

Missouri West Water System
Quality on Tap Report
2010

We're pleased to present to you this year's *Quality on Tap Report*. This report is designed to inform you about the safe clean water 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 from the City of Mandan, which provides treated surface water drawn from the Missouri River. The Mandan Water Treatment Plant uses the following treatment processes: clarification, softening, filtration, fluoridation, and disinfection.

The North Dakota Department of Health has prepared a Source Water Assessment for Mandan's surface water intake. The North Dakota Water Assessment Program has classified Mandan's water system as moderately susceptible. It should be noted that historically the city has effectively treated its source water to meet drinking water standards and the risk for potential contamination is low. A copy of the assessment report can be reviewed at the water treatment plant.

"I'm pleased to report that our drinking water is safe and meets federal and state requirements," said Mike Kemnitz, General Manager, Missouri West Water System. 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 Mike Kemnitz, General Manager, Missouri West Water System, at 701-663-8549. We want our valued customers to be informed about their water utility. If you want to learn more, please attend any of our regularly scheduled meetings. They are held on the last Wednesday of the month at 10:00 a.m. at 2816 37th Street N.W., Mandan, ND. If you are aware of non-English speaking individuals who need help with the appropriate language translation, please call Mike Kemnitz at the number listed above.

The Missouri West Water System would appreciate it if large volume water customers post copies of this *Quality on Tap Report* in conspicuous locations or distribute them to tenants, residents, patients, students, and/or employees, so individuals who consume the water, but do not receive a water bill, can learn about our water system.

Missouri West Water System routinely monitors for contaminants in your drinking water according to Federal and State laws. The following table shows the results of our monitoring for the period of January 1st to December 31, 2010. As authorized and approved by EPA, the state has reduced monitoring requirements for certain contaminants to less often than once per year because the concentrations of these contaminants are not expected to vary significantly from year to year. Some of our data though representative, is more than one year old.

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 (1-800-426-4791).

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 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.

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. Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

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 and Prevention (CDC) guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline (1-800-426-4791).

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. Missouri West Water System is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. **Use water from the cold tap for drinking and cooking. 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.wpa.gov/safewater/lead>.

In the following tables 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:

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

(ppb) parts per billion or (μ g/l) micrograms per liter - One part per billion corresponds to one minute in 2,000 years, or a single penny in \$10,000,000.

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

(NTU) Nephelometric Turbidity Unit - Nephelometric turbidity unit is a measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

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

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

(MCL) Maximum Contaminant Level - The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLG's as feasible using the best available treatment technology.

(MCLG) Maximum Contaminant Level Goal - The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLG's allow for a margin of safety.

(MRDLG) Maximum Residual Disinfectant Level Goal - The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLG's do not reflect the benefits of the use of disinfectants to control microbial contaminants.

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

TEST RESULTS FOR THE MISSOURI WEST WATER SYSTEM								
Contaminant	MCLG	MCL	Level Detected	Units	Range	Year	Violation Yes/No	Likely Source of Contamination
Microbiological Contaminants								
Turbidity*	NA	TT	0.13	NTU	N/A	2010	No	Soil runoff
Inorganic Contaminants								
Barium	2	2	0.0163	ppm	NA	2010	No	
Fluoride	4	4	1.17	ppm	NA	2010	No	
Nitrate-Nitrite (As N)	10	10	0.22	ppm	NA	2010	No	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Copper	1.3	AL=1.3	0.0445 90 th % Value	ppm	NA	2009**	0 sites exceeded AL	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead	0	AL=15	0.00 90 th % Value	ppb	NA	2009**	0 Sites exceeded AL	Corrosion of household plumbing systems, erosion of natural deposits
Disinfection Byproducts								
(HAA5)Total Haloacetic Acids	NA	60	16.67	ppb	8.82 to 16.67	2008	No	By-product of drinking water disinfection
TTHM (Total Trihalomethanes)	NA	80	53.91	ppb	33.34 to 53.91	2008	No	By-product of drinking water disinfection
Disinfectants								
Chloramine	MRDL =4	MRDL =4.0	2.2	ppm	2.1 to 2.3	2010	No	Water additive used to control microbes
Total Organic Carbon Removal								
Alkalinity – Source	NA	NA	156	MG/L	130.00 to 156.00	2010	No	Natural erosion, certain plant activities, certain industrial waste water discharges
Carbon, Total Organic (TOC) - Finished	NA	NA	2.1	MG/L	1.70 to 2.10	2010	No	Naturally present in the environment
Carbon, Total Organic (TOC)- Source	NA	NA	4.6	MG/L	2.90 to 4.60	2010	No	Naturally present in the environment

* **Turbidity** is an indirect measure of suspended material (such as clay and silt) in water. Turbidity is continuously measured during plant operation to monitor the performance/effectiveness of our filtration system. The month of April 2010 had the highest single turbidity measurement of 0.13 N.T.U. The month of January 2010 had the lowest single turbidity measurement of 0.023 N.T.U. The lowest monthly percentage of samples meeting turbidity limits equals 100%.

** **Copper and lead** are tested at ten (10) locations throughout the distribution system. The Compliance Detection Level indicates the 90th percentile value, or the value that 90 percent of the test samples are below. No sample sites exceeded the action level.

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

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 effect.

The City of Mandan sampled for 15 unregulated contaminants. The following table shows the results of their monitoring for 2010. Unregulated contaminants are those for which EPA has not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist EPA in determining the occurrence of unregulated contaminants in drinking water and whether future regulation is warranted.

UNREGULATED CONTAMINANT TEST RESULTS FOR THE CITY OF MANDAN						
Contaminant	MCLG	MCL	Level Detected	Units	Range	Year
Alkalinity, Carbonate	NA	NA	15	ppm	NA	2010
Bicarbonate as HCO3	NA	NA	56	ppm	NA	2010
Calcium	NA	NA	37.5	ppm	NA	2010
Chloride	NA	NA	11.5	ppm	NA	2010
Conductivity @ 25 C UMHOS/CM	NA	NA	520	umho/cm	NA	2010
Hardness, Total (As CaCO3)	NA	NA	136	ppm	NA	2010
Magnesium	NA	NA	10.2	ppm	NA	2010
Nickel	NA	NA	0.00109	ppm	NA	2010
PH	NA	NA	9.26	PH	NA	2010
Potassium	NA	NA	4.3	ppm	NA	2010
Sodium	NA	NA	60.7	ppm	NA	2010
Sodium Adsorption Ratio	NA	NA	2.27	obsvns	NA	2010
Sulfate	NA	NA	151	ppm	NA	2010
TDS	NA	NA	323	ppm	NA	2010
Zinc	NA	NA	0.00159	ppm	NA	2010

As you can see by the table on page 3, our system had no violations. We're proud that your drinking water meets or exceeds all Federal and State requirements. We have learned through our monitoring and testing that some contaminants have been detected. The EPA has determined that your water IS SAFE at these levels.

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.

Missouri West Water System works around the clock to provide top quality water to every tap. 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.

Missouri West Water Systems
 Mike Kemnitz, General Manager
 Telephone: (701) 663-8549

Morton County Water Resource District Board Members
 Wade Bachmeier, Mandan Tony Goetzfried, Mandan
 George Saxowsky, Hebron Jim Schmidt, Mandan



Safe Drinking Water Hot Line (800-426-4791)