Facility Well Name CHS Refinery #4 **UIC Permit #** KS-01-113-011 **Month** December **Year** 2020

Submitted 01/15/2021 **Approved** 01/19/2021 **KOLAR Document ID** 1542637

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	19,226	13.35	107	110	2.8	0.3	
Monthly Maximum	22,177	15.40	130	130	4.0	0.8	
Monthly Minimum	12,822	8.90	100	102	2.0	0.1	
Monthly Total	596,013						

Summary of Continuous Recorder Data

Maximum Annulus Pressure psig	Minimum Annulus Pressure psig	Maximum Injection Pressure psig	Minimum Injection Pressure psig
148.00	97.44	13.48	0.00

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	17,474.40	12.14	113	117.3	3	0.1	10			MW		
2	07:00	17,263.88	12.00	107	107.3	3	0.2	8			JM		
3	07:00	17,132.24	11.90	105	104.6	3	0.2	6			JM		
4	07:00	17,079.76	11.86	115	114.9	3	0.2	10			MW		
5	07:00	15,725.48	10.93	120	117.0	3	0.4	11			MW		
6	07:00	12,822.17	8.90	113	112.7	3	0.1	5			MW		
7	07:00	20,757.60	14.40	115	116.6	3	0.4	11			AS		
8	07:00	21,796.81	15.14	110	110.0	3	0.4	10			AS		
9	07:00	21,915.76	15.21	106	114.0	3	0.5	1			MB		
10	07:00	21,419.31	14.88	130	129.6	3	0.6	1			MB		
11	07:00	18,365.14	12.76	105	106.1	3	0.2	10			AS		
12	07:00	19,745.48	13.71	108	109.2	3	0.2	6			AS		
13	07:00	19,744.81	13.71	102	107.1	3	0.2	6			MB		
14	07:00	19,690.62	13.67	100	108.5	3	0.2	6			JC		
15	07:00	19,677.60	13.67	102	109.1	2	0.2	5			JC		
16	07:00	19,699.88	13.69	108	109.3	2	0.2	7			MH		
17	07:00	19,654.29	13.64	106	107.4	3	0.1	7			MH		
18	07:00	20,272.12	14.07	105	108.1	3	0.3	7			MD		
19	07:00	20,380.81	14.14	106	113.1	2	0.2	7			JC		
20	07:00	20,075.67	13.95	104	111.6	2	0.1	6			JC		
21	07:00	19,953.26	13.86	104	107.2	2	0.1	6			RM		
22	07:00	19,862.05	13.79	116	116.2	3	0.3	15			RM		
23	07:00	17,093.83	11.88	100	104.3	2	0.1	6			JC		
24	07:00	17,155.19	11.90	102	106.3	2	0.2	2			JC		
25	07:00	17,689.38	12.29	109	110.9	3	0.3	6			MB		
26	07:00	19,927.88	13.83	100	103.1	3	0.2	7			MB		
27	07:00	19,849.02	13.79	110	107.6	3	0.3	10			MB		
28	07:00	19,780.45	13.74	105	105.7	3	0.5	9			MW		
29	07:00	21,477.60	14.90	102	105.8	2	0.2	8			MW		
30	07:00	22,176.69	15.40	101	101.9	3	0.7	6			MB		
31	07:00	20,354.05	14.14	100	103.7	4	0.8	6			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	76.00	12/01/2020	7.19	12/01/2020	829.0	12/01/2020	12/22/2020		
2	63.00	12/08/2020	7.25	12/08/2020	1,260.0	12/08/2020	12/29/2020		
3	70.00	12/15/2020	7.59	12/15/2020	710.0	12/15/2020	12/29/2020		
4	79.00	12/22/2020	7.46	12/22/2020	721.0	12/22/2020	12/29/2020		
5	81.00	12/29/2020	7.26	12/29/2020	1,250.0	12/29/2020	01/07/2021		

No monthly injectate samples required.

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Quarterly Injectate Samples

Quarter 4
Date Sample Collected 12/22/2020
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	1.700	mg/l
Benzene	0.084	mg/l
Calcium	387.000	mg/l
Conductivity	5.000	Mmhos
Ethylbenzene	0.008	mg/l
Iron	5.950	mg/l
Magnesium	37.000	mg/l
Oil & Grease	15.500	mg/l
Sodium	603.000	mg/l
Sulfate	476.000	mg/l
Toluene	0.111	mg/l
Total Alkalinity as CaCO3	669.000	mg/l
Total Dissolved Solids	3,020.000	mg/l
Total Suspended Solids	25.000	mg/l
Xylene	0.166	mg/l