

2016 Drinking Water Quality Report City of Glen Ullin, North Dakota

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We are pleased to present to you this year's annual drinking water quality report. This report is designed to inform you about the safe, clean water 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.

The City of Glen Ullin purchases its water from Southwest Water Authority (SWA). SWA takes Missouri River Water from Lake Sakakawea (surface water source), which is located approximately 86 miles northeast of Dickinson. From the intake, the water is pumped to the Zap Reservoirs and then flows by gravity to the Dodge pump station where chlorine and ammonia are added to form chloramines. The purpose of chloramines is to kill disease producing bacteria and viruses in the water. The water then travels to the Richardton Reservoir and pump station. Sodium permanganate is added at the Richardton pump station when offensive tastes and odors are present due to changes in water quality that may have been attributed to lake turnover, variations in lake level, spring runoff, algae, and other factors. From the Richardton pump station the water is pumped to the Dickinson Reservoir and then flows by gravity to the Water Treatment Plant in Dickinson where it is treated using the following processes:

- *Clarification and Softening*, where quicklime is added to the water to change dissolved calcium and magnesium (hardness) into undissolved particles. Alum and a flocculants are then added to collect those particles into heavier pieces that will settle out of the water.
- *Stabilization*, where carbon dioxide is added to bring pH down to acceptable levels. Phosphate is added to limit scale and corrosion. Fluoride is also added to provide resistance to tooth decay.
- *Filtration*, where sand and anthracite coal filters remove suspended particles not removed in the clarifying and softening process. Filtration can also be effective in the physical removal of the protozoan *Cryptosporidium*.
- *Disinfection*, where chloramines are once again added to reduce bacteria to a safe level and provide a residual that protects against contamination.

As part of a nationwide program, the North Dakota Department of Health recently completed an assessment of our source water and determined that our water system is moderately susceptible to potential contaminant sources. They also noted that “historically, Southwest Water Authority has effectively treated this source water to meet drinking water standards.” Information about Source Water Assessment can be obtained by calling 701-225-9149 or 1-888-425-0241, or e-mailing swa@swwater.com

We have a wellhead protection plan available from our office that provides more information such as potential sources of contamination.

A new EPA regulation requires that SWA sample the source water for certain microbial contaminants to help determine whether or not changes need to be made to our treatment process in the future. There were no E. Coli/100ml, no Giardia cysts and no Cryptosporidium oocysts detected during 2016. If results continue along this trend, no further changes to our treatment process will be necessary.

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 effects can be obtained by calling the EPA’s Safe Drinking Water Hotline (800-426-4791)

The sources of drinking water (both tap and bottle 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, industrial or domestic wastewater discharges, oil and gas 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.

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 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. 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. EPA/Center 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. SWA 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, 1-800-426-4791, or at <http://www.epa.gov/safewater/lead>.

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.

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potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline 1-800-426-4791.

In this 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.

Parts per million (ppm): 1 ppm is equivalent to adding 1 pound of a contaminant to 999,999 pounds of water (about 120,000 gallons).

Parts per billion (ppb): 1 ppb is equivalent to adding 1 pound of a contaminant to 999,999,999 pounds of water (about 120 million gallons)

Nephelometric Turbidity Unit (NTU): nephelometric turbidity unit is a measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

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 or (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.

Not Applicable (NA); None Detected (ND)

The City of Glen Ullin routinely monitors for contaminants in your drinking water according to Federal and State laws. This table shows the results of our monitoring for the period of January 1 to December 31, 2016.

CONTAMINANT TABLE¹

Contaminant	Violation Yes/No	Level Detected	Range	Test Date	MCLG	MCL	Likely Source of Contamination
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MICROBIOLOGICAL CONTAMINANTS

Turbidity ² (PPM)	100% of Samples Met Turbidity Limit	.18	N/A	2016	N/A	TT=..3	Soil runoff
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INORGANIC CONTAMINANTS

Copper (ppm)	No	.0545 90 th %	N/A	8-11-2015	1.3	AL=1.3	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives.
Lead (ppb)	No	90% No Detect	N/A	8-11-2015	0	AL=15	Corrosion of household plumbing systems; Erosion of natural deposits.
Barium (ppm)	No	.0126	N/A	2016	2	2	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Fluoride (ppm_	No	.92	N/A	2016	4	4	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
Nitrate-Nitrite (ppm)	No	.04	N/A	2016	10	10	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.

TOTAL ORAGANIC CARBON REMOVAL

Total Organic Carbon Source Water(ppm)	N/A	4.47	2.96-4.47	2016	N/A	TT	Naturally present in the environment.
Total Organic Carbon finished Water (ppm)	N/A	2.88	1.99-2.88	2016	N/A	TT	Naturally present in the environment.
Alkalinity (ppm) Source Water	N/A	174	163-174	2016	N/A	N/A	Natural erosion, Plant activities, and certain industrial waste discharges.

DISINFECTANTS

Chloramines (ppm) ¹	No	2.6	1.79-3.17	6-30-16	MRDL G=4	MRDL =4.0	Water additive used to control microbes.
Chloramines (ppm) ⁴	No	3.1	2.81-3.27	2016	MRDL G=4	MRDL =4.0	Water additive used to control microbes.

DISINFECTION BY-PRODUCTS

Total Trihalomethanes (TTHN) IDSE (ppb)	No	9		12-31-16	N/A	80	By-product of drinking water chlorination.
Total Halo acetic Acids (HAA5) IDSE (ppb)	No	10		12-31-16	N/A	60	By-product of drinking water disinfection.

DETECTED UNREGULATED CONTAMINANTS³

Alkalinity, total (ppm)	N/A	5	ND-5	2015	N/A	N/A	N/A
Bicarbonate as HCO (ppm)	N/A	212	87-212	2016	N/A	N/A	N/A
Calcium (ppm)	N/A	36.8	N/A	2016	N/A	N/A	N/A

Chloride (ppm)	N/A	13.8		2016	N/A	N/A	N/A
Conductivity @25C (umho/cm)	N/A	621		2016	N/A	N/A	N/A
Hardness, Total (as CaCo3) (ppm)	N/A	155		2016	N/A	N/A	N/A
Magnesium (ppm)	N/A	15.2		2016	N/A	N/A	N/A
pH (pH)	N/A	8.76		2016	N/A	N/A	N/A
Potassium (ppm)	N/A	4.4		2016	N/A	N/A	N/A
Sodium (ppm)	N/A	71.8		2016	N/A	N/A	N/A
Sodium Adsorption Ratio (obsvns)	N/A	2.51		2016	N/A	N/A	N/A
TDS (ppm)	N/A	391		2016	N/A	N/A	N/A

¹The City of Glen Ullin routinely monitors for contaminants in your drinking water according to Federal and State laws. This table shows the results of our monitoring for the period of January 1 to December 31, 2016

²Turbidity is a measure of the cloudiness of the water. It is s monitored because it is a good indicator of the effectiveness of our filtration system.

³The EPA requires testing for certain unregulated contaminants, but has not established enforceable drinking water standards for them. They are monitored to determine whether or not future regulation is warranted. To obtain information about these tests you may contact Ken Knight, Water Treatment Plant Operator or Sandra Burwick SWA CFO/Office Administrator at 1-888-425-0241 or e-mail swa@swwater.com.

⁴Results reported by SW Water Authority.

EPA requires us to monitor for over 90 drinking water contaminants and those that were detected are listed in the table above. Test results are from 2015. The State does allow reduced monitoring for certain contaminants because their levels do not change significantly over time. For this reason, some of the test results are more than one year old.

The City of Glen Ullin was selected by EPA to sample for 21 unregulated contaminants during 2015. Samples were taken four times from the Maximum Residence Time sampling point and within the distribution system; or, at the entry point.

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. Should you have any questions, please contact our office.

Violations: The City of Glen Ullin had no violations in 2016.

We are proud that your drinking water meets or exceeds all Federal and State requirements. We have learned through our monitoring and testing that some contaminants have been detected. The EPA has determined that your water is SAFE at these levels.

The City of Glen Ullin would appreciate it if large volume water customers post copies of the CCR 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.

Copies of the 2016 CCR Report are available at the City Auditor's office.

This report will be mailed or e-mailed upon request.

Thank you for allowing us to provide your family with clean, quality water this year. In order to maintain a safe and dependable water supply we sometimes need to make improvements that will benefit all of our customers. These improvements sometimes require rate structure adjustments. The City of Glen Ullin works around the clock to provide top quality water to every tap. We ask that all our customers help us protect our water sources, which are the heart of our community, our way of life and our children's future.

If you are a non-English speaking person, all attempts will be made to refer you to a translator.

If you have any questions about this report or concerning your water utility, please contact Tom Lauer, Operator or Vicki Horst, Auditor at 348-3683. We want our valued customers to be informed about their water utility. If you want to learn more, please attend any of our regularly scheduled meetings. They are held on the second Monday of each month at 7:00PM or during daylight savings time at 7:30PM.

You may also call Ken Knight, Water Treatment Plant Operator at (701) 225-9149, Sandra Burwick, CFO/Office Administrator or Mary Massad, Manager/CEO at Southwest Water Authority 1-888-425-0241 or (701) 225-0241