KOLAR Document ID: 1765227

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 # 7311
Name: Shakespeare Oil Co., Inc.
Address 1: 202 W MAIN ST
Address 2:
City: SALEM State: IL Zip: 62881 + 1519
Contact Person: Joseph McDanel
Phone: (618) 548-1585
Lease Name: STEELE
Well Number: 1 SWD

API No.: 15-101-30060-00-02
Permit No: D30588.0
Reporting Year: 2023
(January 1 to December 31)

NW - SW - SW - SW Sec. 21 Twp. 18 S. R. 30 ☐ E ☑ W
(Q/Q/Q/Q)
336 feet from ☐ N / ☑ S Line of Section
5036 feet from ☑ E / ☐ W Line of Section
County: Lane

I. Injection Fluid:

Type *(Pick one)*: ☐ Fresh Water ☐ Treated Brine ☐ Untreated Brine ☑ Water/Brine
Source: ☑ Produced Water ☐ Other *(Attach list)*
Quality: Total Dissolved Solids: 47900 mg/l Specific Gravity: 1.045 Additives:
(Attach water analysis, if available)

II. Well Data:

Maximum Authorized Injection Pressure: 0 psi Injection Zone: ARBUCKLE
Maximum Authorized Injection Rate: 1000 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	4675	0	0	0	31
February	5536	0	0	0	28
March	4704	0	0	0	31
April	5360	0	0	0	30
May	5585	0	0	0	31
June	5499	0	0	0	30
July	5094	0	0	0	31
August	4884	0	0	0	31
September	5410	0	0	0	30
October	5451	0	0	0	31
November	4793	0	0	0	30
December	5028	0	0	0	31
TOTAL	62019		0		

Submitted Electronically

Complete Water Analysis

Customer:	**SHAKESPEARE OIL COMPANY**	Equipment Description:	**Steele 1 SWD**	Collect Date:	**02/20/2024**
Formation Zone:		Sample Point:	**Bleeder**	Submit Date:	**02/20/2024**
Geographic Region:	**Kansas**	Customer ID:		Report Date:	**02/22/2024**
Geographic Location:	**Lane County**	Latitude/Longitude:	**0.00, 0.00**	Sample ID:	**AX37080**
System Description:	**Production System**	Account Rep:	**Michael.walters@championx.com**	Location Code:	**430655**

Field Analysis

Analysis	Result	Analysis Method
Total Alkalinity (M-Alk as HCO3)	**234** mg/L	Titration
Dissolved CO2	**230** mg/L	Titration
Dissolved H2S	**87** mg/L	Titration
Pressure Surface	**25** psi	
Temperature	**100** ° F	
pH of Water	**7.5**	Meter

Sample Analysis

Analysis	Result	Analysis Method
Specific Gravity	**1.045**	Densitometer
Ionic Strength	**0.870** mol/L	Calculation
Total Dissolved Solids	**47900** mg/L	Calculation
Calculated pH	**7.50**	Calculation
Calculated CO2 in the gas	**0.140** %	Calculation

Cations - Analyzed By ICP

Iron	**<0.500** mg/L	Boron	**21.6** mg/L	Silicon	**8.37** mg/L
Manganese	**<0.200** mg/L	Lithium	**4.55** mg/L	Aluminum	**<0.400** mg/L
Barium	**<0.100** mg/L	Copper	**<0.200** mg/L	Molybdenum	**<0.200** mg/L
Strontium	**29.2** mg/L	Nickel	**<0.200** mg/L	Phosphorus	**<0.500** mg/L
Calcium	**854** mg/L	Zinc	**0.50** mg/L	Measured Sodium	**14400** mg/L
Magnesium	**350** mg/L	Lead	**<0.500** mg/L		
Sodium	**14400** mg/L	Cobalt	**<0.500** mg/L		
Potassium	**225** mg/L	Chromium	**<0.100** mg/L		

Anions - Analyzed by IC*

Chloride	**27100** mg/L	Bromide	**25.9** mg/L	Sulfate	**4680** mg/L

PTB

	Anhydrite	Barite	Calcite	Celestite	Gypsum	Halite	Iron Carbonate	Iron Sulfide
50°	0.00	0.00	15.28	3.63	0.00	0.00	0.00	0.00
75°	0.00	0.00	15.58	3.01	0.00	0.00	0.00	0.00
100°	0.00	0.00	16.14	3.60	0.00	0.00	0.00	0.00
125°	0.00	0.00	17.00	4.94	0.00	0.00	0.00	0.00
150°	0.00	0.00	18.09	6.67	0.00	0.00	0.00	0.00
175°	200.36	0.00	19.38	8.53	0.00	0.00	0.00	0.00
200°	367.06	0.00	20.78	10.35	0.00	0.00	0.00	0.00
225°	498.46	0.00	22.27	12.04	0.00	0.00	0.00	0.00
250°	602.89	0.00	23.81	13.55	0.00	0.00	0.00	0.00
275°	686.27	0.00	25.39	14.86	0.00	0.00	0.00	0.00
300°	753.20	0.00	27.02	15.98	0.00	0.00	0.00	0.00
325°	807.13	0.00	28.69	16.92	0.00	0.00	0.00	0.00
350°	850.66	0.00	30.43	17.70	0.00	0.00	0.00	0.00
375°	885.74	0.00	32.26	18.34	210.78	0.00	0.00	0.00
400°	913.89	0.00	34.17	18.86	577.51	0.00	0.00	0.00

SI

	Anhydrite	Calcite	Celestite	Gypsum	Halite
50°	-0.70	0.36	0.08	-0.10	-2.23
75°	-0.51	0.38	0.07	-0.12	-2.26
100°	-0.33	0.41	0.08	-0.12	-2.29
125°	-0.16	0.44	0.11	-0.11	-2.30
150°	-0.01	0.50	0.16	-0.09	-2.31
175°	0.13	0.56	0.22	-0.09	-2.31
200°	0.27	0.64	0.22	-0.09	-2.31
225°	0.40	0.73	0.36	-0.11	-2.30
250°	0.52	0.82	0.44	-0.13	-2.29
275°	0.64	0.93	0.51	-0.14	-2.28
300°	0.76	1.03	0.59	-0.15	-2.26
325°	0.87	1.13	0.68	-0.12	-2.23
350°	0.98	1.23	0.76	-0.04	-2.21
375°	1.10	1.33	0.84	0.11	-2.18
400°	1.21	1.42	0.92	0.35	-2.14

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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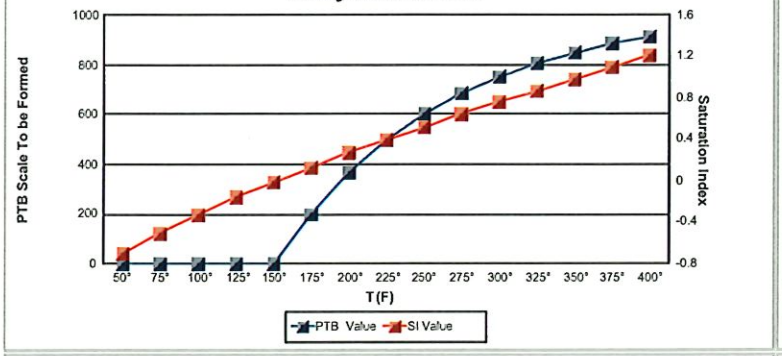
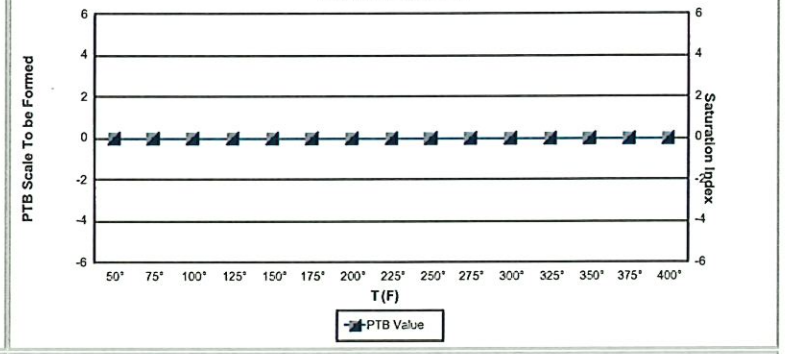
System Description:	**Production System**	Account Rep:	**Michael.walters@championx.com**	Location Code:	**430655**

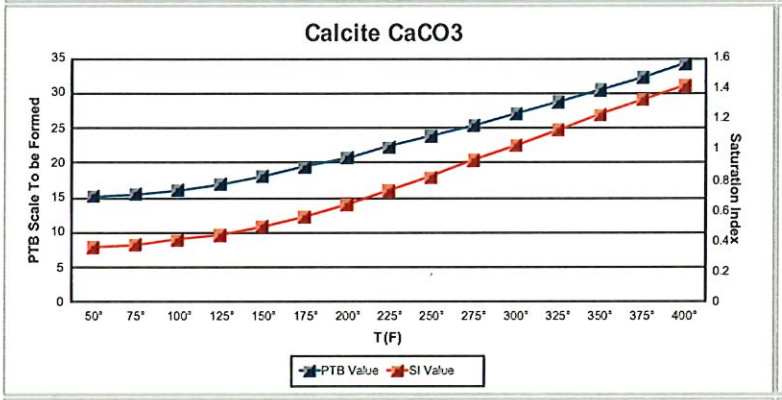
Anhydrite CaSO4



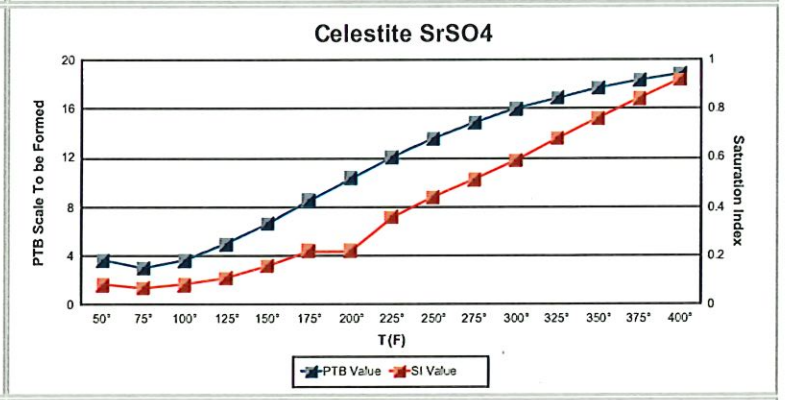
Barite BaSO4



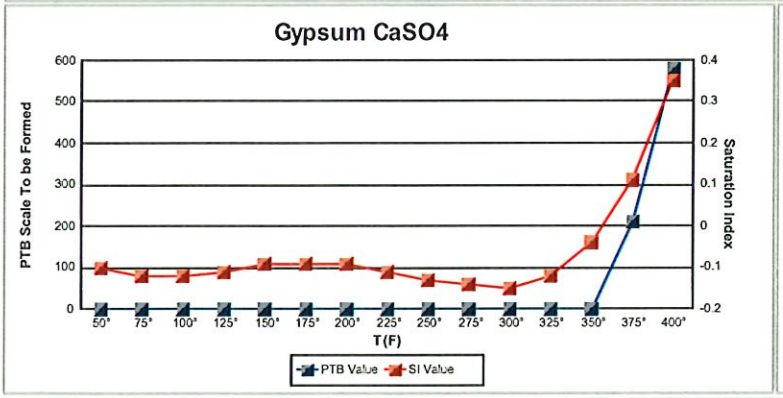
Calcite CaCO3



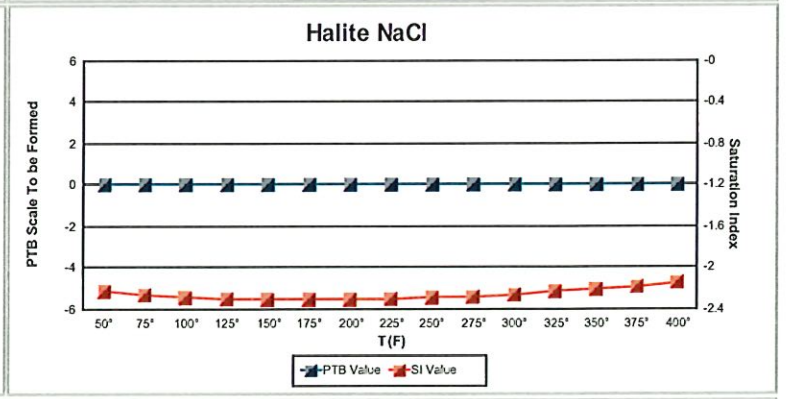
Celestite SrSO4



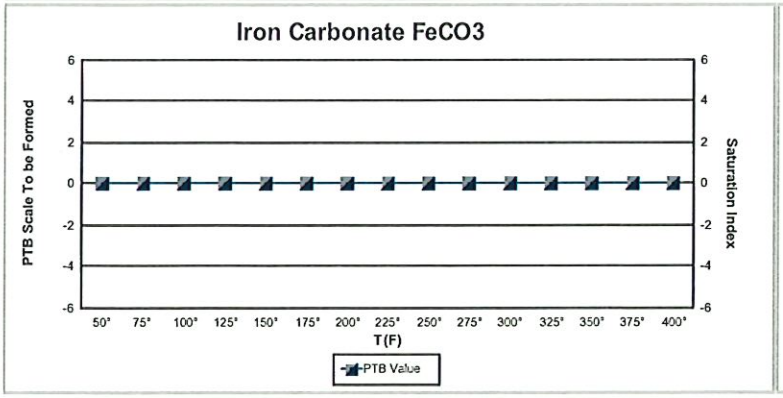
Gypsum CaSO4



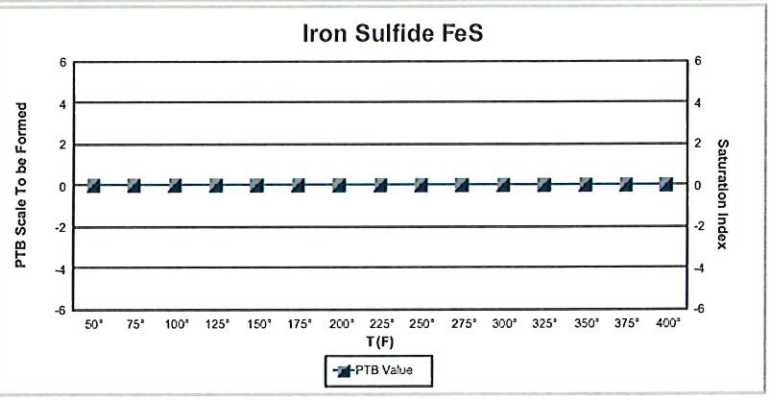
Halite NaCl



Iron Carbonate FeCO3



Iron Sulfide FeS



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