

Annual Drinking Water Quality Report for 2019

ARKVILLE WATER DISTRICT
BOX 577 Margaretville N.Y. 12455
Public Water Supply ID#1200249

Introduction

To comply with State and Federal regulations, **ARKVILLE WATER DISTRICT** 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 source. Last year we failed to collect the required Water Quality Parameters samples from 1/1/2019-6/30/2019. The required Water Quality Parameters samples were collected from 7/1/2019-12/31/2019. During the year 2019 we tested for several constituents. Any detects are listed in the table below. We also did monthly coliform sampling and testing and the results proved to be negative or no detect. 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 Robert Payne, 845-663-7982. We want you to be informed about your drinking water. If you want to learn more, please attend any of our regularly scheduled Town board meetings every second Wednesday of each month at the Town of Middletown Town Hall located at 42339 State Hwy 28, Margaretville, NY 12455 from 6:00pm until all business is completed.

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 serves about 450 people through 115 service connections. Our water sources are two drilled wells, one at the site of the Fireman's Pavilion and is 125 feet deep (well #1). This water is chlorinated for disinfection and a polyphosphate is added to raise the pH to make the water less aggressive in order to control the lead and copper at your faucet. The recently developed second well, put in service in March of 2013, is located behind the Railroad station and is 200 feet deep (well #2). This well is also chlorinated for disinfection and also has a polyphosphate added. The untreated water in well #2 contains Arsenic levels that exceed drinking water standards. Because of the elevated arsenic levels in this well, we were required to install an arsenic removal treatment system before the well was allowed to supply any water to our customers. We have a source water protection plan available from our office that provides more information, such as potential sources of contamination.

Source Assessment Report Summary

The NYS DOH has completed a source water assessment for our system, based on available information. Possible and actual threats to the drinking water sources 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, might 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. The nitrate level in our source is not considered high in comparison with other sources in this area. See section "Are there contaminants in our drinking water?" for a list of contaminants that have been detected.

As mentioned before, our water is derived from two drilled wells. The source water assessment has rated well #1 as having a medium susceptibility to microbials. This rating is due primarily to the close proximity of septic systems and low intensity residential activities within the assessment area. In addition, the well draws from a confined aquifer that likely provides adequate protection from potential contamination. While the source water assessment rates our well as being somewhat susceptible to microbials, please note that our water is disinfected to ensure that the finished water delivered into your home meets New York State's drinking water standards for microbial contamination. A copy of the assessment, including a map of the assessment area, can be obtained by contacting us, as noted below.

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, 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, 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 New York State Health Department at (607) 432-3911.

Table of Detected Contaminants							
Contaminant	Violation Y/N	Date of Sample	Level Detected	Unit Meas- urement	MCL G	MCL	Likely Source of Contamination
Nitrate	N	3/28/19	Well #1 = 0.90	mg/l	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
		3/4/19	Well #2 = 0.04				
Chloride	N	9/29/16	Well #1 = 28.3	mg/l	N/A	250	Naturally occurring or indicative of road salt contamination.
		12/18/14	Well #2 = 46.9				
Barium	N	12/13/18	Well #2 = 0.128	mg/l	2	2	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits.
Sodium	N	9/29/16	Well #1 = 14	mg/l	N/A	See health effects ⁽¹⁾	Naturally occurring; Road salt; Water softeners; Animal waste.

Total Trihalomethanes (TTHMs – chloroform, bromodichloromethane, dibromochloromethane, and bromoform)	N	9/27/18	5.09	ug/l	N/A	80	By-product of drinking water chlorination needed to kill harmful organisms. TTHMs are formed when source water contains organic matter.
Haloacetic Acids (mono-, di-, and trichloroacetic acid, and mono- and dibromoacetic acid)	N	9/27/18	1.5	ug/l	N/A	60	By-product of drinking water disinfection needed to kill harmful organisms.
Nickel	N	12/13/18	0.0028	mg/l	N/A	N/A	Naturally occurring.
Arsenic Well #2 treated finished water	N	Quarterly	8.3 Range: ND – 32.1	ug/l	N/A	10	Erosion of natural deposits; runoff from orchards, runoff from glass & electronic production wastes
Arsenic Well #2 untreated raw water	N	Quarterly	23.3 Range: 11.9 – 31.6 (2) see footnote	ug/l	N/A	10	Erosion of natural deposits; runoff from orchards, runoff from glass & electronic production wastes
Manganese	N	9/29/16	4	ug/l	N/A	300 ug/l	Naturally occurring; Indicative of landfill contamination
Lead	N	6/15/19	1 ⁽³⁾ Range: <1 - 6.7	ug/l	0	AL = 15	Corrosion of household plumbing systems; Erosion of natural deposits.
	N	12/15/19	1 ⁽³⁾ Range: <1 - 4.8				
Copper	N	6/15/19	.345 ⁽⁴⁾ Range: .003- .482	mg/l	1.3	AL = 1.3	Corrosion of household plumbing systems; Erosion of natural deposits; leaching from wood preservatives.
	N	12/15/19	.900 ⁽⁴⁾ Range: .005- .900				
Iron	N	9/29/16	Well #1 = 20	ug/l	N/A	300	Naturally occurring.
Zinc	N	9/29/16	Well #1 = 0.01	mg/l	N/A	5	Naturally occurring.
Sulfate	N	9/29/16	Well #2 = 5.3	mg/l	N/A	250	Sulfate is a substance that occurs naturally in drinking water.
Chloromethane (Methyl Chloride)	N	11/14/19	Well #1 = 0.6	ug/l	N/A	5	Used in organic chemistry; used as an extractant for greases, oils, and resins; as a solvent in the rubber industry; as a refrigerant, blowing agent and propellant in polystyrene foam production; as an anesthetic; as an intermediate in drug manufacturing; as a food additive, a fumigant and a fire extinguisher.
	N	Quarterly	Well #2 = 1.3 Range: ND – 3.1				
Xylene, Meta and Para from Well #2	Y	Quarterly	12.35 Range: ND - 48	ug/l	N/A	5	Leaks from gasoline tanks; Discharge from petroleum factories. Leaching of solvent from lining of potable water tanks.

Xylene, Ortho from Well #2	N	Quarterly	3.25 Range: ND - 13	ug/l	N/A	5	Leaks from gasoline tanks; Discharge from petroleum factories. Leaching of solvent from lining of potable water tanks.
Ethylbenzene from Well #2	N	Quarterly	0.25 Range: ND - 0.94	ug/l	N/A	5	Discharge from petroleum refineries; Leaks from gasoline tanks.
Dibromomethane (Methylene Bromide) from Well #2	N	Quarterly	0.17 Range: ND - 0.69	ug/l	N/A	5	Dibromomethane finds limited use in chemical synthesis, as a solvent and as a gage fluid. It may be released to the environment during these used as well as in its production and transport. Also used as a solvent for fats, waxes and resins and an ingredient of fire extinguisher fluids.
pH ⁽⁵⁾	N	6 every 6 months	7.21 Range: 6.47 - 7.21	Ph Units	n/a	n/a	Naturally occurring.
Orthophosphate ⁽⁵⁾	N	6 every 6 months	3.66 Range: ND - 3.66	mg/l	n/a	n/a	Water additive used for corrosion control treatment to reduce levels of lead and copper at customer taps
Alkalinity ⁽⁵⁾	N	6 every 6 months	69 Range: 44 - 69	mg/l	n/a	n/a	Naturally occurring.
Conductivity ⁽⁵⁾	N	6 every 6 months	289 Range: 252 - 289	umhos/ cm	n/a	n/a	Naturally occurring.
Calcium ⁽⁵⁾	N	6 every 6 months	21.5 Range: 15.1 - 21.5	mg/l	n/a	n/a	Naturally occurring.
Copper ⁽⁶⁾	N	2 every 6 months	0.149 Range: ND - 0.149	mg/l	1.3	1.3	Corrosion of household plumbing systems; Erosion of natural deposits; leaching from wood preservatives.
Lead ⁽⁶⁾	N	2 every 6 months	5.9 Range: ND - 5.9	ug/l	0	15	Corrosion of household plumbing systems; Erosion of natural deposits.

Notes

- (1) 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
- (2) The raw water from well #2 does contain a level of Arsenic that exceeds the MCL. We have arsenic removal treatment for this well. We monitor the arsenic levels in the untreated well water to make sure our treatment system is adequately removing arsenic from the water.
- (3) The level presented represents the 90th percentile of the 10 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, ten samples were collected at your water system during each 6-month monitoring period and the 90th percentile values were the second highest values (1 ug/l in the set of samples collected in June and 1 ug/l in the set of samples collected in December).

- (4) The level presented represents the 90th percentile of the 10 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, ten samples were collected at your water system during each 6-month monitoring period and the 90th percentile values were the second highest values (0.345 mg/l in the set of samples collected in June and 0.900 mg/l in the set of samples collected in December).
- (5) These samples are required to be collected whenever a water system exceeds the lead or copper action level. Collectively these contaminants are called "Water Quality Parameters (WQP)" and the results are used to evaluate our corrosion control treatment and assist with making changes necessary to reduce the lead and/or copper levels to below their respective action levels. These samples were collected from the wells and distribution system. We are required to collect 2 WQP samples from each well and 2 WQP samples from the distribution system every 6 months. The results reported in the table include the highest level of each WQP and the range of values found during our testing this past year.
- (6) This sample was collected directly from the well.

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).

What Does This Information Mean?

The table shows that our system uncovered some problems this year. We found levels of Meta and Para Xylene exceeding drinking water standards in our fourth quarter sample. The potential adverse health effects are Some people who drink water containing xylenes in excess of the MCL over many years could experience damage to their nervous system. We have begun investigating possible sources of xylene and have discontinued using Well #2 to routinely supply water to the system.

NYS and EPA have promulgated a drinking water arsenic standard of 10 parts per billion. While your drinking water meets the standard for arsenic, it does contain low levels of arsenic. The standard balances the current understanding of arsenic's possible health effects against the costs of removing arsenic from drinking water. EPA continues to research the health effect of low levels of arsenic, which is a mineral known to cause cancer in humans at high concentrations and is linked to other health effects such as skin damage and circulatory problems.

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 Arkville Water District 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 the 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>.

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 2019, we did not monitor or test for pH, alkalinity, temperature, conductivity, calcium and orthophosphate between January and June, and therefore cannot be sure of the quality of your drinking water during that time.

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).

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 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.
- 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 moved, you have a leak.

Remember leaks are your responsibility, they are wasteful and costly. You must pay for water that runs through your meter

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. The costs of these improvements may be reflected in the rate structure. Rate adjustments may be necessary in order to address these improvements. 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 call our office if you have questions.