



# Weatherford®

## SURVEY REPORT

Report Date: **8/22/2012**  
 Customer: **Matrix**  
 Job Name: **4026301**  
 Well Name: **Sheridan 11-2**

Field: **Rio Blanco**  
 Rig: **Capstar 312**  
 Rig Loc: **Rio Blanco County**

| Survey Calculation Method: <b>Minimum Curvature</b> |                   |                      |                    |                      |                  |                  |
|---|-------------------|----------------------|--------------------|----------------------|------------------|------------------|
| Magnetic Reference                                  | Target Direction  | Total Magnetic Field | Magnetic Dip Angle | Magnetic Declination | Grid Convergence | Total Correction |
| <b>True North</b>                                   | <b>354.64 deg</b> | <b>52435 nT</b>      | <b>66.18 deg</b>   | <b>10.29 deg</b>     | <b>0.00 deg</b>  | <b>10.29 deg</b> |
| Survey Tie-On                                       | Depth             | INC                  | AZ                 | TVD                  | NS               | EW               |
|   | <b>0.00 ft</b>    | <b>0.00 deg</b>      | <b>0.00 deg</b>    | <b>0.00 ft</b>       | <b>0.00 ft</b>   | <b>0.00 ft</b>   |

| Depth (ft) | Inc (deg) | Azm (deg) | TVD (ft) | Well Head |         |            |                    |
|------------|-----------|-----------|----------|-----------|---------|------------|--------------------|
|            |           |           |          | NS (ft)   | EW (ft) | Vsect (ft) | Dogleg (deg/100ft) |
| 633.00     | 8.58      | 117.01    | 630.64   | -21.48    | 42.15   | -25.33     | 1.36               |
| 666.00     | 9.00      | 117.04    | 663.25   | -23.78    | 46.64   | -28.03     | 1.27               |
| 697.00     | 9.89      | 112.32    | 693.83   | -25.89    | 51.26   | -30.56     | 3.80               |
| 729.00     | 10.44     | 105.79    | 725.33   | -27.72    | 56.59   | -32.89     | 3.99               |
| 758.00     | 11.06     | 99.29     | 753.82   | -28.89    | 61.87   | -34.54     | 4.69               |
| 790.00     | 11.48     | 98.57     | 785.20   | -29.86    | 68.05   | -36.08     | 1.38               |
| 820.00     | 12.00     | 94.04     | 814.58   | -30.52    | 74.11   | -37.31     | 3.53               |
| 852.00     | 12.88     | 88.04     | 845.83   | -30.63    | 80.99   | -38.06     | 4.88               |
| 883.00     | 13.94     | 86.92     | 875.98   | -30.31    | 88.17   | -38.42     | 3.52               |
| 914.00     | 14.81     | 85.42     | 906.01   | -29.80    | 95.85   | -38.62     | 3.05               |
| 945.00     | 15.56     | 82.42     | 935.93   | -28.93    | 103.92  | -38.51     | 3.50               |
| 977.00     | 15.81     | 79.29     | 966.74   | -27.56    | 112.46  | -37.94     | 2.76               |
| 1007.00    | 16.63     | 74.41     | 995.54   | -25.64    | 120.61  | -36.80     | 5.30               |
| 1038.00    | 17.13     | 68.54     | 1025.21  | -22.78    | 129.13  | -34.74     | 5.73               |
| 1070.00    | 16.81     | 64.04     | 1055.82  | -19.03    | 137.68  | -31.81     | 4.22               |
| 1102.00    | 16.56     | 60.54     | 1086.47  | -14.76    | 145.81  | -28.32     | 3.24               |
| 1133.00    | 16.31     | 56.79     | 1116.20  | -10.20    | 153.30  | -24.48     | 3.52               |
| 1165.00    | 16.19     | 53.92     | 1146.93  | -5.12     | 160.67  | -20.10     | 2.54               |
| 1196.00    | 15.88     | 54.29     | 1176.72  | -0.10     | 167.60  | -15.75     | 1.05               |
| 1226.00    | 16.00     | 56.42     | 1205.57  | 4.59      | 174.38  | -11.72     | 1.99               |
| 1257.00    | 16.00     | 58.67     | 1235.37  | 9.17      | 181.59  | -7.83      | 2.00               |
| 1287.00    | 16.19     | 59.17     | 1264.19  | 13.46     | 188.71  | -4.22      | 0.78               |
| 1317.00    | 15.88     | 60.54     | 1293.02  | 17.63     | 195.88  | -0.75      | 1.63               |
| 1349.00    | 15.63     | 62.92     | 1323.82  | 21.74     | 203.53  | 2.64       | 2.17               |
| 1381.00    | 15.19     | 63.79     | 1354.67  | 25.56     | 211.13  | 5.72       | 1.55               |
| 1412.00    | 15.19     | 61.67     | 1384.59  | 29.28     | 218.35  | 8.75       | 1.79               |
| 1443.00    | 15.13     | 60.17     | 1414.51  | 33.22     | 225.43  | 12.01      | 1.28               |
| 1475.00    | 15.00     | 58.42     | 1445.41  | 37.46     | 232.58  | 15.57      | 1.48               |
| 1507.00    | 15.44     | 56.79     | 1476.29  | 41.96     | 239.67  | 19.39      | 1.92               |
| 1538.00    | 15.81     | 56.29     | 1506.14  | 46.57     | 246.64  | 23.33      | 1.27               |
| 1570.00    | 16.50     | 57.54     | 1536.88  | 51.43     | 254.10  | 27.47      | 2.41               |
| 1602.00    | 16.75     | 56.79     | 1567.54  | 56.39     | 261.79  | 31.69      | 1.03               |
| 1634.00    | 17.06     | 55.54     | 1598.16  | 61.57     | 269.52  | 36.13      | 1.49               |
| 1665.00    | 17.44     | 55.42     | 1627.76  | 66.78     | 277.09  | 40.61      | 1.23               |
| 1696.00    | 17.75     | 54.79     | 1657.31  | 72.14     | 284.78  | 45.23      | 1.17               |

| Depth<br>(ft) | Inc<br>(deg) | Azm<br>(deg) | TVD<br>(ft) | Well Head  |            | VSect<br>(ft) | Dogleg<br>(deg/100ft) |
|---------------|--------------|--------------|-------------|------------|------------|---------------|-----------------------|
|               |              |              |             | NS<br>(ft) | EW<br>(ft) |               |                       |
| 1726.00       | 17.94        | 53.29        | 1685.87     | 77.54      | 292.22     | 49.91         | 1.66                  |
| 1758.00       | 18.13        | 52.04        | 1716.30     | 83.55      | 300.10     | 55.15         | 1.35                  |
| 1790.00       | 18.00        | 49.42        | 1746.72     | 89.83      | 307.78     | 60.69         | 2.57                  |
| 1822.00       | 18.22        | 47.47        | 1777.14     | 96.43      | 315.22     | 66.56         | 2.01                  |
| 1853.00       | 18.20        | 44.33        | 1806.58     | 103.17     | 322.17     | 72.62         | 3.17                  |
| 1883.00       | 18.25        | 41.54        | 1835.08     | 110.03     | 328.56     | 78.86         | 2.91                  |
| 1913.00       | 18.75        | 40.79        | 1863.53     | 117.20     | 334.83     | 85.41         | 1.85                  |
| 1944.00       | 19.56        | 40.29        | 1892.81     | 124.93     | 341.44     | 92.49         | 2.67                  |
| 1974.00       | 20.50        | 39.79        | 1921.00     | 132.80     | 348.05     | 99.71         | 3.18                  |
| 2004.00       | 20.56        | 37.92        | 1949.09     | 140.99     | 354.65     | 107.25        | 2.20                  |
| 2035.00       | 20.75        | 35.92        | 1978.10     | 149.73     | 361.21     | 115.34        | 2.36                  |
| 2065.00       | 20.50        | 33.42        | 2006.18     | 158.42     | 367.22     | 123.42        | 3.05                  |
| 2095.00       | 20.31        | 30.67        | 2034.30     | 167.28     | 372.77     | 131.73        | 3.26                  |
| 2125.00       | 20.25        | 28.04        | 2062.44     | 176.34     | 377.87     | 140.28        | 3.04                  |
| 2156.00       | 20.38        | 26.29        | 2091.51     | 185.92     | 382.78     | 149.35        | 2.00                  |
| 2187.00       | 20.44        | 23.92        | 2120.56     | 195.71     | 387.37     | 158.67        | 2.67                  |
| 2218.00       | 20.50        | 21.92        | 2149.61     | 205.69     | 391.59     | 168.21        | 2.26                  |
| 2249.00       | 21.13        | 19.92        | 2178.58     | 215.98     | 395.52     | 178.09        | 3.06                  |
| 2280.00       | 22.19        | 18.92        | 2207.39     | 226.77     | 399.32     | 188.48        | 3.62                  |
| 2311.00       | 23.19        | 18.54        | 2236.00     | 238.10     | 403.16     | 199.39        | 3.26                  |
| 2341.00       | 25.25        | 19.42        | 2263.35     | 249.73     | 407.17     | 210.61        | 6.97                  |
| 2371.00       | 27.44        | 20.17        | 2290.24     | 262.26     | 411.68     | 222.65        | 7.38                  |
| 2403.00       | 29.94        | 20.79        | 2318.30     | 276.65     | 417.06     | 236.48        | 7.87                  |
| 2433.00       | 30.63        | 19.04        | 2344.21     | 290.87     | 422.21     | 250.16        | 3.73                  |
| 2463.00       | 29.94        | 15.17        | 2370.12     | 305.32     | 426.66     | 264.13        | 6.90                  |
| 2495.00       | 30.69        | 11.54        | 2397.75     | 321.03     | 430.38     | 279.42        | 6.19                  |
| 2527.00       | 31.00        | 8.29         | 2425.22     | 337.19     | 433.21     | 295.25        | 5.30                  |
| 2558.00       | 31.19        | 4.79         | 2451.77     | 353.09     | 435.03     | 310.91        | 5.86                  |
| 2589.00       | 31.69        | 1.29         | 2478.22     | 369.23     | 435.88     | 326.90        | 6.11                  |
| 2610.00       | 31.88        | 359.17       | 2496.07     | 380.29     | 435.92     | 337.90        | 5.39                  |
| 2679.00       | 31.56        | 356.01       | 2554.77     | 416.52     | 434.40     | 374.12        | 2.45                  |
| 2711.00       | 30.90        | 356.29       | 2582.13     | 433.08     | 433.29     | 390.71        | 2.11                  |
| 2743.00       | 30.47        | 353.72       | 2609.65     | 449.34     | 431.87     | 407.03        | 4.31                  |
| 2774.00       | 29.92        | 350.03       | 2636.45     | 464.77     | 429.67     | 422.60        | 6.24                  |
| 2806.00       | 29.75        | 345.84       | 2664.21     | 480.33     | 426.35     | 438.40        | 6.53                  |
| 2837.00       | 29.97        | 341.78       | 2691.10     | 495.14     | 422.04     | 453.56        | 6.56                  |
| 2868.00       | 30.82        | 339.29       | 2717.84     | 509.93     | 416.81     | 468.76        | 4.90                  |
| 2900.00       | 31.89        | 338.75       | 2745.16     | 525.47     | 410.85     | 484.80        | 3.46                  |
| 2931.00       | 33.05        | 339.42       | 2771.32     | 541.02     | 404.91     | 500.83        | 3.92                  |
| 2963.00       | 33.69        | 341.95       | 2798.04     | 557.63     | 399.10     | 517.91        | 4.79                  |
| 2994.00       | 33.14        | 342.13       | 2823.92     | 573.87     | 393.83     | 534.57        | 1.80                  |
| 3025.00       | 32.63        | 341.76       | 2849.95     | 589.87     | 388.61     | 550.99        | 1.77                  |
| 3057.00       | 31.98        | 341.57       | 2877.00     | 606.11     | 383.24     | 567.66        | 2.06                  |
| 3088.00       | 31.29        | 341.55       | 2903.39     | 621.53     | 378.09     | 583.49        | 2.23                  |
| 3120.00       | 30.51        | 341.69       | 2930.85     | 637.12     | 372.91     | 599.50        | 2.45                  |
| 3151.00       | 29.85        | 341.71       | 2957.65     | 651.92     | 368.02     | 614.69        | 2.13                  |
| 3183.00       | 30.15        | 342.02       | 2985.36     | 667.13     | 363.04     | 630.30        | 1.06                  |
| 3215.00       | 30.60        | 342.06       | 3012.97     | 682.52     | 358.05     | 646.09        | 1.41                  |
| 3246.00       | 30.78        | 343.56       | 3039.63     | 697.63     | 353.37     | 661.57        | 2.54                  |
| 3278.00       | 31.71        | 343.81       | 3066.98     | 713.56     | 348.71     | 677.87        | 2.93                  |

| Depth<br>(ft) | Inc<br>(deg) | Azm<br>(deg) | TVD<br>(ft) | Well Head  |            | Vsect<br>(ft) | Dogleg<br>(deg/100ft) |
|---------------|--------------|--------------|-------------|------------|------------|---------------|-----------------------|
|               |              |              |             | NS<br>(ft) | EW<br>(ft) |               |                       |
| 3309.00       | 31.77        | 343.72       | 3093.35     | 729.22     | 344.15     | 693.88        | 0.25                  |
| 3341.00       | 33.47        | 340.87       | 3120.30     | 745.65     | 338.90     | 710.73        | 7.16                  |
| 3373.00       | 34.42        | 339.44       | 3146.85     | 762.45     | 332.83     | 728.03        | 3.88                  |
| 3404.00       | 36.41        | 336.90       | 3172.11     | 779.12     | 326.14     | 745.25        | 7.98                  |
| 3436.00       | 37.59        | 333.91       | 3197.67     | 796.62     | 318.12     | 763.42        | 6.72                  |
| 3467.00       | 38.22        | 330.39       | 3222.13     | 813.45     | 309.22     | 781.01        | 7.27                  |
| 3499.00       | 38.54        | 328.90       | 3247.22     | 830.60     | 299.18     | 799.02        | 3.06                  |
| 3531.00       | 38.86        | 328.03       | 3272.19     | 847.65     | 288.72     | 816.97        | 1.97                  |
| 3563.00       | 39.41        | 327.67       | 3297.01     | 864.75     | 277.97     | 835.00        | 1.86                  |
| 3594.00       | 40.17        | 328.65       | 3320.83     | 881.60     | 267.51     | 852.76        | 3.18                  |
| 3626.00       | 41.32        | 329.03       | 3345.08     | 899.48     | 256.70     | 871.56        | 3.68                  |
| 3656.00       | 43.08        | 330.11       | 3367.30     | 916.85     | 246.50     | 889.82        | 6.35                  |
| 3688.00       | 43.92        | 332.80       | 3390.51     | 936.20     | 235.98     | 910.06        | 6.35                  |
| 3720.00       | 45.79        | 335.15       | 3413.20     | 956.48     | 226.08     | 931.18        | 7.81                  |
| 3752.00       | 46.55        | 338.00       | 3435.36     | 977.66     | 216.91     | 953.12        | 6.85                  |
| 3784.00       | 48.53        | 340.10       | 3456.97     | 999.71     | 208.48     | 975.86        | 7.86                  |
| 3815.00       | 49.69        | 341.57       | 3477.26     | 1021.84    | 200.79     | 998.62        | 5.18                  |
| 3847.00       | 51.15        | 341.38       | 3497.65     | 1045.23    | 192.95     | 1022.63       | 4.59                  |
| 3878.00       | 51.83        | 340.36       | 3516.95     | 1068.14    | 185.00     | 1046.19       | 3.38                  |
| 3910.00       | 53.01        | 341.63       | 3536.47     | 1092.12    | 176.74     | 1070.83       | 4.85                  |
| 3942.00       | 53.91        | 343.64       | 3555.52     | 1116.66    | 169.07     | 1095.98       | 5.78                  |
| 3973.00       | 55.88        | 344.59       | 3573.35     | 1141.05    | 162.14     | 1120.91       | 6.83                  |
| 4005.00       | 58.40        | 345.61       | 3590.71     | 1167.02    | 155.23     | 1147.42       | 8.32                  |
| 4037.00       | 60.17        | 345.54       | 3607.05     | 1193.67    | 148.38     | 1174.59       | 5.53                  |
| 4069.00       | 61.73        | 346.11       | 3622.59     | 1220.79    | 141.53     | 1202.23       | 5.12                  |
| 4100.00       | 61.52        | 346.35       | 3637.32     | 1247.28    | 135.03     | 1229.21       | 0.96                  |
| 4132.00       | 60.91        | 345.96       | 3652.73     | 1274.51    | 128.32     | 1256.95       | 2.19                  |
| 4162.00       | 60.05        | 345.63       | 3667.51     | 1299.82    | 121.92     | 1282.74       | 3.02                  |
| 4194.00       | 59.18        | 345.24       | 3683.70     | 1326.53    | 114.98     | 1309.99       | 2.91                  |
| 4226.00       | 60.47        | 345.66       | 3699.78     | 1353.31    | 108.03     | 1337.30       | 4.19                  |
| 4257.00       | 59.97        | 345.40       | 3715.18     | 1379.36    | 101.30     | 1363.87       | 1.77                  |
| 4289.00       | 59.39        | 344.73       | 3731.33     | 1406.05    | 94.18      | 1391.11       | 2.56                  |
| 4321.00       | 58.62        | 343.85       | 3747.81     | 1432.46    | 86.76      | 1418.09       | 3.37                  |
| 4352.00       | 57.72        | 343.25       | 3764.16     | 1457.72    | 79.30      | 1443.94       | 3.34                  |
| 4383.00       | 56.94        | 342.61       | 3780.90     | 1482.66    | 71.64      | 1469.49       | 3.06                  |
| 4415.00       | 56.18        | 342.16       | 3798.53     | 1508.11    | 63.56      | 1495.58       | 2.65                  |
| 4446.00       | 55.22        | 341.55       | 3816.00     | 1532.45    | 55.59      | 1520.56       | 3.50                  |
| 4478.00       | 54.25        | 341.04       | 3834.47     | 1557.20    | 47.21      | 1545.98       | 3.30                  |
| 4509.00       | 53.15        | 339.97       | 3852.83     | 1580.75    | 38.87      | 1570.21       | 4.51                  |
| 4541.00       | 53.50        | 341.84       | 3871.94     | 1605.00    | 30.48      | 1595.13       | 4.81                  |
| 4623.00       | 53.50        | 341.84       | 3920.72     | 1667.63    | 9.93       | 1659.41       | 0.00                  |

\*Weatherford MWD/LWD surveys from 633 ft MD to 4541 ft MD.\*

\*TD at 4623 ft MD.\*

The total correction is 10.29 deg relative to True North.