

2019 Consumer Confidence Report Data BEAVER DAM WATER UTILITY, PWS ID: 11400598

Water System Information

We are once again proud to present our annual water quality report covering all testing performed between January 1 and December 31, 2019. Over the years, we have dedicated ourselves to producing drinking water that meets all state and federal standards. We are proud to be one of the few Water Utilities in the state to utilize the lime softening process for our groundwater, still considered to be one of the best methods of treatment available. As new challenges to drinking water safety emerge, we remain vigilant in meeting the goals of source water protection, water conservation, and community education while continuing to serve the needs of all our water users.

If you would like to know more about the information contained in this report, please contact Rob Minnema at (920) 887-4625.

Opportunity for input on decisions affecting your water quality

The City of Beaver Dam Operations Committee meets the 1st and 3rd Mondays of each month at 6:30 PM. Please contact Rob Minnema, Director of Utilities at (920) 887-4625.

Health Information

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's safe drinking water hotline (800-426-4791).

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune systems disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection by cryptosporidium and other microbial contaminants are available from the Environmental Protection Agency's safe drinking water hotline (800-426-4791).

Source(s) of Water

Source ID	Source	Depth (in feet)	Status
1	Groundwater	520	Active
2	Groundwater	501	Active
3	Groundwater	585	Active
4	Groundwater	652	Active

To obtain a summary of the source water assessment please contact, Rob Minnema at (920) 887-4625.

Educational Information

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 activity.

Contaminants that may be present in source water include:

- Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations and wildlife.
- Inorganic contaminants, such as salts and metals, which can be naturally- occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining or farming.
- Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban stormwater runoff and residential uses.
- Organic chemical contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff and septic systems.
- Radioactive contaminants, which can be naturally occurring or be the result of oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, EPA prescribes regulations that limit the amount of certain contaminants in water provided by public water systems. FDA regulations establish limits for contaminants in bottled water, which shall provide the same protection for public health.

Definitions

Term	Definition
AL	Action Level: The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.
Level 1 Assessment	A Level 1 assessment is a study of the water system to identify potential problems and determine, if possible, why total coliform bacteria have been found in our water system.
Level 2 Assessment	A Level 2 assessment is a very detailed study of the water system to identify potential problems and determine, if possible, why an E. coli MCL violation has occurred or why total coliform bacteria have been found in our water system, or both, on multiple occasions.
MCL	Maximum Contaminant Level: The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.
MCLG	Maximum Contaminant Level Goal: The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.
MFL	million fibers per liter
MRDL	Maximum residual disinfectant level: The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.
MRDLG	Maximum residual disinfectant level goal: The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.
mrem/year	millirems per year (a measure of radiation absorbed by the body)
NTU	Nephelometric Turbidity Units
pCi/l	picocuries per liter (a measure of radioactivity)
ppm	parts per million, or milligrams per liter (mg/L)
ppb or ug/L	parts per billion, or micrograms per liter (ug/L)
ppt	parts per trillion, or nanograms per liter
ppq	parts per quadrillion, or picograms per liter
TCR	Total Coliform Rule
TT	Treatment Technique: A required process intended to reduce the level of a contaminant in drinking water.

Detected Contaminants

Your water was tested for many contaminants last year. We are allowed to monitor for some contaminants less frequently than once a year. The following tables list only those contaminants which were detected in your water. If a contaminant was detected last year, it will appear in the following tables without a sample date. If the contaminant was not monitored last year, but was detected within the last 5 years, it will appear in the tables below along with the sample date.

Disinfection Byproducts

Contaminant (units)	Site	MCL	MCLG	Level Found	Range	Sample Date (if prior to 2019)	Violation	Typical Source of Contaminant
HAA5 (ppb)	DS-2	60	60	1	1		No	By-product of drinking water chlorination
TTHM (ppb)	DS-2	80	0	6.4	6.4		No	By-product of drinking water chlorination
HAA5 (ppb)	DS-4	60	60	1	1		No	By-product of drinking water chlorination
TTHM (ppb)	DS-4	80	0	7.8	7.8		No	By-product of drinking water chlorination

Inorganic Contaminants

Contaminant (units)	Site	MCL	MCLG	Level Found	Range	Sample Date (if prior to 2019)	Violation	Typical Source of Contaminant
BARIUM (ppm)		2	2	0.013	0.013	2/21/2017	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
BERYLLIUM TOTAL (ppb)		4	4	0.30	0.30	2/21/2017	No	Discharge from metal refineries and coal-burning factories; Discharge from electrical, aerospace, and defense industries
FLUORIDE (ppm)		4	4	0.6	0.6	2/21/2017	No	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
SODIUM (ppm)		n/a	n/a	4.17	4.17	2/21/2017	No	n/a

Contaminant (units)	Action Level	MCLG	90th Percentile Level Found	# of Results	Sample Date (if prior to 2019)	Violation	Typical Source of Contaminant
COPPER (ppm)	AL=1.3	1.3	0.0386	0 of 30 results were above the action level.	6/27/2017	No	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives

Contaminant (units)	Action Level	MCLG	90th Percentile Level Found	# of Results	Sample Date (if prior to 2019)	Violation	Typical Source of Contaminant
LEAD (ppb)	AL=15	0	7.20	0 of 30 results were above the action level.	6/27/2017	No	Corrosion of household plumbing systems; Erosion of natural deposits

Radioactive Contaminants

Contaminant (units)	Site	MCL	MCLG	Level Found	Range	Sample Date (if prior to 2018)	Violation	Typical Source of Contaminant
GROSS ALPHA, EXCL. R & U (pCi/l)		15	0	2.2	2.2	2/18/2014	No	Erosion of natural deposits
RADIUM, (226 + 228) (pCi/l)		5	0	0.8	0.8	2/18/2014	No	Erosion of natural deposits
GROSS ALPHA, INCL. R & U (n/a)		n/a	n/a	2.2	2.2	2/18/2014	No	Erosion of natural deposits
COMBINED URANIUM (ug/l)		30	0	0.1	0.1	2/18/2014	No	Erosion of natural deposits

Synthetic Organic Contaminants including Pesticides and Herbicides

Contaminant (units)	Site	MCL	MCLG	Level Found	Range	Sample Date (if prior to 2019)	Violation	Typical Source of Contaminant
DI(2-ETHYLHEXYL) PHTHALATE (ppb)		6	0	3.5	3.5	2/21/2017	No	Discharge from rubber and chemical factories

Unregulated Contaminants

Unregulated contaminants are those for which EPA has not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist EPA in determining the occurrence of unregulated contaminants in drinking water and whether future regulation is warranted. EPA required us to participate in this monitoring.

Contaminant (units)	Ave. Level Found	Range	Sample Date (if prior to 2019)
<i>Distribution (DS2 and DS4)</i>			
BROMOCHLOROACETIC ACID (ug/L)	0.743	0.733 - 0.753	
BROMODICHLOROACETIC ACID (ug/L)	< 0.516	< 0.500 - 0.532	
CHLORODIBROMOACETIC ACID (ug/L)	< 0.328	< 0.300 – 0.356	
DIBROMOACETIC ACID (ug/L)	0.428	0.421 – 0.434	
DICHLOROACETIC ACID (ug/L)	0.845	0.841 – 0.849	
MONOBROMOACETIC ACID (ug/L)	< 0.300	< 0.300	
MONOCHLOROACETIC ACID (ug/L)	< 2.00	< 2.00	
TRIBROMOACETIC ACID (ug/L)	< 2.00	< 2.00	
TRICHLOROACETIC ACID (ug/L)	< 0.500	< 0.500	
<i>Wells 1 - 4</i>			
BROMIDE (ug/L)	< 25.0	< 20.0 – 35.1	
TOTAL ORGANIC CARBON (TOC) (ug/L)	< 1000	< 1000	
<i>Entry Point (EP200)</i>			
GERMANIUM (ug/L)	< 0.300	< 0.300	
MANGANESE (ug/L)	< 0.400	< 0.400	
ALPHA-HEXACHLOROCYCLOHEXANE (ug/L)	< 0.010	< 0.010	
CHLORPYRIFOS (ug/L)	< 0.030	< 0.030	
DIMETHIPIN (ug/L)	< 0.200	< 0.200	
ETHOPROP (ug/L)	< 0.030	< 0.030	
OXYFLUORFEN (ug/L)	< 0.050	< 0.050	
PROFENOFOS (ug/L)	< 0.300	< 0.300	
TEBUCONAZOLE (ug/L)	< 0.200	< 0.200	
PERMETHRIN, CIS & TRANS (ug/L)	< 0.040	< 0.040	
TRIBUFOS (ug/L)	< 0.070	< 0.070	

Contaminant (units)	Ave. Level Found	Range	Sample Date (if prior to 2019)
BUTYLATED HYDROXYANISOLE (ug/L)	< 0.030	< 0.030	
O-TOLUIDINE (ug/L)	< 0.007	< 0.007	
QUINOLINE (ug/L)	< 0.020	< 0.020	
1-BUTANOL (ug/L)	< 2.00	< 2.00	
2-METHOXYETHANOL (ug/L)	< 0.400	< 0.400	
2-PROPEN-1-OL (ug/L)	< 0.500	< 0.500	

Additional Health Information

If present, elevated levels of 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. Beaver Dam Water Utility 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 or at www.epa.gov/safewater/lead.

Information on Monitoring for Cryptosporidium and Radon

Our water system did not monitor our water for cryptosporidium or radon during 2019. We are not required by State or Federal water regulations to do so.

General Information

Where does our water come from? How is our water treated and purified?

The City of Beaver Dam Water Utility customers are fortunate because we enjoy an abundant groundwater supply. The Beaver Dam Water Utility draws water from four deep wells approximately 500 to 600 feet deep. The water originating from these wells passes all regulatory requirements relative to product safety and can be directly introduced into the distribution system. The forefathers of the City of Beaver Dam felt it important to enhance the quality of the water by treating it with a lime softening process. Before the water is pumped into the city distribution system, the well water is pumped to the water treatment facility on North Center Street. At the treatment facility the water flows through two forced draft aerators to increase pH and reduce iron. The iron removal process reduces the amount of lime required during the softening process. The water then flows through the reactor clarifiers where the softening

process begins. Lime is added to the clarifiers, which provides mixing and settling for softening of the water. The water is then recarbonated to prevent excessive scale formation in the distribution system. Chlorine and fluoride are added just before the filtration process. Chlorine addition, which provides disinfection, is necessary for protection against coliforms and fluoride aids in maintaining healthy teeth. Polyphosphate is also added to provide corrosion control in the distribution system by forming a protective film on the inside surface of water pipes. This process limits the release of lead, copper, and iron from water mains and domestic plumbing. The filtration process is used primarily to remove any suspended particles from the recarbonated water, which gives it its final crystal clear appearance. The water is then pumped into the distribution system for consumer use. The combined capacity of the water storage system is 2.3 million gallons. In case of an electrical outage, the water plant is equipped with a standby generator to maintain the water supply. The water plant has the capability to treat 5.78 million gallons of water per day.