



Town of Amherst

Department of Public Works

2014 Water Quality Report

Dear Customer:

In the year 2014, your drinking water was supplied by the Town of Amherst (PWS ID#1008000). This annual report will detail where town water comes from, what it contains, and the risks water testing and treatment are designed to prevent. This is the 16th year this report has been disseminated. Although much of the information in this report is required, we will supplement those elements with information of interest to the public.

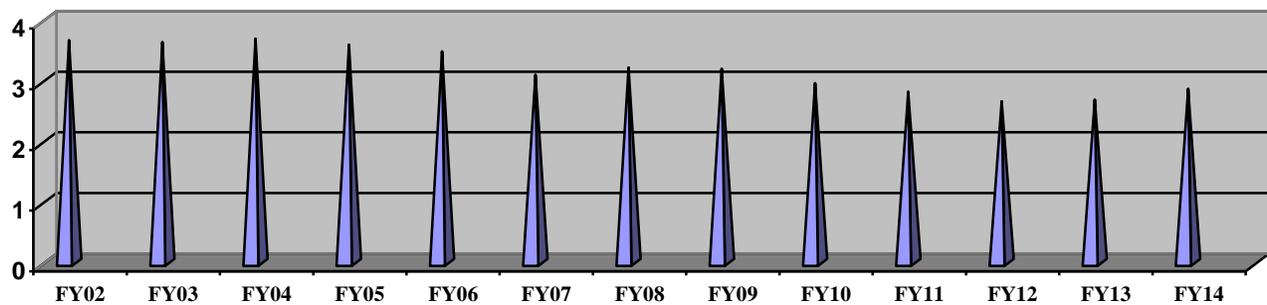
1. Water Sources

The Town currently has seven sources that contribute to meeting the water demand: Atkins Reservoir, the Pelham Reservoir System, the South Amherst Wells (#1 & #2), The Brown Well (#3), the Lawrence Swamp Well (#4) and the Bay Road Well (#5). Both surface water supplies, Atkins and Pelham, and Wells 1, 2 & 3 are used year round to satisfy the required demands. These five sources supply approximately 90% of the total water produced. Wells #4 and #5 operate during high demand periods and summer months when the reservoirs are low. In 2002, a Source Water Assessment Program (SWAP) was completed on the Amherst water system by the Massachusetts Department of Environmental Protection (MADEP). This SWAP report assesses the susceptibility of the Town's drinking water sources to contaminants and outlines recommendations for drinking water protection. A copy is available at the Department of Public Works and online at www.mass.gov/dep/water/drinking/swapreps.htm

2. Water Consumption Data

The average daily water consumption for the year 2014 was 2.860 million gallons, with a peak demand of 3.972 million gallons on September 6, 2014.

Daily Water Consumption in Million Gallons FY14



3. Substances Found in Tap Water

In order to ensure that tap water is safe to drink, MADEP and EPA promulgate 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 Safe Drinking Water Hotline at 800-426-4791, or online at www.epa.gov. 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, 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 and farming.

Pesticides and Herbicides- may come from many 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 and can come from gas stations, 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.

4. Vulnerability Some people may be more vulnerable to contaminants in drinking water than the general population. Immune 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 for 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 (1-800-426-4791).

5. Lead & Copper

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 Town of Amherst 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 by a private, state certified laboratory. 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/index.html>

Substance	MCLG	Highest Level	90% Value*	Action Level
Lead	0 mg/l	0.045 mg/l	0.0063 mg/l	0.015 mg/l
Copper	1.3 m/l	0.10 mg/l	0.096 mg/l	1.3 mg/l

*The 90% Value is the value below which 90% of the data falls. If the 90% value is below the Action Level, no further action is necessary

Note: Lead & Copper testing requirement is every 3 years and will be done again in 2017. Above data is from 2014 testing.

6. Treatment Plant Efficiency

All water from surface water supplies is treated by coagulation of the insoluble contaminants and then filtered through a fine sand-like material. The effectiveness of this process is measured by the cloudiness of the water (turbidity) leaving the treatment plant. Turbidity occurs naturally as a result of soil erosion due to turbulence in the tributaries that supply the reservoir. The following turbidity data illustrates the daily average performance of the two water treatment plants that serve Amherst. Drinking water regulations require the turbidity to be less than 0.3 in 95% of the samples.

Samples are taken every 4 hours	Raw Water Turbidity		Treated Water Turbidity		MCL
	Annual Average	Maximum Reading	Annual Average	Maximum Reading	95 % of Samples
Centennial	0.51	2.30	0.08	0.25	<0.3
Atkins	0.76	0.99	0.12	0.28	<0.3

Note: All units measured in NTU = Nephelometric Turbidity Units

7. Water Quality

The following table lists all of the drinking water contaminants that we detected during the calendar year of this report. **The presence of contaminants in the water does not necessarily indicate that the water poses a health risk.** Unless otherwise noted, the data presented in this table is from testing done in the calendar year of the report. Sometimes the EPA or MADEP requires us to monitor for certain contaminants less than once per year because the concentrations of these contaminants do not change frequently. All water sources are analyzed for the following chemical substances: inorganics (metals and salts), nitrate, nitrite, lead, copper, disinfection byproducts, volatile organic substances (petroleum and solvents) and synthetic organic compounds (herbicides and pesticides). The following table indicates contaminants that were detected in your drinking water. The definitions below will help explain the water quality table:

Important Drinking Water 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.

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, which, if exceeded, triggers treatment or other requirements that a water system must follow.

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 (e.g. chlorine, chloramines, chlorine dioxide).

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.

I. Regulated Substances	Date Tested	Unit	MCL	MCLG	Highest Detect Level	Range of Data	Major Sources	Violation
a) Inorganic Substances								
Fluoride *	6/12/2014	ppm	4	N/A	.87	.72 – .87	Water additive which promotes strong teeth	NO
Barium	6/12/2014	ppm	2	2	.15	.0074 – .15	Erosion of natural deposits	NO
Nitrate (measured as nitrogen)	4/11/2015	ppm	10	10	2.2	≤0.05 - 2.2	Runoff from fertilizer ; Leaching from septic tanks, Sewage; Erosion of natural deposits	NO
b) Disinfection Contaminants								
Total Trihalomethanes	4 Sites, Quarterly	ppb	** 80		** 82.0	*** 13 – 82.0	Byproduct from chlorination	NO
Haloacetic Acids	4 Sites, Quarterly	ppb	** 60		93.0	*** 15.0-93.0	Byproduct from chlorination	YES
Combined Chlorine	Daily	ppm	4.0	0	3.7	2.2 – 3.7	Applied Disinfectant	NO
c) Radioactive Contaminants								
Gross Alpha (pCi/l)	7/29/2014	pCi/l	15	0	-.27	-.27---.27	Erosion from natural deposits	NO
Radium 228 (pCi/l)	08/21/2014	pCi/l	5	0	0.56	0.56	Decay of natural and manmade deposits	NO

II. Unregulated Substances	Date Tested	Unit	MCL	MCLG	Highest Detected Level	Range of Data	Major Sources	Violation
Sodium	06/12/2013	ppm	None	None	9.88	9.29-9.88	Road salt; Chlorine; Lye	NO
Sulfate	04/11/2013	ppm	None	None	21.8	4.26-21.8	Natural deposits; Landfills; Dumps;	NO

* Fluoride is a naturally occurring element in many water supplies in trace amounts. In our system the fluoride level is adjusted to an optimal level averaging 0.7 to 1.0 parts per million (ppm or mg/l) to improve oral health in children. At this level, it is safe, odorless, colorless, and tasteless. Our water system has been providing this treatment since 1987. There are over 3.9 million people in 140 Massachusetts water systems and 184 million people in the United States who receive the health and economic benefits of fluoridation.

** Based on 4 locational running annual averages (LRAA) *** Data indicates individual results, however compliance is based on LRAA's.

Unregulated Contaminants

Unregulated Contaminants	Range Detected (ppb)	Average
Hexavalent Chromium (Dissolved)	0.031 - 0.230	0.089
Strontium	9.5-220	74
Vanadium	0.20 - 0.37	0.25
Chlorate	34-61	48
Chromium	0.20-0.36	0.26

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

Drinking Water Violation

We are required to monitor our drinking water for specific contaminants on a regular basis. Results of regular monitoring are indicators of whether our drinking water meets health standards. We are required to collect and analyze samples for nitrite every 3 years in the Second Quarter and samples were due to be collected in 2014. Samples for nitrate must be collected annually in the Second Quarter. During the period from April 1 through June 30, 2014, we did not test for nitrate or nitrite. Therefore, we cannot be sure of the quality of our drinking water, relative to these contaminants, during that time. **Drinking water contaminated by human wastes (from septic systems), manure or fertilizers may contain nitrates and nitrites. Nitrates and nitrites in drinking water may have serious health effects (i.e., blue baby syndrome) on infants below the age of 6 months.**

To compensate for the missed sampling, we collected samples on July, 16, 2014 and analyzed them for nitrate and nitrite. No nitrite was detected in any of the samples. Nitrate concentrations in all samples ranged from 0.086 to 2.2 milligrams per liter (mg/L) and were well below the 10 mg/L MCL for nitrate. These results indicate that our drinking water was meeting water quality standards for both nitrate and nitrite in July 2014.

Open Government to the Max

The Town of Amherst uses the Town website (www.amherstma.gov) for many important announcements regarding water issues, among other things. You can register your email address or cell phone to receive important announcements from the Town by visiting the website and clicking on the 'Open Government to the Max' link on the upper left side of the website, then selecting 'Notify Me!'



For more information, call Guilford Mooring,
Superintendent of Public Works, Amherst DPW at (413) 259-3050

This report is also available on the web at <http://www.amherstma.gov/179/water>

Town of Amherst
Department of Public Works
586 South Pleasant Street
Amherst, MA 01002-2542

这份报告中有些重要的信息，讲到关于您所在社区的水的品质。请您找人翻译一下，或者请能看得懂这份报告的朋友给您解释一下。

El informe contiene información importante sobre la calidad del agua en su comunidad. Tradúzcalo o hable con alguien que lo entienda bien.

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Town of Amherst 2014 Drinking Water Quality Report