2017 Water Quality Report

Annual Consumer Confidence Report

City of Billings
Water Quality Division, 2251 Belknap Ave.,
Billings, MT 59101
406-657-8346

INSIDE THIS ISSUE

Our *Mission* is to be a trusted steward of the community, environmental, and financial resources we manage by providing efficient and reliable water and wastewater utility services.

What is this Report?

The City of Billings Water Quality Division is pleased to provide you with our 2017 Annual Drinking Water Quality Report. We want to keep you informed about the excellent water and service 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. A study of the susceptibility of the Yellowstone River to contamination has been conducted. The analysis shows that our water's susceptibility to contamination is low. This plan is available through the Billings Public Works, Environmental Affairs Division.

(406-247-8517) or online – follow the link below.

http://deq.mt.gov/Portals/112/Water/WPB/NRISReports/MT0000153.pdf

***Special note to owners/managers of associations and/or income properties:* To ensure the City of Billings 2017 Annual Drinking Water Quality Report reaches ALL consumers, please post for residents.**

Where Can I Get More Information?

- The City of Billings Water Quality Laboratory **(406)657-8346**, website at: http://ci.billings.mt.us/2518/Water-Quality-Division
- Montana Dept. of Environmental Quality (MDEQ) **(406)444-4400**

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.**

"Muddy water is best cleared, by leaving it alone." Alan Watts

Special Population Advisory

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised persons such as people 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.

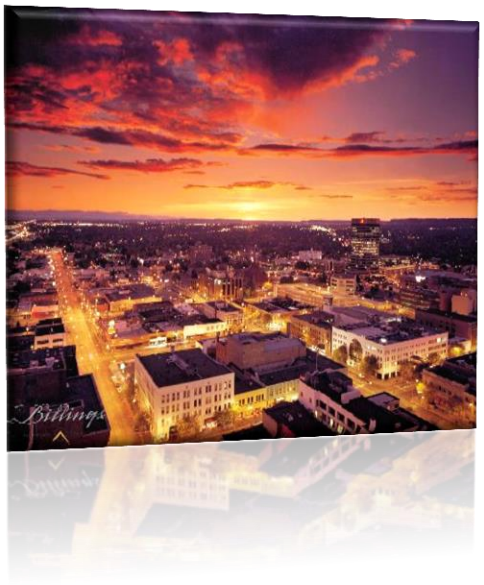
EPA/CDC guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbiological contaminants are available from the **Safe Drinking Water Hotline (800-426-4791).**

https://www.epa.gov/ground-water-and-drinking-water/safe-drinking-water-hotline

http://epa.gov/sites/production/files/2016-06/documents/npwdr_complete_table.pdf

EPA Regulations

Billings, MT Sunset



The City of Billings Water Quality Division routinely monitors for contaminants in your drinking water according to Federal and State regulations. The following tables show the results of our monitoring for the period of January 1st to December 31st, 2017. (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.

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.

Long term 2 – long term 2 enhanced surface water treatment rule (lt2eswtr)

The City of Billings has completed the second round of monthly monitoring for *Cryptosporidium* in the Yellowstone River in accordance with the EPA Long Term 2 Surface Water Treatment Rule (LT2).

The results from this second round of sampling were favorable and the City is not required to add additional treatment processes to meet the requirements of the rule.

"Water is the most essential element in life, because without it you can't make coffee."

Unknown author

Water Quality Data Table Definitions

The tables on the next two pages list all of the drinking water contaminants 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 the following section 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 7,812 gallons of water.

ppb or µg/l – Parts per billion or Micrograms per liter – one ounce in 7,812,000 gallons of water.

ND – Not Detected

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.

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.

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.

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 contamination.

Maximum Residual Disinfectant 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 contamination.

The Water Quality Division maintains 12 pump stations and 17 reservoirs that serve the City of Billings.

WATER QUALITY DATA						
Contaminant	Violation Yes/No	Highest Level Detected	Range Detected	MCL	MCLG	Likely Source of Contamination
Microbiological Contaminants						
Total Coliform Bacteria	No	0.15%		5% positive	0	Naturally present in the environment
Turbidity (NTU)	No	0.044	0.017 - 0.044	TT=95% of samples <0.3	N/A	Soil runoff. Turbidity is a measure of the cloudiness of the water. This is monitored because it is a good indicator of water quality.
Inorganic Contaminants						
Arsenic (ppb)	No	6	2.0 – 6.0	10	0	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes
Distribution System Free Chlorine (ppm)	No	1.78	0.14 - 1.78	MRDL=4	MRDLG=4	Water additive used to control microbes
Fluoride (ppm)	No	0.50	0.14 - 0.50	4	4	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
Nitrate - NO_3 (ppm)	No	0.52	0.04 - 0.52	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Copper (ppm)	No	0.255 = 90th percentile No sites above AL (2017 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	5 = 90th percentile No sites above AL (2017 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	35.0	28.0 - 35.0	60	N/A	By-product of drinking water chlorination
Total trihalomethanes (TTHM)(ppb)	No	51.0	31.0 - 51.0	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 and has no health effects.

SECONDARY CONTAMINANTS			
Contaminant	Range Detected*	SMCL	Noticeable Effects at Elevated Levels
Aluminum (ppb)	ND – 25.7	50 - 200	Colored Water
Chloride (ppm)	5.2 – 10.6	250	Salty Taste
Sulfate (ppm)	9.2 – 70.3	250	Salty Taste
Total Dissolved Solids (ppm)	66 - 266	500	Hardness; deposits; colored water; staining; salty taste
pH (s.u.)	7.47 – 8.39	6.5 - 8.5	**Low pH**: bitter metallic taste; corrosion **High pH**: slippery feel; soda taste; deposits
Other Parameters			
Total Hardness (ppm)	44 - 154	None	Spots; Deposits
Alkalinity (ppm)	42 - 132	None	None
Potassium (ppm)	2.20 – 3.71	None	None
Sodium (ppm)	12.8 – 24.9	None	None
Magnesium (ppm)	3.3 - 12.6	None	None

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

Providing the best water possible is a goal of the Water Quality Division. We work hard to protect your water resources and to treat your drinking water to the highest standards. We want to meet your expectations but cannot identify issues without your help. If you have any water quality concerns please contact us; we are more than happy to speak with you. ***406-657-8346 Water Quality Laboratory***

Items of Interest

Asbestos

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

Arsenic

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 know to cause cancer in humans at high concentrations and is linked to other health effects such as skin damage and circulatory problems.

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 Billings Water Quality 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 .

Cryptosporidium

Microscopic organism that, if ingested, can cause fever and gastrointestinal symptoms. Cryptosporidium is removed from water through a successful treatment combination of sedimentation and filtration.

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You never appreciate spring till you've been through a tough winter.
Anon.