# VT0005650 Consumer Confidence Report Certificate of Delivery 2023

###### BIRCH HILL WATER SYSTEM

I (*print name*)\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ hereby certify that the Consumer Confidence Report for calendar year 2023 has been distributed to all customers served by the above water system by mail or an alternative direct delivery method specified below and “good faith” efforts were used to reach non-bill paying consumers. Further, I certify that the information in the report is correct and consistent with the compliance monitoring data previously submitted to the Vermont Drinking Water and Groundwater Protection Division. Any intentional deception or misinformation represented in this report could be cited as a violation of U.S. EPA Safe Drinking Water Act of 1996.

**Date CCR Distributed:** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

    I.  **Direct Delivery Method(s) Used:** (Water Systems *must* use at least one)  
       \_\_\_ Mail       \_\_\_ Hand Delivery       \_\_\_ Electronic Delivery (provide direct link to CCR *if applicable*)

    II. **“Good faith effort” Delivery Method(s) Used** (to reach non-bill paying customers). Please list the method(s) used:

**Consecutive Water Systems only:**  
\_\_ Check here if the Wholesaler CCR *was* included when distributing our CCR to customers. (This must be completed *prior* to submitting this form).

**Please sign and date this page *after* the CCR has been distributed to all customers.**

Signed \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_   Date \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Title \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_    Phone # \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Please submit this completed form and a copy of your CCR to the Division no later than July 1, 2024.**

**Submittal options include:**

* Email - [Jeff.Girard@vermont.gov](mailto:Jeff.Girard@vermont.gov)
* Fax - 802-828-1541
* Mail - Department of Environmental Conservation  
       Drinking Water and Groundwater Protection Division  
       One National Life Drive - Davis 4  
       Montpelier, VT 05620-3521

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# BIRCH HILL WATER SYSTEM - VT0005650

## 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:

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (date/time) at \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (location).

The person who can answer questions about this report is: (print) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Telephone: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and/ or Email \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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 | 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**

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## Detected Contaminants BIRCH HILL WATER SYSTEM

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Disinfection Residual | RAA | RANGE | Unit | MRDL | MRDLG | Typical Source |
| Chlorine | 0.07 | 0.070 - 0.070 | mg/l | 4 | 4 | Water additive to control microbes |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Chemical Contaminants | Collection Date | Highest Value | Range | Unit | MCL | MCLG | Typical Source |
| Barium | 06/17/2020 | 0.032 | 0.032 - 0.032 | ppm | 2 | 2 | Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits |
| DICHLORODIFLUOROMETHANE | 02/08/2023 | 0.5 | 0.5 - 0.5 | ppb | NA | NA |  |
| Iron | 06/17/2020 | 0.084 | 0.043 - 0.084 | ppm | NA | NA | Erosion of natural deposits |
| Manganese | 10/17/2023 | 740 | 570 - 740 | 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. |
| Nickel | 06/17/2020 | 9.9 | 9.9 - 9.9 | ppb | 100 | 100 |  |
| Nitrate | 02/08/2023 | 1.2 | 1.2 - 1.2 | ppm | 10 | 10 | Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits |

|  |  |
| --- | --- |
| 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 |
| 10/17/2023 | - | - | - | 6.8 | 5.3 | 12.1 |
| 11/01/2022 | - | - | - | 5.5 | 4.6 | 10.1 |
| 11/09/2021 | - | - | - | 4.6 | 3.7 | 8.3 |
| 10/13/2020 | - | - | - | 4.6 | 4.1 | 8.7 |
| 12/11/2019 | - | - | - | 3.9 | 3.9 | 7.8 |
| 10/22/2019 | - | - | - | 4 | 3.8 | 7.8 |

\*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) | 08/08/2021 | 3.26 | 3.26 - 3.26 | pCi/L | 5 | 0 | Erosion of natural deposits |
| Gross Alpha Particle Activity\* | 04/11/2023 | 5 | 5 - 5 | pCi/L | NA | 0 | Erosion of natural deposits |
| Radium-226 | 08/08/2021 | 1.54 | 1.54 - 1.54 | pCi/L | 5 | 0 | Erosion of natural deposits |
| Radium-228 | 08/08/2021 | 1.72 | 1.72 - 1.72 | 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.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Lead and Copper | Collection Date | 90th Percentile | Range | Unit | AL\* | Sites Over AL | Typical Source |
| Lead | 09/23/2022 - 09/25/2022 | 1.8 | 0 - 2.3 | ppb | 15 | 0 | Corrosion of household plumbing systems; Erosion of natural deposits |
| Copper | 09/23/2022 - 09/25/2022 | 0.11 | 0.027 - 0.12 | 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.

## Violation(s) that occurred during the year

*We are required to monitor your drinking water for specific contaminants on a regular basis. Results of regular monitoring are an indicator of whether or not our drinking water meets health standards. The below table lists any drinking water violations we incurred during 2023. A failure to perform required monitoring means we cannot be sure of the quality of our water during that time.*

|  |  |  |  |
| --- | --- | --- | --- |
| Type | Category | Analyte | Compliance Period |
| STATE MONITORING/REPORTING VIOLATION | Failure to Monitor | IRON | 10/01/2023 - 12/31/2023 |

**To be Completed by the Water System.** *List any steps taken to correct the violations listed above:*

## Level 1 Assessment(s)

During the past year we were required to conduct one Level 1 Assessment(s). One Level 1 Assessment(s) were completed. In addition, we were required to take [INSERT NUMBER OF CORRECTIVE ACTIONS] corrective actions and we completed [INSERT NUMBER OF CORRECTIVE ACTIONS] of these actions.

## Level 2 Assessment(s)

During the past year we were required to conduct one Level 2 Assessment(s). One Level 2 Assessment(s) were completed. In addition, we were required to take [INSERT NUMBER OF CORRECTIVE ACTIONS] corrective actions and we completed [INSERT NUMBER OF CORRECTIVE ACTIONS] of these actions.

## 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. BIRCH HILL 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>.

Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially harmful, waterborne pathogens may be present or that a potential pathway exists through which contamination may enter the drinking water distribution system. We found coliforms indicating the need to look for potential problems in water treatment or distribution. When this occurs, we are required to conduct assessments to identify problems and to correct any problems that were found during these assessments.

## 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 |
| 08/09/2017 | Required Bacteriological Monitoring and Monitoring Plan |  |

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

**PUBLIC NOTICE**

**\*\*IMPORTANT INFORMATION ABOUT YOUR DRINKING WATER\*\***

**Drinking Water at Birch Hill Water System (WSID# 5650)**

**Contains Elevated Levels of Manganese**

Manganese is a metal that, in small amounts, is part of a healthy diet. Drinking water may naturally contain manganese but when concentrations are greater than 0.05 milligrams per liter (mg/L), the water may become discolored and have an unpleasant taste. Over a lifetime, the USEPA and the Vermont Department of Health (VDH) recommend that people drink water with manganese levels less than 0.300 mg/L to protect the nervous system.

On June 17, 2020 a routine sample first showed elevated manganese levels present at 0.67 mg/L; therefore the water system is required to sample manganese on a quarterly basis. Manganese was last sampled on February 20, 2024. Results show manganese levels continue to exceed the Vermont Health Advisory (VHA) level of 0.300 mg/L.

|  |  |
| --- | --- |
| Monitoring period (Quarter) of sampling | Manganese result in mg/L |
| First Quarter 2024 | **0.70** |
| Fourth Quarter 2023 | **0.74** |
| Third Quarter 2023 | **0.66** |
| Second Quarter 2023 | **0.65** |
| First Quarter 2023 | **0.57** |

**What should you do? What does this mean?**

The body only needs a small amount of manganese to function. Infants up to 1 year of age are especially sensitive to excessive amounts of manganese.

**Do not use** the water for making infant formula or infant food, or for drinking water for infants up to 1 year of age. Instead, use either bottled water or water from an alternate source with a manganese level below 0.300 mg/L. To limit exposure, older children and adults may consider an alternate source of drinking water and cooking water.

**Do not boil the water**. Boiling, freezing, filtering or letting the water stand does not reduce the manganese levels. Excessive boiling can cause manganese to become more concentrated, because manganese remains behind when the water evaporates. Manganese in water is not a health concern when showering and bathing, washing food, or other household uses of water, including washing clothes, and dishes.

|  |
| --- |
| What is being done? |
|  |
|  |
|  |

For more information from the water system, please contact Bob Ross at [bross@reavt.com](mailto:bross@reavt.com) or by phone at 802-253-4280. If you have specific health concerns regarding manganese, contact your health care provider.

Please contact the Vermont Department of Health with questions regarding the potential health effects of manganese at 800-439-8550 or visit <https://www.healthvermont.gov/environment/drinking-water/manganese-drinking-water>

*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 or distributing copies by hand or mail.*