

BOLTON COMMUNITY WATER SYSTEM - VT0005051

Consumer Confidence Report - 2020

This report is a snapshot of the quality of the water that we provided in 2020. 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:

No meeting is scheduled at this time. Please contact Lindsay DesLauriers with any questions.

The person who can answer questions about this report is:

Lindsay DesLauriers Water System Manager at 802-434-6803

Jill Marsano, Certified Water System Operator at 802-922-1102

Water Source Information

Your water comes from:

Source Name	Source Water Type
WELL 1	Groundwater
TIMBERLINE WELL	Groundwater
WELL #4	Groundwater
WELL #4A	Groundwater
WELL 8	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.

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 (ug/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): a group of over 4,000 human-made chemicals (they do not occur naturally) that have been used in industry and consumer products worldwide and includes:

(PFNA): Perfluorononanoic Acid,

(PFOA): Perfluorooctanoic Acid

(PFOS): Perfluorooctane Sulfonic Acid

(PFHpA): Perfluoroheptanoic Acid

(PFHxS): Perfluorohexane Sulfonic Acid

(11Cl-PF3OUdS): 11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic Acid

(9Cl-PF3ONS): 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic Acid

(DONA): 4,8-Dioxa-3H-perfluorononanoic Acid

(HFPO-DA): Hexafluoropropylene Oxide Dimer Acid

(NEtFOSAA): N-ethyl perfluorooctanesulfonamidoacetic Acid

(NMeFOSAA): N-methyl perfluorooctanesulfonamidoacetic Acid

(PFBS): Perfluorobutane Sulfonic Acid

(PFDA): Perfluorodecanoic Acid

(PFDoA): Perfluorododecanoic Acid

(PFHxA): Perfluorohexanoic Acid

(PFTA): Perfluorotetradecanoic Acid

(PFTrDA): Perfluorotridecanoic Acid

(PFUnA): Perfluoroundecanoic Acid

Detected Contaminants BOLTON COMMUNITY WATER SYSTEM

Disinfection Residual	RAA	RANGE	Unit	MRDL	MRDLG	Typical Source
Chlorine	0.715	0.560 - 0.870	mg/l	4	4	Water additive to control microbes

Chemical Contaminants	Collection Date	Highest Value	Range	Unit	MCL	MCLG	Typical Source
Nitrate	07/22/2020	0.28	0.1 - 0.28	ppm	10	10	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits

Radionuclides	Collection Date	Highest Value	Range	Unit	MCL	MCLG	Typical Source
Combined Radium (-226 & -228)	01/14/2020	0.428	0.428 - 0.428	pCi/L	5	0	Erosion of natural deposits
Combined Uranium	01/24/2019	3.4	3.4 - 3.4	µg/L	20	0	Erosion of natural deposits
Radium-226	01/14/2020	0.428	0.428 - 0.428	pCi/L	5	0	Erosion of natural deposits

Disinfection ByProducts	Collection Year	Highest LRAA	Range	Unit	MCL	MCLG	Typical Source
Total Trihalomethanes	2020	6	6 - 6	ppb	80	0	By-product of drinking water chlorination

Lead and Copper	Collection Year	90th Percentile	Range	Unit	AL*	Sites Over AL	Typical Source
Lead	2020	6.1	0 - 24.3	ppb	15	1	Corrosion of household plumbing systems; Erosion of natural deposits
Copper	2020	0.5	0 - 0.73	ppm	1.3	0	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives

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

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. BOLTON COMMUNITY 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>.

Uncorrected Significant Deficiencies

The system is required to inform the public of any significant deficiencies identified during a sanitary survey conducted by the Drinking Water and Groundwater Protection Division that have not yet been corrected. For more information please refer to the schedule for compliance in the system's Operating Permit.

Date Identified	Significant Deficiencies	Facility
07/07/2020	Inadequate Water Supply	
07/07/2020	Inadequate Water Pressure (Under Normal, Peak, or Maximum Flow Conditions)	

To be Completed by the Water System. Describe any interim measures taken or work completed for the deficiencies listed above:

The water system is working with Green Mountain Engineering and the State of Vermont to design a new surface water treatment facility for additional water supply. However, successful leak detection and repairs has resulted in significant reductions in system demand, and the water system is no longer considered to have insufficient water supply. This issue is resolved.

The system is working with the State of Vermont to understand how to measure the areas of concern and create affordable solutions to resolve any inadequate water pressure locations.

Public Notice - Permit to Operate Issued: The Water System is required to notify all users of the following compliance schedule contained in the Permit to Operate issued by the State of Vermont Agency of Natural Resources:

1. To address the Water System's inadequate source capacity, the Permittee shall proceed with construction of a surface water treatment facility, complete the permitting process for Well 8, and rehabilitate Well 1 according to the following schedule:
 - a) On or before April 30, 2019, the Permittee shall schedule and attend a 60% Design Review Meeting with the Permittee's consulting engineer and the Division to discuss the detailed design being prepared for surface water treatment as described in the approved Preliminary Engineering Report (PER) dated February 1, 2019.
 - b) On or before May 31, 2019, Permittee shall submit a construction permit application to the Division that meets the requirements of Appendix A Part 1 of the Rule and proposes construction of a surface water treatment facility to utilize surface water as a drinking water supply source.
 - c) On or before December 2, 2019, the Permittee shall complete construction of the public water system infrastructure modifications authorized by the construction permit obtained per item b, above.
 - d) On or before February 2, 2020, the Permittee shall submit all documentation as required per the construction permit obtained per item b, above.
 - e) On or before May 15, 2019, the Permittee shall complete the source permitting process for Well 8.
 - f) On or before May 15, 2019, the Permittee shall investigate the cause of the failure of Well 1; develop a plan to repair and fully rehabilitate the permitted safe yield of Well 1; and submit a report to the Division that documents the work performed and effectiveness regarding the production performance of Well 1. Should the repair and rehabilitation work concerning well #1 prove to be unsuccessful at restoring the permitted safe yield of Well #1, the permittee shall contract with a Vermont Licensed Engineer and/or Certified Hydrogeologist to devise an improvements plan and schedule for replacing the lost supply (daily volume, gpd) for the Water System.
 - g) On or before December 2, 2019, the Permittee shall install dedicated source production meters connected to the Water System's mission control telemetry system, consistent with recommendation 2 as presented in Section VII of the approved PER dated February 1, 2019

- h) On or before December 2, 2020, the Permittee shall install pressure transducers in each permitted groundwater supply source to monitor water level elevations within the well and ensure the wells are not dewatered during water system operations. These transducers shall be integrated with the Water System's telemetry and datalogging infrastructure.
2. To address the inadequate distribution system hydraulics:
 - a) On or before May 30, 2019, the Permittee shall provide the Division a proposed field-testing plan and schedule to collect operational hydraulic pressure data from the distribution system.
 - b) On or before December 30, 2019, The Permittee shall report distribution pressure testing data to the Division.
 - c) On or before December 2, 2019, the Permittee shall provide the Division a proposed plan to install distribution meters as described in recommendation #7 of the approved PER dated February 1, 2019. This plan shall include a figure depicting the proposed manufacturer, model, and proposed installation locations of distribution meters. On or before December 31, 2020, the Permittee shall install distribution meters and ensure they are integrated into the Water system's telemetry and datalogging infrastructure.
 - d) On or before December 2, 2019, the Permittee shall submit a distribution pressure zone map to the Division that identifies operating pressures at locations throughout the Water System's service area during high and low demand periods.
 - e) On or before April 15, 2020, the Permittee shall submit an update to the Repair Schedule initially presented in the Risk and Life Cycle Cost Reduction Measures, dated May 2018, contained in the system's Asset Management Plan.
3. To Address Inadequate Storage Tank Roof, on or before July 31, 2019, Permittee shall install a permanent roof structure on ST001 and provide the Division documentation that demonstrates the storage tank meets the requirements of Appendix A Part 7 of the Rule.

To be completed by the Water System:

Describe any interim measures completed or progress to date for the compliance schedule(s) listed above.

Many of the compliance items above have been resolved. Please see the following updates

1. a, b, c, d: The system has been working to design and build a new surface water facility for the past 3 years and is awaiting approval of the source and design plans to proceed. However, due to major leak repairs, the source capacity of the system is no longer considered deficient according to data analysis over recent years.
1. e. Well 8 was built and connected in 2017.
1. f. The system is working with the state to identify a plan for rehabilitating Well 1. VHB's hydrogeologist has provided their summary of options which has been provided to the state.
1. g and h were waived.
2. Inadequate system hydraulics is being addressed as noted in Uncorrected Significant Deficiencies section above. Items a and b have been performed since the original request and quarterly pressures have been measured, recorded, and submitted for since Q4 of 2019. Item 2. c. was waived over a year ago. Item d was done as noted in a and b above. Ongoing repairs to leaks that are detected are being performed swiftly.
3. The new roof on the storage reservoir was designed by an engineer and constructed within a few weeks of the collapse of the old roof in February of 2019.

Distribution Information

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.

Per- and Polyfluoroalkyl Substances (PFAS) are contaminants you may see reported in your Consumer Confidence Report (CCR) for the first time.

What are PFAS?

PFAS are a group of over 4,000 human-made chemicals (they do not occur naturally) that have been used in industry and consumer products worldwide since at least the 1950s. These chemicals are used to make household and commercial products that resist heat and chemical reactions and repel oil, stains, grease, and water. Some common products that may contain PFAS include non-stick cookware, water-resistant clothing and materials, cleaning products, cosmetics, food packaging materials, and some personal care products. Due to their resilient chemical nature, they don't readily degrade once they are released into the environment. In addition, the common use of these chemicals in industry and consumer products has led to their widespread impact on the environment. The impact of these chemicals on your drinking water continues to be studied.

Why are PFAS being tested in my drinking water?

In May 2019, Act 21 (S.49), an act relating to the regulation of per- and polyfluoroalkyl substances (PFAS) in drinking and surface waters, was signed by Governor Scott. This Act provides a comprehensive framework to identify PFAS contamination and to issue new rules to regulate PFAS levels in drinking water.

What if PFAS have been detected in my drinking water?

Act 21 set an interim standard for the detected concentration of five PFAS in drinking water, or the combined concentration of any of the 5 PFAS, which should not exceed **20 parts per trillion (ppt)**. The interim standard is based on the Health Advisory established by the Vermont Department of Health. The five PFAS are:

(PFNA): Perfluorononanoic Acid

(PFOA): Perfluorooctanoic Acid

(PFOS): Perfluorooctane Sulfonic Acid

(PFHpA): Perfluoroheptanoic Acid

(PFHxS): Perfluorohexane Sulfonic Acid

If your water has been tested and the **sum any of the five PFAS listed above is confirmed to exceed 20 ppt**, a Do Not Drink notice will be issued informing you not to use your water for drinking or cooking, brushing teeth, making ice cubes, making baby formula, washing fruits and vegetables or any other consumptive use. You will be advised to use another source of water for consumption which may include bottled water.

An additional 13 PFAS were required to be tested for, per Act 21. These additional 13 PFAS, listed below, currently do not have an established health-based standard and are not counted toward the combined standard of 20 ppt:

(11Cl-PF3OUdS): 11-Chloroeicosafuoro-3-oxaundecane-1-sulfonic Acid

(9Cl-PF3ONS): 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic Acid

(DONA): 4,8-Dioxa-3H-perfluorononanoic Acid

(HFPO-DA): Hexafluoropropylene Oxide Dimer Acid

(NEtFOSAA): N-ethyl perfluorooctanesulfonamidoacetic Acid

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(PFDA): Perfluorodecanoic Acid

(PFDoA): Perfluorododecanoic Acid

(PFHxA): Perfluorohexanoic Acid

(PFTA): Perfluorotetradecanoic Acid

(PFTrDA): Perfluorotridecanoic Acid

(PFUnA): Perfluoroundecanoic Acid

Where can I learn more about PFAS in drinking water?

For information about the health effects of PFAS, please visit www.healthvermont.gov/water/pfas or call the Vermont Department of Health at 1-800-439-8550. If you have specific health concerns, contact your health care provider.