CHARETTE WATER SYSTEM - WSID #5621
Consumer Confidence Report – 2019

We are once again proud to present our annual water quality report covering all testing performed between January 1 and December 31, 2018. 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 over the years, we have dedicated ourselves to providing drinking water that meets all state and federal standards. We continually strive to deliver the best-quality drinking water to you. 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. This report is designed to inform you about the quality water and services we deliver to you every day. Please remember that we are always available to assist you should you ever have any questions or concerns about your water. To learn more, please call Patricia M. Beavers, Water System Operator at 802.763.3937 or write 19 Johnson Circle, Tunbridge, Vermont 05077. There are no regularly scheduled meetings; however, you can call your Property Manager, Tom Young at Vermont Housing at 802.828.6904.

We take drinking water seriously and have qualified conscientious individuals on our staff who review the analysis and confirm the result if it is concerning around the maximum contaminant levels.
The water quality information presented in the tables is from the most recent round of testing done according to the regulations. All data shown were collected during the last calendar year unless otherwise noted in the tables.

We again wish to thank the customers who let us into their homes to sample every month to ensure water quality. We appreciate your assistance in allowing us to do our job well. Each year Mother Nature presents some challenges. We continue to ask you to help us help you by doing your part to keep the water safe when making its way to your tap. Each autumn check your service connection and get the heat tape ready and working properly for a cold winter. Make sure the connection through your skirting is easy to get into during deep freezes and piles of snow. Please report low pressure and wet spots you notice in your yard. Check your outside hose bib or spigot to make sure it isn't frozen, leaking or broken. We appreciate conservation during dry times as well. Check your home regularly for leaks. This includes all fixtures especially the toilet that will make a sound when the bowl is continuously filling. When we save a little, we save a lot. Also, please do not put fat, oil or grease and other material down your sinks or drains. Please reuse a can or glass jar for all cooking grease and dispose of it with the household trash.

Water Source Information: Your water comes from

Source Name	Source Water Type
WELL #2	**Groundwater**
WELL #3	**Groundwater**
WELL #4	**Groundwater**
BULK WATER HAULING	**Surface Water**

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. Our plan was approved in November 2016.

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:

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 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 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.
Maximum Residual Disinfectant Level (MRDL): The highest level of a disinfectant allowed in drinking water. Addition a disinfectant may help control microbial contaminants.
Action Level: The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.
90th Percentile: Ninety percent of the samples are below the action level. (Nine of ten sites sampled were at or below this level).
Treatment Technique(TT): A process aimed to reduce the level of a contaminant in drinking water.
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)
Picocuries per liter(pCi/L): a measure of radioactivity in water
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.

Detected Contaminants CHARETTE WATER SYSTEM

Disinfection Residual	RAA	RANGE	Unit	MRDL	MRDLG	Typical Source
Chlorine	**0.36**	**0.300 - 0.600**	**mg/l**	**4**	**4**	**Water additive to control microbes**

Chemical Contaminants	Collection Date	Highest Value	Range	Unit	MCL	MCLG	Typical Source
Arsenic	05/08/2018	4.6	4.6 - 4.6	ppb	10	0	**Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes.**
Barium	02/14/2017	0.092	0.092 - 0.092	ppm	2	2	**Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits**
Iron	02/13/2018	0.08	0.08 - 0.08	ppm	NA	NA	
Manganese	02/13/2018	15	15 - 15	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	**05/08/2018**	**0.1**	**0.1 - 0.1**	**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)	09/10/2015	0.657	0.657 - 0.657	pCi/L	5	0	**Erosion of natural deposits**
Gross Alpha Particle Activity*	09/10/2015	0.24	0.24 - 0.24	pCi/L	NA	0	**Erosion of natural deposits**
Radium-226	09/10/2015	0.26	0.26 - 0.26	pCi/L	5	0	**Erosion of natural deposits**
Radium-228	**09/10/2015**	**0.397**	**0.397 - 0.397**	**pCi/L**	**5**	**0**	**Erosion of natural deposits**

*Gross Alpha particle activity results include Uranium activity. However, the EPA has set a maximum contaminant level (MCL) for "adjusted" Gross Alpha particle activity (including radium-226 but excluding Uranium) at 15 pCi/L. To determine compliance with the "adjusted" Gross Alpha MCL, a separate Uranium result is required for the adjustment calculation, and it must be converted from mass (ug/L) to activity (pCi/L). The estimated Uranium activity is then subtracted from the Gross Alpha particle activity lab result to yield the "adjusted" Gross Alpha result in pCi/L.

Disinfection ByProducts	Collection Year	Highest LRAA	Range	Unit	MCL	MCLG	Typical Source
Total Trihalomethanes	2017	31	31 - 31	ppb	80	0	**By-product of drinking water chlorination**
Total Haloacetic Acids (HAA5)	**2017**	**15**	**15 - 15**	**ppb**	**60**	**0**	**By-product of drinking water chlorination**

Lead and Copper	Collection Year	90th Percentile	Range	Unit	AL*	Sites Over AL	Typical Source
Copper	2017	0	0 - 0	ppm	1.3	0	**Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives**
Lead	**2017**	**0**	**0 - 0**	**ppb**	**15**	**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. Lead /Copper is collected every three years and this is the latest 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. CHARETTE 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.

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.

We continue to haul in water from the Brattleboro Water Department

Below here is a list of their water detections in 2018

Detected Contaminants BRATTLEBORO WATER DEPT

Disinfection Residual	RAA	RANGE	Unit	MRDL	MRDLG	Typical Source
Chlorine	**0.863**	**0.070 - 1.570**	**mg/l**	**4**	**4**	**Water additive to control microbes**

Chemical Contaminants	Collection Date	Highest Value	Range	Unit	MCL	MCLG	Typical Source
Di(2-Ethylhexyl) Phthalate	08/21/2018	11.1	0 - 11.1	ppb	6	0	**Discharge from rubber and chemical factories**
Manganese	03/09/2018	12	12 - 12	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	**09/04/2018**	**0.4**	**0 - 0.4**	**ppm**	**10**	**10**	**Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits**

Disinfection ByProducts	Collection Year	Highest LRAA	Range	Unit	MCL	MCLG	Typical Source
Total Trihalomethanes	2018	41	12 - 68	ppb	80	0	**By-product of drinking water chlorination**
Total Haloacetic Acids (HAA5)	**2018**	**36**	**13 - 59**	**ppb**	**60**	**0**	**By-product of drinking water chlorination**

Lead and Copper	Collection Year	90th Percentile	Range	Unit	AL*	Sites Over AL	Typical Source
Copper	2017	0.3	0.046 - 0.34	ppm	1.3	0	**Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives**
Lead	**2017**	**1.8**	**0 - 4**	**ppb**	**15**	**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.

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. BRATTLEBORO WATER DEPT 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.