



WEST BOYLSTON WATER DISTRICT
183 WORCESTER STREET
WEST BOYLSTON, MA 01583
www.westboylstonwater.org
(508) 835-3025
PWS ID # 2321000

2016 DRINKING WATER QUALITY REPORT

In accordance with federal drinking water regulations, the West Boylston Water District has prepared this report to inform consumers on the quality of water provided over the past year. In addition to water quality information, this report includes a brief history of the District and a description of our wells. If you have any questions about this report, please contact Michael D. Coveney, Superintendent, at the West Boylston Water District at (508) 835-3025. During nights, weekends, holidays or emergencies, please call (508) 210-5645 for assistance. You may also visit the West Boylston Water District website at www.westboylstonwater.org.

The Board of Water Commissioners usually meet on the third or fourth Monday of each month at 6 p.m. The meetings are held at the District Office. During these meetings, opportunities are available for customers to publicly discuss their water quality concerns. We request that any concerns or discussion topics be submitted in writing to the Board prior to the meeting. Anyone that wishes to discuss issues with the commission is encouraged to notify the district in writing no later than the Monday prior to the Board Meeting so they may have their name placed on the agenda.

YOUR DRINKING WATER SOURCES

The West Boylston Water District maintains three groundwater supply sources. The Lee Street Well No. 4 (PWS ID # 2321000-04G), which is located off Lee Street, has an approved pumping rate of 250 gallons per minute (gpm). The Oakdale Well (PWS ID # 2321000-01G), which is located off Thomas Street, has an approved pumping rate of 725 gpm. The Pleasant Valley Well (PWS ID#2321000-05G), which is located off Temple Street, has an approved pumping rate of 500 gpm. The water is treated at each source with two chemicals prior to distribution. Potassium hydroxide is injected to elevate the pH of the water for corrosion control. A polyphosphate blend is also used to sequester manganese, which tends to cause staining of fixtures. The quality of water pumped and distributed by the District meets or surpasses United States Environmental Protection Agency (EPA) and Massachusetts Department of Environmental Protection (MassDEP) primary drinking water guidelines and regulations. The EPA and MassDEP require water to be tested regularly. A certified laboratory performs all tests and the results are reported to MassDEP. Tests for bacterial contamination are performed monthly, whereas tests for other contaminants are performed annually or at a frequency determined by the MassDEP.

Bottle vs Tap

The bottled water industry has been trying to convince consumers that all water purchased in bottles is a healthier alternative to tap water. However, according to a four-year study conducted by the Natural Resources Defense Council, bottled water is not necessarily cleaner or safer than most tap water. In fact, about 25 percent of bottled water is actually just bottled tap water (40 percent according to government estimates). The Food and Drug Administration is responsible for regulating bottled water, but these rules allow for less rigorous testing and purity standards than those required by the U.S. EPA for community tap water. For instance, the high mineral content of some bottled waters makes them unsuitable for babies and young children. Further, the FDA completely exempts bottled water that is packaged and sold within the same state, which accounts for about 70 percent of all bottled water sold in the United States. People spend 10,000 times more per gallon for bottled water than they typically do for tap water. If you get your recommended eight glasses a day from bottled water, you could spend up to \$1,400 annually. The same amount of tap water would cost about 49 cents. Even if you installed a filter device on your tap, your annual expenditure would be far less than what you would pay for bottled water. For a detailed discussion on the NRDC study results, check out their web site at : www.nrdc.org/water/drinking/bw/exesum.asp.

PROTECTION OF WATER SOURCES

The Water District has taken an active approach in protecting its groundwater supply sources. A Zone II Delineation, which estimates the area of contribution for the well, was approved for the Lee Street Well No.4 by the MassDEP in 1989. Zone II Delineation for both the Pleasant Valley Well and the Oakdale Well were completed under the MassDEP's Source Water Assessment and Protection (SWAP) program in July 1999 and December 2000. The SWAP report assesses the susceptibility of the public water supply to potential sources of contamination. MassDEP determined the susceptibility of the Oakdale and Pleasant Valley Wells to be high because of the presence of the railroad corridor, a high-threat activity. The Lee Street Well was assessed as having only moderate threats. Within the Zone II Delineation for the Pleasant Valley Well, the land is lightly developed with no known agricultural activities. A former landfill located within the limits of the Zone II of the Pleasant Valley Well was the only other potential source of any threat to report. Within the Zone II Delineation for the Oakdale Well, three commercial users including a medical facility, beauty salon and a vehicle repair shop, as well as a cemetery were identified as potentially posing a threat to the groundwater.

In addition, the SWAP reports recommended that the District make two amendments to the Groundwater Protection District Bylaw that was adopted in 1994. These changes include providing specific language within the Bylaw prohibiting landfilling of wastewater and septage residuals from the Zone II and prohibiting expansion of impervious surface on exiting nonresidential land within Zone II so that the impervious surfaces are not greater than 10% of the lot size. The complete SWAP report can be reviewed online at <http://www.mass.gov/eea/docs/dep/water/drinking/swap/cero/2321000.pdf> or at the West Boylston Water District Office on 183 Worcester Street.

In 2011 the Massachusetts Rural Water Association prepared a comprehensive plan for the District's sources using input from the Water Commissioners, Board of Selectmen, and Board of Health. The final plan and a presentation can be viewed by clicking on the Source Water Protection Plan links on the District's home page at <http://www.westboylstonwater.org>.

SUBSTANCES FOUND IN DRINKING 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 minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity.

Contaminants that may be present in source water 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 - including 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.

Radioactive contaminants - can be naturally occurring or be the result of oil and gas production and mining activities.

Lead - 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. The West Boylston Water District 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 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>.

Manganese - is a naturally occurring mineral found in rocks, soil and groundwater, and surface water. Manganese is necessary for proper nutrition and is part of a healthy diet, but can have undesirable effects on certain sensitive populations at elevated concentrations. The United States Environmental Protection Agency (EPA) and MassDEP have set an aesthetics-based Secondary Maximum Contaminant Level (SMCL) for manganese of 50 ug/L (micrograms per liter), or 50 parts per billion, and health advisory levels. In addition, MassDEP's Office of Research and Standards (ORS) has set a drinking water guideline for manganese (ORSG), which closely follows the EPA public health advisory for manganese. **Drinking water may naturally have manganese and, when concentrations are greater than 50 µg/L, the water may be discolored and taste bad. Over a lifetime, the EPA recommends that people drink water with manganese levels less than 300 µg/L and over the short term, EPA recommends that people limit their consumption of water with levels over 1000 ug/L, primarily due to concerns about possible neurological effects. Children up to 1 year of age should not be given water with manganese concentrations over 300 ug/L, nor should formula for infants be made with that water for longer than 10 days.** The ORSG differs from the EPA's health advisory because it expands the age group to which a lower manganese concentration applies from children less than 6 months of age to children up to 1 year of age to address concerns about children's susceptibility to manganese toxicity. See: EPA Drinking Water Health Advisory for Manganese on this webpage:

https://www.epa.gov/sites/production/files/2014-09/documents/support_cc1_magnese_dwreport_0.pdf.

and MassDEP Office of Research and Standards Guideline (ORSG) for Manganese:

<http://www.mass.gov/eea/docs/dep/water/drinking/alpha/i-thru-z/mangorsg.pdf>

For more information go to:

<http://www.mass.gov/eea/docs/dep/water/drinking/alpha/i-thru-z/mangfactsheet.pdf>

In order to ensure that tap water is safe to drink, the Department and EPA prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. FDA and the Massachusetts Department of Public Health regulations establish limits for contaminants in bottled water that must provide the same protection for public health.

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contamination.

The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline (1-800-426-4791).

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 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 at 1-800-426-4791.

IMPORTANT DEFINITIONS

Maximum Contaminant Level (MCL) – the highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

Maximum Contaminant Level Goal (MCLG) – the level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

Secondary Maximum Contaminant Level (SMCL) – These standards are developed to protect the aesthetic qualities of drinking water and are not health based.

Action Level (AL) – The concentration of a contaminant that, if exceeded, triggers treatment or other requirements that a water system must follow.

Parts Per Million (ppm) – This unit is equivalent to one milligram per liter (mg/L). One part per one million is equal to:

- One minute in two years
- One penny in \$10,000
- One ounce in 82,500 pounds

Parts Per Billion (ppb) – Micrograms per liter (ug/L).

Picocuries Per Liter (pCi/L) - (a measure of radioactivity)

Massachusetts Office of Research and Standards

Guideline (ORSG) – This is the concentration of a chemical in drinking water, at or below which, adverse health effects are unlikely to occur after chronic (lifetime) exposure. If exceeded, it serves as an indicator of the potential need for further action.

Lead and Copper 90th Percentile – Out of every 10 homes sampled, 9 were at or below this level.

Unregulated Contaminants - Unregulated contaminants are those for which EPA has not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist EPA in determining their occurrence in drinking water and whether future regulation is warranted.

WATER QUALITY TESTING RESULTS

The following results are from sampling done in 2016 or during the most recent monitoring period for each contaminant group. Only the detected contaminants are shown.

Bacteria	Highest # Positive Samples in a Month	MCL	MCLG	Violation (Y/N)	Possible Sources
Total Coliform	3	1	0	N	<i>Naturally present in the environment</i>
E. coli	0	*	0	N	<i>Human and animal fecal waste</i>

* Compliance with the E. coli MCL is determined upon additional repeat testing.

Regulated Contaminants	Date(s) Collected	Highest Result	Range Detected	MCL	MCLG	Violation (Y/N)	Possible Source(s) of Contamination
Inorganic							
Nitrate (ppm)	4/12/16	0.85	0.28 – 0.85	10	10	N	Runoff from fertilizer use; natural deposits
Barium (ppm)	4/3/12	0.008	0.007 – 0.008	2	2	N	Erosion of natural deposits
Arsenic (ppb)	4/3/12	3	0 – 3	10	---	N	Erosion of natural deposits
Radioactive (pCi/L)							
Gross Alpha Particles	4/12/16	-0.27	-0.57 to -0.27	15	0	N	Erosion of natural deposits
Combined Radium	4/12/16	0.71	0.52 to 0.71	5	0	N	Erosion of natural deposits

Lead and Copper	Date Collected	90 th Percentile	Action Level (AL)	MCLG	# of Sites Sampled	# of Sites above AL	Possible Sources
Lead (ppb)	9/14	1.4	15	0	20	0	Corrosion of household plumbing
Copper (ppm)	9/14	0.32	1.3	1.3	20	0	Corrosion of household plumbing

Unregulated/Secondary Contaminants	Date Collected	Range Detected	Average	SMCL	ORSG	Possible Sources
Manganese (ppb)	Monthly	0 - 2660	498	50	300*	Erosion of natural deposits
Sulfate (ppm)	12/19/16	7.4 – 12	9.8	250	----	Natural sources
Sodium (ppm)	5/13/15	13 – 33**	24	----	20	Natural sources; runoff from road salt
Nickel (ppb)	4/3/12	2 - 2	2	----	100	Discharge from industrial processes

*US EPA and MassDEP have established health advisory levels for manganese to protect against concerns of potential neurological effects. See page 3 for more information on Manganese.

** Sodium-sensitive individuals, such as those experiencing hypertension, kidney failure, or congestive heart failure, should be aware of the levels of sodium in their drinking water where exposures are being carefully controlled.

COMPLIANCE IN 2016

The West Boylston Water District was in full compliance with all state and federal drinking water regulations in 2016.

However, we did detect coliform bacteria as stated in the results listed in the tables above. 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 assessment(s) to identify any problems that were found during these assessments.

During the past year, we were required to conduct one Level 1 assessment. One Level 1 Assessments was completed. In addition, we were required to take one **corrective** action and we completed one of these actions.

MONITORING WAIVERS

MassDEP has reduced our monitoring requirements for inorganic contaminants (IOCs), including arsenic and perchlorate, at all three wells. MassDEP has also reduced our monitoring requirements for synthetic organic chemicals (SOCs) at the Lee Street Well and the Pleasant Valley Well. These approvals were granted because MassDEP determined that the sources are not at risk of contamination. The last samples for IOCs and arsenic were collected on 4/3/12, and the last samples for perchlorate were collected on 8/26/14. The most recent SOC samples for the Lee Street and Pleasant Valley wells were collected on 6/15/10 and 11/15/10, and the last samples for SOCs in the Oakdale Well were collected on 4/12/16 and 11/15/16. All results for these contaminants were found to meet all applicable EPA and MassDEP standards.

ADDITIONAL INFORMATION

History of the District

The West Boylston Water District was established in 1939 at which time one well was installed on Lee Street and a 460,000-gallon water storage tank was constructed off Lawrence Street. Over time, the District constructed three additional wells on Lee Street. In 1956, the District added the Oakdale Well and a 500,000-gallon capacity storage tank off Beaman Street. In the 1970's, the Pleasant Valley Well was added off Temple Street. A one million-gallon capacity storage tank off Stockwell Road and a 1.2 million-gallon capacity storage tank off Lawrence Street were added in 1965 and 1978, respectively. Currently, the District utilizes only one of the four Lee Street wells, the other three were abandoned due to high levels of iron. The Pleasant Valley well provides about half of the District's water at 54%. While the Lee St well provides 35% and the Oakdale well provides 11%.

2016 Accomplishments

The District has been active with replacing older fire hydrants with new traffic models that are designed to break without the loss of any water. The water main replacement program has enabled the District to install 2500' of new 12" ductile iron along the Rte.12 Causeway. The well exploration program has enabled the District to locate a potential new source near the existing Pleasant Valley Well site. We will continue to consult with our engineer and work with the DCR and MassDEP to bring this new water source online as it will be beneficial to the District. We have also completed an electrical system upgrade and emergency generator connection for the Lee Street Well. There were also several water service upgrades that were installed prior to new road surface replacements.

We encourage you to visit our website at <http://www.westboylstonwater.org> for more information, to pay your water bill and to also sign up for our new CodeRed notification system which will notify you of any important issues happening with the water system.

Manganese

The Oakdale Well continues to maintain a high level of Manganese. This element that has been occurring naturally within the ground is one of the top priority concerns of the District. We have been limiting the use of this well to only a few hours each day to try lower the manganese levels in the system. We are also working with the MassDEP at their request to try to reduce the levels of Manganese in the water system. We have increased our monitoring to include monthly samples for Manganese at the wells, tanks and other areas of the distribution system. The District has been actively looking for either a new source of water and/or other manganese treatment options for the Oakdale Well. The Pleasant Valley Well has also had an increasing level of Manganese over the last few years.

BACKFLOW PREVENTION

As your drinking water supplier, the West Boylston Water District is concerned about the possible introduction of contaminants to the drinking water from the sources we supply water to. Most outside contamination takes place when the customer uses equipment that re-pressurizes the water supplied, or when negative pressures occur in the water supply mains, as with a water main that breaks. Typically, most water suppliers have a backflow prevention program in place that addresses this problem with commercial and industrial customers. These customers use their water supply for many purposes with a potential for cross contamination, the District closely monitors these services and often requires special testable devices be placed in their water supply piping to prevent contamination. This concern doesn't end with commercial and industrial customers. Residential customers must concern themselves with potential contamination. Permanent irrigation systems require the installation of a backflow prevention device. Lawns are typically treated with composted materials and/or chemical fertilizers. In the event of a flow reversal, water exposed to the aforementioned contaminants could be introduced to the household and possibly the water distribution system. Another potential source of contamination is the newer aspirator devices that are sold to apply insecticides and fertilizers. These devices connect to a hose and the velocity of the water draws the concentrated chemical up to a mixing area that becomes a spray. Most of these units are supplied with a check valve. However, these devices are easily fouled and can easily result in failure. Vacuum breakers are the best protection in this situation. These devices are available at the Water District or they can also be purchased at most hardware stores and are generally built in on the new outside faucets. Never leave these devices connected to your water supply or unattended.

WATER CONSERVATION

The West Boylston Water District is permitted to withdraw 560,000 gallons of water per day on an annual average. We are currently NOT exceeding this permitted value; the District Commissioners have kept in place the *Mandatory Water Use Restrictions*. These restrictions affect lawn watering, which is allowed on an odd/even basis between 7pm and 7am the following morning. If you live in a home with an address ending with an odd number, you are permitted to begin watering at 7pm on odd numbered days. Homes with even numbers are permitted to water at 7pm on even numbered days until 7am the following morning. No lawn water use is permitted on Mondays to allow the system to replenish. Your cooperation in this effort is greatly appreciated. More tips and information can be found at:

<http://www.westboylstonwater.org/restrictions.htm>.