



2022 CONSUMER CONFIDENCE REPORT
“THE WATER WE DRINK”
MANDAREE WATER SYSTEM
PWSID# 083890001

The purpose of this report is to inform you of the quality of the drinking water that we provide. We are required by the U.S. Environmental Protection Agency (EPA) to test our water frequently for the presence of over 80 different substances, and as a surface water treatment plant, we monitor the water continually to assure compliance with the Safe Drinking Water Act (SDWA). The EPA Region 8 Office in Denver, Colorado reviews all of our testing data to ensure that we are providing safe drinking water to our users, and we are complying with EPA regulations.

The Mandaree Water Treatment Plant, located on the western edge of the Fort Berthold Reservation, pumps raw water from Lake Sakakawea and treats the water to regulatory standards. The Mandaree water treatment process consists of a flocculator followed by a sedimentation basin/clarifier; the water then flows to an ultrafiltration membrane system, with chlorine added to the finished water. In 2022, our water department distributed approximately 127 million gallons of treated water to our customers. This report shows the water quality produced by the Mandaree Water Treatment Plant and what that water quality means to you the consumer.

If you have any questions concerning this report, our water system, or water quality concerns; please contact Joseph Silveria, Director of Fort Berthold Rural Water (FBRW) at (701) 627-8185. If you are aware of individuals who need help with the appropriate language translation and wish to attend, please call the Tribal Business Office at (701) 627-8100.

The Mandaree Water System would appreciate community segment employees and other large volume water customers post copies of this Consumer Confidence Report (CCR) in visible locations, or distribute them to tenants, residents, patients, students, or employees on the water system.

The Mandaree Water System routinely monitors for contaminants in your drinking water according to Federal laws. We monitor monthly for coliform bacteria, all samples have been satisfactory, no detects. As authorized and approved by EPA, we have reduced monitoring requirements for certain contaminants to less often than once a year because the concentrations of these contaminants are not expected to vary significantly from year to year. Some of our data (e.g. for organic contaminants), though representative, may be more than one year old. A specific listing of the contaminants can be obtained from the Fort Berthold Rural Water Office.

In order to ensure that tap water is safe to drink, the Environmental Protection Agency prescribes regulations which 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.

The sources of drinking water (both tap 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.

2022 Water Quality Tests Results

This section of the report contains a table with terms and abbreviations you might not be familiar with. To help you better understand these terms we've provided the following definitions:

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

Maximum Contaminant Level (MCL) - 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 (MCLG) - 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.

NA – Not applicable

Parts per million (ppm) or Milligrams per liter (mg/l) – ppm is a measure of the concentration of a contaminant in water, 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 (µg/l) - ppb is a measure of the concentration of a contaminant in water, 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.

Public Water System Identification Number (PWSID) – a unique identifier number assigned by the EPA.

Running Annual Average (RAA) – running annual arithmetic average computed monthly or quarterly.

Treatment Technique (TT) – A treatment technique is a required process intended to reduce the level of a contaminant in drinking water.

Maximum Residual Disinfectant Level (MRDL) - The highest level of disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

All sources of drinking water are subject to potential contamination by substances that are naturally occurring or manmade. These substances can be microbes, inorganic or organic chemicals and radioactive substances. 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.

The table below includes only the contaminants that were detected by the laboratory. The laboratory did not detect most of the contaminants that EPA requires us to monitor.

MANDAREE WATER TREATMENT PLANT 2022 SAMPLE RESULTS							
Contaminant	Violation Y/N	Level Detected	Date	Unit Measurement	MCLG	MCL	Likely Source of Contamination
Coliform Bacteria	N	24- samples 0-detects	2 Sites per Month Monthly 2022	Presence or Absence	NA	NA	Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other potentially harmful bacterial may be present.
Disinfectants and Disinfection Byproducts/Organics							
Chlorine	N	Range (0.8-1) RAA = 1	Monthly 2022	ppm	MRDL G=4	MRDL=4	Water additive used to control microbes.
Total Trihalomethanes (TTHM) DBP	N	Range (36.18 – 48.87) RAA=55	Quarterly 2022	ppb	NA	80	Byproduct of drinking water disinfection
Total Haloacetic Acids (HAA5) DBP	N	Range (13.99 – 19.95) RAA=27	Quarterly 2022	ppb	NA	60	Byproduct of drinking water disinfection
Inorganic Contaminants							
Arsenic	N	1.14	2022	ppb	0	10	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes
Barium	N	0.0432	2022	ppm	2	2	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Copper	N	(90 th percentile) 0.247 All sites below A.L.	2021	ppm	1.3	A.L.=1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives.
Fluoride	N	0.601	3/22/2022	ppm	4	4	Erosion of natural deposits; water additive to promote strong teeth; discharge from fertilizer and aluminum factories.
Lead	N	(90 th percentile) 1.28 All sites below A.L.	2021	ppb	0	A.L.=15	Corrosion of household plumbing systems; erosion of natural deposits.

Nitrate (measured as Nitrogen)	N	0.192	2022	ppm	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits.
Selenium	N	1.19	3/31/2022	ppb	50	50	Discharge from petroleum and metal refineries; erosion of natural deposits; discharge from mines
Turbidity – Turbidity is monitored continually with inline turbidimeters and recorded on the Mandaree water treatment plants SCADA system. The turbidity results for 2022 were all well within the EPA parameters of <0.3 nephelometric turbidity units (ntu). 4 hour ntu readings are recorded and reported monthly to EPA. The highest turbidity measurement for the Mandaree plant was 0.09 ntu, with 100% of turbidity samples meeting turbidity limits. Turbidity is a measurement of the cloudiness of the water. We monitor it because it is a good indicator of the effectiveness of our filtration system.							

As you can see in the Table above, Mandaree had no violations for 2022.

EPA requires monitoring of over 80 drinking water contaminants. Those contaminants listed in the table above are the only contaminants detected in your drinking water.

More Information About Certain Contaminants

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 Mandaree 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 drinking 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 in drinking water at levels above 10 ppm is a health risk for infants of less than six months of age. High nitrate levels in drinking water can cause blue baby syndrome. Nitrate levels may rise quickly for short periods of time because of rainfall or agricultural activity. If you are caring for an infant you should ask advice from your health care provider.

Some people who drink 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.

While your drinking water meets EPA’s standard for arsenic, it does contain low levels of arsenic. EPA’s standard balances the current understanding of arsenic’s possible health effects against the costs of removing arsenic from drinking water. EPA continues to research the health effects of low level arsenic, which is a mineral known cause cancer in humans at high concentrations and is linked to other health effects such as skin damage and circulatory problems.

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).

MCL's are set at very stringent levels. To understand the possible health effects described for many regulated contaminants, a person would have to drink 2 liters of water every day at the MCL level for a lifetime to have a one-in-a-million chance of having the described health affect.

In our continuing efforts to maintain a safe and dependable water supply it may be necessary to make adjustment and improvements to our system which will benefit our customers. The water treatment plant operators are in consultation with professionals in the field of water treatment when making adjustments as needed.

We at the Mandaree Water System work on a daily basis to provide top quality water to every tap on our system. We 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.