



Gyroscopic Survey Report  
for  
KPK

|                    |  |
|--------------------|--|
| Well Location      | WELD COUNTY                              |
| Well Name          | SUCKLAA UNIT #1                          |
| Rig Number         |  |
| Survey Date        | 11/19/2014                               |
| Latitude           | 40.1002790°N                             |
| Longitude          | 104.8888870°W                            |
| North Reference    | True North                               |
| Grid Correction    | None                                     |
| Depth Reference    | GL (5043.00 ft)                          |
| Calculation Method | Minimum Curvature                        |
| Section (VS) Ref   | 0.00N (ft), 0.00E (ft), 291.56Azim (deg) |
| Definitive Survey  | SUCKLAA UNIT #1                          |
| Operator(s)        | C KIRBY                                  |

**Well Notes**

API-05-123-07407

# Survey Report

**Well Name:** SUCKLA A UNIT #1  
**Survey:** SUCKLA A UNIT #1  
**Survey Date:** 11/19/2014

| MD<br>ft | Inc<br>deg | Azim<br>deg | TVD<br>ft | VS<br>ft | +N/-S<br>ft | +E/-W<br>ft | Closure<br>Distance<br>ft | Closure<br>Direction<br>deg | DLS<br>%/100ft |
|----------|------------|-------------|-----------|----------|-------------|-------------|---------------------------|-----------------------------|----------------|
| 0.00     | 0.00       | 0.00        | 0.00      | 0.00     | 0.00        | 0.00        | 0.00                      | 0.00                        | Invalid        |
| 86.87    | 0.17       | 330.54      | 86.87     | 0.10     | 0.11        | -0.06       | 0.13                      | 330.54                      | 0.19           |
| 124.95   | 0.25       | 4.70        | 124.95    | 0.16     | 0.24        | -0.08       | 0.25                      | 341.23                      | 0.39           |
| 148.49   | 0.34       | 34.53       | 148.49    | 0.16     | 0.35        | -0.04       | 0.35                      | 353.86                      | 0.75           |
| 174.88   | 0.38       | 51.95       | 174.88    | 0.10     | 0.47        | 0.08        | 0.48                      | 9.08                        | 0.43           |
| 197.45   | 0.28       | 98.90       | 197.45    | 0.01     | 0.51        | 0.19        | 0.54                      | 20.26                       | 1.22           |
| 223.49   | 0.25       | 99.87       | 223.48    | -0.11    | 0.49        | 0.31        | 0.57                      | 32.12                       | 0.09           |
| 246.54   | 0.15       | 101.32      | 246.53    | -0.19    | 0.47        | 0.39        | 0.61                      | 39.29                       | 0.43           |
| 273.95   | 0.21       | 97.52       | 273.95    | -0.27    | 0.46        | 0.47        | 0.66                      | 45.82                       | 0.20           |
| 297.14   | 0.23       | 91.12       | 297.13    | -0.35    | 0.45        | 0.56        | 0.72                      | 51.08                       | 0.14           |
| 320.56   | 0.29       | 82.67       | 320.55    | -0.45    | 0.46        | 0.67        | 0.81                      | 55.45                       | 0.32           |
| 347.71   | 0.30       | 65.38       | 347.71    | -0.56    | 0.50        | 0.80        | 0.94                      | 58.14                       | 0.33           |
| 371.00   | 0.38       | 70.38       | 371.00    | -0.66    | 0.55        | 0.93        | 1.08                      | 59.42                       | 0.34           |
| 398.14   | 0.35       | 72.74       | 398.14    | -0.79    | 0.60        | 1.09        | 1.25                      | 61.07                       | 0.13           |
| 421.41   | 0.34       | 74.42       | 421.41    | -0.90    | 0.64        | 1.23        | 1.38                      | 62.31                       | 0.06           |
| 449.28   | 0.31       | 95.88       | 449.28    | -1.04    | 0.66        | 1.38        | 1.53                      | 64.51                       | 0.44           |
| 471.81   | 0.35       | 96.50       | 471.81    | -1.17    | 0.64        | 1.51        | 1.64                      | 66.90                       | 0.21           |
| 499.69   | 0.32       | 119.06      | 499.68    | -1.33    | 0.60        | 1.66        | 1.76                      | 70.27                       | 0.49           |
| 521.95   | 0.29       | 106.58      | 521.94    | -1.44    | 0.55        | 1.77        | 1.85                      | 72.74                       | 0.32           |
| 549.94   | 0.30       | 128.57      | 549.93    | -1.58    | 0.48        | 1.89        | 1.95                      | 75.65                       | 0.40           |
| 573.33   | 0.21       | 138.52      | 573.32    | -1.68    | 0.41        | 1.97        | 2.01                      | 78.12                       | 0.41           |
| 595.97   | 0.23       | 124.91      | 595.96    | -1.76    | 0.36        | 2.03        | 2.07                      | 80.04                       | 0.24           |
| 622.97   | 0.21       | 132.67      | 622.96    | -1.86    | 0.29        | 2.11        | 2.13                      | 82.10                       | 0.14           |
| 645.60   | 0.36       | 161.58      | 645.60    | -1.94    | 0.20        | 2.17        | 2.18                      | 84.79                       | 0.91           |
| 672.60   | 0.33       | 234.89      | 672.59    | -1.95    | 0.07        | 2.13        | 2.13                      | 88.07                       | 1.54           |
| 699.59   | 0.39       | 235.75      | 699.58    | -1.86    | -0.02       | 1.99        | 1.99                      | 90.70                       | 0.20           |
| 722.97   | 0.34       | 232.65      | 722.96    | -1.78    | -0.11       | 1.87        | 1.87                      | 93.38                       | 0.22           |
| 745.59   | 0.29       | 229.35      | 745.58    | -1.72    | -0.19       | 1.77        | 1.78                      | 96.05                       | 0.23           |
| 773.32   | 0.31       | 234.16      | 773.31    | -1.65    | -0.28       | 1.66        | 1.68                      | 99.48                       | 0.12           |
| 796.56   | 0.30       | 237.54      | 796.55    | -1.58    | -0.35       | 1.56        | 1.60                      | 102.54                      | 0.09           |
| 823.67   | 0.30       | 234.42      | 823.66    | -1.50    | -0.43       | 1.44        | 1.50                      | 106.46                      | 0.06           |
| 846.94   | 0.22       | 232.43      | 846.93    | -1.44    | -0.49       | 1.36        | 1.44                      | 109.77                      | 0.36           |
| 874.04   | 0.19       | 232.07      | 874.03    | -1.39    | -0.55       | 1.28        | 1.39                      | 113.08                      | 0.10           |
| 897.28   | 0.21       | 231.00      | 897.27    | -1.35    | -0.60       | 1.22        | 1.36                      | 116.07                      | 0.09           |
| 920.61   | 0.37       | 246.03      | 920.60    | -1.28    | -0.65       | 1.12        | 1.29                      | 120.33                      | 0.76           |
| 947.26   | 0.26       | 254.76      | 947.25    | -1.17    | -0.70       | 0.98        | 1.21                      | 125.67                      | 0.46           |

# Survey Report

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**Survey:** SUCKLA A UNIT #1  
**Survey Date:** 11/19/2014

| MD<br>ft | Inc<br>deg | Azim<br>deg | TVD<br>ft | VS<br>ft | +N/-S<br>ft | +E/-W<br>ft | Closure<br>Distance<br>ft | Closure<br>Direction<br>deg | DLS<br>%/100ft |
|----------|------------|-------------|-----------|----------|-------------|-------------|---------------------------|-----------------------------|----------------|
| 973.92   | 0.26       | 185.08      | 973.91    | -1.14    | -0.78       | 0.92        | 1.20                      | 130.31                      | 1.10           |
| 996.03   | 0.24       | 178.33      | 996.02    | -1.17    | -0.87       | 0.92        | 1.27                      | 133.70                      | 0.15           |
| 1023.44  | 0.16       | 204.32      | 1023.43   | -1.19    | -0.97       | 0.90        | 1.32                      | 136.98                      | 0.44           |
| 1046.31  | 0.15       | 196.90      | 1046.30   | -1.19    | -1.02       | 0.88        | 1.35                      | 139.33                      | 0.09           |
| 1072.95  | 0.24       | 201.11      | 1072.94   | -1.20    | -1.11       | 0.85        | 1.40                      | 142.55                      | 0.31           |
| 1095.94  | 0.22       | 182.36      | 1095.93   | -1.21    | -1.20       | 0.83        | 1.46                      | 145.25                      | 0.33           |
| 1123.92  | 0.35       | 176.84      | 1123.91   | -1.27    | -1.34       | 0.83        | 1.58                      | 148.06                      | 0.47           |
| 1149.83  | 0.29       | 171.49      | 1149.82   | -1.33    | -1.48       | 0.85        | 1.71                      | 150.21                      | 0.26           |
| 1172.67  | 0.25       | 161.80      | 1172.66   | -1.39    | -1.58       | 0.87        | 1.81                      | 151.19                      | 0.26           |
| 1198.56  | 0.33       | 174.38      | 1198.54   | -1.46    | -1.71       | 0.90        | 1.93                      | 152.38                      | 0.40           |
| 1221.39  | 0.39       | 181.35      | 1221.38   | -1.52    | -1.86       | 0.90        | 2.06                      | 154.12                      | 0.32           |
| 1248.01  | 0.47       | 199.85      | 1247.99   | -1.56    | -2.05       | 0.86        | 2.22                      | 157.19                      | 0.59           |
| 1274.49  | 0.31       | 193.27      | 1274.47   | -1.57    | -2.22       | 0.81        | 2.37                      | 160.00                      | 0.60           |
| 1296.69  | 0.30       | 193.71      | 1296.67   | -1.59    | -2.34       | 0.78        | 2.47                      | 161.53                      | 0.05           |
| 1324.02  | 0.35       | 207.09      | 1324.00   | -1.59    | -2.48       | 0.73        | 2.59                      | 163.70                      | 0.32           |
| 1346.09  | 0.32       | 214.59      | 1346.07   | -1.57    | -2.59       | 0.66        | 2.68                      | 165.72                      | 0.23           |
| 1373.41  | 0.38       | 213.71      | 1373.39   | -1.53    | -2.73       | 0.57        | 2.79                      | 168.30                      | 0.21           |
| 1396.08  | 0.28       | 221.27      | 1396.07   | -1.50    | -2.84       | 0.49        | 2.88                      | 170.27                      | 0.47           |
| 1422.80  | 0.27       | 244.64      | 1422.78   | -1.43    | -2.91       | 0.39        | 2.94                      | 172.45                      | 0.42           |
| 1449.01  | 0.16       | 286.84      | 1448.99   | -1.35    | -2.93       | 0.30        | 2.95                      | 174.22                      | 0.70           |
| 1471.20  | 0.25       | 225.68      | 1471.19   | -1.30    | -2.96       | 0.23        | 2.96                      | 175.50                      | 1.00           |
| 1498.50  | 0.27       | 224.48      | 1498.49   | -1.25    | -3.04       | 0.15        | 3.05                      | 177.27                      | 0.09           |
| 1521.54  | 0.20       | 200.88      | 1521.52   | -1.23    | -3.12       | 0.09        | 3.12                      | 178.30                      | 0.52           |
| 1547.87  | 0.07       | 277.34      | 1547.85   | -1.22    | -3.16       | 0.06        | 3.16                      | 178.92                      | 0.75           |
| 1570.91  | 0.01       | 14.55       | 1570.89   | -1.20    | -3.16       | 0.05        | 3.16                      | 179.17                      | 0.32           |
| 1597.97  | 0.13       | 238.76      | 1597.95   | -1.18    | -3.17       | 0.02        | 3.17                      | 179.62                      | 0.50           |
| 1624.53  | 0.26       | 222.28      | 1624.52   | -1.14    | -3.23       | -0.05       | 3.23                      | 180.80                      | 0.56           |
| 1647.33  | 0.26       | 234.43      | 1647.31   | -1.10    | -3.30       | -0.12       | 3.30                      | 182.12                      | 0.24           |
| 1673.90  | 0.27       | 256.87      | 1673.88   | -1.02    | -3.35       | -0.23       | 3.35                      | 183.95                      | 0.39           |
| 1696.83  | 0.32       | 254.68      | 1696.81   | -0.92    | -3.38       | -0.34       | 3.39                      | 185.82                      | 0.22           |
| 1722.51  | 0.41       | 248.11      | 1722.49   | -0.80    | -3.43       | -0.50       | 3.46                      | 188.27                      | 0.40           |
| 1749.76  | 0.45       | 253.53      | 1749.74   | -0.64    | -3.50       | -0.69       | 3.56                      | 191.19                      | 0.20           |
| 1772.40  | 0.50       | 249.81      | 1772.38   | -0.50    | -3.55       | -0.87       | 3.66                      | 193.76                      | 0.28           |
| 1797.77  | 0.54       | 256.94      | 1797.75   | -0.32    | -3.62       | -1.09       | 3.78                      | 196.77                      | 0.29           |
| 1824.58  | 0.57       | 258.26      | 1824.55   | -0.10    | -3.68       | -1.34       | 3.91                      | 200.10                      | 0.14           |
| 1846.26  | 0.59       | 263.94      | 1846.23   | 0.09     | -3.71       | -1.56       | 4.03                      | 202.84                      | 0.28           |

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|----------|------------|-------------|-----------|----------|-------------|-------------|---------------------------|-----------------------------|----------------|
| 1873.10  | 0.64       | 264.08      | 1873.07   | 0.35     | -3.74       | -1.85       | 4.17                      | 206.32                      | 0.18           |
| 1899.80  | 0.60       | 261.34      | 1899.77   | 0.60     | -3.78       | -2.14       | 4.34                      | 209.49                      | 0.20           |
| 1921.60  | 0.71       | 267.71      | 1921.57   | 0.82     | -3.80       | -2.38       | 4.48                      | 212.09                      | 0.60           |
| 1948.29  | 0.71       | 262.21      | 1948.26   | 1.11     | -3.83       | -2.71       | 4.69                      | 215.29                      | 0.25           |
| 1974.16  | 0.62       | 267.68      | 1974.13   | 1.38     | -3.85       | -3.01       | 4.89                      | 217.95                      | 0.42           |
| 1996.78  | 0.64       | 271.39      | 1996.75   | 1.61     | -3.86       | -3.26       | 5.05                      | 220.17                      | 0.21           |
| 2023.58  | 0.63       | 269.97      | 2023.55   | 1.89     | -3.85       | -3.55       | 5.24                      | 222.68                      | 0.07           |
| 2049.55  | 0.63       | 261.99      | 2049.51   | 2.15     | -3.87       | -3.84       | 5.45                      | 224.74                      | 0.34           |
| 2072.04  | 0.62       | 257.09      | 2072.00   | 2.35     | -3.92       | -4.08       | 5.66                      | 226.16                      | 0.24           |
| 2099.55  | 0.54       | 270.66      | 2099.51   | 2.60     | -3.95       | -4.36       | 5.88                      | 227.81                      | 0.58           |
| 2124.79  | 0.75       | 252.94      | 2124.74   | 2.84     | -4.00       | -4.63       | 6.12                      | 229.22                      | 1.11           |
| 2147.27  | 0.65       | 256.05      | 2147.23   | 3.06     | -4.07       | -4.90       | 6.37                      | 230.27                      | 0.47           |
| 2173.93  | 0.65       | 254.03      | 2173.88   | 3.30     | -4.15       | -5.19       | 6.64                      | 231.36                      | 0.09           |
| 2199.99  | 0.72       | 243.81      | 2199.94   | 3.53     | -4.26       | -5.48       | 6.94                      | 232.12                      | 0.55           |
| 2222.34  | 0.74       | 246.13      | 2222.29   | 3.72     | -4.38       | -5.74       | 7.22                      | 232.62                      | 0.14           |
| 2248.40  | 0.93       | 240.75      | 2248.35   | 3.98     | -4.55       | -6.07       | 7.59                      | 233.14                      | 0.79           |
| 2270.51  | 1.16       | 239.53      | 2270.46   | 4.23     | -4.75       | -6.42       | 7.99                      | 233.49                      | 1.03           |
| 2297.29  | 1.06       | 241.98      | 2297.23   | 4.55     | -5.01       | -6.87       | 8.50                      | 233.93                      | 0.41           |
| 2323.48  | 1.14       | 249.83      | 2323.42   | 4.90     | -5.21       | -7.33       | 8.99                      | 234.60                      | 0.65           |
| 2345.83  | 1.19       | 250.17      | 2345.76   | 5.24     | -5.37       | -7.76       | 9.43                      | 235.33                      | 0.23           |
| 2371.87  | 1.06       | 253.14      | 2371.80   | 5.63     | -5.53       | -8.24       | 9.92                      | 236.16                      | 0.56           |
| 2398.63  | 1.23       | 256.01      | 2398.55   | 6.06     | -5.67       | -8.76       | 10.43                     | 237.09                      | 0.67           |
| 2420.99  | 1.11       | 260.29      | 2420.90   | 6.44     | -5.76       | -9.20       | 10.86                     | 237.95                      | 0.65           |
| 2447.03  | 1.14       | 258.14      | 2446.94   | 6.87     | -5.86       | -9.70       | 11.33                     | 238.88                      | 0.19           |
| 2473.81  | 1.05       | 261.55      | 2473.71   | 7.31     | -5.95       | -10.21      | 11.81                     | 239.76                      | 0.41           |
| 2496.15  | 1.00       | 266.84      | 2496.05   | 7.66     | -5.99       | -10.60      | 12.18                     | 240.54                      | 0.47           |
| 2522.20  | 0.94       | 265.15      | 2522.10   | 8.06     | -6.02       | -11.04      | 12.58                     | 241.41                      | 0.28           |
| 2549.65  | 1.03       | 269.50      | 2549.54   | 8.49     | -6.04       | -11.51      | 13.00                     | 242.31                      | 0.42           |
| 2573.40  | 0.94       | 276.05      | 2573.30   | 8.87     | -6.02       | -11.92      | 13.35                     | 243.19                      | 0.60           |
| 2596.16  | 0.87       | 284.82      | 2596.05   | 9.22     | -5.96       | -12.27      | 13.64                     | 244.10                      | 0.67           |
| 2623.99  | 0.91       | 289.67      | 2623.88   | 9.65     | -5.83       | -12.68      | 13.96                     | 245.32                      | 0.30           |
| 2646.50  | 0.83       | 294.59      | 2646.38   | 10.00    | -5.70       | -13.00      | 14.20                     | 246.32                      | 0.49           |
| 2674.37  | 0.91       | 304.33      | 2674.24   | 10.41    | -5.49       | -13.37      | 14.45                     | 247.66                      | 0.59           |
| 2696.88  | 0.78       | 299.34      | 2696.76   | 10.74    | -5.32       | -13.65      | 14.65                     | 248.71                      | 0.64           |
| 2724.73  | 0.86       | 322.10      | 2724.61   | 11.11    | -5.06       | -13.94      | 14.83                     | 250.05                      | 1.20           |
| 2746.36  | 0.81       | 320.47      | 2746.23   | 11.38    | -4.81       | -14.14      | 14.93                     | 251.19                      | 0.27           |

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|----------|------------|-------------|-----------|----------|-------------|-------------|---------------------------|-----------------------------|----------------|
| 2774.19  | 0.68       | 321.99      | 2774.06   | 11.69    | -4.53       | -14.36      | 15.06                     | 252.49                      | 0.46           |
| 2797.55  | 0.68       | 315.38      | 2797.42   | 11.94    | -4.32       | -14.55      | 15.18                     | 253.45                      | 0.34           |
| 2823.90  | 0.63       | 322.59      | 2823.76   | 12.21    | -4.10       | -14.74      | 15.30                     | 254.47                      | 0.36           |
| 2847.13  | 0.78       | 307.97      | 2846.99   | 12.47    | -3.90       | -14.95      | 15.45                     | 255.38                      | 1.00           |
| 2873.32  | 0.78       | 313.97      | 2873.18   | 12.80    | -3.67       | -15.22      | 15.65                     | 256.45                      | 0.31           |
| 2896.67  | 0.85       | 327.15      | 2896.53   | 13.09    | -3.41       | -15.42      | 15.80                     | 257.53                      | 0.85           |
| 2923.74  | 0.70       | 299.50      | 2923.60   | 13.42    | -3.16       | -15.68      | 15.99                     | 258.60                      | 1.47           |
| 2946.95  | 0.33       | 312.63      | 2946.80   | 13.62    | -3.05       | -15.85      | 16.14                     | 259.12                      | 1.64           |
| 2974.74  | 0.75       | 313.80      | 2974.60   | 13.86    | -2.86       | -16.04      | 16.29                     | 259.88                      | 1.52           |
| 2997.20  | 0.76       | 303.49      | 2997.05   | 14.15    | -2.68       | -16.27      | 16.49                     | 260.65                      | 0.61           |
| 3024.99  | 0.32       | 313.52      | 3024.84   | 14.40    | -2.52       | -16.48      | 16.67                     | 261.29                      | 1.61           |
| 3047.43  | 0.65       | 311.78      | 3047.28   | 14.58    | -2.40       | -16.62      | 16.79                     | 261.80                      | 1.48           |
| 3074.49  | 0.56       | 316.64      | 3074.34   | 14.84    | -2.20       | -16.83      | 16.97                     | 262.57                      | 0.40           |
| 3096.94  | 0.25       | 321.54      | 3096.79   | 14.99    | -2.08       | -16.93      | 17.06                     | 263.01                      | 1.38           |
| 3124.72  | 0.41       | 321.59      | 3124.57   | 15.13    | -1.95       | -17.04      | 17.15                     | 263.47                      | 0.57           |
| 3147.78  | 0.51       | 310.36      | 3147.63   | 15.29    | -1.82       | -17.16      | 17.26                     | 263.95                      | 0.57           |
| 3174.93  | 0.29       | 273.29      | 3174.77   | 15.47    | -1.74       | -17.33      | 17.41                     | 264.27                      | 1.21           |
| 3197.99  | 0.31       | 317.79      | 3197.83   | 15.59    | -1.69       | -17.43      | 17.51                     | 264.47                      | 0.99           |
| 3224.11  | 0.35       | 308.97      | 3223.96   | 15.73    | -1.59       | -17.54      | 17.61                     | 264.83                      | 0.25           |
| 3247.40  | 0.45       | 287.26      | 3247.25   | 15.89    | -1.51       | -17.68      | 17.74                     | 265.11                      | 0.77           |
| 3274.42  | 0.42       | 297.97      | 3274.26   | 16.09    | -1.43       | -17.87      | 17.93                     | 265.41                      | 0.32           |
| 3297.60  | 0.39       | 293.59      | 3297.44   | 16.26    | -1.36       | -18.02      | 18.07                     | 265.67                      | 0.21           |
| 3321.01  | 0.25       | 294.81      | 3320.85   | 16.39    | -1.31       | -18.14      | 18.18                     | 265.87                      | 0.57           |
| 3347.76  | 0.36       | 296.29      | 3347.60   | 16.53    | -1.25       | -18.26      | 18.31                     | 266.09                      | 0.39           |
| 3374.71  | 0.27       | 349.66      | 3374.55   | 16.64    | -1.15       | -18.35      | 18.39                     | 266.42                      | 1.08           |
| 3397.07  | 0.36       | 323.76      | 3396.91   | 16.73    | -1.04       | -18.40      | 18.43                     | 266.77                      | 0.75           |
| 3424.33  | 0.09       | 299.25      | 3424.17   | 16.83    | -0.96       | -18.47      | 18.50                     | 267.03                      | 1.04           |
| 3447.03  | 0.13       | 55.59       | 3446.87   | 16.83    | -0.93       | -18.47      | 18.49                     | 267.10                      | 0.85           |
| 3473.53  | 0.11       | 56.90       | 3473.37   | 16.80    | -0.90       | -18.42      | 18.44                     | 267.19                      | 0.10           |
| 3496.14  | 0.21       | 86.01       | 3495.98   | 16.75    | -0.89       | -18.36      | 18.38                     | 267.23                      | 0.57           |
| 3522.75  | 0.31       | 103.55      | 3522.59   | 16.63    | -0.90       | -18.24      | 18.26                     | 267.17                      | 0.46           |
| 3549.94  | 0.43       | 88.43       | 3549.78   | 16.47    | -0.92       | -18.07      | 18.09                     | 267.10                      | 0.58           |
| 3574.83  | 0.25       | 113.01      | 3574.67   | 16.33    | -0.94       | -17.92      | 17.95                     | 267.01                      | 0.92           |
| 3597.65  | 0.22       | 83.21       | 3597.49   | 16.24    | -0.95       | -17.84      | 17.86                     | 266.95                      | 0.54           |
| 3624.69  | 0.25       | 101.84      | 3624.53   | 16.13    | -0.96       | -17.73      | 17.75                     | 266.91                      | 0.31           |
| 3646.76  | 0.30       | 87.77       | 3646.60   | 16.03    | -0.96       | -17.62      | 17.65                     | 266.87                      | 0.36           |

# Survey Report

**Well Name:** SUCKLA A UNIT #1  
**Survey:** SUCKLA A UNIT #1  
**Survey Date:** 11/19/2014

| MD<br>ft | Inc<br>deg | Azim<br>deg | TVD<br>ft | VS<br>ft | +N/-S<br>ft | +E/-W<br>ft | Closure<br>Distance<br>ft | Closure<br>Direction<br>deg | DLS<br>%/100ft |
|----------|------------|-------------|-----------|----------|-------------|-------------|---------------------------|-----------------------------|----------------|
| 3673.79  | 0.38       | 87.65       | 3673.63   | 15.89    | -0.96       | -17.46      | 17.49                     | 266.86                      | 0.32           |
| 3695.84  | 0.23       | 88.43       | 3695.67   | 15.78    | -0.95       | -17.34      | 17.37                     | 266.86                      | 0.69           |
| 3722.95  | 0.34       | 96.97       | 3722.79   | 15.65    | -0.96       | -17.21      | 17.24                     | 266.80                      | 0.46           |
| 3749.94  | 0.34       | 88.66       | 3749.78   | 15.50    | -0.97       | -17.05      | 17.08                     | 266.75                      | 0.19           |
| 3771.99  | 0.41       | 97.48       | 3771.83   | 15.36    | -0.98       | -16.91      | 16.94                     | 266.69                      | 0.44           |
| 3798.99  | 0.41       | 91.65       | 3798.82   | 15.18    | -0.99       | -16.71      | 16.74                     | 266.60                      | 0.16           |
| 3821.01  | 0.40       | 107.16      | 3820.84   | 15.03    | -1.02       | -16.56      | 16.59                     | 266.48                      | 0.50           |
| 3847.99  | 0.45       | 106.91      | 3847.83   | 14.83    | -1.08       | -16.37      | 16.41                     | 266.24                      | 0.18           |
| 3873.65  | 0.43       | 105.22      | 3873.49   | 14.63    | -1.13       | -16.18      | 16.22                     | 266.00                      | 0.08           |
| 3896.26  | 0.38       | 94.43       | 3896.10   | 14.48    | -1.16       | -16.02      | 16.07                     | 265.86                      | 0.40           |
| 3923.35  | 0.26       | 116.48      | 3923.19   | 14.33    | -1.19       | -15.88      | 15.92                     | 265.70                      | 0.63           |
| 3949.73  | 0.21       | 114.46      | 3949.56   | 14.22    | -1.24       | -15.78      | 15.83                     | 265.51                      | 0.19           |
| 3972.33  | 0.21       | 74.56       | 3972.17   | 14.15    | -1.25       | -15.71      | 15.75                     | 265.47                      | 0.64           |
| 3999.41  | 0.15       | 54.45       | 3999.24   | 14.09    | -1.21       | -15.63      | 15.68                     | 265.57                      | 0.34           |
| 4021.29  | 0.16       | 51.76       | 4021.13   | 14.06    | -1.18       | -15.58      | 15.63                     | 265.68                      | 0.07           |
| 4048.36  | 0.28       | 16.36       | 4048.20   | 14.05    | -1.09       | -15.53      | 15.57                     | 265.99                      | 0.65           |
| 4070.23  | 0.25       | 358.42      | 4070.06   | 14.07    | -0.99       | -15.52      | 15.55                     | 266.35                      | 0.40           |
| 4097.28  | 0.49       | 12.62       | 4097.11   | 14.11    | -0.82       | -15.50      | 15.52                     | 266.97                      | 0.93           |
| 4124.25  | 0.43       | 9.56        | 4124.09   | 14.15    | -0.61       | -15.45      | 15.47                     | 267.75                      | 0.23           |
| 4146.24  | 0.44       | 7.73        | 4146.07   | 14.19    | -0.44       | -15.43      | 15.44                     | 268.35                      | 0.07           |
| 4173.18  | 0.56       | 8.47        | 4173.01   | 14.24    | -0.21       | -15.40      | 15.40                     | 269.21                      | 0.45           |
| 4199.97  | 0.41       | 26.13       | 4199.80   | 14.26    | 0.00        | -15.34      | 15.34                     | 270.01                      | 0.77           |
| 4221.55  | 0.61       | 25.33       | 4221.37   | 14.25    | 0.18        | -15.25      | 15.25                     | 270.66                      | 0.89           |
| 4248.00  | 0.58       | 16.61       | 4247.83   | 14.25    | 0.43        | -15.15      | 15.16                     | 271.63                      | 0.35           |
| 4273.14  | 0.63       | 22.34       | 4272.97   | 14.26    | 0.68        | -15.06      | 15.08                     | 272.59                      | 0.32           |
| 4299.68  | 0.52       | 17.41       | 4299.50   | 14.27    | 0.93        | -14.97      | 15.00                     | 273.56                      | 0.46           |
| 4324.66  | 0.53       | 26.23       | 4324.49   | 14.27    | 1.14        | -14.89      | 14.93                     | 274.39                      | 0.32           |
| 4346.21  | 0.62       | 20.81       | 4346.03   | 14.26    | 1.34        | -14.80      | 14.86                     | 275.17                      | 0.49           |
| 4371.17  | 0.64       | 2.57        | 4370.99   | 14.31    | 1.61        | -14.75      | 14.84                     | 276.21                      | 0.81           |
| 4398.27  | 0.55       | 7.39        | 4398.09   | 14.39    | 1.89        | -14.73      | 14.85                     | 277.30                      | 0.40           |
| 4424.77  | 0.81       | 1.39        | 4424.59   | 14.48    | 2.20        | -14.70      | 14.87                     | 278.50                      | 1.04           |
| 4446.28  | 0.86       | 7.94        | 4446.09   | 14.57    | 2.51        | -14.68      | 14.89                     | 279.71                      | 0.49           |
| 4472.74  | 0.80       | 8.01        | 4472.55   | 14.66    | 2.89        | -14.63      | 14.91                     | 281.18                      | 0.23           |
| 4497.54  | 0.90       | 356.38      | 4497.35   | 14.79    | 3.25        | -14.61      | 14.97                     | 282.55                      | 0.79           |
| 4523.99  | 0.84       | 357.77      | 4523.79   | 14.95    | 3.65        | -14.63      | 15.08                     | 284.02                      | 0.21           |
| 4546.05  | 0.82       | 7.81        | 4545.85   | 15.06    | 3.97        | -14.62      | 15.15                     | 285.21                      | 0.67           |

**Well Name:** SUCKLA A UNIT #1  
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**Survey Date:** 11/19/2014

| MD<br>ft | Inc<br>deg | Azim<br>deg | TVD<br>ft | VS<br>ft | +N/-S<br>ft | +E/-W<br>ft | Closure<br>Distance<br>ft | Closure<br>Direction<br>deg | DLS<br>°/100ft |
|----------|------------|-------------|-----------|----------|-------------|-------------|---------------------------|-----------------------------|----------------|
| 4571.85  | 0.85       | 13.67       | 4571.65   | 15.13    | 4.34        | -14.55      | 15.18                     | 286.62                      | 0.34           |
| 4598.11  | 0.64       | 9.32        | 4597.90   | 15.18    | 4.68        | -14.48      | 15.22                     | 287.90                      | 0.80           |
| 4624.15  | 0.65       | 30.62       | 4623.95   | 15.19    | 4.95        | -14.38      | 15.21                     | 288.99                      | 0.92           |
| 4648.08  | 0.46       | 18.55       | 4647.87   | 15.18    | 5.16        | -14.28      | 15.18                     | 289.86                      | 0.93           |
| 4674.23  | 0.56       | 359.12      | 4674.02   | 15.23    | 5.38        | -14.25      | 15.23                     | 290.70                      | 0.75           |
| 4697.92  | 0.63       | 339.69      | 4697.71   | 15.36    | 5.62        | -14.30      | 15.36                     | 291.47                      | 0.90           |
| 4723.57  | 0.34       | 277.08      | 4723.37   | 15.53    | 5.76        | -14.42      | 15.53                     | 291.79                      | 2.19           |
| 4749.44  | 0.70       | 280.61      | 4749.24   | 15.76    | 5.80        | -14.65      | 15.76                     | 291.61                      | 1.37           |
| 4769.71  | 0.46       | 299.22      | 4769.50   | 15.96    | 5.86        | -14.84      | 15.96                     | 291.56                      | 1.48           |