**Facility Well Name** Kansas Ethanol #5 **UIC Permit #** KS-01-159-007 **Month** November **Year** 2019

**Submitted** 12/06/2019 **Approved** 12/09/2019 **KOLAR Document ID** 1484730

# Class I-V Injection Well Monthly Monitoring

## Summary of Monthly Report

**Number of days injection occurred:** 30

**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 | 3,925 | 2.85 | 73 | 76 | -24.5 | -20.1 | |
| Monthly Maximum | 5,595 | 3.12 | 78 | 82 | -24.0 | -19.1 | |
| Monthly Minimum | 119 | 0.00 | 71 | 73 | -26.0 | -21.8 | |
| Monthly Total | 117,738 | | | | | | |

## Summary of Continuous Recorder Data

| Maximum Annulus Pressure psig | Minimum Annulus Pressure psig | Maximum Injection Pressure psig | Minimum Injection Pressure psig |
|---|---|---|---|
| 82.70 | 72.70 | -16.80 | -22.40 |

**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 | 09:00 | 3,428.57 | 3.10 | 73 | 76.3 | -24 | -20.1 | 11 | N/A | | BF | 1,438.00 | |
| 2 | 09:00 | 4,095.24 | 3.07 | 73 | 76.2 | -24 | -20.2 | 11 | N/A | | CP | 1,398.00 | |
| 3 | 08:10 | 4,119.05 | 3.12 | 73 | 76.8 | -24 | -19.6 | 11 | N/A | | VP | 1,321.00 | |
| 4 | 08:15 | 4,142.86 | 2.93 | 74 | 77.6 | -24 | -19.5 | 11 | N/A | | BF | 1,318.00 | |
| 5 | 08:00 | 4,071.43 | 2.86 | 73 | 76.9 | -25 | -20.1 | 11 | N/A | | BF | 1,447.00 | |
| 6 | 08:00 | 4,333.33 | 2.86 | 73 | 77.7 | -25 | -19.6 | 11 | N/A | | LB | 2,514.00 | |
| 7 | 01:30 | 4,928.57 | 2.90 | 73 | 76.8 | -25 | -20.5 | 11 | N/A | | CW | 2,568.00 | |
| 8 | 08:30 | 3,333.33 | 2.86 | 73 | 74.9 | -25 | -21.1 | 11 | N/A | | BF | 2,616.00 | |
| 9 | 09:30 | 4,357.14 | 2.86 | 72 | 76.5 | -25 | -20.1 | 11 | N/A | | JC | 2,637.00 | |
| 10 | 08:00 | 3,833.33 | 2.88 | 74 | 77.8 | -25 | -19.5 | 11 | N/A | | CP | 2,648.00 | |
| 11 | 08:30 | 4,214.29 | 2.88 | 72 | 74.9 | -25 | -21.0 | 11 | N/A | | BF | 2,590.00 | |
| 12 | 08:30 | 4,190.48 | 2.90 | 71 | 72.8 | -25 | -21.8 | 11 | N/A | | BF | 1,947.00 | |
| 13 | 08:00 | 4,095.24 | 2.88 | 71 | 73.9 | -25 | -20.9 | 11 | N/A | | BF | 2,661.00 | |
| 14 | 08:00 | 119.05 | 0.00 | 78 | 82.3 | -26 | -21.3 | 13 | N/A | | BF | 2,515.00 | |
| 15 | 08:45 | 3,023.81 | 2.90 | 72 | 75.7 | -25 | -20.4 | 11 | N/A | | BF | 2,648.00 | |
| 16 | 08:10 | 3,904.76 | 3.00 | 72 | 75.7 | -24 | -20.1 | 11 | N/A | | CP | 2,741.00 | |
| 17 | 07:45 | 3,833.33 | 3.02 | 73 | 77.6 | -24 | -19.1 | 11 | N/A | | CP | 2,923.00 | |
| 18 | 08:45 | 4,071.43 | 2.90 | 73 | 77.7 | -24 | -19.1 | 11 | N/A | | BF | 2,833.00 | |
| 19 | 08:15 | 5,595.24 | 2.93 | 74 | 77.9 | -24 | -19.3 | 11 | N/A | | BF | 3,126.00 | |
| 20 | 09:30 | 3,666.67 | 2.95 | 74 | 77.5 | -24 | -19.3 | 11 | N/A | | BF | 3,091.00 | |
| 21 | 08:45 | 3,976.19 | 2.86 | 74 | 77.6 | -24 | -19.3 | 11 | N/A | | BF | 2,599.00 | |
| 22 | 09:00 | 4,071.43 | 2.98 | 73 | 75.7 | -24 | -20.1 | 11 | N/A | | BF | 3,260.00 | |
| 23 | 08:45 | 4,261.90 | 2.98 | 73 | 75.4 | -24 | -20.3 | 11 | N/A | | AT | 3,205.00 | |
| 24 | 08:45 | 4,261.90 | 2.93 | 73 | 75.9 | -24 | -20.1 | 11 | N/A | | AT | 2,815.00 | |
| 25 | 10:20 | 4,452.38 | 2.95 | 73 | 76.7 | -24 | -19.6 | 11 | N/A | | LB | 3,215.00 | |
| 26 | 06:45 | 3,571.43 | 2.93 | 72 | 75.5 | -24 | -20.4 | 11 | N/A | | LB | 2,817.00 | |
| 27 | 08:50 | 4,547.62 | 2.98 | 72 | 74.9 | -24 | -20.5 | 11 | N/A | | LB | 2,689.00 | |
| 28 | 09:30 | 4,309.52 | 2.98 | 72 | 74.3 | -25 | -20.8 | 11 | N/A | | PH | 3,056.00 | |
| 29 | 08:00 | 3,428.57 | 3.00 | 72 | 74.5 | -25 | -20.4 | 11 | N/A | | DW | 3,146.00 | |
| 30 | 08:50 | 3,500.00 | 3.00 | 72 | 75.8 | -24 | -19.6 | 11 | N/A | | PH | 3,175.00 | |
| 31 | | | | | | | | | | | | | |

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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 | 62.80 | 11/06/2019 | 7.71 | 11/06/2019 | 300.0 | 11/06/2019 | 11/08/2019 | | |
| 2 | 64.00 | 11/13/2019 | 7.82 | 11/13/2019 | 325.0 | 11/13/2019 | 11/15/2019 | | |
| 3 | 65.20 | 11/20/2019 | 7.60 | 11/20/2019 | 340.0 | 11/20/2019 | 11/25/2019 | | |
| 4 | 59.90 | 11/27/2019 | 7.28 | 11/27/2019 | 355.0 | 11/27/2019 | 12/03/2019 | | |
| 5 | | | | | | | | | |

## No monthly injectate samples required.