

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**  
 Geographic Region: **Kansas**  
 Geographic Location: **Lane County**  
 System Description: **Production System**

Equipment Description: **Marit 2-24 SWD**  
 Sample Point: **Bleeder**  
 Sample ID: **AV13097**  
 Account Rep: **Michael.Walters@championx.com**

Collection Date: **02/16/2023**  
 Receive Date: **02/22/2023**  
 Report Date: **02/23/2023**  
 Location Code: **430656**

Field Analysis		
Analysis	Result	Analysis Method
Total Alkalinity (M-Alk as HCO <sub>3</sub> )	205 mg/L	Titration
Dissolved CO <sub>2</sub>	330 mg/L	Titration
Dissolved H <sub>2</sub> S	100 mg/L	Titration
Pressure Surface	25 psi	
Temperature	100 ° F	
pH of Water	7.5	Meter

Sample Analysis		
Analysis	Result	Analysis Method
Specific Gravity	1.038	Densitometer
Ionic Strength	0.880 mol/L	Calculation
Total Dissolved Solids	47800 mg/L	Calculation
Calculated pH	7.50	Calculation
Calculated CO <sub>2</sub> in the gas	0.0700 %	Calculation

### Cations - Analyzed By ICP

Iron	<0.500 mg/L	Boron	20.3 mg/L	Silicon	7.93 mg/L
Manganese	<0.200 mg/L	Lithium	<1.000 mg/L	Aluminum	<0.400 mg/L
Barium	<0.100 mg/L	Copper	<0.200 mg/L	Molybdenum	<0.200 mg/L
Strontium	28.3 mg/L	Nickel	<0.200 mg/L	Phosphorus	<0.500 mg/L
Calcium	921 mg/L	Zinc	<0.400 mg/L	Measured Sodium	15900 mg/L
Magnesium	335 mg/L	Lead	<0.500 mg/L		
Sodium	15900 mg/L	Cobalt	0.739 mg/L		
Potassium	185 mg/L	Chromium	<0.100 mg/L		

### Anions - Analyzed by IC

Chloride	26000 mg/L	Sulfate	4170 mg/L
Bromide	24.9 mg/L		

	PTB							
	Anhydrite	Barite	Calcite	Celestite	Gypsum	Halite	Iron Carbonate	Iron Sulfide
50°	0.00	0.00	2.24	0.00	0.00	0.00	0.00	0.00
75°	0.00	0.00	2.18	0.00	0.00	0.00	0.00	0.00
100°	0.00	0.00	2.29	0.04	0.00	0.00	0.00	0.00
125°	0.00	0.00	2.64	1.75	0.00	0.00	0.00	0.00
150°	0.00	0.00	3.23	3.86	0.00	0.00	0.00	0.00
175°	154.37	0.00	4.02	6.09	0.00	0.00	0.00	0.00
200°	336.03	0.00	4.98	8.23	0.00	0.00	0.00	0.00
225°	481.04	0.00	6.05	10.20	0.00	0.00	0.00	0.00
250°	597.97	0.00	7.23	11.94	0.00	0.00	0.00	0.00
275°	692.86	0.00	8.47	13.45	0.00	0.00	0.00	0.00
300°	770.36	0.00	9.78	14.72	0.00	0.00	0.00	0.00
325°	833.95	0.00	11.16	15.79	0.00	0.00	0.00	0.00
350°	886.22	0.00	12.62	16.87	0.00	0.00	0.00	0.00
375°	929.12	0.00	14.14	17.39	170.35	0.00	0.00	0.00
400°	964.12	0.00	15.73	17.97	563.66	0.00	0.00	0.00

	SI				
	Anhydrite	Calcite	Celestite	Gypsum	Halite
50°	-0.75	0.07	-0.01	-0.15	-2.20
75°	-0.55	0.07	-0.02	-0.17	-2.24
100°	-0.37	0.07	0.00	-0.16	-2.26
125°	-0.20	0.09	0.04	-0.15	-2.28
150°	-0.04	0.11	0.09	-0.13	-2.28
175°	0.10	0.15	0.15	-0.12	-2.29
200°	0.24	0.19	0.15	-0.13	-2.28
225°	0.37	0.25	0.29	-0.14	-2.27
250°	0.49	0.31	0.37	-0.16	-2.26
275°	0.61	0.39	0.45	-0.17	-2.25
300°	0.73	0.47	0.54	-0.17	-2.23
325°	0.84	0.55	0.62	-0.14	-2.21
350°	0.96	0.64	0.71	-0.06	-2.18
375°	1.07	0.73	0.79	0.09	-2.15
400°	1.19	0.83	0.87	0.33	-2.12

### 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.

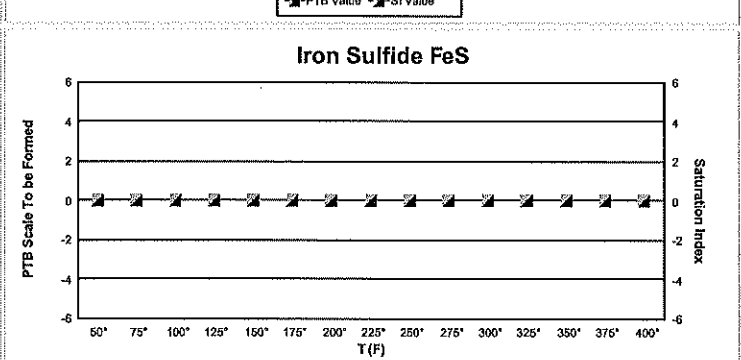
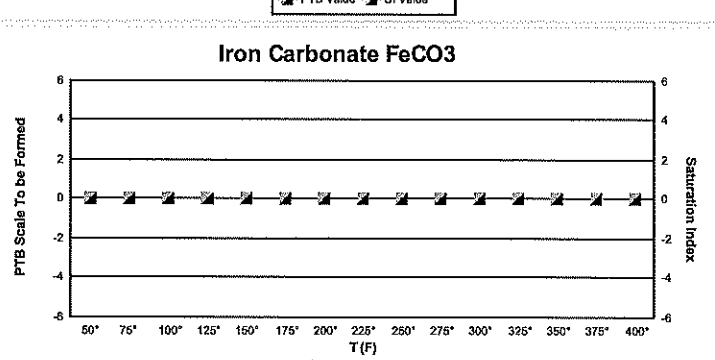
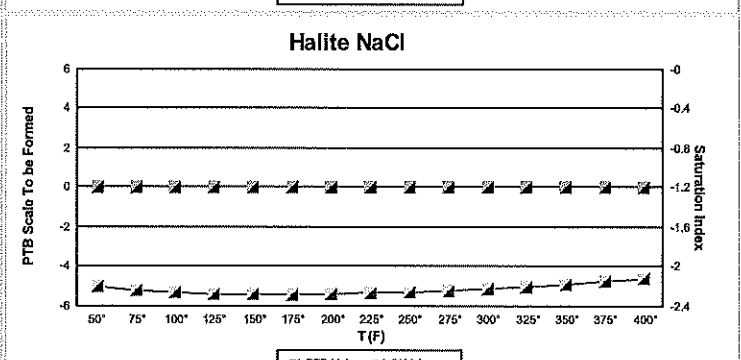
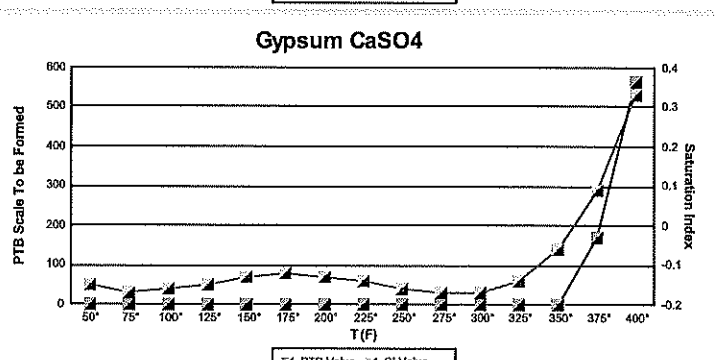
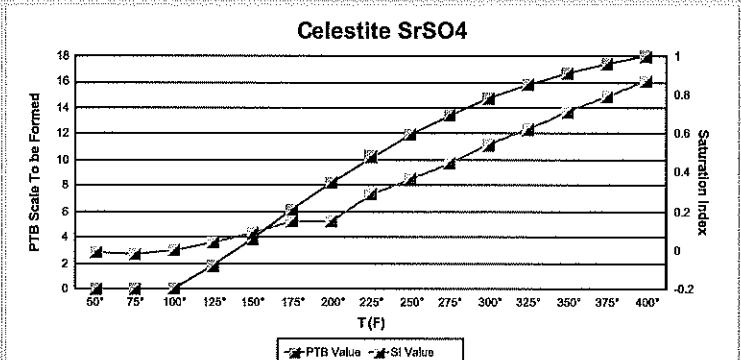
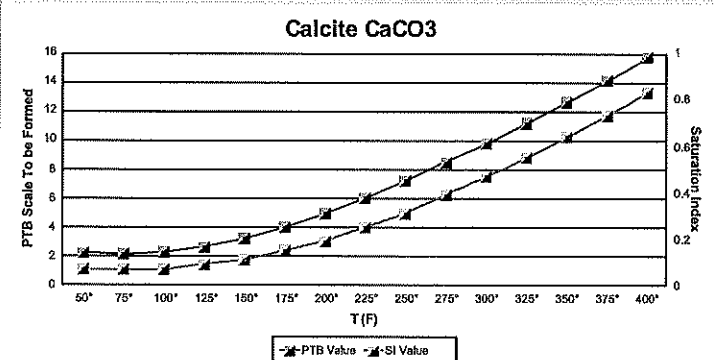
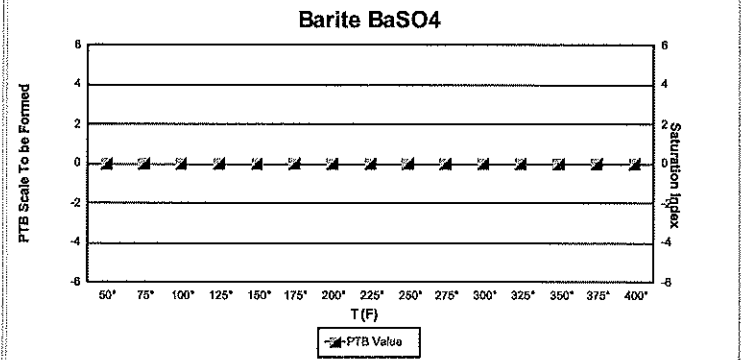
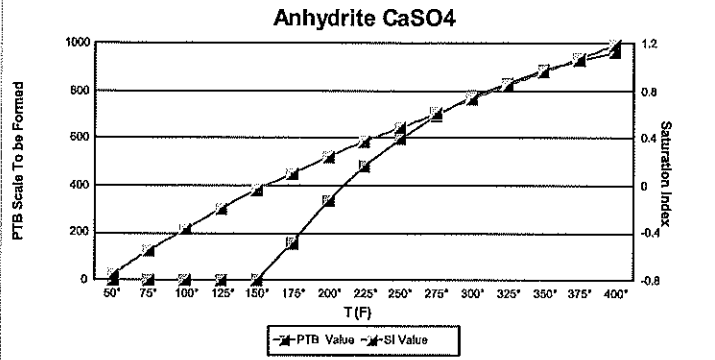
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 02/24/2023

## Complete Water Analysis

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

Equipment Description: Marit 2-24 SWD  
 Sample Point: Bleeder  
 Sample ID: AV13097  
 Account Rep: Michael.Walters@championx.com

Collection Date: 02/16/2023  
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 Location Code: 430656



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 02/24/2023