

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: **Harris Unit 1-20**  
 Sample Point: **Bleeder**  
 Sample ID: **AV13094**  
 Account Rep: **Michael.Walters@championx.com**

Collection Date: **02/16/2023**  
 Receive Date: **02/22/2023**  
 Report Date: **02/23/2023**  
 Location Code: **409020**

Field Analysis		
Analysis	Result	Analysis Method
Total Alkalinity (M-Alk as HCO3)	303 mg/L	Titration
Dissolved CO2	260 mg/L	Titration
Dissolved H2S	120 mg/L	Titration
Pressure Surface	25 psi	
Temperature	100 °F	
pH of Water	7.5	Meter

Sample Analysis		
Analysis	Result	Analysis Method
Specific Gravity	1.037	Densitometer
Ionic Strength	0.860 mol/L	Calculation
Total Dissolved Solids	47200 mg/L	Calculation
Calculated pH	7.50	Calculation
Calculated CO2 in the gas	0.170 %	Calculation

### Cations - Analyzed By ICP

Iron	<0.500 mg/L	Boron	22.0 mg/L	Silicon	9.04 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	25.7 mg/L	Nickel	<0.200 mg/L	Phosphorus	<0.500 mg/L
Calcium	870 mg/L	Zinc	<0.400 mg/L	Measured Sodium	15600 mg/L
Magnesium	305 mg/L	Lead	<0.500 mg/L		
Sodium	15600 mg/L	Cobalt	0.728 mg/L		
Potassium	185 mg/L	Chromium	<0.100 mg/L		

### Anions - Analyzed by IC

Chloride	25700 mg/L	Sulfate	4110 mg/L
Bromide	24.0 mg/L		

	PTB							
	Anhydrite	Barite	Calcite	Celestite	Gypsum	Halite	Iron Carbonate	Iron Sulfide
50°	0.00	0.00	21.83	0.00	0.00	0.00	0.00	0.00
75°	0.00	0.00	21.96	0.00	0.00	0.00	0.00	0.00
100°	0.00	0.00	22.37	0.00	0.00	0.00	0.00	0.00
125°	0.00	0.00	23.09	0.00	0.00	0.00	0.00	0.00
150°	0.00	0.00	24.13	2.02	0.00	0.00	0.00	0.00
175°	116.93	0.00	25.40	4.24	0.00	0.00	0.00	0.00
200°	296.19	0.00	26.88	6.38	0.00	0.00	0.00	0.00
225°	439.07	0.00	28.50	8.35	0.00	0.00	0.00	0.00
250°	554.06	0.00	30.25	10.09	0.00	0.00	0.00	0.00
275°	647.15	0.00	32.11	11.59	0.00	0.00	0.00	0.00
300°	722.97	0.00	34.08	12.87	0.00	0.00	0.00	0.00
325°	784.97	0.00	36.16	13.93	0.00	0.00	0.00	0.00
350°	835.74	0.00	38.37	14.81	0.00	0.00	0.00	0.00
375°	877.23	0.00	40.71	15.53	135.01	0.00	0.00	0.00
400°	910.93	0.00	43.19	16.11	520.00	0.00	0.00	0.00

	SI				
	Anhydrite	Calcite	Celestite	Gypsum	Halite
50°	-0.77	0.41	-0.05	-0.17	-2.21
75°	-0.57	0.42	-0.06	-0.19	-2.25
100°	-0.39	0.45	-0.04	-0.18	-2.27
125°	-0.22	0.48	0.00	-0.17	-2.29
150°	-0.07	0.53	0.05	-0.15	-2.30
175°	0.08	0.59	0.11	-0.14	-2.30
200°	0.21	0.66	0.11	-0.15	-2.29
225°	0.34	0.75	0.25	-0.16	-2.29
250°	0.47	0.84	0.33	-0.18	-2.28
275°	0.59	0.94	0.42	-0.19	-2.26
300°	0.71	1.04	0.50	-0.19	-2.24
325°	0.83	1.15	0.58	-0.16	-2.22
350°	0.94	1.26	0.67	-0.08	-2.19
375°	1.06	1.37	0.75	0.07	-2.16
400°	1.18	1.47	0.84	0.32	-2.13

### Comments

Scaling predictions calculated using Scale Soft Pitzer 2019

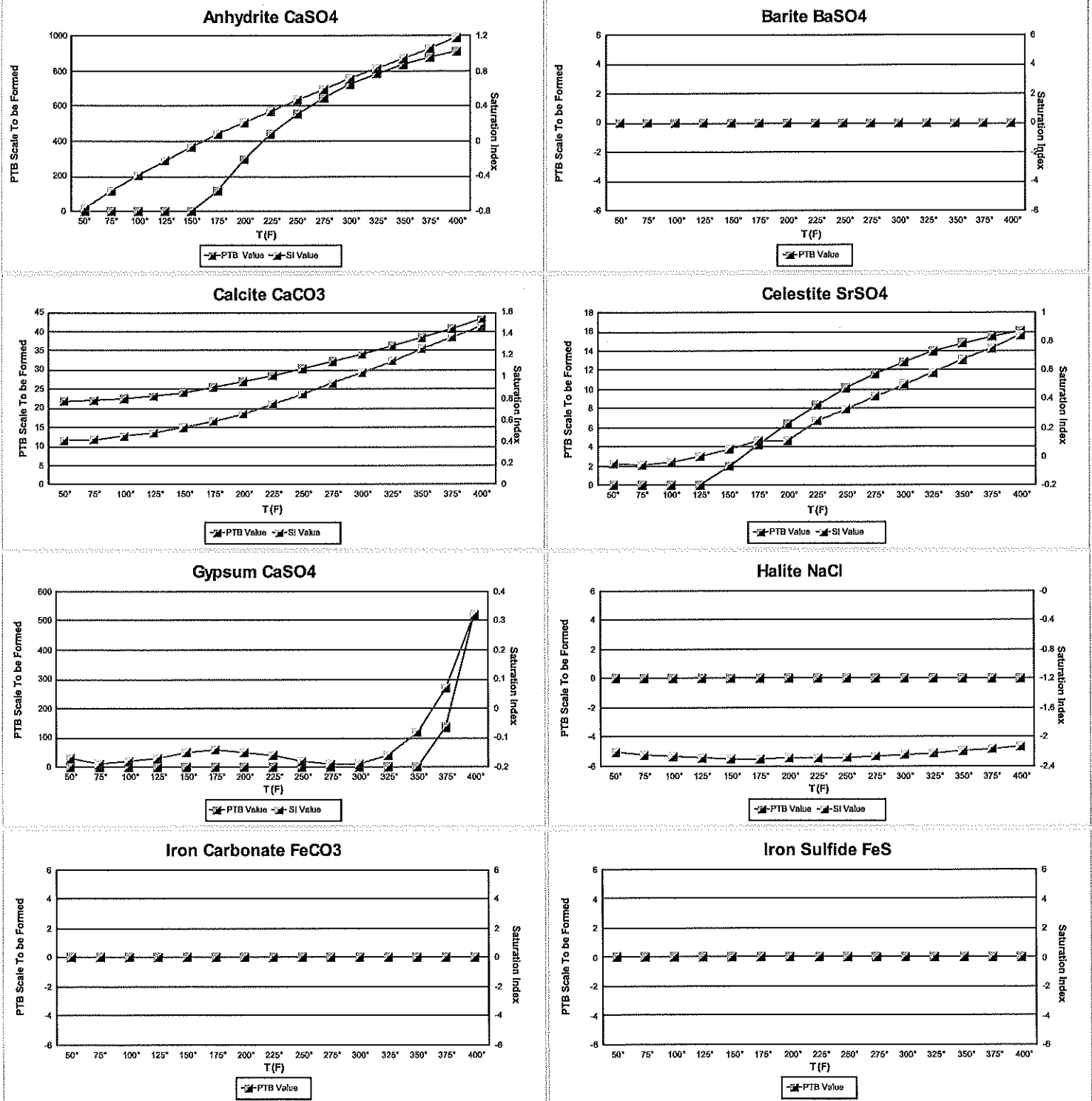
Scaling predictions dependent on provided field data. Incomplete/partial field data may impact results generated by scaling software.

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 02/24/2023