

***The Town of Manhattan***  
***2018 Annual Drinking Water Quality Report***  
**For the Monitoring Year 2017**  
**PWSID#MT0000285**  
**Box 96, Manhattan, MT 59741**  
**(406) 284-3235**

We're pleased to present to you this year's Annual Quality Water Report. This report is designed to inform you about the quality water and services we deliver to you every day. Our constant goal is to provide you with a safe and dependable supply of drinking water. We want you to understand the efforts we make to continually improve the water treatment process and protect our water resources. We are committed to ensuring the quality of your water. Our water source is *groundwater from two wells and the primary water source is from a spring and infiltration gallery. The spring water supply is chlorinated to protect you from possible disease producing organisms. The two wells are deep drilled wells and do not require disinfection at this time.*

A Source Water Delineation and Assessment Report (SWDAR) was completed by the Montana DEQ in June 2005, which delineated potential sources of contamination for our water system. The information from the 2005 SWDAR was used to develop a Source Water Protection (SWP) Plan that was completed March 2010 with the assistance of Montana Rural Water Systems, Inc. staff. This **Source Water Protection Plan** developed management strategies that have been implemented to address the identified potential sources of contamination and continue to assist the Town of Manhattan to provide the highest available quality water available to our customers each year. Contact the Town of Manhattan at (406) 284-3278 to review these reports.

*I'm pleased to report that our drinking water is safe and meets federal and state requirements. This report shows our water quality and what it means.*

If you have any questions about this report or concerning your water utility, please contact **Jeff McAllister** you want to learn more, please attend any of our regularly scheduled meetings. Check with City Hall for regularly scheduled meeting dates.

The Town of Manhattan routinely monitors for constituents in your drinking water according to Federal and State laws. This table shows the results of our monitoring for the period of **January 1<sup>st</sup> to December 31<sup>st</sup>, 2017.**

"Some of our data in the tables are more than one year old, since certain chemical contaminants are monitored less than once a year. Our sampling frequency complies with EPA and State drinking water regulations."

*In this table you will find many terms and abbreviations you might not be familiar with. To help you better understand these terms we've provided the following definitions:*

**Non-Detects (ND)** - laboratory analysis indicates that the constituent is not present.

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

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

**Picocuries per liter (pCi/L)** - picocuries per liter is a measure of the radioactivity in water.

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

**Maximum Contaminant Level** - The "Maximum Allowed" (MCL) 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.

**Maximum Contaminant Level Goal** - The "Goal" (MCLG) 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.

**TEST RESULTS**

Contaminant	Violation Y/N	Sample Date	Highest Level Detected	Range Detected	Unit Measurement	MCLG	MCL	Likely Source of Contamination
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**Microbiological Contaminants**

We can report that all monthly samples were satisfactory for 2017.

**Disinfectants and Disinfection By-Products**

Gross Alpha excluding radium and uranium	N	2017	7.2					
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**Radioactive Contaminants**

Gross Alpha excluding radium and uranium	N	2017	7.2	0 – 7.2	pCi/l	0	15	Erosion of natural deposits
Combined Radium 226/228	N	2017	1.6	0 – 1.6	pCi/l	0	5	Erosion of natural deposits
Uranium	N	2017	7	1 - 7	ug/l	0	30	Erosion of natural deposits

**Inorganic Contaminants**

Arsenic	N	2017	2	0 - 2	ppb	N/A	10	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes
Barium	N	8/12/14	0.049	0.049 – 0.049	ppm	2	2	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Copper	N	2016	0.276*		ppm	1.3	AL=1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Fluoride	N	2017	0.2	0.2 – 0.2	ppm	4	4	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
Lead	N	2016	8.1*		ppb	0	AL=15	Corrosion of household plumbing systems, erosion of natural deposits
Nitrate (as Nitrogen)	N	2017	1	0.89 – 1.29	ppm	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Selenium	N	2017	1	1 – 1	Ppb	50	50	Discharge from petroleum and metal refineries; Erosion of natural deposits; Discharge from mines.

**\*Lead and Copper Rule Testing**

*The 1994 Federal Lead & Copper Rule mandates a household testing program for these substances. According to the rule, 90% of the samples from high-risk homes must have levels less than 0.015 milligrams per liter for lead and 1.3 milligrams per liter for copper.*

**TEST RESULTS: Unregulated Contaminants Detected – No samples taken**

### ***Microbiological Contaminants:***

**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.

### ***Radioactive Contaminants:***

**Alpha emitters** - Certain minerals are radioactive and may emit a form of radiation known as alpha radiation. Some people who drink water containing alpha emitters in excess of the MCL over many years may have an increased risk of getting cancer.

**Uranium** - Exposure to uranium in drinking water may result in toxic effects to the kidney. Some people who drink water containing alpha emitters, such as uranium, in excess of the MCL over many years may have an increased risk of getting cancer.

### ***Inorganic Contaminants:***

**Arsenic** - Some people who drink water that contains arsenic in excess of the MCL over many years could experience skin damage or problems with their circulatory system, and may have an increased risk of getting cancer.

**Barium** - Some people who drink water that contains barium in excess of the MCL over many years could experience an increase in their blood pressure.

**Copper** - Copper is an essential nutrient, but some people who drink water containing copper in excess of the action level over a relatively short amount of time could experience gastrointestinal distress. Some people who drink that water contains copper in excess of the action level over many years could suffer liver or kidney damage. People with Wilson's disease should consult their personal doctor.

**Fluoride** - Some people who drink water that contains fluoride in excess of the MCL over many years could get bone disease, including pain and tenderness of the bones. Children may get mottled teeth.

**Lead** - Infants and children who drink water that contains lead in excess of the action level could experience delays in their physical or mental development. Children could show slight deficits in attention span and learning abilities. Adults who drink this water over many years could develop kidney problems or high blood pressure.

### ***Additional Health Information:***

**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. The Town of Manhattan 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>.

**Nitrate** - Infants below the age of six months who drink water that contains nitrate in excess of the MCL could become seriously ill and if untreated could die. Symptoms include shortness of breath and blue-baby syndrome.

### ***Synthetic organic contaminants including pesticides and herbicides:***

**Di (2-ethylhexyl) phthalate** - Some people who drink water containing di (2-ethylhexyl) phthalate in excess of the MCL over many years may have problems with their liver, or experience reproductive difficulties, and may have an increased risk of getting cancer.

### ***Volatile Organic Contaminants:***

**Chlorine** - Some people who use water that contains chlorine well in excess of the MRDL could experience irritating effects to their eyes and nose. Some people who drink water that contains chlorine well in excess of the MRDL could experience stomach discomfort.

**Haloacetic Acids (HAA's)** - Some people who drink water that contains haloacetic acids in excess of the MCL over many years may have an increased risk of getting cancer.

**Total Trihalomethanes (TTHMs)** - Some people who drink water that contains trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous systems, and may have an increased risk of getting cancer.

**As you can see by the table, there were no violations.**

“All sources of drinking water are subject to potential contamination by constituents that are naturally occurring or are man-made. 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.

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 (800-426-4791).

In our continuing efforts to maintain a safe and dependable water supply it may be necessary to make improvements in your water system. The costs of these improvements may be reflected in the rate structure. Rate adjustments may be necessary in order to address these improvements. Please call our office if you have questions.

**We at The Town of Manhattan ask that all our customers help us protect our water sources, which are the heart of our community, our way of life and our children's future.**

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.

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.