Facility Well Name CHS Refinery #1 **UIC Permit #** KS-01-113-008 **Month** September **Year** 2020

Submitted 10/15/2020 **Approved** 10/21/2020 **KOLAR Document ID** 1533191

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	13,404	9.31	96	93	3.6	3.0	
Monthly Maximum	16,728	11.62	112	110	14.0	13.3	
Monthly Minimum	10,358	7.19	80	79	2.0	1.0	
Monthly Total	402,128						

Summary of Continuous Recorder Data

Maximum Annulus Pressure psig	Minimum Annulus Pressure psig	Maximum Injection Pressure psig	Minimum Injection Pressure psig
116.71	0.03	14.05	0.78

Comments:

The annulus pressure continuous recorder was calibrated during the month. Therefore, it displayed a number below permit limits during the calibration.

CHS Refinery #1 09/2020

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	15,495.76	10.76	112	110.3	3	2.1	13			RM		
2	07:00	11,913.26	8.26	100	97.5	2	1.7	11			JC		
3	07:00	14,918.74	10.36	92	88.6	2	1.3	10			JC		
4	07:00	13,703.31	9.52	100	95.3	2	1.1	9			JM		
5	07:00	16,432.45	11.40	105	101.9	12	11.9	11			JM		
6	07:00	16,662.52	11.57	100	98.6	2	1.4	11			JM		
7	07:00	15,908.90	11.05	100	97.8	5	3.9	10			BF		
8	07:00	13,531.88	9.40	104	101.9	5	4.8	11			BF		
9	07:00	16,728.00	11.62	99	93.5	12	10.9	10			JM		
10	07:00	13,917.26	9.67	96	92.5	9	8.7	8			RM		
11	07:00	13,354.98	9.29	102	98.9	2	1.5	7			BF		
12	07:00	14,327.67	9.95	106	105.1	2	1.5	9			BF		
13	07:00	14,364.33	9.98	107	103.0	2	1.8	10			MW		
14	07:00	14,442.86	10.02	110	105.8	4	3.4	10			MH		
15	07:00	12,780.00	8.88	104	100.9	2	1.8	10			MH		
16	07:00	14,096.90	9.79	100	96.8	2	1.4	9			MW		
17	07:00	13,295.67	9.24	102	98.5	2	1.3	11			MH		
18	07:00	10,521.26	7.31	100	95.8	2	1.4	11			MH		
19	07:00	10,485.26	7.29	94	90.1	2	1.5	10			MH		
20	07:00	12,068.90	8.38	92	88.7	2	1.3	9			MH		
21	07:00	11,800.12	8.19	91	87.5	2	1.2	9			MH		
22	07:00	11,212.81	7.79	87	83.3	2	1.1	8			MH		
23	07:00	10,358.40	7.19	89	85.4	2	1.3	8			MH		
24	07:00	11,320.81	7.86	86	83.1	2	1.1	9			MH		
25	07:00	14,179.55	9.86	80	80.0	2	1.3	9			MW		
26	07:00	13,966.29	9.69	82	82.2	2	1.0	9			JM		
27	07:00	11,781.95	8.19	85	82.5	3	1.5	10			TB		
28	07:00	13,927.19	9.67	80	78.6	2	1.3	8			JM		
29	07:00	11,642.05	8.10	80	80.6	2	1.1	9			JM		
30	07:00	12,988.45	9.02	86	83.0	14	13.3	9			MH		
31													

CHS Refinery #1 09/2020

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	98.40	09/01/2020	7.50	09/01/2020	626.0	09/01/2020	09/12/2020		
2	95.00	09/08/2020	7.15	09/08/2020	689.0	09/08/2020	09/29/2020		
3	94.10	09/15/2020	7.40	09/15/2020	677.0	09/15/2020	09/29/2020		
4	88.50	09/22/2020	7.32	09/22/2020	668.0	09/22/2020	10/02/2020		
5	93.00	09/29/2020	7.18	09/29/2020	840.0	09/29/2020	10/06/2020		

No monthly injectate samples required.

CHS Refinery #1 09/2020

Quarterly Injectate Samples

Quarter 3
Date Sample Collected 09/29/2020
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	3.900	mg/l
Benzene	ND	mg/l
Calcium	265.000	mg/l
Conductivity	3.000	Mmhos
Ethylbenzene	ND	mg/l
Iron	10.800	mg/l
Magnesium	25.700	mg/l
Oil and Grease	40.200	mg/l
Sodium	499.000	mg/l
Sulfate	695.000	mg/l
Toluene	ND	mg/l
Total Alkalinity as CaCO3	442.000	mg/l (as CaCO3)
Total Dissolved Solids	2,290.000	mg/l
Total Suspended Solids	95.000	mg/l
Xylene	0.008	mg/l