

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: **Gall 1-21**
 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: **AX37084**
 Location Code: **430673**

Field Analysis

Analysis	Result	Analysis Method
Total Alkalinity (M-Alk as HCO3)	107 mg/L	Titration
Dissolved CO2	230 mg/L	Titration
Dissolved H2S	99 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	0.950 mol/L	Calculation
Total Dissolved Solids	52900 mg/L	Calculation
Calculated pH	7.50	Calculation
Calculated CO2 in the gas	0.00 %	Calculation

Cations - Analyzed By ICP

Iron	0.720 mg/L	Boron	21.0 mg/L	Silicon	7.69 mg/L
Manganese	<0.200 mg/L	Lithium	3.95 mg/L	Aluminum	<0.400 mg/L
Barium	<0.100 mg/L	Copper	<0.200 mg/L	Molybdenum	<0.200 mg/L
Strontium	39.1 mg/L	Nickel	<0.200 mg/L	Phosphorus	5.92 mg/L
Calcium	646 mg/L	Zinc	0.489 mg/L	Measured Sodium	17900 mg/L
Magnesium	322 mg/L	Lead	<0.500 mg/L		
Sodium	17900 mg/L	Cobalt	<0.500 mg/L		
Potassium	237 mg/L	Chromium	<0.100 mg/L		

Anions - Analyzed by IC*

Chloride	30400 mg/L	Bromide	26.5 mg/L	Sulfate	3200 mg/L
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PTB

	Anhydrite	Barite	Calcite	Celestite	Gypsum	Halite	Iron Carbonate	Iron Sulfide
50°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.39
75°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.38
100°	0.00	0.00	0.00	1.13	0.00	0.00	0.00	0.37
125°	0.00	0.00	0.00	3.68	0.00	0.00	0.00	0.36
150°	0.00	0.00	0.00	6.67	0.00	0.00	0.00	0.35
175°	0.00	0.00	0.00	9.74	0.00	0.00	0.00	0.34
200°	0.00	0.00	0.00	12.64	0.00	0.00	0.00	0.33
225°	115.38	0.00	0.00	15.26	0.00	0.00	0.00	0.33
250°	237.34	0.00	0.00	17.55	0.00	0.00	0.00	0.33
275°	336.64	0.00	0.00	19.50	0.00	0.00	0.00	0.34
300°	418.08	0.00	0.00	21.15	0.00	0.00	0.00	0.35
325°	485.23	0.00	0.00	22.51	0.00	0.00	0.00	0.36
350°	540.73	0.00	0.00	23.64	0.00	0.00	0.00	0.37
375°	586.55	0.00	0.00	24.55	0.00	0.00	0.00	0.37
400°	624.14	0.00	0.00	25.29	114.75	0.00	0.00	0.38

SI

	Anhydrite	Celestite	Gypsum	Halite	Iron Sulfide
50°	-1.04	0.00	-0.44	-2.08	1.75
75°	-0.83	-0.01	-0.45	-2.11	1.44
100°	-0.64	0.02	-0.44	-2.14	1.21
125°	-0.47	0.06	-0.42	-2.15	1.03
150°	-0.32	0.12	-0.41	-2.16	0.91
175°	-0.17	0.18	-0.39	-2.16	0.83
200°	-0.03	0.18	-0.39	-2.16	0.79
225°	0.10	0.33	-0.41	-2.15	0.79
250°	0.23	0.41	-0.42	-2.14	0.81
275°	0.35	0.50	-0.43	-2.13	0.85
300°	0.47	0.58	-0.43	-2.11	0.92
325°	0.59	0.67	-0.40	-2.09	1.00
350°	0.71	0.76	-0.32	-2.07	1.10
375°	0.82	0.84	-0.17	-2.04	1.22
400°	0.94	0.93	0.08	-2.00	1.34

Comments

Scaling predictions calculated using Scale Soft Pitzer 2019

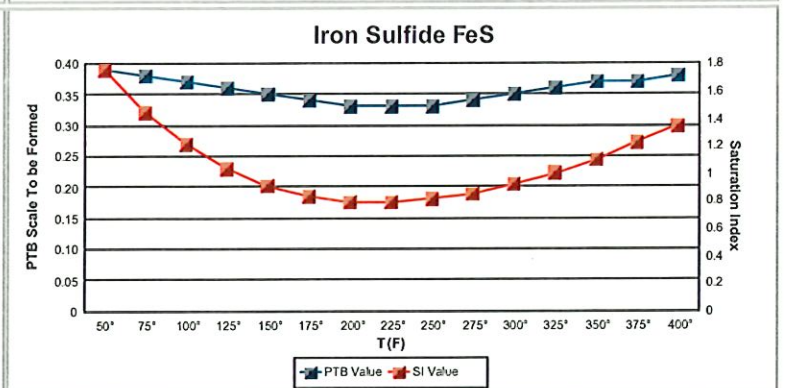
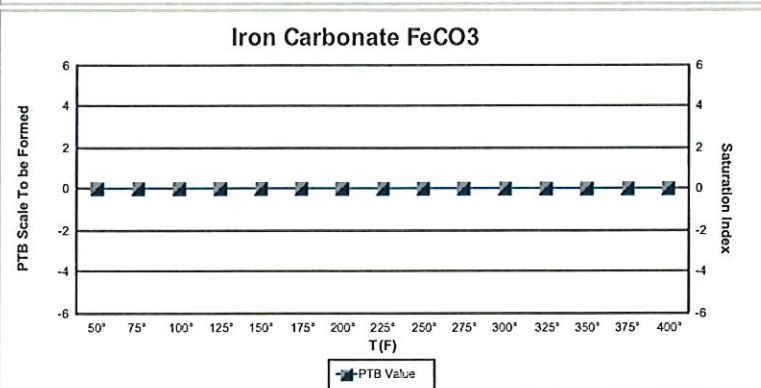
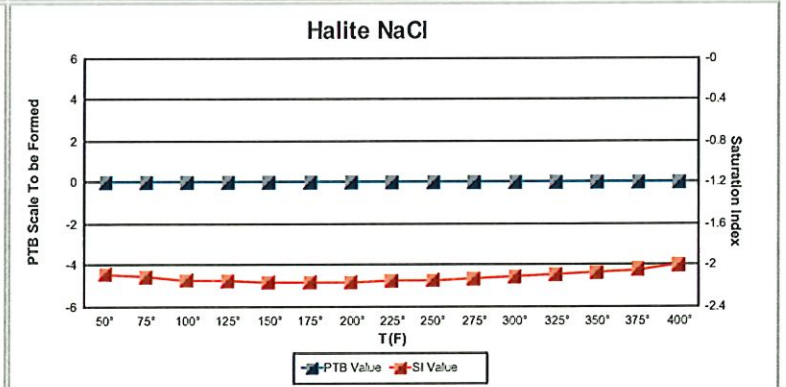
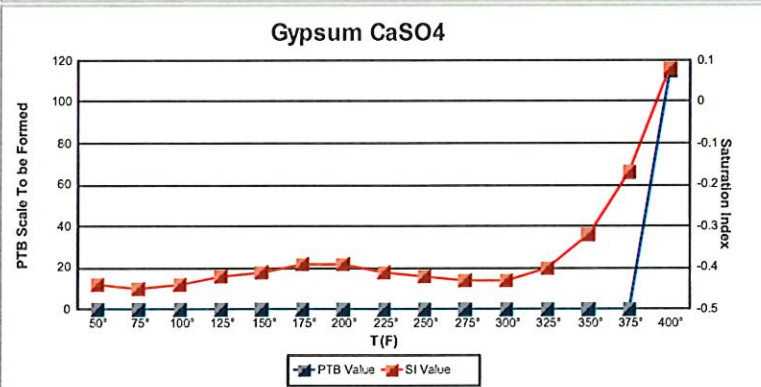
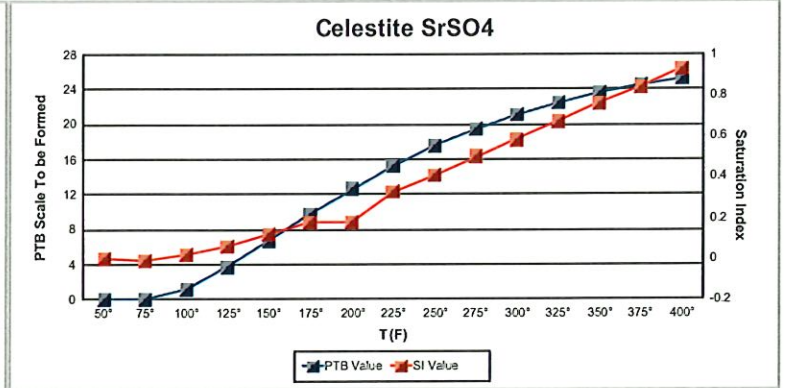
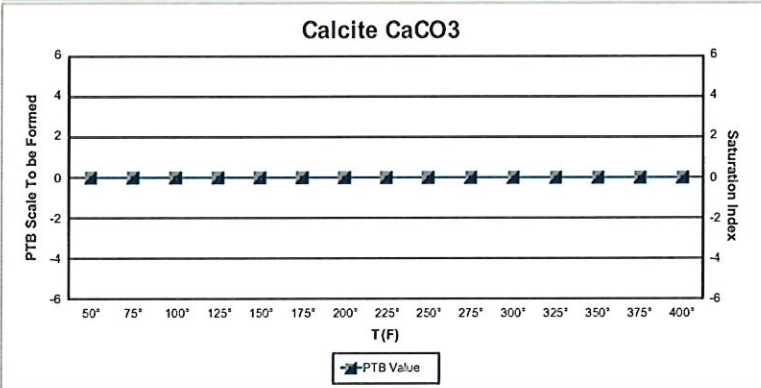
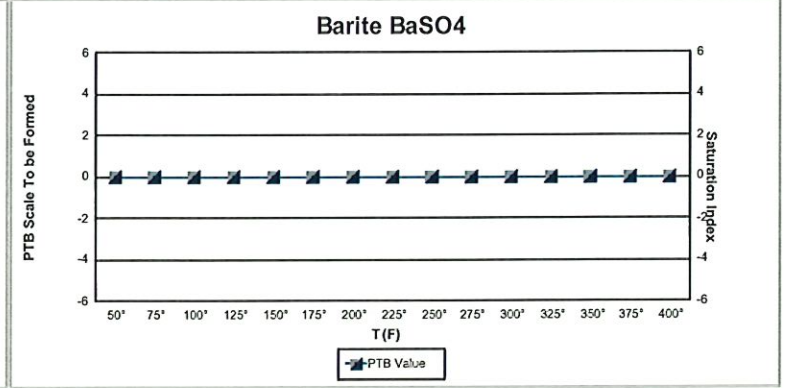
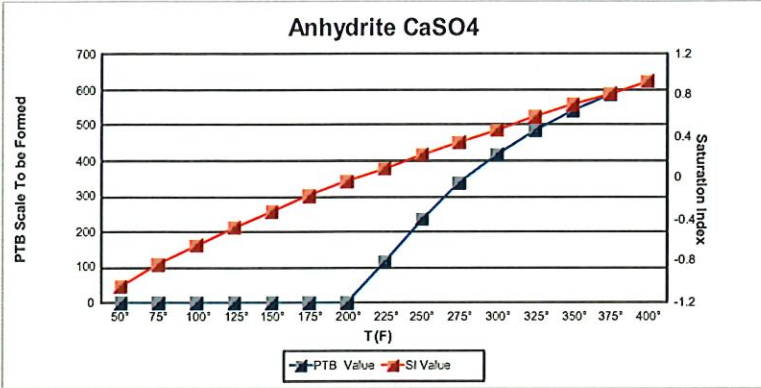
Scaling predictions dependent on provided field data. Incomplete/partial field data may impact results generated by scaling software.

Complete Water Analysis

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 Geographic Region: Kansas
 Geographic Location: Lane County
 System Description: Production System

Equipment Description: Gail 1-21
 Sample Point: Bleeder
 Customer ID:
 Latitude/Longitude: 0.00, 0.00
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Collect Date: 02/20/2024
 Submit Date: 02/20/2024
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 Sample ID: AX37084
 Location Code: 430673



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