



2016 Drinking Water Quality Report

City of Watford City, ND

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We are pleased to provide you with our *Annual Drinking Water Quality Report* for the year 2016. The City of Watford City and its staff want to keep you informed about the water and services we have delivered to you over the past year. Our goal is to provide you with a safe and dependable supply of drinking water. We purchase our water from 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.

If you have any questions about this report or concerning your water utility, please contact Justin Smith, Superintendent of Public Works, at 701-444-2533 or via e-mail at jusmith@nd.gov. Watford City wants its residents to be informed about their water utility. The City Council is the governing body for our water system. You are welcome to attend any regularly scheduled meeting to express any concerns or recommendations. They are held on the first Monday of every month at 6:00 p.m. in the Heritage Room at City Hall. City Hall is located at 213 2nd St., NE. If you are aware of non-English speaking individuals who need help with the appropriate language translation, please contact Justin Smith at the number or address above.

The City of Watford City would appreciate it if large volume water users such as hotels, motels, apartments, hospitals, elderly care facilities, schools, etc. would please post copies of the *2016 Drinking 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.

Watford City routinely monitors for contaminants in your drinking water per Federal and State laws. The table contained within this report shows the results of our monitoring for the period of January 1st to December 31st, 2016. As authorized and approved by the United States Environmental Protection Agency, 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 storm water, industrial or domestic wastewater discharges, oil 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.

To ensure that tap water is safe to drink, the Environmental Protection Agency (EPA) prescribes regulations which limit the number 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 (NA), No Detect (ND)

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) -Pico curies 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 (MRDL) - 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 (MRDLG) – 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.

2016 Test Results for Watford City & Williston, North Dakota								
<u>Contaminant</u>	<u>MCLG</u>	<u>MCL</u>	<u>Level Detected</u>	<u>Units</u>	<u>Range</u>	<u>Date (year)</u>	<u>Violation Yes/No Other Info</u>	<u>Likely Source of Contamination</u>
Lead/Copper								
Copper	1.3	AL=1.3	0.159 90 th % Value	ppm	NA	2015	0 Sites Exceeded AL	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead*	0	AL=15	2.28 90 th % Value	ppb	NA	2015	0 Sites Exceeded AL	Corrosion of household plumbing systems, erosion of natural deposits
Disinfectants								
Chloramine	MRDL G=4	MRDL =4.0	2.1	ppm	0.71 to 2.61	2016	No	Water additive used to control microbes
Stage 2 Disinfection By-Products (System-Wide)								
HAA5	NA	60	9	ppb	5.18 to 11.46	2016	No	By-product of drinking water chlorination
TTHM	NA	80	18	ppb	11.45 to 18.62	2016	No	By-product of drinking water chlorination
Inorganic Contaminants								
Barium	2	2	0.0175	ppm	NA	2016	No	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Fluoride	4	4	0.68	ppm	NA	2016	No	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
Nitrate-Nitrite	10	10	0.42	ppm	NA	2016	No	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Selenium	50	50	1.06	ppb	NA	2016	No	Discharge from petroleum and metal refineries; erosion of natural deposits; deposits from mines
Radioactive Contaminants								
Radium, Combined (226, 228)	NA	5	1.03	pCi/l	NA	2015	No	Erosion of natural deposits
Uranium, Combined	NA	30	0.69	ppb	NA	2015	No	Erosion of natural deposits
Total Organic Carbon Removal								
Alkalinity, Source	NA	NA	188	ppm	103 to 188	2016	No	Natural erosion, certain plant activities, certain industrial wastewater discharges
Carbon, Total Organic (TOC) - Finished	NA	NA	2.4	ppm	1.90 to 2.40	2016	No	Naturally present in the environment
Carbon, Total Organic (TOC)- Source	NA	NA	4.2	ppm	3.20 to 4.20	2016	No	Naturally present in the environment

The city of Williston conducted source water monitoring for Cryptosporidium, Giardia & E-coli as part of the Long Term 2 Enhanced Surface Water Treatment Rule. The purpose of the LT2SWTR is to protect the public health from illnesses due to Cryptosporidium & other microbial pathogens. Cryptosporidium is a microbial pathogen found in surface water though out the U.S. Although filtration removes Cryptosporidium, the most commonly-used filtration methods cannot guarantee 100% safe removal. Our source water monitoring indicates a very small presence of Cryptosporidium & Giardia @ out Missouri River intake. The city of Williston's finished drinking water has shown no evidence of these microbial contaminants & is safe to drink.

Source Water Monitoring

<u>Microbial Contaminant</u>	<u>MCLG</u>	<u>Total</u>	<u>Average</u>	<u>Units</u>	<u>Range of Detection @ MR Sampling Point</u>	<u>Date</u>	<u>Violation, Yes/No other info</u>	<u>Likely Source of Contamination</u>
Cryptosporidium	N/A	.6	0.025	oocysts /l	0.0 to 2.0	2016	No	N/A
Giardia	N/A	59	2.46	cysts	0 to 19	2016	No	N/A
E-coli	N/A	916.4	38.18	per 100 ml	0 to 200.5	2016	No	N/A

Unregulated Contaminants

Alkalinity, Total	N/A	N/A	170	ppm	N/A	2016	No	N/A
Bicarbonate as HCO3	N/A	N/A	208	ppm	N/A	2016	No	N/A
Calcium	N/A	N/A	49.5	ppm	N/A	2016	No	N/A
Chloride	N/A	N/A	17.3	ppm	N/A	2016	No	N/A
Conductivity @ 25 UMHOS/CM	N/A	N/A	1110	umho/cm	N/A	2016	No	N/A
Hardness, Total (AS CAC03)	N/A	N/A	195	ppm	N/A	2016	No	N/A
Iron	N/A	N/A	0.277	ppm	N/A	2016	No	N/A
Magnesium	N/A	N/A	17.2	ppm	N/A	2016	No	N/A
Manganese	N/A	N/A	0.06	ppm	N/A	2016	No	N/A
Nickel	N/A	N/A	0.00222	ppm	N/A	2016	No	N/A
pH	N/A	N/A	8.01	pH	N/A	2016	No	N/A
Potassium	N/A	N/A	5.0	ppm	N/A	2016	No	N/A
Sodium	N/A	N/A	158	ppm	N/A	2016	No	N/A
Sodium Adsorption Ratio	N/A	N/A	4.93	obsvns	N/A	2016	No	N/A
TDS	N/A	N/A	704	ppm	N/A	2016	No	N/A
Zinc	N/A	N/A	0.0244	ppm	N/A	2016	No	N/A

Surface Water Treatment Rule Monitoring Data:

Lowest Monthly Percentage of Samples Meeting Turbidity Limits= 99
 Highest Single Measurement = 0.692

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.

*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. Watford City 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 at 1-800-426-4791 or at <http://www.epa.gov/safewater/lead>

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.

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/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).

Please call Justin Smith, Superintendent Public Works, at 701-444-2533 or via e-mail at jusmith@nd.gov if you have questions concerning your city's water system.

The staff of the City of Watford City works diligently to provide quality water to every tap. We ask that all our residents help us protect our water sources, which are the heart of our community, our way of life, and our future.

Quality On Tap!

Our Commitment  Our Profession