

BERLIN MUNICIPAL WATER SYSTEM - VT0021202

Consumer Confidence Report - 2023

This report is a snapshot of the quality of the water that we provided in 2023. Included are the details about where your water comes from, what it contains, and how it compares to Environmental Protection Agency (EPA) and state standards. We are committed to providing you with information because informed customers are our best allies. This report is designed to inform you about the quality water and services we deliver to you every day. To learn more, please attend any of our regularly scheduled meetings which are held:

2nd & 4th Monday of month @6pm (date/time) at 108 Shed Rd, Berlin, VT (location).

The person who can answer questions about this report is: (print) Craig Pelletier

Telephone: 802-793-9158 and/ or Email publicworks@berlinvt.gov

Please share this information with all the other people who drink this water, especially those who may not have received this notice directly (for example, people in apartments, nursing homes, schools, and businesses). You can do this by posting this notice in a public place and distributing copies by hand or mail.

As required by the Lead and Copper Rule Revision, we have prepared a service line inventory. The purpose of the inventory was to determine if any of our service lines contain lead, galvanized pipe requiring removal, or unknown materials. Please contact us if you would like access to this inventory.

Water Source Information

Your water comes from:

Source Name	Source Water Type
WELL #4	Groundwater
WELL A	Groundwater
WELL C	Groundwater
WELL D	Groundwater

The State of Vermont Water Supply Rule requires Public Community Water Systems to develop a Source Protection Plan. This plan delineates a source protection area for our system and identifies potential and actual sources of contamination. Please contact us if you are interested in reviewing the plan.

Drinking Water Contaminants

The sources of drinking water (both tap water and bottled water) include surface water (streams, lakes) and ground water (wells, springs). As water travels over the land's surface or through the ground, it dissolves naturally-occurring minerals. It also picks up substances resulting from the presence of animals and human activity. Some "contaminants" may be harmful. Others, such as iron and sulfur, are not harmful. Public water systems treat water to remove contaminants, if any are present.

In order to ensure that your water is safe to drink, we test it regularly according to regulations established by the U.S. Environmental Protection Agency and the State of Vermont. These regulations limit the amount of various contaminants:

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 storm water runoff, industrial or domestic wastewater discharges, oil and gas production, mining or farming.

Pesticides and herbicides, may come from a variety of sources such as storm water run-off, agriculture, and residential users.

Radioactive contaminants, which can be naturally occurring or the result of mining activity.

Organic contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and also come from gas stations, urban storm water run-off, and septic systems.

Water Quality Data

The table below lists all the drinking water contaminants that we detected during the past year. It also includes the date and results of any contaminants that we detected within the past five years if tested less than once a year. The presence of these contaminants in the water does not necessarily show that the water poses a health risk.

Terms and abbreviations - In this table you may find terms you might not be familiar with. To help you better understand these terms we have provided the following definitions:

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

Corrosion Control Efforts: Treatment (including pH adjustment, alkalinity adjustment, or corrosion inhibitor addition) or other efforts contributing to the control of the corrosivity of water, e.g., monitoring to assess the corrosivity of water.

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 and/or why total coliform bacteria have been found in our water system on multiple occasions.

Locational Running Annual Average (LRAA): The average of sample analytical results for samples taken at a particular monitoring location during four consecutive calendar quarters.

Maximum Contamination Level (MCL): The “Maximum Allowed” MCL is the highest level of a contaminant that is allowed in drinking water. MCL’s are set as close to the MCLG’s as feasible using the best available treatment technology.

Maximum Contamination Level Goal (MCLG): The “Goal” is the level of a contaminant in drinking water below which there is no known or expected risk to human health. MCLG’s allow for a margin of safety.

Maximum Residual Disinfectant Level (MRDL): The highest level of a disinfectant allowed in drinking water. Addition a disinfectant may help control 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 disinfectants in controlling microbial contaminants.

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

Parts per million (ppm) or Milligrams per liter (mg/l): (one penny in ten thousand dollars)

Parts per billion (ppb) or Micrograms per liter (µg/l): (one penny in ten million dollars)

Parts per trillion (ppt) or Nanograms per liter (ng/l): (one penny in ten billion dollars)

Picocuries per liter (pCi/L): a measure of radioactivity in water

Running Annual Average (RAA): The average of 4 consecutive quarters (when on quarterly monitoring); values in table represent the highest RAA for the year.

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

90th Percentile: Ninety percent of the samples are below the action level. (Nine of ten sites sampled were at or below this level).

Per- and polyfluoroalkyl substances (PFAS): PFAS are a group of human-made chemicals that have been in use since the 1940s. PFAS have been found in a wide variety of consumer products and as an ingredient in firefighting foam. PFAS manufacturing and processing facilities, airports, and military installations are some of the contributors of PFAS releases into the air, soil and water. Vermont currently regulates 5 PFAS and this list includes:

(PFNA): Perfluorononanoic Acid

(PFOA): Perfluorooctanoic Acid

(PFOS): Perfluorooctane Sulfonic Acid

(PFHpA): Perfluoroheptanoic Acid

(PFHxS): Perfluorohexane Sulfonic Acid

Detected Contaminants BERLIN MUNICIPAL WATER SYSTEM

Disinfection Residual	RAA	RANGE	Unit	MRDL	MRDLG	Typical Source
Chlorine	0.203	0.120 - 0.310	mg/l	4	4	Water additive to control microbes

Chemical Contaminants	Collection Date	Highest Value	Range	Unit	MCL	MCLG	Typical Source
Iron	09/19/2022	0.59	0 - 0.59	ppm	NA	NA	Erosion of natural deposits
Manganese	09/19/2022	30	0 - 30	ppb	NA	NA	Erosion of natural deposits. Vermont Department of Health has established a Health Advisory of 300 ppb. Manganese equal to or greater than 50 ppb can lead to unacceptable taste or staining of fixtures.
Nitrate	03/08/2023	0.24	0.24 - 0.24	ppm	10	10	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
RESIDUE, NON FILTERABLE (TSS)	09/19/2022	8	2 - 8	ppm	NA	NA	
RESIDUE, TOTAL, FILTERABLE	12/08/2022	138	136 - 138	ppm	NA	NA	

PFAS Contaminants	
Typical Source	A large group of human-made chemicals used widely in manufacturing and consumer products
MCL	20 (individual or sum of the 5 regulated PFAS compounds)
Units	All units in parts per trillion (ppt)

Collection Date	PFHpA	PFNA	PFHxS	PFOA	PFOS	Sum of 5 regulated PFAS compounds
05/09/2023	-	-	-	-	-	-
10/21/2020	-	-	-	-	-	-
09/05/2019	-	-	-	-	-	-

*Additional PFAS, not regulated by the Vermont Water Supply Rule, may also have been detected in the past five years. Please contact us if you would like more information on other unregulated PFAS that may be in your drinking water.

Radionuclides	Collection Date	Highest Value	Range	Unit	MCL	MCLG	Typical Source
Combined Radium (-226 & -228)	08/23/2023	0.6	0.6 - 0.6	pCi/L	5	0	Erosion of natural deposits
Gross Alpha Particle Activity*	08/23/2023	3.3	2.8 - 3.3	pCi/L	NA	0	Erosion of natural deposits
Radium-228	08/23/2023	0.6	0.6 - 0.6	pCi/L	5	0	Erosion of natural deposits

*Gross Alpha Particle Activity results are unadjusted for other radionuclide contribution, in particular Uranium. The Adjusted Gross Alpha (or AGA) result is then compared to the MCL of 15 pCi/L.

Disinfection ByProducts	Collection Year	Highest LRAA	Range	Unit	MCL	MCLG	Typical Source
Total Trihalomethanes	2022	1	1 - 1	ppb	80	0	By-product of drinking water chlorination

Lead and Copper	Collection Date	90th Percentile	Range	Unit	AL*	Sites Over AL	Typical Source
Lead	10/04/2023 - 10/13/2023	2.5	0 - 3.6	ppb	15	0	Corrosion of household plumbing systems; Erosion of natural deposits
Copper	10/04/2023 - 10/13/2023	0.096	0.038 - 0.15	ppm	1.3	0	Corrosion of household plumbing systems; Erosion of natural deposits

*The lead and copper AL (Action Level) exceedance is based on the 90th percentile concentration, not the highest detected result.

**Complete lead tap sampling data (i.e. each individual sample result) are available for review. Please contact us if you would like to receive this data.

Health Information Regarding Drinking Water

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 system 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 microbiological contaminants are available from EPA's Safe Drinking Water Hotline (1-800-426-4791).

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 the water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Safe Drinking Water Hotline.

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. BERLIN MUNICIPAL WATER SYSTEM 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 drinking 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 <http://www.epa.gov/safewater/lead>.