

2001 WATER QUALITY REPORT

The Quality of Your Drinking Water

The Brunswick and Topsham Water District is pleased to present you with our 2001 Annual Drinking Water Quality Report. This report, a requirement of the 1996 amendments to the State Drinking Water Act, 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 quality of your water and protect our water resources.

Sources of Supply

Our sources of supply are all groundwater taken from various wells, as follows:

- Jackson Station, Topsham – 1-18" diameter well
- Jordan Ave. Station, Brunswick – 138-2.5" diameter wells
- Taylor Station, Brunswick – 1-18" diameter well and 1-12" diameter well
- Williams Station, Brunswick – 1-12" diameter well



Our water distribution system includes approximately 100 miles of water main, three storage tanks, 6,400 services, and 800 private and public hydrants. In 2001, we delivered an average of approximately 2.2 million gallons of water per day to our customers.

Water Treatment

We add sodium hypochlorite (chlorine) at all of our sources to protect against bacteriological contaminants, and fluoride to promote dental health. We also add sodium-zinc polyphosphate to inhibit corrosion of the distribution system piping and to reduce lead and copper corrosion of internal plumbing systems. The water from the Jackson and Taylor wells is filtered to remove iron and manganese caused by erosion of natural deposits in the sand and gravel aquifer. The pH of the water from the Jordan Avenue well field is adjusted using aeration. Sodium hydroxide is also available for pH adjustment.

Treatment Facility	Sodium Hypochlorite (Chlorine)	Sodium-zinc Polyphosphate	Iron and Manganese Removal	Fluoride
Jackson	Yes	Yes	Yes	Yes
Jordan	Yes	Yes	None Needed	Yes
Taylor	Yes	Yes	Yes	Yes
Williams	Yes	Yes	None Needed	Yes

Variations and Waivers

The State of Maine Department of Human Services can grant variations such that maximum contaminant level or treatment technique requirements do not have to be met under certain conditions. We have not requested or received any variations.

The State can also grant testing waivers to water utilities who have shown negative test results of contaminants for at least three consecutive years. The watershed must have no previous production, storage, disposal, or transportation of such contaminants or materials that may cause these contaminants. The following is a list of waivers that have been granted to the Brunswick and Topsham Water District until the year 2004 by The State of Maine Department of Human Services:

STATION	WAIVERS			
	Carbamate Pesticide Screen	Herbicide Screen	Pesticide Screen	Semi-Volatile Organic Screen
Jackson	Yes	Yes	Yes	Yes
Jordan	NO WAIVERS GRANTED			
Taylor and Williams	Yes	Yes	Yes	Yes

Water Quality

In order to insure that tap water is safe to drink, EPA prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

Some or all of the following contaminants were tested for as regulated by law. Other elements are also tested which do not require reporting, as they do not pose a potential health risk.

Microbiological Contaminants	Synthetic Organic Contaminants including Pesticides and Herbicides	46. Hexachlorocyclopentadiene	66a. Methyl-Tertiary-Butyl-Ether (MTBE) (Maine MCL)
1. Total Coliform Bacteria	23. 2,4-D	47. Lindane	67. Styrene
2. Fecal coliform and <i>E.coli</i>	24. 2,4,5-TP (Silvex)	48. Methoxychlor	68. Tetrachloroethylene
3. Turbidity	25. Acrylamide	49. Oxamyl [Vydate]	69. 1,2,4-Trichlorobenzene
Radioactive Contaminants	26. Alachlor	50. PCBs [polychlorinated biphenyls]	70. 1,1,1-Trichloroethane
4. Beta/photon emitters	27. Atrazine	51. Pentachlorophenol	71. 1,1,2-Trichloroethane
5. Alpha emitters	28. Benzo(a)pyrene (PAH)	52. Picloram	72. Trichloroethylene
6. Combined radium	29. Carbofuran	53. Simazine	73. TTHM [Total Trihalomethanes]
Inorganic Contaminants	30. Chlordane	54. Toxaphene	74. Toluene
7. Antimony	31. Dalapon	Volatile Organic Contaminants	75. Vinyl Chloride
8. Arsenic	32. Di(2-ethylhexyl) adipate	55. Benzene	76. Xylene
9. Asbestos	33. Di(2-ethylhexyl) phthalate	56. Carbon tetrachloride	
10. Barium	34. Dibromochloropropane	57. Chlorobenzene	
11. Beryllium	35. Dinoseb	58. o-Dichlorobenzene	
12. Cadmium	36. Diquate	59. p-Dichlorobenzene	
13. Chromium	37. Dioxin [2,3,7,8-TCDD]	60. 1,2-Dichloroethane	
14. Copper	38. Endothall	61. 1,1-Dichloroethylene	
15. Cyanide	39. Endrin	62. cis-1,2-Dichloroethylene	
16. Fluoride	40. Epichlorohydrin	63. trans-1,2-Dichloroethylene	
17. Lead	41. Ethylene dibromide	64. Dichloromethane	
18. Mercury (inorganic)	42. Glyphosate	65. 1,2-Dichloropropane	
19. Nitrate (as Nitrogen)	43. Heptachlor	66. Ethylbenzene	
20. Nitrite (as Nitrogen)	44. Heptachlor epoxide		
21. Selenium	45. Hexachlorobenzene		
22. Thallium			

Monitoring Results

The Brunswick and Topsham Water District routinely monitors for constituents in your drinking water according to Federal and State laws. The following table shows any detection resulting from our monitoring for the period of January 1st to December 31st, 2001. Regulated contaminants that were below detectable levels are not shown. If no tests were required for a given contaminant in 2001, the law requires that the most recent test results be included here. No test results over 5 years old are allowed, however.

Test Results						
Substance (Contaminant)	Highest Level Detected ⁽¹⁾	Detected Range ⁽²⁾	MCL ⁽³⁾	MCLG ⁽⁴⁾	Date	Source of Contaminant
<i>Lead and Copper Check</i>						
Copper 90 th percentile ^(a) (ppm) ⁽⁵⁾	0.44	-	1.3	1.3	6/30/1999	Corrosion of household plumbing systems.
Lead 90 th percentile ^(a) (ppb) ⁽⁶⁾	4.0	-	15	0	6/30/1999	Corrosion of household plumbing systems.
<i>Radioactive Contaminants</i>						
Radon ^(b) (pCi/L) ⁽⁷⁾	632	-	4,000	300	3/19/2001	Erosion of natural deposits.
<i>Inorganic Chemicals</i>						
Arsenic ^(c) (ppb)	5	-	10	0	3/16/1999	Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes.
Barium(ppm)	0.003	-	2	2	3/16/1999	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits.
Fluoride ^(d) (ppm)	1.49*	0.73 - 1.67	4	4	4/11/2001	Water additive which promotes strong teeth.
Nitrate Nitrogen(ppm)	2.18	-	10	10	3/19/2001	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.
Turbidity ^(e) (ntu) ⁽⁸⁾	0.2	-	5	5	3/16/1999	Soil runoff.
<i>Total Coliform</i>						
Total Coliform ^(f) (cfu) ⁽⁹⁾	0		1	0	15 per month	Naturally present in the environment.
<i>Total Trihalomethane</i>						
Total Trihalomethane ^(g) (ppb)	78.0**	21.4 - 74.1	80	-	5/28/2000	By-product of drinking water chlorination.
<i>See Next Page For Notes & Definitions</i>						

* Highest monthly average.

** Highest quarterly average.

Notes & Definitions

- 1. Highest Level Detected-** The highest level detected may either be the highest monthly average (indicated with *), highest quarterly average (indicated with **), or the highest singular test for that contaminant.
- 2. Detected Range-** The range reported is the highest and lowest singular test result for that contaminant. The device used to measure contaminant levels has a much "wider" range of detection. A "detected range" is not given where only one sample was required.
- 3. Maximum Contaminant Level (MCL) -** 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.
- 4. Maximum Contaminant Level Goal (MCLG) -** 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.
- 5. 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.
- 6. Parts per billion (ppb) or Micrograms per liter-** one part per billion corresponds to one minute in 2,000 years, or a single penny in \$10,000,000.
- 7. Picocuries per liter (pCi/L)-** picocuries per liter is a measure of the radioactivity in water.
- 8. Nephelometric Turbidity Units (ntu)-** A measure of the cloudiness of the water.
- 9. cfu- Colony Forming Units**
 - a. Lead/Copper-** "Action levels" are measured at consumer's tap. 90 percent of the tests must be equal to or below the action level. The action level is the concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.
 - b. Radon-** The highest Radon levels for our system was 632 pCi/L, taken in March 2001. Radon is found in the soil and bedrock formations and is a water soluble, gaseous by-product of Uranium. Most Radon is released to the air, moments after turning on the tap. Only about 1-2 percent of Radon in the air comes from drinking water. The USEPA is proposing setting lower standards for public drinking water, between 300 – 4,000 pCi/L. The State of Maine currently recommends follow-up action (or treatment) for Radon levels in drinking water above 20,000 pCi/L. Breathing Radon released to air from tap water increases the risk of lung cancer over the course of your lifetime. If you seek more information about Radon, please contact this office or the State Drinking Water Program and request a Radon 'Fact Sheet'.
 - c. Arsenic-** The U.S. EPA adopted the new MCL standard in October 2001. Water systems must meet this new standard by January 2006.
 - d. Fluoride-** The optimal range for systems that fluoridate is 1-2 ppm. Fluoride added to water as mandated by public referendum (1954).
 - e. Turbidity-** Ground water systems must meet the 5ntu standard. Surface water supplies must meet the treatment technique level in 95 percent of the samples taken.
 - f. Total Coliform Bacteria-** Reported as the highest monthly number of positive samples, for water systems that take less than 40 sample per month.
 - g. Total Trihalomethane Detection-** Some people who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous systems, and may have an increased risk of getting cancer. The MCL for trihalomethanes (THMs) is 80ppb based on a running average of the last four quarterly results. The running average level of the last four quarterly results was 54.3ppb, which is below the MCL. The maximum individual sample level measured was 98.8ppb on September 25, 2001. The highest quarterly average measured was 78.0ppb on September 25, 2001.

Test Results Statement



As you can see by the table, our system had no violations. We're proud that your drinking water meets all Federal and State requirements. We have learned through our monitoring and testing that some constituents have been detected, but are below the limits set by EPA. The EPA has determined that your water **IS SAFE** at these levels.

Sensitive Sub-populations

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).

Important Information

All sources of drinking water are subject to potential contamination by constituents that are naturally occurring or are man made. Those constituents can be microbes, organic or inorganic chemicals, or radioactive materials. 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 the water poses a health risk.

Maximum Contaminant Levels (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.

Ongoing Improvements

We are continually working to improve our capabilities to provide high quality water to every tap. New filters for iron and manganese removal were installed at our Jackson Station in 1991 and at our Taylor Station in 2000. Construction of our new Jordan Avenue pumping station and the summer of 2001. This new station will meet water system demands. The new systems to adjust the pH of the water using aeration or sodium hydroxide to minimize corrosion of pipes and internal plumbing systems.



Recently we have begun planning to develop additional wells at our Jackson and Taylor stations. These new supplies will provide a backup source of supply in the event of equipment failures. They will also provide us with more operational flexibility in terms of performing regular maintenance on our wells.

The Maine Drinking Water Program will be evaluating all public water supplies statewide by the year 2003 as part of the Source Water Assessment Program. The evaluation will consider geology and hydrology, land uses, water testing information, and the extent of land ownership or protection by local ordinance to determine how likely our drinking water source is to be contaminated in the future. When this work is completed by the State, it will be included in future versions of this report. For more information, contact the Drinking Water Program at 287-2070.

Need To Know More?

If you have any questions and/or comments about this report or any other aspect of our operations, please contact Norman J. Cyr, General Superintendent, at 729-9956 (phone), 725-6470 (fax), or normcyr@blazenetme.net (email). We want our valued customers to be informed about their utility. Feel free to attend our monthly board meetings held on the second Monday of each month at 7:00 p.m. at our office located at 266 River Road in Topsham.



Brunswick & Topsham Water District
PO BOX 580
Brunswick, Maine 04011

! IMPORTANT INFORMATION ABOUT YOUR DRINKING WATER !

