

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

Equipment Description: **Strickert Acct. 3**
 Sample Point: **SWD**
 Sample ID: **AV13093**
 Account Rep: **Michael.Walters@championx.com**

Collection Date: **02/16/2023**
 Receive Date: **02/22/2023**
 Report Date: **02/23/2023**
 Location Code: **503172**

Field Analysis

Analysis	Result	Analysis Method
Total Alkalinity (M-Alk as HCO3)	273 mg/L	Titration
Dissolved CO2	440 mg/L	Titration
Dissolved H2S	110 mg/L	Titration
Pressure Surface	25 psi	
Temperature	100 °F	
pH of Water	7.5	Meter

Sample Analysis

Analysis	Result	Analysis Method
Specific Gravity	1.026	Densitometer
Ionic Strength	0.570 mol/L	Calculation
Total Dissolved Solids	30400 mg/L	Calculation
Calculated pH	7.50	Calculation
Calculated CO2 In the gas	0.170 %	Calculation

Cations - Analyzed By ICP

Iron	<0.500 mg/L	Boron	14.8 mg/L	Silicon	10.6 mg/L
Manganese	<0.200 mg/L	Lithium	<1.000 mg/L	Aluminum	<0.400 mg/L
Barium	<0.100 mg/L	Copper	<0.200 mg/L	Molybdenum	<0.200 mg/L
Strontium	31.1 mg/L	Nickel	<0.200 mg/L	Phosphorus	<0.500 mg/L
Calcium	1030 mg/L	Zinc	<0.400 mg/L	Measured Sodium	9710 mg/L
Magnesium	280 mg/L	Lead	<0.500 mg/L		
Sodium	9710 mg/L	Cobalt	0.665 mg/L		
Potassium	161 mg/L	Chromium	<0.100 mg/L		

Anions - Analyzed by IC

Chloride	16500 mg/L	Sulfate	2390 mg/L
Bromide	24.0 mg/L		

PTB

	Anhydrite	Barite	Calcite	Celestite	Gypsum	Halite	Iron Carbonate	Iron Sulfide
50°	0.00	0.00	22.22	0.00	0.00	0.00	0.00	0.00
75°	0.00	0.00	22.17	0.00	0.00	0.00	0.00	0.00
100°	0.00	0.00	22.45	0.00	0.00	0.00	0.00	0.00
125°	0.00	0.00	23.08	0.00	0.00	0.00	0.00	0.00
150°	0.00	0.00	24.02	1.03	0.00	0.00	0.00	0.00
175°	71.36	0.00	25.22	3.80	0.00	0.00	0.00	0.00
200°	241.32	0.00	26.61	6.55	0.00	0.00	0.00	0.00
225°	380.80	0.00	26.17	9.13	0.00	0.00	0.00	0.00
250°	496.90	0.00	29.87	11.44	0.00	0.00	0.00	0.00
275°	594.63	0.00	31.70	13.46	0.00	0.00	0.00	0.00
300°	677.86	0.00	33.65	15.17	0.00	0.00	0.00	0.00
325°	749.43	0.00	35.74	16.60	0.00	0.00	0.00	0.00
350°	811.46	0.00	37.96	17.79	0.00	0.00	0.00	0.00
375°	865.50	0.00	40.33	18.75	192.64	0.00	0.00	0.00
400°	912.66	0.00	42.81	19.51	537.25	0.00	0.00	0.00

SI

	Anhydrite	Calcite	Celestite	Gypsum	Halite
50°	-0.80	0.45	-0.05	-0.19	-2.58
75°	-0.60	0.46	-0.07	-0.21	-2.63
100°	-0.42	0.48	-0.06	-0.21	-2.65
125°	-0.25	0.52	-0.03	-0.19	-2.67
150°	-0.09	0.57	0.02	-0.17	-2.68
175°	0.05	0.63	0.08	-0.16	-2.68
200°	0.19	0.71	0.08	-0.16	-2.67
225°	0.33	0.80	0.22	-0.17	-2.66
250°	0.46	0.90	0.30	-0.18	-2.65
275°	0.59	1.00	0.39	-0.19	-2.63
300°	0.72	1.12	0.48	-0.18	-2.61
325°	0.84	1.24	0.57	-0.14	-2.58
350°	0.97	1.36	0.66	-0.05	-2.55
375°	1.10	1.48	0.75	0.12	-2.51
400°	1.23	1.60	0.84	0.38	-2.47

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.

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 02/24/2023

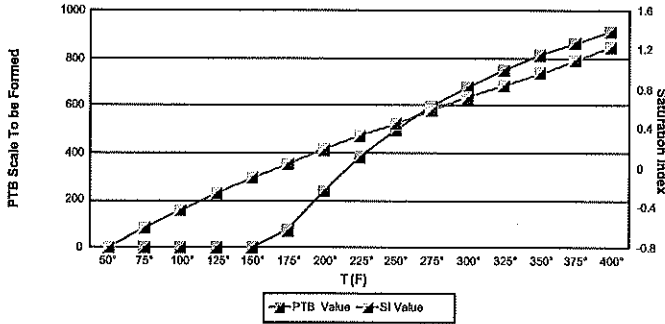
Complete Water Analysis

Customer: SHAKESPEARE OIL COMPANY
 Geographic Region: Kansas
 Geographic Location: Scott County
 System Description: Production System

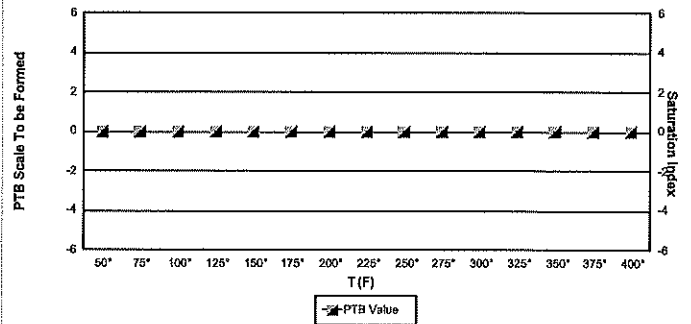
Equipment Description: Strickert Acct. 3
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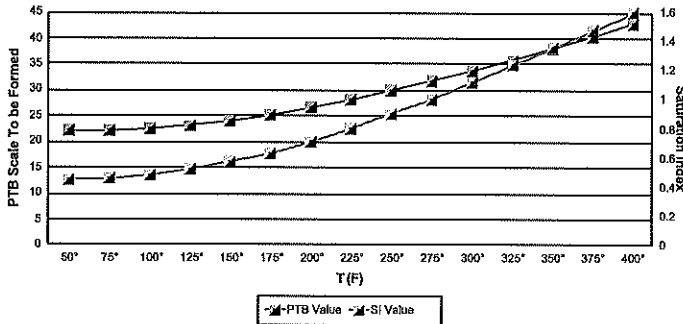
Anhydrite CaSO4



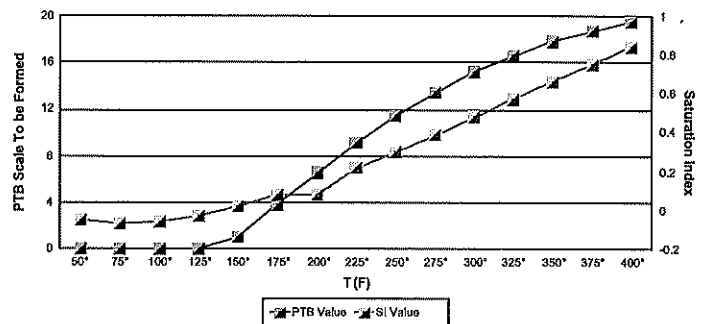
Barite BaSO4



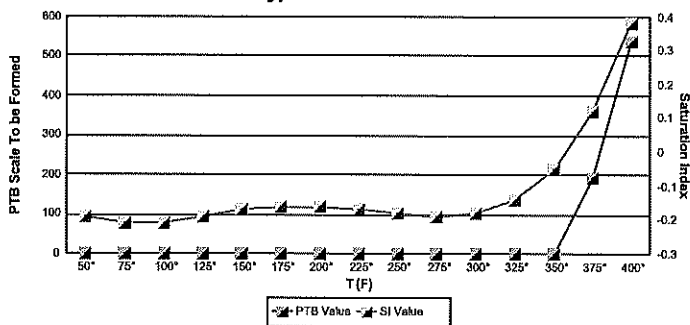
Calcite CaCO3



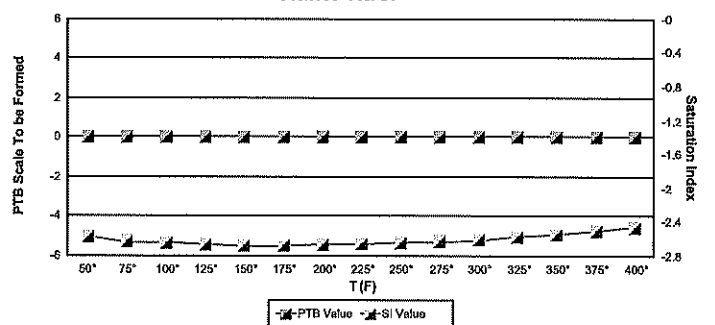
Celestite SrSO4



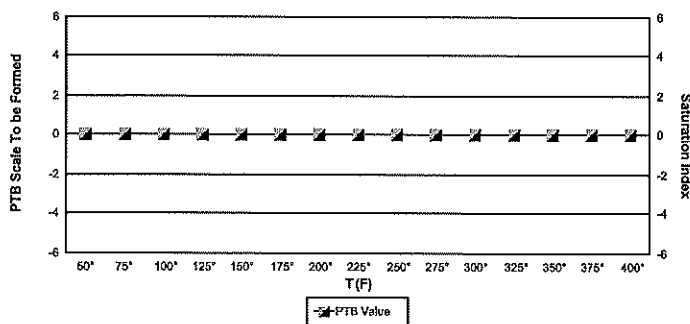
Gypsum CaSO4



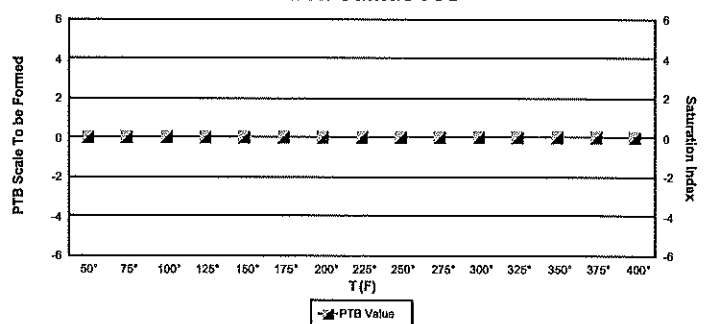
Halite NaCl



Iron Carbonate FeCO3



Iron Sulfide FeS



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