

Mayville

Water

Department



Annual Drinking Water Quality Report for 2021
Village of Mayville
P.O. Box 188
Mayville, NY 14757
716-753-2125
Public Water Supply ID# NY0600368

INTRODUCTION

To comply with State regulations, Village of Mayville, annually issues 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. Last year, we experienced two major water interruptions. On May 11, 2021, the Village of Mayville Water Department installed a permanent water pump in well #4. This pump installation was necessary because there was only a temporary pump in the well. Due to the amount of time it took to complete this work, a water conservation order was issued until the well could be turned back online. We relied solely on our water storage tank during the work. Once the pump was placed into service, a precautionary boil water order was issued until we could perform water quality monitoring to make sure harmful bacteria hadn't entered the water supply during the construction. After several satisfactory bacteria samples were received, the water conservation and boil water order were both lifted on May 13.

On August 1, the distribution system lost pressure due to an emergency water main repair resulting in the Chautauqua County Health Department issuing a boil water advisory. Required bacteriological testing was completed within the next 24 hours and all water quality standards were met which led to the cancelling of the boil water advisory on August 3.

On December 9, 2020, the New York State Department of Health advised the Village to issue a Do Not Drink Advisory in response to levels of Perfluorononanoic acid (PFNA) that had been recently found in the water supply. PFNA is an emerging contaminant with only a limited amount of health data and is not monitored or regulated at the federal or state levels. The developing information about potential health risks from the ingestion of PFNA have led state and local health officials to take the precaution of switching to an alternate drinking water supply. To mitigate the presence of these chemicals in the public drinking water supply, Village engineers, County and State officials and engineers expedited the process to bring a recently drilled fourth well into service. This new well (well #4) is located in a different location than the three wells impacted by PFNA and as such, these chemicals have not been detected in the new ground water source. Well #4 was activated on December 14, 2020. Once we were approved to start feeding uncontaminated water from well #4 to the tank, we began the process of flushing the Village's distribution system with this water. After 8 rounds of sampling at the storage tank from December 14 to December 23, 2020, the amount of PFNA in the tank had dropped to a level that was deemed satisfactory, which allowed the lifting of the Do Not Drink Advisory on December 24. We continued monitoring levels of PFNA in our water tank on a weekly basis and by January 19, 2020 PFNA had been completely removed from our water storage tank.

We made several upgrades to our water system in 2021. On May 11, we installed a permanent well pump on Well #4. By mid-summer, JD Northrup Construction, the Village's water contractor, finished installing new water mains throughout the Village. This work helped resolve several violations issued by the Chautauqua County Health Department in 2017 in regard to aging infrastructure which required replacement. In June, we installed a poly-orthophosphate chemical to the outgoing water from well #4 to assist with iron issues that were being seen throughout the Village. In July, we began construction on a granular activated carbon filtering plant for Well #1, which assists in removing PFNA from the drinking

water. This new filtering plant was approved to be put into service on July 17. Extensive contaminant monitoring has been performed on this new filter plant and we are proud to say that no PFNA has been detected in the finished drinking water since it was installed.

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 John Buxton, Public Works Superintendent, at (716)753-2013 or mayvilledpw@netsync.net. We want you to be informed about your drinking water. If you want to learn more, please attend any of our regularly scheduled village board meetings. The meetings are held at 7:00 PM on the 2nd Tuesday of every month, at the Carlson Community Center located at Lakeside Park – 50 West Lake Road in Mayville.

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 about 1,856 people and several small businesses through 788 service connections. The Village of Mayville water system has four artesian production wells with pumps. Two are currently active. Chlorine is added to the water to meet all N.Y.S. codes. The Village of Mayville has four licensed water operators; Daniel Engdahl (grades IIB, C and D), Timothy Johnson (grades IIB and D), Shawn Ecklund (grade C and D) and Samuel Ambrose (grade D).

The NYS DOH has completed a source water assessment for this system, based on available information. Possible and actual threats to this drinking water source were evaluated. The state source water assessment includes a susceptibility rating based on the risk posed by each potential source of contamination and how easily contaminants can move through the subsurface to the wells. The susceptibility rating is an estimate of the potential for contamination of the source water, it does not mean that the water delivered to consumers is or will become contaminated. While nitrates and other inorganic contaminants were detected in our water, 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 from natural sources. The presence of contaminants does not necessarily indicate that the water poses a health risk. See section "Are there contaminants in our drinking water?" for a list of the contaminants that have been detected.

As mentioned before, our water is derived from 3 drilled wells & 1 dug well. The source water assessment has rated these wells as having a medium susceptibility to enteric viruses, salts, sulfates, petroleum products, and other industrial solvents. These ratings are primarily due to the close proximity of oil and gas wells and homes in the area. While our wells draw water from a confined aquifer (an aquifer bounded above and below by geology that restricts the passage of ground water), the aquifer recharge area (the section of land that receives precipitation and allows it to infiltrate into the aquifer) is considered vulnerable to potential sources of contamination.

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, inorganic compounds, nitrate, nitrite, lead and copper, volatile organic compounds, and synthetic organic compounds. The table presented below depicts 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 Chautauqua County Health Department at 716-753-4481.

Table of Detected Contaminants

Contaminant	Violation	Date of Sample	Level Detected	Unit Measure-ment	Regulatory Limit (MCL, AL, LHAL)	MCLG	Likely Source of Contamination
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INORGANIC CONTAMINANTS

Nitrate (Well #1)	No	8/18/21	1.02	mg/l	10(MCL)	10	Runoff from fertilizer use: Leaching from septic tanks, sewage: Erosion of natural deposits
Nitrate (Well #2)	No	8/19/20	1.4	mg/l	10(MCL)	10	Runoff from fertilizer use: Leaching from septic tanks, sewage: Erosion of natural deposits
Nitrate (Well #3)	No	8/19/20	1.2	mg/l	10(MCL)	10	Runoff from fertilizer use: Leaching from septic tanks, sewage: Erosion of natural deposits
Lead(1)	No	6/15/21 & 6/22/21	5.0 Range= ND-15.4	ug/l	15 (AL)	0	Corrosion of household plumbing systems; Erosion of natural deposits.
Copper(2)	No	9/25/19	0.0773 Range= 0.012-0.104	mg/l	1.3 (AL)	1.3	Corrosion of household plumbing systems; Erosion of natural deposits; leaching from wood preservatives.
Lead(3)	No	12/15/21	2.8 Range= ND-12.4	ug/l	15 (AL)	0	Corrosion of household plumbing systems; Erosion of natural deposits.
Copper(4)	No	12/15/21	0.328 Range= 0.025-0.505	mg/l	1.3 (AL)	1.3	Corrosion of household plumbing systems; Erosion of natural deposits; leaching from wood preservatives.
Barium (Well #1)	No	9/20/21	0.181	mg/l	2(MCL)	2	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits.
Barium (Well #3)	No	2/21/18	0.16	mg/l	2(MCL)	2	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits.
Arsenic (Well #4)	No	9/26/19	0.7	ug/l	10 (MCL)	N/A	Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes.
Barium (Well #4)	No	6/7/21	0.117	mg/l	2(MCL)	2	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits.
Iron (Well #4)	Yes	4/28/21	380	ug/l	300 (MCL)	N/A	Naturally occurring.
Manganese (Well #4)	No	4/28/21	48	ug/l	300 (MCL)	N/A	Naturally occurring; Indicative of landfill contamination.
Nickel (Well #4)	No	9/26/19	0.6	ug/l	N/A	N/A	Enters groundwater and surface water by dissolution of rocks and soils, from atmospheric fallout, biological decays and from waste disposal.
Sodium(5) (Well #4)	No	9/26/19	15.7	mg/l	No designated limits-see footnote	N/A	Naturally occurring; road salt; Water softeners; Animal waste.
Fluoride (Well #4)	No	9/26/19	0.06	mg/l	2.2(MCL)	N/A	Erosion of natural deposits; Water additive that promotes strong teeth; Discharge from fertilizer and aluminum factories.

RADIOLOGICAL

Gross Beta(6) (Blended Wells 1&2)	No	8/9/16	1.1	pCi/L	50(MCL)	0	Decay of natural deposits and man-made emissions.
Gross Alpha (Well #4)	No	2/17/21 6/18/21 9/6/21	Avg.=0.785 Range= 0.618-0.869	pCi/L	15(MCL)	0	Erosion of natural deposits.
Gross Beta (Well #4)	No	9/26/19	0.762	pCi/L	50(MCL)	0	Decay of natural deposits and man-made emissions.
Radium-226 (Well #4)	No	2/17/21 6/18/21 9/6/21	Avg.=0.09 Range= 0.055-0.17	pCi/L	5(MCL)	N/A	Erosion of natural deposits.
Radium-228 (Well #4)	No	2/17/21 6/18/21 9/6/21	Avg.=0.19 Range= 0.073-0.252	pCi/L	5(MCL)	N/A	Erosion of natural deposits.

VOLATILE ORGANIC CONTAMINANTS

Bromomethane (Well #4)	No	9/26/19	0.46	ug/l	5 (MCL)	N/A	Used to kill a variety of pests; used to make other chemicals or as a solvent to get oil out of nuts, seeds, and wool.
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SYNTHETIC ORGANIC CONTAMINANTS

Bis(2-Ethylhexyl)phthalate (Well #4)	No	9/26/19	0.12	ug/l	6 (MCL)	0	Used in plastic products such as polyvinyl chloride, plastic toys, vinyl upholstery, adhesives and coatings. Compound likely to be released to the environment during production and waste disposal of these products. Also used in inks, pesticides, cosmetics and vacuum pump oil.
Diquat (Well #4)	No	9/26/19	0.28	ug/l	20 (MCL)	20	Runoff from herbicide use.

STAGE 2 DISINFECTION BYPRODUCTS (Mill Street)

Total Trihalomethanes	No	8/25/21	17.2	ug/l	80 (MCL)	N/A	By-product of drinking water chlorination needed to kill harmful organisms. TTHMS are formed when source water contains large amounts of organic matter.
Haloacetic Acids	No	8/25/21	2.3	ug/l	60 (MCL)	N/A	By-products of drinking water chlorination.

STAGE 2 DISINFECTION BYPRODUCTS (S. Erie St.)

Total Trihalomethanes	No	8/19/20	14.6	ug/l	80 (MCL)	N/A	By-product of drinking water chlorination needed to kill harmful organisms. TTHMS are formed when source water contains large amounts of organic matter.
Haloacetic Acids	No	8/19/20	2.1	ug/l	60 (MCL)	N/A	By-products of drinking water chlorination.

DISINFECTANTS

Chlorine Residual (Well #1 Entry Point)	No	Daily (2021)	Avg.=0.74 Range=0.60-0.93	mg/l	4(MCL)	N/A	Water additive used to control microbes.
Chlorine Residual (Well #4 Entry Point)	No	Daily (2021)	Avg.=0.74 Range=0.53-0.93	mg/l	4(MCL)	N/A	Water additive used to control microbes.

Notes:

1 – The level presented represents the 90th percentile of the 20 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 at your water system. In this case, 20 lead samples were collected at your water system and the 90th percentile value was calculated to be the third highest result which was 5.0 ug/l. The action level for lead was exceeded at one of the sites tested.

2 – The level presented represents the 90th percentile of the 20 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 copper values detected at your water system. In this case, 20 copper samples were collected at your water system and the 90th percentile value was calculated to be the third highest result which was 0.0773 mg/l. The action level for copper was not exceeded at any of the sites tested.

3 – The level presented represents the 90th percentile of the 20 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 at your water system. In this case, 20 lead samples were collected at your water system and the 90th percentile value was calculated to be the third highest result which was 2.8 ug/l. The action level for lead was not exceeded at any of the sites tested.

4 – The level presented represents the 90th percentile of the 20 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 copper values detected at your water system. In this case, 20 copper samples were collected at your water system and the 90th percentile value was calculated to be the third highest result which was 0.328 mg/l. The action level for copper was not exceeded at any of the sites tested.

5 – Water containing more than 20 mg/l of sodium should not be used for drinking by people on severely restricted sodium diets. Water containing more than 270 mg/l of sodium should not be used for drinking by people on moderately restricted sodium diets.

6 – The NYSDOH considers 50 pCi/l to be the level of concern for beta particles.

Definitions:

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 that is 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.

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

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 in one trillion parts of liquid (parts per trillion - ppt).

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

WHAT DOES THIS INFORMATION MEAN?

As you can see by the table, Well #4 exceeded the MCL for iron in 2021. The iron levels in the table are believed to correlate with the discolored water issues that were seen throughout the Village in 2021. Iron is essential for maintaining good health. However, too much iron can cause adverse health effects. Drinking water with very large amounts of iron can cause nausea, vomiting, diarrhea, constipation, and stomach pain. These effects usually diminish once the elevated iron exposure is stopped. A small number of people have a condition called hemochromatosis, in which the body absorbs and stores too much iron. People with hemochromatosis may be at greater risk for health effects resulting from too much iron in the body (sometimes called “iron overload”) and should be aware of their overall iron intake. The New York State standard for iron in drinking water is 0.3 milligrams per liter, and is based on iron’s effects on the taste, odor, and color of the water. In June, we will be adding a poly-orthophosphate chemical to the outgoing water from well #4. This will help control the rusty colored water situation.

Also in 2019 during initial well testing on well #4, we detected bromomethane, bis(2-Ethylhexyl)phthalate, and Diquat from Well #4. As you can see in the above table, these three contaminants were all below the designated MCL’s. Bromomethane and bis(2-Ethylhexyl)phthalate were both detected in the field blank associated with the sample, therefore the results for these two contaminants are in question. During routing monitoring in 2021, none of these contaminants were detected.

We have learned through our testing that some contaminants have been detected; however, other than iron, these contaminants were detected below the level allowed by the State. Lead and copper were detected within the system and of the 20 samples collected, one was found exceeding the action level for lead. We are required to present the following information on Lead in drinking water:

If present, elevated levels of lead can cause serious health problems, especially for pregnant women, infants, and young children. It is possible that lead levels at your home may be higher than at other homes in the community as a result of materials used in your home’s plumbing. The Village of Mayville 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 (1-800-426-4791) or at <http://www.epa.gov/safewater/lead>**.

The NYSDOH has a free lead testing program – for more information go to:

https://www.health.ny.gov/environmental/water/drinking/lead/free_lead_testing_pilot_program

On August 26, 2020, Public Water Supplies in New York State were required to begin monitoring for Per- and polyfluoroalkyl substances (PFAS). These substances include Perfluorooctanoic acid (PFOA), Perfluorooctane sulfonate (PFOS), and 1,4-Dioxane. To this date, we have not had detected PFOA, PFOS, or 1,4-Dioxane over the MCL. We will continue to closely monitor for these compounds in 2022 and beyond.

IS OUR WATER SYSTEM MEETING OTHER RULES THAT GOVERN OPERATIONS?

We are required to monitor your drinking water for specific contaminants on a regular basis. Results of regular

monitoring are an indicator of whether or not your drinking water meets health standards. During 2021, our system was in compliance with all applicable State drinking water operating, monitoring, and reporting requirements.

DO I NEED TO TAKE SPECIAL PRECAUTIONS?

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).

INFORMATION FOR NON-ENGLISH SPEAKING RESIDENTS

Spanish

Este informe contiene información muy importante sobre su agua beber. Tradúzcalo ó hable con alguien que lo entienda bien.

French

Ce rapport contient des informations importantes sur votre eau potable. Traduisez-le ou parlez en avec quelqu'un qui le comprend bien.

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 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.
- ♦ 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.
- ♦ Use your water meter to detect hidden leaks. Simply turn off all taps and water using appliances. Then check the meter after 15 minutes. If it has moved, you have a leak.

CLOSING

Thank you for allowing us to continue to provide your family with quality drinking water this year. We take pride in providing detailed attention to customers and the infrastructure that serves us.

To maintain a safe and dependable water supply we sometimes need to make improvements that will benefit all our customers. The costs of these improvements may be reflected in the rate structure. As costs have greatly increased, rate adjustments will be necessary to address system operations and improvements. We ask that all our customers help us protect our water sources, which are the heart of our community. Please call our office if you have questions.

Please consider these suggestions to help improve your homes water system:

- ♦ Ensure the main water shut-off valve at the water meter is routinely operational and always close the valve before you leave home for three or more days.
- ♦ Maintain constant surveillance for leaking water fixtures.
- ♦ Provide or update your current customer contact phone numbers to the Village Office.
- ♦ If you remove your water meter for the winter, reinstall the meter flowing in the correct direction in the spring.