

PWSID ME0090330
CASTINE WATER DEPARTMENT
2009 Consumer Confidence Report

General Information

Public Water System: Castine Water Department
PWSID #: 90330

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Date of Distribution: April 9, 2010 **Report Covering Calendar Year:** Jan. 1–Dec. 31, 2009.

Upcoming Regularly Scheduled Meeting(s): Upon request.

Source Water Information

Description of Water Source: 5 wells + 1 emergency well; surface water (Battle Avenue Ponds)

Location (sketch map on reverse side):

Water Treatment, Filtration: chlorination, filtration, corrosion control (polyphosphates)

Source Water Assessment: The sources of drinking water include rivers, lakes, ponds and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and radioactive material and can pick up substances resulting from human or animal activity. The Maine Drinking Water Program (DWP) has evaluated all public water supplies as part of the Source Water Assessment Program (SWAP). The assessments included geology, hydrology, land uses, water testing information, and the extent of land ownership or protection by local ordinance to see how likely our drinking water source is to being contaminated by human activities in the future. Assessment results are available at town offices, public water suppliers, and the DWP. For more information about the SWAP, please contact the DWP at telephone 287-2070.

Water Test Results

Contaminant	Date	Results	MCL	MCLG	Source
Microbiological					
TOTAL COLIFORM (1)	2009	0 pos	1 pos	0 pos	Naturally present in the environment.
Inorganics					
BARIUM	3/4/2009	0.003 ppm	2 ppm	2 ppm	Discharge of drilling wastes. Discharge from metal refineries. Erosion of natural deposits.
CHROMIUM	3/4/2009	0.61 ppb	100 ppb	100 ppb	Discharge from steel and pulp mills. Erosion of natural deposits.
COPPER 90TH % VALUE (4)	1/1-6/30/2009	0.8 ppm	AL=1.3 ppm	1.3 ppm	Corrosion of household plumbing systems.
LEAD 90TH % VALUE (4)	1/1-6/30/2009	21 ppb	AL=15 ppb	0 ppb	Corrosion of household plumbing systems.
NITRATE NITROGEN (5)	3/4/2009	0.26 ppm	10 ppm	10 ppm	Runoff from fertilizer use. Leaching from septic tanks, sewage. Erosion of natural deposits.
SELENIUM	3/4/2009	6.7 ppb	50 ppb	50 ppb	Discharge from petroleum and metal refineries. Erosion from natural deposits. Discharge from mine
Radionuclides					
GROSS ALPHA SCREEN (6)	8/24/2009	34 pCi/L	15 pCi/L	0 pCi/L	Erosion of natural deposits.

COMBINED RADIUM-226/228	7/16/2009	10.66 pCi/L	5 pCi/L	0 pCi/L	Naturally occurs in some drinking water sources.
RADON SCREEN (8)	1/29/2007	689 pCi/L	4000 pCi/L	N/A	Erosion of natural deposits.
URANIUM-238 (7)	11/2/2009	0.66 ppb	30 ppb	0 ppb	Erosion of natural deposits.

Disinfectants and Disinfection ByProducts

TOTAL TRIHALOMETHANES(TTHM) (9)	10/13/09	0 ppb	80 ppb	0 ppb	By-product of drinking water chlorination.
TOTAL HALOACETIC ACIDS(HAA5) (9)	10/13/09	0 ppb	60 ppb	0 ppb	By-product of drinking water chlorination.

Definitions:

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.

Running Annual Average (RAA): The Average of all monthly or quarterly samples for the last year at all sample locations.

Action Level (AL): The concentration of a contaminant that, if exceeded, triggers treatment or other requirements that a water system must follow.

Units:

ppm = parts per million or milligrams per liter (mg/L).

ppb = parts per billion or micrograms per liter (µg/L).

pCi/L = picocuries per liter (a measure of radioactivity).

pos = positive samples.

ntu = nephelometric turbidity units.

Notes:

1) Total Coliform Bacteria: Reported as the highest monthly number of positive samples, for water systems that take < 40 samples per month.

2) Arsenic: The U.S. EPA adopted the new MCL standard in October 2001. Water systems must meet this new standard by January 2006.

3) Fluoride: Fluoride levels must be maintained between 1-2 ppm, for those water systems that fluoridate the water.

4) Lead/Copper: Action levels (AL) are measured at consumer's tap. 90% of the tests must be equal to or below the action level.

5) Nitrate: Nitrate in drinking water at levels above 10 ppm is a health risk for infants of less than six months of age. High nitrate levels in drinking water can cause blue baby syndrome. Nitrate levels may rise quickly for short periods of time because of rainfall or agricultural activity. If you are caring for an infant you should ask advice from your health provider.

6) Gross Alpha: Action level over 5 pCi/L requires testing for Radium. Action level over 15 pCi/L requires testing for Radon and Uranium.

7) Uranium: The U.S. EPA adopted the new MCL standard of 30 ug/L(ppb), in December 2000. Water systems must meet this new standard after December 2003.

8) Radon: The State of Maine adopted a Maximum Exposure Guideline (MEG) for Radon in drinking water at 4000 pCi/L, effective 1/1/07. If Radon exceeds the MEG in water, treatment is recommended. It is also advisable to test indoor air for Radon. The U.S.EPA is proposing setting federal standards for Radon in public drinking water.

9)TTHM/HAA5: Total Trihalomethanes and Haloacetic Acids (TTHM and HAA5) are formed as a by-product of drinking water chlorination. This chemical reaction occurs when chlorine combines with naturally occurring organic matter in water.

All other regulated drinking water contaminants were below detection levels.

Secondary Contaminants (You are not required to list detects for secondary contaminants, but this information- particularly sodium levels- might be useful to your customers- the decision to supply this information in your CCR is up to you.):

Sodium	4.3 ppm	3/4/09
Chloride	8 ppm	3/4/09
Iron	0.37 ppm	3/4/09
Magnesium	1.6 ppm	3/4/09
Manganese	0.65 ppm	3/4/09
Nickel	0.001 ppm	3/4/09
Sulfate	7 ppm	3/4/09
Zinc	0.01 ppm	3/4/09

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. Contaminants that may be present in 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 stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming. *Pesticides and*

herbicides, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses.

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

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 (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. Castine 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

10/1/2009 – 12/31/2009	02 Violation	MCL, AVERAGE (GROSS ALPHA)
10/1/2009 – 12/31/2009	02 Violation	MCL, AVERAGE (COMBINED RADIUM 226 & 228)
1/1/2009 – 6/30/2009	SE Violation	ACTION LEVEL EXCEEDANCE (LEAD)

Gross Alpha MCL Violation: In the 4th quarter 2009, Gross Alpha test results exceeded the MCL of 15 pCi/L established by the U.S. Environmental Protection Agency (EPA) in the Radionuclides Rule. Due to the high Gross Alpha results, our water system has been placed on quarterly monitoring for the year of 2009. We are required notify our customers if there is a Gross Alpha MCL violation. Certain minerals are radioactive and emit a form of radiation known as Alpha emitting radiation. Drinking water containing Gross Alpha above the MCL over the course of a lifetime increases the risk of getting cancer. You do not need to use an alternative (e.g. bottled water) supply, unless you wish to do so. However, if you have specific health concerns, please consult your physician prior to consuming water containing Gross Alpha emitters.

Combined Radium MCL Violation: In the 4th quarter 2009, Combined Radium test results exceeded the MCL of 5 pCi/L established by the U.S. Environmental Protection Agency (EPA) in the Radionuclides Rule. Some people who drink water containing radium 226 or 228 in excess of the MCL over many years may have an increased risk of getting cancer.

We have identified the two Spring Street bedrock wells as the source of the excess gross alpha and radium. We have taken these wells out of service and have increased production from other wells within the distribution system. We will continue gross alpha and combined radium testing to confirm the problem has been resolved.

Lead & Copper Action Level Exceedance: In the first half of 2009, routine sampling detected (Lead/Copper) in excess of the maximum level allowed. 4 out of 20 sites sampled, exceeded the action level for (Lead/Copper). Drinking water regulations require that samples are taken from homes with a high risk potential for Lead/Copper in the plumbing. Public education material was distributed to all residents, shortly thereafter. A corrosion control has been submitted to the State Drinking Water Program. We propose to add a corrosion inhibitor to reduce the corrosivity of the water, thereby reducing the (Lead/Copper) levels in household plumbing. Lead/Copper sampling will continue to be done every 6 months as required. Results of subsequent future Lead/Copper testing will be made available to all residents. Lead Health Effects: Infants and children who drink water containing Lead in excess of the action level could experience delays in their physical or mental development. Children could show slight deficits in attention span and learning abilities. Adults who drink this water over many years could develop kidney problems or high blood pressure. Copper Health Effects: Copper is an essential nutrient, but some people who drink water containing copper in excess of the action level over a relatively short time could experience gastrointestinal distress and could suffer liver or kidney damage with long-term exposure. People with Wilson's Disease should consult their doctor.