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

Submitted 01/18/2023 **Approved** 01/30/2023 **KOLAR Document ID** 1681066

Class I-V Injection Well Monthly Monitoring

Summary of Monthly Report

Number of days injection occurred: 31

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	13,052	9.06	99	97	2.2	6.5	
Monthly Maximum	21,041	14.62	104	103	4.0	14.1	
Monthly Minimum	8,788	6.10	90	90	1.0	1.3	
Monthly Total	404,627						

Summary of Continuous Recorder Data

Maximum Annulus Pressure psig	Minimum Annulus Pressure psig	Maximum Injection Pressure psig	Minimum Injection Pressure psig
107.62	87.87	14.57	1.14

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	13,952.57	9.69	100	96.8	2	2.1	3			MW		
2	07:00	12,478.29	8.67	100	98.0	2	1.8	4			BD		
3	07:00	11,991.43	8.33	100	98.6	1	10.7	4			BD		
4	07:00	11,880.33	8.26	100	98.7	2	1.9	4			BD		
5	07:00	11,883.43	8.26	99	96.5	2	1.3	4			CG		
6	07:00	8,788.45	6.10	102	99.0	2	1.5	4			MH		
7	07:00	14,169.26	9.83	100	98.0	2	1.6	5			BD		
8	07:00	12,933.26	8.98	100	100.1	2	1.8	5			BD		
9	07:00	11,837.48	8.21	96	93.9	2	1.3	5			MH		
10	07:00	9,161.14	6.36	104	101.3	2	1.5	6			MH		
11	07:00	10,360.45	7.19	99	96.3	2	8.1	5			MH		
12	07:00	10,349.14	7.19	100	99.1	2	1.4	5			JC		
13	07:00	12,101.14	8.40	104	100.4	2	2.5	6			TY		
14	07:00	15,835.88	11.00	96	94.7	2	7.7	4			MH		
15	07:00	13,241.14	9.19	95	94.1	2	11.3	3			MH		
16	07:00	12,821.83	8.90	100	96.5	2	11.8	3			TY		
17	07:00	13,912.81	9.67	98	95.3	2	11.5	3			TY		
18	07:00	13,454.05	9.33	100	96.3	2	9.9	4			JC		
19	07:00	13,355.31	9.29	101	99.2	3	2.4	4			NB		
20	07:00	13,044.00	9.05	96	92.9	2	11.4	4			NB		
21	07:00	11,958.17	8.31	98	95.5	2	13.3	4			TY		
22	07:00	13,764.33	9.55	96	92.4	4	13.2	4			CG		
23	07:00	12,194.05	8.48	98	93.9	2	14.1	3			NB		
24	07:00	11,177.14	7.76	100	96.9	2	14.1	4			MW		
25	07:00	12,972.33	9.00	101	100.0	2	12.5	5			NB		
26	07:00	12,548.57	8.71	104	102.5	4	9.9	6			BD		
27	07:00	14,054.40	9.76	100	100.7	2	13.9	6			BD		
28	07:00	14,130.52	9.81	101	100.7	3	2.3	5			NB		
29	07:00	21,040.81	14.62	95	91.4	2	1.4	3			NB		
30	07:00	16,991.67	11.81	90	89.5	2	1.5	4			MB		
31	07:00	16,243.88	11.29	100	96.5	2	1.5	5			MB		

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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	89.30	12/06/2022	7.44	12/06/2022	869.0	12/06/2022	12/20/2022		
2	88.00	12/13/2022	7.26	12/13/2022	926.0	12/13/2022	12/20/2022		
3	71.20	12/20/2022	7.00	12/20/2022	982.0	12/20/2022	12/28/2022		
4	86.00	12/27/2022	7.04	12/27/2022	970.0	12/27/2022	01/05/2023		
5									

No monthly injectate samples required.

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Quarterly Injectate Samples

Quarter 4
Date Sample Collected 12/20/2022
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	3.800	mg/l
Benzene	0.007	mg/l
Calcium	360.000	mg/l
Conductivity	4.600	Mmhos
Ethylbenzene	0.052	mg/l
Iron	3.350	mg/l
Magnesium	35.700	mg/l
Oil & Grease	9.500	mg/l
Sodium	590.000	mg/l
Sulfate	904.000	mg/l
Toluene	0.006	mg/l
Total Alkalinity as CaCO3	442.000	mg/l
Total Dissolved Solids	2,880.000	mg/l
Total Hardness as CaCO3	1,050.000	mg/l
Total Suspended Solids	37.200	mg/l
Xylene	0.094	mg/l