City of Billings 2012 Annual Drinking Water Quality Report

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Exceptional Water

We're very pleased to provide you with this year's Annual Drinking Water Quality Report. We want to keep you informed about the excellent water and services we have delivered to you over the past year. Our goal is and always has been, to provide to you a superior and dependable supply of drinking water. We continually monitor our finished (tap) water to ensure it has no regulated contaminant at a level considered to be a health issue by either EPA or the Montana Department of Environmental Quality. Your water meets or exceeds the requirements of the Federal Safe Drinking Water Act.

All of the water we provide to you comes from the Yellowstone River. The geology of the Yellowstone River drainage is the primary factor in the taste and even "feel" of our water due to the minerals the water dissolves as it moves through the region.

Our water is a seasonally "soft" to moderately "hard" bicarbonate water that most people find pleasing. A study of the susceptibility of the Yellowstone River to contamination has been conducted. The analysis showed that our water's susceptibility to contamination is low. This plan is available through the Billings Public Works, Environmental Affairs (406-247-8517).

Questions?

If you have any questions about this report or concerns about your water quality, please contact the City of Billings Water Quality Laboratory at 406-657-8346. We want our valued customers to be informed about their water.

If you want to learn more, group tours of the water treatment plant are available. To schedule your tour, please call the Water Treatment Plant at 406-247-8683.

SPECIAL NOTE TO OWNERS/MANAGERS OF ASSOCIATIONS AND/OR INCOME PROPERTIES: To ensure that the City of Billings 2012 Annual Drinking Water Report reaches **ALL** consumers, please post for residents.

EPA Regulations

The City of Billings Water Treatment Facility routinely monitors for contaminants in your drinking water according to Federal and State laws. The tables below show the results of our monitoring for the period of January 1st to December 31st, 2012. (Some of our data may be more than one year old because the state allows us to monitor for some contaminants less often than once per year.)

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. 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. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline (800-426-4791).

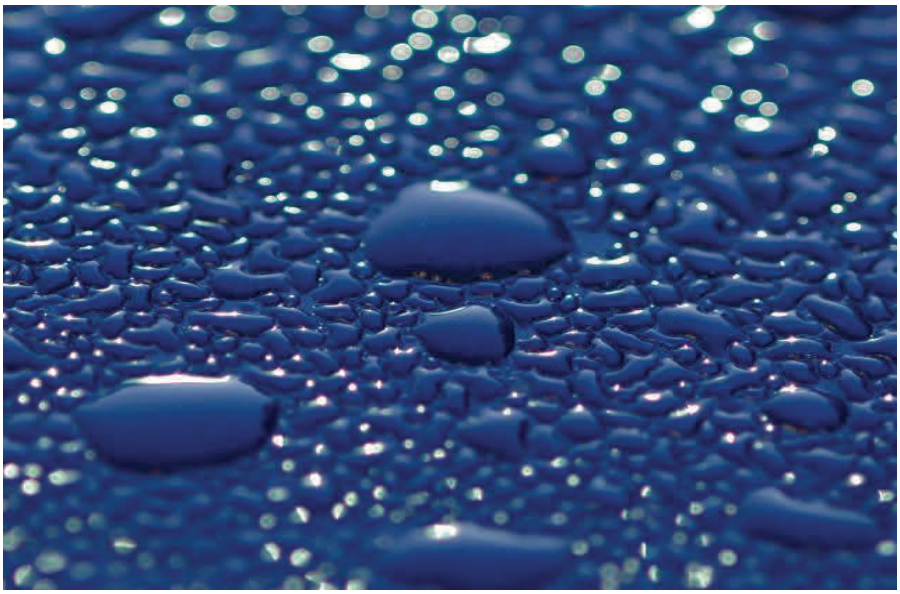
In order to ensure that tap water is safe to drink, EPA prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. FDA regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

Now it comes with

a list of ingredients

Special Population Advisory

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).



Water Quality Data Table Definitions

The tables on the next two pages, list all of the drinking water contaminants we detected for the calendar year of this report. The presence of contaminants in the water does not necessarily indicate that the water poses a health risk. Unless otherwise noted, the data presented in these tables is from testing done in the calendar year of the report. In this table you will find many terms and abbreviations you might not be familiar with. To help you better understand these terms we've provided the following definitions:

ppm or mg/l - Parts per million or Milligrams per liter - or one ounce in 7,350 gallons of water

ppb or ug/l - Parts per billion or Micrograms per liter – or one ounce in 7,350,000 gallons of water

NTU - Nephelometric turbidity unit is a measure of the clarity of water.

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

TT - Treatment Technique - 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 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 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 contaminant.

Secondary Maximum Contaminant Level (SMCL) – The SMCL represents reasonable goals for drinking water quality and provide a guideline for public water suppliers. Secondary contaminants affect mainly the aesthetic qualities such as undesirable taste or odors.

When it comes to understanding your drinking water, the most important ingredient is you.

WATER QUALITY DATA						
Contaminant	**Violation Yes/No**	**Highest Level Detected**	**Range Detected**	**MCL**	**MCLG**	**Likely Source of Contamination**
Microbiological Contaminants						
Total Coliform Bacteria	No	1.9%		5% positive	0	Naturally present in the environment
Turbidity (NTU)	No	0.056	0.021-0.056	TT = 95% <0.3	N/A	Soil runoff
Inorganic Contaminants						
Arsenic (ppb)	No	5	1-7	10	0	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes
Free Chlorine (ppm)	No	1.43	0.12-1.43	MRDL = 4	MRDLG = 4	Water additive used to control microbes
Fluoride (ppm)	No	0.51	0.18-0.51	4	4	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
Nitrate - NO_3 (ppm)	No	0.49	0.06-0.49	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Copper (ppm)	No	0.277 = 90th percentile of 54 samples No sites above AL (2011 Sampling data)		AL=1.3 *Action Level – 90% of samples must be below this level.*	1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead (ppb)	No	7 = 90th percentile of 54 samples 2 sites above AL (2011 Sampling data)		AL=15 *Action Level – 90% of samples must be below this level.*	0	Corrosion of household plumbing systems, erosion of natural deposits
Volatile Organic Contaminants						
Haloacetic Acids (HAA5) (ppb)	No	33.8	25-49	60	N/A	By-product of drinking water chlorination
Total trihalomethanes (TTHM) (ppb)	No	40.5	26-46.7	80	N/A	By-product of drinking water chlorination
Total Organic Carbon (TOC)	No	The percentage of (TOC) removal was measured each month and all removal requirements were met.		TT	N/A	Naturally present in the environment

Secondary Contaminants			
Contaminant	Range Detected*	SMCL	Noticeable Effects at Elevated Levels
Aluminum, (ppb)	0.21-28.3	50-200	Colored Water
Chloride (ppm)	4.3-11.0	250	Salty Taste
Sulfate (ppm)	13.6-73.8	250	Salty Taste
Total Dissolved Solids (ppm)	104-278	500	Hardness; deposits; colored water; staining; salty taste
pH (s.u.)	7.33-8.40	6.5-8.5	Low pH: bitter metallic taste; corrosion High pH: slippery feel; soda taste; deposits.
Other Parameters			
Total Hardness (ppm) **(grains per gallon)**	51-173 3-10	None	Spots; Deposits
Alkalinity (ppm)	39-146	None	None
Potassium (ppm)	1.39-3.40	None	None
Sodium (ppm)	6.5-36.3	None	None
Magnesium (ppm)	3.7-15.5	None	None

*The concentration of these contaminants varies seasonally with the highest values in the winter and the lowest values during spring run-off.

On June 2, 2011, the Montana Department of Environmental Quality issued an asbestos monitoring waiver to the City of Billings through the year 2019. The City of Billings distribution system contains no asbestos cement pipe.

While your drinking water meets EPA's standard for arsenic, it does contain low levels of arsenic. EPA's standard balances the current understanding of arsenic's possible health effects against the costs of removing arsenic 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.

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 Billings Water Treatment Facility 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 (800-426-4791) or at *http://www.epa.gov/safewater/lead*.

As you can see by the table, our system had no violations. We are proud that your drinking water meets or exceeds all Federal and State requirements.