



2016 Annual Drinking Water Quality Report

We are pleased to present this year's Annual Water Quality Report (Consumer Confidence Report) as required by the Safe Drinking Water Act (SDWA). This report is designed to provide details about where your water comes from, what it contains, and how it compares to standards set by regulatory agencies. This report is a snapshot of last year's water quality. We are committed to providing you with information because informed customers are our best allies.

Be assured that the City of Williston's water is safe to drink!

Spanish (Español)

Este informe contiene información muy importante sobre la calidad de su agua beber. Tradúscalo o hable con alguien que lo entienda bien.

French (Français)

Ce rapport contient des informations importantes sur votre eau potable. Traduisez-le ou parlez en avec quelqu'un qui le comprend bien.



A photograph of a sunset over a wide river. The sun is low on the horizon, creating a bright orange and yellow glow that reflects on the water's surface. The sky transitions from orange to a darker blue. In the background, there are dark silhouettes of hills or mountains.

Where does my water come from?

Our water source is the Missouri River. The water plant is located near Lewis & Clark Bridge southwest of Williston on US 85.

HOW CAN I GET INVOLVED?

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 Jeff Bryson, Water Treatment Plant Superintendent, Williston Regional Water Treatment Plant at **(701) 577-7104**. 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 7:30 p.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 or 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**.

DESCRIPTION OF WATER TREATMENT PROCESS

Your water is treated in a “treatment train” (a series of processes applied in a sequence) that includes coagulation, flocculation, sedimentation, filtration, and disinfection. Coagulation removes dirt and other particles suspended in the source water by adding chemicals (coagulants) to form tiny sticky particles called “floc,” which attract the dirt particles. Flocculation (the formation of larger flocs from smaller flocs) is achieved using gentle, constant mixing. The heavy particles settle naturally out of the water in an Actiflo sedimentation basin. The clear water then moves to the softening basin where it is mixed with lime to remove excess hardness. The softened water then moves through the filtration process where the water passes through sand, gravel, charcoal or other filters that remove even smaller particles. A small amount of chlorine and ammonia are combined to form Chloramines which are used to kill bacteria and other microorganisms (viruses, cysts, etc.) that may be in the water before water is stored and distributed to homes and businesses in the community. Finally your water is passed through UV (ultra-violet) light to inactivate Cryptosporidium.

WATER CONSERVATION TIPS

Did you know that the average U.S. household uses approximately 400 gallons of water per day or 100 gallons per person per day? Luckily, there are many low-cost and no-cost ways to conserve water. Small changes can make a big difference - try one today and soon it will become second nature.



Take short showers - a 5 minute shower uses 4 to 5 gallons of water compared to up to 50 gallons for a bath.



Shut off water while brushing your teeth, washing your hair and shaving and save up to 500 gallons a month.



Use a water-efficient showerhead. They're inexpensive, easy to install, and can save you up to 750 gallons a month.



Run your clothes washer and dishwasher only when they are full. You can save up to 1,000 gallons a month.



Fix leaky toilets and faucets. Faucet washers are inexpensive and take only a few minutes to replace. To check your toilet for a leak, place a few drops of food coloring in the tank and wait. If it seeps into the toilet bowl without flushing, you have a leak. Fixing it or replacing it with a new, more efficient model can save up to 1,000 gallons a month.



Adjust sprinklers so only your lawn is watered. Apply water only as fast as the soil can absorb it and during the cooler parts of the day to reduce evaporation.



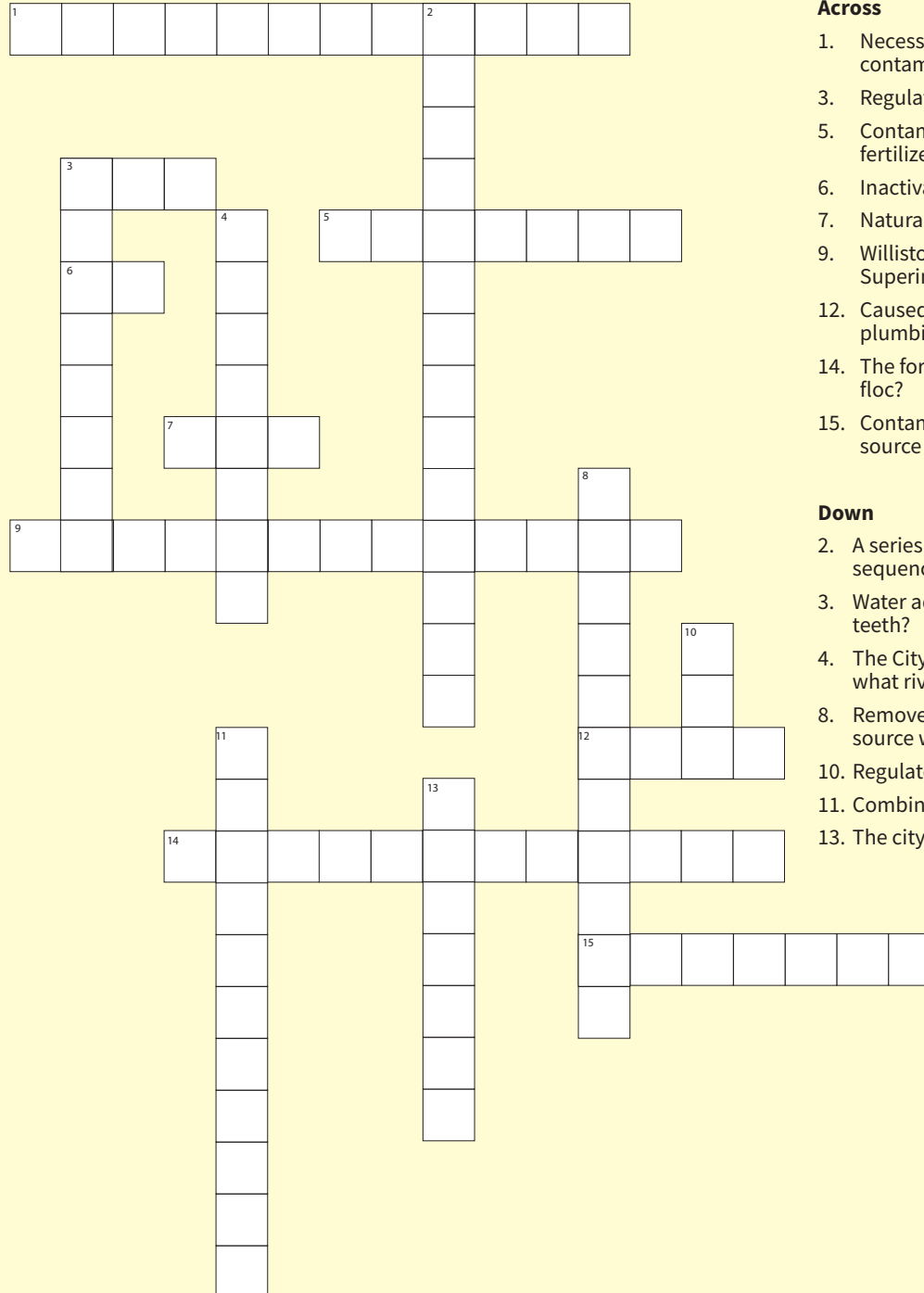
Teach your kids about water conservation to ensure a future generation that uses water wisely. Make it a family effort to reduce next month's water bill!



Water plants only when necessary.

Visit www.epa.gov/watersense for more information.

WILLISTON'S WATER CROSSWORD



Across

- Necessary for control of microbial contaminants?
- Regulates bottled water?
- Contaminant caused by runoff from fertilizer use?
- Inactivates Cryptosporidium?
- Naturally present in the environment?
- Williston Water Treatment Plant Superintendent?
- Caused by erosion in household plumbing?
- The formation of large floc from smaller floc?
- Contaminants that may be present in source water?

Down

- A series of processes applied in a sequence?
- Water additive that promotes strong teeth?
- The City of Williston gets it's water from what river?
- Removes dirt and other particles in the source water?
- Regulates public water systems?
- Combination of chlorine and ammonia?
- The city commission meets on what day?

Across: 1. Disinfection, 3. FDA, 5. Nitrate, 6. UV, 7. TOC, 9. Jeffrey Bryson, 12. Lead, 14. Flocculation, 15. Organic
Down: 2. Treatment Train, 3. Fluoride, 4. Missouri, 8. Coagulation, 10. EPA, 11. Chloramines, 13. Tuesday

Water Quality Data Table

In order to ensure that tap water is safe to drink, EPA prescribes regulations which limit the amount of contaminants in water provided by public water systems. The table below lists all of the drinking water contaminants that we detected during the calendar year of this report. Although many more contaminants were tested, only those substances listed below were found in your water. All sources of drinking water contain some naturally occurring contaminants. At low levels, these substances are generally not harmful in our drinking water. Removing all contaminants would be extremely expensive, and in most cases, would not provide increased protection of public health. A few naturally occurring minerals may actually improve the taste of drinking water and have nutritional value at low levels. Unless otherwise noted, the data presented in this table is from testing done in the calendar year of the report. The EPA or the State requires us to monitor for certain contaminants less than once per year because the concentrations of these contaminants do not vary significantly from year to year, or the system is not considered vulnerable to this type of contamination. As such, some of our data, though representative, may be more than one year old. In this table you will find terms and abbreviations that might not be familiar to you. To help you better understand these terms, we have provided the definitions below the table.

Contaminants	MCLG	AL	Your Water	Sample Date	# Samples Exceeding AL	Exceeds AL	Typical Source
Inorganic Contaminants							
Copper - action level at consumer taps (ppm)	1.3	1.3	0.0221	9/25/2014	0	No	Corrosion of household plumbing systems; Erosion of natural deposits
Lead - action level at consumer taps (ppb) (µg/L)	15	15	0	9/25/2014	0	No	Corrosion of household plumbing systems; Erosion of natural deposits

Contaminants	Sample Date	MCLG or MRDLG	MCL, TT, or MRDL	Your Water	Range		Violation	Typical Source
					Low	High		
Inorganic Contaminants								
Barium (ppm)	3/9/2016	2	2	0.0143	NA		No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits.
Chromium (ppb)	3/9/2016	100	100	1.17	NA		No	Discharge from steel and pulp mills; Erosion of natural deposits.
Fluoride (ppm)	3/9/2016	4	4	0.81	NA		No	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
Nitrate [measured as Nitrogen] (ppm)	5/16/2016	10	10	0.19	NA		No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Selenium (ppb)	3/9/2016	50	50	1.44	NA		No	Discharge from petroleum and metal refineries; Erosion of natural deposits; Discharge from mines.

Disinfectants & Disinfection By-Products

(There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants)								
Chloramine (as Cl2) (mg/L)	2/29/2016	4	4	2.2	1.87	2.36	No	Water additive used to control microbes
Haloacetic Acids (HAA5) (ppb) (µg/L)	12/31/2016	NA	60	9	3.56	15.8	No	By-product of drinking water chlorination
Total Trihalomethanes (TTHMs) (ppb) (µg/L)	3/31/2016	NA	80	20	10.44	21.7	No	By-product of drinking water disinfection

Unregulated Contaminants

Alkalinity Carbonate (ppm)	3/9/2016			3		N/A		
Bicarbonate as HCO3 (ppm)	3/9/2016			84		N/A		
Calcium (ppm)	3/9/2016			44.6		N/A		
Chloride (ppm)	3/9/2016			22.2		N/A		
Conductivity @ 25 C UMHOS/CM *umho/cm)	3/9/2016			665		N/A		
Hardness, Total (as CaCO3)(ppm)	3/9/2016			159		N/A		
Magnesium (ppm)	3/9/2016			11.6		N/A		
Nickel (ppm)	3/9/2016			0.00105		N/A		
PH	3/9/2016			8.63		N/A		
Potassium (ppm)	3/9/2016			4.2		N/A		
Sodium (ppm)	3/9/2016			71.1		N/A		
Sodium Absorption Ratio (obsvns)	3/9/2016			2.45		N/A		
TDS (ppm)	3/9/2016			413		N/A		
Zinc (ppm)	3/9/2016			0.00183		N/A		

Total Organic Carbon Removal

Total Organic Carbon (TOC)-Finished	3/31/2016	NAv	TT	2.4	1.90	2.40	No	Naturally present in the environment
Total Organic Carbon (TOC)- Source	10/31/2016	NA	TT	4.2	3.20	4.20	No	Naturally present in the environment
Alkalinity - Source (mg/L)	1/31/2016		NA	188 mg/L	103.00	188.00	No	NA

Surface Water Treatment Rule Monitoring Data

Lowest Monthly Percentage of Samples Meeting Turbidity Limits = 99
Highest Single Measurement = 0.69

DEFINITIONS

AL: Action level: The concentration of the contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

AVG: Regulatory compliance with some MCLs are based on running annual average of monthly samples.

Highest Compliance Level: The highest level of that contaminant used to determine compliance with a National Drinking Water Regulation

MCL: Maximum Contaminant Level: The highest level of 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 level of contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for margin and safety.

MFL: Million fibers per liter (a measure of asbestos)

mg/L: Number of milligrams of substance in one liter of water

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 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.

MRL: Minimum Reporting Level: The lowest concentration of a contaminant that can be measured by a laboratory.

NA: Not applicable.

ND: none detected

NTU: Nephelometric Turbidity Unit: A measure of water turbidity and clarity.

pCi/L: Picocuries Per Liter: A measure of radioactivity.

ppb: Parts Per Billion or micrograms per liter (µg/L)

ppm: Part Per Million or milligrams per liter (mg/L)

ppq: Parts per quadrillion, or pictograms per liter (pg/L)

ppt: Parts per trillion, or nanograms per liter (ng/L)

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

TT: Treatment Technique: a required process intended to reduce the level of a contaminant in drinking water.

Do I need to take special precautions?

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

Source water assessment and its availability

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 those 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 Williston Water Treatment Plant at 701-577-7104.**

Why are there contaminants in my drinking water?

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 water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's (EPA) 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 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 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 stormwater runoff, and residential uses.

Organic chemical contaminants, including synthetic and volatile organic chemicals, which are byproducts 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, EPA prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

Additional Information for 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. Williston Regional Water Treatment Plant is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. Use water from 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 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>.

SOURCE WATER MONITORING

Microbial Contaminant	Total	Average	Range
Cryptosporidium, oocysts/L	.6	0.025	0-.2
Giardia, cysts	59	2.46	0-19
Ecoli, per 100ml	916.4	38.18	0->200.5
Turbidity, ntu	n/a	140	7.2 – 696.4

Results of Cryptosporidium Monitoring

The City of Williston conducted source water monitoring for Cryptosporidium, Giardia, Ecoli, and turbidity as part of the Long Term 2 Enhanced Surface Water Treatment Rule. The purpose of the LT2ESWTR is to protect public health from illnesses due to Cryptosporidium and other microbial pathogens. Cryptosporidium is a microbial pathogen found in surface water throughout the U.S. Although filtration removes Cryptosporidium, the most commonly-used filtration methods cannot guarantee 100% safe removal. In accordance with this rule Cryptosporidium, Giardia, E-coli, and turbidity samples were taken monthly between November of 2014 and October 2016 from the raw water line and analyzed by certified laboratories. Results were used to determine "bin" classification, which determines whether further treatment for Cryptosporidium is needed. Our monitoring placed us in Bin 1 (< 0.075 oocysts/L), which requires no additional treatment.

The City of Williston's finished drinking water has shown no signs of these microbial contaminants and is safe to drink.



FOR MORE INFORMATION

please contact: **Jeffrey Bryson**
4806 Highway 85, Williston, ND 58801
701-577-7104