

# 2021 Malmstrom AFB Consumer Confidence Report

We are pleased to present this year's Annual Water Quality Report, Consumer Confidence Report (CCR) as required by the Environmental Protection Agency (EPA) Safe Drinking Water Act. This report is designed to inform you about the drinking water Malmstrom Air Force Base (MAFB) provides every day. Our number one goal is to provide you and your family a safe and dependable supply of drinking water. This report also provides details about where your water comes from, what it contains, and how it compares to standards set by regulatory agencies. Testing results from 2021 are included in this report, and from the data, you can be confident that the dedicated staff of highly qualified and state-certified professional water treatment operators will protect the integrity and quality of your drinking water. We are committed to providing you the data because informed customers are our best resource.

## **Where does my water come from?**

Malmstrom AFB, Public Water System MT0000515, is “consecutive” to the city of Great Falls drinking water distribution system. The Great Falls Water Treatment Plant supplies drinking water to Malmstrom AFB after filtering and disinfecting surface water from the Missouri River.

## **Description of water treatment processes**

Disinfection involves the addition of chlorine or other disinfectants to inactivate disease-causing (pathogenic) organisms. Disinfection is considered to be one of the major public health advances of the 20th century. The Great Falls Treatment Plant first disinfects Missouri River water through coagulation, sedimentation, filtration, and disinfection (UV, chlorine). Malmstrom AFB performs a final monochloramine adjustment at the pumping plant before distributing the finished drinking water.

## **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 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. It also 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 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.

In order to ensure that tap water is safe to drink, the EPA publishes and enforces regulations which limit the amount of certain contaminants in water provided by public water systems. Additionally, the Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water, which must provide the same protection for public health.

### **Do I need to take special precautions?**

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised individuals can be particularly at risk from infections, such as those undergoing chemotherapy for cancer, those who have had organ transplants, those with HIV/AIDS or other immune system disorders, and some elderly and infants. These people should seek advice about drinking water from their health care providers. The EPA/Centers for Disease Control and Prevention (CDC) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Water Drinking Hotline (800-426-4791).

### **How can I become involved?**

Please contact the Bioenvironmental Engineering Flight at 406-731-1580 regarding any Malmstrom AFB drinking water questions.

### **Additional information for 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. Malmstrom AFB 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 request to have additional water testing conducted. 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>.

### **Additional information for copper**

Copper is an essential nutrient, but individuals who drink water containing copper above the action level over a relatively short amount of time could experience gastrointestinal distress. Individuals who drink water containing copper above the action level over many years could suffer liver or kidney damage. Those with Wilson's disease should consult their personal doctor.

### **City of Great Falls water quality information**

Please see the City of Great Falls Public Drinking Water Supply CCR (attached) for more information on the quality of finished drinking water supplied to Malmstrom AFB. In addition, the Great Falls CCR contains information on the source water assessment and its availability. The Great Falls CCR is available on the Malmstrom AFB website at [www.malmstrom.af.mil](http://www.malmstrom.af.mil).

### **Notice of Violation (NOV)**

Our water system violated a notification requirement over the past year. Although this was not an emergency, as our customers, you have right to know what happened and what we did to correct the situation.

The Montana Department of Environmental Quality (DEQ) determined Malmstrom AFB violated Administrative Rules of Montana (ARM) 17.38.234 and 17.38.239 for failure to submit Lead Consumer Notice for 1 June - 30 September 2021 compliance period.

**What happened?**

The Lead and Copper Rule requires all Public Water Supplies (PWS) to provide notice of results to consumers who occupy homes or buildings that are part of the water system's monitoring program, each time their drinking water is tested for lead. This is required even if the PWS does not exceed the lead or copper action level. PWSs are required to provide the notification to consumers at sample sites within 30 days of receiving the lead and copper sample results. Lead and Copper sampling results were returned to Bioenvironmental Engineering from Energy Labs Helena on September 26, 2021, requiring consumer notification by October 26, 2021. Although every sample result was well below the Maximum Concentration Limit (MCL), sample results notification did not take place until January 5, 2022. Physical copies of the units' sampling results were hand-delivered to each home.

In addition, PWSs are required to submit a completed copy of the notification and a certification that the system met the delivery requirements to the DEQ within 3 months following the end of the monitoring period. The Lead Consumer Notice Report was not received by the DEQ as required by December 31, 2021, instead it was delivered on January 5, 2022.

Bioenvironmental Engineering was informed of the NOV on January 5, 2022 and the violation was corrected immediately that same day. The DEQ removed the violation once letters were distributed to base housing residents and the DEQ received the Lead Consumer Notice Report.

**What should I do?**

There is no action required at this time. All sampling results were below the Maximum Concentration Limit (MCL) meeting safe drinking water quality standard levels.

**What is being done?**

We have adjusted our Environmental Sampling Plan to ensure that our notification requirements for every sampling media is clearly understood and emphasized. This includes who must be notified, time requirements, and deadlines. We will take every step necessary to ensure that our customers are receiving the information they deserve and that a delayed reporting never occurs again.

For any questions, more information, or a printed copy of this CCR, please contact Captain Daniel Wilkinson, Bioenvironmental Engineering Flight Commander at 406-731-1580 or write to the Bioenvironmental Engineering Flight at 341 OMRS/SGXB, 7300 N. Perimeter Rd., Malmstrom AFB, MT 59402-6780.

Printable versions can also be obtained through a link on [www.malmstrom.af.mil](http://www.malmstrom.af.mil)

## Malmstrom AFB Drinking Water Quality Table

In order to ensure that tap water is safe to drink, the EPA publishes and enforces regulations which limit the amount of contaminants in water provided by public water systems. All drinking water sources contain naturally occurring contaminants. At low levels, these substances are generally not harmful. Removing all contaminants is an extremely costly process 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 is from testing done in calendar year 2021. The EPA and the Montana Department of Environmental Quality (DEQ) 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. This means that some of our data, though representative, may be more than one year old. To help you better understand and interpret this data, below the table we have provided definitions of the terms and acronyms that are used. For more information regarding contaminants detected by the City of Great Falls before the connection to Malmstrom AFB, please see the City of Great Falls Public Drinking Water Supply CCR at [www.malmstrom.af.mil](http://www.malmstrom.af.mil) or attached at the end of this document.

Detected Contaminants - Malmstrom AFB Drinking Water System								
<u>Contaminants</u>	<u>MCLG or MRDLG</u>	<u>MCL or MRDL</u>	<u>2021 Total Quarterly Average</u>	<u>2021 Low/High</u>	<u>Sample Date</u>	<u>Violation</u>	<u>Typical Source</u>	
<b>Disinfectant By-Products - Total Trihalomethanes (TTHMs) and Five Haloacetic Acids (HAA5s)</b>								
<b>TTHMs (ppb)</b>	<i>Site #1</i>	N/A	MCL = 80	37.5	34 / 40	17 Jan 21	No	By-product of drinking water disinfection
						25 May 21		
						17 Aug 21		
						24 Nov 21		
	<i>Site #2</i>	N/A	41	36 / 43	17 Jan 21			
					25 May 21			
					17 Aug 21			
					24 Nov 21			
<b>HAA5s (ppb)</b>	<i>Site #1</i>	N/A	MCL = 80	29.25	23 / 35	17 Jan 21	No	By-product of drinking water disinfection
						25 May 21		
						17 Aug 21		
						24 Nov 21		
	<i>Site #2</i>	N/A	2.37	0.77 / 4.4	17 Jan 21			
					25 May 21			
					17 Aug 21			
					24 Nov 21			

Disinfectants							
<b>Chlorine (ppm)</b>	MRDLG = 4ppm	MRDL = 4 mg/L	0.82	0.02 / 1.72	Continuous Monitoring / Sampling 10x per Month	No	Water additive used to control microbes
Inorganic Contaminants							
<b>Copper - action level at consumer taps (ppm)</b>	MCLG = 1.3	MCL = 1.3	0.32	0.02 / 1.10	1 Sept 2021	<b>Yes</b> ; failed to deliver results within required notification timeline	Corrosion of household plumbing systems; erosion of natural deposits
<b>Lead - action level at consumer taps (ppb)</b>	MCLG = 0	MCL = 15	0.0004	0 / 0.009	1 Sept 2021	<b>Yes</b> ; failed to deliver results within required notification timeline	Corrosion of household plumbing systems; erosion of natural deposits
Non-Detected Contaminants - Malmstrom AFB Drinking Water System							
<u>Contaminants</u>	<u>MCLG or MRDLG</u>	<u>MCL or MRDL</u>	<u>Your Water</u>	<u>Sample Date</u>	<u>Samples Exceeding MCL</u>	<u>Violation</u>	<u>Typical Source</u>
<b>Total Coliform (Presence/Absence)</b>	MCLG = 0	MCL = N/A 0 Positive Samples	0 Positive Results	Monthly	0	No	Naturally present in the environment
<b>Asbestos (MFL)</b>	MCLG = 7	MCL = 7	0	28 June 2013 (Next sample due 2022)	0	No	Decay of asbestos cement in water mains, erosion of natural deposits

<b>Unit Descriptions</b>	
<b>Term</b>	<b>Definition</b>
MFL	million fibers per liter
NA	not applicable
ppb	parts per billion, or micrograms per liter ( $\mu\text{g/L}$ )
ppm	parts per million, or milligrams per liter ( $\text{mg/L}$ )

<b>Important Drinking Water Definitions</b>	
<b>Term</b>	<b>Definition</b>
AL	Action Level (AL): the concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.
LRAA	Locational Running Annual Average (LRAA), which is calculated over the last consecutive four quarters.
MCL	Maximum Contaminant Level (MCL): 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 (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.
MRDL	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 contaminants.
MRDLG	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.
TT	Treatment Technique (TT): a required process intended to reduce the level of a contaminant in drinking water.
Variances and Exemptions	Variances and Exemptions: state or EPA permission not to meet an MCL or a treatment technique under certain conditions.

**For more information, please contact the Bioenvironmental Engineering Flight:**

Contact Name:

Captain Daniel Wilkinson (Bioenvironmental Engineering Flight Commander)

Address:

7300 North Perimeter Road  
Malmstrom Air Force Base, Montana 59405

Phone:

(406)-731-1580

# Consumer Confidence Report 2021

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## *City of Great Falls, Public Drinking Water Supply*

*P. O. Box 5021, Great Falls, MT 59403 Phone (406) 727-1325*

The City of Great Falls is committed to providing its citizens with a safe and dependable supply of drinking water. The city has prepared this report to inform the public about the quality the municipal drinking water. Please take a few minutes to review this document and feel free to call us with any questions or concerns.

### ***Where does our water come from?***

The drinking water used by the residents of Great Falls, Malmstrom Air Force Base (MAFB), and Black Eagle comes from the Missouri River. The Great Falls Water Treatment Facility, located just up gradient from the Missouri's confluence with the Sun River, is responsible for processing the river water and making it safe drinking water for the public.

### ***Water treatment and purification***

The Great Falls Water Treatment Plant utilizes a conventional water treatment process that includes coagulation, sedimentation, filtration, and disinfection to produce just over 4 billion gallons of drinking water per year. The plant continuously monitors the process both electronically and by collecting and analyzing samples in house or by sending the samples to a commercial laboratory for analysis. Samples are collected at the plant and at several locations throughout the city to ensure the safety and quality of the water. Plant personnel stay informed of new federal and state regulations so that we can promptly apply applicable treatment and/or monitoring changes. We completed the 2021 year by operating without any violations.

### ***What contaminants are present in our source water?***

Contaminants come in many forms. The most common contaminants exist in the form of dissolved minerals. As rainwater flows across the surface of the land and/or percolates through the soil it dissolves various minerals and can pick up contaminants from other sources, like pollution from industries or bacteria from animal wastes. The contaminants can then be carried to streams, rivers, ponds, lakes, groundwater, and reservoirs.

Some contaminants that may need removal from source water before human consumption include:

- **Microbial contaminants including viruses, bacteria, and protozoa.** These can originate from sewage treatment plants, leaky septic systems, agricultural livestock operations, and wildlife.
- **Inorganic contaminants such as salts and metals.** These can be naturally occurring or the result of urban storm water runoff, industrial or domestic wastewater discharges, oil and gas production, mining, and/or farming.
- **Pesticides and herbicides.** These may come from a variety of sources including agriculture, urban storm water run-off, and/or residential uses.
- **Organic chemical contaminants.** These are typically the by-products of industrial processes and petroleum production though they can also come from gas stations, urban storm water runoff, and/or septic systems.
- **Radioactive contaminants.** These can be naturally occurring, the result of oil and gas production, and/or the result of mining activities.

## ***Do I need to take special precautions?***

The Environmental Protection Agency (EPA) establishes regulations by setting allowable limits for contaminants in drinking water supplied by municipalities. One can reasonably expect drinking water to contain allowable amounts of some contaminants, however the presence of these contaminants does not necessarily mean the water poses a specific health risk. You can obtain detailed information about specific contaminants by calling the EPA's Safe Drinking Water Hotline at (800)426-4791 or our local city-county health department at (406)454-6950.

Individuals determined to be immunocompromised (or display other immune system disorders), with cancer and undergoing chemotherapy, and/or who have undergone organ transplants may be more sensitive to some contaminants. Some elderly and infants may exhibit a higher risk of infection brought on by microbiological contamination. These people should seek advice about their drinking water from their health care provider. EPA/CDC guidelines on appropriate means to lessen these risks are also available from the Safe Drinking Water Hotline (800-426-4791).

## ***Frequently Asked Questions (FAQ)***

### **Q: How often is our drinking water tested?**

**A:** Testing requirements, as determined by the EPA, depend on the source water and the number of people served. We are a medium-sized, surface-water sourced system, serving between 50,000 and 100,000 people. As such, Great Falls is required to continually monitor the levels of specific drinking water parameters including but not limited to turbidity and chlorine residual. Additionally, analysis for organic compounds, bacterial contamination, and inorganic contaminants happen regularly throughout the year.

### **Q: Why does the water coming out of my tap have a milky or cloudy appearance?**

**A:** The water coming into your home may contain dissolved air held in solution by the pressure of the water distribution system and/or the temperature of the water. As water exits the tap in your home the pressure can drop rapidly and may release an abundance of tiny air bubbles giving the water a milky or cloudy appearance. It is not uncommon for this to occur more often during the colder months, as cold water holds dissolved oxygen in solution a lot more efficiently than warmer water. If left so sit, the water will clear from bottom to the top within a few minutes as the air bubbles rise and disperse.

### **Q: How hard is Great Falls water?**

**A:** On a scale ranging from soft to very hard, Great Falls water is considered hard. This year our water ranged from 112 to 144 milligrams per liter as calcium carbonate or 7.9 to 10.2 grains per gallon. Some homeowners install water softeners as a matter of personal preference but softening is generally not necessary. There are no serious adverse health effects associated with hard water, though it can have a drying effect on skin and hair.

## ***Water Analysis Data***

Data tables on the following pages contain terms and abbreviations with which you may be unfamiliar. In order to help you better understand this data we offer the following definitions and explanations:

**Parts per million (ppm) or milligrams per Liter (mg/L)** - one part per million is approximately equivalent to one minute in two years or one ounce in 7,812 gallons of water.

**Parts per billion (ppb) or micrograms per Liter (µg/L)** - one part per billion is approximately equivalent to one minute in 2,000 years or one ounce in 7,812,000 gallons of water.

**ND** – Not detected/non-detect or below the reporting limit allowed by the analysis method.

**Nephelometric Turbidity Unit (NTU)** - a measure of the clarity of water. Water having turbidity in excess of 5 NTU would appear noticeably cloudy to the average person.

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

**Maximum Contaminant Level Goal (MCLG)** - the “Goal” 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 Contaminant Level (MCL)** - the “Maximum Allowed” is the highest allowable level of a contaminant in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

**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.

**Maximum Residual Disinfection Level (MRDL)** - the highest level of a disinfectant allowed in drinking water. There is convincing evidence that the addition of a disinfectant is necessary for control of microbial contaminants.

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

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

**Variations and Exemptions** – state or EPA permission not to meet an MCL or a treatment technique under certain conditions.

The City of Great Falls monitors for contaminants in drinking water according to Federal and State laws. The data summary tables included in this report document test results from monitoring conducted during the 2021 calendar year. The State of Montana and the EPA require monitoring for some contaminants at a frequency less than once per year; therefore, some results may be older than one year. The tables are presented as follows:

**Table I. Regulated Water Quality Contaminants**

**Table II. Secondary Contaminants and Other Parameters**

**Table III. Unregulated Contaminant Rule 4 and Additional Unregulated Contaminants**

Additional report copies are available free of charge from the Great Falls Water Treatment Plant. An electronic copy can be located at <https://greatfallsmt.net/ccr2021>. If you have any questions about this report or your water utility, please contact us at (406)727-1325.

Table I. Regulated Water Quality Contaminants					
Contaminant	Range Detected	MCL	MCLG	Violation Yes/No	Likely Source of Contamination
<b>Microbiological Contaminants</b>					
Total Coliform Bacteria	0	5% of Samples	0%	No	Naturally present in environment
Turbidity (NTU)	0.554 NTU on 6/3/21 ≤0.50 NTU 95% of time	TT = 1 NTU maximum; TT ≤0.50 NTU 95% of the time	0	No	Soil Runoff
<b>Inorganic Contaminants</b>					
Arsenic (ppb)	2	10	0	No	Erosion of natural deposits, volcanic activity and mining waste. More prevalent in groundwater(s).
Chlorine (ppm)	0.52-2.40	4	4	No	Disinfectant added to limit microbial growth.
Chloramines (ppm)	0.39-2.16	4	4	No	Created to prolong disinfectant life in distribution.
Fluoride (ppm)	0.7	4	4	No	Erosion of natural deposits, discharge from fertilizers and Industrial emissions.
Nitrate – NO <sub>3</sub> (ppm)	0.20	10	10	No	Runoff from fertilizer use, leaching from septic tanks, sewage, and erosion of natural deposits.
Copper (ppm)*	0.505 ppm @ 90th Percentile	AL = 1.3 ppm 90th percentile must be less than 1.3 ppm	1.3	No	Corrosion of service lines, household plumbing systems and erosion of natural deposits.
Lead (ppb)*	3.0 ppb @ 90th percentile	AL = 15 ppb; 90th percentile must be less than 15 ppb	0	No	Corrosion of service lines, household plumbing systems, erosion of natural deposits, and leaching from wood preservatives
*Samples analyzed during triannual lead and copper testing in June 2020. Copper and lead concentrations in the finished water from the plant tested on 02/10/2021 were ND.					
<b>Volatile Organic Compounds</b>					
Contaminant	Annual Average	MCL	Violation Yes/No	Likely Source	
Haloacetic Acids (HAA5) (ppb)	27.6	60	No	By-product of drinking water disinfection	
Total trihalomethanes (TTHM) (ppb)	39.6	80	No	By-product of drinking water disinfection	
Total Organic Carbon (TOC)	2.4 ppm 17.6% achieved removal	15% required removal	No	Decay of organic plant/animal matter	

**Table II. Secondary Contaminants**

Contaminant	Level Detected	SMCL	Effects at Elevated Levels
Aluminum (ppb)	0.05	50 - 200	Colored Water
Chloride (ppm)	12	250	Salty Taste
Sulfate (ppm)	48	250	Salty Taste
Total Dissolved Solids (ppm)	218	500	Hardness, deposits, colored water, staining, and salty taste
pH (s.u.)	6.87 – 7.49	6.5 - 8.5	<u>Low pH</u> : bitter metallic taste, corrosion <u>High pH</u> : slippery feel, soda taste, mineral deposits
Other Parameters			
Total Hardness as CaCO <sub>3</sub> (ppm)	142	None	Water spots, deposits
Alkalinity (ppm)	112-146	None	None
Potassium (ppm)	3	None	None
Sodium (ppm)	18	None	None
Magnesium (ppm)	11	None	None

**Table III. Unregulated Contaminant Monitoring Rule 4 (UCMR4) and Additional Unregulated Contaminants**

Contaminant	Range Detected	Reporting Limit	Likely Source of Contamination
Distribution System			
Bromochloroacetic acid (µg/L)	ND – 3.79	0.30	By-product of drinking water chlorination
Bromodichloroacetic acid (µg/L)	ND – 6.51	0.50	
Chlorodibromoacetic acid (µg/L)	ND – 0.740	0.30	
Dibromoacetic acid (µg/L)	ND – 0.353	0.30	
Dichloroacetic acid (µg/L)	0.64 – 19.20	0.20	
Monochloroacetic acid (µg/L)	ND – 2.67	2.0	
Trichloroacetic acid (µg/L)	ND – 24.6	0.50	
Finished Water			
Manganese (µg/L)	0.472-0.692	0.40	Naturally occurring in rocks and soil, contamination from mining and industrial discharges
Anatoxin-a (µg/L)	ND	0.30	Produced by harmful algal blooms
Cylindrospermopsin (µg/L)	ND	0.090	
Microcystins & Nodularins (µg/L)	ND	0.30	
Perfluorooctanoic acid (PFOA) (ng/L) *	< 2.0	2.0	Contamination from synthetic compounds used in a variety of industrial and consumer product applications including non-stick cookware and firefighting foams
Perfluorooctanesulfonic acid (PFOS) (ng/L) *	< 2.0	2.0	
Source Water			
Total Organic Carbon (µg/L)	2000-2900	500	Decay of organic plant/animal matter
Bromide (µg/L)	22.4 – 3660	20	Occurs naturally in Earth’s crust, seawater, and fossil fuels
Perfluorooctanoic acid (PFOA) (ng/L) *	< 2.0	2.0	Contamination from synthetic compounds used in a variety of industrial and consumer product applications including non-stick cookware and firefighting foams
Perfluorooctanesulfonic acid (PFOS) (ng/L) *	< 2.0	2.0	

\* Not included in UCMR4. Analyzed to determine concentrations at the time of collection for future regulations (2020). The EPA issues a UCMR every five years. The unregulated contaminants listed above were part of testing conducted in 2019 and 2020.

## ***Information on finished water monitoring***

During 2021, water plant personnel collected 70 routine distribution system samples every month. Each sample was tested for total residual chlorine concentration, pH, turbidity, total coliform (TC) and Escherichia coli bacteria (EC). Every sample yielded results within acceptable limits for all tested, and no sample tested positive for TC or EC.

## ***Summary and Upcoming Projects***

The City is committed to providing the community with safe drinking water. Recent upgrades to the water plant include completion of the first phase of a two phase filter replacement project. The project involves replacing drains and hardware, installing air scour systems, and replacing the filter media. The first phase was completed in early 2021. The second phase is projected to start in the fall of 2022.

In December of 2021 the EPA announced plans to adopt changes to the lead and copper rule, though finalization of the changes are not expected to be announced until October of 2024. The City of Great Falls is working to meet the known adopted changes by conducting service line material inventories of those served by the Great Falls water distribution system. This inventory will provide guidance for creating a sampling plan for continued lead and copper analysis. Once the adopted changes are finalized in October of 2024, the inventory will also be used to identify areas most at risk to start the work of replacing service lines in homes and businesses. More information and regular updates can be found on the EPA's website (<https://www.epa.gov/dwreginfo/lead-and-copper-rule>).

Here is a quick reference to help you identify the type of water lines in your home or business. If you have any questions or concerns you may contact the Water Treatment Plant. We can work with you to help identify the type of service line coming into your home or business.



**Again, if you have any questions about this report or your water quality, please contact our lab personnel or the plant manager, Jason Fladland, at (406)727-1325.**