

## CITY OF MONTPELIER WATER SYSTEM-VT#5272 Water Quality Report, Spring 2009

This report is a snapshot of the quality of the water that we provided last year. Included are the details about where our 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. For more information, please contact Todd C. Law, Director of Public Works, at 802.223.9508.

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### Water Source Information

The source of raw water prior to treatment is Berlin Pond, located in the town of Berlin. Berlin Pond, fed by streams and springs, is a 270-acre pond impounding 1.5 billion gallons of water. Raw water is transmitted via pipeline to the Water Filtration Facility to be treated for reduction or elimination of bacteria, viruses, parasites, color, taste, odor, turbidity, organic matter, iron and manganese. Our system has a low potential for susceptibility to sources of contamination.

The City of Montpelier has developed a Source Water Protection Plan for the Berlin Pond watershed area, approved by the Montpelier City Council on June 27, 2001, and by the Vermont Water Supply Division on September 8, 2001, that provides more information. The City is currently implementing the plan and reports annually to the State on our progress.

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### 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.

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### 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 MONTPELIER WATER SYSTEM**

Microbiological	Result	MCL	MCLG	Typical Source
Coliform (TCR)	October 2008, one sample returned as positive	MCL: systems that collect fewer than 40 samples per month – no more than one positive sample monthly	0	Naturally present in the environment
E. Coli	October 2008, one sample returned as positive.	MCL: A Routine Sample and a Repeat Sample are Total Coliform Positive, and One is also Fecal Positive/E. Coli Positive.	0	Human and animal fecal waste.

Chemical Contaminants	Collection Date	Highest Value	Range	Unit	MCL	MCLG	Typical Source
FLUORIDE	4/02/2008	0.9	0.9	ppm	4.0	4	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
NITRATE	1/10/2008	0.07	0.07	ppm	10	10	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.
IRON	4/02/2008	0.045	0.045	MG/L	0.3		
SODIUM	2/21/2008	18	18	MG/L	250	20	

Radionuclides	Collection Date	Highest Value	Range	Unit	MCL	MCLG	Typical Source
GROSS ALPHA, INCL. RADON & U	1/9/2007	2.6	2.6	PCI/L			

Lead and Copper	Date	90 <sup>TH</sup> Percentile	95 <sup>TH</sup> Percentile	Range	Unit	AL	Sites Over AL	Typical Source
COPPER, FREE	2005-2007	0.503	0.659	0.032-0.875	ppm	1.3	0	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives
LEAD	2005-2007	2	2	2	ppb	15	0	Corrosion of household plumbing systems; Erosion of natural deposits

Disinfection By-Products	Monitoring Period	RAA	Range	Unit	MCL	MCLG	Typical Source
TOTAL HALOACETIC ACIDS (HAA5)	2008	17	11.3-16	ppb	60	0	By-product of drinking water disinfection
TOTAL TRIHALOMETHANES (TTHM)	2008	23	12.7-22.9	ppb	80	0	By-product of drinking water chlorination

**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 table below lists any drinking water violations we incurred during 2007. 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
<b>No Violations Occurred in Calendar Year 2008.</b>			

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### Health Information Regarding Drinking Water

Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other potentially-harmful bacteria may be present. Coliforms were found in more samples than allowed and this was a warning of potential problems. Fecal coliforms and E. coli are bacteria whose presence indicates that the water may be contaminated with human or animal wastes. Microbes in these wastes can cause short-term effects, such as diarrhea, cramps, nausea, headaches, or other symptoms.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as those 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.

The Montpelier Water System, a public water system under the laws of the State of Vermont, was reissued a Temporary Operating Permit on January 21, 2005. The Secretary of the Agency of Natural Resources found that such issuance will not unreasonably contribute to a public health risk, although the Montpelier Water System 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:

Although well operated and maintained overall, the Water System does not provide adequate surface water treatment for all of its customers, specifically four service connections that are provided water from the raw water transmission main prior to the treatment plant. Providing untreated surface water to users is a direct violation of the Federal Surface Water Treatment Rule, and is a significant health concern. This situation was originally required to be remedied by November 1, 2005, but has not been completed as of the issuance date of this permit. The Water System is currently considering the implementation of specific recommendations made by the Water Supply Division to eliminate potential sanitary hazards and provide for future system durability and reliability. In accordance with the Vermont Water Supply Rule, the Division has requested the timely resolution of all water system deficiencies. To obtain more information regarding these necessary public drinking water improvements, please call the Director of Public Works at 802.223.9508.

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To learn more about your drinking water, please attend any of the City's scheduled Water Board meetings. To find out the exact date and time of the next meeting, please call the City Manager's Office at 223-9502.

**Landlords, please share this information with your tenants.** Additional copies of this report are available at the City Clerk/Treasurer's Office, 39 Main Street, Montpelier, and on the City's website, [www.montpelier-vt.org](http://www.montpelier-vt.org).

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