

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



2007 Town of Hanson, Massachusetts DRINKING WATER QUALITY REPORT

Public water system information

The Hanson Water Department is pleased to present our 2007 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 Hanson Water Department is committed to providing you with the safest and most reliable water supply possible.

In 2007 we conducted more than 700 tests for over 70 drinking water contaminants. There were four regulated contaminants detected in your drinking water, however all were below EPA established maximum contaminant levels (MCLs).



In 2007, the Hanson Water Department pumped 237 million gallons from the Crystal Spring Well Field, which equates to approximately 650,000 gallons per day. The Department's peak day occurred on May 27, 2007, when just over one million gallons was pumped into the system. In order to meet high demand, the Department purchased approximately 400,000 gallons of water from the City of Brockton Water Department. This occurred on June 26 and August 29 of 2007.

Source Name	DEP Source ID #	Source Type	Location of Source
Well # 1	4123000-01G	Groundwater	Crystal Spring Well Field
Well # 3	4123000-03G	Groundwater	Crystal Spring Well Field
Well # 4	4123000-04G	Groundwater	Crystal Spring Well Field
Well # 5	4123000-05G	Groundwater	Crystal Spring Well Field

Your drinking water sources

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 has three interconnections with a City of Brockton water main located on Main Street. Two interconnections are in the vicinity of Main and Indian Head Streets, with the third located at the intersection of Main and High Street.

The Hanson Water Department makes every effort to provide you with safe and pure drinking water. To improve the quality of the water delivered to you, the Department adds potassium hydroxide for pH adjustment. 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 metal piping. This not only damages the internal plumbing of your home, but can also add harmful metals, such as lead and copper, to your water. By adding potassium hydroxide, we are able to raise the raw water pH to a non-corrosive level, thereby reducing lead and copper levels. The Department was not required by the Massachusetts Department of Environmental Protection (DEP) to monitor for lead and copper in 2007. However, in 2006, the Department tested the tap water of 25 homes in the distribution system for lead and copper. All the homes tested were well below EPA contaminant limits.

Outdoor Water Use Restriction

Between May 1 and September 30, outside water use is limited to hand-held hoses only, between the hours of 7:00 a.m. and 9:00 a.m. and between the hours of 5:00 p.m. and 7:00 p.m.

Call us for more information about your water system. **Mr. Neal Merritt is the Water Superintendent; he can be reached at 781-447-1200.** Feel free 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 p.m. in the Water Department office at 1073 West Washington Street.

Sources Water Assessment and Protection (SWAP)

The Source Water Assessment and Protection (SWAP) program was established in 1996 by the EPA as part of the Safe Drinking Water Act. SWAP requires every state to inventory land use within recharge areas of all public water supply sources, and to assess the susceptibility of these drinking water sources to contamination. Hanson's SWAP report, which was completed in 2003, identifies the recharge areas 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 (e.g., 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.

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 Web site at www.mass.gov/dep/water/drinking/seroreps.htm. The DEP commends the Hanson Water Department for its work to date on promoting source protection. We will continue to protect your water sources by:

- Regularly inspecting land under the care and control of the Water Department
- Educating residents on ways they can help protect drinking water sources
- Monitoring progress on any ongoing remedial action conducted for known oil or contamination sites

Residents and businesses can do their part to protect Hanson's groundwater sources by:

- Practicing good septic system maintenance
- Supporting water supply protection initiatives at the next town meeting
- Disposing of waste oil and hazardous materials properly—never in storm drains, septic systems or on the ground

Substances found in tap water

Dinking 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 EPA's Safe Drinking Water Hotline (1-800-426-4791).

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised 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).

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 agricultural, 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 EPA prescribe 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.

Water quality testing results

The following table lists all the drinking water contaminants detected during calendar year 2007 or during the most recent sampling period within the past five years. The state requires us to monitor for certain contaminants less than once per year because the concentration of these contaminants is not expected to vary significantly from year to year. The presence of these contaminants in the water does not necessarily indicate the water poses a health risk. Definitions of the terms and abbreviations used in the table are given below:

Regulated Contaminants

Contaminant	MCL	MCLG	Highest Detected Level	Range (Low–High)	Violation	Likely Source
Tetrachloroethylene (ppb)	5	0	3.6	ND – 3.6	No	Discharge from factories and dry cleaners; asbestos cement lined pipes
cis-1,2-Dichloroethylene (ppb)	70	70	0.9	ND – 0.9	No	Breakdown product of trichloroethylene and tetrachloroethylene
Nitrate (ppm)	10	10	0.73	0.24 – 0.73	No	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Perchlorate (ppb)	2	—	0.06	ND – 0.06	No	Commonly used oxidizer in solid propellants for rockets, missiles, fireworks, and explosives
Alpha Emitters ¹ (pCi/L)	15	0	2.8	0.5 – 2.8	No	Decay of natural and man-made deposits
Combined Radium ¹ (pCi/L)	5	0	0.7	0.2 – 0.7	No	Erosion of natural deposits

Regulated at the Customer's Tap

Contaminant	A.L.	MCLG	90th Percentile	Homes above A.L.	Violation	Typical Source
Lead (ppb) ²	15	0	3	0	No	Corrosion of household plumbing systems
Copper (ppm) ²	1.3	1.3	0.98	0	No	Corrosion of household plumbing systems

Unregulated Contaminants³

Contaminant	ORSG	SMCL	Average Detected	Range (Low – High)	Typical Source
Sodium (ppm)	20	—	22.3	16.9 – 27.6	Natural sources; runoff from use on roadways
Sulfate (ppm)	—	250	14.3	13.3 – 15.3	Natural sources
Methyl Tertiary Butyl Ether (ppb)	70	—	2.1	1.1 – 3.1	Fuel additive; leaks and spills from gasoline storage tanks

Notes:

¹Samples collected February, 2003.

²Tap water samples collected September, 2006, from 25 homes throughout the distribution system.

³Unregulated 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.

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.

Water Conservation Tips

Water conservation begins with you. Here are a few suggestions that will help preserve your water supply and at the same time save you money on your next water bill:

Indoor

- ◆ Run your washing machine and dishwasher only when they are full.
- ◆ Keep showers under 5 minutes.
- ◆ Fix leaking faucets, pipes, toilets, etc.
- ◆ Replace old dishwashers and clothes washers with energy efficient machines that use less water and electricity.

Outdoor

- ◆ Minimize evaporation by watering during the early morning hours, when temperatures are cooler and winds are lighter.
- ◆ Plant during the spring or fall when watering requirements are lower.
- ◆ Use a layer of organic mulch around plants to reduce evaporation.
- ◆ Use a broom instead of a hose to clean your driveway or sidewalk.
- ◆ Adjust your lawn mower to a higher setting. Longer grass shades root systems and holds soil moisture better than a closely clipped lawn.

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>. Another useful web site providing landscape advice can be found at <http://www.greenscapes.org>.

Important Definitions

- ◆ **Maximum Contaminant Level (or 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 (or 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.
- ◆ **Secondary Maximum Contaminant Level (or SMCL)** — These standards are developed to protect the aesthetic qualities of drinking water, and are not health based.
- ◆ **ppm** — parts per million, or milligrams per liter (mg/L)
- ◆ **ppb** — parts per billion, or micrograms per liter (µg/L)
- ◆ **ND** — Not detectable at testing limit
- ◆ **pCi/L** — picocuries per liter (a measure of radioactivity)
- ◆ **Action Level (or AL)** — The concentration of a contaminant which, if exceeded, triggers treatment or other requirements 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.

The Massachusetts Department of Environmental Protection has reduced the monitoring requirements for asbestos, alpha emitters, nitrites, 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.