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

Submitted 12/11/2019 **Approved** 12/20/2019 **KOLAR Document ID** 1485344

Class I-V Injection Well Monthly Monitoring

Summary of Monthly Report

Number of days injection occurred: 30

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	1,444	1.52	102	101	-21.2	-19.8	0
Monthly Maximum	1,503	1.83	115	113	-16.0	20.2	0
Monthly Minimum	1,190	1.24	96	95	-24.0	-27.7	0
Monthly Total	43,333						0

Summary of Continuous Recorder Data

Maximum Annulus Pressure psig	Minimum Annulus Pressure psig	Maximum Injection Pressure psig	Minimum Injection Pressure psig
131.70	87.30	-1.00	-28.20

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	07:55	1,429.64	1.60	114	112.9	-23	-22.7	20		0	LF		
2	07:25	1,437.40	1.52	115	113.4	-24	-23.8	20		0	LF		
3	08:10	1,443.88	1.57	115	112.8	-24	-27.7	21		0	LF		
4	09:30	1,449.29	1.60	113	111.9	-23	-23.4	21		0	WV		
5	08:50	1,444.29	1.52	111	110.1	-23	-23.9	21		0	WV		
6	11:25	1,189.90	1.83	110	108.4	-24	-23.6	22		0	WV		
7	08:25	1,472.90	1.50	105	103.7	-22	-23.9	21		0	WV		
8	07:50	1,480.83	1.45	106	104.1	-22	-24.1	22		0	WV		
9	08:20	1,487.76	1.67	102	103.1	-23	-23.1	22		0	WV		
10	09:55	1,480.14	1.71	103	102.7	-24	-24.2	22		0	WV		
11	08:25	1,473.45	1.55	99	98.4	-22	-25.2	22		0	GH		
12	08:15	1,469.55	1.64	97	95.8	-22	-25.0	22		0	GH		
13	11:25	1,464.45	1.52	98	95.8	-22	-23.4	22		0	GH		
14	07:45	1,464.07	1.57	98	96.4	-22	-25.0	22		0	GH		
15	08:30	1,236.19	1.55	98	95.8	-23	-25.0	22		0	GH		
16	07:05	1,479.10	1.50	104	102.1	-22	-23.5	21		0	GH		
17	07:00	1,477.17	1.64	104	102.7	-22	-23.5	22		0	GH		
18	08:40	1,486.40	1.24	101	100.4	-21	-20.5	22		0	KS		
19	08:30	1,481.26	1.67	100	98.4	-20	-24.5	22		0	KS		
20	08:00	1,502.52	1.71	100	96.5	-21	-22.5	22		0	KS		
21	09:35	1,490.21	1.31	97	95.6	-18	-10.5	22		0	KS		
22	10:50	1,490.12	1.36	99	95.5	-22	-24.5	22		0	KS		
23	09:25	1,483.33	1.29	98	95.8	-16	-15.5	22		0	KS		
24	09:45	1,468.10	1.29	99	95.9	-18	20.2	22		0	KS		
25	08:15	1,451.40	1.31	96	95.4	-18	18.9	22		0	LF		
26	08:05	1,442.29	1.60	96	95.7	-21	-23.1	22		0	LF		
27	08:10	1,427.45	1.31	97	96.2	-16	-18.4	21		0	LF		
28	08:45	1,425.45	1.29	97	95.8	-17	-18.9	21		0	LF		
29	08:40	1,410.69	1.74	97	95.9	-23	-24.6	21		0	LF		
30	09:25	1,394.14	1.40	97	96.1	-17	-19.3	21		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	89.00	11/04/2019	6.30	11/04/2019	N/A				
2	84.00	11/11/2019	6.30	11/11/2019	N/A				
3	76.50	11/18/2019	6.30	11/18/2019	N/A				
4	81.00	11/25/2019	6.20	11/25/2019	N/A				
5					N/A				

No monthly injectate samples required.

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Quarterly Injectate Samples

Quarter 4
Date Sample Collected 10/01/2019
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	2,010.000	mg/l
Chloride	27,300.000	mg/l
Conductivity	69.200	Mmhos
Magnesium	507.000	mg/l
Sodium	15,000.000	mg/l
Sulfate	2,240.000	mg/l
Total Alkalinity as CaCO3	234.000	mg/l
Total Dissolved Solids	57,700.000	mg/l
Total Suspended Solids	38.200	mg/l