

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: **Ness County**
 System Description: **Production System**

Equipment Description: **Vogel B 1-30 SWD**
 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: **AX37095**
 Location Code: **430675**

Field Analysis

Analysis	Result	Analysis Method
Total Alkalinity (M-Alk as HCO ₃)	117 mg/L	Titration
Dissolved CO ₂	190 mg/L	Titration
Dissolved H ₂ S	88 mg/L	Titration
Pressure Surface	25 psi	
Temperature	100 °F	
pH of Water	7.5	Meter

Sample Analysis

Analysis	Result	Analysis Method
Specific Gravity	1.029	Densitometer
Ionic Strength	0.580 mol/L	Calculation
Total Dissolved Solids	30900 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	13.8 mg/L	Silicon	8.88 mg/L
Manganese	<0.200 mg/L	Lithium	9.70 mg/L	Aluminum	<0.400 mg/L
Barium	0.103 mg/L	Copper	<0.200 mg/L	Molybdenum	<0.200 mg/L
Strontium	40.5 mg/L	Nickel	<0.200 mg/L	Phosphorus	<0.500 mg/L
Calcium	1250 mg/L	Zinc	<0.400 mg/L	Measured Sodium	8880 mg/L
Magnesium	370 mg/L	Lead	<0.500 mg/L		
Sodium	8880 mg/L	Cobalt	<0.500 mg/L		
Potassium	207 mg/L	Chromium	<0.100 mg/L		

Anions - Analyzed by IC*

Chloride	17600 mg/L	Bromide	37.1 mg/L	Sulfate	2320 mg/L
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PTB

	Anhydrite	Barite	Calcite	Celestite	Gypsum	Halite	Iron Carbonate	Iron Sulfide
50°	0.00	0.05	0.00	3.47	0.00	0.00	0.00	0.00
75°	0.00	0.04	0.00	1.96	0.00	0.00	0.00	0.00
100°	0.00	0.03	0.00	2.41	0.00	0.00	0.00	0.00
125°	0.00	0.02	0.00	4.15	0.00	0.00	0.00	0.00
150°	0.00	0.00	0.00	6.62	0.00	0.00	0.00	0.00
175°	163.85	0.00	0.00	9.41	0.00	0.00	0.00	0.00
200°	330.33	0.00	0.00	12.21	0.00	0.00	0.00	0.00
225°	466.48	0.00	0.00	14.87	0.00	0.00	0.00	0.00
250°	579.30	0.00	0.00	17.27	0.00	0.00	0.00	0.00
275°	673.69	0.00	0.00	19.39	0.00	0.00	0.00	0.00
300°	753.41	0.00	0.00	21.20	0.00	0.00	0.00	0.00
325°	821.24	0.00	0.00	22.73	0.00	0.00	0.00	0.00
350°	879.22	0.00	0.00	24.00	0.00	0.00	0.00	0.00
375°	928.84	0.00	0.00	25.04	269.60	0.00	0.00	0.00
400°	971.14	0.00	0.00	25.88	616.70	0.00	0.00	0.00

SI

	Anhydrite	Barite	Celestite	Gypsum	Halite
50°	-0.72	0.82	0.05	-0.11	-2.60
75°	-0.53	0.55	0.03	-0.14	-2.64
100°	-0.35	0.33	0.04	-0.14	-2.66
125°	-0.18	0.16	0.07	-0.12	-2.68
150°	-0.03	0.02	0.11	-0.11	-2.69
175°	0.12	-0.09	0.17	-0.10	-2.69
200°	0.26	-0.17	0.17	-0.10	-2.68
225°	0.39	-0.24	0.30	-0.11	-2.67
250°	0.52	-0.28	0.38	-0.12	-2.66
275°	0.64	-0.32	0.46	-0.13	-2.64
300°	0.77	-0.35	0.55	-0.13	-2.62
325°	0.89	-0.37	0.63	-0.09	-2.59
350°	1.01	-0.39	0.72	0.00	-2.56
375°	1.14	-0.41	0.81	0.16	-2.52
400°	1.26	-0.44	0.89	0.41	-2.48

Comments

Scaling predictions calculated using Scale Soft Pitzer 2019

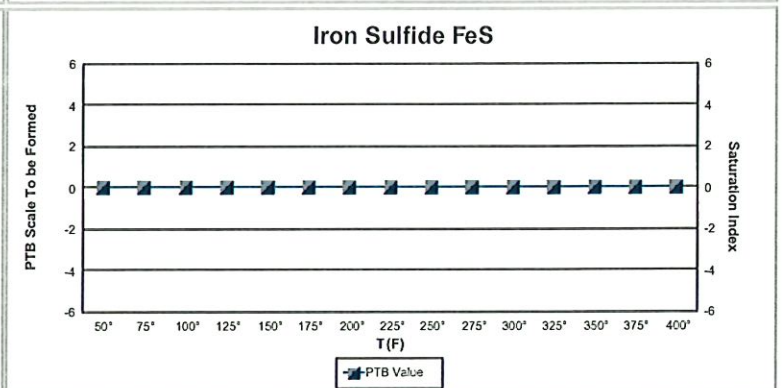
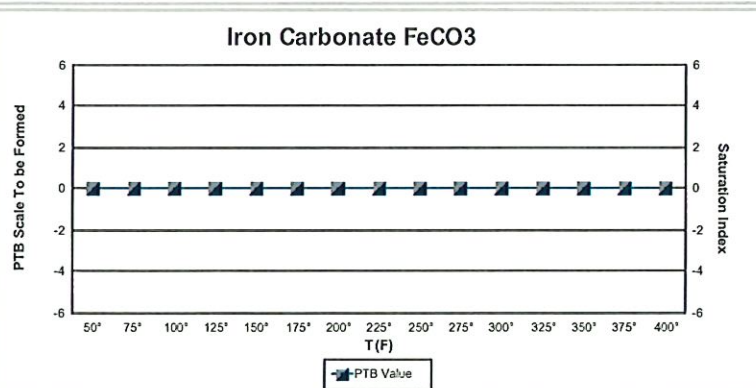
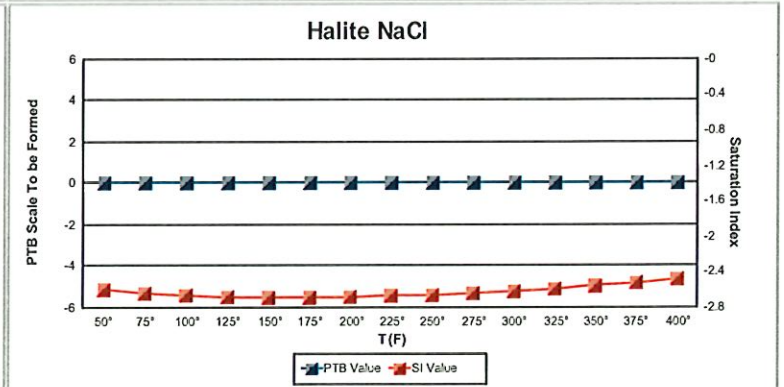
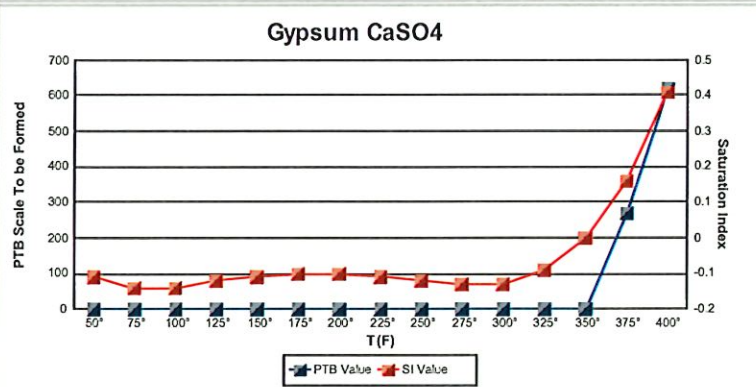
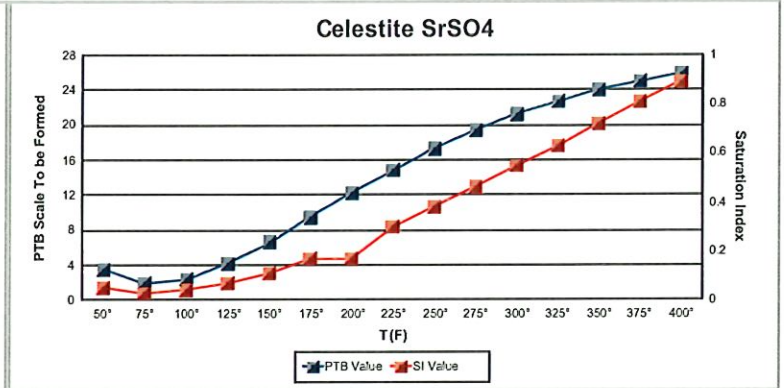
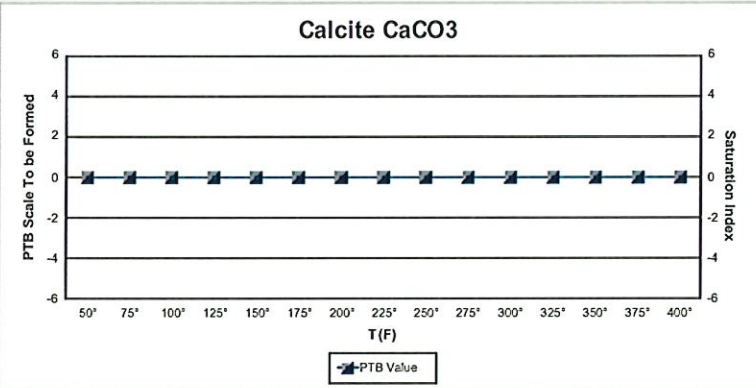
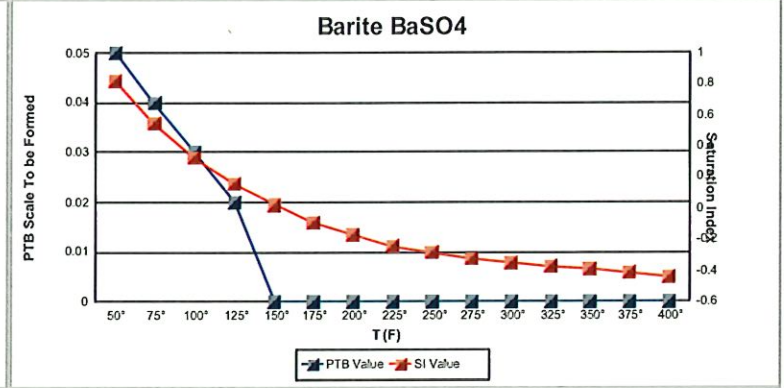
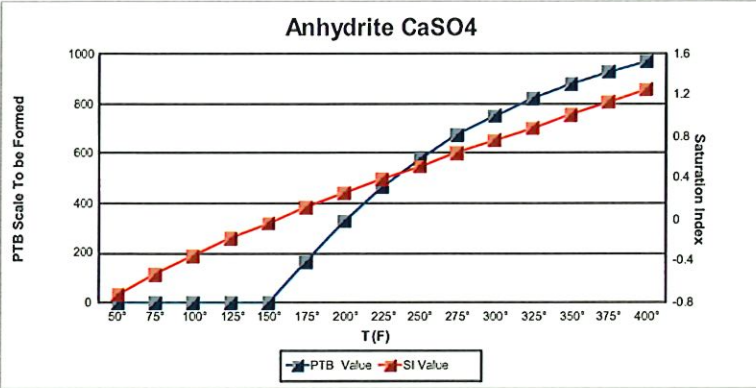
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