

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: 1/12/2022

COMPLETE WATER ANALYSIS REPORT SSP v.2010

CUSTOMER: FOSSIL CREEK ENERGY
DISTRICT: KANSAS
AREA/LEASE: HENDERSON
SAMPLE POINT NAME: HENDERSON 1
SITE TYPE: WELL SITES
SAMPLE POINT DESCRIPTION: WELL HEAD

ACCOUNT REP: BILL FOSTER
SAMPLE ID: 202110004005
SAMPLE DATE: 6/18/2021
ANALYSIS DATE: 7/1/2021
ANALYST: BS

FOSSIL CREEK ENERGY, HENDERSON, HENDERSON 1

FIELD DATA			ANALYSIS OF SAMPLE											
			ANIONS:		mg/L		meq/L		CATIONS:		mg/L		meq/L	
Initial Temperature (°F):	125		Chloride (Cl ⁻):	80296.0	2265.0	Sodium (Na ⁺):	42021.7	1828.6						
Final Temperature (°F):	94		Sulfate (SO ₄ ²⁻):	765.0	15.9	Potassium (K ⁺):	164.1	4.2						
Initial Pressure (psi):	100		Borate (H ₃ BO ₃):	48.7	0.8	Magnesium (Mg ²⁺):	844.6	69.5						
Final Pressure (psi):	20		Fluoride (F ⁻):	ND		Calcium (Ca ²⁺):	3345.9	167.0						
			Bromide (Br ⁻):	ND		Strontium (Sr ²⁺):	125.6	2.9						
pH:			Nitrite (NO ₂ ⁻):	ND		Barium (Ba ²⁺):	0.0	0.0						
pH at time of sampling:	6.7		Nitrate (NO ₃ ⁻):	ND		Iron (Fe ²⁺):	0.0	0.0						
			Phosphate (PO ₄ ³⁻):	0.1	0.0	Manganese (Mn ²⁺):	0.9	0.0						
			Silica (SiO ₂):	ND		Lead (Pb ²⁺):	ND							
						Zinc (Zn ²⁺):	ND							
ALKALINITY BY TITRATION:			mg/L		meq/L									
Bicarbonate (HCO ₃ ⁻):	103.7	1.7												
Carbonate (CO ₃ ²⁻):	ND													
Hydroxide (OH ⁻):	ND													
			ORGANIC ACIDS:		mg/L		meq/L							
aqueous CO ₂ (ppm):	99.0		Formic Acid:	ND		Molybdenum (Mo ²⁺):	ND							
aqueous H ₂ S (ppm):	15.0		Acetic Acid:	ND		Nickel (Ni ²⁺):	ND							
aqueous O ₂ (ppb):	ND		Propionic Acid:	ND		Tin (Sn ²⁺):	ND							
			Butyric Acid:	ND		Titanium (Ti ²⁺):	ND							
Calculated TDS (mg/L):	127668		Valeric Acid:	ND		Vanadium (V ²⁺):	ND							
Density/Specific Gravity (g/cm ³):	1.0799						Zirconium (Zr ²⁺):	ND						
Measured Specific Gravity	ND						Lithium (Li):	ND						
Conductivity (mmhos):	ND						Total Hardness:		11988	N/A				
Resistivity:	ND													
MCF/D:	No Data													
BOPD:	No Data													
BWPD:	No Data		Anion/Cation Ratio:		1.10			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)
94°F	20 psi		0.000	0.36	8.489	-0.56	0.000	-0.69	0.000
97°F	29 psi		0.000	0.32	7.793	-0.56	0.000	-0.67	0.000
101°F	38 psi		0.000	0.31	7.493	-0.56	0.000	-0.65	0.000
104°F	47 psi		0.000	0.30	7.389	-0.56	0.000	-0.64	0.000
108°F	56 psi		0.000	0.31	7.394	-0.56	0.000	-0.62	0.000
111°F	64 psi		0.000	0.32	7.632	-0.56	0.000	-0.61	0.000
115°F	73 psi		0.000	0.33	7.921	-0.56	0.000	-0.59	0.000
118°F	82 psi		0.000	0.34	8.203	-0.56	0.000	-0.57	0.000
122°F	91 psi		0.000	0.36	8.479	-0.56	0.000	-0.56	0.000
125°F	100 psi		0.000	0.37	8.750	-0.56	0.000	-0.54	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)
94°F	20 psi	-0.26	0.000	-1.26	0.000	0	0.000		0.000
97°F	29 psi	-0.26	0.000	-1.26	0.000	0	0.000		0.000
101°F	38 psi	-0.26	0.000	-1.27	0.000	0	0.000		0.000
104°F	47 psi	-0.26	0.000	-1.27	0.000	0	0.000		0.000
108°F	56 psi	-0.26	0.000	-1.27	0.000	0	0.000		0.000
111°F	64 psi	-0.26	0.000	-1.27	0.000	0	0.000		0.000
115°F	73 psi	-0.26	0.000	-1.27	0.000	0	0.000		0.000
118°F	82 psi	-0.26	0.000	-1.28	0.000	0	0.000		0.000
122°F	91 psi	-0.26	0.000	-1.28	0.000	0	0.000		0.000
125°F	100 psi	-0.26	0.000	-1.28	0.000	0	0.000		0.000

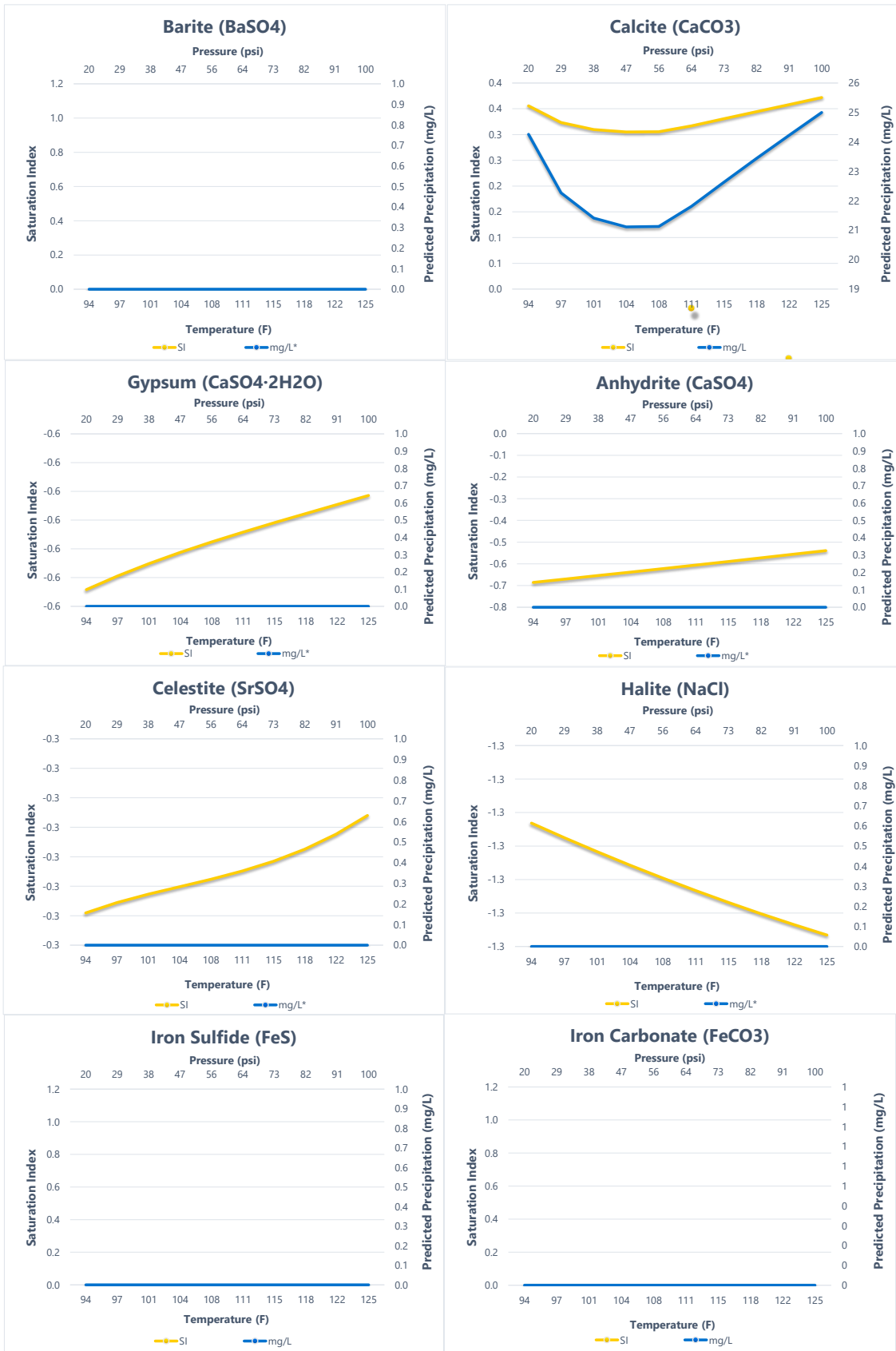
Note 1: When assessing the severity of the scale problem, both the saturation index (SI) and amount of scale must be considered

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.