

Annual Drinking Water Quality Report for 2023
Maplebrook School Public Water Supply
5142 Route 22, Amenia NY 12501
Water System ID# 1316152

INTRODUCTION

To comply with State regulations, Maplebrook School Public Water Supply, will be annually issuing a report describing the quality of your drinking water. The purpose of this report is to raise your understanding of drinking water and awareness of the need to protect our drinking water sources. In 2023, we conducted tests for contaminants. We detected 6 of those contaminants and one was found at a level higher than the State allows. Last year your tap water exceeded the MCL for Perfluorooctanesulfonic Acid (PFOS). This report provides an overview of last year's water quality. Included are details about where your water comes from, what it contains, and how it compares to State standards.

If you have any questions about this report or concerning your drinking water, please contact **Joseph Selino, Director of Buildings and Grounds at (845) 373 – 9511 extension 240**. We want you to be informed about your drinking water. If you want to learn more, please schedule a meeting with Joseph Selino or contact Thomas Fazzone in the Business Office to discuss any drinking water issues in person.

WHERE DOES OUR WATER COME FROM?

In general, the 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 activities. Contaminants that may be present in source water include: microbial contaminants; inorganic contaminants; pesticides and herbicides; organic chemical contaminants; and radioactive contaminants. In order to ensure that tap water is safe to drink, the State and the EPA prescribe regulations which limit the amount of certain contaminants in water provided by public water systems. The State Health Department's and the FDA's regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

Our water system serves 150 people through 19 service connections. Our water source is groundwater drawn from two wells ranging in depth from 125 to over 500 feet deep. The location of the wells are as follows:

- East Campus: Wells 4 & 10

The water from Wells 4 & 10 are pumped to a 5,000 gallon storage tank and then treated with sodium hypochlorite to disinfect them prior to distribution. Water from Wells 4 & 10 provide water to all of the buildings on the main campus and is pumped under the highway to supply water to all of the buildings on the postsecondary campus.

ARE THERE CONTAMINANTS IN OUR DRINKING WATER? As the State regulations require, we routinely test your drinking water for numerous contaminants. These contaminants include: total coliform, turbidity, inorganic compounds, nitrate, nitrite, lead and copper, volatile organic compounds, total trihalomethanes, haloacetic acids, radiological and synthetic organic compounds, and principal organic compounds and radioactive contaminants. The tables presented in this report indicates which compounds were detected in your drinking water. The State allows us to test for some contaminants less than once per year because the concentrations of these contaminants do not change frequently. Some of our data, though representative, are more than one year old.

It should be noted that all drinking water, including bottled drinking water, may be reasonably 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) or the Dutchess County Health Department at (845)-677-4001.

Table of Detected Contaminants								
INORGANIC CONTAMINANTS								
Contaminant	Water Source	Violation Yes/No	Date of Samples	Level Detected (Avg/Max) (Range)	Unit Measurement	MCLG	Regulatory Limit (MCL, TT or AL)	Likely Source of Contamination
Nitrate	Entry Point	No	02-17-23	2.5	mg/l	10	MCL = 10	Runoff from fertilizer use; Leaching from septic tanks; Sewage, Erosion of natural deposits
Chloride -- 1	Entry Point	No	02-17-23	210	mg/l	N/A	MCL = 250	Naturally occurring or indicative of road salt contamination.
Sodium -- 2	Entry Point	No	2-17-23	120	mg/l	N/A	N/A	Naturally occurring: road salt, water softeners, animal waste.
Lead -- 3	Distribution	No	9-18-23	90% Percentile .0011 Range for Samples 0.00-.0022	mg/l	0	AL = .015	Corrosion of household plumbing systems; erosion of natural deposits
Copper - 4	Distribution	No	9-18-23	90% Percentile 0.160 Range for Samples .074-.2	mg/l	1.3	AL = 1.3	Corrosion of household plumbing systems, erosion of natural deposits, leaching from wood preservatives
Barium – 5	Well #4	No	5-12-20	.068	mg/l	2	2	Discharge of drilling wastes, discharge from metal refineries, erosion of natural deposits
	Well #10	No	5-12-20	.029				
Nickel	Well #4	No	5-12-20	.20	mg/l	N/A	N/A	Erosion of natural deposits
	Well #10	No	5-12-20	.0041				
1 - Chloride: has no health effects. The MCL for chloride is the level above which the taste of the water may become objectionable. In addition, to the adverse taste effects, high chloride concentration levels in the water contribute to the deterioration of domestic plumbing and water heaters. Elevated chloride concentrations may also be associated with the presence of sodium in drinking water. 2 – Sodium: Water containing more than 20 mg/L should not be used by people on several restricted sodium diets. Water containing more than 270 mg/L should not be used for drinking by people on moderately restricted sodium diets. 3 – Lead: Infants and children who drink water containing lead in excess of the action level could experience delays in their physical or mental development. Children could show slight deficits in attention span and learning abilities. Adults who drink this water over many years could develop kidney problems or high blood pressure. The level presented represents the 90th percentile of the 5 sites tested. A percentile is a value on a scale of 100 that indicates the percent of a distribution that is equal to or below it. The 90th percentile is equal to or greater than 90% of the lead values detected in the water system. The action level for lead was not exceeded at any of the test sites. 4 – Copper: is an essential nutrient, but some people who drink water containing copper in excess of the action level over a relatively short amount 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. The level presented represents the 90th percentile of the 5 samples tested. The action level was not exceeded at any of the 5 sites tested. 5 – Barium: Some people who drink water containing barium in excess of the MCL over many years could experience an increase in their blood pressure.								

Table of Detected Contaminants								
DISINFECTION BYPRODUCTS								
Contaminant	Water Source	Violation Yes/No	Date of Sample	Level Detected (Avg/Max) (Range)	Unit Measurement	MCLG	Regulatory Limit (MCL, TT or AL)	Likely Source of Contamination
TTHM – 1 Total Trihalomethanes	Well #4, #10	No	07-05-22	3.1	Ug/l	N/A	80	Byproduct of drinking water chlorination needed to kill harmful organisms.
Although here is no collective MCLG for this contaminant group, there are individual MCLGs for some of the individual contaminants: 1 – Some people who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidney or central nervous system and may have an increased risk of cancer								

Table of Detected Contaminants								
SYNTHETIC ORGANIC CONTAMINANTS								
Contaminant	Water Source	Violation Yes/No	Date of Sample	Level Detected (Avg/Max) (Range)	Unit Measurement	MCLG	Regulatory Limit (MCL, TT or AL)	Likely Source of Contamination
PFOA - 1 Perfluoro-Octanoic Acid	Well #4	No	2-2-23	2.8-2.8	ng/l	N/A	10	Released into the environment from widespread use in commercial and industrial applications
	Well #10	No	2-2-23 4-3-23 8-8-23 10-16-23	4.6-6.0				
PFOS - 1 Perfluoro-octanesulfonic Acid	Well #4	No	2-2-23	3.5-3.5	ng/l	N/A	10	Released into the environment from widespread use in commercial and industrial applications
	Well #10	Yes	2-2-23 4-3-23 8-8-23 10-16-23	9.4-11				
1,4-Dioxane	Well #4 Well #10	NO NO	2-2-2023 2-2-2023	0.022 0.027	ng/l ng/l	N/A N/A	1.0 1.0	
Although here is no collective MCLG for this contaminant group, there are individual MCLGs for some of the individual contaminants: 1 – PFOA and PFOS caused a range of health effects when studied in animals at high exposure levels. The most consistent findings were effects on the liver and immune system and impaired fetal growth and development. Studies of high-level exposures to PFOA in people provide evidence that some of the health effects seen in animals may also occur in humans. The United States Environmental Protection Agency considers PFOA and PFOS as having suggestive evidence for causing cancer based on studies of lifetime exposure to high levels of PFOA and PFOS in animals.								

Table of Detected Contaminants

RADIOACTIVE CONTAMINANTS

Contaminant	Water Source	Violation Yes/No	Date of Samples	Level Detected (Avg/Max) (Range)	Unit Measurement	MCLG	Regulatory Limit (MCL, TT or AL)	Likely Source of Contamination
Gross Alpha -- 1	Well #4, #10	No	11-4-22	5.04	pCi/l	0	15	Erosion of natural deposits
Gross Beta -- 2	Well #4, #10	No	11-4-22	7.8	pCi/l	0	50	Erosion of natural deposits
Combined Radium 226 and Radium 228 --3	Well #4, #10	No	11-4-22	1.48	pCi/l	0	5	Erosion of natural deposits
Uranium - 4	Well #4, #10	No	11-4-22	3.07	Ug/l	0	30	Erosion of natural deposits

1 – Certain minerals are radioactive and may emit a form of radiation known as alpha radiation. Some people who drink water containing alpha emitters in excess of the MCL over many years may have an increased risk of getting cancer.

2 – The State considers 50 pCi/l to be the level of concern for beta particles. “If beta particles are detected above 50 pCi/l, the water supplier must determine the actual radioactive constituents present in the water to calculate the dose exposure level in mrem/year, and must report both the detected level and MCL as mrem/year. Certain materials are radioactive and may emit forms of radiation known as photons and beta radiation. Some people who drink water containing beta and photon emitters in excess of the MCL over many years may have an increased risk of getting cancer.

3 – Some people who drink water containing radium 226 or 228 in excess of the MCL over many years may have an increased risk of getting cancer.

4 - Some people who drink water containing uranium in excess of the MCL over many years may have an increased risk of getting cancer.

Table of Unregulated Contaminants				
Contaminant	Date of sample	Level Detected	Unit Measurement	Likely Source of Contamination
Synthetic Organic contaminants Well #1				
Perfluorobutanoic Acid (PFBA), ng/L	8-8-23	5.3	ng/L	Released into the environment from commercial and industrial sources and is associated with inactive and hazardous waste sites.
Perfluoropentanoic Acid (PFPeA), ng/L	8-8-23	11	ng/L	Released into the environment from commercial and industrial sources and is associated with inactive and hazardous waste sites.
Perfluorobutanesulfonic Acid (PFBS), ng/L	2-2-23 4-3-23 8-8-23 10-16-23	11.16	ng/L	Released into the environment from commercial and industrial sources and is associated with inactive and hazardous waste sites.
Perfluorohexanoic Acid (PFHxA), ng/L	2-2-23 4-3-23 8-8-23 10-16-23	7.3-9.6	ng/L	Released into the environment from commercial and industrial sources and is associated with inactive and hazardous waste sites.
Perfluorohexanesulfonic Acid (PFHpA)	2-2-23 4-3-23 8-8-23 10-16-23	1.9-2.3	ng/L	Released into the environment from commercial and industrial sources and is associated with inactive and hazardous waste sites.
Perfluorohexanesulfonic Acid (PFHxS), ng/L	10-16-23	ND	ng/L	Released into the environment from commercial and industrial sources and is associated with inactive and hazardous waste sites.

DEFINITIONS USED IN THE TABLES ABOVE:

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.

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 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 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.

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

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

Non-Detects (ND): Laboratory analysis indicates that the constituent is not present.

Nephelometric Turbidity Unit (NTU): A measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

Milligrams per liter (mg/l): Corresponds to one part of liquid in one million parts of liquid (parts per million - ppm).

Micrograms per liter (ug/l): Corresponds to one part of liquid in one billion parts of liquid (parts per billion - ppb).

Nanograms per liter (ng/l): Corresponds to one part of liquid to one trillion parts of liquid (parts per trillion - ppt).

Picograms per liter (pg/l): Corresponds to one part per of liquid to one quadrillion parts of liquid (parts per quadrillion – ppq).

Picocuries per liter (pCi/L): A measure of the radioactivity in water.

Millirems per year (mrem/yr): A measure of radiation absorbed by the body.

Million Fibers per Liter (MFL): A measure of the presence of asbestos fibers that are longer than 10 micrometers.

WHAT DOES THIS INFORMATION MEAN?

As you can see by the table, our system had an MCL violation for Perfluorooctanesulfonic Acid (PFOS). PFOS caused a range of health effects when studied in animals at high exposure levels. The most consistent findings were effects on the liver and immune system and impaired fetal growth and development. Studies of high-level exposures to PFOS in people provide evidence that some of the health effects seen in animals may also occur in humans. The United States Environmental Protection Agency considers PFOS as having suggestive evidence for causing cancer based on studies of lifetime exposure to high levels of PFOS in animals. Maplebrook's engineer is working with the Dutchess County Department of Health to design a system to remove PFOS from the drinking water.

Our sampling has revealed that some contaminants such as nitrates, chloride, sodium, and alpha particles have been detected. All contaminants were detected at levels below the New York State and EPA maximum contaminant levels (MCL). We will continue to monitor for these contaminants to make sure the levels remain below the State MCL's. As indicated in the footnotes of the table, the adverse affects are that some people who drink water containing these contaminants in excess of the MCL over many years may have an increased risk of getting cancer.

As you can see by the table, our system had detected Nitrates below the MCL. It was detected at a rate of 5.8 which is greater than one half the MCL. Therefore, we are required to present the following information on Nitrate in drinking water.

- Nitrate in drinking water at levels above 10 mg/l is a health risk for infants of less than six months of age. High nitrate levels in drinking water can cause blue baby syndrome. Nitrate levels may rise quickly for short periods of time because of rainfall or agricultural activity. If you are caring for an infant, you should ask for advice from your health care provider.

We are required to present the following information on Chlorides in drinking water:

- Chloride is commonly found in the environment, most often in the form of rock salt (sodium chloride) or other salts. It can also be present in the environment as a result of human activity. For example, chloride can become elevated in drinking water from releases to the environment of road de-icing salts, inorganic fertilizers, landfill leachates, and industrial wastewater. Treatment of drinking water with chlorine or chloride can also increase the concentration of chloride in water.
- Chloride is essential for good health. While exposure to high levels of certain chloride salts is associated with adverse health effects in humans, research has not conclusively demonstrated adverse effects in humans from exposure to chloride itself. For example, high dietary intake of sodium chloride can be a contributing factor to high blood pressure, but this has been mainly attributed to the presence of sodium. The New York State standard for chloride is 250 milligrams per liter, and is based on the effects of chloride on the taste, odor and appearance of the water.

We are required to present the following information on lead in drinking water:

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. Maplebrook School is responsible for providing high quality drinking water and removing lead pipes, but cannot control the variety of materials used in plumbing components in your home. You share the responsibility for protecting yourself and your family from the lead in your home plumbing. You can take responsibility by identifying and removing lead materials within your home plumbing and taking steps to reduce your family's risk. Before drinking tap water, flush your pipes for several minutes by running your tap, taking a shower, doing laundry or a load of dishes. You can also use a filter certified by an American National Standards Institute accredited certifier to reduce lead in drinking water. If you are concerned about lead in your water and wish to have your water tested, contact Joseph Selino, Director of Buildings and Grounds for the Maplebrook School Public Water Supply. He can be reached by telephone at (845) 373 – 9511 extension 240. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available at <http://www.epa.gov/safewater/>

IS OUR WATER SYSTEM MEETING OTHER RULES THAT GOVERN OPERATIONS?

We constantly test for various contaminants in the water supply to comply with regulatory requirements. In 2019, we monitored for lead and found lead levels at one tap that exceeded the lead action levels but failed to notify our students and staff. In response, we will be increasing our sampling for lead this year and providing education information about lead to our community. Our latest sampling shown above found that we did not exceed lead action levels last year. The Department of Health has issued a waiver from testing for Asbestos. During 2022, our system was in compliance with applicable State drinking water operating, monitoring and reporting requirements.

DO I NEED TO TAKE SPECIAL PRECAUTIONS?

Although our drinking water met or exceeded state and federal regulations, Some people may be more vulnerable to disease causing microorganisms or pathogens 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 from their health care provider about their drinking water. EPA/CDC guidelines on appropriate means to lessen the risk of infection by Cryptosporidium, Giardia and other microbial pathogens are available from the Safe Drinking Water Hotline (800-426-4791).

WHY SAVE WATER AND HOW TO AVOID WASTING IT?

Although our system has an adequate amount of water to meet present and future demands, there are a number of reasons why it is important to conserve water:

- ♦ Saving water saves energy and some of the costs associated with both of these necessities of life;
- ♦ Saving water reduces the cost of energy required to pump water and the need to construct costly new wells, pumping systems and water towers; and
- ♦ Saving water lessens the strain on the water system during a dry spell or drought, helping to avoid severe water use restrictions so that essential fire fighting needs are met.

You can play a role in conserving water by becoming conscious of the amount of water your household is using, and by looking for ways to use less whenever you can. It is not hard to conserve water. Conservation tips include:

- ♦ Automatic dishwashers use 15 gallons for every cycle, regardless of how many dishes are loaded. So get a run for your money and load it to capacity.
- ♦ Turn off the tap when brushing your teeth.
- ♦ Check every faucet in your home for leaks. Just a slow drip can waste 15 to 20 gallons a day. Fix it up and you can save almost 6,000 gallons per year.
- ♦ Check your toilets for leaks by putting a few drops of food coloring in the tank, watch for a few minutes to see if the color shows up in the bowl. It is not uncommon to lose up to 100 gallons a day from one of these otherwise invisible toilet leaks. Fix it and you save more than 30,000 gallons a year.

CLOSING

Thank you for allowing us to continue to provide your family with quality drinking water this year. In order to maintain a safe and dependable water supply we sometimes need to make improvements that will benefit all of our customers. We ask that all of you help us protect our water sources, which are the heart of our community. Please call our office if you have questions.