

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: **Lane County**
 System Description: **Production System**

Equipment Description: **Hineman P1 SWD**
 Sample Point: **Bleeder**
 Sample ID: **AV13106**
 Account Rep: **Michael.Walters@championx.com**

Collection Date: **02/16/2023**
 Receive Date: **02/22/2023**
 Report Date: **02/23/2023**
 Location Code: **430670**

Field Analysis		
Analysis	Result	Analysis Method
Total Alkalinity (M-Alk as HCO3)	288 mg/L	Titration
Dissolved CO2	260 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	1.041	Densitometer
Ionic Strength	0.970 mol/L	Calculation
Total Dissolved Solids	53600 mg/L	Calculation
Calculated pH	7.50	Calculation
Calculated CO2 in the gas	0.190 %	Calculation

Cations - Analyzed By ICP

Iron	<0.500 mg/L	Boron	20.7 mg/L	Silicon	8.51 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	31.6 mg/L	Nickel	<0.200 mg/L	Phosphorus	1.45 mg/L
Calcium	896 mg/L	Zinc	<0.400 mg/L	Measured Sodium	17700 mg/L
Magnesium	342 mg/L	Lead	<0.500 mg/L		
Sodium	17700 mg/L	Cobalt	0.775 mg/L		
Potassium	203 mg/L	Chromium	<0.100 mg/L		

Anions - Analyzed by IC

Chloride	30500 mg/L	Sulfate	3590 mg/L
Bromide	28.8 mg/L		

	PTB							
	Anhydrite	Barite	Calcite	Celestite	Gypsum	Halite	Iron Carbonate	Iron Sulfide
50°	0.00	0.00	24.48	0.00	0.00	0.00	0.00	0.00
75°	0.00	0.00	25.11	0.00	0.00	0.00	0.00	0.00
100°	0.00	0.00	25.98	0.00	0.00	0.00	0.00	0.00
125°	0.00	0.00	27.13	0.21	0.00	0.00	0.00	0.00
150°	0.00	0.00	28.50	2.86	0.00	0.00	0.00	0.00
175°	10.54	0.00	30.04	5.60	0.00	0.00	0.00	0.00
200°	202.42	0.00	31.69	8.21	0.00	0.00	0.00	0.00
225°	356.78	0.00	33.41	10.59	0.00	0.00	0.00	0.00
250°	482.46	0.00	35.20	12.67	0.00	0.00	0.00	0.00
275°	585.69	0.00	37.03	14.47	0.00	0.00	0.00	0.00
300°	671.20	0.00	38.92	15.98	0.00	0.00	0.00	0.00
325°	742.51	0.00	40.88	17.25	0.00	0.00	0.00	0.00
350°	802.23	0.00	42.92	18.30	0.00	0.00	0.00	0.00
375°	852.23	0.00	45.07	19.16	0.00	0.00	0.00	0.00
400°	893.90	0.00	47.32	19.84	390.97	0.00	0.00	0.00

	SI				
	Anhydrite	Calcite	Celestite	Gypsum	Halite
50°	-0.85	0.48	-0.05	-0.25	-2.08
75°	-0.65	0.51	-0.06	-0.27	-2.12
100°	-0.46	0.54	-0.04	-0.26	-2.14
125°	-0.29	0.59	0.00	-0.24	-2.16
150°	-0.14	0.65	0.06	-0.23	-2.17
175°	0.01	0.72	0.12	-0.22	-2.17
200°	0.14	0.81	0.12	-0.22	-2.16
225°	0.27	0.91	0.27	-0.23	-2.16
250°	0.40	1.01	0.35	-0.25	-2.15
275°	0.52	1.12	0.43	-0.27	-2.13
300°	0.64	1.23	0.51	-0.27	-2.12
325°	0.75	1.34	0.59	-0.24	-2.10
350°	0.86	1.45	0.68	-0.16	-2.07
375°	0.98	1.55	0.76	-0.01	-2.04
400°	1.09	1.65	0.84	0.23	-2.01

Comments

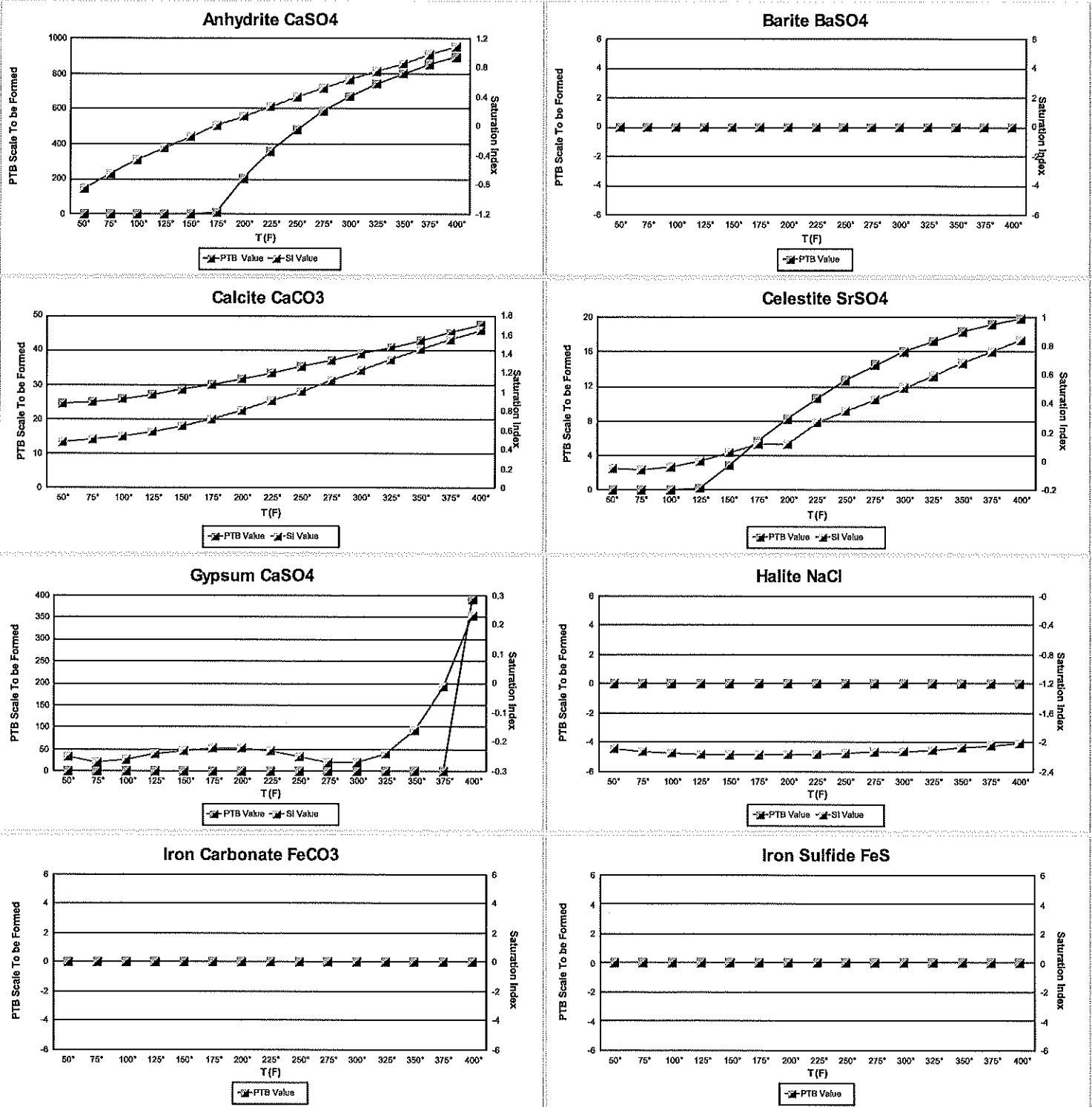
Scaling predictions calculated using Scale Soft Pitzer 2019
 Scaling predictions dependent on provided field data. Incomplete/partial field data may impact results generated by scaling software.

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