



Assabet Water Company, Inc.

2009

PWS ID: #2286001

REPORT ON WATER QUALITY

This is the Assabet Water Company's annual report to you on water quality. The statistics in this report are based on testing done throughout 2009 and prior years. We hope you will find it helpful to know the sources of your water and the process by which safe drinking water is delivered to your home.

What's New in 2009?

2009 was the first complete year of operations for the new water filtration plant. It was a year of monitoring and making adjustments to perfect the operation of the plant and the quality of the drinking water.

In October of 2009 we had training at the filter plant for our operators. The training was conducted by Blueleaf Engineering, the firm that helped set up and start the plant. Training included repairing and maintaining the equipment as well as the use and testing of treatment chemicals. Several improvements were made that increased the efficiency of the filter plant and reduced iron and manganese.

The distribution system received a vigorous high volume flushing in September 2009. All hydrants were flowed until the water ran clear. The water mains were well flushed of sediment. Service lines between the water main and individual houses would not have been flushed by this process. Some homes still intermittently experience some color and sediments. Residents who experience these events are reminded to flush their lines by allowing an outside tap to run for several minutes until the water runs clear. Also flush hot water heaters.

With the enhanced efficiency of the filter plant and the ongoing program to flush the water mains, we believe we are continuing to improve the quality of water for all our users.

Is My Water Treated?

Our water system makes every effort to provide you with safe and pure drinking water. To improve the quality of the water we deliver to you, we treat it to remove several contaminants.

Pre Treatment:

With the new Membrane Filtration treatment plant on line, Assabet is required to pre-treat the water prior to filtration to operate at maximum efficiency. The water is pretreated with Potassium Permanganate to oxidize the Iron and Manganese, after oxidation Aluminum Chlorohydrate is added as a coagulant to allow for more effective filtration.

Filtration:

Assabet filters the water after pretreatment, with new state of the art membrane filtration, this filtration is required to meet Drinking water standards for water under the influence of surface water. The membrane filtration effectively removes the high levels of iron and manganese as well as organics and bacteria that may be present in the raw water.

Corrosion Control:

Many drinking water sources in New England are naturally corrosive (i.e. they have a pH of less than 7.0). So, the water they supply has a tendency to corrode and dissolve the metal piping it flows through. This not only damages pipes but can also add harmful metals, such as lead and copper, to the water. Assabet adds potassium hydroxide to adjust the pH to make the water neutral or slightly alkaline. Testing throughout the water system has shown that this treatment has been effective at reducing lead and copper concentrations.

Primary Disinfection:

Some ground water sources contain numerous microorganisms some of which can cause people to be sick. To eliminate disease carrying organisms it is necessary to disinfect the water. Disinfection does not sterilize the water, but it does destroy harmful organisms. Sterilization kills all microorganisms, even though most are not harmful, and is too costly to use on a routine basis. The Assabet Water Co. uses sodium hypochlorite as its primary disinfectant. Chlorine destroys organisms by penetrating cell walls and reacting with enzymes. Disinfection with chlorine has been proven effective at ensuring that water is free of harmful organisms and safe to drink.

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

Assabet Water Company, Inc.

WhiteWater, Inc. has operated and maintained the water system of the Assabet Water Company since December 1, 1999. If you have any questions about this report, please contact:

Stuart Harkins at
1-888-377-7678.



Cross Connection
Control protection in our
water system



Typical HBVB

The Assabet Water Company recommends the installation of Hose Bibb type vacuum breakers on all outside faucets. This will protect all residents from the potential of backflow into their homes and the water system from a hose connection. Studies have shown that hoses are the most commonly unprotected cross connection. For more information about this please contact Russell E. Tierney, Division Manager, WWI at 888-377-7678.

DISTRIBUTION SYSTEM WATER QUALITY

This report summarizes only those items detected during sampling - not all contaminants that are monitored.


<i>Microbial Results</i>	Highest # Positive in a Month	MCL	MCLG	Violation	Possible Source of Contamination
Total Coliform Bacteria	0	1	0	No	Naturally present in the environment

Coliform are bacteria that are naturally present in the environment and are used to indicate that other, potentially harmful bacteria may be present. Your water source is tested monthly and has been found to be free of these contaminants.

<i>Lead & Copper</i>	Date(s) Collected	90th Percentile of Sample	Action Level	MCLG	# of Sites sampled	# of Sites Above Action Level	Violation	Possible Source of Contamination
Lead (ppb)	9/7/07-	3	15	0	10	0	No	Corrosion of household plumbing systems
Copper (ppm)	9/20/07	0.177	1.3	1.3			No	Corrosion of household plumbing systems

Key to Tables

- ppm – Parts per million, corresponds to one penny in \$10,000
- ppb – Parts per billion, corresponds to one penny in \$10,000,000
- pCi/L – Picocuries per liter
- ND – Non-detect
- n/a - non applicable



TESTING FOR 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. **Assabet Water Company** 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>.

WAIVER-The Massachusetts Department of Environmental Protection has reduced our monitoring requirements synthetic organic contaminants (SOC) because the source is not at risk of contamination. The last sample collected for SOCs was taken on 5/9/2000. The sampling was found to meet all applicable EPA and DEP standards.

SHOULD SOME PEOPLE TAKE SPECIAL PRECAUTIONS?

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.

About our 2008 TTHM violation:

In 2008 we reported an MCL violation for total trihalomethanes (TTHMs). TTHM levels were higher than allowed by the DEP. This situation has been addressed by the improvements to the systems since then, and TTHM levels have returned to levels below the MCL in 2009.

Some people who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous system, and may have an increased risk of getting cancer.

About our 2008 chlorine monitoring violation:

In 2008 we received a Notice of Noncompliance for failure to report chlorine monitoring in February and March. Because we did not take the required number of samples, we did not know whether the contaminants were present in your drinking water, and we are unable to tell you whether your health was at risk during that time. Steps have been taken to ensure that all future samples are taken in a correct and timely manner.

SOURCE WATER CHARACTERISTICS

The sources of drinking water in the United States (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, 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

storm water runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.

- Pesticides and herbicides, which 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, which are by-products of industrial processes and petroleum production. These contaminants can also come from gasoline storage, urban storm water runoff, and septic systems.
- Radioactive contaminants, which can be naturally occurring or be the result of oil and gas production and mining activities.

SUMMARY OF FINISHED WATER CHARACTERISTICS

Regulated Contaminants	Date(s) Collected	Highest Detect Value or HRAA*	Range Detected	MCL	MCLG	Violation	Possible Source of Contamination
Inorganic Contaminants							
Arsenic (ppb)	2009	6	2-6	10	0	No	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes
Barium (ppm)	2009	0.038	0.019-0.038	2	2	No	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Cadmium	3/31/09	0.2	n/a	5	5	No	Corrosion of galvanized pipes; erosion of natural deposits; discharge from metal refineries; runoff from waste batteries and paints
Fluoride (ppm)	4/3/09	0.07	n/a	4	4	No	Erosion of natural deposits; discharge from fertilizer and aluminum factories
Nitrate (ppm)	2009	0.56	0.07-0.56	10	10	No	Runoff from fertilizer use; leaching from septic tanks; sewage; erosion of natural deposits
Perchlorate (ppb)	2009	0.720	0.266-0.720	2	N/A	No	Rocket propellants, fireworks, munitions, flares, blasting agents
Radioactive Contaminants							
Gross Alpha (pCi/L) (minus uranium)	7/14/09	1.3	n/a	15	0	No	Erosion of natural deposits
Gross Beta /photon emitters (pCi/L)	7/29/09	49	n/a	50	0	No	Decay of natural and man-made deposits
Radium 226 & 228 combined (pCi/l)	2009	0.6	0.4-0.6	5	0	No	Erosion of natural deposits
Disinfection By-Products							
Haloacetic Acids (HAA5) (ppb)*	2009	*29	10.2-29.7	60	-	No	By-product of drinking water chlorination
Total Trihalomethanes (TTHM) (ppb) *	2009	*77	20.7-67.4	80	-	No	By-product of drinking water disinfection
Chlorine (ppm)*	2009	*0.79	0.14-1.24	4	4	No	Water additive used to control microbes
* HRAA or Highest Running Annual Average is used as a means of calculating compliance for Disinfection By-Products							
Unregulated Contaminants	Date(s) Collected	Result or Range Detected	SMCL	ORSG	Possible Source of Contamination		
Inorganic Contaminants							
Nickel (ppm)	2009	0.005-0.015	-	0.1	Discharge from industrial processes		
Sodium (ppm)	2009	14-25	-	20	Natural sources; runoff from use as salt on roadways; by-product of treatment process		
Sulfate (ppm)	2009	17-27	250	-	Natural sources		

SOME TERMS DEFINED

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

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

Maximum Contaminant Level (MCL): The highest level of a contaminant that is allowed in drinking water. MCL's are set as close to the MCLG's as feasible using the best available treatment technology.

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

Massachusetts Office of Research and Standards Guideline (ORSG): This is the concentration of a chemical in drinking water, at or below which, adverse, non-cancer health effects are likely to occur after chronic (lifetime) exposure. If exceeded, it serves as an indicator of the potential need for further action.

Total Coliform: A bacteria that indicates other potentially harmful bacteria may be present.

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

SWAP (Source Water Assessment and Protection)

The DEP has prepared a Source Water Assessment Program (SWAP) Report for the Assabet Water Company. The report assesses the susceptibility of public water supplies to contamination and makes recommendations. This report is available from WhiteWater, Inc., located at 253B Worcester Road in Charlton, MA, Board of Health and also at the DEP website: <http://www.mass.gov/dep/water/drinking/sourcewa.htm#reports>.

A susceptibility ranking of **moderate** was assigned to all wells in our system by the DEP.

Be assured that the Assabet Water Company in concert with its certified operator, WhiteWater, Inc., is addressing the concerns as stated in the SWAP Report and welcomes your input to our planning. If you have any questions, please contact WhiteWater, Inc., at 1-888 377-7678.

Maintaining Water Quality

The Assabet Water Company continuously strives to produce the highest quality water possible to meet or surpass every water quality standard. We monitor both our sources and distribution system very closely. The standards we operate under were enacted by the U.S. Congress as the Safe Drinking Water Act in 1974 and were amended in 1986 and 1996.

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

Where Does My Water Come From?

The Assabet Water Company (AWC) supplies water pumped from two groundwater wells within Harvard Acres just off Adams Drive.

Water is then stored in a 250,000 gallon atmospheric storage tank and distributed to customers through a booster pump system and approximately 18,000 linear ft. of underground pipe.

FOR YOUR INFORMATION

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 Environmental Protection Agency's Safe Drinking Water Hotline at 1-800-426-4791.

Where to go for more information

Massachusetts Department of Environmental Protection (DEP) 617-292-5885.

www.state.ma.us/dep

Massachusetts drinking water education partnership

www.madwep.org

