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

Submitted 07/17/2023 **Approved** 07/28/2023 **KOLAR Document ID** 1721860

Class I-V Injection Well Monthly Monitoring

Summary of Monthly Report

Number of days injection occurred: 30

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	12,712	8.83	92	90	3.6	0.5	
Monthly Maximum	12,782	8.88	100	100	4.0	4.2	
Monthly Minimum	12,662	8.79	80	83	0.0	0.0	
Monthly Total	381,357						

Summary of Continuous Recorder Data

Maximum Annulus Pressure psig	Minimum Annulus Pressure psig	Maximum Injection Pressure psig	Minimum Injection Pressure psig
125.81	69.93	13.58	0.00

Comments:

CHS Refinery #4 06/2023

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	12,670.98	8.81	88	86.2	0	4.0	15			CG		
2	07:00	12,672.33	8.81	90	89.7	4	0.0	15			TY		
3	07:00	12,668.24	8.79	94	92.7	0	4.2	14			TY		
4	07:00	12,677.83	8.81	90	88.0	0	4.2	15			TY		
5	07:00	12,685.71	8.81	92	92.7	4	0.1	9			NB		
6	07:00	12,678.86	8.81	95	92.5	4	0.0	12			NB		
7	07:00	12,667.19	8.79	92	90.9	4	0.1	16			TY		
8	07:00	12,667.19	8.79	100	98.3	4	0.0	14			TY		
9	07:00	12,661.71	8.79	92	92.0	4	0.0	9			NB		
10	07:00	12,679.19	8.81	90	90.7	4	0.1	7			NB		
11	07:00	12,702.86	8.83	92	90.5	4	0.1	7			NB		
12	07:00	12,710.40	8.83	92	92.0	4	0.0	7			NB		
13	07:00	12,715.88	8.83	92	91.9	4	0.0	7			NB		
14	07:00	12,720.00	8.83	96	90.9	4	0.1	14			BD		
15	07:00	12,712.45	8.83	94	91.4	4	0.1	14			BD		
16	07:00	12,711.76	8.83	94	91.0	4	0.1	14			BD		
17	07:00	12,712.12	8.83	100	99.1	4	0.0	9			BD		
18	07:00	12,711.43	8.83	96	91.2	4	0.0	11			BD		
19	07:00	12,715.88	8.83	93	90.3	4	0.1	14			MH		
20	07:00	12,721.02	8.83	92	89.2	4	0.0	11			MH		
21	07:00	12,733.38	8.83	95	91.7	4	0.0	11			MB		
22	07:00	12,734.05	8.83	98	93.7	4	0.1	8			MB		
23	07:00	12,736.45	8.83	99	100.1	4	0.1	15			CG		
24	07:00	12,737.83	8.86	80	83.6	4	0.1	15			CG		
25	07:00	12,740.90	8.86	85	83.4	4	0.1	15			CG		
26	07:00	12,739.88	8.86	88	86.8	4	0.1	15			TY		
27	07:00	12,747.43	8.86	89	86.2	4	0.0	15			TY		
28	07:00	12,764.24	8.86	84	84.4	4	0.0	14			CG		
29	07:00	12,777.60	8.88	85	84.4	4	0.0	15			CG		
30	07:00	12,781.71	8.88	86	85.8	4	0.1	15			TY		
31													

CHS Refinery #4 06/2023

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	87.50	06/06/2023	6.88	06/06/2023	1,170.0	06/06/2023	06/14/2023		
2	84.80	06/13/2023	7.02	06/13/2023	924.0	06/13/2023	06/27/2023		
3	87.50	06/20/2023	7.24	06/20/2023	925.0	06/20/2023	07/02/2023		
4	78.00	06/28/2023	6.72	06/28/2023	1,110.0	06/28/2023	07/02/2023		
5									

No monthly injectate samples required.

CHS Refinery #4 06/2023

Quarterly Injectate Samples

Quarter 2
Date Sample Collected 06/13/2023
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	2.800	mg/l
Benzene	0.046	mg/l
Calcium	429.000	mg/l
Conductivity	5.160	Mmhos
Ethylbenzene	ND	mg/l
Iron	6.170	mg/l
Magnesium	42.700	mg/l
Oil & Grease	10.900	mg/l
Sodium	531.000	mg/l
Sulfate	782.000	mg/l
Toluene	0.040	mg/l
Total Alkalinity as CaCO3	600.000	mg/l
Total Dissolved Solids	3,660.000	mg/l
Total Hardness as CaCO3	1,250.000	mg/l
Total Suspended Solids	47.500	mg/l
Xylene	0.066	mg/l