



1000 Corey Road
 P.O. Box 886
 Hutchinson, KS 67504-0886
 620-665-5661
 FAX: 620-665-0559
 TOLL FREE: 877-464-0623
 www.sdklabs.com

Sample # 4881.24
 Sample: Water
 Other ID: Rattlesnake Creek Requisition # 58410 Stream Zenith
 Guage:38.09342, -98.54616

Date Received: 10/01/2024
 Date/Time Sampled: 9/30/2024 15:46:00
 Date Reported: 10/02/2024
 Total Fee: \$56.00

KANSAS DEPARTMENT OF AGRICULTURE+
 ATTN:DIVISION OF WATER RESOURCES-SFFO
 300 S MAIN ST
 STAFFORD, KS 67578-1521

ANALYSIS

	Result	Units	Date/Time Analyzed	Analyst
++Chloride - SM 4500-Cl B	3800.00	mg/L	10/2/2024 07:00	SE
++Nitrate-Nitrogen - SM 4500-NO3 D	8.92	mg/L	10/1/2024 12:30	SE
++Sulfate - SM 4500 SO4 E	280.00	mg/L	10/2/2024 10:00	SE

**Sample receipt temperature = 17.8 degrees C.

* Analysis was subcontracted to another laboratory for state compliance - see attached.

++Denotes NELAP/KDHE Accredited Method. Lab Certificate #E-10152. Results meet all requirements of NELAC unless noted.

Methods of analysis per EPA-600 or EPA SW-846, 3rd Ed., 1986 or Standard Methods for the Examination of Water and Wastewater, 18th Edition, 1992.

**SDK LABORATORIES
 GENERAL WATER REPORT GUIDELINES**

- pH: Normal range 6.5 – 8.5 with Reverse Osmosis/Distilled Water having a range of 5.0 – 6.0.
- Chloride: Levels above 250 mg/L may cause a "salty taste". Levels above 1000 mg/L are not recommended for livestock.
- Fluoride: Levels above 2.0 mg/L are not recommended.
- Total Hardness:
 - "Soft Water": 0 – 85 mg/L (0 – 5 grains/gallon)
 - "Moderately Hard Water": 85 – 150 mg/L (5 – 9 grains/gallon)
 - "Hard Water": 150 – 300 mg/L (9 – 18 grains/gallon)
 - "Very Hard Water": 300 – 500 mg/L (18 – 30 grains/gallon)
 - Levels above 2000 mg/L are not recommended for livestock.
- Nitrate-Nitrogen:
 - Levels between 0 – 10 mg/L are acceptable.
 - Livestock Levels:
 - Levels between 20 – 40 mg/L may pose a risk to some livestock.
 - Levels above 40 mg/L are not recommended for livestock.
- Calcium and Magnesium: Cause the "Hardness" of the water.
- Sodium: Levels above 100 mg/L are considered to be high. Water softeners recharged with sodium chloride (salt) increase the sodium level.
- Sulfate: Levels above 250 mg/L may cause a mild taste and levels above 500 mg/L may cause diarrhea in both humans and livestock.
- Iron: Levels above 0.3 mg/L may cause taste, odor and staining on fixtures and laundry.
- Manganese: Levels above 0.05 mg/L may cause taste and black/grey staining on fixtures and laundry.
- Electrical Conductivity: A measurement of the conductivity of the water. Typically, the higher the electrical conductivity of the water, the higher the dissolved salts/solids.
- TDS-Total Dissolved Solids: Levels above 1000 mg/L may cause taste. Shortened water heater life may be caused by levels above 400 mg/L. Levels above 7000 mg/L are not recommended for livestock.

Source: Michael H. Bradshaw, and G. Morgan Powell, Understanding your Water Test Report, Kansas State University, October 2004
 Standard Methods for the Examination of Water and Wastewater, 18th edition, 1992

Approved By:  Quality Assurance Officer

Matt Morgan





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Sample # 4882.24
 Sample: Water
 Other ID: Requisition # 58410 Don Solar 38.08494, -98.53943 Solar Tank

Date Received: 10/01/2024
 Date/Time Sampled: 9/30/2024 16:01:00
 Date Reported: 10/02/2024
 Total Fee: \$56.00

KANSAS DEPARTMENT OF AGRICULTURE+
 ATTN:DIVISION OF WATER RESOURCES-SFFO
 300 S MAIN ST
 STAFFORD, KS 67578-1521

ANALYSIS

	Result	Units	Date/Time Analyzed	Analyst
++Chloride - SM 4500-Cl B	3950.00	mg/L	10/2/2024 07:00	SE
++Nitrate-Nitrogen - SM 4500-NO3 D	13.60	mg/L	10/1/2024 12:30	SE
++Sulfate - SM 4500 SO4 E	210.00	mg/L	10/2/2024 10:00	SE

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**SDK LABORATORIES
 GENERAL WATER REPORT GUIDELINES**

- pH: Normal range 6.5 – 8.5 with Reverse Osmosis/Distilled Water having a range of 5.0 – 6.0.
- Chloride: Levels above 250 mg/L may cause a "salty taste". Levels above 1000 mg/L are not recommended for livestock.
- Fluoride: Levels above 2.0 mg/L are not recommended.
- Total Hardness:
 - "Soft Water": 0 – 85 mg/L (0 – 5 grains/gallon)
 - "Moderately Hard Water": 85 – 150 mg/L (5 – 9 grains/gallon)
 - "Hard Water": 150 – 300 mg/L (9 – 18 grains/gallon)
 - "Very Hard Water": 300 – 500 mg/L (18 – 30 grains/gallon)
 - Levels above 2000 mg/L are not recommended for livestock.
- Nitrate-Nitrogen:
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 - Livestock Levels:
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 - Levels above 40 mg/L are not recommended for livestock.
- Calcium and Magnesium: Cause the "Hardness" of the water.
- Sodium: Levels above 100 mg/L are considered to be high. Water softeners recharged with sodium chloride (salt) increase the sodium level.
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Sample # 4883.24
 Sample: Water
 Other ID: Requisition # 58410 Murphy Solar: 38.09479, -98.55484
 Solar Tank

Date Received: 10/01/2024
 Date/Time Sampled: 9/30/2024 15:35:00
 Date Reported: 10/02/2024
 Total Fee: \$56.00

KANSAS DEPARTMENT OF AGRICULTURE+
 ATTN:DIVISION OF WATER RESOURCES-SFFO
 300 S MAIN ST
 STAFFORD, KS 67578-1521

ANALYSIS

	Result	Units	Date/Time Analyzed	Analyst
++Chloride - SM 4500-Cl B	1620.00	mg/L	10/2/2024 07:00	SE
++Nitrate-Nitrogen - SM 4500-NO3 D	7.30	mg/L	10/1/2024 12:30	SE
++Sulfate - SM 4500 SO4 E	175.00	mg/L	10/2/2024 10:00	SE

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