

Submitted Electronically

Complete Water Analysis

Customer: **SHAKESPEARE OIL COMPANY**

Formation Zone:

Geographic Region: **Kansas**

Geographic Location: **Lane County**

System Description: **Production System**

Equipment Description: **Burnett D**

Sample Point: **Bleeder**

Customer ID:

Latitude/Longitude: **0.00, 0.00**

Account Rep: **Michael.walters@championx.com**

Collect Date: **02/21/2025**

Submit Date: **03/03/2025**

Report Date: **03/05/2025**

Sample ID: **BA68049**

Location Code: **463114**

Field Analysis			Sample Analysis		
Analysis	Result	Analysis Method	Analysis	Result	Analysis Method
Total Alkalinity (M-Alk as HCO3)	254 mg/L	Titration	Specific Gravity	1.034	Densitometer
Dissolved CO2	230 mg/L	Titration	Ionic Strength	0.840 mol/L	Calculation
Dissolved H2S	90 mg/L	Titration	Total Dissolved Solids	45600 mg/L	Calculation
Pressure Surface	25 psi				
Temperature	100 ° F				
pH of Water	7.0	Meter			

Cations - Analyzed By ICP					
Iron	<0.500 mg/L	Measured Sodium	16000 mg/L		
Manganese	<0.200 mg/L				
Barium	0.145 mg/L				
Strontium	27.2 mg/L				
Calcium	841 mg/L				
Magnesium	321 mg/L				
Sodium	16000 mg/L				

Anions - Analyzed By IC*			
Chloride	24600 mg/L	Sulfate	3580 mg/L

Scale Type					
Anhydrite CaSO4 PTB		N/A	Anhydrite CaSO4 SI		-0.56
Barite BaSO4 PTB		0.0	Barite BaSO4 SI		0.34
Calcite CaCO3 PTB		N/A	Calcite CaCO3 SI		-0.33
Celestite SrSO4 PTB		0.60	Celestite SrSO4 SI		0.010
Gypsum CaSO4 PTB		N/A	Gypsum CaSO4 SI		-0.42
Hemihydrate CaSO4 PTB		N/A	Hemihydrate CaSO4 SI		-0.39

Comments

Scaling predictions calculated using Oddo-Tomson model

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