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

Submitted 10/19/2022 **Approved** 10/28/2022 **KOLAR Document ID** 1670058

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	14,825	10.29	95	93	2.8	1.9	
Monthly Maximum	19,608	13.62	115	111	13.0	11.3	
Monthly Minimum	8,684	6.02	80	82	1.0	0.8	
Monthly Total	444,742						

Summary of Continuous Recorder Data

Maximum Annulus Pressure psig	Minimum Annulus Pressure psig	Maximum Injection Pressure psig	Minimum Injection Pressure psig
115.22	0.01	13.99	0.69

Comments:

The annulus pressure and injection pressure continuous recorders were calibrated on 9/2/2022.

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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	14,471.31	10.05	90	87.9	2	1.3	3			JC		
2	07:00	12,364.45	8.60	90	86.4	2	1.2	3			AF		
3	07:00	8,684.24	6.02	90	91.0	2	1.4	4			MW		
4	07:00	11,625.60	8.07	90	89.2	2	0.8	3			MW		
5	07:00	13,678.98	9.50	90	89.7	2	0.9	3			MB		
6	07:00	13,638.86	9.48	92	89.6	2	0.8	3			MB		
7	07:00	9,153.26	6.36	115	111.0	13	11.3	3			AF		
8	07:00	15,067.55	10.45	95	95.4	12	11.1	6			AF		
9	07:00	18,416.24	12.79	103	102.9	2	1.4	9			MB		
10	07:00	17,587.55	12.21	102	99.2	2	1.6	9			BD		
11	07:00	16,641.60	11.55	92	90.9	2	0.9	7			BD		
12	07:00	10,541.83	7.31	100	96.1	2	1.4	8			CG		
13	07:00	16,409.48	11.40	100	96.0	3	1.8	9			CG		
14	07:00	18,244.45	12.67	100	96.9	2	1.2	9			BD		
15	07:00	19,223.67	13.36	92	88.0	1	1.8	6			BD		
16	07:00	17,222.74	11.95	95	92.6	2	1.1	7			MH		
17	07:00	19,608.00	13.62	98	94.3	4	2.9	8			MH		
18	07:00	17,246.74	11.98	95	97.9	2	1.3	8			CG		
19	07:00	16,615.19	11.55	94	91.5	2	1.3	8			TY		
20	07:00	17,858.40	12.40	90	87.0	2	1.0	8			TY		
21	07:00	13,034.74	9.05	95	91.0	2	1.2	7			CG		
22	07:00	13,244.90	9.19	95	92.5	2	1.0	5			CG		
23	07:00	11,534.40	8.00	100	95.7	1	1.0	5			TY		
24	07:00	12,052.12	8.38	100	97.0	2	1.2	6			TY		
25	07:00	14,944.81	10.38	80	81.7	4	1.1	7			TY		
26	07:00	13,537.02	9.40	99	96.4	2	1.2	8			MW		
27	07:00	13,495.55	9.38	97	95.2	2	1.2	8			MW		
28	07:00	15,630.86	10.86	93	92.0	3	1.2	8			TY		
29	07:00	16,810.62	11.67	96	90.8	2	1.2	8			TY		
30	07:00	16,157.14	11.21	95	91.5	2	1.4	7			MW		
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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	77.00	09/06/2022	7.11	09/06/2022	1,350.0	09/06/2022	09/29/2022		
2	93.30	09/13/2022	7.08	09/13/2022	573.0	09/13/2022	09/29/2022		
3	96.10	09/19/2022	7.51	09/19/2022	678.0	09/19/2022	10/04/2022		
4	91.00	09/27/2022	7.33	09/27/2022	951.0	09/27/2022	10/06/2022		
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No monthly injectate samples required.

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Quarterly Injectate Samples

Quarter 3
Date Sample Collected 09/19/2022
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	54.000	mg/l
Benzene	0.001	mg/l
Calcium	175.000	mg/l
Conductivity	3.870	Mmhos
Ethylbenzene	ND	mg/l
Iron	6.400	mg/l
Magnesium	16.800	mg/l
Oil & Grease	8.200	mg/l
Sodium	401.000	mg/l
Sulfate	875.000	mg/l
Toluene	ND	mg/l
Total Alkalinity as CaCO3	363.000	mg/l
Total Dissolved Solids	2,320.000	mg/l
Total Hardness as CaCO3	507.000	mg/l
Total Suspended Solids	39.700	mg/l
Xylene	0.055	mg/l