

2025 Consumer Confidence Report
For
Andrews Farm Water Company (AFWC)
Boxford, Massachusetts
MASSDEP PWSID #MA3038020

This report is a snapshot of the drinking water quality provided last year. Included are details about where your water comes from, what it contains, and how it compares to state and federal standards.

PUBLIC WATER SYSTEM INFORMATION

Contact: Aquarion Water Company Customer Service Department

Telephone: 1-800-732-9678

Email: cs@aquarionwater.com

Internet Address: www.aquarionwater.com

Water Emergency Update

As you were previously notified on October 2, 2025, Governor Healey issued a Declaration of State of Water Emergency on September 10, 2025. This Declaration authorized the Massachusetts Department of Public Utilities (DPU) to order Aquarion Water Company to restore water service to the Andrews Farm neighborhood and maintain operational and management control for thirty business days. This Declaration has since been extended several times, and at the time of the writing of this report, Aquarion has been ordered to maintain control until June 30, 2026.

Aquarion has been working with the Department of Environmental Protection (MassDEP) to resolve multiple outstanding compliance issues that had not been addressed by AFWC since 2022. These compliance issues include, but are not limited to, missed water quality monitoring and reporting, failure to provide public notification, failure to have a certified drinking water operator, and compliance actions required during system pressure loss.

Much of the information included in this report was provided to you in November 2025, when Aquarion developed a Consumer Confidence Report (CCR) that included water quality data from 2024 as well as data from the sampling Aquarion performed up to that time in 2025. This year's report includes water quality data from all of 2025, so some of the results may have changed after Aquarion collected more samples in the last quarter of 2025.

YOUR DRINKING WATER SOURCE

Where Does My Drinking Water Come From?

Your water comes from one groundwater supply well. Water is distributed to you through a network of 0.333 miles of piping and two 6,000-gallon water storage tanks. The well is located within the Ipswich Watershed and serves approximately 145 people. The average amount of water delivered is 7,500 gallons per day.

Is My Water Treated?

Water from the groundwater well is filtered naturally underground. The water quality of the system is regularly monitored to determine if any additional treatment is required.

How Are These Sources Protected?

Water utilities conduct water quality tests and regularly inspect businesses, farms, homes, and other sites that could affect their water supply. Here are some examples of pollutants that may wash into surface water or seep into groundwater:

- Microbial contaminants from septic systems
- Inorganic contaminants such as road salt or metals
- Pesticides and herbicides from residential uses
- Organic chemical contaminants, including synthetic and volatile organic chemicals

MassDEP has prepared a Source Water Assessment Program (SWAP) Report for the water supply source(s) serving this water system. The SWAP Report assesses the susceptibility of public water supplies.

What is My System's Ranking?

A susceptibility ranking of moderate was assigned to this system using the information collected during the assessment by MassDEP.

Where Can I See the SWAP Report?

The complete SWAP report is available online at <https://www.mass.gov/service-details/the-source-water-assessment-protection-swap-program>.

How Can I Protect My Drinking Water?

Residents can help protect sources by:

- Ensuring that your septic system works correctly
- Using chemicals and pesticides sparingly
- Disposing of waste chemicals and using motor oil properly
- Reporting illegal dumping chemical spills, or other polluting activities to the MassDEP Emergency Response Section at 888-304-1133, Aquarion Water at 1-800-732-9678, or your local police department

SUBSTANCES FOUND IN TAP 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 emailing the EPA at safewater@epa.gov.

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 by emailing the EPA at safewater@epa.gov.

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. AFWC 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>.

IMPORTANT DEFINITIONS

< - Less than

> - Greater than

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

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

HA – Health Advisory

Level 1 Assessment - A Level 1 assessment is a study of the water system to identify potential problems and determine (if possible) why total coliform bacteria have been found in our water system.

Level 2 Assessment - A Level 2 assessment is a very detailed study of the water system to identify potential problems and determine (if possible) why an *E. coli* MCL violation has occurred and/or why total coliform bacteria have been found in our water system on multiple occasions.

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.

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.

Maximum Residual Disinfectant Level (MRDL) -- The highest level of a disinfectant (chlorine, chloramines, chlorine dioxide) allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

Maximum Residual Disinfectant Level Goal (MRDLG) -- The level of a drinking water disinfectant (chlorine, chloramines, chlorine dioxide) below which there is no known expected risk to health. MRDLG's do not reflect the benefits of the use of disinfectants to control microbial contaminants.

N/A – Not Applicable

pCi/L – Picocuries per liter

ppb – Parts per billion or micrograms per liter. Also written as ug/L.

ppm – Parts per million or milligrams per liter. Also written as mg/L.

ppt – Parts per trillion or nanograms per liter. Also written as ng/L.

Running Annual Average (RAA) – The average of four consecutive quarters of data.

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

Treatment Technique (TT) – A required process intended to reduce the level of a contaminant in drinking water.

Unregulated Contaminants – Unregulated contaminants are those for which EPA has not established drinking water standards. The purpose of unregulated monitoring is to assist EPA in determining their occurrence in drinking water and whether future regulation is warranted.

WATER QUALITY TESTING RESULTS

Your water has been tested for more than 100 compounds that are important to public health. These tables only report detected compounds, all of which were below the amounts allowed by state and federal law. Most of these compounds are either naturally occurring or introduced as treatment to improve water quality. Monitoring frequency varies from daily to once every nine years per EPA regulation, depending on the parameter. Our testing encompasses the full range of regulated inorganic, organic, and radiological compounds, as well as microbiological and physical parameters. Results shown here are for detected compounds only.

Lead and Copper

	Date(s) Collected	90 TH percentile	Action Level	MCLG	# of sites sampled	# of sites above Action Level	Likely Source	Compliance
Lead (ppb)	2024	3	15	0	5	0 out of 5	Corrosion of household plumbing systems; Erosion of natural deposits	YES
Copper (ppm)	2024	0.52	1.3	1.3	5	0 out of 5	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives	YES

Microbiological Contaminants

A Level 1 Assessment is a study of the water system to identify potential problems and determine (if possible) why total coliform bacteria have been found in our water system.

A Level 2 Assessment is a very detailed study of the water system to identify potential problems and determine (if possible) why an *E. coli* MCL violation has occurred and/or why total coliform bacteria have been found in our water system on multiple occasions.

Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially harmful, waterborne pathogens may be present or that a potential pathway exists through which contamination may enter the drinking water distribution system. Coliforms were found, indicating the need to look for potential problems in water treatment or distribution. When this occurs, water systems are required to conduct assessments to identify any problems that could explain the presence of coliforms.

Following the loss of positive pressure on September 1, 2025, MassDEP issued a Boil Water Order and requested that a Level 2 Assessment be completed for AFWC. Aquarion completed the Level 2 Assessment in September/October 2025 and submitted it to MassDEP. In addition, Aquarion identified five corrective actions and completed two of them. The remaining three corrective actions have not been completed because Aquarion does not own the water system. See the table below for more information.

Bacteria	MCL / TT	MCLG	Value	Date	Compliance	Likely Source
Total Coliform Bacteria	1 positive sample per month	0 positive samples per month	Positive	October 2025	NO	Naturally present in the environment

Four out of the ten bacteria samples collected in October 2025 tested positive for total coliform bacteria. Aquarion assessed the water system following the loss of positive pressure in September 2025 and determined that several potential pathways for contamination existed within the system, including sediment buildup in the storage tanks and a deteriorating gasket in the well cap. Aquarion temporarily chlorinated the water system following the loss of positive pressure.

Chemical Contaminants

Substance (Units of Measure)	Test Date	Result	Range Detected	MCL	MCLG	Compliance	Likely Source
Inorganic Contaminants							
Arsenic (ppb)	9/23/2025	2	2	10	N/A	YES	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes
Barium (ppm)	9/23/2025	0.117	0.117	2	2	YES	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Fluoride (ppm)*	9/23/2025	0.15	0.15	4	4	YES	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
* Fluoride also has a secondary contaminant level (SMCL) of 2 ppm.							
Nitrate (ppm)	9/23/2025 10/21/2025	3.89	3.62 – 4.13	10	10	YES	Runoff from fertilizer use; leaching from septic tanks; sewage; erosion of natural deposits
Nitrite (ppm)	9/23/2025	0.052	0.052	1	1	YES	Runoff from fertilizer use; leaching from septic tanks; sewage; erosion of natural deposits
Perchlorate (ppb)	9/23/2025 10/21/2025	0.068	0.062 – 0.074	2	N/A	YES	Rocket propellants, fireworks, munitions, flares, blasting agents
PFAS6^ (ppt)	2/18/2025 4/8/2025 9/25/2025 10/14/2025 11/12/2025 12/1/2025	28^^	15.9 – 28.0	20	N/A	NO	Discharges and emissions from industrial and manufacturing sources associated with the production or use of these PFAS, including production of moisture and oil resistant coatings on fabrics and other materials. Additional sources include the use and disposal of products containing these PFAS, such as fire-fighting foams.
<p>^ PFAS6 compliance is based on the sum of six per- and polyfluoroalkyl substances. The six substances are perfluorooctanoic acid (PFOA), perfluorooctane sulfonic acid (PFOS), perfluorodecanoic acid (PFDA), perfluorononanoic acid (PFNA), perfluorohexanesulfonic acid (PFHxS), and perfluoroheptanoic acid (PFHpA). Some people who drink water containing these PFAS in excess of the MCL may experience certain adverse effects. These could include effects on the liver, blood, immune system, thyroid, and fetal development. These PFAS may also elevate the risk of certain cancers.</p> <p>^^ Result is the highest quarterly average of all sample sites. Values in the range are individual measurements.</p>							
Synthetic Organic Contaminants							
<p>Samples for synthetic organic contaminants (SOCs) were collected on 9/23/2025. None of the 29 compounds included in this group of contaminants were detected in the water.</p>							
Volatile Organic Contaminants							
<p>Samples for volatile organic contaminants (VOCs) were collected on 9/23/2025. None of the 22 compounds included in this group of contaminants were detected in the water.</p>							

Substance (Units of Measure)	Test Date	Result	Range Detected	MCL	MCLG	Compliance	Likely Source
Radioactive Contaminants							
Gross Alpha (pCi/l)	9/23/2025	5.23	5.23	15	0	YES	Erosion of natural deposits
Radium 226 & 228 (pCi/L)	9/23/2025	0.670	0.670	5	0	YES	Erosion of natural deposits

Unregulated and Secondary Contaminants

Unregulated contaminants are compounds that currently have no health standards for drinking water and are not reported in the regulated contaminants table. The purpose of unregulated contaminant monitoring is to assist regulatory agencies in determining their occurrence in drinking water and whether future regulation is warranted.

Unregulated Substance	Test Date	Result	Range	SMCL	ORSG	Possible Source
Manganese* (ppb)	9/23/2025	22.5	21 - 24	50	General population: 300 ppb (lifetime) 1000 ppb (10-day exposure) Infants < 1 year old: 300 ppb (10-day exposure)	Natural sources as well as discharges from industrial uses
* EPA has established a lifetime Health Advisory (HA) for manganese of 300 ppb and an acute HA of 1000 ppb						
Nickel (ppb)	9/23/2025	2	2	N/A	100	Discharge from domestic wastewater, landfills, and mining and smelting operations
Perfluorobutanesulfonic Acid [PFBS] (ppt)	2/18/2025 4/8/2025 9/25/2025 10/14/2025 11/12/2025 12/1/2025	5.79	5.46 – 6.57	N/A	N/A	Manmade chemical; used in products to make them stain, grease, heat and water resistant
Perfluorohexanoic acid [PFHxA] (ppt)	2/18/2025 4/8/2025 9/25/2025 10/14/2025 11/12/2025 12/1/2025	6.98	6.01 – 9.25	N/A	N/A	Manmade chemical; used in products to make them stain, grease, heat and water resistant
Sodium** (ppm)	9/23/2025	59.5	59.5	N/A	20	Discharge from the use and improper storage of sodium-containing de-icing compounds or in water-softening agents
** Sodium sensitive individuals, such as those experiencing hypertension, kidney failure, or congestive heart failure, should be aware of the sodium levels where exposures are being carefully controlled.						

Secondary Contaminant	Test Date	Result	Range	SMCL	Likely Source
Chloride (ppm)	9/23/2025	52.2	52.2	250	Runoff and leaching from natural deposits; seawater influence
Sulfate (ppm)	9/23/2025	34.5	34.5	250	Runoff and leaching from natural deposits; industrial wastes
Zinc (ppm)	9/23/2025	0.017	0.017	5	Erosion of natural deposits, leaching from plumbing materials

COMPLIANCE WITH DRINKING WATER REGULATIONS

Does My Drinking Water Meet Current Health Standards?

Aquarion is committed to providing you with the best water quality available. However, some contaminants that were tested last year did not meet all applicable health standards regulated by the state and federal government. Due to contaminant violations of *PFAS6* and *total coliform bacteria* during 2025, Aquarion took the following corrective actions on behalf of AFWC:

- To address PFAS6, Aquarion:
 - Distributed a Public Education/Public Notification (PEPN) to all residents on November 7, 2025
 - Began collecting monthly samples for PFAS, as required to maintain compliance with regulations
- To mitigate risk of total coliform bacteria detections, Aquarion:
 - Identified and repaired an equipment malfunction that caused the loss of water pressure in the system in early September 2025
 - Temporarily chlorinated the water
 - Collected additional bacteria samples
 - Conducted a Level 2 Assessment to identify possible pathways for bacterial contamination

Aquarion and MassDEP monitor and record the effectiveness of actions taken in response to contaminant violations. The health effect statements for PFAS6 and total coliform bacteria are listed in the Water Quality Testing Results tables on pages 4-6 of this report.

Drinking Water Violations

You were previously notified of multiple violations that occurred in the AFWC system from 2023 to 2025. A summary of the monitoring violations is included in the table below. No new violations have been issued since September 2025.

Beginning in June 2023 and through August 2025, AFWC failed to employ an appropriately certified drinking water operator as required by MassDEP. Aquarion has hired a certified operator through Weston & Sampson, an engineering firm with extensive experience supporting water systems. Aquarion and Weston & Sampson will continue to manage and operate the AFWC system for the entirety of the Declaration of State of Water Emergency issued by Governor Maura Healey.

Contaminant	Required Sampling Frequency	When All Samples Should Have Been Taken	Number of Samples Taken	When Samples Were or Will Be Taken
Gross Alpha	1 sample every 3 years	2023: Quarter 3	2023: 0 out of 1	A sample was collected on 9/23/25.
Inorganic Compounds (IOCs)	1 sample every 3 years	2025: Quarter 2	2025: 0 out of 1	A sample was collected on 9/23/25.
Lead and Copper	5 samples every 3 years	2023: June to September	2023: 0 out of 5	Samples were collected in January 2024.
Manganese	1 sample per year	2023: Quarter 3 2024: Quarter 3	2023: 0 out of 1 2024: 0 out of 1	A sample was collected on 9/23/25.
Nitrate	1 sample per quarter	2023: Quarter 3 2024: Quarter 3, Quarter 4 2025: Quarter 1, Quarter 2	2023: 3 out of 4 2024: 2 out of 4	A sample was collected on 9/23/25.
Nitrite	1 sample every 3 years	2023: Quarter 3 2024: Quarter 3	2023: 0 out of 1 2024: 0 out of 1	A sample was collected on 9/23/25.
PFAS6	1 sample per month	2023: May, July, August, September, October, November, December 2024: January, February, March, April, June, September, October, November, December 2025: January, March, May, June, July, August	2023: 5 out of 12 2024: 3 out of 12 2025: 6 out of 12	A sample was collected in September 2025 and will continue to be collected on a monthly basis.
Perchlorate	1 sample per year	2023: Quarter 3 2024: Quarter 3	2023: 0 out of 1 2024: 0 out of 1	A sample was collected on 9/23/25.

Contaminant	Required Sampling Frequency	When All Samples Should Have Been Taken	Number of Samples Taken	When Samples Were or Will Be Taken
Radium-226 & Radium-228	1 sample every 6 years	2023: Quarter 3	2023: 0 out of 1	A sample was collected on 9/23/25.
Synthetic Organic Compounds (SOCs)	1 sample every 3 years	2024: Quarter 3	2024: 0 out of 1	A sample was collected on 9/23/25.
Total Coliform Bacteria	3 samples per month	2023: August, September 2024: February, April, May, June, July, August, September, November 2025: January, February, March, May, June, August	2023: 30 out of 36 2024: 12 out of 36 2025: 18 out of 36	Samples were collected in September 2025 and will continue to be collected on a monthly basis.
Volatile Organic Compounds (VOCs)	1 sample per year	2023: Quarter 3 2024: Quarter 3	2023: 0 out of 1 2024: 0 out of 1	A sample was collected on 9/23/25.

EDUCATIONAL INFORMATON

Cross-Connection Control and Backflow Prevention

A Cross-Connection Control Program helps ensure that your drinking water is protected from possible contamination. A cross-connection, as defined by MassDEP, “is any actual or potential connection between a distribution pipe of potable water from a public water system and any waste pipe, sewer, drain, or other unapproved source that has the potential, through back-pressure or back-siphonage, to create a health hazard to the public water supply and the water system within the premises.”

The best protection against cross-connection contamination is to eliminate the link. Garden hoses are a leading cause of cross-connection contamination. At your home, you can protect your family and the distribution system from potential contaminants by installing a simple, inexpensive backflow device called a hose bibb vacuum breaker (HBVB) that mounts directly to your spigot.