

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: **Voshell 2 SWD**  
 Sample Point: **Bleeder**  
 Sample ID: **AV13082**  
 Account Rep: **Michael.Walters@championx.com**

Collection Date: **02/16/2023**  
 Receive Date: **02/22/2023**  
 Report Date: **02/23/2023**  
 Location Code: **430660**

Field Analysis		
Analysis	Result	Analysis Method
Total Alkalinity (M-Alk as HCO3)	259 mg/L	Titration
Dissolved CO2	450 mg/L	Titration
Dissolved H2S	130 mg/L	Titration
Pressure Surface	25 psi	
Temperature	100 °F	
pH of Water	7.5	Meter

Sample Analysis		
Analysis	Result	Analysis Method
Specific Gravity	1.044	Densitometer
Ionic Strength	0.990 mol/L	Calculation
Total Dissolved Solids	54300 mg/L	Calculation
Calculated pH	7.50	Calculation
Calculated CO2 in the gas	0.0800 %	Calculation

Cations - Analyzed By ICP					
Iron	2.76 mg/L	Boron	21.0 mg/L	Silicon	9.38 mg/L
Manganese	<0.200 mg/L	Lithium	<1.000 mg/L	Aluminum	0.968 mg/L
Barium	<0.100 mg/L	Copper	<0.200 mg/L	Molybdenum	<0.200 mg/L
Strontium	29.5 mg/L	Nickel	<0.200 mg/L	Phosphorus	1.56 mg/L
Calcium	986 mg/L	Zinc	<0.400 mg/L	Measured Sodium	18500 mg/L
Magnesium	362 mg/L	Lead	<0.500 mg/L		
Sodium	18500 mg/L	Cobalt	0.818 mg/L		
Potassium	213 mg/L	Chromium	<0.100 mg/L		

Anions - Analyzed by IC			
Chloride	30000 mg/L	Sulfate	3860 mg/L
Bromide	24.8 mg/L		

	PTB							
	Anhydrite	Barite	Calcite	Celestite	Gypsum	Halite	Iron Carbonate	Iron Sulfida
50°	0.00	0.00	5.52	0.00	0.00	0.00	0.00	1.52
75°	0.00	0.00	5.38	0.00	0.00	0.00	0.00	1.52
100°	0.00	0.00	5.38	0.00	0.00	0.00	0.00	1.52
125°	0.00	0.00	5.61	0.00	0.00	0.00	0.00	1.51
150°	0.00	0.00	6.08	2.05	0.00	0.00	0.00	1.51
175°	96.25	0.00	6.78	4.70	0.00	0.00	0.00	1.51
200°	291.64	0.00	7.67	7.22	0.00	0.00	0.00	1.51
225°	448.71	0.00	8.72	9.51	0.00	0.00	0.00	1.51
250°	576.56	0.00	9.90	11.51	0.00	0.00	0.00	1.51
275°	681.53	0.00	11.21	13.23	0.00	0.00	0.00	1.51
300°	768.49	0.00	12.62	14.69	0.00	0.00	0.00	1.52
325°	841.04	0.00	14.14	15.91	0.00	0.00	0.00	1.52
350°	901.84	0.00	15.76	16.91	0.00	0.00	0.00	1.52
375°	952.82	0.00	17.47	17.74	65.60	0.00	0.00	1.52
400°	995.37	0.00	19.26	18.40	493.49	0.00	0.00	1.52

	SI							
	Anhydrite	Calcite	Celestite	Gypsum	Halite	Iron Carbonate	Iron Sulfida	
50°	-0.80	0.14	-0.07	-0.20	-2.07	-1.06	2.95	
75°	-0.59	0.14	-0.07	-0.22	-2.11	-0.96	2.66	
100°	-0.41	0.15	-0.05	-0.21	-2.13	-0.86	2.44	
125°	-0.24	0.16	-0.01	-0.19	-2.15	-0.77	2.29	
150°	-0.09	0.18	0.04	-0.17	-2.15	-0.70	2.20	
175°	0.06	0.21	0.11	-0.17	-2.16	-0.63	2.14	
200°	0.20	0.26	0.11	-0.17	-2.15	-0.57	2.13	
225°	0.32	0.31	0.25	-0.18	-2.15	-0.52	2.15	
250°	0.45	0.37	0.33	-0.20	-2.14	-0.48	2.19	
275°	0.57	0.44	0.41	-0.22	-2.12	-0.44	2.25	
300°	0.68	0.52	0.49	-0.22	-2.11	-0.41	2.33	
325°	0.80	0.60	0.58	-0.19	-2.09	-0.39	2.42	
350°	0.91	0.69	0.66	-0.12	-2.06	-0.38	2.52	
375°	1.02	0.78	0.74	0.03	-2.03	-0.38	2.63	
400°	1.14	0.88	0.82	0.27	-2.00	-0.39	2.74	

**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.

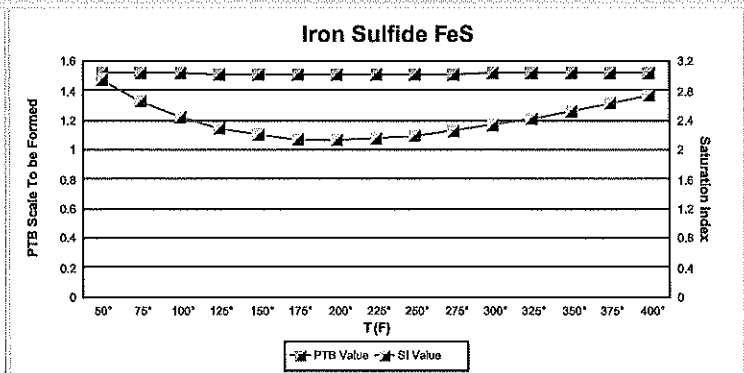
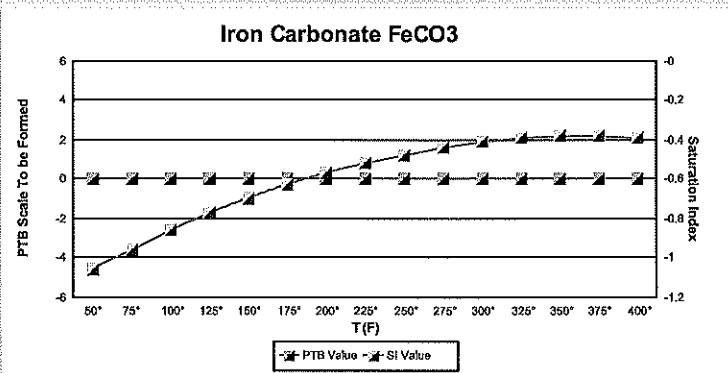
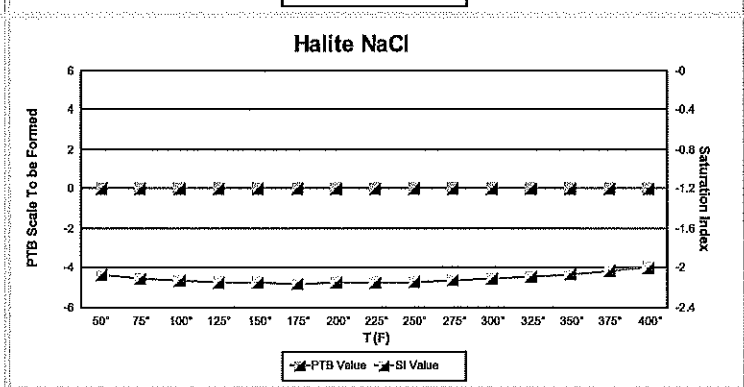
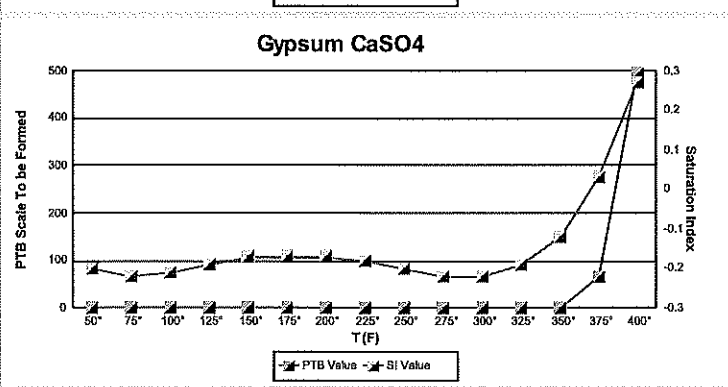
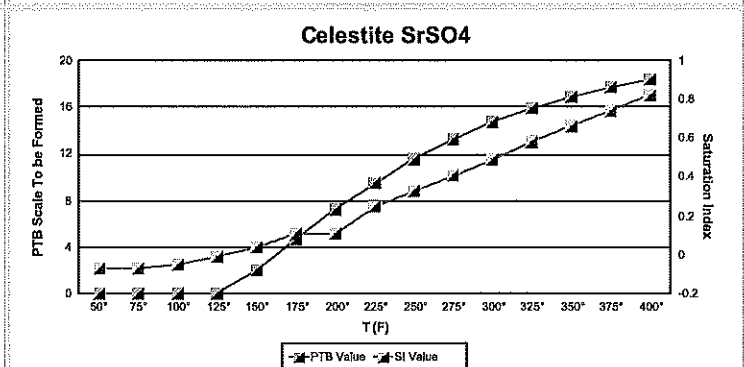
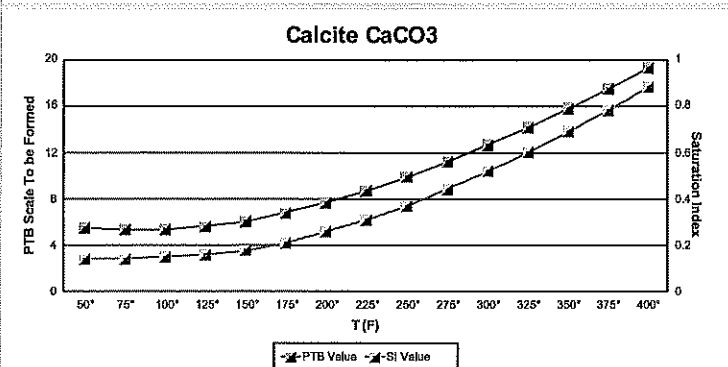
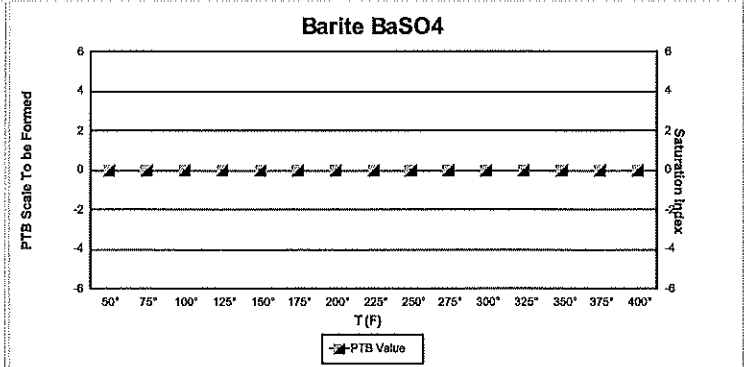
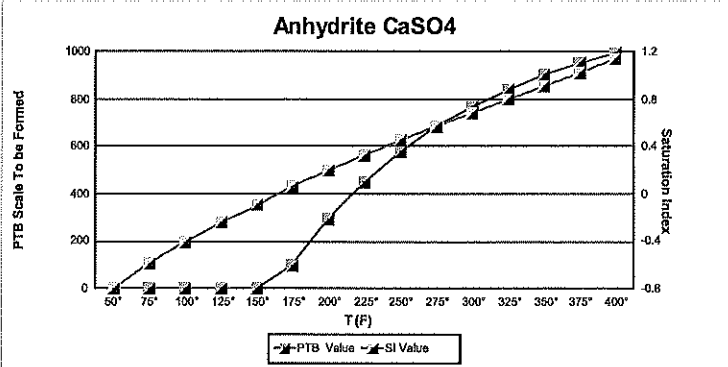
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 Geographic Location: Lane County  
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Equipment Description: Voshell 2 SWD  
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 Sample ID: AV13082  
 Account Rep: Michael.Walters@championx.com

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 02/24/2023