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

Submitted 06/18/2019 **Approved** 07/05/2019 **KOLAR Document ID** 1463445

Class I-V Injection Well Monthly Monitoring

Summary of Monthly Report

Number of days injection occurred: 16

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	57	0.00	108	107	-23.5	-24.9	0
Monthly Maximum	269	0.12	111	111	-22.0	-24.0	0
Monthly Minimum	0	0.00	100	100	-27.0	-27.0	0
Monthly Total	1,776						0

Summary of Continuous Recorder Data

Maximum Annulus Pressure psig	Minimum Annulus Pressure psig	Maximum Injection Pressure psig	Minimum Injection Pressure psig
112.00	96.00	-25.00	-23.00

Comments:

Transferred water/amine Liquids from V-19 to disposal well. 8,000 gallons. 5/23/19.

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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	09:45	0.00	0.00	109	108.0	-23	-25.0	5	N/A	0	LM		
2	10:10	74.93	0.00	106	107.0	-23	-25.0	5	N/A		LM		
3	06:00	0.00	0.00	107	108.0	-23	-25.0	5	N/A		MU		
4	08:00	73.48	0.00	107	107.0	-23	-25.0	5	N/A		MU		
5	06:00	0.00	0.00	107	108.0	-22	-25.0	5	N/A	0	MU		
6	06:10	0.00	0.00	110	100.0	-24	-27.0	5	N/A	0	TS		
7	06:20	91.48	0.00	105	105.0	-23	-27.0	5	N/A	0	TS		
8	13:20	268.88	0.00	100	101.0	-27	-25.0	5	N/A	0	TS		
9	09:10	0.00	0.00	105	107.0	-26	-25.0	5	N/A	0	MW		
10	07:55	0.00	0.00	107	108.0	-25	-25.0	5	N/A	0	RB		
11	10:00	72.36	0.00	107	108.0	-23	-25.0	5	N/A	0	RB		
12	08:00	0.00	0.00	108	108.0	-23	-25.0	5	N/A	0	RB		
13	06:00	0.00	0.00	109	109.0	-22	-25.0	5	N/A	0	MU		
14	06:00	153.29	0.00	107	108.0	-23	-25.0	5	N/A	0	MU		
15	06:00	0.00	0.00	109	109.2	-24	-24.0	5	N/A	0	MU		
16	06:00	0.00	0.00	110	109.0	-24	-24.0	5	N/A	0	MU		
17	11:00	0.12	0.00	111	111.0	-22	-24.0	5	N/A	0	LM		
18	07:15	77.88	0.12	101	102.0	-23	-25.0	4	N/A	0	LM		
19	07:30	147.29	0.00	105	105.0	-23	-25.0	5	N/A	0	LM		
20	08:30	165.74	0.00	105	105.0	-23	-25.0	5	N/A	0	TM		
21	14:40	102.76	0.00	109	108.0	-22	-24.0	5	N/A	0	MW		
22	10:35	76.95	0.00	109	108.0	-23	-25.0	5	N/A	0	RB		
23	08:30	0.00	0.00	108	108.0	-23	-25.0	5	N/A	0	TM		
24	10:20	188.71	0.00	110	108.0	-27	-25.0	5	N/A	0	TS		
25	06:30	0.00	0.00	109	107.0	-25	-24.0	5	N/A	0	TS		
26	08:30	0.00	0.00	111	108.0	-25	-24.0	5	N/A	0	TS		
27	07:00	79.21	0.00	106	107.0	-23	-25.0	5	N/A	0	LM		
28	06:15	18.00	0.00	110	109.0	-23	-25.0	5	N/A	0	LM		
29	07:15	185.12	0.00	109	109.0	-23	-25.0	5	N/A	0	LM		
30	06:10	0.00	0.00	109	109.0	-22	-25.0	5	N/A	0	LM		
31	06:20	0.00	0.00	110	110.0	-23	-25.0	5	N/A	0	MU		

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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	60.00	05/07/2019	9.34	05/07/2019	N/A				
2	60.00	05/13/2019	6.92	05/13/2019	N/A				
3	58.00	05/20/2019	6.74	05/20/2019	N/A				
4	64.00	05/28/2019	9.23	05/28/2019	N/A				
5					N/A				

No monthly injectate samples required.

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Quarterly Injectate Samples

Quarter 2
Date Sample Collected 04/15/2019
Kansas Lab Certificate Number 1120146
Lab Name

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

Constituent	Value	Units
Calcium	52.500	mg/l
Chloride	234.000	mg/l
Iron	47.900	mg/l
Magnesium	64.800	mg/l
Sulfate	21.700	mg/l
Total Dissolved Solids	1,120.000	mg/l
Total Alkalinity as CaCO3	292.000	mg/l (as CaCO3)
Total Hardness as CaCO3	158.000	mg/l (as CaCO3)
Conductivity	170.000	Mmhos