Facility Well Name CHS Refinery #3 **UIC Permit #** KS-01-113-010 **Month** March **Year** 2022

Submitted 04/20/2022 **Approved** 04/27/2022 **KOLAR Document ID** 1639965

Class I-V Injection Well Monthly Monitoring

Summary of Monthly Report

Number of days injection occurred: 31

Barrels per Day Maximum: 51,429

			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	5,164	3.58	109	109	2.9	3.3	
Monthly Maximum	8,895	6.17	125	128	16.0	15.8	
Monthly Minimum	247	0.17	90	90	1.0	2.4	
Monthly Total	160,069						

Summary of Continuous Recorder Data

Maximum Annulus Pressure psig	Minimum Annulus Pressure psig	Maximum Injection Pressure psig	Minimum Injection Pressure psig
141.52	0.00	15.90	0.00

Comments:

The annulus pressure continuous recorder was calibrated on 3/7/22. Thus, the reading was below permit limits during the calibration.

CHS Refinery #3 03/2022

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	2,004.33	1.38	112	118.5	14	5.0	3			CG		
2	07:00	377.48	0.26	120	119.3	6	5.0	4			BD		
3	07:00	246.86	0.17	105	108.9	1	5.3	1			BD		
4	07:00	3,209.48	2.24	125	128.4	2	2.4	7			CG		
5	07:00	5,463.76	3.79	125	127.4	2	2.4	7			MH		
6	07:00	5,419.88	3.76	108	108.9	2	2.4	5			MH		
7	07:00	6,070.29	4.21	110	110.3	2	2.4	5			TY		
8	07:00	6,754.29	4.69	110	109.8	1	2.4	6			TY		
9	07:00	6,348.69	4.40	112	110.8	2	2.5	5			MH		
10	07:00	6,853.38	4.76	106	104.1	2	2.5	5			MH		
11	07:00	6,933.95	4.81	105	107.3	2	2.5	5			TY		
12	07:00	6,785.14	4.71	104	105.1	1	2.5	5			TY		
13	07:00	6,962.40	4.83	110	111.1	1	2.5	5			TY		
14	07:00	6,533.14	4.55	117	113.0	2	2.5	6			MW		
15	07:00	6,401.48	4.45	116	112.5	2	2.5	7			MW		
16	07:00	6,749.14	4.69	118	115.3	2	2.6	7			TY		
17	07:00	7,040.57	4.88	125	124.5	2	2.6	8			TY		
18	07:00	7,033.38	4.88	105	103.5	2	2.5	4			MW		
19	07:00	6,969.95	4.83	115	114.0	2	2.6	6			MW		
20	07:00	6,441.60	4.48	117	114.8	2	2.7	8			MW		
21	07:00	6,525.95	4.52	119	118.0	2	2.7	8			BD		
22	07:00	6,322.98	4.38	110	108.0	2	2.6	5			BD		
23	07:00	6,630.86	4.60	100	101.5	2	2.7	4			MB		
24	07:00	5,579.31	3.88	95	97.1	2	2.6	3			MB		
25	07:00	8,894.74	6.17	110	111.9	16	15.8	6			BD		
26	07:00	5,442.17	3.79	102	99.2	2	2.5	5			BD		
27	07:00	2,194.98	1.52	98	97.7	2	2.6	4			BD		
28	07:00	2,173.02	1.50	95	95.9	2		3			CG		
29	07:00	1,978.98	1.38	100	100.8			4			BD		
30	07:00	1,728.00	1.19	100	100.8	2	2.7	4			BD		
31	07:00	1,998.86	1.38	90	89.9	2	2.6	3			BD		

CHS Refinery #3 03/2022

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	58.00	03/03/2022	7.40	03/03/2022	529.0	03/03/2022	03/17/2022		
2	79.40	03/08/2022	6.64	03/08/2022	698.0	03/08/2022	03/29/2022		
3	82.00	03/15/2022	7.14	03/15/2022	651.0	03/15/2022	03/31/2022		
4					784.0	03/22/2022	03/31/2022		
5	73.00	03/29/2022	7.62	03/29/2022	641.0	03/29/2022	03/31/2022		

No monthly injectate samples required.

CHS Refinery #3 03/2022

Quarterly Injectate Samples

Quarter 1
Date Sample Collected 03/22/2022
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
1,2 Dichloroethene	ND	mg/l
Ammonia	47.400	mg/l
Benzene	0.058	mg/l
Calcium	215.000	mg/l
Conductivity	4.000	Mmhos
Ethylbenzene	0.010	mg/l
Iron	6.410	mg/l
Magnesium	21.800	mg/l
Oil & Grease	9.100	mg/l
Sodium	567.000	mg/l
Sulfate	957.000	mg/l
Toluene	0.061	mg/l
Total Alkalinity as CaCO3	344.000	mg/l
Total Dissolved Solids	2,270.000	mg/l
Total Suspended Solids	47.000	mg/l
Trichloroethene	ND	mg/l
Xylene	0.129	mg/l