

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: **Harris Unit 1-20**
 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: **AX37081**
 Location Code: **409020**

Field Analysis		
Analysis	Result	Analysis Method
Total Alkalinity (M-Alk as HCO3)	249 mg/L	Titration
Dissolved CO2	180 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	1.042	Densitometer
Ionic Strength	0.850 mol/L	Calculation
Total Dissolved Solids	47500 mg/L	Calculation
Calculated pH	7.50	Calculation
Calculated CO2 in the gas	0.180 %	Calculation

Cations - Analyzed By ICP

Iron	1.18 mg/L	Boron	20.2 mg/L	Silicon	8.20 mg/L
Manganese	<0.200 mg/L	Lithium	4.16 mg/L	Aluminum	<0.400 mg/L
Barium	<0.100 mg/L	Copper	<0.200 mg/L	Molybdenum	<0.200 mg/L
Strontium	25.6 mg/L	Nickel	<0.200 mg/L	Phosphorus	<0.500 mg/L
Calcium	780 mg/L	Zinc	<0.400 mg/L	Measured Sodium	13700 mg/L
Magnesium	301 mg/L	Lead	<0.500 mg/L		
Sodium	13700 mg/L	Cobalt	<0.500 mg/L		
Potassium	208 mg/L	Chromium	<0.100 mg/L		

Anions - Analyzed by IC*

Chloride	27800 mg/L	Bromide	24.7 mg/L	Sulfate	4370 mg/L
----------	------------	---------	-----------	---------	-----------

PTB								
	Anhydrite	Barite	Calcite	Celestite	Gypsum	Halite	Iron Carbonate	Iron Sulfide
50°	0.00	0.00	19.14	0.65	0.00	0.00	0.00	0.65
75°	0.00	0.00	19.85	0.00	0.00	0.00	0.00	0.65
100°	0.00	0.00	20.85	0.54	0.00	0.00	0.00	0.64
125°	0.00	0.00	22.13	1.89	0.00	0.00	0.00	0.64
150°	0.00	0.00	23.63	3.66	0.00	0.00	0.00	0.64
175°	126.20	0.00	25.27	5.57	0.00	0.00	0.00	0.64
200°	290.23	0.00	26.99	7.44	0.00	0.00	0.00	0.64
225°	419.69	0.00	28.75	9.18	0.00	0.00	0.00	0.64
250°	522.67	0.00	30.52	10.73	0.00	0.00	0.00	0.64
275°	604.96	0.00	32.30	12.08	0.00	0.00	0.00	0.65
300°	671.01	0.00	34.08	13.23	0.00	0.00	0.08	0.65
325°	724.22	0.00	35.90	14.20	0.00	0.00	0.16	0.65
350°	767.11	0.00	37.76	15.01	0.00	0.00	0.21	0.65
375°	801.62	0.00	39.68	15.66	137.05	0.00	0.23	0.65
400°	829.23	0.00	41.68	16.20	492.14	0.00	0.22	0.65

SI							
	Anhydrite	Calcite	Celestite	Gypsum	Halite	Iron Carbonate	Iron Sulfide
50°	-0.75	0.43	0.02	-0.14	-2.23	-1.03	2.40
75°	-0.55	0.45	0.00	-0.17	-2.27	-0.90	2.14
100°	-0.37	0.49	0.01	-0.17	-2.30	-0.77	1.97
125°	-0.21	0.54	0.05	-0.15	-2.31	-0.64	1.86
150°	-0.05	0.61	0.09	-0.14	-2.32	-0.52	1.81
175°	0.09	0.69	0.15	-0.13	-2.32	-0.41	1.81
200°	0.23	0.78	0.15	-0.14	-2.32	-0.30	1.83
225°	0.35	0.88	0.29	-0.15	-2.31	-0.20	1.89
250°	0.48	0.98	0.37	-0.17	-2.30	-0.10	1.97
275°	0.60	1.10	0.45	-0.18	-2.28	-0.02	2.06
300°	0.72	1.21	0.53	-0.18	-2.26	0.04	2.16
325°	0.83	1.32	0.61	-0.15	-2.24	0.10	2.27
350°	0.95	1.43	0.70	-0.07	-2.22	0.13	2.38
375°	1.06	1.53	0.78	0.08	-2.18	0.14	2.50
400°	1.18	1.62	0.86	0.32	-2.15	0.14	2.61

Comments

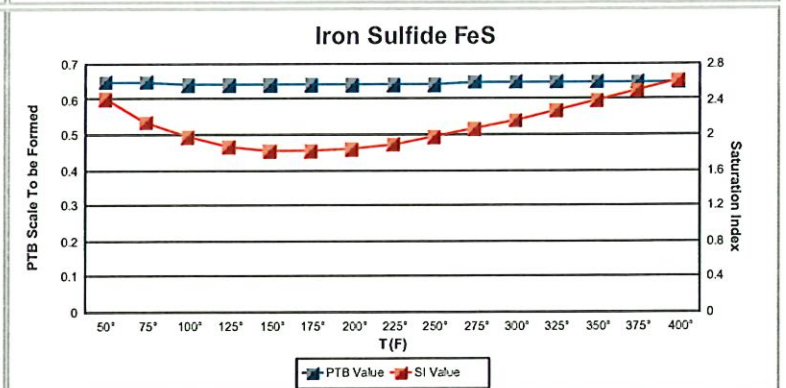
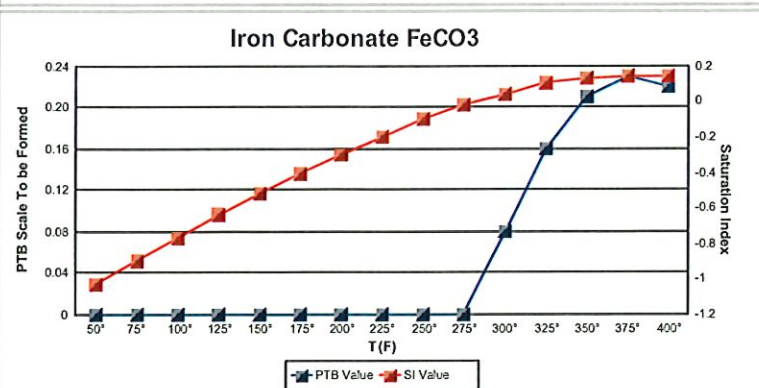
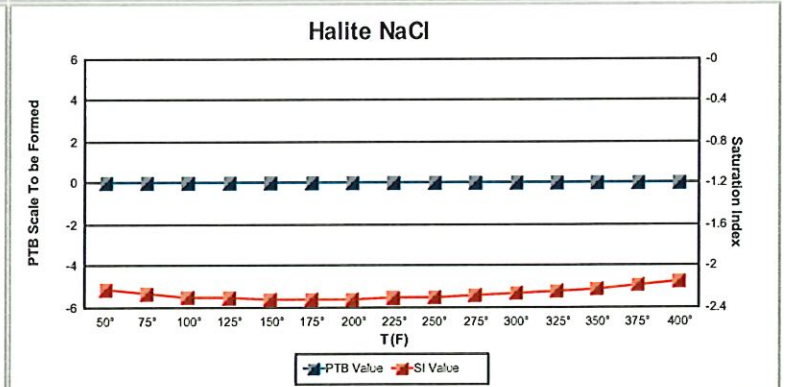
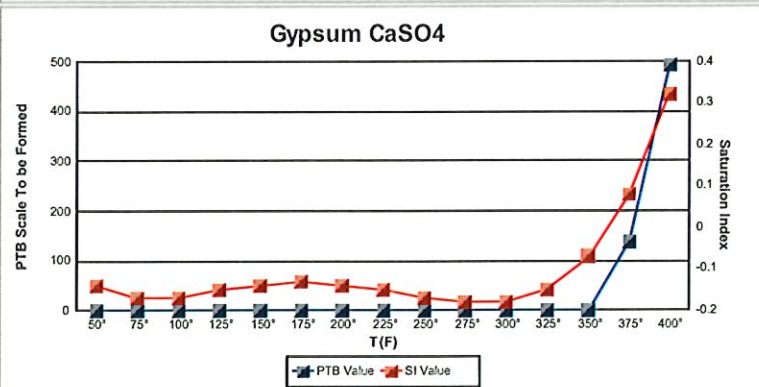
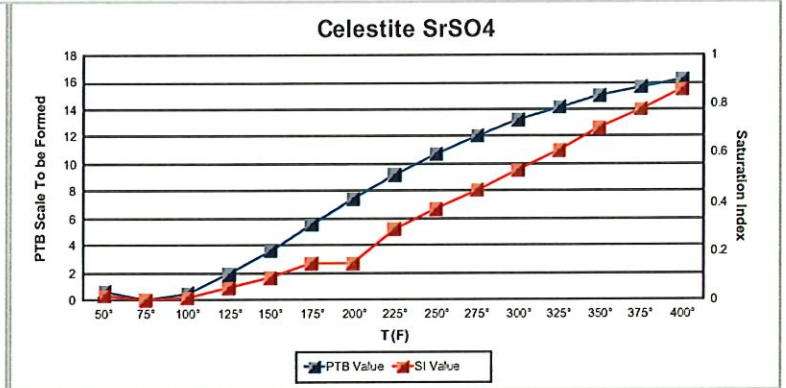
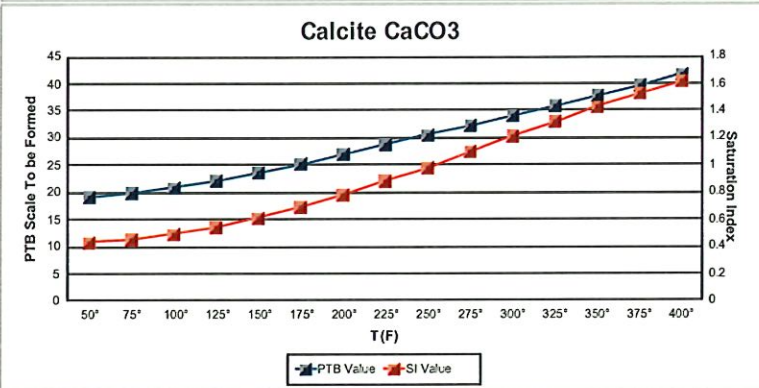
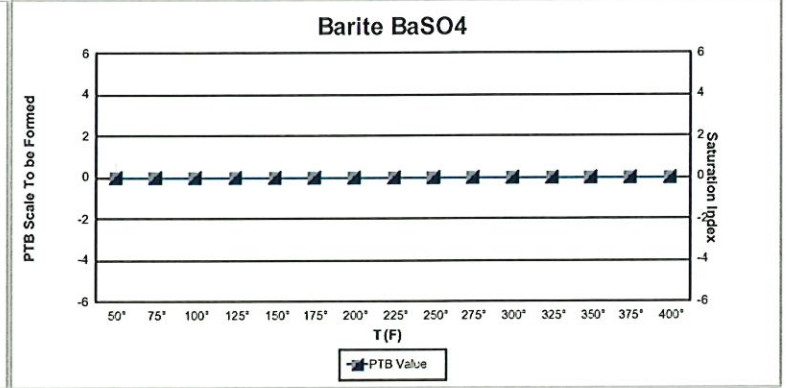
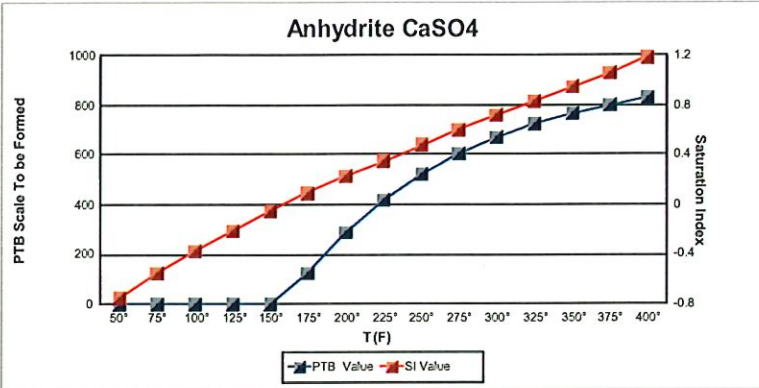
Scaling predictions calculated using Scale Soft Pitzer 2019
 Scaling predictions dependent on provided field data. Incomplete/partial field data may impact results generated by scaling software.

Complete Water Analysis

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

Equipment Description: **Harris Unit 1-20**
 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: **AX37081**
 Location Code: **409020**



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.

This document contains the confidential and/or proprietary information of ChampionX. The recipient agrees to maintain the confidentiality of the terms of this document, and shall not reproduce it by any means, disclose the contents of it to any third party, or use the contents of it for any purpose other than the purpose for which it was intended by ChampionX.