Facility Well Name Northern (Bushton) #1 **UIC Permit #** KS-01-159-003 **Month** November **Year** 2019

Submitted 12/11/2019 **Approved** 12/20/2019 **KOLAR Document ID** 1485338

Class I-V Injection Well Monthly Monitoring

Summary of Monthly Report

Number of days injection occurred: 25

Barrels per Day Maximum: 3,840

			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	63	0.00	96	94	-27.3	-24.9	0
Monthly Maximum	156	0.00	100	97	-26.0	-24.3	0
Monthly Minimum	0	0.00	90	88	-28.0	-25.5	0
Monthly Total	1,897						0

Summary of Continuous Recorder Data

Maximum Annulus Pressure psig	Minimum Annulus Pressure psig	Maximum Injection Pressure psig	Minimum Injection Pressure psig
97.90	86.70	-24.00	-25.60

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	10:00	0.00	0.00	95	93.9	-28	-25.0	12	N/A	0	LM		
2	08:30	77.43	0.00	90	88.0	-28	-25.4	12	N/A		LM		
3	07:45	0.00	0.00	96	94.0	-28	-24.9	12	N/A	0	LM		
4	09:00	76.83	0.00	95	93.8	-28	-24.9	12	N/A		MW		
5	10:00	12.19	0.00	96	94.6	-28	-25.0	12	N/A	0	RB		
6	09:35	77.24	0.00	95	93.2	-28	-25.0	12	N/A	0	RB		
7	11:45	143.12	0.00	91	89.0	-28	-25.0	12	N/A	0	RB		
8	10:00	0.00	0.00	95	92.7	-27	-25.0	12	N/A	0	RB		
9	08:30	14.17	0.00	95	93.9	-28	-25.0	12	N/A	0	LM		
10	06:30	0.00	0.00	96	94.7	-27	-24.8	12	N/A	0	LM		
11	08:30	76.64	0.00	94	90.1	-28	-25.4	12	N/A	0	LM		
12	08:00	72.86	0.00	93	90.6	-26	-25.5	12	N/A	0	LM		
13	12:00	76.86	0.00	97	96.3	-27	-24.6	12	N/A	0	LM		
14	08:30	0.00	0.00	98	96.0	-27	-25.1	12	N/A	0	LM		
15	09:00	84.48	0.00	100	95.8	-28	-25.1	12	N/A	0	MW		
16	07:00	76.76	0.00	100	97.0	-27	-24.7	12	N/A	0	MU		
17	08:00	76.74	0.00	99	95.9	-27	-24.9	12	N/A	0	MU		
18	08:30	77.02	0.00	96	95.3	-27	-24.6	12	N/A	0	LM		
19	09:25	14.36	0.00	100	97.3	-27	-24.8	12	N/A	0	LM		
20	07:32	74.62	0.00	98	95.6	-27	-24.3	12	N/A	0	LM		
21	08:00	76.76	0.00	98	96.0	-27	-24.9	12	N/A	0	LM		
22	09:00	77.00	0.00	96	94.0	-28	-25.1	12	N/A	0	RB		
23	08:45	83.24	0.00	97	95.0	-27	-24.4	12	N/A	0	RB		
24	10:30	77.31	0.00	97	95.8	-27	-24.5	12	N/A	0	RB		
25	06:00	77.24	0.00	98	94.5	-27	-24.5	12	N/A	0	MU		
26	06:00	84.69	0.00	95	94.1	-27	-24.4	12	N/A	0	MU		
27	06:00	77.19	0.00	95	92.7	-27	-25.1	12	N/A	0	MU		
28	07:00	78.36	0.00	96	94.4	-27	-25.3	12	N/A	0	MU		
29	11:00	155.88	0.00	95	93.8	-27	-24.4	12	N/A	0	LM		
30	08:30	78.33	0.00	95	93.7	-27	-24.4		N/A	0	LM		

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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	65.00	11/05/2019	7.28	11/05/2019	N/A				
2	63.00	11/14/2019	6.62	11/14/2019	N/A				
3	66.00	11/18/2019	7.05	11/18/2019	N/A				
4	63.00	11/25/2019	7.17	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 11/14/2019
Kansas Lab Certificate Number 1011610146
Lab Name

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

Constituent	Value	Units
Calcium	129.000	mg/l
Chloride	630.000	mg/l
Iron	4.360	mg/l
Magnesium	16.300	mg/l
Sulfate	ND	mg/l
Diethanolamine	<50.000	mg/l
Total Dissolved Solids	1,510.000	mg/l
Total Alkalinity as CaCO3	313.000	mg/l (as CaCO3)
Total Hardness as CaCO3	389.000	mg/l (as CaCO3)
Conductivity	251.000	Mmhos