

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	_____	_____	_____	_____	_____



Central Area Laboratory
12701 N. Santa Fe Ave, Suite 151
Oklahoma City, Oklahoma 73114

REPORT DATE: 3/22/2021

COMPLETE WATER ANALYSIS REPORT SSP v.2010

CUSTOMER:	SHELLEY OIL CO	ACCOUNT REP:	DOUGLAS R KUHN
DISTRICT:	KANSAS	SAMPLE ID:	202010000720
AREA/LEASE:	BIEBERLE	SAMPLE DATE:	12/19/2019
SAMPLE POINT NAME:	BIEBERLE #2 SWD 15-009-05950-0001	ANALYSIS DATE:	2/3/2020
SITE TYPE:	WELL SITES	ANALYST:	BS
SAMPLE POINT DESCRIPTION:	NOT PROVIDED		

SHELLEY OIL CO, BIEBERLE, BIEBERLE #2 SWD 15-009-05950-0001

FIELD DATA		ANALYSIS OF SAMPLE					
		ANIONS:		CATIONS:			
		mg/L	meq/L	mg/L	meq/L		
Initial Temperature (°F):	100	Chloride (Cl ⁻):	44571.0	1257.3	Sodium (Na ⁺):	19429.6	845.5
Final Temperature (°F):	80	Sulfate (SO ₄ ²⁻):	1352.0	28.1	Potassium (K ⁺):	108.3	2.8
Initial Pressure (psi):	100	Borate (H ₃ BO ₃):	87.3	1.4	Magnesium (Mg ²⁺):	1379.7	113.6
Final Pressure (psi):	15	Fluoride (F ⁻):	ND		Calcium (Ca ²⁺):	2765.5	138.0
		Bromide (Br ⁻):	ND		Strontium (Sr ²⁺):	535.9	12.2
pH:		Nitrite (NO ₂ ⁻):	ND		Barium (Ba ²⁺):	0.0	0.0
pH at time of sampling:	6.5	Nitrate (NO ₃ ⁻):	ND		Iron (Fe ²⁺):	0.0	0.0
		Phosphate (PO ₄ ³⁻):	8.5	0.3	Manganese (Mn ²⁺):	0.0	0.0
		Silica (SiO ₂):	ND		Lead (Pb ²⁺):	ND	ND
					Zinc (Zn ²⁺):	0.0	0.0
ALKALINITY BY TITRATION:							
	mg/L	meq/L					
Bicarbonate (HCO ₃ ⁻):	286.7	4.7			Aluminum (Al ³⁺):	ND	ND
Carbonate (CO ₃ ²⁻):	ND				Chromium (Cr ³⁺):	ND	ND
Hydroxide (OH ⁻):	ND				Cobalt (Co ²⁺):	ND	ND
					Copper (Cu ²⁺):	ND	ND
					Molybdenum (Mo ²⁺):	ND	ND
aqueous CO ₂ (ppm):	176.0	Formic Acid:	ND		Nickel (Ni ²⁺):	ND	ND
aqueous H ₂ S (ppm):	45.0	Acetic Acid:	ND		Tin (Sn ²⁺):	ND	ND
aqueous O ₂ (ppb):	ND	Propionic Acid:	ND		Titanium (Ti ²⁺):	ND	ND
		Butyric Acid:	ND		Vanadium (V ²⁺):	ND	ND
Calculated TDS (mg/L):	70429	Valeric Acid:	ND		Zirconium (Zr ²⁺):	ND	ND
Density/Specific Gravity (g/cm ³):	1.0447				Lithium (Li):	ND	ND
Measured Specific Gravity:	ND						
Conductivity (mmhos):	ND						
Resistivity:	ND				Total Hardness:	13209	N/A
MCF/D:	No Data						
BOPD:	No Data						
BWPD:	No Data	Anion/Cation Ratio:	1.16				ND = Not Determined

SCALE PREDICTIONS BASED ON FIELD PROVIDED DATA; FUTHER MODELING MAY BE REQUIRED FOR VALIDATION OF SCALE PREDICTION RESULTS.

Conditions		Barite (BaSO ₄)		Calcite (CaCO ₃)		Gypsum (CaSO ₄ ·2H ₂ O)		Anhydrite (CaSO ₄)	
Temp	Press.	Index	Amt (ptb)	Index	Amt (ptb)	Index	Amt (ptb)	Index	Amt (ptb)
80°F	15 psi		0.000	0.42	28.226	-0.30	0.000	-0.51	0.000
82°F	24 psi		0.000	0.35	24.572	-0.30	0.000	-0.50	0.000
84°F	34 psi		0.000	0.33	22.956	-0.30	0.000	-0.49	0.000
87°F	43 psi		0.000	0.32	22.211	-0.30	0.000	-0.48	0.000
89°F	53 psi		0.000	0.31	21.992	-0.30	0.000	-0.47	0.000
91°F	62 psi		0.000	0.32	22.676	-0.30	0.000	-0.47	0.000
93°F	72 psi		0.000	0.33	23.349	-0.29	0.000	-0.46	0.000
96°F	81 psi		0.000	0.34	24.012	-0.29	0.000	-0.45	0.000
98°F	91 psi		0.000	0.36	24.664	-0.29	0.000	-0.44	0.000
100°F	100 psi		0.000	0.37	25.307	-0.29	0.000	-0.43	0.000

Conditions		Celestite (SrSO ₄)		Halite (NaCl)		Iron Sulfide (FeS)		Iron Carbonate (FeCO ₃)	
Temp	Press.	Index	Amt (ptb)	Index	Amt (ptb)	Index	Amt (ptb)	Index	Amt (ptb)
80°F	15 psi	0.70	278.852	-1.90	0.000	0	0.000		0.000
82°F	24 psi	0.70	278.757	-1.90	0.000	0	0.000		0.000
84°F	34 psi	0.70	278.678	-1.91	0.000	0	0.000		0.000
87°F	43 psi	0.70	278.615	-1.91	0.000	0	0.000		0.000
89°F	53 psi	0.70	278.570	-1.91	0.000	0	0.000		0.000
91°F	62 psi	0.69	278.542	-1.91	0.000	0	0.000		0.000
93°F	72 psi	0.69	278.532	-1.91	0.000	0	0.000		0.000
96°F	81 psi	0.69	278.540	-1.92	0.000	0	0.000		0.000
98°F	91 psi	0.70	278.567	-1.92	0.000	0	0.000		0.000
100°F	100 psi	0.70	278.612	-1.92	0.000	0	0.000		0.000

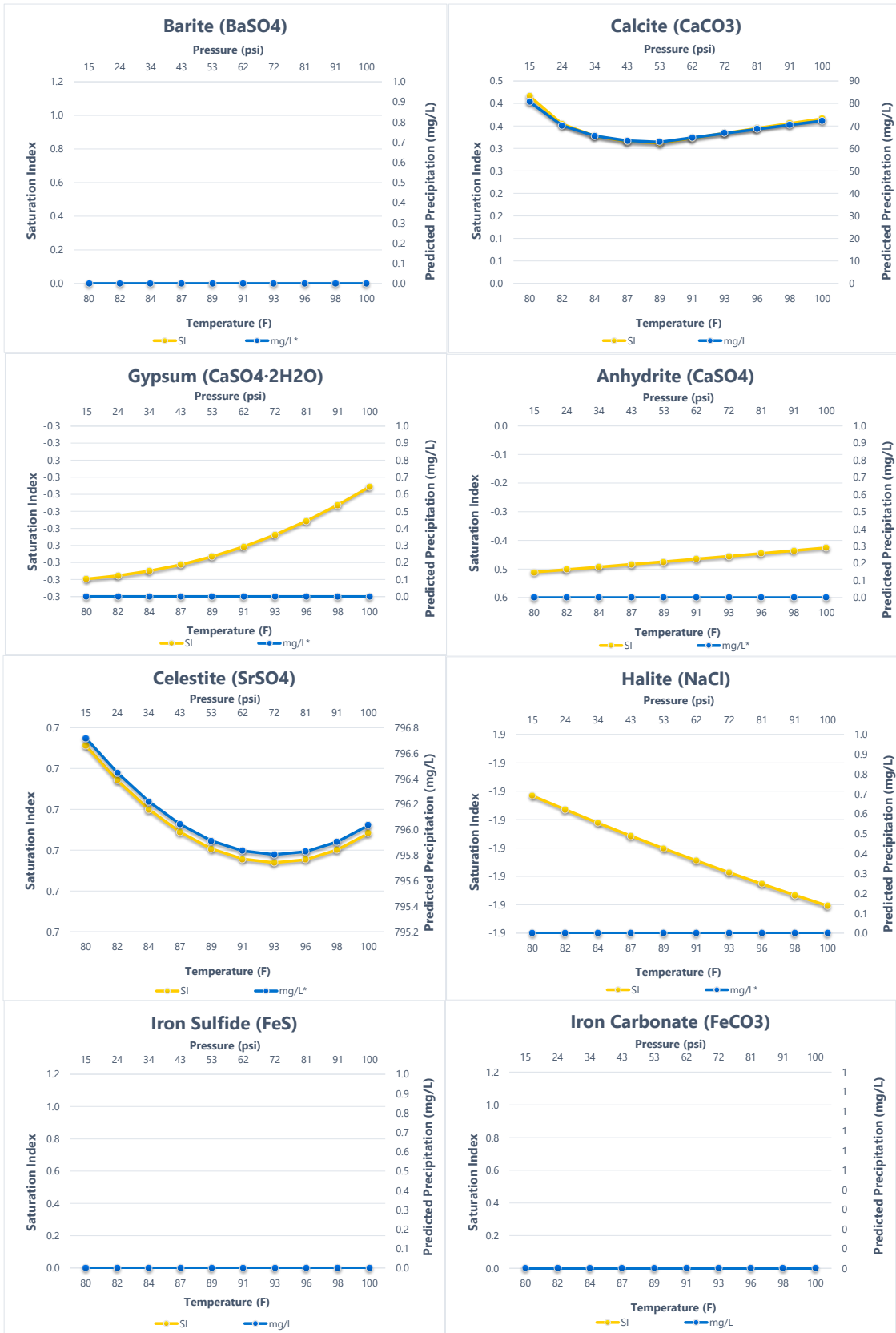
Note 1: When assessing the severity of the scale problem, both the saturation index (SI) and amount of scale must be considered

Note 2: Precipitation of each scale is considered separately. Total scale will be less than the sum of the amounts of the eight (8) scales.

Note 3: Saturation Index predictions on this sheet use pH and alkalinity; %CO₂ is not included in the calculations.



Comments:



SCALE PREDICTIONS BASED ON FIELD PROVIDED DATA; FUTHER MODELING MAY BE REQUIRED FOR VALIDATION OF SCALE PREDICTION RESULTS.