

**ACTUAL WELLPATH REPORT (CSV version)**

Survey Date: 6/19/2015  
 Customer: Consol Energy  
 Job: 11048462  
 Well: OXFD13AHS  
 Field: Marcellus Shale  
 Rig: Patterson / UTI # 805  
 Location: Doddridge Co.

WV

End Depth: 12613.25 ft  
 End TVD: 6762.61 ft  
 Vertical Section: 5919.38 ft @ 339.99 deg  
 Horizontal Displacement: 6039.50 ft @ 328.54

Method: Minimum Curvature  
 Magnetic Reference: Grid North  
 Target Direction: 339.99 deg  
 Total Magnetic Field: 52271 nT  
 Magnetic Dip Angle: 66.65 deg  
 Magnetic Declination: -7.77 deg  
 Grid Convergence: -0.80 deg  
 Total Correction: -6.97 deg

Tie-On Depth: 0.00 ft  
 Tie-On TVD: 0.00 ft  
 Tie-On Inclination: 0.00 deg  
 Tie-On Azimuth: 0.00 deg  
 Tie-On NS: 0.00 ft  
 Tie-On EW: 0.00 ft

| Depth (ft) | Inc (deg) | Azm (deg) | TVD (ft) | NS (ft) | EW (ft) | Dogleg (deg/100ft) | VSect (ft) |
|------------|-----------|-----------|----------|---------|---------|--------------------|------------|
| 29         | 0         | 360       | 29       | 0       | 0       | 0                  | 0          |
| 100        | 0.81      | 53.76     | 100      | 0.3     | 0.4     | 1.14               | 0.14       |
| 200        | 0.2       | 170.89    | 199.99   | 0.54    | 1       | 0.92               | 0.17       |
| 300        | 0.19      | 279.68    | 299.99   | 0.4     | 0.87    | 0.32               | 0.08       |
| 400        | 0.3       | 341.87    | 399.99   | 0.67    | 0.62    | 0.27               | 0.42       |
| 500        | 0.48      | 346.88    | 499.99   | 1.33    | 0.45    | 0.18               | 1.1        |
| 600        | 0.03      | 263.34    | 599.99   | 1.74    | 0.32    | 0.48               | 1.52       |
| 700        | 0.17      | 281.32    | 699.99   | 1.76    | 0.15    | 0.14               | 1.6        |
| 800        | 0.6       | 298.67    | 799.99   | 2.04    | -0.45   | 0.44               | 2.07       |
| 900        | 0.58      | 330.3     | 899.98   | 2.73    | -1.16   | 0.32               | 2.97       |
| 1000       | 0.14      | 41.2      | 999.98   | 3.26    | -1.33   | 0.55               | 3.52       |
| 1100       | 0.21      | 29.41     | 1099.98  | 3.52    | -1.16   | 0.08               | 3.7        |
| 1200       | 0.17      | 323.84    | 1199.98  | 3.8     | -1.16   | 0.21               | 3.96       |
| 1300       | 0.32      | 8.01      | 1299.98  | 4.19    | -1.21   | 0.23               | 4.35       |
| 1400       | 0.16      | 350.89    | 1399.98  | 4.61    | -1.19   | 0.17               | 4.74       |
| 1500       | 0.46      | 305.41    | 1499.98  | 4.98    | -1.54   | 0.37               | 5.2        |
| 1600       | 0.4       | 299.54    | 1599.97  | 5.38    | -2.17   | 0.07               | 5.8        |
| 1700       | 0.51      | 254.47    | 1699.97  | 5.43    | -2.9    | 0.36               | 6.1        |
| 1800       | 0.34      | 240.78    | 1799.97  | 5.17    | -3.59   | 0.2                | 6.09       |
| 1900       | 0.48      | 287.66    | 1899.96  | 5.15    | -4.25   | 0.35               | 6.3        |
| 2000       | 0.22      | 326.27    | 1999.96  | 5.44    | -4.76   | 0.34               | 6.74       |
| 2100       | 0.22      | 256.16    | 2099.96  | 5.55    | -5.05   | 0.25               | 6.95       |
| 2200       | 0.24      | 288.46    | 2199.96  | 5.57    | -5.43   | 0.13               | 7.1        |
| 2300       | 0.22      | 301.53    | 2299.96  | 5.74    | -5.8    | 0.06               | 7.38       |
| 2400       | 0.36      | 302.94    | 2399.96  | 6.01    | -6.22   | 0.14               | 7.78       |
| 2500       | 0.48      | 279.4     | 2499.96  | 6.25    | -6.9    | 0.21               | 8.23       |
| 2600       | 0.49      | 299.11    | 2599.95  | 6.53    | -7.69   | 0.17               | 8.76       |

|      |       |        |         |         |          |       |        |
|------|-------|--------|---------|---------|----------|-------|--------|
| 2700 | 0.5   | 276.89 | 2699.95 | 6.79    | -8.49    | 0.19  | 9.28   |
| 2800 | 0.52  | 315.79 | 2799.95 | 7.17    | -9.24    | 0.34  | 9.9    |
| 2975 | 0.83  | 282.09 | 2974.93 | 8       | -11.04   | 0.28  | 11.29  |
| 3069 | 4.25  | 249.48 | 3068.83 | 6.92    | -14.97   | 3.81  | 11.62  |
| 3162 | 7.02  | 252.78 | 3161.37 | 4.03    | -23.62   | 3     | 11.87  |
| 3256 | 10.26 | 252.7  | 3254.29 | -0.16   | -37.11   | 3.45  | 12.55  |
| 3350 | 13.39 | 252.42 | 3346.29 | -5.94   | -55.48   | 3.33  | 13.4   |
| 3444 | 16.36 | 254.38 | 3437.13 | -12.79  | -78.61   | 3.2   | 14.88  |
| 3537 | 17.48 | 252.15 | 3526.1  | -20.6   | -104.52  | 1.39  | 16.41  |
| 3631 | 17.82 | 251.39 | 3615.68 | -29.52  | -131.59  | 0.44  | 17.29  |
| 3725 | 16.86 | 249.77 | 3705.4  | -38.82  | -158.01  | 1.14  | 17.59  |
| 3818 | 17.94 | 249.41 | 3794.15 | -48.52  | -184.08  | 1.17  | 17.39  |
| 3911 | 19.82 | 247.93 | 3882.14 | -59.49  | -212.1   | 2.09  | 16.68  |
| 4005 | 19.28 | 247.55 | 3970.72 | -71.4   | -241.21  | 0.59  | 15.45  |
| 4099 | 18.08 | 252.82 | 4059.77 | -81.64  | -269.49  | 2.2   | 15.51  |
| 4192 | 17.11 | 251.22 | 4148.42 | -90.3   | -296.23  | 1.17  | 16.51  |
| 4286 | 17.44 | 249.06 | 4238.18 | -99.79  | -322.48  | 0.77  | 16.58  |
| 4379 | 18.77 | 248.51 | 4326.58 | -110.25 | -349.42  | 1.44  | 15.97  |
| 4473 | 19.74 | 250.23 | 4415.32 | -121.16 | -378.43  | 1.2   | 15.65  |
| 4567 | 17.74 | 255.82 | 4504.34 | -130.04 | -407.26  | 2.86  | 17.17  |
| 4661 | 18.23 | 253.31 | 4593.74 | -137.77 | -435.23  | 0.98  | 19.47  |
| 4754 | 18.24 | 249.86 | 4682.08 | -146.96 | -462.83  | 1.16  | 20.28  |
| 4848 | 18.78 | 254.32 | 4771.22 | -156.12 | -491.21  | 1.61  | 21.39  |
| 4942 | 17.37 | 252.44 | 4860.58 | -164.44 | -519.15  | 1.62  | 23.13  |
| 5035 | 18.07 | 250.88 | 4949.17 | -173.35 | -546.02  | 0.91  | 23.95  |
| 5129 | 19    | 248.56 | 5038.29 | -183.72 | -574.03  | 1.26  | 23.8   |
| 5223 | 18.67 | 252.45 | 5127.26 | -193.85 | -602.62  | 1.38  | 24.06  |
| 5316 | 18.37 | 254.86 | 5215.44 | -202.17 | -630.96  | 0.88  | 25.94  |
| 5410 | 18.45 | 257.14 | 5304.64 | -209.35 | -659.76  | 0.77  | 29.05  |
| 5503 | 17.65 | 258.22 | 5393.06 | -215.5  | -687.91  | 0.93  | 32.9   |
| 5597 | 18.36 | 254.72 | 5482.46 | -222.31 | -716.14  | 1.38  | 36.16  |
| 5691 | 17.83 | 252.25 | 5571.81 | -230.6  | -744.13  | 0.99  | 37.95  |
| 5785 | 18.2  | 250.73 | 5661.2  | -239.83 | -771.7   | 0.64  | 38.71  |
| 5879 | 17.96 | 249.39 | 5750.56 | -249.78 | -799.12  | 0.51  | 38.75  |
| 5972 | 18.39 | 251.8  | 5838.92 | -259.41 | -826.48  | 0.93  | 39.06  |
| 6066 | 19.42 | 251.5  | 5927.85 | -269    | -855.38  | 1.1   | 39.94  |
| 6160 | 20.13 | 255.31 | 6016.31 | -278.06 | -885.85  | 1.57  | 41.85  |
| 6188 | 19.45 | 255.44 | 6042.66 | -280.45 | -895.02  | 2.43  | 42.74  |
| 6242 | 19.08 | 256.35 | 6093.63 | -284.8  | -912.3   | 0.88  | 44.57  |
| 6304 | 18.42 | 262.57 | 6152.35 | -288.45 | -931.86  | 3.39  | 47.83  |
| 6335 | 20.22 | 266.29 | 6181.6  | -289.43 | -942.07  | 7.03  | 50.4   |
| 6381 | 24.51 | 272.99 | 6224.14 | -289.45 | -959.54  | 10.83 | 56.36  |
| 6428 | 29.35 | 275.75 | 6266.03 | -287.79 | -980.75  | 10.63 | 65.18  |
| 6474 | 34.63 | 277.37 | 6305.03 | -284.98 | -1004.95 | 11.63 | 76.1   |
| 6522 | 37.24 | 280.11 | 6343.9  | -280.68 | -1032.78 | 6.39  | 89.66  |
| 6568 | 35.44 | 289.03 | 6380.97 | -273.88 | -1059.11 | 12.13 | 105.06 |
| 6616 | 34.51 | 298.84 | 6420.34 | -262.78 | -1084.19 | 11.86 | 124.08 |
| 6662 | 35.29 | 307.32 | 6458.09 | -248.43 | -1106.19 | 10.68 | 145.09 |
| 6710 | 36.11 | 313.63 | 6497.08 | -230.25 | -1127.46 | 7.86  | 169.45 |
| 6756 | 35.35 | 317.77 | 6534.43 | -211.04 | -1146.22 | 5.51  | 193.91 |
| 6803 | 35.99 | 320.71 | 6572.61 | -190.29 | -1164.1  | 3.89  | 219.54 |
| 6849 | 39.58 | 323.37 | 6608.96 | -168.06 | -1181.41 | 8.57  | 246.35 |
| 6897 | 43.95 | 326.6  | 6644.76 | -141.86 | -1199.72 | 10.15 | 277.22 |
| 6943 | 47.65 | 329.27 | 6676.83 | -113.91 | -1217.2  | 9.05  | 309.47 |
| 6991 | 50.95 | 330.57 | 6708.12 | -82.43  | -1235.43 | 7.17  | 345.29 |
| 7037 | 52.84 | 329.79 | 6736.51 | -51.03  | -1253.43 | 4.32  | 380.96 |
| 7085 | 54.3  | 329.41 | 6765.01 | -17.72  | -1272.97 | 3.11  | 418.94 |
| 7131 | 58.62 | 333.77 | 6790.43 | 16      | -1291.17 | 12.27 | 456.85 |

|       |       |        |         |         |          |       |         |
|-------|-------|--------|---------|---------|----------|-------|---------|
| 7178  | 63.75 | 337.9  | 6813.08 | 53.57   | -1307.98 | 13.35 | 497.9   |
| 7224  | 69.57 | 338.3  | 6831.3  | 92.74   | -1323.73 | 12.68 | 540.1   |
| 7263  | 72.09 | 337.48 | 6844.11 | 126.86  | -1337.59 | 6.76  | 576.91  |
| 7310  | 75.92 | 340.03 | 6857.06 | 168.96  | -1353.95 | 9.67  | 622.06  |
| 7356  | 80.21 | 341.41 | 6866.57 | 211.44  | -1368.8  | 9.78  | 667.05  |
| 7403  | 85.19 | 341.34 | 6872.54 | 255.6   | -1383.69 | 10.6  | 713.64  |
| 7450  | 89.63 | 341.44 | 6874.66 | 300.09  | -1398.67 | 9.45  | 760.57  |
| 7477  | 91.36 | 341.1  | 6874.43 | 325.65  | -1407.33 | 6.53  | 787.56  |
| 7544  | 91.85 | 338.87 | 6872.55 | 388.58  | -1430.26 | 3.41  | 854.53  |
| 7637  | 92.59 | 337.82 | 6868.95 | 474.95  | -1464.55 | 1.38  | 947.42  |
| 7731  | 93.33 | 338.35 | 6864.1  | 562.04  | -1499.58 | 0.97  | 1041.24 |
| 7824  | 93.21 | 339.65 | 6858.79 | 648.72  | -1532.86 | 1.4   | 1134.08 |
| 7918  | 92.16 | 343.39 | 6854.39 | 737.76  | -1562.61 | 4.13  | 1227.92 |
| 8012  | 91.6  | 343.87 | 6851.3  | 827.9   | -1589.09 | 0.78  | 1321.68 |
| 8106  | 91.6  | 343.35 | 6848.68 | 918.04  | -1615.61 | 0.55  | 1415.46 |
| 8200  | 91.85 | 342.19 | 6845.85 | 1007.78 | -1643.44 | 1.26  | 1509.3  |
| 8293  | 91.6  | 340.82 | 6843.05 | 1095.93 | -1672.92 | 1.5   | 1602.22 |
| 8387  | 91.54 | 339.04 | 6840.47 | 1184.19 | -1705.17 | 1.89  | 1696.19 |
| 8480  | 91.54 | 339.17 | 6837.97 | 1271.04 | -1738.32 | 0.14  | 1789.14 |
| 8574  | 91.36 | 340.42 | 6835.59 | 1359.23 | -1770.78 | 1.34  | 1883.11 |
| 8667  | 91.6  | 339.11 | 6833.19 | 1446.46 | -1802.93 | 1.43  | 1976.07 |
| 8761  | 91.54 | 339.14 | 6830.62 | 1534.25 | -1836.42 | 0.07  | 2070.03 |
| 8855  | 91.6  | 340.13 | 6828.04 | 1622.34 | -1869.12 | 1.05  | 2163.99 |
| 8948  | 91.91 | 340.55 | 6825.19 | 1709.88 | -1900.39 | 0.56  | 2256.94 |
| 9042  | 91.79 | 343.26 | 6822.16 | 1799.18 | -1929.57 | 2.88  | 2350.83 |
| 9135  | 91.79 | 344.44 | 6819.25 | 1888.46 | -1955.42 | 1.27  | 2443.58 |
| 9229  | 91.91 | 342.95 | 6816.22 | 1978.63 | -1981.8  | 1.59  | 2537.33 |
| 9323  | 91.42 | 341.34 | 6813.49 | 2068.06 | -2010.61 | 1.79  | 2631.22 |
| 9416  | 91.6  | 338.85 | 6811.04 | 2155.47 | -2042.26 | 2.68  | 2724.18 |
| 9510  | 91.42 | 337.29 | 6808.56 | 2242.64 | -2077.35 | 1.67  | 2818.09 |
| 9604  | 91.54 | 335.8  | 6806.13 | 2328.84 | -2114.75 | 1.59  | 2911.89 |
| 9697  | 91.6  | 335.87 | 6803.58 | 2413.66 | -2152.81 | 0.1   | 3004.61 |
| 9791  | 91.36 | 336.04 | 6801.15 | 2499.47 | -2191.1  | 0.31  | 3098.34 |
| 9885  | 91.29 | 338.6  | 6798.98 | 2586.17 | -2227.33 | 2.72  | 3192.21 |
| 9978  | 91.29 | 340.34 | 6796.89 | 2673.24 | -2259.93 | 1.87  | 3285.18 |
| 10072 | 91.23 | 340.15 | 6794.82 | 2761.69 | -2291.7  | 0.21  | 3379.15 |
| 10166 | 91.42 | 341.95 | 6792.65 | 2850.56 | -2322.21 | 1.93  | 3473.11 |
| 10259 | 91.23 | 341.48 | 6790.5  | 2938.84 | -2351.38 | 0.54  | 3566.04 |
| 10353 | 91.23 | 340.17 | 6788.48 | 3027.61 | -2382.25 | 1.39  | 3660.01 |
| 10447 | 91.3  | 338.84 | 6786.4  | 3115.63 | -2415.15 | 1.42  | 3753.98 |
| 10540 | 91.48 | 339.74 | 6784.15 | 3202.6  | -2448.03 | 0.99  | 3846.94 |
| 10634 | 91.23 | 340.55 | 6781.92 | 3290.98 | -2479.95 | 0.9   | 3940.92 |
| 10727 | 91.17 | 340.54 | 6779.98 | 3378.65 | -2510.92 | 0.07  | 4033.89 |
| 10821 | 91.36 | 338.89 | 6777.9  | 3466.8  | -2543.5  | 1.77  | 4127.86 |
| 10914 | 90.56 | 337.58 | 6776.34 | 3553.16 | -2577.98 | 1.65  | 4220.8  |
| 11008 | 90.8  | 338.62 | 6775.23 | 3640.36 | -2613.03 | 1.14  | 4314.75 |
| 11102 | 90.37 | 343.01 | 6774.27 | 3729.12 | -2643.91 | 4.69  | 4408.71 |
| 11195 | 90.74 | 340.89 | 6773.37 | 3817.53 | -2672.73 | 2.31  | 4501.64 |
| 11289 | 91.48 | 340.58 | 6771.54 | 3906.25 | -2703.74 | 0.85  | 4595.62 |
| 11378 | 92.77 | 339.46 | 6768.24 | 3989.83 | -2734.12 | 1.92  | 4684.55 |
| 11471 | 91.05 | 340.55 | 6765.14 | 4077.17 | -2765.9  | 2.19  | 4777.5  |
| 11565 | 90.49 | 340.64 | 6763.88 | 4165.83 | -2797.13 | 0.6   | 4871.48 |
| 11658 | 90.06 | 340.87 | 6763.43 | 4253.63 | -2827.79 | 0.52  | 4964.47 |
| 11752 | 90.99 | 342.86 | 6762.57 | 4342.95 | -2857.04 | 2.34  | 5058.41 |
| 11846 | 89.88 | 341.4  | 6761.86 | 4432.41 | -2885.88 | 1.95  | 5152.34 |
| 11939 | 90.86 | 342.41 | 6761.26 | 4520.8  | -2914.77 | 1.51  | 5245.28 |
| 12033 | 89.2  | 339.81 | 6761.21 | 4609.73 | -2945.2  | 3.28  | 5339.25 |
| 12127 | 89.03 | 339.46 | 6762.66 | 4697.84 | -2977.9  | 0.41  | 5433.24 |

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|-------|-------|--------|---------|---------|----------|------|---------|
| 12220 | 88.83 | 339.36 | 6764.4  | 4784.89 | -3010.6  | 0.24 | 5526.22 |
| 12314 | 89.82 | 338.39 | 6765.51 | 4872.56 | -3044.48 | 1.47 | 5620.19 |
| 12408 | 90.62 | 339.58 | 6765.15 | 4960.31 | -3078.19 | 1.53 | 5714.18 |
| 12502 | 90.8  | 338.91 | 6763.98 | 5048.2  | -3111.5  | 0.74 | 5808.16 |
| 12548 | 90.68 | 338.79 | 6763.39 | 5091.1  | -3128.09 | 0.37 | 5854.15 |