2012 Annual Drinking Water Quality Report

For

Blandford Water Department

***Blandford,* Massachusetts**

DEP PWSID # 1033000

I. PUBLIC WATER SYSTEM INFORMATION

Address: *1 Russell Stage Road, Suite 16, Blandford, MA 01008*

Contact Person: William Levakis

Telephone #: *413-579-4586* Fax #: *413-848-0908*

Email : *terry.walker@townofblandford.com*

This report is a snapshot of drinking water quality that we provided last year. Included are details about where your water comes from, what it contains, and how it compares to state and federal standards. We are committed to providing you with information because informed customers are our best allies.

How are these sources protected?

The Department of Environmental Protection (DEP) has prepared a Source Water Assessment Program (SWAP) Report for the water supply source(s) serving this water system.

The SWAP Report notes the key issues from the Discussion section of the SWAP Report in the water supply protection area. The report commends the water system on existing source protection measures.

Residents can help protect sources by:

- *practicing good septic system maintenance,*
- *supporting water supply protection initiatives at the next town meeting*
- *taking hazardous household chemicals to hazardous materials collection days,*
- *contacting the water department or Board of Health to volunteer for monitoring or education outreach to schools,*
- *Limiting pesticide and fertilizer use, etc.*

Where can I see the SWAP Report?

The complete SWAP report is available at the Water Department, Board of Health, or other locations and online at www.state.ma.us/dep/. For more information, call water system contact and phone number].

II. Your Drinking Water Source

The Town of Blandford relies on one source of supply, the Long Pond Reservoir which is located at the western part of Blandford. The reservoir is approximately 1 mile long by 0.25 miles at its widest point with a surface area of 81 acres and a hydraulic grade elevation of 1,544 feet.

The water from the Long Pond Reservoir flows directly to the Long Pond Water Treatment Facility. The WTF treats up to a maximum flow rate of 250,000 gpd and utilizes the proprietary MS Filter packed slow sand filtration system, combined with the addition of treatment chemicals. The plant was designed for turbidity reduction, removal of organic and inorganic particles, and waterborne microorganisms in order to comply with the SDWA and MADEP regulations.
In accordance with MADEP guidelines, the required 250,000 gpd capacity will be provided in all cases with one process train out of service. To meet the requirements, four filtration units were provided, each capable of treating up to 84,000 gpd.

Water flows directly to the WTF from Long Pond. After entering the building in the Pump Pit, raw water is pumped to the slow sand filters. Prior to entering the filters, gaseous ozone is injected to the oxidize organics and increase total organic carbon (TOC) removal efficiency. Water then flows to the splitter box which directs water to each of the four slow sand filters. Each filter tank, measuring 11.8 ft by 50.9 ft consists of three stages:

- The first stage is the roughing filter which consists of 6 inches of coarse gravel base progressing upwards to 6 inches of fine gravel, topped with 16 inches of granular activated carbon (GAC). This stage of filtering process protects the slow sand filter from excessive solids loading. The GAC media removes residual ozone to protect the *schmutzdecke* layer on the slow sand filter.

- The second stage is the slow sand filter, consisting of a large bed of fine sand supported by layers of progressively coarser sand and gravel. The filter serves as an effective means of filtering water and controlling microbiological contaminants.

- The final stage of the process is the GAC contactor. This stage consists of layering of materials similar to the roughing filter and provides final polishing for organics removal.

Water leaving the filters may be treated with sodium carbonate (soda ash) for PH adjustment and sodium hypochlorite for disinfection. Filtered water then enters the contact basin/two chamber concrete clear well with a combined capacity of 176,000 gallons. (The chlorine contact basin has a capacity of 26,000 gallons and the concrete clear wells have a total capacity of 150,000 gallons.) A baffle wall in the basin ensures the necessary contact time for disinfection.

Before entering the clear well, post-CT basin water samples are continuously analyzed to determine the need for a second dosing of soda ash and sodium hypochlorite. At this time, aqueous ammonia may be injected to form chloramines for secondary disinfection within the distribution system. Water from the clear well is piped back in to the treatment facility for final adjustment of soda ash, sodium hypochlorite, and aqueous ammonia as needed before being delivered to the distribution system.

A 500-gpm backwash pump is provided to deliver raw water to flush the sand media in the filters during a filter cleaning. Spent backwash water is transferred to an onsite lined backwash water lagoon. The lagoon allows solids to settle prior to being decanted to Wheeler Brook.

III. Substances Found In Tap Water

The 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 the 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 water discharges, oil and gas production, mining and farming.
Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban storm water runoff, and residential uses.
Radioactive contaminants, which can be naturally occurring or be the result of oil and gas production and mining activities.
Organic chemical contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and may come from gas stations spills, urban storm water runoff, or septic systems.

In order to ensure that the tap water is safe to drink, the Massachusetts Department of Environmental Protection (DEP) and EPA prescribe regulations that limit the amount of certain contaminants in the water provided by the public water systems, The US Food and Drug Administration and the MA 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 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 EPA's Safe Drinking Water Hotline (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 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).

IV. 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.

Maximum Residual Disinfectant Level (MRDL) -- The highest level of a disinfectant (chlorine, chloramines, chlorine dioxide) 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 (chlorine, chloramines, chlorine dioxide) below which there is no known of expected risk to health.
MRDLG's do not reflect the benefits of the use of disinfectants to control microbial contaminants.

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.

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

Variances and Exemptions – State or EPA permission not to meet an MCL or a treatment technique under certain conditions.

ppm = parts per million, or milligrams per liter (mg/l)
ppb = parts per billion, or micrograms per liter (ug/l)
ppt = parts per trillion, or nanograms per liter
pCi/l = picocuries per liter (a measure of radioactivity)
NTU = Nephelometric Turbidity Units
ND = Not Detected
N/A = Not Applicable
mrem/year = millimrems per year (a measure of radiation absorbed by the body)

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 health effects are unlikely to occur after chronic (lifetime) exposure. If exceeded, it serves as an indicator of the potential need for further action.

V. Water Quality Testing Results

Blandford Water Department 2012

Blandford Water Department 2012 Water Quality Report

Chlorine 1.0 Max detected .32-.94

Contaminant (Units)	Max Level or Range Detected	MCL	MCLG	Violation (Yes/No)	Possible Source of Contamination
Turbidity* - 2012 Results					
Turbidity (NTU)	.06-.31	5	n/a	No	Soil runoff
Inorganic Contaminants - 2012Results					
Nitrate (ppm)	0.12	10	10	No	Runoff from fertilizer use; Leaching from septic tanks, sewage;
Inorganic Contaminants – 2012	**Results**				
Fluoride (ppm)	0.06	4	4	No	Erosion of natural deposits
Barium (ppm)	Not detected	2	2	No	
Disinfection Byproducts – 2012Results			**RANGE**		
Total Trihalomethanes (TTHMs) (ppb)	81.5/ 2nd quarter Running Annual Average	80	26.0-78.9	yes	Byproduct of drinking water chlorination
Haloacetic Acids (HAA5) (ppb)	36.08 3rd quarter Running Annual Average	60	5.2-33.1	No	Byproduct of drinking water disinfection

Unregulated Contaminants – 2012Results		
Sodium (ppm)	11.7	Natural sources; runoff from use of salt on roadways; by-product of treatment process
Sulfate (ppm)	Apparently not tested	

Lead and Copper – 2012 Results

Contaminant (Units)	Action Level	90th Percentile #'s	Number of Sites Sampled	Number of sites found above the Action Level	Possible Source of Contamination	Violation (Yes/No)
Lead (ppb)	15	9.8	10	0	Corrosion of household plumbing	No
Copper (ppm)	1.3	0.12	10	0	Corrosion of household plumbing	No

90th Percentile – Out of every 10 homes sampled, 9 were at or below this level. Although lead is not present in any significant quantity in the water supplied to our customers, plumbing within the home may add lead to the water. Therefore, the following informative statement is included in this report for your information.

IMPORTANT HEALTH INFORMATION

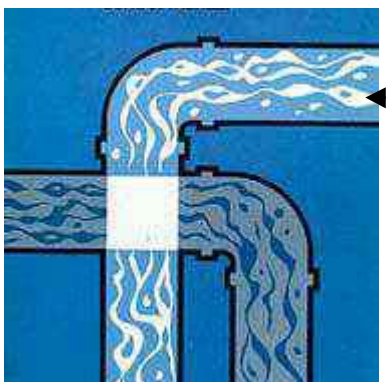
If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. The Blandford Water Department is responsible for providing high 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.

VI. COMPLIANCE WITH DRINKING WATER REGULATIONS

The Blandford Water Department had high results for total Trihalomethanes (TTHMs) in the second quarter of 2012 based on a running average calculation. The Maximum Contaminant Level (MCL) of 80 micrograms per liter (ug/L) was exceeded and a level of 81.5 ug/L was reported. This was not an emergency. Some people who drink water containing TTHMs in excess of the MCL over many years may experience problems with their liver, kidneys or central nervous system or have an increased risk of getting cancer. This was likely caused by higher amounts of natural organics in the reservoir after the effects of Tropical Storm Irene as well as problems with the ozone equipment at the water treatment plant. The Blandford Water Department has been working with the ozone equipment manufacturer to make ongoing fixes to the equipment. The long term plan is to replace the ozone generators with new state of the art units over the next several years.

VII. EDUCATIONAL INFORMATON

Cross Connections are Hazardous to our Drinking Water
Please help us protect our Drinking Water by eliminating Cross Connections



Polluted Source ⟶

What is a Cross Connection and What Can I do About it?

A cross connection is a connection between a drinking water pipe and a polluted source. The pollution can come from your own home. For instance, you're going to spray fertilizer on your lawn. You hook up your hose to the sprayer that contains the fertilizer. If the water pressure drops (say because of fire hydrant use in the town) when the hose is connected to the fertilizer, the fertilizer may be sucked back into the drinking water pipes through the hose. Using an attachment on your hose called a backflow-prevention device can prevent this problem.

The Blandford Water Department recommends the installation of backflow prevention devices, such as a low cost hose bib vacuum breaker, for all inside and outside hose connections. You can purchase this at a hardware store or plumbing supply store. This is a great way for you to help protect the water in your home as well as the drinking water system in your town. For additional information on cross connections and on the status of your water systems cross connection program, please contact the Water Department at 413 579-4586.

Public Participation

The Blandford Water Commissioners encourage the public to participate in the process of managing the Water Department by attending regularly scheduled meetings posted at the Town Hall. Currently the Water Department holds meetings every second and fourth Thursday of each month at 6:30 p.m. The Water Department Administrator is available in the town hall every Tuesday from 4:00 p.m. – 7:00 p.m and Thursday from 10:00 a.m.-1:00 p.m..

Questions Regarding This Report

Should you have any questions regarding any of the information provided in this report, please contact the Blandford Water Department at 413-579-4586. Copies of this report can be found at the Library, Post Office, and Town Hall.

The Board of Water Commissioners

William Levakis-Chairman
Mark Boomsma-Commissioner
Bradley Curry-Commissioner