

Status: **ACTIVE**
Location: Off Mill Street, Cavendish

Vermont Source type: Drilled Well
EPA Source Type: Groundwater, non-purchased
Source Name: **WELL #2** - Secondary Source
Status: **ACTIVE**
Location: Off Mill Street, Cavendish

Vermont Source type: Gravel Well
EPA Source Type: Groundwater, non-purchased
Source Name: Proctorsville #1 - EWS
Status: **INACTIVE** - Inadequate Protection - Elevated saline - Emergency Source Only
Location: Off Main Street, Proctorsville

The State of Vermont Water Supply Rule requires Public Community Water Systems to develop a Source Protection Plan (SPP). The Cavendish Municipal Water Source Protection Plan, was updated to include Well #2 and was submitted and approved in October 2016. It was again updated for both wells and submitted to the State in May of 2020. This plan delineates a source protection area for our system and identifies potential and actual sources of contamination. A copy of the SSP is available for review at the Cavendish Town Office. This plan will again be updated during 2023.

Security

We are certain that most users are generally already aware of the importance of security for our water systems. The events of September 2001 and potential for terrorist activities have certainly brought the importance of security to the front burner for many of us. Security breaches in municipal water systems right here in Vermont have occurred in the past several years and made these concerns even more pronounced. The Cavendish Municipal Water System is vigilant to security threats and vandalism, but we most definitely need citizens' help.

If you observe or become otherwise aware of any suspicious activities related to our water system whether property, equipment or facility, please contact us immediately. *Maintaining a safe community is a responsibility that we all share.*

General and Health Information About Sources of Drinking Water and Contaminants

The sources of drinking water (both tap and bottled) 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. In some cases, the water may also pick up substances resulting from the presence of animals or human activity or even naturally-occurring radioactive materials. Drinking water, including store-bought bottled water, may reasonably be expected to contain small amounts of some contaminants. The presence of contaminants does not necessarily mean that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline at (800) 426-4791.

In order to ensure that the water we supply 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. Types of contaminants that may be present in any raw or source water (public or private) before treatment include:

**Microbial contaminants*, such as viruses and bacteria, which may come from septic systems, sewage treatment plants, 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*, which may come from a variety of sources such as agriculture, urban storm water 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 storm water runoff, septic systems, and careless disposal of household chemicals.

**Radioactive contaminants*, which can be naturally-occurring or be the result of oil and gas production and mining activities.

Some people may be more vulnerable to drinking water contaminants than the general population. Immuno-compromised persons, such as people 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/Center for Disease Control guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline (800) 426-4791.

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 associated with service lines and home plumbing. The Cavendish Municipal Water System is responsible for providing high quality drinking water, but cannot control the variety of materials that may be used in your residential plumbing. It is possible that lead levels at your home may be

higher than at other homes in the community as a result of materials used in your own home's plumbing. Older homes with old plumbing may have pipes and fittings with lead content. If you are concerned about possible elevated levels of lead in your home's water, you may wish to have your water tested and you may wish to flush your tap for 30 seconds to 2 minutes before using your tap water for drinking or cooking, especially if the tap has not been used very recently. Additional information on this topic is available from the Safe Drinking Water Hotline (above) or at <http://www.epa.gov/safewater/lead>.

In order to ensure that tap water is safe to drink, EPA and the State of Vermont prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. FDA and state regulations also establish limits for contaminants in bottled water which must provide the same protection for public health. **The Cavendish system provides all required testing.**

Cavendish Water Quality Data

The Cavendish Municipal Water System performs hundreds of tests each year to check for any detectable level of contaminants and to monitor the levels of additives. We also periodically perform microscopic particulate analysis. The length of the full listing of potential contaminants and other substances that we test for well exceeds the amount of space available in this brief report. The list contains many substances that most users wouldn't even suspect we were testing for and a number of chemical substances which many users may have never even heard of. In total, the testing of our water costs several thousands of dollars each and every year and each year the list of substances to be tested for and the frequency of required tests seems to grow. A comprehensive list of substances tested for is available for inspection at the office if you are interested.

As a summary of testing activities, you should be aware that:

- **Bacteriological tests** were performed and met standards
- **Nitrate testing** was performed and met standards
- **Volatile organic chemical testing** was performed and met standards
- **Inorganic chemical testing** was performed and met standards
- **Per fluoridated Compounds (PFOA)** was performed and met standards

The table on the next page lists all of the drinking water contaminants that we detected during the 2022 calendar year. Please note that the presence of mere trace amounts of these contaminants in the water does not necessarily indicate that the water poses a health risk. Unless otherwise noted, the data presented in this table is from testing done during the period January 1st through December 31st, 2022. There is a much, much longer list of potential contaminants which we tested for but which were simply not detected.

Terms and abbreviations - In the 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. MCLGs allow for a significant margin of safety. An MCLG is a desirable goal but not a regulatory health requirement.

Maximum Contamination Level (MCL): The "Maximum Allowed" MCL is 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.

Maximum Residual Disinfection Level Goal (MRDLG): The level of drinking water disinfection below which there is no known risk to health. MRDLGs do not reflect the benefits of disinfectants in controlling microbial contaminants.

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

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

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

90th Percentile: Ninety percent of samples are below the action level.

95th Percentile: Ninety-five percent of samples are below the action level.

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

ppm = parts per million or milligrams per liter (mg/l)

ppb = parts per billion or micrograms per liter (µg/l)

Note: As an illustration, the amounts of a contaminant allowed in drinking water are so small they are measured in ppm (parts per *million*) - equivalent to one penny in \$10,000.00; or ppb (parts per *billion*) - equivalent to one penny in \$1,000,000.00!

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

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

Locational Running Annual Average (LRAA): The average of sample analytical results for samples taken at a

particular monitoring location during four consecutive quarters.

Water Quality Data - Detected Contaminants CAVENDISH MUNICIPAL WATER SYSTEM

The tables which follow list all of the drinking water contaminants we detected during 2022. Please note that the presence of these contaminants in the water at these very minute levels do not necessarily show that the water poses a health risk. We also tested for Asbestos, VOC's and SOC's. The number of contaminants tested prohibits listing them in the tables.

Complete sampling results for 2022 can be viewed at the Town Office or on the internet at: <https://anrweb.vt.gov/DEC/DWGWP/SearchWS.aspx>, and selecting WSID # 5317, Chemical data.

MICROBIOLOGICAL	Result	MCL	MCLG	Typical Source
No Detectable Results were found in the calendar year of 2022				

CHEMICAL CONTAMINANTS	Highest value/ Units	Range/ Units	MCL	MCLG	Sample Date	Violation Y or No	System or Individual	Likely sources of detected contaminant
Nitrate	0.39 ppm	0.39 - 0.39 ppm	10.0 ppm	10.0 ppm	10/05/2022	NO	System	Run off from fertilizer use; Leaching from septic tanks; Sewage; Erosion of natural deposits.
Manganese	590ppb	0-590 ppb	n/a	n/a	quarterly	YES	System	Erosion of natural deposits. Vermont Dep't. of Health has established a Health Advisory of 300ppb. Manganese equal to or greater than 0 ppb can lead to unacceptable taste or staining of fixtures
Iron	0.7ppm	0.0-0.7ppm	n/a	n/a	quarterly	NO	System	Erosion of natural deposits.

DISINFECTION RESIDUAL	RRA	Range	Unit	MRDL	MRDLG	Typical Source
Chlorine	0.181	0.08-0.36 mg/L	mg/l	4.0	4.0	Required water additive to control microbes (disinfection). Continuous injection to system, with daily sampling for free Chlorine. Monthly sampling occurs at various locations on the system.

DISINFECTION BYPRODUCTS	Monitoring Period	RAA	Range	Unit	MCL	MCLG	Typical Source
Total Trihalomethanes	2022	13	13 - 13	ppb	80	0	By-product of required drinking water disinfection

Total Haloacetic Acids	2022	17	17	ppb	60	0	By-product of required drinking water disinfection
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Violation(s) that occurred during the year: We are required to monitor your drinking water for a wide range of specific contaminants on a regular basis. Results of regular monitoring are an indicator of whether or not treatment is effective and our drinking water meets health standards.

Type	Category	Analyte	Compliance Period
MONITORING, ROUTINE MAJOR	Failure to Monitor	Nitrate	01/01/2022 - 03/31/2022
STATE MONITORING/REPORTING VIOLATION	Failure to Monitor	Secondaries	01/01/2022 - 03/31/2022

Subsequent samples were taken, with results meeting required levels.

Public Notice - Uncorrected Significant Deficiencies:

There were no uncorrected Significant Deficiencies noted in 2022

System Updates and Notes - June 2023:

- Our water filtration plant which we constructed for the purpose of removing the high levels of iron and manganese commonly found in the ground water in this area continues to prove itself to be effective and efficient. The filtration equipment removes virtually all of these two nuisance minerals. At most times, they are not even able to be detected in the samples (<0.020 ppm) which we test in-house*, as well as those we send out for professional lab analysis. Our test samples are generally taken from the stream of finished water, after filtration and prior to going into the distribution system. This negates the possible influence from disinfection by Chlorine, and any residual minerals from the pipes. The levels of removal meet, and usually exceed, our goal values.

*In-House tests are used as process control (ie, Well1, Well2, Blend 1&2, effluent on all 3 filter vessels and finished water) the test method used is accurate, but not a test method accepted by the EPA to submit lab results to the State.

- Each spring and fall we conduct a hydrant flushing program which allows us to clean any sediment out of the lines and to test the operation of the hydrants. This is an important maintenance procedure and is specifically configured to flush any built up deposits in the mains to waste, so that the water you get from your tap is as clean as possible. .

Notices will be posted prior to this taking place.

- As you might imagine, running a municipal water system 24 hours a day, 365 days a year, uses a lot of electric energy. The water plant is the second largest consumer of electric power of the town's facilities. We continue to work on energy efficiency improvements in our operations. The GMP electric account for the water system is one of the town's accounts involved in the group net metering for the town's solar array. We are already realizing cost savings as a result of this as well as making our municipal "carbon footprint" smaller for the environment's sake.

Thank you.

******* In addition to our best efforts to distribute this report, owners of rental properties served by the Cavendish Municipal Water System need to help ensure that copies of this report are distributed to their tenants. Landlords will promptly receive copies of this report sufficient for the number of rental units they have simply by contacting our office and making that request. Please refer to page one for contact information. *******