



Weatherford®

SURVEY REPORT

Report Date: 8/2/2011
 Customer: Chesapeake
 Job Name: 4023345
 Well Name: Bryan Neel 6H

Field: Marion Co
 Rig: Nomac 241
 Rig Loc: Marion County

| Survey Calculation Method: Minimum Curvature | | | | | | |
|--|------------------|----------------------|--------------------|----------------------|------------------|------------------|
| Magnetic Reference | Target Direction | Total Magnetic Field | Magnetic Dip Angle | Magnetic Declination | Grid Convergence | Total Correction |
| Grid North | 155.75 deg | 52665 nT | 67.13 deg | -8.94 deg | -0.32 deg | -8.62 deg |
| Survey Tie-On | Depth | INC | AZ | TVD | NS | EW |
| | 3066.00 ft | 0.39 deg | 164.98 deg | 3065.25 ft | -39.93 ft | 37.58 ft |

| Depth (ft) | Inc (deg) | Azm (deg) | TVD (ft) | Well Head | | | Dogleg (deg/100ft) |
|------------|-----------|-----------|----------|-----------|---------|------------|--------------------|
| | | | | NS (ft) | EW (ft) | Vsect (ft) | |
| 3168.00 | 0.39 | 125.23 | 3167.25 | -40.47 | 37.95 | 52.48 | 0.26 |
| 3253.00 | 0.20 | 175.60 | 3252.25 | -40.78 | 38.20 | 52.87 | 0.36 |
| 3338.00 | 0.20 | 156.09 | 3337.25 | -41.07 | 38.27 | 53.17 | 0.08 |
| 3424.00 | 0.26 | 172.37 | 3423.25 | -41.40 | 38.36 | 53.51 | 0.10 |
| 3509.00 | 0.20 | 209.83 | 3508.24 | -41.73 | 38.31 | 53.78 | 0.19 |
| 3595.00 | 0.26 | 199.03 | 3594.24 | -42.04 | 38.17 | 54.01 | 0.08 |
| 3680.00 | 0.15 | 248.86 | 3679.24 | -42.26 | 38.01 | 54.14 | 0.23 |
| 3765.00 | 0.19 | 216.31 | 3764.24 | -42.42 | 37.82 | 54.21 | 0.12 |
| 3893.00 | 0.20 | 161.21 | 3892.24 | -42.80 | 37.76 | 54.53 | 0.14 |
| 4022.00 | 0.07 | 144.09 | 4021.24 | -43.07 | 37.88 | 54.83 | 0.10 |
| 4150.00 | 0.33 | 339.83 | 4149.24 | -42.79 | 37.80 | 54.54 | 0.31 |
| 4278.00 | 0.73 | 314.02 | 4277.24 | -41.88 | 37.09 | 53.41 | 0.36 |
| 4406.00 | 8.72 | 265.59 | 4404.71 | -42.05 | 26.80 | 49.35 | 6.45 |
| 4491.00 | 14.82 | 268.92 | 4487.88 | -42.75 | 9.49 | 42.88 | 7.21 |
| 4576.00 | 21.22 | 276.08 | 4568.68 | -41.33 | -16.70 | 30.82 | 7.95 |
| 4662.00 | 23.20 | 277.57 | 4648.30 | -37.45 | -48.97 | 14.03 | 2.40 |
| 4790.00 | 22.51 | 280.60 | 4766.26 | -29.62 | -98.04 | -13.26 | 1.07 |
| 4875.00 | 23.92 | 284.13 | 4844.38 | -22.42 | -130.75 | -33.26 | 2.33 |
| 4960.00 | 25.00 | 287.24 | 4921.75 | -12.89 | -164.61 | -55.85 | 1.99 |
| 5046.00 | 24.81 | 289.79 | 4999.76 | -1.40 | -198.95 | -80.44 | 1.27 |
| 5131.00 | 25.73 | 289.92 | 5076.62 | 10.93 | -233.09 | -105.70 | 1.09 |
| 5216.00 | 26.70 | 288.46 | 5152.87 | 23.26 | -268.55 | -131.51 | 1.37 |
| 5302.00 | 27.29 | 281.99 | 5229.52 | 33.48 | -306.17 | -156.27 | 3.48 |
| 5387.00 | 28.18 | 278.40 | 5304.76 | 40.46 | -345.09 | -178.62 | 2.22 |
| 5472.00 | 26.06 | 274.50 | 5380.42 | 44.86 | -383.56 | -198.43 | 3.25 |
| 5557.00 | 23.70 | 272.31 | 5457.52 | 47.01 | -419.25 | -215.06 | 2.99 |
| 5642.00 | 23.66 | 274.86 | 5535.37 | 49.14 | -453.32 | -230.99 | 1.21 |
| 5728.00 | 24.50 | 277.01 | 5613.88 | 52.78 | -488.22 | -248.64 | 1.41 |
| 5813.00 | 25.67 | 273.85 | 5690.87 | 56.17 | -524.08 | -266.46 | 2.09 |
| 5900.00 | 23.03 | 272.72 | 5770.12 | 58.24 | -559.89 | -283.06 | 3.07 |
| 5985.00 | 23.20 | 275.82 | 5848.30 | 60.72 | -593.15 | -298.99 | 1.45 |
| 6069.00 | 24.16 | 272.49 | 5925.23 | 63.15 | -626.79 | -315.01 | 1.96 |
| 6155.00 | 23.86 | 276.36 | 6003.79 | 65.84 | -661.66 | -331.79 | 1.86 |
| 6240.00 | 24.01 | 272.65 | 6081.49 | 68.54 | -696.03 | -348.36 | 1.78 |
| 6325.00 | 23.47 | 273.90 | 6159.29 | 70.49 | -730.19 | -364.18 | 0.87 |

RECEIVED

MAY 21 2012

| Depth (ft) | Inc (deg) | Azm (deg) | TVD (ft) | Well Head | | | Dogleg (deg/100ft) |
|---------------|--------------|--------------|-------------|------------|------------|---------------|-----------------------|
| | | | | NS (ft) | EW (ft) | Vsect (ft) | |
| 6411.00 | 23.28 | 278.03 | 6238.24 | 74.03 | -764.11 | -381.33 | 1.92 |
| 6496.00 | 23.95 | 276.46 | 6316.12 | 78.32 | -797.88 | -399.11 | 1.09 |
| 6581.00 | 24.52 | 278.31 | 6393.63 | 82.81 | -832.48 | -417.42 | 1.11 |
| 6666.00 | 25.00 | 275.68 | 6470.82 | 87.13 | -867.80 | -435.87 | 1.42 |
| 6751.00 | 24.56 | 279.41 | 6548.00 | 91.80 | -903.10 | -454.62 | 1.91 |
| 6836.00 | 24.07 | 274.74 | 6625.47 | 96.12 | -937.81 | -472.81 | 2.33 |
| 6879.00 | 23.58 | 270.95 | 6664.81 | 96.99 | -955.15 | -480.73 | 3.74 |
| 6929.00 | 22.74 | 269.84 | 6710.78 | 97.13 | -974.81 | -488.93 | 1.88 |
| 6971.00 | 20.15 | 262.27 | 6749.87 | 96.13 | -990.10 | -494.31 | 9.03 |
| 7014.00 | 19.70 | 247.68 | 6790.33 | 92.38 | -1004.16 | -496.66 | 11.58 |
| 7056.00 | 20.29 | 237.22 | 6829.81 | 85.75 | -1016.83 | -495.81 | 8.63 |
| 7099.00 | 21.74 | 227.35 | 6869.96 | 76.31 | -1028.96 | -492.19 | 8.87 |
| 7141.00 | 22.32 | 220.36 | 6908.90 | 64.97 | -1039.85 | -486.32 | 6.40 |
| 7184.00 | 23.77 | 213.15 | 6948.48 | 51.48 | -1049.88 | -478.15 | 7.37 |
| 7227.00 | 24.36 | 202.15 | 6987.76 | 36.01 | -1057.96 | -467.36 | 10.50 |
| 7269.00 | 24.83 | 189.93 | 7025.97 | 19.29 | -1062.75 | -454.08 | 12.15 |
| 7311.00 | 26.39 | 178.63 | 7063.87 | 1.26 | -1064.05 | -438.18 | 12.19 |
| 7353.00 | 28.18 | 171.59 | 7101.21 | -17.88 | -1062.38 | -420.03 | 8.78 |
| 7396.00 | 30.05 | 166.45 | 7138.78 | -38.40 | -1058.37 | -399.68 | 7.26 |
| 7438.00 | 32.24 | 161.68 | 7174.73 | -59.26 | -1052.38 | -378.20 | 7.85 |
| 7481.00 | 36.07 | 159.43 | 7210.31 | -82.01 | -1044.32 | -354.15 | 9.38 |
| 7523.00 | 38.81 | 161.94 | 7243.65 | -106.10 | -1035.90 | -328.72 | 7.47 |
| 7566.00 | 42.41 | 161.67 | 7276.29 | -132.69 | -1027.16 | -300.89 | 8.40 |
| 7609.00 | 45.59 | 160.38 | 7307.22 | -160.93 | -1017.44 | -271.15 | 7.67 |
| 7651.00 | 50.58 | 159.19 | 7335.27 | -190.24 | -1006.63 | -239.99 | 12.07 |
| 7694.00 | 56.31 | 158.01 | 7360.87 | -222.38 | -994.02 | -205.50 | 13.50 |
| 7736.00 | 61.38 | 156.55 | 7382.59 | -255.52 | -980.13 | -169.59 | 12.44 |
| 7779.00 | 66.16 | 155.13 | 7401.59 | -290.70 | -964.34 | -131.03 | 11.49 |
| 7822.00 | 69.99 | 153.46 | 7417.65 | -326.63 | -947.04 | -91.16 | 9.62 |
| 7864.00 | 73.82 | 151.25 | 7430.69 | -361.98 | -928.51 | -51.32 | 10.40 |
| 7907.00 | 77.28 | 151.73 | 7441.42 | -398.56 | -908.64 | -9.80 | 8.12 |
| 7951.00 | 80.84 | 151.45 | 7449.77 | -436.56 | -888.09 | 33.28 | 8.10 |
| 7993.00 | 84.86 | 150.54 | 7455.00 | -472.99 | -867.88 | 74.80 | 9.81 |
| 8036.00 | 88.36 | 149.47 | 7457.54 | -510.16 | -846.43 | 117.50 | 8.52 |
| 8122.00 | 92.06 | 146.10 | 7457.23 | -582.90 | -800.59 | 202.65 | 5.82 |
| 8207.00 | 93.32 | 144.22 | 7453.24 | -652.58 | -752.09 | 286.10 | 2.66 |
| 8292.00 | 91.64 | 144.54 | 7449.56 | -721.61 | -702.63 | 369.35 | 2.01 |
| 8378.00 | 88.36 | 146.37 | 7449.56 | -792.43 | -653.88 | 453.95 | 4.37 |
| 8463.00 | 88.71 | 146.61 | 7451.73 | -863.28 | -606.97 | 537.82 | 0.50 |
| 8548.00 | 88.92 | 146.16 | 7453.50 | -934.05 | -559.92 | 621.67 | 0.58 |
| 8633.00 | 88.64 | 145.46 | 7455.31 | -1004.35 | -512.17 | 705.37 | 0.89 |
| 8718.00 | 89.90 | 145.56 | 7456.40 | -1074.40 | -464.04 | 789.01 | 1.49 |
| 8803.00 | 89.69 | 145.27 | 7456.71 | -1144.38 | -415.79 | 872.63 | 0.42 |
| 8888.00 | 90.87 | 146.25 | 7456.29 | -1214.65 | -367.97 | 956.34 | 1.81 |
| 8973.00 | 88.71 | 146.02 | 7456.61 | -1285.22 | -320.60 | 1040.13 | 2.56 |
| 9058.00 | 90.45 | 145.08 | 7457.23 | -1355.30 | -272.52 | 1123.78 | 2.33 |
| 9144.00 | 88.43 | 147.42 | 7458.07 | -1426.80 | -224.75 | 1208.59 | 3.60 |
| 9229.00 | 89.06 | 148.82 | 7459.93 | -1498.95 | -179.87 | 1292.81 | 1.80 |
| 9314.00 | 91.01 | 146.63 | 7459.88 | -1570.81 | -134.48 | 1376.97 | 3.45 |
| 9400.00 | 89.97 | 149.06 | 7459.15 | -1643.61 | -74.15 | 1462.15 | 3.08 |

RECEIVED

MAY 21 2012

| Depth (ft) | Inc (deg) | Azm (deg) | TVD (ft) | Well Head | | Vsect (ft) | Dogleg (deg/100ft) |
|---------------|--------------|--------------|-------------|------------|------------|---------------|-----------------------|
| | | | | NS (ft) | EW (ft) | | |
| 9485.00 | 88.15 | 151.00 | 7460.55 | -1717.23 | -46.27 | 1546.70 | 3.12 |
| 9569.00 | 89.34 | 149.73 | 7462.39 | -1790.22 | -4.74 | 1630.31 | 2.07 |
| 9655.00 | 88.01 | 148.64 | 7464.39 | -1864.06 | 39.30 | 1715.72 | 1.99 |
| 9740.00 | 87.03 | 146.48 | 7468.06 | -1935.72 | 84.84 | 1799.77 | 2.79 |
| 9825.00 | 90.17 | 146.15 | 7470.14 | -2006.42 | 131.97 | 1883.58 | 3.72 |
| 9910.00 | 90.94 | 145.70 | 7469.31 | -2076.83 | 179.58 | 1967.33 | 1.05 |
| 9995.00 | 91.57 | 144.33 | 7467.44 | -2146.45 | 228.30 | 2050.82 | 1.77 |
| 10080.00 | 90.11 | 141.97 | 7466.19 | -2214.46 | 279.27 | 2133.76 | 3.28 |
| 10166.00 | 92.69 | 144.28 | 7464.10 | -2283.22 | 330.85 | 2217.64 | 4.03 |
| 10251.00 | 93.74 | 145.15 | 7459.33 | -2352.49 | 379.87 | 2300.94 | 1.60 |
| 10336.00 | 91.57 | 143.67 | 7455.39 | -2421.53 | 429.29 | 2384.18 | 3.09 |
| 10421.00 | 91.57 | 146.10 | 7453.05 | -2491.03 | 478.16 | 2467.62 | 2.85 |
| 10507.00 | 89.69 | 144.45 | 7452.11 | -2561.70 | 527.15 | 2552.17 | 2.91 |
| 10592.00 | 90.25 | 146.86 | 7452.16 | -2631.87 | 575.10 | 2635.85 | 2.91 |
| 10677.00 | 91.85 | 148.10 | 7450.61 | -2703.53 | 620.79 | 2719.95 | 2.39 |
| 10762.00 | 90.17 | 148.98 | 7449.10 | -2776.02 | 665.14 | 2804.26 | 2.23 |
| 10847.00 | 90.10 | 150.37 | 7448.89 | -2849.39 | 708.06 | 2888.78 | 1.64 |
| 10932.00 | 91.08 | 152.62 | 7448.01 | -2924.07 | 748.62 | 2973.53 | 2.88 |
| 11018.00 | 90.66 | 152.49 | 7446.70 | -3000.38 | 788.25 | 3059.39 | 0.51 |
| 11103.00 | 90.52 | 153.01 | 7445.82 | -3075.95 | 827.17 | 3144.27 | 0.63 |
| 11188.00 | 89.41 | 154.91 | 7445.87 | -3152.31 | 864.49 | 3229.22 | 2.59 |
| 11273.00 | 87.59 | 157.31 | 7448.10 | -3229.99 | 898.90 | 3314.18 | 3.54 |
| 11359.00 | 88.22 | 154.98 | 7451.25 | -3308.58 | 933.66 | 3400.11 | 2.80 |
| 11444.00 | 90.10 | 153.50 | 7452.49 | -3385.12 | 970.59 | 3485.07 | 2.82 |
| 11526.00 | 87.10 | 154.31 | 7454.49 | -3458.73 | 1006.64 | 3566.99 | 3.80 |
| 11611.00 | 82.82 | 148.05 | 7461.97 | -3532.87 | 1047.42 | 3651.33 | 8.90 |
| 11697.00 | 87.52 | 142.67 | 7469.21 | -3603.32 | 1096.11 | 3735.56 | 8.29 |
| 11782.00 | 88.57 | 141.95 | 7472.12 | -3670.54 | 1148.05 | 3818.18 | 1.50 |
| 11867.00 | 85.98 | 141.73 | 7476.16 | -3737.29 | 1200.50 | 3900.59 | 3.06 |
| 11952.00 | 87.73 | 142.11 | 7480.83 | -3804.10 | 1252.85 | 3983.00 | 2.11 |
| 12037.00 | 89.48 | 145.68 | 7482.90 | -3872.74 | 1302.91 | 4066.14 | 4.68 |
| 12122.00 | 88.99 | 146.61 | 7484.04 | -3943.32 | 1350.26 | 4149.94 | 1.23 |
| 12208.00 | 87.94 | 146.05 | 7486.35 | -4014.86 | 1397.92 | 4234.75 | 1.38 |
| 12293.00 | 86.96 | 143.32 | 7490.14 | -4084.15 | 1447.00 | 4318.08 | 3.41 |
| 12378.00 | 88.64 | 142.11 | 7493.40 | -4151.72 | 1498.45 | 4400.82 | 2.43 |
| 12463.00 | 88.01 | 141.59 | 7495.89 | -4218.54 | 1550.93 | 4483.30 | 0.96 |
| 12549.00 | 88.92 | 141.48 | 7498.20 | -4285.85 | 1604.41 | 4566.64 | 1.07 |
| 12634.00 | 90.87 | 144.04 | 7498.36 | -4353.51 | 1655.84 | 4649.45 | 3.80 |
| 12719.00 | 91.64 | 144.26 | 7496.49 | -4422.39 | 1705.61 | 4732.69 | 0.94 |
| 12804.00 | 90.73 | 144.23 | 7494.73 | -4491.35 | 1755.27 | 4815.96 | 1.07 |
| 12890.00 | 90.03 | 143.88 | 7494.15 | -4560.97 | 1805.75 | 4900.18 | 0.91 |
| 12975.00 | 87.87 | 141.46 | 7495.71 | -4628.54 | 1857.28 | 4982.95 | 3.83 |
| 13060.00 | 88.43 | 138.34 | 7498.46 | -4693.51 | 1912.00 | 5064.66 | 3.73 |
| 13145.00 | 89.41 | 138.30 | 7500.06 | -4756.98 | 1968.51 | 5145.74 | 1.15 |
| 13230.00 | 90.03 | 138.77 | 7500.48 | -4820.68 | 2024.79 | 5226.93 | 0.92 |
| 13316.00 | 93.11 | 141.47 | 7498.12 | -4886.63 | 2079.91 | 5309.70 | 4.76 |
| 13401.00 | 92.69 | 142.97 | 7493.81 | -4953.72 | 2131.91 | 5392.23 | 1.83 |
| 13486.00 | 91.92 | 142.89 | 7490.39 | -5021.49 | 2183.11 | 5475.05 | 0.91 |
| 13571.00 | 91.15 | 142.83 | 7488.11 | -5089.23 | 2234.40 | 5557.88 | 0.91 |
| 13656.00 | 90.03 | 143.06 | 7487.23 | -5157.06 | 2291.62 | 5640.76 | 1.34 |

RECEIVED

MAY 21 2012

| Depth (ft) | Inc (deg) | Azm (deg) | TVD (ft) | Well Head | | VSect (ft) | Dogleg (deg/100ft) |
|---------------|--------------|--------------|-------------|------------|------------|---------------|-----------------------|
| | | | | NS (ft) | EW (ft) | | |
| 13742.00 | 89.20 | 142.64 | 7487.81 | -5225.60 | 2337.55 | 5724.58 | 1.09 |
| 13827.00 | 88.29 | 142.95 | 7489.67 | -5293.28 | 2388.94 | 5807.40 | 1.13 |
| 13852.00 | 88.15 | 142.73 | 7490.45 | -5313.20 | 2404.04 | 5831.75 | 1.03 |

Vertical Section is 5897.97 ft along the target direction of 155.75 deg at a measured depth of 13920.00 ft.
Horizontal Displacement is 5898.02 ft along the well bore azimuth of 155.51 deg.
The total correction is -8.62 deg relative to Grid North.

RECEIVED

MAY 21 2012

WV GEOLOGICAL SURVEY
MORGANTOWN, WV