

***Annual Drinking Water Quality Report***  
***for***  
***City of Medora, North Dakota***  
***2007***

We're pleased to present to you this year's *Annual Drinking Water Quality 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 main water source is from the Southwest Water Pipeline.

The City of Medora is participating in the North Dakota Well Head Protection Program. The North Dakota Department of Health has prepared a source water assessment for the City of Medora. Information on these programs is available on request.

“I'm pleased to report that our drinking water is safe and meets federal and state requirements”, said Mayor Walker. This report shows our water quality and what it means.

Our public water system, in cooperation with the North Dakota Department of Health, has completed the delineation and contaminant/land use inventory elements of the North Dakota Source Water Protection Program. Based on the information from these elements, The North Dakota Department of Health has determined that our source water is not likely susceptible to potential contaminants. No significant sources of contamination have been identified.

If you have any questions about this report or concerning your water utility, please contact Michael Tank at 623-4936 or Jennifer Ondracek at 623-4828. 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 first Tuesday of each month at 7:00 PM in the Medora Community Center. If you are aware of non-English speaking individuals who need help with the appropriate language translation, please call Jennifer at the number listed above.

The City of Medora Public Utility System would appreciate it if large volume water customers post copies of the *Water Quality 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.

City of Medora Public Utility 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 1<sup>st</sup> to December 31<sup>st</sup>, 2007. 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 [e.g., for inorganic contaminants], though representative, is more than one year old.

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 stormwater, industrial or domestic wastewater discharges, oil production, mining or farming.

**Pesticides and herbicides**, which come from a variety of sources such as agriculture, urban stormwater 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 stormwater 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 Environmental Protection Agency (EPA) prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. The Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

In the following 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:

*Not Applicable (N/A)* - Does not apply.

*ND* – None detected.

*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 ( $\mu\text{g/l}$ )* - 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 (AL)*- the concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

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

*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.

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

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

*Highest Compliance Level* - The highest level of that contaminant used to determine compliance with a National Primary Drinking Water Regulation.

*Range of Detections* – The lowest to the highest result value recorded during the required monitoring timeframe for systems with multiple entry points.

EPA requires us to monitor for over 80 drinking water contaminants and those that were detected are listed in the table below. Test results are from 2005. The State does allow reduced monitoring for certain contaminants because their levels do not change significantly over time. For this reason, some of the test results are more than one year old.

<b>TEST RESULTS FOR CITY OF MEDORA</b>								
<u>Contaminant</u>	<u>Violation Yes/No</u>	<u>Level Detected</u>	<u># Samples</u>	<u>Date (year)</u>	<u>Unit Measurement</u>			<u>Likely Source of Contamination</u>
<b>Lead/ Copper</b>								
1. Copper 90 <sup>th</sup> Percentile	No	1.3	5	2006	ppm			Corrosion of household plumbing systems; Erosion of natural deposits; leaching from wood preservatives
2. Lead 90 <sup>th</sup> Percentile	No	15	5	2006	ppb			Corrosion of household plumbing systems; Erosion of natural deposits
<u>Contaminant</u>	<u>Violation Yes/No</u>	<u>Level Detected</u>	<u>Range</u>	<u>Date (year)</u>	<u>Unit Measurement</u>	<u>MCLG</u>	<u>MCL</u>	<u>Likely Source of Contamination</u>
<b>Radioactive Contaminants</b>								
1. Uranium, combined	No	.237	NA	2003	ppb	NA	30	Erosion of natural deposits
<b>Inorganic Contaminants</b>								
1. Barium	No	0.0899	NA	2007	ppm	2	2	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
2. Flouride	No	1.42	NA	2007	ppm	4	4	Erosion of natural deposits; Water additives which promotes strong teeth; Discharge from fertilizer and aluminum factories
3. Nitrate- Nitrite	No	0.49	NA	2007	ppm	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits

4. Selenium	No	1.67	NA	2007	ppb	50	50	Discharge from petroleum and metal refineries; Erosion of natural deposits; Discharge from mines
<b>Disinfection Byproducts</b>								
1. Total Haloacetic Acids (HAA5)	No	10	NA	2007	ppb	NA	60	Byproduct of drinking water disinfection.
2. Total Trihalomethanes (TTHM)	No	5	NA	2007	ppb	NA	80	Byproduct of drinking water chlorination.
<b>Disinfectants</b>								
1. Chlorine	No	1.5	1.2 to 2	2007	ppm	MRD L=4	MRDL=4.0	Water additive used to control microbes.
<b>Total Organic Carbon Removal</b>								
1. Alkalinity, Total	No	68.7	N/A	2007	ppm			
<b>Unregulated Contaminants</b>								
1. Alkalinity, Carbonate	No	12	N/A	2007	ppm			
2. Bicarbonate As HCO3	No	60	N/A	2007	ppm			
3. Calcium	No	30.8	N/A	2007	ppm			
4. Chloride	No	13.4	N/A	2007	ppm			
5. Hardness, Total (As CaCO3)	No	120	N/A	2007	ppm			
6. Iron	No	0.135	N/A	2007	ppm			
7. Magnesium	No	10.4	N/A	2007	ppm			
8. Nickel	No	0.00185	N/A	2007	ppm			
9. PH	No	9.09	N/A	2007	PH			
10. Potassium	No	3.9	N/A	2007	ppm			
11. Sodium	No	52.2	N/A	2007	ppm			
12. Sodium Adsorption Ratio	No	2.07	N/A	2007	obsvns			
13. Sulfate	No	166	N/A	2007	ppm			
14. TDS	No	306	N/A	2007	ppm			

\* Copper and Lead did not exceed Action Level.

The following information is about Southwest Water.

"The beneficial use status of Lake Sakakawea providing source water for the SWA public water system is classified as fully supporting, while the potential contaminant sources in the source water protection area are of low concern. The SWA public water system is classified as **moderately susceptible**. Although the SWA public water system is classified as moderately susceptible to the source water's potential contaminant sources, it should be noted that historically, SWA has effectively treated this source water to meet drinking standards."

The SWA conducts monthly meetings that may pertain to water quality. These meetings are on the first Monday of each month. If you are interested in attending, or would like to request agenda time, please call 701-225-0241 for more information on time and location of meetings.

For answers to questions about the SWA, SWPP water, or the CCR, please feel free to contact Roger Dick, Water Treatment Plant Operator (701-225-9149), or Mary Massad, CFO/Office Administrator, or Ray Christensen at the SWA office (701-225-0241).

**SWA TABLE OF DETECTED REGULATED CONTAMINANTS**

Contaminant (units)	MCLG	MCL	Level Detected	Detection Range	Test Date	Exceedance or Violation?	Major Sources in Drinking Water
<b>Total Organic Carbon (TOC) Removal</b>							
Alkalinity (ppm) Source Water	N/A	N/A	159	147-159	2007	N/A	Natural erosion, plant activities, and certain industrial waste discharges.
Total Organic Carbon (ppm) Source water	N/A	TT	2.88	2.70-2.88	2007	N/A	Naturally present in the environment.
Total Organic Carbon (ppm) Finished water	N/A	TT	1.86	1.75-1.86	2007	N/A	Naturally present in the environment.
<b>Microbial Contaminants</b>							
Turbidity* (NTU)	N/A	TT = .3	0.21	N/A	2007	100% of samples met turbidity limit	Soil runoff.
<b>Inorganic Contaminants</b>							
Copper (ppm)	1.3	AL = 1.3	0.127	N/A	2007	No site exceeded the Action Level	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives.
Lead** (ppb)	15	AL = 15	7.65	N/A	2007	One site exceeded the Action Level	Corrosion of household plumbing systems; Erosion of natural deposits.
Nitrate + Nitrite (ppm)	10	10	0.06	N/A	2007	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.
Chloramines	MRDLG = 4	MRDLG = 4.0	2.8	2.51-2.91	2007	No	Water additives used to control microbes.
<b>Disinfection By-products</b>							
Total Haloacetic Acids (ppb)	N/A	60	11	8.61-13.1	2007	No	By-product of drinking water disinfection.
Total Trihalomethanes (ppb)	N/A	80	6	4.54-6.94	2007	No	By-product of drinking water chlorination.
<b>Radioactive Contaminants</b>							
Uranium, Combined (ppb)	0	30	0.388	N/A	2003	No	Erosion of natural deposits.
<b>SWA TABLE OF DETECTED UNREGULATED CONTAMINANTS***</b>							
Alkalinity, Carbonate (ppm)	N/A	N/A	4	ND-4	2007	N/A	Natural erosion, plant activities, and certain industrial waste discharges.
Bicarbonate as HCO <sub>3</sub> (ppm)	N/A	N/A	194	176-194	2007	N/A	Natural erosion, plant activities, and certain industrial waste discharges.

\*Turbidity is a measure of the cloudiness of the water. It is monitored because it is a good indicator of the effectiveness of our filtration system.

\*\*Infants and children who drink water containing 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.

\*\*\* EPA has not established enforceable drinking water standards for unregulated contaminants, but they are monitored to determine whether or not future regulation is warranted.

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).

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.

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 (1-800-426-4791).

The City of Medora 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.