

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	_____	_____	_____	_____	_____

Submitted Electronically

Complete Water Analysis

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

Equipment Description: **Robbins 1-27**
 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: **AX37100**
 Location Code: **430663**

Field Analysis

Analysis	Result	Analysis Method
Total Alkalinity (M-Alk as HCO ₃)	273 mg/L	Titration
Dissolved CO ₂	270 mg/L	Titration
Dissolved H ₂ S	65 mg/L	Titration
Pressure Surface	25 psi	
Temperature	100 ° F	
pH of Water	7.5	Meter

Sample Analysis

Analysis	Result	Analysis Method
Specific Gravity	1.052	Densitometer
Ionic Strength	1.08 mol/L	Calculation
Total Dissolved Solids	60500 mg/L	Calculation
Calculated pH	7.50	Calculation
Calculated CO ₂ in the gas	0.240 %	Calculation

Cations - Analyzed By ICP

Iron	0.636 mg/L	Boron	23.1 mg/L	Silicon	7.73 mg/L
Manganese	<0.200 mg/L	Lithium	4.50 mg/L	Aluminum	<0.400 mg/L
Barium	0.158 mg/L	Copper	<0.200 mg/L	Molybdenum	<0.200 mg/L
Strontium	41.6 mg/L	Nickel	<0.200 mg/L	Phosphorus	0.796 mg/L
Calcium	878 mg/L	Zinc	2.59 mg/L	Measured Sodium	19400 mg/L
Magnesium	368 mg/L	Lead	<0.500 mg/L		
Sodium	19400 mg/L	Cobalt	<0.500 mg/L		
Potassium	267 mg/L	Chromium	<0.100 mg/L		

Anions - Analyzed by IC*

Chloride	35200 mg/L	Bromide	34.3 mg/L	Sulfate	4040 mg/L
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PTB

	Anhydrite	Barite	Calcite	Celestite	Gypsum	Halite	Iron Carbonate	Iron Sulfide
50°	0.00	0.08	26.29	5.67	0.00	0.00	0.00	0.35
75°	0.00	0.08	28.52	5.46	0.00	0.00	0.00	0.34
100°	0.00	0.07	30.87	6.73	0.00	0.00	0.00	0.34
125°	0.00	0.05	33.29	8.85	0.00	0.00	0.00	0.34
150°	0.00	0.04	35.71	11.35	0.00	0.00	0.00	0.34
175°	35.99	0.02	38.08	13.92	0.00	0.00	0.00	0.34
200°	226.49	0.01	40.34	16.37	0.00	0.00	0.00	0.34
225°	378.44	0.00	42.49	18.58	0.00	0.00	0.00	0.34
250°	501.00	0.00	44.52	20.53	0.00	0.00	0.00	0.34
275°	600.60	0.00	46.46	22.20	0.00	0.00	0.00	0.35
300°	682.18	0.00	48.31	23.61	0.00	0.00	0.06	0.35
325°	749.43	0.00	50.11	24.79	0.00	0.00	0.10	0.35
350°	805.07	0.00	51.89	25.77	0.00	0.00	0.12	0.35
375°	851.13	0.00	53.65	26.58	0.00	0.00	0.13	0.35
400°	889.08	0.00	55.43	27.23	376.81	0.00	0.11	0.35

SI

	Anhydrite	Barite	Calcite	Celestite	Gypsum	Halite	Iron Carbonate	Iron Sulfide
50°	-0.83	0.98	0.58	0.09	-0.23	-1.99	-1.19	1.99
75°	-0.63	0.73	0.63	0.09	-0.25	-2.02	-1.03	1.76
100°	-0.44	0.52	0.69	0.11	-0.25	-2.04	-0.88	1.61
125°	-0.28	0.36	0.77	0.15	-0.23	-2.06	-0.73	1.53
150°	-0.12	0.23	0.86	0.20	-0.21	-2.06	-0.58	1.50
175°	0.02	0.12	0.97	0.27	-0.21	-2.07	-0.45	1.51
200°	0.16	0.04	1.08	0.27	-0.21	-2.06	-0.32	1.55
225°	0.29	-0.02	1.20	0.41	-0.23	-2.06	-0.20	1.61
250°	0.41	-0.07	1.32	0.49	-0.25	-2.05	-0.10	1.69
275°	0.53	-0.11	1.44	0.57	-0.27	-2.04	-0.01	1.78
300°	0.64	-0.14	1.56	0.65	-0.27	-2.02	0.06	1.89
325°	0.75	-0.17	1.67	0.73	-0.24	-2.00	0.11	1.99
350°	0.86	-0.21	1.78	0.81	-0.17	-1.98	0.14	2.09
375°	0.97	-0.24	1.87	0.89	-0.02	-1.95	0.14	2.19
400°	1.08	-0.28	1.96	0.97	0.22	-1.92	0.12	2.29

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.

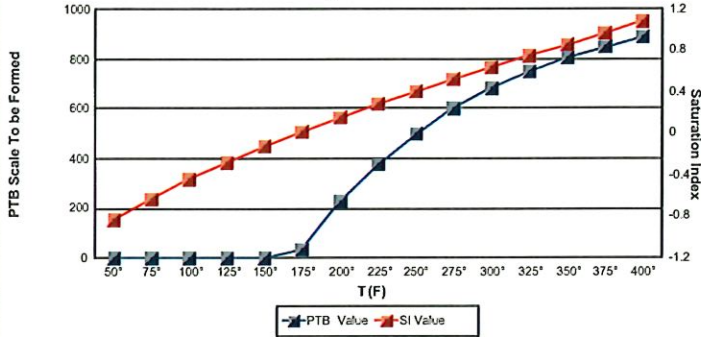
Complete Water Analysis

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 Geographic Region: **Kansas**
 Geographic Location: **Lane County**
 System Description: **Production System**

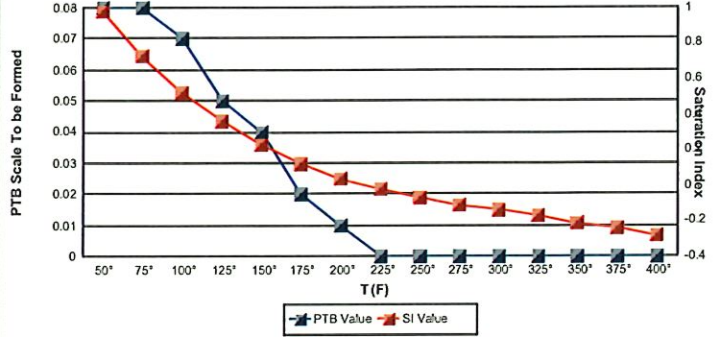
Equipment Description: **Robbins 1-27**
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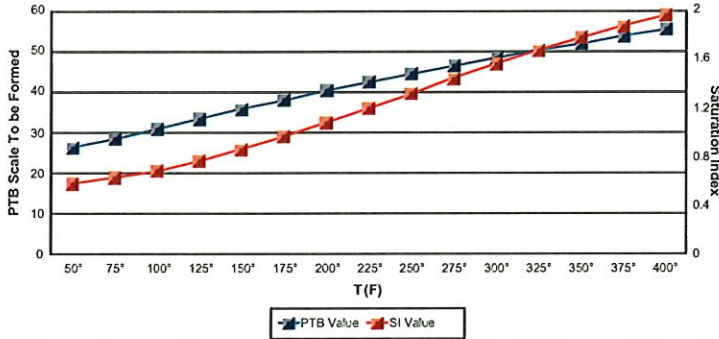
Anhydrite CaSO₄



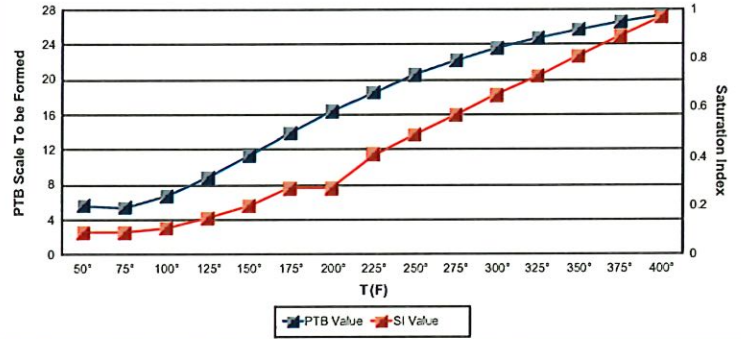
Barite BaSO₄



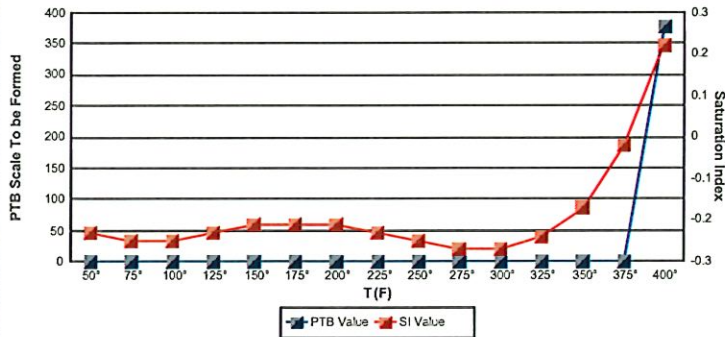
Calcite CaCO₃



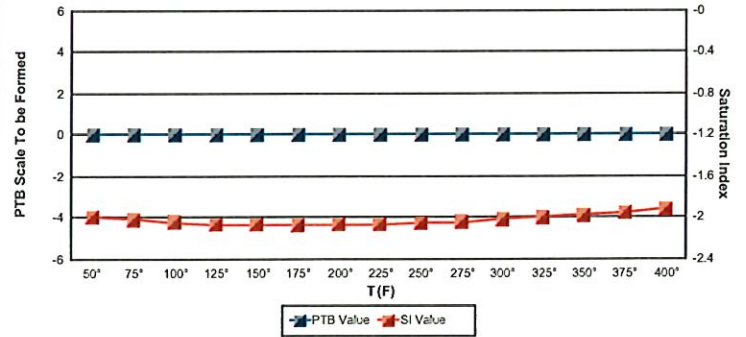
Celestite SrSO₄



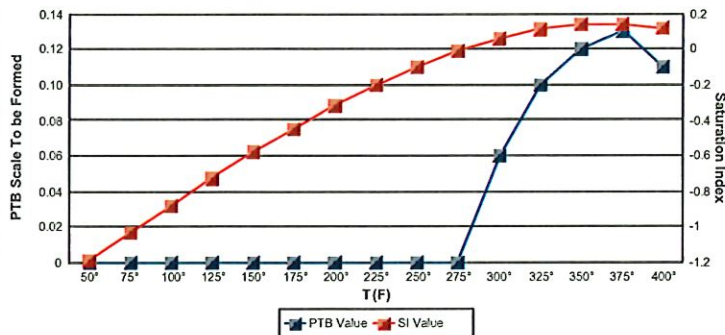
Gypsum CaSO₄



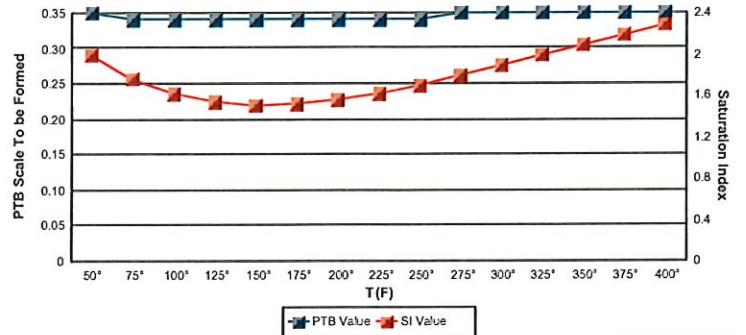
Halite NaCl



Iron Carbonate FeCO₃



Iron Sulfide FeS



Scaling predictions calculated using Scale Soft Pitzer 2019

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