

## *Annual Drinking Water Quality Report for the City of Williston For the year 2012*

We're pleased to present to you this year's Annual Quality Water Report, as required by the Federal Safe Drinking Water Act (SDWA). 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.

We are pleased to report that our drinking water is safe and meets federal and state requirements.

If you own or manage an apartment complex or have renters, we encourage you to share this report with them. If you have any questions about this report or concerning your water treatment plant, please contact Scott Molstad, Operations Engineer, Public Works Department at (701) 580-9653. We want our valued customers to be informed about their water utility. If you want to learn more, please attend any of the regularly scheduled City Commission meetings. They are held on the 2nd and 4th Tuesday of every month at 7:30p.m. If you would like extra copies of our report please call City Hall at 577-8100 or Public Works at 577-6368. If you are aware of non-English Speaking individuals who need help with the appropriate language translation, please phone City Hall at 577-8100 or Public Works at 577-6368.

Our water source is the Missouri River. The Water Plant is located near the Lewis & Clark Bridge southwest of Williston on US 85. Recent amendments to the Safe Drinking Water Act require the North Dakota Department of Health to complete a source water assessment (SWA) for the City of Williston. 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 moderately susceptible to potential contaminants. Information about the SWA can be obtained by calling The Water Treatment Plant at 577-7104.

This report has required definitions of terms, language requirements, tables of water quality, and other pertinent information you will hopefully find interesting and educational.

Drinking water, including bottled drinking water, may be reasonably expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that 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 (800-426-4791).

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 materials, and can pick up substances resulting from the presence of animals or human activity.

Contaminates That May Be Present in Source Water:

**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 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 system. 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/Center for Disease Control (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 (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. The City of Williston is responsible for 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 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>.

The City of Williston 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>, 2012.

Some of our data in the table maybe 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 the 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:

**na** - not applicable

**nd** - nondetected - laboratory analysis indicates that the constituent is not present.

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

**ppb** – ug/L - 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.

**ppt** - nanograms/l - parts per trillion or nanograms per liter - one part per trillion corresponds to one minute in 2,000,000 years, or a single penny in \$10,000,000,000.

**Ppq**- picograms/l - parts per quadrillion or Picograms per liter - one part per quadrillion corresponds to one minute in 2,000,000,000 years or one penny in \$10,000,000,000,000.

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

**mrem/yr** - milligrams per year - measure of radiation absorbed by the body.

**mfl** - million Fibers per liter - million fibers per liter is a measure of the presence of asbestos fibers that are longer than 10 micrometers.

**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.

**V&E** - Variances & Exemptions - State or EPA permission not to meet an MCL or a treatment technique under certain conditions.

**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 "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.

**MRDL** - 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

**MRDLG** - Maximum Residual Disinfectant 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.

**IDSE** – Initial Distribution System Evaluation

Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of the effectiveness of our filtration system.

**MCL's** are set at very stringent levels. To understand the possible health effects described for many regulated constituents, 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.

An additional treatment upgrade was to switch from free chlorine to chloramines as the potable water disinfections process. This assists in reducing the amount of undesirable regulated disinfections by-products; mainly trihalomethanes. Also it is worthy to note that Phase II provided additional solid contacts basin (softening), raw water line, new chemical feed equipment and control center.

While the previous water treatment plant was capable of producing a little over 6 million gallon per day (MGD), the new plant can produce 10 MGD.

With all the improvements made from Phase I to Phase II, the area water supply, quality, quantity and reliability has been much improved since the late 1990's.

The funding for the \$28 million dollar plus improvements over the years has come from a mixture of funding sources. The city of Williston utilized approximately \$3.5 million dollars of city sale tax dollars and water user's rates increases of approximately \$1.40/unit (750 gallons). There was the \$2 million state and tribal assistance grant and a \$5 million grant from the MR&I funds distributed to the state by the Federal Dakota Water Resource Act.

### **STORM WATER POLLUTION PREVENTION**

All storm water that runs down the gutter or enters the City's drainage system eventually reaches the waters of the Missouri River and Lake Sakakawea. Anything that we put into the drainage system can adversely affect the quality of these receiving waters and limit our ability to use and enjoy them. The City of Williston is permitted by the North Dakota Department of Health / EPA for storm water discharges.

You as a citizen can help prevent storm water pollutions by:

- Recycle used motor oil. The City maintains a waste oil disposal site near the northwest corner of the Public Works Shop at 809 5<sup>th</sup> Street East.
- Check your vehicles for leaks.
- Never dump any dirt or chemicals into a street, gutter, drainage ditch or storm drain.
- Use pesticides and fertilizers sparingly and according to manufacturer's recommendations.
- Vegetate bare spots in your yard and hard surface your driveway and parking areas to prevent erosion into the drainage system.
- Pickup trash and litter.

You may report instance of potential storm water pollution to the Williston Department of Public Works by calling 701-577-6368.

Safe Drinking Water Act Chemical/Radiological Detected Results from 2009-2012								
Lead/Copper	Date	# Samples	Action Level	90th Percentile	Samples Exceed AL	Units		Typical Source of Contaminant
Copper	9/21/2011	30	1.3	No Detect	0	ppm		Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead	9/21/2011	30	15	No Detect	0	ppb		Corrosion of household plumbing systems erosion of natural deposits
	Date	MCL	MCLG	High Comp		Units	Range	Typical Source of Contaminant
Inorganic Contaminants								
Barium	6/14/2010	2	2	0.0177		PPM	N/A	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Fluoride	6/14/2010	4	4	1.22		PPM	N/A	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
Nitrate-Nitrite	4/13/2011	10	10	0.25		PPM	N/A	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Radioactive Contaminants								
GROSS ALPHA INCLUDING RA, EXCLUDING RN & U	7/13/2009	15	15	0.448		pCi/l	N/A	Erosion of natural deposits
Radium Combined (226,228)	7/13/2009	5		0.491		pCi/l	N/A	Erosion of natural deposits
Disinfection Byproducts								
Total Haloacetic acids (HAA5)	6/30/2012	60		15		ppb	10.56 to 22.24	Byproduct of drinking water disinfection
Total Trihalomethanes (TTHM)	3/31/2012	80		31		ppb	23.05 to 38.19	Byproduct of drinking water disinfection
Disinfectants								
Chloramine	2/29/2012	MRDLG=4	MRDL =4	2		ppm	0 to 2	Water additive used to control microbes
Total Organic Carbon Removal								
ALKALINITY Source	4/30/2012			170		mg/l	110 to170.00	Naturally present in the environment
Carbon, Total Organic (TOC) Finished	5/31/2012			2.3		mg/l	1.80 to 2.30	Naturally present in the environment
Carbon, Total Organic (TOC) Source	4/30/2012			4.4		mg/l	2.20 to 4.40	Naturally present in the environment
Surface Water Treatment Rule Monitoring Data								
Turbidity	2012	n/a	TT=5.0 NTU max and <0.5 NTU 95% of the time	0.15		ntu	Lowest Monthly Percentage of Samples Meeting Turbidity Limits = 100	Soil runoff

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