2017 Annual Drinking Water Quality Report

Gray Water District
PWSID#90620
80 Shaker Road
Gray, Maine

We're pleased to present to you this year's Annual Water Quality Report. This report is designed to inform you about the quality water and services we deliver to you every day. Our constant goal is to provide you with a safe and dependable supply of drinking water. We want you to understand the efforts we make to continually improve the water treatment process and protect our water resources. We are committed to ensuring the quality of your water. Our water source is located at 80 Shaker Road. Our two gravel wells draw water from Libby Brook Aquifer. A Wellhead Protection Plan is available for your review in our office. Water treatment consists of sodium silicate for corrosion control with backup chlorination equipment to be used for disinfection if needed.

We're pleased to report that our drinking water is safe and meets federal and state requirements.

If you have any questions about this report or concerning your water utility, please contact James Foster Superintendent at Phone 657-3500 or Fax 657-3277. We want our valued customers to be informed about their water utility. If you want to learn more, please attend any of our regularly scheduled meetings. They are held on the third Monday of each month, 7:00 PM, at our 80 Shaker Road office.

Gray Water District routinely monitors for constituents in your drinking water according to Federal and State laws. This table shows the results of our monitoring for the period of January 1st to December 31st, **2017.** 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's important to remember that the presence of these constituents does not necessarily pose a health risk.

In this table you will find many terms and abbreviations you might not be familiar with. The following definitions are provided to help you understand these terms.

Non-Detects (ND) - laboratory analysis indicates that the constituent is not present.
Parts per million (ppm) or Milligrams per liter (mg/l) - one part per million corresponds to one minute in two years or a single penny in $10,000.
Parts per billion (ppb) or Micrograms per liter (ug/l) - one part per billion corresponds to one minute in 2,000 years, or a single penny in $10,000,000.
Picocuries per liter (pCi/L) - picocuries per liter is a measure of the radioactivity in water.
Variances & Exemptions (V&E) - State or EPA permission not to meet an MCL or a treatment technique under certain conditions.

Action Level (AL) - the concentration of a contaminant that, if exceeded, triggers treatment or other requirements that a water system must follow.
Treatment Technique (TT) - A treatment technique is a required process intended to reduce the level of a contaminant in drinking water.
Maximum Contaminant Level (MCL) - The MCL 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.
Maximum Contaminant Level Goal (MCLG) - The MCLG 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.

The following contaminants were tested for:

Microbiological Contaminants

1. Total Coliform Bacteria
2. Fecal coliform and *E.coli*
3. Turbidity

Radioactive Contaminants

4. Beta/photon emitters
5. Alpha emitters
6. Radon

Inorganic Contaminants

7. Antimony
8. Arsenic
9. Asbestos
10. Barium
11. Beryllium
12. Cadmium
13. Chromium
14. Copper
15. Cyanide
16. Fluoride
17. Lead
18. Mercury (inorganic)
19. Nitrate (as Nitrogen)
20. Nitrite (as Nitrogen)
21. Selenium
22. Thallium

Synthetic Organic Contaminants including Pesticides and Herbicides

23. 2,4-D
24. 2,4,5-TP (Silvex)
25. Acrylamide
26. Alachlor
27. Atrazine
28. Benzo (a) pyrene (PAH)
29. Carbofuran
30. Chlordane
31. Dalapon
32. Di (2-ethylhexyl) adipate
33. Di (2-ethylhexyl) phthalate
34. Dibromochloropropane
35. Dinoseb
36. Diquat
37. Dioxin [2,3,7,8-TCDD] 38. Endothall
39. Endrin
40. Epichlorohydrin
41. Ethylene dibromide
42. Glyphosate (43. Heptachlor
44. Heptachlor epoxide
45. Hexachlorobenzene
46. Hexachlorocyclo-pentadiene
47. Lindane
48. Methoxychlor
49. Oxamyl [Vydate]
50. PCBs [Polychlorinated biphenyls]
51. Pentachlorophenol
52. Picloram
53. Simazine
54. Toxaphene

Volatile Organic Contaminants

55. Benzene
56. Carbon tetrachloride
57. Chlorobenzene
58. O-Dichlorobenzene
59. P-Dichlorobenzene
60. 1,2 - Dichloroethane
61. 1,1 - Dichloroethylene
62. Cis-1, 2-Dichloroethylene
63. Trans - 1,2 -Dichloroethylene
64. Dichloromethane
65. 1,2-Dichloropropane
66. Ethylbenzene

66a. Methyl-Tertiary-Butyl-Ether (MTBE) (Maine MCL)

67. Styrene
68. Tetrachloroethylene
69. 1,2,4 -Trichlorobenzene
70. 1,1,1 - Trichloroethane
71. 1,1,2 -Trichloroethane
72. Trichloroethylene
73. TTHM [Total trihalomethanes]
74. Toluene
75. Vinyl Chloride
76. Xylen

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 287-2070.

The following contaminants were detected:

TEST RESULTS						
Contaminant	Violation Y/N	Level Detected	Unit of Measure	MCLG	MCL	Likely Source of Contamination
Microbiological Contaminants						
1.Total Coliform Bacteria (1) Oct 2017	N	1 pos 2 TEST/ MONTH		0	presence of coliform bacteria in 1 monthly sample	Naturally present in the environment

Radioactive Contaminants						
Combined Radium (-226 & -228) 5/2/17	N	2.61	pCi/l	0	5	Erosion of natural deposits.
Combined Uranium 5/2/17	N	10	ppb	0	30 ppb	Erosion of natural deposits.
5. Alpha emitters (7) 5/2/17	N	1.51	pCi/1	0	15	Erosion of natural deposits
6. Radon (8) 10/19/07	N	1,640	pCi/1	N/A	4,000	Erosion of natural deposits
Radium-226 5/2/17	N	2.61	pCi/1	0	5	Erosion of natural deposits
Uranium-238 03/16/17	N	4.0	ppb	0	30	Erosion of natural deposits
Inorganic Contaminants						
7. Antimony, Total 12/29/11	N	0.7	ppb	0	6	Discharge from petroleum refineries, fire retardants, ceramics, electronics, and solder.
8. Arsenic (6) 05/02/17	N	5.4	ppb	0	10	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes
10. Barium 05/2/17	N	0.0039	ppm	2	2	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
13. Chromium 03/16/17	N	1.1	ppb	100	100	Discharge from steel and pulp mills; erosion of natural deposits
14. Copper (4) 90th percentile 1/1/14-12/31/16	N	0.79	ppm	1.3	AL=1.3	Corrosion of household plumbing systems. (see below)
16. Fluoride (3) 5/2/17	N	0.1	ppm	4 ppm	4 ppm	Erosion of natural deposits. Water additive which promotes strong teeth. Discharge from fertilizer and aluminum factories.
17. Lead (4) 90th percentile 1/1/14-12/31/16	N	4.8	ppb	0	AL=15	Corrosion of household plumbing systems.
19. Nitrate (as Nitrogen) (5) 03/16/17	N	3.3	ppm	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits

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.

Violations

Violation Period Violation Type

10/11/2017 - 10/25/2017 34 Violation - MONITOR GWR TRIGGERED/ADDITONAL, MAJOR E. COLI DIST SYS We are required to monitor our drinking water for specific contaminants following a positive total coliform bacteria result. During 2017, we failed to collect the necessary source water Groundwater Rule samples as required by federal regulations.

On December 5th Gray Water District was notified of the above violation. Subsequently, on December 14th, we took the mistakenly missed sample and received the results on December 15th as absent Coliform bacteria and E. coli bacteria.

Additional General Information

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. Gray Water District 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.

All sources of drinking water are subject to potential contamination by substances that are naturally occurring or man made. The presence of contaminants does not necessarily indicate that the water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline at 1-800-426-4791.

MCL's are set at very stringent levels. To understand the possible health effects described for many regulated constituents, a person would have to drink 2 liters of water every day at the MCL level for a lifetime to have a one-in-ten thousand chance of having the described health effect.

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 microbiological contaminants are available from the Safe Drinking Water Hotline (800-426-4791).

We at Gray Water District work to provide top quality water to every tap. We ask that all our customers help us protect our water sources, which are the heart of our community, our way of life and our children's future.

Please call our office if you have questions.

Certification

I _____ hereby certify and attest that I have distributed copies of this Consumer Confidence Report to all users of my public water system on _____, by mail , posted in the newspaper , or electronically ,(check one) in accordance with 40 CFR§141-142. I further certify that the information contained in this annual Consumer Confidence Report is correct and consistent with compliance monitoring data. Any intentional deception or misinformation represented in this report may be cited as a violation of State and U.S. EPA National Primary Drinking Water Rules.

Signed:_____ Dated:_____

Instructions: Please complete this CCR template (fill in the blanks) with all pertinent information or use the information provided in this template to create your own CCR report. Distribute copies of this CCR to all customers or residents served by this water supply as well as to the State of Maine Drinking Water Program by July 1st. Also send a signed and dated (Certification) CCR to the DWP for our records by October 1st. If you have provided the CCR electronically please provide documentation on how consumers were notified as well as the direct link to the CCR on the internet. If the CCR was provide via e-mail please provide a sample copy of the e-mail with the embedded or attached CCR. Should you have any questions, contact your Compliance Officer at the DWP, telephone: 207-287-2070