

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: **Lucille 2-34**
 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: **02/22/2024**
 Sample ID: **AX37089**
 Location Code: **430662**

Field Analysis

Analysis	Result	Analysis Method
Total Alkalinity (M-Alk as HCO ₃)	102 mg/L	Titration
Dissolved CO ₂	220 mg/L	Titration
Dissolved H ₂ S	71 mg/L	Titration
Pressure Surface	25 psi	
Temperature	100 °F	
pH of Water	7.5	Meter

Sample Analysis

Analysis	Result	Analysis Method
Specific Gravity	1.046	Densitometer
Ionic Strength	0.900 mol/L	Calculation
Total Dissolved Solids	50600 mg/L	Calculation
Calculated pH	7.50	Calculation
Calculated CO ₂ in the gas	0.00 %	Calculation

Cations - Analyzed By ICP

Iron	<0.500 mg/L	Boron	20.1 mg/L	Silicon	7.08 mg/L
Manganese	<0.200 mg/L	Lithium	4.20 mg/L	Aluminum	<0.400 mg/L
Barium	0.122 mg/L	Copper	<0.200 mg/L	Molybdenum	<0.200 mg/L
Strontium	32.2 mg/L	Nickel	<0.200 mg/L	Phosphorus	3.14 mg/L
Calcium	710 mg/L	Zinc	<0.400 mg/L	Measured Sodium	15000 mg/L
Magnesium	313 mg/L	Lead	<0.500 mg/L		
Sodium	15000 mg/L	Cobalt	<0.500 mg/L		
Potassium	225 mg/L	Chromium	<0.100 mg/L		

Anions - Analyzed by IC*

Chloride	30300 mg/L	Bromide	26.4 mg/L	Sulfate	3900 mg/L
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PTB

	Anhydrite	Barite	Calcite	Celestite	Gypsum	Halite	Iron Carbonate	Iron Sulfide
50°	0.00	0.06	0.00	2.37	0.00	0.00	0.00	0.00
75°	0.00	0.06	0.00	1.76	0.00	0.00	0.00	0.00
100°	0.00	0.05	0.00	2.57	0.00	0.00	0.00	0.00
125°	0.00	0.04	0.00	4.25	0.00	0.00	0.00	0.00
150°	0.00	0.02	0.00	6.36	0.00	0.00	0.00	0.00
175°	0.00	0.01	0.00	8.61	0.00	0.00	0.00	0.00
200°	158.76	0.00	0.00	10.79	0.00	0.00	0.00	0.00
225°	294.75	0.00	0.00	12.79	0.00	0.00	0.00	0.00
250°	403.50	0.00	0.00	14.57	0.00	0.00	0.00	0.00
275°	490.92	0.00	0.00	16.10	0.00	0.00	0.00	0.00
300°	561.56	0.00	0.00	17.41	0.00	0.00	0.00	0.00
325°	618.85	0.00	0.00	18.50	0.00	0.00	0.00	0.00
350°	665.37	0.00	0.00	19.41	0.00	0.00	0.00	0.00
375°	703.07	0.00	0.00	20.15	0.00	0.00	0.00	0.00
400°	733.43	0.00	0.00	20.74	332.93	0.00	0.00	0.00

SI

	Anhydrite	Barite	Celestite	Gypsum	Halite
50°	-0.66	0.94	0.05	-0.26	-2.16
75°	-0.66	0.69	0.03	-0.28	-2.19
100°	-0.48	0.48	0.05	-0.27	-2.22
125°	-0.31	0.31	0.09	-0.26	-2.23
150°	-0.15	0.18	0.14	-0.24	-2.24
175°	-0.01	0.07	0.20	-0.23	-2.24
200°	0.13	-0.01	0.20	-0.24	-2.24
225°	0.26	-0.07	0.34	-0.25	-2.23
250°	0.38	-0.12	0.42	-0.27	-2.22
275°	0.50	-0.15	0.50	-0.28	-2.21
300°	0.62	-0.18	0.58	-0.28	-2.19
325°	0.74	-0.21	0.66	-0.25	-2.17
350°	0.85	-0.24	0.75	-0.17	-2.14
375°	0.97	-0.26	0.83	-0.02	-2.11
400°	1.08	-0.30	0.91	0.23	-2.07

Comments

Scaling predictions calculated using Scale Soft Pitzer 2019

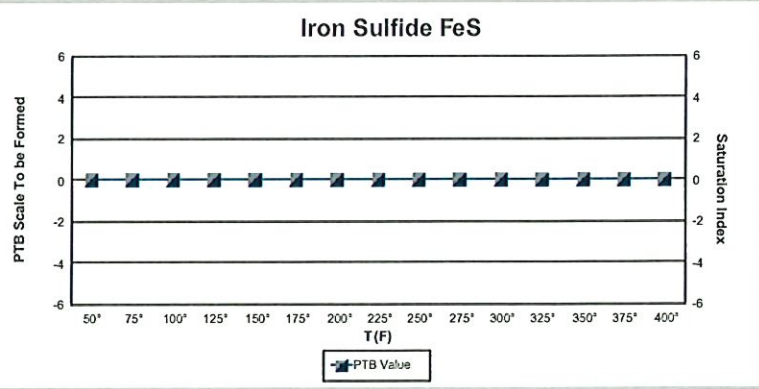
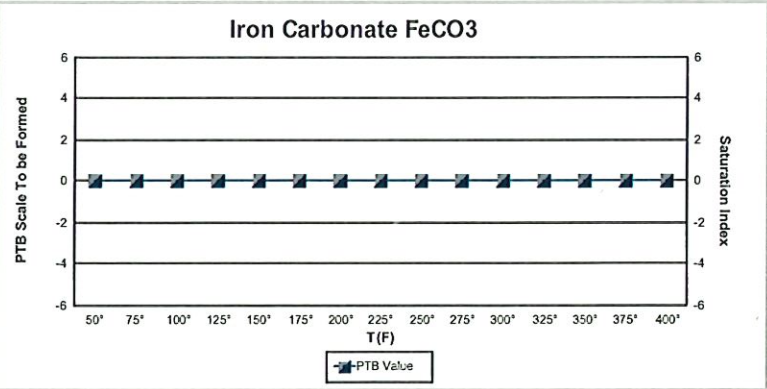
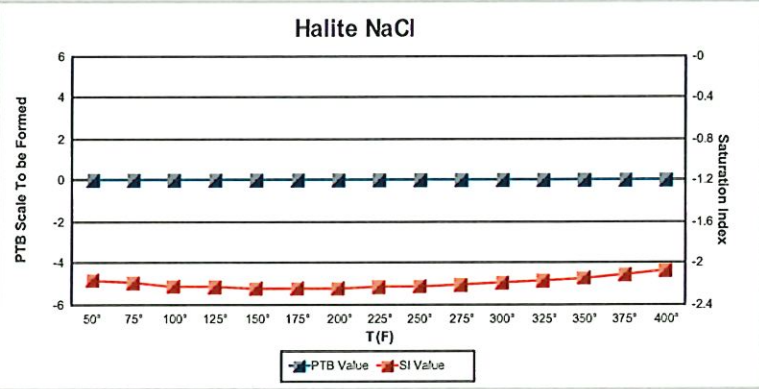
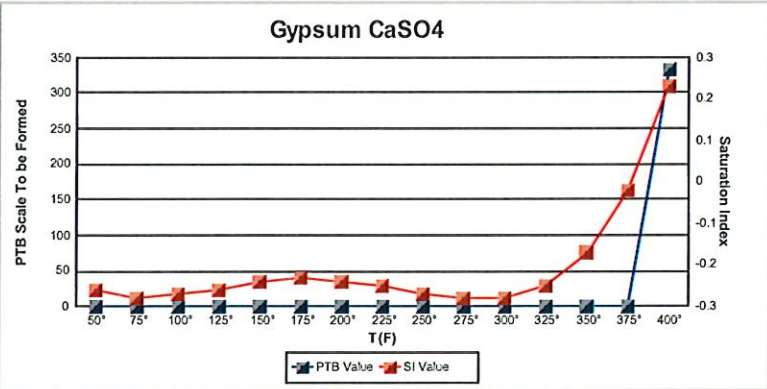
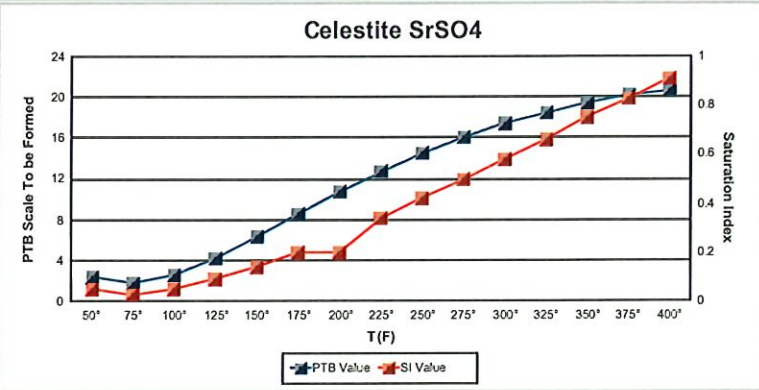
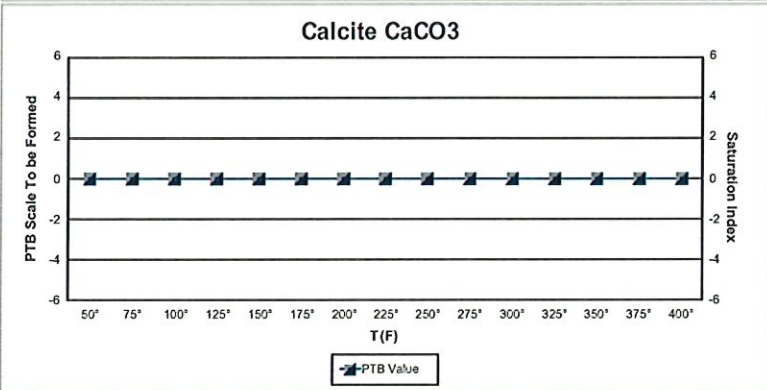
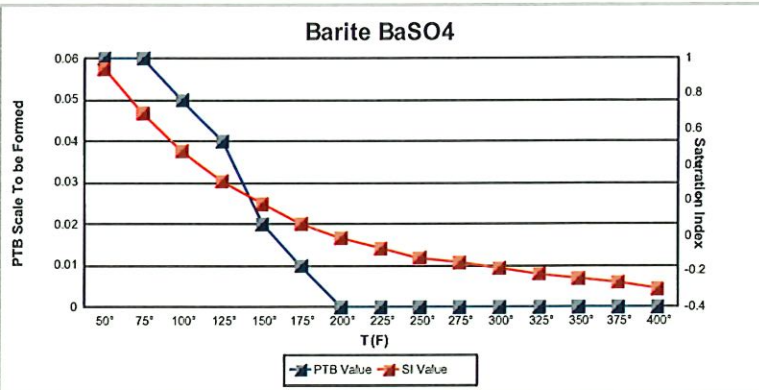
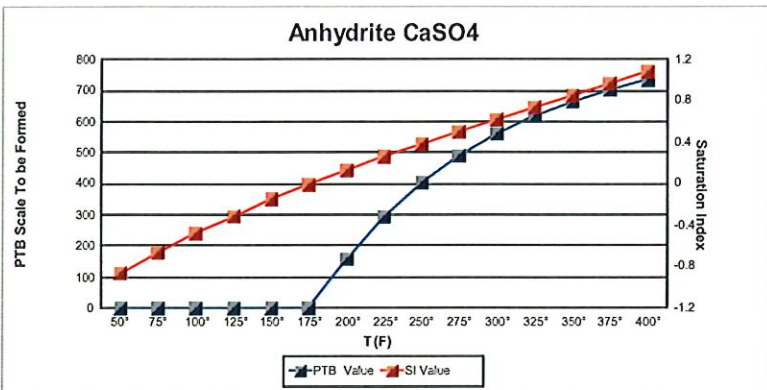
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