**Facility Well Name** CHS Refinery #1 **UIC Permit #** KS-01-113-008 **Month** July **Year** 2021

**Submitted** 08/19/2021 **Approved** 08/19/2021 **KOLAR Document ID** 1586991

# Class I-V Injection Well Monthly Monitoring

## Summary of Monthly Report

**Number of days injection occurred:** 31

**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** | 9,535 | 6.62 | 100 | 97 | 4.7 | 3.9 | |
| **Monthly Maximum** | 11,544 | 8.02 | 117 | 111 | 15.0 | 14.1 | |
| **Monthly Minimum** | 4,478 | 3.12 | 76 | 73 | 2.0 | 1.0 | |
| **Monthly Total** | 295,571 | | | | | | |

## Summary of Continuous Recorder Data

| Maximum Annulus Pressure psig | Minimum Annulus Pressure psig | Maximum Injection Pressure psig | Minimum Injection Pressure psig |
|---|---|---|---|
| 125.48 | 71.42 | 15.03 | 0.80 |

**Comments:**

CHS Refinery #1 07/2021

# Daily Recorder Data

| Day | Time<br>24 hr | Injection Volume<br>Barrels Per Day | Injection Rate<br>Barrels Per Minute | Annulus Pressure (Gauge)<br>psig | Annulus Pressure (Continuous Recorder)<br>psig | Injection Pressure (Gauge)<br>+ / - | Injection Pressure (Continuous Recorder)<br>+ / - | Seal Pot Fluid Level<br>inches | Type of Fluid Added to Seal Pot | Amount of Fluid Added to Seal Pot<br>gallons | Initials of Collector of Field Recordings | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 07:00 | 9,032.24 | 6.26 | 94 | 90.6 | 2 | 1.3 | 11 | | | TY | | |
| 2 | 07:00 | 11,096.90 | 7.71 | 100 | 107.5 | 14 | 13.6 | 11 | | | JC | | |
| 3 | 07:00 | 9,572.24 | 6.64 | 100 | 97.9 | 2 | 1.1 | 11 | | | JC | | |
| 4 | 07:00 | 9,955.55 | 6.90 | 100 | 94.7 | 6 | 5.4 | 8 | | | JC | | |
| 5 | 07:00 | 8,028.00 | 5.57 | 90 | 86.2 | 2 | 1.2 | 7 | | | | | |
| 6 | 07:00 | 10,771.55 | 7.48 | 93 | 90.0 | 2 | 1.3 | 7 | | | MB | | |
| 7 | 07:00 | 8,139.76 | 5.64 | 95 | 92.2 | 4 | 3.1 | 6 | | | TP | | |
| 8 | 07:00 | 10,286.05 | 7.14 | 104 | 100.3 | 15 | 14.1 | 10 | | | | | |
| 9 | 07:00 | 6,519.43 | 4.52 | 96 | 92.5 | 2 | 1.3 | 8 | | | MB | | |
| 10 | 07:00 | 5,947.19 | 4.12 | 90 | 91.3 | 2 | 1.4 | 6 | | | MB | | |
| 11 | 07:00 | 8,300.57 | 5.76 | 98 | 95.9 | 3 | 1.0 | 6 | | | MB | | |
| 12 | 07:00 | 10,089.26 | 7.00 | 98 | 91.0 | 2 | 1.0 | 6 | | | MD | | |
| 13 | 07:00 | 10,089.26 | 7.00 | 112 | 109.9 | 5 | 4.7 | 11 | | | WK | | |
| 14 | 07:00 | 11,544.33 | 8.02 | 108 | 106.1 | 2 | 1.8 | 10 | | | MD | | |
| 15 | 07:00 | 10,313.83 | 7.17 | 110 | 107.1 | 5 | 4.5 | 11 | | | MD | | |
| 16 | 07:00 | 10,069.38 | 7.00 | 104 | 102.1 | 6 | 4.9 | 11 | | | BF | | |
| 17 | 07:00 | 9,539.67 | 6.62 | 110 | 107.7 | 2 | 1.4 | 13 | | | BF | | |
| 18 | 07:00 | 10,843.88 | 7.52 | 104 | 100.7 | 5 | 4.1 | 12 | | | BF | | |
| 19 | 07:00 | 4,478.40 | 3.12 | 80 | 78.6 | 2 | 1.2 | 7 | | | MH | | |
| 20 | 07:00 | 7,365.26 | 5.12 | 76 | 72.8 | 2 | 1.5 | 4 | | | MH | | |
| 21 | 07:00 | 11,058.52 | 7.69 | 110 | 106.2 | 2 | 1.2 | 11 | | | BF | | |
| 22 | 07:00 | 11,224.81 | 7.79 | 117 | 110.7 | 6 | 4.7 | 11 | | | BF | | |
| 23 | 07:00 | 11,480.90 | 7.98 | 110 | 108.1 | 5 | 4.2 | 11 | | | MH | | |
| 24 | 07:00 | 11,254.29 | 7.81 | 107 | 103.2 | 5 | 4.1 | 11 | | | MH | | |
| 25 | 07:00 | 10,869.95 | 7.55 | 107 | 103.9 | 3 | 1.9 | 12 | | | MH | | |
| 26 | 07:00 | 10,908.00 | 7.57 | 102 | 100.0 | 6 | 5.3 | 12 | | | TY | | |
| 27 | 07:00 | 11,216.90 | 7.79 | 100 | 97.3 | 14 | 13.2 | 12 | | | TY | | |
| 28 | 07:00 | 11,172.69 | 7.76 | 100 | 97.6 | 13 | 12.7 | 12 | | | MH | | |
| 29 | 07:00 | 10,001.48 | 6.95 | 96 | 93.3 | 3 | 1.9 | 12 | | | MH | | |
| 30 | 07:00 | 7,380.69 | 5.12 | 92 | 89.8 | 2 | 1.4 | 7 | | | TY | | |
| 31 | 07:00 | 7,019.67 | 4.88 | 91 | 89.8 | 2 | 1.5 | 7 | | | TY | | |

CHS Refinery #1 07/2021

# 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 | 86.50 | 07/06/2021 | 7.55 | 07/06/2021 | 960.0 | 07/06/2021 | 07/21/2021 | | |
| 2 | 96.00 | 07/13/2021 | 6.91 | 07/13/2021 | 657.0 | 07/13/2021 | 07/29/2021 | | |
| 3 | 76.90 | 07/20/2021 | 7.30 | 07/20/2021 | 1,200.0 | 07/20/2021 | 07/29/2021 | | |
| 4 | 96.30 | 07/27/2021 | 7.32 | 07/27/2021 | 601.0 | 07/27/2021 | 08/06/2021 | | |
| 5 | | | | | | | | | |

## No monthly injectate samples required.