

2022 WATER QUALITY REPORT



About this Report

The City of Missoula is pleased to present the 2021-2022 Annual Water Quality Report (Consumer Confidence Report) as required by the Safe Drinking Water Act (SDWA). This report is designed to provide details about where your water comes from, what it contains, and how it compares to standards set by regulatory agencies.

This report is a snapshot of last year's water quality (2021). We are committed to providing you with information because informed customers are our best resources to aid in maintaining and improving water quality.

We are proud to report that our drinking water meets, or exceeds, all established federal and state regulations.

Where does my water come from? Is my water treated?

The water provided to the Missoula Valley comes from thirty-seven ground water wells that draw water from the valley's ground water aquifer. This aquifer is recharged by runoff from precipitation and snowmelt.

In an effort to provide the customer with the safest possible product, we disinfect the water at each well with chlorine. As pursuant to ARM 17.38.229, a small amount of chlorine is added to the water to protect it from contamination as it travels through water mains and to the customer's home. Missoula Water does not add fluoride to the water.

Do I need to take special precautions?

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

Immuno-compromised people such as people with cancer undergoing chemotherapy, people 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. The Environmental Protection Agency (EPA) and Centers for Disease Control (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 (800-426-4791).

Source Water Assessment and its Availability

As required by the EPA in 2003, Missoula Water (then Mountain Water) completed a Source Water Delineation and Assessment report and submitted it to the Department of Environmental Quality and the EPA. This report was last revised in May 2015 and is available to the public by contacting our office.

Why are there contaminants in my drinking water?

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 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).

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:

- Microbial contaminants, such as viruses and bacteria that 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 by-products 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 and mining activities

Additional Information on lead in drinking water

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. Missoula Water 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 thirty seconds to two 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 by visiting www.epa.gov/safewater/lead.

How can I get involved?

As your water utility, it is our responsibility to provide the highest available quality of water and to meet all of the requirements and standards set forth by the State of Montana. If you as a consumer have any questions or concerns, we are here to help and provide information to you.

Getting Involved

Attend a City Council meeting on the first Mondays of each month (excluding holidays) at 6:00 pm in the City Council chambers at 140 W. Pine Street

Contact us: 406-552-6700 1345 W. Broadway Street Missoula, MT 59802 WaterCS@ci.missoula.mt.us

Visit our website: www.ci.missoula.mt.us/1983/water Visit our Facebook: www.facebook.com/MissoulaCityPWM

**If you are a landlord, property manager, or know someone who is billed directly,
please share this report with your tenants and friends.**

State-Wide Waiver Program

The Montana Department of Environmental Quality (DEQ) created the Chemical Reduced Monitoring Waiver Program in 1996 to reduce monitoring expenses for public water supplies (PWS) while still protecting public health. Due to the considerable population growth and expansion in intervening years, the presence of these analytes needs to be reevaluated. Missoula Water is required to monitor for endoathall, diquat, glyphosate, ethylene dibromide (EDB), dibromochloropropane (DBCP), cyanide and PCBs from one entry point between Jan. 1, 2020 and Dec. 31, 2022. Missoula Water records indicate that it is located within one mile of a potential or known dioxin site and therefore is required to sample for dioxin (2,3, 7,8-tetrachlorodibenzo-p-dioxin or 2,3,7,8-TCDD).

In August 2020, Missoula Water collected the water samples for the above contaminants including Asbestos. In which, all analytical results can back as non-detect. In accordance with our monitoring schedule the next state-wide waiver monitoring will be conducted in 2029.

Additional Information

For additional information on Coronavirus in drinking water, Perfluorinated Compounds (PFAS), Lead or Household Water Quality. Please visit our web page at <https://www.ci.missoula.mt.us/2242/Water-Quality>.

WATER QUALITY DATA TABLE

To ensure that tap water is safe to drink, EPA prescribes regulations that limit the amount of contaminants in water provided by public water systems. 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 we detected during the calendar year of this report. Although many more contaminants were tested, only those substances listed below were found in your water. All sources of drinking water contain some naturally occurring contaminants. At low levels, these substances are generally not harmful in our drinking water. Removing all contaminants would be extremely expensive, and in most cases, would not provide increased protection of public health. A few naturally occurring minerals may actually improve the taste of drinking water and have nutritional value at low levels. Unless otherwise noted, the data presented in this table are from testing done in the calendar year of the report. The EPA or the State of Montana requires us to monitor for certain contaminants less than once per year because the concentrations of these contaminants do not vary significantly from year to year, or the system is not considered vulnerable to this type of contamination. As such, some of our data, though representative, may be more than one-year-old. In this table you will find terms and abbreviations that might not be familiar to you. To help you better understand these terms, we have provided the definitions below the table.

Primary Standards	Violation	Sample Date	Your Water's Average (a)	Your Water Range Low	Your Water Range High	MCL	MCLG	Typical Source
Distribution System								
(There is convincing evidence that the addition of a disinfectant is necessary for control of microbial contaminants)								
Chlorine (as Cl ₂) (ppm)	No	2021	0.46	0.21	0.89	4	4	Water additive used to control microbes
Total Coliform % positive samples	No	2021	0	NA	NA	5	0	Naturally present in the environment
TTHMs [Total Trihalomethanes] (ppb)	No	2021	2.22	1.1	3.4	80	NS	By-product of drinking water disinfection
HAA5 [Haloacetic Acids] (ppb)	No	2021	0.44	0.31	0.66	60	NS	By-product of drinking water disinfection
Asbestos (fiber > 10 micrometers)	No	2020	0.18	0.0	0.18	7	0	Decay of asbestos cement in water mains; erosion of natural deposits
Primary Standards	Violation	Sample Date	Your Water's Average (a)	Your Water Range Low	Your Water Range High	MCL	MCLG	Typical Source
Inorganic Chemicals								
Arsenic (ppb)	No	2021	0.3	ND	2.0	10	0	Erosion of natural deposits: historical mining and smelting
Barium (ppm)	No	2021	0.22	0.16	0.24	2	2	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Fluoride (ppm)	No	2021	0.13	0.1	0.2	4	4	Erosion of natural deposits; discharge from fertilizer and aluminum factories
Nitrate [measured as Nitrogen] (ppm)	No	2021	0.67	0.35	2.81	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits

Secondary Standards	Violation	Sample Date	Your Water's Average (a)	Your Water Range Low	Your Water Range High	MCL	MCLG	Noticeable Effects
(Aesthetic, Cosmetic and Technical, Non-Health Related)								
Calcium (ppm)	No	2021	46	37	55	NS	NS	Hardness; mineral deposits
Chloride (ppm)	No	2021	8.26	3	20	250	NS	Salty taste
Iron (ppm)	No	2021	0.00	ND	ND	0.3	NS	Rusty color; sediment; metallic taste; reddish or orange staining
Magnesium (ppm)	No	2021	12.5	10	14	NS	NS	NA
Manganese (ppm)	No	2021	0	ND	ND	0.05	NS	Black to brown color; black staining; bitter metallic taste
pH	No	2021	7.89	7.8	8.0	6.5-8.5	NS	Hydrogen ion concentration
Sulfate (ppm)	No	2021	19.7	12	23	250	NS	Salty taste
Total Dissolved Solids (ppm)	No	2021	195.2	163	240	500	NS	Hardness; deposits; colored water; staining; salty taste
Zinc (ppm)	No	2021	0.0081	ND	.02	5	NS	Metallic taste
Radionuclides								Typical Source
Alpha emitters (pCi/L)	No	2021	1.34	-1.0	4.5	15	0	Erosion of natural deposits
Radium 226 (pCi/L)	No	2021	.037	.04	0.2	5	0	Erosion of natural deposits
Radium 228 (pCi/L)	No	2021	.195	-0.4	2.3	5	0	Erosion of natural deposits
Radium (combined 226/228) (pCi/L)	No	2021	0.38	0.4	2.5	5	0	Erosion of natural deposits
Uranium (ug/L)	No	2021	0.0006	0.0011	0.0013	30	0	Erosion of natural deposits
Lead and Copper Monitoring Rule								
(Tap water samples were collected for lead and copper from sites throughout the community)								
Metals	Violation	Amount Detected at 90 th Percentile	Sample Date	Number of Samples collected	Action Level	Typical Source		
Lead (ppb)	No	2	2020	30	15	Corrosion of household plumbing systems; erosion of natural deposits; discharge from industrial manufactures		
Copper (ppm)	No	0.249	2020	30	1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives		
Additional Unregulated Parameters								
	Sample Date	Your Water's Average (a)	Your Water Range Low	Your Water Range High	MCL	MCLG	Definitions	
Aggressiveness Index (b) (unitless)	2021	12.16	11.9	12.6	NS	NS	A general indicator of the tendency for corrosion to occur	
Alkalinity (as CA CO3) (ppm)	2021	155	133	171	NS	NS	A measurement of the water's ability to neutralize acids	
Corrosivity (Langlier Index) (c) Positive/Negative	2021	0.362	0.2	0.8	NS	NS	A gauge of whether a water will precipitate or dissolve calcium carbonate	
Hardness (as Ca CO3) (ppm)	2021	166	134	197	NS	NS	Total Hardness	
Hardness (gpg)	2021	9.707	7.83	11.52	NS	NS	Total Hardness	



1940's
Pipe dragging
(left)

Pipe Install
(right)



**Unregulated Contaminant Monitoring Regulation (UCMR4)	Sample Date	Your Water's Average (a)	Your Water Range		MCL	MCLG
			Low	High		
Bromide (ppb)	2018 2019 2020 2021	36.6	0	80	NS	NS
Total Organic Carbon (TOC) (ppb)	2018 2019 2020 2021	0.00	0	0	NS	NS
Germanium (ppb)	2018 2019 2020 2021	0.00	0	0	NS	NS
Manganese (ppb)	2018 2019 2020 2021	0.30	0	3.1	NS	NS
Synthetic Organic Chemical – 525 (ppb)	2018 2019 2020 2021	0.00	0	0	NS	NS
Synthetic Organic Chemical – 530 (ppb)	2018 2019 2020 2021	0.00	0	0	NS	NS
Alcohols (ppb)	2018 2019 2020 2021	0.00	0	0	NS	NS

Understanding Definitions, Abbreviations and Footnotes for the Data Table

MCL (Maximum Contaminant Level): 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.

MCLG (Maximum Contaminant Level Goal): 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.

MRDL (Maximum Residual Disinfectant Level): 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.

TT (Treatment Technique): A required process intended to reduce the level of a contaminant in drinking water.

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

Variations and Exemptions: State or EPA permission not to meet an MCL or a treatment technique under certain conditions.

MRDLG (Maximum Residual Disinfection Level Goal): 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.

MNR: Monitored Not Regulated

MPL: State Assigned Maximum Permissible Level

ppm: parts per million, or milligrams per liter (mg/L)
ppb: parts per billion, or micrograms per liter (ug/L)
pCi/L: picocuries per liter (a measure of radioactivity)
NTU: nephelometric turbidity unit
TON: threshold odor number (calculation)
ND: not detected
NS: no standard
NA: not applicable

Degree of Hardness

	ppm (mg/L)	grains per gallon (gpg)
Soft	<17.0	<1.0
Slightly Hard	17.1-60	1.0-3.5
Moderately Hard	60-120	7.0-10.5
Hard	120-180	>10.5

a) The average is weighted according to the individual contribution in pumping by each well to the total (active wells only).

b) Aggressive Index (AI): A general indicator of the tendency for corrosion to occur. AI of 12 or above indicated nonaggressive (not corrosive) water. AI values of 10-11.9 suggest that the water is moderately aggressive. AI values below 10 indicate extremely aggressive (corrosive) water.

c) Langlier Index (LI): A gauge of whether water will precipitate or dissolve calcium carbonate. If the LI is a positive number, the water will tend to be nonaggressive; a negative number will tend to be an aggressive water.

****** Unregulated contaminant monitoring helps the USEPA determine where certain contaminants occur and whether the contaminants need to be regulated.



Jack Heinz
Employee



Rattlesnake
PRV pit