



Town of Bennington, Vermont Water Quality Report 2010

Our goal is to provide you with a safe dependable supply of drinking water. This report is a snapshot of the quality of water that we provided for January 1 through December 31, 2009. It also includes the date and results of any regulated contaminants that have been detected within the past five years tested less than once a year. Any contaminants detected within the past five years are listed along with the date of detection and concentration as it compares with the current Environmental Protection Agency (EPA) and State of Vermont Standards. This report is designed to inform you about the quality water and services we deliver to you every day.

Public Water System Name: Bennington Water Department

WSID #: 5016

Town: Bennington

Water Source Information

Vermont Source Type: **Stream**

EPA Source Type: **Surface, non-purchased**

Source Name: **BOLLES BROOK**

Location: **Woodford, Vermont**

The Bennington Water Systems relies on two sources of water to supply its customers. The first source is referred to as the Bolles Brook Source. This source consists of an intake in Bolles Brook (located in the Town of Woodford). Water is fed by gravity from the Bolles Brook intake to a 3.0 million gallon per day water filtration plant located approximately 1 mile southwest of the Bolles Brook intake. The water is treated (filtered and chlorinated) at the filtration plant and then supplied to the users by gravity flow into the distribution system.

Vermont Source Type: **Spring**

EPA Source Type: **Groundwater, non-purchased**

Source Name: **MORGAN SPRING**

Location: **Bennington, Vermont**

The Second water source used by the Bennington Water System is referred to as the Morgan Springs Source. This source is located in downtown Bennington. It consists of a spring box which serves to collect the naturally occurring flow from the spring, and a "constant pressure" water booster station which pumps the water from the springs into the Bennington distribution system at differing flow rates in order to maintain constant pressure in the system. The Morgan Springs are estimated to have a reliable yield of about 1500 gpm.

A source protection plan is required for all municipal drinking water supplies. Bennington's source protection plan was submitted and approved by the Vermont Agency of Natural Resources/Water Supply Division on December 4, 2007. The plan provides information on potential sources of contamination as well as control and contingency plans. A copy of this plan is available for public review at the Bennington Town Offices located at 205 South Street, Bennington, Vermont.

As stated in the plan, the most probable source of contamination to the Bolles Brook Water Supply is natural, human and animal waste. This is because a majority of the Bolles Brook water sources come from non developed National Forest Lands. This supply receives full treatment and disinfection at our Filtration Plant on Route 9 in the Town of Woodford.

The Morgan Spring Water Supply being located in a Downtown area faces more potential hazards from existing or pre-existing chemical waste sites and underground fuel storage facilities. However, previous studies indicate that this type of groundwater source may be unusual for Vermont. A report entitled "Bennington Water Study, Morgan Spring 1986 Long-Term Test" prepared by Wagner, Heindel,

and Noyes, concludes that the Morgan Springs Sources are likely to be of "karst" or cavernous limestone origin and may have a lateral extent of 3 to 5 square miles. It is also concluded in this report that the actual time of travel within the recharge area may be as much as 33 years and that the spring is hydro-geographically isolated from nearby surface waters and sources of contamination within the shallow sand and gravel underlying the Morgan Springs area.

Owner/Operator and Public Participation Opportunities

If you have any questions about this report or concerning your water quality utility, please contact the person(s) listed below. We want our customers to be informed about their water quality. The Bennington Select Board acts as the governing body for our water system. If you want to learn more, please feel free to attend any of the regularly scheduled meetings or view the meetings on Channel 17 of the local cable access.

Town of Bennington
205 South Street
Bennington, VT 05201
Phone Number (802) 442-1037

Town Manager	Stuart A. Hurd
Water Resources Superintendent	Terrance A. Morse
Working Foreman	Mark D. White
Operator	Brian Billert
Operator	Anthony Onorato
Operator	Jason Olansky
Operator	Lawrence Gates, Jr.

Regularly scheduled meetings are held on:

Date: Second and Fourth Monday of each Month

Time: 7:15 p.m.

Location: Bennington: Village Fire House, River Street

Sources of Drinking Water and Contaminants

The sources of drinking water (both tap water and bottled water) include surface water (streams, lakes) and ground water (springs and wells). As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals. It also picks up substances resulting from human activity and from animals. 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 tap 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) that may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- ★ Inorganic contaminants (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 storm water runoff, agriculture, and residential uses as well as careless disposal of household chemicals.
- ★ 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 may also come from gas stations, urban stormwater runoff, septic systems, as well as careless disposal of household chemicals.

WATER QUALITY DATA

The table below lists all the drinking water contaminants that we detected during the 2006 calendar year. It also includes the date and results of any contaminants that we detected within the past five years 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 contamination in drinking water below, which there is no known or expected risk to human health. MCLGs allow for a margin of safety.
- **Maximum Contamination Level (MCL):** The “Maximum Allowed” MCL is the highest level of 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 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.
- **Maximum Residual Disinfectant Level (MRDL):** The highest level of a disinfectant allowed in drinking water. Addition of a disinfectant may help control microbial contaminants.
- **Action Level:** The concentration of a contaminant that, 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 (ug/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.
- **Running Annual Average (RAA):** The average of (4) consecutive quarters (when on quarterly monitoring); values in table represent the highest RAA for the year.
- **N/A:** Not applicable

Level of Detected Contaminants

Contaminant Detected	Highest Level Detected	MCL	MCLG	Range of Detection	Sample Date	Violation	Typical Source of Contaminant
Barium	0.02 ppm	2.0	2.0	0.02	08/11/09	No	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Bromodichloromethane	0.6 ppb	N/A	N/A	0.6 ppb	02/05/07	No	Produced as a by-product of chlorination
Chloroform	13.0 ppb	N/A	N/A	13.6 ppb	02/05/07	No	Produced as a by-product of chlorination
Cyanide	<10.0 ppb	N/A	N/A	10.0 ppb	01/09/07	No	Naturally occurring
Fluoride	< 0.2 ppm	N/A	N/A	< 0.2 ppm	02/05/07	No	Naturally occurring
Gross Alpha	1.30 pci/L	10 pci/L	N/A	1.30 pci/L	04/09/08	No	Erosion of natural deposits
Manganese	<5.0 ppb	50.0 ppb	N/A	<5.0 ppb	07/10/07	No	Erosion of natural deposits. No adverse health effects but can cause staining to plumbing fixtures
Methyl Ethyl Keytone	0.77 UG/L	N/A UG/L	N/A	0.77 UG/L	07/10/08	No	
Total Nitrate	0.58 ppm	10.0 ppm	10.0 ppm	0.57 – 0.58 ppb	02/10/09	No	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits

Disinfection By-Products	Monitoring Period	RAA	Range	Unit	MCL	MCLG	Typical Source of Contaminant
Total Haloacetic Acid (HAA5)	2009	49	6.5 - 69	ppb	60	0	By-product of drinking water disinfection.
TTHM	2009	79	10 -160	ppb	80	0	By-product of drinking water chlorination

Lead and Copper Action Levels

Lead & Copper	Date	90 th Percentile	95 th Percentile	Range	Unit	AL	Sites Over AL	Typical Source
Copper, Free	2008 - 2010	0.03	N / A	0.02 – 0.036	ppm	1.3	0	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives
Lead	2008 - 2010	3.0	12	3.0 – 36.0	ppb	15	1	Corrosion of household plumbing systems; Erosion of natural deposits

Contaminant	MCL	MCLG	Lowest % of monthly samples meeting MCL during the year	Highest Measurement / Date	Violation	Date of Sample	Typical Source of Contaminant
Turbidity	TT= percentage of samples < 0.5 NTU	N/A	>90 %	0.50 04/04/09	No	Continuous	Soil runoff

Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of the effectiveness of our filtration system.

Explanation of Violation(s) that occurred in 2009:

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 2009. A failure to perform required monitoring means we cannot be sure of the quality of our water during that time.

Violation(s) that occurred during 2009:

Type	Category	Analyte	Compliance Period
NONE			

Health Information Regarding Drinking Water

Some people *may* be more vulnerable to contaminants in drinking water than the general population. **Immune-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 the 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.

Possible Health Effects for High TTHM and HAA5's:

Some people who drink water containing trihalomethanes (TTHM) in excess of the MCL over many years *may* experience problems with their liver, kidneys, or central nervous systems, and may have an increased risk of getting cancer. In animal studies, **some** total trihalomethanes have been associated with reproductive or developmental effects.

Some people who drink water containing haloacetic acids (HAA5) in excess of the MCL over many years *may* have an increased risk of getting cancer.

Additional Information (including steps taken to correct any violations listed above):

The Bennington Water Department, a Public Water System under the laws of the State of Vermont, was recently reissued a Temporary Operating Permit. **The Secretary of the Agency of Natural Resources found that such issuance will not unreasonably contribute to a public health risk**, although the Bennington Water Department does not presently comply with certain requirements of the Federal Safe Drinking Water Act and applicable state statutes and rules. The nature and extent of the noncompliance are as follows:

The water system has recently completed significant improvements to the treatment and water storage facilities located at the Woodford Treatment Plant. The Water System is required to address remaining areas of concern including: aging and deteriorating distribution system and storage tanks, and elevated levels of disinfection by-products throughout the distribution system. The Water System has been requested by the Water Supply Division to develop a short *and* long range capital improvements plan of how to technically, financially and managerially complete necessary drinking water system improvements. In accordance with the Vermont Water Supply Rule, the Water Supply Division has requested the timely resolution of these deficiencies and others. To obtain more specific information regarding these necessary public drinking water improvements, please call Bennington Water Department (Terrance A. Morse) at (802) 442-1037.

Please Note: Item #1 is currently waiting for funding

1. ***Surface Water Intake Structure Needs Improvement:*** The Water Supply Rule (WSR), Chapter 21, Appendix A, Part 3, specifies the technical standards for the proper construction of a surface water intake. The intake structure is not adequately screened to keep out leaves and sticks from entering the raw water supply line. Anchor ice present during the inspection presents a risk of significantly damaging the intake structure. **The Water System must make improvements to the raw water intake structure by December 31st, 2010.**
2. ***Inadequate Water Pressure Under Peak and Maximum Flow Conditions:*** In accordance with WSR, Chapter 21, Subchapter 21-7 and Appendix A, Part 8, all water mains, including those not designed to provide fire protection, shall be sized after hydraulic analysis based on flow demands and pressure requirements. The system shall be designed to maintain a minimum pressure of 20 psi at ground level at all points in the distribution system under all conditions of flow. Specifically, the system's CIP identifies five areas of low pressure under a fire flow condition (mainly on the south end of town at higher elevation) that require correction. **The Water System must make improvements to the water distribution system and demonstrate compliance with the pressure requirements outlined under the WSR, Chapter 21, Subchapter 21.7, Section 7.7 and Appendix A, Part 8 by December 1st, 2011.**

Distribution Information:

Please share this information with all 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. The Town of Bennington distributes this report annually to all property owners currently serviced by the Bennington Water System. These property owners are responsible for providing this information to their tenants. If a tenant has not received this information from their landlord they may request a copy from the Town Offices in Bennington or view the report at one of the following publicly posted locations: Bennington *Free Library, Town Office*, and the *Bennington Website (Bennington.com)*.