

**FIRE DISTRICT # 1, EAST MIDDLEBURY**  
**Public Community Water Supply System – VT0005003**  
**Consumer Confidence Report – 2016**

This Consumer Confidence Report (CCR) is a summary of the water quality produced by the Fire District No. 1, East Middlebury (FD1) Public Community Water Supply System during the year 2016. Specific details pertaining to our water source and water quality, along with general health information is provided below for your review. The annual water quality testing results are carefully reviewed and compared to drinking water standards set by the State of Vermont and the Environmental Protection Agency (EPA). Each and everyday, FD1 is committed to providing you with a clean and sustainable source of potable water.

**To learn more about our water system, please attend the regularly scheduled Prudential Committee meetings held on the second Thursday of every month in the Sarah Partridge Community House, starting at 7:00pm.**

**Please Direct Specific Questions or Comments to:**

Fire District #1, East Middlebury  
Chairman  
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[water05740@gmail.com](mailto:water05740@gmail.com)  
Operators

Jason Larocque, Prudential Committee

Phone: (802) 989-7060

Elias J. Erwin and Justin Allen, Water System

Phone: (802) 465-4864

**Water Source Information:**

Our primary water source originates from a semi-confined sand and gravel aquifer. Water from this aquifer is extracted using two (2) drilled wells that extend 100' below the ground's surface. Well #1, our back-up source, is located in the center of our community near the East Middlebury Methodist Church and Well #2, our primary source, is located between Ossie Road and VT Route 125.

<b>Source Name</b>	<b>Source Water Type</b>
WELL # 1	Groundwater
WELL # 2	Groundwater

The State of Vermont Water Supply Rule (Chapter 21) requires Public Community Water Systems to develop a Source Protection Plan (SPP), which delineates a Source Protection Area (SPA) surrounding our wells and community. The SPA is used to identify the boundaries necessary to protect our aquifer from potential sources of contamination. The Source Protection Compliance Officer, Elias Erwin, works directly with residents and businesses located within

the SPA in an effort to identify potential sources of contamination (PSOCs) and to monitor our aquifers susceptibility to these potential contaminants. As a result, several homeowners and existing businesses have provided helpful information and subscribe to utilizing best management practices in order to prevent potential impacts to our aquifer. Please contact us if you are interested in reviewing our SPP or if you are interested in learning more about protecting our valuable natural resource.

**Public Notice - Uncorrected Significant Deficiencies:**

FD1 is required to inform the public of any significant deficiencies identified during a sanitary survey conducted by the Vermont Drinking Water and Ground Water Protection Division. No significant system deficiencies were identified in 2016.

<b>Date Identified</b>	<b>Deficiency</b>	<b>Facility</b>
2016	No Significant Deficiencies	NA

No significant deficiencies were identified during our most recent Sanitary Survey. However, FD1 has conducted a comprehensive assessment of our existing reservoir and will conduct improvements to its roof. Work performed to the reservoir is ongoing with the assistance and support of an Engineering Firm.

**Distribution Information:**

Although we do our best to distribute this information, we realize that not everyone will receive a copy. Therefore, please share this CCR with those who may consume our water but might not receive it directly by mail or email (for example: occupants in rental units, nursing homes, schools, businesses, etc.). Or, you can help share this information by simply posting a copy in a visible location.

**Water Quality Data:**

The table below lists all the drinking water samples that were collected in 2016. The table also includes the date and results of concentrations that were detected within the past five (5) years, if tested less than once a year. It is important to note, the detection of contaminant concentrations in drinking water does not necessarily indicate a potential risk to health.

**2016 Water Quality Results – Fire District #1, East Middlebury:**

<b>Disinfection Residual</b>	<b>RAA</b>	<b>Range</b>	<b>Unit</b>	<b>MRDL</b>	<b>MRDLG</b>	<b>Typical Source</b>
Chlorine	0.128	0.10 - 0.14	mg/l	4.0	4.0	Water additive to control microbes

Microbiological	Result	MCL	MCLG	Typical Source
Total Coliform Bacteria	September 2016 - 2 positive samples	No more than 1 positive monthly sample	0	Naturally present in the environment.

Chemical Contaminants	Collection Date	Highest Value	Range	Unit	MCL	MCLG	Typical Source
1,1,1-Trichloroethane	02/16/2016	1.3	0 - 1.3	ppb	200	200	Discharge from metal degreasing sites and other factories.
Barium	01/12/2014	0.04	0.03 - 0.04	ppm	2	2	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits.
Iron	01/12/2014	2.58	0 - 2.58	ppm	2	2	
Manganese	04/21/2015	0.008	0 - 0.008	ppm	2	2	
Styrene	02/16/2016	2.4	0 - 2.4	ppb	100	100	Discharge from rubber and plastic factories; Leaching from land-fills.
Tetrachloroethylene	02/16/2016	1.2	0 - 1.2	ppb	5	0	Discharge from factories and dry cleaners.
Toluene	02/16/2016	0.0008	0 - 0.0008	ppm	1	1	Discharge of petroleum products.

Radionuclides	Collection Date	Highest Value	Range	Unit	MCL	MCLG	Typical Source
Combined Radium	04/14/2014	0.169	0.0545 - 0.169	pCi/L	5	0	Erosion of natural deposits.
Combined Uranium	01/12/2014	2	2 - 2	µg/L	20	0	

Gross Alpha	04/14/2014	0.818	0.314 - 0.818	pCi/L	15	0	
Radium-226	04/14/2014	0.0347	0 - 0.0347	pCi/L	5	0	
Radium-228	04/14/2014	0.134	0.0545 - 0.134	pCi/L	5	0	

Disinfection By Products	Monitoring Period	LRA A	Range	Unit	MCL	MCL G	Typical Source
No concentrations were identified above detection limits.							

Lead and Copper	Date	90 <sup>th</sup> Percentile	Range	Unit	AL	Sites Over AL	Typical Source
Copper	2016	0 – 0.12	0 - 0.16	ppm	1.3	0	Corrosion of household plumbing systems. Erosion of natural deposits. Leaching from wood preservatives.
Lead	2016	2	0 - 3	ppb	15	0	Corrosion of household plumbing systems. Erosion of natural deposits.

**Total Coliform Rule (TCR) Violations:**

We are required to monitor drinking water for specific bacteriological contaminants on a regular basis. Results of regular monitoring are an indicator of whether or not our drinking water meets public health standards. The table below lists the drinking water violations we have incurred during 2016, related to the Total Coliform Rule (TCR).

Type	Category	Analyte	Compliance Period
No TCR violations occurred in 2016.			

**Revised Total Coliform Rule (RTCRC) Violations:**

Type	Category	Analyte	Compliance Period
No RTCRC violations occurred in 2016.			

**Level 1 Site Assessment:**

Due to the presence of Total Coliform Bacteria, FD1 was required to conduct a Level 1 Site Assessment. The results of the assessment identified a single sanitary defect that resulted in two (2) corrective actions. Both the corrective actions and requirements of a Level 1 Site Assessment are complete.

### **Level 2 Site Assessment:**

No Level 2 Site Assessment was required in 2016.

### **Terms and Abbreviations:**

When reviewing the data 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 of a disinfectant may help 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.

**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):** Unit of measure (example: one penny in ten thousand dollars).

**Parts per billion (ppb) or Micrograms per liter (µg/l):** Unit of measure (example: 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.

**Locational Running Annual Average (LRAA):** The average of sample analytical results for samples taken at a particular monitoring location during four consecutive calendar quarters.

**Running Annual Average (RAA):** The average of 4 consecutive quarters (when on

quarterly monitoring); values in table represent the highest RAA for the year.

### **Drinking Water Contaminants:**

Drinking water sources consisting of surface water (i.e. streams and lakes) and ground water (i.e. wells and springs) are susceptible to contamination. As water travels over the landscape and through soil, it contacts naturally occurring and soluble minerals. Typically, these minerals will dissolve at concentrations that are not harmful to health. However, foreign substances can negatively impact our water supply and present potential health risks. Therefore, public water systems regularly monitor water quality and provide treatment to remove potential contaminants. The presence of contamination in our system is typically related to bacteriological impacts, which is commonly associated with animal and human waste.

In order to ensure that our water is safe to drink, we test it regularly in accordance with regulations established by the U.S. EPA and the State of Vermont. These regulations limit the amount of various contaminants such as:

Microbial Contaminants, including viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations and wildlife;

Inorganic Contaminants, including 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 uses;

Radioactive Contaminants, which can be naturally occurring or the result of mining activity; and

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.

### **Health Information Regarding Drinking Water:**

Some people may be more vulnerable to contaminants in drinking water than others. 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. FD1 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 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>.