



**West River/Lyman-Jones  
Rural Water Systems Inc.**

# Quality On Tap!

July 2024 | Volume 20, Issue 1

**WHY IS MY  
LAKE GREEN?**

**THE RAIN BARREL –  
AN OLD IDEA THAT'S  
STILL USEFUL**

**RECRUITING  
YOUTH TO THE  
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**ANNUAL  
MEETING**

**WEDNESDAY,  
OCTOBER 16**

**MAKE PLANS TO  
ATTEND!**

**ANNUAL  
DRINKING  
WATER  
QUALITY  
REPORT**

**SEE PAGE 13 FOR MORE INFO**

# MANAGER'S REPORT

**Jake Fitzgerald**  
 Manager, West River/Lyman-Jones RWS



This past spring, WR/LJ and our contractors were able to work around the weather and catch up on construction projects. We worked with Great Plains Structures of Vadnais Heights, MN, to complete a 300,000-gallon ground storage reservoir (GSR) near Vivian and a 336,000-gallon GSR near Creighton. A crew with Eatherly Constructors, Inc. of Garden City, KS, installed 5 miles of pipeline north of the old Plum Creek School in Haakon County and another 6 miles of pipeline north of the Cedar Butte Pump Station in Mellette County. Collectively, these projects came with a price tag of approximately \$4 million. WR/LJ obtained funds through the SD Department of Agriculture and Natural Resources (DANR), with 30% funded from an American Rescue Plan Act (ARPA) grant and the remaining 70% from a State Revolving Fund (SRF) loan.



*Vivian GSR floor slab.*



*Floor slab being poured for the Creighton GSR.*

**In observance of the following holidays, WR/LJ Rural Water offices will be closed on the following days:**

**July 4, 2024 – Independence Day**  
**September 2, 2024 – Labor Day**

In case of an emergency, please call the Murdo area at 530-0932 or the Philip area at 530-1136 for assistance.

## BOARD OF DIRECTORS

- Dave Fuoss, Draper – President
- Richard L. Doud, Midland – Vice President
- Dodie Garrity, Hayes – Sec./Treas.
- Kirk Cordes, Creighton
- Veryl Prokop, Kadoka
- Casey Krogman, White River
- Brad Smith, Vivian
- Dean Nelson, Murdo
- Quint Garnos, Presho
- Marion Matt, Philip

## MURDO PROJECT OFFICE

**307 Main Street**  
**PO Box 407**  
**Murdo, SD 57559**

- Jake Fitzgerald..... Manager
- Amy Kittelson.....Office Manager
- Kati Venard .....Billing Secretary
- Brandon Kinsley.....O & M Foreman
- Ed Venard..... O & M
- Steve Baker..... O & M
- Brian Flynn..... O & M

**Ph: 605-669-2931 or 1-800-851-2349**


**E-Mail Address:**

**wrlj\_ruralwater@goldenwest.net**

## PHILIP FIELD OFFICE

**PO Box 144**  
**Philip, SD 57567**

- Mike Vetter .....O & M Foreman
- Eddie Dartt..... O & M
- John Kramer..... O & M
- Nick Konst ..... O & M

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Completion of the new Creighton GSR (right).



Pipeline installation in Haakon County.



# 2024 ANNUAL MEETING

The WR/LJ Rural Water Annual Meeting will be held in Philip on Wednesday, October 16th at the Philip shop building. Election of Directors will be held for:

- Zone 1A – Rural Lyman County east of Township line between Range 75W and 76W
- Zone 2 – Rural Haakon County
- Zone 3 – Rural Jackson County, north of the White River
- Zone 5A – Municipal at Large – Municipalities of Jones, Mellette, Lyman County; Stanley County south of Bad River

More details about the meeting will be in the October Quality on Tap! newsletter.



**MAKE PLANS TO ATTEND!**

Visit us online at: [www.wrlj.com](http://www.wrlj.com)

# 2024 SCHOLARSHIP WINNERS

WR/LJ Rural Water is proud to announce the recipients of four \$750 scholarships for 2024. The scholarship is established to help promote educational opportunity for students of a member of WR/LJ Rural Water or students that attend a high school in WR/LJ's service area. Congratulations to the following scholarship winners:

## Addison Kierl

is a graduate of Jones County High School. She is the daughter of Joe and Elysa Kierl. Her goal is to graduate with an Associate's Degree in Business Management from Lake Area Technical College.



## Brodi Sundall

is a graduate of Wall High School. He is the son of Lance and Kelli Sundall. In the fall he plans to further his education at South Dakota State University to earn an electrical engineering degree.



## Morgan Schelske

is a graduate of Lyman High School. She is the daughter of Wyatt and Michelle Schelske. She plans on attending South Dakota State University and majoring in Animal Science and possibly minoring in Ag.



## Kamaria Krogman

is a graduate of White River High School. She is the daughter of Troy and Kara Krogman. She will be attending Black Hills State University in the fall for nursing.







## The Rain Barrel – An Old Idea That’s Still Useful

While browsing online recently, I came across something that instantly transported me back to my childhood – an old rain barrel. It reminded me of the days spent at my grandparents’ house, playing in the yard. In one corner, under the waterspout, stood the rain barrel, a symbol of a time when water was hauled to the house and its quality was unpredictable. Back then, early American water systems required fetching water from a central supply. Today, thanks to innovations like well digging, piping, and pumps, water flows directly to our homes through one of the 155,000 public water systems across the U.S.

The discovery that triggered this nostalgic journey was a city program called the “Green Barrel,” which offers residents discounted rain barrels. Imagine cutting your water bill by capturing rainwater for free! In this city, watering lawns and gardens accounts for 40% of household water usage. With each barrel saving approximately 1,300 gallons over the summer, the impact on your wallet and the environment is significant.

Modern rain barrels are a far cry from the ones of the past. Gone are the makeshift screens and weighted lids. Today’s

barrels feature a sleek inlet that directs water into a small opening and an outlet that easily connects to a watering can or hose. These design improvements not only prevent evaporation and keep bugs out but also make collecting and using rainwater effortless.

Think about the possibilities: watering your houseplants, gardens, and lawns with pure rainwater, especially during dry spells. Droughts, with their abnormally low rainfall, lead to water shortages. A rain barrel ensures you always have a supply of water on hand. Plus, the benefits are immense – reducing your water usage, cutting down on water sent to sewers, and saving money.

Investing in a rain barrel isn’t just about conserving water; it’s about connecting to a tradition of resourcefulness and sustainability. It’s about making a positive impact on the environment while enjoying the simplicity and efficiency of nature’s own irrigation system. So why not bring a bit of that old-world charm into your modern home? Get a rain barrel today and start reaping the benefits – your garden, your wallet, and the planet will thank you.



# WHY IS MY LAKE GREEN?

*By Kevin Christenson, Source Water Protection Specialist  
South Dakota Association of Rural Water Systems*



Summer has arrived, and summers include visits to the lake for many people. Whether you enjoy boating, swimming, fishing, or simply take in the scenery, lakes and state parks offer an excellent setting for weekend getaways. Regardless of the lake or waterbody you visit this summer, there is a common denominator – algae. What is algae, and why does it turn our waterbodies unappealing at times during the hot summer months?

The term “algae” encompasses many organisms, from microscopic single-celled entities floating in lakes to seaweed in oceans. The prevalent variety of algae in lakes is known as “Green Algae,” specifically the single-celled type. These microorganisms thrive on lake nutrients and utilize sunlight for photosynthesis, similar to above-water plants and trees. Along with chlorophyll, the pigment responsible for the green color in plants, these algae play a crucial role at the bottom of the lake’s food chain. As you swim in the lake, imagine yourself as a complex bit of algae floating in the water, albeit without chlorophyll and the ability to photosynthesize.

Understanding what algae are reveals the cause behind lakes’ murky and unpleasant green appearance. This transformation typically occurs in the hottest parts of summer and is identified as an “algal bloom.”

An algal bloom signifies a significant increase in algae organisms in the lake. While numerous algae species may exist, a bloom typically comprises one or two dominant types. These blooms result from optimal lake conditions, where one algae species experiences rapid reproduction due to abundant nutrients, particularly phosphorous and nitrogen. The excess nutrients and consecutive sunny days in summer create the ideal environment for a substantial algal bloom.

Beyond the green color and unpleasant odor, an algal bloom is a natural and essential phenomenon for maintaining lake health. The excess plant life generated by the bloom serves as abundant food for other microorganisms and fish, as the algae convert free-floating nutrients into a form edible by lake residents.

While algal blooms are natural, scientists have observed troubling events known as “Harmful Algal Blooms” (HABs). HABs, detrimental to the lake ecosystem and its inhabitants, can manifest in various forms, like the thick “green soup” seen occasionally. HABs can also cause “summerkill,” a mass die-off of a lake’s fish population caused by an excessive algal bloom. Large blooms lead to oxygen depletion in the water, creating a hypoxic environment that can suffocate fish and other aquatic organisms.

While HABs occur naturally, increasing occurrences are linked to human activities. Excessive nutrients, especially phosphorous and nitrogen, disrupt the delicate nutrient balance in lakes. Human contributions to this imbalance include the overuse of fertilizers on lawns,

with runoff carrying nutrients into lakes. Awareness of the environmental impact of fertilizer use is crucial to maintaining the health of our lakes.

While algae can make you and your pets sick, most reports refer to Blue-Green algae, a type of bacteria known as Cyanobacteria. Cyanobacteria, capable of producing toxins, can cause skin irritation and stomach flu symptoms. Despite potential risks, State and County-run parks diligently monitor algae blooms, issuing warnings when necessary. Enjoy your summer responsibly and with an appreciation for the natural beauty of our lakes and water bodies.

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# RECRUITING YOUTH TO THE WATER INDUSTRY

**By Sue Bergheim, Apprenticeship Coordinator  
South Dakota Association of Rural Water Systems**

**W**hen asked about a career in the water industry, many high school students aren't quite sure what that means. They know they like to drink water and use water for showers, brushing their teeth, or washing clothes, but most aren't sure how that good, clean water they are using gets to their house or school.

It's this uncertainty of what an occupation in water means that is motivating me to hit the road and talk directly with students about working in the most vital industry in the world. My first event was the FFA Career Carnival, held in conjunction with the State FFA Convention in Brookings

in April. There were nearly 60 different booths filled with hands-on activities for students to gain knowledge about different careers within the world of agriculture. SDARWS Interim Executive Director Jeremiah Corbin and I had a booth at the Carnival and networked with hundreds of FFA students from across the state. Along with candy and brochures of information about water-related careers, we also provided students with the opportunity to win some fun water-related prizes. We quizzed the students on various water trivia questions for them to have a chance to spin our prize wheel and possibly walk away with one of the most







coveted pieces of swag from the event – a water gun! It was a busy and fun event and a great way for me to kick off my efforts to start getting students thinking about a career in water.

The next week I made the drive to Eagle Butte to take part in a Career Fair at Cheyenne-Eagle Butte High School. This Fair allowed me to visit with students from Dupree, Tiospaye Topa, Takini, and Eagle Butte. Dan Marshall, Operations Specialist with Mni Wasté Water Company, joined me for the event. We provided candy and other promotional items to the students, and Dan helped them get a feel for some of what his job entails by showing them a variety of on-the-job pictures, including the inside of a water tower. Some of the students and teachers attending had great questions for us and it was enjoyable interacting with them.

These two events are just the start of my effort to get the word out about the benefits of working in water or wastewater careers in the state. I plan to attend other Career Fairs or events moving forward to continue to promote working in the water industry, especially for students to utilize the Apprenticeship Program. I am interested in knowing about other events or activities like these that may be beneficial for me to attend.

I started as the Apprenticeship Coordinator with SDARWS in

February and have been working with the National Rural Water Association (NRWA) Apprenticeship Program team to get South Dakota's program up and running. The NRWA Apprenticeship Program is recognized by the U.S. Department of Labor and provides guideline standards of apprenticeship to state Rural Water Associations, like SDARWS, for their approval and adoption. Apprentices will attend an approximately two-year training program that includes classroom technical instruction and on-the-job training. During the program, apprentices will earn-while-they-learn with knowledgeable professionals who work to deliver clean drinking water to their communities and treat wastewater before returning to the environment. To be eligible for the program, applicants must be at least 18 years old; have a high school diploma or GED; have a valid driver's license; and be physically capable of performing the functions of the program. The program's goal is to have students emerge with a secure career as either a Water Operations or Wastewater Operations Specialist.

SDARWS has a website dedicated to information regarding careers in water, including the Apprenticeship Program. It will be updated as the Association moves through the process of getting the Program registered and ready to go. Be sure to visit [sdarws.com/WaterWorks](http://sdarws.com/WaterWorks) for the latest information and check out videos about water and wastewater careers.

## DAVISON RURAL WATER

**D**avison's story began in May 1983 at the Davison County 4-H Building, where around 70 attendees recognized the need for a rural water system. A steering committee of eight individuals was formed, and in June, Bernie and Iris Oster donated office space at American Global Co. By August, the By-Laws were approved, followed by state approval of the Articles of Incorporation in September. With the system official, rules and regulations were adopted, and the first Annual Membership meeting took place in October 1984.

In 1985, construction began after purchasing five acres for an office building, pumphouse, and reservoir. By November, a water contract was signed with the City of Mitchell, and by January 1986, water was operational for part of the system. A permanent office/shop space was completed in December 1987, and Davison partnered with Hanson Rural Water for shared management in January.

In 1992, a new warehouse was completed alongside the first expansion project, adding a tower northeast of Mitchell

and 61 new users. In 1996, the board sought a new water source, eventually contracting with Randall Community Water District in December 2002. The second expansion, completed in October 1998, added a tower south of Mitchell and 147 users.

In December 2002, Missouri River Water was introduced, adding 29 users. The third expansion, completed in September 2003, connected Mount Vernon and added 67 users in Mount Vernon and Plankinton rural areas, shifting the water source from the City of Mitchell to Randall Community Water.

Since 2005, Davison has built a second shop/warehouse and remodeled its office. Currently, Davison services 1,220 hookups through 610 miles of pipe, covering Aurora, Davison, Douglas, and Sanborn counties in southeast South Dakota. In the years leading up to 2024 Davison has increased its member services to over 1,300 hookups selling over 148 million gallons of water in 2023.







## DIRECTORS:

**Chairman** – Bob Weisz

**Vice Chairman** – Norman Neugebauer

**Secretary/Treasurer** – Dennis Kiner

**Director** – Brian Bode

**Director** – Harvey Fouberg

**Director** – Bruce Haines

**Director** – Brett Young

## STAFF:

**General Manager** – Jake Jones

**Office Manager** – Teresa Sprinkel

**Service Technician** – Terry Haag

**Service Technician** – Bob Riggs

**Service Technician** – Myles Horton

**Service Technician** – Blake Hemminger

## STATISTICS:

**Hookups:** 1,220

**Miles of Pipeline:** 610

**Water Source:** Randall Community Water

District (Missouri River)

**Counties Served:** Aurora, Davison,

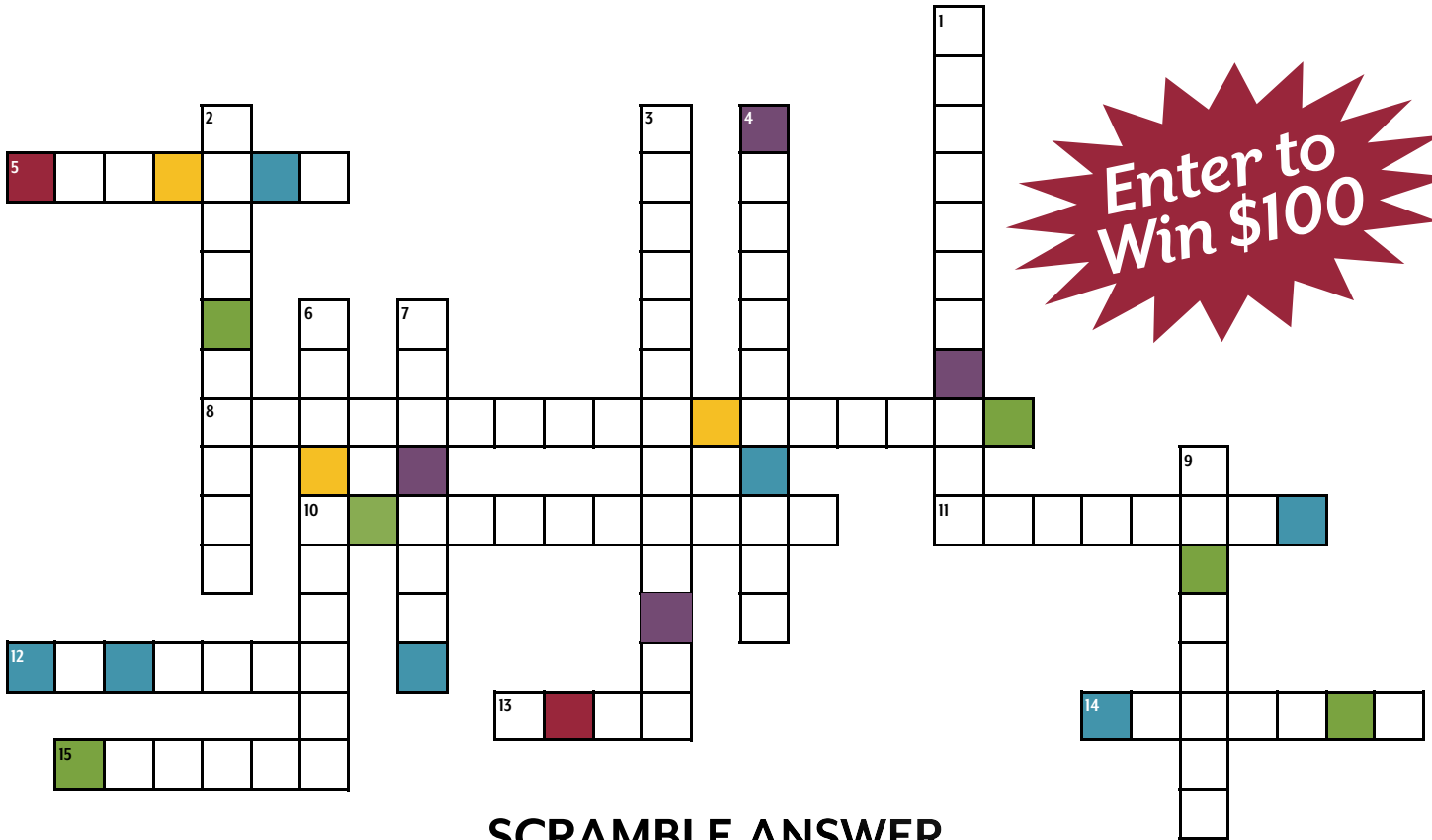
Douglas, Sanborn

**Towns Served Individual:** Loomis

**Towns Served Bulk:** Mount Vernon, Letcher

# RURAL WATER CROSSWORD & WORD SCRAMBLE CONTEST

## NATIONAL PARKS



### SCRAMBLE ANSWER



#### Across

- 5. Forest of giants
- 8. Named for a president
- 10. The Colorado River cuts through this deep gorge
- 11. Located in the Sierra Nevada mountains
- 12. Includes the Chisos mountain range and

the Chihuahuan Desert in Texas

- 13. Known for its steep red cliffs in southern Utah
- 14. Montana's Mountain park
- 15. Utah park known for its sandstone structures

#### Down

- 1. Named for its reputation of extreme heat and barren landscape
- 2. Named for its twisted bristly trees
- 3. Spans the Continental Divide in Colorado

- 4. Home of 'Old Faithful'
- 6. Protects the southern 20% of Florida's tropical wilderness
- 7. Scenic South Dakota park
- 9. SD park known for its vast underground calcite formations

**RULES:** Use the colored squares in the puzzle to solve the word scramble above. Call your Rural Water System (See page 2 for contact information) or enter online at [www.sdarws.com/crossword.html](http://www.sdarws.com/crossword.html) with the correct phrase by July 15, 2024 to be entered into the \$100 drawing.

Only one entry allowed per address/household. You must be a member of a participating rural water system to be eligible for the prize. Your information will only be used to notify the winner, and will not be shared or sold.

Congratulations to Lynn Frey from Perkins County Rural Water who had the correct phrase of "big dreams start in a small town" for April 2024.





# West River/Lyman-Jones Rural Water System

## Annual Drinking Water Quality Report

January 1, 2023 – December 31, 2023

### WATER QUALITY

Last year, West River/Lyman-Jones Rural Water monitored your drinking water for possible contaminants. This report is a snapshot of the quality of the water that we provided last year. Included are details about where your water comes from, what it contains, and how it compares to Environmental Protection Agency (EPA) and state standards. We are committed to providing you with information because informed customers are our best allies.

### WATER SOURCE

We serve more than 3,500 customer accounts. WR/LJ has several water sources for its seven-county service area. One intake is located in Lake Sharpe on the Missouri River. We purchase water from the Mni Wiconi Water Treatment Plant (WTP) at Ft. Pierre, SD operated by Oglala Sioux Rural Water. The Mni Wiconi WTP utilizes conventional water treatment and filtration processes. Groundwater sources are wells owned by the City of Wall and four wells owned by WR/LJ near Creighton, Quinn, and Wall. The state has performed an assessment of our source water and they have determined that the relative susceptibility rating for WR/LJ Rural Water public water supply system is low.

**For more information about your water and information on opportunities to participate in public meetings, call 605-669-2931 and ask for Jake Fitzgerald.**

### ADDITIONAL INFORMATION

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

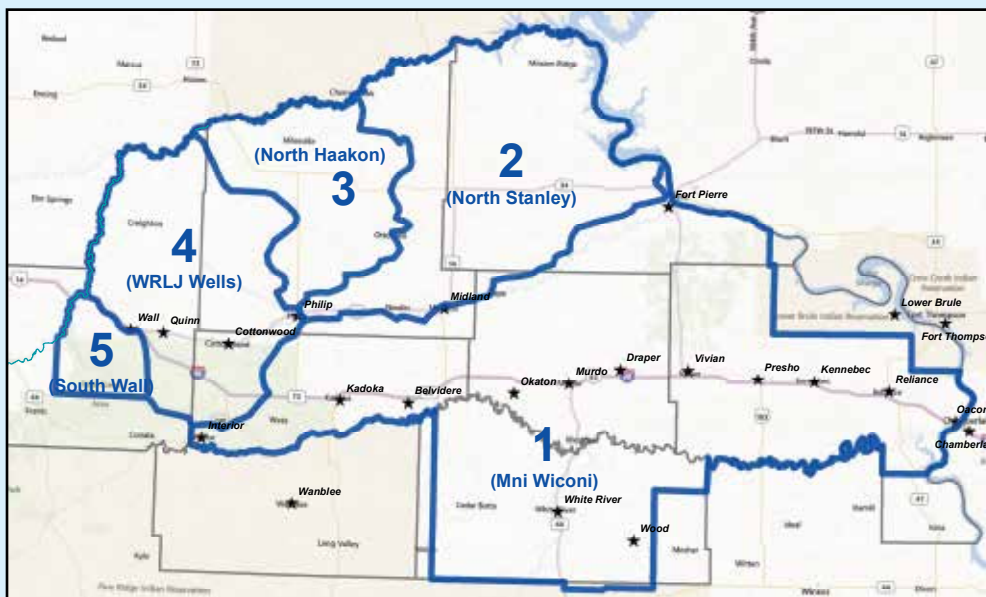
land or through the ground, it dissolves naturally-occurring minerals, and can pick up substances resulting from the presence of animals or from human activity.

### 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 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.

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. FDA regulations establish limits for contaminants in bottled water that must provide the same protection for public health.

- **Radioactive contaminants**, which can be naturally-occurring or be the result of oil and gas production and mining activities.



### WHICH TABLE(S) APPLIES TO MY WATER?

**For your water test results, please refer to the map for your water source.**

**WATER SOURCE 3**  
(North Haakon)  
See Tables A and C

**WATER SOURCE 1**  
(Mni Wiconi)  
See Tables A and B

**WATER SOURCE 4**  
(WR/LJ Wells)  
See Table D

**WATER SOURCE 2**  
(North Stanley)  
See Tables A and C

**WATER SOURCE 5**  
(South Wall)  
See Table E

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 Environmental Protection Agency's Safe Drinking Water Hotline (800-426-4791).

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 microbial contaminants can be obtained by calling the Environment Protections Agency's Safe Drinking Water Hotline (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. The West River/Lyman-Jones public water supply system is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. 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 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 [www.epa.gov/safewater/lead](http://www.epa.gov/safewater/lead).

### DETECTED CONTAMINANTS

The following tables list all the drinking water contaminants that we detected during the 2023 calendar year. The

presence of these contaminants in the water does not necessarily indicate that the water poses a health risk. Unless otherwise noted, the data presented in the tables are from testing done January 1 – December 31, 2023. The state 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, though representative of the water quality, is more than one year old.

## TABLE A

Substance	Highest Level Detected	Range	Sample Date	Highest Level Allowed (MCL)	Ideal Goal (MCLG)	Units	Major Source of Contaminant
Copper	90% Level = .89		2023	AL=1.3	1.3	ppm	Erosion of natural deposits; Leaching from wood preservatives; Corrosion of household plumbing systems.
Lead	90% Level = 11.2		2023	AL=15	0	ppb	Corrosion of household plumbing systems; Erosion of natural deposits.

Substance	Highest Level Detected	Range	Sample Date	Highest Level Allowed (MCL)	Ideal Goal (MCLG)	Units	Major Source of Contaminant
Antimony	0.38	0.38 - 0.38	2023	6	6	ppb	Discharge from petroleum refineries; fire retardants; ceramics; electronics; solder; test addition.
Barium	0.0462	0.0462 - 0.0462	2023	2	2	ppm	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits.
Chlorine	3	2.37 - 3	2023	MRDL = 4	MRDLG = 4	ppm	Water additive used to control microbes.
Chromium	0.65	0.65 - 0.65	2022	100	100	ppb	Discharge from steel and pulp mills; Erosion of natural deposits.
Fluoride	0.8	0.81 - 0.81	2023	4	4	ppm	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories.
Haloacetic Acids (HAA5)	19	19 - 19	2023	60	No goal for the total	ppb	By-product of drinking water disinfection.
Selenium	1.2	1.2 - 1.2	2023	50	50	ppb	Discharge from petroleum and metal refineries; Erosion of natural deposits; discharge from mines.
Total Trihalomethanes (TTHM)	30	30.2 - 30.2	2023	80	No goal for the total	ppb	By-product of drinking water disinfection.
Turbidity	0.23 NTU 100%		2023	TT: 1 NTU TT: % of samples <=0.3	0	NTU	Soil Runoff. Turbidity is a measurement of the clarity of the water.

Violation Type	Violation Begin	Violation End	Violation Explanation
Monitoring, Routine (DBP), Major	7/1/23	9/30/23	We failed to test our drinking water for the contaminant and period indicated. Because of this failure, we cannot be sure of the quality of our drinking water for the period indicated.

## TABLE B

Substance	Highest Level Detected	Range	Date Tested	Highest Level Allowed (MCL)	Ideal Goal (MCLG)	Units	Major Source of Contaminant
Copper	90% Level = 0.2	# Sites > 1.3 AL - 0	9/8/22	AL=1.3	0	ppm	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives.
Lead	90% Level = 1	# Sites > 15 AL - 0	9/8/22	AL=15	0	ppb	Corrosion of household plumbing systems; erosion of natural deposits.
Fluoride	0.79	0.72 - 0.79	5/9/23	4	<4	ppm	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories.
Haloacetic Acids (RAA)	23.5		9/12/23	60	0	ppb	By-product of drinking water chlorination.
Total Trihalomethanes (RAA)	30.9		9/12/23	80	0	ppb	By-product of drinking water chlorination.

Substance	Level Detected	Date Tested	Range	Units
PFBA	0.0081	5/3/23	<MRL-0.0081	ppb
Lithium	80.0	6/6/23	51-80.0	ppb

## TABLE C

Substance	Highest Level Detected	Range	Date Tested	Highest Level Allowed (MCL)	Ideal Goal (MCLG)	Units	Major Source of Contaminant
Copper	90% Level = 0.2	# Sites > 1.3 AL - 0	9/8/22	AL=1.3	0	ppm	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives.
Lead	90% Level = 1	# Sites > 15 AL - 0	9/8/22	AL=15	0	ppb	Corrosion of household plumbing systems; erosion of natural deposits.
Fluoride	0.89	0.72 - 0.89	7/10/23	4	<4	ppm	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer & aluminum factories.
Haloacetic Acids (RAA)	19.4		9/12/23	60	0	ppb	By-product of drinking water chlorination.
Total Coliform Bacteria	1	Positive Samples		1	0	pspm	By-product of drinking water chlorination. Results are reported as a running annual average of test results.
Total Trihalomethanes (RAA)	27.8		9/12/23	80	0	ppb	By-product of drinking water chlorination.



## DEFINITION OF TERMS USED IN TABLES

## TABLE D

**TABLE D - 2023 TABLE OF DETECTED CONTAMINANTS FOR WRLJ CREIGHTON AREA WELLS - GROUNDWATER SOURCE (EPA ID 2156)**

Substance	Highest Level Detected	Range	Date Tested	Highest Level Allowed (MCL)	Ideal Goal (MCLG)	Units	Major Source of Contaminant
Copper	90% Level = 0.2	# Sites > 1.3 AL - 0	8/9/22	AL=1.3	0	ppm	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives.
Lead	90% Level = 2	# Sites > 15 AL - 0	8/9/22	AL=15	0	ppb	Corrosion of household plumbing systems; erosion of natural deposits.
Barium	0.028	0.016 - 0.028	11/7/22	2	2	ppm	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits.
Chromium	1.9	0.50 - 1.9	11/7/22	100	100	ppb	Discharge from steel and pulp mills; erosion of natural deposits.
Fluoride *VIOLATION* (see below)	3.50	2.20 - 3.50	11/15/23	4	<4	ppm	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories.
Haloacetic Acids	<4.5		9/19/23	60	0	ppb	By-product of drinking water chlorination.
Nitrate (as Nitrogen)	<0.2		11/10/23	10	10	ppm	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits.
Nitrite (as Nitrogen)	<0.02		12/4/23	1	1	ppm	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits.
Selenium	0.59	ND - 0.59	11/7/22	50	50	ppb	Discharge from petroleum and metal refineries; erosion of natural deposits; discharge from mines.
Total Coliform Bacteria	0	positive samples		1	0	pspm	Naturally present in the environment.
Total Trihalomethanes	<0.5		9/19/23	80	0	ppb	By-product of drinking water chlorination.

\*VIOLATION\* - In 2023 WRLJ Creighton, Quin, and north Wall wells exceeded the secondary maximum contaminant level for fluoride. Children under 9 years of age may develop cosmetic discoloration of their permanent teeth from drinking water containing more than 2 ppm of fluoride and should be provided an alternate source for drinking. Drinking water containing more than 4 ppm of fluoride can increase the risk of developing bone disease. WRLJ annually mails each customer affected by this violation a notice of the fluoride MCL secondary exceedance. Some home water treatment units are available to remove fluoride from the water. The problem will be ongoing unless the area receives its water from another source or the natural level of fluoride drops below MCL limits.

## TABLE E

**TABLE E - 2023 TABLE OF DETECTED CONTAMINANTS FOR CITY OF WALL WELLS - GROUNDWATER SOURCE (EPA ID 0417)**

Substance	Highest Level Detected	Range	Date Tested	Highest Level Allowed (MCL)	Ideal Goal (MCLG)	Units	Major Source of Contaminant
Copper	90% Level = 0.2	# Sites > 1.3 AL - 0	9/15/21	AL=1.3	0	ppm	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives.
Lead	90% Level = 2	# Sites > 15 AL - 0	9/15/21	AL=15	0	ppb	Corrosion of household plumbing systems; erosion of natural deposits.
Barium	0.028	0.016 - 0.028	11/7/22	2	2	ppm	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits.
Chromium	1.9	0.50 - 1.9	11/7/22	100	100	ppb	Discharge from steel and pulp mills; erosion of natural deposits.
Combined Radium	1	ND - 1	8/4/21	5	0	pCi/l	Erosion of natural deposits.
Fluoride *VIOLATION* (See Below)	3.5	2.20 - 3.50	11/15/23	4	<4	ppm	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories.
Nitrate (as Nitrogen)	0.06		11/6/23	10	10	ppm	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits.
Selenium	0.59	ND - 0.59	11/7/22	50	50	ppb	Discharge from petroleum and metal refineries; erosion of natural deposits; discharge from mines
Substance	Level Detected		Date Tested	Range		Units	
Lithium	238		10/16/23	58.6-238		ppb	This contaminant is not regulated and acceptable levels have not been set by

\*VIOLATION\* - In 2023 Wall wells exceeded the secondary maximum contaminant level for fluoride. Children under 9 years of age may develop cosmetic discoloration of their permanent teeth from drinking water containing more than 2 ppm of fluoride and should be provided an alternate source for drinking. Drinking water containing more than 4 ppm of fluoride can increase the risk of developing bone disease. WRLJ annually mails each customer affected by this violation a notice of the fluoride MCL secondary exceedance. Some home water treatment units are available to remove fluoride from the water. The problem will be ongoing unless the area receives its water from another source or the natural level of fluoride drops below MCL limits.

**Action Level (AL):** The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow. For Lead and Copper, 90% of the samples must be below the AL.

**Treatment Technique (TT):** A required process intended to reduce the level of a contaminant in drinking water. For turbidity, 95% of samples must be less than 0.3 NTU.

**Maximum Contaminant Level (MCL):** This 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 (MCLG):** 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.

**NESC:** Non-enforceable secondary contaminant

**Running Annual Average (RAA):** Compliance is calculated using the running annual average of samples from designated monitoring locations.

## UNITS USED IN TABLES

**ppm:** parts per million, or milligrams per liter (mg/L)

**ppb:** parts per billion, or micrograms per liter (ug/L)

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

**NTU:** Nephelometric Turbidity Units

**ND:** Non Detectable

**pspm:** positive samples per month

## CONTACTS

If you have any questions about this testing information, please call the Murdo office at 1-800-851-2349 or 605-669-2931 for assistance. The WRLJ Board of Directors regular meeting is the third Thursday of each month at the main office at 307 Main St. in Murdo, SD. This report will remain on file at the Murdo office.

**It is easy to forget that our drinking water doesn't just come from a tap or a bottle. The water that we drink comes from streams, rivers, lakes or from ground water wells that tap underground aquifers. Protecting these sources is very important for a community's drinking water. Get involved in local source water protection programs aimed at preventing contamination of drinking water sources and reducing costs for treating water to make it safe.**



**West River/Lyman-Jones  
Rural Water Systems Inc.**  
PO Box 407  
Murdo, SD 57559  
605-669-2931 • [www.wrlj.com](http://www.wrlj.com)



# WATER MATTERS



## NITRATES IN WELL WATER - PART 1

**N**itrate is a compound that occurs naturally and also has many human-made sources. Nitrate is found in some lakes, rivers, and groundwater in South Dakota. When nitrate is found in South Dakota groundwater, it is usually at very low concentrations. However, some groundwater has nitrate concentrations that present a health risk – especially for babies. Unfortunately, you cannot taste, see, or smell nitrate in your water.

### Safe levels

Drinking water with concentrations of nitrate (measured as nitrate-nitrogen) below 10 milligrams of nitrate per liter of water (mg/L) is considered safe for everyone in your family. The U.S. Environmental Protection Agency, and State of South Dakota, drinking water standard for nitrate in public water supplies is 10 mg/L. Public water supplies (PWSs), such as your regional water system, are prohibited from providing water to its customers if nitrates exceed 10 mg/L. However, if you are using water from a non-public source (private well), monitoring nitrate levels is up to you.

### Health risks

Consuming too much nitrate can affect how blood carries oxygen and can cause methemoglobinemia (also known as blue baby syndrome). Bottle-fed babies under six months old are at the highest risk of getting methemoglobinemia. Methemoglobinemia can cause skin to turn a bluish color and, left untreated, can result in serious illness or death.

Only recently has scientific evidence emerged to assess the health

impacts of drinking water with high nitrate on adults. A growing body of literature indicates potential associations between nitrate/nitrite exposure and other health effects such as increased heart rate, nausea, headaches, and abdominal cramps. Some studies also suggest an increased risk of cancer, especially gastric cancer, associated with dietary nitrate/nitrite exposure, but there is not yet scientific consensus on this question.



To learn more about nitrate and methemoglobinemia, you can view or download an information sheet prepared by the Minnesota Department of Health on Nitrate and Methemoglobinemia at: [www.health.state.mn.us/communities/environment/water/docs/contaminants/nitratmethemog.pdf](http://www.health.state.mn.us/communities/environment/water/docs/contaminants/nitratmethemog.pdf)

### Test your well water

If you use a private well for drinking water, even if only occasionally, it is recommended to have the water tested for nitrate concentrations annually. You are responsible for keeping your well water safe and testing it as needed. The South Dakota Health Department's State Public Health Laboratory offers water quality testing services. Information can be found at: [doh.sd.gov/laboratory/environmental-testing](http://doh.sd.gov/laboratory/environmental-testing), along with a link to other certified water testing laboratories. Contact these laboratories to get sample containers and sampling instructions.

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132B Airport Avenue  
Brookings, SD 57006  
605-688-6741  
[eastdakota.org](http://eastdakota.org)