



dig
Dolan Integration Group

Geochemistry for Energy

11025 Dover Street Unit 800
Westminster, CO 80021
p: 303.531.2030

Water Analysis Report Data and Interpretation

Job #: 260115081
Lab #: DIG-042523
Client: PDC Energy
Well Name: Schank J35-22
API #: 05-123-26482
Note: *Insufficient sample volume for RSK-175, BTEX, and GRO analyses*

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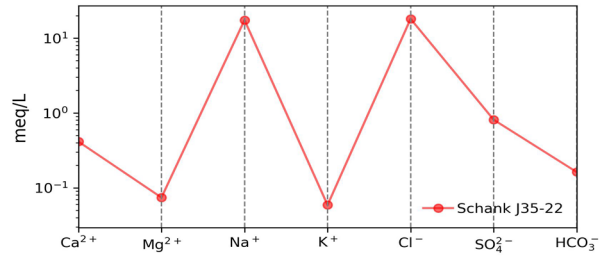
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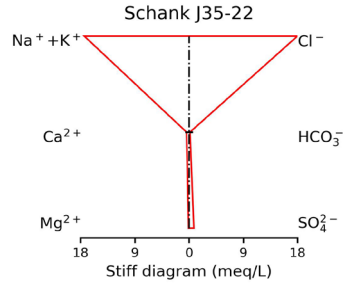
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SAMPLE INFORMATION						
Job Number	Lab Number	Well Name	Sample Type	Sample Date	Sample Time	
260115081	DIG-042523	Schank J35-22	Bradenhead water	12/16/2025	15:00	
WATER PROPERTIES						
Parameter	Method	Result	Units	Qualifier	Report Limit	Dilution Factor
pH	SM4500-H+ B	9.9				
Total Dissolved Solids	SM2540C	1200	mg/L		50	1
TOTAL RECOVERABLE METALS						
Parameter	Method	Result	Units	Qualifier	Report Limit	Dilution Factor
Calcium	SW6010D	8.3	mg/L	B	0.1	1
Potassium	SW6010D	2.3	mg/L		0.1	1
Magnesium	SW6010D	0.90	mg/L		0.1	1
Sodium	SW6010D	401	mg/L	B	0.1	1
Barium	SW6010D		mg/L			
Boron	SW6010D		mg/L			
Iron	SW6010D		mg/L			
Lithium	SW6010D		mg/L			
Manganese	SW6010D		mg/L			
Phosphorus	SW6010D		mg/L			
Silicon	SW6010D		mg/L			
Strontium	SW6010D		mg/L			
Zinc	SW6010D		mg/L			
ANIONS BY ION-EXCHANGE CHROMATOGRAPHY						
Parameter	Method	Result	Units	Qualifier	Report Limit	Dilution Factor
Chloride	SW9056A	640	mg/L		100	100
Sulfate	SW9056A	39	mg/L	U	100	100
Fluoride	SW9056A		mg/L			
Bromide	SW9056A		mg/L			
Nitrate	SW9056A		mg/L			
Nitrite	SW9056A		mg/L			
ALKALINITY AS CALCIUM CARBONATE						
Parameter	Method	Result	Units	Qualifier	Report Limit	Dilution Factor
Bicarbonate as CaCO3	SM2320B	9.9	mg/L as CaCO3		30	1
Carbonate as CaCO3	SM2320B	130	mg/L as CaCO3		30	1
Total Alkalinity as CaCO3	SM2320B	140	mg/L as CaCO3		30	1
DIESEL RANGE ORGANICS						
Parameter	Method	Result	Units	Qualifier	Report Limit	Dilution Factor
Diesel Range Organics	SW8015D	1.3	mg/L		1	1
Surr: O-TERPHENYL	SW8015D	84	%REC			

Schoeller Plot¹

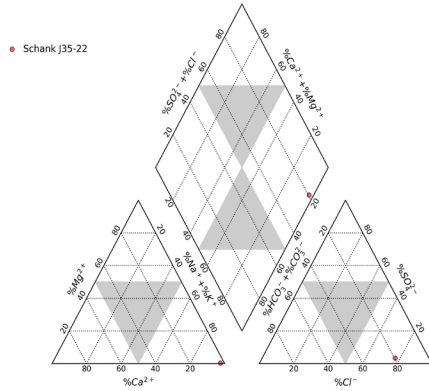


Stiff Diagram³

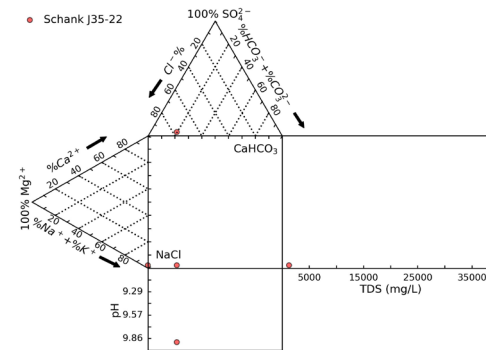


1. Schoeller, H., 1962. Les eaux souterraines. Masson, Paris.
2. Piper, A.M. 1944. A graphic procedure in the geochemical interpretation of water-analyses. Transactions, American Geophysical Union 25 no. 6. <https://doi.org/10.1029/TR025i006p00914>
3. Stiff, H.A. 1951. The Interpretation of Chemical Water Analysis by Means of Patterns. Journal of Petroleum Technology 3 no. 10: 15-3. <https://doi.org/10.2118/951376-G>
4. Durov, S.A. (1948) Natural Waters and Graphic Representation of Their Composition. Doklady Akademii Nauk SSSR, 59, 87-90.

Piper Diagram²



Durov Diagram⁴





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Send Data to:	
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Company: Noble Energy	
Address: 1625 Broadway	
City, State, Denver, CO 80202	
Phone: 303-728-4000	
Email: denver.regulatory@nblenergy.com	

Send Invoices to (if different):	
Name: JORGE NAVA	
Company: CHEVRON	
Address: 2115 137th ave	
City, State: GREELEY, CO 80634	
970-304-5000	
Email: jorge.nava@nblenergy.com	

Additional Information:	
AFE #: UWBWE-AS467-ARN	
Task #: 247018	
RC / ACCT #:	
Location: SHANK 22C-22	
Sampled By: JORGE NAVA	
Notes: PSA	

Turnaround Time:

Container Number	Sample Identification	Sample Description			Date Sampled	Time	Whole Oil Gas Chromatography (WOGC) - oil samples only	Comments (EGK temperature if applicable)
		Sample Type	API#	RC#				
1	SHANK 22C-22	PSA	05-125-26482	425824834	12/16/2025	BPM	62F / 80 PSI SURFACE CASING	

Chain-of-Custody Record		
Relinquished by	Signature	Date
Relinquished by: JORGE NAVA		12/13/25
Received by:		12-3-7
Relinquished by:		
Received by:		

TOTAL DISSOLVED SOLIDS

QC BATCH REPORT

METHOD: SM2540C

Batch ID: 20260106 JOB 15080 TDS

Laboratory Control Sample

Analyte	Result	Units	Qualifier	Report Limit	SPK Value	SPK Ref Value	% Recovery	Control Limit	RPD	RPD Limit
TOTAL DISSOLVED SOLIDS	2301	mg/L		50	2020		114	85-115		

Laboratory Control Sample Duplicate

Analyte	Result	Units	Qualifier	Report Limit	SPK Value	SPK Ref Value	% Recovery	Control Limit	RPD	RPD Limit
TOTAL DISSOLVED SOLIDS										

Method Blank

Analyte	Result	Units	Qualifier	Report Limit	SPK Value	SPK Ref Value	% Recovery	Control Limit	RPD	RPD Limit
TOTAL DISSOLVED SOLIDS	nd	mg/L	U	50				25		

TOTAL RECOVERABLE METALS

QC BATCH REPORT

METHOD: SW6010D

Batch ID: 20260115 JOB 15080 ICP-OES

Laboratory Control Sample

Analyte	Result	Units	Qualifier	Report Limit	SPK Value	SPK Ref Value	% Recovery	Control Limit	RPD	RPD Limit
Calcium	9.9	mg/L		0.1	10		99	90-110		
Potassium	10	mg/L		0.1	10		100	90-110		
Magnesium	9.9	mg/L		0.1	10		99	90-110		
Sodium	10	mg/L		0.1	10		100	90-110		

Laboratory Control Sample Duplicate

Analyte	Result	Units	Qualifier	Report Limit	SPK Value	SPK Ref Value	% Recovery	Control Limit	RPD	RPD Limit
Calcium	10	mg/L		0.1	10		100	90-110	0.7	10
Potassium	9.9	mg/L		0.1	10		99	90-110	0.7	10
Magnesium	9.9	mg/L		0.1	10		99	90-110	0.0	10
Sodium	9.9	mg/L		0.1	10		99	90-110	0.7	10

Method Blank

Analyte	Result	Units	Qualifier	Report Limit	SPK Value	SPK Ref Value	% Recovery	Control Limit	RPD	RPD Limit
Calcium	0.2	mg/L		0.1				1		
Potassium	0.1	mg/L	U	0.1				1		
Magnesium	0.1	mg/L	U	0.1				1		
Sodium	0.3	mg/L		0.1				1		

DIESEL RANGE ORGANICS

QC BATCH REPORT

METHOD: SW8015D

Batch ID: 20251208 JOB 14942DRO

Laboratory Control Sample

Analyte	Result	Units	Qualifier	Report Limit	SPK Value	SPK Ref Value	% Recovery	Control Limit	RPD	RPD Limit
Diesel Range Organics	0.73	mg/L		1	1		73	70-130		

Laboratory Control Sample Duplicate

Analyte	Result	Units	Qualifier	Report Limit	SPK Value	SPK Ref Value	% Recovery	Control Limit	RPD	RPD Limit
Diesel Range Organics	0.74	mg/L		1	1		74	70-130	1.8	20

Method Blank

Analyte	Result	Units	Qualifier	Report Limit	SPK Value	SPK Ref Value	% Recovery	Control Limit	RPD	RPD Limit
Diesel Range Organics	nd	mg/L	U	1				1		