

2009 ANNUAL DRINKING WATER QUALITY REPORT

For

Hanson Water Department

Hanson, Massachusetts

DEP PWSID # 4123000

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.

1.0 PUBLIC WATER SYSTEM INFORMATION

Address: 1073 West Washington Street

Contact Person: Neal Merritt (Water Superintendent)

Telephone #: 781-447-1200

Fax #: 781-447-1206

Internet Address: http://www.hanson-ma.gov/Public_Documents/HansonMA_Water/index8

Water System Improvements

Our water system is routinely inspected by the Massachusetts Department of Environmental Protection (DEP) for its technical, financial, and managerial capacity to provide safe drinking water to you. To ensure that we provide the highest quality of water available, your water system is operated by Massachusetts certified operators who oversee the routine operations of our system.

Opportunities for Public Participation

If you would like participate in discussions regarding your water quality, you are encouraged to attend any of our regularly scheduled meetings. The Board of Water Commissioners meets on the second and fourth Wednesday of each month at 5:00 pm in the Water Department office at 1073 West Washington Street.

2.0 YOUR DRINKING WATER SOURCE

Where Does My Drinking Water Come From?

The Hanson Water Department was created in 1916. From 1916 until the early 1980s, Hanson purchased its water from the City of Brockton and the Abington/Rockland Joint Waterworks. Since then, Hanson has developed its own water supply at the Crystal Spring Well Field located off of Franklin Street. Hanson currently maintains one interconnection with the Brockton system located at the intersection of Routes 27 and 58. Due to high demand, the Hanson Water Department connected to the Brockton water system from August 27th to August 31st of 2009, receiving approximately 1.2 million gallons of water. Further information on the Brockton water supply can be obtained by calling the Brockton Water Department at (508) 580-7143.

Source Name	DEP Source ID#	Source Type	Location of Source
Well # 1	4123000-01G	Ground Water	Crystal Spring Well Field
Well # 3	4123000-03G	Ground Water	Crystal Spring Well Field
Well # 4	4123000-04G	Ground Water	Crystal Spring Well Field
Well # 5	4123000-05G	Ground Water	Crystal Spring Well Field
Brockton Water Dept.	4044000-01S	Surface Water	Silver Lake

Is My Water Treated?

Our water system makes every effort to provide you with safe and pure drinking water. The groundwater in Hanson is naturally corrosive (i.e. it has a pH of less than 7.0), therefore, untreated water has a tendency to corrode and dissolve the metal piping it flows through. This not only damages the internal plumbing of your home but can also add harmful metals, such as lead and copper to your water. To improve the quality of the water delivered to you, we chemically treat it (with potassium hydroxide or sodium hydroxide) to raise the pH to a non-corrosive level, thereby reducing lead and copper concentrations. The water quality of our system is constantly monitored by us and DEP to determine the effectiveness of existing water treatment and to determine if any additional treatment is required.

How Are These Sources Protected?

DEP has prepared a Source Water Assessment Program (SWAP) Report for the water supply sources serving this water system. The SWAP Report assesses the susceptibility of these drinking water sources to contamination. The Hanson SWAP report is available at the Water Department Office at 1073 West Washington Street. In addition, the SWAP report is available on the DEP website at www.mass.gov/dep/water/drinking/swapreps.htm. For more information, call Neal Merritt, Water Superintendent at 781-447-1200.

What is My System's Ranking?

Hanson's SWAP report, which was completed in 2003, identifies the primary recharge area (Zone II) for the Crystal Spring Well Field as consisting primarily of forest and non-forested wetlands with small areas of cropland, residential, commercial, industrial and waste disposal land use. In addition, Hanson's wells are located in aquifers with high vulnerability to contamination due to the absence of hydrogeologic barriers (i.e. clay) that can prevent contaminant migration. As a result, Hanson's sources are considered **highly susceptible** to contamination from a variety of sources such as petroleum products, industrial solvents, fertilizers, and microbial contaminants. Susceptibility is a measure of a water supply's **potential** to become contaminated due to land uses and activities within its recharge area and does not imply poor water quality.

Two DEP Tier Classified Oil and/or Hazardous Material Release Sites are located within the Crystal Spring Well Field Zone II. They are Clayton's Auto Repair at 1158 Main Street (Site # 4-0001087) and Lynch's Laundromat & Carwash at 1615 Main Street (Site # 4-0000781). These sites are in the final phases of remediation and do not pose a threat to Hanson's water supply. For more information, please visit the DEP's Bureau of Waste Site Cleanup (BWSC) searchable site database at <http://db.state.ma.us/dep/cleanup/sites/search.asp>.

Residents and Businesses Can Help Protect Hanson's 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
- Limiting pesticide and fertilizer use

3.0 SUBSTANCES FOUND IN TAP WATER

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contamination. 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 U.S. Environmental Protection Agency's (EPA) Safe Drinking Water Hotline (1-800-426-4791).

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, may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.

Inorganic contaminants - such as salts and metals, 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 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 storm water runoff, and septic systems.

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

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

4.0 WATER QUALITY TESTING RESULTS

What Does This Data Represent?

The water quality information presented in the following tables is from the most recent round of testing done in accordance with the regulations. All data shown was collected during the last calendar year unless otherwise noted in the tables.

Regulated Contaminants							
Contaminant	MCL	MCLG	SMCL	Highest Detected Level	Range Low - High	Violation	Likely Source
Total Coliform (#/100 ml)	See Note 1	0	N/A	1 (12/2/2009)	ND-1	No	Naturally present in the environment
Tetrachloroethylene (ppb)	5	0	N/A	3.0	ND – 3.0	No	Discharge from asbestos cement lined pipes, factories and dry cleaners
Nitrate (ppm)	10	10	N/A	0.74	0.44 - 0.74	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Nitrite ² (ppm)	1	1	N/A	ND	ND	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Perchlorate (ppb)	2	N/A	N/A	0.1	0.06 – 0.1	No	Rocket propellants, fireworks, munitions, flares, blasting agents
Regulated at the Customer's Tap							
Contaminant	A.L.	MCLG	90 th Percentile	Homes Above A.L.	Violation	Typical Source	
Lead (ppb) ³	15	0	3	0	No	Corrosion of household plumbing systems	
Copper (ppm) ³	1.3	1.3	0.264	0	No	Corrosion of household plumbing systems	
Unregulated Contaminants ⁴							
Contaminant	EPA Guidance Level		Average Detected	Range Low – High		Typical Source	
Sodium (ppm)	20		42.2	33.2 – 47.7		Natural sources, runoff from use as salt on roadways, water treatment chemicals	
Methyl Tertiary Butyl Ether [MTBE] (ppb)	70 ⁵		1.8	ND – 1.9		Fuel Additive; leaks and spills from gasoline storage tanks	

Notes:

1. Total Coliform for systems that collect less than 40 samples per month the MCL is one positive monthly sample.
2. Samples collected April 2008.
3. Tap water samples collected September 2009 from 20 homes throughout the distribution system.
4. Unregulated Contaminants are those for which the EPA has not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist EPA in determining their occurrence in drinking water and whether future regulation is warranted.
5. The Massachusetts Office of Research and Standards has adopted a guideline of 70 µg/L (ppb) as a health protective concentration for MTBE in drinking water. MTBE also has a secondary MCL of 20-40 ppb

5.0 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 (see below) 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.
- **Action Level (A.L.):** The concentration of a contaminant that, if exceeded, triggers treatment or other requirements, which a water system must follow.
- **90th Percentile:** Out of every 10 homes, 9 were at or below this level.
- **ppm:** parts per million, or milligrams per liter (mg/L)
- **ppb:** parts per billion, or micrograms per liter (µg/L)
- **ND:** Not Detected
- **N/A:** Not Applicable

The Massachusetts Department of Environmental Protection has reduced the monitoring requirements for asbestos, alpha emitters, combined radium, and synthetic organic compounds to less often than once per year because the source is not at risk of contamination. The most recent test for these contaminants yielded results that were not detectable or below the MCL.

6.0 COMPLIANCE WITH DRINKING WATER REGULATIONS

We are committed to providing you with the best water quality available. We are pleased to report that last year your drinking water met all applicable health standards regulated by the state and federal government.

7.0 EDUCATIONAL INFORMATION

Do I Need To Be Concerned About Certain Contaminants Detected In My water?

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. The Hanson 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.

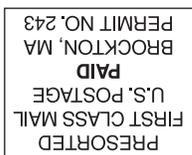
In 2009, the Hanson Water Department tested the tap water of 20 homes in the distribution system for lead and copper. All the homes tested were well below EPA contaminant limits. However, if you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking 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>.

Sodium: The Hanson Water Department has historically used potassium hydroxide (KOH) for pH adjustment. However, in 2009 the unit price of KOH increased from \$1.60/gallon to over \$8.00/gallon. Therefore, in March of 2009, we modified our chemical treatment process to allow for the use of the less costly sodium hydroxide (NaOH) with a unit price of \$0.74/gallon. The use of NaOH has increased the average sodium level in your drinking water from approximately 20 ppm (2008) to its current average level of 42 ppm. When exceeded, the EPA sodium guideline of 20 mg/L does not require treatment of the water to reduce the levels to prevent adverse health effects on public health. Rather the guideline represents a level of sodium in water that physicians and sodium sensitive individuals should be aware of in cases where sodium exposures are being carefully controlled. Therefore, sodium sensitive individuals, such as those experiencing hypertension, kidney failure, or congestive heart failure, should be aware of the sodium levels where exposures are being carefully controlled. Additional information on sodium in drinking water can be found at <http://www.epa.gov/OGWDW/ccl/sodium.html>.

8.0 ADDITIONAL INFORMATION

Cross connection

A cross connection is any physical connection between potable water and any source of contamination. In some cases, the source of contamination can be your own home. For example, if you were to spray fertilizer on your lawn the hose connection to the sprayer that contains the fertilizer could be considered a cross connection. If the water pressure were to drop while this connection was made, say because of fire hydrant use in the town, the fertilizer may be sucked back into the drinking water system through the hose. Using an attachment on your hose called a backflow prevention device can prevent this problem. The Hanson 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 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.



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Hanson Water Department
1073 West Washington Street
Hanson, MA 02341
Tel. 781-447-1200
PWS ID#4123000

