

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: **Stanley 4-28**  
 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: **AX37087**  
 Location Code: **430671**

### Field Analysis

Analysis	Result	Analysis Method
Total Alkalinity (M-Alk as HCO3)	190 mg/L	Titration
Dissolved CO2	240 mg/L	Titration
Dissolved H2S	110 mg/L	Titration
Pressure Surface	25 psi	
Temperature	100 ° F	
pH of Water	7.5	Meter

### Sample Analysis

Analysis	Result	Analysis Method
Specific Gravity	1.050	Densitometer
Ionic Strength	1.04 mol/L	Calculation
Total Dissolved Solids	59100 mg/L	Calculation
Calculated pH	7.50	Calculation
Calculated CO2 in the gas	0.0200 %	Calculation

### Cations - Analyzed By ICP

Iron	0.872 mg/L	Boron	24.0 mg/L	Silicon	8.45 mg/L
Manganese	0.240 mg/L	Lithium	4.51 mg/L	Aluminum	<0.400 mg/L
Barium	0.122 mg/L	Copper	<0.200 mg/L	Molybdenum	<0.200 mg/L
Strontium	40.6 mg/L	Nickel	<0.200 mg/L	Phosphorus	3.45 mg/L
Calcium	735 mg/L	Zinc	<0.400 mg/L	Measured Sodium	18400 mg/L
Magnesium	354 mg/L	Lead	<0.500 mg/L		
Sodium	18400 mg/L	Cobalt	<0.500 mg/L		
Potassium	263 mg/L	Chromium	<0.100 mg/L		

### Anions - Analyzed by IC\*

Chloride	35500 mg/L	Bromide	30.5 mg/L	Sulfate	3510 mg/L
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### PTB

	Anhydrite	Barite	Calcite	Celestite	Gypsum	Halite	Iron Carbonate	Iron Sulfide
50°	0.00	0.06	0.00	2.68	0.00	0.00	0.00	0.48
75°	0.00	0.05	0.00	2.38	0.00	0.00	0.00	0.48
100°	0.00	0.04	0.00	3.73	0.00	0.00	0.00	0.47
125°	0.00	0.03	0.00	6.04	0.00	0.00	0.00	0.47
150°	0.00	0.01	0.00	8.79	0.00	0.00	0.00	0.47
175°	0.00	0.00	0.00	11.62	0.00	0.00	0.00	0.47
200°	66.04	0.00	0.00	14.31	0.00	0.00	0.00	0.47
225°	216.03	0.00	0.00	16.75	0.00	0.00	0.00	0.47
250°	337.20	0.00	0.00	18.90	0.00	0.00	0.00	0.47
275°	435.83	0.00	0.00	20.74	0.00	0.00	0.00	0.47
300°	516.73	0.00	0.00	22.29	0.00	0.00	0.00	0.47
325°	583.49	0.00	0.00	23.59	0.00	0.00	0.00	0.47
350°	638.76	0.00	0.00	24.67	0.00	0.00	0.00	0.47
375°	684.50	0.00	0.00	25.56	0.00	0.00	0.00	0.48
400°	722.16	0.00	0.48	26.27	197.64	0.00	0.00	0.48

### SI

	Anhydrite	Barite	Calcite	Celestite	Gypsum	Halite	Iron Carbonate	Iron Sulfide
50°	-0.95	0.83	-0.47	0.04	-0.35	-2.00	-2.07	2.44
75°	-0.74	0.58	-0.48	0.04	-0.37	-2.04	-1.96	2.14
100°	-0.56	0.37	-0.48	0.06	-0.36	-2.06	-1.88	1.91
125°	-0.39	0.21	-0.48	0.10	-0.34	-2.07	-1.81	1.74
150°	-0.23	0.08	-0.48	0.15	-0.32	-2.08	-1.75	1.63
175°	-0.09	-0.03	-0.47	0.22	-0.31	-2.08	-1.70	1.56
200°	0.05	-0.11	-0.45	0.22	-0.32	-2.08	-1.66	1.53
225°	0.18	-0.17	-0.42	0.36	-0.33	-2.07	-1.64	1.53
250°	0.30	-0.21	-0.38	0.44	-0.35	-2.06	-1.62	1.55
275°	0.42	-0.25	-0.33	0.52	-0.37	-2.05	-1.60	1.60
300°	0.54	-0.29	-0.27	0.60	-0.37	-2.04	-1.59	1.66
325°	0.65	-0.31	-0.21	0.68	-0.34	-2.02	-1.59	1.74
350°	0.77	-0.34	-0.13	0.77	-0.26	-1.99	-1.60	1.84
375°	0.88	-0.38	-0.05	0.85	-0.12	-1.96	-1.61	1.94
400°	0.99	-0.41	0.04	0.93	0.13	-1.93	-1.62	2.04

### Comments

Scaling predictions calculated using Scale Soft Pitzer 2019

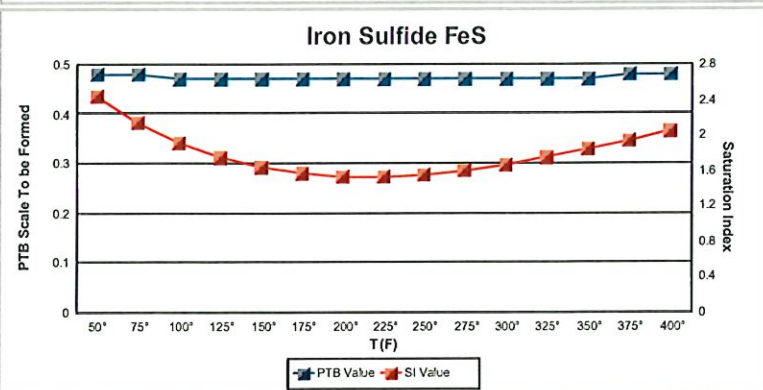
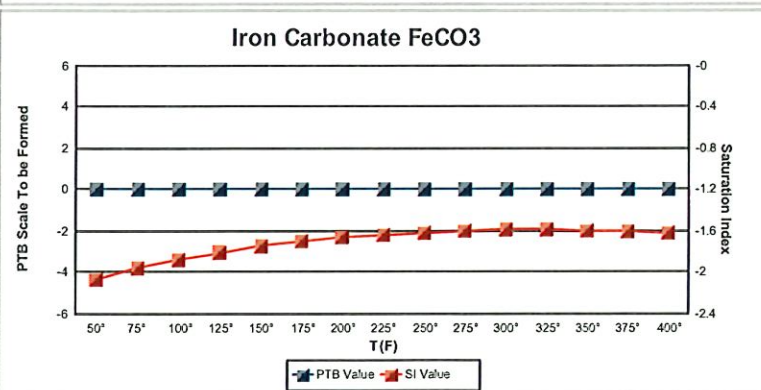
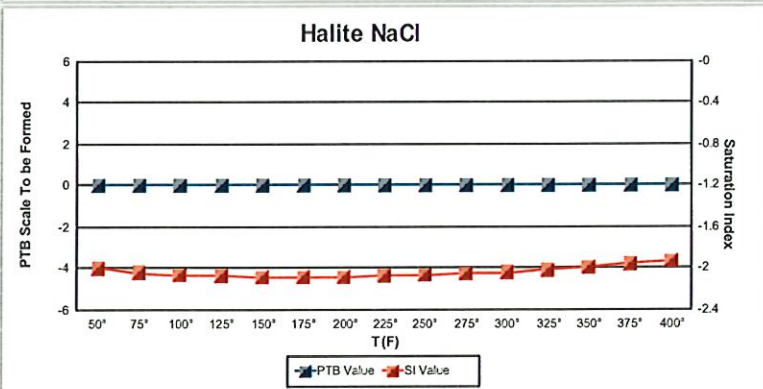
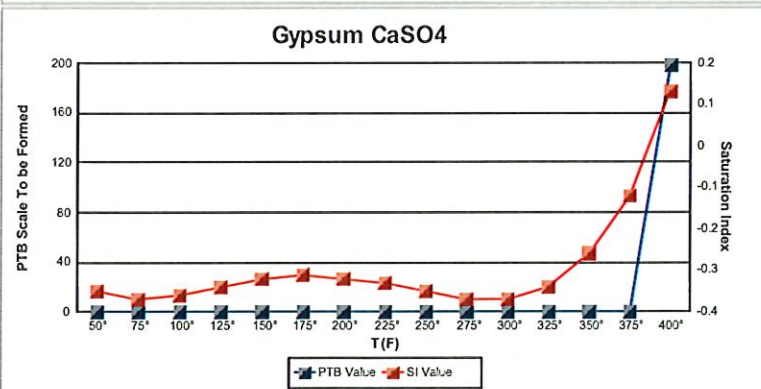
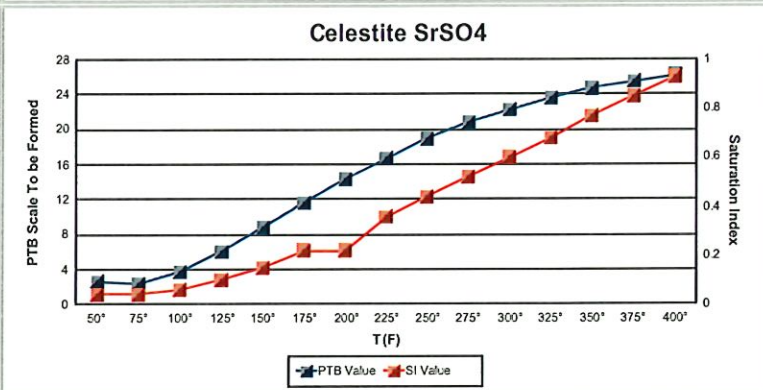
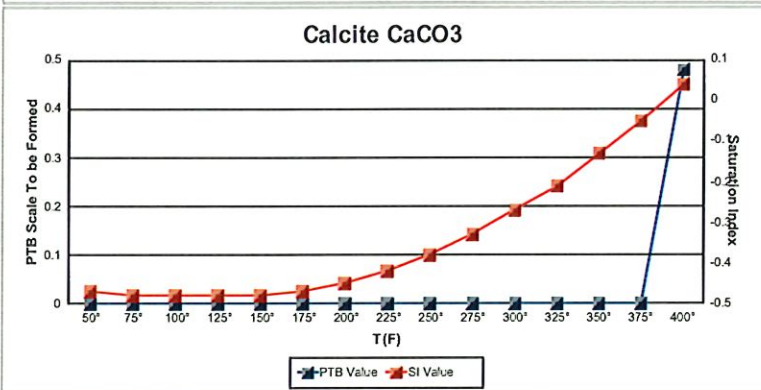
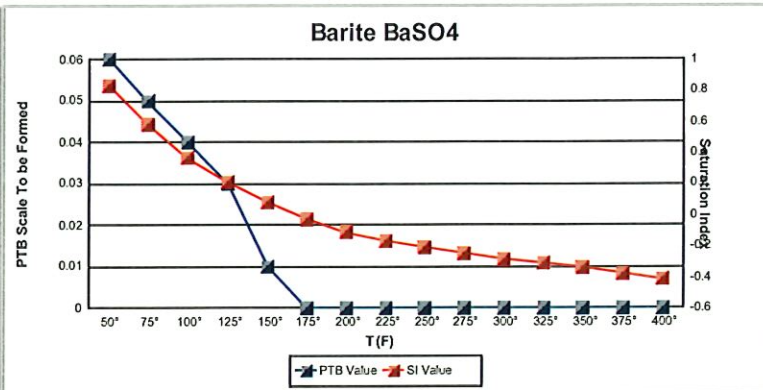
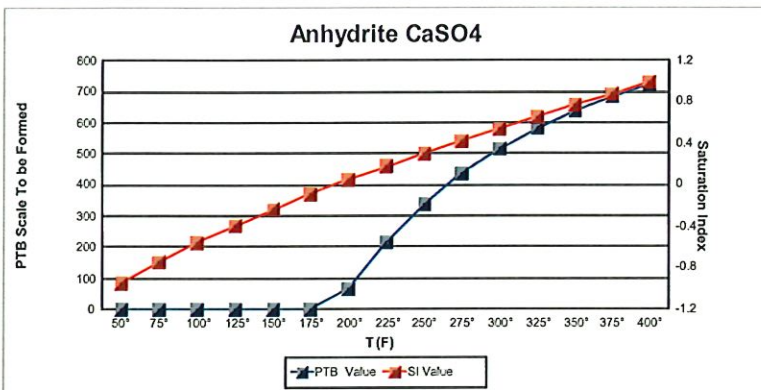
Scaling predictions dependent on provided field data. Incomplete/partial field data may impact results generated by scaling software.

## Complete Water Analysis

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

Equipment Description: Stanley 4-28  
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 Customer ID:  
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 Sample ID: AX37087  
 Location Code: 430671



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