



## 2011 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 2011. 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.

Our drinking water source is groundwater drawn from the Tobacco Garden Aquifer. The water is pumped by five wells all of which are located within the city. The raw water is treated with potassium permanganate and then filtered to remove iron and manganese. Chlorine is added to disinfect the water. Hydrofluosilicic acid is added to maintain a 1.2 parts per million fluoride level. Fluoride is proven to strengthen teeth and aid in the prevention of bone loss. Orthophosphate and polyphosphate are added to reduce corrosion of lead and copper commonly found in household plumbing lines and plumbing fixtures.

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.

In an effort to protect our source of drinking water, Watford City is participating in North Dakota's Wellhead Protection Program. In this program, the City monitors activities in the wellhead protection area to assist the city in locating its water facilities in areas not influenced by possible contamination sources. Copies of the Wellhead Protection Program Plan, and other relevant information regarding this program, are available for public inspection at City Hall during normal office hours, 8 a.m. – 4 p.m., Monday through Friday. The North Dakota Department of Health will be preparing a Source Water Assessment for Watford City at a future date. Information on this program will be made available to the public as it is completed.

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](mailto: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 2<sup>nd</sup> 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 **2011 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 according to Federal and State laws. The table contained within this report shows the results of our monitoring for the period of January 01, 2011 to December 31, 2011. 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. Due to the city's history of exceeding the minimum standards for water quality, the sampling is not required to be performed on an annual basis.

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 that 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 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 (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.

*Trihalomethanes*, by-product of drinking water chlorination. Some people who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous systems, and may have an increased risk of getting cancer.

**Contaminants detected are shown 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)* – Means this goal or standard is not applicable to this item

*None Detected (ND)* – Means the item test for was undetectable by the test methods employed for this contaminant

*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 (ug/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 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.

*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.

*Milliequivalents per liter (mEq/L)* – The amount of a substance that will react with a certain number of hydrogen ions. A milliequivalent is one-thousandth of an equivalent.

<u>Contaminants</u>	<u>MCLG</u> or <u>MRDLG</u>	<u>MCL,</u> <u>TT, or</u> <u>MRDL</u>	<u>Highest</u> <u>Compliance</u> <u>Level</u>	<u>Range</u> <u>Low</u> <u>High</u>	<u>Sample</u> <u>Date</u>	<u>Violation</u>	<u>Typical Source</u>
<b>Disinfectants &amp; Disinfection By-Products</b>							
(There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.)							
Chlorine (as Cl <sub>2</sub> ) (ppm)	4	4	0.5	0.04   0.8	2011	No	Water additive used to control microbes

<b>Inorganic Contaminants</b>
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Barium (ppm)	2	2	0.038	0.0269   0.038	2007	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Fluoride (ppm)	4	4	1.07	NA   NA	2007	No	Water additive which promotes strong teeth

<b>Synthetic Organic Contaminants including Pesticides and Herbicides</b>
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Dalapon	200	200	2.5	1.63   2.5	2011	No	Runoff from herbicide used on rights of way
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<u>Contaminants</u>	<u>MCLG</u>	<u>AL</u>	<u>90<sup>th</sup></u> <u>%tile</u>	<u>Sample</u> <u>Date</u>	<u># Samples</u> <u>Exceeding AL</u>	<u>Exceed</u> <u>AL</u>	<u>Typical Source</u>
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<b>Inorganic Contaminants</b>
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Copper - action level at consumer taps (ppm)	1.3	1.3	2.22	2011	14	Yes*	Corrosion of household plumbing systems
Lead - action level at consumer taps (ppb)	0	15	3.43	2011	0	No	Corrosion of household plumbing systems

\* - Copper is an essential nutrient, but some people who drink water containing copper in excess of the action level over a relatively short amount of time could experience gastrointestinal distress. Some people who drink water containing copper in excess of the action level over many years could suffer liver or kidney damage. People with Wilson's disease should consult their personal doctor.

<u>Contaminants</u>	<u>MCLG or MRDLG</u>	<u>MCL, TT, or MRDL</u>	<u>Highest Compliance Level</u>	<u>Range</u>		<u>Sample Date</u>	<u>Violation</u>	<u>Typical Source</u>
				<u>Low</u>	<u>High</u>			
<b>Unregulated Contaminants</b>								
Total Alkalinity (ppm)	N/A	N/A	525	469	525	2011	No	N/A
Bicarbonate as HCO <sub>3</sub> (ppm)	N/A	N/A	641	572	641	2011	No	N/A
Calcium (ppm)	N/A	N/A	65.5	60.5	65.5	2011	No	N/A
Conductivity @ 25C $\mu$ Mohs/cm	N/A	N/A	2210	1790	2210	2011	No	N/A
Orthophosphate	N/A	N/A	0.317	0.284	0.317	2011	No	N/A
pH (ppm)	N/A	N/A	7.68	7.6	7.68	2011	No	N/A
TDS (ppm)	N/A	N/A	1370	1110	1370	2011	No	N/A

## Violations

Groundwater Rule Triggered Additional-Source-Major-November/December 2011. Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially-harmful bacteria may be present. When a ground water system is notified of a positive Total coliform result under the TCR routine sampling, the system is required to perform additional sampling to determine if contamination is present in the ground water source. During the period November 21, 2011 – December 5, 2011 we failed to take the required number of Ground Water Source samples. The City of Watford City has taken steps to keep this from happening by hand delivering all samples to the lab in Williston.

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.

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).**

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>

Please call Justin Smith, Superintendent of Public Works, at 701-444-2533 or via e-mail at [jusmith@nd.gov](mailto: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.

