



**Drinking Water Quality Report**  
**PWSID #00136**  
**City of Belgrade**  
**91 East Central Avenue**  
**Belgrade, MT 59714**

Potable water is one of the most vital services provided to community residents. All of us depend on water for drinking, cooking, washing, carrying away wastes, and other domestic needs. For the most part, we don't think about how drinking water gets to our homes or where that water comes from. We just want to be sure that our water is safe and keeps flowing to our taps.

The goal of the City of Belgrade is to provide you with a safe and dependable supply of drinking water. Because of our commitment to ensuring the quality of your drinking water, we want to keep you informed about the activities and testing we do to assure that your water is safe. We are pleased to present to you this year's Water Quality Report.

**WATER SOURCE**

Our water is taken from six wells located throughout the city. If you have any questions about this report or concerning your water utility, please contact Steve Klotz at (406) 388-3760. We want our valued customers to be informed about their water utility.

**MONITORING**

The City of Belgrade routinely monitors for constituents in your drinking water according to Federal and State regulations. The State of Montana requires monitoring for some contaminants less than once per year because the concentrations of these contaminants do not change frequently. Some data in the tables, though representative, may be more than one year old. Our sampling frequency complies with EPA and State regulations. The table includes the contaminants detected by our monitoring for the period of January 1<sup>st</sup> to December 31<sup>st</sup>, 2011.

In the following tables, you may find many terms and abbreviations with which you might not be familiar. To help you better understand these terms, we have provided the following definitions:

<b>ppm</b> = <i>Parts per million</i> - one part per million corresponds to one minute in two years or a single penny in \$10,000.
<b>ppb</b> = <i>Parts per billion</i> - one part per billion corresponds to one minute in 2,000 years, or a single penny in \$10,000,000.
<b>AL</b> = <i>Action Level</i> - The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow
<b>MCL</b> = <i>Maximum Contaminant Level</i> - The highest allowable amount of a contaminant that is allowed in drinking water
<b>MCLG</b> = <i>Maximum Contaminant Level Goal</i> - The level of a contaminant in drinking water below which there is no known or expected risk to health
<b>MFL</b> = <i>Million Fibers per Liter</i> - million fibers per liter is a measure of the presence of asbestos fibers that are longer than 10 micrometers.
<b>Picocuries per liter (pCi/L)</b> = picocuries per liter is a measure of the radioactivity in water.
<b>Waivers</b> = reduction or exclusion of monitoring requirements for certain compounds. Waivers are granted by the State of Montana, based on a water system's previous monitoring history.
<b>90th Percentile Value</b> = The concentration of lead or copper in tap water exceeded by 10 percent of the sites sampled during a monitoring period.
< = Less than

<b>Test Results</b>						
<b>Contaminant</b>	<b>Violation Y/N</b>	<b>Sample Date</b>	<b>Level Detected</b>	<b>MCLG</b>	<b>MCL</b>	<b>Likely Source of Contamination</b>
<b>Total Coliform Bacteria</b>	No	11/15/2011	Coliforms Present	0	presence of coliform bacteria in 5% of monthly samples	Naturally present in the environment
	No	11/15/2011				
	No	11/15/2011				
	Yes	11/17/2011				
	Yes	11/17/2011				
	Yes	11/17/2011				
	Yes	11/18/2011				
	Yes	11/18/2011				
<b>Nitrate</b> (as Nitrogen) – Well #1(EP502) Well #2(EP503) Well #3(EP504) Well #4(EP505) Well #5(EP506) Well #6(EP507)	No	12/13/2011	2.746 mg/L	10 mg/L	10 mg/L	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
	No	12/13/2011	1.42 mg/L			
	No	12/13/2011	1.232 mg/L			
	No	12/13/2011	1.872 mg/L			
	No	12/13/2011	1.931 mg/L			
	No	12/13/2011	0.922 mg/L			
<b>Barium</b> Well #1(EP502) Well #2(EP503) Well #3(EP504) Well #4(EP505) Well #5(EP507) Well #6(EP508)	No	08/15/2011	0.1 mg/L	2 mg/L	2 mg/L	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
	No	08/15/2011	0.1 mg/L			
	No	08/15/2011	0.1 mg/L			
	No	08/15/2011	0.1 mg/L			
	No	11/09/2010	0.118 mg/L			
	No	11/08/2010	0.066 mg/L			
<b>Arsenic</b> Well #1(EP502) Well #2(EP503) Well #3(EP504) Well #4(EP505) Well #5(EP507) Well #6(EP508)	No	11/08/2010	1 ug/L	0 ug/L	10ug/L	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes
	No	11/09/2010	1 ug/L			
	No	11/08/2010	1 ug/L			
	No	11/08/2010	1 ug/L			
	No	11/09/2010	< 1 ug/L			
	No	11/08/2010	< 1 ug/L			

<b>Fluoride</b> Well #1(EP502) Well #2(EP503) Well #3(EP504) Well #4(EP505) Well #5(EP506) Well #6(EP507)	No No No No No No	08/15/2011 08/15/2011 08/15/2011 08/15/2011 11/09/2010 11/08/2010	0.2 mg/L 0.1 mg/L 0.1 mg/L 0.1 mg/L 0.13 mg/L <0.01 mg/L	4 mg/L	4 mg/L	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
<b>Alpha emitters</b> Well #5(EP507)	No	4/26/2007	2.7 pCi/L	0 pCi/L	15 pCi/L	Erosion of natural deposits
<b>Uranium</b> Well#5(EP507)	No	2/15/2008	0.002 ug/L	30 ug/L	0 ug/L	Erosion of natural deposits.
<b>Lead</b>	No	09/15/2010	<b>90<sup>th</sup> Percentile</b> 2 ppb	0 ppb	Action Limit: 15 ppb	Corrosion of household plumbing; erosion of natural deposits
<b>Copper</b>	No	09/15/2010	<b>90<sup>th</sup> Percentile</b> 0.232 ppm	1.3 ppm	1.3 ppm	Corrosion of household plumbing; erosion of natural deposits; leaching of wood preservatives

**Bacteriological Monitoring:** Our system monitors monthly for total coliform and E. coli bacteria in our water. Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially-harmful, bacteria may be present. The table shows that Coliforms were found in more samples than allowed in **November 2011** and this was a warning of potential problems. When coliform bacteria are found, we always perform special follow-up tests to determine if harmful bacteria are present in the water supply. Some of the follow-up samples showed contamination from coliform. This was a MCL violation. However, state compliance has been achieved in **2011**.

**Inorganic Compounds (IOCs)** – Testing done in **2011** in Wells 1, 2, 3, and 4 included Cadmium, Chromium, Mercury, and Selenium. These metals were not detected. Fluoride and Barium were detected in these wells but below the MCL. Testing done on Wells 6 and 7, during **2010**, included compounds such as Antimony, Nickel, Thallium, Beryllium, Cadmium, Chromium, Mercury and Selenium. Fluoride was detected in Well 7 but was below the MCL. Barium was detected in these wells in **2010** but was below the MCL.

**Lead-** 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. The **City of Belgrade** 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>.

**Copper -** Copper is an essential nutrient, but some people who drink water containing copper in excess of the action level over a relatively short amount of time could experience gastrointestinal distress. Some people who drink that water contains copper in excess of the action level over many years could suffer liver or kidney damage. People with Wilson's Disease should consult their personal doctor. Lead and Copper were detected in **2010** sampling but below the Action Level.

**Arsenic in Drinking Water:** The US EPA has revised the regulations governing the amount of arsenic allowable in public drinking water supplies. Beginning January 23, 2006, the MCL for arsenic is 10 ppb and the MCLG is 0 ppb. Arsenic was detected in 2008 sampling but below the MCL. Arsenic was detected **2010** in Wells 1, 2, 3, 4, and 5 but all results were below the MCL.

**Volatile Organic Compounds (VOCs)** - VOCs are petroleum byproducts, including fuels such as gasoline and diesel; lighter fluid; fuel additives; solvents such as benzene and toluene; cleaning compounds such as dry cleaning solution, degreasers, refrigerants and adhesives. The EPA regulates the amount of certain VOCs in drinking water, while the EPA and the State monitor for the presence of other VOCs in drinking water. Over 60 additional organic compounds were tested in all wells in **2007**. In **2008** well #6 chloromethane was found in the sample. Chloromethane is not regulated by the EPA but is required to be tested by the State of Montana. Testing completed in **2010** in all wells showed no VOC's in our system.

**Synthetic Organic Compounds (SOCs)** - SOC's encompass a wide range of organic compounds, including pesticides and herbicides used for crops and lawns; wood preservatives; PCBs from electrical transformers; and byproducts from PVC and other plastics, including phthalates and adipates. SOC's may be released during manufacturing processes, runoff from fields where herbicides or pesticides have been used, and disposal of industrial wastes. Nearly 40 different compounds were tested in **2010** for all wells, and none was detected in our water system.

**Radionuclides:** Alpha emitters are certain minerals which are radioactive and which may emit a form of radiation known as alpha radiation. Radium 226/228 is a naturally occurring radioactive contaminant that occurs primarily in ground water. Testing was done for radionuclides in **2007 and 2008** and none were detected.

## INTERPRETATION

The table shows that our system uncovered some problems this year. We had an MCL violation for the presence of Coliform bacteria in our system. The duration of the violation was November 2011. The potential adverse health effects for our customers are from the fact that Coliforms are bacteria though naturally present in the environment are used as an indicator that other, potentially-harmful, bacteria may be present. Coliform bacteria are usually harmless, but their presence in water can be an indication of disease-causing bacteria. When coliform bacteria are found, we always perform special follow-up tests to determine if harmful bacteria are present in the water supply. We have since corrected this violation. We continually monitor for various constituents in the water supply to meet all regulatory requirements. Although some constituents have been detected, the EPA has determined that **your water IS SAFE at these levels**. If you would like more information about these contaminants, you may contact EPA's Safe Drinking Water Hotline (800-426-4791).

### **Did you know...?**

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).

Thank you for allowing us to continue providing your family with clean, quality water this year. We at the **City of Belgrade** are committed to ensuring the quality of your water, and work around the clock 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 any questions.

### **For your 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. 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.

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally-occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity.

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 storm water 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 storm water runoff, and residential uses.*
- ◆ *Organic chemical contaminants, including synthetic and volatile organic chemicals, which are byproducts of industrial processes and petroleum production, and can also come from gas stations, urban storm water runoff, and septic systems.*
- ◆ *Radioactive contaminants, which can be naturally-occurring or be the result of oil and gas production mining activities.*

In order to ensure 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.

**MCLs 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-a-million chance of having the described health effect.**

**This report will not be mailed; however copies are available at Belgrade City Hall, 91 E. Central.**