

2008 Water Quality Report

Wenham Water Department

USEPA Consumer Confidence Report
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The Quality of your Drinking Water

Wenham's water quality meets or exceeds all state and federal requirements. Regular laboratory testing is conducted in strict accordance with state and federal regulations.

The Wenham Water System

Our water is drawn from two gravel-packed wells (approximately 50-feet deep), located at the south end of Pleasant Pond, off Pleasant Street. These wells draw from the Great Wenham Swamp (backwaters to the Ipswich River), which provides a natural filter; thus we do not need a filtration plant. We do add two chemicals to the water as it enters the system. Fluoride is added at 1 part per million (as required by law) in order to promote strong teeth. We also add zinc orthophosphate at 3 parts per million to reduce the corrosivity of water. Our water is naturally corrosive, so it has a tendency to corrode and dissolve lead solder and copper pipes in household plumbing, which could lead to increased lead and copper levels if not treated. The water is pumped into the 750,000 gallon storage tank on "Lord's Hill" and the new 600,000 gallon storage tank at the Iron Rail and then through over 27 miles of water mains to our users.

Source Water Assessment Plan Report

The land around public water supply wells is delineated by the Massachusetts Department of Environmental Protection (*MassDEP*) as either "Zone I" – land within 400 feet of a well, or "Zone II"– the area which contributes water to the wells. To provide for a continuing source of clean water, and in conjunction with the *MassDEP*, we completed a "Source Water Assessment Plan" in 2001. This effort assessed activities near our wells that have the potential to threaten our water quality. The report notes the following potential issues:

1. Inappropriate activities conducted in the Zone I (we do not own or control all of Zone I);
2. Underground storage tanks present in Zone II;
3. Septic systems present in Zone II;
4. Stormwater catch basins in Zone II;

The Wenham Water Department is addressing these issues by:

1. Working with property owners within Zone 1 on methods of safeguarding the groundwater;
2. Working with the Fire Department to inventory and inspect underground storage tanks. A new bylaw was enacted by the voters of Wenham to require testing of these tanks;
3. Working with the Board of Health to educate residents concerning the proper care of their septic systems;
4. Working with the DPW to keep catch basins clean and in good repair; and
5. Coordinating wellhead protection plans with Danvers, Topsfield, Beverly and Hamilton to ensure out of town protection of our watershed.

The complete report is available at the Wenham Water Department, The Wenham Board of Health or online at www.state.ma.us/dep/brp/dws.

Water Quality Summary

The Wenham Water Department regularly monitors the quality of your drinking water according to Federal and State laws. During 2008, we conducted 886 tests for over 100 substances, including microbial, volatile organic compounds (VOC's), inorganic compounds (such as metals, minerals and salts). Samples are collected from the wells and at several locations around town. As water travels over the land or underground, it can pick up substances or contaminants such as microbes, inorganic and organic chemicals, and radioactive substances. All drinking water, including bottled drinking water, may be reasonably expected to contain at least small amounts of some constituents. It is important to remember that the presence of these constituents does not necessarily pose a

health risk. Further information about contaminants and potential health risks can be obtained by calling the Environmental Protection Agency's toll free Safe Drinking Water Hotline at 800-426-4791.

The table below shows that only four regulated substances were detected during the monitoring period of January 1st to December 31st, 2008. You will find many terms and abbreviations you might not be familiar with. To help you better understand these terms we've provided the following definitions:

- **ppm:** (parts per million) - one per million measured by weight (i.e., 1/1000th of a gram in a liter)
- **pCi/L:** - (picoCuries per liter) - a measure of radioactivity
- **AL:** (*Action Level*) - the concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.
- **MCL:** (*Maximum Contaminant Level*) - The "Maximum Allowed" is 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.
- **MCLG:** (*Maximum Contaminant Level Goal*) The "Goal" is 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.
- **SMCL:** (*Secondary Maximum Contaminant Level*) – These standards are developed to protect the aesthetic qualities of drinking water and are not health based.
- **NA: Not Applicable**

| DETECTED LEVELS OF REGULATED CONTAMINANTS IN WENHAM'S WATER | | | | | |
|--|-------------------------------|------------------------|------------------------------|--------------------------|---|
| SUBSTANCE (CONTAMINANT) | HIGHEST LEVEL DETECTED | RANGE DETECTED | HIGHEST ALLOWED (MCL) | IDEAL GOAL (MCLG) | LIKELY SOURCE |
| Total Coliform | 6 | 0 - 8 | 1 | 0 | Naturally present in the environment |
| Nitrate | 2.6 ppm | 2.6 ppm | 10 ppm | 10 ppm | Naturally present in the environment |
| Fluoride | 1.20 ppm | 0.70 – 1.20 ppm | 4 ppm | 4 ppm | Water additive which promotes strong teeth |

Lead and Copper

| SUBSTANCE (CONTAMINANT) | 90th Percentile | Sites above action level | Action level | Typical Source | Exceeds AL? |
|--------------------------------|-----------------------------------|---------------------------------|---------------------|--|--------------------|
| Lead | 0.00 ppm | 1/20 | 0.015 ppm | Corrosion of household plumbing | No |
| Copper | 0.4 ppm | 0/20 | 1.3 ppm | Corrosion of household plumbing | No |

Lead in Your Drinking Water

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 Wenham 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>."

Violations

Total Coliform Rule: Coliform bacteria are usually harmless, naturally occurring bacteria that are present throughout the environment. They are used as an indicator that other, potentially harmful bacteria may be present. Coliform bacteria were found in more than the allowed limit of samples in August 2008 and in December 2008. In August 2008, intense rain and high ground water were determined to be the cause. The Well was disinfected and further testing indicated that the problem was corrected. In December 2008, a vacuum breaker on a sample tap was found to be the problem. The tap was replaced and further testing indicated that the problem was corrected.

DETECTED LEVELS OF NON-REGULATED CONTAMINANTS IN WENHAM'S WATER

| Constituent | Date(s) Collected | Result or Range Detected | SMCL | Possible Source |
|--------------------------------------|----------------------|-----------------------------|-----------|--|
| Iron (ppm) | 7/08/08 9/16/08 | 0 ppm 0 ppm | 0.3 ppm | Naturally occurring, and corrosion of cast iron pipes |
| Manganese (ppm) | 7/08/08 9/16/08 | 0.026 ppm 0.16 ppm | 0.05 ppm | Naturally occurring from natural deposits |
| Aluminum (ppm) | 7/08/08 9/16/08 | 0 ppm 0 ppm | 0.2 ppm | Byproduct of treatment process |
| Chloride (ppm) | 7/08/08 9/16/08 | 52 ppm 54 ppm | 250 ppm | Runoff from road de-icing, use of inorganic fertilizers, landfill leachate, septic tank effluent, animal feeds, industrial effluent, irrigation and drainage |
| Total Dissolved Solids | 7/08/08 9/16/08 | 260 ppm 280 ppm | 500 ppm | |
| Turbidity | 7/08/08 9/16/08 | 0.17 NTU 0.79 NTU | 0.5 NTU | Soil runoff |
| Color (C.U.) | 7/08/08 9/16/08 | 0 0 | 15 | Naturally occurring organic material |
| Magnesium | 7/08/08 9/16/08 | 10 ppm 12 ppm | N/A | Naturally occurring from natural deposits |
| Hardness (calculation) | 7/08/08 9/16/08 | 160 ppm 130 ppm | NA | Naturally occurring minerals (CaCO ₃) |
| Odor (T.O.N.) | 7/08/08 9/16/08 | 1 T.O.N. 2 T.O.N. | 3 T.O.N. | Naturally occurring for natural deposits and decay of organic material; Leaching from wood preservatives. |
| pH | 7/08/08 9/16/08 | 7.2 7.6 | 6.5-8.5 | |
| Silver (ppm) | 7/08/08 9/16/08 | 0 0 | 0.10 | Naturally occurring from natural deposits |
| Alkalinity (CaCO ₃ – ppm) | 7/08/08 9/16/08 | 100 ppm 120 ppm | N/A | Naturally occurring from natural deposits |
| Zinc (ppm) | 7/08/08 9/16/08 | 0.022 ppm 0.010 ppm | 5 | Naturally occurring from natural deposits, leaching from plumbing materials |
| Sulfate (ppm) | 7/08/08 9/16/08 | 26 ppm 31 ppm | 250 | Naturally occurring from natural deposits |
| Calcium | 7/08/08 9/16/08 | 48 ppm 53 ppm | N/A | Naturally occurring mineral |
| Perchlorate | 7/08/2008 | 0 ppm | 0.002 ppm | Byproduct of some but not all blasting agents and explosives |

Vulnerability

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).

Conservation

Outside Water Use. The state has required that outside watering must be reduced. Watering a lawn, when it is not needed, wastes water and costs money. Watering during the early morning and evening is most efficient and effective. The Town of Wenham bylaw prohibits watering in the middle of the day (9:00 am to 5:00 pm) from May 1st to September 30th. If you have an irrigation system, you must have a rain sensor installed. Water restrictions apply to all water users in the town including those with private wells.

Inside Water Use. The state has also required increased efficiency in the home. 27% is for toilet use; 22% is for clothes washing 17% is for showers; 16% for faucets; and 14% for leaks.

- Replace an old 3.5 gallon per flush toilet with a 1.6 gallon per flush one will save your household an average of 9337 gallons/ year
- Replacing a clothes washer that uses 45 gallons per load with a high efficiency one using 20 gallons per load would save your household 5885 gallons/ year
- Fix all leaking faucets and toilets

For water saving tips and conservation resources go to: www.mass.gov/dep/water/resources/fsusers.doc or www.greenscapes.org

We at the Wenham Water Department work hard to provide top quality water and service to every customer. We ask that everyone help us protect our water, a precious resource, which is at the heart of our community, our way of life and our children's future. Please call our office at (978) 468-5520 ext.6 if you have questions or comments.

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