Facility Well Name CHS Refinery #1 **UIC Permit #** KS-01-113-008 **Month** March **Year** 2022

Submitted 04/20/2022 **Approved** 04/27/2022 **KOLAR Document ID** 1639963

Class I-V Injection Well Monthly Monitoring

Summary of Monthly Report

Number of days injection occurred: 30

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	14,908	10.35	100	97	2.7	2.4	
Monthly Maximum	20,972	14.57	111	109	13.0	13.8	
Monthly Minimum	0	0.00	94	92	1.0	0.7	
Monthly Total	462,160						

Summary of Continuous Recorder Data

Maximum Annulus Pressure psig	Minimum Annulus Pressure psig	Maximum Injection Pressure psig	Minimum Injection Pressure psig
113.09	0.02	14.09	0.67

Comments:

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

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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	15,086.05	10.48	102	97.9	13	12.7	4			CG		
2	07:00	20,738.40	14.40	104	101.6	2	1.1	5			BD		
3	07:00	20,972.24	14.57	111	108.6	13	12.5	7			BD		
4	07:00	15,661.02	10.88	108	105.0	2	0.9	8			CG		
5	07:00	15,986.05	11.10	106	103.9	2	1.0	7			MH		
6	07:00	15,163.19	10.52	97	95.0	2	1.1	5			MH		
7	07:00	10,915.55	7.57	95	93.5	1	1.2	5			TY		
8	07:00	13,605.95	9.45	96	94.4	1	1.0	5			TY		
9	07:00	15,600.33	10.83	103	100.6	2	1.5	6			MH		
10	07:00	15,537.95	10.79	96	93.4	2	1.1	5			MH		
11	07:00	13,404.33	9.31	96	94.7	1	1.8	5			TY		
12	07:00	12,317.83	8.55	96	93.7	1	0.8	4			TY		
13	07:00	10,756.45	7.48	100	97.0	2	1.0	4			TY		
14	07:00	12,651.10	8.79	100	98.1	2	0.8	4			MW		
15	07:00	13,585.38	9.43	98	96.0	2	0.8	5			MW		
16	07:00	16,760.24	11.64	96	94.9	2	0.9	5			TY		
17	07:00	15,894.17	11.05	96	95.2	2	0.7	6			TY		
18	07:00	15,293.83	10.62	95	92.3	2	1.1	6			MW		
19	07:00	17,727.43	12.31	95	97.6	2	0.9	5			MW		
20	07:00	16,880.24	11.71	98	95.4	2	1.1	6			MW		
21	07:00	17,310.52	12.02	98	95.8	2	1.1	6			BD		
22	07:00	16,552.12	11.50	94	92.3	2	1.2	6			BD		
23	07:00	15,727.55	10.93	95	93.2	2	2.0	4			MB		
24	07:00	3,058.29	2.12	100	99.3		13.8	3			MB		
25	07:00	0.00	0.00	102	99.0	5	2.6	3			BF		
26	07:00	12,701.14	8.81	104	103.0	2	1.3	6			BD		
27	07:00	19,176.00	13.31	108	96.2	2	1.0	5			BD		
28	07:00	17,086.62	11.86	102	99.1	2	1.6	5			CG		
29	07:00	18,265.38	12.69	103	101.5	2	1.4	6			CG		
30	07:00	20,764.12	14.43	100	96.9	2	2.2	6			BD		
31	07:00	16,980.69	11.79	98	94.4	2	1.9	5			BD		

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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	79.50	03/01/2022	6.91	03/01/2022	906.0	03/01/2022	03/17/2022		
2	91.50	03/08/2022	7.14	03/08/2022	690.0	03/08/2022	03/29/2022		
3	86.00	03/15/2022	6.90	03/15/2022	826.0	03/15/2022	03/31/2022		
4	82.00	03/22/2022	8.01	03/22/2022	747.0	03/22/2022	03/31/2022		
5	89.00	03/29/2022	7.36	03/29/2022	869.0	03/29/2022	03/31/2022		

No monthly injectate samples required.

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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
Ammonia	51.400	mg/l
Benzene	0.132	mg/l
Calcium	359.000	mg/l
Conductivity	4.000	Mmhos
Ethylbenzene	0.015	mg/l
Iron	8.690	mg/l
Magnesium	30.800	mg/l
Oil & Grease	14.300	mg/l
Sodium	649.000	mg/l
Sulfate	858.000	mg/l
Toluene	0.134	mg/l
Total Alkalinity as CaCO3	483.000	mg/l
Total Dissolved Solids	4,110.000	mg/l
Total Suspended Solids	10.000	mg/l
Xylene	0.141	mg/l