Quality on Tap…Our Commitment, Our Profession

Brandon Fire District No.1

2021

Water Quality Report

58 Franklin Street
Brandon, Vermont 05733

1-802-247-3311
brandonfdno1@myfairpoint.net

Quality and service for 164 years.

Brandon Fire District No.1 Water Quality Report – 2021

Public Water System Name

Brandon Fire District No.1
Brandon, Vt. 05733
WSID# 5211
Date: May 18, 2021

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 U.S. 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 on the first Thursday of the month at 6:30pm at 61 Franklin Street. Questions about this report can be directed to Raymond Counter at 247-3311 or email – brandonfdno1@myfairpoint.net

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

All 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.

Water Source Information

Our water sources are:
Vermont Source Type: **Gravel Well**
EPA Source Type: **Groundwater, non-purchased**
Source Name: **Well 1**
Source Name: **Well 2**
Source Name: **Well 3**

Source Protection Plan

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 water 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 US EPA 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 stormwater 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 agriculture, urban storm water runoff and residential uses.
- ***Organic contaminants,*** which are by-products of industrial processes and petroleum production, and also come from gas stations, urban storm water runoff and septic systems.
- ***Radioactive contaminants,*** which can be naturally occurring or the result of mining activity.

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 5 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 and abbreviations you might not be familiar with. To help you understand these terms, we have provided the following definitions:

- **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 and/or why total coliform bacteria have been found in our water system on multiple occasions.
- **Locational Running Annual Average:** The average of sample analytical results for samples taken at a particular monitoring location during four consecutive calendar quarters.
- **Maximum Contaminant Level (MCL):** 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.
- **Maximum Contaminant Level Goal (MCLG):** The level of a contaminant in drinking water below which there is no known or expected risk to 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 of 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. MRDLG's 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:** The average of 4 consecutive quarters (when on quarterly monitoring): values in table represents the highest RAA for the year.
- **Treatment Technique (TT):** A process aimed 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

Disinfectant Residual	Chlorine
RAA	0.029
Range	0.000-0.050
Units	mg/l
MRDL	4
MRDLG	4
Typical Source	Water additive to control microbes

Chemical Contaminants	Nitrate
Collection Date	09/09/2020
Highest Value	.52
Range	0.27-.52
Unit	ppm
MCL	10.000
MCLG	10.000
Typical Source	fertilizer use; leaching from septic, erosion of deposits

Lead and Copper	Copper	Lead
Collection Date	2020	2020
90th Percentile	.33	4.8
Range	0.071-0.39	0-9.2
Unit	ppm	ppb
Action Level	1.3	15
Sites Over Action Level	0	0
Typical Source	Corrosion of household plumbing systems; erosion of natural deposits	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.**

Violations That Occurred During The Year

Type	Monitoring, Routine Major
Category	Failure to Monitor
Analyte	Cyanide
Compliance Period	07/01/2020-09/30/2020

The analytical test for cyanide was inadvertently missed in the 3rd quarter of 2020. Upon notification, the sample was taken and results submitted to the Division. Additional notifications have been implemented in our testing plan to prevent occurrence in the future.

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. BRANDON FIRE DISTRICT 1 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	Deficiency	Facility
8/11/2015	Operations & Maintenance(O&M) Manual Needed	
03/20/2018	Undersized Water Main for Fire Hydrants	Distribution System
03/20/2018	Inadequate Personnel	
10/29/2020	Inadequate Water Pressure (Under Normal, Peak or Maximum Flow Conditions	Distribution System

Work is continuing to complete the operations and maintenance manual. Future budget planning is addressing the need for additional personnel. Undersized mains were addressed in the recent construction upgrades. A plan for correction of inadequate pressure is being reviewed currently.

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. **On or before January 31, 2021,** the Permittee shall submit an electronic copy of an O&M Manual for review and approval by the Secretary. *(In progress)*

2. The Permittee must provide written notice to the local fire department of all hydrants which are not capable of providing fire flows based on the requirements of the Rule. **On or before December 15, 2020,** the Permittee shall submit to the Division a hydraulic analysis documenting that the previously inadequate hydrants can meet the minimum required flow demands and pressure requirements and/or a written plan and schedule within which this will be achieved. In the interim, if any hydrant on undersized mains are used for fire protection the Permittee is required to contact the Division and issue a Boil Water Notice. The Water System must follow the existing Boil Water Notice procedure. *(completed)*

3. **On or before January 1, 2021** the Permittee shall hire, contract, or otherwise employ at least one additional operator or operator in training to enhance and ensure continued reliable operation and maintenance of the Water System. *(new employee slated to be hired by 7/1/2021)*

4. **On or before December 15, 2020**, the Permittee shall submit a SPPU that meets the requirements of the Rule to the Division for review and approval. *(completed)*

Additional information:
If you would like further information about your water utility, please call the District office at **247-3311 or email us at** **brandonfdno1@myfairpoint.net** .

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-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

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.