

PWSID ME0090220
BREWER WATER DEPARTMENT
2017 Consumer Confidence Report

General Information

Water System Contact Name: Rodney Butler

Address: 223 Greenpoint Rd.

City, State, Zip Code: Brewer, ME, 04412

Telephone #: 989-4214 **Fax#:** 989-2883 **Email:** _____

Report Covering Calendar Year: Jan 1 - Dec 31, 2017

Upcoming Regularly Scheduled Meeting(s): Brewer City Council meetings, May 9th & June 6th

Source Water Information

Description of Water Source: Surface Water Intakes: 2 (Hatcase Pond, Hatcase Pond Intake (new)) Consecutive Connections: 1 (Cons Conn - Bangor Water District)

Hatcase Pond, located in Dedham and Eddington, has been the primary water source for the City of Brewer, and parts of Eddington, Holden and Orrington, since the 1950's. This 163 acre pristine water source is surrounded primarily by wooded land owned by the department or under conservation easement.

Water Treatment & Filtration Information:

Treatment techniques used by the Department to ensure the safety of the water at your tap, include ozonation, UV and chloramination. Ozone gas, a powerful disinfectant, is used to provide primary disinfection. UV light is used to deactivate cryptosporidium and other organisms. Chloramines, a combination of chlorine and ammonia, are used to provide a disinfectant residual in the distribution system.

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 and public water systems.

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): A 12 month rolling average of all monthly or quarterly samples at all locations. Calculation of the RAA may contain data from the previous year.

Locational Running Annual Average (LRAA): A 12 month rolling average of all monthly or quarterly samples at specific sampling locations. Calculation of the RAA may contain data from the previous year.

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

Maximum Residual Disinfectant Level (MRDL): The highest level of a disinfectant 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 below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

Units:

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

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

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

pos = positive samples.

MFL = million fibers per liter

Water Test Results

<i>Contaminant</i>	<i>Date</i>	<i>Results</i>	<i>MCL</i>	<i>MCLG</i>	<i>Possible Sources of Contamination</i>
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Microbiological

COLIFORM (TCR) (1)	2017	0 pos	1 pos/mo or 5%	0 pos	Naturally present in the environment.
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Inorganics

BARIUM	4/3/2017	0.0015 ppm	2 ppm	2 ppm	Discharge of drilling wastes. Discharge from metal refineries. Erosion of natural deposits.
CHROMIUM	4/3/2017	0.69 ppb	100 ppb	100 ppb	Discharge from steel and pulp mills. Erosion of natural deposits.
FLUORIDE (3)	9/20/2017	0.8 ppm	4 ppm	4 ppm	Erosion of natural deposits. Water additive which promotes strong teeth. Discharge from fertilizer and aluminum factories.
NITRATE (5)	4/3/2017	0.05 ppm	10 ppm	10 ppm	Runoff from fertilizer use. Leaching from septic tanks, sewage. Erosion of natural deposits.

Lead/Copper

COPPER 90TH% VALUE (4)	1/1/2015 - 12/31/2017	0.11 ppm	AL = 1.3 ppm	1.3 ppm	Corrosion of household plumbing systems.
LEAD 90TH% VALUE (4)	1/1/2015 - 12/31/2017	3 ppb	AL = 15 ppb	0 ppb	Corrosion of household plumbing systems.

Disinfectants and Disinfection Byproducts

146 SOUTH MAIN ST

TOTAL HALOACETIC ACIDS (HAA5) (9)	LRAA(2017)	11 ppb Range (11–11 ppb)	60 ppb	0 ppb	By-product of drinking water chlorination.
TOTAL TRIHALOMETHANE (TTHM) (9)	LRAA(2017)	2 ppb Range (1.6–1.6 ppb)	80 ppb	0 ppb	By-product of drinking water chlorination.

518 SOUTH MAIN ST

TOTAL HALOACETIC ACIDS (HAA5) (9)	LRAA(2017)	12 ppb Range (11–13 ppb)	60 ppb	0 ppb	By-product of drinking water chlorination.
TOTAL TRIHALOMETHANE (TTHM) (9)	LRAA(2017)	2 ppb Range (1.6–1.7 ppb)	80 ppb	0 ppb	By-product of drinking water chlorination.

Chlorine Residual (Add chlorine residual information)

CHLORINE RESIDUAL	Range (1.06 - 1.89 ppm)	MRDL=4 ppm	MRDLG=4 ppm	By-product of drinking water chlorination.
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Turbidity (Add turbidity information, highest monthly reading in 2017)

TURBIDITY	November	1.21 NTU	5 ntu	N/A	Soil runoff.
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Notes:

- 1) Total Coliform Bacteria: Reported as the highest monthly number of positive samples, for water systems that take less than 40 samples per month.
- 2) E. Coli: E. coli are bacteria whose presence indicates that the water may be contaminated with human or animal wastes. Human pathogens in these wastes can cause short-term effects, such as diarrhea, cramps, nausea, headaches, or other symptoms. They may pose a greater health risk for infants, young children, the elderly, and people with severely-compromised immune systems.
- 3) Fluoride: For those systems that fluoridate, fluoride levels must be maintained between 0.5 to 1.2 ppm. The optimum level is 0.7 ppm.
- 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) Arsenic: While your drinking water may meet EPA's standard for Arsenic, if it contains between 5 to 10 ppb you should know that the standard balances the current understanding of arsenic's possible health effects against the costs of removing it from drinking water. EPA continues to research the health effects of low levels of arsenic, which is a mineral known to cause cancer in humans at high concentrations and is linked to other health effects such as skin damage and circulatory problems. Quarterly compliance is based on running annual average.
- 7) Gross Alpha: Action level over 5 pCi/L requires testing for Radium 226 and 228. Action level over 15 pCi/L requires testing for Uranium. Compliance is based on Gross Alpha results minus Uranium results = Net Gross Alpha.
- 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.
- 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. Compliance is based on running annual average.

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	20 ppm	4/3/2017
SULFATE	4 ppm	4/3/2017
MANGANESE	0.013 ppm	4/3/2017
MAGNESIUM	0.44 ppm	4/3/2017
IRON	0.084 ppm	4/3/2017
CHLORIDE	4 ppm	4/3/2017
ZINC	0.0014 ppm	4/3/2017
NICKEL	0.00088 ppm	3/11/2015

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.

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

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) or at the following link:

<https://www.epa.gov/ccr/forms/contact-us-about-consumer-confidence-reports>

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. Brewer 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 the following link:

<http://www.epa.gov/safewater/lead>

Violations

No Violations in 2017

Waiver Information (to be included in the CCR for systems that were granted a waiver)

In 2017, our system was granted a 'Synthetic Organics Waiver.' This is a three year exemption from the

monitoring/reporting requirements for the following industrial chemical(s): TOXAPHENE/CHLORDANE/PCB, HERBICIDES, SEMIVOLATILE ORGANICS. This waiver was granted due to the absence of these potential sources of contamination within a half mile radius of the water source(s).