

KANSAS CORPORATION COMMISSION  
OIL & GAS CONSERVATION DIVISION

Form U3C  
June 2015  
Form must be Typed  
Form must be completed  
on a per well basis

**ANNUAL REPORT OF PRESSURE MONITORING,  
FLUID INJECTION AND ENHANCED RECOVERY**

Complete all blanks - add pages if needed. Copy to be retained for five (5) years after filing date.

OPERATOR: License # \_\_\_\_\_  
Name: \_\_\_\_\_  
Address 1: \_\_\_\_\_  
Address 2: \_\_\_\_\_  
City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_ + \_\_\_\_\_  
Contact Person: \_\_\_\_\_  
Phone: ( \_\_\_\_\_ ) \_\_\_\_\_  
Lease Name: \_\_\_\_\_  
Well Number: \_\_\_\_\_

API No.: \_\_\_\_\_  
Permit No.: \_\_\_\_\_  
Reporting Year: \_\_\_\_\_  
(January 1 to December 31)  
\_\_\_\_ - \_\_\_\_ - \_\_\_\_ - \_\_\_\_ Sec. \_\_\_\_ Twp. \_\_\_\_ S. R. \_\_\_\_  E  W  
(a/a/a/a)  
\_\_\_\_\_ feet from  N /  S Line of Section  
\_\_\_\_\_ feet from  E /  W Line of Section  
County: \_\_\_\_\_

**I. Injection Fluid:**

Type (Pick one):  Fresh Water  Treated Brine  Untreated Brine  Water/Brine  
Source:  Produced Water  Other (Attach list)  
Quality: Total Dissolved Solids: \_\_\_\_\_ mg/l Specific Gravity: \_\_\_\_\_ Additives: \_\_\_\_\_  
(Attach water analysis, if available)

**II. Well Data:**

Maximum Authorized Injection Pressure: \_\_\_\_\_ psi Injection Zone: \_\_\_\_\_  
Maximum Authorized Injection Rate: \_\_\_\_\_ barrels per day  
Total Number of Enhanced Recovery Injection Wells Covered by this Permit: \_\_\_\_\_ (Include TA's)

III.	Month:	Total Fluid Injected BBL	Maximum Fluid Pressure	Total Gas Injected MCF	Maximum Gas Pressure	# Days of Injection
	January	_____	_____	_____	_____	_____
	February	_____	_____	_____	_____	_____
	March	_____	_____	_____	_____	_____
	April	_____	_____	_____	_____	_____
	May	_____	_____	_____	_____	_____
	June	_____	_____	_____	_____	_____
	July	_____	_____	_____	_____	_____
	August	_____	_____	_____	_____	_____
	September	_____	_____	_____	_____	_____
	October	_____	_____	_____	_____	_____
	November	_____	_____	_____	_____	_____
	December	_____	_____	_____	_____	_____
	<b>TOTAL</b>	_____	_____	_____	_____	_____

## Complete Water Analysis

Customer: **SHAKESPEARE OIL COMPANY**  
 Formation Zone:  
 Geographic Region: **Kansas**  
 Geographic Location: **Lane County**  
 System Description: **Production System**

Equipment Description: **Lois 1-19**  
 Sample Point: **Bleeder**  
 Customer ID:  
 Latitude/Longitude: **0.00, 0.00**  
 Account Rep: **Michael.walters@championx.com**

Collect Date: **02/20/2024**  
 Submit Date: **02/20/2024**  
 Report Date: **02/22/2024**  
 Sample ID: **AX37097**  
 Location Code: **430657**

### Field Analysis

Analysis	Result	Analysis Method
Total Alkalinity (M-Alk as HCO3)	146 mg/L	Titration
Dissolved CO2	230 mg/L	Titration
Dissolved H2S	77 mg/L	Titration
Pressure Surface	25 psi	
Temperature	100 ° F	
pH of Water	7.5	Meter

### Sample Analysis

Analysis	Result	Analysis Method
Specific Gravity	1.039	Densitometer
Ionic Strength	0.790 mol/L	Calculation
Total Dissolved Solids	42800 mg/L	Calculation
Calculated pH	7.50	Calculation
Calculated CO2 in the gas	0.0400 %	Calculation

### Cations - Analyzed By ICP

Iron	<0.500 mg/L	Boron	16.6 mg/L	Silicon	8.20 mg/L
Manganese	<0.200 mg/L	Lithium	8.75 mg/L	Aluminum	<0.400 mg/L
Barium	1.42 mg/L	Copper	<0.200 mg/L	Molybdenum	<0.200 mg/L
Strontium	240 mg/L	Nickel	<0.200 mg/L	Phosphorus	<0.500 mg/L
Calcium	1390 mg/L	Zinc	<0.400 mg/L	Measured Sodium	11800 mg/L
Magnesium	536 mg/L	Lead	<0.500 mg/L		
Sodium	11800 mg/L	Cobalt	<0.500 mg/L		
Potassium	247 mg/L	Chromium	<0.100 mg/L		

### Anions - Analyzed by IC\*

Chloride	27000 mg/L	Bromide	51.1 mg/L	Sulfate	1330 mg/L
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### PTB

	Anhydrite	Barite	Calcite	Celestite	Gypsum	Halite	Iron Carbonate	Iron Sulfide
50°	0.00	0.82	0.84	111.84	0.00	0.00	0.00	0.00
75°	0.00	0.81	0.70	109.19	0.00	0.00	0.00	0.00
100°	0.00	0.78	0.71	110.77	0.00	0.00	0.00	0.00
125°	0.00	0.75	0.89	115.05	0.00	0.00	0.00	0.00
150°	0.00	0.72	1.24	120.86	0.00	0.00	0.00	0.00
175°	0.00	0.68	1.74	127.30	0.00	0.00	0.00	0.00
200°	0.00	0.65	2.35	133.75	0.00	0.00	0.00	0.00
225°	114.53	0.61	3.05	139.86	0.00	0.00	0.00	0.00
250°	221.34	0.58	3.82	145.42	0.00	0.00	0.00	0.00
275°	307.52	0.56	4.65	150.32	0.00	0.00	0.00	0.00
300°	377.41	0.54	5.53	154.57	0.00	0.00	0.00	0.00
325°	434.29	0.52	6.46	158.19	0.00	0.00	0.00	0.00
350°	480.61	0.49	7.43	161.23	0.00	0.00	0.00	0.00
375°	518.27	0.47	8.44	163.75	0.00	0.00	0.00	0.00
400°	548.69	0.43	9.47	165.80	115.61	0.00	0.00	0.00

### SI

	Anhydrite	Barite	Calcite	Celestite	Gypsum	Halite
50°	-1.00	1.60	0.04	0.49	-0.39	-2.30
75°	-0.80	1.34	0.03	0.48	-0.42	-2.33
100°	-0.62	1.13	0.03	0.49	-0.41	-2.36
125°	-0.45	0.95	0.05	0.52	-0.40	-2.38
150°	-0.30	0.82	0.07	0.57	-0.38	-2.38
175°	-0.15	0.71	0.10	0.62	-0.37	-2.38
200°	-0.02	0.63	0.14	0.62	-0.38	-2.38
225°	0.11	0.56	0.19	0.76	-0.39	-2.37
250°	0.24	0.51	0.25	0.83	-0.41	-2.36
275°	0.36	0.47	0.32	0.91	-0.42	-2.35
300°	0.48	0.44	0.40	0.99	-0.42	-2.33
325°	0.60	0.41	0.48	1.07	-0.39	-2.30
350°	0.71	0.38	0.57	1.15	-0.31	-2.28
375°	0.83	0.35	0.67	1.23	-0.16	-2.24
400°	0.95	0.31	0.76	1.31	0.09	-2.21

### Comments

Scaling predictions calculated using Scale Soft Pitzer 2019

Scaling predictions dependent on provided field data. Incomplete/partial field data may impact results generated by scaling software.

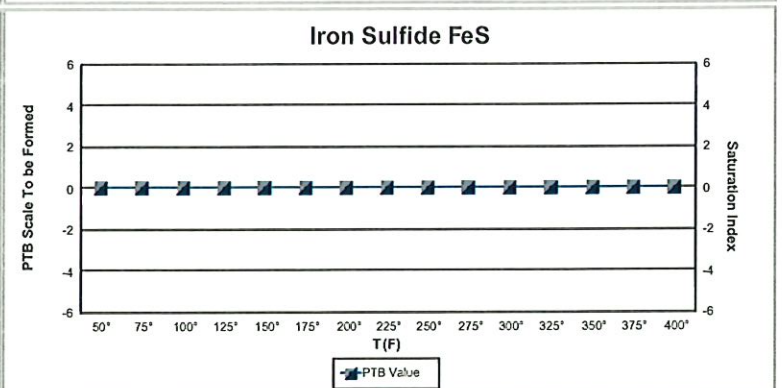
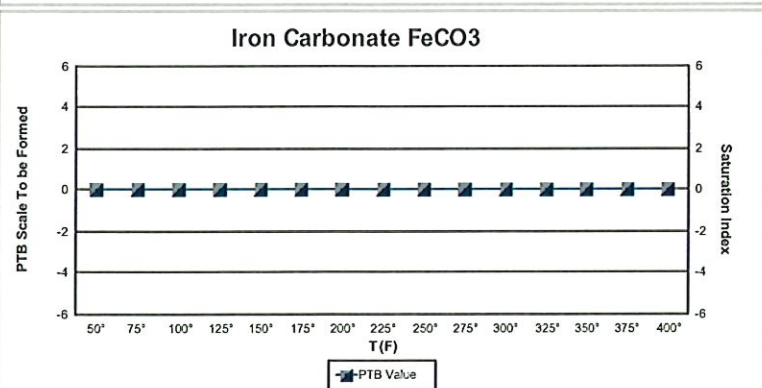
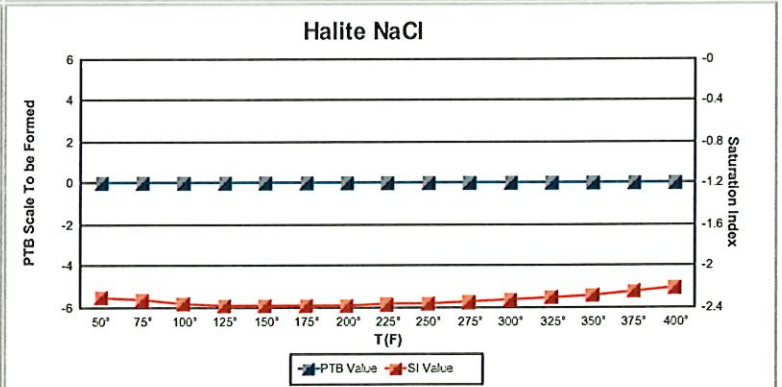
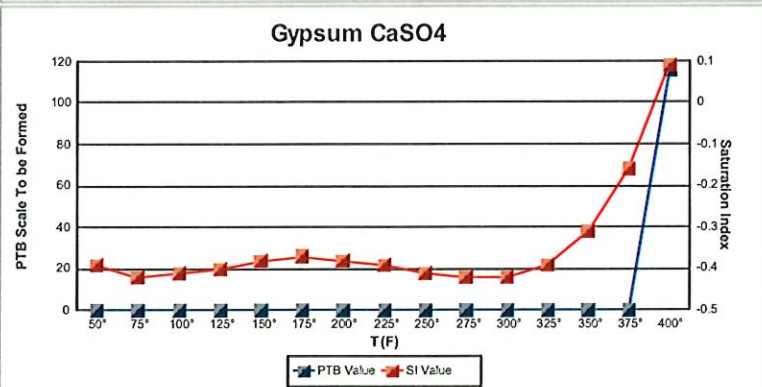
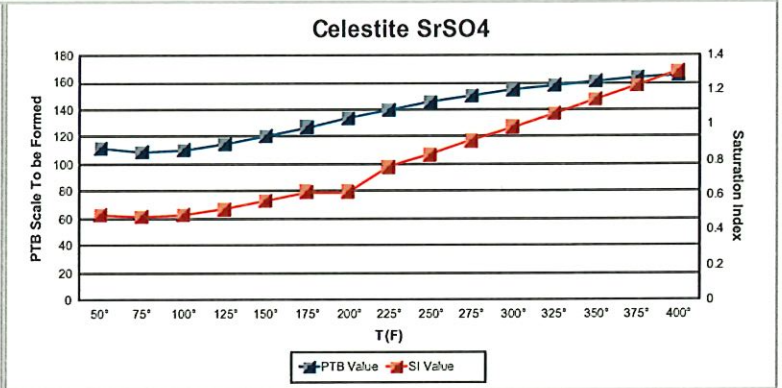
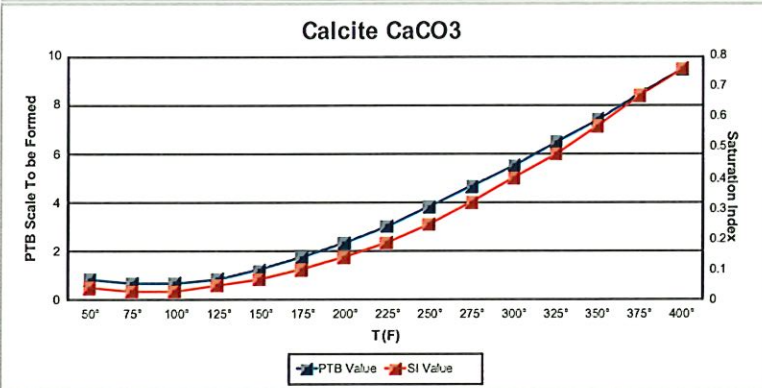
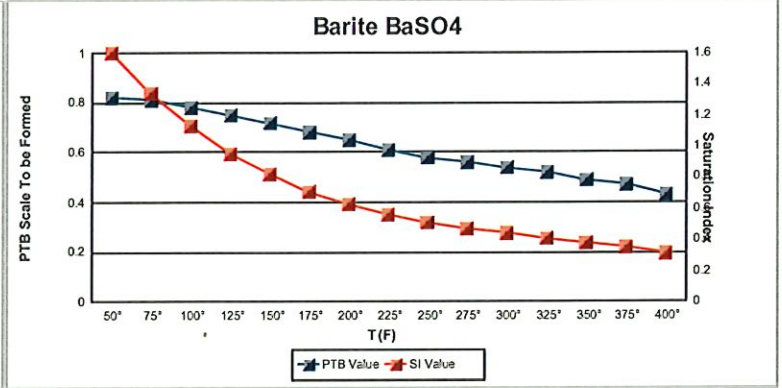
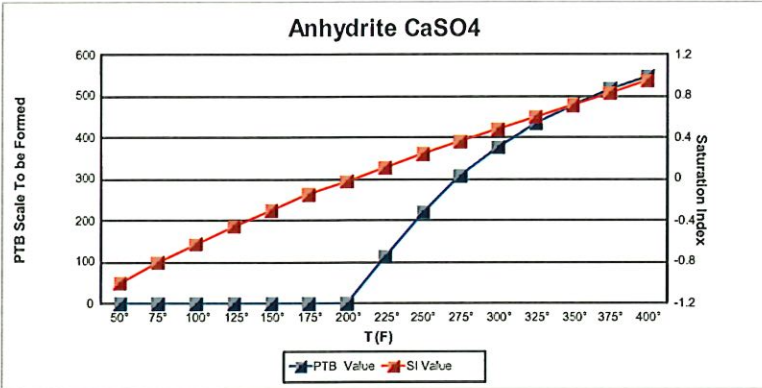


## Complete Water Analysis

Customer: SHAKESPEARE OIL COMPANY  
 Formation Zone:  
 Geographic Region: Kansas  
 Geographic Location: Lane County  
 System Description: Production System

Equipment Description: Lois 1-19  
 Sample Point: Bleeder  
 Customer ID:  
 Latitude/Longitude: 0.00, 0.00  
 Account Rep: Michael.walters@championx.com

Collect Date: 02/20/2024  
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