The City of Fargo

2016 water quality report

Fargo Water Treatment Plant
701-241-1469

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Water Utility Director

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WTP Superintendent

The City of Fargo Water Treatment Plant is issuing this report to inform customers about the quality of water produced and distributed in 2016.

If you are a large-volume user, please distribute a copy of this Water Quality Report to consumers who do not receive a bill.

We are again pleased to report that no contaminants were detected that exceeded EPA limits in drinking water.

If you have questions about Fargo drinking water, or if you are aware of non-English speaking individuals who need help with the appropriate language translation, please contact the Water Treatment Plant at 701.241.1469

If you would like opportunities for public participation in decisions that affect water quality, please attend City Commission meetings, which are held every other Monday at 5 p.m. You can check the city's web site for exact meeting dates at:

www.cityoffargo.com/commission

Please observe Fargo's odd/even lawn watering schedule from Memorial Day to Labor Day to help reduce our peak demand.

THE CITY OF Fargo
FAR MORE

-Aesthetic Water Quality-

Hardness- 7 grains/gal Iron– Less than 0.02mg/l Manganese- Less than 0.02mg/l PH– 9

What You Need to Know About Drinking Water Regulations

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.

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. 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 EPA's Safe Drinking Water Hotline at 800.426.4791

Before the City of Fargo can deliver water to your home, it must first be thoroughly tested in certified laboratories. Fargo water was tested for nearly 100 different contaminants. Only those detected are listed in the Monitoring Results Table.

No contaminants were detected that exceeded EPA limits in drinking water.

The North Dakota Department of Health requires us to monitor for certain contaminants less than once per year because the concentrations of these contaminants are not expected to vary significantly from year to year. Some of the data, while representative of the water quality, is more than one year old.

The highest level of a substance allowed in drinking water is the Maximum Contaminant Level (MCL), which is set by the EPA.

Lead and Copper

The MCL for lead and copper is known as the Action Level (AL). This is the concentration which, if exceeded, triggers treatment or other requirements a water system must follow. Ninety percent of all samples tested must be below this concentration. During 2014, no samples from the Fargo system tested above the action level for copper. Only one out of fifty samples tested above the action level 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. The City of Fargo 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 or at:

http://www.epa.gov/safewater/lead

2017 Results

Key to the Table

Turbidity is a measure of water clarity monitored at the Fargo Water Treatment Plant. Certain treatment techniques (TT) are required to reduce the level in the drinking water. Regulations require turbidity to be <0.3 NTU 95% of the time and <1.0 NTU 100% of the time. Turbidity has no health effects, but can interfere with disinfection and provide a medium for microbial growth. Turbidity may indicate the presence of disease-causing organisms such as bacteria, viruses, and parasites that can cause nausea, cramps, diarrhea and associated headaches.

AL: Action Level.

N/A: Does not apply.

ND: None detected.

NTU: Nephelometric Turbidity Units.

pCi/L: picocuries per liter (a measure of radioactivity.)

ppb: parts per billion.

ppm: parts per million.

TT: Treatment Technique

- **MCLG:** Maximum Contaminant Level Goal. 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.
- **MCL:** Maximum Contaminant Level. The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to MCLGs as feasible using the best available treatment technology.
- **Level Detected:** The highest level of that contaminant used to determine compliance with a National Primacy Drinking Water Regulation. This can be the highest amount found in the water, or the average of all samples analyzed, depending on the regulation.
- **Range:** The lowest to highest result value recorded during the required monitoring time frame for systems with multiple entry points.
- **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.
- **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.

Contaminants 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 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 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-occuring or be the result of oil and gas production and mining activities.

Unregulated Contaminants

Unregulated contaminants are those for which EPA has not established drinking water standards. Unregulated contaminant monitoring is performed to assist EPA in determining their occurrence in drinking water and whether future regulation is warranted.

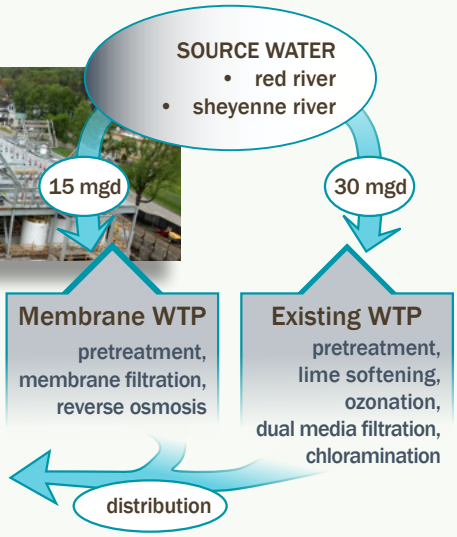
The concentration of a contaminant is a critical factor when determining whether it poses a risk to public health. For example, while Chromium and Strontium have been detected in trace amounts in Fargo water, a 155 lb adult would need to drink 300 eight ounce glasses of water each day to suffer adverse health effects from these contaminants at the level detected in our water.

Should you have any questions, please contact our office.

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 800.426.4791

Substance (monitored at plant) *(units) test date*	MCL	MCLG	Level Detected	Range	Major Source of Contaminant
Alkalinity- source *(ppm) 12/31/16*	N/A	N/A	364	159-364	N/A
Bromate *(ppb) 5/31/16*	10	N/A	6	ND-6.8	By-product of drinking water disinfection.
Bromide *(ppm) 12/12/16*	Unregulated	N/A	0.252	0.022-0.252	Erosion of natural deposits.
Chloramine *(ppm) 1/31/16*	4 (MRDL)	4 (MRDLG)	3.4	3.13-3.6	Water additive used to control microbes.
Haloacetic Acids *(ppb) 12/31/16*	60	N/A	14	2.92-18.45	By-product of drinking water disinfection.
Nitrate-Nitrite *(ppm) 5/16/16*	10	10	0.08	N/A	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits.
Total Coliform Bacteria *(% samples positive) monthly*	TT	N/A	1% (highest monthly result)	0-1%	Naturally present in the environment.
Total Organic Carbon *(ppm) 5/31/16, 12/31/16*	N/A	N/A	source=13.9 finished=6.84	4.66-13.9 3.01-6.84	Naturally present in the environment.
Total Trihalomethanes *(ppb) 6/30/16*	80	N/A	20	2.28-15.42	By-product of drinking water disinfection.
Turbidity *(NTU) daily*	TT; 1.0 and <0.3 95% of the time	N/A	0.336	99.5% of samples <0.3	Soil runoff.
Substance (monitored at tap) *(units) test date*	**AL**	**MCLG**	**90% Level**	**Sites Over AL**	**Major Source of Contaminant**
Copper *(ppm) 8/12/14*	1.3	1.3	0.145	0 of 50 sites	Corrosion of household plumbing systems; erosion of natural deposits.
Lead *(ppb) 8/12/14*	15	0	3	1 of 50 sites	Corrosion of household plumbing systems; erosion of natural deposits.

Water Treatment Plant Expansion



The City of Fargo Water Treatment Plant (WTP) is undergoing an exciting expansion project. After several years of research, small-scale pilot testing, design, and just over three years of construction, the project is now almost two-thirds complete. The new addition will increase our maximum treatment capacity and equip us with new treatment technologies to keep our water quality excellent.

Since 1997, the Fargo WTP has utilized conventional treatment processes comprised of pretreatment, two-stage lime softening, ozonation, dual media filtration and chloramination. This treatment approach has served our community very effectively, and will continue to serve us into the future. The conventional portion of the WTP is able to treat a maximum of 30 million gallons per day (MGD) and consistently meets all drinking water standards.

The WTP expansion will add a parallel treatment approach which will extend our maximum volume to 45 (MGD) and adds new tools to our arsenal. The new portion of the WTP will employ membrane treatment technology which affords the ability to remove certain substances (such as sulfate and bromide) that conventional treatment does not address.

The two water treatment systems will serve side-by-side, affording needed flexibility to strategically manage our treatment approach and to best address degrading source water quality, meet the needs of increasing population and water demand, and thoughtfully manage cost considerations.

The expansion project is currently underway and is on schedule for completion in 2018. The Project is financed through City infrastructure sales tax and a grant from the North Dakota State Water Commission.

For more information about the project, visit our website:
www.cityoffargo.com/CityInfo/Departments/WaterTreatment/Expansionproject/

Our Water Supply and Drought Management

The primary water source for the Fargo WTP is the Red River. A water intake is located in proximity to the Midtown Dam. The city also has alternate sources of water including the Sheyenne River and Lake Ashtabula. This includes an intake and pumping station on the Sheyenne River south of West Fargo. The Sheyenne River is used approximately 30% of the time, either alone or blended with the Red River.

Using our water sources wisely, we can minimize operating costs and optimize water quality. The City of Fargo owns 52% of the stored water rights to Lake Ashtabula, because of having funded construction of the Baldhill Dam at Valley City.

During a drought, with Corps of Engineers approval, water from the lake can be released into the Sheyenne River to help meet Fargo's water needs. This lake (used in 1976, '84, and '88) along with water restrictions, can help provide Fargo's emergency water needs for approximately two years.

The City of Fargo has a drought management plan that monitors water flow, river levels and the precipitation index. The city has adopted an ordinance that mandates citizen participation during drought to reduce the impact to all water users. For more information about the drought management plan visit:

www.cityoffargo.com/water

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.

You may learn more about the North Dakota Source Water Protection Program online at www.ndhealth.gov/wq/gw/sourcewater.htm

Cryptosporidium

Cryptosporidium is a microbial parasite which is found in surface waters throughout the United States. Symptoms of Cryptosporidium infection may include nausea, diarrhea, and abdominal cramps. Most healthy individuals are able to overcome these symptoms within a few weeks. However, immuno-compromised individuals have more difficulty and are at greater risk of developing severe or potentially life threatening illness.

Cryptosporidium must be ingested to cause disease and it may be ingested through means other than drinking water. Immuno-compromised individuals are encouraged to consult their doctor regarding the appropriate precautions to take to avoid infection.

Although filtration removes Cryptosporidium, the most common filtration methods cannot guarantee 100% removal. In April 2015, the City of Fargo began a third round of monthly testing on our source water for the presence of Cryptosporidium. Two years of source water monitoring was performed in compliance with the Long-Term 2 Enhanced Surface Water Treatment Rule (LT2ESWTR). The results of the 24 samples analyzed indicated an average of 0.095 oocysts per liter in the City of Fargo's source water (not the finished drinking water). This concentration of Cryptosporidium falls into the second lowest of 4 levels of treatment, requiring lower individual and combined filter effluent turbidity thresholds. A filter-to-waste feature will be added to the treatment process to help meet this requirement.