Facility Well Name Northern (Cunningham) #2 **UIC Permit #** KS-05-151-002 **Month** September **Year** 2019

Submitted 10/12/2019 **Approved** 10/25/2019 **KOLAR Document ID** 1475141

Class I-V Injection Well Monthly Monitoring

Summary of Monthly Report

Number of days injection occurred: 29

Barrels per Day Maximum: 4,000

			Annulus Pressure psig min 60		Injection Pressure		
	Injection Volume Barrels per Day	Injection Rate Barrels per Minute	Gauge psig	Cont. Record psig	Gauge psig	Cont. Record psig	Amount Added to Seal Pot
Monthly Average	1,039	1.51	106	105	-24.1	-22.3	0
Monthly Maximum	1,328	1.67	117	115	-22.0	24.6	0
Monthly Minimum	0	0.00	98	96	-26.0	-25.2	0
Monthly Total	31,178						0

Summary of Continuous Recorder Data

Maximum Annulus Pressure psig	Minimum Annulus Pressure psig	Maximum Injection Pressure psig	Minimum Injection Pressure psig
115.90	94.00	-7.70	-28.40

Comments:

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Daily Recorder Data

Day	Time 24 hr	Injection Volume Barrels Per Day	Injection Rate Barrels Per Minute	Annulus Pressure (Gauge) psig	Annulus Pressure (Continuous Recorder) psig	Injection Pressure (Gauge) + / -	Injection Pressure (Continuous Recorder) + / -	Seal Pot Fluid Level inches	Type of Fluid Added to Seal Pot	Amount of Fluid Added to Seal Pot gallons	Initials of Collector of Field Recordings		
1	07:00	1,268.69	1.57	114	112.0	-24	-24.6	21		0	GH		
2	09:15	1,280.24	1.55	113	111.2	-25	-24.7	21		0	LF		
3	08:10	721.40	1.57	112	110.2	-25	-24.4	21		0	LF		
4	01:40	511.64	1.60	103	101.3	-25	-24.8	19		0	LF		
5	08:15	1,057.12	1.57	106	104.3	-24	-23.6	18		0	LF		
6	08:10	1,068.36	1.62	108	105.9	-24	-23.5	20		0	LF		
7	07:55	1,105.26	1.52	107	105.2	-24	-23.4	20		0	LF		
8	07:25	1,135.19	1.60	107	105.6	-25	-24.6	21		0	LF		
9	08:25	1,142.93	1.67	106	104.7	-24	-23.2	21		0	WV		
10	09:55	1,152.12	1.52	105	103.4	-24	-23.8	21		0	WV		
11	08:10	1,161.48	1.67	103	101.8	-25	-24.5	22		0	WV		
12	11:35	1,168.60	1.64	102	100.8	-25	-24.7	22		0	WV		
13	08:45	1,175.64	1.55	100	98.7	-23	-23.5	22		0	WV		
14	10:00	1,183.00	1.64	100	98.4	-24	-23.7	22		0	WV		
15	09:35	556.57	1.60	98	96.7	-26	-24.5	22		0	WV		
16	09:10	0.00	0.00	99	96.0	-25	-24.1	20		0	KS		
17	08:55	447.86	1.52	100	95.8	-24	-23.2	19		0	KS		
18	14:20	1,182.86	1.48	110	109.0	-25	-24.6	20		0	KS		
19	09:00	1,201.62	1.62	108	110.7	-22	-23.5	21		0	KS		
20	10:30	1,208.38	1.50	111	110.5	-22	-23.5	22		0	KS		
21	07:05	1,209.50	1.50	110	109.5	-23	-23.4	22		0	KS		
22	07:20	1,215.67	1.48	110	108.2	-23	-24.2	23		0	KS		
23	08:10	1,218.21	1.55	108	105.3	-24	24.6	23		0	GH		
24	07:45	1,161.00	1.60	108	105.5	-23	-22.9	23		0	GH		
25	08:35	1,258.21	1.55	108	103.9	-23	-22.6	23		0	GH		
26	08:30	1,253.10	1.48	104	102.4	-23	-23.3	23		0	GH		
27	08:15	713.52	1.55	102	100.6	-24	-23.9	23		0	GH		
28	07:30	849.38	1.55	99	97.3	-25	-25.2	20		0	GH		
29	08:00	1,327.64	1.43	117	115.1	-24	-23.4	23		0	GH		
30	08:15	1,242.69	1.55	112	110.6	-25	-24.4	23		0	LF		
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Weekly Injectate Samples

Kansas Lab Certificate Number E-10146

Week	**Temperature**		**pH**		**Chloride**				
	Degrees Fahrenheit	Date	Standard Units	Date	Cl concentration (mg/l)	Date Sample Collected	Date Sampl Analysed		
1	91.00	09/02/2019	6.60	09/02/2019	N/A				
2	97.00	09/09/2019	6.50	09/09/2019	N/A				
3	85.00	09/17/2019	6.20	09/17/2019	N/A				
4	94.00	09/23/2019	6.40	09/23/2019	N/A				
5	96.00	09/30/2019	6.00	09/30/2019	N/A				

No monthly injectate samples required.

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Quarterly Injectate Samples

Quarter 3
Date Sample Collected 08/05/2019
Kansas Lab Certificate Number E-10146
Lab Name Pace Analytical-Salina

These samples shall be representative of injection activity and shall therefore be collected on days of injection.

Constituent	Value	Units
Calcium	1,260.000	mg/l
Chloride	24,300.000	mg/l
Conductivity	68.700	Mmhos
Magnesium	386.000	mg/l
Sodium	9,600.000	mg/l
Sulfate	2,120.000	mg/l
Total Alkalinity as CaCO3	283.000	mg/l
Total Dissolved Solids	49,600.000	mg/l
Total Suspended Solids	66.600	mg/l