

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: **Janssen 4**
 Sample Point: **Bleeder**
 Sample ID: **AV13089**
 Account Rep: **Michael.Walters@championx.com**

Collection Date: **02/16/2023**
 Receive Date: **02/22/2023**
 Report Date: **02/23/2023**
 Location Code: **503168**

Field Analysis		
Analysis	Result	Analysis Method
Total Alkalinity (M-Alk as HCO3)	224 mg/L	Titration
Dissolved CO2	190 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	1.059	Densitometer
Ionic Strength	1.43 mol/L	Calculation
Total Dissolved Solids	78600 mg/L	Calculation
Calculated pH	7.50	Calculation
Calculated CO2 in the gas	0.0600 %	Calculation

Cations - Analyzed By ICP

Iron	<0.500 mg/L	Boron	22.2 mg/L	Silicon	7.91 mg/L
Manganese	<0.200 mg/L	Lithium	<1.000 mg/L	Aluminum	<0.400 mg/L
Barium	0.145 mg/L	Copper	<0.200 mg/L	Molybdenum	<0.200 mg/L
Strontium	53.6 mg/L	Nickel	<0.200 mg/L	Phosphorus	<0.500 mg/L
Calcium	2090 mg/L	Zinc	<0.400 mg/L	Measured Sodium	25700 mg/L
Magnesium	622 mg/L	Lead	<0.500 mg/L		
Sodium	25700 mg/L	Cobalt	1.15 mg/L		
Potassium	292 mg/L	Chromium	<0.100 mg/L		

Anions - Analyzed by IC

Chloride	46900 mg/L	Sulfate	2640 mg/L
Bromide	48.2 mg/L		

	PTB							
	Anhydrite	Barite	Calcite	Celestite	Gypsum	Halite	Iron Carbonate	Iron Sulfide
50°	0.00	0.07	13.15	0.00	0.00	0.00	0.00	0.00
75°	0.00	0.05	12.92	0.00	0.00	0.00	0.00	0.00
100°	0.00	0.03	12.71	0.00	0.00	0.00	0.00	0.00
125°	0.00	0.01	12.60	0.00	0.00	0.00	0.00	0.00
150°	0.00	0.00	12.63	3.71	0.00	0.00	0.00	0.00
175°	215.03	0.00	12.80	8.37	0.00	0.00	0.00	0.00
200°	418.84	0.00	13.12	12.74	0.00	0.00	0.00	0.00
225°	580.26	0.00	13.57	16.67	0.00	0.00	0.00	0.00
250°	709.67	0.00	14.14	20.10	0.00	0.00	0.00	0.00
275°	814.35	0.00	14.84	23.05	0.00	0.00	0.00	0.00
300°	899.88	0.00	15.64	25.55	0.00	0.00	0.00	0.00
325°	970.41	0.00	16.54	27.67	0.00	0.00	0.00	0.00
350°	1,029.02	0.00	17.52	29.44	0.00	0.00	0.00	0.00
375°	1,077.92	0.00	18.58	30.92	0.00	0.00	0.00	0.00
400°	1,118.69	0.00	19.70	32.13	477.30	0.00	0.00	0.00

	SI					
	Anhydrite	Barite	Calcite	Celestite	Gypsum	Halite
50°	-0.73	0.64	0.45	-0.08	-0.15	-1.73
75°	-0.53	0.39	0.45	-0.08	-0.16	-1.76
100°	-0.34	0.19	0.46	-0.05	-0.15	-1.78
125°	-0.18	0.03	0.47	-0.01	-0.14	-1.79
150°	-0.02	-0.11	0.49	0.04	-0.13	-1.80
175°	0.12	-0.21	0.52	0.11	-0.12	-1.80
200°	0.25	-0.30	0.56	0.11	-0.13	-1.80
225°	0.37	-0.37	0.61	0.24	-0.15	-1.80
250°	0.48	-0.42	0.67	0.32	-0.18	-1.79
275°	0.59	-0.47	0.73	0.39	-0.21	-1.78
300°	0.70	-0.51	0.80	0.46	-0.22	-1.77
325°	0.80	-0.56	0.88	0.53	-0.20	-1.75
350°	0.90	-0.60	0.95	0.61	-0.14	-1.74
375°	1.00	-0.65	1.03	0.68	-0.01	-1.71
400°	1.09	-0.70	1.11	0.74	0.22	-1.69

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.

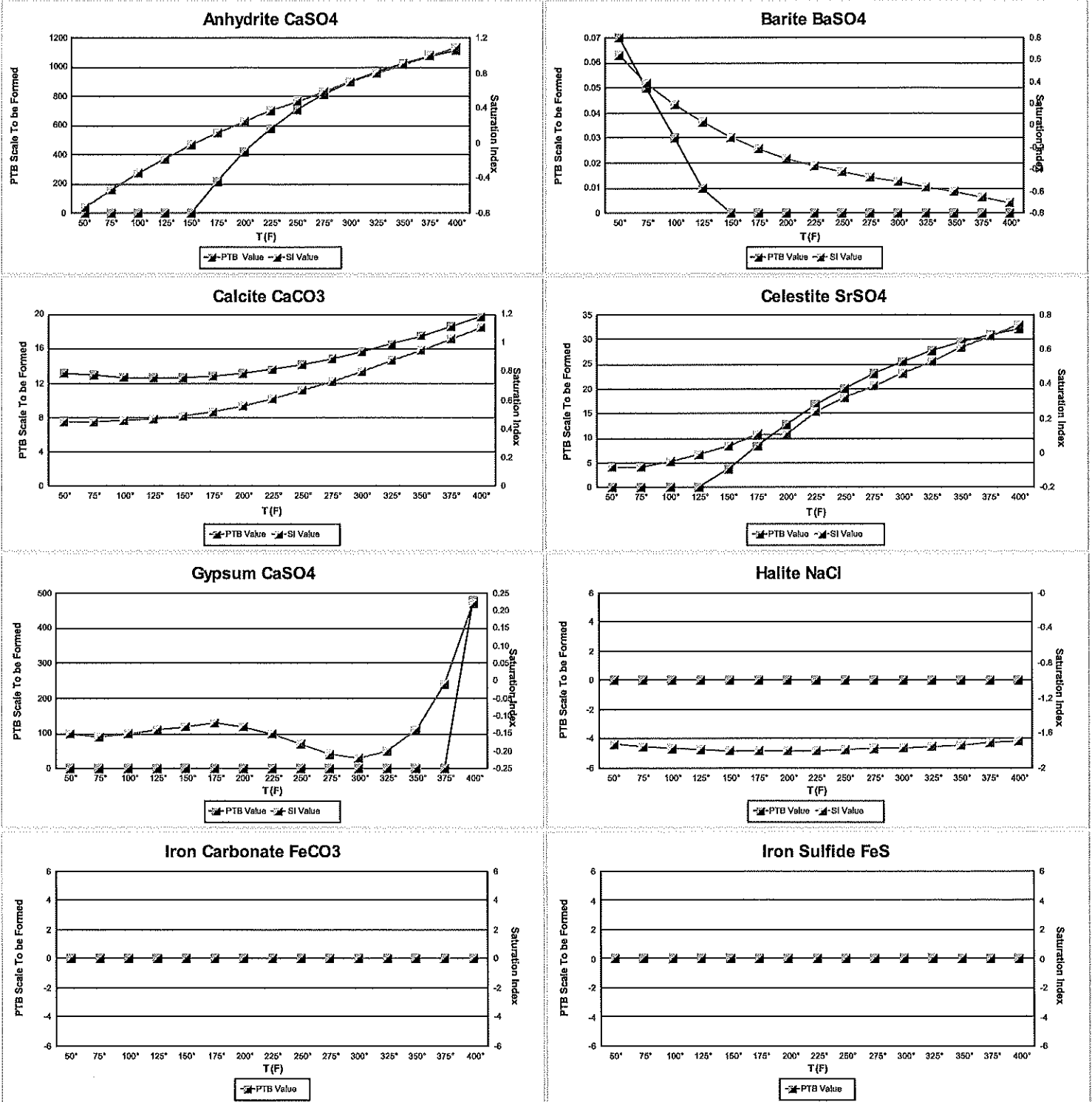
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 02/24/2023

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