



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

# 2014 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) 835-4421 for assistance. You may also visit the West Boylston Water District website at [www.westboylstonwater.org](http://www.westboylstonwater.org)

The Board of Water Commissioners usually meet the second or fourth Monday of each month at 7 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.

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## YOUR DRINKING WATER SOURCES

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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 minutes (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.

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## PROTECTION OF WATER SOURCES

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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 Selectman, 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>.

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## SUBSTANCES FOUND IN DRINKING WATER

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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:

[http://www.epa.gov/safewater/ccl/pdfs/reg\\_determine1/support\\_ccl\\_magnese\\_dwreport.pdf](http://www.epa.gov/safewater/ccl/pdfs/reg_determine1/support_ccl_magnese_dwreport.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 that 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)."

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## IMPORTANT DEFINITIONS

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

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

**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 90<sup>th</sup> 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 2014 or during the most recent monitoring period for each contaminant group. Only the detected contaminants are shown.

| Inorganic Contaminants | Date(s) Collected  | Highest Result | Range Detected | MCL | MCLG | Violation (Y/N) | Possible Sources                             |
|------------------------|--------------------|----------------|----------------|-----|------|-----------------|----------------------------------------------|
| Nitrate (ppm)          | 5/13/14<br>5/27/14 | 0.86           | 0.27 – 0.86    | 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                  |

| Bacteria       | HIGHEST # POSITIVE SAMPLES IN A MONTH | MCL      | MCLG     | VIOLATION (Y/N) | POSSIBLE SOURCES                            |
|----------------|---------------------------------------|----------|----------|-----------------|---------------------------------------------|
| Total Coliform | 3                                     | <u>1</u> | <u>0</u> | <u>Y</u>        | <u>Naturally present in the environment</u> |
| <i>E. coli</i> | 0                                     | <u>*</u> | <u>0</u> | <u>N</u>        | <u>Human and animal fecal waste</u>         |

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

| LEAD AND COPPER | DATE COLLECTED | 90 <sup>TH</sup> PERCENTILE | ACTION LEVEL (AL) | MCLG | # OF SITES SAMPLED | # OF SITES ABOVE AL | Exceeds AL (Y/N) | POSSIBLE SOURCES                |
|-----------------|----------------|-----------------------------|-------------------|------|--------------------|---------------------|------------------|---------------------------------|
| Lead (ppb)      | 9/14           | 1.4                         | 15                | 0    | 20                 | 0                   | N                | Corrosion of household plumbing |
| Copper (ppm)    | 9/14           | 0.32                        | 1.3               | 1.3  | 20                 | 0                   | N                | Corrosion of household plumbing |

| Unregulated and Secondary Contaminants | Date Collected | Range Detected | Average | SMCL | ORSG | Possible Sources                       |
|----------------------------------------|----------------|----------------|---------|------|------|----------------------------------------|
| Manganese (ppb)                        | Monthly        | 2 - 590        | 296     | 50   | 300* | Erosion of natural deposits            |
| Sulfate (ppm)                          | 11/13/14       | 0 – 8.5        | 7       | 250  | ---- | Natural sources                        |
| Sodium (ppm)                           | 4/3/12         | 15 – 28**      | 22      | ---- | 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.

\*\* *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.*

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## COMPLIANCE IN 2014

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The West Boylston Water District was in full compliance with all state and federal drinking water regulations in 2014 with the exception of two total coliform MCL violations in August and September. Total coliform are a group of bacteria that are naturally present in the environment and serve as indicators of potential water quality problems. If they are found in any of our routine monthly samples, additional samples must be collected according to our sampling plan, and all samples must be tested for both total coliform and *E. coli*. MassDEP issued the following notices of noncompliance to us: NON-CE-14-5D094 and NON-CE-14-5D119. In both August and September we notified MassDEP immediately when we detected total coliform in routine samples. We also continued to consult with MassDEP throughout our response, which included repeat monitoring at several locations, evaluation of the storage tanks, flushing, chlorination, and issuing public notification.

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## MONITORING WAIVERS

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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 2/5/13 and 9/13/13. All results for these contaminants were found to meet all applicable EPA and MassDEP standards.

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## ADDITIONAL INFORMATION

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### 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 55%. While the Lee St well provides 31% and the Oakdale well provides 14%.

### 2014 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 AMR (Automatic Meter Reading) meter replacement program is substantially completed at 99% but still ongoing until all meters have been upgraded. The well exploration program is still underway as the results of our last testing at a proposed well site were not beneficial. We will continue to consult with our engineer on this exploration process to try to find another viable source of water that will be beneficial to the District. We have also finished a complete electrical system upgrade and emergency generator connection for the Oakdale Well in 2014. 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.

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## WATER CONSERVATION TIPS

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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 7 pm and 7 am the following morning.

If you live in a home with an address ending with an odd number, you are permitted to begin watering at 7 pm on odd numbered days. Homes with even numbers are permitted to water at 7 pm on even numbered days until 7 am 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.

As part of the West Boylston Water District's efforts to inform water customers on water conservation and protection, the following are some tips on how you can help conserve and protect your water.

- Repair leaking faucets and toilets. If your faucet is dripping at the rate of one drop per second, you can expect to waste 2,700 gallons per year.
- Use your dishwasher and clothes washer only when you have a full load. Make sure that the water level is appropriately set for the load size.
- If you are building a new home, or remodeling an existing one, install low flow faucets and fixtures.
- Take short showers rather than baths. Use low flow showerheads. Less water is typically used during a shower than during a bath.
- Do not use running water to thaw meat or other frozen foods. Defrost food overnight in the refrigerator or by using the defrost setting on your microwave.
- Avoid flushing toilets unnecessarily. Dispose of tissues and other such waste in the trash rather than the toilet.
- If the toilet flush handle frequently sticks in the flush position, letting water run constantly, replace or adjust it.
- Insulate your water pipes.
- Turn off the faucet while you shave, brush your teeth, or hand wash dishes.
- Avoid running water in the shower while you are shampooing or soaping.
- Attach a pistol-type sprayer to the end of your garden hose.
- If you water your lawn, do so only when absolutely necessary. Lawns need only one inch of water per week from all sources. If there has been an inch of rain in the week, you don't need to water.
- Use mulch around trees and shrubs and in garden beds.
- Use plant varieties that are adapted to your locality and soil conditions.
- Use an inexpensive rain gauge to measure rain and watering efforts.
- Never water at mid-day to prevent high evaporation and sunburned grass.
- Use shut-off nozzles on hoses and automatic shut-off devices on irrigation systems.
- Limit pesticide and fertilizer use.
- Practice good septic system maintenance.

Your help in following these tips will help in protecting the water resources of West Boylston.

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## BACKFLOW PREVENTION

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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.