

Public Water System Information

The Town of Ayer DPW-Water Division is proud to present our annual water quality report covering all testing performed between January 1 and December 31, 2015. Over the years, we have dedicated ourselves to producing drinking water that meets all state and federal standards. We continually strive to adopt new methods for delivering the best quality drinking water to you. As new challenges to drinking water safety emerge, we remain vigilant in meeting the goals of source water protection, water conservation, and community education while continuing to serve the needs of all our water users.

For questions regarding your drinking water, call Rick Linde - Water Department Foreman, at (978) 772-8240.

This report is a snapshot of drinking water quality that we provided last year. Included are details about where your water comes from, what it contains, and how it compares to state and federal standards. We are committed to providing you with information because informed customers are our best allies.

Copies of this can be found at Town Hall, Ayer Public Library, and the Ayer DPW office.

Substances found in Drinking Water

Sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally-occurring minerals, and in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity.

Contaminants that may be present in source water include:

Microbial contaminants -such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.

Inorganic contaminants -such as salts and metals, which can be naturally-occurring or result from urban stormwater runoff, industrial, or domestic wastewater discharges, oil and gas production, mining, and farming.

Pesticides and herbicides -which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses.

Organic chemical contaminants -including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, and septic systems.

Radioactive contaminants -which can be naturally occurring or be the result of oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, the Department of Environmental Protection (MassDEP) and U.S. Environmental Protection Agency (EPA) prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. The Food and Drug Administration (FDA) and Massachusetts Department of Public Health (DPH) regulations establish limits for contaminants in bottled water that must provide the same protection for public health. All drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline (800-426-4791).

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and some infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/Centers for Disease Control and Prevention (CDC) guidelines on lowering the risk of infection by cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline (800-426-4791).

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Water System Operations

Our water system is routinely inspected by the Massachusetts Department of Environmental Protection (MassDEP). MassDEP inspects our system for its technical, financial, and managerial capacity to provide safe drinking water to you. To ensure that we provide the highest quality of water available, your water system is operated by Massachusetts certified operators who oversee the routine operations of our system. Our water system was inspected by the MassDEP in August, 2015. There were no significant issues or deficiencies identified during the inspection.

Water Rates

Water rates are established on an annual basis by the Water & Sewer Rate Committee. The rates are approved by the Board of Selectmen. New water rates per 100 Cubic Feet (CF) used per quarter, effective July 1, 2016:
First 3,000 CF = \$2.52
3,000-6,000 CF = \$3.12
Over 6,000 CF = \$3.69

Opportunities for Public Participation

The Ayer Board of Selectmen are the Water Commissioners for the Town. You can attend their meetings if you have any questions of comments that the DPW staff cannot answer.

Water Use Restrictions

In accordance with Ayer's Water Management Act Permit as governed by the State, the Town has implemented a mandatory water ban from May 1st through September 30th, with no nonessential water use allowed between the hours of 9 AM and 5 PM. See the Website for details or contact the Ayer Water Department at (978) 772-0008 or the DPW Administrative Offices at (978) 772-8240.

What's a Cross-connection?

Cross-connections that contaminate drinking water distribution lines are a major concern. A cross-connection is formed at any point where a drinking water line connects to equipment (boilers), systems containing chemicals (air conditioning systems, fire sprinkler systems, irrigation systems) or water sources of questionable quality. Cross-connection contamination can occur when the pressure in the equipment or system is greater than the pressure inside the drinking water line (backpressure). Contamination can also occur when the pressure in the drinking water line drops due to fairly routine occurrences (main breaks, heavy water demand) causing contaminants to be sucked out from the equipment and into the drinking water line (back-siphonage).

Outside water taps and garden hoses tend to be the most common sources of cross-connection contamination at home. The garden hose creates a hazard when submerged in a swimming pool or when attached to a chemical sprayer for weed killing. Garden hoses that are left lying on the ground may be contaminated by fertilizers, cesspools or garden chemicals. Improperly installed valves in your toilet could also be a source of cross-connection contamination.

Community water supplies are continuously jeopardized by cross-connections unless appropriate valves, known as backflow prevention devices, are installed and maintained. For more information, review the Cross-Connection Control Manual from the U.S. EPA's Web site at <http://water.epa.gov/infrastructure/drinkingwater/pws/crossconnectionontrol/index.cfm>. You can also call the Safe Drinking Water Hotline at (800) 426-4791.

Important Information About Lead In Drinking Water

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. Ayer is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at <http://www.epa.gov/safewater/lead>.

The Massachusetts Department of Environmental Protection (MassDEP) requires public water systems that exceed the lead action level to provide notification to consumers. Lead is a health concern and is commonly found in the environment; most commonly in lead based paint. Lead can also be found in water, though at much lower levels. To monitor lead levels at the customers' faucets, the Town of Ayer tests tap water in homes that are most likely to have lead. These homes are usually older homes that may have lead service connections or lead solder, and they must be tested after water has been sitting overnight. The EPA rule requires that 90% of these worst case samples must have lead levels below the Action Level of 15 ppb. During the Fall 2012 sampling period, the Ayer DPW- Water Division found levels of lead in drinking water above the Action Level in three customer taps. The water provided by the Town of Ayer is lead-free when it leaves the Water Treatment Plants. Local distribution pipes that carry the water to your community do not add lead to water. However, lead can get into tap water through home service piping, lead solder used in plumbing, and some brass fixtures. Even though the use of lead solder was banned in the U.S. in 1986, it still might be present in older homes. The DPW is now treating the water to make it more stable and minimize the leaching of lead and copper from household plumbing. **We have not exceeded the Action Level in lead or copper since the 2012 occurrence.**

	Date(s) Collected	90 TH percentile	Action Level	MCLG	# of sites sampled	# of sites above Action Level	Possible Source of Contamination
Lead (ppm)	May & Nov. 2015	0.012	0.015	0.00	40 twice a year	4	Corrosion of household plumbing systems; Erosion of natural deposits
Copper (ppm)	May & Nov. 2015	1.1	1.3	1.3	40 twice a year	2	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives



2015 Annual Drinking Water Quality Report
For
Water Division- Ayer
Department of Public Works
Ayer, Massachusetts
MASSDEP PWSID # 2019000

Ayer
Department
of Public
Works

Where Does My Drinking Water Come From?

The Town of Ayer is supplied by two groundwater supply sources: the Spectacle Pond Wells (PWS ID #2019000-04G and #2019000-05G) and Grove Pond Wells (PWS ID #2019000-01G and #2019000-02G). The Spectacle Pond well site is located in the northeast section of the distribution system near the border of Littleton and Ayer. The Grove Pond well site is located near the southern border of Ayer off Barnum Road. Each well site consists of two gravel packed wells and a water filtration facility for the removal of iron and manganese. The treated water is pumped into the distribution system and stored in the water tank behind Page Hilltop School.

Is My Water Treated?

Our water system makes every effort to provide you with safe and pure drinking water. To improve the quality of the water delivered to you, we treat it to remove iron and manganese minerals. Iron and manganese are present in our groundwater supplies at levels that can discolor the water, or cause it to take on unpleasant odors or tastes. While the water is still safe to drink, it is preferable that the iron and manganese be removed. At both well sites the water is treated using oxidation followed by greensand filtration. Oxidation is accomplished by adding sodium hypochlorite (chlorine) and potassium permanganate to the water. This causes the iron and manganese to form tiny particles that are filtered out through greensand media. Over time, the filters become clogged and require cleaning using a backwash process. Our system also uses potassium hydroxide for pH adjustment and sodium hypochlorite for disinfection.

The water quality of our system is constantly monitored by us and MassDEP to determine the effectiveness of existing water treatment and to determine if any additional treatment is required.

How Are These Sources Protected?

A Source Water Assessment Plan (SWAP) was completed in 2002 and is available at our office. This plan is an assessment of the delineated area around our listed sources through which contaminants, if present, could migrate and reach our source water. It also includes an inventory of potential sources of contamination within the delineated area, and a determination of the water supply's susceptibility to contamination by the identified potential sources. According to the SWAP, our water system had a susceptibility rating of 'high' due to the presence of high-threat land use within the water supply protection areas.

Residents can help protect sources by:

- Practicing good septic system maintenance
- Supporting water supply protection initiatives at the next town meeting
- Taking hazardous household chemicals to hazardous materials collection days
- Contacting the DPW or Board of Health if you see illegal dumping of waste
- Limiting pesticide and fertilizer use, etc.

If you would like to review the SWAP, the complete SWAP report is available at DPW Office at 25 Brook Street and online at

<http://www.ayer.ma.us/water-department> . For more

information, call the DPW at 978-772-8240.

DPW Water Division Project Updates

The Water Division has been busy in the past year with many projects aimed at improving our water quality and service to our customers.

New Water Tank –Construction of the new 1 million gallon water tank was completed and paid for by Crabtree Development, the Pingry Hill developers. This will improve pressures, fire protection and emergency storage in the Town.

Automatic Meter Reading Program – The new water meter radio reading system installation project is about 75% complete. This allows the DPW to read meters more frequently and efficiently. If you haven't had your meter replaced or have any questions, call the DPW office and we can schedule an appointment.

East Street Water Main Replacement – The DPW is replacing the 1896 water main in East Main Street with a new 16-inch ductile iron pipe. This will provide better flow, pressure, water quality and reliability. This is the first phase of the East Main Street Improvement Project which will include new sidewalks, curbing and repaving.

Water Main Improvements - The Water Division began a program to replace the Town's 125 year old pipes. In 2015, the pipes in Washington Street, between Highland Ave and Nashua Street were replaced. We will be replacing the 100 year old main in Pleasant Street from Main Street to Groton Street and installing a new water main from Sandy Pond Road to the Wright Road dead end pipe. This will improve water quality and fire flow.

Does My Drinking Water Meet Current Health Standards?

We are committed to providing you with the best water quality available. We are proud to report that last year your drinking water met all applicable health standards regulated by the state and federal government.

What Does This Data Represent?

The water quality information presented in the tables is from the most recent round of testing done in accordance with the regulations. All data shown was collected during the last calendar year unless otherwise noted in the tables.

During the past year we have taken hundreds of water samples in order to determine the presence of any radioactive, biological, inorganic, volatile organic or synthetic organic contaminants. The table below shows only those contaminants that were detected in the water. The state allows us to monitor for certain substances less than once per year because the concentrations of these substances do not change frequently. MassDEP has reduced the monitoring requirements for volatile organic contaminants, inorganic contaminants, synthetic organic contaminants because Ayer's sources are not at risk of contamination.

Regulated Contaminant	Date(s) Collected	Highest Result or Highest Running Average Detected	Range Detected	MCL or MRDL	MCLG or MRDLG	Violation (Y/N)	Possible Source(s) of Contamination
Inorganic / Organic Contaminants							
Arsenic (ppb)	Quarterly 2015	Non detected (ND)	ND	10	-----	N	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes
Nitrate (ppm)	May 2015	0.46	0.05-0.46	10	10	N	Runoff from fertilizer use; leaching from septic tanks; sewage; erosion of natural deposits
Perchlorate (ppb)	April /Aug. 2015	ND	ND	2	N/A		Rocket propellants, fireworks, munitions, flares, blasting agents
Volatile Organic Contaminants (ppb)	May /Aug. 2015	ND	ND	Varies	0	N	Discharge from factories; leaching from gas storage tanks and landfills, chemical plants and other industrial activities
Disinfectants and Disinfection By-Products							
Total Trihalomethane (TTHMs) (ppb)	August 2015	8.93	8.93	80	-----	N	Byproduct of drinking water chlorination
Haloacetic Acids (HAA5) (ppb)	August 2015	ND	ND	60	-----	N	Byproduct of drinking water disinfection
Chlorine (ppm)	Monthly in 2015	0.04	0.01-0.04	4	4	N	Water additive used to control microbes

The following definitions relate to terms used in the report or the contaminants reported in the water quality tables:

Maximum Contaminant Level (MCL) – The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

Maximum Contaminant Level Goal (MCLG) –The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

Action Level (AL) – The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.

90th Percentile – Out of every 10 homes sampled, 9 were at or below this level.

Variations and Exemptions – State or EPA permission not to meet an MCL or a treatment technique under certain conditions.

ppm = parts per million, or milligrams per liter (mg/l)

ppb = parts per billion, or micrograms per liter (ug/l)

pCi/l = picocuries per liter (a measure of radioactivity)

NTU = Nephelometric Turbidity Units

ND = Not Detected

N/A = Not Applicable

Secondary Maximum Contaminant Level (SMCL) – These standards are developed to protect the aesthetic qualities of drinking water and are not health based.

Massachusetts Office of Research and Standards Guideline (ORSG) – This is the concentration of a chemical in drinking water, at or below which, adverse health effects are unlikely to occur after chronic (lifetime) exposure. If exceeded, it serves as an indicator of the potential need for further action.



New Pingry Hill Water Tank



Washington Street Water Main Replacement