

M&G			
County: San Juan State: NM Sampled at: 0 Date: OCTOBER 8, 2024	Field: 0 Location: GRAHAM 3 Formation: N/A Depth: 0		

Envision Products**Water Analysis**

Sum +	mg/L	meq/L		Sum -	mg/L	meq/L
Potassium	0.0	0.00		Sulfate	2.0	0.04
Sodium	25.5	1.11		Chloride	500.0	14.10
Calcium	148.0	7.39		Carbonate	0.0	0.00
Magnesium	70.5	5.80		Bicarbonate	20.0	0.33
Iron	0.2	0.01		Hydroxide	0.0	0.00
Barium	2.0	0.03			0.0	0.00
Strontium	0.0	0.00			0.0	0.00
CATIONS	246.2	14.34		ANIONS	522.0	14.47

**Analysis
Balanced**
System Parameters

Total Dissolved Solids @180C	768 mg/L
Sample Temperature, °F	70 F
Sample pH, standard units	9.04 Units
Dissolved Oxygen	0.0 ppm
Carbon Dioxide	0.0 mg/L
Total Sulfide, (TS)	0.0 mg/L
Sulfide Ion, (S)	0 mg/L
Dissolved Hydrogen Sulfide, (TS-S)	0 mg/L
Specific Gravity	0.0000
Resistivity, measured	0 ohm/m³
Ionic strength	0.021
Sulfate Reducing Bacteria	na
Aerobic Bacteria	na
Manganese Level	1 mg/L
Chemical	N/A ppm
Amine	N/A ppm

Scaling Tendency

CACO ₃			CASO ₄				
Temp F	Stiff Davis Index	A Index	Temp F	SOLUBILITY Actual	SOLUBILITY Calculated	S Index	A Index
32	0.42	7	50	0.04	20.65	-20.61	-491
50	0.64	9	68	0.04	21.46	-21.41	-510
68	0.84	10	86	0.04	22.24	-22.20	-529
77	0.95	10	104	0.04	22.59	-22.55	-538
86	1.05	10	122	0.04	22.53	-22.49	-536
104	1.25	11	140	0.04	21.53	-21.49	-512
122	1.44	11	158	0.04	20.48	-20.44	-487
140	1.62	11	176	0.04	19.39	-19.35	-461
158	1.80	11					
176	1.97	11					

BASO₄ SCALE POSSIBLE**NO****Water Analysis Pattern**

40 30 20 10 10 20 30 40

NOTE: Stiff Davis Index

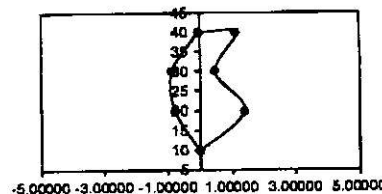
- indicates undersaturation. Scale formation negative.
- 0 indicates the water is at saturation point. Scale unlikely.
- + indicates supersaturation. A positive scaling condition exists

NOTE: Skillman Method Calcium Sulfate 'S' Index

- indicates undersaturation. Scale formation negative.
- 0 indicates the water is at saturation point. Scale unlikely.
- + indicates supersaturation. A positive scaling condition exists

NOTE: A Index; worst possible case. Assumes 100% precipitation.

- Units = pounds of scale produced / 1000 bbls. of water.
- A Index < 0 Scale formation negative.
- A Index > 0 Scale formation positive.


 Approved: Desirae
 10/08/24

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General Information
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Online Phone Directory
<https://www.emnrd.nm.gov/oed/contact-us>

State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

CONDITIONS

Action 434316

CONDITIONS

Operator: M & G DRLG CO INC P.O. Box 5940 Farmington, NM 87499	OGRID: 141852
	Action Number: 434316
	Action Type: [UF-GA] Gas Analysis (GAS ANALYSIS)

CONDITIONS

Created By	Condition	Condition Date
mkuehling	TDS 768	5/1/2025