

McGrath Water Quality Report 2021

Public Water System ID #2280155

Is my water safe?

We are pleased to present this year's 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. We are committed to providing you with information because informed customers are our best allies. Last year, we conducted tests for over 80 contaminants. We only detected 10 of those contaminants, and found only 1 at a level higher than the EPA allows. As we informed you at the time, our water temporarily exceeded drinking water standards. (For more information see the section labeled Violations at the end of the report.)

Do I need to take special precautions?

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/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 Water Drinking Hotline (800-426-4791).

Where does my water come from?

The public water system for the City of McGrath, Alaska, is a surface water system that obtains water near the center of the village from the west bank of the Kuskokwim River. Water from the river is filtered, treated for particulate matter, chlorinated, and stored in two storage tanks near the water treatment facility.

Source water assessment and its availability

Source water assessments have been completed by the ADEC as a first step towards voluntary local source water protection efforts. Vulnerability rankings are assigned based on the susceptibility of the drinking water source, recent sampling results, and the presence of potential contaminant sources – they do not necessarily indicate these contaminants will reach your source of water. The McGrath Water system had a source water assessment completed in January 2004 and received the following vulnerability rankings:

The overall protection area received a susceptibility rating of “very high”. In addition, this water system has received a vulnerability rating of “high” for bacteria/viruses, “very high” for nitrates/nitrites, “very high” for volatile organic chemicals, “high” for heavy metals, “very high” for other organic chemicals, and “high” for synthetic organic chemicals.

The source water assessment results full report can be obtained by contacting the DEC Drinking Water Program directly at 907-269-7549.

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 Environmental Protection Agency's (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, 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 stormwater 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 stormwater 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 stormwater runoff, and septic systems; and 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, EPA prescribes regulations that limit the amount of certain 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.

How can I get involved?

If you are interested in learning more about our water system and about opportunities for public participation in decisions that may affect the quality of the water, please contact the City Office.

Monitoring and reporting of compliance data violations

The system received various monitoring violations throughout the year for chlorine, E. Coli, turbidity, and total organic carbon because the required number of samples or reports were not submitted. These violations were returned to compliance by submitting later monitoring reports.

Outstanding 2021 Sanitary Survey Deficiencies:

1. The system is no longer adding potassium permanganate, which is not consistent with the treatment process that the DEC Drinking Water Program approved. Changing one treatment process can potentially affect the performance of the other treatment processes in the system. Treatment system changes should not be implemented without securing DEC approval.
2. There is no air gap on the overflow and drain lines of the 500,000 gallon storage tank. A permanent air gap at least two times the diameter of the drain lines must be established and maintained at all times above the ground.
3. A gap exists in the screen of the vent on the 500,000 gallon storage tank due to missing rivets. The screen must be repaired or replaced to prevent contaminants from entering the vent.
4. Equipment in the treatment plant has not been calibrated since installation.
5. Public water systems with a surface water source must meet chlorine contact time “CT” at all times when water is being treated. CT is a measure of how long the chlorine must interact with the water before adequate disinfection is achieved. Currently no CT calculations are being made nor records kept.

The water system will work with DEC to take corrective actions to address these deficiencies.

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. McGrath Water System 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>.

Water Quality Data Table

In order to ensure that tap water is safe to drink, EPA prescribes regulations which limit the amount of contaminants in water provided by public water systems. 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 is from testing done in the calendar year of the report. The EPA or the State 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.

Contaminants	MCLG or MRDLG	MCL, TT, or MRDL	Detect In Your Water	Range		Sample Date	Violation	Typical Source
				Low	High			
Disinfectants & Disinfection By-Products								
(There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants)								
Chlorine (as Cl2) (ppm)	4	4	.2	.2	.75	2021	No	Water additive used to control microbes
Haloacetic Acids (HAA5) (ppb)	NA	60	39	26	58	2021	No	By-product of drinking water chlorination
TTHMs [Total Trihalomethanes] (ppb)	NA	80	44	22.3	63.8	2021	No	By-product of drinking water disinfection
Total Organic Carbon (% Removal)	NA	TT	NA	NA	NA	2021	Yes	Naturally present in the environment
Inorganic Contaminants								
Nitrate [measured as Nitrogen] (ppm)	10	10	.26	NA	NA	2021	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Microbiological Contaminants								
Turbidity (NTU)	NA	0.3	100	NA	NA	2021	No	Soil runoff
100% of the samples were below the TT value of .3. A value less than 95% constitutes a TT violation. The highest single measurement was .155. Any measurement in excess of 1 is a violation unless otherwise approved by the state.								
Radioactive Contaminants								
Alpha emitters (pCi/L)	0	15	.27	NA	NA	2017	No	Erosion of natural deposits
Radium (combined 226/228) (pCi/L)	0	5	.396	NA	NA	2017	No	Erosion of natural deposits

Contaminants	MCLG	AL	Your Water	Sample Date	# Samples Exceeding AL	Exceeds AL	Typical Source
Inorganic Contaminants							
Copper - action level at consumer taps (ppm)	1.3	1.3	.116	2020	0	No	Corrosion of household plumbing systems; Erosion of natural deposits
Lead - action level at consumer taps (ppb)	0	15	0	2020	0	No	Corrosion of household plumbing systems; Erosion of natural deposits

TT Violation	Explanation	Length	Health Effects Language	Explanation and Comment
Surface water treatment rule filtration and disinfection violations	Treatment technique violations for total organic carbon occurred in the first, second, and third quarters.	These violations were returned to compliance in the fourth quarter.	Inadequately treated water may contain disease-causing organisms. These organisms include bacteria, viruses, and parasites, which can cause symptoms such as nausea, cramps, diarrhea, and associated headaches.	We continue to monitor for total organic carbon removal and are always working to optimize our treatment techniques.

Unit Descriptions	
Term	Definition
ppm	ppm: parts per million, or milligrams per liter (mg/L)
ppb	ppb: parts per billion, or micrograms per liter (µg/L)
pCi/L	pCi/L: picocuries per liter (a measure of radioactivity)
NTU	NTU: Nephelometric Turbidity Units. Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of the effectiveness of our filtration system.
NA	NA: not applicable
ND	ND: Not detected
NR	NR: Monitoring not required, but recommended.

Important Drinking Water Definitions	
Term	Definition
MCLG	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.
MCL	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.
TT	TT: Treatment Technique: A required process intended to reduce the level of a contaminant in drinking water.
AL	AL: Action Level: The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

Important Drinking Water Definitions	
Variances and Exemptions	Variances and Exemptions: State or EPA permission not to meet an MCL or a treatment technique under certain conditions.
MRDLG	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.
MRDL	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.
MNR	MNR: Monitored Not Regulated
MPL	MPL: State Assigned Maximum Permissible Level

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