

TOWN OF SUPERIOR

Montana Public Water Supply ID number 00339
2020 Water Quality Report

In compliance with the EPA's Safe Drinking Water Act and in an effort to keep you informed about the quality of water and services we provide to you each day, we're pleased to provide you with our Annual Water Quality Report. This report is a snapshot of the quality of water we provided you last year. It includes details regarding the source of your water, what your water contains and how it compares to EPA and the State of Montana standards.

Our water sources are three wells that are 105, 118, and 214 feet deep and draw water from the alluvial aquifer on the south side of the Clark Fork River. Due to high levels of antimony Flat Creek Spring has not been used as a source for the public water supply since 1997. However, gravity flow from the Flat Creek Spring collector could be used as an emergency backup source of water. The wells and spring are connected to a 400,000 gallon reservoir for storage, and the system has a backup generator to maintain the water supply in the event of a loss of power. To ensure its purity, we treat our water with a small amount of chlorine. We have 431 service connections and added 13 new connections last year. A sanitary survey inspection of our water system was conducted in October of last year. No significant deficiencies that may affect the quality of our drinking water were noted.

We want you, our valued customers, to be informed about your water utility. If you want to learn more, please attend any of our regularly scheduled meetings held on the second Monday of each month at 7:30 p.m. at 105 Cedar Street.

We are pleased to report that our drinking water is safe and meets all federal and state requirements. If you have any questions about this report or concerning your water utility, please contact the Town of Superior at (406) 822-4672. Rodney Goins and Andrew Cadman are our certified operators with 10 and two years of experience respectively. They attend periodic training sessions to meet continuing education requirements. The most recent training courses they attended were in October of last year.

DID YOU KNOW? The sources of drinking water (both tap and bottled water) include rivers, lakes, streams, ponds, reservoirs, and wells. As water travels over the surface of land or through the ground, it dissolves naturally occurring minerals and in some cases radioactive elements. Water can also pick up substances resulting from the presence of animals or from human activity.

Contaminants that may be present in water include:

- 1) Microbial contaminants such as viruses and bacteria which may come from sewage treatment plants, septic systems, agricultural livestock operations and wildlife.
- 2) Inorganic contaminants, such as salts and metals which can be naturally occurring or result from urban storm water runoff, industrial or domestic waste water discharges, oil and gas production, mining and farming.
- 3) Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban storm water runoff, and residential uses.
- 4) Volatile organic chemicals, which are byproducts of industrial processes, petroleum production, and can also come from gas stations, urban storm water runoff, and septic systems.
- 5) 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 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. The Superior Water System routinely monitors for constituents in your drinking water according to Federal and State laws. We take all of our water samples to Montana Environmental Laboratory in Kalispell (406-755-2131). They are a private laboratory that is certified by the State of Montana and the EPA to analyze drinking water.

All sources of drinking water are subject to potential contamination by constituents that are naturally occurring or manmade. Those constituents can be microbes, organic or inorganic chemicals, or radioactive materials. All 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 the water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline at 1-800-426-4791 or online at www.epa.gov/safewater.

Our sampling frequency complies with EPA and state drinking water regulations. The following tests were performed to identify possible contaminants in our system during the period of January 1 to December 31, 2020:

- 24 coliform bacteria tests – all were coliform free.
- One nitrate plus nitrite test on each of our three wells – results were within EPA guidelines.
- 5 tests on the water from our customers' homes to determine the possible presence of lead and copper leaching out of the faucets and fixtures – results were within EPA guidelines.
- Tests on each of our wells to determine the possible presence of eleven inorganic contaminants – results were within EPA standards.
- Tests on each of our wells to determine the possible presence of 61 organic contaminants – none were detected.
- Tests on each of our wells to determine the possible presence of 40 pesticides & herbicides – none were detected.
- Tests to determine the possible presence of 10 disinfection byproducts – results were within EPA standards.

The following table lists the contaminants detected during recent testing. Some of the data in these tables may be more than one year old, since certain chemical contaminants are monitored less than once per year.

Regulated Contaminants

CONTAMINANT	VIOLATION Y/N	SAMPLE DATE	HIGHEST LEVEL DETECTED	UNIT MEASUREMENT	MCLG	MCL	LIKELY SOURCE OF CONTAMINATION
Alpha Emitters Middle - EP503	N	8-2-17	2.1 +/- 1.7	pCi/L	0	15	Erosion of natural deposits
Barium Middle - EP503 West - EP504 East - EP505	N	2-12-20	0.11 0.12 0.09	ppm	2	2	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Nitrate + Nitrite Middle - EP503 West - EP504 East - EP505	N	2-12-20	0.16 0.17 0.04	ppm	10	10	Naturally occurring at this level
Copper	N	8-28-20	90th % is 0.07	ppm	1.3	AL=1.3	Corrosion of Household plumbing / naturally occurring
Fluoride Middle - EP503 West - EP504 East - EP505	N	2-12-20	0.10 0.11 0.04	ppm	4	4	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
Radium 226 Middle - EP503 West - EP504 East - EP505	N	8-2-17	0.2 +/- 0.1 0.2 +/- 0.1 0.3 +/- 0.2	pCi/L	0	5	Natural deposits
Radium 228 Middle - EP503 West - EP504	N	8-2-17	0.9 +/- 0.8 1.4 +/- 0.7	pCi/L	0	5	Natural deposits
Total Haloacetic Acids (HAA's)	N	8-11-20	2.4	ppb	0	60	By product of drinking water chlorination
Total Trihalomethanes (TTHM)	N	8-13-20	4.9	ppb	0	80	By product of drinking water chlorination
Uranium West - EP504	N	8-2-17	1	ppb	0	30	Erosion of natural deposits

DEFINITIONS:

MCL - Maximum Contaminant Level - The “Maximum Allowed” 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.

MCLG - Maximum Contaminant Level Goal - 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.

PPM - Parts per million or Milligrams per liter (mg/l) - one part per million corresponds to one minute in two years or a single penny in \$10,000.

PPB - Parts per billion or Micrograms per liter - one part per billion corresponds to one minute in 2,000 years, or a single penny in \$10,000,000.

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

pCi/L - Pico Curies per Liter - a very small unit of measurement of radioactivity.

What does this table tell us?

As you can see our system had no MCL violations. MCL's are set at very stringent levels. To understand the possible health effects of exceeding the MCL, a person would have to drink two liters of water every day at the MCL for a lifetime to have a one in a million chance of having any adverse health effects. Although we have learned through our monitoring and testing that some constituents have been detected, the EPA has determined that your water IS SAFE at these levels.

Lead in drinking water comes primarily from materials and components of the service lines and home plumbing systems. It is possible that lead levels at your home may be higher than other homes in the community as a result of materials used in your home's plumbing. Our water system is responsible for providing high quality drinking water, but we cannot control the variety of materials used in private home plumbing systems. If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. If you are concerned about elevated lead levels in your home's water, you may wish to have your water tested by a certified laboratory like the one we send our samples to (Montana Environmental Laboratory, 406-755-2131). When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap until the water temperature has stabilized (usually for 30 seconds to 2 minutes) before you use the water for drinking or cooking. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure to lead is available from the Safe Drinking Water Hotline 1-800-426-4791, or online at www.epa.gov/safewater/lead.

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/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, or online at www.epa.gov/safewater.

In 2007, the Montana Department of Environmental Quality conducted a source water assessment of our system. This report provides additional information on the potential vulnerability of our wells to contamination. This report is available for review at the Town of Superior City Office. It is also available online at <http://svc.mt.gov/deq/dst/#/app/swp>. The report can be summarized in the table on the following page.

Our water system is committed to providing our customers with safe, pure water and we are pleased that our water meets or exceeds all established state and federal standards. Thank you for reviewing this report.

Significant Potential Contaminant Sources

Source	Contaminant	Hazard / Origin of Contaminant	Hazard Rating	Barriers	Susceptibility	Management needed to reduce potential impacts
Municipal Sewers - within the IRs	Nitrate, pathogens, other contaminants	Ongoing or catastrophic leakage of sewage into groundwater	High Hazard - 50% IR area is serviced by municipal sewer	None Known	Very High Susceptibility	Maintenance, rehabilitation of existing sewer mains, use of sewer main liners, rapid response planning for leaks or ruptures
Septic Density - localized higher densities within the IRs and up gradient from a well	Nitrate, pathogens, other contaminants	Leakage of poorly installed or maintained systems	High Hazard - local high and medium density of private septic systems located up gradient from Well 3	None Known	Very High Susceptibility	Local promotion of advanced septic systems, public education, possible extension of community septic systems for these upgradient areas (to the southeast)
Highways, other roadways and railroad lines - within the IRs and RR	VOCs, petroleum hydrocarbons, SOCs, other	Wrecks and large spills near the wells or that can reach streams or rivers	High Hazard - These go through all 3 of the IRs and through the RR	None Known	Very High Susceptibility	Emergency planning, training of local emergency response personnel, use of levees and engineered storm drainage to carry any spills away and prevent infiltration into ground near the well (especially where the highway is near the well) Cooperation with railroad managers to reduce herbicide use near the wells
USTs, and/or LUSTs within the IRs	VOCs, petroleum hydrocarbons	Leaks and spills that can reach groundwater.	High hazard - at least a couple are in the IR for Well 1 and several are within town	Spill prevention, groundwater monitoring, remediation	Moderate Susceptibility	Emergency planning, training of local emergency response personnel, groundwater monitoring spill prevention, BMPs, ongoing remediation of soil or groundwater at leak sites
Septic Density - overall in IRs	Nitrate, pathogens, other contaminants	Leakage of poorly installed or maintained systems	Low hazard - very low overall density in the IR	None known	Moderate Susceptibility	Local promotion of advanced septic systems, public education, possible extension of community septic systems for these up gradient areas (to the southeast)
Large Capacity Septic Systems - in the RR	Nitrate, pathogens, other contaminants	Leakage of poorly installed or maintained systems	Not evaluated - most are located well outside of IR	Distance, dilution	Not evaluated	Regional promotion of advanced septic systems, public education, possible development of community septic systems for up gradient areas
MDT or County Maintenance Facilities - outside the IRs but within the RR	VOCs SOCs metals, other contaminants	Accidental releases or improper handling or disposal of bulk materials or other bulk materials	Not evaluated - these are outside of IR	None known	Not evaluated	Evaluation of soil and groundwater contaminant migration from these sites, BMPs, promotion of dry shops, promotion of advanced septic systems
Municipal or Industrial Wastewater Discharges and Lagoons - all are in the RR	Nitrates, pathogens, VOCs, SOCs, metals, petroleum hydrocarbons	Leaks and spills that can reach groundwater	Not evaluated - these are outside of IR	None known	Not evaluated	Involvement in the public review process for the permitting of new facilities