**Facility Well Name** Kansas Ethanol #5 **UIC Permit #** KS-01-159-007 **Month** October **Year** 2022

**Submitted** 11/02/2022 **Approved** 11/30/2022 **KOLAR Document ID** 1671866

# Class I-V Injection Well Monthly Monitoring

## Summary of Monthly Report

**Number of days injection occurred:** 31

**Barrels per Day Maximum:** 13,714

| | | | 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 | 6,091 | 4.27 | 74 | 75 | -18.7 | -16.3 | |
| Monthly Maximum | 7,071 | 4.45 | 75 | 78 | -11.0 | -9.3 | |
| Monthly Minimum | 5,262 | 4.14 | 72 | 72 | -20.0 | -18.2 | |
| Monthly Total | 188,833 | | | | | | |

## Summary of Continuous Recorder Data

| Maximum Annulus Pressure psig | Minimum Annulus Pressure psig | Maximum Injection Pressure psig | Minimum Injection Pressure psig |
|---|---|---|---|
| 77.70 | 71.00 | -9.00 | -18.40 |

**Comments:**

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# 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 | Conduc-tivity | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 10:38 | 6,023.81 | 4.43 | 75 | 77.3 | -20 | -17.0 | 12 | N/A | | TM | 2,245.00 | |
| 2 | 09:00 | 5,952.38 | 4.40 | 75 | 76.6 | -20 | -17.3 | 12 | N/A | | LH | 2,748.00 | |
| 3 | 07:00 | 5,642.86 | 4.29 | 75 | 76.9 | -20 | -17.6 | 12 | N/A | | BF | 2,765.00 | |
| 4 | 08:30 | 6,595.24 | 4.26 | 75 | 76.6 | -20 | -17.7 | 12 | N/A | | RM | 2,650.00 | |
| 5 | 07:00 | 5,690.48 | 4.29 | 75 | 77.5 | -20 | -17.3 | 12 | N/A | | BF | 2,722.00 | |
| 6 | 07:00 | 6,166.67 | 4.29 | 75 | 76.7 | -20 | -17.6 | 12 | N/A | | BF | 2,554.00 | |
| 7 | 07:00 | 6,119.05 | 4.29 | 75 | 76.2 | -20 | -17.7 | 12 | N/A | | BF | 2,419.00 | |
| 8 | 09:55 | 6,952.38 | 4.29 | 74 | 73.9 | -20 | -18.2 | 12 | N/A | | LM | 2,224.00 | |
| 9 | 09:45 | 6,071.43 | 4.26 | 74 | 74.7 | -20 | -18.0 | 12 | N/A | | LM | 2,717.00 | |
| 10 | 07:00 | 6,142.86 | 4.29 | 74 | 75.1 | -20 | -17.6 | 12 | N/A | | BF | 2,619.00 | |
| 11 | 07:30 | 5,642.86 | 4.24 | 74 | 75.8 | -20 | -17.4 | 12 | N/A | | BF | 2,470.00 | |
| 12 | 07:15 | 5,976.19 | 4.21 | 75 | 76.4 | -20 | -17.2 | 12 | N/A | | BF | 2,671.00 | |
| 13 | 07:00 | 5,976.19 | 4.19 | 75 | 75.6 | -20 | -17.6 | 12 | N/A | | BF | 2,733.00 | |
| 14 | 07:00 | 6,023.81 | 4.19 | 75 | 74.7 | -20 | -17.6 | 12 | N/A | | BF | 2,540.00 | |
| 15 | 09:20 | 6,714.29 | 4.17 | 74 | 74.4 | -20 | -17.6 | 12 | N/A | | TM | 2,248.00 | |
| 16 | 09:30 | 6,095.24 | 4.21 | 75 | 74.4 | -20 | -17.7 | 12 | N/A | | TM | 2,461.00 | |
| 17 | 07:00 | 5,333.33 | 4.21 | 74 | 73.4 | -20 | -17.9 | 11 | N/A | | BF | 2,449.00 | |
| 18 | 07:00 | 6,047.62 | 4.19 | 74 | 74.9 | -20 | -17.5 | 11 | N/A | | BF | 2,520.00 | |
| 19 | 07:00 | 6,023.81 | 4.21 | 73 | 74.2 | -20 | -17.5 | 11 | N/A | | BF | 2,411.00 | |
| 20 | 07:00 | 6,071.43 | 4.21 | 73 | 75.4 | -20 | -16.9 | 11 | N/A | | BF | 2,588.00 | |
| 21 | 07:00 | 6,000.00 | 4.17 | 73 | 74.1 | -20 | -17.2 | 11 | N/A | | BF | 2,419.00 | |
| 22 | 09:20 | 6,714.29 | 4.17 | 72 | 74.3 | -20 | -16.9 | 11 | N/A | | DW | 2,482.00 | |
| 23 | 09:00 | 5,904.76 | 4.19 | 72 | 75.4 | -20 | -16.5 | 11 | N/A | | DW | 2,541.00 | |
| 24 | 06:00 | 5,261.90 | 4.14 | 74 | 76.1 | -20 | -16.4 | 11 | N/A | | BF | 2,520.00 | |
| 25 | 07:00 | 6,214.29 | 4.14 | 73 | 72.8 | -20 | -17.4 | 11 | N/A | | BF | 2,460.00 | |
| 26 | 07:00 | 6,000.00 | 4.21 | 73 | 72.6 | -20 | -17.6 | 11 | N/A | | BF | 2,512.00 | |
| 27 | 07:00 | 5,976.19 | 4.43 | 72 | 72.6 | -11 | -9.3 | 11 | N/A | | BF | 2,429.00 | |
| 28 | 07:00 | 6,404.76 | 4.45 | 72 | 71.7 | -13 | -11.2 | 11 | N/A | | BF | 2,637.00 | |
| 29 | 09:15 | 7,071.43 | 4.43 | 72 | 71.6 | -13 | -10.6 | 11 | N/A | | JP | 2,325.00 | |
| 30 | 09:20 | 6,404.76 | 4.40 | 72 | 72.2 | -12 | -10.0 | 11 | N/A | | JP | 2,488.00 | |
| 31 | 07:00 | 5,619.05 | 4.40 | 72 | 71.6 | -12 | -10.1 | 11 | N/A | | BF | 2,538.00 | |

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# Weekly Injectate Samples

**Kansas Lab Certificate Number** E-10152

| **Week** | **Temperature** | | **pH** | | **Chloride** | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Degrees Fahrenheit | Date | Standard Units | Date | Cl concentration (mg/l) | Date Sample Collected | Date Sampl Analysed | | |
| 1 | 67.60 | 10/06/2022 | 8.11 | 10/06/2022 | 325.0 | 10/06/2022 | 10/12/2022 | | |
| 2 | 65.10 | 10/12/2022 | 8.48 | 10/12/2022 | 340.0 | 10/12/2022 | 10/17/2022 | | |
| 3 | 64.50 | 10/19/2022 | 8.59 | 10/19/2022 | 360.0 | 10/19/2022 | 10/25/2022 | | |
| 4 | 65.30 | 10/26/2022 | 8.06 | 10/26/2022 | 335.0 | 10/26/2022 | 10/31/2022 | | |
| 5 | | | | | | | | | |

## No monthly injectate samples required.

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# Quarterly Injectate Samples

**Quarter** 4
**Date Sample Collected** 10/06/2022
**Kansas Lab Certificate Number** E-10152
**Lab Name** SDK Laboratories (Hutchinson)

*These samples shall be representative of injection activity and shall therefore be collected on days of injection.*

| Constituent | Value | Units |
|---|---|---|
| Calcium | 275.000 | mg/l |
| Iron | 0.389 | mg/l |
| Magnesium | 53.200 | mg/l |
| Sulfate | 375.000 | mg/l |
| Total Alkalinity as CaCO3 | 616.000 | mg/l |
| Total Dissolved Solids | 2,080.000 | mg/l |
| Total Hardness as CaCO3 | 906.000 | mg/l |
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