

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**
 Formation Zone:
 Geographic Region: **Kansas**
 Geographic Location: **Lane County**
 System Description: **Production System**

Equipment Description: **WR Albin 1**
 Sample Point: **Bleeder**
 Customer ID:
 Latitude/Longitude: **0.00, 0.00**
 Account Rep: **Michael.walters@championx.com**

Collect Date: **02/20/2024**
 Submit Date: **02/20/2024**
 Report Date: **02/26/2024**
 Sample ID: **AX37109**
 Location Code: **430652**

Field Analysis		
Analysis	Result	Analysis Method
Total Alkalinity (M-Alk as HCO3)	177 mg/L	Titration
Dissolved CO2	250 mg/L	Titration
Dissolved H2S	49 mg/L	Titration
Pressure Surface	25 psi	
Temperature	100 ° F	
pH of Water	7.5	Meter

Sample Analysis		
Analysis	Result	Analysis Method
Specific Gravity	1.091	Densitometer
Ionic Strength	1.44 mol/L	Calculation
Total Dissolved Solids	89500 mg/L	Calculation
Calculated pH	7.50	Calculation
Calculated CO2 in the gas	0.120 %	Calculation

Cations - Analyzed By ICP

Iron	27.5 mg/L	Boron	16.0 mg/L	Silicon	8.74 mg/L
Manganese	2.17 mg/L	Lithium	6.72 mg/L	Aluminum	<0.400 mg/L
Barium	0.133 mg/L	Copper	<0.200 mg/L	Molybdenum	<0.200 mg/L
Strontium	34.6 mg/L	Nickel	<0.200 mg/L	Phosphorus	4.57 mg/L
Calcium	981 mg/L	Zinc	<0.400 mg/L	Measured Sodium	13600 mg/L
Magnesium	370 mg/L	Lead	<0.500 mg/L		
Sodium	13600 mg/L	Cobalt	<0.500 mg/L		
Potassium	223 mg/L	Chromium	<0.100 mg/L		

Anions - Analyzed by IC*

Chloride	70900 mg/L	Bromide	67.7 mg/L	Sulfate	3070 mg/L
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PTB								
	Anhydrite	Barite	Calcite	Celestite	Gypsum	Halite	Iron Carbonate	Iron Sulfide
50°	0.00	0.07	24.83	3.54	0.00	0.00	10.42	15.16
75°	0.00	0.06	25.39	2.22	0.00	0.00	12.24	15.15
100°	0.00	0.05	26.02	2.39	0.00	0.00	13.73	15.15
125°	0.00	0.03	26.71	3.60	0.00	0.00	14.93	15.14
150°	0.00	0.02	27.43	5.42	0.00	0.00	15.88	15.14
175°	184.49	0.00	28.18	7.50	0.00	0.00	16.61	15.14
200°	338.80	0.00	28.94	9.60	0.00	0.00	17.18	15.15
225°	464.37	0.00	29.71	11.59	0.00	0.00	17.61	15.15
250°	567.91	0.00	30.49	13.40	0.00	0.00	17.93	15.16
275°	654.16	0.00	31.27	15.00	0.00	0.00	18.17	15.16
300°	726.79	0.00	32.08	16.40	0.00	0.00	18.32	15.16
325°	788.55	0.00	32.91	17.62	0.00	0.00	18.40	15.17
350°	841.44	0.00	33.77	18.68	0.00	0.00	18.42	15.17
375°	886.90	0.00	34.68	19.57	0.00	0.00	18.37	15.17
400°	925.89	0.00	35.63	20.32	366.71	0.00	18.26	15.17

SI								
	Anhydrite	Barite	Calcite	Celestite	Gypsum	Halite	Iron Carbonate	Iron Sulfide
50°	-0.67	0.90	0.88	0.07	-0.09	-1.81	0.61	3.86
75°	-0.48	0.64	0.91	0.04	-0.12	-1.84	0.75	3.62
100°	-0.31	0.42	0.96	0.04	-0.12	-1.86	0.90	3.46
125°	-0.15	0.25	1.03	0.07	-0.12	-1.87	1.04	3.36
150°	-0.01	0.11	1.11	0.11	-0.11	-1.87	1.17	3.32
175°	0.13	-0.01	1.20	0.15	-0.11	-1.88	1.30	3.32
200°	0.26	-0.10	1.30	0.15	-0.12	-1.88	1.41	3.35
225°	0.38	-0.17	1.40	0.27	-0.15	-1.87	1.51	3.40
250°	0.49	-0.23	1.50	0.33	-0.17	-1.86	1.60	3.47
275°	0.60	-0.28	1.60	0.39	-0.20	-1.86	1.67	3.54
300°	0.70	-0.32	1.69	0.45	-0.22	-1.84	1.71	3.62
325°	0.80	-0.37	1.78	0.52	-0.20	-1.83	1.73	3.71
350°	0.90	-0.41	1.85	0.58	-0.14	-1.81	1.73	3.79
375°	1.00	-0.47	1.92	0.64	-0.01	-1.79	1.70	3.87
400°	1.09	-0.53	1.98	0.70	0.22	-1.76	1.66	3.95

Comments

Scaling predictions calculated using Scale Soft Pitzer 2019

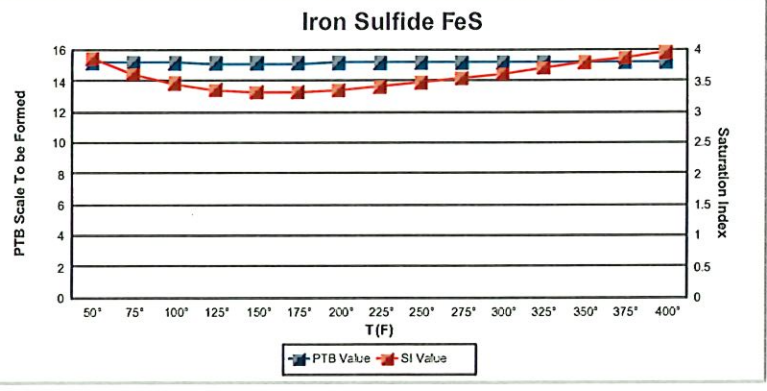
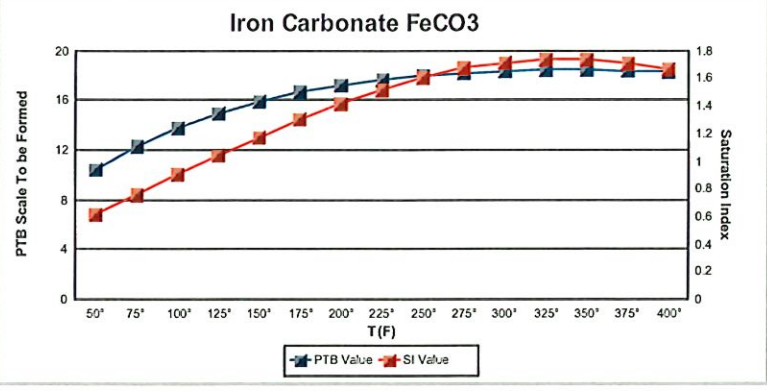
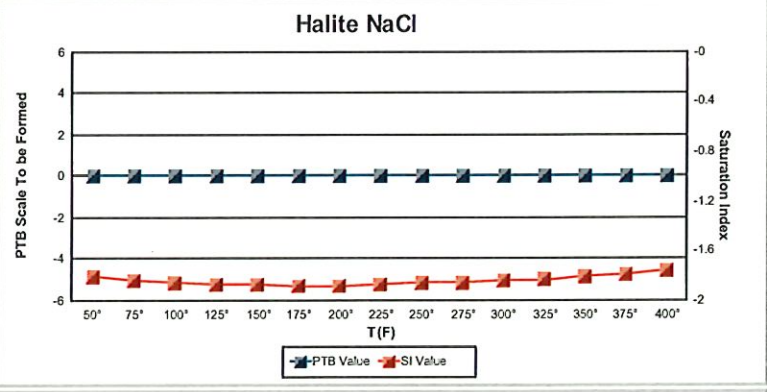
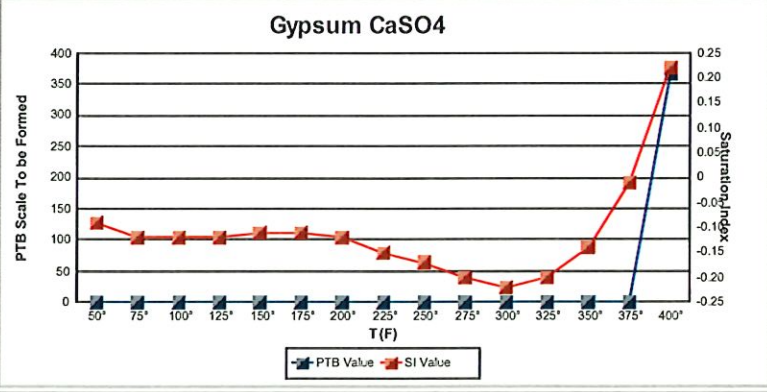
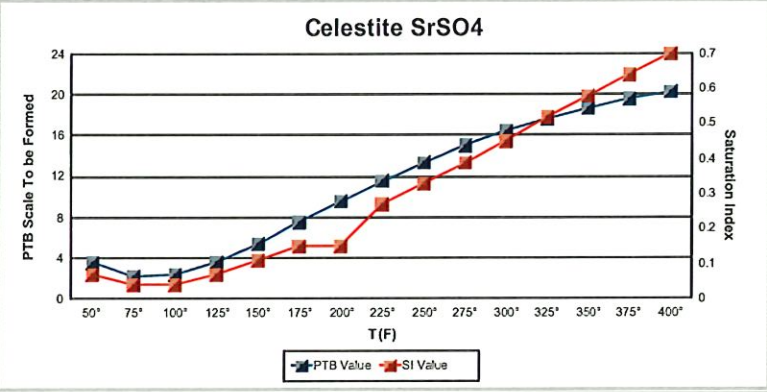
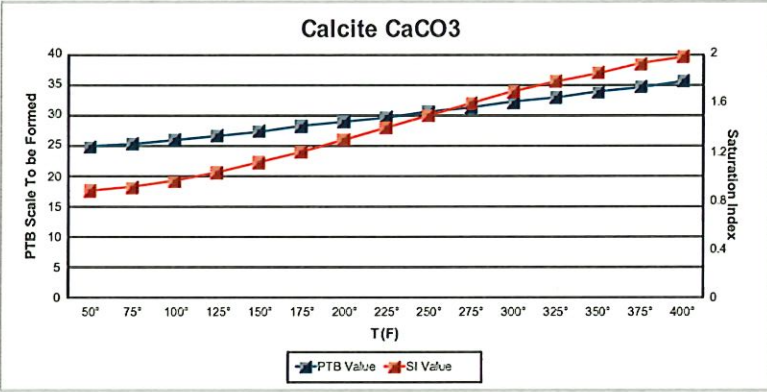
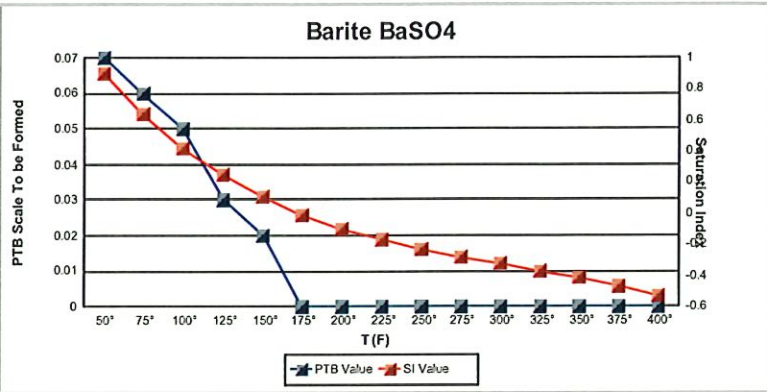
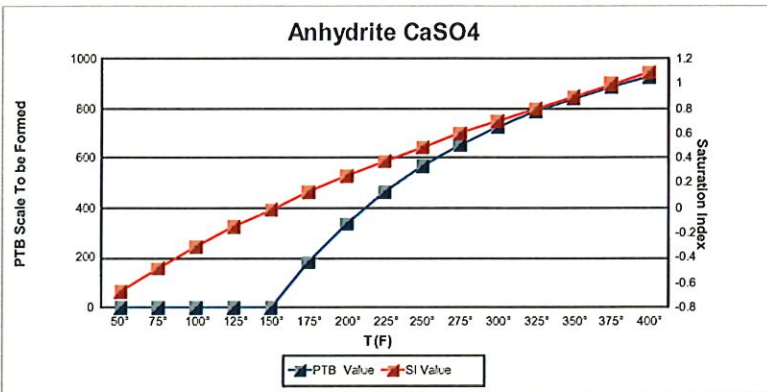
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