AQUARION Water Company

Stewards of the Environment™

OXFORD SYSTEM | PWS ID#: MA2226000

2024 WATER QUALITY REPORT

IN THIS REPORT

3-5 Water Quality Table

6-7 Monitoring Unregulated Contaminants

8 Your Health Is Our Priority

9 Lead in Drinking Water: The Facts

10 Water Protection and Conservation

11 Glossary

Este informe contiene información importante sobre su agua potable. Pida a alguien que lo traduzca para usted, o hable con alguien que lo entienda.

Letter from the Vice President

John Walsh
Vice President, Operations
Aquarion Water Company of Massachusetts

Dear Aquarion Customer:

Aquarion's greatest commitment is delivering high-quality water to our customers. That's why I am pleased to inform you that in 2024 the more than 8,000 tests we conducted on our water systems in Massachusetts confirmed that our water consistently meets or surpasses both state and federal water quality standards.

Our focus also includes per- and polyfluoroalkyl substances (PFAS), which have been detected in drinking water across the country. In 2020, regulations for PFAS were established in Massachusetts. Last year, the U.S. Environmental Protection Agency (EPA) established new monitoring and management regulations for six PFAS compounds. We are constructing new treatment facilities to ensure that we adhere to both state and federal regulations for PFAS. To keep your rates affordable, we are seeking federal and state funding and pursuing settlements with the companies that manufactured PFAS.

In 2024, we also launched an online customer water service line material survey to help identify customer service line materials in our service area and provide an accurate inventory of Aquarion-owned and customer-owned service lines on our website. Required by the EPA, the goal is to eliminate all lead service lines in our water systems.

With varying levels of drought continuing throughout the state, our water supplies are slowly recovering for the spring and summer months. Please continue your efforts at conserving water. For helpful tips you may not have considered, check out page 8 of this report or visit aquarionwater.com/conserve.

With appreciation,

John Walsh

Questions About Your Water Quality Report?

Customers with any of following issues should call us at **1-800-732-9678:** Discolored water, service problems, after-hour emergencies, water quality questions, or interest in joining a public meeting.

Customers may also email us at **cs@aquarionwater.com**, or visit **www.aquarionwater.com**.

Massachusetts Department of Environmental Protection: **www.mass.gov/info-details/public-drinking-water-system-operations**

U.S. Environmental Protection Agency's Safe Drinking Water Hotline: **800-426-4791** or **www.epa.gov/safewater**

Water Quality Table

Your water has been tested for more than 100 compounds that are important to public health. This table only reports 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 and microbiological and physical parameters. Results shown here are for detected compounds only.

SUBSTANCE (Units of Measure)	LIKELY SOURCE	MCLG	MCL	COMPLIANCE	TEST DATE	AVERAGE	RANGE
INORGANIC COMPOUNDS							
Arsenic (ppb)	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes	N/A	10	✔ YES	2024	2	ND < 0.7 - 4
Barium (ppm)	Erosion of natural deposits	2	2	✔ YES	2024	0.009	0.007 - 0.013
Copper (ppm)	Corrosion of household plumbing systems	1.3	AL = 1.3	✔ YES	2022	0.40♦	0.01 - 0.65
Fluoride (ppm)	Water additive that promotes strong teeth; erosion of natural deposits	4.0	4.0	✔ YES	2024	0.76	0.54 - 0.89
Lead (ppb)	Corrosion of household plumbing systems	0	AL = 15	✔ YES	2022	ND < 1♦♦	ND < 1 - 4
Nitrate (ppm)	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits	10	10	✔ YES	2024	1.280	0.062 - 3.600
PFAS6[#] (ppt)	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	N/A	20	✔ YES	2024	3^	ND < 2 - 3
DISINFECTANT							
Chlorine (ppm)	Water additive used to control microbes	MRDLG = 4	MRDL = 4	✔ YES	2024	0.81	0.50 - 1.33
RADIOLOGICALS							
Alpha Emitters (pCi/L)	Erosion of natural deposits	0	15	✔ YES	2019	2.9	ND < 2.8 - 2.9

For a list of terms used in this table, please see the glossary on page 11 of this report.

Water Quality Table - Continued from page 3

SUBSTANCE (Units of Measure)	LIKELY SOURCE	MCLG	MCL	COMPLIANCE	TEST DATE	AVERAGE	RANGE
ORGANIC COMPOUNDS							
Haloacetic Acids 5 (ppb)	By-product of drinking water chlorination	N/A	60	✔ YES	2024	5	5
Total Trihalomethanes (ppb)	By-product of drinking water chlorination	N/A	80	✔ YES	2024	35	35

SUBSTANCE (Units of Measure)	LIKELY SOURCE	SMCL	TEST DATE	AVERAGE	RANGE	HEALTH AND/OR AESTHETIC EFFECTS
SECONDARY CONTAMINANTS MONITORING RESULTS						
Chloride (ppm)	Naturally present in the environment	250	2023	92	52 - 121	May produce a salty taste
Iron (ppb)	Natural and industrial sources; aging and corroding distribution systems and household pipes	300	2024	130+	ND < 0.3 - 1,320	Use of water containing iron at concentrations above the secondary MCL may result in aesthetic issues including the staining of laundry and plumbing fixtures and water with an unpleasant metallic taste and rusty odor.
Manganese (ppb)	Erosion of natural deposits	50	2024	90§	ND < 0.3 - 960	EPA has established a lifetime HA of 300 ppb and an acute HA of 1000 ppb. Use of water containing manganese at concentrations above the secondary MCL may result in aesthetic issues including the staining of laundry and plumbing fixtures and water with an unpleasant bitter metallic taste, odor, and/or black-brown color.
pH	Runoff and leaching from natural deposits; seawater influence	6.5 - 8.5	2024	7.3	7.2 - 7.3	Low pH may produce a bitter metallic taste; corrosion High pH may produce a slippery feel; soda taste; deposits
Sulfate (ppm)	Runoff and leaching from natural deposits; industrial wastes	250	2023	2.6	ND < 1.8 - 7.9	May produce a salty taste
Zinc (ppm)	Corrosion of household plumbing systems; erosion of natural deposits	5	2023	0.01	ND < 0.002 - 0.01	May produce a metallic taste

FOOTNOTES

◆ 90th percentile value in copper monitoring. Result is representative of customer sampling stagnant water. No locations exceeded the action level for copper. Highest 90th percentile value shown.

◆◆ 90th percentile value in lead monitoring. Result is representative of customer sampling stagnant water. No locations exceeded the action level for lead. Highest 90th percentile value shown.

§ Manganese levels in Well #1 ranged from 360 to 960 ppb. This well ran intermittently throughout the year and contributed 1% of the total water delivered to the Oxford System. Manganese levels in Well #2 ranged from 100 to 130 ppb. This well also ran intermittently throughout the year and contributed 24% of the total water delivered to the Oxford System. Water from Well #1 and Well #2 is blended with water from Well #3, which had manganese levels ranging from none detected (< 0.3 ppb) to 10 ppb. Well #3 produced 75% of the total water delivered in the Oxford System. Levels of manganese found in the distribution system ranged from none detected (< 0.3 ppb) to 40 ppb and averaged 10 ppb.

\# Compliance is based on the sum of six per- and polyfluoroalkyl substances (PFAS6). The six substances are perfluorooctanoic acid (PFOA), perfluorooctane sulfonic acid (PFOS), perfluorodecanoic acid (PFDA), perfluorononanoic acid (PFNA), perfluorohexanesulfonic acid (PFHxS), and perfluoroheptanoic acid (PFHpA).

^ Average is the highest quarterly average of all sample sites. Values in the range are individual measurements.

\+ Iron levels in Well #1 ranged from 90 to 230 ppb. This well ran intermittently throughout the year and contributed 1% of the total water delivered to the Oxford System. Iron levels in Well #2 ranged from 110 to 250 ppb. This well also ran intermittently throughout the year and contributed 24% of the total water delivered to the Oxford System. Water from Well #1 and Well #2 is blended with water from Well #3, which had nondetectable (< 3 ppb) levels of iron. Well #3 produced 75% of the total water delivered in the Oxford System. Levels of iron found in the distribution system ranged from none detected (< 3 ppb) to 1,330 ppb and averaged 50 ppb.

For a list of terms used in this table, please see the glossary on page 11 of this report.

Health Effects

Manganese: Manganese is a naturally occurring mineral found in rocks, soil, ground water and surface water. It is necessary for proper nutrition and is part of a healthy diet, but it can have undesirable effects on certain sensitive populations at elevated concentrations. The EPA and the Massachusetts Department of Environmental Protection (MassDEP) have set an aesthetics-based Secondary Maximum Contaminant Level (SMCL) for manganese of 50 ppb (parts per billion or micrograms per liter). In addition, MassDEP's Office of Research and Standards (ORS) has set a drinking water guideline for manganese (ORSG), which closely follows the EPA public health advisory for this mineral. Drinking water may naturally have manganese and, when concentrations are greater than 50 ppb, the water may be discolored and taste bad. Over a lifetime, the EPA recommends that people drink water with manganese levels less than 300 ppb and, over the short term, it recommends that people limit their consumption of water with levels over 1,000 ppb, primarily due to concerns about possible neurological effects. Children up to 1 year of age should not be given water with manganese concentrations over 300 ppb, nor should formula for infants be made with that water for more than a total of 10 days throughout the year.

PFAS: Some people who drink water containing 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.

Sodium: Sodium-sensitive individuals such as those experiencing hypertension, kidney failure, or congestive heart failure, who drink water containing sodium should be aware of levels where exposures are being carefully controlled.

Other Monitored Substances

Source Water Assessment Report

The MassDEP's Source Water Assessment Program (SWAP), has evaluated each water source to identify potential contamination, states that the sources that supply drinking water to the Oxford System have a high susceptibility to potential contamination. The SWAP report is available on the MassDEP website. Go to www.mass.gov and enter source water assessment report in the search bar.

Monitoring Unregulated Contaminants

Unregulated contaminants are elements that currently have no health standards for drinking water and are not reported in the regulated contaminants table on page 3. Nickel is an unregulated contaminant that is monitored at the same time as the required monitoring for inorganic compounds.

Substance (Units of Measure)		Detected Level			
Unregulated Contaminants	**OSRG**	**Test Date**	**Average**	**Range**	**Source of Contaminant**
Methyl tertiary butyl ether [MTBE] (ppb)	70	2024	0.52	ND < 0.5 - 1.57	Fuel additive; leaks and spills from gasoline storage tanks
Nickel (ppb)	100	2024	2	ND < 0.1 - 4	Discharge from domestic wastewater, landfills, and mining and smelting operations
Perfluorobutanesulfonic Acid [PFBS] (ppt)	N/A	2024	ND < 2	ND < 2 - 2.0	Manmade chemical; used as a replacement for perfluorooctane sulfonic acid (PFOS); used in the manufacture of paints, cleaning agents, and water- and stain-repellent products and coatings, including carpeting, carpet cleaners, floor wax and food packaging.
Perfluorohexanoic Acid [PFHxA] (ppt)	N/A	2024	ND < 2	ND < 2 - 3.3	Manmade chemical; breakdown product of stain- and grease-proof coatings on food packaging and household products
Sodium (ppm)	20	2024	41	23 - 57	Discharge from the use and improper storage of sodium-containing de-icing compounds or in water-softening agents

Other Monitored Substances

UCMR5 Rule Monitoring Results

As required by the EPA's Unregulated Contaminant Monitoring Rule 5 (UCMR5), our water system has sampled for a series of unregulated contaminants. Unregulated contaminants are those that don't yet have a drinking water standard set by EPA. The purpose of monitoring for these contaminants is to help EPA decide whether the contaminants should have a public health protection standard. For additional information about these unregulated contaminants, please contact our Water Quality Department at 800-832-2373 or visit EPA's UCMR website at epa.gov/dwucmr.

Substance (Units of Measure)		Detected Level			
Unregulated Contaminants	**OSRG**	**Test Date**	**Average**	**Range**	**Source of Contaminant**
Perfluorohexanoic Acid [PFHxA] (ppt)	N/A	2024	3.4	3.4	Manmade chemical; breakdown product of stain- and grease-proof coatings on food packaging and household products
Only detected in Nelson St #3 well.					

Your Health Is Our Priority

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. To ensure tap water is safe to drink, the EPA and MassDEP prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. The Food & 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.

More information about contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline, 800-426-4791.

Where Does Your Water Come From?

The water provided to our Oxford customers comes from three groundwater supply wells. The water from each well is treated and then distributed to our customers through an extensive network of more than 40.6 miles of piping and three water storage tanks. Oxford's water supply system is located within the French River Watershed and serves approximately 6,300 people. The average amount of water delivered during 2024 was 642,000 gallons per day.

How Is Your Water Treated?

All water from the three wells is filtered naturally underground. The water then receives chemical treatment for disinfection, fluoridation to prevent tooth decay/cavities, and pH adjustment for corrosion control.

Cryptosporidium

The EPA requires public water systems that use surface water sources to monitor for Cryptosporidium. This is a microbial pathogen found in lakes and rivers throughout the U.S. that can cause gastrointestinal illness if consumed. Aquarion continues to monitor its surface water sources and has not detected Cryptosporidium.

Disinfection By-Products

Disinfection by-products (DBPs) are chemicals formed during the disinfection process, when naturally occurring organic matter reacts with chlorine, which is added to water to eliminate bacteria and other microorganisms. Currently there are limits on two types of DBPs known as Total Trihalomethanes (TTHM) and Haloacetic Acids (HAA). Some people who drink water containing DBPs that exceed these limits over many years may experience problems with their livers, kidneys, or central nervous systems, and may have an increased risk of getting cancer.

The state has implemented new DBP regulations that change how compliance with the standards is determined. The intent is to increase protection against the potential health risks associated with DBPs. Aquarion Water Company continues to evaluate its systems to ensure compliance with DBP regulations.

Copper

Copper is an essential nutrient, but some people who drink water containing copper in excess of the action level* over a relatively short period of time could experience gastrointestinal distress. Some people who drink water containing copper in excess of the action level over many years could suffer liver or kidney damage. People with Wilson's Disease should consult their personal doctor. Major sources of copper in drinking water include corrosion of household plumbing systems and erosion of natural deposits.

*The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

Immuno-compromised persons

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 infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. The EPA and the Center for Disease Control and Prevention (CDC) guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline, 800-426-4791.

Lead in Drinking Water: The Facts

Lead can cause serious health effects in people of all ages, especially pregnant people, infants (both formula-fed and breastfed), and young children. Lead in drinking water is primarily from materials and parts used in service lines and home plumbing. Aquarion is responsible for providing high quality drinking water and removing lead pipes but cannot control the variety of materials used in the plumbing in your home. Because lead levels may vary over time, lead exposure is possible even when your tap sampling results do not detect lead at one point in time. You can help protect yourself and your family by identifying and removing lead materials within your home plumbing and taking steps to reduce your family's risk. Using a filter, certified by an American National Standards Institute accredited certifier to reduce lead, is effective in reducing lead exposures. Follow the instructions provided with the filter to ensure the filter is used properly. Use only cold water for drinking, cooking, and making baby formula. Boiling water does not remove lead from water. Before using tap water for drinking, cooking, or making baby formula, flush your pipes for several minutes. You can do this by running your tap, taking a shower, doing laundry or a load of dishes. If you have a lead service line or galvanized requiring replacement service line, you may need to flush your pipes for a longer period.

If you are concerned about lead in your water, and wish to have your water tested, contact Aquarion at 1-866-728-5023. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available at www.epa.gov/safewater/lead.

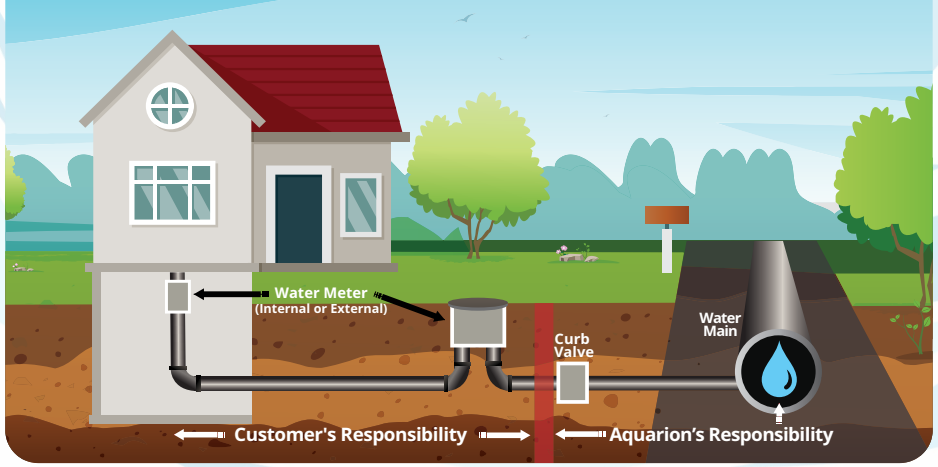
Health Effects

Exposure to lead in drinking water can cause serious health effects in all age groups. Infants and children can have decreases in IQ and attention span. Lead exposure can lead to new learning and behavior problems or exacerbate existing learning and behavior problems. The children of women who are exposed to lead before or during pregnancy can have increased risk of these adverse health effects. Adults can have increased risks of heart disease, high blood pressure, kidney or nervous system problems.

Precautions You Can Take

Follow these steps to reduce your risk of lead exposure from your water pipes:

- Always use water from your cold water faucet for drinking, cooking, and preparing baby formula.
- Remove and clean faucet aerators/screens at least twice per year. While doing so, run the tap to remove debris.



Customer and Aquarion responsibilities shown are representative for most customers.

Learn About Your Service Line

A service line is the pipe that connects a customer's home or building to Aquarion's water main in the street (see diagram on this page). Homes built before 1986 may have lead service lines, but most were installed in homes built before 1930. Homes built before 1986 may also have lead solder and brass fittings, which may have a lead content. Aquarion treats its water to minimize the risk of lead leaching out of lead pipes, but it is important to know that the presence of a lead or galvanized requiring replacement service line may increase the risk of exposure to lead in drinking water.

Aquarion has prepared a service line inventory where you may view the material of the service line at your home or building. To find out if your service line is lead, visit www.aquarionwater.com/lead, click on "Lead Service Line Inventory", type in your address, and refer to the legend icons to view the material of your service line. If it is lead, call us at 1-866-728-5023 or email us at lead@aquarionwater.com for information on replacing it.

If your service line is classified as "unknown" on our "Lead Service Line Inventory", this means that we do not have a record of what the service line material is and we are working to gather more information in the coming years. Help us update our records by scanning the QR code below or visiting www.aquarionwater.com/leadsurvey to take our service line survey.

Aquarion offers more detailed information on lead in drinking water and how to minimize exposure on our website at www.aquarionwater.com/lead.

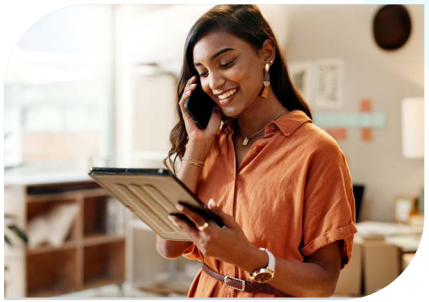
Water Protection and Conservation

How Aquarion Protects Your Drinking Water

Aquarion Water Company is committed to providing the highest quality water to our customers. Toward that end, we conducted 8,011 water quality tests in 2024 across all our Massachusetts systems, and we regularly inspect businesses, farms, homes and other sites that could affect our 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



You Can Protect Water Too:

- Ensure that your septic system works correctly
- Use chemicals and pesticides paringly
- Dispose of waste chemicals and used motor oil properly
- Report illegal dumping, chemical spills, or other polluting activities to the MassDEP Emergency Response Section at 888-304-1133; Aquarion Water, 508-865-3998; or your local police

Conservation

By reducing water consumption, Aquarion customers have made outstanding progress in ensuring that our area has enough water, no matter what the skies deliver. Many thanks to all the customers who cut back on outdoor sprinkler irrigation and other uses, helping to save approximately 5 billion gallons of water across our systems over the last six years. There's still more to do, though. Here are some easy tips on what everyone can do to conserve the supply of this irreplaceable resource:

Reduce excessive irrigation
Use a WaterSense labeled smart irrigation controller that adjusts watering schedules based on weather conditions, soil moisture levels, and plant requirements.

Rely more on the sky
Put a rain barrel under a down-spout to capture rainwater for your garden.

Forget fertilizing
Many use salts that make your lawn less drought-resistant.

Apply mulch
Adding a layer of mulch around your plants helps retain moisture, reducing the need to water as often.

Remedy a leaky toilet
Watch our step-by-step video at www.aquarionwater.com about finding and fixing leaks. Better yet, upgrade to a new, WaterSense labeled model to save three or more gallons with every flush.

For more tips, visit www.aquarionwater.com/conserve.

Protecting your water at home

Our Cross-Connection Control Program helps ensure that your drinking water is protected from possible contamination. A cross-connection, as defined by the 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."

Aquarion's MassDEP-certified cross-connection surveyors and testers routinely conduct surveys and test backflow prevention devices at our customers' facilities for regulatory compliance. If they find unprotected cross-connections, they will require installation of backflow prevention devices to protect the water distribution system.

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.

Glossary

These terms may appear in your report.

Definitions

< - Less than

> - Greater than

90th Percentile - Out of every 10 homes sampled, 9 were at or below this level. This number is compared to the action level to determine lead and copper compliance.

AL - Action Level: The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

gpg - Grains per gallon

HA - Health Advisory

MCL - Maximum Contaminant Level: 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.

MCLG - Maximum Contaminant Level Goal: 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.

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

MRDLG - Maximum Residual Disinfectant Level Goal: The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contamination.

NA - Not Applicable

ND - Not Detected

NTU - Nephelometric Turbidity Units, a measure of the presence of particles. Low turbidity is an indicator of high-quality water.

OSRG - Office of Research and Standards Guideline. 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.

pCi/L - picocuries per liter

ppb - parts per billion, or micrograms per liter (ug/L)

ppm - parts per million, or milligrams per liter (mg/L)

ppt - parts per trillion, or nanograms per liter (ng/L)

RAA - Running Annual Average. The average of four consecutive quarters of data.

SMCL - Secondary Maximum Contaminant Level: These standards are developed to protect aesthetic qualities of drinking water and are not health based.

TT - Treatment Technique: 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.