

# *2009 Annual Drinking Water Quality Report*

## **Bethel Water District**

Bethel, Maine  
PWSID ME0090160

We're pleased to present to you our Annual Drinking Water Quality Report, also known as the Consumer Confidence Report. This report, a requirement of the 1996 amendments to the Safe 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 water treatment process and protect our water resources. We are committed to ensuring the quality of your water.

### **WATER SOURCE**

Our water source comes from five drilled groundwater wells located in Bethel ranging from 36-40 feet in depth. The wells are treated with chlorine to protect from possible bacterial contaminants and fluoride to promote dental health. Our system serves a population of 1,405 customers through 562 service connections.

### **SOURCE WATER ASSESSMENT**

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 public water suppliers, town offices, and the DWP. For more information about the SWAP, please contact the DWP at telephone 207-287-2070.

If you have any questions about this report or concerning your water system, please contact Lucien Roberge, Superintendent, or Donald Katlin, Assistant Superintendent, at telephone number 207-824-2342 or mailing address PO Box 104, Bethel, ME 04217. If you want to learn more, please attend any of our regularly scheduled meetings. They are held on the third Tuesday of every month at 7 p.m. at the Bethel Town Office Meeting Room on Main Street.

### **WATER QUALITY**

Bethel Water District routinely monitors for contaminants 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 1<sup>st</sup> to December 31<sup>st</sup>, 2009.

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. All sources of drinking water are subject to potential contamination by substances that are naturally occurring or man made. 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 storm water runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.

**Pesticides and herbicides** may come from a variety of sources such as agriculture, urban storm water runoff, and residential uses.

**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 storm water 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, U.S. Environmental Protection Agency (EPA) prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. U.S. Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

The table below lists all of the drinking water contaminants that were detected through out water quality monitoring and testing. The presence of contaminants in the water does not necessarily indicate that the water poses a health risk.

<b>TEST RESULTS</b>						
Unless otherwise noted, testing was done in 2009.						
<b>Contaminant</b>	<b>Violation Y/N</b>	<b>Level Detected</b>	<b>Unit Measurement</b>	<b>MCLG</b>	<b>MCL</b>	<b>Likely Source of Contamination</b>
<b>Microbiological Contaminants</b>						
Total Coliform Bacteria	N	<b>0 positive</b>	Highest monthly # of positive samples	0 positive	1 positive	Naturally present in the environment
<b>Radioactive Contaminants</b>						
Radon (12/12/08)	N	<b>460</b>	pCi/L	n/a	4,000	Naturally occurring radioactive gas in bedrock.
<b>Inorganic Contaminants</b>						
Barium (3/11/09)	N	<b>0.007</b>	ppm	2	2	Erosion of natural deposits
Chromium (3/11/09)	N	<b>1.5</b>	ppb	100	100	Discharge from steel and pulp mills; erosion of natural deposits
Copper* (7/1/09-12/31/09)	N	<b>0.24</b>	ppm	1.3	AL=1.3	Corrosion of household plumbing systems
Fluoride (12/16/09)	N	<b>1.27</b>	ppm	4	4	Water additive which promotes strong teeth.
Lead* (7/1/09-12/31/09)	N	<b>5.0</b>	ppb	0	AL=15	Corrosion of household plumbing systems
Nitrate [as Nitrogen] (3/11/09)	N	<b>1.7</b>	ppm	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Selenium (3/11/09)	N	<b>10</b>	ppb	50	50	Discharge from petroleum and metal refineries; erosion of natural deposits; discharge from mines
* = Reported results are the 90 <sup>th</sup> percentile value (the value that 90% of all samples are less than).						
<b>Disinfection By-Products</b>						
HAA5 [Total Haloacetic Acids]	N	<b>RAA = ND</b> <i>(single sample)</i>	ppb	0	60	By-product of drinking water chlorination
TTHM [Total Trihalomethanes]	N	<b>RAA = 5.8</b> <i>(single sample)</i>	ppb	0	80	By-product of drinking water chlorination
<b>Initial Distribution System Evaluation (IDSE) Data**</b>						
<b>Contaminant</b>		<b>Level Detected</b>	<b>Unit Measurement</b>	<b>Likely Source of Contamination</b>		
HAA5 [Total Haloacetic Acids]		<b>RAA = 0.0</b> <i>(0.0)</i>	ppb	By-product of drinking water chlorination		
TTHM [Total Trihalomethanes]		<b>RAA = 4.217</b> <i>(0.0-9.9)</i>	ppb	By-product of drinking water chlorination		
**In 2009, under the EPA Stage 2 Disinfectants and Disinfection Byproducts Rule (DBPR) our water system was required to conduct an Initial Distribution System Evaluation (IDSE). The IDSE is a one-time evaluation to determine the levels of disinfection byproducts (TTHM & HAA) in the distribution system for future regulations. Disinfection byproducts are the result of the disinfection of your drinking water. They form when the disinfectants combine with naturally occurring organic matter in the water. The IDSE data was not used for compliance purposes by the Maine Drinking Water Program, and test results were not required to meet the MCL of 60 ppb for HAA and 80ppb for TTHM.						

**Note:** The state allows us to monitor for some contaminants less than once per year because the concentrations of these contaminants do not change frequently. Not all contaminants are tested for every year due to monitoring waivers and therefore we must use the most recent round of sampling. Some of our data is more than one year old, however, is limited to no older than 5 years.

**Definitions:**

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

**Maximum Contaminant Level (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)** - 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.

**Maximum Residual Disinfection 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 Disinfection 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.

**Not Applicable (N/A)** - Does not apply

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

**Treatment Technique (TT)** - A required process intended to reduce the level of a contaminant in drinking water (e.g. treatment technique for turbidity).

**Variations, Exemptions, and Waivers** - State or EPA permission not to meet an MCL, a treatment technique or test for a given contaminant under certain conditions.

**Units:**

**Nephelometric Turbidity Unit (NTU)** - nephelometric turbidity unit is a measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

**Parts per billion (ppb) or micrograms per liter (µg/L)** - One part per billion corresponds to one minute in 2,000 years, or a single penny in \$10,000,000.

**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.

**Picocuries per liter (pCi/L)** - A measure of the radioactivity in water.

**Notes:**

**Barium:** Some people who drink water containing barium in excess of the MCL over many years could experience an increase in their blood pressure.

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

**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 care provider.

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

**TTHM/HAA5:** Total Trihalomethanes (TTHM) and Haloacetic Acids (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.

**IMPORTANT INFORMATION**

Since our system chlorinates its water, we are required to report our annual average for chlorine residual.

**Chlorine Residual** was found to be **0.31ppm**, with a range of 0.07ppm to 0.92ppm.

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. The EPA has determined that your water IS SAFE at these levels.

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. 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.

For most people, the health benefits of drinking plenty of water outweigh any possible health risk from these contaminants. However, 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/Center of Disease Control (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).

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. We are 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 thirty (30) seconds to two (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>.

We, at Bethel Water District, work hard to provide top quality water to every tap. We ask that all our customers help us protect and preserve our drinking water resources, which are the heart of our community, our way of life, and our children's future. Please contact us with any questions. Thank you for working together for safe drinking water.