Facility Well Name CHS Refinery #4 **UIC Permit #** KS-01-113-011 **Month** September **Year** 2023

Submitted 10/20/2023 **Approved** 10/30/2023 **KOLAR Document ID** 1734115

Class I-V Injection Well Monthly Monitoring

Summary of Monthly Report

Number of days injection occurred: 29

Barrels per Day Maximum: 34,286

			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	11,549	8.02	99	98	5.0	1.1	
Monthly Maximum	16,672	11.57	100	102	17.0	13.3	
Monthly Minimum	0	0.00	90	88	4.0	0.0	
Monthly Total	346,462						

Summary of Continuous Recorder Data

Maximum Annulus Pressure psig	Minimum Annulus Pressure psig	Maximum Injection Pressure psig	Minimum Injection Pressure psig
129.79	83.63	13.88	0.00

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	07:00	12,612.33	8.76	92	91.5	4	0.3	16			NB		
2	07:00	8,887.88	6.17	90	87.5	4	0.3	16			NB		
3	07:00	7,010.05	4.86	100	101.0	4	0.2	15			NB		
4	07:00	9,103.88	6.33	100	99.1	4	0.1	16			MB		
5	07:00	9,121.38	6.33	100	100.1	4	0.1	16			MB		
6	07:00	9,139.88	6.36	100	101.6	4	0.1	15			NB		
7	07:00	9,195.76	6.38	100	99.9	4	0.0	16			NB		
8	07:00	9,221.48	6.40	100	99.7	4	0.0	16			MB		
9	07:00	9,264.69	6.43	100	99.0	4	0.1	15			MB		
10	07:00	9,457.38	6.57	100	99.5	4	0.1	15			MB		
11	07:00	9,532.12	6.62	100	98.9	4	0.1	16			CG		
12	07:00	9,463.19	6.57	98	98.9	4	0.2	16			CG		
13	07:00	9,416.57	6.55	100	99.4	4	0.1	16			BD		
14	07:00	9,489.95	6.60	98	98.4	4	0.2	16			BD		
15	07:00	9,615.43	6.67	98	98.1	4	0.0	15			CG		
16	07:00	9,303.76	6.45	98	98.1	17	13.3	16			CG		
17	07:00	0.00	0.00	96	96.6	17	13.3	14			CG		
18	07:00	2,275.55	1.57	98	97.6	4	0.4	16			TY		
19	07:00	16,472.90	11.43	98	97.0	4	0.4	16			CG		
20	07:00	16,458.86	11.43	100	98.3	4	0.5	16			MH		
21	07:00	13,476.69	9.36	98	97.0	4	0.3	15			MH		
22	07:00	16,376.90	11.38	100	98.1	4	0.3	15			TY		
23	07:00	16,389.26	11.38	100	97.9	4	0.3	16			TY		
24	07:00	16,397.83	11.38	100	97.8	5	0.4	16			TY		
25	07:00	16,393.71	11.38	100	98.0	4	0.4	16			NB		
26	07:00	16,391.67	11.38	98	98.7	5	0.5	16			NB		
27	07:00	16,401.26	11.38	100	98.4	5	0.3	16			TY		
28	07:00	16,432.12	11.40	98	96.2	4	0.3	16			TY		
29	07:00	16,487.31	11.45	100	99.2	4	0.3	16			NB		
30	07:00	16,672.12	11.57	98	97.8	4	0.4	16			NB		
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Weekly Injectate Samples

Kansas Lab Certificate Number E-10116

Week	**Temperature**		**pH**		**Chloride**				
	Degrees Fahrenheit	Date	Standard Units	Date	Cl concentration (mg/l)	Date Sample Collected	Date Sampl Analysed		
1	89.00	09/05/2023	7.01	09/05/2023	889.0	09/05/2023	10/02/2023		
2	87.70	09/12/2023	6.68	09/12/2023	909.0	09/12/2023	10/02/2023		
3	92.70	09/19/2023	6.86	09/19/2023	834.0	09/19/2023	10/02/2023		
4	89.10	09/26/2023	6.99	09/26/2023	707.0	09/26/2023	10/02/2023		
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No monthly injectate samples required.

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Quarterly Injectate Samples

Quarter 3
Date Sample Collected 09/26/2023
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
Ammonia	2.200	mg/l
Benzene	0.047	mg/l
Calcium	377.000	mg/l
Conductivity	4.100	Mmhos
Ethylbenzene	ND	mg/l
Iron	15.000	mg/l
Magnesium	34.200	mg/l
Oil & Grease	9.300	mg/l
Sodium	425.000	mg/l
Sulfate	795.000	mg/l
Toluene	0.030	mg/l
Total Alkalinity as CaCO3	511.000	mg/l
Total Dissolved Solids	2,590.000	mg/l
Total Hardness as CaCO3	1,080.000	mg/l
Total Suspended Solids	74.400	mg/l
Xylene	0.037	mg/l