

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: **Mumma 1 OWWO**
 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: **AX37106**
 Location Code: **430669**

Field Analysis		
Analysis	Result	Analysis Method
Total Alkalinity (M-Alk as HCO3)	137 mg/L	Titration
Dissolved CO2	260 mg/L	Titration
Dissolved H2S	82 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	0.860 mol/L	Calculation
Total Dissolved Solids	48900 mg/L	Calculation
Calculated pH	7.50	Calculation
Calculated CO2 in the gas	0.0100 %	Calculation

Cations - Analyzed By ICP					
Iron	<0.500 mg/L	Boron	14.2 mg/L	Silicon	6.43 mg/L
Manganese	<0.200 mg/L	Lithium	4.54 mg/L	Aluminum	<0.400 mg/L
Barium	<0.100 mg/L	Copper	<0.200 mg/L	Molybdenum	<0.200 mg/L
Strontium	22.2 mg/L	Nickel	<0.200 mg/L	Phosphorus	<0.500 mg/L
Calcium	698 mg/L	Zinc	<0.400 mg/L	Measured Sodium	13000 mg/L
Magnesium	285 mg/L	Lead	<0.500 mg/L		
Sodium	13000 mg/L	Cobalt	<0.500 mg/L		
Potassium	183 mg/L	Chromium	<0.100 mg/L		

Anions - Analyzed by IC*					
Chloride	30200 mg/L	Bromide	30.8 mg/L	Sulfate	4270 mg/L

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	0.00
75°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
125°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
150°	0.00	0.00	0.00	1.31	0.00	0.00	0.00	0.00
175°	71.23	0.00	0.00	3.18	0.00	0.00	0.00	0.00
200°	228.97	0.00	0.00	5.02	0.00	0.00	0.00	0.00
225°	353.01	0.00	0.00	6.74	0.00	0.00	0.00	0.00
250°	451.27	0.00	0.00	8.27	0.00	0.00	0.00	0.00
275°	529.41	0.00	0.00	9.60	0.00	0.00	0.00	0.00
300°	591.82	0.00	0.00	10.75	0.00	0.00	0.00	0.00
325°	641.83	0.00	0.00	11.71	0.00	0.00	0.00	0.00
350°	681.93	0.00	0.00	12.51	0.00	0.00	0.00	0.00
375°	714.02	0.00	0.00	13.16	69.77	0.00	0.00	0.00
400°	739.57	0.00	0.00	13.69	409.64	0.00	0.00	0.00

SI					
	Anhydrite	Calcite	Celestite	Gypsum	Halite
50°	-0.79	-0.75	-0.04	-0.18	-2.22
75°	-0.59	-0.76	-0.06	-0.21	-2.26
100°	-0.41	-0.77	-0.04	-0.20	-2.28
125°	-0.24	-0.78	-0.01	-0.19	-2.30
150°	-0.09	-0.78	0.04	-0.18	-2.30
175°	0.05	-0.77	0.09	-0.17	-2.30
200°	0.19	-0.75	0.09	-0.17	-2.30
225°	0.32	-0.73	0.23	-0.19	-2.29
250°	0.44	-0.70	0.31	-0.20	-2.28
275°	0.56	-0.65	0.39	-0.22	-2.27
300°	0.68	-0.60	0.47	-0.22	-2.25
325°	0.80	-0.54	0.55	-0.19	-2.23
350°	0.91	-0.47	0.63	-0.11	-2.20
375°	1.03	-0.39	0.72	0.04	-2.17
400°	1.14	-0.30	0.80	0.29	-2.13

Comments

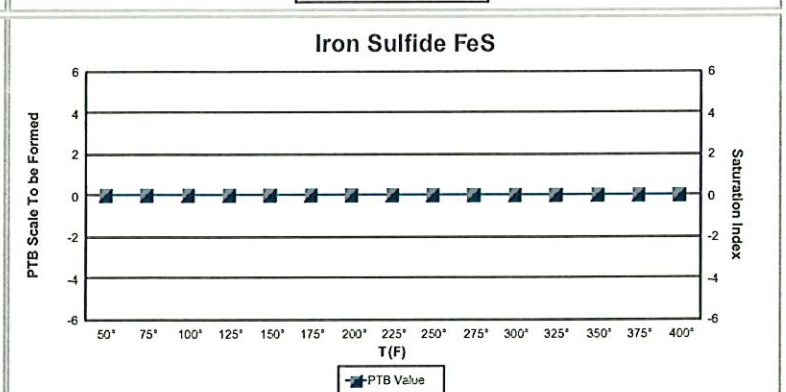
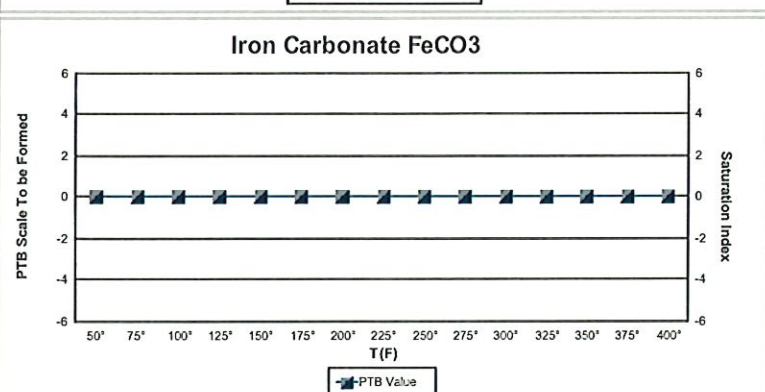
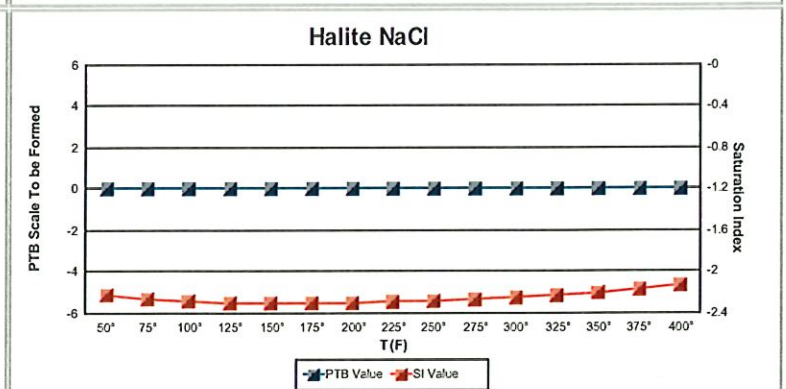
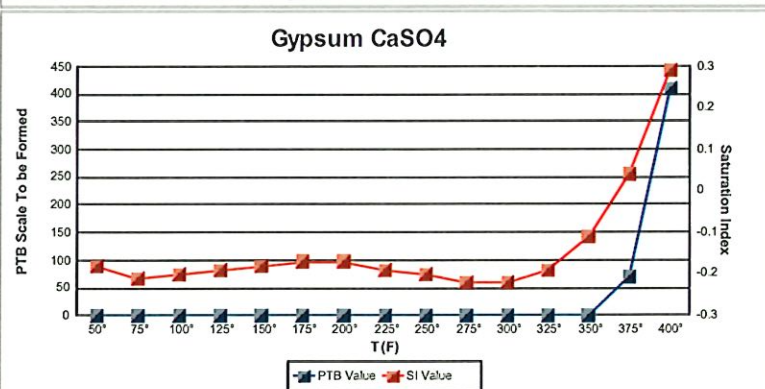
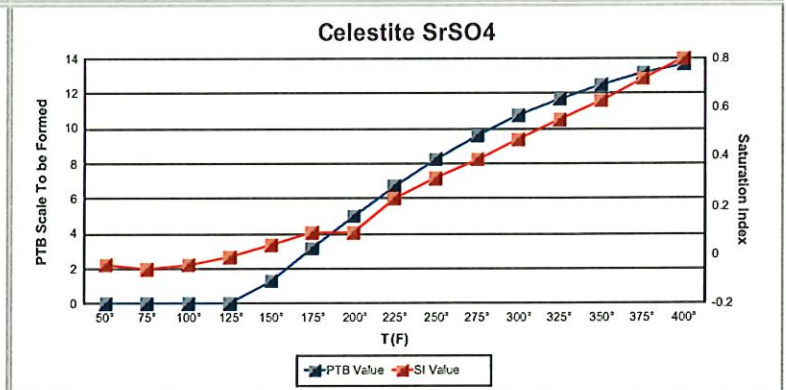
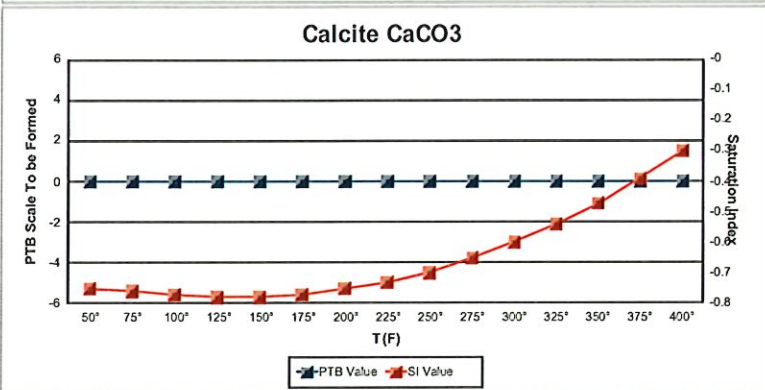
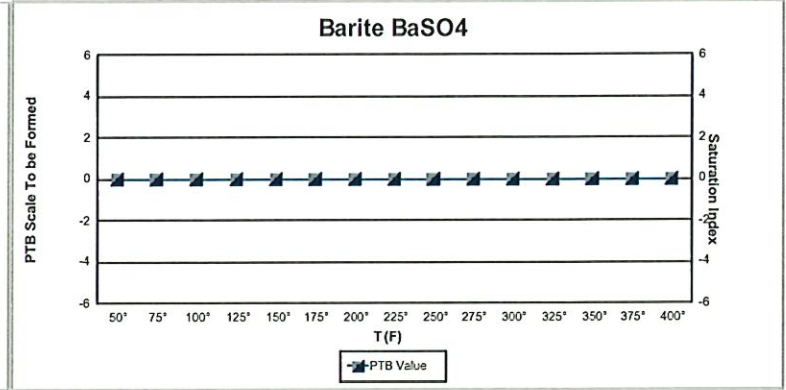
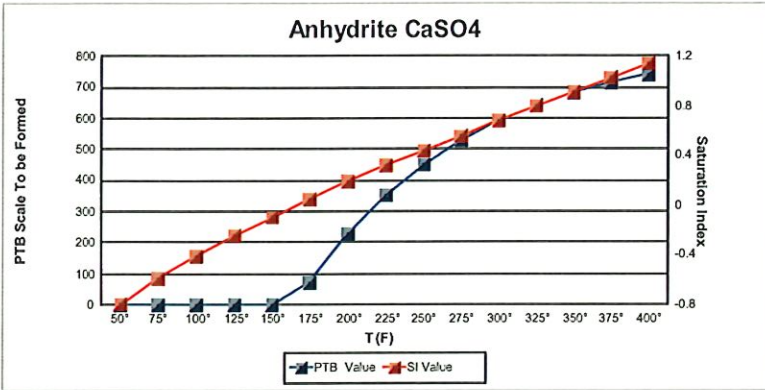
Scaling predictions calculated using Scale Soft Pitzer 2019
 Scaling predictions dependent on provided field data. Incomplete/partial field data may impact results generated by scaling software.

Complete Water Analysis

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

Equipment Description: Mumma 1 OWWO
 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: AX37106
 Location Code: 430669



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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