

*Annual Drinking Water Quality Report for 2018
Village of Middleburgh 309 Main Street
Post Office Box 789 Middleburgh, New York 12122
Public Water Supply ID# NY4700096*

INTRODUCTION

To comply with State and Federal regulations, the Village of Middleburgh must issue a report describing the quality of your drinking water annually. The purpose of this report is to raise your understanding of drinking water and awareness of the need to protect our drinking water sources. 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. We are allowed to send you a notice in your water bill that it is available on our Village website or you may obtain a copy at the Village Office or we can send you one upon request.

If you have any questions about this report or concerning your drinking water, contact Village Superintendent Stephen Kowalski at the Village Office 518-827-5143. 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 held at the Village Office located on 309 Main Street, Middleburgh. The meetings are held on the first Monday of each month at 7:00 PM. T.D.D. 1-800-662-1220. "This is an equal Opportunity Program, discrimination is prohibited by Federal law, Complaints of discrimination may be filed with USDA, Director, Office of Civil Rights Room 326-w, Whitten Building, 14th and Independence Avenue, SW, Washington, DC 20250-9410.

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 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 sources are two wells located at the west side of the Village. There is a water treatment plant at that location. The water is disinfected at the plant and pumped into the system. Fluoride is added to promote better teeth for our children. The system serves approximately 1500 residents and numerous businesses.

Total water production in 2018 was approximately 86,405,000 gallons, an average of 236,726 gallons per day.

Total water production in 2017 was approximately 91,538,000 gallons, an average of 250,789 gallons per day.

Total water production in 2016 was approximately 90,604,000 gallons, an average of 247,552 gallons per day.

Total water production in 2015 was approximately 88,922,000 gallons, an average of 243,621 gallons per day.

Total water production in 2014 was approximately 84,088,000 gallons, an average of 230,378 gallons per day. We are committed to ensuring the good quality of your water. Our constant goal is to provide you with a safe dependable supply of drinking water. In order to maintain a safe and dependable water supply we sometimes need to make improvements on the system. These improvements are sometimes reflected as rate structure increases.

Our residential quarterly service charge is \$ 74 up to 10,000 gallons. Add \$3.00 per 1000 gallons above 10,000.

The system is regulated by the Schoharie County Department of Health at 295-8382. There will be times during water line flushing, water main breaks and heavy use during structure fires where the water may be discolored or cloudy. Please contact the Village so appropriate actions may be taken to resolve the problem.

It should be noted that all drinking water, including bottled drinking water, might 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 Schoharie County Department of Health at 295-8382. The NYS DOH website is www.health.state.ny.us - go to "Health & Safety in the Workplace & Outdoors", then "Drinking Water". In order to ensure that tap water is safe to drink, the Federal Environmental

Protection Agency (EPA) sets regulations which limit the amount of certain contaminants in water provided by public drinking water systems. The Federal Food and Drug Administration regulations establish limits for contaminants in bottle water which must provide the same protection for public health.

Source Water Assessment Summary

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 well. At the time the assessment was completed only the caisson well was evaluated. However, this could also apply to the new 24-inch diameter well. 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. See section "Are there contaminants in our drinking water?" for a list of the contaminants that have been detected. The source water assessments provide resource managers with additional information for protecting source waters into the future.

As mentioned before, our water is derived from ground water wells. The source water assessment has rated the well as having a high susceptibility to halogenated solvents, petroleum products, other industrial solvents, metal protozoa, cation/anions (salts, sulfates). These ratings are due primarily to the proximity of permitted discharge facilities (industrial/commercial facilities that discharge wastewater into the environment and are regulated by the state and/or federal government) to the well. The source water assessment has rated the well as having a very high susceptibility to nitrates, enteric bacteria, and enteric viruses. These ratings are primarily due to the proximity of permitted discharge facilities to the well and the agricultural activity in the assessment area. Nitrate detections exceeding 2 mg/L have been found at least occasionally and are consistent with a high chemical sensitivity. The source water assessment has rated the well as having a medium-high susceptibility herbicides and pesticides due primarily to the proximity of agricultural activity near the well. In addition, based on the data provided, the well yields greater than 100 gallons per minute from an unconfined aquifer.

While the source water assessment rates our well as being susceptible to microbials, please note that our water is disinfected to ensure that the finished water delivered to your home and business meets New York State' drinking water standards for microbial contamination. While nitrates (and traces of 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.

A copy of the assessment, including a map of the assessment area, can be obtained by contacting us, as noted above.

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 bacteria, turbidity, 22 inorganic compounds, nitrate, nitrite, 10 lead and copper samples at residences, 54 volatile organic compounds, total trihalomethanes, five haloacetic acids, 5 radionuclides and 39 synthetic organic compounds. The Superintendent and other certified staff takes measurements of chlorine, fluoride, in the distribution system and the plant. The Treatment Plant has recorders that monitor chlorine and water production 24 hours per day as well. The State also monitors our water for some contaminants. The table presented on pages 3 and 4 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. We perform more bacteria tests than required on the water including raw water tests.

Definitions of terms you will find in the table of detected contaminants and the report:

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. MCL's are set at very stringent levels. To understand the possible health effects described for many regulated contaminants, a person would have to drink approximately 2 quarts of water every day at the MCL for a lifetime to have a one-in-a-million chance of having the described health effect.

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, based upon a running annual average of the samples. 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 contaminants.

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.

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).

N/A: Not applicable.

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

Table of Detected Contaminants

Contaminant	Violation Yes/No	Date of Sample	Level Detected	Unit Measurement	MCLG Or MRDLG	Regulatory Limit (MCL, TT, AL or MRDL)	Likely Source of Contamination
Chloride	No	06/2001	27	mg/l	N/A	250	Naturally occurring
Sulfate	No	06/2001	15	mg/L	N/A	250	Naturally occurring
Barium	No	05/18/2009 06/13/2017	0.031 0.038	mg/l	2	2	Erosion of natural deposits
Copper	No	07/11/2018	Range detected 0.096 to 0.347	mg/l	1.3	1.3	Corrosion household plumbing systems, and water service lines. See below for further information.
Lead	No	07/11/2018	Range detected was 1.2 to 4.4	ug/l	Zero or not detected	15	Corrosion household plumbing systems, and water service lines. See below for further information.
Fluoride	No	Daily and monthly check samples	Range was 0.1 to 1.3	mg/l	2.2	2.2	Water additive that promotes strong teeth.
Nitrate	No	07/25/2018	4.0	mg/l	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage, erosion of natural deposits
Sodium	No	03/28/2012 11/01/2017	7.8 17.3	mg/l	N/A	N/A see below for further information	Naturally occurring, road salt, water softeners, animal waste.
Zinc	No	2001	0.01	mg/l	N/A	5	Naturally occurring.

Total Trihalo-methanes or TTHM	No	08/18/2011 08/20/2014 08/17/2016 10/18/2017 07/25/2018	11.7 Not detected 56.42 11.6 41.6	ug/l	80	80	By-product of drinking water chlorination needed to kill harmful organisms. TTHMs are formed when source water or distribution system (biofilms) contains large amounts of organic matter.
Haloacetic acids Or HAA5	No	08/18/2011 08/20/2014 08/17/2016 10/18/2017 07/26/2018	2.82 Not detected 11.03 23.7 14.2	ug/l	60	60	By-product of drinking water chlorination needed to kill harmful organisms. HAA5 are formed when source water or distribution system (biofilms) contains large amounts of organic matter.
Gross Alpha particle Activity	No	03/09/2015 5/19/2015 7/01/2015 0/01/2015	0.63 1.19 0.65 ND	pCi/l	15	zero	Erosion of natural deposits, naturally occurring.
Free Chlorine residual	No	Daily and at time total coliform bacteria sample is collected	Range reported was 1.3 to 3.1	mg/l	4 MRDLG	4 MRDL	By-product of drinking water chlorination. Chlorination is needed to kill harmful organisms if they get into the water
Radium 226 and Radium 228 combined	No	03/09/2015 05/19/2015 07/01/2015 10/01/2015	0.31 0.09 1.30 ND	pCi/l	zero	5	Erosion of natural deposits
Uranium combined	No	07/01/2015 10/01/2015	0.19 0.275	ug/l	zero	30	Erosion of natural deposits
Total Coliform and Escherichia coli Bacteria	No	03/21/2018	Present or positive	Present, positive absent or zero	Zero or absent, or negative	Zero or absent, any positive sample	Naturally present in the environment and human and animal fecal waste.

WHAT DOES THIS INFORMATION MEAN?

As you can see by the table, our system had no violations. We have learned through our testing that some other contaminants have been detected; however, these other contaminants were detected below Federal and New York State requirements. Below is a short description of each contaminant with possible health effects if you have a concern over the contaminant.

Chloride. The Village is not in violation of the chloride limit. In fact, the chloride level is so low in the water it has no health effects. However, if chloride were present in the water at the MCL there may be objectionable tastes.

Sulfate. The amount of sulfate in the water is so low no health effects can be observed. At high levels, Sulfates can form scale on plumbing and cause diarrhea.

Barium Barium was present at approximately 2 % of the MCL. It is at a level where no health effects are observed. Some people who drink water containing Barium in excess of the MCL over many years could experience an increase in their blood pressure.

Copper

The Village complied with the Federal and State Lead and Copper Rule. None of the 10 sites tested exceeded the action level of 1.3 mg/l. The results from highest to lowest are: 0.347, 0.288, 0.219, 0.176, 0.167, 0.161, 0.145, 0.145, 0.145, 0.096. Copper is an essential nutrient to your health. 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. If you are concerned about the copper in the water flush your tap for approximately 2 minutes before using tap water to remove it from the drinking water. Copper sampling is due in summer 2021.

Lead

The Village complied with the Federal and State Lead and Copper Rule. . Lead was detected in all 10 tests done on services in July 2018. The results are all below the action level of 15: 4.4, 2.4, 2.2, 2.1, 2, 1.6, 1.5, 1.4, 1.3, 1.2. The 2015 results from highest to lowest are: 6.6, 4.0, 2.6, 2.4, 2.1, 1.6, 1.1, 1.1, 1.0, Not detected (ND), all below the action level of 15. Regulations allow 1 sample in 10 to be over the action level of 15 ug/l. The wells are free of lead at the sources. The lead dissolves from the household plumbing and gets higher as the water sits motionless in the pipes for a longer period of time. If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Infants and children who drink water containing **lead in excess** of the action level could experience delays in their physical and mental development. Children could show slight defects in attention span and learning abilities. Adults who drink water containing lead in excess of the Action Level over many years could develop kidney problems or high blood pressure. Infants and young children are typically more vulnerable to lead in drinking water than the general population. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. The Village of Middleburgh is responsible for providing high quality drinking water, but cannot control the variety of materials used in household plumbing components. 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. 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 two minutes before using water for drinking or cooking. If you are concerned about elevated lead levels in your home's 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 <http://www.epa.gov/safewater/lead>. Lead and copper monitoring will be done again in summer 2021 as required. If you have 100 feet of 0.75 inch diameter water line from the street to inside of the house, it may take longer than 30 seconds to flush if you have a 1 gallon per minute flush faucet or toilet. It may take 2.5 minutes. The Village uses plastic service lines whenever they are replaced from the water main to the curb stop valve.

Fluoride

Our water system is one of many drinking water systems in New York State that provides drinking water with a controlled, low level of fluoride for consumer dental health protection. According to the United States Centers for Disease Control, fluoride is very effective in preventing cavities when present in drinking water at an optimal concentration of approximately 0.7 milligrams per liter (parts per million). To ensure that the fluoride supplement in your water provides optimal dental protection, the State Department of Health requires that we monitor fluoride on a daily basis. None of the monitoring results showed fluoride at levels that approached the 2.2 mg/l maximum contaminant level for fluoride. Fluoridated water is the most effective and economic method of preventing tooth decay and associated health problems. We pursued a state health department grant in 2016 and 2017 to replace our fluoridation equipment so our system will be more efficient.

Nitrate. If the nitrate level is above 10 mg/l infants below the age of six months who drink water containing nitrate in excess of the MCL could become seriously ill and, untreated, may die. Symptoms include shortness of breath and blue-baby syndrome. Nitrite was not detected in 2018 sample.

Sodium. Sodium is at very low levels in the water. 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. Note our sodium is less than 20.

Zinc: Zinc has no health effects unless detected in very high concentrations. The level of zinc in our water is approximately 3 % of the MCL and no health effects can be observed at that level. Zinc is naturally occurring, and if present at very high concentrations may result in an undesirable taste in drinking water.

Total Trihalomethanes. Total trihalomethanes (are chloroform, bromodichloromethane, dibromochloromethane and bromoform as a group) were detected in 2018 but below the MCL of 80 ug/l. The maximum contaminant level (MCL) for trihalomethanes was effective in the year 2004 for water systems serving fewer than 10,000 persons. Our water system has met the standards. We are presenting the following information on total trihalomethanes in

drinking water if you have a concern over them: “Some people who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous systems, and may have an increased risk of getting cancer.”

Haloacetic Acids

Haloacetic acids were detected in 2018 below the MCL of 60 ug/l. Even though the haloacetic acids are far below the MCL we are presenting the following information on haloacetic acids in drinking water:

“Some people who drink water containing haloacetic acids in excess of the MCL over many years may have an increased risk of getting cancer.”

Gross Alpha particle activity (gross alpha)

Certain minerals are radioactive and may emit a form of radiation known as alpha radiation. Some people who drink water containing alpha radiation emitters in excess of the MCL over many years may have an increased risk of getting cancer. The gross alpha particle activity in Middleburgh was well below the MCL. Monitoring varies depending upon the levels detected. Next monitoring will be required by 2024 based on the 2015 results.

Chlorine Residual. We are mandated to add chlorine to the water to kill any harmful organisms. Our chlorine levels are at acceptable levels and we must always have chlorine in the water in all parts of the system. Chlorine residual is a by-product of drinking water chlorination. The MRDL of 4 mg/l was effective on January 1, 2004 and the MRDLG is 4 mg/l. The range was between 1.3 and 3.1 mg/l. The plant goal is approximately 1.5 to 2.0 mg/l.

Radium 226 and Radium 228 : Radium 226 and 228 comes from the erosion of natural deposits. Some people who drink water containing radium 226 and/or radium 228 in excess of the MCL over many years may have an increased risk of getting cancer. This type of contaminant comes from the erosion of natural deposits. The maximum level is 5 and our result is less than 1 average. The next monitoring is required by 2024 based on 2015 results.

Uranium combined: Uranium was found at trace levels and is naturally occurring. People who drink water containing uranium in excess of the MCL over many years have an increased risk of getting cancer. The next monitoring is required by 2024 based on the 2015 results because the average was less than 1.

Total Coliform Bacteria and E. coli. A routine test for total coliform bacteria collected on March 21, 2018 was unsatisfactory (total coliform present and E. coli was found in that water sample. There was one confirmation test done March 23 which had no coliform or E. coli. We collected 3 more samples in April as required and they were satisfactory as well. Total Coliform Bacteria are bacteria that are naturally present in the environment and are used as an indicator that other, potentially-harmful, bacteria may be present. Coliforms are a warning of potential problems. They are not normally found in drinking water and are easy to test for, that is why they are tested. If none are present, then there is a reasonable assurance the water is safe. If they are found, repeat tests are done to confirm or disprove the bad test as required. E. coli are bacteria whose presence indicates that the water may be contaminated with human or animal wastes. Microbes in these wastes can cause short-term effects, such as diarrhea, cramps nausea, headaches, or other symptoms. The microbes in the waste pose a special health risk for infants, young children, some of the elderly, and people with severely compromised immune systems. No notification is required for a single present result. If any of the repeat tests had coliform present, public notification would have been required at that time.

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.

Waivers

Our system has a monitoring waiver for 11 inorganic chemicals for the period of January 1, 2018 to December 31, 2026 because the contaminants are consistently below the MCLs or not detected at all in at least three rounds of monitoring for the wells. These contaminants include: Arsenic, Antimony, Barium, Beryllium, Cadmium, Chromium, Cyanide, Mercury, Nickel, Selenium, and Thallium. Monitoring was done by the Health Department in 2017. This report constitutes the waiver.

We have a waiver for asbestos monitoring because we do not have water pipe containing asbestos and there is no asbestos in the local geology.

The TTHM, Haloacetic Acids and free chlorine residual measurements are required to have a monitoring plan that is available for review. Please contact the operator for details.

Monitoring Violations:

The Revised Total Coliform Rule was effective April 2016. We received a monitoring and reporting violation in because we collected only one of three repeats samples in March 2018. We had a routine sample present for total coliform bacteria collected on March 21, 2018 and only one repeat sample was done on March 23, 2018. We did collect the three required samples in April. We did a level 1 assessment as required to prevent the violation from happening again. All the other samples were satisfactory as required. We plan on collecting samples during the correct time in 2019 as required. There is nothing you need to do at this time. Public notification is required within one year of the violation and this constitutes the required notification since this report is done by May 31, 2019.

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 treat the water; 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 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.
- ♦ If you have a water meter use it to detect hidden leaks. Simply turn off all taps and water using appliances, then check the meter after 15 minutes; if it moved, you probably have a leak.

If you have problems with pressure, or discolored water please contact the Village so appropriate actions can be taken.

CLOSING

We ask that all our customers help us protect our water sources, which are the heart of our community, our way of life and our children's future. Please contact the Village if you have questions.