

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/BrineSource: 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	_____	_____	_____	_____	_____

Submitted Electronically

Complete Water Analysis

Customer: **SHAKESPEARE OIL COMPANY**
 Formation Zone:
 Geographic Region: **Kansas**
 Geographic Location: **Scott County**
 System Description: **Production System**

Equipment Description: **Janzen 6-36**
 Sample Point: **Bleeder**
 Customer ID:
 Latitude/Longitude: **0.00, 0.00**
 Account Rep: **Michael.Walters@championx.com**

Collect Date: **03/03/2023**
 Submit Date: **03/14/2023**
 Report Date: **03/16/2023**
 Sample ID: **AV24110**
 Location Code: **483777**

Field Analysis		
Analysis	Result	Analysis Method
Total Alkalinity (M-Alk as HCO ₃)	351 mg/L	Titration
Dissolved CO ₂	410 mg/L	Titration
Dissolved H ₂ S	77 mg/L	Titration
Pressure Surface	25 psi	
Temperature	100 ° F	
pH of Water	7.5	Meter

Sample Analysis		
Analysis	Result	Analysis Method
Specific Gravity	1.055	Densitometer
Ionic Strength	1.40 mol/L	Calculation
Total Dissolved Solids	78100 mg/L	Calculation
Calculated pH	7.50	Calculation
Calculated CO ₂ in the gas	0.300 %	Calculation

Cations - Analyzed By ICP

Iron	<0.500 mg/L	Boron	26.8 mg/L	Silicon	8.90 mg/L
Manganese	<0.200 mg/L	Lithium	4.02 mg/L	Aluminum	<0.400 mg/L
Barium	0.130 mg/L	Copper	<0.200 mg/L	Molybdenum	<0.200 mg/L
Strontium	37.7 mg/L	Nickel	0.208 mg/L	Phosphorus	0.942 mg/L
Calcium	1400 mg/L	Zinc	<0.400 mg/L	Measured Sodium	26800 mg/L
Magnesium	482 mg/L	Lead	<0.500 mg/L		
Sodium	26800 mg/L	Cobalt	1.20 mg/L		
Potassium	228 mg/L	Chromium	<0.100 mg/L		

Anions - Analyzed by IC*

Chloride	46300 mg/L	Bromide	33.4 mg/L	Sulfate	2380 mg/L
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	PTB							
	Anhydrite	Barite	Calcite	Celestite	Gypsum	Hallite	Iron Carbonate	Iron Sulfide
50°	0.00	0.06	48.67	0.00	0.00	0.00	0.00	0.00
75°	0.00	0.04	51.72	0.00	0.00	0.00	0.00	0.00
100°	0.00	0.02	54.53	0.00	0.00	0.00	0.00	0.00
125°	0.00	0.00	57.11	0.00	0.00	0.00	0.00	0.00
150°	0.00	0.00	59.49	0.00	0.00	0.00	0.00	0.00
175°	0.00	0.00	61.68	0.00	0.00	0.00	0.00	0.00
200°	82.29	0.00	63.72	0.58	0.00	0.00	0.00	0.00
225°	256.78	0.00	65.64	4.82	0.00	0.00	0.00	0.00
250°	399.36	0.00	67.49	8.49	0.00	0.00	0.00	0.00
275°	517.29	0.00	69.28	11.60	0.00	0.00	0.00	0.00
300°	616.10	0.00	71.04	14.22	0.00	0.00	0.00	0.00
325°	699.90	0.00	72.79	16.42	0.00	0.00	0.00	0.00
350°	771.70	0.00	74.57	18.24	0.00	0.00	0.00	0.00
375°	833.60	0.00	76.38	19.75	0.00	0.00	0.00	0.00
400°	887.04	0.00	78.22	20.98	114.87	0.00	0.00	0.00

	SI					
	Anhydrite	Barite	Calcite	Celestite	Gypsum	Hallite
50°	-0.95	0.54	0.89	-0.28	-0.36	-1.72
75°	-0.74	0.31	0.95	-0.27	-0.38	-1.75
100°	-0.55	0.11	1.02	-0.24	-0.36	-1.77
125°	-0.38	-0.05	1.11	-0.19	-0.34	-1.78
150°	-0.22	-0.18	1.21	-0.13	-0.33	-1.79
175°	-0.08	-0.28	1.31	-0.06	-0.32	-1.79
200°	0.05	-0.36	1.43	-0.06	-0.33	-1.79
225°	0.18	-0.42	1.55	0.08	-0.34	-1.79
250°	0.30	-0.48	1.67	0.16	-0.37	-1.78
275°	0.41	-0.52	1.80	0.24	-0.39	-1.77
300°	0.52	-0.56	1.92	0.32	-0.40	-1.76
325°	0.63	-0.59	2.03	0.39	-0.38	-1.74
350°	0.73	-0.63	2.13	0.47	-0.31	-1.72
375°	0.83	-0.67	2.23	0.55	-0.17	-1.70
400°	0.93	-0.72	2.32	0.62	0.06	-1.67

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.

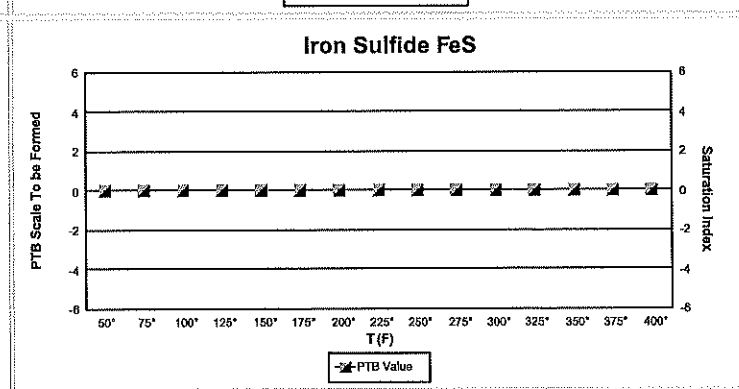
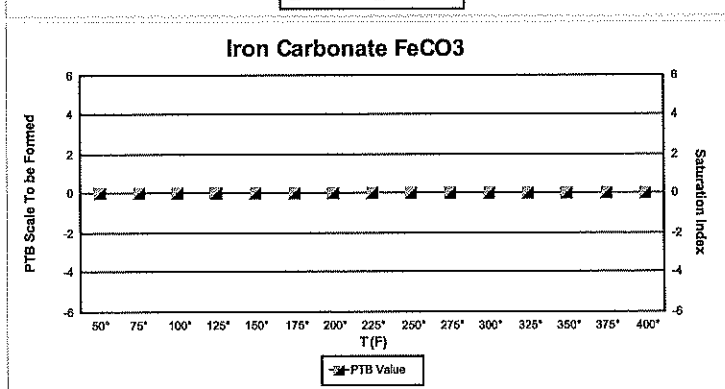
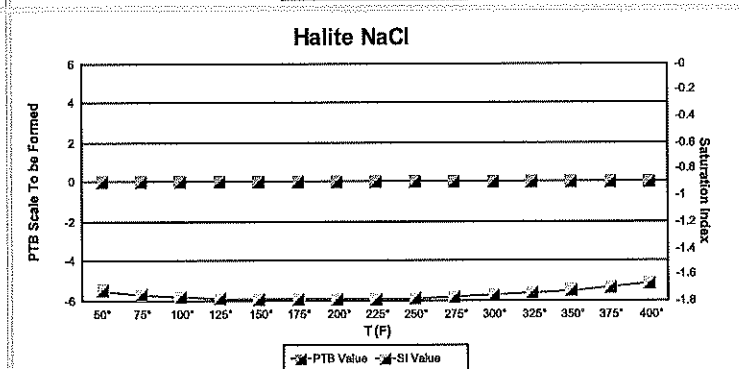
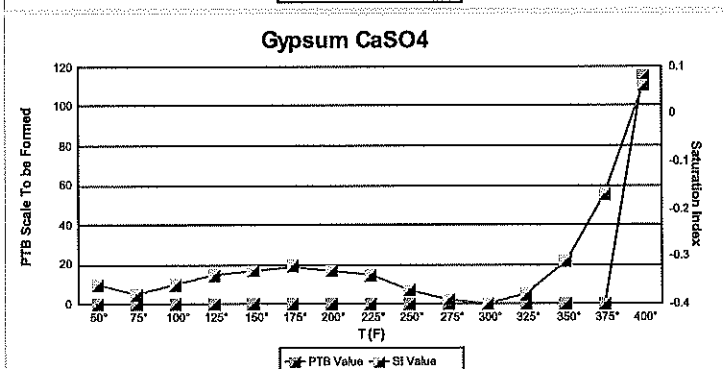
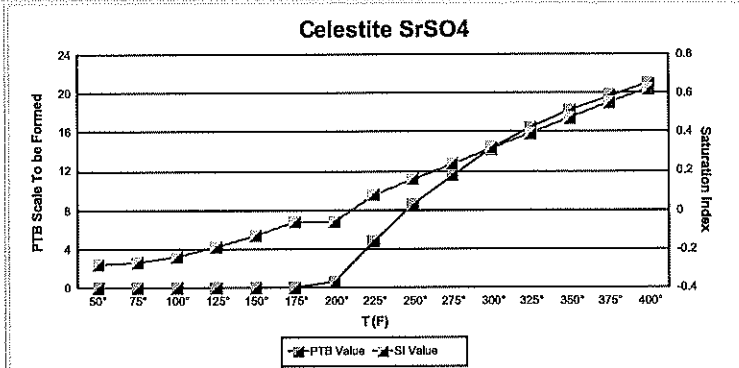
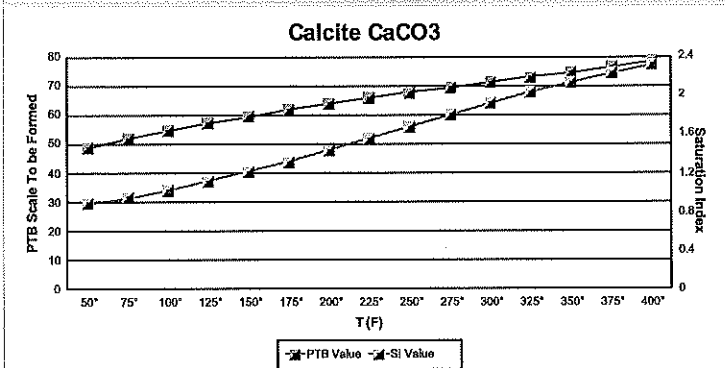
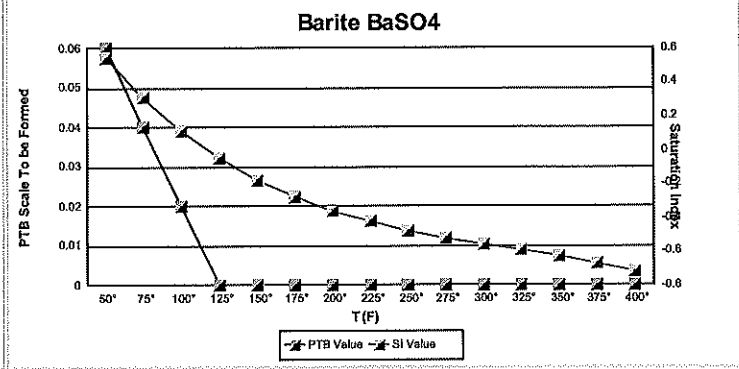
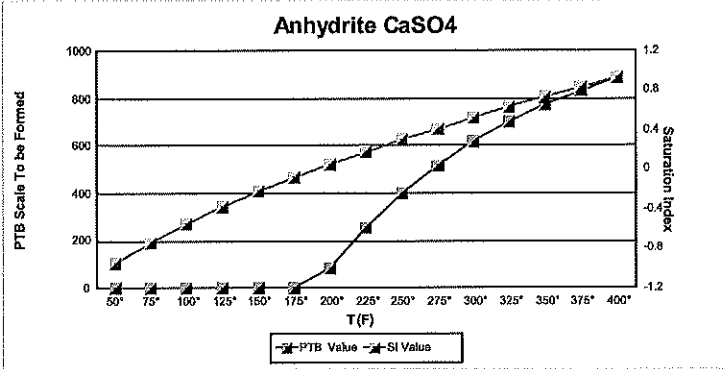
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 03/29/2023