



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

2005 ANNUAL CONSUMER 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

The Board of Water Commissioners meet the second and 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 no later than the Friday 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 a Department of Environmental Protection (DEP) approved pumping rate of 250 gallons per minutes (gpm). The Oakdale Well (PWS ID # 2321000-01G), which is located off Thomas Street, has a DEP approved pumping rate of 725 gpm. The Pleasant Valley Well (PWS ID#2321000-05G), which is located off Temple Street, has a DEP approved pumping rate of 500 gpm. The water is treated at each source with three 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 iron and manganese, which tends to cause staining of fixtures. Sodium hypochlorite (chlorine) was injected from Jan.-Jun. to control any bacteria in the water. 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 (DEP) primary drinking water guidelines and regulations. The EPA and DEP require water to be tested regularly. A certified laboratory performs all tests and the results are reported to DEP. Tests for bacterial contamination are performed monthly, whereas tests for other contaminants are performed annually or at a frequency determined by the DEP.

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 DEP in 1989. Zone II Delineation for both the Pleasant Valley Well and the Oakdale Well were completed under the DEP'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. DEP determined the susceptibility of the



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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 at the West Boylston Water District Office on 183 Worcester Street.

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. It 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, 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 stormwater runoff, industrial, or domestic wastewater discharges, oil and gas production, mining, or farming.

Pesticides and herbicides - This concern may come from a variety of sources such as agricultural, urban storm water runoff, and residential uses.

Organic chemical contaminants - including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production; and can also come from gas stations, urban stormwater runoff, and septic systems.

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

In order to provide tap water that is safe to drink, DEP and the U.S. Environmental Protection Agency (EPA) prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. The Food and Drug Administration (FDA) and the Massachusetts Department of Public Health (DPH) 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 contaminants. 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).



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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 some infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/Centers for Disease Control guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* 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.

Treatment Technique (TT) – A required process intended to reduce the level of a contaminant in drinking water.

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

Maximum Residual Disinfectant Level (MRDL): The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

Maximum Residual Disinfectant Level Goal (MRDLG) -- The level of a drinking water disinfectant below which there is no known expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.



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WATER QUALITY TESTING RESULTS

The tables below list all the drinking water contaminants that were detected during the 2005 calendar year or during the most recent monitoring period for each contaminant group. The presence of these contaminants in the water does not necessarily indicate that the water poses a health threat.

| Microbiological Contaminants | Highest # Positive Samples in a month | MCL | MCLG | Violation (Y/N) | Possible Source of Contamination |
|------------------------------|---------------------------------------|-----|------|-----------------|--------------------------------------|
| Total Coliform | 1 | 1 | 0 | N | Naturally present in the environment |

| Inorganic Contaminants | Date(s) Collected | 90 th Percentile | Action Level | MCLG | # of sites sampled | # sites above Action Level | Possible Source |
|------------------------|-------------------|-----------------------------|--------------|------|--------------------|----------------------------|--|
| Lead (ppb) | 9/7/05 | 4 | 15 | 0 | 20 | 1 | Corrosion of household plumbing systems; erosion of natural deposits |
| Copper (ppm) | 9/7/05 | 0.43 | 1.3 | 1.3 | 20 | 0 | Corrosion of household plumbing systems; erosion of natural deposits; Leaching from wood preservations |

| Regulated Contaminants | Date Collected | Highest Detected | Range Detected | MCL or MRDL | MCLG or MRDLG | Violation (Y/N) | Possible Source |
|--------------------------------------|-------------------|------------------|----------------|-------------|---------------|-----------------|---|
| Inorganic Contaminants | | | | | | | |
| Nitrate (ppm) | 5/15/05 | 1.9 | 0.5-1.9 | 10 | 10 | N | Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits |
| Barium (ppm) | 6/10/03 | 0.008 | 0.006-0.008 | 2 | 2 | N | Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits |
| Volatile Organic Contaminants | | | | | | | |
| Tetrachloroethylene (PCE) (ppb) | Monthly in 2005 | 5.1 | 0-5.1 | 5 | 0 | N | Leaching from vinyl lined Asbestos Cement pipes. |
| 1,1,1-Trichloroethane (ppb) | 05/17/05 | 0.9 | 0-0.9 | 200 | 200 | N | Discharge from metal degreasing sites and other factories. |
| Disinfection Contaminants | | | | | | | |
| Chlorine (ppm) | Monthly 1/05-6/05 | 0.24 | 0.01-0.2 | 4 | 4 | N | Water additive used to control microbes |

| Unregulated/Secondary Contaminants | Date Collected | Highest Detected | Average | SMCL | ORSG | Possible Source |
|--|-------------------|------------------|---------|-------|------|--|
| Manganese (ppm) | Quarterly in 2005 | 1.4 | 0.48 | 0.05 | n/a | Erosion of natural deposits |
| Iron (ppm) | Quarterly in 2005 | 0.013 | 0.003 | 0.3 | n/a | Naturally occurring |
| Sulfate (ppm) | 7/12/05 | 12 | 9.2 | 250 | n/a | Natural sources |
| Sodium (ppm) | 6/10/03 | 11-18 | 15.3 | n/a | 20 | Natural sources, runoff from road salt |
| Methyl Tertiary Butyl Ether (MTBE) (ppb) | Quarterly in 2005 | 3.8 | 3.1 | 20-40 | 70 | Fuel Additive |



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About Manganese: *It is an essential trace element with an estimated daily nutritional requirement of 30-50 ug/kg of body weight. Evidence of manganese neurotoxicity has been seen in miners following prolonged exposure to dusts containing manganese. There is no convincing evidence of toxicity in humans associated with the consumption of manganese in drinking water.*

About MTBE: *The Massachusetts Office of Research and Standards has adopted a guideline of 70ppb as a health protective concentration for MTBE in drinking water. Taste and odor thresholds for MTBE may occur at lower levels and, therefore Massachusetts has adopted a secondary standard of 20-40 ppb for non health- based considerations. For additional information, call the Massachusetts Office of Research and Standards @ 617-292-5570.*

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 460,00-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 1 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, as well as the Oakdale and Pleasant Valley wells to supply the Town with water.

Recent Accomplishments

The District will be starting to replace the water main on Laurel St. in the summer of 2006 and also build a booster pump station to increase the pressure in that area. This project should also help to reduce the PCE detections that were elevated in 2003. An AMR (Automatic Meter Reading) meter replacement program has been started and will be ongoing for the next few years until all meters have been upgraded. We have also received a grant from the DEP for a leak survey and water audit.

WATER CONSERVATION TIPS

The West Boylston Water District is permitted to withdraw 560,000 gallons of water per day on an annual average. We are currently exceeding this permitted value. To this end, the district commissioners have set forth Mandatory Water Use Restrictions. These restrictions affect outside 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 outdoor 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.



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- 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 you 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.

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. To this end, 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 are 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 can be purchased at most hardware stores and are generally built in on the new outside silcocks (outside faucets). Never leave these devices connected to your water supply or unattended.