

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	_____	_____	_____	_____	_____
	TOTAL	_____	_____	_____	_____	_____

Complete Water Analysis

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

Equipment Description: **Splitter B 1 OWWO**
 Sample Point: **Bleeder**
 Sample ID: **AV13088**
 Account Rep: **Michael.Walters@championx.com**

Collection Date: **02/16/2023**
 Receive Date: **02/22/2023**
 Report Date: **02/23/2023**
 Location Code: **430665**

Field Analysis		
Analysis	Result	Analysis Method
Total Alkalinity (M-Alk as HCO3)	244 mg/L	Titration
Dissolved CO2	260 mg/L	Titration
Dissolved H2S	92 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	54800 mg/L	Calculation
Calculated pH	7.50	Calculation
Calculated CO2 in the gas	0.140 %	Calculation

Cations - Analyzed By ICP					
Iron	<0.500 mg/L	Boron	23.7 mg/L	Silicon	8.25 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	32.1 mg/L	Nickel	<0.200 mg/L	Phosphorus	1.57 mg/L
Calcium	933 mg/L	Zinc	<0.400 mg/L	Measured Sodium	18900 mg/L
Magnesium	321 mg/L	Lead	<0.500 mg/L		
Sodium	18900 mg/L	Cobalt	0.806 mg/L		
Potassium	217 mg/L	Chromium	<0.100 mg/L		

Anions - Analyzed by IC			
Chloride	30300 mg/L	Sulfate	3820 mg/L
Bromide	25.3 mg/L		

	PTB							
	Anhydrite	Barite	Calcite	Celestite	Gypsum	Halite	Iron Carbonate	Iron Sulfide
50°	0.00	0.00	15.85	0.00	0.00	0.00	0.00	0.00
75°	0.00	0.00	16.24	0.00	0.00	0.00	0.00	0.00
100°	0.00	0.00	16.85	0.00	0.00	0.00	0.00	0.00
125°	0.00	0.00	17.72	1.18	0.00	0.00	0.00	0.00
150°	0.00	0.00	18.81	3.82	0.00	0.00	0.00	0.00
175°	48.84	0.00	20.08	6.52	0.00	0.00	0.00	0.00
200°	244.01	0.00	21.47	9.08	0.00	0.00	0.00	0.00
225°	400.61	0.00	22.94	11.39	0.00	0.00	0.00	0.00
250°	527.79	0.00	24.47	13.42	0.00	0.00	0.00	0.00
275°	631.95	0.00	26.05	15.16	0.00	0.00	0.00	0.00
300°	717.99	0.00	27.67	16.62	0.00	0.00	0.00	0.00
325°	789.54	0.00	29.35	17.85	0.00	0.00	0.00	0.00
350°	849.27	0.00	31.11	18.86	0.00	0.00	0.00	0.00
375°	899.15	0.00	32.95	19.68	13.62	0.00	0.00	0.00
400°	940.60	0.00	34.88	20.34	438.47	0.00	0.00	0.00

	SI					
	Anhydrite	Calcite	Celestite	Gypsum	Halite	
50°	-0.83	0.36	-0.04	-0.23	-2.06	
75°	-0.62	0.38	-0.04	-0.25	-2.10	
100°	-0.44	0.41	-0.02	-0.24	-2.12	
125°	-0.27	0.45	0.02	-0.22	-2.13	
150°	-0.11	0.50	0.08	-0.20	-2.14	
175°	0.03	0.57	0.14	-0.20	-2.14	
200°	0.17	0.64	0.14	-0.20	-2.14	
225°	0.30	0.73	0.29	-0.21	-2.13	
250°	0.42	0.82	0.37	-0.23	-2.12	
275°	0.54	0.92	0.45	-0.25	-2.11	
300°	0.66	1.03	0.53	-0.25	-2.09	
325°	0.77	1.13	0.62	-0.22	-2.07	
350°	0.89	1.23	0.70	-0.14	-2.05	
375°	1.00	1.32	0.78	0.01	-2.02	
400°	1.11	1.42	0.87	0.25	-1.99	

Comments

Scaling predictions calculated using Scale Soft Pitzer 2019

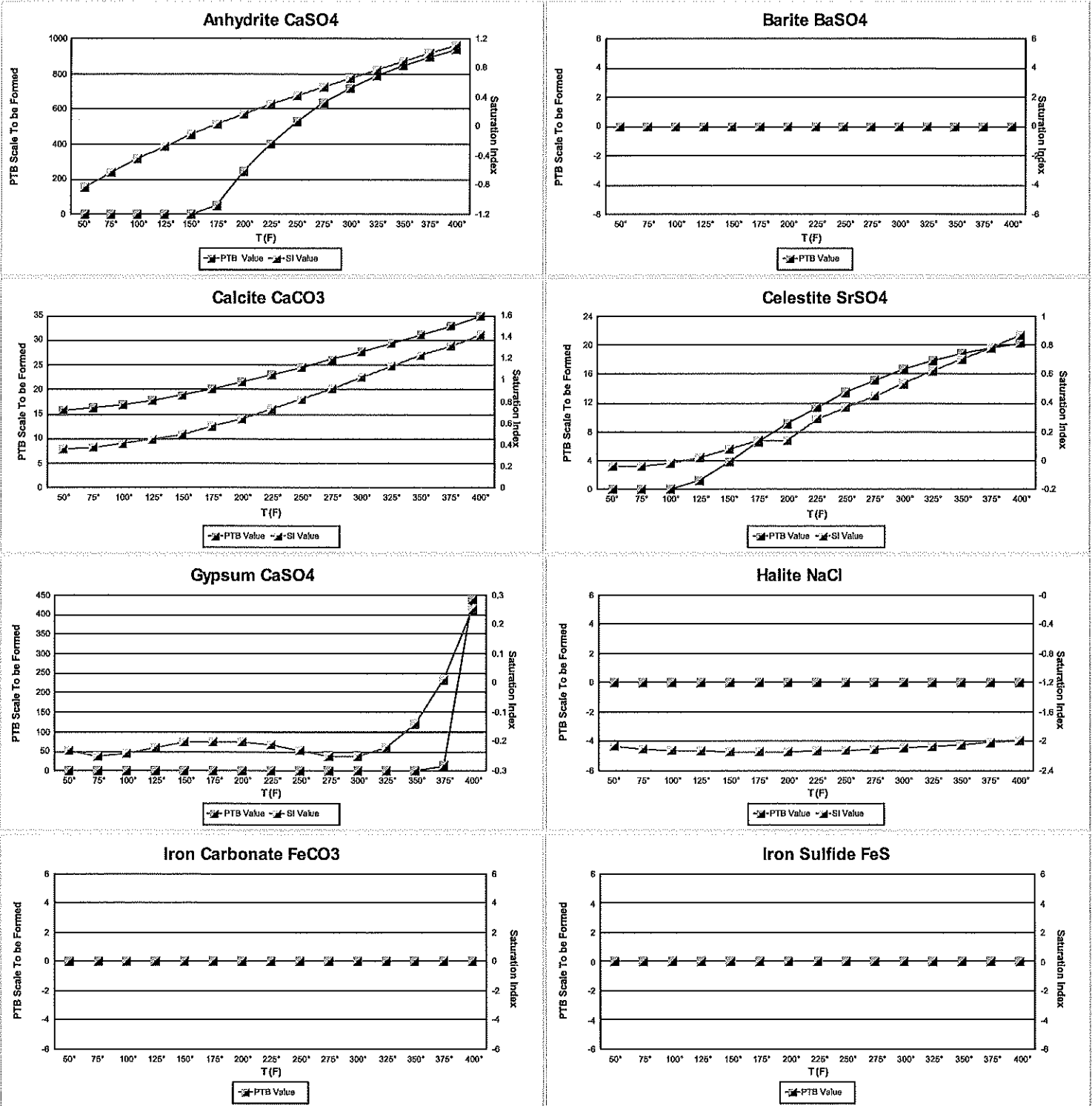
Scaling predictions dependent on provided field data. Incomplete/partial field data may impact results generated by scaling software.

Complete Water Analysis

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

Equipment Description: Splitter B 1 OWWO
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 Sample ID: AV13088
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 02/24/2023