

Barnes Rural Water District

"Quality on Tap Report"

2018

We're very pleased to provide you with this year's *Quality on Tap Report*. We want to keep you informed about the excellent 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 water source is groundwater from four 220 feet deep wells drawn from the Spiritwood Aquifer. Each well produces approximately 800 gallons/minute.

Barnes Rural Water District is involved in North Dakota's Wellhead Protection Program. The program was established through ND Rural Water Systems Assoc. and the ND Dept. of Health. Barnes Rural Water District's four 220 feet deep wells are protected from chemical contaminants leaching downward through the soil due to the beneficial soil type over the well field area. The soil consists of an unsorted mixture of clay and silt and is generally thick overlying the water-bearing aquifer. Based on texture, permeability, and depth, the soil's potential to protect the quality of the groundwater from surface contamination incidents is excellent.

A copy of the Wellhead Protection Plan along with other relevant information is available from our office during normal business hours. The ND Dept. of Health has prepared a Source Water Assessment for Barnes Rural Water District. Information on this program is also available to the public during normal business hours.

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 "*not likely susceptible*" to potential contaminants. No significant sources of contamination have been identified.

If you have any questions regarding this report or concerning your water utility, please contact **Perry Kapaun at (701) 845-1117 or Toll Free 1-877-845-1117, or contact us at 421 W. Main, Valley City, ND 58072.** 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 last Wednesday of each month at 7:00 a.m. in the Barnes Rural Water District's office. If attendance is desired, please call the office in advance, for further information. If you are aware of non-English speaking individuals who need help with the appropriate language translation, please call the office at the number listed above.

The Barnes Rural Water District would appreciate it if large volume water customers would please post copies of the *Quality on Tap 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.

Barnes Rural Water District routinely monitors for contaminants in your drinking water per Federal and State laws. The following table shows the results of our monitoring for the period of January 1st to December 31st, 2018. As authorized and approved by the 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 the data [e.g. for inorganic contaminant], 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.

2018 Test Results for Barnes Rural Water District, Valley City, ND

<u>Contaminant</u>	<u>MCLG</u>	<u>MCL</u>	<u>Level Detected</u>	<u>Unit Measurement</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	0.498 90 th % Value	ppm	N/A	2017	0 Sites Exceeded AL	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead*	0	AL=15	No Detect 90 th % Value	ppb	N/A	2017	0 Sites Exceeded AL	Corrosion of household plumbing systems, erosion of natural deposits
Stage 2 Disinfection By-Products (TTHM/HAA5)								
HAA5	N/A	60	2	ppb	N/A	2018	No	By-product of drinking water chlorination
TTHM	N/A	80	4	ppb	N/A	2018	No	By-product of drinking water chlorination
Disinfectants								
Chlorine	MRDL= 4.0	MRDL =4	3.5	ppm	3.26 to 3.65	2018	No	Water additive used to control microbes
Inorganic Contaminants								
Barium	2	2	0.0179	ppm	N/A	2018	No	Discharge of drilling wastes, Discharge from metal refineries, Erosion of natural deposits
Chromium	100	100	4.62	ppb	N/A	2018	No	Discharge from steel and pulp mills; erosion of deposits.
Fluoride	4	4	1.03	ppm	N/A	2018	No	Erosion of natural deposits, Water additive which promotes strong teeth, Discharge from fertilizer and aluminum factories
Nitrate-Nitrite	10	10	0.11	ppm	N/A	2018	No	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Selenium	50	50	1.68	ppb	N/A	2018	No	Discharge from petroleum and metal refineries; erosion of natural deposits; deposits from mines
Unregulated Contaminants								
Alkalinity, Carbonate	N/A	N/A	395	ppm	N/A	2018	No	N/A
Bicarbonate as HCO ₃	N/A	N/A	482	ppm	N/A	2018	No	N/A
Calcium	N/A	N/A	69.3	ppm	0.0 to 48.4	2018	No	N/A
Chloride	N/A	N/A	50.2	ppm	N/A	2018	No	N/A
Conductivity @ 25 UMHOS/CM	N/A	N/A	1300	umho/cm	695 to 867	2018	No	N/A
Hardness, Total (AS CAC03)	N/A	N/A	294	ppm	N/A	2018	No	N/A
Magnesium	N/A	N/A	29.4	ppm	N/A	2018	No	N/A
Manganese	N/A	N/A	0.032	ppm	N/A	2018	No	N/A
Nickel	N/A	N/A	0.00648	ppm	N/A	2018	No	N/A

pH	N/A	N/A	7.95	pH	N/A	2018	No	N/A
Potassium	N/A	N/A	8.0	ppm	N/A	2018	No	N/A
Sodium	N/A	N/A	179	ppm	N/A	2018	No	N/A
Sodium Adsorption Ratio	N/A	N/A	4.54	obsrvns	N/A	2018	No	N/A
Sulfate	N/A	N/A	250	ppm	247 to 250	2018	No	N/A
TDS	N/A	N/A	825	ppm	N/A	2018	No	N/A
Zinc	N/A	N/A	0.601	ppm	N/A	2018	No	N/A

*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. Barnes 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>.

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).

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.

In our continuing efforts to maintain a safe and dependable water supply it may be necessary to make improvements in your water system. The costs of these improvements may be reflected in the rate structure. Rate adjustments may be necessary to address these improvements.

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/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).

Barnes Rural Water District works diligently 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.

Please contact our office if you have questions.