**Facility Well Name** Williams (Conway West) #1 **UIC Permit #** KS-01-113-001 **Month** July **Year** 2019

**Submitted** 08/23/2019 **Approved** 09/01/2019 **KOLAR Document ID** 1469883

# Class I-V Injection Well Monthly Monitoring

## Summary of Monthly Report

**Number of days injection occurred:** 24

**Barrels per Day Maximum:** 47,619

| | | | Annulus Pressure psig min 50 | | 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** | 17,214 | 11.81 | 84 | 84 | -12.8 | -12.6 | 0 |
| **Monthly Maximum** | 29,531 | 20.50 | 93 | 93 | 0.0 | 0.4 | 0 |
| **Monthly Minimum** | 0 | 0.00 | 79 | 79 | -30.0 | -27.8 | 0 |
| **Monthly Total** | 533,648 | | | | | | 0 |

## Summary of Continuous Recorder Data

| Maximum Annulus Pressure psig | Minimum Annulus Pressure psig | Maximum Injection Pressure psig | Minimum Injection Pressure psig |
|---|---|---|---|
| 93.23 | 74.86 | 1.51 | -27.90 |

**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 | Meter Reading | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 14:25 | 28,521.43 | 19.81 | 86 | 86.0 | -2 | -2.0 | 40 | N/A | 0 | DF | | |
| 2 | 14:40 | 23,621.43 | 16.40 | 88 | 88.0 | -7 | -7.0 | 40 | N/A | 0 | DF | | |
| 3 | 13:40 | 22,207.14 | 15.43 | 82 | 82.0 | -5 | -5.0 | 39 | N/A | 0 | DF | | |
| 4 | 11:10 | 20,814.29 | 14.45 | 82 | 82.5 | -2 | -2.1 | 41 | N/A | 0 | LB | | |
| 5 | 11:20 | 23,485.71 | 16.31 | 82 | 82.2 | -4 | -4.0 | 41 | N/A | 0 | LB | | |
| 6 | 11:20 | 23,314.29 | 16.19 | 83 | 83.2 | -5 | -4.8 | 40 | N/A | 0 | LB | | |
| 7 | 02:45 | 26,719.05 | 18.55 | 85 | 83.0 | 0 | 0.3 | 40 | N/A | 0 | LB | | |
| 8 | 07:50 | 16,650.00 | 11.57 | 80 | 79.4 | 0 | 0.4 | 39 | N/A | 0 | BJ | | |
| 9 | 07:30 | 23,059.52 | 16.02 | 79 | 78.8 | -4 | -4.2 | 39 | N/A | 0 | BJ | | |
| 10 | 14:00 | 29,530.95 | 20.50 | 82 | 81.5 | -8 | -7.8 | 39 | N/A | 0 | BJ | | |
| 11 | 11:02 | 20,283.33 | 14.10 | 79 | 78.6 | -8 | -7.7 | 38 | N/A | 0 | MY | | |
| 12 | 14:45 | 26,876.19 | 18.67 | 80 | 80.7 | -15 | -15.4 | 38 | N/A | 0 | MY | | |
| 13 | 11:00 | 15,952.38 | 11.07 | 80 | 80.3 | -7 | -5.5 | 38 | N/A | 0 | MY | | |
| 14 | 10:52 | 21,797.62 | 15.14 | 84 | 83.9 | -4 | -3.9 | 40 | N/A | 0 | MY | | |
| 15 | 11:00 | 21,942.86 | 14.52 | 84 | 84.4 | -8 | -5.5 | 40 | N/A | 0 | CS | | |
| 16 | 10:50 | 21,288.10 | 14.52 | 80 | 82.8 | -7 | -5.8 | 40 | N/A | 0 | CS | | |
| 17 | 01:15 | 26,197.62 | 14.52 | 85 | 85.8 | 0 | 0.0 | 40 | N/A | 0 | CS | | |
| 18 | 08:00 | 18,611.90 | 12.93 | 83 | 82.9 | -3 | -3.0 | 40 | N/A | 0 | BJ | | |
| 19 | 09:15 | 25,478.57 | 17.69 | 81 | 81.4 | -9 | -8.9 | 39 | N/A | 0 | BJ | | |
| 20 | 14:00 | 27,402.38 | 19.02 | 93 | 93.0 | -15 | -14.6 | 43 | N/A | 0 | BJ | | |
| 21 | 08:35 | 14,664.29 | 10.19 | 87 | 87.4 | -27 | -27.2 | 43 | N/A | 0 | BJ | | |
| 22 | 11:17 | 24,164.29 | 16.79 | 87 | 87.3 | -28 | -27.6 | 43 | N/A | 0 | LB | | |
| 23 | 11:35 | 23,426.19 | 16.26 | 82 | 81.7 | -9 | -9.2 | 41 | N/A | 0 | LB | | |
| 24 | 10:43 | 7,638.10 | 5.31 | 83 | 82.9 | -28 | -27.8 | 41 | N/A | 0 | LB | | |
| 25 | 02:25 | 0.00 | 0.00 | 88 | 86.1 | -30 | -27.5 | 41 | N/A | 0 | CS | | |
| 26 | 10:00 | 0.00 | 0.00 | 84 | 83.6 | -30 | -27.6 | 41 | N/A | 0 | CS | | |
| 27 | 09:45 | 0.00 | 0.00 | 83 | 83.5 | -30 | -27.6 | 41 | N/A | 0 | CS | | |
| 28 | 10:40 | 0.00 | 0.00 | 85 | 84.3 | -20 | -27.5 | 41 | N/A | 0 | CS | | |
| 29 | 14:15 | 0.00 | 0.00 | 86 | 86.0 | -27 | -27.0 | 41 | N/A | 0 | DF | | |
| 30 | 10:20 | 0.00 | 0.00 | 84 | 84.0 | -28 | -27.5 | 41 | N/A | 0 | DF | | |
| 31 | 14:30 | 0.00 | 0.00 | 87 | 87.0 | -27 | -27.0 | 41 | N/A | 0 | DF | | |

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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 | 72.50 | 07/01/2019 | 6.54 | 07/01/2019 | 222,400.0 | 07/01/2019 | 08/09/2019 | | |
| 2 | 75.30 | 07/08/2019 | 6.32 | 07/08/2019 | 205,000.0 | 07/08/2019 | 08/09/2019 | | |
| 3 | 77.00 | 07/12/2019 | 6.41 | 07/12/2019 | 205,000.0 | 07/12/2019 | 08/07/2019 | | |
| 4 | 85.70 | 07/16/2019 | 6.46 | 07/16/2019 | 200,000.0 | 07/16/2019 | 08/12/2019 | | |
| 5 | 76.10 | 07/20/2019 | 6.20 | 07/20/2019 | 195,000.0 | 07/20/2019 | 08/07/2019 | | |

## No monthly injectate samples required.

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# Quarterly Injectate Samples

**Quarter** 3
**Date Sample Collected** 07/02/2019
**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 | 1,410.000 | mg/l |
| Conductivity | 563,500.000 | Mmhos |
| Iron | 2.500 | mg/l |
| Magnesium | 412.000 | mg/l |
| Sulfate | 4,380.000 | mg/l |
| Total Alkalinity as CaCO3 | 108.000 | mg/l |
| Total Dissolved Solids | 304,400.000 | mg/l |
| Total Hardness as CaCO3 | 5,217.000 | mg/l |
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