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

Submitted 04/14/2020 **Approved** 04/16/2020 **KOLAR Document ID** 1512700

Class I-V Injection Well Monthly Monitoring

Summary of Monthly Report

Number of days injection occurred: 31

Barrels per Day Maximum: 34,286

	Injection Volume Barrels per Day	Injection Rate Barrels per Minute	Annulus Pressure psig min 60 Gauge psig	Annulus Pressure Cont. Record psig	Injection Pressure Gauge psig	Injection Pressure Cont. Record psig	Amount Added to Seal Pot
Monthly Average	22,538	15.65	100	100	2.8	0.7	
Monthly Maximum	26,274	18.24	120	119	3.0	1.1	
Monthly Minimum	17,149	11.90	92	92	1.0	0.4	
Monthly Total	698,680						

Summary of Continuous Recorder Data

Maximum Annulus Pressure psig	Minimum Annulus Pressure psig	Maximum Injection Pressure psig	Minimum Injection Pressure psig
138.30	90.55	12.75	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	22,307.17	15.50	99	98.2	3	0.6	10			ZB		
2	07:00	23,614.93	16.40	96	94.5	3	1.0	11			MH		
3	07:00	26,273.95	18.24	102	101.6	3	1.0	12			MH		
4	07:00	25,852.19	17.95	108	107.1	3	1.0	15			TB		
5	07:00	25,846.86	17.95	100	100.9	3	0.8	9			ZB		
6	07:00	25,115.21	17.45	100	98.6	3	0.9	10			MH		
7	07:00	26,208.05	18.19	100	98.1	3	0.9	10			MH		
8	07:00	24,992.43	17.36	95	93.2	3	0.7	8			MH		
9	07:00	23,073.55	16.02	100	100.8	3	0.6	12			JC		
10	07:00	22,173.29	15.40	99	98.2	3	0.8	11			MW		
11	07:00	21,971.40	15.26	102	102.2	3	1.1	13			MH		
12	07:00	24,448.38	16.98	116	115.9	3	0.7	10			MH		
13	07:00	20,451.79	14.21	120	119.3	3	0.8	14			MW		
14	07:00	22,331.02	15.50	99	96.8	3	0.8	11			JC		
15	07:00	22,916.45	15.90	98	94.6	2	0.6	10			JC		
16	07:00	22,646.57	15.74	98	98.7	3	0.6	13			MW		
17	07:00	22,795.05	15.83	98	93.7	3	0.9	11			MW		
18	07:00	22,843.02	15.86	103	107.2	3	0.8	14			MW		
19	07:00	17,148.74	11.90	95	92.4	3	0.5	9			MW		
20	07:00	20,129.81	13.98	101	102.3	1	0.4	9			BF		
21	07:00	17,882.31	12.43	92	93.4	3	0.8	6			RM		
22	07:00	22,857.81	15.88	102	104.2	3	0.9	11			RM		
23	07:00	22,655.07	15.74	95	95.1	2	0.5	10			ZB		
24	07:00	22,687.74	15.76	95	93.4	3	0.6	10			ZB		
25	07:00	22,329.05	15.50	100	101.7	3	0.5	13			RM		
26	07:00	22,573.67	15.67	98	95.7	3	0.5	13			RM		
27	07:00	22,334.33	15.50	99	97.2	3	0.6	14			ZB		
28	07:00	21,021.69	14.60	105	105.4	3	0.9	15			ZB		
29	07:00	22,044.29	15.31	100	99.6	2	0.5	10			ZB		
30	07:00	19,115.26	13.29	94	93.6	2	0.4	9			MH		
31	07:00	20,039.40	13.90	100	98.0	2	0.7	12			MH		

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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	85.80	03/03/2020	7.30	03/03/2020	1,060.0	03/03/2020	03/16/2020		
2	64.00	03/10/2020	7.62	03/10/2020	917.0	03/10/2020	03/16/2020		
3	80.00	03/17/2020	7.41	03/17/2020	1,080.0	03/17/2020	03/19/2020		
4	86.00	03/24/2020	8.42	03/24/2020	896.0	03/24/2020	04/01/2020		
5	79.50	03/31/2020	7.78	03/31/2020	797.0	03/31/2020	04/06/2020		

No monthly injectate samples required.

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Quarterly Injectate Samples

Quarter 1
Date Sample Collected 03/17/2020
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	2.200	mg/l
Benzene	0.119	mg/l
Calcium	330.000	mg/l
Conductivity	5.000	Mmhos
Ethylbenzene	0.012	mg/l
Iron	4.920	mg/l
Magnesium	31.600	mg/l
Oil and Grease	ND	mg/l
Sodium	704.000	mg/l
Sulfate	607.000	mg/l
Toluene	0.138	mg/l
Total Alkalinity as CaCO3	547.000	mg/l (as CaCO3)
Total Dissolved Solids	3,150.000	mg/l
Total Suspended Solids	161.000	mg/l
Xylene	0.134	mg/l