

Town of West Bridgewater  
Office of Water Commissioners  
29 Cyr Street  
West Bridgewater, MA 02379

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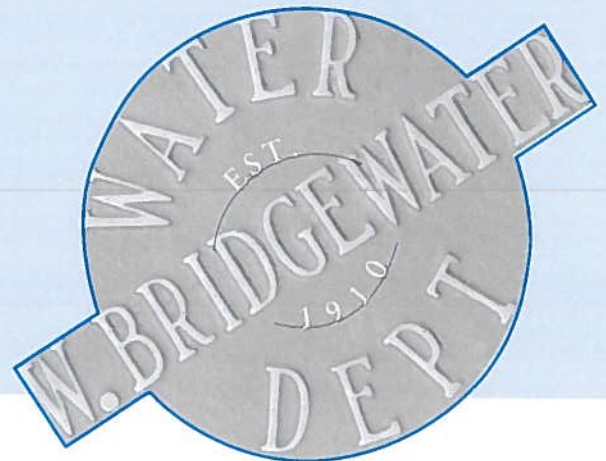
2015

# WEST BRIDGEWATER

## *Water Quality Report*

### ***We Use Water Everyday...***

- ...to grow our food...*
- ...to heat & cool our homes...*
- ...to provide power...*
- ...to keep us clean...*
- ...to control fire...*
- ...to keep us alive!*



# WATER QUALITY REPORT

January - December 2015 · PWS ID 4322000

The Safe Drinking Water Act (SDWA) passed by Congress requires water suppliers to report annually to their customers on the quality of their drinking water. This is your "Water Quality Report" for 2015.

## Public Water System Information

The West Bridgewater Water Department is pleased to present our 2015 "Drinking Water Quality Report". As required by the Environmental Protection Agency (EPA), this annual report will detail where your water comes from, what it contains, and the risks our water testing and treatment are designed to prevent. The West Bridgewater Water Department is committed to providing drinking water that meets or surpasses State and Federal standards for quality and safety. To ensure delivery of a quality product, we have made significant investments in treatment facilities, water quality monitoring, and the distribution system.

### 2015 WATER FACTS

TOTAL WATER PUMPED 2015 .....	262,445,502 gallons
AVERAGE PUMPED DAILY .....	721,004 gallons
MAXIMUM PUMPED DAILY .....	1,857,463 gallons
NUMBER OF WATER SERVICES.....	2,738

The Water Department is a separate entity formed by a State legislative act in 1910 at a request from the taxpayers of West Bridgewater. Water Department customers pay 100% of the Water Department's budget and capital improvements. We supply water to all the fire hydrants in town. The Department repairs and replaces fire hydrants as needed so when there is a fire they are ready.

## West Bridgewater's Water System

Our water system consists of four pumping stations connected to seven wells; two located on Manley Street where the water is treated to remove iron and manganese, three located on Cyr Street and two on Norman Avenue. Three storage tanks are used to store 6.5 million gallons of water. The distribution system that delivers water to your home consists of 62 miles of water main ranging in size from 2 inches to 16 inches in diameter. Three of our pumping stations are capable of running for prolonged periods of time during power outages. Water is purchased from the town of Easton for the residents on Turnpike Street. The Water shed, which is owned and controlled by the Water Department for the protection of our water sources, is approximately 220 acres.

## Source Water Assessment and Protection (SWAP)

The Source Water Assessment and Protection (SWAP) program was established in 1996 by the Environmental Protection Agency as part of the Safe Drinking Water Act. The SWAP program assesses the susceptibility of potential contamination by microbiological pathogens and chemicals. A susceptibility ranking of high was assigned to this system using information collected during the assessment by the Department of Environmental Protection. The complete SWAP report is available at the Water Department office at 29 Cyr Street. For more information please call 508-894-1271. The SWAP report is also available on the DEP web site at <http://www.mass.gov/eea/docs/dep/water/drinking/swap/sero/swap-sero.pdf>.

The Water Department will continue to protect our water sources as our most valuable resource.

# WEST BRIDGEWATER WATER QUALITY REPORT 2015

## Water Quality Testing Result

The following table lists only contaminants that were detected in the water for the calendar year 2015 or during the most recent sampling period. We have taken many samples as required by the DEP in order to determine the presence of any biological, inorganic, volatile organic or synthetic organic contaminants. Although all of the substances listed here are under the Maximum Contaminant Level (MCL), we feel it is important that you know exactly what was detected and how much of the substances were present in the water. The presence of these contaminants in the water does not necessarily indicate the water poses a health risk. The state requires us to monitor for certain substances less than once a year because concentrations of these substances do not change frequently. In these cases, the most recent sample data is included.

Substance (Contaminant)	Highest Level Detected	Range of Detection	Highest Level Allowed (EPA's MCLs)	Ideal Goals (EPA's MCLGs)	Sources of Contaminant
<b>Regulated Substances</b>					
Nitrate (ppm)	2.28	0.54 - 2.28	10.0	10.0	Run off from fertilizer use, leaching from septic tanks, sewerage, erosion of natural deposits
Haloacetic Acids (ppb)	ND	ND	60.0	NA	By-product of drinking water disinfection
Perchlorate (ppb)	0.35	0.08 - 0.35	2.0	NA	Rocket propellants, fireworks, munitions
TTHMs (Total Trihalomethanes) (ppb)	11.1	ND - 11.1	80	NA	By-product of drinking water chlorination
Asbestos Sampled 2013	ND	ND	7	NA	Natural erosion leaching from pipes.
Nitrate	2.28	0.08 - 2.28	10	NA	Run off from fertilizer use, leaching from septic tanks, sewerage, erosion of natural deposits

### Unregulated Substances

Unregulated contaminants are those for which there are no established drinking water standards. The purpose of unregulated contaminants monitoring is to assist the EPA in determining their occurrence in drinking water and whether future regulation is warranted.

Inorganics Sampled 2013	Substance (Contaminant)	Highest Level Detected	Possible Source of Contaminants
	Nickel	0.006	Discharge from industrial process
	Sodium	112	Natural sources, runoff from salt on roadways, byproduct of water treatment

Volatile Organics	Substance (Contaminant)	Highest Level Detected
	Chlorodibromomethane	1.9
	Chloroform	1.4
	Bromodichloromethane	1.4
	Bromoform	0.5

### Secondary Standards

National secondary standards are non-enforceable guideline regulating contaminants that may cause cosmetic effects or aesthetic effects in drinking water. EPA recommends secondary standard to water systems but does not require systems to comply.

Manganese	Highest Level Detected	Secondary Standard
Station 1	0.143	0.05 mg/L
Station 2	0.208	0.05 mg/L
Station 3 - 2014	ND	0.05 mg/L
Station 4 - 2014	0.011	0.05 mg/L

Manganese is a mineral that naturally occurs in rocks and soil and may also be present due to underground pollution sources. Manganese is seldom found alone in a water supply. It is frequently found in iron-bearing waters but is more rare than iron.

## Bacteria Detection

Substance	Highest # positive Per Month	Violation	MCL	MCLG	Sources of Contaminant
Coliform	2	YES	1	0	Naturally present in environment

We are committed to providing you with the best water quality available. However some contaminants that were tested did not meet all applicable health standards regulated by the state and federal government. Due to the contaminant violations, the month of October showed the presence of coliform bacteria. To correct the issue, we disinfected and flushed the distribution system to eliminate coliform bacteria. We also took additional samples and made a public notification. Coliform is bacteria that is naturally present in the environment and is used as an indicator that other potentially harmful bacteria may be present. Coliforms were found in more samples than allowed and this was a warning of potential problems.

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## Distribution System

Substance	Location	Result Range	MCL	MCLG	Sources of Contaminant
Tetrachloroethylene (ppb)	Forest Street	ND	5.0	0	Leaching from PVC pipes discharge from factories and dry cleaners
	Pleasant Street	ND - 0.8	5.0	0	
	Forest St. North end	ND	5.0	0	
	East Center Street	0.7	5.0	0	

## West Bridgewater Water Treatment

To meet State and Federal requirements for public drinking water, our source water receives treatment before it is supplied to our customers. We treat our water for corrosion control, iron, and manganese. As detailed in the table below, KOH or potassium hydroxide is used at all four Stations to reduce the corrosion in household plumbing. C-5 sequestering agent is used at all four pumping stations to reduce iron and manganese staining of household plumbing and laundry. (Sequestration treatment described below)

Treatment	Well Station Name				
	STATION I 7 Cyr St.	STATION II Norman Ave	STATION III Manley St.	STATION IV 29 Cyr St.	Walnut St. Tank
pH Adjustment for corrosion control	•	•	•	•	
C-5 sequestering agent added for Iron and manganese sequestering	•	•	•	•	
Iron Removal (green sand filtration)			•		
Ultra Violet Light for disinfection			•		•

## Sequestration (for Iron and Manganese)

Iron and manganese are often present in groundwater at levels that can discolor the water, or cause it to take on unpleasant odors or tastes. Although the water may still be safe to drink, treatment is often desirable. Treatment consists of adding (polyphosphates, triphosphate, metaphosphate, or silicate) to water. This results in a chemical reaction, known as sequestration that prevents the iron and manganese from forming nuisance particles.

All chemicals used for sequestration are approved for water treatment by one of the following organizations: National Sanitation Foundation (Now known as NSF International) or UL, both accredited by the American National Standards Institute (ANSI). Chemicals must also meet standards established by the American Water Works Association.

Substance (Contaminant)	West Bridgewater 90th Percentile	90th Percentile Action Level	Number Samples Over Action Level	Sources of Contaminant
Copper (ppm)	0.14	1.3	0	Corrosion of household plumbing
Lead (ppb)	0	0.015	0	

**Action Level** - The concentration of a contaminant, if exceeded, requires a treatment which a water system must follow. Samples taken 8/19/13.

**Copper** - Is an essential nutrient, but some people who drink water containing copper in excess of the action level over a relatively short amount of time could experience gastrointestinal distress. Some people who drink water containing copper in excess of the action level over many years could suffer liver or kidney damage. People with Wilson's Disease should consult their personal doctor.

**Internal Corrosion of Household Plumbing** - The West Bridgewater Water Department met its goal in 2013 of greatly reducing the corrosion of household plumbing. All 20 samples taken this year by homeowners were below the action level of 1.3 for copper. Results ranged from ND-0.14. We received a 3 year waiver from testing. Testing will be done in 2016.

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## Explanation of Expected Contaminants

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, brooks, 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 human activity.

Contaminants that may be present in untreated source water include: Microbial Contaminants, such as viruses and bacteria which may come from septic systems, wastewater treatment plants, agricultural livestock operations, and wildlife.

Inorganic contaminants such as salts and metals can be naturally occurring or result from urban stormwater runoff, industrial, or domestic wastewater discharges, oil or 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 stormwater runoff, and septic systems. Radioactive contaminants can be naturally occurring or be the result of oil and gas production and mining activities.

## Contamination from Cross-Connections

Cross-connections that could 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 source of cross-connection 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-contamination. We strongly recommend the use of a Hose Bib Vacuum Breaker.

Community water supplies are continually jeopardized by cross-connections unless appropriate valves, known as backflow prevention devices, are installed and maintained. We have surveyed all industrial, commercial, and institutional facilities in the service area to make sure that all potential cross-connections are identified and eliminated or protected by a backflow prevention device. We also inspect and test each backflow prevention device to make sure that it is providing maximum protection.

For more information, visit the Web site of the American Backflow Prevention Association ([www.abpa.org](http://www.abpa.org)) for a discussion on current issues.

## 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 (see below) as feasible using the best available treatment technology.

**Maximum contaminant level goal (MCLGs)** - 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.

**ppm** - One part per million, or milligrams per liter (mg/L).

**ppb** - One part per billion, or micrograms per liter (1µg/L).

**NR** - Not regulated.

**ND** - Not detectable at testing limit.

**MFL** - million fibers per liter (fibers 10 microns in length).

**pci/L** - Picocuries per liter (a measure of radioactivity).

**Action Level** - The concentration of a contaminant which, if exceeded, triggers treatment or other requirement that a water system must follow.

**90th Percentile** - Out of 10 homes, 9 were at or below this level.

**Massachusetts DEP Office of Research and Standards Guidelines (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, with a margin of safety. If exceeded, it serves as an indicator of the potential need for further action.

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## 1 Health Information

Drinking water, including bottled water may, reasonably be expected to contain at least small amounts of contamination. The presence of contaminants does not necessarily indicate that the water poses a health risk.

In order to ensure that tap water is safe to drink, the EPA prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. The Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water that must provide the same protection for public health.

Some people may be more vulnerable to contaminants in drinking water than the general population. **Immuno-compromised** persons such as people with cancer undergoing chemotherapy, people who have undergone an organ transplant, people with HIV/AIDS or other immune system disorders, as well as some elderly and infants can be particularly at risk of infection. These people should seek advice about drinking water from their health care providers.

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

More information about contaminants and potential health effects along with the EPA/CDC (Environmental Protection Agency/ Center for Disease Control) guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available by calling the EPA's Safe Drinking Water Hotline at 1-800-426-4791.

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## 3 Easy Ways to Conserve Water

1. Watch how much water you use when doing dishes, brushing teeth, showering, and washing your car. Use aerators on your sink to reduce water use while maintaining flow. Keep showers short and use low-flow showerhead. Don't let the water run while washing your car. Use the shutoff nozzle on your hose.
2. Fix Leaks. A faucet that drips can waste up to 3,280 gallons a year. Most leaks are easy to repair.
3. There are numerous water-saving devices on the market. Look for aerators, flow regulators and displacement devices to make your home conservation friendly.

The Internet has numerous web sites offering water conservation tips. The California Urban Water Conservation Council and the EPA provide one such site that can be found at <http://www.h2ouse.org>.

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## Any Questions?

Want to know more about the West Bridgewater water supply system? Please call Superintendent Wayne Parks or Office Manager Kerry Buckley at the West Bridgewater Water Department at 508-894-1271 with any questions, comments, or concerns. We are located at 29 Cyr Street, West Bridgewater. The Board of Water Commissioners meets the first and third Monday of each month.

## Other Sources:

Massachusetts DEP Web Site: [www.state.ma.us/dep](http://www.state.ma.us/dep)

American Water Works Association Web Site: [www.awwa.org](http://www.awwa.org)

U.S. Environmental Protection Agency Web Site: [www.epa.gov](http://www.epa.gov)

**More information about contaminants and potential health effects can be obtained by calling the US EPA Safe Drinking Water hotline at (800) 426-4791.**