

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: **Yost 9-1**  
 Sample Point: **Bleeder**  
 Sample ID: **AV13079**  
 Account Rep: **Michael.Walters@championx.com**

Collection Date: **02/16/2023**  
 Receive Date: **02/22/2023**  
 Report Date: **02/23/2023**  
 Location Code: **430674**

Field Analysis		
Analysis	Result	Analysis Method
Total Alkalinity (M-Alk as HCO3)	215 mg/L	Titration
Dissolved CO2	200 mg/L	Titration
Dissolved H2S	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	1.035	Densitometer
Ionic Strength	0.830 mol/L	Calculation
Total Dissolved Solids	45100 mg/L	Calculation
Calculated pH	7.50	Calculation
Calculated CO2 in the gas	0.0900 %	Calculation

### Cations - Analyzed By ICP

Iron	<0.500 mg/L	Boron	22.7 mg/L	Silicon	10.0 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	35.3 mg/L	Nickel	<0.200 mg/L	Phosphorus	<0.500 mg/L
Calcium	1180 mg/L	Zinc	<0.400 mg/L	Measured Sodium	14600 mg/L
Magnesium	329 mg/L	Lead	<0.500 mg/L		
Sodium	14600 mg/L	Cobalt	0.827 mg/L		
Potassium	198 mg/L	Chromium	<0.100 mg/L		

### Anions - Analyzed by IC

Chloride	25800 mg/L	Sulfate	2660 mg/L
Bromide	26.3 mg/L		

	PTB							
	Anhydrite	Barite	Calcite	Celestite	Gypsum	Halite	Iron Carbonate	Iron Sulfide
50°	0.00	0.00	9.67	0.00	0.00	0.00	0.00	0.00
75°	0.00	0.00	9.52	0.00	0.00	0.00	0.00	0.00
100°	0.00	0.00	9.56	0.00	0.00	0.00	0.00	0.00
125°	0.00	0.00	9.84	0.00	0.00	0.00	0.00	0.00
150°	0.00	0.00	10.35	0.88	0.00	0.00	0.00	0.00
175°	65.43	0.00	11.08	4.14	0.00	0.00	0.00	0.00
200°	255.82	0.00	11.97	7.31	0.00	0.00	0.00	0.00
225°	411.34	0.00	13.00	10.22	0.00	0.00	0.00	0.00
250°	540.31	0.00	14.15	12.81	0.00	0.00	0.00	0.00
275°	648.55	0.00	15.39	15.05	0.00	0.00	0.00	0.00
300°	740.54	0.00	16.73	16.95	0.00	0.00	0.00	0.00
325°	819.60	0.00	18.17	18.54	0.00	0.00	0.00	0.00
350°	888.18	0.00	19.70	19.86	0.00	0.00	0.00	0.00
375°	948.05	0.00	21.32	20.94	94.61	0.00	0.00	0.00
400°	1,000.43	0.00	23.01	21.81	499.95	0.00	0.00	0.00

	SI				
	Anhydrite	Calcite	Celestite	Gypsum	Halite
50°	-0.81	0.27	-0.08	-0.21	-2.23
75°	-0.61	0.27	-0.09	-0.23	-2.27
100°	-0.43	0.28	-0.07	-0.22	-2.29
125°	-0.26	0.30	-0.04	-0.21	-2.31
150°	-0.10	0.34	0.02	-0.19	-2.32
175°	0.04	0.38	0.08	-0.18	-2.32
200°	0.18	0.44	0.08	-0.18	-2.31
225°	0.31	0.50	0.22	-0.19	-2.31
250°	0.44	0.58	0.30	-0.21	-2.30
275°	0.56	0.66	0.38	-0.22	-2.28
300°	0.68	0.75	0.46	-0.22	-2.26
325°	0.80	0.84	0.55	-0.19	-2.24
350°	0.92	0.94	0.64	-0.10	-2.21
375°	1.04	1.04	0.72	0.05	-2.18
400°	1.16	1.14	0.80	0.30	-2.14

### Comments

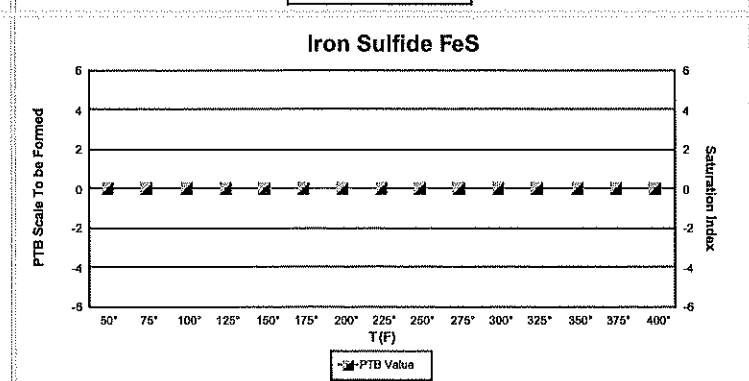
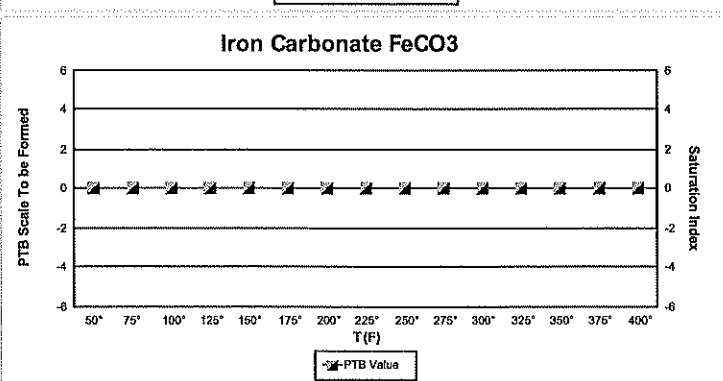
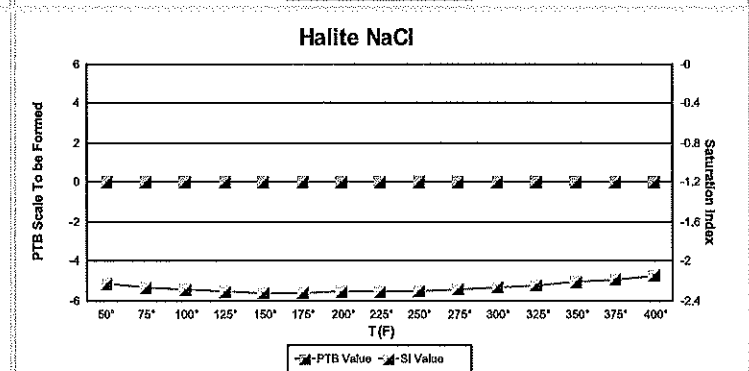
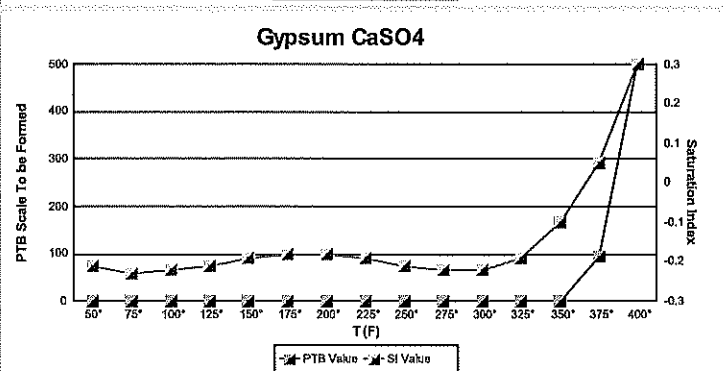
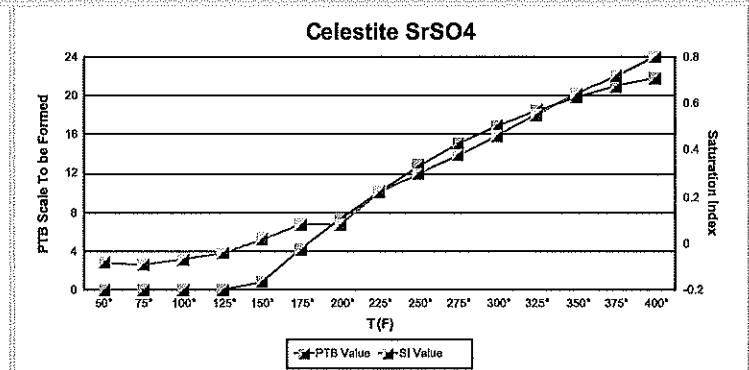
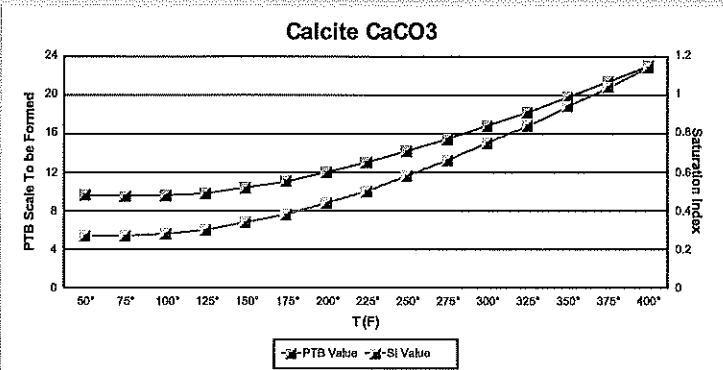
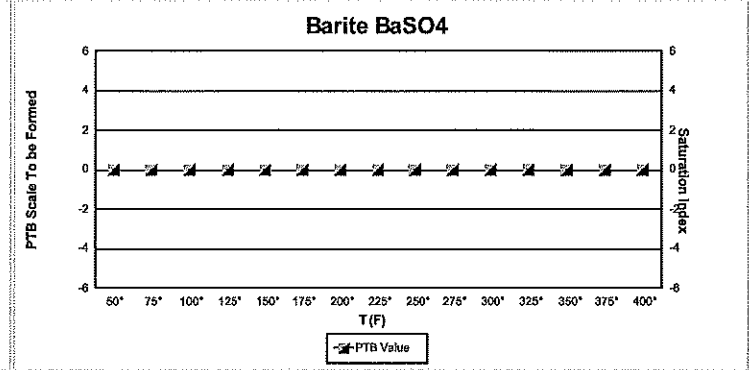
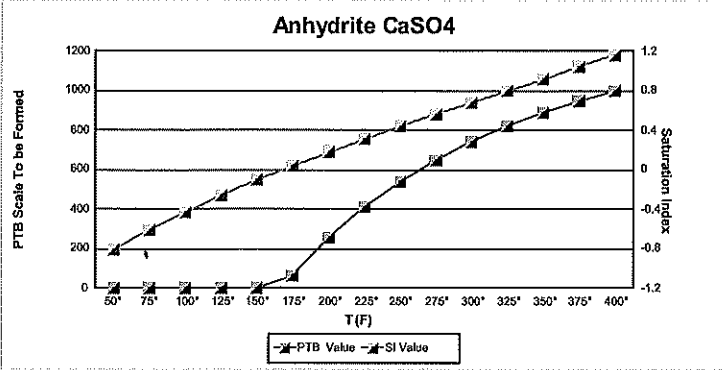
Scaling predictions calculated using Scale Soft Pitzer 2019  
 Scaling predictions dependent on provided field data. Incomplete/partial field data may impact results generated by scaling software.

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 02/24/2023