

# Annual Drinking Water Quality Report

## Northwest Rural Water District

### For 2019

We are pleased to present to you this year's Annual Drinking Water Quality Report. This report is required by the federal Safe Drinking Water Act (SDWA) and we encourage you to share and discuss the contents with consumers who do not receive or may not understand the information contained herein. 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.

We are pleased to report that our drinking water is safe and meets federal and state requirements.

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 utility, please contact Ben Clarys, our Manager, at (701) 774-8915. 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 board meetings that are held on the third Tuesday of every month at 7:30 AM at the Northwest Rural Water District office. If you are aware of non-English speaking individuals who need help with the appropriate language translation, please call Ben Clarys at the number listed above.

This report has required definitions of terms, language requirements, tables of water quality data and other pertinent information you will hopefully find interesting and educational.

Northwest Rural Water District's water source is the Western Area Water Supply which obtains its water from the Missouri River. The Water Treatment Plant is located on the north bank of the Missouri River near the Lewis & Clark Bridge on Highway 85. During high demands, Northwest Rural Water may receive water through the R & T Water Supply system, which is not likely susceptible to potential contaminant sources. Recent amendments to the Safe Drinking Water Act require the North Dakota Department of Health to complete a source water assessment (SWA) for the Western Area Water Supply. The Health Department completed this assessment of our water source in 2003 and determined that our water system is moderately susceptible to potential contaminant sources. They also noted that "historically, the Williston Water Plant has effectively treated this source water to meet drinking water standards." Information about the SWA can be obtained by calling the Water Treatment Plant at (701) 577-7104.

Northwest Rural Water District 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.

Northwest Rural Water District 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<sup>st</sup> to December 31<sup>st</sup>, 2019.

*As authorized and approved by EPA, 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 organic contaminants], though representative, is more than one year old.*

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:

*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 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, the Environmental Protection Agency (EPA) prescribes regulations which limit the amount 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 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:

*Non-Detects (ND)* - laboratory analysis indicates that the contaminant is not present.

*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.

*Parts per trillion (ppt) or Nanograms per liter (nanograms/l)* - one part per trillion corresponds to one minute in 2,000,000 years, or a single penny in \$10,000,000,000.

*Parts per quadrillion (ppq) or Picograms per liter (picograms/l)* - one part per quadrillion corresponds to one minute in 2,000,000,000 years or one penny in \$10,000,000,000,000.

*Picocuries per liter (pCi/L)* - picocuries per liter is a measure of the radioactivity in water.

*Millirems per year (mrem/yr)* - measure of radiation absorbed by the body.

*Million Fibers per Liter (MFL)* - million fibers per liter is a measure of the presence of asbestos fibers that are longer than 10 micrometers.

*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 Goal (MRDLG)* - The level of drinking water disinfectant below which there is no known or expected risk to health. MRDLG's 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.

*Initial Distribution System Evaluation (IDSE)* –

*Umho/cm* – Micromhos per centimeter (a measure of conductivity)

*Obsvns* – observations/field at 100 Power

**NORTHWEST RURAL WATER DISTRICT - TEST RESULTS**

<u>Contaminant</u>	<u>Violation Yes/No</u>	<u>Level Detected</u>	<u>Range</u>	<u>Date (year)</u>	<u>Unit Measurement</u>	<u>MCLG</u>	<u>MCL</u>	<u>Likely Source of Contamination</u>
<b>Microbiological Contaminants</b>								
1. Total Coliform Bacteria	No	0		2019		0	1 per month for systems <40,000 pop.	Naturally present in the environment
<b>Inorganic Contaminants</b>								
2. Copper	No	90th% 0.0333		2017	ppm	1.3	AL=1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
3. Lead	No	90th% 1.23		2017	ppb	0	AL=15	Corrosion of household plumbing systems, erosion of natural deposits
<b>Disinfectants</b>								
6. Chloramines	No	2.6	2.13 to 3.02	2019	ppm	MRDLG=4	MRDL = 4.0	Water additive used to control Microbes
<b>Disinfection Byproducts</b>								
7. TTHM [Total trihalomethanes]-	No	25	12.47 to 45.38	2019	ppb	0	80	By-product of drinking water chlorination
8. Total Haloacetic Acids (HAA5) –	No	20	6.39 to 40.2	2019	ppb		60	By-product of drinking water disinfection

The Northwest Rural Water District was selected by EPA to sample for unregulated contaminants during 2019 under the fourth version of the Unregulated Contaminant Monitoring Rule (UCMR4). Samples for cyanotoxins were taken eight times at the entry point to the distribution system, as required. None of the unregulated contaminants being sampled were detected during the sampling events. 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.

**CITY OF WILLISTON – TEST RESULTS**

<u>Contaminant</u>	<u>Violation Yes/No</u>	<u>Level Detected</u>	<u>Range</u>	<u>Date (year)</u>	<u>Unit Measurement</u>	<u>MCLG</u>	<u>MCL</u>	<u>Likely Source of Contamination</u>
<b>Microbiological Contaminants</b>								
1. Turbidity	No	0.289		2019		n/a	TT	Soil runoff
The lowest monthly % of samples meeting the Turbidity limits equals 100%								
<b>Inorganic Contaminants</b>								
2. Copper	No	90th% 0.04		2017	ppm	1.3	AL=1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
3. Lead	No	90th% 1.48		2017	ppb	0	AL=15	Corrosion of household plumbing systems, erosion of natural deposits
4. Barium	No	.0143		2016	ppm	2	2	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits.
5. Chromium	No	1.17		2016	ppb	100	100	Discharge from steel and pulp mills; Erosion of natural deposits
6. Fluoride	No	.81		2016	ppm	4	4	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
7. Nitrate – Nitrite	No	.03		2019	ppm	10	10	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
8. Selenium	No	1.44		2016	ppb	50	50	Discharge from petroleum and metal refineries; Erosion of natural deposits; Discharge from mines
<b>Total Organic Carbon Removal</b>								
9. Alkalinity – source	No	172	102.00 to 172.0	2019	MG/L			
10. Carbon, Total Organic (TOC)- Finished	No	3.9	2.20 to 3.90	2019	MG/L			
11. Carbon, Total Organic (TOC) - Source	No	7.9	3.20 to 7.90	2019	MG/L			
<b>Radioactive Contaminants</b>								
10. Gross Alpha, Including RA, Excluding RN & U	No	3.9		2017	ppm	15	15	Erosion of natural deposits
11. Radium, Combined (226, 228)	No	.78		2017	ppm		5	Erosion of natural deposits
12. Uranium, Combined	No	ND	-.44 to 0	2017	ppm		30	Erosion of natural deposits
<b>Disinfectants</b>								
13. Chloramines	No	2.8	2.65 to 2.96	2018	ppm	MRDL G=4	MRDL = 4.0	Water additive used to control Microbes
<b>Disinfection Byproducts</b>								
14. TTHM [Total trihalomethanes]-	No	19	13.57 to 27.05	2019	ppb	0	80	By-product of drinking water chlorination
15. Total Haloacetic Acids (HAA5) –	No	10	7.11 to 11.78	2019	ppb		60	By-product of drinking water disinfection
<b>Synthetic Organic Contaminants including Pesticides and Herbicides</b>								
16. Pentachlorophenol	No	.03		2017	ppb	0	1	Discharge from wood preserving factories

## R & T WATER SYSTEM - TEST RESULTS

<u>Contaminant</u>	<u>Violation Yes/No</u>	<u>Level Detected</u>	<u>Range</u>	<u>Date (year )</u>	<u>Unit Measurement</u>	<u>Samples Exceed AL</u>	<u>MCLG</u>	<u>MCL</u>	<u>Likely Source of Contamination</u>
<b>Microbiological Contaminants</b>									
<b>Inorganic Contaminants</b>									
2. Copper	No	90th% 0.147		2018	ppm	1	1.3	AL=1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
3. Lead	No	90th% 1.8		2018	ppb	1	0	AL=15	Corrosion of household plumbing systems, erosion of natural deposits
4. Arsenic	No	1.31		2016	ppb		0	10	
5. Barium	No	.00374		2016	ppm		2	2	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits.
6. Fluoride	No	.71		2016	ppm		4	4	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
7. Nitrate – Nitrite	No	.105		2019	ppm		10	10	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
<b>Radioactive Contaminants</b>									
8. Gross Alpha, Including RA, Excluding RN & U	No	ND		2017	ppm		0	10	Erosion of natural deposits
9. Radium, Combined (226, 228)	No	1.21		2017	pCi/l			5	Erosion of natural deposits
10. Uranium, Combined	No	.47		2017	ppb			30	Erosion of natural deposits
<b>Disinfectants</b>									
10. Chloramines	No	2.9	2.55 to 3.40	2019	ppm		MRDLG=4	MRDL = 4	Water additive used to control  Microbes
<b>Disinfection Byproducts</b>									
11. TTHM [Total trihalomethanes]-	No	13	7.52 to 14.42	2019	ppb		0	80	By-product of drinking water chlorination
12. Total Haloacetic Acids (HAA5) –	No	7	4.61 to 8.21	2019	ppb			60	By-product of drinking water disinfection

Unregulated Contaminants - Williston								
Alkalinity, Carbonate	NA		4	ppm	NA	2019	No	NA
Alkalinity, Total	NA		51	ppm	NA	2019	No	NA
Calcium	NA		42.3	Ppm	NA	2019	No	NA
Conductivity@ 25C UMHOS/CM	NA		630	Umho/cm	NA	2019	No	NA
Orthophosphate	NA		0.035	ppm	NA	2019	No	NA
PH	NA		8.69	PH	NA	2019	No	NA
TDS	NA		391	Ppm	NA	2019	No	NA

**Surface Water Treatment Rule Monitoring Data:**

Lowest Monthly Percentage of Samples Meeting Turbidity Limits= 100

Highest Single Measurement = 0.289

\*Turbidity is a measure of the cloudiness of the water. The city of Williston monitors it because it is a good indicator of the effectiveness of their filtration system. Turbidity is measured every four hours during treatment plant operations. 100% of samples met turbidity limits.

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.

The City of Williston was selected by the EPA to sample for 20 unregulated contaminants during 2019. Samples were taken four times at each site; both at the water treatment plant and from within the distribution system. Unregulated contaminants are those for which EPA has not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist the EPA in determining the occurrence of unregulated contaminants in drinking water and whether future regulation is warranted. Below are contaminants that have been detected.

Unregulated Contaminant Monitoring Rule 4	Site 1-2019	Site 2- 2019	Site 3-2019	Site 4-2019	Minimum Reporting Level µg/L
Unregulated Contaminants Detected	Average	Average	Average	Average	
Dichloroacetic Acid	5.2 (Range 3.1-6.9)	4.8 (Range 3.3-5.9)	6.6 (Range 4.5-9.1)	7.3 (Range 3.7-6.8)	0.2
Trichloroacetic Acid	1.5 (Range 1.0-1.9)	1.5 (Range 1.0-1.8)	1.8 (Range 1.2-2.5)	1.5 (Range 1.1-1.9)	0.5
Bromochloroacetic Acid	2.1 (Range 1.8-2.4)	1.9 (Range 1.8-2.1)	2.3 (Range 1.9-2.6)	2 (Range 1.8-2.3)	0.3
Dibromoacetic Acid	0.56 (Range .44-.71)	0.53 (Range 0.41-0.64)	0.59 (Range 0.40-1.1)	0.54 (Range 0.45-0.66)	0.3
Bromodichloroacetic Acid	0.62 (Range ND-1.2)	0.63 (Range ND-1.1)	0.61 (Range ND-1.1)	0.47 (Range ND-1.1)	0.5
Chlorodibromoacetic Acid	0.23 (Range ND-0.56)	0.31 (Range ND-0.53)	0.22 (Range ND-0.56)	0.21 (Range ND-0.50)	0.3

**Unregulated Contaminant Monitoring Rule 4 – City of Williston**

Unregulated Detected	Contaminants	Average Raw Water Value µ/L	Minimum Reporting Level µg/L
Bromide		0.03 (Range 0.02-0.04)	0.02
Total Organic Carbon (TOC)		3409(Range 3259-3741)	250

Northwest Rural Water had no Total Coliform monitoring violations in 2019.

\* Total Coliform. Coliforms are bacteria which are naturally present in the environment and are used as an indicator that other; potentially-harmful, bacteria may be present.

*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.*

Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of the effectiveness of our filtration system.

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.

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. Northwest Rural Water District 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>.

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.

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 & Prevention (CDC) guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbiological contaminants are available from the Safe Drinking Water Hotline (1-800-426-4791).

Please call our office if you have questions.

Northwest Rural Water District 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.