

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: **Hineman Unit 1-28**
 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: **AX37093**
 Location Code: **430648**

Field Analysis

Analysis	Result	Analysis Method
Total Alkalinity (M-Alk as HCO ₃)	133 mg/L	Titration
Dissolved CO ₂	180 mg/L	Titration
Dissolved H ₂ S	51 mg/L	Titration
Pressure Surface	25 psi	
Temperature	100 ° F	
pH of Water	7.5	Meter

Sample Analysis

Analysis	Result	Analysis Method
Specific Gravity	1.055	Densitometer
Ionic Strength	1.14 mol/L	Calculation
Total Dissolved Solids	64200 mg/L	Calculation
Calculated pH	7.50	Calculation
Calculated CO ₂ in the gas	0.0700 %	Calculation

Cations - Analyzed By ICP

Iron	0.723 mg/L	Boron	23.9 mg/L	Silicon	7.89 mg/L
Manganese	<0.200 mg/L	Lithium	4.46 mg/L	Aluminum	<0.400 mg/L
Barium	<0.100 mg/L	Copper	<0.200 mg/L	Molybdenum	<0.200 mg/L
Strontium	32.8 mg/L	Nickel	<0.200 mg/L	Phosphorus	<0.500 mg/L
Calcium	952 mg/L	Zinc	<0.400 mg/L	Measured Sodium	20100 mg/L
Magnesium	373 mg/L	Lead	<0.500 mg/L		
Sodium	20100 mg/L	Cobalt	<0.500 mg/L		
Potassium	292 mg/L	Chromium	<0.100 mg/L		

Anions - Analyzed by IC*

Chloride	37700 mg/L	Bromide	32.3 mg/L	Sulfate	4510 mg/L
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PTB

	Anhydrite	Barite	Calcite	Celestite	Gypsum	Halite	Iron Carbonate	Iron Sulfide
50°	0.00	0.00	3.75	1.24	0.00	0.00	0.00	0.39
75°	0.00	0.00	4.06	1.01	0.00	0.00	0.00	0.39
100°	0.00	0.00	4.52	2.15	0.00	0.00	0.00	0.39
125°	0.00	0.00	5.15	4.07	0.00	0.00	0.00	0.38
150°	0.00	0.00	5.93	6.35	0.00	0.00	0.00	0.38
175°	150.62	0.00	6.80	8.69	0.00	0.00	0.00	0.38
200°	339.10	0.00	7.73	10.92	0.00	0.00	0.00	0.38
225°	488.74	0.00	8.68	12.94	0.00	0.00	0.00	0.38
250°	608.83	0.00	9.63	14.72	0.00	0.00	0.00	0.38
275°	705.90	0.00	10.55	16.25	0.00	0.00	0.00	0.39
300°	784.98	0.00	11.46	17.54	0.00	0.00	0.00	0.39
325°	849.81	0.00	12.35	18.63	0.00	0.00	0.00	0.39
350°	903.19	0.00	13.25	19.54	0.00	0.00	0.00	0.39
375°	947.18	0.00	14.17	20.29	58.17	0.00	0.00	0.39
400°	983.28	0.00	15.12	20.89	488.76	0.00	0.00	0.39

SI

	Anhydrite	Calcite	Celestite	Gypsum	Halite	Iron Carbonate	Iron Sulfide
50°	-0.76	0.16	0.02	-0.16	-1.94	-1.60	2.01
75°	-0.55	0.17	0.02	-0.18	-1.98	-1.47	1.74
100°	-0.37	0.20	0.04	-0.17	-2.00	-1.35	1.54
125°	-0.20	0.24	0.08	-0.16	-2.01	-1.24	1.42
150°	-0.05	0.28	0.13	-0.14	-2.02	-1.14	1.35
175°	0.09	0.34	0.20	-0.14	-2.02	-1.05	1.32
200°	0.23	0.41	0.20	-0.14	-2.02	-0.96	1.33
225°	0.35	0.49	0.34	-0.16	-2.01	-0.88	1.36
250°	0.47	0.57	0.41	-0.18	-2.00	-0.82	1.41
275°	0.59	0.65	0.49	-0.20	-1.99	-0.77	1.48
300°	0.70	0.73	0.57	-0.21	-1.98	-0.74	1.55
325°	0.81	0.81	0.65	-0.19	-1.96	-0.73	1.63
350°	0.92	0.88	0.73	-0.12	-1.94	-0.73	1.72
375°	1.02	0.95	0.80	0.03	-1.91	-0.76	1.80
400°	1.13	1.01	0.88	0.26	-1.88	-0.80	1.88

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.

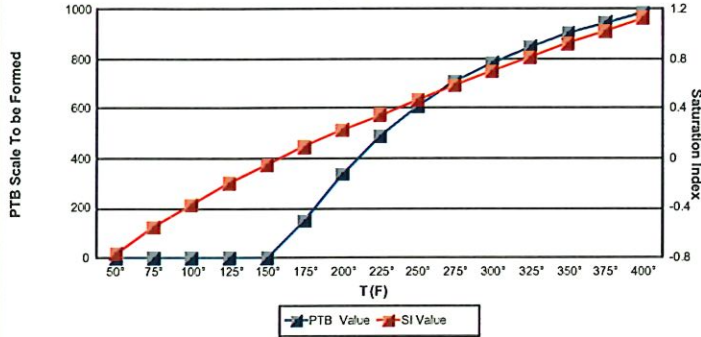
Complete Water Analysis

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

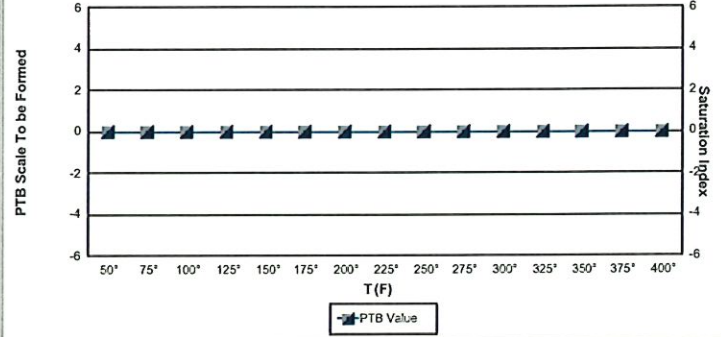
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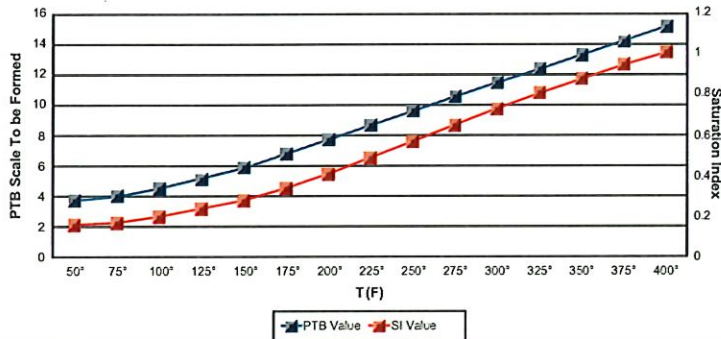
Anhydrite CaSO₄



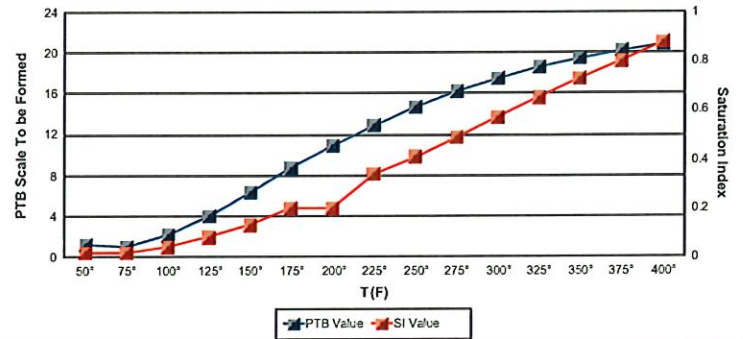
Barite BaSO₄



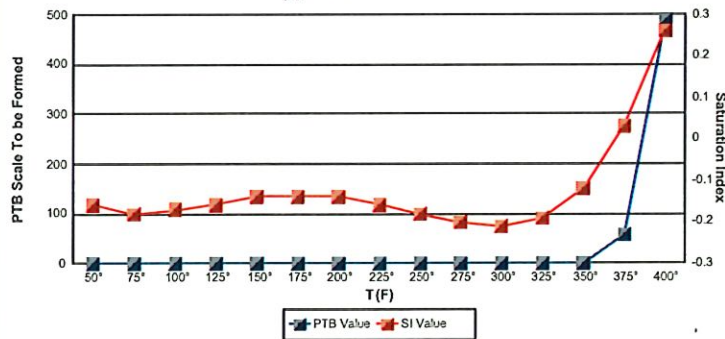
Calcite CaCO₃



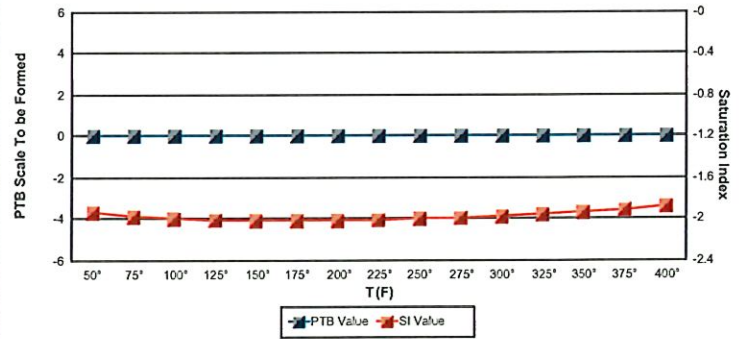
Celestite SrSO₄



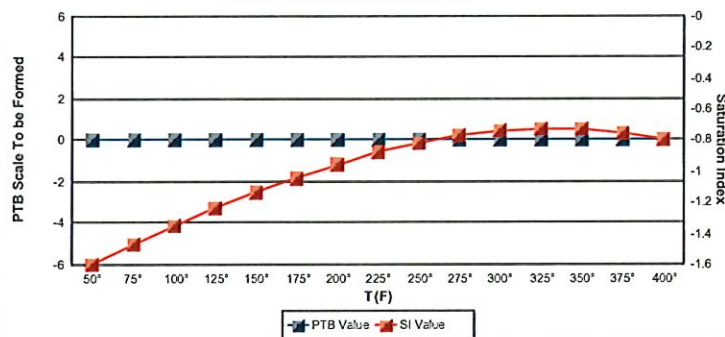
Gypsum CaSO₄



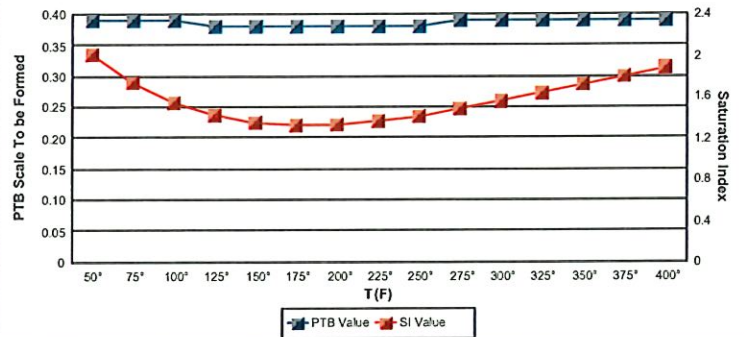
Halite NaCl



Iron Carbonate FeCO₃



Iron Sulfide FeS



Scaling predictions calculated using Scale Soft Pitzer 2019

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 02/27/2024