

BIGFORK WATER & SEWER DISTRICT

Montana Public Water Supply ID number 00262

2017 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 present our Annual Water Quality Report. This report is a snapshot of the quality of water provided 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 drinking water comes from three 300 feet deep wells. At the end of 2017, we had 1435 residential and commercial service connections.

Bigfork Water & Sewer provides water to a shared tank in the Ranch subdivision. Because they own and operate a community water supply with their own wells that also supply water to the shared tank, Ranch County Water is considered by the Montana DEQ and the Federal EPA to be a consecutive connection. What this means to the customer, is that the potential exists for water from one system to be transmitted to the other through a shared line. Customers wishing to review the CCR for the Ranch District are encouraged to contact manager, Rita Graham to request this literature. The DEQ website lists water quality issues for that district as well as all other public water supplies in the state of Montana on the *Safe Drinking Water Watch* site at <http://sdwisdww.mt.gov:8080/DWW/index.jsp>. The Public Water Supply (PWS) number for Bigfork is MT0000262 and for Ranch is MT0003076.

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 2nd Wednesday of each month at 7:00 p.m. in the District Office at 108 Harbor Heights Boulevard.

Bigfork has three fully-certified drinking water operators. Operator certification requires ongoing training to assure stringent water quality standards are maintained. The District Manager is Julie Spencer who has been with the district for 18 years and been a certified water operator for 17 years. In Operations Sergio Lopez and Dane Sullivan have been with the district for 2 years and have been certified water operators for 1 year. We also have two operators-in-training that will be fully certified in 2018.

If you have any questions about this report or concerning your water utility, please contact Julie Spencer at (406) 837-4566.

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 are byproducts of industrial processes and petroleum production, but can also come from gas stations, urban storm water runoff, and septic systems.
- 5) Radioactive contaminants 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. We routinely monitor for contaminants 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. Our sampling frequency complies with EPA and state drinking water regulations.

In the past, due to the high quality of our water supply, the DEQ has issued a monitoring waiver for 10 inorganic contaminants. This waiver allows our system to sample only once every nine years for these contaminants. Past sampling has shown that these contaminants are either not present in our water or occur in such small amounts that they do not warrant a health hazard. In 2012, the District tested for these contaminants and was granted a new waiver.

In May of 2016 the Montana Department of Environmental Quality inspected our water system during the tri-annual Sanitary Survey. Our system passed inspection with no deficiencies.

During the third quarter of 2017 the District received one DEQ Revised Total Coliform Rule Level 1 Treatment Technique Triggered Assessment Notification. The contamination most likely occurred due to pressure tank failure and improperly plumbed air release valves which allowed the introduction of coliforms. Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially harmful, bacteria may be present. Coliforms were found in more samples than allowed and this was a warning of potential problems. Usually, Coliforms are a sign that there could be a problem with the distribution system (pipes). Whenever we detect coliform bacteria in any sample, we do follow-up testing to see if other bacteria of greater concern, such as fecal coliform or E. coli, are present. *We did not find any of these bacteria in our subsequent testing.* However, the presence of coliforms required the District to flush mains to clear the contamination. It also escalated water testing.

The following tests were performed to identify possible contaminants in our system during the period of January 1 to December 31, 2017:

- 40 Total Coliform bacteria tests - 1 contained coliforms, 39 showed no contamination
- 40 E-Coli bacteria tests – none were present

Additionally, samples were tested for the following contaminants and *all results were within EPA guidelines:*

- 1 Nitrate plus Nitrite test.

Total Coliform Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially harmful, bacteria may be present. Coliforms were found in more samples than allowed and this was a warning of potential problems

Violation Type	Violation Begin	Violation End	Explanation
MCL (TCR), monthly	06/13//2017	06/17/17	DEQ Level 1 Assessment Total coliform bacteria were found in our drinking water during the period indicated in enough samples to violate a standard.

E.Coli Fecal coliforms and E. Coli are bacteria whose presence indicates that the water may be contaminated with human or animal wastes.

Violation Type	Violation Begin	Violation End	Explanation
RTCR Level I Treatment Technique Triggered Additional Sampling	06/13/2017	06/17/2017	Routine testing indicated the presence of coliforms. E. Coli was absent during routine and additional sampling. Checked bladders in air tanks, checked air relief valves, and increased flushing to improve system operations.

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

REGULATED CONTAMINANTS

EP 503 – CURRENT WELLS

CONTAMINANT	VIOLATION Y/N	SAMPLE DATE	HIGHEST LEVEL DETECTED	UNIT of MEASURE	MCLG	MCL	LIKELY SOURCE OF CONTAMINATION
Alpha Emitters EP503	N	07/22/08	1.3 +/- 1.0	pCi/L	0	15	Erosion of natural deposits
Radium 228 EP503	N	07/22/08	2	pCi/L	0	5	Erosion of natural deposits
Barium EP 503	N	07/17/2012	0.32	ppm	2	2	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Fluoride EP 503	N	07/17/2012	0.07	ppm	4	4.0	Erosion of natural deposits; Discharge from fertilizer and aluminum factories
Nitrate (measured as Nitrogen)	N	06/13/2017	0.19	ppm	10	10	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits

LEAD AND COPPER

SAMPLED FROM 10 HOUSEHOLD TAPS

CONTAMINANT	VIOLATION Y/N	#SITES OVER AL	SAMPLE DATE	90 th %	UNIT of MEASURE	MCLG	MCL	LIKELY SOURCE OF CONTAMINATION
Copper	N	0	08/11/17	0.1	ppm	1.3	AL=1.3	Erosion of natural deposits; Corrosion of Household plumbing systems
Lead	N	0	08/11/17	8	ppb	0	AL=15	Corrosion of Household plumbing; 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?

All sources of drinking water are subject to potential contamination by contaminants that are naturally occurring or man made. Those contaminants 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 water.epa.gov/drink/contaminants/index.cfm.

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 water.epa.gov/drink/info/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. You can find out more about our system and the specific contaminants we have tested for, on the web at DEQ's *Safe Drinking Water Watch* site <http://sdwisdww.mt.gov:8080/DWW/index.jsp>

In March of 2005, 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 District Office. The report can be summarized in the following table.

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 of aquifer to this source of contamination	Management needed to reduce potential impacts
Large Capacity Septic Systems-1 in/near IR many in RR	Nitrate, pathogens, other contaminants	Leakage of poorly installed or maintained systems	High Hazard - for the USFS system only. Not evaluated for other systems in RR	Shallow aquifer thickness	High susceptibility	Local promotion of advanced septic systems, public education, possible development of community septic systems for up gradient areas.
Cropped Ag Land-in the IR	Nitrate, SOCs	Over application or spills of pesticides or fertilizers	Moderate Hazard - for non irrigated pasture/hay and small grains	Shallow aquifer thickness, non-irrigation of crops, much of ag land is down gradient from wells	Low susceptibility	Ongoing groundwater monitoring for ag-related contaminants, promotion of BMPs and good cropping practices, coordination with farmers to promote awareness and cooperation with PWS operators.
Septic Density-in the IR	Nitrate, pathogens, other contaminants	Leakage of poorly installed or maintained systems	Low Hazard - very few are in IR	Shallow aquifer thickness, very low number of these systems	Very low susceptibility	Ensure that no septic systems are installed inside of the IR
Septic Density-localized higher densities in the RR up gradient	Nitrate, pathogens, other contaminants	Leakage of poorly installed or maintained systems	Not evaluated. Some areas are up gradient, but not in IR			Local promotion of advanced septic systems, public education, possible development of community septic systems for up gradient areas.
Highways and other roadways-in RR	VOCs, petroleum hydrocarbons, SOCs, other	Wrecks and large spills that can reach streams or rivers	Not evaluated. These are outside of IR			Emergency planning, training of local emergency response personnel.
MDT Maintenance Facilities	VOC's, SOCs, metals, other contaminants	Accidental releases or improper handling or disposal of hazardous materials	Not evaluated. These are outside of IR			Evaluation of soil and groundwater contaminant migration from these sites, BMPs, promotion of dry shops, promotion of advanced septic systems
UST's, LUST's	VOCs, petroleum hydrocarbons	Leaks and spills that can reach groundwater	Not evaluated. These are outside of IR			Emergency planning, training of local emergency response personnel, groundwater monitoring, spill prevention, BMPs.

DEFINITIONS: IR-inventory region **RR**-recharge region