The highest level of a contaminant that is allowed in drinking water. MCL’s are set as close to MCLG’s as feasible using the best available treatment technology.

Maximum Contaminant Level Goal (MCLG): These are non-enforceable goals that represent the level of a contaminant in drinking water below which, adverse health effects are unlikely to occur due to chronic exposure. MCLG’s allow for a margin of safety.

Maximum Contaminant Level (MCL): The level of a contaminant in drinking water below which, adverse health effects are unlikely to occur from a single exposure (chronic or acute). MCL’s do not reflect the benefits of the use of disinfectants to control microbial contaminants.

Variance and Exemption: Under certain circumstances, States are allowed to request a variance to avoid implementing a specific MCL or treatment technique.

The water flows from the storage tanks by gravity when the water is used. If more water is needed, water can be pumped from either well to the hill storage tank due to its proximity and the Sugar Hill storage tanks. If the wells are off, and septic systems are not being used within the system flows into the storage tanks. Water from the Pratt well flows mainly to the Fox Hill storage tank due to its proximity and the Sugar house well to the Huckel Hill storage tank for the same reason but water can be pumped from either well to either tank incase of a problem or pump replacement. The water flows from the storage tanks by gravity when the wells are not running and into your home. Bernardston water is of very good quality and little treatment is needed.

In 2001 the Massachusetts DEP preformed a Source Water Assessment of the Bernardston Fire and Water Districts wells looking at potential sources of contamination, and the vulnerability of the water supply. Both wells are located in unconfined aquifers. Wells located in these geological conditions are considered to have a high vulnerability to contamination due to the absence of hydrogeologic barriers that can prevent contaminant migration from the surface.

If you have any questions or if you would like a copy of the Source Water Assessment Please contact Bill Pachalis at (413) 475-4260 or the water district office at (413) 475-3037. Copies of the Source Water Assessment can also be obtained at: http://www.mans.gov/dep/water/drinking/swapreps.htm.

Bernardston’s Supply Sources

Your Drinking Water Source

Where does your drinking water come from? The source of your drinking water comes from two wells. The Pratt well (well #4) located off Barton Road on the Greenfield and Bernardston town line. This is a 69-foot gravel packed well with a pump rate of about 425 gallons a minute. The water is primarily pumped to a 500,000-gallon concrete storage tank located on Fox Hill. The second well (well #3) is the Sugarhouse well located off Burke flat road near the Fall River. This is 87 foot gravel packed well with an output of about 450 gallons a minute, pumping primarily to a concrete storage tank on Huckel Hill. Typically the well rain is of a pH of about 5.8 before treatment. At the pump house the water is treated with potassium hydroxide to raise the pH, reducing the corrosiveness and minimizing dissolving of metals from household plumbing. Sodium Hypochlorite is added as a disinfectant. The water is pumped through the water mains and any water that is not being used within the system flows into the storage tanks. Water from the Pratt well flows mainly to the Fox hill storage tank due to its proximity and the Sugar house well to the Huckel Hill storage tank for the same reason but water can be pumped from either well to either tank incase of a problem or pump replacement. The water flows from the storage tanks by gravity when the wells are not running and into your home. Bernardston water is of very good quality and little treatment is needed.

Substances Found in Tap Water

Sources of drinking water (both tap water and bottled water) 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 materials and can pick up substances resulting from the presence of animals or from human activities. 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. Types of contaminants may include:

- Microbial contaminants, such as viruses and bacteria, may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- Inorganic contaminants, such as salts and metals, can be naturally occurring or result from urban storm water runoff, industrial or domestic wastewater discharges, oil and gas production mining, and farming.
- Pesticides and herbicides may come from a variety of sources such as agriculture, urban storm water runoff, and residential uses.
- Organic chemical contaminants include synthetic and volatile organic chemicals that are by-products of industrial processes and petroleum production, and can also come from gas stations, urban storm water runoff, and septic systems.
- Radiological contaminants can be naturally occurring or be the result of oil and gas production, and mining activities.
- Lead is present, primarily from materials and components associated with services lines and home plumbing. The B&FWD is responsible for providing high-quality drinking water, but cannot control the variety of materials used in plumbing components. When water has been sitting for several hours, the potential for lead exposure can be minimized by flushing the tap for 30 seconds to two minutes before using water for drinking or cooking. If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Information on lead in drinking water, testing methods, and steps to take to minimize exposure is available from the Safe Drinking Water Hotline or at http://www.epa.gov/safewater/lead.

More information about contaminants and their potential health effects can be obtained by calling the Environmental Protection Agency (EPA) Safe Drinking Water Hotline (800-426-4791).

Bernardston’s water system is routinely inspected by the Massachusetts Department of Environmental Protection (MassDEP) for NMH’s technical, financial, and managerial capacity to provide safe drinking water. To ensure provision of the highest quality of water available, the water system is operated by a Massachusetts-certified operator who oversees the routine operations of the system.

Important Definitions

Public Water System Information

Bernardston’s water system is of very good quality and little treatment is needed.

Bernardston Fire & Water District, P.O. Box 176, Bernardston, MA 01337
Registered public water supply No.1029000
Contact Person: William Pachalis 413-475-3037

WATER QUALITY REPORT FOR THE YEAR OF 2018 BERNARDSTON FIRE & WATER DISTRICT

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**What’s a Cross-connection?**

Cross-connections that contaminate drinking water distribution lines are a major concern. A cross-connection is formed at any point where a drinking water line connects to equipment (Boilers), systems containing chemicals (air conditioning systems, fire sprinkler systems, irrigation systems) or water sources of questionable quality. Cross-connection contamination can occur when the pressure in the equipment or system is greater than the pressure inside the drinking water line (backpressure). Contamination can also occur when the pressure in the drinking water line drops due to fairly routine occurrences (main breaks, heavy water demand) causing contaminants to be sucked out from the equipment and into the drinking water line (backsiphonage).

Outside water taps and garden hoses tend to be the most common sources of cross-contamination at home. The garden hose creates a hazard when submerged in a swimming pool or when attached to a chemical sprayer for weed killing. Garden hoses that are left lying on the ground may be contaminated by fertilizers, cesspools or garden chemicals. Improperly installed valves in your toilet could also be a source of cross-connection contamination.

Community water supplies are continuously jeopardized by cross-connections unless appropriate valves, know as backflow prevention devices are installed and maintained. For more information review the Cross-Connection Control Manual from the U.S. EPA’s Web site [http://water.epa.gov/infrastructure/drinkingwater/pws/ crossconnectioncontrol/index.cfm](http://water.epa.gov/infrastructure/drinkingwater/pws/crossconnectioncontrol/index.cfm). You can also call the Safe Drinking Water Hotline at (800) 426-4791.

The Bernardston Fire & Water District was in violation of the Lead & Copper Rule having 2 houses out of 10 exceed the action level of 15 mg/L. After a second round of sampling there was only one house that exceeded the limit and after a fix-up was replaced all samples passed.

**DRINKING WATER VIOLATIONS**

The Bernardston Fire & Water District was in violation of the Lead & Copper Rule having 2 houses out of 10 exceed the action level of 15 mg/L. After a second round of sampling there was only one house that exceeded the limit and after a fix-up was replaced all samples passed. We have been sampling 20 houses for the last two years and have not had an exceedance. Fall of 2019 will be the last round of sampling and then we will request a waiver reducing sampling to 10 houses every three years. 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 microbial contaminants are available from the Safe Drinking Water Hotline (800-426-4791)

**Water Quality Testing Results**

The water quality information presented in the table(s) is from the most recent round of testing done in accordance with the regulations. All data shown was collected during the last calendar year unless otherwise noted in the table(s).

### Water Quality Testing Results

#### Inorganic Contaminants

<table>
<thead>
<tr>
<th>Regulated Contaminant</th>
<th>Date(s) Collected</th>
<th>Highest Result</th>
<th>Range Detected</th>
<th>MCL or MRDL</th>
<th>MCLG or MRDLG</th>
<th>Violation (Y/N)</th>
<th>Possible Source(s) of Contamination</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nitrate (ppm) well # 4 Pratt</td>
<td>2/13/2018</td>
<td>0.283</td>
<td>N/A</td>
<td>10</td>
<td>10</td>
<td>N</td>
<td>Runoff from fertilizer use; leaching from septic tanks; sewage; erosion of natural deposits</td>
</tr>
<tr>
<td>Nitrate (ppm) well # 3 Sugarhouse</td>
<td>4/11/2016</td>
<td>0.50</td>
<td>N/A</td>
<td>10</td>
<td>10</td>
<td>N</td>
<td>Runoff from fertilizer use; leaching from septic tanks; sewage; erosion of natural deposits</td>
</tr>
</tbody>
</table>

#### Unregulated and Secondary Contaminants

<table>
<thead>
<tr>
<th>Unregulated and Secondary Contaminants</th>
<th>Date(s) Collected</th>
<th>Result or Range Detected</th>
<th>Average Detected</th>
<th>SMCL</th>
<th>ORSG</th>
<th>Possible Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium (ppm) Well # 2 Pratt</td>
<td>4/27/2011</td>
<td>2.5</td>
<td>N/A</td>
<td>----</td>
<td>20</td>
<td>Natural sources; runoff from use as salt on roadways; by-product of treatment process</td>
</tr>
<tr>
<td>Sodium (ppm) Well # 3 Sugarhouse</td>
<td>5/9/2014</td>
<td>36</td>
<td>N/A</td>
<td>----</td>
<td>20</td>
<td>Natural sources; runoff from use as salt on roadways; by-product of treatment process</td>
</tr>
</tbody>
</table>