520
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MONITORING WELL SAMPLING LOG

Low Flow Sampling

Sovereign Consulting Inc.
4 Open Square Way, Suite #307
Holyoke, MA 01040
413-540-0650

PROJECT NAME: SHEPLEY'S HILL LANDFILL	PROJECT LOCATION: DEVENS, MA	DATE: 5/28/13	WELL ID: SHM-99-22B
PROJECT NUMBER: AC001.02C-06	WELL DIAMETER: (inches) 4"	DEPTH TO WATER: (feet) 6.75	DEPTH TO BOTTOM: (feet)
			PID READING: (ppmv) 0.1

PURGING DATA

TUBING DIAMETER (inches): 1/4"	TUBING MATERIAL CODE: (see below) Poly	PURGE PUMP TYPE: Peristaltic	PUMP EQUIPMENT MODEL & SERIAL #s: Geotech 1395
			GALLONS: / LITERS:

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88 — 1 GALLON = 3.785 LITERS

WELL SCREEN INTERVAL DEPTH (feet): 82 - 92	INITIAL PUMP OR TUBING DEPTH IN WELL (feet):	FINAL PUMP OR TUBING DEPTH IN WELL (feet):	PURGING INITIATED AT: 0950	PURGING ENDED AT: 1046	TOTAL VOLUME PURGED: GALLONS: 2.0 / LITERS:

WATER LEVEL STABLIZATION — DEPTH TO WATER WITH PUMP: (feet)

TIME INTERVAL (min)	FLOW RATE (mL/min)	PUMP SETTINGS	DEPTH TO WATER (feet) START	DEPTH TO WATER (feet) END	Water Level Stable (Yes or No)	VOLUME PURGED DURING INTERVAL (mL)
1	375	2/3 (280 rpm)	6.75	6.75	Y	375

TIME (min)*	FLOW RATE (mL/min) (100-500 mL/min)**	DEPTH TO WATER (feet) (+/- 0.3')**	TURBIDITY (NTU) (+/- 10%)or <5**	DISSOLVED OXYGEN (mg/L) (+/- 10%)or <0.5**	pH (+/- 0.1)**	TEMP (°C) (+/- 3%)**	SPECIFIC CONDUCTIVITY (µS/cm) (+/- 3%)**	ORP (mV) (+/- 10mV)**	COLOR (describe)	ODOR (describe)
0955	375	6.75	OVR	1.30	6.77	8.70	465	-71.9	Fe-rich	none
0959	↓	6.75	OVR	1.47	6.65	8.83	473	-71.1	SAA	none
1002		6.75	OVR	0.53	6.57	8.82	473	-72.5	SAA	none
1006		6.75	1088	0.38	6.56	9.04	470	-74.2	SAA	none
1010		6.75	-52	0.29	6.56	8.80	471	-77.4	SAA	none
1015		6.75	89.3	0.24	6.57	8.93	471	-80.2	SAA	none
1020		6.75	83.3	0.23	6.56	8.96	473	-80.5	SAA	none
1025		6.75	79.4	0.22	6.56	8.91	472	-80.5	Clearer	none
1030		6.75	71.0	0.22	6.57	8.92	471	-80.4	Clearer	none

* every 5 or more minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

** EPA stabilization parameters from EPA/540/S-95/504 April 1996

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: JG	SAMPLER(S) SIGNATURES: [signature]	SAMPLING INITIATED AT: 1030	SAMPLING ENDED AT: 1040
PUMP OR TUBING DEPTH IN WELL (feet):	SAMPLE PUMP FLOW RATE (mL per minute):	FIELD PARAMETER MONITORING EQUIPMENT MODEL & SERIAL #s: YSI 556 MPS 13D101141	
FIELD DECONTAMINATION: (Y) N	FIELD-FILTERED: (Y) N Filtration Equipment Type:	FILTER SIZE: ____ µm	DUPLICATE: Y (N)

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

WELL CONDITION CHECKLIST (circle appropriate item(s), cross out if not applicable)

Type: Flush Mount / (Stand Pipe) General Condition: (Good) / Needs Repair Well Caps: (Good) / Broken / None Lock: Good / Broken (None)

Evidence of Rain Water Between Steel & PVC? Y / (N) Is Well Plumb?: (Y) / N PVC Riser: (Good) / Damaged / None

Evendence of Ponding Around Well? Y / (N) Concrete Collar: Good / Cracked / Leaking / (None)

REMARKS: At 1010 reading of turbidity, JG called & bump ckd meter b/c of (-) readings. Cal'ed to 10.03 NTU.

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MONITORING WELL SAMPLING LOG

Low Flow Sampling

Sovereign Consulting Inc.
4 Open Square Way, Suite #307
Holyoke, MA 01040
413-540-0650

PROJECT NAME: SHEPLEY'S HILL LANDFILL	PROJECT LOCATION: DEVENS, MA	DATE: 5/28/13	WELL ID: SHL-22
PROJECT NUMBER: AC001.02C-06	WELL DIAMETER: (inches) 4"	DEPTH TO WATER: (feet) 6.91	DEPTH TO BOTTOM: (feet)
			PID READING: (ppmv) 0.0

PURGING DATA

TUBING DIAMETER (inches): 1/4"	TUBING MATERIAL CODE: (see below) Poly	PURGE PUMP TYPE: Geopump	PUMP EQUIPMENT MODEL & SERIAL #s: Geotech 1395
			GALLONS: / LITERS:

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88 | 1 GALLON = 3.785 LITERS | TOTAL VOLUME PURGED: GALLONS: 2.5 / LITERS:

WELL SCREEN INTERVAL DEPTH (feet): 105-115	INITIAL PUMP OR TUBING DEPTH IN WELL (feet):	FINAL PUMP OR TUBING DEPTH IN WELL (feet):	PURGING INITIATED AT: 08:40	PURGING ENDED AT: 0945	

WATER LEVEL STABLIZATION | DEPTH TO WATER WITH PUMP: (feet)

TIME INTERVAL (min)	FLOW RATE (mL/min)	PUMP SETTINGS	DEPTH TO WATER (feet) START	DEPTH TO WATER (feet) END	Water Level Stable (Yes or No)	VOLUME PURGED DURING INTERVAL (mL)
1	400	2/3 (230 rpm)	6.91	7.04	N	400
1	200	1/3 (120 rpm)	7.05	7.05	Y	200

TIME (min)*	FLOW RATE (mL/min) (100-500 mL/min)**	DEPTH TO WATER (feet) (+/- 0.3')**	TURBIDITY (NTU) (+/- 10%)or <5**	DISSOLVED OXYGEN (mg/L) (+/- 10%)or <0.5**	pH (+/- 0.1)**	TEMP (°C) (+/- 3%)**	SPECIFIC CONDUCTIVITY (µS/cm) (+/- 3%)**	ORP (mV) (+/- 10mV)**	COLOR (describe) -	ODOR (describe) -
0850	200	7.05	6.95	4.94	6.66	9.21	487	47.2	Clear	None
0855	|	7.05	3.62	4.68	6.66	9.23	492	42.2	Clear	None
0900	|	7.05	2.75	2.02	6.67	9.24	493	37.0	Clear	None
0905	|	7.05	1.98	1.32	6.66	9.41	495	28.2	Clear	None
0910	|	7.05	1.61	1.35	6.68	9.38	493	22.3	Clear	None
0915	|	7.05	1.19	1.31	6.68	9.20	492	20.4	Clear	None
0920	|	7.05	0.91	1.28	6.68	9.22	492	18.7	Clear	None

* every 5 or more minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

** EPA stabilization parameters from EPA/540/S-95/504 April 1996

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: JG	SAMPLER(S) SIGNATURES: [signature]	SAMPLING INITIATED AT: 0925	SAMPLING ENDED AT: 0945
PUMP OR TUBING DEPTH IN WELL (feet):	SAMPLE PUMP FLOW RATE (mL per minute): 200	FIELD PARAMETER MONITORING EQUIPMENT MODEL & SERIAL #s: YSI 556 MPS 13D101141	
FIELD DECONTAMINATION: (Y) N	FIELD-FILTERED: (Y) N FILTER SIZE: ____ µm Filtration Equipment Type:		DUPLICATE: (Y) N

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

WELL CONDITION CHECKLIST (circle appropriate item(s), cross out if not applicable)

Type: Flush Mount / (Stand Pipe) General Condition: (Good) / Needs Repair Well Caps: (Good) / Broken / None Lock: Good / Broken / (None)

Evidence of Rain Water Between Steel & PVC? Y / (N) Is Well Plumb? (Y) / N PVC Riser: (Good) / Damaged / None

Evendence of Ponding Around Well? Y / (N) Concrete Collar: Good / Cracked / Leaking / (None)

REMARKS: DUP-052813

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MONITORING WELL SAMPLING LOG

Low Flow Sampling

Sovereign Consulting Inc.
4 Open Square Way, Suite #307
Holyoke, MA 01040
413-540-0650

PROJECT NAME: SHEPLEY'S HILL LANDFILL	PROJECT LOCATION: DEVENS, MA		DATE: 5.28.13	WELL ID: SHL-8S
PROJECT NUMBER: AC001.02C-06	WELL DIAMETER: (inches) 2"	DEPTH TO WATER: (feet) 7.4	DEPTH TO BOTTOM: (feet)	PID READING: (ppmv)

PURGING DATA

TUBING DIAMETER (inches): 1/4	TUBING MATERIAL CODE: (see below) PE	PURGE PUMP TYPE: GeoPump	PUMP EQUIPMENT MODEL & SERIAL #s: Pump: 4166

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY

GALLONS: LITERS:

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88

1 GALLON = 3.785 LITERS

TOTAL VOLUME PURGED: GALLONS: LITERS:

WELL SCREEN INTERVAL DEPTH (feet): 52-54'	INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 53'	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 53'	PURGING INITIATED AT: 0855	PURGING ENDED AT: 0930

WATER LEVEL STABLIZATION DEPTH TO WATER WITH PUMP: (feet)

TIME INTERVAL (min)	FLOW RATE (mL/min)	PUMP SETTINGS	DEPTH TO WATER (feet) START	DEPTH TO WATER (feet) END	Water Level Stable (Yes or No)	VOLUME PURGED DURING INTERVAL (mL)
1min	150		7.4	7.85	NO	

TIME (min)*	FLOW RATE (mL/min) (100-500 mL/min)**	DEPTH TO WATER (feet) (+/- 0.3')**	TURBIDITY (NTU) (+/- 10%)or <5**	DISSOLVED OXYGEN (mg/L) (+/- 10%)or <0.5**	pH (+/- 0.1)**	TEMP (°C) (+/- 3%)**	SPECIFIC CONDUCTIVITY (µS/cm) (+/- 3%)**	ORP (mV) (+/- 10mV)**	COLOR (describe)	ODOR (describe)
0905	150	8.00	1.19	5.98	6.50	10.32	74	140.9	Clear	None
0910	150	8.09	1.77	5.96	6.44	10.32	74	141.0	Clear	None
0915	150	8.18	1.37	5.93	6.41	10.34	73	142.5	Clear	None
0920	150	8.20	1.40	5.95	6.41	10.31	73	142.8	Clear	None
0925	150	8.26	1.33	5.94	6.40	10.32	74	146.2	Clear	None
0930					Sample					

* every 5 or more minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

** EPA stabilization parameters from EPA/540/S-95/504 April 1996

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Erin Foley	SAMPLER(S) SIGNATURES: Erin Foley	SAMPLING INITIATED AT: 0930	SAMPLING ENDED AT: 0945
PUMP OR TUBING DEPTH IN WELL (feet): 53'	SAMPLE PUMP FLOW RATE (mL per minute): 150	FIELD PARAMETER MONITORING EQUIPMENT MODEL & SERIAL #s:	
FIELD DECONTAMINATION: (Y) N	FIELD-FILTERED: (Y) N Filtration Equipment Type:	FILTER SIZE: ____ µm	DUPLICATE: Y (N)

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

WELL CONDITION CHECKLIST (circle appropriate item(s), cross out if not applicable)

Type: Flush Mount / (Stand Pipe) General Condition: (Good) / Needs Repair Well Caps: (Good) / Broken / None Lock: (Good) / Broken / None

Evidence of Rain Water Between Steel & PVC? Y / (N) Is Well Plumb?: Y / N PVC Riser: (Good) / Damaged / None

Evendence of Ponding Around Well? Y / (N) Concrete Collar: Good / (Cracked) / Leaking / None

REMARKS:

Sovereign Consulting Inc.
16 Chestnut Street, Suite 520
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MONITORING WELL SAMPLING LOG

Low Flow Sampling

Sovereign Consulting Inc.
4 Open Square Way, Suite #307
Holyoke, MA 01040
413-540-0650

PROJECT NAME: SHEPLEY'S HILL LANDFILL	PROJECT LOCATION: DEVENS, MA	DATE: 5-28-13	WELL ID: PZ-12-01
PROJECT NUMBER: AC001.02C-06	WELL DIAMETER (inches): 2"	DEPTH TO WATER (feet): 20.00	DEPTH TO BOTTOM (feet): 34'
			PID READING (ppmv):

PURGING DATA

TUBING DIAMETER (inches): 3/8"	TUBING MATERIAL CODE: (see below) T	PURGE PUMP TYPE: Pen	PUMP EQUIPMENT MODEL & SERIAL #s:
WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY			GALLONS: / LITERS:
WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88			1 GALLON = 3.785 LITERS / TOTAL VOLUME PURGED:
WELL SCREEN INTERVAL DEPTH (feet): 24-34'	INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 20'	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 30'	PURGING INITIATED AT: 0855 / PURGING ENDED AT: / GALLONS: / LITERS:
WATER LEVEL STABLIZATION	DEPTH TO WATER WITH PUMP (feet):		

TIME INTERVAL (min)	FLOW RATE (mL/min)	PUMP SETTINGS	DEPTH TO WATER (feet) START	DEPTH TO WATER (feet) END	Water Level Stable (Yes or No)	VOLUME PURGED DURING INTERVAL (mL)
1min	300ml/min		20.25	20.26	y	300ml

TIME (min)*	FLOW RATE (mL/min) (100-500 mL/min)**	DEPTH TO WATER (feet) (+/- 0.3')**	TURBIDITY (NTU) (+/- 10%)or <5**	DISSOLVED OXYGEN (mg/L) (+/- 10%)or <0.5**	pH (+/- 0.1)**	TEMP (°C) (+/- 3%)**	SPECIFIC CONDUCTIVITY (µS/cm) (+/- 3%)**	ORP (mV) (+/- 10mV)**	COLOR (describe)	ODOR (describe)
0900	300ml/min	20.25	5.96	0.20	6.44	12.40	406	-73.4	Clear	none
0905		20.25	5.06	0.22	6.47	12.42	409	-77.8	Clear	none
0910		20.25	4.60	0.25	6.47	12.42	410	-79.7	Clear	none
0915		20.25	4.56	0.20	6.49	12.46	419	-84.5	Clear	none
0920		20.25	4.40	0.24	6.49	12.49	422	-86.1	Clear	none
0925		20.25	4.44	0.24	6.49	12.49	422	-86.2	Clear	none
0930		20.25	4.43	0.24	6.48	12.46	422	-86.3	Clear	none
0935		20.27	4.21	0.24	6.49	12.41	421	-86.5	↓	↓
0940		20.25	4.20	0.22	6.49	12.40	422	-86.5		
0945		20.25	4.19	0.23	6.50	12.41	421	-86.3		

* every 5 or more minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

** EPA stabilization parameters from EPA/540/S-95/504 April 1996

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: SOV	SAMPLER(S) SIGNATURES: [signature]	SAMPLING INITIATED AT: 0950	SAMPLING ENDED AT: 1000
PUMP OR TUBING DEPTH IN WELL (feet):	SAMPLE PUMP FLOW RATE (mL per minute):	FIELD PARAMETER MONITORING EQUIPMENT MODEL & SERIAL #s: YSI556 # 11K101289	
FIELD DECONTAMINATION: Y N	FIELD-FILTERED: Y N / Filtration Equipment Type:	FILTER SIZE: 5 µm	DUPLICATE: Y (N)

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

WELL CONDITION CHECKLIST (circle appropriate item(s), cross out if not applicable)

Type: Flush Mount / (Stand Pipe) General Condition: (Good) / Needs Repair Well Caps: (Good) / Broken / None Lock: Good / Broken / (None)

Evidence of Rain Water Between Steel & PVC? Y / (N) Is Well Plumb?: Y / N PVC Riser: (Good) / Damaged / None

Evendence of Ponding Around Well? Y / (N) Concrete Collar: Good / Cracked / Leaking / (None)

REMARKS:

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MONITORING WELL SAMPLING LOG

Low Flow Sampling

Sovereign Consulting Inc.
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Holyoke, MA 01040
413-540-0650

PROJECT NAME: SHEPLEY'S HILL LANDFILL	PROJECT LOCATION: DEVENS, MA	DATE: 5-24-13	WELL ID: SHM-10-15
PROJECT NUMBER: AC001.02C-06	WELL DIAMETER: (inches) 2"	DEPTH TO WATER: (feet) 23.97	DEPTH TO BOTTOM: (feet) 56.62
PID READING: (ppmv)			

PURGING DATA

TUBING DIAMETER (inches): 1/4"	TUBING MATERIAL CODE: (see below) Te	PURGE PUMP TYPE: Peri	PUMP EQUIPMENT MODEL & SERIAL #s: Geopump
WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY			GALLONS: / LITERS:
WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88			1 GALLON = 3.785 LITERS / TOTAL VOLUME PURGED:
WELL SCREEN INTERVAL DEPTH (feet): 45-55'	INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 50'	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 50'	PURGING INITIATED AT: 1213 / PURGING ENDED AT: / GALLONS: / LITERS:
WATER LEVEL STABLIZATION	DEPTH TO WATER WITH PUMP: (feet)		

TIME INTERVAL (min)	FLOW RATE (mL/min)	PUMP SETTINGS	DEPTH TO WATER (feet) START	DEPTH TO WATER (feet) END	Water Level Stable (Yes or No)	VOLUME PURGED DURING INTERVAL (mL)
1	225	3/4	23.97	23.97	Y	225

TIME (min)*	FLOW RATE (mL/min) (100-500 mL/min)**	DEPTH TO WATER (feet) (+/- 0.3')**	TURBIDITY (NTU) (+/- 10%)or <5**	DISSOLVED OXYGEN (mg/L) (+/- 10%)or <0.5**	pH (+/- 0.1)**	TEMP (°C) (+/- 3%)**	SPECIFIC CONDUCTIVITY (µS/cm) (+/- 3%)**	ORP (mV) (+/- 10mV)**	COLOR (describe)	ODOR (describe)
1224	225	23.97	8.86	1.15	7.09	14.50	418	-137.5	clear	none
1229	225	23.97	9.25	0.86	6.97	14.25	420	-128.2	clear	" "
1234	225	23.97	12.4	0.86	6.43	14.58	437	-85.4	" "	" "
1239	225	23.97	16.8	0.73	6.37	15.06	440	-79.5	" "	" "
1244	225	23.97	14.6	0.71	6.37	14.81	441	-77.5	" "	" "
1249	225	23.97	13.20	0.65	6.38	15.34	441	-76.7	" "	" "
1254	225	23.97	13.22	0.57	6.37	15.60	440	-76.2	" "	" "
1259	225	23.97	12.15	0.55	6.37	14.99	443	-74.2	" "	" "
1304	225	23.97	11.94	0.47	6.38	14.93	441	-74.4	" "	" "
1309	225	23.97	11.68	0.49	6.37	14.95	441	-74.1	" "	" "
1314	225	23.97	11.97	0.49	6.37	15.10	440	-73.9	" "	" "

* every 5 or more minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

** EPA stabilization parameters from EPA/540/S-95/504 April 1996

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: J. Godsoe / Sovcon	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 1315	SAMPLING ENDED AT: 1340
PUMP OR TUBING DEPTH IN WELL (feet): 50'	SAMPLE PUMP FLOW RATE (mL per minute): 225	FIELD PARAMETER MONITORING EQUIPMENT MODEL & SERIAL #s: YSI 556 MPS # 11K101289 / Turbidity Lamotte #2040-4110 / WLM 56720	
FIELD DECONTAMINATION: (Y) N	FIELD-FILTERED: (Y) N FILTER SIZE: ____ µm Filtration Equipment Type: AS/Metals/DOC		DUPLICATE: Y (N)

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

WELL CONDITION CHECKLIST (circle appropriate item(s), cross out if not applicable)

Type: Flush Mount / (Stand Pipe) General Condition: (Good) / Needs Repair Well Caps: (Good) / Broken / None Lock: Good / Broken / (None)

Evidence of Rain Water Between Steel & PVC? Y / (N) Is Well Plumb?: (Y) / N PVC Riser: (Good) / Damaged / None

Evendence of Ponding Around Well? (Y) / N Concrete Collar: (Good) / Cracked / Leaking / None

REMARKS:

↳ very marshy / pool of water around well

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508-339-3200

MONITORING WELL SAMPLING LOG

Low Flow Sampling

Sovereign Consulting Inc.
4 Open Square Way, Suite #307
Holyoke, MA 01040
413-540-0650

PROJECT NAME: SHEPLEY'S HILL LANDFILL	PROJECT LOCATION: DEVENS, MA	DATE: 5.24.13	WELL ID: P2-12-06
PROJECT NUMBER: AC001.02C-06	WELL DIAMETER: (inches) 2"	DEPTH TO WATER: (feet) 23.91	DEPTH TO BOTTOM: (feet) / PID READING: (ppmv)

PURGING DATA

TUBING DIAMETER (inches): 1/4	TUBING MATERIAL CODE: (see below) PE	PURGE PUMP TYPE: Bladder	PUMP EQUIPMENT MODEL & SERIAL #s: QED - 1578

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY

GALLONS: / LITERS:

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88

1 GALLON = 3.785 LITERS

TOTAL VOLUME PURGED: GALLONS: 22.5 / LITERS:

WELL SCREEN INTERVAL DEPTH (feet): 26-36	INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 30'	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 30'	PURGING INITIATED AT: 1225	PURGING ENDED AT: 1300

WATER LEVEL STABLIZATION — DEPTH TO WATER WITH PUMP: (feet)

TIME INTERVAL (min)	FLOW RATE (mL/min)	PUMP SETTINGS	DEPTH TO WATER (feet) START	DEPTH TO WATER (feet) END	Water Level Stable (Yes or No)	VOLUME PURGED DURING INTERVAL (mL)
1min	250	70 pt 3psi 10+5	23.91	23.91	yes	

TIME (min)*	FLOW RATE (mL/min) (100-500 mL/min)**	DEPTH TO WATER (feet) (+/- 0.3')**	TURBIDITY (NTU) (+/- 10%)or <5**	DISSOLVED OXYGEN (mg/L) (+/- 10%)or <0.5**	pH (+/- 0.1)**	TEMP (°C) (+/- 3%)**	SPECIFIC CONDUCTIVITY (µS/cm) (+/- 3%)**	ORP (mV) (+/- 10mV)**	COLOR (describe)	ODOR (describe)
1235	250	23.91	17	2.39	6.21	12.48	700	-68.5	Cloudy	None
1240	250	23.91	13	2.54	6.22	12.99	698	-71.8	" "	" "
1245	250	23.91	3.7	1.56	6.22	12.99	700	-68.7	" "	" "
1250	250	23.91	3.8	1.58	6.23	13.01	700	-71.2	" "	" "
1255	250	23.91	2.9	1.57	6.23	13.02	700	-71.6		
1300					Sample					

* every 5 or more minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

** EPA stabilization parameters from EPA/540/S-95/504 April 1996

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Erin Foley	SAMPLER(S) SIGNATURES: E. Foley	SAMPLING INITIATED AT: 1300	SAMPLING ENDED AT: 1315
PUMP OR TUBING DEPTH IN WELL (feet): 30'	SAMPLE PUMP FLOW RATE (mL per minute): 250	FIELD PARAMETER MONITORING EQUIPMENT MODEL & SERIAL #s:	
FIELD DECONTAMINATION: (Y) N	FIELD-FILTERED: (Y) N Filtration Equipment Type:	FILTER SIZE: ____ µm	DUPLICATE: Y (N)

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

WELL CONDITION CHECKLIST (circle appropriate item(s), cross out if not applicable)

Type: Flush Mount / Stand Pipe — General Condition: Good / Needs Repair — Well Caps: Good / Broken / None — Lock: Good / Broken / None

Evidence of Rain Water Between Steel & PVC? Y / N — Is Well Plumb?: Y / N — PVC Riser: Good / Damaged / None

Evendence of Ponding Around Well? Y / N — Concrete Collar: Good / Cracked / Leaking / None

REMARKS:

Sovereign Consulting Inc.
16 Chestnut Street, Suite 520
Foxboro, MA 02035
508-339-3200

MONITORING WELL SAMPLING LOG

Low Flow Sampling

Sovereign Consulting Inc.
4 Open Square Way, Suite #307
Holyoke, MA 01040
413-540-0650

PROJECT NAME: SHEPLEY'S HILL LANDFILL	PROJECT LOCATION: DEVENS, MA	DATE: 5/24/13	WELL ID: SHC-19
PROJECT NUMBER: AC001.02C-06	WELL DIAMETER: (inches) 4"	DEPTH TO WATER: (feet) 23.30	DEPTH TO BOTTOM: (feet)
			PID READING: (ppmv) 0.0

PURGING DATA

TUBING DIAMETER (inches): 1/4"	TUBING MATERIAL CODE: (see below) T	PURGE PUMP TYPE: peristaltic	PUMP EQUIPMENT MODEL & SERIAL #s: geopump 1466
			GALLONS: / LITERS:

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88

1 GALLON = 3.785 LITERS

WELL SCREEN INTERVAL DEPTH (feet): 20-30'	INITIAL PUMP OR TUBING DEPTH IN WELL (feet):	FINAL PUMP OR TUBING DEPTH IN WELL (feet):	PURGING INITIATED AT: 1050	PURGING ENDED AT: 1225	TOTAL VOLUME PURGED: GALLONS: 8.0 LITERS:

WATER LEVEL STABLIZATION DEPTH TO WATER WITH PUMP: (feet)

TIME INTERVAL (min)	FLOW RATE (mL/min)	PUMP SETTINGS	DEPTH TO WATER (feet) START	DEPTH TO WATER (feet) END	Water Level Stable (Yes or No)	VOLUME PURGED DURING INTERVAL (mL)
1 min	250	3/4 turn	23.30	23.30	yes	250

TIME (min)*	FLOW RATE (mL/min) (100-500 mL/min)**	DEPTH TO WATER (feet) (+/- 0.3')**	TURBIDITY (NTU) (+/- 10%)or <5**	DISSOLVED OXYGEN (mg/L) (+/- 10%)or <0.5**	pH (+/- 0.1)**	TEMP (°C) (+/- 3%)**	SPECIFIC CONDUCTIVITY (µS/cm) (+/- 3%)**	ORP (mV) (+/- 10mV)**	COLOR (describe)	ODOR (describe)
1100	250	23.31	193	1.25	5.89	11.37	140	84.4	orange hue	none
1105	250	23.31	161	1.10	5.89	10.84	139	87.7	slight orange	none
1110	250	23.31	123	1.08	5.92	11.01	140	92.8	"	none
1115	250	23.30	74.2	0.99	5.89	10.64	140	88.9	"	none
1120	250	23.30	50.9	0.92	5.91	10.73	139	92.7	clear some particulates	none
1125	250	23.30	47.2	3.00	5.88	10.91	138	94.4	"	"
1130	250	23.30	41.8	2.79	5.88	10.95	138	96.1	"	"
1135	250	23.30	32.9	2.33	5.89	10.82	136	95.1	"	"
1140	250	23.30	31.9	0.96	5.90	10.74	137	94.4	"	"
1145	250	23.30	28.4	1.01	5.88	10.92	137	97.4	"	"
1150	250	23.30	27.4	1.04	5.90	10.92	137	93.4	"	"
1155	250	23.30	24.9	1.06	5.88	10.95	136	99.7	"	"
1200	250	23.30	22.7	0.97	5.89	10.92	137	95.7	"	"
1205	250	23.30	19.0	1.05	5.89	10.95	136	96.1	"	"
1210	250	23.30	19.0	1.08	5.88	10.71	137	96.6	"	"
1215	250	23.30	17.0	1.01	5.86	10.83	137	98.9	"	"

* every 5 or more minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

** EPA stabilization parameters from EPA/540/S-95/504 April 1996

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Mike Mendes / Sovcon	SAMPLER(S) SIGNATURES: Mike Mendes	SAMPLING INITIATED AT: 1225	SAMPLING ENDED AT: 1240
PUMP OR TUBING DEPTH IN WELL (feet):	SAMPLE PUMP FLOW RATE (mL per minute): 250	FIELD PARAMETER MONITORING EQUIPMENT MODEL & SERIAL #s: YSI 556 mps 08D101029 Lamotte 2020we ME12758	
FIELD DECONTAMINATION: (Y) N	FIELD-FILTERED: (Y) N Filtration Equipment Type: DOC/metals only	FILTER SIZE: ____ µm	DUPLICATE: Y (N)

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

WELL CONDITION CHECKLIST (circle appropriate item(s), cross out if not applicable)

Type: Flush Mount / (Stand Pipe) General Condition: (Good) / Needs Repair Well Caps: (Good) / Broken / None Lock: Good / Broken / (None)

Evidence of Rain Water Between Steel & PVC? Y (N) Is Well Plumb?: Y / N PVC Riser: (Good) / Damaged / None

Evendence of Ponding Around Well? Y / (N) Concrete Collar: (Good) / Cracked / Leaking / None

REMARKS:

0.96
.10

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MONITORING WELL SAMPLING LOG

Low Flow Sampling

Sovereign Consulting Inc.
4 Open Square Way, Suite #307
Holyoke, MA 01040
413-540-0650

PROJECT NAME: SHEPLEY'S HILL LANDFILL	PROJECT LOCATION: DEVENS, MA		DATE: 5/24/13	WELL ID: SHL-4
PROJECT NUMBER: AC001.02C-06	WELL DIAMETER: (inches) 2"	DEPTH TO WATER: (feet) 10.38	DEPTH TO BOTTOM: (feet)	PID READING: (ppmv) 0.0

PURGING DATA

TUBING DIAMETER (inches): 1/4"	TUBING MATERIAL CODE: (see below) T	PURGE PUMP TYPE: peristaltic	PUMP EQUIPMENT MODEL & SERIAL #: geo pump / 466	
WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY			GALLONS:	LITERS:
WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88			1 GALLON = 3.785 LITERS	TOTAL VOLUME PURGED:
WELL SCREEN INTERVAL DEPTH (feet): 3-13'	INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 8'	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 8'	PURGING INITIATED AT: 0858	PURGING ENDED AT: 0933	GALLONS: 3.0 LITERS:

WATER LEVEL STABLIZATION DEPTH TO WATER WITH PUMP: (feet)

TIME INTERVAL (min)	FLOW RATE (mL/min)	PUMP SETTINGS	DEPTH TO WATER (feet) START	DEPTH TO WATER (feet) END	Water Level Stable (Yes or No)	VOLUME PURGED DURING INTERVAL (mL)
1	220	1/4 < x < 3/4 turn	10.39	10.39	yes	220
1	280	3/4 turn	10.39	10.39	yes	

TIME (min)*	FLOW RATE (mL/min) (100-500 mL/min)**	DEPTH TO WATER (feet) (+/- 0.3')**	TURBIDITY (NTU) (+/- 10%)or <5**	DISSOLVED OXYGEN (mg/L) (+/- 10%)or <0.5**	pH (+/- 0.1)**	TEMP (°C) (+/- 3%)**	SPECIFIC CONDUCTIVITY (µS/cm) (+/- 3%)**	ORP (mV) (+/- 10mV)**	COLOR (describe)	ODOR (describe)
0904	280	10.39	2.33	1.08	5.62	10.50	291	131.4	clear	none
0907	280	10.39	3.12	0.73	5.68	10.36	290	127.4	"	"
0912	280	10.39	3.09	0.55	5.85	10.35	288	119.1	"	"
0917	280	10.39	2.45	0.33	6.05	10.36	283	109.4	"	"
0922	280	10.39	1.54	0.33	6.04	10.46	283	110.2	"	"
0927	280	10.39	0.55	0.29	6.10	10.44	280	107.2	"	"
0932	280	10.39	0.36	0.27	6.10	10.39	278	107.1	"	"

* every 5 or more minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

** EPA stabilization parameters from EPA/540/S-95/504 April 1996

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Mykel Mendes / Sovcon	SAMPLER(S) SIGNATURES: Mykel Mendes	SAMPLING INITIATED AT: 0933	SAMPLING ENDED AT: 958
PUMP OR TUBING DEPTH IN WELL (feet): 8'	SAMPLE PUMP FLOW RATE (mL per minute): 280	FIELD PARAMETER MONITORING EQUIPMENT MODEL & SERIAL #: Lamotte 2020e / ME12750 YSI 556 MPS 08101029	
FIELD DECONTAMINATION: (Y) N	FIELD-FILTERED: (Y) N FILTER SIZE: µm Filtration Equipment Type: DOC / metals only	DUPLICATE: (Y) N	

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

WELL CONDITION CHECKLIST (circle appropriate item(s), cross out if not applicable)

Type: Flush Mount / (Stand Pipe) General Condition: (Good) / Needs Repair Well Caps: (Good) / Broken / None Lock: Good / Broken / (None)

Evidence of Rain Water Between Steel & PVC? Y / (N) Is Well Plumb?: Y / N PVC Riser: (Good) / Damaged / None

Evendence of Ponding Around Well? Y / (N) Concrete Collar: Good / Cracked / Leaking / (None)

REMARKS:

Sovereign Consulting Inc.
16 Chestnut Street, Suite 520
Foxboro, MA 02035
508-339-3200

MONITORING WELL SAMPLING LOG

Low Flow Sampling

Sovereign Consulting Inc.
4 Open Square Way, Suite #307
Holyoke, MA 01040
413-540-0650

PROJECT NAME: SHEPLEY'S HILL LANDFILL	PROJECT LOCATION: DEVENS, MA	DATE: 5.24.13	WELL ID: PZ-17
PROJECT NUMBER: AC001.02C-06	WELL DIAMETER: (inches) 2"	DEPTH TO WATER: (feet) 27.41	DEPTH TO BOTTOM: (feet) / PID READING: (ppmv)

PURGING DATA

TUBING DIAMETER (inches): 1/4	TUBING MATERIAL CODE: (see below) PE	PURGE PUMP TYPE:	PUMP EQUIPMENT MODEL & SERIAL #s:

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY — GALLONS: / LITERS:

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88 — 1 GALLON = 3.785 LITERS

WELL SCREEN INTERVAL DEPTH (feet): 18-28 ~~40-50~~	INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 30'	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 30'	PURGING INITIATED AT: 1045	PURGING ENDED AT: 1125	TOTAL VOLUME PURGED: GALLONS: ~3 Gall / LITERS:

WATER LEVEL STABLIZATION — DEPTH TO WATER WITH PUMP: (feet)

TIME INTERVAL (min)	FLOW RATE (mL/min)	PUMP SETTINGS	DEPTH TO WATER (feet) START	DEPTH TO WATER (feet) END	Water Level Stable (Yes or No)	VOLUME PURGED DURING INTERVAL (mL)
1min	275	70ft 30psi 10+5	27.41	24.71	yes	

TIME (min)*	FLOW RATE (mL/min) (100-500 mL/min)**	DEPTH TO WATER (feet) (+/- 0.3')**	TURBIDITY (NTU) (+/- 10%)or <5**	DISSOLVED OXYGEN (mg/L) (+/- 10%)or <0.5**	pH (+/- 0.1)**	TEMP (°C) (+/- 3%)**	SPECIFIC CONDUCTIVITY (µS/cm) (+/- 3%)**	ORP (mV) (+/- 10mV)**	COLOR (describe)	ODOR (describe)
1055	275	27.41	34	8.74	6.41	11.71	281	-37.6	cloudy	None
1100	275	27.41	29	0.81	6.42	11.54	276	-38.1	" "	" "
1105	275	27.41	25	0.80	6.41	11.51	274	-37.8	" "	" "
1110	275	27.41	19	0.28	6.41	11.54	272	-39.4	" "	" "
1115	275	27.41	19	0.28	6.41	11.54	271	-39.8	" "	" "
1120	275	27.41	18	0.29	6.41	11.54	276	-39.0	" "	" "

* every 5 or more minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

** EPA stabilization parameters from EPA/540/S-95/504 April 1996

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Erin Foley	SAMPLER(S) SIGNATURES: Erin Foley	SAMPLING INITIATED AT: 1125	SAMPLING ENDED AT: 1133
PUMP OR TUBING DEPTH IN WELL (feet): 30'	SAMPLE PUMP FLOW RATE (mL per minute): 275	FIELD PARAMETER MONITORING EQUIPMENT MODEL & SERIAL #s:	
FIELD DECONTAMINATION: (Y) N	FIELD-FILTERED: (Y) N Filtration Equipment Type:	FILTER SIZE: ____ µm	DUPLICATE: Y (N)

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

WELL CONDITION CHECKLIST (circle appropriate item(s), cross out if not applicable)

Type: Flush Mount / (Stand Pipe) General Condition: (Good) / Needs Repair Well Caps: (Good) / Broken / None Lock: Good / Broken / (None)

Evidence of Rain Water Between Steel & PVC? Y / (N) Is Well Plumb?: Y / N PVC Riser: (Good) / Damaged / None

Evendence of Ponding Around Well? Y / (N) Concrete Collar: Good / Cracked / Leaking / (None)

REMARKS:

Sovereign Consulting Inc.
16 Chestnut Street, Suite 520
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MONITORING WELL SAMPLING LOG

Low Flow Sampling

Sovereign Consulting Inc.
4 Open Square Way, Suite #307
Holyoke, MA 01040
413-540-0650

PROJECT NAME: SHEPLEY'S HILL LANDFILL	PROJECT LOCATION: DEVENS, MA	DATE: 5.24.13	WELL ID: PZ-12-04
PROJECT NUMBER: AC001.02C-06	WELL DIAMETER: (inches) 2"	DEPTH TO WATER: (feet) 20.09	DEPTH TO BOTTOM: (feet)
			PID READING: (ppmv) 0.0

PURGING DATA

TUBING DIAMETER (inches): 1/4"	TUBING MATERIAL CODE: (see below) Te	PURGE PUMP TYPE: Peristaltic	PUMP EQUIPMENT MODEL & SERIAL #s: Geopump 2 #447

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88

1 GALLON = 3.785 LITERS

WELL SCREEN INTERVAL DEPTH (feet): 22-32	INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 27	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 27	PURGING INITIATED AT: 1015	PURGING ENDED AT: 1058	TOTAL VOLUME PURGED: GALLONS: 2.5 LITERS:

WATER LEVEL STABLIZATION DEPTH TO WATER WITH PUMP: (feet)

TIME INTERVAL (min)	FLOW RATE (mL/min)	PUMP SETTINGS	DEPTH TO WATER (feet) START	DEPTH TO WATER (feet) END	Water Level Stable (Yes or No)	VOLUME PURGED DURING INTERVAL (mL)
1	200	1/2	20.09	20.09	Y	200

TIME (min)*	FLOW RATE (mL/min) (100-500 mL/min)**	DEPTH TO WATER (feet) (+/- 0.3')**	TURBIDITY (NTU) (+/- 10%)or <5**	DISSOLVED OXYGEN (mg/L) (+/- 10%)or <0.5**	pH (+/- 0.1)**	TEMP (°C) (+/- 3%)**	SPECIFIC CONDUCTIVITY (µS/cm) (+/- 3%)**	ORP (mV) (+/- 10mV)**	COLOR (describe)	ODOR (describe)
1020	200	20.10	10.69	0.76	6.51	12.95	462	-77.5	~~cloudy~~/ Clear	none
1025	200	20.10	7.86	0.59	6.49	12.91	458	-80.5	" "	
1030	200	20.10	5.89	0.36	6.52	12.87	453	-82.6	" "	
1035	200	20.10	5.91	0.33	6.52	13.03	451	-82.2	" "	
1040	200	20.10	5.62	0.32	6.52	12.96	450	-83.5	" "	
1045	200	20.10	3.82	0.30	6.53	13.26	451	-83.4	" "	
1050	200	20.10	4.15	0.29	6.53	13.28	450	-86.3	" "	slight organic
1055	200	20.10	4.29	0.29	6.53	13.29	447	-86.9		

* every 5 or more minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

** EPA stabilization parameters from EPA/540/S-95/504 April 1996

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Catherine Swanson / SOVCON	SAMPLER(S) SIGNATURES: [signature]	SAMPLING INITIATED AT: 1100	SAMPLING ENDED AT: 1120
PUMP OR TUBING DEPTH IN WELL (feet): 27	SAMPLE PUMP FLOW RATE (mL per minute):	FIELD PARAMETER MONITORING EQUIPMENT MODEL & SERIAL #s: Turbidity Lamotte # 243-4110, YSI 556MPS #13D101143, WLM #61878	
FIELD DECONTAMINATION: (Y) N	FIELD-FILTERED: (Y) N Filtration Equipment Type: Metals/As/DOC	FILTER SIZE: ____ µm	DUPLICATE: Y (N)

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

WELL CONDITION CHECKLIST (circle appropriate item(s), cross out if not applicable)

Type: Flush Mount / Stand Pipe General Condition: Good / Needs Repair Well Caps: Good / Broken / None Lock: Good / Broken / None

Evidence of Rain Water Between Steel & PVC? Y / N Is Well Plumb?: Y / N PVC Riser: Good / Damaged / None

Evendence of Ponding Around Well? Y / N Concrete Collar: Good / Cracked / Leaking / None

REMARKS:

Sovereign Consulting Inc.
16 Chestnut Street, Suite 520
Foxboro, MA 02035
508-339-3200

MONITORING WELL SAMPLING LOG

Low Flow Sampling

Sovereign Consulting Inc.
4 Open Square Way, Suite #307
Holyoke, MA 01040
413-540-0650

PROJECT NAME: SHEPLEY'S HILL LANDFILL	PROJECT LOCATION: DEVENS, MA	DATE: 5.24.13	WELL ID: PZ-12-03
PROJECT NUMBER: AC001.02C-06	WELL DIAMETER: (inches) 2"	DEPTH TO WATER: (feet) 19.21	DEPTH TO BOTTOM: (feet) / PID READING: (ppmv) 0.0

PURGING DATA

TUBING DIAMETER (inches): 1/4"	TUBING MATERIAL CODE: (see below) Te	PURGE PUMP TYPE: peri	PUMP EQUIPMENT MODEL & SERIAL #s: Geopump 2 # 447
WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY			GALLONS: / LITERS:
WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88			1 GALLON = 3.785 LITERS / TOTAL VOLUME PURGED:
WELL SCREEN INTERVAL DEPTH (feet): 22-32	INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 27	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 27	PURGING INITIATED AT: 0840 / PURGING ENDED AT: 0918 / GALLONS: 3 / LITERS:

WATER LEVEL STABLIZATION — DEPTH TO WATER WITH PUMP: (feet)

TIME INTERVAL (min)	FLOW RATE (mL/min)	PUMP SETTINGS	DEPTH TO WATER (feet) START	DEPTH TO WATER (feet) END	Water Level Stable (Yes or No)	VOLUME PURGED DURING INTERVAL (mL)
1	200	1/2	19.21	19.21	Y	

TIME (min)*	FLOW RATE (mL/min) (100-500 mL/min)**	DEPTH TO WATER (feet) (+/- 0.3')**	TURBIDITY (NTU) (+/- 10%)or <5**	DISSOLVED OXYGEN (mg/L) (+/- 10%)or <0.5**	pH (+/- 0.1)**	TEMP (°C) (+/- 3%)**	SPECIFIC CONDUCTIVITY (µS/cm) (+/- 3%)**	ORP (mV) (+/- 10mV)**	COLOR (describe)	ODOR (describe)
0850	200	19.21	11.3	0.53	6.44	12.22	610	-97.5	cloudy orange	none
0855	200	19.21	2.22	0.26	6.54	12.15	600	-103.7	clear	
0900	200	19.22	2.25	0.35	6.57	12.26	587	-106.4	clear	
0905	200	19.22	2.17	0.24	6.59	12.25	576	-106.0	clear	
0910	200	19.22	1.94	0.23	6.60	12.16	571	-105.9	clear	
0915	200	19.22		0.23	6.60	12.21	563	-105.4	clear	

* every 5 or more minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

** EPA stabilization parameters from EPA/540/S-95/504 April 1996

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Sovcon / C. Swanson	SAMPLER(S) SIGNATURE(S): [signature]	SAMPLING INITIATED AT: 0920	SAMPLING ENDED AT: 0938
PUMP OR TUBING DEPTH IN WELL (feet): 27	SAMPLE PUMP FLOW RATE (mL per minute): 200	FIELD PARAMETER MONITORING EQUIPMENT MODEL & SERIAL #s: Turbidity: 243-4110 LaMotte YSI: 13D101143 WLM: 61878	
FIELD DECONTAMINATION: (Y) N	FIELD-FILTERED: (Y) N / FILTER SIZE: ____ µm / Filtration Equipment Type: for ~~Ma~~ HNO_3 + Voa bottles		DUPLICATE: Y (N)

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

WELL CONDITION CHECKLIST (circle appropriate item(s), cross out if not applicable)

Type: Flush Mount / Stand Pipe — General Condition: (Good) / Needs Repair — Well Caps: (Good) / Broken / None — Lock: (Good) / Broken / None

Evidence of Rain Water Between Steel & PVC? Y / (N) — Is Well Plumb?: (Y) / N — PVC Riser: (Good) / Damaged / None

Evendence of Ponding Around Welll? Y / (N) — Concrete Collar: (Good) / Cracked / Leaking / None

REMARKS:

Sovereign Consulting Inc.
16 Chestnut Street, Suite 520
Foxboro, MA 02035
508-339-3200

MONITORING WELL SAMPLING LOG

Low Flow Sampling

Sovereign Consulting Inc.
4 Open Square Way, Suite #307
Holyoke, MA 01040
413-540-0650

PROJECT NAME: SHEPLEY'S HILL LANDFILL	PROJECT LOCATION: DEVENS, MA	DATE: 5/24/13	WELL ID: SHM-10-03
PROJECT NUMBER: AC001.02C-06	WELL DIAMETER (inches): 2"	DEPTH TO WATER (feet): 26.44	DEPTH TO BOTTOM (feet):
			PID READING (ppmv): 0.1

PURGING DATA

TUBING DIAMETER (inches): 1/4"	TUBING MATERIAL CODE: (see below) Poly	PURGE PUMP TYPE: Bladder	PUMP EQUIPMENT MODEL & SERIAL #: Geotech 1060
WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY			GALLONS: / LITERS:
WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88			1 GALLON = 3.785 LITERS / TOTAL VOLUME PURGED: GALLONS: / LITERS:
WELL SCREEN INTERVAL DEPTH (feet): 58-68	INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 62'	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 62'	PURGING INITIATED AT: 8:46 / PURGING ENDED AT: 1030

WATER LEVEL STABLIZATION — DEPTH TO WATER WITH PUMP: (feet)

TIME INTERVAL (min)	FLOW RATE (mL/min)	PUMP SETTINGS	DEPTH TO WATER (feet) START	DEPTH TO WATER (feet) END	Water Level Stable (Yes or No)	VOLUME PURGED DURING INTERVAL (mL)
1		10/5, 60psi	26.44	26.44	Y	200

TIME (min)*	FLOW RATE (mL/min) (100-500 mL/min)**	DEPTH TO WATER (feet) (+/- 0.3)**	TURBIDITY (NTU) (+/- 10%)or <5**	DISSOLVED OXYGEN (mg/L) (+/- 10%)or <0.5**	pH (+/- 0.1)**	TEMP (°C) (+/- 3%)**	SPECIFIC CONDUCTIVITY (µS/cm) (+/- 3%)**	ORP (mV) (+/- 10mV)**	COLOR (describe) -	ODOR (describe) -
0950	200	26.44	5.80	0.75	6.63	11.68	1931	44.9	Clear	None
0955	↓	26.44	4.96	0.81	6.65	11.64	1930	44.4	↓	↓
1000		26.44	4.38	0.61	6.57	11.59	1971	56.9		
1005		26.44	4.08	0.65	6.57	11.57	1963	58.1		
1010		26.44	4.24	0.59	6.57	11.54	1958	57.0		
1015		26.44	3.52	0.58	6.56	11.53	1967	61.1		
1020		26.44	3.56	0.59	6.55	11.48	1969	61.4		
1025	↓	26.44	3.68	0.61	6.54	11.49	1981	61.5	↓	↓

* every 5 or more minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

** EPA stabilization parameters from EPA/540/S-95/504 April 1996

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Julie Godzore	SAMPLER(S) SIGNATURES: [signature]	SAMPLING INITIATED AT: 1030	SAMPLING ENDED AT: 1045
PUMP OR TUBING DEPTH IN WELL (feet): 62'	SAMPLE PUMP FLOW RATE (mL per minute): 10/5 68 psi	FIELD PARAMETER MONITORING EQUIPMENT MODEL & SERIAL #s: YSI 556 MPS 11K101289, Turbidity Lamotte 2020 240-4110	
FIELD DECONTAMINATION: (Y) N	FIELD-FILTERED: (Y) N FILTER SIZE: ____ µm Filtration Equipment Type:		DUPLICATE: (Y) N

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

WELL CONDITION CHECKLIST (circle appropriate item(s), cross out if not applicable)

Type: Flush Mount / (Stand Pipe) General Condition: (Good) / Needs Repair Well Caps: (Good) / Broken / None Lock: Good / Broken / (None)

Evidence of Rain Water Between Steel & PVC? Y / (N) Is Well Plumb?: (Y) / N PVC Riser: (Good) / Damaged / None

Evendence of Ponding Around Welll? Y / (N) Concrete Collar: Good / Cracked / Leaking / (None)

REMARKS: DUP01-052413

Sovereign Consulting Inc.
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Foxboro, MA 02035
508-339-3200

MONITORING WELL SAMPLING LOG

Low Flow Sampling

Sovereign Consulting Inc.
4 Open Square Way, Suite #307
Holyoke, MA 01040
413-540-0650

PROJECT NAME: SHEPLEY'S HILL LANDFILL	PROJECT LOCATION: DEVENS, MA	DATE: 5-24-13	WELL ID: PZ-12-08
PROJECT NUMBER: AC001.02C-06	WELL DIAMETER: (inches) 2"	DEPTH TO WATER: (feet) 26.06	DEPTH TO BOTTOM: (feet)
			PID READING: (ppmv) 0.0

PURGING DATA

TUBING DIAMETER (inches): 1/4	TUBING MATERIAL CODE: (see below) PE	PURGE PUMP TYPE: Bladder	PUMP EQUIPMENT MODEL & SERIAL #s: QED: 1518

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY

GALLONS: LITERS:

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88

1 GALLON = 3.785 LITERS

TOTAL VOLUME PURGED: GALLONS: LITERS:

WELL SCREEN INTERVAL DEPTH (feet): 18-28 ~~40-50~~	INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 28'	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 28'	PURGING INITIATED AT: 0850	PURGING ENDED AT: 0925

WATER LEVEL STABLIZATION DEPTH TO WATER WITH PUMP: (feet)

TIME INTERVAL (min)	FLOW RATE (mL/min)	PUMP SETTINGS	DEPTH TO WATER (feet) START	DEPTH TO WATER (feet) END	Water Level Stable (Yes or No)	VOLUME PURGED DURING INTERVAL (mL)
1	275	70 ft 30 psi 10+5	26.07	26.07	yes	

TIME (min)*	FLOW RATE (mL/min) (100-500 mL/min)**	DEPTH TO WATER (feet) (+/- 0.3')**	TURBIDITY (NTU) (+/- 10%)or <5**	DISSOLVED OXYGEN (mg/L) (+/- 10%)or <0.5**	pH (+/- 0.1)**	TEMP (°C) (+/- 3%)**	SPECIFIC CONDUCTIVITY (µS/cm) (+/- 3%)**	ORP (mV) (+/- 10mV)**	COLOR (describe)	ODOR (describe)
0900	275	26.07	20	2.77	5.90	10.88	139	128.0	cloudy	None
0905	275	26.07	15	2.57	5.91	10.75	132	125.4	" "	" "
0910	275	26.07	10	2.67	5.91	10.68	129	130.1	" "	" "
0915	275	26.07	9.1	2.66	5.90	10.63	126	131.1	Clear	" "
0920	275	26.07	4.2	2.68	5.90	10.63	125	131.7	Clear	" "
0925						Sample				

* every 5 or more minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

** EPA stabilization parameters from EPA/540/S-95/504 April 1996

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Erin Foley	SAMPLER(S) SIGNATURES: Er Foley	SAMPLING INITIATED AT: 0925	SAMPLING ENDED AT: 0932
PUMP OR TUBING DEPTH IN WELL (feet): 28'	SAMPLE PUMP FLOW RATE (mL per minute): 275	FIELD PARAMETER MONITORING EQUIPMENT MODEL & SERIAL #s:	

FIELD DECONTAMINATION: (Y) N

FIELD-FILTERED (Y) N FILTER SIZE: ____ µm
Filtration Equipment Type:

DUPLICATE: Y (N)

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

WELL CONDITION CHECKLIST (circle appropriate item(s), cross out if not applicable)

Type: ~~Flush Mount~~ / Stand Pipe General Condition: (Good) / Needs Repair Well Caps: (Good) / Broken / None Lock: Good / Broken / (None)

Evidence of Rain Water Between Steel & PVC? Y / (N) Is Well Plumb?: Y / N PVC Riser: (Good) / Damaged / None

Evendence of Ponding Around Well? Y / (N) Concrete Collar: Good / Cracked / Leaking / (None)

REMARKS:

Sovereign Consulting Inc.
16 Chestnut Street, Suite 520
Foxboro, MA 02035
508-339-3200

MONITORING WELL SAMPLING LOG

Low Flow Sampling

Sovereign Consulting Inc.
4 Open Square Way, Suite #307
Holyoke, MA 01040
413-540-0650

PROJECT NAME: SHEPLEY'S HILL LANDFILL	PROJECT LOCATION: DEVENS, MA	DATE: 5/23/13	WELL ID: SHL-11
PROJECT NUMBER: AC001.02C-06	WELL DIAMETER: (inches) 2"	DEPTH TO WATER: (feet) 18.51	DEPTH TO BOTTOM: (feet)
			PID READING: (ppmv) 0.0

PURGING DATA

TUBING DIAMETER (inches): 1/2	TUBING MATERIAL CODE: (see below) PE	PURGE PUMP TYPE: peristaltic	PUMP EQUIPMENT MODEL & SERIAL #: Geopump 1466

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY

GALLONS: LITERS:

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88

1 GALLON = 3.785 LITERS

TOTAL VOLUME PURGED: GALLONS: 6.0 LITERS:

WELL SCREEN INTERVAL DEPTH (feet):	INITIAL PUMP OR TUBING DEPTH IN WELL (feet):	FINAL PUMP OR TUBING DEPTH IN WELL (feet):	PURGING INITIATED AT:	PURGING ENDED AT:
12-27'	22'	22'	1315	1418

WATER LEVEL STABLIZATION DEPTH TO WATER WITH PUMP: (feet)

TIME INTERVAL (min)	FLOW RATE (mL/min)	PUMP SETTINGS	DEPTH TO WATER (feet) START	DEPTH TO WATER (feet) END	Water Level Stable (Yes or No)	VOLUME PURGED DURING INTERVAL (mL)
1min	300	1/4 < X < 3/4 turn	18.52	18.52	Yes	300

TIME (min)*	FLOW RATE (mL/min) (100-500 mL/min)**	DEPTH TO WATER (feet) (+/- 0.3')**	TURBIDITY (NTU) (+/- 10%)or <5**	DISSOLVED OXYGEN (mg/L) (+/- 10%)or <0.5**	pH (+/- 0.1)**	TEMP (°C) (+/- 3%)**	SPECIFIC CONDUCTIVITY (µS/cm) (+/- 3%)**	ORP (mV) (+/- 10mV)**	COLOR (describe)	ODOR (describe)
1320	300	18.52	130	0.13	6.61	12.38	463	-81.6	Clear	none
1325	300	18.52	130	0.12	6.64	12.45	463	-85.0	clear	none
1330	300	18.52	45	0.10	6.67	12.35	463	-88.4	"	"
1335	300	18.52	40	0.10	6.70	12.02	462	-90.4	"	"
1340	300	18.52	38	0.09	6.72	12.29	462	-91.9	"	"
1345	300	18.52	25	0.10	6.73	12.29	462	-92.7	"	"
1350	300	18.52	23	0.20	6.73	12.35	462	-92.8	"	"
1355	300	18.52	21	0.00	6.73	12.30	462	-93.5	"	"
1400	300	18.52	13	0.10	6.71	12.48	462	-93.3	"	"
1405	300	18.52	10	0.15	6.73	12.33	463	-93.5	"	"
1410	300	18.52	9.1	0.15	6.72	12.26	462	-93.9	"	"
1415	300	18.52	8.5	0.18	6.75	12.24	462	-96.0	"	"

* every 5 or more minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

** EPA stabilization parameters from EPA/540/S-95/504 April 1996

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Mikel Mendes / Sovcon	SAMPLER(S) SIGNATURES: Mikel Mendes	SAMPLING INITIATED AT: 1418	SAMPLING ENDED AT: 1430
PUMP OR TUBING DEPTH IN WELL (feet): 22'	SAMPLE PUMP FLOW RATE (mL per minute): 300	FIELD PARAMETER MONITORING EQUIPMENT MODEL & SERIAL #s: YSI 556 MPS / 08D 101029	

FIELD DECONTAMINATION: (Y) N

FIELD-FILTERED: (Y) N Filtration Equipment Type: FILTER SIZE: 45 µm Do dissolved metals only

DUPLICATE: Y (N)

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

WELL CONDITION CHECKLIST (circle appropriate item(s), cross out if not applicable)

Type: Flush Mount / (Stand Pipe) General Condition: (Good) / Needs Repair Well Caps: (Good) / Broken / None Lock: Good / Broken / (None)

Evidence of Rain Water Between Steel & PVC? Y / (N) Is Well Plumb?: Y / N PVC Riser: (Good) / Damaged / None

Evendence of Ponding Around Welll? Y / (N) Concrete Collar: (Good) / Cracked / Leaking / None

REMARKS:
* removed old tubing; replaced w/ new 1/2"-PE tubing
* Purge water quickly turning orange after Fe settles out
* condensation on turbidity sample vial affecting readings

Sovereign Consulting Inc.
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MONITORING WELL SAMPLING LOG

Low Flow Sampling

Sovereign Consulting Inc.
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Holyoke, MA 01040
413-540-0650

PROJECT NAME: **SHEPLEY'S HILL LANDFILL**	PROJECT LOCATION: **DEVENS, MA**	DATE: 5.23.13	WELL ID: Stm 10 12
PROJECT NUMBER: **AC001.02C-06**	WELL DIAMETER: (inches) 2"	DEPTH TO WATER: (feet) 33.7	DEPTH TO BOTTOM: (feet)
PID READING: (ppmv) 0.0			

PURGING DATA

TUBING DIAMETER (inches): 1/4	TUBING MATERIAL CODE: (see below) PE	PURGE PUMP TYPE: Bladder	PUMP EQUIPMENT MODEL & SERIAL #s: QED 1578

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY

GALLONS: LITERS:

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88

1 GALLON = 3.785 LITERS

TOTAL VOLUME PURGED: GALLONS: LITERS:

WELL SCREEN INTERVAL DEPTH (feet): 45-55	INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 50'	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 50'	PURGING INITIATED AT: 1345	PURGING ENDED AT: 1420

WATER LEVEL STABLIZATION DEPTH TO WATER WITH PUMP: (feet)

TIME INTERVAL (min)	FLOW RATE (mL/min)	PUMP SETTINGS	DEPTH TO WATER (feet) START	DEPTH TO WATER (feet) END	Water Level Stable (Yes or No)	VOLUME PURGED DURING INTERVAL (mL)
1min	200	10+5	33.7	33.7	yes	
1min	300	10+5 125/55	33.7	33.7	yes	

TIME (min)*	FLOW RATE (mL/min) (100-500 mL/min)**	DEPTH TO WATER (feet) (+/- 0.3')**	TURBIDITY (NTU) (+/- 10%)or <5**	DISSOLVED OXYGEN (mg/L) (+/- 10%)or <0.5**	pH (+/- 0.1)**	TEMP (°C) (+/- 3%)**	SPECIFIC CONDUCTIVITY (µS/cm) (+/- 3%)**	ORP (mV) (+/- 10mV)**	COLOR (describe)	ODOR (describe)
1355	300	33.7	13.3	0.40	6.07	12.03	298	-39.0	Clear	~~13.3~~ None
1400	300	33.7	6.15	0.38	6.08	12.03	299	-41.1	~~6.15~~ Clear ~~6.1~~ none
1405	300	33.7	5.69	0.26	6.10	11.84	300	-43.6	Clear	None
1410	300	33.7	4.50	0.25	6.10	11.83	301	-43.8	Clear	None
1415	300	33.7	4.36	0.26	6.09	11.94	302	-44.9	" "	" "
1420					Sample					

* every 5 or more minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

** EPA stabilization parameters from EPA/540/S-95/504 April 1996

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Erin Foley	SAMPLER(S) SIGNATURES: E. Foley	SAMPLING INITIATED AT: 1420	SAMPLING ENDED AT: 1430
PUMP OR TUBING DEPTH IN WELL (feet): 50'	SAMPLE PUMP FLOW RATE (mL per minute): 300	FIELD PARAMETER MONITORING EQUIPMENT MODEL & SERIAL #s:	

FIELD DECONTAMINATION: (Y) N

FIELD-FILTERED: (Y) N FILTER SIZE: ____ µm

Filtration Equipment Type:

DUPLICATE: Y (N)

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

WELL CONDITION CHECKLIST (circle appropriate item(s), cross out if not applicable)

Type: Flush Mount / (Stand Pipe) General Condition: (Good) / Needs Repair Well Caps: (Good) / Broken / None Lock: (Good) / Broken / None

Evidence of Rain Water Between Steel & PVC? Y / (N) Is Well Plumb?: Y / N PVC Riser: (Good) / Damaged / None

Evendence of Ponding Around Welll? Y / (N) Concrete Collar: Good / Cracked / Leaking / (None)

REMARKS:

Sovereign Consulting Inc.
16 Chestnut Street, Suite 520
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MONITORING WELL SAMPLING LOG

Low Flow Sampling

Sovereign Consulting Inc.
4 Open Square Way, Suite #307
Holyoke, MA 01040
413-540-0650

PROJECT NAME: SHEPLEY'S HILL LANDFILL	PROJECT LOCATION: DEVENS, MA	DATE: 5-23-13	WELL ID: SHM-10
PROJECT NUMBER: AC001.02C-06	WELL DIAMETER: (inches) 2"	DEPTH TO WATER: (feet) 19.16	DEPTH TO BOTTOM: (feet) 81.20	PID READING: (ppmv) BDL

PURGING DATA

TUBING DIAMETER (inches): 2 1/8"	TUBING MATERIAL CODE: (see below) T	PURGE PUMP TYPE: Peri	PUMP EQUIPMENT MODEL & SERIAL #s:

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY

GALLONS: LITERS:

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88

1 GALLON = 3.785 LITERS

TOTAL VOLUME PURGED: GALLONS: LITERS:

WELL SCREEN INTERVAL DEPTH (feet): 69.5-79.5	INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 75'	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 75'	PURGING INITIATED AT: 1320	PURGING ENDED AT:

WATER LEVEL STABLIZATION DEPTH TO WATER WITH PUMP: (feet)

TIME INTERVAL (min)	FLOW RATE (mL/min)	PUMP SETTINGS	DEPTH TO WATER (feet) START	DEPTH TO WATER (feet) END	Water Level Stable (Yes or No)	VOLUME PURGED DURING INTERVAL (mL)
1min	400		19.50	19.50	yes	400

TIME (min)*	FLOW RATE (mL/min) (100-500 mL/min)**	DEPTH TO WATER (feet) (+/- 0.3')**	TURBIDITY (NTU) (+/- 10%)or <5**	DISSOLVED OXYGEN (mg/L) (+/- 10%)or <0.5**	pH (+/- 0.1)**	TEMP (°C) (+/- 3%)**	SPECIFIC CONDUCTIVITY (µS/cm) (+/- 3%)**	ORP (mV) (+/- 10mV)**	COLOR (describe) -	ODOR (describe) -
1325	400	19.50	5.84	1.04	6.62	12.69	465	-127.9	Clear	none
1330		19.50	4.98	0.54	6.63	12.43	465	-130.4	Clear	none
1335		19.50	4.91	0.40	6.64	12.71	466	-125.3	Clear	none
1340		19.50	4.89	0.38	6.64	12.74	466	-126.3	Clear	none
1345		19.50	4.89	0.36	6.64	12.97	469	-123.4	Clear	none
1350		19.50	2.63	2.63	6.66	13.57	475	-124.8	Clear	none
1400		19.50	3.11	0.84	6.64	13.57	478	-121.2	Clear	none
1405		19.50	4.66	0.86	6.60	13.22	473	-120.7	Clear	none
1410										

* every 5 or more minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

** EPA stabilization parameters from EPA/540/S-95/504 April 1996

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: JAG	SAMPLER(S) SIGNATURES: [signature]	SAMPLING INITIATED AT: 1410	SAMPLING ENDED AT: 1425
PUMP OR TUBING DEPTH IN WELL (feet): 75'	SAMPLE PUMP FLOW RATE (mL per minute): 400	FIELD PARAMETER MONITORING EQUIPMENT MODEL & SERIAL #s: VS1556 MK101289	
FIELD DECONTAMINATION: Y N	FIELD-FILTERED: Y N FILTER SIZE: 5 µm Filtration Equipment Type:		DUPLICATE: Y N

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

WELL CONDITION CHECKLIST (circle appropriate item(s), cross out if not applicable)

Type: Flush Mount / Stand Pipe General Condition: Good / Needs Repair Well Caps: Good / Broken / None Lock: Good / Broken / None

Evidence of Rain Water Between Steel & PVC? Y / N Is Well Plumb?: Y / N PVC Riser: Good / Damaged / None

Evendence of Ponding Around Welll? Y / N Concrete Collar: Good / Cracked / Leaking / None

REMARKS:

Sovereign Consulting Inc.
16 Chestnut Street, Suite 520
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508-339-3200

MONITORING WELL SAMPLING LOG

Low Flow Sampling

Sovereign Consulting Inc.
4 Open Square Way, Suite #307
Holyoke, MA 01040
413-540-0650

PROJECT NAME: SHEPLEY'S HILL LANDFILL	PROJECT LOCATION: DEVENS, MA	DATE: 5.23.13	WELL ID: SHm-10-13
PROJECT NUMBER: AC001.02C-06	WELL DIAMETER: (inches) 2"	DEPTH TO WATER: (feet) 25.78	DEPTH TO BOTTOM: (feet) / PID READING: (ppmv)

PURGING DATA

TUBING DIAMETER (inches): 1/4	TUBING MATERIAL CODE: (see below) PE	PURGE PUMP TYPE: Bladder	PUMP EQUIPMENT MODEL & SERIAL #s: QED: 1578

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY

GALLONS: / LITERS:

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88

1 GALLON = 3.785 LITERS

TOTAL VOLUME PURGED: GALLONS: 13.5 / LITERS:

WELL SCREEN INTERVAL DEPTH (feet): 60-70	INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 65'	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 65'	PURGING INITIATED AT: 1155	PURGING ENDED AT: 1230

WATER LEVEL STABLIZATION — DEPTH TO WATER WITH PUMP: (feet)

TIME INTERVAL (min)	FLOW RATE (mL/min)	PUMP SETTINGS	DEPTH TO WATER (feet) START	DEPTH TO WATER (feet) END	Water Level Stable (Yes or No)	VOLUME PURGED DURING INTERVAL (mL)
1min	275	10 v s 125ft @ 50psi	25.78	25.78	yes	

TIME (min)*	FLOW RATE (mL/min) (100-500 mL/min)**	DEPTH TO WATER (feet) (+/- 0.3')**	TURBIDITY (NTU) (+/- 10%)or <5**	DISSOLVED OXYGEN (mg/L) (+/- 10%)or <0.5**	pH (+/- 0.1)**	TEMP (°C) (+/- 3%)**	SPECIFIC CONDUCTIVITY (µS/cm) (+/- 3%)**	ORP (mV) (+/- 10mV)**	COLOR (describe) -	ODOR (describe) -
1200	275	25.78	3.23	0.62	6.42	12.73	530	-84.4	1.4B black sed	None
1205	275	25.78	3.30	0.46	6.32	12.87	548	-86.2	clear	" "
1210	275	25.78	3.28	0.41	6.33	12.72	551	-87.2	" "	" "
1215	275	25.78	15.3	0.25	6.34	12.54	561	-89.6	1.4B black	
1220	275	25.78	14.7	0.24	6.35	12.58	565	-90.7		
1225	275	25.78	14.4	0.22	6.35	12.59	571	-91.7		
1230	Sample									

* every 5 or more minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

** EPA stabilization parameters from EPA/540/S-95/504 April 1996

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Erin Foley	SAMPLER(S) SIGNATURES: Erin Foley	SAMPLING INITIATED AT: 1230	SAMPLING ENDED AT: 1317
PUMP OR TUBING DEPTH IN WELL (feet): 65'	SAMPLE PUMP FLOW RATE (mL per minute): 275	FIELD PARAMETER MONITORING EQUIPMENT MODEL & SERIAL #s:	

FIELD DECONTAMINATION: (Y) N

FIELD-FILTERED: (Y) N FILTER SIZE: ____ µm
Filtration Equipment Type:

DUPLICATE: Y (N)

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

WELL CONDITION CHECKLIST (circle appropriate item(s), cross out if not applicable)

Type: Flush Mount / (Stand Pipe) General Condition: (Good) / Needs Repair Well Caps: (Good) / Broken / None Lock: (Good) / Broken / (None)

Evidence of Rain Water Between Steel & PVC? Y / N Is Well Plumb?: Y / N PVC Riser: (Good) / Damaged / None

Evendence of Ponding Around Well? Y / (N). Concrete Collar: Good / Cracked / Leaking / (None)

REMARKS:

MS/MSD collected

Sovereign Consulting Inc.
16 Chestnut Street, Suite 520
Foxboro, MA 02035
508-339-3200

MONITORING WELL SAMPLING LOG

Low Flow Sampling

Sovereign Consulting Inc.
4 Open Square Way, Suite #307
Holyoke, MA 01040
413-540-0650

PROJECT NAME: **SHEPLEY'S HILL LANDFILL**	PROJECT LOCATION: **DEVENS, MA**	DATE: 5-23-13	WELL ID: SHM-10-07
PROJECT NUMBER: **AC001.02C-06**	WELL DIAMETER: (inches) 2"	DEPTH TO WATER: (feet) 27.45	DEPTH TO BOTTOM: (feet) 50.05
PID READING: (ppmv) RDL			

PURGING DATA

TUBING DIAMETER (inches): 1/4	TUBING MATERIAL CODE: (see below) T	PURGE PUMP TYPE: Bladder	PUMP EQUIPMENT MODEL & SERIAL #s:

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY

GALLONS: | LITERS:

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88

1 GALLON = 3.785 LITERS

WELL SCREEN INTERVAL DEPTH (feet): 40-50	INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 45	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 45	PURGING INITIATED AT: 1130	PURGING ENDED AT:	TOTAL VOLUME PURGED: GALLONS: LITERS:

WATER LEVEL STABLIZATION | DEPTH TO WATER WITH PUMP: (feet)

TIME INTERVAL (min)	FLOW RATE (mL/min)	PUMP SETTINGS	DEPTH TO WATER (feet) START	DEPTH TO WATER (feet) END	Water Level Stable (Yes or No)	VOLUME PURGED DURING INTERVAL (mL)
1 Min	450	S 40	27.45	27.45	Y	450

TIME (min)*	FLOW RATE (mL/min) (100-500 mL/min)**	DEPTH TO WATER (feet) (+/- 0.3')**	TURBIDITY (NTU) (+/- 10%)or <5**	DISSOLVED OXYGEN (mg/L) (+/- 10%)or <0.5**	pH (+/- 0.1)**	TEMP (°C) (+/- 3%)**	SPECIFIC CONDUCTIVITY (µS/cm) (+/- 3%)**	ORP (mV) (+/- 10mV)**	COLOR (describe)	ODOR (describe)
1135		27.35	Over	2.90	6.52	12.01	515	107.2	Cloudy	—
1140		27.35	Over	2.11	6.49	12.08	552	-108.4	Cloudy	—
1145		27.37	7.61	1.84	6.49	11.97	560	-110.1	Cloudy	—
1150		27.35	6.91	1.66	6.49	12.07	561	-110.4	Cloudy	—
1155		27.35	4.91	1.33	6.49	12.00	559	-110.5	Cloudy	none
1200		27.37	4.67	1.26	6.50	11.99	560	-110.9	Clear	none
1205		27.35	4.65	1.22	6.50	11.99	560	-110.4	Clear	none
1210		27.35	4.61	1.20	6.50	12.00	560	-111.6	Clear	none
1215		27.35	4.60	1.23	6.50	12.03	561	-109.6	Clear	none

* every 5 or more minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

** EPA stabilization parameters from EPA/540/S-95/504 April 1996

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: JG, SL	SAMPLER(S) SIGNATURES: [signature]	SAMPLING INITIATED AT: 1200	SAMPLING ENDED AT:
PUMP OR TUBING DEPTH IN WELL (feet):	SAMPLE PUMP FLOW RATE (mL per minute):	FIELD PARAMETER MONITORING EQUIPMENT MODEL & SERIAL #s: YSI556 DIR101289	
FIELD DECONTAMINATION: Y N	FIELD-FILTERED: Y N FILTER SIZE: ____ µm Filtration Equipment Type:		DUPLICATE: Y (N)

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

WELL CONDITION CHECKLIST (circle appropriate item(s), cross out if not applicable)

Type: Flush Mount / Stand Pipe General Condition: Good / Needs Repair Well Caps: Good / Broken / None Lock: Good / Broken / None

Evidence of Rain Water Between Steel & PVC? Y / N Is Well Plumb?: Y / N PVC Riser: Good / Damaged / None

Evendence of Ponding Around Welll? Y / N Concrete Collar: Good / Cracked / Leaking / None

REMARKS:

Sovereign Consulting Inc.
16 Chestnut Street, Suite 520
Foxboro, MA 02035
508-339-3200

MONITORING WELL SAMPLING LOG

Low Flow Sampling

Sovereign Consulting Inc.
4 Open Square Way, Suite #307
Holyoke, MA 01040
413-540-0650

PROJECT NAME: SHEPLEY'S HILL LANDFILL	PROJECT LOCATION: DEVENS, MA	DATE: 5/23/13	WELL ID: KHP-01-38A
PROJECT NUMBER: AC001.02C-06	WELL DIAMETER: (inches) 1/2"	DEPTH TO WATER: (feet) 3.829	DEPTH TO BOTTOM: (feet)
			PID READING: (ppmv) 0.0

PURGING DATA

TUBING DIAMETER (inches): 1/4"	TUBING MATERIAL CODE: (see below) PE	PURGE PUMP TYPE: peristaltic	PUMP EQUIPMENT MODEL & SERIAL #: geopump / 466

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY

GALLONS: | LITERS:

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88

1 GALLON = 3.785 LITERS

WELL SCREEN INTERVAL DEPTH (feet): 15-6.5	INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 3.5	FINAL PUMP OR TUBING DEPTH IN WELL (feet):	PURGING INITIATED AT: 1128	PURGING ENDED AT: 1208	TOTAL VOLUME PURGED: GALLONS: 3.5 LITERS:

WATER LEVEL STABLIZATION DEPTH TO WATER WITH PUMP: (feet)

TIME INTERVAL (min)	FLOW RATE (mL/min)	PUMP SETTINGS	DEPTH TO WATER (feet) START	DEPTH TO WATER (feet) END	Water Level Stable (Yes or No)	VOLUME PURGED DURING INTERVAL (mL)
1 min	300	1/4 < x < 3/4 turn	3.89	3.89	Y	300

TIME (min)*	FLOW RATE (mL/min) (100-500 mL/min)**	DEPTH TO WATER (feet) (+/- 0.3')**	TURBIDITY (NTU) (+/- 10%)or <5**	DISSOLVED OXYGEN (mg/L) (+/- 10%)or <0.5**	pH (+/- 0.1)**	TEMP (°C) (+/- 3%)**	SPECIFIC CONDUCTIVITY (µS/cm) (+/- 3%)**	ORP (mV) (+/- 10mV)**	COLOR (describe)	ODOR (describe)
1135	300	3.89	12.0	0.22	6.70	10.58	156	-51.1	clear	none
1140	300	3.89	6.0	0.16	6.67	10.67	156	-61.9	"	"
1145	300	3.89	5.0	0.14	6.68	10.63	156	-63.6	"	"
1150	300	3.89	5.3	0.15	6.67	10.69	156	-65.5	"	"
1155	300	3.89	4.2	0.13	6.67	10.68	156	-68.0	"	"
1200	300	3.89	4.0	0.13	6.68	10.73	156	-69.2	"	"
1205	300	3.90	4.3	0.12	6.66	10.79	156	-70.1		

* every 5 or more minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

** EPA stabilization parameters from EPA/540/S-95/504 April 1996

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Mykel Mendes / SovCon	SAMPLER(S) SIGNATURES: Mykel Mendes	SAMPLING INITIATED AT: 1208	SAMPLING ENDED AT: 1221
PUMP OR TUBING DEPTH IN WELL (feet):	SAMPLE PUMP FLOW RATE (mL per minute): 300	FIELD PARAMETER MONITORING EQUIPMENT MODEL & SERIAL #s: YSI 556 MPS / 08D101029	Lamotte 2020 0354-4197
FIELD DECONTAMINATION: Y (N)	FIELD-FILTERED: (Y) N FILTER SIZE: ____ µm Filtration Equipment Type: Dec / metals only		DUPLICATE: Y (N)

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

WELL CONDITION CHECKLIST (circle appropriate item(s); cross out if not applicable)

Type: Flush Mount / (Stand Pipe) General Condition: (Good) / Needs Repair Well Caps: Good / Broken / None Lock: Good / Broken / (None)

Evidence of Rain Water Between Steel & PVC? Y / (N) Is Well Plumb?: Y / N PVC Riser: ~~Good~~ / Damaged / (None) – only steel pipe casing

Evendence of Ponding Around Well? Y / (N) Concrete Collar: Good / Cracked / Leaking / (None)

REMARKS:

Sovereign Consulting Inc.
16 Chestnut Street, Suite 520
Foxboro, MA 02035
508-339-3200

MONITORING WELL SAMPLING LOG

Low Flow Sampling

Sovereign Consulting Inc.
4 Open Square Way, Suite #307
Holyoke, MA 01040
413-540-0650

PROJECT NAME: SHEPLEY'S HILL LANDFILL	PROJECT LOCATION: DEVENS, MA		DATE: 5/23/13	WELL ID: SHP-01-38B
PROJECT NUMBER: AC001.02C-06	WELL DIAMETER: (inches) 1/2"	DEPTH TO WATER: (feet) 3.90	DEPTH TO BOTTOM: (feet)	PID READING: (ppmv)

PURGING DATA

TUBING DIAMETER (inches): 1/4"	TUBING MATERIAL CODE: (see below) PE	PURGE PUMP TYPE: peristaltic	PUMP EQUIPMENT MODEL & SERIAL #s: geopump / 466

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY

GALLONS: | LITERS:

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88 | 1 GALLON = 3.785 LITERS | TOTAL VOLUME PURGED:

WELL SCREEN INTERVAL DEPTH (feet): 18-23'	INITIAL PUMP OR TUBING DEPTH IN WELL (feet):	FINAL PUMP OR TUBING DEPTH IN WELL (feet):	PURGING INITIATED AT: 0940	PURGING ENDED AT: 1045	GALLONS: 11.0 LITERS:

WATER LEVEL STABLIZATION | DEPTH TO WATER WITH PUMP: (feet)

TIME INTERVAL (min)	FLOW RATE (mL/min)	PUMP SETTINGS	DEPTH TO WATER (feet) START	DEPTH TO WATER (feet) END	Water Level Stable (Yes or No)	VOLUME PURGED DURING INTERVAL (mL)
1min	450	1/4 x 2 3/4	4.06	4.06	Y	450

TIME (min)*	FLOW RATE (mL/min) (100-500 mL/min)**	DEPTH TO WATER (feet) (+/- 0.3')**	TURBIDITY (NTU) (+/- 10%)or <5**	DISSOLVED OXYGEN (mg/L) (+/- 10%)or <0.5**	pH (+/- 0.1)**	TEMP (°C) (+/- 3%)**	SPECIFIC CONDUCTIVITY (µS/cm) (+/- 3%)**	ORP (mV) (+/- 10mV)**	COLOR (describe)	ODOR (describe)
0945	450	4.06	2.8	0.26	6.19	10.55	584	-73.4	mclear	slight aroxic odor
0950	450	4.06	1.1	0.23	6.36	10.56	585	-88.1	clear	"
0955	450	4.06	0.8	0.27	6.46	10.62	585	-94.1	clear	"
1000	450	4.06	1.0	1.05	6.54	10.59	585	-100	clear	"
1005	450	4.06	0.25	1.55	6.56	10.63	585	-101.7	"	"
1010	450	4.06	0.0	1.30	6.57	10.62	585	-103.2	"	"
1015	450	4.06	0.0	0.91	6.54	10.61	584	-104.9	"	"
1020	450	4.06	0.25	0.81	6.59	10.67	584	-105.3	"	"
1025	450	4.06	0.0	0.65	6.60	10.67	584	-106.5	"	"
1030	450	4.06	0.0	0.52	6.61	10.63	584	-107.1	"	"
1035	450	4.06	0.0	0.44	6.61	10.67	584	-107.7	"	"
1040	450	4.06	0.0	0.37	6.62	10.81	584	-108.8	"	"
1045	450	4.06	0.0	0.30	6.62	10.78	583	-109.1	"	"

* every 5 or more minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

** EPA stabilization parameters from EPA/540/S-95/504 April 1996

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Mykel Mendes/SOV con	SAMPLER(S) SIGNATURES: Mykel Mendes	SAMPLING INITIATED AT: 1045	SAMPLING ENDED AT: 1055
PUMP OR TUBING DEPTH IN WELL (feet):	SAMPLE PUMP FLOW RATE (mL per minute):	FIELD PARAMETER MONITORING EQUIPMENT MODEL & SERIAL #s: YSI 556 MPS / 08D101029	Lamotte 2020 354-4197

FIELD DECONTAMINATION: (Y) N | FIELD-FILTERED: (Y) N | FILTER SIZE: ___ µm | Filtration Equipment Type: pocl metals analysis only | DUPLICATE: Y (N)

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

WELL CONDITION CHECKLIST (circle appropriate item(s), cross out if not applicable)

Type: Flush Mount / (Stand Pipe) General Condition: (Good) / Needs Repair Well Caps: (Good) / Broken / None Lock: Good / Broken / (None)

Evidence of Rain Water Between Steel & PVC? Y / (N) Is Well Plumb?: Y / N PVC Riser: (Good) / Damaged / None

Evendence of Ponding Around Welll? Y / (N) Concrete Collar: Good / Cracked / Leaking / (None)

REMARKS:

Sovereign Consulting Inc.
16 Chestnut Street, Suite 520
Foxboro, MA 02035
508-339-3200

MONITORING WELL SAMPLING LOG

Low Flow Sampling

Sovereign Consulting Inc.
4 Open Square Way, Suite #307
Holyoke, MA 01040
413-540-0650

PROJECT NAME: SHEPLEY'S HILL LANDFILL	PROJECT LOCATION: DEVENS, MA	DATE: 5-23-13	WELL ID: SHM-MW-14
PROJECT NUMBER: AC001.02C-06	WELL DIAMETER: (inches) 2"	DEPTH TO WATER: (feet) 20'	DEPTH TO BOTTOM: (feet) / PID READING: (ppmv)

PURGING DATA

TUBING DIAMETER (inches): 1/4	TUBING MATERIAL CODE: (see below) PE	PURGE PUMP TYPE: Bladder	PUMP EQUIPMENT MODEL & SERIAL #s: QED 1578

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88

1 GALLON = 3.785 LITERS

WELL SCREEN INTERVAL DEPTH (feet): 60-80'	INITIAL PUMP OR TUBING DEPTH IN WELL (feet):	FINAL PUMP OR TUBING DEPTH IN WELL (feet):	PURGING INITIATED AT: 0910	PURGING ENDED AT: 1005	TOTAL VOLUME PURGED: GALLONS: 22.5 LITERS:

GALLONS: / LITERS:

WATER LEVEL STABLIZATION DEPTH TO WATER WITH PUMP: (feet)

TIME INTERVAL (min)	FLOW RATE (mL/min)	PUMP SETTINGS	DEPTH TO WATER (feet) START	DEPTH TO WATER (feet) END	Water Level Stable (Yes or No)	VOLUME PURGED DURING INTERVAL (mL)
1min	100	~~10+5~~ 100ft 45psi	20.5	20.5	Yes	
1min	150	~~10+5~~ 135ft 60psi	20.5	20.5		
1min	250	10+5 135ft 60psi				

TIME (min)*	FLOW RATE (mL/min) (100-500 mL/min)**	DEPTH TO WATER (feet) (+/- 0.3')**	TURBIDITY (NTU) (+/- 10%)or <5**	DISSOLVED OXYGEN (mg/L) (+/- 10%)or <0.5**	pH (+/- 0.1)**	TEMP (°C) (+/- 3%)**	SPECIFIC CONDUCTIVITY (µS/cm) (+/- 3%)**	ORP (mV) (+/- 10mV)**	COLOR (describe)	ODOR (describe)
0920	150	20.5	70.2	0.55	~~6.23~~ 6.13	11.58	511	-56.0	cloudy	Non petroleum
0925	250	20.5	40.6	0.36	6.23	11.57	493	-61.5	cloudy	non petroleum
0930	250	20.5	40.6	0.35	6.23	11.51	490	-62.2	cloudy	" "
0935	250	20.5	23.5	0.30	6.24	11.41	479	-64.2	cloudy	" "
0940	250	20.5	18.1	0.34	6.24	11.40	478	-64.5	cloudy	" "
0945	250	20.5	14.6	0.22	6.24	11.42	471	-65.9	cloudy	" "
0950	250	20.5	10.11	0.22	6.24	11.40	470	-66.2	cloudy	" "
0955	250	20.5	10.10	0.21	6.24	11.43	468	-66.6	lit cloudy	" "
1000	250	20.5	10.08	0.20	6.24	11.43	467	-67.0	lit cloudy	" "
1005				sample						

* every 5 or more minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

** EPA stabilization parameters from EPA/540/S-95/504 April 1996

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Erin Foley	SAMPLER(S) SIGNATURES: Erin Foley	SAMPLING INITIATED AT: 1005	SAMPLING ENDED AT: 1015
PUMP OR TUBING DEPTH IN WELL (feet):	SAMPLE PUMP FLOW RATE (mL per minute):	FIELD PARAMETER MONITORING EQUIPMENT MODEL & SERIAL #s:	
FIELD DECONTAMINATION: (Y) N	FIELD-FILTERED: (Y) N Filtration Equipment Type:	FILTER SIZE: ____ µm	DUPLICATE: Y (N)

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

WELL CONDITION CHECKLIST (circle appropriate item(s), cross out if not applicable)

Type: Flush Mount / (Stand Pipe) General Condition: (Good) / Needs Repair Well Caps: (Good) / Broken / None Lock: Good / Broken / (None)

Evidence of Rain Water Between Steel & PVC? Y / (N) Is Well Plumb?: Y / N PVC Riser: (Good) / Damaged / None

Evendence of Ponding Around Well? Y / (N) Concrete Collar: (Good) / Cracked / Leaking / None

REMARKS:

Sovereign Consulting Inc.
16 Chestnut Street, Suite 520
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508-339-3200

MONITORING WELL SAMPLING LOG

Low Flow Sampling

Sovereign Consulting Inc.
4 Open Square Way, Suite #307
Holyoke, MA 01040
413-540-0650

PROJECT NAME: SHEPLEY'S HILL LANDFILL	PROJECT LOCATION: DEVENS, MA	DATE: 5-23-13	WELL ID: SAM10-11
PROJECT NUMBER: AC001.02C-06	WELL DIAMETER: (inches) ~~2"~~ 1.92"	DEPTH TO WATER: (feet) 40.45	DEPTH TO BOTTOM: (feet) 62.19	PID READING: (ppmv) BDL

PURGING DATA

TUBING DIAMETER (inches): 1/4	TUBING MATERIAL CODE: (see below) T	PURGE PUMP TYPE: Bladder	PUMP EQUIPMENT MODEL & SERIAL #s:

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY

GALLONS: LITERS:

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88

1 GALLON = 3.785 LITERS

TOTAL VOLUME PURGED: GALLONS: LITERS:

WELL SCREEN INTERVAL DEPTH (feet):	INITIAL PUMP OR TUBING DEPTH IN WELL (feet):	FINAL PUMP OR TUBING DEPTH IN WELL (feet):	PURGING INITIATED AT:	PURGING ENDED AT:
50-60	55	55	0900	

WATER LEVEL STABLIZATION DEPTH TO WATER WITH PUMP: (feet)

TIME INTERVAL (min)	FLOW RATE (mL/min)	PUMP SETTINGS	DEPTH TO WATER (feet) START	DEPTH TO WATER (feet) END	Water Level Stable (Yes or No)	VOLUME PURGED DURING INTERVAL (mL)
1min	500/min	SMO	40.50	40.50	Y	500

TIME (min)*	FLOW RATE (mL/min) (100-500 mL/min)**	DEPTH TO WATER (feet) (+/- 0.3')**	TURBIDITY (NTU) (+/- 10%)or <5**	DISSOLVED OXYGEN (mg/L) (+/- 10%)or <0.5**	pH (+/- 0.1)**	TEMP (°C) (+/- 3%)**	SPECIFIC CONDUCTIVITY (µS/cm) (+/- 3%)**	ORP (mV) (+/- 10mV)**	COLOR (describe)	ODOR (describe)
0905	500/min	40.51	8.99	2.39	6.09	11.20	288	-37.9	Clear	none
0910		40.50	8.76	2.62	6.11	11.19	287	-37.3	Clear	none
0915		40.50	8.86	1.87	6.11	11.16	286	-39.6	Clear	none
0920		40.50	8.02	1.46	6.12	11.20	287	-40.4	Clear	none
0925		40.57	5.32	1.22	6.13	11.18	286	-41.7	Clear	none
0930		40.57	2.63	1.22	6.13	11.18	287	-41.7	Clear	none
0935		40.57	2.48	1.03	6.13	11.21	287	-43.1	Clear	none
0940		40.57	2.08	0.92	6.14	11.21	287	-43.6	Clear	none
0945		40.57	2.01	0.84	6.14	11.23	287	-44.6	Clear	none
0950		40.50	2.01	0.80	6.15	11.25	287	-46.1	Clear	none
~~0955~~										

* every 5 or more minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

** EPA stabilization parameters from EPA/540/S-95/504 April 1996

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: SAG	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 0950	SAMPLING ENDED AT: 1000
PUMP OR TUBING DEPTH IN WELL (feet): 55'	SAMPLE PUMP FLOW RATE (mL per minute): 500/min	FIELD PARAMETER MONITORING EQUIPMENT MODEL & SERIAL #s: YSI 556 # 11K101289	

FIELD DECONTAMINATION: Y N

FIELD-FILTERED: Y N FILTER SIZE: 5 µm

Filtration Equipment Type:

DUPLICATE: Y N

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

WELL CONDITION CHECKLIST (circle appropriate item(s), cross out if not applicable)

Type: Flush Mount / Stand Pipe General Condition: Good / Needs Repair Well Caps: Good / Broken / None Lock: Good / Broken / None

Evidence of Rain Water Between Steel & PVC? Y / N Is Well Plumb?: Y / N PVC Riser: Good / Damaged / None

Evendence of Ponding Around Welll? Y / N Concrete Collar: Good / Cracked / Leaking / None

REMARKS: Dup taken

Sovereign Consulting Inc.
16 Chestnut Street, Suite 520
Foxboro, MA 02035
508-339-3200

MONITORING WELL SAMPLING LOG

Low Flow Sampling

Sovereign Consulting Inc.
4 Open Square Way, Suite #307
Holyoke, MA 01040
413-540-0650

PROJECT NAME: SHEPLEY'S HILL LANDFILL	PROJECT LOCATION: DEVENS, MA	DATE: 5/22/13	WELL ID: SHL-20
PROJECT NUMBER: AC001.02C-06	WELL DIAMETER: (inches) 4"	DEPTH TO WATER: (feet) 18.30	DEPTH TO BOTTOM: (feet) 49' ?
PID READING: (ppmv) 0.1			

PURGING DATA

TUBING DIAMETER (inches): 1/2	TUBING MATERIAL CODE: (see below) PE	PURGE PUMP TYPE: peristaltic	PUMP EQUIPMENT MODEL & SERIAL #s: geopump GB 31 34

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY

GALLONS: 20 LITERS:

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88

1 GALLON = 3.785 LITERS

WELL SCREEN INTERVAL DEPTH (feet): 39-49	INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 35'	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 35'	PURGING INITIATED AT: 1150	PURGING ENDED AT: 1300	TOTAL VOLUME PURGED: GALLONS: 7.0 LITERS:

WATER LEVEL STABLIZATION DEPTH TO WATER WITH PUMP: (feet)

TIME INTERVAL (min)	FLOW RATE (mL/min)	PUMP SETTINGS	DEPTH TO WATER (feet) START	DEPTH TO WATER (feet) END	Water Level Stable (Yes or No)	VOLUME PURGED DURING INTERVAL (mL)
1min	310	1/4 < x < 3/4 turn	18.34	18.34	Y	310

TIME (min)*	FLOW RATE (mL/min) (100-500 mL/min)**	DEPTH TO WATER (feet) (+/- 0.3')**	TURBIDITY (NTU) (+/- 10%)or <5**	DISSOLVED OXYGEN (mg/L) (+/- 10%)or <0.5**	pH (+/- 0.1)**	TEMP (°C) (+/- 3%)**	SPECIFIC CONDUCTIVITY (µS/cm) (+/- 3%)**	ORP (mV) (+/- 10mV)**	COLOR (describe)	ODOR (describe)
1200	310	18.34	11.73	3.58	6.79	12.14	325	50.0	fine particulates	none
1205	310	18.34	6.48	3.47	6.71	12.14	334	26.0	fine particulates	none
1210	310	18.34	4.84	0.52	6.59	12.17	418	-73.1	" "	"
1215	310	18.34	4.11	0.75	6.63	12.09	417	-77.4	" "	"
1220	310	18.34	4.12	0.50	6.66	12.19	418	-80.6	" "	"
1225	310	18.34	4.86	0.26	6.71	12.22	416	-82.5	" "	"
1230	310	18.34	6.63	0.23	6.72	12.21	416	-83.2	" "	"
1235	310	18.34	7.28	0.21	6.71	12.13	414	-82.3	" "	"
1240	310	18.34	5.50	0.15	6.73	12.13	414	-83.1	" "	"
1245	310	18.34	1.37	0.13	6.75	12.31	414	-83.8	" "	"
1250	310	18.34	2.91	0.15	6.76	12.13	413	-84.6	clear	"
1255	310	18.34	1.26	0.13	6.76	12.18	414	-85.7	clear	"
1300	310	18.34	0.54	0.19	6.75	12.18	414	-85.6	clear	none

* every 5 or more minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

** EPA stabilization parameters from EPA/540/S-95/504 April 1996

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Mykel Mendes / SOV con	SAMPLER(S) SIGNATURES: Mykel Mendes	SAMPLING INITIATED AT: 1300	SAMPLING ENDED AT: 1315
PUMP OR TUBING DEPTH IN WELL (feet): 35'	SAMPLE PUMP FLOW RATE (mL per minute):	FIELD PARAMETER MONITORING EQUIPMENT MODEL & SERIAL #s: YSI MPS 556 / 08D101029 Lamotte 2020 we 240-4110	

FIELD DECONTAMINATION: Y N

FIELD-FILTERED: (Y) N FILTER SIZE: ____ µm
Filtration Equipment Type: DOC / metals analysis only

DUPLICATE: Y (N)

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

WELL CONDITION CHECKLIST (circle appropriate item(s), cross out if not applicable)

Type: Flush Mount / (Stand Pipe) General Condition: (Good) / Needs Repair Well Caps: (Good) / Broken / (None) Lock: Good / Broken / (None)

Evidence of Rain Water Between Steel & PVC? Y / (N) Is Well Plumb?: Y / N PVC Riser: (Good) / Damaged / None

Evendence of Ponding Around Well? Y / (N) Concrete Collar: Good / Cracked / Leaking / (None) – ballasts surrounding

REMARKS:

Sovereign Consulting Inc.
16 Chestnut Street, Suite 520
Foxboro, MA 02035
508-339-3200

MONITORING WELL SAMPLING LOG

Low Flow Sampling

Sovereign Consulting Inc.
4 Open Square Way, Suite #307
Holyoke, MA 01040
413-540-0650

PROJECT NAME: SHEPLEY'S HILL LANDFILL	PROJECT LOCATION: DEVENS, MA	DATE: 5 2013	WELL ID: SHL-10
PROJECT NUMBER: AC001.02C-06	WELL DIAMETER: (inches)	DEPTH TO WATER: (feet) 31.00	DEPTH TO BOTTOM: (feet) / PID READING: (ppmv) 0.0

PURGING DATA

TUBING DIAMETER (inches): 2"	TUBING MATERIAL CODE: (see below) PE	PURGE PUMP TYPE: Bladder	PUMP EQUIPMENT MODEL & SERIAL #s: QED 1578

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY

GALLONS: LITERS:

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88 | 1 GALLON = 3.785 LITERS | TOTAL VOLUME PURGED: GALLONS: LITERS:

WELL SCREEN INTERVAL DEPTH (feet): 24-39	INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 35'	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 35'	PURGING INITIATED AT: 1130	PURGING ENDED AT: 1205

WATER LEVEL STABLIZATION | DEPTH TO WATER WITH PUMP: (feet)

TIME INTERVAL (min)	FLOW RATE (mL/min)	PUMP SETTINGS	DEPTH TO WATER (feet) START	DEPTH TO WATER (feet) END	Water Level Stable (Yes or No)	VOLUME PURGED DURING INTERVAL (mL)
1min	225	10+5 20psi 30ft	31.00	31.00		
1min	275	" " ↑ Reg psi	31.00	31.00		

TIME (min)*	FLOW RATE (mL/min) (100-500 mL/min)**	DEPTH TO WATER (feet) (+/- 0.3')**	TURBIDITY (NTU) (+/- 10%)or <5**	DISSOLVED OXYGEN (mg/L) (+/- 10%)or <0.5**	pH (+/- 0.1)**	TEMP (°C) (+/- 3%)**	SPECIFIC CONDUCTIVITY (µS/cm) (+/- 3%)**	ORP (mV) (+/- 10mV)**	COLOR (describe)	ODOR (describe)
1135	275	31.00	5.8	5.91	6.51	11.88	[illegible]	148 150.7	clear	None
1140	275	31.00	2.0	6.49	6.54	11.73	135	148.8	clear	None
1145	275	31.00	3.3	8.92	6.62	11.57	82	143.0	clear	None
1150	275	31.00	2.80	9.92	6.63	11.49	62	145.6	clear	None
1155	275	31.00	1.02	10.04	6.62	11.44	56	149.6	clear	None
1200	275	31.00	1.43	10.07	6.62	11.44	55	149.7	clear	None
1205	275	31.00	1.22	10.05	6.62	11.46	55	149.8	clear	None
					Sample					

* every 5 or more minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

** EPA stabilization parameters from EPA/540/S-95/504 April 1996

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Erin Foley	SAMPLER(S) SIGNATURES: Eri Foy	SAMPLING INITIATED AT: 1205	SAMPLING ENDED AT: 1215
PUMP OR TUBING DEPTH IN WELL (feet): 35'	SAMPLE PUMP FLOW RATE (mL per minute):	FIELD PARAMETER MONITORING EQUIPMENT MODEL & SERIAL #s: YSI: 13D101143 / Turb: 0354-4197	
FIELD DECONTAMINATION: (Y) N	FIELD-FILTERED: Y N FILTER SIZE: ____ µm Filtration Equipment Type:		DUPLICATE: Y (N)

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

WELL CONDITION CHECKLIST (circle appropriate item(s), cross out if not applicable)

Type: Flush Mount / (Stand Pipe) General Condition: (Good) / Needs Repair Well Caps: (Good) / Broken / None Lock: Good / Broken / (None)

Evidence of Rain Water Between Steel & PVC? Y / (N) Is Well Plumb?: Y / N PVC Riser: (Good) / Damaged / None

Evendence of Ponding Around Well!? Y / (N) Concrete Collar: Good / Cracked / Leaking / (None)

REMARKS:

Sovereign Consulting Inc.
16 Chestnut Street, Suite 520
Foxboro, MA 02035
508-339-3200

MONITORING WELL SAMPLING LOG

Low Flow Sampling

Sovereign Consulting Inc.
4 Open Square Way, Suite #307
Holyoke, MA 01040
413-540-0650

PROJECT NAME: SHEPLEY'S HILL LANDFILL	PROJECT LOCATION: DEVENS, MA	DATE: 5-22-13	WELL ID: SHM-10-06A
PROJECT NUMBER: AC001.02C-06	WELL DIAMETER: (inches) 1.5"	DEPTH TO WATER: (feet) 34.98	DEPTH TO BOTTOM: (feet) 89.00	PID READING: (ppmv) BDL

PURGING DATA

TUBING DIAMETER (inches): 1/4	TUBING MATERIAL CODE: (see below) T	PURGE PUMP TYPE: Bladder	PUMP EQUIPMENT MODEL & SERIAL #s: Bladder

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY — GALLONS: — LITERS:

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88 — 1 GALLON = 3.785 LITERS — TOTAL VOLUME PURGED:

WELL SCREEN INTERVAL DEPTH (feet): 77-87	INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 80	FINAL PUMP OR TUBING DEPTH IN WELL (feet):	PURGING INITIATED AT: 1020	PURGING ENDED AT: 1340	GALLONS: LITERS:

WATER LEVEL STABLIZATION — DEPTH TO WATER WITH PUMP: (feet)

TIME INTERVAL (min)	FLOW RATE (mL/min)	PUMP SETTINGS	DEPTH TO WATER (feet) START	DEPTH TO WATER (feet) END	Water Level Stable (Yes or No)	VOLUME PURGED DURING INTERVAL (mL)
1 min	300	5/10	34.90	34.90	y	300

TIME (min)*	FLOW RATE (mL/min) (100-500 mL/min)**	DEPTH TO WATER (feet) (+/- 0.3')**	TURBIDITY (NTU) (+/- 10%)or <5**	DISSOLVED OXYGEN (mg/L) (+/- 10%)or <0.5**	pH (+/- 0.1)**	TEMP (°C) (+/- 3%)**	SPECIFIC CONDUCTIVITY (µS/cm) (+/- 3%)**	ORP (mV) (+/- 10mV)**	COLOR (describe)	ODOR (describe)
1225	300/min	34.90	3.74	0.72	6.50	13.55	86	-2.5	Clear	none
1230		34.90	3.70	0.69	6.51	13.60	87	-3.3	Clear	none
1235		34.90	3.71	0.69	6.52	13.59	87	-5.7	Clear	none
1240		34.90	3.70	0.65	6.54	13.48	87	-7.6	Clear	none
1245		34.95	3.69	0.63	6.54	13.24	86	-8.1	Clear	none
1250		34.95	3.68	0.63	6.54	13.24	87	-8.7	Clear	none
1255		34.91	3.67	0.67	6.54	12.71	87	-10.1	Clear	none
1300		34.90	3.69	0.56	6.53	12.67	87	-11.6	Clear	none
1305		34.90	3.62	0.48	6.53	12.59	88	-13.0	Clear	none
1310		34.90	3.69	0.44	6.52	12.57	89	-14.2	Clear	none
1315		34.90	3.67	0.55	6.57	12.60	90	-12.3	Clear	none

* every 5 or more minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

** EPA stabilization parameters from EPA/540/S-95/504 April 1996

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: JAG	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 1300	SAMPLING ENDED AT: 1340
PUMP OR TUBING DEPTH IN WELL (feet): 80	SAMPLE PUMP FLOW RATE (mL per minute): 300/min	FIELD PARAMETER MONITORING EQUIPMENT MODEL & SERIAL #s: 451556 11K101289	

FIELD DECONTAMINATION: Y N — FIELD-FILTERED: Y N — FILTER SIZE: ____ µm — Filtration Equipment Type: — DUPLICATE: Y N

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

WELL CONDITION CHECKLIST (circle appropriate item(s), cross out if not applicable)

Type: Flush Mount / Stand Pipe — General Condition: Good / Needs Repair — Well Caps: Good / Broken / None — Lock: Good / Broken / None

Evidence of Rain Water Between Steel & PVC? Y / N — Is Well Plumb?: Y / N — PVC Riser: Good / Damaged / None

Evendence of Ponding Around Well? Y / N — Concrete Collar: Good / Cracked / Leaking / None

REMARKS:

Sovereign Consulting Inc.
16 Chestnut Street, Suite 520
Foxboro, MA 02035
508-339-3200

MONITORING WELL SAMPLING LOG

Low Flow Sampling

Sovereign Consulting Inc.
4 Open Square Way, Suite #307
Holyoke, MA 01040
413-540-0650

PROJECT NAME: SHEPLEY'S HILL LANDFILL	PROJECT LOCATION: DEVENS, MA		DATE: 5-22-13	WELL ID: SHM-05-42 B
PROJECT NUMBER: AC001.02C-06	WELL DIAMETER: (inches) 1	DEPTH TO WATER: (feet) 5.42	DEPTH TO BOTTOM: (feet) 72	PID READING: (ppmv) 0

PURGING DATA

TUBING DIAMETER (inches): 1/4 ID	TUBING MATERIAL CODE: (see below) PE	PURGE PUMP TYPE: Peristaltic	PUMP EQUIPMENT MODEL & SERIAL #s: Peristaltic 401

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY

GALLONS: 2.66 LITERS: 10.08

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88

1 GALLON = 3.785 LITERS

WELL SCREEN INTERVAL DEPTH (feet): 70-72	INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 71	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 71	PURGING INITIATED AT: 1026	PURGING ENDED AT: 1115	TOTAL VOLUME PURGED: GALLONS: 2.59 LITERS: 9.8

WATER LEVEL STABLIZATION DEPTH TO WATER WITH PUMP: (feet) 5.46

TIME INTERVAL (min)	FLOW RATE (mL/min)	PUMP SETTINGS	DEPTH TO WATER (feet) START	DEPTH TO WATER (feet) END	Water Level Stable (Yes or No)	VOLUME PURGED DURING INTERVAL (mL)
1045-1050	200	Dial @ 10 o'clock Position	5.46	5.46	yes	1000

TIME (min)*	FLOW RATE (mL/min) (100-500 mL/min)**	DEPTH TO WATER (feet) (+/- 0.3')**	TURBIDITY (NTU) (+/- 10%)or <5**	DISSOLVED OXYGEN (mg/L) (+/- 10%)or <0.5**	pH (+/- 0.1)**	TEMP (°C) (+/- 3%)**	SPECIFIC CONDUCTIVITY (µS/cm) (+/- 3%)**	ORP (mV) (+/- 10mV)**	COLOR (describe)	ODOR (describe)
1030	200	5.46	24.2	5.67	6.37	10.45	157	25.0	clear	None
1035	200	5.46	16.4	1.25	6.34	9.89	354	-12.8	clear	none
1040	200	5.46	3.5	0.61	6.47	9.93	572	-47.6	clear	none
1045	200	5.46	2.7	0.50	6.52	9.99	617	-53.3	clear	none
1050	200	5.46	2.5	0.46	6.53	9.95	624	-52.8	clear	none
1055	200	5.46	2.1	0.42	6.55	9.98	638	-51.8	clear	none
1100	200	5.46	1.8	0.39	6.56	9.98	650	-49.0	clear	none
1105	200	5.46	1.9	0.37	6.57	9.97	656	-48.2	clear	none
1110	200	5.46	1.2	0.37	6.58	9.92	655	-49.9	clear	None

* every 5 or more minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

** EPA stabilization parameters from EPA/540/S-95/504 April 1996

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: David Company / ECC	SAMPLER(S) SIGNATURES: [signature]	SAMPLING INITIATED AT: 1115	SAMPLING ENDED AT: 1135
PUMP OR TUBING DEPTH IN WELL (feet): 71	SAMPLE PUMP FLOW RATE (mL per minute): 200	FIELD PARAMETER MONITORING EQUIPMENT MODEL & SERIAL #s: YSI 650 MDS 02F0329 AF	

FIELD DECONTAMINATION: (Y) N

FIELD-FILTERED: Y N FILTER SIZE: 45 µm
Filtration Equipment Type: 0.45 micron filter

DUPLICATE: Y (N)

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

WELL CONDITION CHECKLIST (circle appropriate item(s), cross out if not applicable)

Type: Flush Mount / (Stand Pipe) General Condition: (Good) / Needs Repair Well Caps: (Good) / Broken / None Lock: Good / Broken / (None)

Evidence of Rain Water Between Steel & PVC? Y / (N) Is Well Plumb?: (Y) / N PVC Riser: (Good) / Damaged / None

Evendence of Ponding Around Welll? Y / (N) Concrete Collar: (Good) / Cracked / Leaking / None

REMARKS:

Sovereign Consulting Inc.
16 Chestnut Street, Suite 520
Foxboro, MA 02035
508-339-3200

MONITORING WELL SAMPLING LOG

Low Flow Sampling

Sovereign Consulting Inc.
4 Open Square Way, Suite #307
Holyoke, MA 01040
413-540-0650

PROJECT NAME: SHEPLEY'S HILL LANDFILL	PROJECT LOCATION: DEVENS, MA	DATE: 05/22/13	WELL ID: SHM-05-41A
PROJECT NUMBER: AC001.02C-06	WELL DIAMETER: (inches) 2	DEPTH TO WATER: (feet) 11.25	DEPTH TO BOTTOM: (feet) 44.0	PID READING: (ppmv) Ø

PURGING DATA

TUBING DIAMETER (inches): 1/4	TUBING MATERIAL CODE: (see below) PE	PURGE PUMP TYPE: peri	PUMP EQUIPMENT MODEL & SERIAL #s: geopump; G6364U

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY

GALLONS: 4.~~262~~62 LITERS: –

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88

1 GALLON = 3.785 LITERS

WELL SCREEN INTERVAL DEPTH (feet): 42.0-44.0	INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 42.0	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 42.0	PURGING INITIATED AT: 1035	PURGING ENDED AT: 1140	TOTAL VOLUME PURGED: GALLONS: 4.62 LITERS: –

WATER LEVEL STABLIZATION DEPTH TO WATER WITH PUMP: (feet) 11.25

TIME INTERVAL (min)	FLOW RATE (mL/min)	PUMP SETTINGS	DEPTH TO WATER (feet) START	DEPTH TO WATER (feet) END	Water Level Stable (Yes or No)	VOLUME PURGED DURING INTERVAL (mL)
1035	250	dial set at 20'clock	11.25	11.30	Y	450.

TIME (min)*	FLOW RATE (mL/min) (100-500 mL/min)**	DEPTH TO WATER (feet) (+/- 0.3')**	TURBIDITY (NTU) (+/- 10%)or <5**	DISSOLVED OXYGEN (mg/L) (+/- 10%)or <0.5**	pH (+/- 0.1)**	TEMP (°C) (+/- 3%)**	SPECIFIC CONDUCTIVITY (µS/cm) (+/- 3%)**	ORP (mV) (+/- 10mV)**	COLOR (describe)	ODOR (describe)
1045	250	11.29	4.59	4.35	6.22	10.39	116	69.9	clear	None
1050		11.29	2.91	2.13	6.21	10.36	106	26.7		
1055		11.29	4.88	1.33	6.24	10.39	105	26.6		
1100		11.29	3.58	0.88	6.26	10.35	103	16.6		
1105		11.29	3.04	0.79	6.26	10.40	103	17.9		
1110		11.29	3.28	0.77	6.27	10.41	102	15.3		
1115		11.30	3.76	0.77	6.27	10.41	102	16.1		
1120		11.30	2.20	0.76	6.27	10.44	101	17.7		
1125		11.30	3.79	0.76	6.27	10.43	101	17.6		

* every 5 or more minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

** EPA stabilization parameters from EPA/540/S-95/504 April 1996

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Katie Priess	SAMPLER(S) SIGNATURES: Katie Priess	SAMPLING INITIATED AT: 1130	SAMPLING ENDED AT: 1140
PUMP OR TUBING DEPTH IN WELL (feet): 42	SAMPLE PUMP FLOW RATE (mL per minute): 250	FIELD PARAMETER MONITORING EQUIPMENT MODEL & SERIAL #s: YSI 650 MDS ; 02C0985AJ	

FIELD DECONTAMINATION: (Y) N

FIELD-FILTERED: (Y) N FILTER SIZE: ____ µm 0.45 Filtration Equipment Type:

DUPLICATE: Y (N)

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

WELL CONDITION CHECKLIST (circle appropriate item(s); cross out if not applicable)

Type: (Flush Mount) / Stand Pipe General Condition: (Good) / Needs Repair Well Caps: (Good) / Broken / None Lock: Good / Broken / (None)

Evidence of Rain Water Between Steel & PVC? Y / (N) Is Well Plumb? (Y) / N PVC Riser: (Good) / Damaged / None

Evendence of Ponding Around Well? Y / (N) Concrete Collar: (Good) / Cracked / Leaking / None

REMARKS:

Sovereign Consulting Inc.
16 Chestnut Street, Suite 520
Foxboro, MA 02035
508-339-3200

MONITORING WELL SAMPLING LOG

Low Flow Sampling

Sovereign Consulting Inc.
4 Open Square Way, Suite #307
Holyoke, MA 01040
413-540-0650

PROJECT NAME: SHEPLEY'S HILL LANDFILL	PROJECT LOCATION: DEVENS, MA	DATE: 5-22-13	WELL ID: SHM-10-65A
PROJECT NUMBER: AC001.02C-06	WELL DIAMETER: (inches) 2"	DEPTH TO WATER: (feet) 25.61	DEPTH TO BOTTOM: (feet) 59.20
			PID READING: (ppmv) BDL

PURGING DATA

TUBING DIAMETER (inches): 1/4	TUBING MATERIAL CODE: (see below) 1/4 T	PURGE PUMP TYPE: Bladder	PUMP EQUIPMENT MODEL & SERIAL #s:

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY

GALLONS: 5.48 LITERS:

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88

1 GALLON = 3.785 LITERS

TOTAL VOLUME PURGED: GALLONS: LITERS:

WELL SCREEN INTERVAL DEPTH (feet): 50-60	INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 55	FINAL PUMP OR TUBING DEPTH IN WELL (feet):	PURGING INITIATED AT: 0900	PURGING ENDED AT:

WATER LEVEL STABLIZATION DEPTH TO WATER WITH PUMP: (feet)

TIME INTERVAL (min)	FLOW RATE (mL/min)	PUMP SETTINGS	DEPTH TO WATER (feet) START	DEPTH TO WATER (feet) END	Water Level Stable (Yes or No)	VOLUME PURGED DURING INTERVAL (mL)
1min	200/min	10/5	25.61	25.61	yes	200

TIME (min)*	FLOW RATE (mL/min) (100-500 mL/min)**	DEPTH TO WATER (feet) (+/- 0.3')**	TURBIDITY (NTU) (+/- 10%)or <5**	DISSOLVED OXYGEN (mg/L) (+/- 10%)or <0.5**	pH (+/- 0.1)**	TEMP (°C) (+/- 3%)**	SPECIFIC CONDUCTIVITY (µS/cm) (+/- 3%)**	ORP (mV) (+/- 10mV)**	COLOR (describe)	ODOR (describe)
0905	200	25.61	12.9	3.54	6.23	13.47	155	132.2	Clear	none
0910		25.61	12.4	2.94	6.25	13.62	157	132.5	Clear	none
0915		25.61	9.32	1.47	6.20	13.58	156	135.3	Clear	none
0920		25.61	9.01	1.04	6.26	13.54	156	138.8	Clear	none
0925		25.61	5.16	2.63	6.29	13.47	149	141.6	Clear	none
0930		25.61	4.11	1.97	6.27	13.48	152	151.2	Clear	none
0935		25.61	3.99	1.57	6.26	13.38	144	152.0	Clear	none
0940		25.61	2.56	1.40	6.23	13.52	145	154.1	Clear	none
0945		25.61	2.50	1.37	6.26	13.50	143	157.2	Clear	none
0950		25.61	2.49	1.29	6.27	13.50	141	157.2	Clear	none
0955		25.61	2.47	1.31	6.26	13.50	141	157.2	Clear	none
1000		25.61	2.46	1.29	6.24	13.50	141	158.2	Clear	none
1005		25.61	2.47	1.31	6.26	13.51	145	156.1	Clear	none

* every 5 or more minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

** EPA stabilization parameters from EPA/540/S-95/504 April 1996

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: JAG	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 1005	SAMPLING ENDED AT:
PUMP OR TUBING DEPTH IN WELL (feet): 55	SAMPLE PUMP FLOW RATE (mL per minute): 200	FIELD PARAMETER MONITORING EQUIPMENT MODEL & SERIAL #s: YSI 556 #11K101289	

FIELD DECONTAMINATION: Y (N) FIELD-FILTERED: (Y) N FILTER SIZE: 5 µm Filtration Equipment Type: DUPLICATE: (Y) N

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

WELL CONDITION CHECKLIST (circle appropriate item(s), cross out if not applicable)

Type: Flush Mount / Stand Pipe General Condition: (Good) / Needs Repair Well Caps: (Good) / Broken / None Lock: Good / Broken / (None)

Evidence of Rain Water Between Steel & PVC? Y / (N) Is Well Plumb?: (Y) / N PVC Riser: (Good) / Damaged / None

Evendence of Ponding Around Well? Y / (N) Concrete Collar: (Good) / Cracked / Leaking / None

REMARKS: purgetaken

Sovereign Consulting Inc.
16 Chestnut Street, Suite 520
Foxboro, MA 02035
508-339-3200

MONITORING WELL SAMPLING LOG

Low Flow Sampling

Sovereign Consulting Inc.
4 Open Square Way, Suite #307
Holyoke, MA 01040
413-540-0650

PROJECT NAME: **SHEPLEY'S HILL LANDFILL**	PROJECT LOCATION: **DEVENS, MA**	DATE: 5/22/13	WELL ID: PZ-12D5
PROJECT NUMBER: **AC001.02C-06**	WELL DIAMETER: (inches) 2"	DEPTH TO WATER: (feet) 21.6	DEPTH TO BOTTOM: (feet) / PID READING: (ppmv)

PURGING DATA

TUBING DIAMETER (inches): 1/2	TUBING MATERIAL CODE: (see below) PE	PURGE PUMP TYPE: peristaltic	PUMP EQUIPMENT MODEL & SERIAL #s: Geopump G63134

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY

GALLONS: ~4.5 LITERS:

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88

1 GALLON = 3.785 LITERS

TOTAL VOLUME PURGED: GALLONS: LITERS:

WELL SCREEN INTERVAL DEPTH (feet): 26-36	INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 30'	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 30'	PURGING INITIATED AT: 0918	PURGING ENDED AT: 0958

WATER LEVEL STABLIZATION DEPTH TO WATER WITH PUMP: (feet)

TIME INTERVAL (min)	FLOW RATE (mL/min)	PUMP SETTINGS	DEPTH TO WATER (feet) START	DEPTH TO WATER (feet) END	Water Level Stable (Yes or No)	VOLUME PURGED DURING INTERVAL (mL)
1 min	350	3/4 turn	21.65	21.65	Y	350

TIME (min)*	FLOW RATE (mL/min) (100-500 mL/min)**	DEPTH TO WATER (feet) (+/- 0.3')**	TURBIDITY (NTU) (+/- 10%)or <5**	DISSOLVED OXYGEN (mg/L) (+/- 10%)or <0.5**	pH (+/- 0.1)**	TEMP (°C) (+/- 3%)**	SPECIFIC CONDUCTIVITY (µS/cm) (+/- 3%)**	ORP (mV) (+/- 10mV)**	COLOR (describe)	ODOR (describe)
0925	350	20.65	5.33	1.05	6.35	12.19	588	-88.3	clear	none
0930	350	20.65	5.09	0.75	6.38	12.21	591	-94.3	clear	"
0935	350	20.65	1.11	0.62	6.41	12.18	584	-96.3	"	"
0940	350	20.65	1.75	0.51	6.41	12.16	581	-96.8	"	"
0945	350	20.65	1.45	0.41	6.44	12.19	576	-96.3	"	"
0950	350	20.65	0.27	0.35	6.44	12.20	585	-97.5	"	"
0955	350	20.65	0.87	0.31	6.46	12.24	571	-99.6	"	"

* every 5 or more minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

** EPA stabilization parameters from EPA/540/S-95/504 April 1996

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Mikel Mendes / Sovcon	SAMPLER(S) SIGNATURES: Mikel Mendes	SAMPLING INITIATED AT: 0958	SAMPLING ENDED AT: 1008
PUMP OR TUBING DEPTH IN WELL (feet): 30'	SAMPLE PUMP FLOW RATE (mL per minute): 350	FIELD PARAMETER MONITORING EQUIPMENT MODEL & SERIAL #s: YSI 556 MPS / 08D101029 Lamotte 2020we 240-4110	

FIELD DECONTAMINATION: Y N

FIELD-FILTERED: Y N FILTER SIZE: ____ µm
Filtration Equipment Type: DOC / metals only

DUPLICATE: Y N

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

WELL CONDITION CHECKLIST (circle appropriate item(s), cross out if not applicable)

Type: Flush Mount / Stand Pipe General Condition: Good / Needs Repair Well Caps: Good / Broken / None Lock: Good / Broken / None

Evidence of Rain Water Between Steel & PVC? Y / N Is Well Plumb?: Y / N PVC Riser: Good / Damaged / None

Evendence of Ponding Around Welll? Y / N Concrete Collar: Good / Cracked / Leaking / None

REMARKS:

Sovereign Consulting Inc.
16 Chestnut Street, Suite 520
Foxboro, MA 02035
508-339-3200

MONITORING WELL SAMPLING LOG

Low Flow Sampling

Sovereign Consulting Inc.
4 Open Square Way, Suite #307
Holyoke, MA 01040
413-540-0650

PROJECT NAME: SHEPLEY'S HILL LANDFILL	PROJECT LOCATION: DEVENS, MA	DATE: 5/22/13	WELL ID: PZ-12-10
PROJECT NUMBER: AC001.02C-06	WELL DIAMETER: (inches) 2"	DEPTH TO WATER: (feet) 22.94'	DEPTH TO BOTTOM: (feet)
			PID READING: (ppmv) 0.1

PURGING DATA

TUBING DIAMETER (inches): 1/4	TUBING MATERIAL CODE: (see below) PE	PURGE PUMP TYPE: bladder	PUMP EQUIPMENT MODEL & SERIAL #s: QED 1578

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY

GALLONS: ~3.5 LITERS:

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88

1 GALLON = 3.785 LITERS

TOTAL VOLUME PURGED: GALLONS: LITERS:

WELL SCREEN INTERVAL DEPTH (feet):	INITIAL PUMP OR TUBING DEPTH IN WELL (feet):	FINAL PUMP OR TUBING DEPTH IN WELL (feet):	PURGING INITIATED AT:	PURGING ENDED AT:
22-32'	27'	27'	0855	0935

WATER LEVEL STABLIZATION DEPTH TO WATER WITH PUMP: (feet)

TIME INTERVAL (min)	FLOW RATE (mL/min)	PUMP SETTINGS	DEPTH TO WATER (feet) START	DEPTH TO WATER (feet) END	Water Level Stable (Yes or No)	VOLUME PURGED DURING INTERVAL (mL)
1 min	~~min~~ 300	10-5 70psi 30ft	22.94	22.94	yes	

TIME (min)*	FLOW RATE (mL/min) (100-500 mL/min)**	DEPTH TO WATER (feet) (+/- 0.3')**	TURBIDITY (NTU) (+/- 10%)or <5**	DISSOLVED OXYGEN (mg/L) (+/- 10%)or <0.5**	pH (+/- 0.1)**	TEMP (°C) (+/- 3%)**	SPECIFIC CONDUCTIVITY (µS/cm) (+/- 3%)**	ORP (mV) (+/- 10mV)**	COLOR (describe)	ODOR (describe)
0905	350	22.94	6.0	10.39	5.84	10.33	44	173.3	Clear	None
0910	350	22.94	3.5	10.38	5.87	10.28	44	176.8	" "	" "
0915	350	22.94	3.1	10.38	5.88	10.21	44	183.9	" "	" "
0920	350	22.94	1.7	10.36	5.88	10.20	43	188.2	" "	" "
0925	350	22.94	1.3	10.38	5.88	10.20	43	190.7	" "	" "
0930	350	22.94	1.1	10.37	5.88	10.19	43	191.3	" "	" "
0935					Sample					

* every 5 or more minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

** EPA stabilization parameters from EPA/540/S-95/504 April 1996

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Erin Foley	SAMPLER(S) SIGNATURES: Erin Foley	SAMPLING INITIATED AT: 0935	SAMPLING ENDED AT: 1005
PUMP OR TUBING DEPTH IN WELL (feet): 27'	SAMPLE PUMP FLOW RATE (mL per minute): 350	FIELD PARAMETER MONITORING EQUIPMENT MODEL & SERIAL #s: Turb: 0354-4197 / YSI: 13D101143	
FIELD DECONTAMINATION: (Y) N	FIELD-FILTERED: (Y) N FILTER SIZE: ____ µm Filtration Equipment Type:		DUPLICATE: Y (N)

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

WELL CONDITION CHECKLIST (circle appropriate item(s), cross out if not applicable)

Type: Flush Mount / (Stand Pipe) General Condition: (Good) / Needs Repair Well Caps: (Good) / Broken / None Lock: Good / Broken / (None)

Evidence of Rain Water Between Steel & PVC? Y / (N) Is Well Plumb?: Y / N PVC Riser: (Good) / Damaged / None

Evendence of Ponding Around Welll? Y / (N) Concrete Collar: Good / Cracked / Leaking / (None)

REMARKS:

ms/msd collected

Sovereign Consulting Inc.
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Foxboro, MA 02035
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MONITORING WELL SAMPLING LOG

Low Flow Sampling

Sovereign Consulting Inc.
4 Open Square Way, Suite #307
Holyoke, MA 01040
413-540-0650

PROJECT NAME: SHEPLEY'S HILL LANDFILL	PROJECT LOCATION: DEVENS, MA	DATE: 5-22-13	WELL ID: SHM-05-42A
PROJECT NUMBER: AC001.02C-06	WELL DIAMETER: (inches) 1	DEPTH TO WATER: (feet) 5.40	DEPTH TO BOTTOM: (feet) 42
PID READING: (ppmv) 0			

PURGING DATA

TUBING DIAMETER: (inches): 1/4 ID	TUBING MATERIAL CODE: (see below) PE	PURGE PUMP TYPE: Peristaltic	PUMP EQUIPMENT MODEL & SERIAL #s: Peristaltic 401

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY

GALLONS: 1.46 LITERS: 5.54

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88

1 GALLON = 3.785 LITERS

WELL SCREEN INTERVAL DEPTH (feet): 40-42	INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 41	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 41	PURGING INITIATED AT: 0856	PURGING ENDED AT: 0940	TOTAL VOLUME PURGED: GALLONS: ~~1.46~~ 2.32 LITERS: 8.8

WATER LEVEL STABLIZATION DEPTH TO WATER WITH PUMP: (feet) 5.48

TIME INTERVAL (min)	FLOW RATE (mL/min)	PUMP SETTINGS	DEPTH TO WATER (feet) START	DEPTH TO WATER (feet) END	Water Level Stable (Yes or No)	VOLUME PURGED DURING INTERVAL (mL)
0910-0915	200	Dial @ 10 O'Clock Position	5.48	5.48	Yes	1000

TIME (min)*	FLOW RATE (mL/min) (100-500 mL/min)**	DEPTH TO WATER (feet) (+/- 0.3')**	TURBIDITY (NTU) (+/- 10%)or <5**	DISSOLVED OXYGEN (mg/L) (+/- 10%)or <0.5**	pH (+/- 0.1)**	TEMP (°C) (+/- 3%)**	SPECIFIC CONDUCTIVITY (µS/cm) (+/- 3%)**	ORP (mV) (+/- 10mV)**	COLOR (describe)	ODOR (describe)
0900	200	5.49	82.3	5.68	7.51	10.68	101	73.8	clear	NONE
0905	200	5.48	12.8	1.81	6.14	9.74	86	77.3	clear	NONE
0910	200	5.48	2.2	1.64	6.10	9.63	67	75.9	clear	NONE
0915	200	5.48	1.8	0.87	6.08	9.54	67	78.8	clear	NONE
0920	200	5.48	1.1	0.62	6.07	9.56	65	81.6	clear	NONE
0925	200	5.48	0.8	0.43	6.07	9.57	63	84.4	clear	NONE
0930	200	5.48	0.0	0.37	6.06	9.57	62	84.4	clear	NONE
0935	200	5.48	0.0	0.38	6.06	9.61	62	86.2	clear	NONE

* every 5 or more minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

** EPA stabilization parameters from EPA/540/S-95/504 April 1996

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: David Comeau / ECC	SAMPLER(S) SIGNATURES: [signature]	SAMPLING INITIATED AT: 0940	SAMPLING ENDED AT: 1000
PUMP OR TUBING DEPTH IN WELL (feet): 41	SAMPLE PUMP FLOW RATE (mL per minute): 41	FIELD PARAMETER MONITORING EQUIPMENT MODEL & SERIAL #s: YSI 650 MDS 02F0329 AF	
FIELD DECONTAMINATION: (Y) N	FIELD-FILTERED: (Y) N FILTER SIZE: 0.45 µm Filtration Equipment Type: 0.45 Micron filter		DUPLICATE: Y (N)

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

WELL CONDITION CHECKLIST (circle appropriate item(s), cross out if not applicable)

Type: Flush Mount / (Stand Pipe) General Condition: (Good) / Needs Repair Well Caps: (Good) / Broken / None Lock: Good / Broken / (None)

Evidence of Rain Water Between Steel & PVC? Y / (N) Is Well Plumb?: (Y) / N PVC Riser: (Good) / Damaged / None

Evendence of Ponding Around Welll? Y / (N) Concrete Collar: (Good) / Cracked / Leaking / None

REMARKS:

Sovereign Consulting Inc.
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508-339-3200

MONITORING WELL SAMPLING LOG

Low Flow Sampling

Sovereign Consulting Inc.
4 Open Square Way, Suite #307
Holyoke, MA 01040
413-540-0650

PROJECT NAME: SHEPLEY'S HILL LANDFILL	PROJECT LOCATION: DEVENS, MA	DATE: 5/22/13	WELL ID: SHM-05-41B
PROJECT NUMBER: AC001.02C-06	WELL DIAMETER: (inches) 2	DEPTH TO WATER: (feet) 11.09	DEPTH TO BOTTOM: (feet) 64
PID READING: (ppmv) Ø			

PURGING DATA

TUBING DIAMETER (inches): 1/4	TUBING MATERIAL CODE: (see below) PE	PURGE PUMP TYPE: peri	PUMP EQUIPMENT MODEL & SERIAL #s: geopump ; G63644

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY

GALLONS: 4.42 LITERS: –

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88

1 GALLON = 3.785 LITERS

TOTAL VOLUME PURGED: GALLONS: 4.42 LITERS: –

WELL SCREEN INTERVAL DEPTH (feet):	INITIAL PUMP OR TUBING DEPTH IN WELL (feet):	FINAL PUMP OR TUBING DEPTH IN WELL (feet):	PURGING INITIATED AT:	PURGING ENDED AT:
62.0 – 64.0	63.0	63.0	0850	1005

WATER LEVEL STABLIZATION DEPTH TO WATER WITH PUMP: (feet)

TIME INTERVAL (min)	FLOW RATE (mL/min)	PUMP SETTINGS	DEPTH TO WATER (feet) START	DEPTH TO WATER (feet) END	Water Level Stable (Yes or No)	VOLUME PURGED DURING INTERVAL (mL)
0850	250	dial set at 20'clock	11.09	11.10	Y	250

TIME (min)*	FLOW RATE (mL/min) (100-500 mL/min)**	DEPTH TO WATER (feet) (+/- 0.3')**	TURBIDITY (NTU) (+/- 10%)or <5**	DISSOLVED OXYGEN (mg/L) (+/- 10%)or <0.5**	pH (+/- 0.1)**	TEMP (°C) (+/- 3%)**	SPECIFIC CONDUCTIVITY (µS/cm) (+/- 3%)**	ORP (mV) (+/- 10mV)**	COLOR (describe)	ODOR (describe)
0900	250	11.10	53.8	0.46	6.40	10.03	316	-88.5	clear/brown	NONE
0905		11.10	29.5	0.35	6.49	10.04	311	-95.4	brownish	
0910		11.10	21.8	0.31	6.52	9.93	308	-95.7		
0915		11.10	18.1	0.24	6.53	9.92	306	-94.9		
0920		11.10	14.6	0.27	6.54	9.97	305	-95.6		
0925		11.10	11.8	0.27	6.54	9.95	304	-95.7		
0930		11.10	8.30	0.27	6.54	9.92	303	-94.3		
0935		11.10	7.21	0.26	6.55	9.99	303	-94.3		
0940			4.81	0.26	6.55	9.95	303	-95.6	clear	
0945			4.18	0.26	6.55	9.98	303	-95.8		
0950			3.03	0.26	6.55	9.98	302	-94.0		

* every 5 or more minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

** EPA stabilization parameters from EPA/540/S-95/504 April 1996

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Katie Priess / ECC	SAMPLER(S) SIGNATURES: Katie Priess	SAMPLING INITIATED AT: 0955	SAMPLING ENDED AT: 1005
PUMP OR TUBING DEPTH IN WELL (feet):	SAMPLE PUMP FLOW RATE (mL per minute): 250	FIELD PARAMETER MONITORING EQUIPMENT MODEL & SERIAL #s: YSI 650 MDS ; 02C0985AJ	

FIELD DECONTAMINATION: (Y) N

FIELD-FILTERED: Y N FILTER SIZE: ____ µm 0.45

Filtration Equipment Type:

DUPLICATE: Y (N)

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

WELL CONDITION CHECKLIST (circle appropriate item(s), cross out if not applicable)

Type: (Flush Mount) / Stand Pipe General Condition: (Good) / Needs Repair Well Caps: (Good) / Broken / None Lock: Good / Broken (None)

Evidence of Rain Water Between Steel & PVC? Y / (N) Is Well Plumb? (Y) / N PVC Riser: (Good) / Damaged / None

Evendence of Ponding Around Well? Y / (N) Concrete Collar: (Good) / Cracked / Leaking / None

REMARKS:

Sovereign Consulting Inc.
16 Chestnut Street, Suite 520
Foxboro, MA 02035
508-339-3200

MONITORING WELL SAMPLING LOG

Low Flow Sampling

Sovereign Consulting Inc.
4 Open Square Way, Suite #307
Holyoke, MA 01040
413-540-0650

PROJECT NAME: SHEPLEY'S HILL LANDFILL	PROJECT LOCATION: DEVENS, MA	DATE: 5-21-13	WELL ID: SHM-10
PROJECT NUMBER: AC001.02C-06	WELL DIAMETER: (inches) 2"	DEPTH TO WATER: (feet) 13.37	DEPTH TO BOTTOM: (feet) 57.1
			PID READING: (ppmv) BDL

PURGING DATA

TUBING DIAMETER (inches): 3/8	TUBING MATERIAL CODE: (see below) 1	PURGE PUMP TYPE: Pen #466	PUMP EQUIPMENT MODEL & SERIAL #s: Pen #466

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY

GALLONS: 7.12 LITERS:

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88

1 GALLON = 3.785 LITERS

TOTAL VOLUME PURGED: GALLONS: LITERS:

WELL SCREEN INTERVAL DEPTH (feet): 46-56	INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 50'	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 50'	PURGING INITIATED AT: 1245	PURGING ENDED AT: 1335

WATER LEVEL STABLIZATION DEPTH TO WATER WITH PUMP: (feet)

TIME INTERVAL (min)	FLOW RATE (mL/min)	PUMP SETTINGS	DEPTH TO WATER (feet) START	DEPTH TO WATER (feet) END	Water Level Stable (Yes or No)	VOLUME PURGED DURING INTERVAL (mL)
	300/min					

TIME (min)*	FLOW RATE (mL/min) (100-500 mL/min)**	DEPTH TO WATER (feet) (+/- 0.3')**	TURBIDITY (NTU) (+/- 10%)or <5**	DISSOLVED OXYGEN (mg/L) (+/- 10%)or <0.5**	pH (+/- 0.1)**	TEMP (°C) (+/- 3%)**	SPECIFIC CONDUCTIVITY (µS/cm) (+/- 3%)**	ORP (mV) (+/- 10mV)**	COLOR (describe)	ODOR (describe)
1250	300/min	13.35	2.7	0.29	6.72	11.68	711	-22.7	Clear	none
1255		13.35	2.5	0.53	6.71	11.95	715	14.5	Clear	none
1300		13.35	1.9	0.52	6.70	11.89	715	14.4	Clear	none
1305		13.38	1.9	0.53	6.71	11.87	719	11.7	Clear	none
1310		13.38	1.7	0.49	6.72	11.89	720	11.4	Clear	none
1315		13.38	1.7	0.49	6.72	11.85	721	10.4	Clear	none
1320		13.38	1.7	0.48	6.73	11.89	724	8.4	Clear	none
1325		13.38	1.8	0.48	6.73	11.85	722	8.4	Clear	none
1330		13.40	1.7	0.49	6.73	11.86	721	7.8	Clear	none
1335										

* every 5 or more minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

** EPA stabilization parameters from EPA/540/S-95/504 April 1996

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: JAG	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 1335	SAMPLING ENDED AT:
PUMP OR TUBING DEPTH IN WELL (feet): 50'	SAMPLE PUMP FLOW RATE (mL per minute): 300/min	FIELD PARAMETER MONITORING EQUIPMENT MODEL & SERIAL #s: YSI #13D101141	
FIELD DECONTAMINATION: Y N	FIELD-FILTERED: (Y) N Filtration Equipment Type:	FILTER SIZE: 5 µm	DUPLICATE: Y (N)

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

WELL CONDITION CHECKLIST (circle appropriate item(s), cross out if not applicable)

Type: Flush Mount / (Stand Pipe) General Condition: (Good) / Needs Repair Well Caps: (Good) / Broken / None Lock: Good / Broken

Evidence of Rain Water Between Steel & PVC? Y / (N) Is Well Plumb?: Y / N PVC Riser: (Good) / Damaged / None

Evendence of Ponding Around Welll? Y / (N) Concrete Collar: Good / Cracked / Leaking / (None)

REMARKS:

Sovereign Consulting Inc.
16 Chestnut Street, Suite 520
Foxboro, MA 02035
508-339-3200

MONITORING WELL SAMPLING LOG

Low Flow Sampling

Sovereign Consulting Inc.
4 Open Square Way, Suite #307
Holyoke, MA 01040
413-540-0650

PROJECT NAME: SHEPLEY'S HILL LANDFILL	PROJECT LOCATION: DEVENS, MA	DATE: 5/21/13	WELL ID: PZ-12-02
PROJECT NUMBER: AC001.02C-06	WELL DIAMETER: (inches) 2"	DEPTH TO WATER: (feet) 20.36	DEPTH TO BOTTOM: (feet) 34'
			PID READING: (ppmv) 0.0

PURGING DATA

TUBING DIAMETER (inches): 1/2	TUBING MATERIAL CODE: (see below) PE	PURGE PUMP TYPE: peristaltic	PUMP EQUIPMENT MODEL & SERIAL #: Geopump 963134
WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY			GALLONS: 8.0 LITERS:
WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88			1 GALLON = 3.785 LITERS; TOTAL VOLUME PURGED: GALLONS: LITERS:
WELL SCREEN INTERVAL DEPTH (feet): 24-34	INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 30'	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 30'	PURGING INITIATED AT: 1225 / PURGING ENDED AT: 1327
WATER LEVEL STABLIZATION	DEPTH TO WATER WITH PUMP: (feet)		

TIME INTERVAL (min)	FLOW RATE (mL/min)	PUMP SETTINGS	DEPTH TO WATER (feet) START	DEPTH TO WATER (feet) END	Water Level Stable (Yes or No)	VOLUME PURGED DURING INTERVAL (mL)
1min	400	> 1/4	20.55	20.56	Y	400

TIME (min)*	FLOW RATE (mL/min) (100-500 mL/min)**	DEPTH TO WATER (feet) (+/- 0.3')**	TURBIDITY (NTU) (+/- 10%)or <5**	DISSOLVED OXYGEN (mg/L) (+/- 10%)or <0.5**	pH (+/- 0.1)**	TEMP (°C) (+/- 3%)**	SPECIFIC CONDUCTIVITY (µS/cm) (+/- 3%)**	ORP (mV) (+/- 10mV)**	COLOR (describe)	ODOR (describe)
1230	400	20.56	92.8	8.98	6.79	12.09	423	8.0	some particulates	pale orange / none
1235	400	20.56	21.9	5.19	6.24	12.25	658	-54.0	"	"
1240	400	20.57	22.0	3.62	6.26	12.20	664	-69.0	"	"
1245	400	20.57	15.9	3.00	6.26	12.22	667	-71.9	"	"
1250	400	20.57	14.1	2.16	6.24	12.15	666	-74.0	trace particles	clear
1255	400	20.58	8.64	0.28	6.26	12.15	669	-76.8	"	"
1300	400	20.58	6.08	0.49	6.28	12.21	672	-81.2	"	"
1305	400	20.58	4.72	0.35	6.30	12.24	670	-81.5	"	"
1310	400	20.58	5.07	0.31	6.31	12.25	669	-82.1	"	"
1315	400	20.58	3.49	0.25	6.34	12.27	666	-84.9	"	"
1320	400	20.57	4.68	0.20	6.35	12.36	666	-85.4	"	"
1325	400	20.57	4.58	0.15	6.37	12.33	665	-87.0	"	"

* every 5 or more minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

** EPA stabilization parameters from EPA/540/S-95/504 April 1996

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Mike Mendes / SOVCON	SAMPLER(S) SIGNATURES: Mike Mendes	SAMPLING INITIATED AT: 1327	SAMPLING ENDED AT: 1335
PUMP OR TUBING DEPTH IN WELL (feet): 30'	SAMPLE PUMP FLOW RATE (mL per minute):	FIELD PARAMETER MONITORING EQUIPMENT MODEL & SERIAL #s: YSI 556 MPS / 08D101029	Lamotte 2020e ME/2750
FIELD DECONTAMINATION: Y (N)	FIELD-FILTERED: (Y) N FILTER SIZE: ____ µm Filtration Equipment Type: metals / DOC analyses only		DUPLICATE: Y (N)

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

WELL CONDITION CHECKLIST (circle appropriate item(s), cross out if not applicable)

Type: Flush Mount / (Stand Pipe) General Condition: (Good) / Needs Repair Well Caps: (Good) / Broken / None Lock: Good / Broken / (None)

Evidence of Rain Water Between Steel & PVC? Y / (N) Is Well Plumb?: Y / N PVC Riser: (Good) / Damaged / None

Evendence of Ponding Around Well? Y / (N) Concrete Collar: Good / Cracked / Leaking / (None)

REMARKS:

Sovereign Consulting Inc.
16 Chestnut Street, Suite 520
Foxboro, MA 02035
508-339-3200

MONITORING WELL SAMPLING LOG

Low Flow Sampling

Sovereign Consulting Inc.
4 Open Square Way, Suite #307
Holyoke, MA 01040
413-540-0650

PROJECT NAME: SHEPLEY'S HILL LANDFILL	PROJECT LOCATION: DEVENS, MA	DATE: 5·21·13	WELL ID: PZ-12-09
PROJECT NUMBER: AC001.02C-06	WELL DIAMETER: (inches) 2"	DEPTH TO WATER: (feet) 24.4	DEPTH TO BOTTOM: (feet)
			PID READING: (ppmv) 0.0

PURGING DATA

TUBING DIAMETER (inches): 1/4	TUBING MATERIAL CODE: (see below) PE	PURGE PUMP TYPE: Bladder	PUMP EQUIPMENT MODEL & SERIAL #s:

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY

GALLONS: ~2.5 LITERS:

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88

1 GALLON = 3.785 LITERS

TOTAL VOLUME PURGED: GALLONS: LITERS:

WELL SCREEN INTERVAL DEPTH (feet): 22.32'	INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 27'	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 27'	PURGING INITIATED AT: ~~1150~~ 1200	PURGING ENDED AT: 1240

WATER LEVEL STABLIZATION DEPTH TO WATER WITH PUMP: (feet)

TIME INTERVAL (min)	FLOW RATE (mL/min)	PUMP SETTINGS	DEPTH TO WATER (feet) START	DEPTH TO WATER (feet) END	Water Level Stable (Yes or No)	VOLUME PURGED DURING INTERVAL (mL)
1min	250	1075 60psi 25ft	24.41	24.41		

TIME (min)*	FLOW RATE (mL/min) (100-500 mL/min)**	DEPTH TO WATER (feet) (+/- 0.3')**	TURBIDITY (NTU) (+/- 10%)or <5**	DISSOLVED OXYGEN (mg/L) (+/- 10%)or <0.5**	pH (+/- 0.1)**	TEMP (°C) (+/- 3%)**	SPECIFIC CONDUCTIVITY (µS/cm) (+/- 3%)**	ORP (mV) (+/- 10mV)**	COLOR (describe)	ODOR (describe)
1210	250	24.41	6.24	0.49	6.31	13.51	214	979	clear	None
1215	250	24.41	4.55	1.90	6.31	13.17	209	107.6	" "	" "
1220	250	24.41	3.45	2.60	6.32	13.28	203	110.6	" "	" "
1225	250	24.41	3.86	3.49	6.32	13.27	193	113.3	" "	" "
1230	250	24.41	3.43	3.79	6.34	13.26	189	112.7	" "	" "
1235	250	24.41	3.46	3.83	6.31	13.24	187	112.6	" "	" "
1240	—	—	Sample	—	—	—	—	—	—	—

* every 5 or more minules, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

** EPA stabilization parameters from EPA/540/S-95/504 April 1996

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Erin Foley	SAMPLER(S) SIGNATURES: Erin Foley	SAMPLING INITIATED AT: 1240	SAMPLING ENDED AT: 1300
PUMP OR TUBING DEPTH IN WELL (feet): 27'	SAMPLE PUMP FLOW RATE (mL per minute): 250	FIELD PARAMETER MONITORING EQUIPMENT MODEL & SERIAL #s: YSI: 13D101143 Turb: ME 113601	
FIELD DECONTAMINATION: (Y) N	FIELD-FILTERED: (Y) N FILTER SIZE: ____ µm Filtration Equipment Type:		DUPLICATE: Y (N)

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

WELL CONDITION CHECKLIST (circle appropriate item(s), cross out if not applicable)

Type: Flush Mount / Stand Pipe General Condition: Good / Needs Repair Well Caps: Good / Broken / None Lock: Good / Broken / None

Evidence of Rain Water Between Steel & PVC? Y / N Is Well Plumb?: Y / N PVC Riser: Good / Damaged / None

Evendence of Ponding Around Welll? Y / N Concrete Collar: Good / Cracked / Leaking / None

REMARKS:

Sovereign Consulting Inc.
16 Chestnut Street, Suite 520
Foxboro, MA 02035
508-339-3200

MONITORING WELL SAMPLING LOG

Low Flow Sampling

Sovereign Consulting Inc.
4 Open Square Way, Suite #307
Holyoke, MA 01040
413-540-0650

PROJECT NAME: SHEPLEY'S HILL LANDFILL	PROJECT LOCATION: DEVENS, MA	DATE: 5-21-13	WELL ID: SHM-05-41C
PROJECT NUMBER: AC001.02C-06	WELL DIAMETER: (inches) 2	DEPTH TO WATER: (feet) 11.29	DEPTH TO BOTTOM: (feet) 93
PID READING: (ppmv) 0			

PURGING DATA

TUBING DIAMETER (inches): 3/8	TUBING MATERIAL CODE: (see below) PE	PURGE PUMP TYPE: Peristaltic	PUMP EQUIPMENT MODEL & SERIAL #s: Peristaltic 401

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY

GALLONS: 13.07 LITERS: 49.48

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88

1 GALLON = 3.785 LITERS

WELL SCREEN INTERVAL DEPTH (feet): 88-93	INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 90.5	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 90.5	PURGING INITIATED AT: 1222	PURGING ENDED AT: 1315	TOTAL VOLUME PURGED: GALLONS: ~~0.23.09~~ → 3.50 LITERS: ~~0.24.48~~ → 13.25

WATER LEVEL STABLIZATION DEPTH TO WATER WITH PUMP: (feet) 11.40

TIME INTERVAL (min)	FLOW RATE (mL/min)	PUMP SETTINGS	DEPTH TO WATER (feet) START	DEPTH TO WATER (feet) END	Water Level Stable (Yes or No)	VOLUME PURGED DURING INTERVAL (mL)
1250-1255	250	Dial @ 10 O'clock Position	11.40	11.40	yes	1250

TIME (min)*	FLOW RATE (mL/min) (100-500 mL/min)**	DEPTH TO WATER (feet) (+/- 0.3')**	TURBIDITY (NTU) (+/- 10%)or <5**	DISSOLVED OXYGEN (mg/L) (+/- 10%)or <0.5**	pH (+/- 0.1)**	TEMP (°C) (+/- 3%)**	SPECIFIC CONDUCTIVITY (µS/cm) (+/- 3%)**	ORP (mV) (+/- 10mV)**	COLOR (describe)	ODOR (describe)
1225	250	11.41	14.0	1.23	6.85	11.35	1111	-41.3	clear	None
1230	250	11.41	10.1	0.71	6.87	11.33	1356	-59.4	clear	none
1235	250	11.41	9.7	0.65	6.91	11.38	1353	-56.3	clear	None
1240	250	11.40	8.2	0.42	6.94	11.45	1290	-75.0	clear	None
1245	250	11.40	6.8	0.37	6.95	11.43	1231	-81.7	clear	None
1250	250	11.40	6.1	0.31	6.96	11.42	1186	-87.2	clear	None
1255	250	11.40	5.0	0.28	6.97	11.33	1151	-91.6	clear	None
1300	250	11.40	4.3	0.26	6.98	11.36	1112	-95.2	clear	None
1305	250	11.40	2.1	0.26	6.98	11.49	1085	-97.1	clear	None
1310	250	11.40	2.7	0.26	6.98	11.50	1081	-98.5	clear	None

* every 5 or more minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

** EPA stabilization parameters from EPA/540/S-95/504 April 1996

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: David Comeau / ECC	SAMPLER(S) SIGNATURES: [signature]	SAMPLING INITIATED AT: 1315	SAMPLING ENDED AT: 1340
PUMP OR TUBING DEPTH IN WELL (feet): 90.5	SAMPLE PUMP FLOW RATE (mL per minute): 250	FIELD PARAMETER MONITORING EQUIPMENT MODEL & SERIAL #s: YSI 650 MDS 02F0329 AF	
FIELD DECONTAMINATION: (Y) N	FIELD-FILTERED: (Y) N FILTER SIZE: 0.45 µm Filtration Equipment Type: 0.45 Micron Filter	DUPLICATE: Y (N)	

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

WELL CONDITION CHECKLIST (circle appropriate item(s), cross out if not applicable)

Type: (Flush Mount) / Stand Pipe General Condition: (Good) / Needs Repair Well Caps: (Good) / Broken / None Lock: Good / Broken / (None)

Evidence of Rain Water Between Steel & PVC? Y / (N) Is Well Plumb? (Y) / N PVC Riser: (Good) / Damaged / None

Evendence of Ponding Around Welll? Y / (N) Concrete Collar: (Good) / Cracked / Leaking / None

REMARKS:

Sovereign Consulting Inc.
16 Chestnut Street, Suite 520
Foxboro, MA 02035
508-339-3200

MONITORING WELL SAMPLING LOG

Low Flow Sampling

Sovereign Consulting Inc.
4 Open Square Way, Suite #307
Holyoke, MA 01040
413-540-0650

PROJECT NAME: SHEPLEY'S HILL LANDFILL	PROJECT LOCATION: DEVENS, MA	DATE: 05/21/13	WELL ID: SHL-~~A~~5
PROJECT NUMBER: AC001.02C-06	WELL DIAMETER: (inches) ~~1~~ 2	DEPTH TO WATER: (feet) 4.95	DEPTH TO BOTTOM: (feet) 13
			PID READING: (ppmv) Ø

PURGING DATA

TUBING DIAMETER (inches): 1/4	TUBING MATERIAL CODE: (see below) PE	PURGE PUMP TYPE: peri	PUMP EQUIPMENT MODEL & SERIAL #s: geopump; M6364U

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY

GALLONS: 4.25 LITERS: –

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88

1 GALLON = 3.785 LITERS

TOTAL VOLUME PURGED: GALLONS: 4.25 LITERS: –

WELL SCREEN INTERVAL DEPTH (feet): 3 - 13	INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 8	FINAL PUMP OR TUBING DEPTH IN WELL (feet):	PURGING INITIATED AT: 1220	PURGING ENDED AT: 1335

WATER LEVEL STABLIZATION DEPTH TO WATER WITH PUMP: (feet) 4.95

TIME INTERVAL (min)	FLOW RATE (mL/min)	PUMP SETTINGS	DEPTH TO WATER (feet) START	DEPTH TO WATER (feet) END	Water Level Stable (Yes or No)	VOLUME PURGED DURING INTERVAL (mL)
1220	250	diar set at 10 'clock	4.95	5.27	Y	250.

TIME (min)*	FLOW RATE (mL/min) (100-500 mL/min)**	DEPTH TO WATER (feet) (+/- 0.3')**	TURBIDITY (NTU) (+/- 10%)or <5**	DISSOLVED OXYGEN (mg/L) (+/- 10%)or <0.5**	pH (+/- 0.1)**	TEMP (°C) (+/- 3%)**	SPECIFIC CONDUCTIVITY (µS/cm) (+/- 3%)**	ORP (mV) (+/- 10mV)**	COLOR (describe) -	ODOR (describe) -
1230	250	4.95	3.86	0.53	5.56	10.64	97	87.5	clear	NONE.
1235		5.27	3.31	0.41	5.59	10.85	99	84.5		
1240		5.27	3.12	0.37	5.59	10.87	99	83.9		
1245		5.27	3.95	0.36	5.59	10.80	100	83.6		
1250		5.27	4.87	0.36	5.59	10.80	100	82.0.		
1255		5.27	4.32	0.37	5.59	10.80	100	81.3		
1300		5.27	4.85	0.36	5.59	10.80	100	81.5		
1305		5.27	4.11.	0.36	5.59	10.81	100	83.4.		
1310		5.27	3.36.	0.36	5.59	10.81	100	82.9.		

* every 5 or more minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

** EPA stabilization parameters from EPA/540/S-95/504 April 1996

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Katie Priess / ECC	SAMPLER(S) SIGNATURES: Katie Priess	SAMPLING INITIATED AT: 1320	SAMPLING ENDED AT: 1335
PUMP OR TUBING DEPTH IN WELL (feet): 13	SAMPLE PUMP FLOW RATE (mL per minute): 250	FIELD PARAMETER MONITORING EQUIPMENT MODEL & SERIAL #s: YSI 650 MDS; 02C0985A)	
FIELD DECONTAMINATION: (Y) N	FIELD-FILTERED: Y N FILTER SIZE: 0.45 µm Filtration Equipment Type:		DUPLICATE: Y (N)

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

WELL CONDITION CHECKLIST (circle appropriate item(s), cross out if not applicable)

Type: Flush Mount / Stand Pipe General Condition: (Good) / Needs Repair Well Caps: (Good) / Broken / None Lock: Good / Broken / (None)

Evidence of Rain Water Between Steel & PVC? Y / (N) Is Well Plumb?: Y / N PVC Riser: (Good) / Damaged / None

Evendence of Ponding Around Welll? Y / (N) Concrete Collar: (Good) / Cracked / Leaking / None

REMARKS:
NO LOCK

Sovereign Consulting Inc.
16 Chestnut Street, Suite 520
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508-339-3200

MONITORING WELL SAMPLING LOG

Low Flow Sampling

Sovereign Consulting Inc.
4 Open Square Way, Suite #307
Holyoke, MA 01040
413-540-0650

PROJECT NAME: SHEPLEY'S HILL LANDFILL	PROJECT LOCATION: DEVENS, MA	DATE: 6-13-13	WELL ID: SHM-13-01
PROJECT NUMBER: AC001.02C-06	WELL DIAMETER: (inches) 2"	DEPTH TO WATER: (feet) 2.93	DEPTH TO BOTTOM: (feet) 48.500
			PID READING: (ppmv) 0.0

PURGING DATA

TUBING DIAMETER (inches): 1/4"	TUBING MATERIAL CODE: (see below) Te/poly	PURGE PUMP TYPE: Peristaltic	PUMP EQUIPMENT MODEL & SERIAL #s: Geopump #355

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY

GALLONS: LITERS:

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88

1 GALLON = 3.785 LITERS

TOTAL VOLUME PURGED: GALLONS: LITERS:

WELL SCREEN INTERVAL DEPTH (feet):	INITIAL PUMP OR TUBING DEPTH IN WELL (feet):	FINAL PUMP OR TUBING DEPTH IN WELL (feet):	PURGING INITIATED AT:	PURGING ENDED AT:

WATER LEVEL STABLIZATION DEPTH TO WATER WITH PUMP: (feet)

TIME INTERVAL (min)	FLOW RATE (mL/min)	PUMP SETTINGS	DEPTH TO WATER (feet) START	DEPTH TO WATER (feet) END	Water Level Stable (Yes or No)	VOLUME PURGED DURING INTERVAL (mL)

TIME (min)*	FLOW RATE (mL/min) (100-500 mL/min)**	DEPTH TO WATER (feet) (+/- 0.3')**	TURBIDITY (NTU) (+/- 10%)or <5**	DISSOLVED OXYGEN (mg/L) (+/- 10%)or <0.5**	pH (+/- 0.1)**	TEMP (°C) (+/- 3%)**	SPECIFIC CONDUCTIVITY (µS/cm) (+/- 3%)**	ORP (mV) (+/- 10mV)**	COLOR (describe) -	ODOR (describe) -

* every 5 or more minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

** EPA stabilization parameters from EPA/540/S-95/504 April 1996

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION:	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT:	SAMPLING ENDED AT:

PUMP OR TUBING DEPTH IN WELL (feet):	SAMPLE PUMP FLOW RATE (mL per minute):	FIELD PARAMETER MONITORING EQUIPMENT MODEL & SERIAL #s: YSI 13D101142 / Turbidity ME11361 / WLM 45783

FIELD DECONTAMINATION: Y N

FIELD-FILTERED: Y N FILTER SIZE: _____ µm
Filtration Equipment Type:

DUPLICATE: Y N

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

WELL CONDITION CHECKLIST (circle appropriate item(s), cross out if not applicable)

Type: Flush Mount / Stand Pipe General Condition: Good / Needs Repair Well Caps: Good / Broken / None Lock: Good / Broken / None

Evidence of Rain Water Between Steel & PVC? Y / N Is Well Plumb?: Y / N PVC Riser: Good / Damaged / None

Evendence of Ponding Around Welll? Y / N Concrete Collar: Good / Cracked / Leaking / None

REMARKS:

STANDPIPE under ~ 1' of water - could not access or sample.

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MONITORING WELL SAMPLING LOG

Low Flow Sampling

Sovereign Consulting Inc.
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Holyoke, MA 01040
413-540-0650

PROJECT NAME: SHEPLEY'S HILL LANDFILL	PROJECT LOCATION: DEVENS, MA	DATE: 6·13·13	WELL ID: 6HM-13-06
PROJECT NUMBER: AC001.02C-06	WELL DIAMETER: (inches) 2"	DEPTH TO WATER: (feet) 15.93	DEPTH TO BOTTOM: (feet) 45.50
PID READING: (ppmv) 0.0			

PURGING DATA

TUBING DIAMETER: (inches) 1/4"	TUBING MATERIAL CODE: (see below) Te/poly	PURGE PUMP TYPE: Geopump /peristaltic	PUMP EQUIPMENT MODEL & SERIAL #s: Geopump # 355

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY

GALLONS: LITERS:

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88

1 GALLON = 3.785 LITERS

TOTAL VOLUME PURGED: GALLONS: 5 LITERS:

WELL SCREEN INTERVAL DEPTH (feet):	INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 40'	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 40'	PURGING INITIATED AT: 0835	PURGING ENDED AT: 0950

WATER LEVEL STABLIZATION DEPTH TO WATER WITH PUMP: (feet)

TIME INTERVAL (min)	FLOW RATE (mL/min)	PUMP SETTINGS	DEPTH TO WATER (feet) START	DEPTH TO WATER (feet) END	Water Level Stable (Yes or No)	VOLUME PURGED DURING INTERVAL (mL)
1	150	1/2	15.94	15.94	Y	150
1	225	3/4	15.94	15.94	Y	225
1						

TIME (min)*	FLOW RATE (mL/min) (100-500 mL/min)**	DEPTH TO WATER (feet) (+/- 0.3')**	TURBIDITY (NTU) (+/- 10%)or <5**	DISSOLVED OXYGEN (mg/L) (+/- 10%)or <0.5**	pH (+/- 0.1)**	TEMP (°C) (+/- 3%)**	SPECIFIC CONDUCTIVITY (µS/cm) (+/- 3%)**	ORP (mV) (+/- 10mV)**	COLOR (describe)	ODOR (describe)
0840	150	15.94	31.8	0.27	6.91	12.61	274	-97.7	clear	none
0845	150	15.94	27.8	0.79	6.97	13.38	281	-97.9	" "	none
0850	225	15.94	21.9	0.47	7.05	12.69	283	-121.2	" "	none
0855	225	15.94	18.1	0.36	7.08	12.44	286	-115.2	" "	none
0900	225	15.94	15.2	0.59	7.09	12.46	285	-136.2	" "	none
0905	225	15.94	11.4	0.61	7.10	12.38	283	-140.7	" "	none
0910	225	15.94	9.38	0.53	7.12	12.31	286	-144.0	" "	none
0915	225	15.94	9.88	0.55	7.12	12.31	278	-144.5	" "	none
0920	225	15.94	8.83	0.43	7.13	12.42	281	-154.6	" "	none
0925	225	15.94	9.32	0.43	7.14	12.35	279	-156.4	" "	none
0930	225	15.94	7.22	0.42	7.14	12.37	285	-157.8	" "	none
0935	225	15.94	6.17	0.38	7.15	12.36	277	-156.4	" "	none
0940	225	15.94	4.29	0.34	7.15	12.39	280	-145.8	" "	none
0945	225	15.94	3.71	0.30	7.14	12.50	277	-145.3	" "	none
0950	225	15.94	4.07	0.14	7.16	12.43	281	-154.5	" "	none

* every 5 or more minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

** EPA stabilization parameters from EPA/540/S-95/504 April 1996

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Catherine Swanson / SOVCON	SAMPLER(S) SIGNATURES: [signature]	SAMPLING INITIATED AT: 0952	SAMPLING ENDED AT: 1038
PUMP OR TUBING DEPTH IN WELL (feet): 40'	SAMPLE PUMP FLOW RATE (mL per minute): 225	FIELD PARAMETER MONITORING EQUIPMENT MODEL & SERIAL #s: YSI 13D101142 / Turbidity ME11361 / WLM 45783	

FIELD DECONTAMINATION: (Y) N

FIELD-FILTERED: (Y) N FILTER SIZE: ____ µm
Filtration Equipment Type:

DUPLICATE: Y (N)

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

WELL CONDITION CHECKLIST (circle appropriate item(s), cross out if not applicable)

Type: Flush Mount / Stand Pipe General Condition: Good / Needs Repair Well Caps: Good / Broken / None Lock: Good / Broken / None

Evidence of Rain Water Between Steel & PVC? (Y) / N Is Well Plumb?: (Y) N PVC Riser: Good / Damaged / None

Evendence of Ponding Around Welll? (Y) / N Concrete Collar: Good / Cracked / Leaking / None

REMARKS:

MS/MSD collected

samples placed on ice

* added Sodium Acetate drops to Sulfides bottles

in sloped dirt driveway - covered w/ sand when arrived

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MONITORING WELL SAMPLING LOG

Low Flow Sampling

Sovereign Consulting Inc.
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Holyoke, MA 01040
413-540-0650

PROJECT NAME: SHEPLEY'S HILL LANDFILL	PROJECT LOCATION: DEVENS, MA		DATE: 6-13-13	WELL ID: SHM-13-08
PROJECT NUMBER: AC001.02C-06	WELL DIAMETER: (inches) 2"	DEPTH TO WATER: (feet) 19.34	DEPTH TO BOTTOM: (feet) 55.3	PID READING: (ppmv) 0.0

PURGING DATA

TUBING DIAMETER: (inches): 1/4"	TUBING MATERIAL CODE: (see below) Te/poly	PURGE PUMP TYPE: peristaltic	PUMP EQUIPMENT MODEL & SERIAL #s: Geopump 355

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY

GALLONS: LITERS:

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88

1 GALLON = 3.785 LITERS

WELL SCREEN INTERVAL DEPTH (feet):	INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 50'	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 50'	PURGING INITIATED AT: 1200	PURGING ENDED AT: 1410	TOTAL VOLUME PURGED: GALLONS: 5.1 LITERS:

WATER LEVEL STABLIZATION DEPTH TO WATER WITH PUMP: (feet)

TIME INTERVAL (min)	FLOW RATE (mL/min)	PUMP SETTINGS	DEPTH TO WATER (feet) START	DEPTH TO WATER (feet) END	Water Level Stable (Yes or No)	VOLUME PURGED DURING INTERVAL (mL)
1	200	1/4 < x < 3/4 turn	19.34	19.34	yes	
1	220	3/4 turn	19.35	19.35	yes	

TIME (min)*	FLOW RATE (mL/min) (100-500 mL/min)**	DEPTH TO WATER (feet) (+/- 0.3')**	TURBIDITY (NTU) (+/- 10%)or <5**	DISSOLVED OXYGEN (mg/L) (+/- 10%)or <0.5**	pH (+/- 0.1)**	TEMP (°C) (+/- 3%)**	SPECIFIC CONDUCTIVITY (µS/cm) (+/- 3%)**	ORP (mV) (+/- 10mV)**	COLOR (describe)	ODOR (describe)
1213	220	19.35	24.9	5.53	6.72	12.66	394	-91.9	slight yellow/brown	
1218	220	19.35	16.4	6.29	6.75	12.58	393	-98.9		
1223	220	19.35	16.4	5.80	6.73	12.60	393	-94.2		
1227	220	19.35	11.8	6.20	6.78	12.62	392	-93.1	clear	none
1233	220	19.35	8.25	4.76	6.79	12.65	390	-98.2	clear	none
1237	220	19.35	5.54	1.95	6.80	12.68	390	-90.8	" "	" "
1243	220	19.35	4.38	2.65	6.81	12.77	386	-96.0	" "	" "
1248	220	19.35	3.26	2.13	6.81	12.74	386	-98.0	" "	" "
1253	220	19.35	2.80	2.53	6.81	12.64	385	-101.5	"	"
1258	220	19.35	2.83	2.13	6.81	12.66	381	-102.9	" "	"
1303	220	19.35	2.91	7.05	6.82	12.61	381	-100.0	"	"
1308	220	19.35	2.75	1.28	6.82	12.61	381	-100.0	"	"
1313	220	19.35	2.94	0.78	6.82	12.61	378	-105.7	"	"
1318	220	19.35	2.51	1.23	6.82	12.62	380	-101.7	"	"
1323	220	19.35	1.35	1.32	6.83	12.60	379	-102.4	" "	" "
1327	220	19.35	1.91	0.84	6.83	12.58	380	-103.9	" "	" "
1332	220	19.35	1.29	1.23	6.84	12.68	379	-106.1	" "	" "
1335	220	19.35	[illegible]	1.18	6.83	12.69	379	-103.4	"	"

* every 5 or more minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

** EPA stabilization parameters from EPA/540/S-95/504 April 1996

(continued p.2)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Catherine Swanson/Sovcon	SAMPLER(S) SIGNATURES: Catherine Swanson	SAMPLING INITIATED AT: 1410	SAMPLING ENDED AT: 1500
PUMP OR TUBING DEPTH IN WELL (feet): 50'	SAMPLE PUMP FLOW RATE (mL per minute): 220	FIELD PARAMETER MONITORING EQUIPMENT MODEL & SERIAL #s: YSI 13D101142 / Turbidity ME11361 / WLM 45783	

FIELD DECONTAMINATION: (Y) N

FIELD-FILTERED: (Y) N FILTER SIZE: ___ µm

Filtration Equipment Type: DOC/metals only

DUPLICATE: (Y) N

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

WELL CONDITION CHECKLIST (circle appropriate item(s), cross out if not applicable)

Type: (Flush Mount) / Stand Pipe General Condition: (Good) / Needs Repair Well Caps: (Good) / Broken / None Lock: Good / Broken / (None)

Evidence of Rain Water Between Steel & PVC? Y / (N) Is Well Plumb?: (Y) / N PVC Riser: (Good) / Damaged / None

Evendence of Ponding Around Well? Y / (N) Concrete Collar: (Good) / Cracked / Leaking / None

REMARKS:

Duplicate collected. see sheet 2 for sampling data

*page 1

pg. 2 of 2

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MONITORING WELL SAMPLING LOG

Low Flow Sampling

Sovereign Consulting Inc.
4 Open Square Way, Suite #307
Holyoke, MA 01040
413-540-0650

PROJECT NAME: SHEPLEY'S HILL LANDFILL	PROJECT LOCATION: DEVENS, MA		DATE: 6-13-13	WELL ID: SHMW-B-08
PROJECT NUMBER: AC001.02C-06	WELL DIAMETER: (inches)	DEPTH TO WATER: (feet)	DEPTH TO BOTTOM: (feet)	PID READING: (ppmv)

PURGING DATA

TUBING DIAMETER (inches):	TUBING MATERIAL CODE: (see below)	PURGE PUMP TYPE:	PUMP EQUIPMENT MODEL & SERIAL #s:

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY

GALLONS: LITERS:

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88

1 GALLON = 3.785 LITERS

WELL SCREEN INTERVAL DEPTH (feet):	INITIAL PUMP OR TUBING DEPTH IN WELL (feet):	FINAL PUMP OR TUBING DEPTH IN WELL (feet):	PURGING INITIATED AT:	PURGING ENDED AT:	TOTAL VOLUME PURGED: GALLONS: LITERS:

WATER LEVEL STABLIZATION DEPTH TO WATER WITH PUMP: (feet)

TIME INTERVAL (min)	FLOW RATE (mL/min)	PUMP SETTINGS	DEPTH TO WATER (feet) START	DEPTH TO WATER (feet) END	Water Level Stable (Yes or No)	VOLUME PURGED DURING INTERVAL (mL)

TIME (min)*	FLOW RATE (mL/min) (100-500 mL/min)**	DEPTH TO WATER (feet) (+/- 0.3')**	TURBIDITY (NTU) (+/- 10%)or <5**	DISSOLVED OXYGEN (mg/L) (+/- 10%)or <0.5**	pH (+/- 0.1)**	TEMP (°C) (+/- 3%)**	SPECIFIC CONDUCTIVITY (µS/cm) (+/- 3%)**	ORP (mV) (+/- 10mV)**	COLOR (describe)	ODOR (describe)
1350	220	19.35	2.81	0.73	6.84	12.62	379	-109.7	"	"
	220	19.35	2.42	0.43	6.84	12.64	379	-112.5		
1400	220	19.35	2.72	0.34	6.84	12.66	379	-114.4		
1405	220	19.35	2.92	0.74	6.84	12.75	378	-122.4		

* every 5 or more minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

** EPA stabilization parameters from EPA/540/S-95/504 April 1996

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Catherine Swanson / SOV CON	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 1410	SAMPLING ENDED AT: 1500
PUMP OR TUBING DEPTH IN WELL (feet):	SAMPLE PUMP FLOW RATE (mL per minute): 220	FIELD PARAMETER MONITORING EQUIPMENT MODEL & SERIAL #s: See page 1	

FIELD DECONTAMINATION: (Y) N

FIELD-FILTERED: (Y) N FILTER SIZE: ____ µm Filtration Equipment Type: .45 metals/DOC only

DUPLICATE: (Y) N

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

WELL CONDITION CHECKLIST (circle appropriate item(s), cross out if not applicable)

Type: Flush Mount / Stand Pipe General Condition: Good / Needs Repair Well Caps: Good / Broken / None Lock: Good / Broken / None

Evidence of Rain Water Between Steel & PVC? Y / N Is Well Plumb?: Y / N PVC Riser: Good / Damaged / None

Evendence of Ponding Around Welll? Y / N Concrete Collar: Good / Cracked / Leaking / None

REMARKS:

* pg. 2 sheet

* lots of bubbles in well tubing line potentially sticking to DO probe.

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Field Instrument Calibration Record

Instrument (MAKE/MODEL#) Ion Science Tiger PID
Instrument # 63204
Parameter:

- ☐ Temperature
- ☐ Conductivity (±0.5%)
- ☐ Salinity
- ☐ pH (±0.2 units)
- ☐ Turbidity (±5%)
- ☐ ORP (±20 mV)
- ☐ DO (±2%)
- ☒ Isobutylene (±2%)

Standards:

Standard A 100 ppm 1 isobutylene
Standard B ~~100~~ pt 50 ppm benzene bump response
Standard C
Standard D
Standard E
Standard F

Date	Time	STD (A,B,C)	STD Value	Instrument Response	% Dev	Calibrated (Y/N)	Type (Init., Cont.)	Sampler
6-13-13	0715	A	100 ppm	100 ppm	0	Y	Init	CS
6-13-13	1530	B	~~100~~ 50	48.9	2.2	N	Post	CS

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Field Instrument Calibration Record

Sovereign Consulting Inc.
4 Open Square Way, Suite #307
Holyoke, MA 01040
413-540-0650

Instrument (MAKE/MODEL#) Ion Science

Instrument # T-105453

Parameter:

- ☐ Temperature
- ☐ Conductivity (±0.5%)
- ☐ Salinity
- ☐ pH (±0.2 units)
- ☐ Turbidity (±5%)
- ☐ ORP (±20 mV)
- ☐ DO (±2%)
- ☒ Isobutylene (±2%)

Standards:

Standard A 100

Standard B 100

Standard C

Standard D

Standard E

Standard F

Date	Time	STD (A,B,C)	STD Value	Instrument Response	% Dev	Calibrated (Y/N)	Type (Init., Cont.)	Sampler
5/20/13	0800	A	100	100	0	Y	Init	JG
		A	100	100.3	.3		Bump CK	
5-20-13	1430	A	100	105.1	+5.1	Y	Bump	SV
5-21-13	0740	A	100	100	0	yes	Init	EEF
		B	100	101.5	1.5	Yes	Bump	EEF
5-21-13	1410	A	100	116.60	+16.6	yes	Bump	SV
5-22	0800	A	100	100	0		Init	EF
		B	100	98.9	1.1	Yes	Bump	EF
5/22/13	1400	A	100	91.6	-8.4	y	Bump	SV
		~~B~~	~~100~~					
5-23-13	0800	A	100	100.0	0	Yes	Init	EF
		B	100	100.5	.5		Bump	EF
5-23-13	0720	A	100	100	0	Yes	Init	JAG
		B	100	99.6	.4		Bump	JAG
5-24-13	1400	A	100	100.2	.2	N	Post	JAG
5/28/13	0750	A	100	100	0	Y	Init	JG
		B	100	98.7	1.3		Bump	JG
5/28/13	1425	A	100	57.5	49.5	Y	bump	MM
5/29/13	0751	A	100	100	0	Y	Init	JG
↓		B	100	98.3	1.7	↓	bump	↓
↓	1145	B	100	100.8	.8	N	Bump	EF

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Field Instrument Calibration Record

Sovereign Consulting Inc.
4 Open Square Way, Suite #307
Holyoke, MA 01040
413-540-0650

Instrument (MAKE/MODEL#) Ion Science

Instrument # T-105935

Parameter:

- ☐ Temperature
- ☐ Turbidity (±5%)
- ☐ Conductivity (±0.5%)
- ☐ ORP (±20 mV)
- ☐ Salinity
- ☐ DO (±2%)
- ☐ pH (±0.2 units)
- ☒ Isobutylene (±2%)

Standards:

Standard A 100

Standard B

Standard C

Standard D

Standard E

Standard F

Date	Time	STD (A,B,C)	STD Value	Instrument Response	% Dev	Calibrated (Y/N)	Type (Init., Cont.)	Sampler
5/20/13	0745	A	100	100	0	Y	Initial	JG
		A	100	97.9	2.1		Bump Ck	↓
5-20-13	1440	A	100	96.7	3.3	Y	Bump	SV
5-21-13	0740	A	100	100	0	yes	Init	EEF
		B	100	98.9	1.1	Yes	Bump	
5-21-13	1410	A	100	91.6	8.4	yes	bump	SV
5/22/13	0820	A	100	93.5	6.5	yes	init	mm
5/22/13	1345	A	100	99.9	0.1%	Y	bump	mm
5-23-13	0800	A	100	100	0	yes	Init	EEF
		B	100	98.9	1.1		Bump	JAG
5-24-13	0720	A	100	100	0	Yes	Init	JAG
		A	100	99.3	.7		Bump	JAG
5-24-13	1400	A	100	103.8	3.8	N	POST	JAG
5/28/13	0745	A	100	100	0	Y	Init	JG
		A	100	103.1	3.1		Bump	JG
5/28/13	1420	A	100	79.5	20.5	Y	bump	mm
5/29/13	0765	A	100	100	0	Y	Init	JG
5-29		A	100	103.6	3.6	↓	bump	↓
↓	1150	B	100	100.2	.2	N	Bump	EF

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Sovereign Consulting Inc.
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508-339-3200

Field Instrument Calibration Record

Instrument (MAKE/MODEL#) LaMotte 2020e

Instrument # ME14290

Parameter:

- ☐ Temperature
- ☒ Turbidity (±5%)
- ☐ Conductivity (±0.5%)
- ☐ ORP (±20 mV)
- ☐ Salinity
- ☐ DO (±2%)
- ☐ pH (±0.2 units)
- ☐ Isobutylene (±2%)

Standards:

Standard A 0

Standard B 10

Standard C

Standard D

Standard E

Standard F

Date	Time	STD (A,B,C)	STD Value	Instrument Response	% Dev	Calibrated (Y/N)	Type (Init., Cont.)	Sample
5/29/13	0745	A	0	0	0	Y	Init	JG
		B	10	9.99	.01	↓	↓	↓
5/29/13	1200	A	0	0	0	Y	Post	8
		B	10	8.91	.8	↓	↓	

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Field Instrument Calibration Record

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Holyoke, MA 01040
413-540-0650

Instrument (MAKE/MODEL#) LaMotte 2020WE

Instrument # 243-4110

Parameter:

- ☐ Temperature
- ☐ Conductivity (±0.5%)
- ☐ Salinity
- ☐ pH (±0.2 units)
- ☑ Turbidity (±5%)
- ☐ ORP (±20 mV)
- ☐ DO (±2%)
- ☐ Isobutylene (±2%)

Standards:

Standard A 0

Standard B 10

Standard C

Standard D

Standard E

Standard F

Date	Time	STD (A,B,C)	STD Value	Instrument Response	% Dev	Calibrated (Y/N)	Type (Init., Cont.)	Sampler
5/29/13	0740	A	0	0	0	Y	Init	JG
		B	10	9.98	.2	↓	↓	↓
5-29-13	1200	A	0	Ø	0	Y	Post	SN
		B	10	10.16	1.6	Y	↓	SN

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Field Instrument Calibration Record

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413-540-0650

Instrument (MAKE/MODEL#) LaMotte 2020we

Instrument # 240-4110

Parameter:

- ☐ Temperature
- ☐ Conductivity (±0.5%)
- ☐ Salinity
- ☐ pH (±0.2 units)
- ☑ Turbidity (±5%)
- ☐ ORP (±20 mV)
- ☐ DO (±2%)
- ☐ Isobutylene (±2%)

Standards:

Standard A 0

Standard B 10

Standard C

Standard D

Standard E

Standard F

Date	Time	STD (A,B,C)	STD Value	Instrument Response	% Dev	Calibrated (Y/N)	Type (Init., Cont.)	Sampler
5/27/19	0750	A	0	0	0	Y	Init	JG
		B	10	9.95	.5	↓	↓	↓

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Field Instrument Calibration Record

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413-540-0650

Instrument (MAKE/MODEL#) 2020e

Instrument # ME1361

Parameter:

- ☐ Temperature
- ☒ Turbidity (±5%)
- ☐ Conductivity (±0.5%)
- ☐ ORP (±20 mV)
- ☐ Salinity
- ☐ DO (±2%)
- ☐ pH (±0.2 units)
- ☐ Isobutylene (±2%)

Standards:

Standard A 0

Standard B 10

Standard C

Standard D

Standard E

Standard F

Date	Time	STD (A,B,C)	STD Value	Instrument Response	% Dev	Calibrated (Y/N)	Type (Init., Cont.)	Sampler
5-20-13	0800	A	0	0	0	y	Int	SV
		B	10	10.77	.77	y	Int	SV
5-20-13	1430	A	0	0.68	0	y	Post	
		B	10	10.10	1	y	Post	
5-21-13	0730	A	0	0	0	Yes	Int	EEF
		B	10	10	0	↓	Int	EEF
5-21-13	1345	A	0	0	0	NO	Post	EF
		B	10	10.99	1	↓	Post	
5-22-13	750	A	0	0.00	0	y	Int	SV
		B	10	9.97	.03	y	Int	SV
5-22-13	1300	A	0	0.00	0	N	Post	DTC
5-22-13	1302	B	10	9.63	3.7	N	Post	DTC

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Field Instrument Calibration Record

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Instrument (MAKE/MODEL#) 2020

Instrument # 0354-4197

Parameter:

- ☐ Temperature
- ☒ Turbidity (±5%)
- ☐ Conductivity (±0.5%)
- ☐ ORP (±20 mV)
- ☐ Salinity
- ☐ DO (±2%)
- ☐ pH (±0.2 units)
- ☐ Isobutylene (±2%)

Standards:

- Standard A 0
- Standard B 10
- Standard C
- Standard D
- Standard E
- Standard F

Date	Time	STD (A,B,C)	STD Value	Instrument Response	% Dev	Calibrated (Y/N)	Type (Init., Cont.)	Sampler
5-20-13	0800	A	0	0.01	0.01	y	Int	SV
		B	10	10.16	.16	y	Int	[illegible]
5/20/13	1450	A	0	0.02	0.02	y	Post	KP
		B	10	10.11	0.1	y	Post	KP
5-21-13	0730	A	0	0	0	Yes	Int	EEF
		B	10	10	0	Yes	Int	EEF
5-21-13	1410	A	0	0	0	yes	Post	SV
		B	10	10	0	yes	Post	[illegible]
5-22-13	730	A	0	0	0	yes	Int	[illegible]
		B	10	9.91	.09	yes	Int	[illegible]
5-22-13	1400	A	0	0	0	y	Post	[illegible]
		B	10	9.61	.39	y	Post	[illegible]
5-23-13	730	A	0	0	0	y	Int	[illegible]
		B	10	10.60	0	y	Int	[illegible]
5-23-13	1430	A	0	0	0	y	Post	[illegible]
		B	10	11.0	10	y	Post	[illegible]
5-24-13	0715	A	0	0.00	0	y	Init	JE
		B	10	9.8	2	y	Init	
5/24/13	1357	A	0	0.0	0	yes	post	MM
↓	1400	B	10.0	11.0	10	↓	↓	MM
5/28/13	0745	A	0	0.1	0	y	Init	JG
		B	10.0	10.0	0	y	Init	JG
5-28-13	1330	A	0	0.00	0	y	—	SV
		B	10	9.91	.9	y	—	SV

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Field Instrument Calibration Record

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Instrument (MAKE/MODEL#) 2020e

Instrument # ME12750

Parameter:

- ☐ Temperature
- ☐ Conductivity (±0.5%)
- ☐ Salinity
- ☐ pH (±0.2 units)
- ☒ Turbidity (±5%)
- ☐ ORP (±20 mV)
- ☐ DO (±2%)
- ☐ Isobutylene (±2%)

Standards:

Standard A 0

Standard B 10

Standard C

Standard D

Standard E

Standard F

Date	Time	STD (A,B,C)	STD Value	Instrument Response	% Dev	Calibrated (Y/N)	Type (Init., Cont.)	Sampler
5-30-13	0750	A	0	0.00	0	y	SV	
		B	10	10.55	.55	y	SV	
6-30-13	1430	A	0	0.54	0	y	SV	
		B	10	11.0	10	y	SV	
5-21-13	0735	A	0	0	0	yes	Int	EEF
		B	10	10	0	yes	Int	EEF
5-21-13	1348	A	0	0	0	No	Post	EF
		B	10	10.55	5.5	↓	Post	
5-22-13	750	A	0	0	0	y	Int	
		B	10	9.91	0.09	y	Int	
5-22-13	1230	A	0	0.00	0	y	Post	KP
		B	10	10.13	0.13	y	Post	KP
5-24-13	0715	A	0	0.31	0	Y	Init	CAS
		B	10	10.20	2	Y	Init	CAS
5-24-13	1405	A	0	-1.49	0	~~y~~ no	post	MM
↓		B	10	12.0	12	no	post	↓
5/28/13	0740	A	0	0	0	Y	Init	JG
		B	10	10.09	.9	Y	Init	JG
5/28/13	1431	A	0.0	0.06	0	~~y~~ no	post	MM
		B	10.0	9.40	6	no	post	MM

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Field Instrument Calibration Record

Instrument (MAKE/MODEL#) Lamotte 2020e Turbidmeter

Instrument # ME11361

Parameter:

- ☐ Temperature
- ☒ Turbidity (±5%)
- ☐ Conductivity (±0.5%)
- ☐ ORP (±20 mV)
- ☐ Salinity
- ☐ DO (±2%)
- ☐ pH (±0.2 units)
- ☐ Isobutylene (±2%)

Standards:

Standard A 0 NTU

Standard B 10 NTU

Standard C

Standard D

Standard E

Standard F

Date	Time	STD (A,B,C)	STD Value	Instrument Response	% Dev	Calibrated (Y/N)	Type (Init., Cont.)	Sampler
6-13-12	0715	A	0	0	–	Y	Int	CS
↓	↓	B	10	9.50	5	Y	Init	CS
6-13-12	1530	A	0	0.11	–	N	Post	CS
↓	↓	B	10	11.8	1.8	N	Post	CS

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Field Instrument Calibration Record

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Instrument (MAKE/MODEL#) LaMotte 2020we

Instrument # 240-4110

Parameter:

- ☐ Temperature
- ☐ Conductivity (±0.5%)
- ☐ Salinity
- ☐ pH (±0.2 units)
- ☒ Turbidity (±5%)
- ☐ ORP (±20 mV)
- ☐ DO (±2%)
- ☐ Isobutylene (±2%)

Standards:

Standard A 0

Standard B 10

Standard C

Standard D

Standard E

Standard F

Date	Time	STD (A,B,C)	STD Value	Instrument Response	% Dev	Calibrated (Y/N)	Type (Init, Cont)	Sampler
5-20-13	0900	A	0	0.03	0	Y	Int	JC
		B	10	10.15	1.5	Y	Int	JC
5-20-13	1510	A	0	0.00	0	N	Cont	JJC
5-20-13	1513	B	10	10.17	1.7	N	Cont	JJC
5-21-13	0800	A	0	∅	∅	N	Init	SV
		B	10	9.06	.94	N	Init	SV
5-21-13	1410	A	0	∅	∅	Y	Cont	SV
		B	10	10.18	.18	Y	Cont	SV
5-22-13	730	A	0	∅	∅	Y	init	SV
		B	10	9.90	.10	Y	init	SV
5-22-13	1400	A	0	0.00	0	Y	cont	SV
		B	10	10.16	.16	Y	cont	SV
5-23-13	0730	A	0	-0.02	.02	Y	init	SV
		B	10	10.00	∅	Y	init	SV
5-23-13	1400	A	0	-0.02	0	Y	cont	SV
		B	10	10.06	0.06	Y	cont	SV
5-24-13	0715	A	0	0.05	0	Y	init	CAS
5-24-13	0715	B	10	9.98	.2	Y	init	CAS
5-24-13	1400	A	0	6.87	0	Y	post	MM
	1402	B	10.	12.7	27 ~~2.9~~	Y	↓	↓
5/28/13	0755	A	0	0	0	Y	Init	JG
		B	10	9.95	.5	Y	Init	JG
5-28-13	1400	A	0	2.16	.1	Y	post	SV
		B	10	9.91	.09		post	

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Instrument (MAKE/MODEL#) 2020WL

Instrument # 243-4110

Parameter:

- ☐ Temperature
- ☒ Turbidity (±5%)
- ☐ Conductivity (±0.5%)
- ☐ ORP (±20 mV)
- ☐ Salinity
- ☐ DO (±2%)
- ☐ pH (±0.2 units)
- ☐ Isobutylene (±2%)

Standards:

Standard A 0

Standard B 10

Standard C

Standard D

Standard E

Standard F

Date	Time	STD (A,B,C)	STD Value	Instrument Response	% Dev	Calibrated (Y/N)	Type (Init., Cont.)	Sampler
5-20-13	0755	A	0	0	0	Y	Init	SV
		B	10	9.99	0.01	Y	Init	SV
5-20-13	1430	A	0	0	0	Y	Post	SV
		B	10	9.33	0.67%	Y	Post	SV
5-21-13	0750	A	0	0	0	Y	Init	SV
		B	10	9.99	0.01	Y	Init	SV
5-21-13	1410	A	0	0.00	0	Y	Post	SV
		B	10	9.90	.10	Y	Post	SV
5-22-13	730	A	0	0	0	Y	init	SV
		B	10	9.69	.31	Y	init	SV
5-22-13	1400	A	0	0.00	0	Y	Post	SV
		B	10	10.61	.61	Y	Post	SV
5-23-13	0730	A	0	0.10	.1	Y	init	SV
		B	10	10.00	0	Y	init	SV
5-23-13	1430	A	0	0.29	.29	Y	Post	SV
		B	10	9.86	.14	Y	Post	SV
5.24.13	0715	A	0	0.04	0	Y	Init	CAS
↓	0715	B	10	9.99	.1	Y	Init	CAS
	1405	A	0	0.58	0	N	Post	CAS
↓	1405	B	10	10.01	.1	N	POST	CAS
5/28/13	0760	A	0	0	0	Y	Init	JG
~~5-28-13~~	~~1400~~	B	10	9.94	.6	Y	Init	JG
5-28-13	1400	A	0	0.06	0	Y	POST	SV
		B	10	10.10	1	Y	POST	SV

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Field Instrument Calibration Record

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Instrument (MAKE/MODEL#) YSI 556 MPS

Instrument # 08 D101 029

Parameter:

- ☐ Temperature
- ☒ Conductivity (±0.5%)
- ☐ Salinity
- ☒ pH (±0.2 units)
- ☐ Turbidity (±5%)
- ☒ ORP (±20 mV)
- ☒ DO (±2%)
- ☐ Isobutylene (±2%)

Standards:

- Standard A: pH 7.0
- Standard B: pH 4.0
- Standard C: pH 10.0
- Standard D: 1000 Cond
- Standard E: 237.5 ORP
- Standard F: 100% DO

Date	Time	STD (A,B,C)	STD Value	Instrument Response	% Dev	Calibrated (Y/N)	Type (Init., Cont.)	Sampler
5-24-13	0730	A	7.00	7.00	0%	Y	Init	CS
		B	4.00	3.99	.25			
		C	10.00	10.02	.2			
		D	1000	1000	0%			
		E	237.5	237.5	0%			
		F	100	99.6	.6			
5/24	1340	A	7.00	6.985	.7	N	post	MM
		D	1000	948	5.2			
		E	237.5	230.5	3			
		F	100	98.4	1.6			
5/28/13	0750	A	7.0	7.00	0		init	MM
		B	4.0	3.99	.25			
		C	10.0	9.98	.2			
		D	1000	1001	.1			
		E	237.5	237.4	.04			
		F	100	101.1	1.1			
5-28-13	1400	A	7.0	7.01	.14	Y	POST	SV
		D	1000	961	3.9			
		E	237.5	237.6	.04			
		F	100	99.6	.04			

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Field Instrument Calibration Record

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Instrument (MAKE/MODEL#) 13D101141

Instrument # 451

Parameter:

- ☐ Temperature
- ☒ Conductivity (±0.5%)
- ☐ Salinity
- ☒ pH (±0.2 units)
- ☐ Turbidity (±5%)
- ☒ ORP (±20 mV)
- ☒ DO (±2%)
- ☐ Isobutylene (±2%)

Standards:

Standard A 4
Standard B 7
Standard C 10
Standard D Cond
Standard E ORP
Standard F DO

Date	Time	STD (A,B,C)	STD Value	Instrument Response	% Dev	Calibrated (Y/N)	Type (Init., Cont.)	Sampler
5.24	0750	A	4	4.00	0	Yes	Init	EEF
	0753	B	7	6.99	.14	↓	↓	↓
	0757	C	10	10	0	↓	↓	↓
	0800	D	1000	1000	0	↓	↓	↓
	0803	E	237.5	237.6	.04	↓	↓	↓
	0805	F	100	100.5	.5	↓	↓	↓
5/24	1340	A	7.0	6.91	1.3	n	post	MM
↓	↓	D	1000	1006	.6	↓	↓	↓
		E	237.5	230.5	3			
↓	↓	F	100	94.5	5.5	↓	↓	↓
5/28/13	0750	A	7.0	7.0	0	Yes	Init	MM
↓	↓	B	4.0	4.0	0	↓	↓	↓
		C	10.0	10.02	.2			
		D	1000	1000	0			
		E	237.5	237.5	0			
↓	↓	F	100	100.4	.4	↓	↓	↓
5.28.13	1400	A	7.0	6.97	.43	↓	post	EV
	↓	D	1000	1007	.7		↓	↓
		E	237.5	231.6	2.5			
	↓	F	100	95.6	4.4	↓	↓	↓

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Field Instrument Calibration Record

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Instrument (MAKE/MODEL#) YSI 556 MPS

Instrument # 13P101193

Parameter:

- ☐ Temperature
- ☐ Turbidity (±5%)
- ☒ Conductivity (±0.5%)
- ☒ ORP (±20 mV)
- ☐ Salinity
- ☒ DO (±2%)
- ☒ pH (±0.2 units)
- ☐ Isobutylene (±2%)

Standards:

Standard A 7.00 pH
Standard B 4.00 pH
Standard C 10.00 pH
Standard D 1000 Cond
Standard E 237.5 ORP
Standard F 100% DO

Date	Time	STD (A,B,C)	STD Value	Instrument Response	% Dev	Calibrated (Y/N)	Type (Init., Cont.)	Sampler
5-24-13	0730	A	7.00	7.00	0%	Y	Init.	CS
		B	4.00	4.00	0%			
		C	10.00	9.99	.1			
		D	1000	1000	0%			
		E	237.5	237.5	0%			
		F	100	99.9	.1			
5/24/13	1340	A	7.0	6.94	.86	n	post	MM
		D	1000	957	4.3			
		E	237.5	229.6	3.3			
		F	100	93.5	6.5			
5/28/13	0750	A	7.0	7.00	0	yes	init	GF
		B	4.0	4.0	0			
		C	10.0	10.02	.2			
		D	1000	1000	0			
		E	237.5	237.5	0			
		F	100	101	1			
5/28/13	1433	A	7.0	6.92	1.1	n	post	MM
5/28/13	1434	D	1000	1004	.4			
	1437	E	237.5	213.3	10			
	1440	F	100	92.3	7.7			

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Field Instrument Calibration Record

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Instrument (MAKE/MODEL#) YSI MPS 556

Instrument # 11K101289

Parameter:

- ☐ Temperature
- ☒ Conductivity (±0.5%)
- ☐ Salinity
- ☒ pH (±0.2 units)
- ☐ Turbidity (±5%)
- ☒ ORP (±20 mV)
- ☒ DO (±2%)
- ☐ Isobutylene (±2%)

Standards:

- Standard A 7.00
- Standard B 4.00
- Standard C 10.00
- Standard D 1000
- Standard E 237.5
- Standard F 100

Date	Time	STD (A,B,C)	STD Value	Instrument Response	% Dev	Calibrated (Y/N)	Type (Init., Cont.)	Sampler
5-24-13	0730	A	7.00	7.00	0%	Y	Init	JG
		B	4.00	4.00	0%			
		C	10.00	10.03	.3			
		D	1000	1002	.2			
		E	237.5	237.5	0%			
		F	100	99.9	.1			
5-24-13	1360	A	7.00	7.02	.2	N	Post	JG
		D	1000	1012	1.2			
		E	237.5	~~10~~				
		F	100	102.5	2.5			
5/28/13	0750	A	7.0	7.0	0	yes	Init	MM
		B	4.0	4.00	0			
		C	10.0	10.02	.2			
		D	1000	1000	0			
		E	237.5	237.57	3			
		F	100	101.5	1.5			
5-28-13	1330	A	7.06	7.06	.8		Post	SU
		D	10.06	9.96	.4			
		E	237.5	237.6	.04			
		F	100	102.6	2.6			

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Field Instrument Calibration Record

Instrument (MAKE/MODEL#) YSI 650 MDS 02F0329 AF
Instrument # YSI Sonde 600XLM 01C0134 AA
Parameter:

- ☑ Temperature
- ☑ Conductivity (±0.5%)
- ☐ Salinity
- ☑ pH (±0.2 units)
- ☐ Turbidity (±5%)
- ☑ ORP (±20 mV)
- ☑ DO (±2%)
- ☐ Isobutylene (±2%)

Standards:

Standard A Conductivity 1000 us/cm
Standard B pH 7
Standard C pH 4
Standard D pH 10
Standard E DO
Standard F Temperature
standard G ORP mv

Date	Time	STD (A,B,C)	STD Value	Instrument Response	% Dev	Calibrated (Y/N)	Type (Init., Cont.)	Sampler
5/20/13	0850	A	1000 us/cm	~~1008~~ 1000	0	Y	Init.	DJC
5/20/13	0900	B	pH 7	7.00	0	Y	Init.	DJC
5/20/13	0910	C	pH 4	4.00	0	Y	Init.	DJC
5/20/13	0915	D	pH 10	10.00	0	Y	Init.	DJC
5/20/13	0920	E	DO%	769.3 mmHg/101.2%	1.2	Y	Init.	DJC
5/20/13	0920	F	Temperature	20.28		~~DO~~ N	Init.	DJC
5/20/13	0925	G	ORP mv	105.9		Y	Init.	DJC
5/20/13	1505	A	1000 us/cm	982	1.8	N	Cont.	DJC
5/20/13	1509	B	pH 7	7.00	0	N	Cont.	DJC
5/20/13	1518	E	DO%	104.4	4.4	N	Cont.	DJC
5/20/13	1518	F	Temperature	31.99		N	Cont.	DJC
5/20/13	1513	G	ORP mv	97.2		N	Cont.	DJC
5/21/13	0734	A	1000 us/cm	1000	0	Y	Init.	DJC
5/21/13	0738	B	pH7	7.00	0	Y	Init.	DJC
5/21/13	0742	C	pH4	4.00	0	Y	Init.	DJC
5/21/13	0745	D	pH 10	10.01	.1	Y	Init.	DJC
5/21/13	0750	E	DO%	765.6 mmHg/100.7%	.7	Y	Init.	DJC
5/21/13	0750	F	Temperature	21.77		~~DO~~ N	Init.	DJC
5/21/13	0754	G	ORP mv	105.9		Y	Init.	DJC
5/21/13	1355	A	1000 us/cm	981	1.9	N	Cont.	DJC
5/21/13	1400	B	pH 7	7.00	0	N	Cont.	DJC
5/21/13	1411	~~DO~~ E	DO%	772.0 mmHg/99.2%	.8	N	Cont.	DJC
5/21/13	1411	~~DO~~ F	Temperature	28.08		N	Cont.	DJC
5/21/13	1405	~~DO~~ G	ORP mv	95.6		N	Cont.	DJC
5/21/13	~~MC~~	~~MC~~						

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Field Instrument Calibration Record

Sovereign Consulting Inc.
4 Open Square Way, Suite #307
Holyoke, MA 01040
413-540-0650

Instrument (MAKE/MODEL#) YSI 650 MDS

Instrument # 02C0985A.1

Parameter:

- ☐ Temperature
- ☑ Conductivity (±0.5%)
- ☐ Salinity
- ☑ pH (±0.2 units)
- ☐ Turbidity (±5%)
- ☑ ORP (±20 mV)
- ☑ DO (±2%)
- ☐ Isobutylene (±2%)

Standards:

- Standard A conductivity
- Standard B pH 4
- Standard C pH 7
- Standard D pH 10
- Standard E ORP
- Standard F DO

Date	Time	STD (A,B,C)	STD Value	Instrument Response	% Dev	Calibrated (Y/N)	Type (Init., Cont.)	Sampler
5/20	0855	A	1000	1000	0	Yes	Initial	KP
5/20	0855	B	4.00	4.00	0		Initial	KP
5/20	0855	C	7.00	7.00	0		Initial	KP
5/20	0855	D	10.00	10.00	0		Initial	KP
5/20	0855	E	105.9	105.9	0		Initial	KP
5/20	0855	F	100%	100.4%	.4		Initial	KP
5/20	1430	A	1000	994	.6	No	post	KP
5/20	1430	C	7.00	7.00	0		post	KP
5/20	1430	E	105.9	105.9	0		post	KP
5/20	1430	F	100%	99.7%	.3		post	KP
5/21	0730	A	1000	1010	.1	Yes	initial	KP
	0730	B	4.00	4.00	0			KP
	0730	C	7.00	7.00	0			KP
	0730	D	10.00	9.99	.1			KP
	0730	E	105.9	105.9	0			KP
	0730	F	100%	100.0%	0			KP
5/21	1430	A	1000	1028	2.8	No	post	KP
	1430	C	7.00	6.95	.7			KP
	1430	E	105.9	101.3	4.3			KP
	1430	F	100%	99.3%	.7			KP

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Field Instrument Calibration Record

Sovereign Consulting Inc.
4 Open Square Way, Suite #307
Holyoke, MA 01040
413-540-0650

Instrument (MAKE/MODEL#) YSI 556 MPS

Instrument # 08D101029

Parameter:

- ☑ Temperature
- ☑ Conductivity (±0.5%)
- ☐ Salinity
- ☑ pH (±0.2 units)
- ☐ Turbidity (±5%)
- ☑ ORP (±20 mV)
- ☑ DO (±2%)
- ☐ Isobutylene (±2%)

Standards:

Standard A 7.0
Standard B 4.0
Standard C 10.0
Standard D Cond.
Standard E ORP
Standard F DO

Date	Time	STD (A,B,C)	STD Value	Instrument Response	% Dev	Calibrated (Y/N)	Type (Init., Cont.)	Sampler
5/22	800	A	7.0	7.0	0	Yes	Init	EF
	805	B	4.0	4.0	0			
	810	C	10.0	10.02	.2			
	815	D	1000	1000	0			
	818	E	237.5	237.5	0			
	820	F	100	100.7	.7			
5/22	1350	A	7.0	6.95	.7	N	post	mm
	1353	D	1000	988	2.2			
	1400	E	237.5	219.1	7.7			
	1403	F	100	97.3	2.7			
5/23	0750	A	7.0	7.00	0	Yes	Init	mm
	0755	B	4.0	4.0	0			
	0758	C	10.0	10.02	.2			
	0809	D	1000	1000	0			
	0813	E	237.5	237.5	0			
	0815	F	100	100.2	.2			
5/23	1435	A	7.00	6.94	.85	N	Post	JG
		D	1000	1080	8			
		E	237.5	222.9	6.1			
		F	100	100.7	0			

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Field Instrument Calibration Record

Sovereign Consulting Inc.
4 Open Square Way, Suite #307
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413-540-0650

Instrument (MAKE/MODEL#) YSI 556 MPS

Instrument # 13D101143

Parameter:

- ☐ Temperature
- ☐ Turbidity (±5%)
- ☑ Conductivity (±0.5%)
- ☑ ORP (±20 mV)
- ☐ Salinity
- ☑ DO (±2%)
- ☑ pH (±0.2 units)
- ☐ Isobutylene (±2%)

Standards:

Standard A 7.0
Standard B 4.0
Standard C 10.0
Standard D Cond.
Standard E ORP
Standard F DO

Date	Time	STD (A,B,C)	STD Value	Instrument Response	% Dev	Calibrated (Y/N)	Type (Init., Cont.)	Sampler
5/22	0800	A	7.0	7.0	0	Yes	Init	EEF
	0805	B	4.0	4.0	0			
	0810	C	10.0	10.04	.4			
	0815	D	1000	1000	0			
	0820	E	237.5	237.5	0			
	0825	F	100	100.1	.1			
5/22/13	1348	A	7.0	6.89	1.5	N	post	mm
	1350	D	1000	913	8.7			
	1355	E	237.5	219.9	7.8			
	1400	F	100	97.4	2.6			
5/23/13	0750	A	7.0	7.00	0	Yes	Init	mm
	0759	B	4.0	4.0	0			
	0807	C	10.0	10.03	.3			
	0809	D	1000	998	.2			
	0811	E	237.5	237.5	0			
	0813	F	100	100.8	.8			
5/23	1445	A	7	6.98	.3	N	Post	EF
	1450	D	1000	951	4.9			
	1455	E	237.5	222.3	6.4			
	1500	F	100	97.5	2.5			

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Field Instrument Calibration Record

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Instrument (MAKE/MODEL#) 11K101289

Instrument # 4/51 556 MPS

Parameter:

- ☐ Temperature
- ☒ Conductivity (±0.5%)
- ☐ Salinity
- ☒ pH (±0.2 units)
- ☐ Turbidity (±5%)
- ☒ ORP (±20 mV)
- ☒ DO (±2%)
- ☐ Isobutylene (±2%)

Standards:

Standard A 7.00
Standard B 4.00
Standard C 10.00
Standard D 1000
Standard E 237.5
Standard F 100

Date	Time	STD (A,B,C)	STD Value	Instrument Response	% Dev	Calibrated (Y/N)	Type (Init., Cont.)	Sampler
5/22	0740	A	7.00	7.00	0	Y	Init	JG
		B	4.00	4.00	0			
		C	10.0	10.03	.3			
		D	1000	1004	.4			
		E	237.5	237.9	.17			
		F	100	100.6	.6			
5/22	1400	A	7.00	6.96	.6	N	Post	JG
		B						
		C						
		D	1000	1013	1.3			
		E	237.5	219.1	7.7			
		F	100	100.9	.9			
5/23	0740	A	7.00	7.03	.4	Y	Init	JG
		B	4.00	4.00	0			
		C	10.00	10.09	.9			
		D	1000	1000	0			
		E	237.5	238.0	.2			
		F	100	100.2	.2			
5/23	1430	A	7.00	6.91	1.1	NO	Post	JG
		D	1000	986	1.4			
		E	237.5	223.3	5.9			
		F	100	99.3	.7			

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Field Instrument Calibration Record

Sovereign Consulting Inc.
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Instrument (MAKE/MODEL#) YSI 650 MDS

Instrument # 02C098/5AJ

Parameter:

- ☐ Temperature
- ☑ Conductivity (±0.5%)
- ☐ Salinity
- ☑ pH (±0.2 units)
- ☐ Turbidity (±5%)
- ☑ ORP (±20 mV)
- ☑ DO (±2%)
- ☐ Isobutylene (±2%)

Standards:

Standard A Conductivity
Standard B 10 pH
Standard C 7 pH
Standard D 4 pH
Standard E ORP
Standard F DO

Date	Time	STD (A,B,C)	STD Value	Instrument Response	% Dev.	Calibrated (Y/N)	Type (Init., Cont.)	Sampler
05/22	0740	A	1000	1000	0	Y	int.	KP
		B	10	10	0	Y		KP
		C	7	7	0	Y		KP
		D	4	4	0	Y		KP
		E	105.9	105.9	0	Y		KP
		F	100%	100.6%	.6	Y		KP
5/22	123x	A	1000	1039	3.9	N	post	KP
		C	7	7.0	0			KP
		E	105.9	104.3	1.5			KP
		F	100%	100.3%	.3	Y		KP

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Field Instrument Calibration Record

Sovereign Consulting Inc.
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Instrument (MAKE/MODEL#) YSI / 650 MDS /

Instrument # 02F0329 AF

Parameter:

- ☑ Temperature
- ☑ Conductivity (±0.5%)
- ☐ Salinity
- ☑ pH (±0.2 units)
- ☐ Turbidity (±5%)
- ☑ ORP (±20 mV)
- ☑ DO (±2%)
- ☐ Isobutylene (±2%)

Standards:

Standard A Conductivity
Standard B PH 7
Standard C PH 4
Standard D PH 10
Standard E Temperature
Standard F DO %

standard G ORP

Date	Time	STD (A,B,C)	STD Value	Instrument Response	% Dev	Calibrated (Y/N)	Type (Init., Cont.)	Sampler
5-22-13	0740	A	1000 us/cm	1000	0	Y	Init.	DJC
5-22-13	0745	B	7	7.00	0	Y	Init.	DJC
5-22-13	0750	C	4	4.00	0	Y	Init.	DJC
5-22-13	0753	D	10	10.00	0	Y	Init.	DJC
5-22-13	0758	E	°C	19.21		N	Init.	DJC
5-22-13	0758	F	% /mmHg	100.7 / 765.6		Y	Init.	DJC
5-22-13	0803	G	MV	105.9	0	Y	Init.	DJC
5-22-13	1230	A	1000 us/cm	968	3.2	N	Cont.	DJC
5-22-13	1235	B	7	7.02	.29	N	Cont.	DJC
5-22-13	1240	E	°C	25.75		N	Cont.	DJC
5-22-13	1240	F	% /mmHg	103.5 / 771.9		N	Cont.	DJC
5-22-13	1245	G	MV	103.8	2.1	N	Cont.	DJC

David comeau

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Field Instrument Calibration Record

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Instrument (MAKE/MODEL#) 13P 10141

Instrument # YSI

Parameter:

- ☒ Temperature
- ☒ Conductivity (±0.5%)
- ☐ Salinity
- ☒ pH (±0.2 units)
- ☐ Turbidity (±5%)
- ☒ ORP (±20 mV)
- ☒ DO (±2%)
- ☐ Isobutylene (±2%)

Standards:

Standard A 4 pH
Standard B 7 pH
Standard C 10 pH
Standard D Cond
Standard E ORP
Standard F DO

Date	Time	STD (A,B,C)	STD Value	Instrument Response	% Dev	Calibrated (Y/N)	Type (Init., Cont.)	Sampler
5.20	755	A	4	4	0	Y	Int	JG
	805	B	7	7	0		Int	
	~~0805~~	C	10	10.02	.2		Int	
	0810	D	1000	1000	0		Int	
	0815	E	237.5	237.5	0		Int	
	0818	F	~~200~~ 100	102.7	2.7		Int	
5.20	1430	A	7	7.00	0	N	Post	JG
	1433	B	4	4.04				
	1436	C	10	9.97	.3			
	1439	D	1000	1017	1.7			
	1443	E	237.5	234.2	1.3			
	1445	F	100	100.5	.5			
5/21	0735	A	4	4.00	0	Y	Init	JG
	0740	B	7	7.00	0			
	0745	C	10	10.03	.3			
	0750	D	1000	1001	.1			
	0755	E	237.5	237.5	0			
	0800	F	100	100.6	.6			
6/21	1400	A	4	4.10	2.5	N	Post	JG
	1405	B	7	7.19	2.7			
	1410	C	10					
	145	D	1000	1010	1			
	1420	E	237.5	219.9	7.4			
	1425	F	100	99.8	.2			

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Field Instrument Calibration Record

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413-540-0650

Instrument (MAKE/MODEL#) YSI

Instrument # 13D101143

Parameter:

- ☐ Temperature
- ☒ Conductivity (±0.5%)
- ☐ Salinity
- ☒ pH (±0.2 units)
- ☐ Turbidity (±5%)
- ☒ ORP (±20 mV)
- ☒ DO (±2%)
- ☐ Isobutylene (±2%)

Standards:

- Standard A 4 pH
- Standard B 7 pH
- Standard C 10 pH
- Standard D Cond
- Standard E ORP
- Standard F DO

Date	Time	STD (A,B,C)	STD Value	Instrument Response	% Dev	Calibrated (Y/N)	Type (Init, Cont.)	Sampler
5/20	0800	A	4	4	0	Y	Init	EEF
	0810	B	7	7	0			
	0813	C	10	10.00	0			
	0815	D	1000	1000	0			
	0817	E	237.5	231.5	0			
	0820	F	100	100.1	.1			
	1455	B	7	6.81	2.7	N	Post	
	1457	D	1000	1001	.1			
	1459	E	237.5	219.0	7.7			
	~~1500~~ 1501	F	100	99.9	.1			
5/21	0744	C	10.0	10.00	0%	Y	Init	MDM
	0746	B	7.0	7.00	0%			
	0749	A	4.0	4.02	~~0.02%~~ 0.5%			
	0753	D	1000	1000	0%			
	0758	E	237.5	237.5	0%			
	0800	F	100	100.8	0.8%	Y	Init	
5/21	1400	B	7	6.87	1.8	N	Post	EF
		D	1000	~~1034~~ 1034	3.4			
		E	237.5	219.3	7.6			
		F	100	101.5	1.5			

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Field Instrument Calibration Record

Sovereign Consulting Inc.
4 Open Square Way, Suite #307
Holyoke, MA 01040
413-540-0650

Instrument (MAKE/MODEL#) YSI

Instrument # 08D101029

Parameter:

- ☐ Temperature
- ☒ Conductivity (±0.5%)
- ☐ Salinity
- ☒ pH (±0.2 units)
- ☐ Turbidity (±5%)
- ☒ ORP (±20 mV)
- ☒ DO (±2%)
- ☐ Isobutylene (±2%)

Standards:

- Standard A pH 4
- Standard B pH 7
- Standard C pH 10
- Standard D cond
- Standard E ORP
- Standard F DO

Date	Time	STD (A,B,C)	STD Value	Instrument Response	% Dev	Calibrated (Y/N)	Type (Init, Cont.)	Sampler
5.20	758	A	4	4	0	Y	Init	EF
	808	B	7	7	0	↓	↓	↓
	810	C	10	10.03	.3	↓	↓	↓
	813	D	1000	1000	0	↓	↓	↓
	0815	E	237.5	237.3	.08	↓	↓	↓
	0818	F	100	100.9	.9	↓	↓	↓
	1445	B	7	7.00	0	N	Post	↓
	1448	D	1000	1004	.4	↓	↓	↓
	1450	E	237.5	216.9	8.6	↓	↓	↓
	1452	F	100	100.8	.8	↓	↓	↓
5/21	0746	C	10.0	10.00	0%	Y	Init	MM
↓	0749	B	7.0	6.99	0.1%	↓	↓	↓
	0755	A	4.0	4.00	0%	↓	↓	↓
	0758	D	1000	1000	0%	↓	↓	↓
	0800	E	237.5	237.5	0%	↓	↓	↓
	0803	F	100	100.4	0.4%	↓	↓	↓
5/21	1350	B	7	6.90	1.4	N	Post	EF
		D	1000	1031	3.1	↓	↓	↓
		E	237.5	217.9	8.2	↓	↓	↓
		F	100	100.9	.9	↓	↓	↓

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Field Instrument Calibration Record

Instrument (MAKE/MODEL#) YSI 556 MPS

Instrument # 13D101142

Parameter:

- ☐ Temperature
- ☑ Conductivity (±0.5%)
- ☐ Salinity
- ☑ pH (±0.2 units)
- ☐ Turbidity (±5%)
- ☑ ORP (±20 mV)
- ☑ DO (±2%)
- ☐ Isobutylene (±2%)

Standards:

Standard A 7.0 pH
Standard B 4.0 ↓
Standard C 10.0 ↓
Standard D ~~DO~~ Cond. 1000
Standard E ORP
Standard F DO

Date	Time	STD (A,B,C)	STD Value	Instrument Response	% Dev	Calibrated (Y/N)	Type (Init., Cont.)	Sampler
6-13-23	0715	A	7.00	7.00		Y	Init	MM
↓	↓	B	4.00	4.00		↓	↓	↓
		C	10.0	10.00				
		D	1000	1000				
		E	~~[illegible]~~ 105.9	105.8				
↓	↓	F	100%	98.7		↓	↓	↓
6-13	1515	A	7.00	7.01		N	POST	CC
↓	↓	D	1000	999		↓	↓	↓
		E	105.9	106.2				
↓	↓	F	100%	90.2%		↓	↓	↓

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Field Instrument Calibration Record

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Instrument (MAKE/MODEL#) YSI 556 MPS

Instrument # 13D101141

Parameter:

- ☐ Temperature
- ☑ Conductivity (±0.5%)
- ☐ Salinity
- ☑ pH (±0.2 units)
- ☐ Turbidity (±5%)
- ☑ ORP (±20 mV)
- ☑ DO (±2%)
- ☐ Isobutylene (±2%)

Standards:

Standard A pH: 7.0
Standard B pH: 4.0
Standard C pH: 10.0
Standard D Cond.
Standard E ORP
Standard F DO

Date	Time	STD (A,B,C)	STD Value	Instrument Response	% Dev	Calibrated (Y/N)	Type (Init., Cont.)	Sampler
5/29/13	0740	A	7.0	7.00	0	Y	Init	EF
		B	4.0	4.00	0			
		C	10.0	10.02	.2			
		D	1000	1000	0			
		E	237.5	237.5	0			
		F	100	101.1	1.1			
5.29	1200	A	7.0	7.0	0	N	Post	EF
	1200	D	1000	1089	8.9	N	Post	
	1205	E	237.5	231.4	2.5			
	1208	F	100	101.1	1.1			

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Field Instrument Calibration Record

Sovereign Consulting Inc.
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413-540-0650

Instrument (MAKE/MODEL#) YSI 556 mPS

Instrument # 13D101143

Parameter:

- ☐ Temperature
- ☑ Conductivity (±0.5%)
- ☐ Salinity
- ☑ pH (±0.2 units)
- ☐ Turbidity (±5%)
- ☑ ORP (±20 mV)
- ☑ DO (±2%)
- ☐ Isobutylene (±2%)

Standards:

Standard A pH: 7.0
Standard B pH: 4.0
Standard C pH: 10.0
Standard D Cond. - 1000
Standard E ORP: 237.5
Standard F DO: 100

Date	Time	STD (A,B,C)	STD Value	Instrument Response	% Dev	Calibrated (Y/N)	Type (Init., Cont.)	Sampler
5/29/13	0740	A	7.0	7.0	0	yes	Init.	mm
		B	4.0	4.00	0			
		C	10.0	10.02	.2			
		D	1000	999	.1			
		E	237.5	237.5	0			
		F	100%	101.3	1.3			
	1210	A	7	7.04	.57	NO	Post	EF
	1212	D	1000	1002	.2			
	1215	E	237.5	233.5	0			
	1218	F	100	100.4	.4			

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905B South Main Street, Suite 202
Mansfield, MA 02048
508-339-3200

Field Instrument Calibration Record

Sovereign Consulting Inc.
4 Open Square Way, Suite #307
Holyoke, MA 01040
413-540-0650

Instrument (MAKE/MODEL#) YSI 556 mps

Instrument # BD101144

Parameter:

- ☐ Temperature
- ☑ Conductivity (±0.5%)
- ☐ Salinity
- ☑ pH (±0.2 units)
- ☐ Turbidity (±5%)
- ☑ ORP (±20 mV)
- ☑ DO (±2%)
- ☐ Isobutylene (±2%)

Standards:

- Standard A: pH: 7.0
- Standard B: pH: 4.0
- Standard C: pH: 10.0
- Standard D: cond
- Standard E: ORP
- Standard F: DO

Date	Time	STD (A,B,C)	STD Value	Instrument Response	% Dev	Calibrated (Y/N)	Type (Init., Cont.)	Sampler
5/29/13	0730	A	7.0	7.0	0	Y	Init.	EF
		B	4.0	4.00	0			
		C	10.0	10.00	0			
		D	1000	1000	0			
		E	237.5	237.5	0			
		F	100%	101.2	1.2			
		A	7	6.98	.3	NO	Post	EF
		D	1000	1088	8.8			
		E	237.5	233.5	1.7			
		F	100	113.1	13.1			

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Foxboro, MA 02035
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MONITORING WELL SAMPLING LOG

Low Flow Sampling

Sovereign Consulting Inc.
4 Open Square Way, Suite #307
Holyoke, MA 01040
413-540-0650

PROJECT NAME: Shedey's Hill Landfill	PROJECT LOCATION: Devens, MA	DATE: 10-23-13	WELL ID: SHL-9
PROJECT NUMBER: ACOI. 03E.05	WELL DIAMETER: (inches) 2	DEPTH TO WATER: (feet) 11.19	DEPTH TO BOTTOM: (feet) 25
PID READING: (ppmv) 0			

PURGING DATA

TUBING DIAMETER (inches): 1/4	TUBING MATERIAL CODE: (see below) PE	PURGE PUMP TYPE: Peristaltic	PUMP EQUIPMENT MODEL & SERIAL #s: GeoPump 66363U

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY

GALLONS: 2.21 LITERS: 8.37

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88

1 GALLON = 3.785 LITERS

WELL SCREEN INTERVAL DEPTH (feet): 15-25	INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 20	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 20	PURGING INITIATED AT: 1300	PURGING ENDED AT: 1340	TOTAL VOLUME PURGED: GALLONS: 3.17 LITERS: 12.0

WATER LEVEL STABLIZATION — DEPTH TO WATER WITH PUMP: (feet) 11.34

TIME INTERVAL (min)	FLOW RATE (mL/min)	PUMP SETTINGS	DEPTH TO WATER (feet) START	DEPTH TO WATER (feet) END	Water Level Stable (Yes or No)	VOLUME PURGED DURING INTERVAL (mL)
1325-1335 (10)	300	Dial @ 1 o'clock Position	11.34	11.34	Yes	3,000

TIME (min)*	FLOW RATE (mL/min) (100-500 mL/min)**	DEPTH TO WATER (feet) (+/- 0.3)**	TURBIDITY (NTU) (+/- 10%)or <5**	DISSOLVED OXYGEN (mg/L) (+/- 10%)or <0.5**	pH (+/- 0.1)**	TEMP (°C) (+/- 3%)**	SPECIFIC CONDUCTIVITY (µS/cm) (+/- 3%)**	ORP (mV) (+/- 10mV)**	COLOR (describe)	ODOR (describe)
1305	300	11.32	22.8	1.05	6.96	10.85	165	-74.5	Cloudy	None
1310	300	11.34	1.55	0.36	6.63	10.86	163	-68.2	clear	None
1315	300	11.34	0.68	0.31	6.58	10.88	163	-69.4	clear	None
1320	300	11.34	0.42	0.27	6.55	10.86	162	-70.9	clear	None
1325	300	11.34	0.32	0.24	6.51	10.88	162	-71.9	clear	None
1330	300	11.34	0.63	0.21	6.53	10.86	161	-75.1	clear	None
1335	300	11.34	0.58	0.22	6.52	10.87	160	-76.4	clear	None

* every 5 or more minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

** EPA stabilization parameters from EPA/540/S-95/504 April 1996

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: David Comeau / ECC	SAMPLER(S) SIGNATURES: [signature]	SAMPLING INITIATED AT: 1340	SAMPLING ENDED AT: 1350
PUMP OR TUBING DEPTH IN WELL (feet): 20	SAMPLE PUMP FLOW RATE (mL per minute): 300	FIELD PARAMETER MONITORING EQUIPMENT MODEL & SERIAL #s: YSI / 650 MDS / 04C2284 AA	
FIELD DECONTAMINATION: (Y) N	FIELD-FILTERED: (Y) N FILTER SIZE: .45 µm Filtration Equipment Type: Disposable cartridge		DUPLICATE Y (N)

MATERIAL CODES AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

WELL CONDITION CHECKLIST (circle appropriate item(s), cross out if not applicable)

Type: Flush Mount (Stand Pipe) General Condition: (Good) / Needs Repair Well Caps: (Good) / Broken / None Lock: (Good) / Broken / None

Evidence of Rain Water Between Steel & PVC? Y / (N) Is Well Plumb?: (Y) N PVC Riser: (Good) / Damaged / None

Evendence of Ponding Around Welll? Y / (N) Concrete Collar: (Good) / Cracked / Leaking / None

REMARKS:

Sample ID: SHL9-102313 Time: 1340

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16 Chestnut Street, Suite 520
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508-339-3200

MONITORING WELL SAMPLING LOG

Low Flow Sampling

Sovereign Consulting Inc.
4 Open Square Way, Suite #307
Holyoke, MA 01040
413-540-0650

PROJECT NAME: Shedd's Hill Landfill	PROJECT LOCATION: Devens, MA	DATE: 10-23-13	WELL ID: YM-05-41C
PROJECT NUMBER: ACOM 02A 05	WELL DIAMETER (inches): 2	DEPTH TO WATER (feet): 12.03	DEPTH TO BOTTOM (feet):
PID READING (ppmv): 0.0			

PURGING DATA

TUBING DIAMETER (inches):	TUBING MATERIAL CODE: (see below)	PURGE PUMP TYPE: Peristaltic	PUMP EQUIPMENT MODEL & SERIAL #s: Geopump EnviroLoad II #679

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY

GALLONS: — LITERS: —

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88

1 GALLON = 3.785 LITERS

WELL SCREEN INTERVAL DEPTH (feet): 88-93	INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 91	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 91	PURGING INITIATED AT: 1152	PURGING ENDED AT: 1232	TOTAL VOLUME PURGED: GALLONS: 3.5 G LITERS: —

WATER LEVEL STABLIZATION DEPTH TO WATER WITH PUMP: (feet)

TIME INTERVAL (min)	FLOW RATE (mL/min)	PUMP SETTINGS	DEPTH TO WATER (feet) START	DEPTH TO WATER (feet) END	Water Level Stable (Yes or No)	VOLUME PURGED DURING INTERVAL (mL)
5	300	(Battery died)	12.15	12.15	Y	1.0 G
5	475	(New Battery)	12.15	12.21	N	1.5 G
5	375		12.18	12.21	Y	1.0 G

TIME (min)*	FLOW RATE (mL/min) (100-500 mL/min)**	DEPTH TO WATER (feet) (+/- 0.3')**	TURBIDITY (NTU) (+/- 10%)or <5**	DISSOLVED OXYGEN (mg/L) (+/- 10%)or <0.5**	pH (+/- 0.1)**	TEMP (°C) (+/- 3%)**	SPECIFIC CONDUCTIVITY (µS/cm) (+/- 3%)**	ORP (mV) (+/- 10mV)**	COLOR (describe)	ODOR (describe)
1157	300	12.15	1.10	1.47	7.25	10.34	553	-162.2	Clear	None
1202	300	12.15	0.74	1.11	7.19	10.30	512	-163.4	Clear	None
1207	Slowing	12.09	1.00	1.22	7.19	10.63	509	-160.7	Clear	None
	Battery	were	down-s	witched	- Restart	1217				
1222	475	12.21	0.60	0.95	7.17	10.01	511	-165.0	Clear	None
1227	375	12.18	0.52	0.99	7.17	10.04	511	-166.0	Clear	None
1232	375	12.18	0.44	0.93	7.16	10.08	511	-165.9	Clear	NONE

* every 5 or more minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

** EPA stabilization parameters from EPA/540/S-95/504 April 1996

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Veronica Lepagne ECC	SAMPLER(S) SIGNATURES: Veronica Lepagne	SAMPLING INITIATED AT: 1236	SAMPLING ENDED AT: 1241
PUMP OR TUBING DEPTH IN WELL (feet): 91	SAMPLE PUMP FLOW RATE (mL per minute): 375	FIELD PARAMETER MONITORING EQUIPMENT MODEL & SERIAL #s: YSI 650 MDS # 01L044OAD	
FIELD DECONTAMINATION: (Y) N	FIELD-FILTERED: (Y) N FILTER SIZE: .45 µm Filtration Equipment Type: Peristaltic		DUPLICATE: Y (N)

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

WELL CONDITION CHECKLIST (circle appropriate item(s), cross out if not applicable)

Type: (Flush Mount) Stand Pipe General Condition: (Good) / Needs Repair Well Caps: (Good) / Broken / None Lock: Good / (Broken) / None

Evidence of Rain Water Between Steel & PVC? Y / (N) Is Well Plumb? (Y) / N PVC Riser: (Good) / Damaged / None

Evendence of Ponding Around Welll? Y (N) Concrete Collar: (Good) / Cracked / Leaking / None

REMARKS:

Sovereign Consulting Inc.
16 Chestnut Street, Suite 520
Foxboro, MA 02035
508-339-3200

MONITORING WELL SAMPLING LOG

Low Flow Sampling

Sovereign Consulting Inc.
4 Open Square Way, Suite #307
Holyoke, MA 01040
413-540-0650

PROJECT NAME: Shepley's Hill	PROJECT LOCATION: Devens, MA		DATE: 10.23.13	WELL ID: SHP 99-31C
PROJECT NUMBER: ACOOL.02E	WELL DIAMETER: (inches) 2"	DEPTH TO WATER: (feet) 5.41	DEPTH TO BOTTOM: (feet) 78'	PID READING: (ppmv) 0.0

PURGING DATA

TUBING DIAMETER: (inches) 1/4"	TUBING MATERIAL CODE: (see below) Te/poly	PURGE PUMP TYPE: per	PUMP EQUIPMENT MODEL & SERIAL #s: Geopump 318

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY

GALLONS: — LITERS: —

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88

1 GALLON = 3.785 LITERS

WELL SCREEN INTERVAL DEPTH (feet): 68-78	INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 73	FINAL PUMP OR TUBING DEPTH IN WELL (feet):	PURGING INITIATED AT: 1130	PURGING ENDED AT: 1211	TOTAL VOLUME PURGED: GALLONS: 2.5 LITERS: —

WATER LEVEL STABLIZATION — DEPTH TO WATER WITH PUMP: (feet)

TIME INTERVAL (min)	FLOW RATE (mL/min)	PUMP SETTINGS	DEPTH TO WATER (feet) START	DEPTH TO WATER (feet) END	Water Level Stable (Yes or No)	VOLUME PURGED DURING INTERVAL (mL)
1	200	1/3	5.41	5.48	N	200
1	175	< 1/3	5.45	5.46	Y	175

TIME (min)*	FLOW RATE (mL/min) (100-500 mL/min)**	DEPTH TO WATER (feet) (+/- 0.3)**	TURBIDITY (NTU) (+/- 10%)or <5**	DISSOLVED OXYGEN (mg/L) (+/- 10%)or <0.5**	pH (+/- 0.1)**	TEMP (°C) (+/- 3%)**	SPEGIFIC CONDUCTIVITY (µS/cm) (+/- 3%)**	ORP (mV) (+/- 10mV)**	COLOR (describe)	ODOR (describe)
1135	5.46	175	78.4	0.47	6.75	11.32	-72.5	830	grey cloudy	non
1140	175	5.47	28.6	0.36	6.71	11.24	791	-82.3	mostly clear, slightly cloudy	
1145	175	5.47	19.4	0.31	6.70	11.23	782	-85.1	" "	none
1150	175	5.48	11.81	0.26	6.69	11.20	767	-89.7	" "	
1155	175	5.48	6.76	0.24	6.69	11.22	755	-92.5	" "	
1200	175	5.48	4.39	0.24	6.67	11.13	747	-94.1	" "	
1205	175	5.49	4.25	0.25	6.69	11.18	743	-94.8	" "	
1210	175	5.49	3.71	0.23	6.70	11.13	737	-95.7	" "	

* every 5 or more minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

** EPA stabilization parameters from EPA/540/S-95/504 April 1996

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: C. Swanson / Sovereign	SAMPLER(S) SIGNATURES: Catherine Swanson	SAMPLING INITIATED AT: 1212	SAMPLING ENDED AT: 1225
PUMP OR TUBING DEPTH IN WELL (feet): 73	SAMPLE PUMP FLOW RATE (mL per minute): 175	FIELD PARAMETER MONITORING EQUIPMENT: YSI 556 MPS 13D101114 / LaMotte 2020we Turbidimeter / Solinist WLM	

FIELD DECONTAMINATION: (Y) N

FIELD FILTERED: (Y) N — FILTER SIZE: 0.45 µm — Filtration Equipment Type: Metals Only

DUPLICATE: Y (N)

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

WELL CONDITION CHECKLIST (circle appropriate item(s), cross out if not applicable)

Type: Flush Mount / (Stand Pipe) General Condition: (Good) / Needs Repair Well Caps: (Good) / Broken / None Lock: (Good) / Broken / None

Evidence of Rain Water Between Steel & PVC? (Y) / N Is Well Plumb? (Y) N PVC Riser: (Good) / Damaged / None

Evendence of Ponding Around Welll? (Y) / N Concrete Collar: Good / Cracked / Leaking / (None)

REMARKS:

In wetlands area (currently dry)

Sovereign Consulting Inc.
16 Chestnut Street, Suite 520
Foxboro, MA 02035
508-339-3200

MONITORING WELL SAMPLING LOG

Low Flow Sampling

Sovereign Consulting Inc.
4 Open Square Way, Suite #307
Holyoke, MA 01040
413-540-0650

PROJECT NAME: AC001.02E	PROJECT LOCATION: Devens, MA	DATE: 10-23-13	WELL ID: SHP-99-31B
PROJECT NUMBER: Shepley's Hill	WELL DIAMETER: (inches) 2"	DEPTH TO WATER: (feet) 5.10	DEPTH TO BOTTOM: (feet)
PID READING: (ppmv) 0.0			

PURGING DATA

TUBING DIAMETER: (inches) 1/4"	TUBING MATERIAL CODE: (see below) Te/poly	PURGE PUMP TYPE: peristaltic	PUMP EQUIPMENT MODEL & SERIAL #s: Geopump 318

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY

GALLONS: — LITERS: —

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88

1 GALLON = 3.785 LITERS

WELL SCREEN INTERVAL DEPTH (feet): 50-60	INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 55	FINAL PUMP OR TUBING DEPTH IN WELL (feet):	PURGING INITIATED AT: 1020	PURGING ENDED AT: 1048	TOTAL VOLUME PURGED: GALLONS: 1.5 LITERS: —

WATER LEVEL STABLIZATION — DEPTH TO WATER WITH PUMP: (feet)

TIME INTERVAL (min)	FLOW RATE (mL/min)	PUMP SETTINGS	DEPTH TO WATER (feet) START	DEPTH TO WATER (feet) END	Water Level Stable (Yes or No)	VOLUME PURGED DURING INTERVAL (mL)
1	200	1/3	5.13	5.13	Y	

TIME (min)*	FLOW RATE (mL/min) (100-500 mL/min)**	DEPTH TO WATER (feet) (+/- 0.3')**	TURBIDITY (NTU) (+/- 10%)or <5**	DISSOLVED OXYGEN (mg/L) (+/- 10%)or <0.5**	pH (+/- 0.1)**	TEMP (°C) (+/- 3%)**	SPECIFIC CONDUCTIVITY (µS/cm) (+/- 3%)**	ORP (mV) (+/- 10mV)**	COLOR (describe)	ODOR (describe)
1028	200	5.13	8.44	2.58	6.53	11.58	176	-56.5	yellow w/ black particulate,	sulfur odor
1033	200	5.14	1.93	2.53	6.55	11.17	177	-57.1	more clear	sulfur odor
1039	200	5.14	1.51	2.35	6.56	11.15	175	-57.6	" "	sulfur odor
1044	200	5.15	1.02	2.42	6.56	11.15	176	-57.7	" "	

* every 5 or more minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

** EPA stabilization parameters from EPA/540/S-95/504 April 1996

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: C. Swanson / Sovereign	SAMPLER(S) SIGNATURES: Catherine Swanson	SAMPLING INITIATED AT: 1049	SAMPLING ENDED AT: 1059
PUMP OR TUBING DEPTH IN WELL (feet): 55	SAMPLE PUMP FLOW RATE (mL per minute): 200	FIELD PARAMETER MONITORING EQUIPMENT MODEL & SERIAL #s: YSI 556 MPS 13D101141 / Lamotte 2020we turbidimeter / solinist WLM	
FIELD DECONTAMINATION: (Y) N	FIELD-FILTERED: (Y) N FILTER SIZE: .45 µm Filtration Equipment Type: metals only		DUPLICATE: Y (N)

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

WELL CONDITION CHECKLIST (circle appropriate item(s); cross out if not applicable)

Type: Flush Mount / (Stand Pipe) General Condition: (Good) / Needs Repair Well Caps: (Good) / Broken / None Lock: (Good) / Broken / None

Evidence of Rain Water Between Steel & PVC? (Y) / N Is Well Plumb? (Y) / N PVC Riser: Good / Damaged / None

Evendence of Ponding Around Well? (Y) / N Concrete Collar: Good / Cracked / Leaking / (None)

REMARKS:

in wetlands area (currently dry)

Sovereign Consulting Inc.
16 Chestnut Street, Suite 520
Foxboro, MA 02035
508-339-3200

MONITORING WELL SAMPLING LOG

Low Flow Sampling

Sovereign Consulting Inc.
4 Open Square Way, Suite #307
Holyoke, MA 01040
413-540-0650

PROJECT NAME: Shedels Hill Landfill	PROJECT LOCATION: Devens, MA	DATE: 10-23-13	WELL ID: SHM-93-22C
PROJECT NUMBER: ACOM. DE. 05	WELL DIAMETER: (inches) 4	DEPTH TO WATER: (feet) 10.05	DEPTH TO BOTTOM: (feet) 134
PID READING: (ppmv) 0			

PURGING DATA

TUBING DIAMETER (inches): 1/4	TUBING MATERIAL CODE: (see below) PE	PURGE PUMP TYPE: Peristaltic	PUMP EQUIPMENT MODEL & SERIAL #s: Geopump G6363U

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY

GALLONS: 80.57 LITERS: 305.18

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88

1 GALLON = 3.785 LITERS

WELL SCREEN INTERVAL DEPTH (feet): 124-134	INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 129	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 129	PURGING INITIATED AT: 1050	PURGING ENDED AT: 1230	TOTAL VOLUME PURGED: GALLONS: 8.25 LITERS: 31.25

WATER LEVEL STABLIZATION — DEPTH TO WATER WITH PUMP: (feet) 21.23

TIME INTERVAL (min)	FLOW RATE (mL/min)	PUMP SETTINGS	DEPTH TO WATER (feet) START	DEPTH TO WATER (feet) END	Water Level Stable (Yes or No)	VOLUME PURGED DURING INTERVAL (mL)
1220-1226 (6)	100	Dial @ 1 O'clock Position	20.95	21.23	Yes	600

TIME (min)*	FLOW RATE (mL/min) (100-500 mL/min)**	DEPTH TO WATER (feet) (+/- 0.3')**	TURBIDITY (NTU) (+/- 10%)or <5**	DISSOLVED OXYGEN (mg/L) (+/- 10%)or <0.5**	pH (+/- 0.1)**	TEMP (°C) (+/- 3%)**	SPECIFIC CONDUCTIVITY (µS/cm) (+/- 3%)**	ORP (mV) (+/- 10mV)**	COLOR (describe)	ODOR (describe)
1055	350	10.69	3.01	0.89	7.79	10.65	199	-164.9	clear	None
1100	350	11.66	0.85	0.45	7.81	10.65	199	-181.4	clear	None
1105	350	12.32	1.06	0.38	7.81	10.64	199	-166.0	clear	None
1115	350	13.73	0.62	0.35	7.82	10.64	199	-170.2	clear	None
1125	350	15.11	0.30	0.32	7.83	10.61	199	-186.5	clear	None
1135	350	16.35	0.47	0.30	7.83	10.60	199	-188.2	clear	None
1145	350	17.47	0.70	0.27	7.83	10.58	198	-183.3	clear	None
1155	350	18.76	0.22	0.30	7.81	10.61	199	-168.8	clear	None
1205	350	19.93	0.30	0.50	7.84	10.62	198	-164.7	clear	None
1215	350	20.70	0.47	0.45	7.81	10.60	198	-175.9	clear	None
1220	100	20.95	0.32	0.43	7.82	10.76	198	-163.6	clear	None
1223	100	21.05	0.27	0.42	7.80	10.86	198	-171.6	clear	None
1226	100	21.23	0.31	0.40	7.79	10.87	198	-164.8	clear	None

* every 5 or more minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

** EPA stabilization parameters from EPA/540/S-95/504 April 1996

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: David Comeau / ECC	SAMPLER(S) SIGNATURES: [signature]	SAMPLING INITIATED AT: 1230	SAMPLING ENDED AT: 1250
PUMP OR TUBING DEPTH IN WELL (feet): 129	SAMPLE PUMP FLOW RATE (mL per minute): 100	FIELD PARAMETER MONITORING EQUIPMENT MODEL & SERIAL #s: YSI / 650 MDS / 04C2284 AA	
FIELD DECONTAMINATION: (Y) N	FIELD-FILTERED: (Y) N Filtration Equipment Type: Disposable cartridge	FILTER SIZE: .45 µm	DUPLICATE: Y (N)

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

WELL CONDITION CHECKLIST (circle appropriate item(s), cross out if not applicable)

Type: Flush Mount / (Stand Pipe) General Condition: (Good) / Needs Repair Well Caps: (Good) / Broken / None Lock: (Good) / Broken / None

Evidence of Rain Water Between Steel & PVC? Y / (N) Is Well Plumb?: (Y) / N PVC Riser: (Good) / Damaged / None

Evendence of Ponding Around Welll? Y / (N) Concrete Collar: Good / Cracked / Leaking / (None)

REMARKS:

Sample ID: SHM 9322C-102313 Time: 1230

Sovereign Consulting Inc.
16 Chestnut Street, Suite 520
Foxboro, MA 02035
508-339-3200

MONITORING WELL SAMPLING LOG

Low Flow Sampling

Sovereign Consulting Inc.
4 Open Square Way, Suite #307
Holyoke, MA 01040
413-540-0650

PROJECT NAME: Shedd's Hill Landfill	PROJECT LOCATION: Devens, MA	DATE: 10.25.13	WELL ID: HM-05-42A
PROJECT NUMBER: ACWI.126.05	WELL DIAMETER (inches): 1 1/4	DEPTH TO WATER (feet): 6.30	DEPTH TO BOTTOM (feet):
PID READING (ppmv): 0.0			

PURGING DATA

TUBING DIAMETER (inches): 1/4"	TUBING MATERIAL CODE: (see below) PE	PURGE PUMP TYPE: Geopump	PUMP EQUIPMENT MODEL & SERIAL #s: #418
WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY			GALLONS: ~24 Gallons / LITERS: —
WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88			1 GALLON = 3.785 LITERS / TOTAL VOLUME PURGED:
WELL SCREEN INTERVAL DEPTH (feet): 40-42	INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 41'	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 41'	PURGING INITIATED AT: 0930 / PURGING ENDED AT: 1020 / GALLONS: 4 Gallons / LITERS: —
WATER LEVEL STABLIZATION	DEPTH TO WATER WITH PUMP: (feet)		

TIME INTERVAL (min)	FLOW RATE (mL/min)	PUMP SETTINGS	DEPTH TO WATER (feet) START	DEPTH TO WATER (feet) END	Water Level Stable (Yes or No)	VOLUME PURGED DURING INTERVAL (mL)

TIME (min)*	FLOW RATE (mL/min) (100-500 mL/min)**	DEPTH TO WATER (feet) (+/- 0.3')**	TURBIDITY (NTU) (+/- 10%)or <5**	DISSOLVED OXYGEN (mg/L) (+/- 10%)or <0.5**	pH (+/- 0.1)**	TEMP (°C) (+/- 3%)**	SPECIFIC CONDUCTIVITY (µS/cm) (+/- 3%)**	ORP (mV) (+/- 10mV)**	COLOR (describe) -	ODOR (describe) -
0935	325	6.40	1.83	1.77	8.08	10.14	63	22.3	Clear	None
0940	325	6.40	1.00	1.97	7.38	10.04	64	32.4	↓	↓
0945	325	6.40	0.58	2.18	6.84	9.96	63	46.3		
0950	325	6.40	0.37	2.25	6.62	9.96	62	52.9		
0955	325	6.40	0.37	2.41	6.34	9.93	61	62.3		
1000	325	6.40	0.34	2.44	6.22	9.96	61	67.1		
1005	325	6.40	0.36	2.43	6.16	9.97	61	69.9		
1010	325	6.40	0.33	2.54	6.10	9.96	61	72.4		
1015	325	6.40	0.28	2.53	6.09	9.97	61	73.2		
1020	—	—	Begin		Sample	—	—	—	—	—

* every 5 or more minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

** EPA stabilization parameters from EPA/540/S-95/504 April 1996

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Erin Foley Sov Con	SAMPLER(S) SIGNATURES: Erin F	SAMPLING INITIATED AT: 1020	SAMPLING ENDED AT: 1026
PUMP OR TUBING DEPTH IN WELL (feet): 41'	SAMPLE PUMP FLOW RATE (mL per minute): 350	FIELD PARAMETER MONITORING EQUIPMENT MODEL & SERIAL #s: See remarks section	
FIELD DECONTAMINATION: (Y) N	FIELD-FILTERED: (Y) N / Filtration Equipment Type: metals	FILTER SIZE: ____µm	DUPLICATE: Y (N)

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

WELL CONDITION CHECKLIST (circle appropriate item(s); cross out if not applicable)

Type: Flush Mount / (Stand Pipe) General Condition: (Good) / Needs Repair Well Caps: (Good) / Broken / None Lock: (Good) / Broken / None

Evidence of Rain Water Between Steel & PVC? Y / (N) Is Well Plumb?: Y / N PVC Riser: (Good) / Damaged / None

Evendence of Ponding Around Well? Y / (N) Concrete Collar: (Good) / Cracked / Leaking / None

REMARKS: YSI: 11K101290 Turb: ME-12950
WLM: 47218

Sovereign Consulting Inc.
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MONITORING WELL SAMPLING LOG

Low Flow Sampling

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Holyoke, MA 01040
413-540-0650

PROJECT NAME: Stebels Hill Landfill	PROJECT LOCATION: Devens, MA	DATE: 10-23-13	WELL ID: SHM-05-420
PROJECT NUMBER: ACOM.02EN05	WELL DIAMETER: (inches) 1/4	DEPTH TO WATER: (feet) 6.30	DEPTH TO BOTTOM: (feet)
PID READING: (ppmv) 0.0			

PURGING DATA

TUBING DIAMETER (inches): 1/4	TUBING MATERIAL CODE: (see below) PE	PURGE PUMP TYPE: Geopump	PUMP EQUIPMENT MODEL & SERIAL #s: # 418
WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY			GALLONS: – / LITERS: –
WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88			1 GALLON = 3.785 LITERS

WELL SCREEN INTERVAL DEPTH (feet): 70-72	INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 71	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 71	PURGING INITIATED AT: 1110	PURGING ENDED AT: 1145	TOTAL VOLUME PURGED: GALLONS: 2.8 / LITERS: –

WATER LEVEL STABLIZATION — DEPTH TO WATER WITH PUMP: (feet)

TIME INTERVAL (min)	FLOW RATE (mL/min)	PUMP SETTINGS	DEPTH TO WATER (feet) START	DEPTH TO WATER (feet) END	Water Level Stable (Yes or No)	VOLUME PURGED DURING INTERVAL (mL)

TIME (min)*	FLOW RATE (mL/min) (100-500 mL/min)**	DEPTH TO WATER (feet) (+/- 0.3')**	TURBIDITY (NTU) (+/- 10%)or +5**	DISSOLVED OXYGEN (mg/L) (+/- 10%)or +0.5**	pH (+/- 0.1)**	TEMP (°C) (+/- 3%)**	SPECIFIC CONDUCTIVITY (µS/cm) (+/- 3%)**	ORP (mV) (+/- 10mV)**	COLOR (describe)	ODOR (describe)
1115	350	6.35	2.70	0.25	6.26	10.18	585	-64.3	Clear	None
1120	350	6.35	2.88	0.16	6.40	10.11	658	-91.7	↓	↓
1125	350	6.35	3.01	0.23	6.46	10.09	656	-100.9		
1130	350	6.35	1.99	0.17	6.47	10.09	655	-102.8		
1135	350	6.35	1.00	0.15	6.48	10.08	655	-105.1		
1140	350	6.35	0.96	0.16	6.48	10.79	654	-105.7		
1145	—	—	—	Begin	Sample	—	—	—	—	

* every 5 or more minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

** EPA stabilization parameters from EPA/540/S-95/504 April 1996

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Eri JA Sovcon	SAMPLER(S) SIGNATURES: Erin Foley	SAMPLING INITIATED AT: 1145	SAMPLING ENDED AT: 1220
PUMP OR TUBING DEPTH IN WELL (feet): 71	SAMPLE PUMP FLOW RATE (mL per minute): 350	FIELD PARAMETER MONITORING EQUIPMENT MODEL & SERIAL #s: See remarks section	
FIELD DECONTAMINATION: (Y) N	FIELD-FILTERED: (Y) N Filtration Equipment Type: metals	FILTER SIZE: ____ µm	DUPLICATE: Y (N)

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

WELL CONDITION CHECKLIST (circle appropriate item(s), cross out if not applicable)

Type: Flush Mount / (Stand Pipe) General Condition: (Good) / Needs Repair Well Caps: (Good) / Broken / None Lock: (Good) / Broken / None

Evidence of Rain Water Between Steel & PVC? Y / (N) Is Well Plumb?: Y / N PVC Riser: (Good) / Damaged / None

Evendence of Ponding Around Welll? Y / (N) Concrete Collar: (Good) / Cracked / Leaking / None

REMARKS: YSI: 11K101290 Turb: ME-12750
WLM: 47218

* ms/msD collected

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MONITORING WELL SAMPLING LOG

Low Flow Sampling

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Holyoke, MA 01040
413-540-0650

PROJECT NAME: Shenen's Hill Landfill	PROJECT LOCATION: Devens, MA	DATE: 10/23/13	WELL ID: SHM-05-41A
PROJECT NUMBER: AC001.02A.05	WELL DIAMETER: (inches) 2	DEPTH TO WATER: (feet) 11.99	DEPTH TO BOTTOM: (feet)
PID READING: (ppmv) 0.0			

PURGING DATA

TUBING DIAMETER (inches): 3/8	TUBING MATERIAL CODE: (see below) PE	PURGE PUMP TYPE: Peristaltic	PUMP EQUIPMENT MODEL & SERIAL #s: Geo Pump Easy Load II # 679

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY

GALLONS: – LITERS: –

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88

1 GALLON = 3.785 LITERS

WELL SCREEN INTERVAL DEPTH (feet): 42-44	INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 43	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 43	PURGING INITIATED AT: 10:11	PURGING ENDED AT: 1055	TOTAL VOLUME PURGED: GALLONS: 2.5 LITERS: –

WATER LEVEL STABLIZATION DEPTH TO WATER WITH PUMP: (feet)

TIME INTERVAL (min)	FLOW RATE (mL/min)	PUMP SETTINGS	DEPTH TO WATER (feet) START	DEPTH TO WATER (feet) END	Water Level Stable (Yes or No)	VOLUME PURGED DURING INTERVAL (mL)
5	200		12.01	12.02	Yes	1.5 G
5	250	at 1042 upped rate	12.02	12.02	Yes	1.0 G

TIME (min)*	FLOW RATE (mL/min) (100-500 mL/min)**	DEPTH TO WATER (feet) (+/- 0.3')**	TURBIDITY (NTU) (+/- 10%)or <5**	DISSOLVED OXYGEN (mg/L) (+/- 10%)or <0.5**	pH (+/- 0.1)**	TEMP (°C) (+/- 3%)**	SPECIFIC CONDUCTIVITY (µS/cm) (+/- 3%)**	ORP (mV) (+/- 10mV)**	COLOR (describe)	ODOR (describe)
1020	200	12.01	7.26	0.54	6.32	10.32	77	109.2	Clear	None
1025	200	12.02	1.73	0.48	6.31	10.31	77	116.6	Clear	None
1030	200	12.02	1.45	0.46	6.33	10.27	68	36.1	Clear	None
1035	200	12.02	1.93	0.43	6.38	10.25	71	5.5	clear	None
1040	200	12.02	1.75	0.41	6.40	10.30	70	-4.9	Clear	NONE
1045	250	12.02	1.11	0.39	6.41	10.16	70	-10.9	clear	None
1050	250	12.02	0.69	0.37	6.42	10.17	69	-15.2	clear	None
1055	250	12.02	0.66	0.35	6.42	10.17	69	-18.0	clear	None

* every 5 or more minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

** EPA stabilization parameters from EPA/540/S-95/504 April 1996

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Veronica Champagne ECC	SAMPLER(S) SIGNATURES: Veronica Champagne	SAMPLING INITIATED AT: 1058	SAMPLING ENDED AT: 1110
PUMP OR TUBING DEPTH IN WELL (feet): 43	SAMPLE PUMP FLOW RATE (mL per minute): 250	FIELD PARAMETER MONITORING EQUIPMENT MODEL & SERIAL #s: YSI 650 MDS #01L0440AD	
FIELD DECONTAMINATION: (Y) N	FIELD-FILTERED: Y N FILTER SIZE: 0.45 µm Filtration Equipment Type: Peristaltic		DUPLICATE: Y (N)

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

WELL CONDITION CHECKLIST (circle appropriate item(s); cross out if not applicable)

Type: (Flush Mount) / Stand Pipe General Condition: (Good) / Needs Repair Well Caps: (Good) / Broken / None Lock: Good / (Broken) / None

Evidence of Rain Water Between Steel & PVC? Y / (N) Is Well Plumb? (Y) / N PVC Riser: (Good) / Damaged / None

Evendence of Ponding Around Well? Y / (N) Concrete Collar: (Good) / Cracked / Leaking / None

REMARKS:

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MONITORING WELL SAMPLING LOG

Low Flow Sampling

Sovereign Consulting Inc.
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Holyoke, MA 01040
413-540-0650

PROJECT NAME: Shedley's Hill Landfill	PROJECT LOCATION: Devens MA	DATE: 10-23-13	WELL ID: SHL-22
PROJECT NUMBER: ACOM. DEE 05	WELL DIAMETER (inches): 4	DEPTH TO WATER (feet): 8.81	DEPTH TO BOTTOM (feet): 115	PID READING (ppmv): 0

PURGING DATA

TUBING DIAMETER (inches): 1/4	TUBING MATERIAL CODE (see below): PE	PURGE PUMP TYPE: Peristaltic	PUMP EQUIPMENT MODEL & SERIAL #s: Geopump G6363U

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY

GALLONS: 69.02 LITERS: ~~261~~ 261.45

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88

1 GALLON = 3.785 LITERS

WELL SCREEN INTERVAL DEPTH (feet): 105-115	INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 110	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 110	PURGING INITIATED AT: 0940	PURGING ENDED AT: 1025	TOTAL VOLUME PURGED: GALLONS: 3.56 LITERS: 13.50

WATER LEVEL STABLIZATION DEPTH TO WATER WITH PUMP (feet): 9.29

TIME INTERVAL (min)	FLOW RATE (mL/min)	PUMP SETTINGS	DEPTH TO WATER (feet) START	DEPTH TO WATER (feet) END	Water Level Stable (Yes or No)	VOLUME PURGED DURING INTERVAL (mL)
1010-1020 (10)	300	Dial @ 1 o'clock Position	9.29	9.29	Yes	3,000

TIME (min)*	FLOW RATE (mL/min) (100-500 mL/min)**	DEPTH TO WATER (feet) (+/- 0.3')**	TURBIDITY (NTU) (+/- 10%)or <5**	DISSOLVED OXYGEN (mg/L) (+/- 10%)or <0.5**	pH (+/- 0.1)**	TEMP (°C) (+/- 3%)**	SPECIFIC CONDUCTIVITY (µS/cm) (+/- 3%)**	ORP (mV) (+/- 10mV)**	COLOR (describe)	ODOR (describe)
0945	300	9.07	2.89	0.48	6.76	10.48	510	-10.8	clear	NONE
0950	300	9.26	0.15	0.53	6.71	10.69	512	11.4	clear	NONE
0955	300	9.27	0.05	0.44	6.71	10.70	513	9.6	clear	NONE
1000	300	9.28	0.00	0.46	6.71	10.72	511	6.0	clear	NONE
1005	300	9.28	0.02	0.46	6.69	10.65	512	3.7	clear	NONE
1010	300	9.29	0.00	0.42	6.71	10.60	512	-0.2	clear	NONE
1015	300	9.29	0.00	0.42	6.71	10.59	512	-2.7	clear	NONE
1020	300	9.29	0.00	0.39	6.70	10.60	511	-6.9	clear	NONE

* every 5 or more minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

** EPA stabilization parameters from EPA/540/S-95/504 April 1996

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: David Comeau / ECC	SAMPLER(S) SIGNATURE(S): [signature]	SAMPLING INITIATED AT: 1025	SAMPLING ENDED AT: 1040
PUMP OR TUBING DEPTH IN WELL (feet): 110	SAMPLE PUMP FLOW RATE (mL per minute): 300	FIELD PARAMETER MONITORING EQUIPMENT MODEL & SERIAL #s: YSI / 650 MDS / 04C2284 AA	
FIELD DECONTAMINATION: (Y) N	FIELD FILTERED: (Y) N Filtration Equipment Type: Disposable Cartridge FILTER SIZE: .45 µm		DUPLICATE: (Y) N

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

WELL CONDITION CHECKLIST (circle appropriate item(s), cross out if not applicable)

Type: Flush Mount / (Stand Pipe) General Condition: (Good) / Needs Repair Well Caps: (Good) / Broken / None Lock: Good / Broken / (None)

Evidence of Rain Water Between Steel & PVC? Y / (N) Is Well Plumb? (Y) / N PVC Riser: (Good) / Damaged / None

Evendence of Ponding Around Welll? Y / (N) Concrete Collar: Good / Cracked / Leaking / (None)

REMARKS:

Sample ID: SHL 22-102313 Time: 1025

Field Duplicate: DUP02-102313 Time: —

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MONITORING WELL SAMPLING LOG

Low Flow Sampling

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Holyoke, MA 01040
413-540-0650

PROJECT NAME: Chepley's Hill	PROJECT LOCATION: Devens, MA		DATE: 10-23-13	WELL ID: S 94-31A
PROJECT NUMBER: AC001.DZE	WELL DIAMETER (inches): 2"	DEPTH TO WATER (feet): 4.48	DEPTH TO BOTTOM (feet):	PID READING (ppmv): 0.0

PURGING DATA

TUBING DIAMETER (inches): 1/4"	TUBING MATERIAL CODE (see below): TR/poly	PURGE PUMP TYPE: Peri	PUMP EQUIPMENT MODEL & SERIAL #s: Geopump 318	
WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY			GALLONS: –	LITERS: –
WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88			1 GALLON = 3.785 LITERS	TOTAL VOLUME PURGED: GALLONS: 2.5 LITERS: –
WELL SCREEN INTERVAL DEPTH (feet): 4-14	INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 10	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 10	PURGING INITIATED AT: 0830	PURGING ENDED AT: 0914

WATER LEVEL STABLIZATION — DEPTH TO WATER WITH PUMP (feet):

TIME INTERVAL (min)	FLOW RATE (mL/min)	PUMP SETTINGS	DEPTH TO WATER (feet) START	DEPTH TO WATER (feet) END	Water Level Stable (Yes or No)	VOLUME PURGED DURING INTERVAL (mL)
1	200	1/4	4.52	4.52	Y	200

TIME (min)*	FLOW RATE (mL/min) (100-500 mL/min)**	DEPTH TO WATER (feet) (+/- 0.3')**	TURBIDITY (NTU) (+/- 10%)or <5**	DISSOLVED OXYGEN (mg/L) (+/- 10%)or <0.5**	pH (+/- 0.1)**	TEMP (°C) (+/- 3%)**	SPECIFIC CONDUCTIVITY (µS/cm) (+/- 3%)**	ORP (mV) (+/- 10mV)**	COLOR (describe)	ODOR (describe)
0838	200	4.52	2.60	0.75	6.03	11.61	149	17.6	Clear	none
0843	200	4.52	1.99	2.94	5.90	11.90	148	26.3	" "	" "
0848	200	4.52	4.99	3.09	5.87	11.97	146	31.0	" "	" "
0853	200	4.53	3.80	2.58	5.85	12.17	146	35.4	slight particulate	none
0858	200	4.53	3.63	0.86	5.83	12.18	145	42.8	clear	" "
0903	200	4.54	4.01	1.00	5.82	12.40	145	46.9	" "	" "
0908	200	4.54	3.59	0.94	5.83	12.38	146	44.1	" "	" "
0913	200	4.54	3.79	1.02	5.83	12.48	145	41.9	" "	" "

* every 5 or more minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

** EPA stabilization parameters from EPA/540/S-95/504 April 1996

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: C. Swanson / Sovereign	SAMPLER(S) SIGNATURES: Catherine Swanson	SAMPLING INITIATED AT: 0915	SAMPLING ENDED AT: 0935
PUMP OR TUBING DEPTH IN WELL (feet): 10	SAMPLE PUMP FLOW RATE (mL per minute): 200	FIELD PARAMETER MONITORING EQUIPMENT MODEL & SERIAL #s: YSI 556MPS 13D101141 / Lamotte 2020we turbidimeter / Solinist WLM	
FIELD DECONTAMINATION: (Y) N	FIELD-FILTERED: (Y) N Filtration Equipment Type: Metals only; FILTER SIZE: 45 µm	DUPLICATE: (Y) N	

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

WELL CONDITION CHECKLIST (circle appropriate item(s), cross out if not applicable)

Type: Flush Mount / Stand Pipe — General Condition: Good / Needs Repair — Well Caps: Good / Broken / None — Lock: Good / Broken / None

Evidence of Rain Water Between Steel & PVC? (Y) / N — Is Well Plumb? (Y) / N — PVC Riser: Good / Damaged / None

Evendence of Ponding Around Welll? (Y) / N — Concrete Collar: Good / Cracked / Leaking / None

REMARKS:

in wetland area (currently dry). DUP01-102313 collected

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MONITORING WELL SAMPLING LOG

Low Flow Sampling

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413-540-0650

PROJECT NAME: Shedd's Hill Landfill	PROJECT LOCATION: Auburn, MA	DATE: 10/23/13	WELL ID: SHM-05-41B
PROJECT NUMBER: HCWL 07A.05	WELL DIAMETER: (inches) 2	DEPTH TO WATER: (feet) 11.78	DEPTH TO BOTTOM: (feet)
PID READING: (ppmv) 0.0			

PURGING DATA

TUBING DIAMETER (inches): 3/8	TUBING MATERIAL CODE: (see below) PE	PURGE PUMP TYPE: Peristaltic	PUMP EQUIPMENT MODEL & SERIAL #s: Geopump Easy Load II 679	
WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY			GALLONS: —	LITERS: —
WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88			1 GALLON = 3.785 LITERS	TOTAL VOLUME PURGED: GALLONS: 3.0 LITERS: —
WELL SCREEN INTERVAL DEPTH (feet): 62 - 64	INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 63	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 63	PURGING INITIATED AT: 0835	PURGING ENDED AT: 0940

WATER LEVEL STABLIZATION — DEPTH TO WATER WITH PUMP: (feet)

TIME INTERVAL (min)	FLOW RATE (mL/min)	PUMP SETTINGS	DEPTH TO WATER (feet) START	DEPTH TO WATER (feet) END	Water Level Stable (Yes or No)	VOLUME PURGED DURING INTERVAL (mL)
5	200		11.84	11.84	Yes	3.0

TIME (min)*	FLOW RATE (mL/min) (100-500 mL/min)**	DEPTH TO WATER (feet) (+/- 0.3')**	TURBIDITY (NTU) (+/- 10%)or <5**	DISSOLVED OXYGEN (mg/L) (+/- 10%)or <0.5**	pH (+/- 0.1)**	TEMP (°C) (+/- 3%)**	SPECIFIC CONDUCTIVITY (µS/cm) (+/- 3%)**	ORP (mV) (+/- 10mV)**	COLOR (describe) -	ODOR (describe) -
0840	200	11.84	77.6	0.75	6.56	9.88	202	-52.2	clear	None
0845	200	11.84	69.2	0.63	6.77	9.82	175	-98.3	slt brown tint	NONE
0850	200	11.84	52.2	0.56	6.86	9.71	165	-115.8	"	NONE
0855	200	11.84	41.6	0.51	6.89	9.70	162	-119.3	"	NONE
0900	200	11.84	29.0	0.49	6.90	9.84	159	-121.0	Clear	None
0905	200	11.84	18.8	0.48	6.89	9.74	159	-120.8	clear	None
0910	200	11.84	15.5	0.46	6.89	9.80	157	-120.8	clear	None
0915	200	11.84	12.1	0.46	6.89	9.92	158	-120.7	clear	NONE
0920	200	11.84	8.80	0.46	6.89	9.89	157	-119.7	clear	NONE
0925	200	11.84	7.57	0.46	6.89	10.01	156	-120.8	clear	None
0930	200	11.84	7.31	0.46	6.88	9.91	157	-119.7	Clear	NONE
0935	200	11.84	6.66	0.46	6.87	9.95	156	-119.4	clear	NONE
0940	200	11.84	4.49	0.46	6.88	10.05	155	-120.4	clear	None

* every 5 or more minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

** EPA stabilization parameters from EPA/540/S-95/504 April 1996

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Veronica Champagne ECC	SAMPLER(S) SIGNATURES: [signature]	SAMPLING INITIATED AT: 0940	SAMPLING ENDED AT: 0952
PUMP OR TUBING DEPTH IN WELL (feet): 63	SAMPLE PUMP FLOW RATE (mL per minute): 200	FIELD PARAMETER MONITORING EQUIPMENT MODEL & SERIAL #s: YSI 650 MDS #01L0440AD	
FIELD DECONTAMINATION: (Y) N	FIELD-FILTERED: (Y) N FILTER SIZE: .45 µm Filtration Equipment Type: Peristaltic		DUPLICATE: Y (N)

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

WELL CONDITION CHECKLIST (circle appropriate item(s), cross out if not applicable)

Type: (Flush Mount) / Stand Pipe General Condition: (Good) / Needs Repair Well Caps: (Good) / Broken / None Lock: Good / (Broken) / None

Evidence of Rain Water Between Steel & PVC? Y / (N) Is Well Plumb? (Y) / N PVC Riser: (Good) / Damaged / None

Evendence of Ponding Around Welll? Y / (N) Concrete Collar: (Good) / Cracked / Leaking / None

REMARKS:

Sovereign Consulting Inc.
16 Chestnut Street, Suite 520
Foxboro, MA 02035
508-339-3200

MONITORING WELL SAMPLING LOG

Low Flow Sampling

Sovereign Consulting Inc.
4 Open Square Way, Suite #307
Holyoke, MA 01040
413-540-0650

PROJECT NAME: Shenley's Hill Landfill	PROJECT LOCATION: Devens, MA	DATE: 10-23-13	WELL ID: SHM-93-322B
PROJECT NUMBER: ACW1.02B.05	WELL DIAMETER (inches): 4	DEPTH TO WATER (feet): 8.68	DEPTH TO BOTTOM (feet): 92
PID READING (ppmv): 0			

PURGING DATA

TUBING DIAMETER (inches): 1/4	TUBING MATERIAL CODE (see below): PE	PURGE PUMP TYPE: Peristaltic	PUMP EQUIPMENT MODEL & SERIAL #s: Geopump G6363U

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY

GALLONS: 54.16 LITERS: 205.14

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88

1 GALLON = 3.785 LITERS

WELL SCREEN INTERVAL DEPTH (feet): 82 - 92	INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 87	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 87	PURGING INITIATED AT: 0830	PURGING ENDED AT: 0920	TOTAL VOLUME PURGED: GALLONS: 3.3 LITERS: 12.5

WATER LEVEL STABLIZATION DEPTH TO WATER WITH PUMP (feet): 8.68

TIME INTERVAL (min)	FLOW RATE (mL/min)	PUMP SETTINGS	DEPTH TO WATER (feet) START	DEPTH TO WATER (feet) END	Water Level Stable (Yes or No)	VOLUME PURGED DURING INTERVAL (mL)
0905-0915 (10)	250	Dial @ 1 o'clock Position	8.68	8.68	Yes	2,500

TIME (min)*	FLOW RATE (mL/min) (100-500 mL/min)**	DEPTH TO WATER (feet) (+/- 0.3)**	TURBIDITY (NTU) (+/- 10%)or +5**	DISSOLVED OXYGEN (mg/L) (+/- 10%)or <0.5**	pH (+/- 0.1)**	TEMP (°C) (+/- 3%)**	SPECIFIC CONDUCTIVITY (µS/cm) (+/- 3%)**	ORP (mV) (+/- 10mV)**	COLOR (describe)	ODOR (describe)
0835	250	8.68	6.27	0.61	6.72	9.98	490	-88.3	clear	NONE
0840	250	8.68	3.40	0.54	6.60	10.03	488	-75.7	clear	NONE
0845	250	8.68	3.38	0.49	6.58	10.04	487	-75.8	clear	NONE
0850	250	8.68	2.57	0.44	6.58	10.02	487	-57.7	clear	NONE
0855	250	8.68	2.04	0.41	6.59	10.06	487	-27.0	clear	NONE
0900	250	8.68	1.85	0.37	6.58	10.05	486	-10.3	clear	NONE
0905	250	8.68	1.45	0.34	6.59	10.09	485	-4.6	clear	NONE
0910	250	8.68	1.36	0.35	6.59	10.09	485	-0.3	clear	NONE
0915	250	8.68	1.20	0.39	6.59	10.17	485	1.8	clear	NONE

* every 5 or more minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

** EPA stabilization parameters from EPA/540/S-95/504 April 1996

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: David Comeau / ECC	SAMPLER(S) SIGNATURES: [signature]	SAMPLING INITIATED AT: 0920	SAMPLING ENDED AT: 0930
PUMP OR TUBING DEPTH IN WELL (feet): 87	SAMPLE PUMP FLOW RATE (mL per minute): 250	FIELD PARAMETER MONITORING EQUIPMENT MODEL & SERIAL #s: YSI / 650MDS / 04C2284 AA	
FIELD DECONTAMINATION: (Y) N	FIELD FILTERED: (Y) N FILTER SIZE: .45 µm Filtration Equipment Type: Disposable cartridge		DUPLICATE: Y (N)

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

WELL CONDITION CHECKLIST (circle appropriate item(s), cross out if not applicable)

Type: Flush Mount (Stand Pipe) General Condition: (Good) / Needs Repair Well Caps: (Good) / Broken / None Lock: (Good) Broken / None

Evidence of Rain Water Between Steel & PVC? Y (N) Is Well Plumb?: (Y) / N PVC Riser: (Good) / Damaged / None

Evendence of Ponding Around Welll? Y / (N) Concrete Collar: Good / Cracked / Leaking / (None)

REMARKS:

Sample ID: SHM9322B-102313 Time: 0920

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508-339-3200

MONITORING WELL SAMPLING LOG

Low Flow Sampling

Sovereign Consulting Inc.
4 Open Square Way, Suite #307
Holyoke, MA 01040
413-540-0650

PROJECT NAME: Shedey's Hill Landfill	PROJECT LOCATION: Devens, MA	DATE: 10.22.13	WELL ID: SHP-99-29X
PROJECT NUMBER: ACWI.026.05	WELL DIAMETER (inches): 2"	DEPTH TO WATER (feet): 24.45	DEPTH TO BOTTOM (feet): 29.0
			PID READING (ppmv): 0.0

PURGING DATA

TUBING DIAMETER (inches): 3/8	TUBING MATERIAL CODE (see below): PE/poly	PURGE PUMP TYPE: peri	PUMP EQUIPMENT MODEL & SERIAL #s: GeoPUMP #481

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY — GALLONS: – LITERS: –

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88 — 1 GALLON = 3.785 LITERS — TOTAL VOLUME PURGED: GALLONS: 2 LITERS: –

WELL SCREEN INTERVAL DEPTH (feet): 19-29	INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 25	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 26	PURGING INITIATED AT: 1310	PURGING ENDED AT:

WATER LEVEL STABLIZATION — DEPTH TO WATER WITH PUMP: (feet)

TIME INTERVAL (min)	FLOW RATE (mL/min)	PUMP SETTINGS	DEPTH TO WATER (feet) START	DEPTH TO WATER (feet) END	Water Level Stable (Yes or No)	VOLUME PURGED DURING INTERVAL (mL)
1	100	~ 1/2	24.74	24.73	Y	100
1	105	~ 1/2	24.74	24.74	Y	100

TIME (min)*	FLOW RATE (mL/min) (100-500 mL/min)**	DEPTH TO WATER (feet) (+/- 0.3')**	TURBIDITY (NTU) (+/- 10%)or <5**	DISSOLVED OXYGEN (mg/L) (+/- 10%)or <0.5**	pH (+/- 0.1)**	TEMP (°C) (+/- 3%)**	SPECIFIC CONDUCTIVITY (µS/cm) (+/- 3%)**	ORP (mV) (+/- 10mV)**	COLOR (describe)	ODOR (describe)
1320	105	24.74	44.4	1.05	6.13	13.27	253	-55.0	grey w/ black particulate	
1325	105	24.74	38.8	0.83	6.12	13.33	248	-58.9	" "	none
1330	105	24.74	39.4	0.92	6.12	13.35	247	-60.2	" "	
1335	105	24.73	25.3	0.87	6.12	13.35	246	-63.1	" "	
1340	105	24.74	17.4	0.89	6.09	13.25	244	-59.2	more clear	
1348	105	24.74	12.12	0.88	6.07	1305	240	-54.4	" "	
1353	105	24.74	9.05	0.88	6.06	13.18	237	-53.3	" "	
1358	105	24.74	6.53	0.88	6.04	13.40	233	-57.3	" "	
1408	105	24.74	4.65	0.88	6.02	13.20	231	-49.4	" "	
1413	105	24.74	4.29	0.89	6.02	13.10	231	-49.0	" "	
1418	105	24.74		0.90	6.01	13.10	230	-48.3	" "	

* every 5 or more minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

** EPA stabilization parameters from EPA/540/S-95/504 April 1996

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: C. Swanson / Sovereign	SAMPLER(S) SIGNATURES: Catherine Swanson	SAMPLING INITIATED AT: 1419	SAMPLING ENDED AT: 1440
PUMP OR TUBING DEPTH IN WELL (feet): 26	SAMPLE PUMP FLOW RATE (mL per minute): 105	FIELD PARAMETER MONITORING EQUIPMENT MODEL & SERIAL #s: YSI 556 MPS 13D101141 / Lamotte 2020pe Turbidimeter / Heron Dipper T	
FIELD DECONTAMINATION: (Y) N	FIELD-FILTERED: (Y) N FILTER SIZE: 45 µm Filtration Equipment Type: Metals Only		DUPLICATE: Y (N)

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

WELL CONDITION CHECKLIST (circle appropriate item(s), cross out if not applicable)

Type: Flush Mount / Stand Pipe — General Condition: Good / Needs Repair — Well Caps: Good / Broken / None — Lock: Good / Broken / None

Evidence of Rain Water Between Steel & PVC? Y / N — Is Well Plumb? Y / N — PVC Riser: Good / Damaged / None

Evendence of Ponding Around Welll? Y / N — Concrete Collar: Good / Cracked / Leaking / None

REMARKS:

Sovereign Consulting Inc.
16 Chestnut Street, Suite 520
Foxboro, MA 02035
508-339-3200

MONITORING WELL SAMPLING LOG

Low Flow Sampling

Sovereign Consulting Inc.
4 Open Square Way, Suite #307
Holyoke, MA 01040
413-540-0650

PROJECT NAME: Shelley's 1141 Landfill	PROJECT LOCATION: Hewey, MA	DATE: 10.22.13	WELL ID: NS-P2
PROJECT NUMBER: ACWI.02E.05	WELL DIAMETER: (inches) 1.5'	DEPTH TO WATER: (feet) 24.20	DEPTH TO BOTTOM: (feet) ~~25.0~~ 32.75
PID READING: (ppmv) 0.0			

PURGING DATA

TUBING DIAMETER: (inches) 1/4 / 1/8"	TUBING MATERIAL CODE: (see below) te / poly	PURGE PUMP TYPE: Peri	PUMP EQUIPMENT MODEL & SERIAL #s: Geopump #418
WELL VOLUME PURGE: WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY			GALLONS: 1.25 / LITERS: —
WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88			1 GALLON = 3.785 LITERS

WELL SCREEN INTERVAL DEPTH (feet): 20-25	INITIAL PUMP OR TUBING DEPTH IN WELL (feet): ~~25~~ 30	FINAL PUMP OR TUBING DEPTH IN WELL (feet): ~~25~~ 30	PURGING INITIATED AT: ~~1115~~ 1135	PURGING ENDED AT: 1218	TOTAL VOLUME PURGED: GALLONS: 0.8 / LITERS: —

WATER LEVEL STABLIZATION — DEPTH TO WATER WITH PUMP: (feet)

TIME INTERVAL (min)	FLOW RATE (mL/min)	PUMP SETTINGS	DEPTH TO WATER (feet) START	DEPTH TO WATER (feet) END	Water Level Stable (Yes or No)	VOLUME PURGED DURING INTERVAL (mL)
1	110	Full speed	24.23	24.25	Y	110

TIME (min)*	FLOW RATE (mL/min) (100-500 mL/min)**	DEPTH TO WATER (feet) (+/- 0.3')**	TURBIDITY (NTU) (+/- 10%)or <5**	DISSOLVED OXYGEN (mg/L) (+/- 10%)or <0.5**	pH (+/- 0.1)**	TEMP (°C) (+/- 3%)**	SPECIFIC CONDUCTIVITY (µS/cm) (+/- 3%)**	ORP (mV) (+/- 10mV)**	COLOR (describe)	ODOR (describe)
1151	110	24.25	65.5	1.06	6.34	14.54	1272	-71.8	orange, cloudy	None
1156	110	24.25	22.8	0.64	6.34	14.18	1266	-69.4	" "	None
1201	110	24.25	16.5	0.65	6.32	14.16	1271	-70.8	yellowish	None
1207	110	24.25	4.84	0.75	6.34	14.14	1271	-71.0	yellowish	None
1212	110	24.25	3.76	0.72	6.34	14.18	1271	-71.4	mostly clear, slight particulate	
1217	110	24.25	3.36	0.72	6.34	14.15	1271	-71.6	"	" None

* every 5 or more minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

** EPA stabilization parameters from EPA/540/S-95/504 April 1996

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: C. Swanson / Sovereign	SAMPLER(S) SIGNATURES: [signature]	SAMPLING INITIATED AT: 1218	SAMPLING ENDED AT: 1233
PUMP OR TUBING DEPTH IN WELL (feet): ~~25~~ 30	SAMPLE PUMP FLOW RATE (mL per minute): 110	FIELD PARAMETER MONITORING EQUIPMENT MODEL & SERIAL #s: YSI 556 MPS 13D101141 / Lamotte 2020e Turbidmeter	/ Heron Dipper T
FIELD DECONTAMINATION: (Y) N	FIELD-FILTERED: (Y) N FILTER SIZE: .45 µm Filtration Equipment Type: Metals		DUPLICATE: Y (N)

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

WELL CONDITION CHECKLIST (circle appropriate item(s), cross out if not applicable)

Type: Flush Mount / (Stand Pipe) General Condition: (Good) / Needs Repair Well Caps: (Good) / Broken / None Lock: (Good) / Broken / None

Evidence of Rain Water Between Steel & PVC? (Y) / N Is Well Plumb? (Y) / N PVC Riser: (Good) / Damaged / None

Evendence of Ponding Around Well? Y / (N) Concrete Collar: Good / Cracked / Leaking / (None)

REMARKS:
pump/tubing not quite right. H2O has lots of bubbles, hard to pump, took half hr to get well to pump

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MONITORING WELL SAMPLING LOG

Low Flow Sampling

Sovereign Consulting Inc.
4 Open Square Way, Suite #307
Holyoke, MA 01040
413-540-0650

PROJECT NAME: Federal Hill Landfill	PROJECT LOCATION: Devens MA	DATE: 10.22.13	WELL ID: SAC-11
PROJECT NUMBER: ACW1.026.05	WELL DIAMETER: (inches) 2"	DEPTH TO WATER: (feet) 21.77	DEPTH TO BOTTOM: (feet) 27.0	PID READING: (ppmv) 0.0

PURGING DATA

TUBING DIAMETER: (inches) 1/4"	TUBING MATERIAL CODE: (see below) PE	PURGE PUMP TYPE: GeoPump	PUMP EQUIPMENT MODEL & SERIAL #s: #318

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY

GALLONS: – LITERS: –

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88

1 GALLON = 3.785 LITERS

WELL SCREEN INTERVAL DEPTH (feet): 12-27	INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 25'	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 25'	PURGING INITIATED AT: 1120	PURGING ENDED AT: 1200	TOTAL VOLUME PURGED: GALLONS: 1.2 LITERS: –

WATER LEVEL STABLIZATION DEPTH TO WATER WITH PUMP: (feet)

TIME INTERVAL (min)	FLOW RATE (mL/min)	PUMP SETTINGS	DEPTH TO WATER (feet) START	DEPTH TO WATER (feet) END	Water Level Stable (Yes or No)	VOLUME PURGED DURING INTERVAL (mL)

TIME (min)*	FLOW RATE (mL/min) (100-500 mL/min)**	DEPTH TO WATER (feet) (+/- 0.3)**	TURBIDITY (NTU) (+/- 10%)or <5**	DISSOLVED OXYGEN (mg/L) (+/- 10%)or <0.5**	pH (+/- 0.1)**	TEMP (°C) (+/- 3%)**	SPECIFIC CONDUCTIVITY (µS/cm) (+/- 3%)**	ORP (mV) (+/- 10mV)**	COLOR (describe)	ODOR (describe)
1130	150	21.77	1.54	0.606	6.51	12.77	530	-87.4	Clear	None
1135	150	21.77	0.80	0.73	6.52	12.77	530	-89.3	↓	↓
1140	150	21.77	0.60	0.62	6.53	12.76	530	-93.5		
1145	150	21.77	0.48	0.53	6.54	12.76	530	-95.2		
1150	150	21.77	0.40	0.47	6.54	12.74	531	-96.1		
1155	150	21.77	0.46	0.45	6.54	12.74	529	-97.2		
1200	150	21.77	0.43	0.42	6.54	12.75	530	-97.6		

* every 5 or more minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

** EPA stabilization parameters from EPA/540/S-95/504 April 1996

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Evin Foley Sov Con	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 1205	SAMPLING ENDED AT: 1225
PUMP OR TUBING DEPTH IN WELL (feet): 25'	SAMPLE PUMP FLOW RATE (mL per minute): 150	FIELD PARAMETER MONITORING EQUIPMENT MODEL & SERIAL #s: See remarks section	
FIELD DECONTAMINATION: (Y) N	FIELD-FILTERED: (Y) N Filtration Equipment Type: Materials	FILTER SIZE: ____ µm	DUPLICATE: Y (N)

MATERIAL CODES AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

WELL CONDITION CHECKLIST (circle appropriate item(s), cross out if not applicable)

Type: Flush Mount / (Stand Pipe) General Condition: (Good) / Needs Repair Well Caps: (Good) / Broken / None Lock: (Good) / Broken / None

Evidence of Rain Water Between Steel & PVC? Y / (N) Is Well Plumb?: Y / N PVC Riser: (Good) / Damaged / None

Evendence of Ponding Around Welll? Y / (N) Concrete Collar: (Good) / Cracked / Leaking / None

REMARKS:

YSI: 11K101290 Turb: 1832-0412

WLM: 47218

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MONITORING WELL SAMPLING LOG

Low Flow Sampling

Sovereign Consulting Inc.
4 Open Square Way, Suite #307
Holyoke, MA 01040
413-540-0650

PROJECT NAME: Shepley's Hill Landfill	PROJECT LOCATION: Devens, MA	DATE: 10.22.13	WEEKEND: SHC-15
PROJECT NUMBER: ACCOL.DE.05	WELL DIAMETER: (inches)	DEPTH TO WATER: (feet) 20.31	DEPTH TO BOTTOM: (feet)	PID READING: (ppmv) 1.2

PURGING DATA

TUBING DIAMETER (inches): 1/4	TUBING MATERIAL CODE: (see below) PE	PURGE PUMP TYPE: Geopump	PUMP EQUIPMENT MODEL & SERIAL #s: #318

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY

GALLONS: — LITERS: —

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88

1 GALLON = 3.785 LITERS

TOTAL VOLUME PURGED: GALLONS: LITERS: 1

WELL SCREEN INTERVAL DEPTH (feet): unknown	INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 25	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 25	PURGING INITIATED AT: 1315	PURGING ENDED AT: 1355

WATER LEVEL STABLIZATION DEPTH TO WATER WITH PUMP: (feet)

TIME INTERVAL (min)	FLOW RATE (mL/min)	PUMP SETTINGS	DEPTH TO WATER (feet) START	DEPTH TO WATER (feet) END	Water Level Stable (Yes or No)	VOLUME PURGED DURING INTERVAL (mL)
1min 20.100	250		20.31	20.60	NO	
1min	125		20.60	20.69		

TIME (min)*	FLOW RATE (mL/min) (100-500 mL/min)**	DEPTH TO WATER (feet) (+/- 0.3')**	TURBIDITY (NTU) (+/- 10%)or <5**	DISSOLVED OXYGEN (mg/L) (+/- 10%)or <0.5**	pH (+/- 0.1)**	TEMP (°C) (+/- 3%)**	SPECIFIC CONDUCTIVITY (µS/cm) (+/- 3%)**	ORP (mV) (+/- 10mV)**	COLOR (describe)	ODOR (describe)
1325	125	20.69	4.64	0.66	5.90	13.44	248	-12.2	Clear	None
1330	125	20.71	3.26	0.58	5.90	13.49	251	-16.1	Clear	
1335	125	20.75	2.77	0.45	5.90	13.50	255	-21.2	Clear	
1340	125	20.76	2.42	0.47	5.91	13.53	256	-23.7	" "	
1345	125	20.76	1.99	0.33	5.91	13.50	263	-24.1	" "	
1350	125	20.76	2.12	0.29	5.92	13.50	264	-24.2	" "	
1355	125	20.76	2.08	0.31	5.91	13.48	266	-23.6	" "	

* every 5 or more minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

** EPA stabilization parameters from EPA/540/S-95/504 April 1996

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Erin Foley	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 1400	SAMPLING ENDED AT: 1415
PUMP OR TUBING DEPTH IN WELL (feet): 25	SAMPLE PUMP FLOW RATE (mL per minute): 125	FIELD PARAMETER MONITORING EQUIPMENT MODEL & SERIAL #s: See remarks section	
FIELD DECONTAMINATION: (Y) N	FIELD-FILTERED: (Y) N Filtration Equipment Type: metals	FILTER SIZE: ____ µm	DUPLICATE: Y (N)

MATERIAL CODES AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

WELL CONDITION CHECKLIST (circle appropriate item(s), cross out if not applicable)

Type: Flush Mount / Stand Pipe General Condition: Good / Needs Repair Well Caps: Good / Broken / None Lock: Good / Broken / None

Evidence of Rain Water Between Steel & PVC? Y / N Is Well Plumb?: Y / N PVC Riser: Good / Damaged / None

Evendence of Ponding Around Welll? Y / N Concrete Collar: Good / Cracked / Leaking / None

REMARKS:

H_2S odor. Has Bugs WLM: 47218 Turb: 1832-0412 YSI: 11K101290

Sovereign Consulting Inc.
16 Chestnut Street, Suite 520
Foxboro, MA 02035
508-339-3200

MONITORING WELL SAMPLING LOG

Low Flow Sampling

Sovereign Consulting Inc.
4 Open Square Way, Suite #307
Holyoke, MA 01040
413-540-0650

PROJECT NAME: Sheoke's Hill Landfill	PROJECT LOCATION: Devens MA		DATE: 10-22-13	WELL ID: SHL-8D
PROJECT NUMBER: ACW01.026.05	WELL DIAMETER (inches): 2	DEPTH TO WATER (feet): 9.66	DEPTH TO BOTTOM (feet): 70.0	PID READING (ppmv): 0

PURGING DATA

TUBING DIAMETER (inches): 1/4	TUBING MATERIAL CODE (see below): PE	PURGE PUMP TYPE: Peristaltic	PUMP EQUIPMENT MODEL & SERIAL #: GeoPump	G6363U

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY

GALLONS: 9.65 LITERS: 36.57

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88

1 GALLON = 3.785 LITERS

WELL SCREEN INTERVAL DEPTH (feet): 65-70	INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 69	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 69	PURGING INITIATED AT: 1220	PURGING ENDED AT: ~~1300~~ 1330	TOTAL VOLUME PURGED: GALLONS: 5.54 LITERS: 21.0

WATER LEVEL STABLIZATION DEPTH TO WATER WITH PUMP: (feet)

TIME INTERVAL (min)	FLOW RATE (mL/min)	PUMP SETTINGS	DEPTH TO WATER (feet) START	DEPTH TO WATER (feet) END	Water Level Stable (Yes or No)	VOLUME PURGED DURING INTERVAL (mL)
315-1325 (10)	300	Dial @ 1 o'clock Position	9.95	9.95	Yes	3,000

TIME (min)*	FLOW RATE (mL/min) (100-500 mL/min)**	DEPTH TO WATER (feet) (+/- 0.3)**	TURBIDITY (NTU) (+/- 10%)or <5**	DISSOLVED OXYGEN (mg/L) (+/- 10%)or <0.5**	pH (+/- 0.1)**	TEMP (°C) (+/- 3%)**	SPECIFIC CONDUCTIVITY (µS/cm) (+/- 3%)**	ORP (mV) (+/- 10mV)**	COLOR (describe)	ODOR (describe)
1225	300	9.93	0.14	0.82	6.38	11.13	76	-76.8	clear	egg smell
1230	300	9.94	0.00	2.21	6.29	10.95	89	-69.4	clear	egg smell
1235	300	9.94	0.00	2.73	6.25	11.03	90	-49.9	clear	None
1240	300	9.94	0.00	2.95	6.21	11.06	90	-22.2	clear	None
1245	300	9.94	0.00	3.01	6.20	11.01	90	-10.1	clear	None
1250	300	9.94	0.04	3.07	6.20	10.95	90	9.8	clear	None
1255	300	9.94	0.00	3.10	6.20	11.05	90	21.3	clear	None
1300	300	9.95	0.01	3.12	6.21	11.13	90	39.9	clear	None
1305	300	9.95	0.00	3.16	6.20	11.20	90	52.7	clear	None
1310	300	9.95	0.00	3.18	6.20	11.12	90	66.3	clear	None
1315	300	9.95	0.00	3.20	6.20	11.04	90	77.1	clear	None
1320	300	9.95	0.00	3.22	6.20	10.96	90	84.4	clear	None
1325	300	9.95	0.00	3.25	6.21	11.08	90	83.9	clear	None

* every 5 or more minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

** EPA stabilization parameters from EPA/540/S-95/504 April 1996

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: David Comeau / ECC	SAMPLER(S) SIGNATURES: [signature]	SAMPLING INITIATED AT: 1330	SAMPLING ENDED AT: 1340
PUMP OR TUBING DEPTH IN WELL (feet): 69	SAMPLE PUMP FLOW RATE (mL per minute): 300	FIELD PARAMETER MONITORING EQUIPMENT MODEL & SERIAL #s: YSI / 650 MDS / 04C2284 AA	
FIELD DECONTAMINATION: (Y) N	FIELD-FILTERED: (Y) N FILTER SIZE: .45 µm Filtration Equipment Type: Disposable cartridge		DUPLICATE: Y (N)

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

WELL CONDITION CHECKLIST (circle appropriate item(s), cross out if not applicable)

Type: Flush Mount / (Stand Pipe) General Condition: (Good) / Needs Repair Well Caps: (Good) / Broken / None Lock: (Good) / Broken / None

Evidence of Rain Water Between Steel & PVC? Y / (N) Is Well Plumb? (Y) / N PVC Riser: (Good) / Damaged / None

Evendence of Ponding Around Welll? Y / (N) Concrete Collar: Good / (Cracked) / Leaking / None

REMARKS:

SAMPLE ID: SHL 8D-102213 Time: ~~1300~~ 1330

Sovereign Consulting Inc.
16 Chestnut Street, Suite 520
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508-339-3200

MONITORING WELL SAMPLING LOG

Low Flow Sampling

Sovereign Consulting Inc.
4 Open Square Way, Suite #307
Holyoke, MA 01040
413-540-0650

PROJECT NAME: Sladey's Hill Landfill	PROJECT LOCATION: Dover, MA	DATE: 10/22/13	WELL ID: SHL-5
PROJECT NUMBER: ACWL 026.05	WELL DIAMETER: (inches) 2	DEPTH TO WATER: (feet) 6.66	DEPTH TO BOTTOM: (feet) 13.0
PID READING: (ppmv) 0.0			

PURGING DATA

TUBING DIAMETER: (inches): 3/8	TUBING MATERIAL CODE: (see below) PE	PURGE PUMP TYPE: Peristaltic	PUMP EQUIPMENT MODEL & SERIAL #: US ENV GeoPump Easy Load II

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY

GALLONS: – LITERS: –

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88

1 GALLON = 3.785 LITERS

WELL SCREEN INTERVAL DEPTH (feet): 3-13	INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 8'	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 8'	PURGING INITIATED AT: 1219	PURGING ENDED AT: 1318	TOTAL VOLUME PURGED: GALLONS: 4.0 LITERS: –

WATER LEVEL STABLIZATION DEPTH TO WATER WITH PUMP (feet) 6.66

TIME INTERVAL (min)	FLOW RATE (mL/min)	PUMP SETTINGS	DEPTH TO WATER (feet) START	DEPTH TO WATER (feet) END	Water Level Stable (Yes or No)	VOLUME PURGED DURING INTERVAL (mL)
5	240		7.02	7.11	No	1.0
5	200		7.11	7.11	Yes	3.0

TIME (min)*	FLOW RATE (mL/min) (100-500 mL/min)**	DEPTH TO WATER (feet) (+/- 0.3)**	TURBIDITY (NTU) (+/- 10% for <5**	DISSOLVED OXYGEN (mg/L) (+/- 10%) or ≤0.5**	pH (+/- 0.1)**	TEMP (°C) (+/- 3%)**	SPECIFIC CONDUCTIVITY (µS/cm) (+/- 3%)**	ORP (mV) (+/- 10mV)**	COLOR (describe)	ODOR (describe)
1228	240	7.06	2.33	1.19	5.76	13.68	91	-19.2	clear slightly brownish	None
1233	240	7.11	1.55	0.90	5.76	13.68	90	-33.1	"	None
1238	200	7.09	1.43	0.84	5.78	13.74	91	-43.0	"	None
1243	200	7.09	1.32	0.81	5.77	13.72	90	-49.6	"	None
1248	200	7.09	1.43	0.86	5.76	13.73	89	-57.7	"	None
1253	200	7.09	1.98	0.89	5.76	13.75	89	-65.7	"	None
1258	200	7.09	1.09	0.92	5.76	13.75	88	-72.9	"	None
1303	200	7.09	0.97	0.89	5.75	13.75	88	-79.5	"	None
1308	200	7.09	1.01	0.87	5.76	13.76	88	-85.0	"	None
1313	200	7.10	0.89	0.88	5.75	13.75	89	-86.5	"	None
1318	200	7.11	0.90	0.86	5.73	13.75	88	-89.4	"	None

* every 5 or more minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

** EPA stabilization parameters from EPA/540/S-95/504 April 1996

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Veronica Champagne ECC	SAMPLER(S) SIGNATURES: [signature]	SAMPLING INITIATED AT: 1320	SAMPLING ENDED AT: 1328
PUMP OR TUBING DEPTH IN WELL (feet): 8	SAMPLE PUMP FLOW RATE (mL per minute): 200	FIELD PARAMETER MONITORING EQUIPMENT MODEL & SERIAL #: YSI 650 MDS 01L0440AD	
FIELD DECONTAMINATION: (Y) N DI W Rinse	FIELD-FILTERED: (Y) N FILTER SIZE: .45 µm Filtration Equipment Type: Peristaltic		DUPLICATE: Y (N)

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass, PE = Polyethylene; PP = Polypropylene, S = Silicone; T = Teflon, O = Other (Specify)

WELL CONDITION CHECKLIST (circle appropriate item(s), cross out if not applicable)

Type: Flush Mount / (Stand Pipe) General Condition: (Good) / Needs Repair Well Caps: Good / Broken / (None) Lock: Good / Broken / (None) Loop Broken on outside cover

Evidence of Rain Water Between Steel & PVC? Y / (N) Is Well Plumb? (Y) N PVC Riser: (Good) / Damaged / None

Evendence of Ponding Around Welll? Y / (N) Concrete Collar: Good / Cracked / Leaking / (None)

REMARKS:

Sovereign Consulting Inc.
16 Chestnut Street, Suite 520
Foxboro, MA 02035
508-339-3200

MONITORING WELL SAMPLING LOG

Low Flow Sampling

Sovereign Consulting Inc.
4 Open Square Way, Suite #307
Holyoke, MA 01040
413-540-0650

PROJECT NAME: Sheffield Hill Landfill	PROJECT LOCATION: Dudley, MA	DATE: 10/22/13	WELL ID: SHM-96-5C
PROJECT NUMBER: ACOI 02E.05	WELL DIAMETER: (inches) 4	DEPTH TO WATER: (feet) 7.50	DEPTH TO BOTTOM: (feet) 60.0	PID READING: (ppmv) 0.0

PURGING DATA

TUBING DIAMETER: (inches) 3/8	TUBING MATERIAL CODE: (see below) PE	PURGE PUMP TYPE: Peristaltic	PUMP EQUIPMENT MODEL & SERIAL #s: USEPV ~~YSI 556 MDS 01L044OAD~~

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY

GALLONS: — LITERS: —

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88

1 GALLON = 3.785 LITERS

WELL SCREEN INTERVAL DEPTH (feet): 50-60	INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 55'	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 55'	PURGING INITIATED AT: 1038	PURGING ENDED AT: 1115	TOTAL VOLUME PURGED: GALLONS: 2.5 LITERS: —

WATER LEVEL STABLIZATION DEPTH TO WATER WITH PUMP: (feet)

TIME INTERVAL (min)	FLOW RATE (mL/min)	PUMP SETTINGS	DEPTH TO WATER (feet) START	DEPTH TO WATER (feet) END	Water Level Stable (Yes or No)	VOLUME PURGED DURING INTERVAL (mL)
5	250		7.50	7.41	Yes	2.5

TIME (min)*	FLOW RATE (mL/min) (100-500 mL/min)**	DEPTH TO WATER (feet) (+/- 0.3)**	TURBIDITY (NTU) (+/- 10%)or <5**	DISSOLVED OXYGEN (mg/L) (+/- 10%)or <0.5**	pH (+/- 0.1)**	TEMP (°C) (+/- 3%)**	SPECIFIC CONDUCTIVITY (µS/cm) (+/- 3%)**	ORP (mV) (+/- 10mV)**	COLOR (describe)	ODOR (describe)
1045	250	7.45	1.94	1.46	6.28	11.51	534	-45.0	clear	none
1050	250	7.43	0.47	1.42	6.27	11.43	531	-37.2	slight brown tint	
1055	250	7.42	0.52	1.06	6.26	11.48	530	-27.4	CLEAR	
1100	250	7.41	0.20	1.50	6.24	11.50	529	-23.5		
1105	250	7.41	0.18	1.43	6.24	11.59	529	-22.0		
1110	250	7.41	0.14	1.43	6.22	11.65	529	-21.0		
1115	250	7.41	0.10	1.41	6.21	11.63	529	-20.1		

* every 5 or more minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

** EPA stabilization parameters from EPA/540/S-95/504 April 1996

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Veronica Champagne ECC	SAMPLER(S) SIGNATURES: [signature]	SAMPLING INITIATED AT: 1118	SAMPLING ENDED AT: 1125
PUMP OR TUBING DEPTH IN WELL (feet): 55'	SAMPLE PUMP FLOW RATE (mL per minute): 250	FIELD PARAMETER MONITORING EQUIPMENT MODEL & SERIAL #s: YSI 650 MDS 01L044OAD	

FIELD DECONTAMINATION: (Y) N WL only

FIELD-FILTERED: (Y) N FILTER SIZE: .45 µm

Filtration Equipment Type: Peristaltic

DUPLICATE: Y (N)

MATERIAL CODES AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

WELL CONDITION CHECKLIST (circle appropriate item(s), cross out if not applicable) covered by tarp

Type: Flush Mount / (Stand Pipe) General Condition: (Good) / Needs Repair Well Caps: Good / (Broken) / None Lock: (Good) / Broken / None

Evidence of Rain Water Between Steel & PVC? Y / (N) Is Well Plumb?: (Y) / N PVC Riser: (Good) / Damaged / None

Evendence of Ponding Around Well? Y / (N) Concrete Collar: Good / Cracked / Leaking / (None)

REMARKS:

Sovereign Consulting Inc.
16 Chestnut Street, Suite 520
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508-339-3200

MONITORING WELL SAMPLING LOG

Low Flow Sampling

Sovereign Consulting Inc.
4 Open Square Way, Suite #307
Holyoke, MA 01040
413-540-0650

PROJECT NAME: Shelley's Hill Landfill	PROJECT LOCATION: Dayton, MA		DATE: 10-22-13	WELL ID: SHL-13
PROJECT NUMBER: ACW1.03E.05	WELL DIAMETER: (inches) 2	DEPTH TO WATER: (feet) 9.30	DEPTH TO BOTTOM: (feet) 20.0	PID READING: (ppmv) 0

PURGING DATA

TUBING DIAMETER: (inches) 1/4	TUBING MATERIAL CODE: (see below) PE	PURGE PUMP TYPE: Peristaltic	PUMP EQUIPMENT MODEL & SERIAL #s: GeoPump G63630

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY

GALLONS: 1.2 LITERS: 4.55

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88

1 GALLON = 3.785 LITERS

TOTAL VOLUME PURGED: GALLONS: ~~2.5~~ 2.77 LITERS: 10.5

WELL SCREEN INTERVAL DEPTH (feet): 5-20	INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 12.5	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 12.5	PURGING INITIATED AT: 0930	PURGING ENDED AT: 1010	

WATER LEVEL STABLIZATION DEPTH TO WATER WITH PUMP (feet): ~~9.30~~ 9.43

TIME INTERVAL (min)	FLOW RATE (mL/min)	PUMP SETTINGS	DEPTH TO WATER (feet) START	DEPTH TO WATER (feet) END	Water Level Stable (Yes or No)	VOLUME PURGED DURING INTERVAL (mL)
0955-1005 (10)	300	Dial @ 2 o'clock Position	9.42	9.43	YES	3,000

TIME (min)*	FLOW RATE (mL/min) (100-500 mL/min)**	DEPTH TO WATER (feet) (+/- 0.3')**	TURBIDITY (NTU) (+/- 10%)or +5**	DISSOLVED OXYGEN (mg/L) (+/- 10%)or +0.5**	pH (+/- 0.1)**	TEMP (°C) (+/- 3%)**	SPECIFIC CONDUCTIVITY (µS/cm) (+/- 3%)**	ORP (mV) (+/- 10mV)**	COLOR (describe)	ODOR (describe)
0935	300	9.37	0.8	2.31	7.37	13.97	272	111	clear	NONE
0940	300	9.40	0.5	0.49	6.36	13.99	271	115	clear	NONE
0945	300	9.40	0.2	0.45	6.27	13.95	270	117	clear	NONE
0950	300	9.41	0.7	0.41	6.15	13.90	269	119	clear	NONE
0955	300	9.42	0.0	0.40	6.12	13.90	267	120	clear	NONE
1000	300	9.43	0.3	0.39	6.10	13.89	270	124	clear	NONE
1005	300	9.43	0.2	0.35	6.08	13.87	269	127	clear	NONE

* every 5 or more minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

** EPA stabilization parameters from EPA/540/S-95/504 April 1996

SAMPLING DATA

SAMPLED BY (PRINT) AFFILIATION: David Comeau / ECC	SAMPLER(S) SIGNATURES: [signature]	SAMPLING INITIATED AT: 1010	SAMPLING ENDED AT: 1020
PUMP OR TUBING DEPTH IN WELL (feet): 12.5	SAMPLE PUMP FLOW RATE (mL per minute): 300	FIELD PARAMETER MONITORING EQUIPMENT MODEL & SERIAL #s: YSI / 650MDS / 04C2284 AA	

FIELD DECONTAMINATION: (Y) N

FIELD FILTERED: (Y) N FILTER SIZE: 45 µm

Filtration Equipment Type: Disposable cartridge

DUPLICATE: Y (N)

MATERIAL CODES AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

WELL CONDITION CHECKLIST (circle appropriate item(s), cross out if not applicable)

Type: Flush Mount (Stand Pipe) General Condition: (Good) Needs Repair Well Caps: (Good) Broken / None Lock: (Good) / Broken / None

Evidence of Rain Water Between Steel & PVC? Y / (N) Is Well Plumb? (Y) / N PVC Riser: (Good) / Damaged / None

Evendence of Ponding Around Welll? Y / (N) Concrete Collar: (Good) / Cracked / Leaking / None

REMARKS:

Sample ID: SHL13-102213 Time: 1010

Sovereign Consulting Inc.
16 Chestnut Street, Suite 520
Foxboro, MA 02035
508-339-3200

MONITORING WELL SAMPLING LOG

Low Flow Sampling

Sovereign Consulting Inc.
4 Open Square Way, Suite #307
Holyoke, MA 01040
413-540-0650

PROJECT NAME: Stapley's Hill Landfill	PROJECT LOCATION: Devens MA	DATE: 102213	WELL ID: SHC-20
PROJECT NUMBER: ACEOL 07E.05	WELL DIAMETER (inches): 4"	DEPTH TO WATER (feet): 20.31	DEPTH TO BOTTOM (feet): 49.0
			PID READING (ppmv): 0.0

PURGING DATA

TUBING DIAMETER (inches): 3/8" 1/4"	TUBING MATERIAL CODE: (see below) PE	PURGE PUMP TYPE: Geopump	PUMP EQUIPMENT MODEL & SERIAL #: Geopump 318
WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY			GALLONS: – LITERS: –
WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88			1 GALLON = 3.785 LITERS

WELL SCREEN INTERVAL DEPTH (feet): 39-49	INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 44	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 44	PURGING INITIATED AT: 0915	PURGING ENDED AT: 0955	TOTAL VOLUME PURGED: GALLONS: 1.4 LITERS: –

WATER LEVEL STABLIZATION | DEPTH TO WATER WITH PUMP: (feet)

TIME INTERVAL (min)	FLOW RATE (mL/min)	PUMP SETTINGS	DEPTH TO WATER (feet) START	DEPTH TO WATER (feet) END	Water Level Stable (Yes or No)	VOLUME PURGED DURING INTERVAL (mL)
1min	150	350 ~~RPM~~ RPM	20.31	20.31	yes	150

TIME (min)*	FLOW RATE (mL/min) (100-500 mL/min)**	DEPTH TO WATER (feet) (+/- 0.3')**	TURBIDITY (NTU) (+/- 10%)or <5**	DISSOLVED OXYGEN (mg/L) (+/- 10%)or <0.5**	pH (+/- 0.1)**	TEMP (°C) (+/- 3%)**	SPECIFIC CONDUCTIVITY (µS/cm) (+/- 3%)**	ORP (mV) (+/- 10mV)**	COLOR (describe)	ODOR (describe)
925	150	20.31	20.2	2.47	6.49	12.43	356	-63.3	little sed	None
930	150	20.31	12.0	3.85	6.54	12.78	429	-87.2	" "	None
935	150	20.31	11.18	2.16	6.51	12.68	439	-92.3	" "	None
0940	150	20.31	5.43	2.02	6.50	12.73	442	-95.3	Clear	None
0945	150	20.31	5.20	1.96	6.50	12.75	443	-94.4	" "	None
0950	150	20.31	4.98	1.85	6.51	12.78	443	-92.8	" "	None
0955	150	20.31	4.10	1.87	6.51	12.80	443	-93.6	" "	None
1000				Begin Sample						

* every 5 or more minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

** EPA stabilization parameters from EPA/540/S-95/504 April 1996

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Erin Foley Sov Con	SAMPLER(S) SIGNATURES: Erin Fy	SAMPLING INITIATED AT: 1000	SAMPLING ENDED AT: 1030
PUMP OR TUBING DEPTH IN WELL (feet): 44'	SAMPLE PUMP FLOW RATE (mL per minute): 150	FIELD PARAMETER MONITORING EQUIPMENT MODEL & SERIAL #s: See remarks section	
FIELD DECONTAMINATION: Y, (N) Dedicated	FIELD-FILTERED: (Y) N Filtration Equipment Type: metals	FILTER SIZE: ____ µm	DUPLICATE: (Y) N

MATERIAL CODES AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

WELL CONDITION CHECKLIST (circle appropriate item(s), cross out if not applicable)

Type: Flush Mount / (Stand Pipe) General Condition: (Good) / Needs Repair Well Caps: (Good) / Broken / None Lock: (Good) / Broken / None

Evidence of Rain Water Between Steel & PVC? Y / (N) Is Well Plumb?: Y / N PVC Riser: (Good) / Damaged / None

Evendence of Ponding Around Well? Y / (N) Concrete Collar: (Good) / Cracked / Leaking / None

REMARKS:

Dup Collected

YSI: 11K101290
Turb: 1833-0412

WLM: 47218

DUP 102213

SHL-20 - 102213

Sovereign Consulting Inc.
16 Chestnut Street, Suite 520
Foxboro, MA 02035
508-339-3200

MONITORING WELL SAMPLING LOG

Low Flow Sampling

Sovereign Consulting Inc.
4 Open Square Way, Suite #307
Holyoke, MA 01040
413-540-0650

PROJECT NAME: Shirley's Hill Landfill	PROJECT LOCATION: Devens, MA	DATE: 10/22/13	WELL ID: SHM-96-5B
PROJECT NUMBER: AC001-02E.05	WELL DIAMETER: (inches) 4"	DEPTH TO WATER: (feet) 8.11	DEPTH TO BOTTOM: (feet) 90.0	PID READING: (ppmv) 0.0

PURGING DATA

TUBING DIAMETER (inches): 3/8	TUBING MATERIAL CODE: (see below) PE	PURGE PUMP TYPE: Peristaltic	PUMP EQUIPMENT MODEL & SERIAL #s: 6

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY

GALLONS: – LITERS: –

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88

1 GALLON = 3.785 LITERS

TOTAL VOLUME PURGED: GALLONS: 2.5 LITERS: –

WELL SCREEN INTERVAL DEPTH (feet): 80-90'	INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 85'	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 85'	PURGING INITIATED AT: 0912	PURGING ENDED AT: 0956	

WATER LEVEL STABLIZATION DEPTH TO WATER WITH PUMP (feet): 8.11

TIME INTERVAL (min)	FLOW RATE (mL/min)	PUMP SETTINGS	DEPTH TO WATER (feet) START	DEPTH TO WATER (feet) END	Water Level Stable (Yes or No)	VOLUME PURGED DURING INTERVAL (mL)
5	200		8.11 ~~8.20~~	8.35	Yes	2.5

TIME (min)*	FLOW RATE (mL/min) (100-500 mL/min)**	DEPTH TO WATER (feet) (+/- 0.3')**	TURBIDITY (NTU) (+/- 10%)or <5**	DISSOLVED OXYGEN (mg/L) (+/- 10%)or <0.5**	pH (+/- 0.1)**	TEMP (°C) (+/- 3%)**	SPECIFIC CONDUCTIVITY (µS/cm) (+/- 3%)**	ORP (mV) (+/- 10mV)**	COLOR (describe)	ODOR (describe)
0920	200	8.33	1.90	1.37	6.63	11.35	566	-60.5	clear	none
0925	200	8.33	0.82	1.25	6.61	11.44	564	-66.8	clear	
0930	200	8.33	0.41	1.28	6.60	11.50	563	-55.3	clear	
0935	200	8.33	0.88	1.16	6.58	11.52	562	-54.8	clear	
0940	200	8.30	0.51	1.24	6.57	11.50	561	-59.4	clear	
0945	200	8.33	0.40	1.34	6.57	11.53	561	-65.7	clear	
0950	200	8.35	0.63	1.27	6.58	11.47	561	-67.6	clear	
0955	200	8.35	0.58	1.31	6.55	11.55	560	-69.0	clear	

* every 5 or more minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

** EPA stabilization parameters from EPA/540/S-95/504 April 1996

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: ECC Veronica Champagne	SAMPLER(S) SIGNATURES: Veronica Champagne	SAMPLING INITIATED AT: 0958	SAMPLING ENDED AT: 10:06
PUMP OR TUBING DEPTH IN WELL (feet): 85'	SAMPLE PUMP FLOW RATE (mL per minute): 200	FIELD PARAMETER MONITORING EQUIPMENT MODEL & SERIAL #s:	

FIELD DECONTAMINATION: Y N FIELD FILTERED: (Y) N Filtration Equipment Type: FILTER SIZE: .45 µm DUPLICATE: Y (N)

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

WELL CONDITION CHECKLIST (circle appropriate item(s), cross out if not applicable)

Type: Flush Mount / (Stand Pipe) General Condition: (Good) / Needs Repair Well Caps: (Good) / Broken / None Lock: (Good) / Broken / None

Evidence of Rain Water Between Steel & PVC? Y / (N) Is Well Plumb? (Y) N PVC Riser: (Good) / Damaged / None

Evendence of Ponding Around Welll? Y / (N) Concrete Collar: Good / Cracked / Leaking / (None)

REMARKS:

Sovereign Consulting Inc.
16 Chestnut Street, Suite 520
Foxboro, MA 02035
508-339-3200

MONITORING WELL SAMPLING LOG

Low Flow Sampling

Sovereign Consulting Inc.
4 Open Square Way, Suite #307
Holyoke, MA 01040
413-540-0650

PROJECT NAME: Shepley's Hill Landfill	PROJECT LOCATION: Dracut, MA	DATE: 10-22-13	WELL ID: MW-P1
PROJECT NUMBER: ACWI.02E.05	WELL DIAMETER (inches): ~1.5'	DEPTH TO WATER (feet): 24.66	DEPTH TO BOTTOM (feet): 149.0	PID READING (ppmv): 0.0

PURGING DATA

TUBING DIAMETER (inches): 1/8'	TUBING MATERIAL CODE (see below): Te / poly	PURGE PUMP TYPE: peristaltic	PUMP EQUIPMENT MODEL & SERIAL #s: Geopump #410

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY

GALLONS: – LITERS: –

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88

1 GALLON = 3.785 LITERS

TOTAL VOLUME PURGED: GALLONS: 2 LITERS: –

WELL SCREEN INTERVAL DEPTH (feet): 144-149	INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 147	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 147	PURGING INITIATED AT: 0854	PURGING ENDED AT: 1009	

WATER LEVEL STABLIZATION — DEPTH TO WATER WITH PUMP (feet):

TIME INTERVAL (min)	FLOW RATE (mL/min)	PUMP SETTINGS	DEPTH TO WATER (feet) START	DEPTH TO WATER (feet) END	Water Level Stable (Yes or No)	VOLUME PURGED DURING INTERVAL (mL)
1	50	Slow as possible	24.66	24.80	N	50
1	100	1/3 dial	24.83	24.85	Y	100

TIME (min)*	FLOW RATE (mL/min) (100-500 mL/min)**	DEPTH TO WATER (feet) (+/- 0.3')**	TURBIDITY (NTU) (+/- 10%)or <5**	DISSOLVED OXYGEN (mg/L) (+/- 10%)or <0.5**	pH (+/- 0.1)**	TEMP (°C) (+/- 3%)**	SPECIFIC CONDUCTIVITY (µS/cm) (+/- 3%)**	ORP (mV) (+/- 10mV)**	COLOR (describe) -	ODOR (describe) -
0905	100	24.85	0.80	1.46	7.13	12.71	470	-96.5	clear, no particulate	slightly organic
0910	100	24.82	0.49	4.22	7.16	12.68	401	-87.0	" "	" "
0915	100	24.85	0.43	0.57	7.19	12.52	400	-94.3	" "	" "
0924	100	24.85	0.57	0.50	7.17	13.10	400	-98.5	" "	" "
0929	100	24.84	0.58	0.49	7.12	13.38	437	-98.5	" "	" "
0934	100	24.83	0.12	0.50	7.03	13.31	481	-106.7	" "	" "
0939	100	24.83	0.38	0.56	6.95	12.99	508	-104.4	" "	" "
0944	100	24.83	0.09	0.52	6.90	12.96	531	-101.9	" "	" "
0948	100	24.83	0.04	0.49	6.83	18.85	562	-94.7	" "	" "
0954	100	24.83	0.33	0.50	6.78	13.36	586	-85.5	" "	" "
0959	100	24.83	0.07	0.53	6.76	13.65	602	-75.8	" "	" "
1004	100	24.83	0.20	0.55	6.74	13.64	618	-69.7	" "	" "
1009	100	24.83	0.46	0.57	6.73	13.56	620	-69.5	" "	" "

* every 5 or more minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

** EPA stabilization parameters from EPA/540/S-95/504 April 1996

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Catherine Swanson / Sovereign	SAMPLER(S) SIGNATURES: Catherine Swanson	SAMPLING INITIATED AT: 1010	SAMPLING ENDED AT:
PUMP OR TUBING DEPTH IN WELL (feet): 147'	SAMPLE PUMP FLOW RATE (mL per minute): 100	FIELD PARAMETER MONITORING EQUIPMENT MODEL & SERIAL #s: YSI 556 MPS #13D101141 / Lamotte 2020e Turbidmeter	/ Heron dipper T

FIELD DECONTAMINATION: (Y) N

FIELD-FILTERED: (Y) N FILTER SIZE: .45 µm Filtration Equipment Type: metals only

DUPLICATE: Y (N)

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

WELL CONDITION CHECKLIST (circle appropriate item(s); cross out if not applicable)

Type: Flush Mount / (Stand Pipe) General Condition: (Good) / Needs Repair Well Caps: (Good) / Broken / None Lock: (Good) / Broken / None

Evidence of Rain Water Between Steel & PVC? (Y) / (N) Is Well Plumb?: (Y) / N PVC Riser: (Good) / Damaged / None

Evendence of Ponding Around Welll? Y / (N) Concrete Collar: Good / Cracked / Leaking / (None)

REMARKS:

Sovereign Consulting Inc.
16 Chestnut Street, Suite 520
Foxboro, MA 02035
508-339-3200

MONITORING WELL SAMPLING LOG

Low Flow Sampling

Sovereign Consulting Inc.
4 Open Square Way, Suite #307
Holyoke, MA 01040
413-540-0650

PROJECT NAME: Shedey's Hill Landfill	PROJECT LOCATION: ~~Ayer~~ Devens MA	DATE: 10-22-13	WELL ID: SHL-85
PROJECT NUMBER: AC001.026.05	WELL DIAMETER: (inches) 2	DEPTH TO WATER: (feet) 9.85	DEPTH TO BOTTOM: (feet) 54.0
PID READING: (ppmv) 0			

PURGING DATA

TUBING DIAMETER (inches): 1/4	TUBING MATERIAL CODE: (see below) PE	PURGE PUMP TYPE: Peristaltic	PUMP EQUIPMENT MODEL & SERIAL #s: GeoPump G63630

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY

GALLONS: 7.06 LITERS: 26.76

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88

1 GALLON = 3.785 LITERS

WELL SCREEN INTERVAL DEPTH (feet): 52-54	INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 53	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 53	PURGING INITIATED AT: 1040	PURGING ENDED AT: 1120	TOTAL VOLUME PURGED: GALLONS: 3.17 LITERS: 12.0

WATER LEVEL STABLIZATION DEPTH TO WATER WITH PUMP: (feet)

TIME INTERVAL (min)	FLOW RATE (mL/min)	PUMP SETTINGS	DEPTH TO WATER (feet) START	DEPTH TO WATER (feet) END	Water Level Stable (Yes or No)	VOLUME PURGED DURING INTERVAL (mL)
1105-1115 (10)	300	Dial @ 2 o'clock Position	11.11	11.17	Yes	3,000

TIME (min)*	FLOW RATE (mL/min) (100-500 mL/min)**	DEPTH TO WATER (feet) (+/- 0.3')**	TURBIDITY (NTU) (+/- 10%)or <5**	DISSOLVED OXYGEN (mg/L) (+/- 10%)or <0.5**	pH (+/- 0.1)**	TEMP (°C) (+/- 3%)**	SPECIFIC CONDUCTIVITY (µS/cm) (+/- 3%)**	ORP (mV) (+/- 10mV)**	COLOR (describe)	ODOR (describe)
1045	300	10.93	0.9	3.24	6.31	10.66	75	222	clear	None
1050	300	11.20	0.7	5.26	6.23	10.57	78	224	clear	None
1055	300	11.28	0.2	3.12	6.22	10.60	78	225	clear	None
1100	300	11.17	0.0	4.28	6.22	10.81	74	226	clear	None
1105	300	11.11	0.2	2.51	6.18	10.75	75	230	clear	None
1110	300	11.13	0.0	2.52	6.17	10.69	74	232	clear	None
1115	300	11.17	0.7	2.49	6.20	10.77	75	230	clear	None

* every 5 or more minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

** EPA stabilization parameters from EPA/540/S-95/504 April 1996

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: David Comeau / ECC	SAMPLER(S) SIGNATURES: [signature]	SAMPLING INITIATED AT: 1120	SAMPLING ENDED AT: 1145
PUMP OR TUBING DEPTH IN WELL (feet): 53	SAMPLE PUMP FLOW RATE (mL per minute): 300	FIELD PARAMETER MONITORING EQUIPMENT MODEL & SERIAL #s: YSI / 650 MDS / 04C2284 AA	
FIELD DECONTAMINATION: (Y) N	FIELD-FILTERED: (Y) N FILTER SIZE: 0.45 µm Filtration Equipment Type: Disposable Cartridge		DUPLICATE: Y (N)

MATERIAL CODES AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

WELL CONDITION CHECKLIST (circle appropriate item(s), cross out if not applicable)

Type: Flush Mount (Stand Pipe) General Condition: (Good) / Needs Repair Well Caps: (Good) / Broken / None Lock: (Good) Broken / None

Evidence of Rain Water Between Steel & PVC? Y / (N) Is Well Plumb? (Y) / N PVC Riser: (Good) Damaged / None

Evendence of Ponding Around Welll? Y / (N) Concrete Collar: Good / (Cracked) / Leaking / None

REMARKS:

Sample ID: SHL85-102213 Time: 1120

* collected MS/MSD

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MONITORING WELL SAMPLING LOG

Low Flow Sampling

Sovereign Consulting Inc.
4 Open Square Way, Suite #307
Holyoke, MA 01040
413-540-0650

PROJECT NAME: Shepley's Hill Landfill	PROJECT LOCATION: Devens, MA	DATE: 10-24-13	WELL ID: SHM-05-40X
PROJECT NUMBER: ACOOI.02E.05	WELL DIAMETER: (inches) 2	DEPTH TO WATER: (feet) 15.13	DEPTH TO BOTTOM: (feet) 34
PID READING: (ppmv) 0			

PURGING DATA

TUBING DIAMETER (inches): 3/8	TUBING MATERIAL CODE: (see below) PE	PURGE PUMP TYPE: Peristaltic	PUMP EQUIPMENT MODEL & SERIAL #s: GeoPump G6363U

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY

GALLONS: 3.02 LITERS: 11.44

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88

1 GALLON = 3.785 LITERS

WELL SCREEN INTERVAL DEPTH (feet): 32-34	INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 33	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 33	PURGING INITIATED AT: 1110	PURGING ENDED AT: 1150	TOTAL VOLUME PURGED: GALLONS: 3.17 LITERS: 12.0

WATER LEVEL STABLIZATION — DEPTH TO WATER WITH PUMP: (feet) 15.21

TIME INTERVAL (min)	FLOW RATE (mL/min)	PUMP SETTINGS	DEPTH TO WATER (feet) START	DEPTH TO WATER (feet) END	Water Level Stable (Yes or No)	VOLUME PURGED DURING INTERVAL (mL)
1135-1145 (10)	300	Dial @ 10 o'clock Position	15.21	15.21	Yes	3,000

TIME (min)*	FLOW RATE (mL/min) (100-500 mL/min)**	DEPTH TO WATER (feet) (+/- 0.3')**	TURBIDITY (NTU) (+/- 10%)or <5**	DISSOLVED OXYGEN (mg/L) (+/- 10%)or <0.5**	pH (+/- 0.1)**	TEMP (°C) (+/- 3%)**	SPECIFIC CONDUCTIVITY (µS/cm) (+/- 3%)**	ORP (mV) (+/- 10mV)**	COLOR (describe)	ODOR (describe)
1115	300	15.20	23.9	0.77	7.51	10.97	146	-144.0	clear	None
1120	300	15.20	16.6	0.47	7.42	10.94	149	-161.3	clear	None
1125	300	15.20	12.5	0.40	7.36	10.98	154	-156.9	clear	None
1130	300	15.20	5.18	0.35	6.77	10.85	260	-137.5	clear	None
1135	300	15.21	3.52	0.36	6.78	10.74	260	-137.7	clear	None
1140	300	15.21	3.41	0.33	6.82	10.78	256	-133.2	clear	None
1145	300	15.21	2.21	0.32	6.87	10.62	253	-136.3	clear	None

* every 5 or more minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3; 1-19-2010

** EPA stabilization parameters from EPA/540/S-95/504 April 1996

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: David Comeau / ECC	SAMPLER(S) SIGNATURES: [signature]	SAMPLING INITIATED AT: 1150	SAMPLING ENDED AT: 1200
PUMP OR TUBING DEPTH IN WELL (feet): 33	SAMPLE PUMP FLOW RATE (mL per minute): 300	FIELD PARAMETER MONITORING EQUIPMENT MODEL & SERIAL #s: YSI / 650 MDS / 04C2284 AA	
FIELD DECONTAMINATION: (Y) N	FIELD-FILTERED: (Y) N Filtration Equipment Type: Disposable Cartridge FILTER SIZE: 0.45 µm		DUPLICATE: Y (N)

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

WELL CONDITION CHECKLIST (circle appropriate item(s), cross out if not applicable)

Type: (Flush Mount) / Stand Pipe — General Condition: Good / (Needs Repair) — Well Caps: (Good) / Broken / None — Lock: Good / Broken / (None)

Evidence of Rain Water Between Steel & PVC? (Y) / N — Is Well Plumb? (Y) / N — PVC Riser: (Good) / Damaged / None

Evendence of Ponding Around Welll? Y / (N) — Concrete Collar: (Good) / Cracked / Leaking / None

REMARKS: needs Bolts and a gasket

Sample ID: SHM0540X-102413 Time: 1150

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508-339-3200

MONITORING WELL SAMPLING LOG

Low Flow Sampling

Sovereign Consulting Inc.
4 Open Square Way, Suite #307
Holyoke, MA 01040
413-540-0650

PROJECT NAME: Shedds Hill Landfill	PROJECT LOCATION: Devens, MA	DATE: 10-24-13	WELL ID: SHM-05-39A
PROJECT NUMBER: AC001.026.05	WELL DIAMETER: (inches) 2	DEPTH TO WATER: (feet) 12.58	DEPTH TO BOTTOM: (feet) 39
PID READING: (ppmv) 0			

PURGING DATA

TUBING DIAMETER (inches): 3/8	TUBING MATERIAL CODE: (see below) PE	PURGE PUMP TYPE: Peristaltic	PUMP EQUIPMENT MODEL & SERIAL #s: Geopump G6363U

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY

GALLONS: 4.23 LITERS: 16.01

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88

1 GALLON = 3.785 LITERS

TOTAL VOLUME PURGED: GALLONS: 4.75 LITERS: 18.0

WELL SCREEN INTERVAL DEPTH (feet): 37-39	INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 38	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 38	PURGING INITIATED AT: 0940	PURGING ENDED AT: 1040

WATER LEVEL STABLIZATION — DEPTH TO WATER WITH PUMP: (feet) 12.71

TIME INTERVAL (min)	FLOW RATE (mL/min)	PUMP SETTINGS	DEPTH TO WATER (feet) START	DEPTH TO WATER (feet) END	Water Level Stable (Yes or No)	VOLUME PURGED DURING INTERVAL (mL)
025-1035 (10)	300	Dial @ 10 o'clock Position	12.71	12.71	Yes	3,000

TIME (min)*	FLOW RATE (mL/min) (100-500 mL/min)**	DEPTH TO WATER (feet) (+/- 0.3)**	TURBIDITY (NTU) (+/- 10%)or <5**	DISSOLVED OXYGEN (mg/L) (+/- 10%)or <0.5**	pH (+/- 0.1)**	TEMP (°C) (+/- 3%)**	SPECIFIC CONDUCTIVITY (µS/cm) (+/- 3%)**	ORP (mV) (+/- 10mV)**	COLOR (describe)	ODOR (describe)
0945	300	12.69	26.1	1.61	6.77	13.50	90	25.2	clear	NONE
0950	300	12.71	4.74	0.51	6.51	12.67	88	64.5	clear	NONE
0955	300	12.71	3.07	0.50	6.46	12.37	88	76.5	clear	NONE
1000	300	12.71	2.59	0.43	6.47	12.27	88	85.9	clear	NONE
1005	300	12.71	3.33	0.35	6.44	12.05	89	86.7	clear	NONE
1010	300	12.71	2.71	0.34	6.43	11.97	89	45.1	clear	NONE
1015	300	12.71	0.75	0.29	6.48	11.97	126	-67.9	clear	NONE
1020	300	12.71	1.87	0.28	6.57	12.03	130	-90.2	clear	NONE
1025	300	12.71	0.50	0.26	6.64	12.01	133	-93.4	clear	NONE
1030	300	12.71	0.61	0.25	6.69	11.91	134	-98.7	clear	NONE
1035	300	12.71	0.35	0.23	6.70	11.90	133	-94.3	clear	NONE

* every 5 or more minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

** EPA stabilization parameters from EPA/540/S-95/504 April 1996

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: David Comeau / ECC	SAMPLER(S) SIGNATURES: [signature]	SAMPLING INITIATED AT: 1040	SAMPLING ENDED AT: 1050
PUMP OR TUBING DEPTH IN WELL (feet): 38	SAMPLE PUMP FLOW RATE (mL per minute): 300	FIELD PARAMETER MONITORING EQUIPMENT MODEL & SERIAL #s: YSI / 650 MDS / 04C2284 AA	

FIELD DECONTAMINATION: (Y) N — FIELD-FILTERED: (Y) N — FILTER SIZE: .45 µm — Filtration Equipment Type: Disposable Cartridge — DUPLICATE: Y (N)

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

WELL CONDITION CHECKLIST (circle appropriate item(s), cross out if not applicable)

Type: (Flush Mount) / Stand Pipe — General Condition: Good / (Needs Repair) — Well Caps: (Good) / Broken / None — Lock: Good / Broken / (None)

Evidence of Rain Water Between Steel & PVC? Y / (N) — Is Well Plumb? (Y) / N — PVC Riser: (Good) / Damaged / None

Evendence of Ponding Around Welll? Y / (N) — Concrete Collar: (Good) / Cracked / Leaking / None

REMARKS: Road Box cover Bolts

Sample ID: SHM0539A-102413 Time: 1040

Sovereign Consulting Inc.
16 Chestnut Street, Suite 520
Foxboro, MA 02035
508-339-3200

MONITORING WELL SAMPLING LOG

Low Flow Sampling

Sovereign Consulting Inc.
4 Open Square Way, Suite #307
Holyoke, MA 01040
413-540-0650

PROJECT NAME: Shepley's Hill Landfill	PROJECT LOCATION: Dover, MA	DATE: 10/24/13	WELL ID: [redacted]
PROJECT NUMBER: ACOT. 02E. 05	WELL DIAMETER: (inches) 4	DEPTH TO WATER: (feet) 26.27	DEPTH TO BOTTOM: (feet)
PID READING: (ppmv) 0.0			

PURGING DATA

TUBING DIAMETER (inches): 1/4	TUBING MATERIAL CODE: (see below) PE	PURGE PUMP TYPE: Bladder	PUMP EQUIPMENT MODEL & SERIAL #s: MicroPurge MP10-2251

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY

GALLONS: — LITERS: —

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88 — 1 GALLON = 3.785 LITERS

WELL SCREEN INTERVAL DEPTH (feet): 20-30	INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 27	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 27	PURGING INITIATED AT: 0830	PURGING ENDED AT: 0936	TOTAL VOLUME PURGED: GALLONS: 2.0 LITERS: —

WATER LEVEL STABLIZATION — DEPTH TO WATER WITH PUMP: (feet) 26.30

TIME INTERVAL (min)	FLOW RATE (mL/min)	PUMP SETTINGS	DEPTH TO WATER (feet) START	DEPTH TO WATER (feet) END	Water Level Stable (Yes or No)	VOLUME PURGED DURING INTERVAL (mL)
5	110	10.0/5.0 CPM 4	26.30			

TIME (min)*	FLOW RATE (mL/min) (100-500 mL/min)**	DEPTH TO WATER (feet) (+/- 0.3')**	TURBIDITY (NTU) (+/- 10%)or <5**	DISSOLVED OXYGEN (mg/L) (+/- 10%)or <0.5**	pH (+/- 0.1)**	TEMP (°C) (+/- 3%)**	SPECIFIC CONDUCTIVITY (µS/cm) (+/- 3%)**	ORP (mV) (+/- 10mV)**	COLOR (describe)	ODOR (describe)
0838	110	26.30	180	1.76	6.38	11.25	131	-53.1	Brn, Rst	None
0843	110	26.28	177	0.85	6.32	11.21	128	-47.1	"	None
0848	110	26.28	161	0.75	6.33	11.33	125	-44.8	"	None
0853	110	26.27	141	0.71	6.43	11.50	121	-52.6	"	None
0858	110	26.28	130	0.63	6.50	11.27	120	-59.1	lt Brown,	None
0903	110	26.27	132	0.58	6.56	11.37	118	-66.1	" Rusty	None
0908	110	26.29	128	0.52	6.64	11.39	116	-74.0	"	None
0913	110	12.29	113	Bubble	6.68	11.40	115	-72.5	"	None
0918	110	12.28	144	0.55	6.70	11.40	114	-77.6	"	None
0923	110	12.28	134	0.46	6.73	11.44	112	-82.3	"	None
0928	110	12.28	129	0.52	6.76	11.40	111	-85.2	"	None
0933	110	12.28	123	0.50	6.76	11.54	110	-85.9	"	None

* every 5 or more minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

** EPA stabilization parameters from EPA/540/S-95/504 April 1996

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Veronica J. Champagne EOC	SAMPLER(S) SIGNATURES: [signature]	SAMPLING INITIATED AT: 0937	SAMPLING ENDED AT: 0955
PUMP OR TUBING DEPTH IN WELL (feet): 33	SAMPLE PUMP FLOW RATE (mL per minute): 110	FIELD PARAMETER MONITORING EQUIPMENT MODEL & SERIAL #s: YSI 650 MDS	
FIELD DECONTAMINATION: (Y) N	FIELD-FILTERED: (Y) N Filtration Equipment Type: FILTER SIZE: .45 µm		DUPLICATE: Y (N)

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone, T = Teflon; O = Other (Specify)

WELL CONDITION CHECKLIST (circle appropriate item(s); cross out if not applicable)

Type: Flush Mount / (Stand Pipe) General Condition: (Good) / Needs Repair Well Caps: (Good) Broken / None Lock: (Good) / Broken / None

Evidence of Rain Water Between Steel & PVC? Y / (N) Is Well Plumb? (Y) N PVC Riser: (Good) Damaged / None

Evendence of Ponding Around Well? Y / (N) Concrete Collar: Good / Cracked / Leaking / (None)

REMARKS:

Had to switch Nitrogen canister while filling Alk bottle

Samp Time 0950

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MONITORING WELL SAMPLING LOG

Low Flow Sampling

Sovereign Consulting Inc.
4 Open Square Way, Suite #307
Holyoke, MA 01040
413-540-0650

PROJECT NAME: Sheplers Hill Landfill	PROJECT LOCATION: Devens, MA	DATE: 10-24-13	WELL ID: SHM-05-39B
PROJECT NUMBER: ACOE 03E.05	WELL DIAMETER (inches): 2	DEPTH TO WATER (feet): 13.27	DEPTH TO BOTTOM (feet): 68
PID READING (ppmv): 0			

PURGING DATA

TUBING DIAMETER (inches): 3/8	TUBING MATERIAL CODE (see below): PE	PURGE PUMP TYPE: Peristaltic	PUMP EQUIPMENT MODEL & SERIAL #s: GeoPump G6363U

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY

GALLONS: 8.26 LITERS: 33.17

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88

1 GALLON = 3.785 LITERS

WELL SCREEN INTERVAL DEPTH (feet): 66-68	INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 67	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 67	PURGING INITIATED AT: 0820	PURGING ENDED AT: 0905	TOTAL VOLUME PURGED: GALLONS: 2.84 LITERS: 10.75

WATER LEVEL STABLIZATION DEPTH TO WATER WITH PUMP (feet): 20.25

TIME INTERVAL (min)	FLOW RATE (mL/min)	PUMP SETTINGS	DEPTH TO WATER (feet) START	DEPTH TO WATER (feet) END	Water Level Stable (Yes or No)	VOLUME PURGED DURING INTERVAL (mL)
0850-0900 (10)	150	Dial @ 10 o'clock Position	20.24	20.25	yes	1500

TIME (min)*	FLOW RATE (mL/min) (100-500 mL/min)**	DEPTH TO WATER (feet) (+/- 0.3')**	TURBIDITY (NTU) (+/- 10%)or <5**	DISSOLVED OXYGEN (mg/L) (+/- 10%)or <0.5**	pH (+/- 0.1)**	TEMP (°C) (+/- 3%)**	SPECIFIC CONDUCTIVITY (µS/cm) (+/- 3%)**	ORP (mV) (+/- 10mV)**	COLOR (describe)	ODOR (describe)
0825	350	15.61	15.0	6.95	7.54	10.66	285	-127.6	clear	NONE
0830	350	17.19	11.75	0.61	7.02	10.88	283	-136.4	clear	NONE
0835	350	19.24	3.89	0.48	6.99	10.91	283	-127.3	clear	NONE
0840	350	20.51	3.33	0.36	6.93	10.84	282	-121.6	clear	NONE
0845	150	20.39	2.16	0.42	6.97	10.74	282	-104.8	clear	NONE
0850	150	20.24	1.56	0.42	6.89	10.78	280	-97.1	clear	NONE
0855	150	20.24	1.67	0.42	6.92	10.77	280	-96.3	clear	NONE
0900	150	20.25	0.97	0.40	6.93	10.76	278	-95.3	clear	NONE

* every 5 or more minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

** EPA stabilization parameters from EPA/540/S-95/504 April 1996

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: David Comeau / ECC	SAMPLER(S) SIGNATURES: [signature]	SAMPLING INITIATED AT: 0905	SAMPLING ENDED AT: 0935
PUMP OR TUBING DEPTH IN WELL (feet): 67	SAMPLE PUMP FLOW RATE (mL per minute): 150	FIELD PARAMETER MONITORING EQUIPMENT MODEL & SERIAL #s: YSI / 650 mDS / 04C2284 AA	
FIELD DECONTAMINATION: (Y) N	FIELD-FILTERED: (Y) N FILTER SIZE: .45 µm Filtration Equipment Type: Disposable Cartridge		DUPLICATE: Y (N)

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

WELL CONDITION CHECKLIST (circle appropriate item(s); cross out if not applicable)

Type: (Flush Mount) / Stand Pipe General Condition: Good (Needs Repair) Bolts Well Caps: (Good) Broken / None Lock: Good / Broken (None)

Evidence of Rain Water Between Steel & PVC? Y / (N) Is Well Plumb? (Y) / N PVC Riser: (Good) / Damaged / None

Evendence of Ponding Around Well? Y / (N) Concrete Collar: (Good) / Cracked / Leaking / None

REMARKS:

*Collected MS/MSD

Bolts for cover + cover

Sample ID: SHM0539B-1024B Time: 0905

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MONITORING WELL SAMPLING LOG

Low Flow Sampling

Sovereign Consulting Inc.
4 Open Square Way, Suite #307
Holyoke, MA 01040
413-540-0650

PROJECT NAME: Shepley's Hill Landfill	PROJECT LOCATION: Devens MA	DATE: 10-23-13	WELL ID: SHM-99-32X
PROJECT NUMBER: ACWI.02E.US	WELL DIAMETER (inches): 2"	DEPTH TO WATER (feet): 11.24	DEPTH TO BOTTOM (feet):
PID READING (ppmv): 0.0			

PURGING DATA

TUBING DIAMETER (inches): 1/4	TUBING MATERIAL CODE (see below): PE	PURGE PUMP TYPE: Geopump	PUMP EQUIPMENT MODEL & SERIAL #s: F418

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY

GALLONS: – LITERS: –

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88

1 GALLON = 3.785 LITERS

WELL SCREEN INTERVAL DEPTH (feet): 72-82	INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 77	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 77	PURGING INITIATED AT: 1310	PURGING ENDED AT: 1345	TOTAL VOLUME PURGED: GALLONS: @1.6 LITERS: –

WATER LEVEL STABLIZATION DEPTH TO WATER WITH PUMP: (feet)

TIME INTERVAL (min)	FLOW RATE (mL/min)	PUMP SETTINGS	DEPTH TO WATER (feet) START	DEPTH TO WATER (feet) END	Water Level Stable (Yes or No)	VOLUME PURGED DURING INTERVAL (mL)

TIME (min)*	FLOW RATE (mL/min) (100-500 mL/min)**	DEPTH TO WATER (feet) (+/- 0.3')**	TURBIDITY (NTU) (+/- 10%)or <5**	DISSOLVED OXYGEN (mg/L) (+/- 10%)or <0.5**	pH (+/- 0.1)**	TEMP (°C) (+/- 3%)**	SPECIFIC CONDUCTIVITY (µS/cm) (+/- 3%)**	ORP (mV) (+/- 10mV)**	COLOR (describe)	ODOR (describe)
1315	200	11.25	0.76	0.39	6.53	11.42	800	-31.1	Clear	None
1320	200	11.25	1.23	0.43	6.46	11.25	731	-61.0	↓	↓
1325	200	11.25	0.52	0.32	6.45	11.17	716	-70.4		
1330	200	11.25	0.44	0.19	6.45	11.19	708	-75.2		
1335	200	11.25	0.43	0.18	6.45	11.19	707	-75.6		
1340	200	11.25	0.37	0.17	6.45	11.17	704	-77.9		
1345			Begin Sample							

* every 5 or more minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

** EPA stabilization parameters from EPA/540/S-95/504 April 1996

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Erin Coley	SAMPLER(S) SIGNATURES: [signature]	SAMPLING INITIATED AT: 1345	SAMPLING ENDED AT: 1350
PUMP OR TUBING DEPTH IN WELL (feet): 77	SAMPLE PUMP FLOW RATE (mL per minute): 200	FIELD PARAMETER MONITORING EQUIPMENT MODEL & SERIAL #s: See remarks section	
FIELD DECONTAMINATION: (Y) N	FIELD-FILTERED: Y (N) FILTER SIZE: ____µm Filtration Equipment Type: No tools		DUPLICATE: Y (N)

MATERIAL CODES AG = Amber Glass, CG = Clear Glass, PE = Polyethylene, PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

WELL CONDITION CHECKLIST (circle appropriate item(s); cross out if not applicable)

Type: Flush Mount / (Stand Pipe) General Condition: (Good) / Needs Repair Well Caps: (Good) / Broken / None Lock: (Good) / Broken / None

Evidence of Rain Water Between Steel & PVC? Y / N Is Well Plumb?: Y / N PVC Riser: Good / Damaged / None

Evendence of Ponding Around Welll? Y / (N) Concrete Collar: (Good) / Cracked / Leaking / None

REMARKS: YSI: 11K101290 WLm: 47218
Turb: MG12750

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Sovereign Consulting Inc.
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Holyoke, MA 01040
413-540-0650

Field Instrument Calibration Record

Instrument (MAKE/MODEL#) YSI / 650 MDS / 04C2284 AA

Instrument # 04C2284 AA

Parameter:

- ☐ Temperature
- ☒ Conductivity (±0.5%)
- ☐ Salinity
- ☒ pH (±0.2 units)
- ☐ Turbidity (±5%)
- ☒ ORP (±20 mV)
- ☒ DO (±2%)
- ☐ Isobutylene (±2%)

Standards:

Standard A Conductivity 1000 us/cm°
Standard B pH 4.00
Standard C pH 7.00
Standard D pH 10.00
Standard E ORP 111.4
Standard F DO

Date	Time	STD (A,B,C)	STD Value	Instrument Response	% Dev	Calibrated (Y/N)	Type (Init., Cont.)	Sampler
10-24-13	0740	A	1000 us/cm°	1000	0	Y	I	DJC
10/24	0750	B	4.00	4.00	0	Y	I	DJC
10/24	0745	C	7.00	7.00	0	Y	I	DJC
10/24	0754	D	10.00	10.01	0.1	Y	I	DJC
10/24	0758	E	111.4	111.4	0	Y	I	DJC
10/24	0803	F	100.3	100.3	0	Y	I	DJC
10/24	1220	A	1000 us/cm°	995	0.5	N	Post check	DJC
10/24	1230	C	7.00	7.02	0.28	N	post check	DJC
10/24	1223	E	111.4	89.7	19%	N	Post check	DJC
10/24	1226	F	100.3	103.1	2.8	N	Post check	DJC

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Field Instrument Calibration Record

Sovereign Consulting Inc.
4 Open Square Way, Suite #307
Holyoke, MA 01040
413-540-0650

Instrument (MAKE/MODEL#) YSI 650 MDS

Instrument # 01L0440AD

Parameter:

- ☐ Temperature
- ☒ Conductivity (±0.5%)
- ☐ Salinity
- ☒ pH (±0.2 units)
- ☐ Turbidity (±5%)
- ☒ ORP (±20 mV)
- ☒ DO (±2%)
- ☐ Isobutylene (±2%)

Standards:

Standard A 4
Standard B 7
Standard C 10
Standard D 1,000 uS/cm
Standard E 100 %
Standard F 111.4

2013

Date	Time	STD (A,B,C)	STD Value	Instrument Response	% Dev	Calibrated (Y/N)	Type (Init., Cont.)	Sampler
10/24	0748	B	7	7.00	0	Y	Init	VJC
10/24	0750	A	4	4.01	0.25	Y	Init	VJC
10/24	0755	C	10	10.03	0.3	Y	Init	VJC
10/24	0758	D	1,000	1,001	0.1	Y	Init	VJC
10/24	0801	F	111.4	111.5	0.1	Y	Init	VJC
10/24	0803	E	100	99.6	0.4	Y	Init	VJC
10/24	1113	B	7	7.02	0.3	N	Post	VJC
10/24	1115	D	1,000	1045	4.5	N	Post	VJC
10/24	1117	F	111.4	90.4	18	N	Post	VJC
10/24	1118	E	100	100.7	0.7	N	Post	VJC

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Field Instrument Calibration Record

Sovereign Consulting Inc.
4 Open Square Way, Suite #307
Holyoke, MA 01040
413-540-0650

Instrument (MAKE/MODEL#) YSI 556 MPS

Instrument # 13D101141

Parameter:

- ☐ Temperature
- ☒ Conductivity (±0.5%)
- ☐ Salinity
- ☒ pH (±0.2 units)
- ☒ Turbidity (±5%)
- ☒ ORP (±20 mV)
- ☒ DO (±2%)
- ☐ Isobutylene (±2%)

Standards:

Standard A Cond 1000 µS/cm

Standard B pH 4

Standard C pH 7

Standard D pH 10

Standard E ORP 100 MV or 111.4 @ 15°C

Standard F DO

Date	Time	STD (A,B,C)	STD Value	Instrument Response	% Dev	Calibrated (Y/N)	Type (Init., Cont.)	Sampler
10-22	0800	A	~~mg/L~~ 1000	1000	0	Y	Init	CS
		B	4	4.00	0			
		C	7	7.00	0			
		D	10	10.03	0.3			
		E	111.4	111.4	0			
		F	100	98.6	1.4			
	1450	A	1000	1070	7.0	N	Post	E.F
	1455	C	7	7.02	0.3			
	1500	E	100	91.6	8.4			
	1505	F	100	99.9	0.1			
10-23	0800	A	1000	1000	0	Y	Init	CS
		B	7	7.00	0			
		C	4	4.00	0			
		D	10	10.02	0.2			
		E	111.4	111.4	0			
		F	100	98.1	1.9			
10-23	1420	A	1000	977	2.3	N	Post	DJC
	1425	C	7	6.98	0.3			
	1430	E	111.4	97.8	12.2			
	1435	F	100	96.6	3.4			

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Field Instrument Calibration Record

Sovereign Consulting Inc.
4 Open Square Way, Suite #307
Holyoke, MA 01040
413-540-0650

Instrument (MAKE/MODEL#) YSI 556 MPS

Instrument # 11K 101290

Parameter:

- ☐ Temperature
- ☒ Conductivity (±0.5%)
- ☐ Salinity
- ☒ pH (±0.2 units)
- ☐ Turbidity (±5%)
- ☒ ORP (±20 mV)
- ☒ DO (±2%)
- ☐ Isobutylene (±2%)

Standards:

Standard A Cond 1000 µS/cm
Standard B pH 4
Standard C pH 7
Standard D pH 10
Standard E ORP
Standard F DO

Date	Time	STD (A,B,C)	STD Value	Instrument Response	% Dev	Calibrated (Y/N)	Type (Init., Cont.)	Sampler
10-22	0800	A	1000 µm	1000	0	Y	Init	CS
		B	4	4.00	0			
		C	7	7.00	0			
		D	10	10.04	0.4			
		E	111.4	111.4	0			
		F	100	100.5	0.5			
	1455	A	1000	1049	4.9	N	Post	EK
	1455	C	7	6.98	0.28			
	1500	E	100	95.5	5.5			
	1505	F	100	99.5	0.5			
10-23	0800	A	1000	1000	0	Y	Init	CS
		B	7	7.00	0			
		C	4	4.00	0			
		D	10	10.01	0.1			
		E	111.4	111.4	0			
		F	100	100.3	0.3			
10-23	1420	A	1000	~~998~~ 998.0	0.2	N	Post	DJC
	1440	C	7	6.99	0.14			
	1445	E	111.4	98.8	11.3			
	1448	F	100	97.3	2.7			

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Field Instrument Calibration Record

Sovereign Consulting Inc.
4 Open Square Way, Suite #307
Holyoke, MA 01040
413-540-0650

Instrument (MAKE/MODEL#) YSI / 650 MDS
Instrument # 04C2284 AA
Parameter:

- ☐ Temperature
- ☒ Conductivity (±0.5%)
- ☐ Salinity
- ☒ pH (±0.2 units)
- ☐ Turbidity (±5%)
- ☒ ORP (±20 mV)
- ☒ DO (±2%)
- ☐ Isobutylene (±2%)

Standards:

Standard A 4 pH
Standard B 7 pH
Standard C 10 pH
Standard D 1.000 Conductivity ms/cm c
Standard E 100.6 DO %
Standard F 111.4 ORP

Date	Time	STD (A,B,C)	STD Value	Instrument Response	% Dev	Calibrated (Y/N)	Type (Init., Cont.)	Sampler
10/22/13	0800	D	1.000 ms/cm c	1.000	0	Y	I	DC
10/22	0805	A	4.00	4.00	0	Y	I	DC
10/22	0808	B	7.00	7.00	0	Y	I	DC
10/22	0812	C	10.00	10.00	0	Y	I	DC
10/22	0818	F	111.4	111.4	0	Y	I	DC
10/22	0823	E	100.6	100.6	0	Y	I	DC
10/22	1400	D	1000 us/cm c	1025	2.5	N	Post check	DJC
10/22	1405	F	111.4	103.7	6.9	N	Post check	DJC
10/22	1410	B	7.00	7.07	1.0	N	Post check	DJC
10/22	1415	E	100.6	98.3	1.7	N	Post check	DJC
							↑	
							Post check	
10/23/13	0735	D	1000 us/cm c	1000	0	Y	I	DJC
10/23	0740	A	4.00	4.00	0	Y	I	DJC
10/23	0745	B	7.00	7.00	0	Y	I	DJC
10/23	0750	C	10.00	10.00	0	Y	I	DJC
10/23	0755	F	111.4	111.3	0.9	Y	I	DJC
10/23	0759	E	100.2	100.2	0	Y	I	DJC
10/23	1355	D	1000 us/cm c	1086	8.6	N	Post check	DJC
10/23	1403	F	111.4	98.0	12.0	N	Post check	DJC
10/23	1400	B	7.00	7.03	0.4	N	Post check	DJC
10/23	1407	E	100.2	100.9	0.69	N	Post check	DJC

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508-339-3200

Field Instrument Calibration Record

Sovereign Consulting Inc.
4 Open Square Way, Suite #307
Holyoke, MA 01040
413-540-0650

Instrument (MAKE/MODEL#) YSI 650 MDS
Instrument # 01L0440AD
Parameter:

- ☐ Temperature
- ☒ Conductivity (±0.5%)
- ☐ Salinity
- ☒ pH (±0.2 units)
- ☐ Turbidity (±5%)
- ☐ ORP (±20 mV)
- ☒ DO (±2%)
- ☐ Isobutylene (±2%)

Standards:

Standard A 4
Standard B 7 } pH
Standard C 10
Standard D 1,000 uS/cm } cond
Standard E 100 - DO %
Standard F 111.4 ORP mV

Date	Time	STD (A,B,C)	STD Value	Instrument Response	% Dev	Calibrated (Y/N)	Type (Init., Cont.)	Sampler
10/22/13	0800	A	4	4.0	0	Y	I	VAC
10/22/13	0805	B	7	7.0	0	Y	I	VAC
10/22/13	0810	C	10	10.05	0.5	Y	I	VAC
10/22/13	0815	D	1,000	~~1,124~~ 1,000	0	Y	I	VAC
10/22/13	0825	E	100	100.0	0	Y	I	VAC
10/22/13	0820	F	111.4	111.4	0	Y	I	VAC
10/22/13	1405	B	7	7.0	0	N	Post	VAC
10/22/13	1410	D	1,000	1,150	15	N	Post	VAC
10/22/13	1414	E	100	101.9	1.9	N	Post	VAC
10/22/13	1412	F	111.4	91.0	18.3	N	Post	VAC
10/23/13	0745	B	7	7.01	0.14	Y	I	VAC
10/23/13	0748	A	4	4.0	0	Y	I	VAC
10/23/13	0750	C	10	10.04	0.4	Y	I	VAC
10/23/13	0753	D	1,000	996	0.4	Y	I	VAC
10/23/13	0755	E	100	99.6	0.4	Y	I	VAC
10/23/13	0757	F	111.4	111.3	0.9	Y	I	VAC
10/23	1320	B	7	7.05	0.7	N	Post	VAC
10/23	1323	D	1,000	1025	2.5	N	Post	VAC
10/23	1326	E	100	104.5	4.5	N	Post	VAC
10/24	1325	F	111.4	100.9	9.4	N	Post	VAC

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Holyoke, MA 01040
413-540-0650

Field Instrument Calibration Record

Instrument (MAKE/MODEL#) Tiger PID

Instrument # T-105569

Parameter:

- ☐ Temperature
- ☐ Conductivity (±0.5%)
- ☐ Salinity
- ☐ pH (±0.2 units)
- ☐ Turbidity (±5%)
- ☐ ORP (±20 mV)
- ☐ DO (±2%)
- ☒ Isobutylene (±2%) 100 ppm gas

1.0 correction factor

Standards:

Standard A 100

Standard B

Standard C

Standard D

Standard E

Standard F

Date	Time	STD (A,B,C)	STD Value	Instrument Response	% Dev.	Calibrated (Y/N)	Type (Init., Cont.)	Sampler
10-22-13	0815	A	100	100	0	Y	Init	EF
10-22-13	1516	A	100	95.5	5.5	N	Post	EF
10-23-13	0755	A	100	100.2	0.2	Y	Init	EF
10-23-13	1418	A	100	100.5	0.5	N	Post	EF
10-24-13	0740	A	100	100.7	0.7	Y	Init	JC
10-24-13	1225	A	100	96.2	4.8	N	Post	JC

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Field Instrument Calibration Record

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Instrument (MAKE/MODEL#) Tiger PID

Instrument # T-106040

Parameter:

- ☐ Temperature
- ☐ Conductivity (±0.5%)
- ☐ Salinity
- ☐ pH (±0.2 units)
- ☐ Turbidity (±5%)
- ☐ ORP (±20 mV)
- ☐ DO (±2%)
- ☒ Isobutylene (±2%) 100 ppm Gas

0.46 correction factor

Standards:

- Standard A 46
- Standard B
- Standard C
- Standard D
- Standard E
- Standard F

Date	Time	STD (A,B,C)	STD Value	Instrument Response	% Dev	Calibrated (Y/N)	Type (Init., Cont.)	Sampler
10-22-13	0810	A	46	45.9	0.2	Y	Init	EF
10-22-13	1510	A	46	46.8	1.7	N	Post	EF
10-23-13	0750	A	46	45.5	1.1	Y	Init	JC
10-23-13	1420	A	46	44.8	2.6	N	Post	EF
10-24-13	0745	A	46	45.4	1.3	Y	Init	JC
10-24-13	1270	A	46	45.0	2.1	N	Post	JC

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Field Instrument Calibration Record

Sovereign Consulting Inc.
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413-540-0650

Instrument (MAKE/MODEL#) LaMotte 2020

Instrument # 1832-0412

Parameter:

- ☐ Temperature
- ☒ Turbidity (±5%)
- ☐ Conductivity (±0.5%)
- ☐ ORP (±20 mV)
- ☐ Salinity
- ☐ DO (±2%)
- ☐ pH (±0.2 units)
- ☐ Isobutylene (±2%)

Standards:

Standard A 0

Standard B 10

Standard C

Standard D

Standard E

Standard F

Date	Time	STD (A,B,C)	STD Value	Instrument Response	% Dev	Calibrated (Y/N)	Type (Init., Cont.)	Sampler
102213	0805	A	0	0	0	Y	Init	EF
		B	10	10	0	Y	Init	EF
	1435	A	0	0	0	N	Post	EF
	1435	B	10	9.90	1.0	N	Post	EF
102313	0745	A	0	0	0	Y	Init	EF
		B	10	10	0	Y	Init	EF
	1415	A	0	0.71	—	N	Post	EF
	1415	B	10	10.85	8.5	N	Post	EF

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Field Instrument Calibration Record

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413-540-0650

Instrument (MAKE/MODEL#) La Motte 2020

Instrument # ME12750

Parameter:

- ☐ Temperature
- ☒ Turbidity (±5%)
- ☐ Conductivity (±0.5%)
- ☐ ORP (±20 mV)
- ☐ Salinity
- ☐ DO (±2%)
- ☐ pH (±0.2 units)
- ☐ Isobutylene (±2%)

Standards:

Standard A 0

Standard B 10

Standard C

Standard D

Standard E

Standard F

Date	Time	STD (A,B,C)	STD Value	Instrument Response	% Dev	Calibrated (Y/N)	Type (Init., Cont.)	Sampler
10.22.13	0800	A	0	0	0	Y	Init	EF
	0820	B	10	10	0	Y	Init	EF
	1445	A	0	~~10~~ 0	0	N	Post	EF
	1445	B	10	10.75	7.5	N	Post	EF
10.23.13	0745	A	0	0	0	Y	Init	EF
	~~0710~~ 0745	B	10	10	0	Y	Init	EF
	1410	A	0	2.04	—	N	Post	EF
	1410	B	10	9.69	3.1	N	Post	EF

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Field Instrument Calibration Record

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Instrument (MAKE/MODEL#) LaMotte 2020WE

Instrument # 26862

Parameter:

- ☐ Temperature
- ☒ Turbidity (±5%)
- ☐ Conductivity (±0.5%)
- ☐ ORP (±20 mV)
- ☐ Salinity
- ☐ DO (±2%)
- ☐ pH (±0.2 units)
- ☐ Isobutylene (±2%)

Standards:

Standard A 0

Standard B 10

Standard C

Standard D

Standard E

Standard F

Date	Time	STD (A,B,C)	STD Value	Instrument Response	% Dev	Calibrated (Y/N)	Type (Init., Cont.)	Sampler
10/22/13	0835	A	0	0.03	–	Y	Int	VAC
10/22/13	0838	B	10	10.00	0	Y	Int	VAC
10/22/13	1400	A	0	0.57	–	N	Post	VAC
10/22/13	1401	B	10	10.51	5.1	N	Post	VAC
10/23/13	0730	A	0	-0.05	–	Y	Int	VAC
10/23/13	0735	B	10	10.00	0	Y	INT	VAC
10/23	1315	A	0	0.72	–	N	Post	VAC
10/23	~~[illegible]~~ 1316	B	10	10.74	7.4	N	Post	VAC
10/24	0744	A	0	-0.07	–	Y	Int	VAC
10/24	0745	B	10	10.00	0	Y	Int	VAC
10/24	11:00	A	0	0.77	–	N	Post	VAC
10/24	1101	B	10	10.64	6.4	N	Post	VAC

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Field Instrument Calibration Record

Instrument (MAKE/MODEL#) La Motte / 2020 we
Instrument # 233-4110
Parameter:

- ☐ Temperature
- ☒ Turbidity (±5%)
- ☐ Conductivity (±0.5%)
- ☐ ORP (±20 mV)
- ☐ Salinity
- ☐ DO (±2%)
- ☐ pH (±0.2 units)
- ☐ Isobutylene (±2%)

Standards:

Standard A 0
Standard B 10
Standard C
Standard D
Standard E
Standard F

Date	Time	STD (A,B,C)	STD Value	Instrument Response	% Dev	Calibrated (Y/N)	Type (Init., Cont.)	Sampler
10-22-13	0825	A	0	0.00	0	Y	I	DJC
10-22-13	0828	B	10	10.00	0	Y	I	DJC
10/22	1407	A	0	0.00	0	N	Post check	DJC
10/22	1412	B	10	9.48	4.8	N	Post check	DJC
		/						
10/23/13	0747	A	0	0.00	0	Y	I	DJC
10/23/13	0752	B	10	10.00	0	Y	I	DJC
10/23	1405	A	0	0.08	–	N	Post check	DJC
10/23	1408	B	10	10.07	0.7	N	Post check	DJC
10/24/13	0748	A	0	0.00	0	Y	I	DJC
10/24	0752	B	10	10.00	0	Y	I	DJC
10/24	1235	A	0	0.19	–	N	Post check	DJC
10/24	1237	B	10	9.97	0.3	N	Post check	DJC

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MONITORING WELL SAMPLING LOG

Low Flow Sampling

Sovereign Consulting Inc.
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Holyoke, MA 01040
413-540-0650

PROJECT NAME:	PROJECT LOCATION:	DATE:	WELL ID:
SHL	Devens, MA	11-19-13	SHL-4

PROJECT NUMBER:	WELL DIAMETER: (inches)	DEPTH TO WATER: (feet)	DEPTH TO BOTTOM: (feet)	PID READING: (ppmv)
AC001.02 I	2"	11.4		0.0

PURGING DATA

TUBING DIAMETER (inches):	TUBING MATERIAL CODE: (see below)	PURGE PUMP TYPE:	PUMP EQUIPMENT MODEL & SERIAL #s:
1/4"	Te/poly	peristaltic	geopump # 687

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY

GALLONS: LITERS:

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88

1 GALLON = 3.785 LITERS

WELL SCREEN INTERVAL DEPTH (feet):	INITIAL PUMP OR TUBING DEPTH IN WELL (feet):	FINAL PUMP OR TUBING DEPTH IN WELL (feet):	PURGING INITIATED AT:	PURGING ENDED AT:	TOTAL VOLUME PURGED: GALLONS: / LITERS:
3-13'	~12'	~12'	0842	0920	~1.5

WATER LEVEL STABLIZATION — DEPTH TO WATER WITH PUMP: (feet)

TIME INTERVAL (min)	FLOW RATE (mL/min)	PUMP SETTINGS	DEPTH TO WATER (feet) START	DEPTH TO WATER (feet) END	Water Level Stable (Yes or No)	VOLUME PURGED DURING INTERVAL (mL)
1min	~150	~ 1/2	11.4	11.4	yes	150
1min	175	~ 2/3	11.4	11.4	↓	175
1min	200	~ 3/4	11.4	11.4	↓	200

TIME (min)*	FLOW RATE (mL/min) (100-500 mL/min)**	DEPTH TO WATER (feet) (+/- 0.3')**	TURBIDITY (NTU) (+/- 10%)or <5**	DISSOLVED OXYGEN (mg/L) (+/- 10%)or <0.5**	pH (+/- 0.1)**	TEMP (°C) (+/- 3%)**	SPECIFIC CONDUCTIVITY (µS/cm) (+/- 3%)**	ORP (mV) (+/- 10mV)**	COLOR (describe)	ODOR (describe)
850	200	11.4	0.68	0.19	6.35	11.55	438	10.6	clear	None
855	200	11.4	0.03	0.21	6.24	11.54	437	17.7	↓	↓
900	200	11.4	0.06	0.28	6.18	11.53	436	23.4		
905	200	11.4	0.07	0.28	6.14	11.55	431	26.5		
910	200	11.4	0.05	0.38	6.13	11.58	430	31.4		
915	200	11.4	0.06	0.33	6.13	11.52	427	35.2	↓	↓
920	SAMPLE									

* every 5 or more minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

** EPA stabilization parameters from EPA/540/S-95/504 April 1996

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION:	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT:	SAMPLING ENDED AT:
Erin Foley	[signature]	0920	0935

PUMP OR TUBING DEPTH IN WELL (feet):	SAMPLE PUMP FLOW RATE (mL per minute):	FIELD PARAMETER MONITORING EQUIPMENT MODEL & SERIAL #s:
~12'	200	YSI 556 MPS / LaMotte 2020we - see below for serial #s

FIELD DECONTAMINATION: (Y) N

FIELD-FILTERED: (Y) N — Filtration Equipment Type: DOC/metals only — FILTER SIZE: 0.45 µm

DUPLICATE: ~~Y~~ N

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

WELL CONDITION CHECKLIST (Circle appropriate item(s) in red, and fill out remarks)

Type: Flush Mount / Stand Pipe — General Condition: Good / Needs Repair — Well Caps: Good / Broken / None — Lock: Good / Broken / None

Evidence of Rain Water Between Steel & PVC? Y / N — Is Well Plumb?: Y / N — PVC Riser: Good / Damaged / None

Evendence of Ponding Around Well? Y / N — Concrete Collar: Good / Cracked / Leaking / None

REMARKS:

* MS/MSD
↳ 24 bottles total

Turb: 1191-3011
YSI: 11610086B

Geopump: 687

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MONITORING WELL SAMPLING LOG

Low Flow Sampling

Sovereign Consulting Inc.
4 Open Square Way, Suite #307
Holyoke, MA 01040
413-540-0650

PROJECT NAME: SHL	PROJECT LOCATION: Devens, MA	DATE: 11/19/13	WELL ID: SHM-10-11
PROJECT NUMBER: ~~SHL~~ ACU01.02I	WELL DIAMETER: (inches) 2"	DEPTH TO WATER: (feet) 41.53'	DEPTH TO BOTTOM: (feet)
			PID READING: (ppmv) 0.4

PURGING DATA

TUBING DIAMETER (inches): 1/4"	TUBING MATERIAL CODE: (see below) TT	PURGE PUMP TYPE: Bladder	PUMP EQUIPMENT MODEL & SERIAL #s: QED 1.75" pump

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY

GALLONS: LITERS:

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88

1 GALLON = 3.785 LITERS

WELL SCREEN INTERVAL DEPTH (feet): 50-60'	INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 55'	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 55'	PURGING INITIATED AT: 0845	PURGING ENDED AT: 1000	TOTAL VOLUME PURGED: GALLONS: 12 LITERS:

WATER LEVEL STABLIZATION — DEPTH TO WATER WITH PUMP: (feet)

TIME INTERVAL (min)	FLOW RATE (mL/min)	PUMP SETTINGS	DEPTH TO WATER (feet) START	DEPTH TO WATER (feet) END	Water Level Stable (Yes or No)	VOLUME PURGED DURING INTERVAL (mL)
1	350	10/5	41.53	41.55	Y	350

TIME (min)*	FLOW RATE (mL/min) (100-500 mL/min)**	DEPTH TO WATER (feet) (+/- 0.3')**	TURBIDITY (NTU) (+/- 10%)or <5**	DISSOLVED OXYGEN (mg/L) (+/- 10%)or <0.5**	pH (+/- 0.1)**	TEMP (°C) (+/- 3%)**	SPECIFIC CONDUCTIVITY (µS/cm) (+/- 3%)**	ORP (mV) (+/- 10mV)**	COLOR (describe)	ODOR (describe)
0850	350	41.60	1.06	0.24	6.40	10.61	416	-46.9	Clear	None
0855	350	41.60	0.59	0.21	6.42	10.52	421	-47.2	Clear	None
0900	350	41.61	0.75	0.20	6.51	10.56	422	-45.3	Clear	None
0905	350	41.61	0.65	0.19	6.45	10.60	422	-46.9	Clear	None
0910	350	41.61	0.66	0.23	6.44	10.55	422	-46.7	Clear	None
0915	350	41.61	0.41	0.25	6.67	10.59	422	-48.1	Clear	None
0920	350	41.62	0.49	0.23	6.27	10.65	421	-47.7	Clear	None
0925	350	41.62	0.47	0.30	6.42	10.66	421	-47.0	Clear	None
0930	350	41.62	0.53	0.33	6.52	10.63	421	-47.0	Clear	None
0935	350	41.62	1.23	0.33	6.52	10.61	420	-46.4	Clear	None
0940	350	41.63	0.40	0.31	6.54	10.65	416	-46.1	Clear	None
0945	350	41.63	0.38	0.33	6.42	10.64	421	-44.5	Clear	None
0950	350	41.63	0.66	0.34	6.42	10.64	422	-43.6	Clear	None
0955	350	41.63	0.66	0.34	6.41	10.61	421	-43.1	Clear	None
1000	350	41.63	0.45	0.33	6.41	10.63	421	-43.5	Clear	None

* every 5 or more minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

** EPA stabilization parameters from EPA/540/S-95/504 April 1996

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Julie Carson	SAMPLER(S) SIGNATURES: [signature]	SAMPLING INITIATED AT: 1001	SAMPLING ENDED AT: 1013
PUMP OR TUBING DEPTH IN WELL (feet): 55'	SAMPLE PUMP FLOW RATE (mL per minute): 350	FIELD PARAMETER MONITORING EQUIPMENT MODEL & SERIAL #s: YSI 556 MPS 08J1012456	

FIELD DECONTAMINATION: (Y) N

FIELD-FILTERED (Y) N — FILTER SIZE: 0.45 µm — Filtration Equipment Type: DOC/Metals only

DUPLICATE: (Y) N

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

WELL CONDITION CHECKLIST

Type: Flush Mount / (Stand Pipe) General Condition: (Good) Needs Repair Well Caps: (Good) / Broken / None Lock: (Good) / Broken / None

Evidence of Rain Water Between Steel & PVC? Y / (N) Is Well Plumb?: (Y) / N PVC Riser: (Good) / Damaged / None

Evendence of Ponding Around Well? Y / (N) Concrete Collar: (Good) / Cracked / Leaking / None

REMARKS:

Duplicate - 111913 collected

used 2 small Nitrogen tanks for bladder pump

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MONITORING WELL SAMPLING LOG

Low Flow Sampling

Sovereign Consulting Inc.
4 Open Square Way, Suite #307
Holyoke, MA 01040
413-540-0650

PROJECT NAME: SHL	PROJECT LOCATION: Devens, MA	DATE: 11.19.13	WELL ID: SHP-01-38A
PROJECT NUMBER: AC001.02I	WELL DIAMETER: (inches) 1.25	DEPTH TO WATER: (feet) 4.71	DEPTH TO BOTTOM: (feet)
PID READING: (ppmv) 0.0			

PURGING DATA

TUBING DIAMETER (inches): 1/4"	TUBING MATERIAL CODE: (see below) Te/poly	PURGE PUMP TYPE: peristaltic	PUMP EQUIPMENT MODEL & SERIAL #s: Geopump #687

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY

GALLONS: LITERS:

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88

1 GALLON = 3.785 LITERS

WELL SCREEN INTERVAL DEPTH (feet): 1.5-6.5	INITIAL PUMP OR TUBING DEPTH IN WELL (feet): ~6	FINAL PUMP OR TUBING DEPTH IN WELL (feet): ~6	PURGING INITIATED AT: 1050	PURGING ENDED AT: 1125	TOTAL VOLUME PURGED: GALLONS: ~1.5 LITERS:

WATER LEVEL STABLIZATION — DEPTH TO WATER WITH PUMP: (feet) 4.71

TIME INTERVAL (min)	FLOW RATE (mL/min)	PUMP SETTINGS	DEPTH TO WATER (feet) START	DEPTH TO WATER (feet) END	Water Level Stable (Yes or No)	VOLUME PURGED DURING INTERVAL (mL)
1min	225	~1/2	4.71	4.80	Yes	225

TIME (min)*	FLOW RATE (mL/min) (100-500 mL/min)**	DEPTH TO WATER (feet) (+/- 0.3')**	TURBIDITY (NTU) (+/- 10%)or <5"**	DISSOLVED OXYGEN (mg/L) (+/- 10%)or <0.5"**	pH (+/- 0.1)**	TEMP (°C) (+/- 3%)**	SPECIFIC CONDUCTIVITY (µS/cm) (+/- 3%)**	ORP (mV) (+/- 10mV)**	COLOR (describe)	ODOR (describe)
1055	225	4.80	17.4	0.52	6.20	12.22	397	-12.8	lightcloudy	None
1100	225	4.80	5.36	0.86	6.19	12.29	412	-17.3	Clear	None
1105	225	4.80	1.80	1.11	6.14	12.32	431	-21.8		
1110	225	4.80	0.42	1.19	6.14	12.34	433	-21.6		
1115	225	4.80	0.29	1.24	6.14	12.37	434	-21.1		
1120	225	4.80	0.31	1.25	6.14	12.33	435	-20.7		
1125			Sample							

* every 5 or more minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

** EPA stabilization parameters from EPA/540/S-95/504 April 1996

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Evin Foley / SW Con	SAMPLER(S) SIGNATURES: [signature]	SAMPLING INITIATED AT: 1125	SAMPLING ENDED AT: 1135
PUMP OR TUBING DEPTH IN WELL (feet): ~6	SAMPLE PUMP FLOW RATE (mL per minute): 225	FIELD PARAMETER MONITORING EQUIPMENT MODEL & SERIAL #s: YSI 556 MPS / Lamotte Turbidmeter 2020we - see notes for serial numbers	
FIELD DECONTAMINATION: (Y) N	FIELD-FILTERED: (Y) N Filtration Equipment Type: DOC/Metals only	FILTER SIZE: 0.45 µm	DUPLICATE: Y (N)

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

WELL CONDITION CHECKLIST (circle appropriate items, out of service date)

Type: Flush Mount / (Stand) Pipe General Condition: (Good) / Needs Repair Well Caps: (Good) / Broken / None Lock: (Good) / Broken / None

Evidence of Rain Water Between Steel & PVC? Y / (N) Is Well Plumb? (Y) / N PVC Riser: Good / Damaged / (None)

Evendence of Ponding Around Well? Y / (N) Concrete Collar: Good / Cracked / Leaking / (None)

REMARKS: Turb: 1191-3011 Wem: 43233
Pump: 687
YSI: 1161008663

Sovereign Consulting Inc.
16 Chestnut Street, Suite 520
Foxboro, MA 02035
508-339-3200

MONITORING WELL SAMPLING LOG

Low Flow Sampling

Sovereign Consulting Inc.
4 Open Square Way, Suite #307
Holyoke, MA 01040
413-540-0650

PROJECT NAME: SHL	PROJECT LOCATION: Shepleys / Devens MA	DATE: 11-19-13	WELL ID: SHM-10-12
PROJECT NUMBER: A1001.02I	WELL DIAMETER: (inches) 2"	DEPTH TO WATER: (feet) 35.07	DEPTH TO BOTTOM: (feet)
PID READING: (ppmv) 0.2			

PURGING DATA

TUBING DIAMETER: (inches): 1/4"	TUBING MATERIAL CODE: (see below) T/poly	PURGE PUMP TYPE: Bladder	PUMP EQUIPMENT MODEL & SERIAL #s: bladder pump QED 1.75"

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY

GALLONS: LITERS:

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88

1 GALLON = 3.785 LITERS

TOTAL VOLUME PURGED: GALLONS: 8 LITERS:

WELL SCREEN INTERVAL DEPTH (feet): 45-55	INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 50'	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 50'	PURGING INITIATED AT: 1122	PURGING ENDED AT: 1315	

WATER LEVEL STABLIZATION — DEPTH TO WATER WITH PUMP: (feet)

TIME INTERVAL (min)	FLOW RATE (mL/min)	PUMP SETTINGS	DEPTH TO WATER (feet) START	DEPTH TO WATER (feet) END	Water Level Stable (Yes or No)	VOLUME PURGED DURING INTERVAL (mL)
1	300	10/5	35.07	35.08	Y	300

TIME (min)*	FLOW RATE (mL/min) (100-500 mL/min)**	DEPTH TO WATER (feet) (+/- 0.3')**	TURBIDITY (NTU) (+/- 10%)or <5**	DISSOLVED OXYGEN (mg/L) (+/- 10%)or <0.5**	pH (+/- 0.1)**	TEMP (°C) (+/- 3%)**	SPECIFIC CONDUCTIVITY (µS/cm) (+/- 3%)**	ORP (mV) (+/- 10mV)**	COLOR (describe)	ODOR (describe)
1130	300	35.08	1.44	~~0.55~~ 0.9	6.43	10.40	410	2.6	Clear	None
1135	300	35.08	2.66	0.95	6.33	10.42	412	1.2	Clear	None
1140	300	35.08	2.43	0.83	6.40	10.42	414	-2.2	Clear	None
1145	300	35.08	2.06	0.80	6.24	10.43	415	-2.0	Clear	None
1150	300	35.09	1.59	0.78	6.36	10.47	415	-3.5	Clear	None
1155	300	35.09	0.80	0.63	6.29	10.37	425	-7.0	Clear	None
1200	300	35.09	0.69	0.65	6.31	10.34	424	-11.3	Clear	None
1205	300	35.09	0.87	0.62	6.34	10.36	424	-12.2	Clear	None
1210	300	35.09	0.55	0.65	6.34	10.30	424	-12.2	Clear	None
1215	300	35.09	0.71	0.63	6.47	10.43	425	-14.4	Clear	None
1220	300	35.10	0.94	0.64	6.40	10.45	426	-14.3	Clear	None
1225	300	35.10	0.78	0.63	6.29	10.49	426	-13.7	Clear	None
1230	300	35.10	0.66	0.65	6.29	10.50	426	-15.8	Clear	None
1235	300	35.10	0.72	0.64	6.24	10.48	427	-15.8	Clear	None
1240	300	35.10	0.43	0.70	6.27	10.55	427	-16.6	Clear	None
1245	300	35.10	0.62	0.69	6.30	10.51	427	-17.2	Clear	None
1250	300	35.10	0.60	0.66	6.29	10.55	428	-17.4	Clear	None
1255	300	35.10	0.42	0.71	6.24	10.50	429	-19.6	Clear	None

* every 5 or more minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

** EPA stabilization parameters from EPA/540/S-95/504 April 1996

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Julie Godsoe	SAMPLER(S) SIGNATURES: [signature]	SAMPLING INITIATED AT: 1317	SAMPLING ENDED AT: 1330
PUMP OR TUBING DEPTH IN WELL (feet): 50'	SAMPLE PUMP FLOW RATE (mL per minute): 300	FIELD PARAMETER MONITORING EQUIPMENT MODEL & SERIAL #s: YSI MDS 556 08J101248	

FIELD DECONTAMINATION: (Y) N

FIELD-FILTERED: (Y) N FILTER SIZE: 0.45 µm
Filtration Equipment Type: Doc/metals only

DUPLICATE: Y (N)

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

WELL CONDITION CHECKLIST (circle appropriate items & comment below)

Type: Flush Mount / (Stand Pipe) General Condition: (Good) / Needs Repair Well Caps: (Good) / Broken / None Lock: (Good) / Broken / None

Evidence of Rain Water Between Steel & PVC? Y / (N) Is Well Plumb?: (Y) / N PVC Riser: (Good) / Damaged / None

Evendence of Ponding Around Welll? Y / (N) Concrete Collar: (Good) / Cracked / Leaking / None

REMARKS: Cont'd to page 2

Page 2

Sovereign Consulting Inc.
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MONITORING WELL SAMPLING LOG

Low Flow Sampling

Sovereign Consulting Inc.
4 Open Square Way, Suite #307
Holyoke, MA 01040
413-540-0650

PROJECT NAME:	PROJECT LOCATION:	DATE:	WELL ID:
SHL	Devens, MA	11/14/13	SHM-10-12

PROJECT NUMBER:	WELL DIAMETER: (inches)	DEPTH TO WATER: (feet)	DEPTH TO BOTTOM: (feet)	PID READING: (ppmv)
AC001.02J				

PURGING DATA

TUBING DIAMETER (inches):	TUBING MATERIAL CODE: (see below)	PURGE PUMP TYPE:	PUMP EQUIPMENT MODEL & SERIAL #s:

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY

GALLONS: LITERS:

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88

1 GALLON = 3.785 LITERS

TOTAL VOLUME PURGED:

WELL SCREEN INTERVAL DEPTH (feet):	INITIAL PUMP OR TUBING DEPTH IN WELL (feet):	FINAL PUMP OR TUBING DEPTH IN WELL (feet):	PURGING INITIATED AT:	PURGING ENDED AT:	GALLONS:

WATER LEVEL STABLIZATION — DEPTH TO WATER WITH PUMP: (feet)

TIME INTERVAL (min)	FLOW RATE (mL/min)	PUMP SETTINGS	DEPTH TO WATER (feet) START	DEPTH TO WATER (feet) END	Water Level Stable (Yes or No)	VOLUME PURGED DURING INTERVAL (mL)

TIME (Minutes)*	FLOW RATE (mL/min) (100-500 mL/min)*	DEPTH TO WATER (feet) (+/- 0.3')*	TURBIDITY (NTU) (+/- 10%)*	DISSOLVED OXYGEN (mg/L) (+/- 10%)*	pH (+/- 0.1)*	TEMP (°C) (+/- 3%)*	SPECIFIC COND (µS/cm) (+/- 3%)*	ORP (mV) (+/- 10mV)*	~~Salinity~~ Color -	~~Color~~/Odor (describe) -
1300	300	35.10	0.37	0.68	6.20	10.48	429	-19.5	Clear	None
1305	300	35.10	0.41	0.74	6.32	10.46	428	-17.8	Clear	None
1310	300	35.10	0.26	0.72	6.34	10.47	428	-18.0	Clear	None
1315	300	35.10	0.16	0.72	6.35	10.49	428	-19.3	Clear	None

* EPA stabilization parameters from EPA/540/S-95/504 April 1996

SAMPLING DATA

SAMPLED BY (PRINT):	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT:	SAMPLING ENDED AT:
	[signature]	1317	

PUMP OR TUBING DEPTH IN WELL (feet):	SAMPLE PUMP FLOW RATE (mL per minute):	FIELD PARAMETER MONITORING EQUIPMENT MODEL & SERIAL #s:

FIELD DECONTAMINATION: Y N

FIELD-FILTERED: Y N FILTER SIZE: ____ µm
Filtration Equipment Type:

DUPLICATE: Y (N)

SAMPLE COLLECTION

TIME	SAMPLE ID	CONTAINER	# OF BOTTLES	PRESERVATIVE	ANALYSES

REMARKS:

see page 1 for well / purge info

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MONITORING WELL SAMPLING LOG

Low Flow Sampling

Sovereign Consulting Inc.
4 Open Square Way, Suite #307
Holyoke, MA 01040
413-540-0650

PROJECT NAME: SHL	PROJECT LOCATION: Devens, MA	DATE: 11-19-13	WELL ID: SHP-01-37X
PROJECT NUMBER: A(001.02I	WELL DIAMETER: (inches) 1.25	DEPTH TO WATER: (feet) 6.84	DEPTH TO BOTTOM: (feet)
PID READING: (ppmv) 0.0			

PURGING DATA

TUBING DIAMETER (inches): 1	TUBING MATERIAL CODE: (see below)	PURGE PUMP TYPE: peristaltic	PUMP EQUIPMENT MODEL & SERIAL #s: Geopump #687

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY

GALLONS: LITERS:

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88

1 GALLON = 3.785 LITERS

TOTAL VOLUME PURGED: GALLONS: ~2 LITERS:

WELL SCREEN INTERVAL DEPTH (feet): 1.0-6.0	INITIAL PUMP OR TUBING DEPTH IN WELL (feet): ~8'	FINAL PUMP OR TUBING DEPTH IN WELL (feet): ~8'	PURGING INITIATED AT: 1245	PURGING ENDED AT: 1320

WATER LEVEL STABLIZATION — DEPTH TO WATER WITH PUMP: (feet)

TIME INTERVAL (min)	FLOW RATE (mL/min)	PUMP SETTINGS	DEPTH TO WATER (feet) START	DEPTH TO WATER (feet) END	Water Level Stable (Yes or No)	VOLUME PURGED DURING INTERVAL (mL)
1min	250	~2/3	6.98	6.99	Y	250

TIME (min)*	FLOW RATE (mL/min) (100-500 mL/min)**	DEPTH TO WATER (feet) (+/- 0.3')**	TURBIDITY (NTU) (+/- 10%)or <5**	DISSOLVED OXYGEN (mg/L) (+/- 10%)or <0.5**	pH (+/- 0.1)**	TEMP (°C) (+/- 3%)**	SPECIFIC CONDUCTIVITY (µS/cm) (+/- 3%)**	ORP (mV) (+/- 10mV)**	COLOR (describe)	ODOR (describe)
1250	250	6.99	15.2	3.44	6.46	6.97	428	25.3	lit cloudy	None
1255	250	7.00	3.29	3.31	5.91	7.01	432	90.8	clear	None
1300	250	7.00	0.95	3.26	5.76	6.88	433	108.1	clear	None
1305	250	7.00	0.57	3.14	5.66	6.87	432	117.6	"	"
1310	250	7.00	0.60	3.09	5.61	6.86	433	121.2	"	"
1315	250	7.00	0.43	3.12	5.64	6.85	433	123.3	"	"
1320	—	—	— sample	—	—	—	—	—	—	—

* every 5 or more minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

** EPA stabilization parameters from EPA/540/S-95/504 April 1996

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: G.A.	SAMPLER(S) SIGNATURES: Erin Foley	SAMPLING INITIATED AT: 1320	SAMPLING ENDED AT: 1335
PUMP OR TUBING DEPTH IN WELL (feet): ~8'	SAMPLE PUMP FLOW RATE (mL per minute): 250	FIELD PARAMETER MONITORING EQUIPMENT MODEL & SERIAL #s: YSI 556MPS / Lamotte 2020we (see notes for serial#s)	

FIELD DECONTAMINATION: Y N

FIELD-FILTERED: Y N FILTER SIZE: 0.45 µm Filtration Equipment Type: Dg/Metals

DUPLICATE: Y N

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

WELL CONDITION CHECKLIST (circle appropriate items; cross out inapplicable)

Type: Flush Mount / Stand Pipe General Condition: Good / Needs Repair Well Caps: Good / Broken / None Lock: Good / Broken / None

Evidence of Rain Water Between Steel & PVC? Y / N Is Well Plumb?: Y / N PVC Riser: Good / Damaged / None

Evendence of Ponding Around Welll? Y / N Concrete Collar: Good / Cracked / Leaking / None

REMARKS: Turb: 1191-3011 WLM: 53713
Pump: 687
YSI: 116100863

Sovereign Consulting Inc.
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508-339-3200

MONITORING WELL SAMPLING LOG

Low Flow Sampling

Sovereign Consulting Inc.
4 Open Square Way, Suite #307
Holyoke, MA 01040
413-540-0650

PROJECT NAME: SHL	PROJECT LOCATION: Devens, MA	DATE: 11·19·13	WELL ID: SHP-01-36K
PROJECT NUMBER: AC001.02I	WELL DIAMETER: (inches) 1.25	DEPTH TO WATER: (feet) 8.20	DEPTH TO BOTTOM: (feet) / PID READING: (ppmv) 0.0

PURGING DATA

TUBING DIAMETER (inches): 1/4"	TUBING MATERIAL CODE: (see below) Te/poly	PURGE PUMP TYPE: ~~[illegible]~~ peristaltic	PUMP EQUIPMENT MODEL & SERIAL #s: Geopump #687

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY

GALLONS: / LITERS:

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88

1 GALLON = 3.785 LITERS

WELL SCREEN INTERVAL DEPTH (feet): 3-8'	INITIAL PUMP OR TUBING DEPTH IN WELL (feet): ~10'	FINAL PUMP OR TUBING DEPTH IN WELL (feet): ~10'	PURGING INITIATED AT: 1400	PURGING ENDED AT: 1435	TOTAL VOLUME PURGED: GALLONS: 1.75 LITERS:

WATER LEVEL STABLIZATION — DEPTH TO WATER WITH PUMP: (feet)

TIME INTERVAL (min)	FLOW RATE (mL/min)	PUMP SETTINGS	DEPTH TO WATER (feet) START	DEPTH TO WATER (feet) END	Water Level Stable (Yes or No)	VOLUME PURGED DURING INTERVAL (mL)
1min	200	3/4	8.25	8.25	Yes	200

TIME (min)*	FLOW RATE (mL/min) (100-500 mL/min)**	DEPTH TO WATER (feet) (+/- 0.3')**	TURBIDITY (NTU) (+/- 10%)or <5**	DISSOLVED OXYGEN (mg/L) (+/- 10%)or <0.5**	pH (+/- 0.1)**	TEMP (°C) (+/- 3%)**	SPECIFIC CONDUCTIVITY (µS/cm) (+/- 3%)**	ORP (mV) (+/- 10mV)**	COLOR (describe) -	ODOR (describe) -
1405	200	8.26	6.62	6.71	6.35	6.87	413	115.1	Clear	None
1410	200	8.26	3.80	6.98	6.36	6.82	354	119.5	"	"
1415	200	8.26	1.47	7.01	6.41	6.82	353	119.9	"	"
1420	200	8.26	0.72	7.06	6.42	6.83	351	121.1	"	"
1425	200	8.26	0.66	7.07	6.42	6.81	351	119.5	"	"
1430	200	8.26	0.63	7.07	6.42	6.79	351	118.8	"	"
1435	Sample									

* every 5 or more minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

** EPA stabilization parameters from EPA/540/S-95/504 April 1996

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Erin Foley	SAMPLER(S) SIGNATURES: [signature]	SAMPLING INITIATED AT: 1435	SAMPLING ENDED AT: 1450
PUMP OR TUBING DEPTH IN WELL (feet): ~10'	SAMPLE PUMP FLOW RATE (mL per minute): 200	FIELD PARAMETER MONITORING EQUIPMENT MODEL & SERIAL #s: YSI 556 MPS 16100863 / LaMotte Turbidmeter 1191-3011	

FIELD DECONTAMINATION: (Y) N

FIELD-FILTERED: (Y) N FILTER SIZE: 0.45 µm
Filtration Equipment Type: DOC/Metals only

DUPLICATE: Y (N)

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

WELL CONDITION CHECKLIST (Circle appropriate items and add comments)

Type: Flush Mount / Stand Pipe (Stand Pipe) General Condition: Good / Needs Repair Well Caps: Good / Broken / None Lock: Good / Broken / None

Evidence of Rain Water Between Steel & PVC? Y / (N) Is Well Plumb?: Y / N PVC Riser: Good / Damaged / None

Evendence of Ponding Around Welll? Y / (N) Concrete Collar: Good / Cracked / Leaking / None

REMARKS: WM53713 YSI: 16100863
Turb: 1191-3011
Pump: 687

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Foxboro, MA 02035
508-339-3200

MONITORING WELL SAMPLING LOG

Low Flow Sampling

Holyoke,
413-540-0650

PROJECT NAME:	PROJECT LOCATION:	DATE:	WELL ID:
SHL	Devens, MA	1/2013	SHM-11-06

PROJECT NUMBER:	WELL DIAMETER: (inches)	DEPTH TO WATER: (feet)	DEPTH TO BOTTOM: (feet)	PID READING: (ppmv)
AC001.02I	2"	21.44		0.0

PURGING DATA

TUBING DIAMETER (inches):	TUBING MATERIAL CODE: (see below)	PURGE PUMP TYPE:	PUMP EQUIPMENT MODEL & SERIAL #s:
1/4"	Te/poly	peristaltic	Geopump #687

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY

GALLONS: LITERS:

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88

1 GALLON = 3.785 LITERS

TOTAL VOLUME PURGED: GALLONS: ~1.5 LITERS:

WELL SCREEN INTERVAL DEPTH (feet):	INITIAL PUMP OR TUBING DEPTH IN WELL (feet):	FINAL PUMP OR TUBING DEPTH IN WELL (feet):	PURGING INITIATED AT:	PURGING ENDED AT:
25-35'	30'	30'	0805	0845

WATER LEVEL STABLIZATION — DEPTH TO WATER WITH PUMP: (feet)

TIME INTERVAL (min)	FLOW RATE (mL/min)	PUMP SETTINGS	DEPTH TO WATER (feet) START	DEPTH TO WATER (feet) END	Water Level Stable (Yes or No)	VOLUME PURGED DURING INTERVAL (mL)
1min	175	N1/2	21.6	21.6	Yes	175

TIME (min)*	FLOW RATE (mL/min) (100-500 mL/min)**	DEPTH TO WATER (feet) (+/- 0.3)**	TURBIDITY (NTU) (+/- 10%)or <5**	DISSOLVED OXYGEN (mg/L) (+/- 10%)or <0.5**	pH (+/- 0.1)**	TEMP (°C) (+/- 3%)**	SPECIFIC CONDUCTIVITY (µS/cm) (+/- 3%)**	ORP (mV) (+/- 10mV)**	COLOR (describe)	ODOR (describe)
815	175	21.6	19.1	0.53	6.50	9.24	584	-98.3	Lit cloudy	None
820	175	21.6	13.1	0.56	6.46	9.27	581	-99.2	"	"
825	175	21.6	5.95	0.51	6.44	9.24	579	-100.5	Clear	None
830	175	21.6	3.19	0.45	6.43	9.28	578	-102.4	"	"
835	175	21.6	2.37	0.24	6.45	9.27	578	-103.4	"	"
840	175	21.6	2.23	0.36	6.45	9.29	578	-104.4	"	"
845	—	Sample								

* every 5 or more minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

** EPA stabilization parameters from EPA/540/S-95/504 April 1996

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION:	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT:	SAMPLING ENDED AT:
Erin Foley	[signature]	845	900

PUMP OR TUBING DEPTH IN WELL (feet):	SAMPLE PUMP FLOW RATE (mL per minute):	FIELD PARAMETER MONITORING EQUIPMENT MODEL & SERIAL #s:
30'	175	YSI 556 MPS / LaMotte 2020we see below for serial #s

FIELD DECONTAMINATION: (Y) N

FIELD-FILTERED: (Y) N FILTER SIZE: .45 µm

Filtration Equipment Type: DOC/Metals only

DUPLICATE: Y (N)

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

WELL CONDITION CHECKLIST (Circle appropriate items. Cross out inapplicable)

Type: Flush Mount / Stand (P)ipe General Condition: (Good) / Needs Repair Well Caps: (Good) / Broken / None Lock: (Good) / Broken / None

Evidence of Rain Water Between Steel & PVC? Y / (N) Is Well Plumb?: Y / N PVC Riser: (Good) / Damaged / None

Evendence of Ponding Around Welll? Y / (N) Concrete Collar: (Good) / Cracked / Leaking / None

REMARKS: Turb: 2068-1212 WLM: 53713
YSI: 11610086 3
pump: 687

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MONITORING WELL SAMPLING LOG

Low Flow Sampling

Sovereign Consulting Inc.
4 Open Square Way, Suite #307
Holyoke, MA 01040
413-540-0650

PROJECT NAME: SHL	PROJECT LOCATION: Devens, MA	DATE: 11/20/13	WELL ID: 10-15
PROJECT NUMBER: AC001.025	WELL DIAMETER: (inches) 2"	DEPTH TO WATER (feet) 25.74	DEPTH TO BOTTOM: (feet)
			PID READING: (ppmv) 0.0

PURGING DATA

TUBING DIAMETER (inches): 1/4"	TUBING MATERIAL CODE: (see below) T/poly	PURGE PUMP TYPE: Bladder	PUMP EQUIPMENT MODEL & SERIAL #s: Bladder QED 11426

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY

GALLONS: LITERS:

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88

1 GALLON = 3.785 LITERS

TOTAL VOLUME PURGED: GALLONS: 11 LITERS:

WELL SCREEN INTERVAL DEPTH (feet): 45-55'	INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 54'	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 53'	PURGING INITIATED AT: 0800	PURGING ENDED AT: 0915

WATER LEVEL STABLIZATION DEPTH TO WATER WITH PUMP: (feet)

TIME INTERVAL (min)	FLOW RATE (mL/min)	PUMP SETTINGS	DEPTH TO WATER (feet) START	DEPTH TO WATER (feet) END	Water Level Stable (Yes or No)	VOLUME PURGED DURING INTERVAL (mL)
1	400	10/5	25.75	25.75	Y	400

TIME (min)*	FLOW RATE (mL/min) (100-500 mL/min)**	DEPTH TO WATER (feet) (+/- 0.3')**	TURBIDITY (NTU) (+/- 10%)or <5**	DISSOLVED OXYGEN (mg/L) (+/- 10%)or <0.5**	pH (+/- 0.1)**	TEMP (°C) (+/- 3%)**	SPECIFIC CONDUCTIVITY (µS/cm) (+/- 3%)**	ORP (mV) (+/- 10mV)**	COLOR (describe) -	ODOR (describe) -
0810	400	25.75	84	0.42	6.63	10.11	480	-65.2	Murky	None
0815	400	25.75	75	0.39	6.58	10.06	481	-64.8	Murky	None
0820	400	25.75	50	0.40	6.59	9.85	480	-64.8	Murky	None
0825	400	25.75	75.3	0.28	6.60	10.15	478	-65.3	Murky	None
0830	400	25.75	68.1	0.33	6.57	10.25	479	-65.7	Murky	None
0835	400	25.75	22.9	0.34	6.56	10.36	479	-65.6	Clear	None
0840	400	25.75	29.3	0.37	6.58	10.29	479	-65.8	Clear	None
0845	400	25.75	19.1	0.37	6.58	10.31	479	-65.8	Clear	None
0850	400	25.75	12.0	0.41	6.53	10.40	480	-65.6	Clear	None
0855	400	25.75	12.13	0.40	6.53	10.38	480	-64.9	Clear	None
0900	400	25.75	12.60	0.40	6.50	10.34	479	-65.6	Clear	None
0905	400	25.75	10.34	0.39	6.54	10.39	480	-66.1	Clear	None
0910	400	25.75	10.31	0.38	6.51	10.41	480	-65.9	Clear	None

* every 5 or more minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

** EPA stabilization parameters from EPA/540/S-95/504 April 1996

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: [illegible]	SAMPLER(S) SIGNATURES: [illegible]	SAMPLING INITIATED AT: 0916	SAMPLING ENDED AT: 0925
PUMP OR TUBING DEPTH IN WELL (feet): 52'	SAMPLE PUMP FLOW RATE (mL per minute): 400	FIELD PARAMETER MONITORING EQUIPMENT MODEL & SERIAL #s: YSI MPS 556 03J101248 / Lamotte 2020we # 1191-3011	

FIELD DECONTAMINATION: (Y) N

FIELD-FILTERED: (Y) N Filtration Equipment Type: FILTER SIZE: 0.45µm DOC/metals only

DUPLICATE: Y (N)

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

WELL CONDITION CHECKLIST (circle appropriate item; cross out if not applicable)

Type: Flush Mount / (Stand Pipe) General Condition: Good / (Needs Repair) Well Caps: (Good) / Broken / None Lock: Good / Broken / None

Evidence of Rain Water Between Steel & PVC? Y / (N) Is Well Plumb?: Y / (N) PVC Riser: (Good) / Damaged / None

Evendence of Ponding Around Well? (Y) / N Concrete Collar: (Good) / Cracked / Leaking / None

REMARKS:

used 2 tanks for bladder pump.

Sovereign Consulting Inc.
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508-339-3200

MONITORING WELL SAMPLING LOG

Low Flow Sampling

Sovereign Consulting Inc.
4 Open Square Way, Suite #307
Holyoke, MA 01040
413-540-0650

PROJECT NAME: SHL	PROJECT LOCATION: Devens, MA	DATE: 11/20/13	WELL ID: SHM-11-02
PROJECT NUMBER: AC001.02I	WELL DIAMETER: (inches) 4"	DEPTH TO WATER: (feet) 23.84	DEPTH TO BOTTOM: (feet)
			PID READING: (ppmv) 0.0

PURGING DATA

TUBING DIAMETER (inches): 1/4"	TUBING MATERIAL CODE: (see below) T/poly	PURGE PUMP TYPE: Bladder	PUMP EQUIPMENT MODEL & SERIAL #s: QED 11426 1.75"

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY

GALLONS: LITERS:

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88

1 GALLON = 3.785 LITERS

TOTAL VOLUME PURGED: GALLONS: 6 LITERS:

WELL SCREEN INTERVAL DEPTH (feet): 52-66	INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 65'	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 65'	PURGING INITIATED AT: 1109	PURGING ENDED AT: 1200

WATER LEVEL STABLIZATION DEPTH TO WATER WITH PUMP: (feet)

TIME INTERVAL (min)	FLOW RATE (mL/min)	PUMP SETTINGS	DEPTH TO WATER (feet) START	DEPTH TO WATER (feet) END	Water Level Stable (Yes or No)	VOLUME PURGED DURING INTERVAL (mL)
1	300	10/5	23.53	24.13	N	300
1	150	10/5	24.41	24.44	Y	150

TIME (min)*	FLOW RATE (mL/min) (100-500 mL/min)**	DEPTH TO WATER (feet) (+/- 0.3')**	TURBIDITY (NTU) (+/- 10%)or <5**	DISSOLVED OXYGEN (mg/L) (+/- 10%)or <0.5**	pH (+/- 0.1)**	TEMP (°C) (+/- 3%)**	SPECIFIC CONDUCTIVITY (µS/cm) (+/- 3%)**	ORP (mV) (+/- 10mV)**	COLOR (describe)	ODOR (describe)
1120	~300,P	24.48	23.5	1.11	8.99	11.47	196	-175.6	greyish	none
1125	150	24.71	20.6	.54	8.91	11.16	205	-279.5	"	"
1130	150	24.83	20.2	0.27	8.82	10.89	210	-281.7		
1135	150	24.95	20.1	0.28	8.74	10.91	215	-276.5		
1140	150	24.99	21.0	0.14	8.64	11.04	228	-290.8	"	"
1145	150	25.17	20.3	0.30	8.46	11.01	234	-278.3	"	"
1150	150	25.21	20.5	0.32	8.37	10.84	241	-274.1	"	"
1155	150	25.30	20.9	0.32	8.36	10.92	244	-270.9	"	"
1200	150	25.36	21.3	0.30	8.38	10.82	241	-279.2	"	"

* every 5 or more minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

** EPA stabilization parameters from EPA/540/S-95/504 April 1996

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Julie Gosse	SAMPLER(S) SIGNATURES: [signature]	SAMPLING INITIATED AT: 1203	SAMPLING ENDED AT: 1220
PUMP OR TUBING DEPTH IN WELL (feet): ~65'	SAMPLE PUMP FLOW RATE (mL per minute): 150	FIELD PARAMETER MONITORING EQUIPMENT MODEL & SERIAL #s: YSI 556 MPS 08J101248/LaMotte Turbidimeter 1191-3011	
FIELD DECONTAMINATION: (Y) N	FIELD-FILTERED: (Y) N FILTER SIZE: ~45 µm Filtration Equipment Type: DOC/metals		DUPLICATE: Y (N)

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

WELL CONDITION CHECKLIST (circle appropriate item(s) across and fill in where applicable)

Type: Flush Mount / Stand Pipe General Condition: Good / Needs Repair Well Caps: Good / Broken / None Lock: Good / Broken / None

Evidence of Rain Water Between Steel & PVC? Y / N Is Well Plumb?: Y / N PVC Riser: Good / Damaged / None

Evendence of Ponding Around Welll? Y / N Concrete Collar: Good / Cracked / Leaking / None

REMARKS:
Tank switch @ 1157

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MONITORING WELL SAMPLING LOG

Low Flow Sampling

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Holyoke, MA 01040
413-540-0650

PROJECT NAME: SHL	PROJECT LOCATION: ACOD1.02I	DATE: 11-20-13	WELL ID: SHM-10-16
PROJECT NUMBER: Devens MA	WELL DIAMETER: (inches) 2"	DEPTH TO WATER: (feet) 9.24	DEPTH TO BOTTOM: (feet)
			PID READING: (ppmv) 0.0

PURGING DATA

TUBING DIAMETER (inches): 1/4"	TUBING MATERIAL CODE: (see below) Te/poly	PURGE PUMP TYPE: Peristaltic	PUMP EQUIPMENT MODEL & SERIAL #s: Geopump #687

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY

GALLONS: LITERS:

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88

1 GALLON = 3.785 LITERS

TOTAL VOLUME PURGED: GALLONS: ~2 LITERS:

WELL SCREEN INTERVAL DEPTH (feet): 75-85	INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 80'	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 80'	PURGING INITIATED AT: 0942	PURGING ENDED AT: 1017

WATER LEVEL STABLIZATION — DEPTH TO WATER WITH PUMP: (feet)

TIME INTERVAL (min)	FLOW RATE (mL/min)	PUMP SETTINGS	DEPTH TO WATER (feet) START	DEPTH TO WATER (feet) END	Water Level Stable (Yes or No)	VOLUME PURGED DURING INTERVAL (mL)
1	300	2/3	9.24	9.24	Y	300
1	~~300~~ 315	>2/3	9.~~24~~	9.~~24~~	Y	315

TIME (min)*	FLOW RATE (mL/min) (100-500 mL/min)**	DEPTH TO WATER (feet) (+/- 0.3')**	TURBIDITY (NTU) (+/- 10%)or <5**	DISSOLVED OXYGEN (mg/L) (+/- 10%)or <0.5**	pH (+/- 0.1)**	TEMP (°C) (+/- 3%)**	SPECIFIC CONDUCTIVITY (µS/cm) (+/- 3%)**	ORP (mV) (+/- 10mV)**	COLOR (describe)	ODOR (describe)
0945	315	9.24	7.26	3.26	6.81	9.51	371	8.0	clear	none
0953	315	9.24	2.01	0.19	6.65	9.65	653	-93.2	"	"
0957	315	9.24	2.28	0.17	6.72	9.54	658	-105.2	"	"
1002	315	9.24	2.07	0.13	6.74	9.42	674	-111.2	"	"
1007	315	9.24	0.74	0.14	6.74	9.41	676	-113.8	" "	" "
1012	315	9.24	0.84	0.19	6.75	9.39	677	-115.6	" "	" "
1017	—	sample								

* every 5 or more minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

** EPA stabilization parameters from EPA/540/S-95/504 April 1996

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Erin Foley	SAMPLER(S) SIGNATURES: [signature]	SAMPLING INITIATED AT: 1017	SAMPLING ENDED AT: 1027
PUMP OR TUBING DEPTH IN WELL (feet): 80'	SAMPLE PUMP FLOW RATE (mL per minute): 315	FIELD PARAMETER MONITORING EQUIPMENT MODEL & SERIAL #s: YSI 556 MPS 11G100863 / Lamotte turbidimeter 2068-1212	

FIELD DECONTAMINATION: (Y) N

FIELD-FILTERED: (Y) N FILTER SIZE: 45 µm Filtration Equipment Type: DOC/Metals only

DUPLICATE: Y (N)

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

WELL CONDITION CHECKLIST (circle appropriate items; see Sound Inspection)

Type: Flush Mount / (Stand Pipe) General Condition: (Good) / Needs Repair Well Caps: (Good) / Broken / None Lock: (Good) / Broken / None

Evidence of Rain Water Between Steel & PVC? Y / (N) Is Well Plumb? (Y) / N PVC Riser: (Good) / Damaged / None

Evendence of Ponding Around Welll? (Y) / N Concrete Collar: Good / Cracked / Leaking / (None)

REMARKS:

↳ slight

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MONITORING WELL SAMPLING LOG

Low Flow Sampling

Sovereign Consulting Inc.
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Holyoke, MA 01040
413-540-0650

PROJECT NAME: SHL	PROJECT LOCATION: AC001.02I	DATE: 11.20.13	WELL ID: SHM-10-10
PROJECT NUMBER: Devens, MA	WELL DIAMETER: (inches) 1.5"	DEPTH TO WATER: (feet) 10.88	DEPTH TO BOTTOM: (feet)
PID READING: (ppmv) 0.0			

PURGING DATA

TUBING DIAMETER (inches): 1/4	TUBING MATERIAL CODE: (see below) PE T/poly	PURGE PUMP TYPE: Geopump	PUMP EQUIPMENT MODEL & SERIAL #s: 687
WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY			GALLONS: / LITERS:

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88 — 1 GALLON = 3.785 LITERS — TOTAL VOLUME PURGED:

WELL SCREEN INTERVAL DEPTH (feet): 56-66	INITIAL PUMP OR TUBING DEPTH IN WELL (feet): ~60	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 60	PURGING INITIATED AT: 1215	PURGING ENDED AT: 1250	GALLONS: ~2 / LITERS:

WATER LEVEL STABLIZATION — DEPTH TO WATER WITH PUMP: (feet)

TIME INTERVAL (min)	FLOW RATE (mL/min)	PUMP SETTINGS	DEPTH TO WATER (feet) START	DEPTH TO WATER (feet) END	Water Level Stable (Yes or No)	VOLUME PURGED DURING INTERVAL (mL)
1min	225	~1/2	10.88	10.88	yes	225
1min	250	~2/3	10.88	10.88	yes	250

TIME (min)*	FLOW RATE (mL/min) (100-500 mL/min)**	DEPTH TO WATER (feet) (+/- 0.3')**	TURBIDITY (NTU) (+/- 10%)or <5**	DISSOLVED OXYGEN (mg/L) (+/- 10%)or <0.5**	pH (+/- 0.1)**	TEMP (°C) (+/- 3%)**	SPECIFIC CONDUCTIVITY (µS/cm) (+/- 3%)**	ORP (mV) (+/- 10mV)**	COLOR (describe)	ODOR (describe)
1220	250	10.88	0.75	0.74	6.83	11.72	552	57.1	Clear	None
1225	250	10.88	0.51	0.46	6.70	11.88	552	75.8	↓	↓
1230	250	10.88	0.65	0.36	6.66	11.91	556	81.7		
1235	250	10.88	0.47	0.44	6.51	11.95	553	81.5		
1240	250	10.88	0.36	0.35	6.52	11.97	550	79.3		
1245	250	10.88	0.39	0.36	6.53	11.98	557	75.2		
1250	—	Sample	—							

* every 5 or more minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

** EPA stabilization parameters from EPA/540/S-95/504 April 1996

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Erin Foley	SAMPLER(S) SIGNATURES: Er Fy	SAMPLING INITIATED AT: 1250	SAMPLING ENDED AT: 1305
PUMP OR TUBING DEPTH IN WELL (feet): 60	SAMPLE PUMP FLOW RATE (mL per minute): 250	FIELD PARAMETER MONITORING EQUIPMENT MODEL & SERIAL #s: YSI 556 MPS / Lamotte Turbidmeter 2020we – see below for serial #s	
FIELD DECONTAMINATION: (Y) N	FIELD-FILTERED: (Y) N Filtration Equipment Type:	FILTER SIZE: 0.45 µm DOC/Metals only	DUPLICATE: Y (N)

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

WELL CONDITION CHECKLIST (circle appropriate item(s); cross out if not applicable)

Type: Flush Mount / (Stand) Pipe — General Condition: (Good) / Needs Repair — Well Caps: (Good) / Broken / None — Lock: (Good) / Broken / None

Evidence of Rain Water Between Steel & PVC? Y / (N) — Is Well Plumb?: Y / N — PVC Riser: (Good) / Damaged / None

Evendence of Ponding Around Welll? Y / (N) — Concrete Collar: (Good) / Cracked / Leaking / None

REMARKS: Pump: 687 — WLM: 35713
Turb: 2068-1212
YSI: 16G100863

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MONITORING WELL SAMPLING LOG

Low Flow Sampling

Sovereign Consulting Inc.
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Holyoke, MA 01040
413-540-0650

PROJECT NAME:	PROJECT LOCATION:	DATE:	WELL ID:
SHL	Acoo1.02I	11.20.13	SHM-13-03

PROJECT NUMBER:	WELL DIAMETER: (inches)	DEPTH TO WATER: (feet)	DEPTH TO BOTTOM: (feet)	PID READING: (ppmv)
Devens, MA	2"	5.20		

PURGING DATA

TUBING DIAMETER (inches):	TUBING MATERIAL CODE: (see below)	PURGE PUMP TYPE:	PUMP EQUIPMENT MODEL & SERIAL #s:
1/4	T	Geopump	6987

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY

GALLONS: LITERS:

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88

1 GALLON = 3.785 LITERS

TOTAL VOLUME PURGED: GALLONS: ~2 LITERS:

WELL SCREEN INTERVAL DEPTH (feet):	INITIAL PUMP OR TUBING DEPTH IN WELL (feet):	FINAL PUMP OR TUBING DEPTH IN WELL (feet):	PURGING INITIATED AT:	PURGING ENDED AT:
42-52	49'	49'	1330	1405

WATER LEVEL STABLIZATION — DEPTH TO WATER WITH PUMP (feet):

TIME INTERVAL (min)	FLOW RATE (mL/min)	PUMP SETTINGS	DEPTH TO WATER (feet) START	DEPTH TO WATER (feet) END	Water Level Stable (Yes or No)	VOLUME PURGED DURING INTERVAL (mL)
1 min	350	~ 3/4	5.20	5.20	Yes	350

TIME (min)*	FLOW RATE (mL/min) (100-500 mL/min)**	DEPTH TO WATER (feet) (+/- 0.3')**	TURBIDITY (NTU) (+/- 10%)or <5**	DISSOLVED OXYGEN (mg/L) (+/- 10%)or <0.5**	pH (+/- 0.1)**	TEMP (°C) (+/- 3%)**	SPECIFIC CONDUCTIVITY (µS/cm) (+/- 3%)**	ORP (mV) (+/- 10mV)**	COLOR (describe)	ODOR (describe)
1335	350	5.20	3.76	1.47	7.74	10.31	435	22.5	Clear	None
1340	350	5.20	1.27	0.36	6.75	10.29	555	-54.8	" "	" "
1345	350	5.20	0.66	0.29	6.60	10.23	558	-46.9	" "	" "
1350	350	5.20	0.79	0.21	6.55	10.25	560	-46.6	" "	" "
1355	350	5.20	0.63	0.36	6.48	10.27	567	-40.4	" "	" "
1400	350	5.20	0.54	0.40	6.50	10.26	563	-41.8	" "	" "
1405	—	—	sample	—	—	—	—	—		

* every 5 or more minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

** EPA stabilization parameters from EPA/540/S-95/504 April 1996

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION:	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT:	SAMPLING ENDED AT:
Erin Foley	Erin Foley	1405	1415

PUMP OR TUBING DEPTH IN WELL (feet):	SAMPLE PUMP FLOW RATE (mL per minute):	FIELD PARAMETER MONITORING EQUIPMENT MODEL & SERIAL #s:
49'	350	YSI 556 MPS / LaMotte 2020we – see below for serial #s

FIELD DECONTAMINATION: Y / N

FIELD-FILTERED: Y / N FILTER SIZE: 0.45 µm
Filtration Equipment Type: DOC/Metals only

DUPLICATE: Y / N

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

WELL CONDITION CHECKLIST (circle appropriate item(s) cross out if not applicable)

Type: Flush Mount / Stand Pipe General Condition: Good / Needs Repair Well Caps: Good / Broken / None Lock: Good / Broken / None

Evidence of Rain Water Between Steel & PVC? Y / N Is Well Plumb?: Y / N PVC Riser: Good / Damaged / None

Evendence of Ponding Around Well!? Y / N Concrete Collar: Good / Cracked / Leaking / None

REMARKS: Turb: 20668-1212 WLM 35713
Pump: 6987
YSI: 16100063

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MONITORING WELL SAMPLING LOG

Low Flow Sampling

Sovereign Consulting Inc.
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Holyoke, MA 01040
413-540-0650

PROJECT NAME: AL001.02I	PROJECT LOCATION: SHL / Devens	DATE: 11.20.13	WELL ID: SHM-10-DGA
PROJECT NUMBER:	WELL DIAMETER: (inches) 1.5"	DEPTH TO WATER: (feet) 35.96	DEPTH TO BOTTOM: (feet) 85'	PID READING: (ppmv) 0

PURGING DATA

TUBING DIAMETER (inches): 1/4"	TUBING MATERIAL CODE: (see below) te/poly	PURGE PUMP TYPE: 3/4" Bladder	PUMP EQUIPMENT MODEL & SERIAL #s: Geotech brand

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH − STATIC DEPTH TO WATER) X WELL CAPACITY

GALLONS: LITERS:

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88

1 GALLON = 3.785 LITERS

TOTAL VOLUME PURGED: GALLONS: 2 LITERS:

WELL SCREEN INTERVAL DEPTH (feet): 75'-85'	INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 77'	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 78'	PURGING INITIATED AT: 1315	PURGING ENDED AT: 1405	

WATER LEVEL STABLIZATION — DEPTH TO WATER WITH PUMP: (feet)

TIME INTERVAL (min)	FLOW RATE (mL/min)	PUMP SETTINGS	DEPTH TO WATER (feet) START	DEPTH TO WATER (feet) END	Water Level Stable (Yes or No)	VOLUME PURGED DURING INTERVAL (mL)
1	100	10/5 ~85' pressure	35.96	35.96	Y	100
1	120	10/5 ~92' pressure	35.96	35.96	Y	120

TIME (min)*	FLOW RATE (mL/min) (100-500 mL/min)**	DEPTH TO WATER (feet) (+/- 0.3')**	TURBIDITY (NTU) (+/- 10%)or <5**	DISSOLVED OXYGEN (mg/L) (+/- 10%)or <0.5**	pH (+/- 0.1)**	TEMP (°C) (+/- 3%)**	SPECIFIC CONDUCTIVITY (µS/cm) (+/- 3%)**	ORP (mV) (+/- 10mV)**	COLOR (describe) -	ODOR (describe) -
1322	120	35.96	2.78	0.83	6.72	9.34	107	-111.7	Clear	None
1326	120	35.98	1.77	0.69	6.70	9.38	107	-105.4	Clear	None
1330	120	35.98	1.55	0.40	6.57	9.48	107	-84.6	Clear	None
1335	120	35.98	1.66	0.35	6.57	9.32	107	-77.1	Clear	None
1340	120	36.02	0.67	0.33	6.48	9.27	106	-62.9	Clear	None
1345	120	36.03	0.73	0.21	6.49	9.25	107	-61.8	Clear	None
1350	120	36.03	0.56	0.23	6.49	9.28	107	-61.7	Clear	None
1355	120	36.03	0.54	0.21	6.48	9.27	107	-61.4	Clear	None
1400	120	36.13	0.47	0.24	6.49	9.31	107	-61.6	Clear	None
1405	120	36.14	0.44	0.22	6.49	9.34	107	-61.6	Clear	None

* every 5 or more minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

** EPA stabilization parameters from EPA/540/S-95/504 April 1996

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Julie Bossac	SAMPLER(S) SIGNATURES: [signature]	SAMPLING INITIATED AT: 1409	SAMPLING ENDED AT:
PUMP OR TUBING DEPTH IN WELL (feet): 78'	SAMPLE PUMP FLOW RATE (mL per minute): 120	FIELD PARAMETER MONITORING EQUIPMENT MODEL & SERIAL #s: YSI MPS 556 08J101248 / lamotte 2020we # 1191-3011	
FIELD DECONTAMINATION: (Y) N	FIELD-FILTERED: (Y) N Filtration Equipment Type:	FILTER SIZE: 0.45 µm DOC/Metals only	DUPLICATE: Y (N)

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

WELL CONDITION CHECKLIST (circle appropriate item(s), cross out if not applicable)

Type: Flush Mount / (Stand Pipe) General Condition: (Good) / Needs Repair Well Caps: Good / (Broken) / None Lock: (Good) / Broken / None

Evidence of Rain Water Between Steel & PVC? Y / N Is Well Plumb?: (Y) / N PVC Riser: (Good) / Damaged / None

Evendence of Ponding Around Welll? Y / (N) Concrete Collar: (Good) / Cracked / Leaking / None

REMARKS:

Two nitrogen tanks used

Sovereign Consulting Inc.
16 Chestnut Street, Suite 520
Foxboro, MA 02035
508-339-3200

MONITORING WELL SAMPLING LOG

Low Flow Sampling

Sovereign Consulting Inc.
4 Open Square Way, Suite #307
Holyoke, MA 01040
413-540-0650

PROJECT NAME: A1001.02J	PROJECT LOCATION: SHL	DATE: 112113	WELL ID: ~~A1001.0~~ SHM-13-02
PROJECT NUMBER: SHL	WELL DIAMETER: (inches) 2"	DEPTH TO WATER: (feet) 13.02	DEPTH TO BOTTOM: (feet)
PID READING: (ppmv) 0.1			

PURGING DATA

TUBING DIAMETER (inches): 1/4"	TUBING MATERIAL CODE: (see below) T/poly	PURGE PUMP TYPE: Peristaltic	PUMP EQUIPMENT MODEL & SERIAL #s: Geotech 476

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY

GALLONS: LITERS:

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88

1 GALLON = 3.785 LITERS

TOTAL VOLUME PURGED:

WELL SCREEN INTERVAL DEPTH (feet): 60-70	INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 60'	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 60'	PURGING INITIATED AT: 0805	PURGING ENDED AT:	GALLONS: 3 LITERS:

WATER LEVEL STABLIZATION — DEPTH TO WATER WITH PUMP: (feet)

TIME INTERVAL (min)	FLOW RATE (mL/min)	PUMP SETTINGS	DEPTH TO WATER (feet) START	DEPTH TO WATER (feet) END	Water Level Stable (Yes or No)	VOLUME PURGED DURING INTERVAL (mL)
1	400	3/4 (0-350rpm)	13.02	13.06	N	400
1	300	1/2 (0-350rpm)	13.06	13.06	Y	300

TIME (min)*	FLOW RATE (mL/min) (100-500 mL/min)**	DEPTH TO WATER (feet) (+/- 0.3')**	TURBIDITY (NTU) (+/- 10%)or <5**	DISSOLVED OXYGEN (mg/L) (+/- 10%)or <0.5**	pH (+/- 0.1)**	TEMP (°C) (+/- 3%)**	SPECIFIC CONDUCTIVITY (µS/cm) (+/- 3%)**	ORP (mV) (+/- 10mV)**	COLOR (describe)	ODOR (describe)
0810	300	13.06	4.15	0.21	7.37	10.77	236	9.6	Clear	None
0815	300	13.06	2.40	0.16	7.20	10.82	237	-9.3	"	"
0820	300	13.06	1.78	0.17	7.07	10.88	236	-17.0	"	"
0825	300	13.06	1.54	0.11	7.06	10.90	236	-16.8	"	"
0830	300	13.06	1.33	0.10	7.03	10.86	236	-16.4	"	"
0835	300	13.06	1.99	0.11	7.00	10.88	236	-16.7	"	"
0840	300	13.06	1.96	0.11	6.99	10.87	238	-17.9	"	"
0845	300	13.06	1.84	0.10	6.99	10.89	240	-17.0	"	"

* every 5 or more minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

** EPA stabilization parameters from EPA/540/S-95/504 April 1996

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Julie Godsoe	SAMPLER(S) SIGNATURES: Julie Godsoe	SAMPLING INITIATED AT: 0850	SAMPLING ENDED AT: 0905
PUMP OR TUBING DEPTH IN WELL (feet): ~60'	SAMPLE PUMP FLOW RATE (mL per minute): 300	FIELD PARAMETER MONITORING EQUIPMENT MODEL & SERIAL #s: YSI MPS 556 11G100863	Lamotte 2020 we # 2068-1212

FIELD DECONTAMINATION: (Y) N

FIELD-FILTERED: (Y) N — FILTER SIZE: .45 µm — Filtration Equipment Type: Metals only

DUPLICATE: Y (N)

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

WELL CONDITION CHECKLIST (Complete for new or poor condition wells only)

Type: Flush Mount / (Stand Pipe) — General Condition: (Good) / Needs Repair — Well Caps: (Good) / Broken / None — Lock: (Good) / Broken / None

Evidence of Rain Water Between Steel & PVC? Y / (N) — Is Well Plumb?: (Y) / N — PVC Riser: (Good) / Damaged / None

Evendence of Ponding Around Welll? Y / (N) — Concrete Collar: (Good) / Cracked / Leaking / None

REMARKS:

Sovereign Consulting Inc.
16 Chestnut Street, Suite 520
Foxboro, MA 02035
508-339-3200

MONITORING WELL SAMPLING LOG

Low Flow Sampling

Sovereign Consulting Inc.
4 Open Square Way, Suite #307
Holyoke, MA 01040
413-540-0650

PROJECT NAME: A1001.02 I	PROJECT LOCATION: SHL	DATE: 11·21·13	WELL ID: SHM-13-01
PROJECT NUMBER: Devens	WELL DIAMETER: (inches) 2"	DEPTH TO WATER: (feet) 3.33	DEPTH TO BOTTOM: (feet)
PID READING: (ppmv) 0.0			

PURGING DATA

TUBING DIAMETER (inches): 1/4	TUBING MATERIAL CODE: (see below) T/poly	PURGE PUMP TYPE: Geopump	PUMP EQUIPMENT MODEL & SERIAL #s: # 687

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY

GALLONS: LITERS:

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88

1 GALLON = 3.785 LITERS

TOTAL VOLUME PURGED:

WELL SCREEN INTERVAL DEPTH (feet): 39-49'	INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 44	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 44	PURGING INITIATED AT: 0820	PURGING ENDED AT: 0900	GALLONS: ~2 LITERS:

WATER LEVEL STABLIZATION DEPTH TO WATER WITH PUMP: (feet)

TIME INTERVAL (min)	FLOW RATE (mL/min)	PUMP SETTINGS	DEPTH TO WATER (feet) START	DEPTH TO WATER (feet) END	Water Level Stable (Yes or No)	VOLUME PURGED DURING INTERVAL (mL)
1min	250	~2/3	3.56	3.56	Y	250

TIME (min)*	FLOW RATE (mL/min) (100-500 mL/min)**	DEPTH TO WATER (feet) (+/- 0.3')**	TURBIDITY (NTU) (+/- 10%)or <5**	DISSOLVED OXYGEN (mg/L) (+/- 10%)or <0.5**	pH (+/- 0.1)**	TEMP (°C) (+/- 3%)**	SPECIFIC CONDUCTIVITY (µS/cm) (+/- 3%)**	ORP (mV) (+/- 10mV)**	COLOR (describe)	ODOR (describe)
825	250	3.56	0.39	6.70	7.11	10.19	166	94.2	Clear	None
830	250	3.56	0.21	6.62	6.72	10.20	165	126.2	Clear	None
835	250	3.56	0.33	6.56	6.55	10.20	164	133.5	"	"
840	250	3.56	0.35	6.48	6.41	10.15	164	144.7	"	"
845	250	3.56	0.30	6.45	6.43	10.14	164	159.1	"	"
850	250	3.56	0.28	6.46	6.46	10.18	163	160.2	"	"
855	250	3.56	0.31	6.48	6.46	10.15	163	165.1	"	"
900	—	Sample								

* every 5 or more minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

** EPA stabilization parameters from EPA/540/S-95/504 April 1996

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Evin Foley	SAMPLER(S) SIGNATURES: Evin Foley	SAMPLING INITIATED AT: 900	SAMPLING ENDED AT: 0980
PUMP OR TUBING DEPTH IN WELL (feet): 44	SAMPLE PUMP FLOW RATE (mL per minute): 250	FIELD PARAMETER MONITORING EQUIPMENT MODEL & SERIAL #s: YSI 556 MPS #08J10248 / Lamotte 2020we 1191-3011	

FIELD DECONTAMINATION: (Y) N

FIELD-FILTERED: (Y) N FILTER SIZE: .45 µm Filtration Equipment Type: metals / DOC only

DUPLICATE: (Y) N

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

WELL CONDITION CHECKLIST (Circle appropriate answers or fill in as appropriate)

Type: Flush Mount / Stand Pipe General Condition: Good / Needs Repair Well Caps: Good / Broken / None Lock: Good / Broken / None

Evidence of Rain Water Between Steel & PVC? Y / N Is Well Plumb?: Y / N PVC Riser: Good / Damaged / None

Evendence of Ponding Around Well? (Y) / N Concrete Collar: Good / Cracked / Leaking / None

REMARKS:

☆ DUP ☆

Sovereign Consulting Inc.
16 Chestnut Street, Suite 520
Foxboro, MA 02035
508-339-3200

MONITORING WELL SAMPLING LOG

Low Flow Sampling

Sovereign Consulting Inc.
4 Open Square Way, Suite #307
Holyoke, MA 01040
413-540-0650

PROJECT NAME: A C001.02I	PROJECT LOCATION: SHL	DATE: 112113	WELL ID: SHM-13-06
PROJECT NUMBER: SHL	WELL DIAMETER: (inches) 2"	DEPTH TO WATER: (feet) 17.59	DEPTH TO BOTTOM: (feet) —	PID READING: (ppmv) 0.0

PURGING DATA

TUBING DIAMETER (inches): 1/4"	TUBING MATERIAL CODE: (see below) T/poly	PURGE PUMP TYPE: Geopump	PUMP EQUIPMENT MODEL & SERIAL #s: Geotech 4176

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY

GALLONS: LITERS:

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88

1 GALLON = 3.785 LITERS

TOTAL VOLUME PURGED: GALLONS: ~2.5 LITERS:

WELL SCREEN INTERVAL DEPTH (feet): 36-46	INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 41	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 41	PURGING INITIATED AT: 0900	PURGING ENDED AT: 0935	

WATER LEVEL STABLIZATION — DEPTH TO WATER WITH PUMP: (feet)

TIME INTERVAL (min)	FLOW RATE (mL/min)	PUMP SETTINGS	DEPTH TO WATER (feet) START	DEPTH TO WATER (feet) END	Water Level Stable (Yes or No)	VOLUME PURGED DURING INTERVAL (mL)
1	350	1/2 (0-350 rpm)	17.59	17.60	Y	350

TIME (min)*	FLOW RATE (mL/min) (100-500 mL/min)**	DEPTH TO WATER (feet) (+/- 0.3')**	TURBIDITY (NTU) (+/- 10%)or <5**	DISSOLVED OXYGEN (mg/L) (+/- 10%)or <0.5**	pH (+/- 0.1)**	TEMP (°C) (+/- 3%)**	SPECIFIC CONDUCTIVITY (µS/cm) (+/- 3%)**	ORP (mV) (+/- 10mV)**	COLOR (describe)	ODOR (describe)
0910	350	17.61	2.09	0.33	6.81	11.15	575	-107.8	Clear	None
0915	350	17.61	2.24	0.28	6.83	11.17	583	-112.4	"	"
0920	350	17.61	1.38	0.27	6.83	11.22	587	-115.4	"	"
0925	350	17.61	1.65	0.26	6.83	11.22	589	-117.8	"	"
0930	350	17.61	1.17	0.24	6.83	11.25	590	-118.2	"	"
0935	350	17.61	1.24	0.25	6.84	11.33	587	-119.4	"	"

* every 5 or more minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

** EPA stabilization parameters from EPA/540/S-95/504 April 1996

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Julie Godere	SAMPLER(S) SIGNATURES: Julie Godere	SAMPLING INITIATED AT: 0938	SAMPLING ENDED AT: 1015
PUMP OR TUBING DEPTH IN WELL (feet): 41	SAMPLE PUMP FLOW RATE (mL per minute): 350	FIELD PARAMETER MONITORING EQUIPMENT MODEL & SERIAL #s: YSI MPS 556 11G100863 / Lamotte Turbidmeter 2068-1212	

FIELD DECONTAMINATION: (Y) N

FIELD-FILTERED: (Y) N — Filtration Equipment Type: FILTER SIZE: 0.45 µm DOC/Metals only

DUPLICATE: Y (N)

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

WELL CONDITION CHECKLIST

Type: (Flush Mount) / Stand Pipe — General Condition: (Good) / Needs Repair — Well Caps: (Good) / Broken / None — Lock: Good / Broken / (None)

Evidence of Rain Water Between Steel & PVC? Y / (N) — Is Well Plumb? (Y) / N — PVC Riser: (Good) / Damaged / None

Evendence of Ponding Around Welll? Y / (N) — Concrete Collar: (Good) / Cracked / Leaking / None

REMARKS:

SHM-13-06-112113 w/ MS/MSD (24 bottles total)

Sovereign Consulting Inc.
16 Chestnut Street, Suite 520
Foxboro, MA 02035
508-339-3200

MONITORING WELL SAMPLING LOG

Low Flow Sampling

Sovereign Consulting Inc.
4 Open Square Way, Suite #307
Holyoke, MA 01040
413-540-0650

PROJECT NAME: A1001.02I	PROJECT LOCATION: SHL	DATE: 11·21·13	WELL ID: SHM-13-05
PROJECT NUMBER: Devens	WELL DIAMETER: (inches) 2"	DEPTH TO WATER: (feet) 17.15	DEPTH TO BOTTOM: (feet)
			PID READING: (ppmv) 0.0

PURGING DATA

TUBING DIAMETER (inches): 1/4	TUBING MATERIAL CODE: (see below) PP	PURGE PUMP TYPE: Geopump	PUMP EQUIPMENT MODEL & SERIAL #s: 687

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY

GALLONS: LITERS:

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88

1 GALLON = 3.785 LITERS

WELL SCREEN INTERVAL DEPTH (feet): 75-85	INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 80	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 80	PURGING INITIATED AT: 1005	PURGING ENDED AT: 1040	TOTAL VOLUME PURGED: GALLONS: ~1.5 LITERS:

WATER LEVEL STABLIZATION — DEPTH TO WATER WITH PUMP: (feet) —

TIME INTERVAL (min)	FLOW RATE (mL/min)	PUMP SETTINGS	DEPTH TO WATER (feet) START	DEPTH TO WATER (feet) END	Water Level Stable (Yes or No)	VOLUME PURGED DURING INTERVAL (mL)
1 min	175	1/2	17.24	17.26	Y	175

TIME (min)*	FLOW RATE (mL/min) (100-500 mL/min)**	DEPTH TO WATER (feet) (+/- 0.3')**	TURBIDITY (NTU) (+/- 10%)or <5**	DISSOLVED OXYGEN (mg/L) (+/- 10%)or <0.5**	pH (+/- 0.1)**	TEMP (°C) (+/- 3%)**	SPECIFIC CONDUCTIVITY (µS/cm) (+/- 3%)**	ORP (mV) (+/- 10mV)**	COLOR (describe)	ODOR (describe)
1010	175	17.27	2.63	0.67	7.65	10.00	442	-120.1	Clear	None
1015	175	17.27	3.18	0.53	7.90	9.93	438	-143.2	"	"
1020	175	17.27	3.16	0.46	8.05	10.23	437	-154.5	"	"
1025	175	17.27	2.50	0.41	8.08	10.25	437	-157.4	"	"
1030	175	17.27	2.24	0.41	7.90	10.28	440	-153.3	"	"
1035	175	17.27	2.11	0.44	7.94	10.27	440	-154.6	"	"
1040	—	Sample								

* every 5 or more minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

** EPA stabilization parameters from EPA/540/S-95/504 April 1996

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Erin Foley	SAMPLER(S) SIGNATURES: [signature]	SAMPLING INITIATED AT: 1040	SAMPLING ENDED AT: 1055
PUMP OR TUBING DEPTH IN WELL (feet): 80	SAMPLE PUMP FLOW RATE (mL per minute): 175	FIELD PARAMETER MONITORING EQUIPMENT MODEL & SERIAL #s: YSI 556MPS #08J101248 / Lamotte 2020WE 1191-3011	
FIELD DECONTAMINATION: (Y) N	FIELD-FILTERED: (Y) N FILTER SIZE: 45 µm Filtration Equipment Type: DOC / Metals only		DUPLICATE: Y (N)

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

WELL CONDITION CHECKLIST (Circle appropriate items, cross out inappropriate)

Type: Flush Mount / Stand Pipe General Condition: Good / Needs Repair Well Caps: Good / Broken / None Lock: Good / Broken / None

Evidence of Rain Water Between Steel & PVC? Y / N Is Well Plumb?: Y / N PVC Riser: Good / Damaged / None

Evendence of Ponding Around Welll? Y / N Concrete Collar: Good / Cracked / Leaking / None

REMARKS:

Sovereign Consulting Inc.
16 Chestnut Street, Suite 520
Foxboro, MA 02035
508-339-3200

MONITORING WELL SAMPLING LOG

Low Flow Sampling

Sovereign Consulting Inc.
4 Open Square Way, Suite #307
Holyoke, MA 01040
413-540-0650

PROJECT NAME: GHL	PROJECT LOCATION: Devens, MA	DATE: 11-21-13	WELL ID: SHM-13-07
PROJECT NUMBER: AC001.02I	WELL DIAMETER: (inches) 2"	DEPTH TO WATER: (feet) 19.04	DEPTH TO BOTTOM: (feet)
PID READING: (ppmv) 0.0			

PURGING DATA

TUBING DIAMETER (inches): 1/4"	TUBING MATERIAL CODE: (see below) Poly / Te	PURGE PUMP TYPE: peristatic	PUMP EQUIPMENT MODEL & SERIAL #s: GeoPump #

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY

GALLONS: LITERS:

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88

1 GALLON = 3.785 LITERS

TOTAL VOLUME PURGED: GALLONS: LITERS:

WELL SCREEN INTERVAL DEPTH (feet): 27-37'	INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 35'	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 35'	PURGING INITIATED AT: 10:45	PURGING ENDED AT: 1120

WATER LEVEL STABLIZATION DEPTH TO WATER WITH PUMP: (feet)

TIME INTERVAL (min)	FLOW RATE (mL/min)	PUMP SETTINGS	DEPTH TO WATER (feet) START	DEPTH TO WATER (feet) END	Water Level Stable (Yes or No)	VOLUME PURGED DURING INTERVAL (mL)
1	225	2/3 (0-350rpm)	19.04	19.04	Y	225

TIME (min)*	FLOW RATE (mL/min) (100-500 mL/min)**	DEPTH TO WATER (feet) (+/- 0.3')**	TURBIDITY (NTU) (+/- 10%)or <5**	DISSOLVED OXYGEN (mg/L) (+/- 10%)or <0.5**	pH (+/- 0.1)**	TEMP (°C) (+/- 3%)**	SPECIFIC CONDUCTIVITY (µS/cm) (+/- 3%)**	ORP (mV) (+/- 10mV)**	COLOR (describe)	ODOR (describe)
1045	225	19.04	7.96	0.46	6.58	12.31	873	-70.7	Clear	None
1050	225	19.04	8.87	0.28	6.67	12.40	848	-91.5	clear	
1055	225	19.04	8.94	0.20	6.74	12.47	799	-92.7	" "	" "
1100	225	19.04	6.87	0.18	6.75	12.47	789	-97.2	" "	" "
~~1105~~	225	19.04	5.72	0.13	6.78	12.49	775	-95.9	" "	" "
1110	225	19.04	5.46	0.14	6.79	12.48	776	-95.4	"	"
1115	225	19.04	4.78	0.14	6.79	12.50	777	-96.3	"	"
1120	222	19.04	4.70	0.14	6.80	12.50	773	-97.4	"	"

* every 5 or more minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

** EPA stabilization parameters from EPA/540/S-95/504 April 1996

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Julie Godoe	SAMPLER(S) SIGNATURES: Julie Godoe	SAMPLING INITIATED AT: 1122	SAMPLING ENDED AT: 1140
PUMP OR TUBING DEPTH IN WELL (feet): 35'	SAMPLE PUMP FLOW RATE (mL per minute): 225	FIELD PARAMETER MONITORING EQUIPMENT MODEL & SERIAL #s: YSI MPS 556 11G100863 / Lamotte 2020 we #2068-1212	
FIELD DECONTAMINATION: (Y) N	FIELD-FILTERED: (Y) N Filtration Equipment Type:	FILTER SIZE: .45 µm Metals/DOC only	DUPLICATE: Y (N)

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

WELL CONDITION CHECKLIST (circle appropriate items; cross out if not applicable)

Type: (Flush Mount) / Stand Pipe General Condition: (Good) / Needs Repair Well Caps: (Good) / Broken / None Lock: Good / Broken (None)

Evidence of Rain Water Between Steel & PVC? Y / (N) Is Well Plumb?: (Y) / N PVC Riser: (Good) / Damaged / None

Evendence of Ponding Around Welll? Y / (N) Concrete Collar: (Good) / Cracked / Leaking / None

REMARKS:

Sovereign Consulting Inc.
16 Chestnut Street, Suite 520
Foxboro, MA 02035
508-339-3200

MONITORING WELL SAMPLING LOG

Low Flow Sampling

Sovereign Consulting Inc.
4 Open Square Way, Suite #307
Holyoke, MA 01040
413-540-0650

PROJECT NAME: ACOOI.02I	PROJECT LOCATION: SHL	DATE: 11.21.13	WELL ID: SHM-13-08
PROJECT NUMBER: Devens	WELL DIAMETER: (inches) 2"	DEPTH TO WATER: (feet) 20.63	DEPTH TO BOTTOM: (feet)
			PID READING: (ppmv) 0.0

PURGING DATA

TUBING DIAMETER (inches): 1/4	TUBING MATERIAL CODE: (see below) Poly	PURGE PUMP TYPE: Grepump	PUMP EQUIPMENT MODEL & SERIAL #s: # 687

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY

GALLONS: LITERS:

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88

1 GALLON = 3.785 LITERS

TOTAL VOLUME PURGED: GALLONS: ~2 LITERS:

WELL SCREEN INTERVAL DEPTH (feet): 55-65	INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 60'	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 60'	PURGING INITIATED AT: 1110	PURGING ENDED AT: 1145

WATER LEVEL STABLIZATION — DEPTH TO WATER WITH PUMP: (feet)

TIME INTERVAL (min)	FLOW RATE (mL/min)	PUMP SETTINGS	DEPTH TO WATER (feet) START	DEPTH TO WATER (feet) END	Water Level Stable (Yes or No)	VOLUME PURGED DURING INTERVAL (mL)
1min	200	1/2	20.61	20.61	yes	200

TIME (min)*	FLOW RATE (mL/min) (100-500 mL/min)**	DEPTH TO WATER (feet) (+/- 0.3')**	TURBIDITY (NTU) (+/- 10%)or <5**	DISSOLVED OXYGEN (mg/L) (+/- 10%)or <0.5**	pH (+/- 0.1)**	TEMP (°C) (+/- 3%)**	SPECIFIC CONDUCTIVITY (µS/cm) (+/- 3%)**	ORP (mV) (+/- 10mV)**	COLOR (describe)	ODOR (describe)
1115	200	20.61	8.75	0.84	6.95	11.47	298	-125.0	clear	None
1120	200	20.61	5.86	0.40	6.80	11.25	316	-119.8	"	"
1125	200	20.61	1.99	0.29	6.89	11.30	321	-133.7	"	"
1130	200	20.61	1.46	0.26	6.84	11.31	322	-131.7	"	"
1135	200	20.61	1.11	0.25	6.80	11.33	323	-132.9	"	"
1140	200	20.61	0.98	0.24	6.84	11.32	323	-131.1	"	"
1145	—	—	Sample	—						

* every 5 or more minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

** EPA stabilization parameters from EPA/540/S-95/504 April 1996

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Erin Foley	SAMPLER(S) SIGNATURES: E Foley	SAMPLING INITIATED AT: 1145	SAMPLING ENDED AT: 1200
PUMP OR TUBING DEPTH IN WELL (feet): 60'	SAMPLE PUMP FLOW RATE (mL per minute): 200	FIELD PARAMETER MONITORING EQUIPMENT MODEL & SERIAL #s: YSI 556 MPS #0BJ101248 / Lamotte 2020we 1191-3011	
FIELD DECONTAMINATION: Y N	FIELD-FILTERED: Y N FILTER SIZE: .45 µm Filtration Equipment Type: DOC/Metals		DUPLICATE: Y N

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

WELL CONDITION CHECKLIST (Circle appropriate and cross out inappropriate)

Type: Flush Mount / Stand Pipe General Condition: Good / Needs Repair Well Caps: Good / Broken / None Lock: Good / Broken / None

Evidence of Rain Water Between Steel & PVC? Y / N Is Well Plumb?: Y / N PVC Riser: Good / Damaged / None

Evendence of Ponding Around Welll? Y / N Concrete Collar: Good / Cracked / Leaking / None

REMARKS:

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Field Instrument Calibration Record

Sovereign Consulting Inc.
4 Open Square Way, Suite #307
Holyoke, MA 01040
413-540-0650

Instrument (MAKE/MODEL#) IonScience PID
Instrument # T-1055c09
Parameter:

- ☐ Temperature
- ☐ Conductivity (±0.5%)
- ☐ Salinity
- ☐ pH (±0.2 units)
- ☐ Turbidity (±5%)
- ☐ ORP (±20 mV)
- ☐ DO (±2%)
- ☒ Isobutylene (±2%)

Standards:

Standard A 100 ppm isobutylene
Standard B 100 ppm isobutylene
Standard C
Standard D
Standard E
Standard F

Date	Time	STD (A,B,C)	STD Value	Instrument Response	% Dev	Calibrated (Y/N)	Type (Init., Cont.)	Sampler
11/19/13	0720	A	100	100	0%	Y	initial	JG
	0722	B	100	98.2	1.8%	N	Bump	JG
11-19-13	1420	A	100	101.2	1.2%	N	Post	CS
11-2013	0730	A	100	100	0%	Y	Init	JG
	0735	B	100	98.2	1.8%	N	Bump	JG
11-20-13	1500	A	100	102.0	2%	N	Post	CS
11-21-13	0740	A	100	100	0%	Y	Init.	CS
		B	100	98.8	1.2%	N	BUMP	CS
	1250	A	100	101.0	1%	N	~~Bump~~ Post	CS

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Field Instrument Calibration Record

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Instrument (MAKE/MODEL#) Lamotte 2020 we

Instrument # 2068-1212

Parameter:

- ☐ Temperature
- ☒ Turbidity (±5%)
- ☐ Conductivity (±0.5%)
- ☐ ORP (±20 mV)
- ☐ Salinity
- ☐ DO (±2%)
- ☐ pH (±0.2 units)
- ☐ Isobutylene (±2%)

Standards:

Standard A 0

Standard B 10

Standard C

Standard D

Standard E

Standard F

Date	Time	STD (A,B,C)	STD Value	Instrument Response	% Dev	Calibrated (Y/N)	Type (Init., Cont.)	Sampler
11-19	0800	A	0	0	0%	Y	Init	EF
11-19	0800	B	10	10	0%	Y	Init	EF
11-19	1425	A	0	0.42	–	N	Post	CS
11-19	1425	B	~~9.52~~ 10	9.52	4.8%	N	Post	CS
11-20	~~09~~ 20	A	0	0	0%	Y	Init	JG
11-20	0720	B	10	9.86	1.4%	Y	Init	JG
11-20	1500	A	0	0.86	–	N	Post	CS
11-20	1500	B	10	11.00	10%	N	↓	↓
11-21	0730	A1	0	~~0.9~~ 0	0%	Y	Init	EF
		B	10	~~10.10~~ 10	0%	Y	↓	↓
11-21	1245	A	0.00	0.00	0%	N	Post	EF
		B	10	9.58	4.2%	N	↓	↓

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Instrument (MAKE/MODEL#) Lamotte 2020we

Instrument # 1191-3011

Parameter:

- ☐ Temperature
- ☒ Turbidity (±5%)
- ☐ Conductivity (±0.5%)
- ☐ ORP (±20 mV)
- ☐ Salinity
- ☐ DO (±2%)
- ☐ pH (±0.2 units)
- ☐ Isobutylene (±2%)

Standards:

Standard A 0

Standard B 10

Standard C

Standard D

Standard E

Standard F

Date	Time	STD (A,B,C)	STD Value	Instrument Response	% Dev	Calibrated (Y/N)	Type (Init., Cont.)	Sampler
11-19	0800	A	0	0	0%	Y	Init	EF
↓	0800	B	10	10	0%	Y	↓	↓
11-19	1500	A	0	0.38	–	N	Post	EF
	1500	B	10	9.99	0.1%	N	Post	EF
11-20	0715	A	0	0	0%	Y	Init	JG
	↓	B	10	9.76	2.4%	Y	Init	↓
11-20	1445	A	0	-0.08	–	N	Post	CS
		B	10	10.05	0.5%	↓	↓	↓
11/21	0745	A	0	0	0%	Y	Init	JG
		B	10	10	0%	Y	↓	↓
	1245	A	0	1.45	–	N	Post	EF
		B	10	10.24	2.4%	N	↓	↓

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Instrument (MAKE/MODEL#) YSI 556 MPS

Instrument # 16100063

Parameter:

- ☐ Temperature
- ☒ Conductivity (±0.5%)
- ☐ Salinity
- ☒ pH (±0.2 units)
- ☐ Turbidity (±5%)
- ☒ ORP (±20 mV)
- ☒ DO (±2%)
- ☒ Isobutylene (±2%)

Standards:

Standard A pH7
Standard B pH4
Standard C pH10
Standard D Cond
Standard E ORP
Standard F DO

Date	Time	STD (A,B,C)	STD Value	Instrument Response	% Dev	Calibrated (Y/N)	Type (Init., Cont.)	Sampler
11.19.13	0735	A	7	6.99	0.14%	Y	Init	EF
		B	4	4.00	0%	Y		
		C	10	9.99	0.1%			
		D	1000	1000	0%			
		E	113.9	113.9	0%			
		F	100	100.3	0.3%			
	1505	A	7	6.98	0.29%	N	Post	EF
		D	1000	1002	0.2%			
		E	113.9	116.0	1.8%			
		F	100	91.3	8.7%			
112013	0715	A	7	7.0	0%	Y	Init	EF
		B	4	4.0	0%			
		C	10	9.94	0.6%			
		D	1000	1000	0%			
		E	113.9	113.9	0%			
		F	100	102.6	2.6%			
112013	1450	A	7	6.99	0.14%	N	Post	JG
		D	1000	1039	3.9%			
		E	113.9	111.4	2.2%			
		F	100	100.3	0.3%			
112115	0710	A	7	7.00	0%	Y	Init	JG
		B	4	3.98	0.5%			
		C	10	9.95	0.5%			
		D	1000	1000	0%			
		E	113.9	113.9	0%			
		F	100	100.5	0.5%			

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Field Instrument Calibration Record

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Instrument (MAKE/MODEL#) 11G100863

Instrument # YSI

Parameter:

- ☐ Temperature
- ☒ Conductivity (±0.5%)
- ☐ Salinity
- ☒ pH (±0.2 units)
- ☐ Turbidity (±5%)
- ☒ ORP (±20 mV)
- ☒ DO (±2%)
- ☐ Isobutylene (±2%)

Standards:

Standard A Ph 7

Standard B Cond

Standard C orp

Standard D DO

Standard E

Standard F

Date	Time	STD (A,B,C)	STD Value	Instrument Response	% Dev	Calibrated (Y/N)	Type (Init., Cont.)	Sampler
110113	1230	A	7	6.99	0.29%	N	post	EF
↓	↓	B	1000	992	0.8%	↓	↓	↓
		C	113.9	111.6	2%			
		D	100	100.3	0.3%			

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Instrument (MAKE/MODEL#) 08510248

Instrument # YSI 556 MPS

Parameter:

- ☒ Temperature
- ☒ Conductivity (±0.5%)
- ☐ Salinity
- ☒ pH (±0.2 units)
- ☐ Turbidity (±5%)
- ☒ ORP (±20 mV)
- ☒ DO (±2%)
- ☐ Isobutylene (±2%)

Standards:

Standard A Ph 7
Standard B Ph 4
Standard C Ph 10
Standard D cond
Standard E ORP
Standard F DO

Date	Time	STD (A,B,C)	STD Value	Instrument Response	% Dev	Calibrated (Y/N)	Type (Init., Cont.)	Sampler
11-19-13	0730	A	7	6.99	0.14%	Y	Init	EF/JG
		B	4	4.01	0.25%			
		C	10	9.98	0.2%			
		D	1000	1000	0%			
		E	113.9 @ 10°	113.9 @ 10°	0%			
		F	100	100.7	0.7%			
11-19-13	1430	A	7	7.41	5.8%	NO	Post	JG
		D	1000	1070	7.1%			
		E	111.4 @ 15°	109.1	2%			
		F	100	98.6	1.4%			
112013	0715	A	7	7.0	0%	Y	Init	EF
		B	4	4.0	0%			
		C	10	9.94	0.6%			
		D	1000	1000	0%			
		E	113.9	113.9	0%			
		F	100	102.5	2.5%			
112013	1430	A	7	7.07	1%	N	Post	CS
~~112013~~	~~0700~~	D	1000	1011	1.1%			
		E	111.4 @ 15°	95.6	14.2%			
		F	100	100.5	0.5%			
112113	0700	A	7	7.0	0%	Y	Init	
		B	4	4.0	0%			
		C	10	10.5	5%			
		D	1000	1000	0%			
		E	113.9	113.9	0%			
		F	100	103.1	3.1%			

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Instrument (MAKE/MODEL#) YSI 556 MPS

Instrument # 09J101248

Parameter:

- ☐ Temperature
- ☒ Conductivity (±0.5%)
- ☐ Salinity
- ☒ pH (±0.2 units)
- ☐ Turbidity (±5%)
- ☒ ORP (±20 mV)
- ☒ DO (±2%)
- ☐ Isobutylene (±2%)

Standards:

Standard A pH 7

Standard B Cond

Standard C ORP

Standard D DO

Standard E

Standard F

Date	Time	STD (A,B,C)	STD Value	Instrument Response	% Dev	Calibrated (Y/N)	Type (Init., Cont.)	Sampler
112113	1230	A	7	7.01	0.14%	N	Post	EF
↓	↓	B	1000	1012	1.2%	↓	↓	↓
		C	113.9	110.8	2.7%			
		D	100	99.7	0.3%			