KOLAR Document ID: 1765220

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: ROBBINS TRUST
Well Number: 1-26

API No.: 15-101-22007-00-01
Permit No: E32397.1
Reporting Year: 2023
(January 1 to December 31)

____ - SW - SW - SW Sec. 26 Twp. 18 S. R. 29 ☐ E ☑ W
(Q/Q/Q/Q)
417 feet from ☐ N / ☑ S Line of Section
362 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: 59100 mg/l Specific Gravity: 1.05 Additives:
(Attach water analysis, if available)

II. Well Data:

Maximum Authorized Injection Pressure: 1200 psi Injection Zone: LANSING-KANSAS CITY,ALTAMONT
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	9962	10	0	0	31
February	8679	0	0	0	28
March	10254	0	0	0	31
April	9293	0	0	0	30
May	10076	0	0	0	31
June	10503	0	0	0	30
July	10687	0	0	0	31
August	12002	0	0	0	31
September	5996	0	0	0	30
October	10102	0	0	0	31
November	7443	0	0	0	30
December	29583	10	0	0	31
TOTAL	134580		0		

Submitted Electronically

Complete Water Analysis

Customer:	**SHAKESPEARE OIL COMPANY**	Equipment Description:	**Robbins Trust 1-26**	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:	**AX37101**
System Description:	**Production System**	Account Rep:	**Michael.walters@championx.com**	Location Code:	**430664**

Field Analysis

Analysis	Result	Analysis Method
Total Alkalinity (M-Alk as HCO3)	**244** mg/L	Titration
Dissolved CO2	**210** mg/L	Titration
Dissolved H2S	**100** mg/L	Titration
Pressure Surface	**25** psi	
Temperature	**100** ° F	
pH of Water	**7.5**	Meter

Sample Analysis

Analysis	Result	Analysis Method
Specific Gravity	**1.050**	Densitometer
Ionic Strength	**1.06** mol/L	Calculation
Total Dissolved Solids	**59100** mg/L	Calculation
Calculated pH	**7.50**	Calculation
Calculated CO2 in the gas	**0.120** %	Calculation

Cations - Analyzed By ICP

Iron	**<0.500** mg/L	Boron	**21.5** mg/L	Silicon	**7.63** mg/L
Manganese	**<0.200** mg/L	Lithium	**4.33** mg/L	Aluminum	**<0.400** mg/L
Barium	**0.110** mg/L	Copper	**<0.200** mg/L	Molybdenum	**<0.200** mg/L
Strontium	**41.9** mg/L	Nickel	**<0.200** mg/L	Phosphorus	**1.51** mg/L
Calcium	**881** mg/L	Zinc	**<0.400** mg/L	Measured Sodium	**20000** mg/L
Magnesium	**369** mg/L	Lead	**<0.500** mg/L		
Sodium	**20000** mg/L	Cobalt	**<0.500** mg/L		
Potassium	**264** mg/L	Chromium	**<0.100** mg/L		

Anions - Analyzed by IC*

Chloride	**33900** mg/L	Bromide	**32.8** mg/L	Sulfate	**3370** mg/L

PTB

	Anhydrite	Barite	Calcite	Celestite	Gypsum	Halite	Iron Carbonate	Iron Sulfide
50°	0.00	0.05	12.85	0.43	0.00	0.00	0.00	0.00
75°	0.00	0.04	13.11	0.40	0.00	0.00	0.00	0.00
100°	0.00	0.03	13.55	2.12	0.00	0.00	0.00	0.00
125°	0.00	0.02	14.25	4.80	0.00	0.00	0.00	0.00
150°	0.00	0.00	15.18	7.91	0.00	0.00	0.00	0.00
175°	0.00	0.00	16.29	11.07	0.00	0.00	0.00	0.00
200°	115.87	0.00	17.55	14.04	0.00	0.00	0.00	0.00
225°	277.03	0.00	18.91	16.71	0.00	0.00	0.00	0.00
250°	408.53	0.00	20.34	19.05	0.00	0.00	0.00	0.00
275°	516.89	0.00	21.83	21.05	0.00	0.00	0.00	0.00
300°	607.08	0.00	23.39	22.73	0.00	0.00	0.00	0.00
325°	682.78	0.00	25.01	24.13	0.00	0.00	0.00	0.00
350°	746.69	0.00	26.72	25.29	0.00	0.00	0.00	0.00
375°	800.75	0.00	28.52	26.24	0.00	0.00	0.00	0.00
400°	846.32	0.00	30.41	27.00	266.84	0.00	0.00	0.00

SI

	Anhydrite	Barite	Calcite	Celestite	Gypsum	Halite
50°	-0.92	0.74	0.30	0.01	-0.32	-1.99
75°	-0.71	0.49	0.32	0.01	-0.34	-2.02
100°	-0.53	0.29	0.34	0.03	-0.33	-2.04
125°	-0.36	0.12	0.37	0.07	-0.31	-2.06
150°	-0.20	-0.01	0.42	0.13	-0.29	-2.06
175°	-0.05	-0.11	0.48	0.20	-0.28	-2.07
200°	0.08	-0.19	0.54	0.20	-0.29	-2.06
225°	0.21	-0.25	0.62	0.34	-0.30	-2.06
250°	0.34	-0.30	0.71	0.42	-0.32	-2.05
275°	0.46	-0.33	0.80	0.50	-0.34	-2.04
300°	0.57	-0.37	0.90	0.59	-0.34	-2.02
325°	0.68	-0.40	0.99	0.67	-0.31	-2.00
350°	0.80	-0.43	1.09	0.75	-0.23	-1.98
375°	0.91	-0.46	1.18	0.84	-0.09	-1.95
400°	1.02	-0.49	1.27	0.92	0.16	-1.92

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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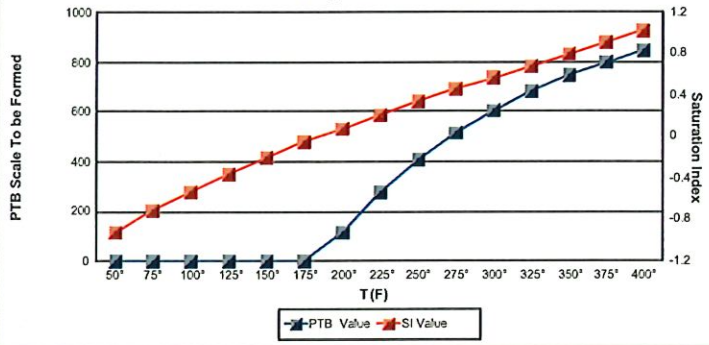
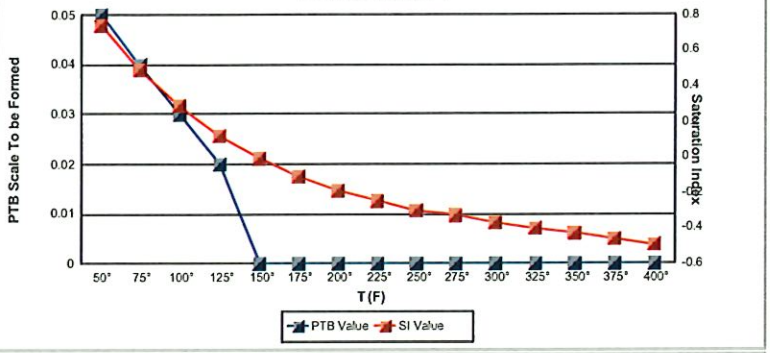
Geographic Location:	**Lane County**	Latitude/Longitude:	**0.00, 0.00**	Sample ID:	**AX37101**
System Description:	**Production System**	Account Rep:	**Michael.walters@championx.com**	Location Code:	**430664**

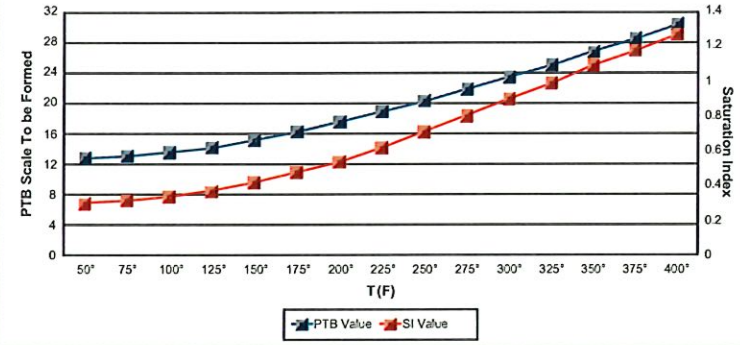
Anhydrite CaSO4



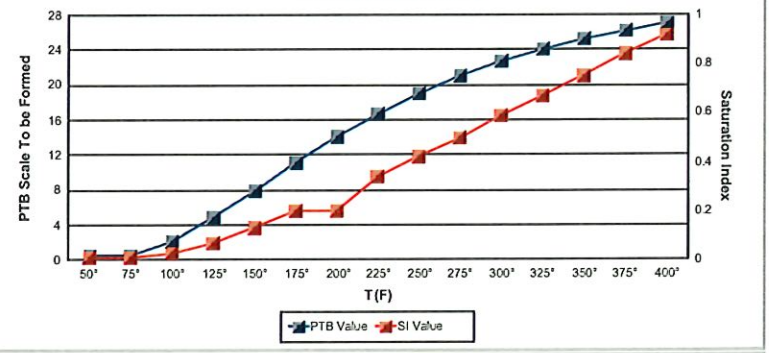
Barite BaSO4



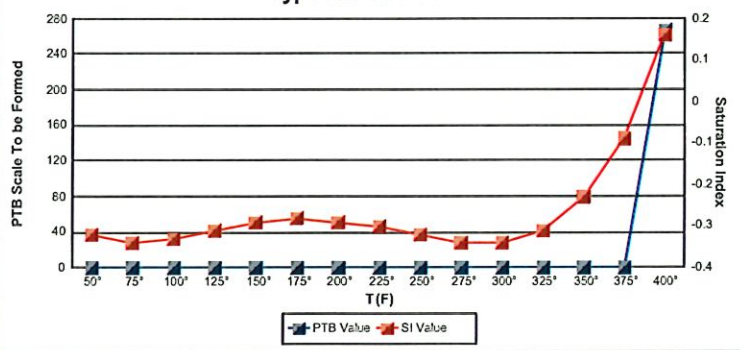
Calcite CaCO3



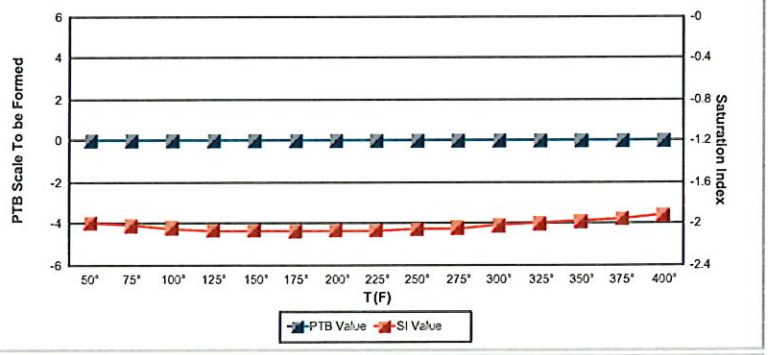
Celestite SrSO4



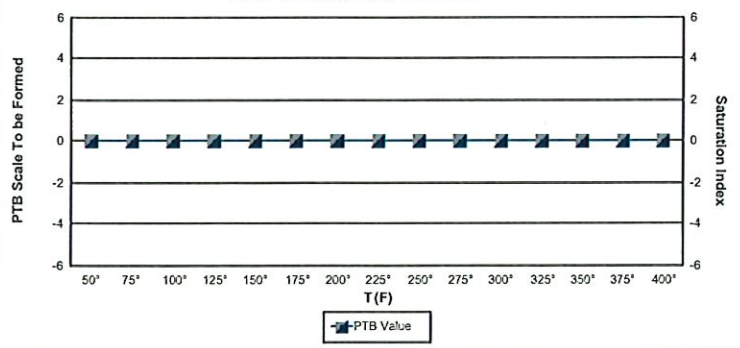
Gypsum CaSO4



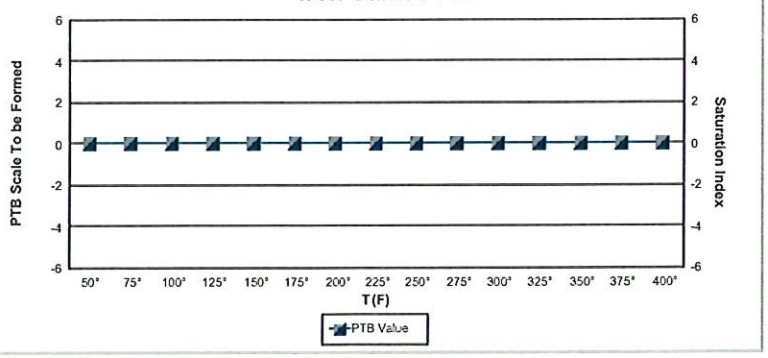
Halite NaCl



Iron Carbonate FeCO3



Iron Sulfide FeS



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