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

Submitted 05/29/2019 **Approved** 06/18/2019 **KOLAR Document ID** 1459819

Class I-V Injection Well Monthly Monitoring

Summary of Monthly Report

Number of days injection occurred: 28

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	1,426	2.01	105	101	-24.6	-24.5	0
Monthly Maximum	1,678	2.05	110	109	-23.0	-23.5	0
Monthly Minimum	557	1.93	97	95	-26.0	-25.7	0
Monthly Total	39,935						0

Summary of Continuous Recorder Data

Maximum Annulus Pressure psig	Minimum Annulus Pressure psig	Maximum Injection Pressure psig	Minimum Injection Pressure psig
109.20	93.70	29.20	-2.00

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	13:30	1,543.76	2.02	97	95.7	-25	-23.9	16		0	WV		
2	11:45	1,553.64	2.00	97	95.7	-25	-24.2	16		0	WV		
3	08:45	1,561.43	2.02	97	95.6	-25	-23.8	17		0	WV		
4	08:00	1,563.40	2.02	97	95.2	-25	-24.3	16		0	GH		
5	09:35	1,575.50	2.00	97	95.2	-25	-24.1	16		0	GH		
6	08:05	1,245.48	2.00	97	95.0	-25	-24.2	16		0	GH		
7	08:30	556.93	2.00	98	96.1	-26	-25.7	16		0	GH		
8	08:30	1,490.55	2.00	108	106.1	-25	-24.6	14		0	GH		
9	07:10	1,576.50	2.02	109	107.4	-26	-25.6	15		0	GH		
10	07:00	1,572.83	2.02	109	107.7	-25	-24.1	16		0	GH		
11	11:03	1,565.88	2.00	108	106.2	-25	-24.0	16		0	AB		
12	11:05	1,555.93	1.98	110	103.7	-25	-24.5	16		0	KS		
13	09:10	1,549.02	1.93	110	102.6	-25	-24.2	16		0	KS		
14	10:50	1,505.90	2.02	108	101.3	-25	-23.5	16		0	KS		
15	13:00	1,452.00	2.02	97	95.8	-24	-24.1	15		0	KS		
16	08:00	1,480.21	2.02	99	95.9	-25	-25.4	15		0	KS		
17	08:00	1,514.67	2.02	110	100.9	-24	-24.9	15		0	KS		
18	09:40	1,612.24	2.02	110	100.4	-24	-25.6	16		0	KS		
19	08:20	1,529.60	2.00	110	100.3	-24	-25.1	16		0	LAF		
20	11:15	583.07	2.05	110	108.9	-23	-23.9	16		0	LAF		
21	09:40	950.21	2.02	110	106.1	-24	-24.5	16		0	LAF		
22	08:35	1,052.40	2.02	110	107.6	-24	-24.2	15		0	LAF		
23	08:45	1,678.17	2.05	110	107.2	-24	-23.6	15		0	LAF		
24	08:25	1,116.38	2.02	109	106.3	-25	-24.3	16		0	LAF		
25	07:50	1,658.83	1.98	110	104.6	-25	-24.4	15		0	KS		
26	10:50	1,631.64	1.98	105	102.8	-24	-24.8	16		0	KS		
27	11:05	1,629.33	1.98	101	101.0	-24	-24.8	16		0	KS		
28	09:00	1,629.40	1.95	101	100.3	-24	-24.5	16		0	KS		
29													
30													
31													

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Weekly Injectate Samples

Kansas Lab Certificate Number

Week	Temperature		pH		Chloride				
	Degrees Fahrenheit	Date	Standard Units	Date	Cl concentration (mg/l)	Date Sample Collected	Date Sampl Analysed		
1	82.00	02/04/2019	6.40	02/04/2019	N/A				
2	80.00	02/11/2019	6.20	02/11/2019	N/A				
3	66.00	02/18/2019	6.10	02/18/2019	N/A				
4	69.00	02/25/2019	6.00	02/25/2019	N/A				
5					N/A				

No monthly injectate samples required.

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Quarterly Injectate Samples

Quarter 1
Date Sample Collected 01/30/2019
Kansas Lab Certificate Number E-10116
Lab Name Pace Analytical-Lenexa

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

Constituent	Value	Units
Calcium	2,290.000	mg/l
Chloride	28,800.000	mg/l
Conductivity	74.300	Mmhos
Magnesium	540.000	mg/l
Sodium	15,800.000	mg/l
Sulfate	2,350.000	mg/l
Total Alkalinity as CaCO3	11.500	mg/l
Total Dissolved Solids	10,700.000	mg/l
Total Suspended Solids	11.500	mg/l