KANSAS CORPORATION COMMISSION
OIL & GAS CONSERVATION DIVISION

1299154

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 # 33629
Name: Great Plains Energy, Inc.
Address 1: 6121 S 58TH ST, STE B
Address 2:
City: LIN COLN State: NE Zip: 68516 + ____
Contact Person: Dan Blankenau
Phone: (402) 443-6125
Lease Name: WASSON BROTHERS FARM
Well Number: 4

API No.: 15-039-20978-00-01
Permit No: E31992.2
Reporting Year: 2015
(January 1 to December 31)

____ - SW - SE - NW Sec. 36 Twp. 4 S. R. 30 ☐ E ☑ W
(Q/Q/Q/Q)
2305 feet from ☑ N / ☐ S Line of Section
1920 feet from ☐ E / ☑ W Line of Section
County: Decatur

I. Injection Fluid:

Type *(Pick one)*: ☐ Fresh Water ☐ Treated Brine ☐ Untreated Brine ☑ Water/Brine
Source: ☑ Produced Water ☐ Other *(Attach list)*
Quality: Total Dissolved Solids: 118792 mg/l Specific Gravity: 1.0950 Additives: scale/biocide
(Attach water analysis, if available)

II. Well Data:

Maximum Authorized Injection Pressure: 1500 psi Injection Zone: LKC
Maximum Authorized Injection Rate: 1000 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	0		0		
February	0		0		
March	0		0		
April	0		0		
May	0		0		
June	1880	25	0		6
July	5996	50	0		29
August	11134	50	0		31
September	13857	50	0		30
October	7719	50	0		29
November	2578	25	0		30
December	2824	25	0		29
TOTAL	45988		0		

Submitted Electronically

Central Area Laboratory
801 N. Morgan,
Oklahoma City, Oklahoma 73127

Upstream Chemicals

REPORT DATE: 6/4/2015

COMPLETE WATER ANALYSIS REPORT SSP v.2010

CUSTOMER:	GREAT PLAINS	**ACCOUNT REP:**	GREG POLLNOW
DISTRICT:	KANSAS	**SAMPLE ID:**	201510007806
AREA/LEASE:	WASSON/SUAVAGE	**SAMPLE DATE:**	5/7/2015
SAMPLE POINT NAME	WASSON/SUAVAGE	**ANALYSIS DATE:**	5/20/2015
SITE TYPE:	FACILITY	**ANALYST:**	BS
SAMPLE POINT DESCRIPTION:	FILTER		

GREAT PLAINS, WASSON/SUAVAGE, WASSON/SUAVAGE

FIELD DATA

Initial Temperature (°F):	250
Final Temperature (°F):	69
Initial Pressure (psi):	100
Final Pressure (psi):	15
pH:	
pH at time of sampling:	6.3

ALKALINITY BY TITRATION:	**mg/L**	**meq/L**
Bicarbonate (HCO_3^-):	128.0	2.1
Carbonate (CO_3^{2-}):	ND	
Hydroxide (OH^-):	ND	

aqueous CO_2 (ppm):	70.0
aqueous H_2S (ppm):	10.0
aqueous O_2 (ppb):	ND
Calculated TDS (mg/L):	118792
Density/Specific Gravity (g/cm^3):	1.0761
Measured Specific Gravity	1.0950
Conductivity (mmhos):	ND
Resistivity:	ND
MCF/D:	No Data
BOPD:	No Data
BWPD:	No Data

ANALYSIS OF SAMPLE

ANIONS:	**mg/L**	**meq/L**
Chloride (Cl^-):	68427.6	1930.3
Sulfate (SO_4^{2-}):	4200.0	87.4
Borate (H_3BO_3):	86.8	1.4
Fluoride (F^-):	ND	
Bromide (Br^-):	ND	
Nitrite (NO_2^-):	ND	
Nitrate (NO_3^-):	ND	
Phosphate (PO_4^{3-}):	0.0	0.0
Silica (SiO_2):	ND	

ORGANIC ACIDS:	**mg/L**	**meq/L**
Formic Acid:	ND	
Acetic Acid:	ND	
Propionic Acid:	ND	
Butyric Acid:	ND	
Valeric Acid:	ND	

Anion/Cation Ratio:	0.99

CATIONS:	**mg/L**	**meq/L**
Sodium (Na^+):	42164.0	1834.8
Potassium (K^+):	252.9	6.5
Magnesium (Mg^{2+}):	774.2	63.7
Calcium (Ca^{2+}):	2655.0	132.5
Strontium (Sr^{2+}):	101.0	2.3
Barium (Ba^{2+}):	0.4	0.0
Iron (Fe^{2+}):	2.2	0.1
Manganese (Mn^{2+}):	0.2	0.0
Lead (Pb^{2+}):	ND	
Zinc (Zn^{2+}):	0.0	0.0
Aluminum (Al^{3+}):	ND	
Chromium (Cr^{3+}):	ND	
Cobalt (Co^{2+}):	ND	
Copper (Cu^{2+}):	ND	
Molybdenum (Mo^{2+}):	ND	
Nickel (Ni^{2+}):	ND	
Tin (Sn^{2+}):	ND	
Titanium (Ti^{2+}):	ND	
Vanadium (V^{2+}):	ND	
Zirconium (Zr^{2+}):	ND	
Total Hardness:	9943	N/A

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 ($CaSO_4 \cdot 2H_2O$)		Anhydrite ($CaSO_4$)	
Temp	**Press.**	**Index**	**Amt (ptb)**	**Index**	**Amt (ptb)**	**Index**	**Amt (ptb)**	**Index**	**Amt (ptb)**
69°F	15 psi	0.81	0.179	-0.18	0.000	0.02	69.836	-0.21	0.000
89°F	24 psi	0.66	0.165	-0.11	0.000	0.04	129.525	-0.11	0.000
109°F	34 psi	0.52	0.148	-0.02	0.000	0.05	167.900	-0.01	0.000
129°F	43 psi	0.41	0.129	0.07	2.610	0.06	200.101	0.09	240.783
149°F	53 psi	0.30	0.106	0.17	5.653	0.07	231.784	0.19	501.827
170°F	62 psi	0.21	0.082	0.26	8.419	0.08	264.692	0.31	739.749
190°F	72 psi	0.13	0.056	0.35	10.938	0.09	298.477	0.42	953.227
210°F	81 psi	0.07	0.031	0.45	13.437	0.10	331.508	0.54	1141.524
230°F	91 psi	0.01	0.005	0.55	15.740	0.11	361.297	0.66	1304.712
250°F	100 psi	-0.04	0.000	0.66	17.845	0.11	384.730	0.78	1443.652

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)**
69°F	15 psi	0.31	37.693	-1.33	0.000	0.74	0.980	-1.65	0.000
89°F	24 psi	0.32	38.563	-1.35	0.000	0.67	0.939	-1.52	0.000
109°F	34 psi	0.33	39.224	-1.36	0.000	0.65	0.929	-1.38	0.000
129°F	43 psi	0.34	39.922	-1.37	0.000	0.66	0.935	-1.25	0.000
149°F	53 psi	0.35	40.819	-1.38	0.000	0.68	0.948	-1.14	0.000
170°F	62 psi	0.37	42.000	-1.38	0.000	0.70	0.965	-1.05	0.000
190°F	72 psi	0.39	43.486	-1.38	0.000	0.74	0.985	-0.96	0.000
210°F	81 psi	0.42	45.243	-1.38	0.000	0.78	1.011	-0.88	0.000
230°F	91 psi	0.45	47.197	-1.38	0.000	0.84	1.038	-0.82	0.000
250°F	100 psi	0.48	49.256	-1.38	0.000	0.90	1.063	-0.76	0.000

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

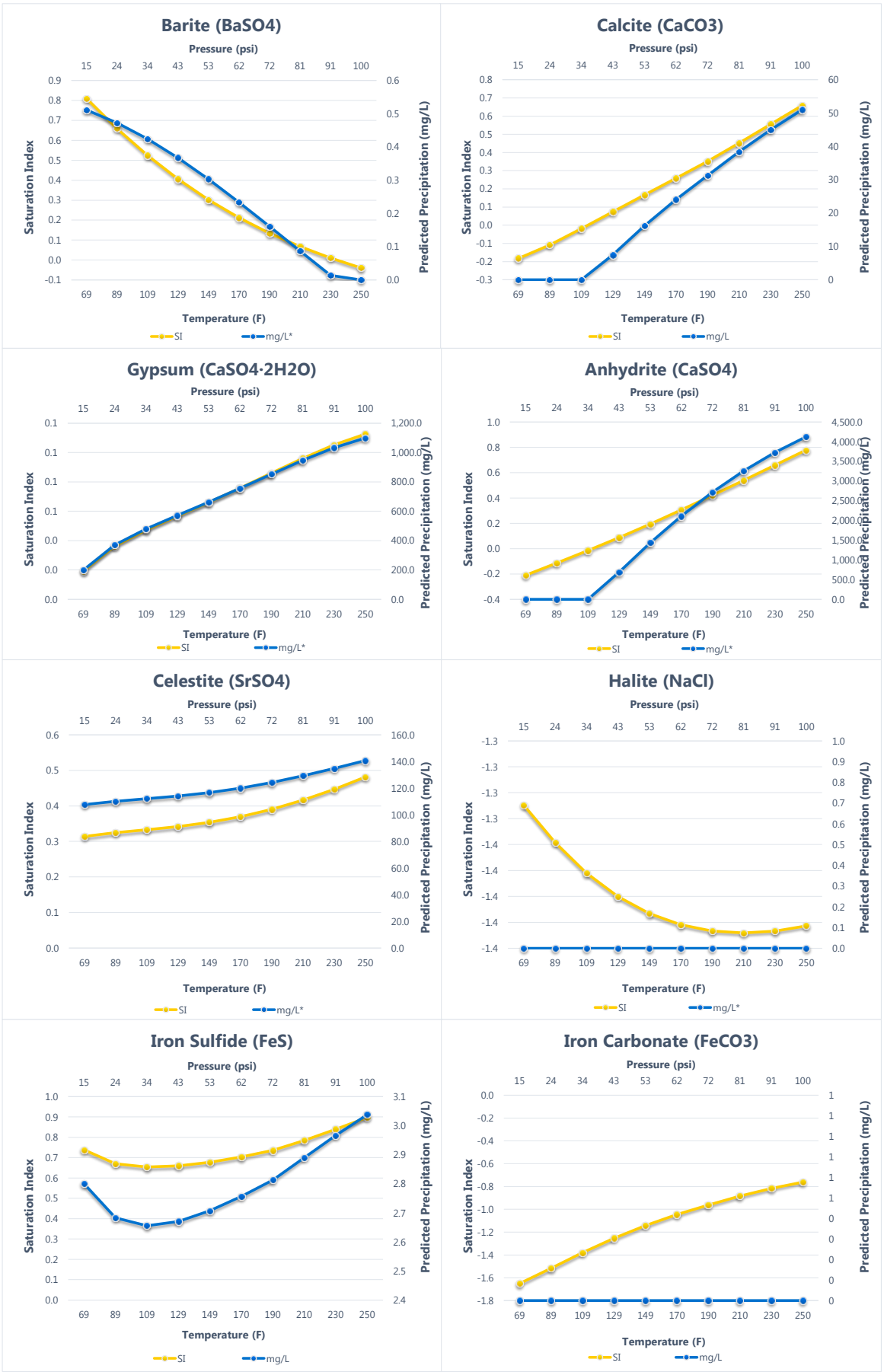
Note 2: Precipitation of each scale is considered separately. Total scale will be less than the sum of the amounts of the eight (8) scales.

Note 3: Saturation Index predictions on this sheet use pH and alkalinity; $\%CO_2$ is not included in the calculations.

OLI ESI
ScaleSoftPitzer™
SSP2010

Comments:

SAMPLE ID: 42131 GREAT PLAINS, WASSON/SUAVAGE, WASSON/SUAVAGE



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