Town of Mendon
Water Commission
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Mendon Water Commission
2012-2013 Annual Consumer Confidence Report (CCR)
Public Water Supply (PWS) ID Number: 2179000
Hopedale PWS ID Number: 2138000

Consecutive System Interconnected on Cape Road at Town Line Between Hopedale and Mendon

The Mendon Water Commission has prepared this report to provide important information about the town's public water system. The Town of Mendon has purchased water from the Town of Hopedale since June 1, 2005. If you have any questions regarding this report, please contact Leah Cameron, Administrative Clerk for the Water Commission, at the phone number or email address above. CCRs for both Mendon and Hopedale are available in both Town Halls or at: http://www.mendonma.gov/water-commission

Water Commissioners:
Dwight Watson, Chairman
Dean D'Alessandro
Allan Kent

Timothy Watson, Certified Water Operator

The Mendon Water Commission encourages you to attend their meetings. An important topic of ongoing discussion will concern the establishment and financing of a future permanent water supply for East Mendon. The Commissioners typically meet in the Mendon Town Hall on the 2nd Tuesday of the month at 7:00 p.m. Please contact the office to confirm meeting dates. Also, as the situation warrants, public hearings will be held and you will be notified through the news media or by mail.

The Commissioners updated their Rules and Regulations on March 5, 2012. Copies are available in the Conservation Commission / Water Commission office in the town hall.

A Notice of Noncompliance (NON) was received from the Massachusetts Department of Environmental Protection (MassDEP) in January 2014 for Mendon's 2012 CCR. The NON was for failure to comply with the report content requirements under 310 CMR 22.16A(4) through 310 CMR 22.16A(13) and failure to comply with the report delivery and recordkeeping requirements under 310 CMR 22.16A(14) through 310 CMR 22.16A(21). There were no water quality issues, only reporting issues. These violations have been fixed in this combined 2012-2013 CCR.

In 2012 and 2013, annual flushing of fire hydrants and exercising of hydrant gates were completed. Hydrants were replaced on Cape Road. Meters were replaced at multiple residences. Cross connection devices were also surveyed and documented.

Sources:
The water within Mendon's public water system comes from the Town of Hopedale. This water comes from several wells in a few locations. The main location is the well field on Mill Street within the Hopedale golf course. At this location, over 30 wells are being pumped by a vacuum system supplying the majority of water to be treated. Additionally, water comes from 5 separate wells located amongst the property of the treatment plant itself. More information about the watershed is available on the U.S. Environmental Protection Agency (EPA) Surf Your Watershed web site at www.epa.gov/surf.

Source Name	MassDEP Source ID#	Location of Source
Mill St. Well Field	2138000-01G	Within Hopedale Golf Course
Greene St. Gravel Packed Well	2138000-02G	Within our Water Treatment Plant
Greene St. Gravel Packed Well 1	2138000-03G	Within our Water Treatment Plant
Greene St. Gravel Packed Well 2	2138000-04G	Within our Water Treatment Plant
Greene St. Bedrock Well	2138000-05G	Within our Water Treatment Plant
Greene St. Bedrock Well	2138000-06G	Within our Water Treatment Plant

Treatment:
The water is sent to the treatment plant located off of Greene Street. There, the raw water is immediately treated with chlorine gas and the pH is adjusted to be a neutral 7 by adding sodium hydroxide. These corrosion control chemicals help to reduce the amount of lead and copper in the water. The water is then sent through Greensand Plus filters, which contain silica sand and manganese dioxide. These filters remove any remaining contaminants, such as iron and manganese, to the point of being undetectable by our water tests. The filtered water is then sent through an ultra violet system, removing any viruses the water may contain. After this process is complete, the water is chlorinated a final time before being sent into the distribution system.

Water quality is constantly monitored by the Hopedale Water Department and MassDEP based on a sampling schedule set forth by MassDEP. This helps to determine the effectiveness of existing water treatment and if any additional treatment is required. Beyond that, the water within the Mendon system is monitored monthly for coliform bacteria and yearly for by-products of chlorine: trihalomethanes and haloacetic acids. Lead and copper testing is done every other year and asbestos is tested every seven years.

Here are some examples of potential contaminants that are monitored and treated:

- Gross Alpha Particle Activity
- Asbestos
- Haloacetic Acids
- Chlorine
- Inorganics
- Iron
- Lead and Copper
- Manganese
- Nitrate
- Nitrite
- Perchlorate
- Radium 226 and 228
- Secondary Contaminants
- Synthetic Organic Compounds (SOCs)
- Trihalomenthanes
- Turbidity
- Volatile Organic Compounds (VOCs)

Susceptibility:
MassDEP has prepared a Source Water Assessment Program (SWAP) Report for the water supply sources serving this system. The SWAP Report assesses the susceptibility to contamination. A susceptibility ranking of high was assigned to this system. This means that there are a lot of potential threats to water quality in the area, such as: pesticides, fertilizers, and chemical or fuel spills. There is more information below on measures that can be taken to reduce these threats. The complete SWAP report is available online at: http://www.mass.gov/eea/docs/dep/water/drinking/swap/cero/2138000.pdf

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 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 stormwater 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 use.

Organic chemical contaminants, including synthetic and volatile organic chemicals, are by-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater 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, MassDEP 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.

All 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's Safe Drinking Water Hotline (800-426-4791).

Terminology:
Maximum Contaminant Level (MCL): The highest level of a contaminant that is allowed in drinking water.

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. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

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 highest level of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow

90th Percentile: Out of every 10 homes sampled, 9 were at or below this level.

Running Annual Average (RAA): Average of four quarters

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
NA: not applicable
NS: none set

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): 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.

Unregulated Contaminants: Substances without MCLs for which EPA requires monitoring. For some of these substances, the Massachusetts Office of Research and Standards (ORS) has developed state guidelines or secondary MCLs. Unregulated contaminants are only reported below when they were detected.

Water Quality Testing Results:
The presence of the following contaminants does not necessarily indicate that the water poses a health threat. The water quality information presented in the 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.

	Date Collected	90th Percentile	AL	MCLG	# of sample sites	# of sites above AL	Exceeds AL? (Y/N)	Possible Sources of Contamination
Lead (ppb)	Aug 2010	3	15	0	5	0	N	Corrosion of household plumbing systems, erosion of natural deposits
Copper (ppm)	Aug 2010	0.3	1.3	1.3	5	0	N	Corrosion of household plumbing systems, erosion of natural deposits, leaching from wood preservatives

Turbidity*	**TT**	**Lowest Monthly % of Samples**	**Highest Detected Daily Value**	**Violation? (Y/N)**	**Possible Source of Contamination**
Daily Compliance (NTU)	1	----------	2012 0.19 2013 0.16	N	Soil runoff
Monthly Compliance**	At least 95% <0.3	100%	----------	N	

*Turbidity is a measure of the cloudiness of the water. It is a good indicator of water quality.

**Monthly turbidity compliance is related to a specific treatment technique (TT). Our system filters the water so at least 95% of our samples each month must be below the turbidity limits specified in the regulations.

Regulated Contaminant	**Date(s) Collected**	**Amount Detected**	**MCL or MRDL**	**MCLG or MRDLG**	**Violation Either Year? (Y/N)**	**Possible Source(s) of Contamination**
Inorganic Contaminants						
Barium (ppm)	4/26/2012 4/10/2013	0.045 0.05	2	2	N	Discharge of drilling wastes or metal refineries, erosion of natural deposits
Nitrate (ppm)	4/26/2012 6/25/2013	0.49 0.55	10	10	N	Runoff from fertilizer, leaching from septic tanks, erosion of natural deposits
Perchlorate (ppb)	4/26/2012 9/16/2013	0.13 0.10	2	0.49	N	Rocket propellants, fireworks, munitions, flares, blasting agents
Fluoride (ppm)	4/26/2012 4/10/2013	0.11 ND	4	4	N	Erosion of natural deposits
Radioactive Contaminants						
Gross Alpha (pCi/l) (minus uranium)	4/26/2012 4/26/2012	1.17 0.71	15	0	N	Erosion of natural deposits
Radium 226 & 228 (pCi/l) (combined values)	1/25/2012	0.84	5	0	N	Erosion of natural deposits

Regulated Contaminant	Date(s) Collected	Highest RAA	Range Detected	MCL or MRDL	MCLG or MRDLG	Violation Either Year? (Y/N)	Possible Source(s) of Contamination
Disinfectants & Disinfection By-Products							
Total Trihalometh-anes (TTHMs) (ppb)	Quarterly 2012 2013	 24 38	 14-34 37-38	80	NS	N	By-product of drinking water chlorination
Haloacetic Acids (HAA5s) (ppb)	Quarterly 2012 2013	 10 13	 4-15 2-24	60	NS	N	By-product of drinking water chlorination
Chlorine (ppm) (free)	Monthly 2012 2013	 0.40 0.50	 0.02-0.91 0.09-0.87	4	4	N	Water additive used to control microbes

Unregulated & Secondary Contaminants	Date(s) Collected	Result or Range Detected	SMCL	ORSG	Possible Source(s) of Contamination
Inorganic Contaminants					
Sodium (ppm)	4/26/2012 4/10/2013	39 36	NS	20	Natural sources, runoff from use as road salt, by-product of treatment process
Sulfate (ppm)	4/10/2013	19	250	NS	Natural sources
Other Organic Contaminants					
Bromodi-chloro-methane (ppb)	1/25/2012 4/26/2012 4/8/2013	 3.0-8.0 7.3	NS	NS	By-product of drinking water chlorination
Bromoform (ppb)	4/26/2012	1.5	NS	NS	By-product of drinking water chlorination
Chloroform (ppb)	1/25/2012 4/26/2012 4/8/2013	 4.2-5.6 6	MCLG: 70	NS	By-product of drinking water chlorination
Dibromodi-chloro-methane (ppb)	1/25/2012 4/26/2012 4/8/2013	 0.8-5.1 3.7	NS	NS	By-product of drinking water chlorination

Violations:

Mendon's 2011 CCR received a NON for late delivery.

Fluoride was not reported in the 2012 CCR. Values for fluoride for 2012 and 2013 have been included in this 2012-2013 combined CCR, above.

We are required to monitor your drinking water for specific contaminants on a regular basis. Results of regular monitoring are an indicator of whether or not our drinking water meets health standards. During 2013, we did not test for lead and copper and therefore cannot be sure of the quality of our drinking water during that time. A NON was received in November 2013 for this violation of 310 CMR 22.03(2). The NON was also for failure to notify DEP of lead and copper test results as required by 310 CMR 22.15. In addition, the NON was for failure to notify DEP and the public of this deficiency, as required by 310 CMR 22.15 and 310 CMR 22.16. Lead and copper sampling is required every three years. Lead and copper data from 2010 is included above. They will be tested again in August 2014. There is nothing you need to do at this time.

A third NON that was received is explained on the first page of this report.

Please share this information with all the other people who drink this water, especially those who may not have received this notice directly (for example, people in apartments, nursing homes, schools, and businesses). You can do this by posting this notice in a public place or distributing copies by hand or mail.

Health Information:
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's Safe Drinking Water Hotline (1-800-426-4791).

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer who are 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 (Center for Disease Control) 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).

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 Mendon Water Commission 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

Individuals who are sensitive to sodium, such as those experiencing hypertension, kidney failure, or congestive heart failure, should be aware of sodium levels and carefully control their exposure.

Cross Connections:
A cross connection is a contamination of drinking water through contact with polluted water. For example, fluctuation in water pressure can cause water to be siphoned or sucked backwards through pipes and hoses. This could occur if the water pressure dropped when a hose was turned on to apply spray fertilizer. The fertilizer could be sucked back into the drinking water pipes.

The Mendon Water Commission recommends the installation of backflow prevention devices, such as Hose Bibb vacuum breakers, on all hose connections in order to prevent cross connections. These are inexpensive and are available from your local plumbing contractor or supplier.

As required by Massachusetts Drinking Water Regulations, 310 CMR 22.22 (3) (b), the Mendon Water Commission has an approved Cross Connection Program Plan. All cross connections in Mendon businesses that are supplied by public water are surveyed by a certified backflow tester on an annual basis. These records are available for your inspection at the Conservation Commission / Water Commission office in the town hall.

Ways to Protect the Water Supply:

- Dispose of all unused household hazardous wastes at the Board of Health's Household Hazardous Waste Day. Call 508-634-2656 for more information.
- Use natural alternatives.
- Minimize the use of fertilizers, pesticides, or herbicides. Do not apply them before a heavy rain is anticipated. Use natural alternatives.
- Sweep up any spilled fertilizers, pesticides, or herbicides. Do not wash them into the streets or storm drains.
- Maintain your septic system. The septic tank should be emptied once every three years. Call 508-634-2656 for more information.
- Conserve water to help our finite water supply support a growing population. Conserving water also helps avoid watering bans. Avoid excessive lawn irrigation. Check for leaks within your system. Purchase water saving devices, such as low flow toilets and showerheads. These are often inexpensive and easy to install.