

McGrath Water Quality Report for 2018

Public Water System ID # 280155

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 31 of those contaminants, and found only 2 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 time 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

1) Chlorination

Chlorine is used as a disinfectant to kill microbes in our drinking water. Some people who use water containing chlorine well in excess of the MRDL could experience irritating effects to their eyes and nose and/or experience stomach discomfort. At low levels chlorine can be less effective as a disinfectant. We are required to test the chlorine level at the entry point to the distribution daily and the distribution chlorine level once per month at the same time/place as the Total Coliform sample. We did not report a distribution chlorine residual in December 2018. We returned to compliance in January 2019. Some people who use water containing chlorine well in excess of the MRDL could experience irritating effects to their eyes and nose and/or experience stomach discomfort. At low levels chlorine can be less effective as a disinfectant.

2) Monitoring Violation for TTHM/HAA5

We did not submit our monitoring report for TTHM/HAA5 during the 1st Quarter of 2018. We returned to compliance in April 2018. Some people who drink water containing haloacetic acids

in excess of the MCL over many years may have an increased risk of getting cancer. Some people who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous system, and may have an increased risk of getting cancer.

3) Monitoring Violation for Total Carbon and Alkalinity

We did not submit our required reporting for Total Carbon and Alkalinity in December 2018. We returned to compliance in January 2019.

4) Total Coliforms

The Utility is required to test monthly for Total Coliform bacteria. We did not submit a December 2018 sample. We returned to compliance in January 2019. Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially harmful, bacteria may be present. While all of our total coliform samples were negative the remaining months of 2018, we cannot be certain whether there were any adverse health effects associated with this violation. Contaminated water could lead to symptoms such as nausea, cramps, diarrhea and associated headaches.

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 Cl ₂) (ppm)	4	4	1.16	.22	1.16	2018	No	Water additive used to control microbes
Uptown Haloacetic Acids (HAA5) (ppb)	NA	60	65	20.9	71	2018	Yes	By-product of drinking water chlorination
Downtown Haloacetic Acids (HAA5) (ppb)	NA	60	70	22.3	72	2018	Yes	By-product of drinking water chlorination
Uptown TTHMs [Total Trihalomethanes] (ppb)	NA	80	87	19.1	97.8	2018	Yes	By-product of drinking water disinfection
Downtown TTHMs [Total Trihalomethanes] (ppb)	NA	80	84	18	99.7	2018	Yes	By-product of drinking water disinfection
Total Organic Carbon (% Removal)	NA	TT	1	NA	NA	2018	No	Naturally present in the environment
Inorganic Contaminants								
Nitrate [measured as Nitrogen] (ppm)	10	10	.245	NA	NA	2018	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Microbiological Contaminants								
Turbidity (NTU)	NA	0.3	100	NA	NA	2018	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 .245. Any measurement in excess of 1 is a violation unless otherwise approved by the state.								
Radioactive Contaminants								
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	.23	2018	0	No	Corrosion of household plumbing systems; Erosion of natural deposits	
Copper - action level at consumer taps (ppm)	1.3	1.3	.59	2018	0	No	Corrosion of household plumbing systems; Erosion of natural deposits	

Inorganic Contaminants							
Lead - action level at consumer taps (ppb)	0	15	4.5	2018	0	No	Corrosion of household plumbing systems; Erosion of natural deposits
Lead - action level at consumer taps (ppb)	0	15	2.2	2018	1	No	Corrosion of household plumbing systems; Erosion of natural deposits

Violations and Exceedances
<p>Haloacetic Acids (HAA5) Some people who drink water containing haloacetic acids in excess of the MCL over many years may have an increased risk of getting cancer. The violation occurred in First Quarter 2018. We are now monitoring quarterly for TTHM and HAA5 and are working to optimize our treatment to limit TTHM/HAA5 formation.</p>
<p>TTHMs [Total Trihalomethanes] Some people who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous system, and may have an increased risk of getting cancer. The violation occurred in First Quarter 2018. We are now monitoring quarterly for TTHM and HAA5 and are working to optimize our treatment to limit TTHM/HAA5 formation.</p>

Undetected Contaminants

The following contaminants were monitored for, but not detected, in your water.

Contaminants	MCLG or MRDLG	MCL, TT, or MRDL	Your Water	Violation	Typical Source
1,1,1-Trichloroethane (ppb)	200	200	ND	No	Discharge from metal degreasing sites and other factories
1,1,2-Trichloroethane (ppb)	3	5	ND	No	Discharge from industrial chemical factories
1,1-Dichloroethylene (ppb)	7	7	ND	No	Discharge from industrial chemical factories
1,2,4-Trichlorobenzene (ppb)	70	70	ND	No	Discharge from textile-finishing factories
1,2-Dichloroethane (ppb)	0	5	ND	No	Discharge from industrial chemical factories
1,2-Dichloropropane (ppb)	0	5	ND	No	Discharge from industrial chemical factories
Benzene (ppb)	0	5	ND	No	Discharge from factories; Leaching from gas storage tanks and landfills
Carbon Tetrachloride (ppb)	0	5	ND	No	Discharge from chemical plants and other industrial activities
Chlorobenzene (monochlorobenzene) (ppb)	100	100	ND	No	Discharge from chemical and agricultural chemical factories

Dichloromethane (ppb)	0	5	ND	No	Discharge from pharmaceutical and chemical factories
Ethylbenzene (ppb)	700	700	ND	No	Discharge from petroleum refineries
Styrene (ppb)	100	100	ND	No	Discharge from rubber and plastic factories; Leaching from landfills
Tetrachloroethylene (ppb)	0	5	ND	No	Discharge from factories and dry cleaners
Toluene (ppm)	1	1	ND	No	Discharge from petroleum factories
Trichloroethylene (ppb)	0	5	ND	No	Discharge from metal degreasing sites and other factories
Vinyl Chloride (ppb)	0	2	ND	No	Leaching from PVC piping; Discharge from plastics factories
Xylenes (ppm)	10	10	ND	No	Discharge from petroleum factories; Discharge from chemical factories
cis-1,2-Dichloroethylene (ppb)	70	70	ND	No	Discharge from industrial chemical factories
o-Dichlorobenzene (ppb)	600	600	ND	No	Discharge from industrial chemical factories
p-Dichlorobenzene (ppb)	75	75	ND	No	Discharge from industrial chemical factories
trans-1,2-Dichloroethylene (ppb)	100	100	ND	No	Discharge from industrial chemical factories

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.
Variations and Exemptions	Variations 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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