

Anadarko Petroleum Corp.

Weld County, CO (NAD 83)

Sec. 8-T2N-R65W

Nichols 28C-5HZ

Plan C Rev 0

Design: Actual Field Surveys

Sperry Drilling Services

Standard Report

09 January, 2013

Well Coordinates: 1,299,896.61 N, 3,227,574.96 E (40° 09' 13.47" N, 104° 41' 08.99" W)

Ground Level: 4,911.00 ft

Local Coordinate Origin:

Centered on Well Nichols 28C-5HZ

Viewing Datum:

RKB=16 @ 4927.00ft (Xtreme 22)

TVDs to System:

N

North Reference:

True

Unit System:

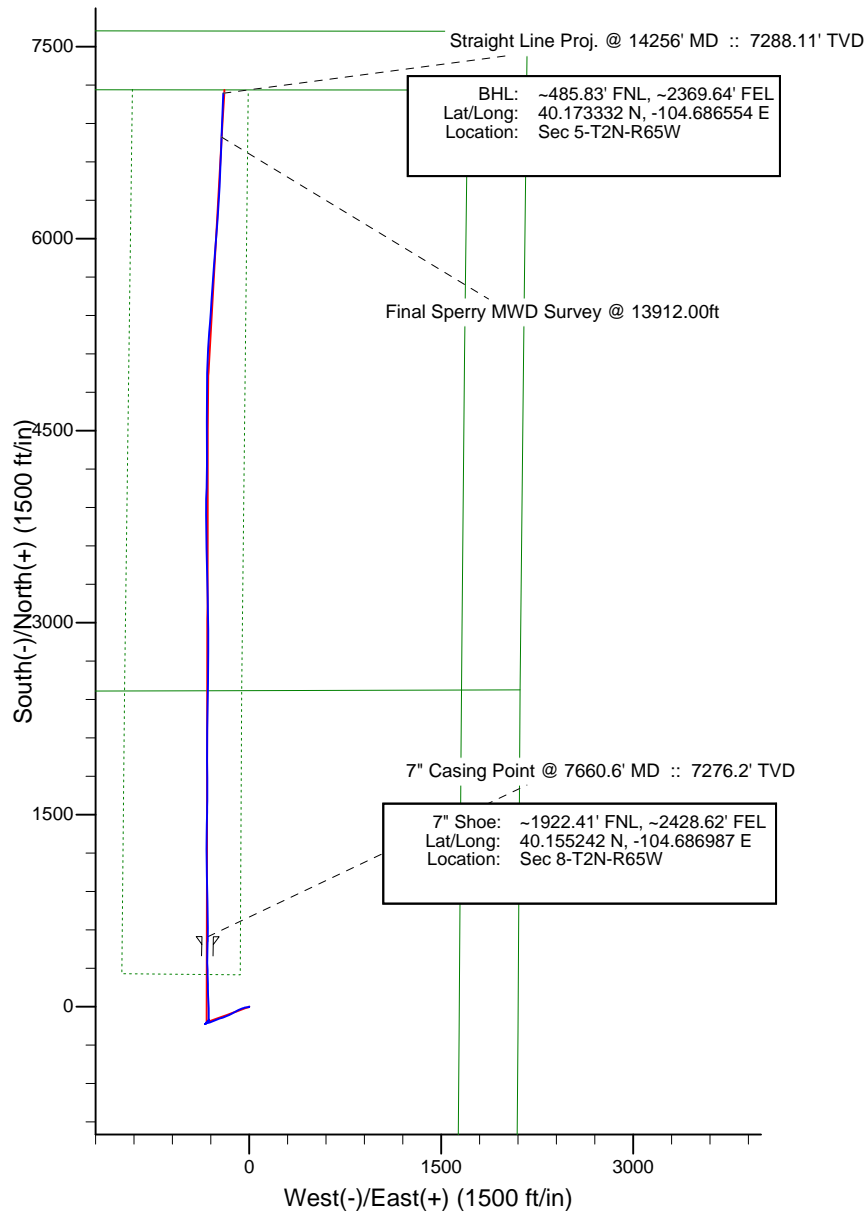
API - US Survey Feet - Custom

Geodetic Scale Factor Applied

Version: 2003.16 Build: 43I

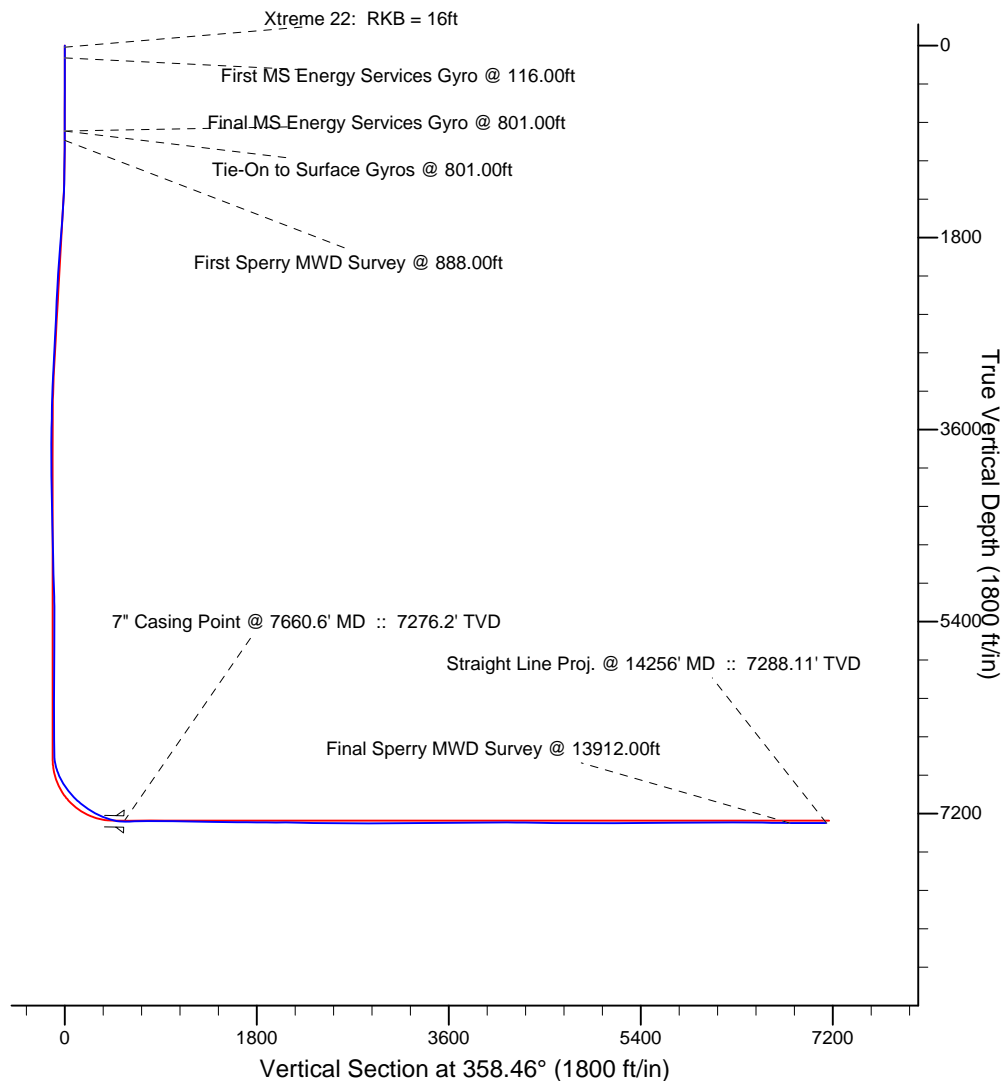
HALLIBURTON

Project: Weld County, CO (NAD 83)
 Site: Sec. 8-T2N-R65W
 Well: Nichols 28C-5HZ



LEGEND

- ▲ Nichols 28C-5HZ, Plan C Rev 0, Plan C Rev 0 Proposal V0
- Actual Field Surveys



*Footages are calculated assuming section lines parallel N/S and E/W.

Design Report for Nichols 28C-5HZ - Actual Field Surveys

| Measured Depth (ft) | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Vertical Section (ft) | Dogleg Rate (°/100ft) |
|--|-----------------|-------------|---------------------|------------|------------|-----------------------|-----------------------|
| 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 16.00 | 0.00 | 0.00 | 16.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Xtreme 22: RKB = 16ft | | | | | | | |
| 116.00 | 0.29 | 203.96 | 116.00 | -0.23 | -0.10 | -0.23 | 0.29 |
| First MS Energy Services Gyro @ 116.00ft | | | | | | | |
| 216.00 | 0.27 | 175.40 | 216.00 | -0.70 | -0.19 | -0.69 | 0.14 |
| 316.00 | 0.22 | 162.58 | 316.00 | -1.12 | -0.11 | -1.11 | 0.07 |
| 416.00 | 0.01 | 4.72 | 416.00 | -1.29 | -0.05 | -1.29 | 0.23 |
| 516.00 | 0.12 | 51.85 | 516.00 | -1.22 | 0.03 | -1.22 | 0.11 |
| 616.00 | 0.12 | 265.37 | 616.00 | -1.16 | 0.01 | -1.16 | 0.23 |
| 716.00 | 0.15 | 158.97 | 716.00 | -1.29 | -0.05 | -1.29 | 0.22 |
| 801.00 | 0.09 | 249.32 | 801.00 | -1.42 | -0.07 | -1.42 | 0.21 |
| Final MS Energy Services Gyro @ 801.00ft - Tie-On to Surface Gyros @ 801.00ft | | | | | | | |
| 888.00 | 0.88 | 143.89 | 887.99 | -1.98 | 0.26 | -1.99 | 1.04 |
| First Sperry MWD Survey @ 888.00ft | | | | | | | |
| 980.00 | 2.04 | 263.50 | 979.97 | -2.74 | -0.95 | -2.71 | 2.82 |
| 1,073.00 | 3.95 | 268.15 | 1,072.84 | -3.03 | -5.80 | -2.87 | 2.07 |
| 1,164.00 | 5.25 | 259.84 | 1,163.55 | -3.86 | -13.03 | -3.51 | 1.60 |
| 1,256.00 | 6.62 | 263.90 | 1,255.05 | -5.17 | -22.45 | -4.57 | 1.56 |
| 1,347.00 | 9.20 | 253.50 | 1,345.19 | -7.80 | -34.64 | -6.86 | 3.23 |
| 1,438.00 | 10.72 | 250.91 | 1,434.81 | -12.63 | -49.61 | -11.29 | 1.74 |
| 1,527.00 | 10.97 | 249.71 | 1,522.22 | -18.27 | -65.38 | -16.51 | 0.38 |
| 1,620.00 | 10.07 | 242.80 | 1,613.66 | -25.06 | -80.91 | -22.88 | 1.66 |
| 1,711.00 | 10.54 | 242.88 | 1,703.19 | -32.49 | -95.39 | -29.91 | 0.52 |
| 1,803.00 | 9.24 | 237.83 | 1,793.83 | -40.26 | -109.14 | -37.31 | 1.70 |
| 1,981.00 | 8.67 | 244.06 | 1,969.66 | -53.74 | -133.30 | -50.13 | 0.63 |
| 2,152.00 | 9.53 | 243.35 | 2,138.51 | -65.72 | -157.54 | -61.47 | 0.51 |
| 2,409.00 | 8.32 | 250.31 | 2,392.40 | -81.53 | -194.07 | -76.29 | 0.63 |
| 2,495.00 | 8.99 | 254.21 | 2,477.42 | -85.46 | -206.39 | -79.88 | 1.04 |
| 2,581.00 | 9.14 | 252.29 | 2,562.34 | -89.36 | -219.36 | -83.44 | 0.39 |
| 2,753.00 | 8.25 | 247.70 | 2,732.37 | -98.20 | -243.79 | -91.61 | 0.66 |
| 2,839.00 | 7.84 | 249.31 | 2,817.52 | -102.62 | -254.99 | -95.73 | 0.54 |
| 2,925.00 | 9.18 | 248.64 | 2,902.57 | -107.19 | -266.87 | -99.98 | 1.56 |
| 3,096.00 | 8.50 | 248.23 | 3,071.54 | -116.84 | -291.31 | -108.97 | 0.40 |
| 3,182.00 | 8.08 | 250.31 | 3,156.64 | -121.24 | -302.90 | -113.05 | 0.60 |
| 3,268.00 | 6.94 | 252.79 | 3,241.90 | -124.81 | -313.55 | -116.34 | 1.38 |
| 3,354.00 | 6.20 | 255.75 | 3,327.34 | -127.49 | -323.02 | -118.76 | 0.95 |
| 3,439.00 | 4.34 | 259.28 | 3,411.98 | -129.22 | -330.63 | -120.29 | 2.22 |
| 3,525.00 | 2.50 | 238.75 | 3,497.82 | -130.80 | -335.43 | -121.74 | 2.54 |
| 3,611.00 | 2.65 | 231.05 | 3,583.73 | -133.02 | -338.58 | -123.87 | 0.44 |
| 3,697.00 | 1.12 | 252.12 | 3,669.69 | -134.53 | -340.92 | -125.32 | 1.92 |
| 3,782.00 | 1.74 | 247.44 | 3,754.66 | -135.28 | -342.91 | -126.01 | 0.74 |
| 3,868.00 | 0.61 | 246.89 | 3,840.64 | -135.96 | -344.53 | -126.65 | 1.31 |
| 3,954.00 | 1.38 | 73.02 | 3,926.63 | -135.84 | -343.96 | -126.54 | 2.31 |
| 4,040.00 | 1.15 | 53.98 | 4,012.61 | -135.03 | -342.28 | -125.78 | 0.55 |
| 4,211.00 | 1.13 | 45.74 | 4,183.58 | -132.84 | -339.68 | -123.66 | 0.10 |
| 4,383.00 | 1.67 | 35.99 | 4,355.53 | -129.63 | -336.99 | -120.53 | 0.34 |
| 4,554.00 | 2.21 | 22.10 | 4,526.43 | -124.56 | -334.29 | -115.53 | 0.42 |
| 4,639.00 | 2.20 | 34.88 | 4,611.37 | -121.70 | -332.74 | -112.71 | 0.58 |
| 4,725.00 | 1.42 | 49.21 | 4,697.32 | -119.65 | -330.99 | -110.71 | 1.04 |

Design Report for Nichols 28C-5HZ - Actual Field Surveys

| Measured Depth (ft) | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Vertical Section (ft) | Dogleg Rate (°/100ft) |
|--|-----------------|-------------|---------------------|------------|------------|-----------------------|-----------------------|
| 4,811.00 | 1.42 | 69.07 | 4,783.30 | -118.57 | -329.19 | -109.68 | 0.57 |
| 4,982.00 | 2.13 | 42.49 | 4,954.22 | -115.47 | -325.06 | -106.70 | 0.63 |
| 5,154.00 | 2.65 | 31.60 | 5,126.07 | -109.73 | -320.82 | -101.07 | 0.40 |
| 5,240.00 | 1.61 | 49.96 | 5,212.01 | -107.26 | -318.85 | -98.65 | 1.43 |
| 5,325.00 | 0.55 | 170.31 | 5,297.00 | -106.89 | -317.87 | -98.31 | 2.29 |
| 5,497.00 | 0.22 | 104.79 | 5,469.00 | -107.79 | -317.41 | -99.22 | 0.29 |
| 5,669.00 | 0.72 | 80.26 | 5,640.99 | -107.69 | -316.03 | -99.16 | 0.31 |
| 5,840.00 | 0.54 | 112.29 | 5,811.98 | -107.82 | -314.22 | -99.33 | 0.23 |
| 6,097.00 | 0.38 | 186.62 | 6,068.97 | -109.12 | -313.20 | -100.67 | 0.22 |
| 6,269.00 | 0.35 | 239.55 | 6,240.97 | -109.95 | -313.72 | -101.48 | 0.19 |
| 6,526.00 | 0.48 | 312.85 | 6,497.96 | -109.62 | -315.18 | -101.11 | 0.20 |
| 6,615.00 | 0.57 | 310.45 | 6,586.96 | -109.08 | -315.79 | -100.55 | 0.10 |
| 6,702.00 | 3.99 | 16.61 | 6,673.88 | -105.90 | -315.26 | -97.39 | 4.36 |
| 6,744.00 | 9.00 | 0.01 | 6,715.61 | -101.21 | -314.84 | -92.71 | 12.62 |
| 6,788.00 | 14.32 | 354.78 | 6,758.68 | -92.34 | -315.33 | -83.83 | 12.32 |
| 6,830.00 | 18.96 | 359.39 | 6,798.91 | -80.34 | -315.88 | -71.82 | 11.48 |
| 6,874.00 | 23.13 | 0.53 | 6,839.97 | -64.54 | -315.88 | -56.03 | 9.52 |
| 6,916.00 | 27.80 | 359.44 | 6,877.88 | -46.49 | -315.89 | -37.98 | 11.17 |
| 6,960.00 | 31.44 | 357.98 | 6,916.12 | -24.75 | -316.40 | -16.24 | 8.43 |
| 7,002.00 | 34.72 | 358.32 | 6,951.31 | -1.85 | -317.14 | 6.68 | 7.82 |
| 7,045.00 | 38.01 | 358.02 | 6,985.93 | 23.63 | -317.95 | 32.17 | 7.66 |
| 7,087.00 | 41.00 | 357.93 | 7,018.34 | 50.33 | -318.90 | 58.88 | 7.12 |
| 7,131.00 | 44.38 | 358.73 | 7,050.67 | 80.15 | -319.76 | 88.71 | 7.78 |
| 7,173.00 | 48.01 | 358.80 | 7,079.74 | 110.45 | -320.41 | 119.02 | 8.64 |
| 7,217.00 | 51.99 | 358.33 | 7,108.02 | 144.14 | -321.26 | 152.72 | 9.08 |
| 7,259.00 | 52.80 | 358.38 | 7,133.65 | 177.40 | -322.22 | 185.99 | 1.93 |
| 7,303.00 | 55.74 | 357.98 | 7,159.34 | 213.09 | -323.35 | 221.70 | 6.72 |
| 7,345.00 | 58.40 | 358.48 | 7,182.17 | 248.32 | -324.44 | 256.95 | 6.41 |
| 7,388.00 | 63.03 | 359.18 | 7,203.20 | 285.81 | -325.20 | 294.45 | 10.86 |
| 7,430.00 | 66.14 | 359.24 | 7,221.22 | 323.74 | -325.72 | 332.37 | 7.41 |
| 7,474.00 | 69.40 | 359.69 | 7,237.86 | 364.46 | -326.10 | 373.09 | 7.47 |
| 7,516.00 | 72.50 | 0.19 | 7,251.57 | 404.15 | -326.14 | 412.77 | 7.47 |
| 7,560.00 | 76.52 | 0.93 | 7,263.32 | 446.54 | -325.72 | 455.14 | 9.28 |
| 7,602.00 | 81.13 | 2.17 | 7,271.46 | 487.72 | -324.61 | 496.27 | 11.35 |
| 7,642.00 | 87.17 | 1.16 | 7,275.53 | 527.48 | -323.45 | 535.98 | 15.31 |
| 7,660.60 | 88.69 | 0.90 | 7,276.20 | 546.06 | -323.12 | 554.55 | 8.28 |
| 7" Casing Point @ 7660.6' MD :: 7276.2' TVD | | | | | | | |
| 7,713.00 | 92.97 | 0.18 | 7,275.45 | 598.44 | -322.62 | 606.90 | 8.28 |
| 7,805.00 | 91.42 | 358.97 | 7,271.92 | 690.37 | -323.30 | 698.81 | 2.14 |
| 7,896.00 | 89.81 | 358.63 | 7,270.94 | 781.34 | -325.21 | 789.80 | 1.81 |
| 7,986.00 | 89.63 | 359.82 | 7,271.38 | 871.33 | -326.43 | 879.79 | 1.34 |
| 8,078.00 | 90.31 | 359.15 | 7,271.43 | 963.32 | -327.25 | 971.77 | 1.04 |
| 8,171.00 | 88.76 | 358.69 | 7,272.19 | 1,056.30 | -329.01 | 1,064.76 | 1.74 |
| 8,263.00 | 88.52 | 358.39 | 7,274.37 | 1,148.24 | -331.35 | 1,156.73 | 0.42 |
| 8,356.00 | 88.76 | 359.23 | 7,276.58 | 1,241.20 | -333.28 | 1,249.71 | 0.94 |
| 8,447.00 | 89.63 | 1.33 | 7,277.86 | 1,332.18 | -332.84 | 1,340.64 | 2.50 |
| 8,538.00 | 89.38 | 1.36 | 7,278.64 | 1,423.15 | -330.70 | 1,431.53 | 0.28 |
| 8,631.00 | 89.20 | 1.79 | 7,279.80 | 1,516.11 | -328.14 | 1,524.38 | 0.50 |
| 8,723.00 | 89.32 | 0.09 | 7,280.98 | 1,608.09 | -326.64 | 1,616.28 | 1.85 |
| 8,814.00 | 88.95 | 0.04 | 7,282.36 | 1,699.08 | -326.53 | 1,707.24 | 0.41 |
| 8,905.00 | 89.38 | 0.21 | 7,283.68 | 1,790.07 | -326.33 | 1,798.19 | 0.51 |

Design Report for Nichols 28C-5HZ - Actual Field Surveys

| Measured Depth (ft) | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Vertical Section (ft) | Dogleg Rate (°/100ft) |
|---------------------|-----------------|-------------|---------------------|------------|------------|-----------------------|-----------------------|
| 8,997.00 | 89.81 | 359.64 | 7,284.33 | 1,882.06 | -326.45 | 1,890.16 | 0.78 |
| 9,086.00 | 90.06 | 359.02 | 7,284.44 | 1,971.06 | -327.50 | 1,979.15 | 0.75 |
| 9,179.00 | 90.56 | 0.08 | 7,283.93 | 2,064.05 | -328.23 | 2,072.13 | 1.26 |
| 9,270.00 | 88.82 | 0.69 | 7,284.42 | 2,155.04 | -327.61 | 2,163.07 | 2.03 |
| 9,362.00 | 88.33 | 0.85 | 7,286.71 | 2,247.01 | -326.38 | 2,254.97 | 0.56 |
| 9,453.00 | 87.90 | 0.43 | 7,289.71 | 2,337.95 | -325.36 | 2,345.85 | 0.66 |
| 9,539.00 | 90.12 | 0.93 | 7,291.19 | 2,423.93 | -324.34 | 2,431.77 | 2.65 |
| 9,625.00 | 90.06 | 2.40 | 7,291.06 | 2,509.89 | -321.84 | 2,517.63 | 1.71 |
| 9,711.00 | 89.38 | 1.13 | 7,291.48 | 2,595.84 | -319.19 | 2,603.48 | 1.68 |
| 9,797.00 | 89.81 | 359.71 | 7,292.08 | 2,681.84 | -318.56 | 2,689.43 | 1.73 |
| 9,882.00 | 90.06 | 0.17 | 7,292.18 | 2,766.84 | -318.65 | 2,774.40 | 0.62 |
| 9,968.00 | 90.19 | 0.41 | 7,291.99 | 2,852.83 | -318.22 | 2,860.36 | 0.32 |
| 10,140.00 | 89.88 | 358.87 | 7,291.89 | 3,024.83 | -319.30 | 3,032.31 | 0.91 |
| 10,225.00 | 90.93 | 358.19 | 7,291.29 | 3,109.79 | -321.48 | 3,117.31 | 1.47 |
| 10,311.00 | 90.80 | 358.50 | 7,289.99 | 3,195.75 | -323.96 | 3,203.30 | 0.39 |
| 10,397.00 | 90.68 | 358.77 | 7,288.88 | 3,281.72 | -326.01 | 3,289.29 | 0.34 |
| 10,483.00 | 90.93 | 358.30 | 7,287.67 | 3,367.68 | -328.21 | 3,375.28 | 0.62 |
| 10,568.00 | 89.13 | 358.66 | 7,287.63 | 3,452.65 | -330.46 | 3,460.28 | 2.16 |
| 10,654.00 | 89.63 | 359.65 | 7,288.56 | 3,538.63 | -331.73 | 3,546.27 | 1.29 |
| 10,740.00 | 90.62 | 359.14 | 7,288.37 | 3,624.62 | -332.64 | 3,632.25 | 1.29 |
| 10,826.00 | 90.49 | 358.69 | 7,287.54 | 3,710.60 | -334.27 | 3,718.25 | 0.54 |
| 10,911.00 | 91.11 | 359.89 | 7,286.35 | 3,795.59 | -335.32 | 3,803.23 | 1.59 |
| 10,997.00 | 90.43 | 359.27 | 7,285.19 | 3,881.58 | -335.95 | 3,889.20 | 1.07 |
| 11,083.00 | 91.30 | 1.63 | 7,283.89 | 3,967.56 | -335.28 | 3,975.13 | 2.92 |
| 11,168.00 | 89.38 | 1.71 | 7,283.39 | 4,052.52 | -332.80 | 4,060.00 | 2.26 |
| 11,254.00 | 89.38 | 0.86 | 7,284.32 | 4,138.49 | -330.87 | 4,145.89 | 0.99 |
| 11,340.00 | 89.44 | 0.69 | 7,285.21 | 4,224.48 | -329.71 | 4,231.81 | 0.21 |
| 11,425.00 | 89.81 | 0.08 | 7,285.76 | 4,309.47 | -329.14 | 4,316.76 | 0.84 |
| 11,511.00 | 90.19 | 0.68 | 7,285.76 | 4,395.47 | -328.57 | 4,402.71 | 0.83 |
| 11,597.00 | 88.82 | 359.31 | 7,286.51 | 4,481.46 | -328.57 | 4,488.67 | 2.25 |
| 11,683.00 | 89.26 | 359.40 | 7,287.95 | 4,567.44 | -329.54 | 4,574.65 | 0.52 |
| 11,768.00 | 89.14 | 359.50 | 7,289.13 | 4,652.43 | -330.36 | 4,659.63 | 0.18 |
| 11,854.00 | 89.13 | 359.65 | 7,290.43 | 4,738.42 | -331.00 | 4,745.60 | 0.17 |
| 11,940.00 | 89.88 | 0.80 | 7,291.17 | 4,824.41 | -330.66 | 4,831.56 | 1.60 |
| 12,026.00 | 90.25 | 1.25 | 7,291.08 | 4,910.40 | -329.12 | 4,917.47 | 0.68 |
| 12,112.00 | 90.00 | 2.02 | 7,290.89 | 4,996.36 | -326.67 | 5,003.34 | 0.94 |
| 12,197.00 | 89.69 | 3.27 | 7,291.12 | 5,081.27 | -322.74 | 5,088.11 | 1.52 |
| 12,283.00 | 90.68 | 4.17 | 7,290.84 | 5,167.09 | -317.16 | 5,173.74 | 1.56 |
| 12,369.00 | 90.31 | 4.11 | 7,290.10 | 5,252.86 | -310.96 | 5,259.32 | 0.44 |
| 12,455.00 | 89.94 | 4.01 | 7,289.91 | 5,338.64 | -304.87 | 5,344.91 | 0.45 |
| 12,540.00 | 90.74 | 3.56 | 7,289.41 | 5,423.46 | -299.26 | 5,429.54 | 1.08 |
| 12,626.00 | 90.49 | 3.40 | 7,288.48 | 5,509.29 | -294.04 | 5,515.20 | 0.35 |
| 12,712.00 | 90.80 | 4.31 | 7,287.52 | 5,595.09 | -288.25 | 5,600.82 | 1.12 |
| 12,797.00 | 90.68 | 3.70 | 7,286.42 | 5,679.88 | -282.32 | 5,685.41 | 0.73 |
| 12,883.00 | 91.48 | 5.02 | 7,284.80 | 5,765.61 | -275.78 | 5,770.94 | 1.79 |
| 12,969.00 | 90.37 | 4.57 | 7,283.41 | 5,851.30 | -268.59 | 5,856.40 | 1.39 |
| 13,055.00 | 89.07 | 4.14 | 7,283.83 | 5,937.04 | -262.06 | 5,941.94 | 1.59 |
| 13,141.00 | 89.51 | 4.25 | 7,284.89 | 6,022.81 | -255.77 | 6,027.50 | 0.53 |
| 13,227.00 | 89.57 | 3.99 | 7,285.58 | 6,108.58 | -249.59 | 6,113.08 | 0.31 |
| 13,312.00 | 89.75 | 4.32 | 7,286.09 | 6,193.36 | -243.44 | 6,197.66 | 0.44 |
| 13,398.00 | 90.31 | 3.23 | 7,286.04 | 6,279.17 | -237.77 | 6,283.29 | 1.42 |

Design Report for Nichols 28C-5HZ - Actual Field Surveys

| Measured Depth (ft) | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Vertical Section (ft) | Dogleg Rate (°/100ft) |
|--|-----------------|-------------|---------------------|------------|------------|-----------------------|-----------------------|
| 13,484.00 | 90.74 | 3.36 | 7,285.26 | 6,365.02 | -232.83 | 6,368.98 | 0.52 |
| 13,570.00 | 89.38 | 2.31 | 7,285.17 | 6,450.91 | -228.58 | 6,454.73 | 2.00 |
| 13,655.00 | 89.26 | 2.45 | 7,286.17 | 6,535.83 | -225.05 | 6,539.52 | 0.22 |
| 13,741.00 | 89.51 | 2.01 | 7,287.10 | 6,621.76 | -221.70 | 6,625.33 | 0.59 |
| 13,827.00 | 89.57 | 2.14 | 7,287.79 | 6,707.70 | -218.59 | 6,711.16 | 0.17 |
| 13,912.00 | 90.00 | 2.20 | 7,288.11 | 6,792.64 | -215.37 | 6,795.98 | 0.51 |
| Final Sperry MWD Survey @ 13912.00ft | | | | | | | |
| 14,256.00 | 90.00 | 2.20 | 7,288.11 | 7,136.39 | -202.16 | 7,139.25 | 0.00 |
| Straight Line Proj. @ 14256' MD :: 7288.11' TVD | | | | | | | |

Design Annotations

| Measured Depth (ft) | Vertical Depth (ft) | Local Coordinates | | Comment |
|---------------------|---------------------|-------------------|------------|---|
| | | +N/-S (ft) | +E/-W (ft) | |
| 16.00 | 16.00 | 0.00 | 0.00 | Xtreme 22: RKB = 16ft |
| 116.00 | 116.00 | -0.23 | -0.10 | First MS Energy Services Gyro @ 116.00ft |
| 801.00 | 801.00 | -1.42 | -0.07 | Final MS Energy Services Gyro @ 801.00ft |
| 801.00 | 801.00 | -1.42 | -0.07 | Tie-On to Surface Gyros @ 801.00ft |
| 888.00 | 887.99 | -1.98 | 0.26 | First Sperry MWD Survey @ 888.00ft |
| 13,912.00 | 7,288.11 | 6,792.64 | -215.37 | Final Sperry MWD Survey @ 13912.00ft |
| 14,256.00 | 7,288.11 | 7,136.39 | -202.16 | Straight Line Proj. @ 14256' MD :: 7288.11' TVD |

Vertical Section Information

| Angle Type | Target | Azimuth (°) | Origin Type | Origin | | Start TVD (ft) |
|------------|---------------------|-------------|-------------|------------|------------|----------------|
| | | | | +N/-S (ft) | +E/-W (ft) | |
| Target | Nichols 28C-5HZ_BHL | 358.46 | Slot | 0.00 | 0.00 | 0.00 |

Survey tool program

| From (ft) | To (ft) | Survey/Plan | Survey Tool |
|-----------|-----------|---------------------------------|-------------|
| 16.00 | 801.00 | MS Energy Services - Gyros | NS-GYRO-MS |
| 888.00 | 7,642.00 | Sperry MWD Surveys - Vert/Build | MWD+IFR1+SC |
| 7,713.00 | 13,912.00 | Sperry MWD Surveys - Lateral | MWD+IFR1+SC |

Casing Details

| Measured Depth (ft) | Vertical Depth (ft) | Name | Casing Diameter (") | Hole Diameter (") |
|---------------------|---------------------|---|---------------------|-------------------|
| 7,660.60 | 7,276.20 | 7" Casing Point @ 7660.6' MD :: 7276.2' TVD | 7 | 8-3/4 |

Design Report for Nichols 28C-5HZ - Actual Field Surveys**Targets**

| Target Name - hit/miss target - Shape | Dip Angle (°) | Dip Dir. (°) | TVD (ft) | +N/-S (ft) | +E/-W (ft) | Northing (ft) | Easting (ft) | Latitude | Longitude |
|---|---------------------|--------------------|-------------|---------------|---------------|------------------|-----------------|-----------|-------------|
| Nichols 28C-5HZ_BI - actual wellpath misses target center by 34.61ft at 14256.00ft MD (7288.11 TVD, 7136.39 N, -202.16 E) - Point | 0.00 | 0.00 | 7,267.00 | 7,162.08 | -192.54 | 1,307,056.33 | 3,227,316.68 | 40.173403 | -104.686520 |
| B&M 31-5 - actual wellpath misses target center by 356.40ft at 14256.00ft MD (7288.11 TVD, 7136.39 N, -202.16 E) - Circle (radius 160.00) | 0.00 | 0.00 | 7,083.79 | 7,274.64 | 55.05 | 1,307,171.15 | 3,227,563.22 | 40.173712 | -104.685634 |
| Nichols 28C-5HZ_B/ - actual wellpath hits target center - Polygon | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1,299,896.61 | 3,227,574.96 | 40.153743 | -104.685831 |
| Point 1 | | | | -3,147.53 | 2,461.05 | 1,302,328.56 | 3,224,405.10 | | |
| Point 2 | | | | -514.97 | 2,467.98 | 1,302,359.66 | 3,227,037.38 | | |
| Point 3 | | | | 2,117.57 | 2,475.08 | 1,302,390.93 | 3,229,669.63 | | |
| Nichols 28C-5HZ_M - actual wellpath hits target center - Polygon | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1,299,896.61 | 3,227,574.96 | 40.153743 | -104.685831 |
| Point 1 | | | | -3,172.68 | -187.13 | 1,299,680.37 | 3,224,404.27 | | |
| Point 2 | | | | 2,100.90 | -200.59 | 1,299,715.33 | 3,229,677.53 | | |
| Nichols 28C-5HZ_SI - actual wellpath hits target center - Polygon | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1,299,896.61 | 3,227,574.96 | 40.153743 | -104.685831 |
| Point 1 | | | | -2,627.86 | 7,164.69 | 1,307,036.58 | 3,224,881.54 | | |
| Point 2 | | | | -2,651.28 | 5,109.62 | 1,304,981.46 | 3,224,876.99 | | |
| Point 3 | | | | -2,681.17 | 2,922.30 | 1,302,794.05 | 3,224,867.19 | | |
| Point 4 | | | | -2,691.85 | 2,002.23 | 1,301,873.96 | 3,224,864.95 | | |
| Point 5 | | | | -2,712.65 | -188.30 | 1,299,683.43 | 3,224,864.27 | | |
| Point 6 | | | | -2,733.37 | -2,375.20 | 1,297,496.52 | 3,224,863.63 | | |
| Point 7 | | | | -555.30 | -2,375.16 | 1,297,516.56 | 3,227,041.51 | | |
| Point 8 | | | | 1,623.09 | -2,375.44 | 1,297,536.27 | 3,229,219.72 | | |
| Point 9 | | | | 1,640.88 | -199.41 | 1,299,712.29 | 3,229,217.53 | | |
| Point 10 | | | | 1,654.67 | 2,013.81 | 1,301,925.45 | 3,229,211.00 | | |
| Point 11 | | | | 1,662.17 | 2,933.88 | 1,302,845.51 | 3,229,210.06 | | |
| Point 12 | | | | 1,684.14 | 5,103.10 | 1,305,014.75 | 3,229,212.11 | | |
| Point 13 | | | | 1,707.64 | 7,160.30 | 1,307,071.99 | 3,229,216.72 | | |
| Point 14 | | | | -460.23 | 7,162.50 | 1,307,054.29 | 3,227,049.01 | | |
| Nichols 28C-5HZ_SI - actual wellpath hits target center - Point | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1,299,896.61 | 3,227,574.96 | 40.153743 | -104.685831 |
| Nichols 28C-5HZ_W - actual wellpath misses target center by 25.68ft at 11915.41ft MD (7291.08 TVD, 4799.83 N, -330.93 E) - Point | 0.00 | 0.00 | 7,267.00 | 4,800.00 | -322.00 | 1,304,693.26 | 3,227,208.92 | 40.166919 | -104.686983 |
| Nichols 28C-5HZ_Sr - actual wellpath hits target center - Polygon | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1,299,896.61 | 3,227,574.96 | 40.153743 | -104.685831 |
| Point 1 | | | | -3,082.66 | 7,625.18 | 1,307,492.85 | 3,224,422.55 | | |
| Point 2 | | | | -3,111.32 | 5,110.30 | 1,304,977.92 | 3,224,416.98 | | |
| Point 3 | | | | -3,147.53 | 2,461.05 | 1,302,328.56 | 3,224,405.10 | | |
| Point 4 | | | | -3,172.68 | -187.13 | 1,299,680.37 | 3,224,404.27 | | |
| Point 5 | | | | -3,197.76 | -2,835.22 | 1,297,032.27 | 3,224,403.50 | | |
| Point 6 | | | | -559.14 | -2,835.19 | 1,297,056.53 | 3,227,041.90 | | |
| Point 7 | | | | 2,079.35 | -2,835.52 | 1,297,080.42 | 3,229,680.17 | | |
| Point 8 | | | | 2,100.90 | -200.59 | 1,299,715.33 | 3,229,677.53 | | |
| Point 9 | | | | 2,117.57 | 2,475.08 | 1,302,390.93 | 3,229,669.63 | | |
| Point 10 | | | | 2,144.17 | 5,102.41 | 1,305,018.28 | 3,229,672.11 | | |
| Point 11 | | | | 2,172.94 | 7,619.85 | 1,307,535.77 | 3,229,677.76 | | |
| Point 12 | | | | -454.87 | 7,622.51 | 1,307,514.31 | 3,227,050.15 | | |
| Nichols 28C-5HZ_LI - actual wellpath hits target center - Polygon | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1,299,896.61 | 3,227,574.96 | 40.153743 | -104.685831 |
| Point 1 | | | | -911.69 | 7,166.65 | 1,307,054.29 | 3,226,597.55 | | |
| Point 2 | | | | -972.25 | 2,472.18 | 1,302,359.66 | 3,226,580.10 | | |

Design Report for Nichols 28C-5HZ - Actual Field Surveys

| | | | | |
|---------|---------|----------|--------------|--------------|
| Point 3 | -993.41 | 257.19 | 1,300,144.66 | 3,226,579.27 |
| Point 4 | -70.15 | 248.71 | 1,300,144.66 | 3,227,502.53 |
| Point 5 | -57.72 | 2,463.78 | 1,302,359.66 | 3,227,494.63 |
| Point 6 | -6.48 | 7,158.34 | 1,307,054.29 | 3,227,502.76 |

North Reference Sheet for Sec. 8-T2N-R65W - Nichols 28C-5HZ - Plan C Rev 0

All data is in US Feet unless otherwise stated. Directions and Coordinates are relative to True North Reference.

Vertical Depths are relative to RKB=16 @ 4927.00ft (Xtreme 22). Northing and Easting are relative to Nichols 28C-5HZ

Coordinate System is US State Plane 1983, Colorado Northern Zone using datum North American Datum 1983, ellipsoid GRS 1980

Projection method is Lambert Conformal Conic (2 parallel)

Central Meridian is -105.500000°, Longitude Origin:0.000000°, Latitude Origin:40.783333°

False Easting: 3,000,000.00ft, False Northing: 1,000,000.00ft, Scale Reduction: 0.99995827

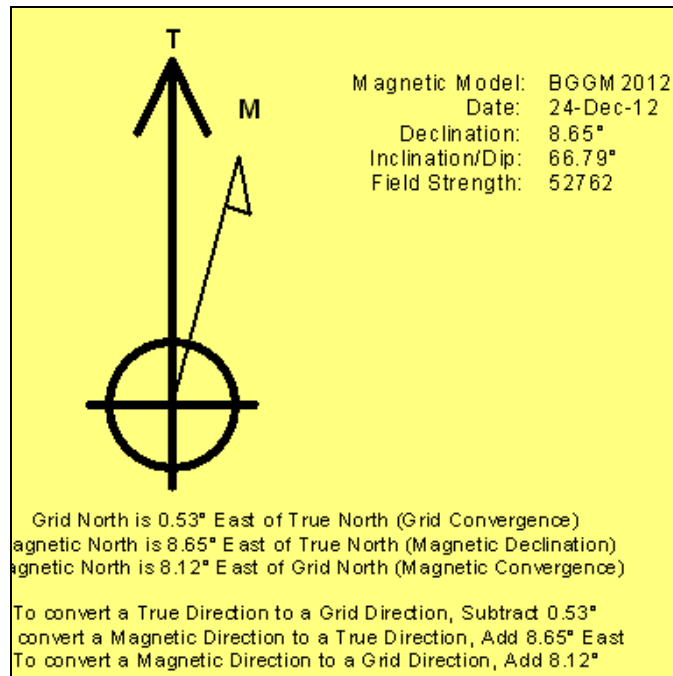
Grid Coordinates of Well: 1,299,896.61 ft N, 3,227,574.96 ft E

Geographical Coordinates of Well: 40° 09' 13.47" N, 104° 41' 08.99" W

Grid Convergence at Surface is: 0.53°

Based upon Minimum Curvature type calculations, at a Measured Depth of 14,256.00ft the Bottom Hole Displacement is 7,139.25ft in the Direction of 358.38° (True).

Magnetic Convergence at surface is: -8.12° (24 December 2012, , BGGM2012)



Anadarko Petroleum Corp.

Weld County, CO (NAD 83)

Sec. 8-T2N-R65W

Nichols 28C-5HZ

Plan C Rev 0

Design: Actual Field Surveys

Survey Report - Geographic

09 January, 2013

Halliburton Company

Survey Report - Geographic

| | |
|--|--|
| Company: Anadarko Petroleum Corp. | Local Co-ordinate Reference: Well Nichols 28C-5HZ |
| Project: Weld County, CO (NAD 83) | TVD Reference: RKB=16 @ 4927.00ft (Xtreme 22) |
| Site: Sec. 8-T2N-R65W | MD Reference: RKB=16 @ 4927.00ft (Xtreme 22) |
| Well: Nichols 28C-5HZ | North Reference: True |
| Wellbore: Plan C Rev 0 | Survey Calculation Method: Minimum Curvature |
| Design: Actual Field Surveys | Database: EDM 2003.16 Single User Db |

| | |
|---|-------------------------------------|
| Project Weld County, CO (NAD 83) | |
| Map System: US State Plane 1983 | System Datum: Mean Sea Level |
| Geo Datum: North American Datum 1983 | |
| Map Zone: Colorado Northern Zone | Using geodetic scale factor |

| | | |
|--------------------------------------|----------------------------------|---------------------------------|
| Site Sec. 8-T2N-R65W | | |
| Site Position: | Northing: 1,299,927.50 ft | Latitude: 40.153788 |
| From: Lat/Long | Easting: 3,229,147.33 ft | Longitude: -104.680205 |
| Position Uncertainty: 0.00 ft | Slot Radius: " | Grid Convergence: 0.53 ° |

| | | | |
|-----------------------------|----------------------|----------------------------------|----------------------------------|
| Well Nichols 28C-5HZ | | | |
| Well Position | +N/-S 0.00 ft | Northing: 1,299,896.61 ft | Latitude: 40.153743 |
| | +E/-W 0.00 ft | Easting: 3,227,574.96 ft | Longitude: -104.685831 |
| Position Uncertainty | 3.28 ft | Wellhead Elevation: ft | Ground Level: 4,911.00 ft |

| | | | | | |
|------------------------------|-------------------|--------------------|------------------------|----------------------|----------------------------|
| Wellbore Plan C Rev 0 | | | | | |
| Magnetics | Model Name | Sample Date | Declination (°) | Dip Angle (°) | Field Strength (nT) |
| | BGGM2012 | 2012-12-24 | 8.65 | 66.79 | 52,762 |

| | | | | | |
|------------------------------------|------------------------------|---------------------------|-------------------|----------------------|--|
| Design Actual Field Surveys | | | | | |
| Audit Notes: | | | | | |
| Version: 1.0 | Phase: ACTUAL | Tie On Depth: 0.00 | | | |
| Vertical Section: | Depth From (TVD) (ft) | +N/-S (ft) | +E/-W (ft) | Direction (°) | |
| | 0.00 | 0.00 | 0.00 | 358.46 | |

| | | | | |
|-----------------------|----------------|---|------------------|---|
| Survey Program | | Date 2013-01-09 | | |
| From (ft) | To (ft) | Survey (Wellbore) | Tool Name | Description |
| 16.00 | 801.00 | MS Energy Services - Gyros (Plan C Rev | NS-GYRO-MS | North sensing gyrocompassing m/s |
| 888.00 | 7,642.00 | Sperry MWD Surveys - Vert/Build (Plan C | MWD+IFR1+SC | Fixed:v2:crustal field dec & axial correction |
| 7,713.00 | 13,912.00 | Sperry MWD Surveys - Lateral (Plan C Re | MWD+IFR1+SC | Fixed:v2:crustal field dec & axial correction |

Halliburton Company

Survey Report - Geographic

| | | | |
|------------------|--------------------------|-------------------------------------|--------------------------------|
| Company: | Anadarko Petroleum Corp. | Local Co-ordinate Reference: | Well Nichols 28C-5HZ |
| Project: | Weld County, CO (NAD 83) | TVD Reference: | RKB=16 @ 4927.00ft (Xtreme 22) |
| Site: | Sec. 8-T2N-R65W | MD Reference: | RKB=16 @ 4927.00ft (Xtreme 22) |
| Well: | Nichols 28C-5HZ | North Reference: | True |
| Wellbore: | Plan C Rev 0 | Survey Calculation Method: | Minimum Curvature |
| Design: | Actual Field Surveys | Database: | EDM 2003.16 Single User Db |

| Survey | | | | | | | | | | |
|--|-----------------|-------------|---------------------|------------|------------|-------------------|------------------|-----------|-------------|--|
| Measured Depth (ft) | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Map Northing (ft) | Map Easting (ft) | Latitude | Longitude | |
| 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1,299,896.61 | 3,227,574.96 | 40.153743 | -104.685831 | |
| 16.00 | 0.00 | 0.00 | 16.00 | 0.00 | 0.00 | 1,299,896.61 | 3,227,574.96 | 40.153743 | -104.685831 | |
| Xtreme 22: RKB = 16ft | | | | | | | | | | |
| 116.00 | 0.29 | 203.96 | 116.00 | -0.23 | -0.10 | 1,299,896.38 | 3,227,574.86 | 40.153742 | -104.685831 | |
| First MS Energy Services Gyro @ 116.00ft | | | | | | | | | | |
| 216.00 | 0.27 | 175.40 | 216.00 | -0.70 | -0.19 | 1,299,895.92 | 3,227,574.78 | 40.153741 | -104.685832 | |
| 316.00 | 0.22 | 162.58 | 316.00 | -1.12 | -0.11 | 1,299,895.50 | 3,227,574.86 | 40.153740 | -104.685831 | |
| 416.00 | 0.01 | 4.72 | 416.00 | -1.29 | -0.05 | 1,299,895.32 | 3,227,574.92 | 40.153739 | -104.685831 | |
| 516.00 | 0.12 | 51.85 | 516.00 | -1.22 | 0.03 | 1,299,895.40 | 3,227,575.00 | 40.153740 | -104.685831 | |
| 616.00 | 0.12 | 265.37 | 616.00 | -1.16 | 0.01 | 1,299,895.45 | 3,227,574.98 | 40.153740 | -104.685831 | |
| 716.00 | 0.15 | 158.97 | 716.00 | -1.29 | -0.05 | 1,299,895.32 | 3,227,574.92 | 40.153739 | -104.685831 | |
| 801.00 | 0.09 | 249.32 | 801.00 | -1.42 | -0.07 | 1,299,895.20 | 3,227,574.90 | 40.153739 | -104.685831 | |
| Final MS Energy Services Gyro @ 801.00ft - Tie-On to Surface Gyros @ 801.00ft | | | | | | | | | | |
| 888.00 | 0.88 | 143.89 | 887.99 | -1.98 | 0.26 | 1,299,894.63 | 3,227,575.24 | 40.153738 | -104.685830 | |
| First Sperry MWD Survey @ 888.00ft | | | | | | | | | | |
| 980.00 | 2.04 | 263.50 | 979.97 | -2.74 | -0.95 | 1,299,893.87 | 3,227,574.03 | 40.153735 | -104.685834 | |
| 1,073.00 | 3.95 | 268.15 | 1,072.84 | -3.03 | -5.80 | 1,299,893.53 | 3,227,569.19 | 40.153735 | -104.685852 | |
| 1,164.00 | 5.25 | 259.84 | 1,163.55 | -3.86 | -13.03 | 1,299,892.63 | 3,227,561.97 | 40.153732 | -104.685878 | |
| 1,256.00 | 6.62 | 263.90 | 1,255.05 | -5.17 | -22.45 | 1,299,891.24 | 3,227,552.56 | 40.153729 | -104.685911 | |
| 1,347.00 | 9.20 | 253.50 | 1,345.19 | -7.80 | -34.64 | 1,299,888.50 | 3,227,540.40 | 40.153722 | -104.685955 | |
| 1,438.00 | 10.72 | 250.91 | 1,434.81 | -12.63 | -49.61 | 1,299,883.53 | 3,227,525.47 | 40.153708 | -104.686008 | |
| 1,527.00 | 10.97 | 249.71 | 1,522.22 | -18.27 | -65.38 | 1,299,877.74 | 3,227,509.76 | 40.153693 | -104.686065 | |
| 1,620.00 | 10.07 | 242.80 | 1,613.66 | -25.06 | -80.91 | 1,299,870.81 | 3,227,494.29 | 40.153674 | -104.686120 | |
| 1,711.00 | 10.54 | 242.88 | 1,703.19 | -32.49 | -95.39 | 1,299,863.25 | 3,227,479.87 | 40.153654 | -104.686172 | |
| 1,803.00 | 9.24 | 237.83 | 1,793.83 | -40.26 | -109.14 | 1,299,855.36 | 3,227,466.20 | 40.153632 | -104.686221 | |
| 1,981.00 | 8.67 | 244.06 | 1,969.66 | -53.74 | -133.30 | 1,299,841.66 | 3,227,442.17 | 40.153595 | -104.686308 | |
| 2,152.00 | 9.53 | 243.35 | 2,138.51 | -65.72 | -157.54 | 1,299,829.45 | 3,227,418.04 | 40.153563 | -104.686395 | |
| 2,409.00 | 8.32 | 250.31 | 2,392.40 | -81.53 | -194.07 | 1,299,813.31 | 3,227,381.66 | 40.153519 | -104.686525 | |
| 2,495.00 | 8.99 | 254.21 | 2,477.42 | -85.46 | -206.39 | 1,299,809.27 | 3,227,369.37 | 40.153508 | -104.686569 | |
| 2,581.00 | 9.14 | 252.29 | 2,562.34 | -89.36 | -219.36 | 1,299,805.24 | 3,227,356.44 | 40.153498 | -104.686616 | |
| 2,753.00 | 8.25 | 247.70 | 2,732.37 | -98.20 | -243.79 | 1,299,796.18 | 3,227,332.09 | 40.153473 | -104.686703 | |
| 2,839.00 | 7.84 | 249.31 | 2,817.52 | -102.62 | -254.99 | 1,299,791.67 | 3,227,320.93 | 40.153461 | -104.686743 | |
| 2,925.00 | 9.18 | 248.64 | 2,902.57 | -107.19 | -266.87 | 1,299,786.99 | 3,227,309.10 | 40.153449 | -104.686786 | |
| 3,096.00 | 8.50 | 248.23 | 3,071.54 | -116.84 | -291.31 | 1,299,777.11 | 3,227,284.75 | 40.153422 | -104.686873 | |
| 3,182.00 | 8.08 | 250.31 | 3,156.64 | -121.24 | -302.90 | 1,299,772.61 | 3,227,273.20 | 40.153410 | -104.686915 | |
| 3,268.00 | 6.94 | 252.79 | 3,241.90 | -124.81 | -313.55 | 1,299,768.94 | 3,227,262.58 | 40.153400 | -104.686953 | |
| 3,354.00 | 6.20 | 255.75 | 3,327.34 | -127.49 | -323.02 | 1,299,766.17 | 3,227,253.14 | 40.153393 | -104.686987 | |
| 3,439.00 | 4.34 | 259.28 | 3,411.98 | -129.22 | -330.63 | 1,299,764.37 | 3,227,245.55 | 40.153388 | -104.687014 | |
| 3,525.00 | 2.50 | 238.75 | 3,497.82 | -130.80 | -335.43 | 1,299,762.75 | 3,227,240.76 | 40.153384 | -104.687031 | |
| 3,611.00 | 2.65 | 231.05 | 3,583.73 | -133.02 | -338.58 | 1,299,760.50 | 3,227,237.63 | 40.153378 | -104.687042 | |
| 3,697.00 | 1.12 | 252.12 | 3,669.69 | -134.53 | -340.92 | 1,299,758.97 | 3,227,235.30 | 40.153374 | -104.687051 | |
| 3,782.00 | 1.74 | 247.44 | 3,754.66 | -135.28 | -342.91 | 1,299,758.20 | 3,227,233.32 | 40.153372 | -104.687058 | |
| 3,868.00 | 0.61 | 246.89 | 3,840.64 | -135.96 | -344.53 | 1,299,757.50 | 3,227,231.70 | 40.153370 | -104.687064 | |
| 3,954.00 | 1.38 | 73.02 | 3,926.63 | -135.84 | -343.96 | 1,299,757.63 | 3,227,232.27 | 40.153370 | -104.687061 | |
| 4,040.00 | 1.15 | 53.98 | 4,012.61 | -135.03 | -342.28 | 1,299,758.46 | 3,227,233.95 | 40.153372 | -104.687055 | |
| 4,211.00 | 1.13 | 45.74 | 4,183.58 | -132.84 | -339.68 | 1,299,760.67 | 3,227,236.53 | 40.153378 | -104.687046 | |
| 4,383.00 | 1.67 | 35.99 | 4,355.53 | -129.63 | -336.99 | 1,299,763.90 | 3,227,239.19 | 40.153387 | -104.687037 | |
| 4,554.00 | 2.21 | 22.10 | 4,526.43 | -124.56 | -334.29 | 1,299,769.00 | 3,227,241.84 | 40.153401 | -104.687027 | |
| 4,639.00 | 2.20 | 34.88 | 4,611.37 | -121.70 | -332.74 | 1,299,771.87 | 3,227,243.37 | 40.153409 | -104.687021 | |
| 4,725.00 | 1.42 | 49.21 | 4,697.32 | -119.65 | -330.99 | 1,299,773.94 | 3,227,245.10 | 40.153415 | -104.687015 | |
| 4,811.00 | 1.42 | 69.07 | 4,783.30 | -118.57 | -329.19 | 1,299,775.03 | 3,227,246.89 | 40.153417 | -104.687009 | |
| 4,982.00 | 2.13 | 42.49 | 4,954.22 | -115.47 | -325.06 | 1,299,778.17 | 3,227,250.99 | 40.153426 | -104.686994 | |
| 5,154.00 | 2.65 | 31.60 | 5,126.07 | -109.73 | -320.82 | 1,299,783.95 | 3,227,255.18 | 40.153442 | -104.686979 | |
| 5,240.00 | 1.61 | 49.96 | 5,212.01 | -107.26 | -318.85 | 1,299,786.44 | 3,227,257.12 | 40.153449 | -104.686972 | |
| 5,325.00 | 0.55 | 170.31 | 5,297.00 | -106.89 | -317.87 | 1,299,786.81 | 3,227,258.10 | 40.153450 | -104.686968 | |

Halliburton Company

Survey Report - Geographic

| | | | |
|------------------|--------------------------|-------------------------------------|--------------------------------|
| Company: | Anadarko Petroleum Corp. | Local Co-ordinate Reference: | Well Nichols 28C-5HZ |
| Project: | Weld County, CO (NAD 83) | TVD Reference: | RKB=16 @ 4927.00ft (Xtreme 22) |
| Site: | Sec. 8-T2N-R65W | MD Reference: | RKB=16 @ 4927.00ft (Xtreme 22) |
| Well: | Nichols 28C-5HZ | North Reference: | True |
| Wellbore: | Plan C Rev 0 | Survey Calculation Method: | Minimum Curvature |
| Design: | Actual Field Surveys | Database: | EDM 2003.16 Single User Db |

| Survey | | | | | | | | | | |
|--|-----------------|-------------|---------------------|-----------|-----------|-------------------|------------------|-----------|-------------|--|
| Measured Depth (ft) | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N-S (ft) | +E-W (ft) | Map Northing (ft) | Map Easting (ft) | Latitude | Longitude | |
| 5,497.00 | 0.22 | 104.79 | 5,469.00 | -107.79 | -317.41 | 1,299,785.92 | 3,227,258.57 | 40.153447 | -104.686966 | |
| 5,669.00 | 0.72 | 80.26 | 5,640.99 | -107.69 | -316.03 | 1,299,786.03 | 3,227,259.95 | 40.153447 | -104.686962 | |
| 5,840.00 | 0.54 | 112.29 | 5,811.98 | -107.82 | -314.22 | 1,299,785.92 | 3,227,261.76 | 40.153447 | -104.686955 | |
| 6,097.00 | 0.38 | 186.62 | 6,068.97 | -109.12 | -313.20 | 1,299,784.63 | 3,227,262.79 | 40.153443 | -104.686951 | |
| 6,269.00 | 0.35 | 239.55 | 6,240.97 | -109.95 | -313.72 | 1,299,783.79 | 3,227,262.28 | 40.153441 | -104.686953 | |
| 6,526.00 | 0.48 | 312.85 | 6,497.96 | -109.62 | -315.18 | 1,299,784.11 | 3,227,260.81 | 40.153442 | -104.686959 | |
| 6,615.00 | 0.57 | 310.45 | 6,586.96 | -109.08 | -315.79 | 1,299,784.64 | 3,227,260.20 | 40.153444 | -104.686961 | |
| 6,702.00 | 3.99 | 16.61 | 6,673.88 | -105.90 | -315.26 | 1,299,787.83 | 3,227,260.70 | 40.153452 | -104.686959 | |
| 6,744.00 | 9.00 | 0.01 | 6,715.61 | -101.21 | -314.84 | 1,299,792.52 | 3,227,261.08 | 40.153465 | -104.686957 | |
| 6,788.00 | 14.32 | 354.78 | 6,758.68 | -92.34 | -315.33 | 1,299,801.39 | 3,227,260.50 | 40.153489 | -104.686959 | |
| 6,830.00 | 18.96 | 359.39 | 6,798.91 | -80.34 | -315.88 | 1,299,813.38 | 3,227,259.85 | 40.153522 | -104.686961 | |
| 6,874.00 | 23.13 | 0.53 | 6,839.97 | -64.54 | -315.88 | 1,299,829.18 | 3,227,259.70 | 40.153566 | -104.686961 | |
| 6,916.00 | 27.80 | 359.44 | 6,877.88 | -46.49 | -315.89 | 1,299,847.23 | 3,227,259.52 | 40.153615 | -104.686961 | |
| 6,960.00 | 31.44 | 357.98 | 6,916.12 | -24.75 | -316.40 | 1,299,868.96 | 3,227,258.82 | 40.153675 | -104.686963 | |
| 7,002.00 | 34.72 | 358.32 | 6,951.31 | -1.85 | -317.14 | 1,299,891.86 | 3,227,257.87 | 40.153738 | -104.686966 | |
| 7,045.00 | 38.01 | 358.02 | 6,985.93 | 23.63 | -317.95 | 1,299,917.33 | 3,227,256.82 | 40.153808 | -104.686968 | |
| 7,087.00 | 41.00 | 357.93 | 7,018.34 | 50.33 | -318.90 | 1,299,944.01 | 3,227,255.63 | 40.153881 | -104.686972 | |
| 7,131.00 | 44.38 | 358.73 | 7,050.67 | 80.15 | -319.76 | 1,299,973.82 | 3,227,254.49 | 40.153963 | -104.686975 | |
| 7,173.00 | 48.01 | 358.80 | 7,079.74 | 110.45 | -320.41 | 1,300,004.11 | 3,227,253.56 | 40.154046 | -104.686977 | |
| 7,217.00 | 51.99 | 358.33 | 7,108.02 | 144.14 | -321.26 | 1,300,037.79 | 3,227,252.40 | 40.154139 | -104.686980 | |
| 7,259.00 | 52.80 | 358.38 | 7,133.65 | 177.40 | -322.22 | 1,300,071.04 | 3,227,251.14 | 40.154230 | -104.686984 | |
| 7,303.00 | 55.74 | 357.98 | 7,159.34 | 213.09 | -323.35 | 1,300,106.72 | 3,227,249.68 | 40.154328 | -104.686988 | |
| 7,345.00 | 58.40 | 358.48 | 7,182.17 | 248.32 | -324.44 | 1,300,141.94 | 3,227,248.27 | 40.154425 | -104.686992 | |
| 7,388.00 | 63.03 | 359.18 | 7,203.20 | 285.81 | -325.20 | 1,300,179.41 | 3,227,247.16 | 40.154528 | -104.686994 | |
| 7,430.00 | 66.14 | 359.24 | 7,221.22 | 323.74 | -325.72 | 1,300,217.33 | 3,227,246.29 | 40.154632 | -104.686996 | |
| 7,474.00 | 69.40 | 359.69 | 7,237.86 | 364.46 | -326.10 | 1,300,258.05 | 3,227,245.54 | 40.154743 | -104.686998 | |
| 7,516.00 | 72.50 | 0.19 | 7,251.57 | 404.15 | -326.14 | 1,300,297.74 | 3,227,245.14 | 40.154852 | -104.686998 | |
| 7,560.00 | 76.52 | 0.93 | 7,263.32 | 446.54 | -325.72 | 1,300,340.13 | 3,227,245.16 | 40.154969 | -104.686996 | |
| 7,602.00 | 81.13 | 2.17 | 7,271.46 | 487.72 | -324.61 | 1,300,381.31 | 3,227,245.90 | 40.155082 | -104.686992 | |
| 7,642.00 | 87.17 | 1.16 | 7,275.53 | 527.48 | -323.45 | 1,300,421.08 | 3,227,246.69 | 40.155191 | -104.686988 | |
| 7,660.60 | 88.69 | 0.90 | 7,276.20 | 546.06 | -323.12 | 1,300,439.66 | 3,227,246.86 | 40.155242 | -104.686987 | |
| 7" Casing Point @ 7660.6' MD :: 7276.2' TVD | | | | | | | | | | |
| 7,713.00 | 92.97 | 0.18 | 7,275.45 | 598.44 | -322.62 | 1,300,492.04 | 3,227,246.87 | 40.155386 | -104.686985 | |
| 7,805.00 | 91.42 | 358.97 | 7,271.92 | 690.37 | -323.30 | 1,300,583.95 | 3,227,245.35 | 40.155638 | -104.686988 | |
| 7,896.00 | 89.81 | 358.63 | 7,270.94 | 781.34 | -325.21 | 1,300,674.90 | 3,227,242.60 | 40.155888 | -104.686994 | |
| 7,986.00 | 89.63 | 359.82 | 7,271.38 | 871.33 | -326.43 | 1,300,764.87 | 3,227,240.56 | 40.156135 | -104.686999 | |
| 8,078.00 | 90.31 | 359.15 | 7,271.43 | 963.32 | -327.25 | 1,300,856.85 | 3,227,238.89 | 40.156387 | -104.687002 | |
| 8,171.00 | 88.76 | 358.69 | 7,272.19 | 1,056.30 | -329.01 | 1,300,949.81 | 3,227,236.28 | 40.156643 | -104.687008 | |
| 8,263.00 | 88.52 | 358.39 | 7,274.37 | 1,148.24 | -331.35 | 1,301,041.72 | 3,227,233.10 | 40.156895 | -104.687016 | |
| 8,356.00 | 88.76 | 359.23 | 7,276.58 | 1,241.20 | -333.28 | 1,301,134.65 | 3,227,230.31 | 40.157150 | -104.687023 | |
| 8,447.00 | 89.63 | 1.33 | 7,277.86 | 1,332.18 | -332.84 | 1,301,225.63 | 3,227,229.92 | 40.157400 | -104.687022 | |
| 8,538.00 | 89.38 | 1.36 | 7,278.64 | 1,423.15 | -330.70 | 1,301,316.61 | 3,227,231.22 | 40.157650 | -104.687014 | |
| 8,631.00 | 89.20 | 1.79 | 7,279.80 | 1,516.11 | -328.14 | 1,301,409.58 | 3,227,232.92 | 40.157905 | -104.687005 | |
| 8,723.00 | 89.32 | 0.09 | 7,280.98 | 1,608.09 | -326.64 | 1,301,501.57 | 3,227,233.59 | 40.158157 | -104.687000 | |
| 8,814.00 | 88.95 | 0.04 | 7,282.36 | 1,699.08 | -326.53 | 1,301,592.55 | 3,227,232.86 | 40.158407 | -104.686999 | |
| 8,905.00 | 89.38 | 0.21 | 7,283.68 | 1,790.07 | -326.33 | 1,301,683.53 | 3,227,232.22 | 40.158657 | -104.686999 | |
| 8,997.00 | 89.81 | 359.64 | 7,284.33 | 1,882.06 | -326.45 | 1,301,775.52 | 3,227,231.25 | 40.158909 | -104.686999 | |
| 9,086.00 | 90.06 | 359.02 | 7,284.44 | 1,971.06 | -327.50 | 1,301,864.50 | 3,227,229.40 | 40.159154 | -104.687003 | |
| 9,179.00 | 90.56 | 0.08 | 7,283.93 | 2,064.05 | -328.23 | 1,301,957.48 | 3,227,227.81 | 40.159409 | -104.687005 | |
| 9,270.00 | 88.82 | 0.69 | 7,284.42 | 2,155.04 | -327.61 | 1,302,048.47 | 3,227,227.59 | 40.159659 | -104.687003 | |
| 9,362.00 | 88.33 | 0.85 | 7,286.71 | 2,247.01 | -326.38 | 1,302,140.44 | 3,227,227.98 | 40.159911 | -104.686999 | |
| 9,453.00 | 87.90 | 0.43 | 7,289.71 | 2,337.95 | -325.36 | 1,302,231.38 | 3,227,228.16 | 40.160161 | -104.686995 | |
| 9,539.00 | 90.12 | 0.93 | 7,291.19 | 2,423.93 | -324.34 | 1,302,317.36 | 3,227,228.39 | 40.160397 | -104.686991 | |
| 9,625.00 | 90.06 | 2.40 | 7,291.06 | 2,509.89 | -321.84 | 1,302,403.34 | 3,227,230.10 | 40.160633 | -104.686982 | |
| 9,711.00 | 89.38 | 1.13 | 7,291.48 | 2,595.84 | -319.19 | 1,302,489.31 | 3,227,231.96 | 40.160869 | -104.686973 | |

Halliburton Company

Survey Report - Geographic

| | | | |
|------------------|--------------------------|-------------------------------------|--------------------------------|
| Company: | Anadarko Petroleum Corp. | Local Co-ordinate Reference: | Well Nichols 28C-5HZ |
| Project: | Weld County, CO (NAD 83) | TVD Reference: | RKB=16 @ 4927.00ft (Xtreme 22) |
| Site: | Sec. 8-T2N-R65W | MD Reference: | RKB=16 @ 4927.00ft (Xtreme 22) |
| Well: | Nichols 28C-5HZ | North Reference: | True |
| Wellbore: | Plan C Rev 0 | Survey Calculation Method: | Minimum Curvature |
| Design: | Actual Field Surveys | Database: | EDM 2003.16 Single User Db |

| Survey | | | | | | | | | |
|--|-----------------|-------------|---------------------|-----------|-----------|-------------------|------------------|-----------|-------------|
| Measured Depth (ft) | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N-S (ft) | +E-W (ft) | Map Northing (ft) | Map Easting (ft) | Latitude | Longitude |
| 9,797.00 | 89.81 | 359.71 | 7,292.08 | 2,681.84 | -318.56 | 1,302,575.30 | 3,227,231.80 | 40.161105 | -104.686971 |
| 9,882.00 | 90.06 | 0.17 | 7,292.18 | 2,766.84 | -318.65 | 1,302,660.29 | 3,227,230.93 | 40.161338 | -104.686971 |
| 9,968.00 | 90.19 | 0.41 | 7,291.99 | 2,852.83 | -318.22 | 1,302,746.29 | 3,227,230.58 | 40.161574 | -104.686970 |
| 10,140.00 | 89.88 | 358.87 | 7,291.89 | 3,024.83 | -319.30 | 1,302,918.25 | 3,227,227.92 | 40.162046 | -104.686973 |
| 10,225.00 | 90.93 | 358.19 | 7,291.29 | 3,109.79 | -321.48 | 1,303,003.20 | 3,227,224.96 | 40.162279 | -104.686981 |
| 10,311.00 | 90.80 | 358.50 | 7,289.99 | 3,195.75 | -323.96 | 1,303,089.12 | 3,227,221.69 | 40.162515 | -104.686990 |
| 10,397.00 | 90.68 | 358.77 | 7,288.88 | 3,281.72 | -326.01 | 1,303,175.06 | 3,227,218.85 | 40.162751 | -104.686997 |
| 10,483.00 | 90.93 | 358.30 | 7,287.67 | 3,367.68 | -328.21 | 1,303,261.00 | 3,227,215.86 | 40.162987 | -104.687005 |
| 10,568.00 | 89.13 | 358.66 | 7,287.63 | 3,452.65 | -330.46 | 1,303,345.94 | 3,227,212.83 | 40.163221 | -104.687013 |
| 10,654.00 | 89.63 | 359.65 | 7,288.56 | 3,538.63 | -331.73 | 1,303,431.90 | 3,227,210.77 | 40.163457 | -104.687018 |
| 10,740.00 | 90.62 | 359.14 | 7,288.37 | 3,624.62 | -332.64 | 1,303,517.88 | 3,227,209.07 | 40.163693 | -104.687021 |
| 10,826.00 | 90.49 | 358.69 | 7,287.54 | 3,710.60 | -334.27 | 1,303,603.84 | 3,227,206.65 | 40.163929 | -104.687027 |
| 10,911.00 | 91.11 | 359.89 | 7,286.35 | 3,795.59 | -335.32 | 1,303,688.80 | 3,227,204.82 | 40.164162 | -104.687031 |
| 10,997.00 | 90.43 | 359.27 | 7,285.19 | 3,881.58 | -335.95 | 1,303,774.78 | 3,227,203.40 | 40.164398 | -104.687033 |
| 11,083.00 | 91.30 | 1.63 | 7,283.89 | 3,967.56 | -335.28 | 1,303,860.76 | 3,227,203.29 | 40.164634 | -104.687031 |
| 11,168.00 | 89.38 | 1.71 | 7,283.39 | 4,052.52 | -332.80 | 1,303,945.73 | 3,227,204.98 | 40.164867 | -104.687022 |
| 11,254.00 | 89.38 | 0.86 | 7,284.32 | 4,138.49 | -330.87 | 1,304,031.72 | 3,227,206.12 | 40.165103 | -104.687015 |
| 11,340.00 | 89.44 | 0.69 | 7,285.21 | 4,224.48 | -329.71 | 1,304,117.71 | 3,227,206.50 | 40.165339 | -104.687011 |
| 11,425.00 | 89.81 | 0.08 | 7,285.76 | 4,309.47 | -329.14 | 1,304,202.70 | 3,227,206.29 | 40.165573 | -104.687009 |
| 11,511.00 | 90.19 | 0.68 | 7,285.76 | 4,395.47 | -328.57 | 1,304,288.70 | 3,227,206.07 | 40.165809 | -104.687007 |
| 11,597.00 | 88.82 | 359.31 | 7,286.51 | 4,481.46 | -328.57 | 1,304,374.68 | 3,227,205.27 | 40.166045 | -104.687007 |
| 11,683.00 | 89.26 | 359.40 | 7,287.95 | 4,567.44 | -329.54 | 1,304,460.65 | 3,227,203.51 | 40.166281 | -104.687010 |
| 11,768.00 | 89.14 | 359.50 | 7,289.13 | 4,652.43 | -330.36 | 1,304,545.62 | 3,227,201.92 | 40.166514 | -104.687013 |
| 11,854.00 | 89.13 | 359.65 | 7,290.43 | 4,738.42 | -331.00 | 1,304,631.60 | 3,227,200.49 | 40.166750 | -104.687015 |
| 11,940.00 | 89.88 | 0.80 | 7,291.17 | 4,824.41 | -330.66 | 1,304,717.59 | 3,227,200.04 | 40.166986 | -104.687014 |
| 12,026.00 | 90.25 | 1.25 | 7,291.08 | 4,910.40 | -329.12 | 1,304,803.58 | 3,227,200.79 | 40.167222 | -104.687009 |
| 12,112.00 | 90.00 | 2.02 | 7,290.89 | 4,996.36 | -326.67 | 1,304,889.56 | 3,227,202.45 | 40.167458 | -104.687000 |
| 12,197.00 | 89.69 | 3.27 | 7,291.12 | 5,081.27 | -322.74 | 1,304,974.50 | 3,227,205.59 | 40.167691 | -104.686986 |
| 12,283.00 | 90.68 | 4.17 | 7,290.84 | 5,167.09 | -317.16 | 1,305,060.36 | 3,227,210.38 | 40.167927 | -104.686966 |
| 12,369.00 | 90.31 | 4.11 | 7,290.10 | 5,252.86 | -310.96 | 1,305,146.18 | 3,227,215.81 | 40.168162 | -104.686944 |
| 12,455.00 | 89.94 | 4.01 | 7,289.91 | 5,338.64 | -304.87 | 1,305,232.01 | 3,227,221.11 | 40.168398 | -104.686922 |
| 12,540.00 | 90.74 | 3.56 | 7,289.41 | 5,423.46 | -299.26 | 1,305,316.87 | 3,227,225.94 | 40.168630 | -104.686902 |
| 12,626.00 | 90.49 | 3.40 | 7,288.48 | 5,509.29 | -294.04 | 1,305,402.74 | 3,227,230.37 | 40.168866 | -104.686883 |
| 12,712.00 | 90.80 | 4.31 | 7,287.52 | 5,595.09 | -288.25 | 1,305,488.59 | 3,227,235.36 | 40.169102 | -104.686862 |
| 12,797.00 | 90.68 | 3.70 | 7,286.42 | 5,679.88 | -282.32 | 1,305,573.42 | 3,227,240.52 | 40.169334 | -104.686841 |
| 12,883.00 | 91.48 | 5.02 | 7,284.80 | 5,765.61 | -275.78 | 1,305,659.21 | 3,227,246.27 | 40.169570 | -104.686818 |
| 12,969.00 | 90.37 | 4.57 | 7,283.41 | 5,851.30 | -268.59 | 1,305,744.95 | 3,227,252.67 | 40.169805 | -104.686792 |
| 13,055.00 | 89.07 | 4.14 | 7,283.83 | 5,937.04 | -262.06 | 1,305,830.75 | 3,227,258.41 | 40.170040 | -104.686769 |
| 13,141.00 | 89.51 | 4.25 | 7,284.89 | 6,022.81 | -255.77 | 1,305,916.57 | 3,227,263.91 | 40.170276 | -104.686746 |
| 13,227.00 | 89.57 | 3.99 | 7,285.58 | 6,108.58 | -249.59 | 1,306,002.39 | 3,227,269.30 | 40.170511 | -104.686724 |
| 13,312.00 | 89.75 | 4.32 | 7,286.09 | 6,193.36 | -243.44 | 1,306,087.22 | 3,227,274.68 | 40.170744 | -104.686702 |
| 13,398.00 | 90.31 | 3.23 | 7,286.04 | 6,279.17 | -237.77 | 1,306,173.07 | 3,227,279.56 | 40.170979 | -104.686682 |
| 13,484.00 | 90.74 | 3.36 | 7,285.26 | 6,365.02 | -232.83 | 1,306,258.96 | 3,227,283.71 | 40.171215 | -104.686664 |
| 13,570.00 | 89.38 | 2.31 | 7,285.17 | 6,450.91 | -228.58 | 1,306,344.89 | 3,227,287.18 | 40.171451 | -104.686649 |
| 13,655.00 | 89.26 | 2.45 | 7,286.17 | 6,535.83 | -225.05 | 1,306,429.83 | 3,227,289.93 | 40.171684 | -104.686636 |
| 13,741.00 | 89.51 | 2.01 | 7,287.10 | 6,621.76 | -221.70 | 1,306,515.79 | 3,227,292.48 | 40.171920 | -104.686624 |
| 13,827.00 | 89.57 | 2.14 | 7,287.79 | 6,707.70 | -218.59 | 1,306,601.75 | 3,227,294.81 | 40.172156 | -104.686613 |
| 13,912.00 | 90.00 | 2.20 | 7,288.11 | 6,792.64 | -215.37 | 1,306,686.71 | 3,227,297.25 | 40.172389 | -104.686602 |
| Final Sperry MWD Survey @ 13912.00ft | | | | | | | | | |
| 14,256.00 | 90.00 | 2.20 | 7,288.11 | 7,136.39 | -202.16 | 1,307,030.55 | 3,227,307.29 | 40.173332 | -104.686554 |
| Straight Line Proj. @ 14256' MD :: 7288.11' TVD | | | | | | | | | |

Halliburton Company

Survey Report - Geographic

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|------------------|--------------------------|-------------------------------------|--------------------------------|
| Company: | Anadarko Petroleum Corp. | Local Co-ordinate Reference: | Well Nichols 28C-5HZ |
| Project: | Weld County, CO (NAD 83) | TVD Reference: | RKB=16 @ 4927.00ft (Xtreme 22) |
| Site: | Sec. 8-T2N-R65W | MD Reference: | RKB=16 @ 4927.00ft (Xtreme 22) |
| Well: | Nichols 28C-5HZ | North Reference: | True |
| Wellbore: | Plan C Rev 0 | Survey Calculation Method: | Minimum Curvature |
| Design: | Actual Field Surveys | Database: | EDM 2003.16 Single User Db |

| Targets | | | | | | | | | |
|---|-----------|----------|----------|-----------|-----------|--------------|--------------|-----------|-------------|
| Target Name | Dip Angle | Dip Dir. | TVD | +N-S | +E-W | Northing | Easting | Latitude | Longitude |
| - hit/miss target | (°) | (°) | (ft) | (ft) | (ft) | (ft) | (ft) | | |
| - Shape | | | | | | | | | |
| Nichols 28C-5HZ_BHl - actual wellpath misses target center by 34.61ft at 14256.00ft MD (7288.11 TVD, 7136.39 N, -202.16 E) - Point | 0.00 | 0.00 | 7,267.00 | 7,162.08 | -192.54 | 1,307,056.33 | 3,227,316.68 | 40.173403 | -104.686520 |
| B&M 31-5 - actual wellpath misses target center by 356.40ft at 14256.00ft MD (7288.11 TVD, 7136.39 N, -202.16 E) - Circle (radius 160.00) | 0.00 | 0.00 | 7,083.79 | 7,274.64 | 55.05 | 1,307,171.15 | 3,227,563.22 | 40.173712 | -104.685634 |
| Nichols 28C-5HZ_8/5 - actual wellpath hits target center - Polygon | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1,299,896.61 | 3,227,574.96 | 40.153743 | -104.685831 |
| Point 1 | | | 0.00 | 2,461.05 | -3,147.53 | 1,302,328.56 | 3,224,405.10 | | |
| Point 2 | | | 0.00 | 2,467.98 | -514.97 | 1,302,359.66 | 3,227,037.38 | | |
| Point 3 | | | 0.00 | 2,475.08 | 2,117.57 | 1,302,390.93 | 3,229,669.63 | | |
| Nichols 28C-5HZ_Mi/ - actual wellpath hits target center - Polygon | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1,299,896.61 | 3,227,574.96 | 40.153743 | -104.685831 |
| Point 1 | | | 0.00 | -187.13 | -3,172.68 | 1,299,680.37 | 3,224,404.27 | | |
| Point 2 | | | 0.00 | -200.59 | 2,100.90 | 1,299,715.33 | 3,229,677.53 | | |
| Nichols 28C-5HZ_SB - actual wellpath hits target center - Polygon | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1,299,896.61 | 3,227,574.96 | 40.153743 | -104.685831 |
| Point 1 | | | 0.00 | 7,164.69 | -2,627.86 | 1,307,036.58 | 3,224,881.54 | | |
| Point 2 | | | 0.00 | 5,109.62 | -2,651.28 | 1,304,981.46 | 3,224,876.99 | | |
| Point 3 | | | 0.00 | 2,922.30 | -2,681.17 | 1,302,794.05 | 3,224,867.19 | | |
| Point 4 | | | 0.00 | 2,002.23 | -2,691.85 | 1,301,873.96 | 3,224,864.95 | | |
| Point 5 | | | 0.00 | -188.30 | -2,712.65 | 1,299,683.43 | 3,224,864.27 | | |
| Point 6 | | | 0.00 | -2,375.20 | -2,733.37 | 1,297,496.52 | 3,224,863.63 | | |
| Point 7 | | | 0.00 | -2,375.16 | -555.30 | 1,297,516.56 | 3,227,041.51 | | |
| Point 8 | | | 0.00 | -2,375.44 | 1,623.09 | 1,297,536.27 | 3,229,219.72 | | |
| Point 9 | | | 0.00 | -199.41 | 1,640.88 | 1,299,712.29 | 3,229,217.53 | | |
| Point 10 | | | 0.00 | 2,013.81 | 1,654.67 | 1,301,925.45 | 3,229,211.00 | | |
| Point 11 | | | 0.00 | 2,933.88 | 1,662.17 | 1,302,845.51 | 3,229,210.06 | | |
| Point 12 | | | 0.00 | 5,103.10 | 1,684.14 | 1,305,014.75 | 3,229,212.11 | | |
| Point 13 | | | 0.00 | 7,160.30 | 1,707.64 | 1,307,071.99 | 3,229,216.72 | | |
| Point 14 | | | 0.00 | 7,162.50 | -460.23 | 1,307,054.29 | 3,227,049.01 | | |
| Nichols 28C-5HZ_SHl - actual wellpath hits target center - Point | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1,299,896.61 | 3,227,574.96 | 40.153743 | -104.685831 |
| Nichols 28C-5HZ_WP - actual wellpath misses target center by 25.68ft at 11915.41ft MD (7291.08 TVD, 4799.83 N, -330.93 E) - Point | 0.00 | 0.00 | 7,267.00 | 4,800.00 | -322.00 | 1,304,693.26 | 3,227,208.92 | 40.166919 | -104.686983 |
| Nichols 28C-5HZ_Sec - actual wellpath hits target center - Polygon | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1,299,896.61 | 3,227,574.96 | 40.153743 | -104.685831 |
| Point 1 | | | 0.00 | 7,625.18 | -3,082.66 | 1,307,492.85 | 3,224,422.55 | | |
| Point 2 | | | 0.00 | 5,110.30 | -3,111.32 | 1,304,977.92 | 3,224,416.98 | | |
| Point 3 | | | 0.00 | 2,461.05 | -3,147.53 | 1,302,328.56 | 3,224,405.10 | | |
| Point 4 | | | 0.00 | -187.13 | -3,172.68 | 1,299,680.37 | 3,224,404.27 | | |
| Point 5 | | | 0.00 | -2,835.22 | -3,197.76 | 1,297,032.27 | 3,224,403.50 | | |
| Point 6 | | | 0.00 | -2,835.19 | -559.14 | 1,297,056.53 | 3,227,041.90 | | |
| Point 7 | | | 0.00 | -2,835.52 | 2,079.35 | 1,297,080.42 | 3,229,680.17 | | |
| Point 8 | | | 0.00 | -200.59 | 2,100.90 | 1,299,715.33 | 3,229,677.53 | | |
| Point 9 | | | 0.00 | 2,475.08 | 2,117.57 | 1,302,390.93 | 3,229,669.63 | | |
| Point 10 | | | 0.00 | 5,102.41 | 2,144.17 | 1,305,018.28 | 3,229,672.11 | | |
| Point 11 | | | 0.00 | 7,619.85 | 2,172.94 | 1,307,535.77 | 3,229,677.76 | | |
| Point 12 | | | 0.00 | 7,622.51 | -454.87 | 1,307,514.31 | 3,227,050.15 | | |

Halliburton Company

Survey Report - Geographic

| | | | |
|------------------|--------------------------|-------------------------------------|--------------------------------|
| Company: | Anadarko Petroleum Corp. | Local Co-ordinate Reference: | Well Nichols 28C-5HZ |
| Project: | Weld County, CO (NAD 83) | TVD Reference: | RKB=16 @ 4927.00ft (Xtreme 22) |
| Site: | Sec. 8-T2N-R65W | MD Reference: | RKB=16 @ 4927.00ft (Xtreme 22) |
| Well: | Nichols 28C-5HZ | North Reference: | True |
| Wellbore: | Plan C Rev 0 | Survey Calculation Method: | Minimum Curvature |
| Design: | Actual Field Surveys | Database: | EDM 2003.16 Single User Db |

| | | | | | | | | | |
|--------------------------------------|------|------|------|----------|---------|--------------|--------------|-----------|-------------|
| Nichols 28C-5HZ_LD | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1,299,896.61 | 3,227,574.96 | 40.153743 | -104.685831 |
| - actual wellpath hits target center | | | | | | | | | |
| - Polygon | | | | | | | | | |
| Point 1 | | | 0.00 | 7,166.65 | -911.69 | 1,307,054.29 | 3,226,597.55 | | |
| Point 2 | | | 0.00 | 2,472.18 | -972.25 | 1,302,359.66 | 3,226,580.10 | | |
| Point 3 | | | 0.00 | 257.19 | -993.41 | 1,300,144.66 | 3,226,579.27 | | |
| Point 4 | | | 0.00 | 248.71 | -70.15 | 1,300,144.66 | 3,227,502.53 | | |
| Point 5 | | | 0.00 | 2,463.78 | -57.72 | 1,302,359.66 | 3,227,494.63 | | |
| Point 6 | | | 0.00 | 7,158.34 | -6.48 | 1,307,054.29 | 3,227,502.76 | | |

| Casing Points | | | | | |
|---------------------|---------------------|---|---------------------|-------------------|--|
| Measured Depth (ft) | Vertical Depth (ft) | Name | Casing Diameter (") | Hole Diameter (") | |
| 7,660.60 | 7,276.20 | 7" Casing Point @ 7660.6' MD :: 7276.2' TVD | 7 | 8-3/4 | |

| Design Annotations | | | | | |
|---------------------|---------------------|-------------------|------------|---|--|
| Measured Depth (ft) | Vertical Depth (ft) | Local Coordinates | | Comment | |
| | | +N/-S (ft) | +E/-W (ft) | | |
| 16.00 | 16.00 | 0.00 | 0.00 | Xtreme 22: RKB = 16ft | |
| 116.00 | 116.00 | -0.23 | -0.10 | First MS Energy Services Gyro @ 116.00ft | |
| 801.00 | 801.00 | -1.42 | -0.07 | Final MS Energy Services Gyro @ 801.00ft | |
| 801.00 | 801.00 | -1.42 | -0.07 | Tie-On to Surface Gyros @ 801.00ft | |
| 888.00 | 887.99 | -1.98 | 0.26 | First Sperry MWD Survey @ 888.00ft | |
| 13,912.00 | 7,288.11 | 6,792.64 | -215.37 | Final Sperry MWD Survey @ 13912.00ft | |
| 14,256.00 | 7,288.11 | 7,136.39 | -202.16 | Straight Line Proj. @ 14256' MD :: 7288.11' TVD | |

| | | |
|-------------------|--------------------|-------------|
| Checked By: _____ | Approved By: _____ | Date: _____ |
|-------------------|--------------------|-------------|