2018

ANNUAL DRINKING WATER QUALITY REPORT

SOUTH CENTRAL REGIONAL WATER DISTRICT

10700 Highway 1804 N • Bismarck, ND 58503 • Phone: 701-258-8710

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 sources are purchased water from the city of Bismarck and our water treatment facilities in north Burleigh and Emmons counties. They all treat surface water drawn from the Missouri River.

South Central Regional Water District is involved in North Dakota's Wellhead Protection Program. The program was established through North Dakota Rural Water Systems Association and the North Dakota Department of Health. A copy of the Wellhead Protection Plan, along with other relevant information, is available from our office during normal business hours. The North Dakota Department of Health has prepared a Source Water Assessment for South Central Regional 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 ***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 **Larry Kassian at 701-258-8710.** 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 third Tuesday of each month at 5:30 p.m. at South Central Regional Water District's office located at 10700 Highway 1804 North, Bismarck. 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, call Larry Kassian at the number listed above.

South Central Regional 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.

South Central Regional Water District routinely monitors for contaminants in your drinking water according to federal and state laws. The following tables show the results of our monitoring for the period of Jan. 1 to Dec. 31, 2018. As authorized and approved by the Environmental Protection Agency (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 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 with which you might not be familiar. To help you better understand these terms, we've provided the following definitions.

Not Applicable (N/A)

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 (µg/L) – one part per billion corresponds to one minute in 2,000 years or a single penny in $10 million.

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 (MCL) – the "Maximum Allowed" (MCL) is the highest level of a contaminant allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

Maximum Contaminant Level Goal (MCLG) – 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 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 SOUTH CENTRAL REGIONAL WATER DISTRICT AND THE CITY OF BISMARCK

Contaminant	MCLG	MCL	Level Detected	Unit Measurement	Range	Date (Year)	Violation Yes/No Other Info	Likely Source of Contamination
Inorganic Contaminants								
Barium	2	2	0.00516	ppm	N/A	2017	No	Discharge of drilling wastes, discharge from metal refineries, erosion of natural deposits
Cyanide	200	200	66	ppm	N/A	2015	No	Discharge from steel/metal factories, discharge from plastic and fertilizer factories
Fluoride	4	4	0.648	ppm	N/A	2017	No	Erosion of natural deposits, water additive which promotes strong teeth, discharge from fertilizer and aluminum factories
Microbiological Contaminants								
Turbidity**	N/A	TT=.3	0.08	NTU	N/A	2018	100% of samples met turbidity limits	Soil runoff
Copper/Lead								
Copper	N/A	AL=1.3	0.0736 90th% value	ppm	N/A	2016	0 sites exceeded AL	Corrosion of household plumbing systems, erosion of natural deposits, leaching from wood preservatives
Lead*	N/A	AL=15	3.03 90th% value	ppb	N/A	2016	0 sites exceeded AL	Corrosion of household plumbing systems, erosion of natural deposits
Stage 2 Disinfection By-products (TTHM/HAA5)								
HAA5 (system-wide)	N/A	60	26	ppb	11.37 to 45.3	2018	No	By-product of drinking water chlorination
TTHM (system-wide)	N/A	80	49	ppb	28.85 to 75.66	2018	No	By-product of drinking water chlorination
Synthetic Organic Contaminants including Pesticides & Herbicides								
Pentachloro-phenol	0	1	0.03	ppb	N/A	2017	No	Discharge from wood preserving factories
Volatile Organic Contaminants								
Dichlorometh-ane	0	5	1.1	ppb	N/A	2018	No	Discharge from pharmaceutical and chemical factories
Disinfectants								
Chloramines	MRDLG =4	MRDL =4.0	2.0	ppm	1.23 to 2.46	2018	No	Water additive used to control microbes
Total Organic Carbon Removal								
Alkalinity, source	N/A	N/A	253	mg/L	202.00 to 253.00	2018	No	Natural erosion, certain plant activities, certain industrial wastewater discharges
Carbon, Total Organic (TOC) – finished	N/A	N/A	2.6	mg/L	2.00 to 2.60	2018	No	Naturally present in the environment
Carbon, Total Organic (TOC) – source	N/A	N/A	4.9	mg/L	4.40 to 4.90	2018	No	Naturally present in the environment

2018 TEST RESULTS FOR SOUTH CENTRAL REGIONAL WATER DISTRICT AND THE CITY OF BISMARCK *(cont.)*

Contaminant	MCLG	MCL	Level Detected	Unit Measurement	Range	Date (Year)	Violation Yes/No Other Info	Likely Source of Contamination
Unregulated Contaminants								
Alkalinity, total	N/A	N/A	82	ppm	58 to 82	2018	No	N/A
Orthophosphate	N/A	N/A	1.9	ppm	1.12 to 1.9	2018	No	N/A
pH	N/A	N/A	9.45	pH	9.12 to 9.45	2018	No	N/A
Radioactive Contaminants								
Gross Alpha, including RA, excluding RN & U	15	15	ND	pCi/L	N/A	2017	No	Erosion of natural deposits
Radium, combined (226, 228)	N/A	5	1.17	pCi/L	N/A	2017	No	Erosion of natural deposits
Uranium, combined	N/A	30	ND	ppb	-0.76 to 0.0	2017	No	Erosion of natural deposits

**Turbidity is a measure of the cloudiness of the water. The city of Bismarck monitors it because it is a good indicator of the effectiveness of its filtration system. 100 percent of samples met turbidity limits.

Source water microbiological monitoring:

In 2018, five (5) samples were collected from the horizontal collector well for E. coli analysis and there was no detection. E. coli is an indicator bacteria commonly found in surface water and originates in the intestinal tract of warm blooded animals, some types of e. coli bacteria are pathogenic. It is effectively removed by filtration and destroyed by chlorination and was not detected in the finished water or in the distribution system through our Coliform/E. coli bacterial testing program.

Surface water treatment rule monitoring data:

Lowest monthly percentage of samples meeting turbidity limits: 100%

2018 TEST RESULTS FOR SOUTH CENTRAL REGIONAL WATER DISTRICT - NORTH BURLEIGH COUNTY

Contaminant	MCLG	MCL	Level Detected	Unit Measurement	Range	Date (Year)	Violation Yes/ No Other Info	Likely Source of Contamination
Inorganic Contaminants								
Barium	2	2	0.0162	ppm	N/A	2016	No	Discharge of drilling wastes, discharge from metal refineries, erosion of natural deposits
Chromium	100	100	2.7	ppb	N/A	2016	No	Discharge from steel and pulp mills, erosion of deposits
Fluoride	4	4	0.81	ppm	N/A	2016	No	Erosion of natural deposits, water additive which promotes strong teeth, discharge from fertilizer and aluminum factories
Nitrate-Nitrite	10	10	0.06	ppm	N/A	2018	No	Runoff from fertilizer use, leaching from septic tanks, sewage, erosion of natural deposits
Synthetic Organic Contaminants including Pesticides & Herbicides								
Pentachloro-phenol	0	1	0.03	ppb	N/A	2017	No	Discharge from wood preserving factories

2018 TEST RESULTS FOR SOUTH CENTRAL REGIONAL WATER DISTRICT - NORTH BURLEIGH COUNTY *(cont.)*

Contaminant	MCLG	MCL	Level Detected	Unit Measurement	Range	Date (Year)	Violation Yes/ No Other Info	Likely Source of Contamination
Radioactive Contaminants								
Gross Alpha, including RA, excluding RN & U	15	15	1.04	pCi/L	N/A	2017	No	Erosion of natural deposits
Radium, combined (226, 228)	N/A	5	0.09	pCi/L	N/A	2017	No	Erosion of natural deposits
Uranium, combined	N/A	30	1.84	ppb	N/A	2017	No	Erosion of natural deposits
Copper/Lead								
Copper	1.3	AL=1.3	0.142 90th% value	ppm	N/A	2018	0 sites exceeded AL	Corrosion of household plumbing systems, erosion of natural deposits, leaching from wood preservatives
Lead*	0	AL=15	3.81 90th% value	ppb	N/A	2018	1 site exceeded AL	Corrosion of household plumbing systems, erosion of natural deposits
Disinfectants								
Chlorine	MRDL =4.0	MRDL =4	1.3	ppm	1.06 to 1.39	2018	No	Water additive used to control microbes
Stage 2 Disinfection By-products (TTHM/HAA5)								
HAA5 (system-wide)	N/A	60	18	ppb	13.18 to 27.79	2018	No	By-product of drinking water chlorination
TTHM (system-wide)	N/A	80	49	ppb	30.0 to 70.42	2018	No	By-product of drinking water chlorination
Disinfection By-products (excluding TTHM/HAA5)								
Bromate	N/A	10	2	ppb	ND to 2.3	2018	No	N/A
Unregulated Contaminants								
Bromide	N/A	N/A	49	ppm	41 to 49	2018	No	N/A
Manganese	N/A	N/A	0.013	ppm	N/A	2018	No	N/A
Microbiological Contaminants								
Turbidity**	N/A	TT=.3	0.139	NTU	N/A	2017	100% of samples met turbidity limits	Soil runoff

**Turbidity is a measure of the cloudiness of the water. The SCRWD Burleigh North monitors it because it is a good indicator of the effectiveness of its filtration system. 100 percent of samples met turbidity limits.

Source water microbiological monitoring:

In October of 2017 the South Central Regional Water District began testing of our source water, once every two weeks for 12 months, for the presence of E. coli, which would be an indicator for cryptosporidium. Source water monitoring for public water systems was required under the Long-Term 2 Enhanced Surface Water Treatment Rule (LT2ESWTR) implemented by the EPA. Cryptosporidium is a microbial parasite which is found in surface water throughout the United States. Although filtration removes cryptosporidium, the most commonly used filtration methods cannot guarantee 100 percent removal. Of the 26 samples of source (river) water analyzed, the samples results were found to range from <1 to 2 E. coli / 100 ml, with an average analytical result value of 0.91 E. coli per 100 ml.

Surface water treatment rule monitoring data:

Lowest monthly percentage of samples meeting turbidity limits: 100%
Highest single measurement: 0.139

2018 TEST RESULTS FOR SOUTH CENTRAL REGIONAL WATER DISTRICT'S EMMONS COUNTY WATER TREATMENT PLANT

Contaminant	MCLG	MCL	Level Detected	Unit Measurement	Range	Date (Year)	Violation Yes/No Other Info	Likely Source of Contamination
Inorganic Contaminants								
Barium	2	2	0.0202	ppm	N/A	2018	No	Discharge of drilling wastes, discharge from metal refineries, erosion of natural deposits
Fluoride	4	4	0.887	ppm	N/A	2018	No	Erosion of natural deposits, water additive which promotes strong teeth, discharge from fertilizer and aluminum factories
Copper/Lead								
Copper	1.3	AL=1.3	0.176 90th% value	ppm	N/A	2016	0 sites exceeded AL	Corrosion of household plumbing systems, erosion of natural deposits, leaching from wood preservatives
Lead*	0	AL=15	2.46 90th% value	ppb	N/A	2016	0 sites exceeded AL	Corrosion of household plumbing systems, erosion of natural deposits
Disinfectants								
Chlorine	MRDLG =4	MRDL =4.0	1.4	ppm	1.17 to 1.66	2017	No	Water additive used to control microbes
Radioactive Contaminants								
Radium, combined (226, 228)	N/A	5	0.7679	pCi/L	N/A	2018	No	Erosion of natural deposits
Uranium, combined	N/A	30	ND	ppb	N/A	2018	No	Erosion of natural deposits
Unregulated Contaminants								
Alkalinity, total	N/A	N/A	70.7	ppm	N/A	2018	No	N/A
Bicarbonate as HCO_3	N/A	N/A	86	ppm	N/A	2018	No	N/A
Bromide	N/A	N/A	38	ppm	29 to 38	2018	No	N/A
Calcium	N/A	N/A	19	ppm	N/A	2018	No	N/A
Chloride	N/A	N/A	7.11	ppm	N/A	2018	No	N/A
Conductivity @ 25 UMHOS/CM	N/A	N/A	339	umho/cm	695 to 867	2018	No	N/A
Hardness, Total (as $CaCO_3$)	N/A	N/A	83	ppm	N/A	2018	No	N/A
Magnesium	N/A	N/A	8.6	ppm	N/A	2018	No	N/A
pH	N/A	N/A	8.13	pH	N/A	2018	No	N/A
Potassium	N/A	N/A	2.0	ppm	N/A	2018	No	N/A
Sodium	N/A	N/A	30.9	ppm	N/A	2018	No	N/A
Sodium Adsorption Ratio	N/A	N/A	1.48	obsvns	N/A	2018	No	N/A

2018 TEST RESULTS FOR SOUTH CENTRAL REGIONAL WATER DISTRICT'S EMMONS COUNTY WATER TREATMENT PLANT *(cont.)*

Contaminant	MCLG	MCL	Level Detected	Unit Measurement	Range	Date (Year)	Violation Yes/No Other Info	Likely Source of Contamination
Unregulated Contaminants *(cont.)*								
Sulfate	N/A	N/A	81.5	ppm	77.3 to 81.5	2018	No	N/A
TDS	N/A	N/A	189	ppm	N/A	2018	No	N/A
Zinc	N/A	N/A	0.0088	ppm	N/A	2018	No	N/A
Disinfection By-products (excluding TTHM/HAA5)								
Bromate	N/A	10	2	ppb	ND to 1.0	2018	No	By-product of drinking water chlorination
Stage 2 Disinfection By-products (TTHM/HAA5)								
HAA5 (system-wide)	N/A	60	27	ppb	8.81 to 26.55	2018	No	By-product of drinking water chlorination
TTHM (system-wide)	N/A	80	52	ppb	16.89 to 53.29	2018	No	By-product of drinking water chlorination
Microbiological Contaminants								
Turbidity**	N/A	TT=.3	0.042	NTU	N/A	2018t	100% of samples met turbidity limits	Soil runoff

**Turbidity is a measure of the cloudiness of the water. The SCRWD Emmons County monitors it because it is a good indicator of the effectiveness of its filtration system. 100 percent of samples met turbidity limits.

Source water microbiological monitoring:

In October of 2017, the South Central Regional Water District began testing of our source water, once every two weeks for 12 months, for the presence of E. coli, which would be an indicator for cryptosporidium. Source water monitoring for public water systems was required under the Long-Term 2 Enhanced Surface Water Treatment Rule (LT2ESWTR) implemented by the EPA. Cryptosporidium is a microbial parasite which is found in surface water throughout the United States. Although filtration removes cryptosporidium, the most commonly used filtration methods cannot guarantee 100 percent removal. Of the 26 samples of source (river) water analyzed, the samples results were found to range from <1 to 17.3 E. coli / 100 ml, with an average analytical result value of 6.31 E. coli per 100 ml.

Surface water treatment rule monitoring data:

Lowest monthly percentage of samples meeting turbidity limits: 100%
Highest single measurement: 0.042

EPA requires monitoring of over 80 drinking water contaminants. Those contaminants listed in the tables above are the only contaminants detected in your drinking water.

*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. South Central Regional 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 two 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 EPA's Safe Drinking Water Hotline (800-426-4791) or at *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 Safe Drinking Water Hotline (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 (800-426-4791).

South Central Regional 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 at 701-258-8710 if you have any questions.

Quality On Tap!

Our Commitment Our Profession