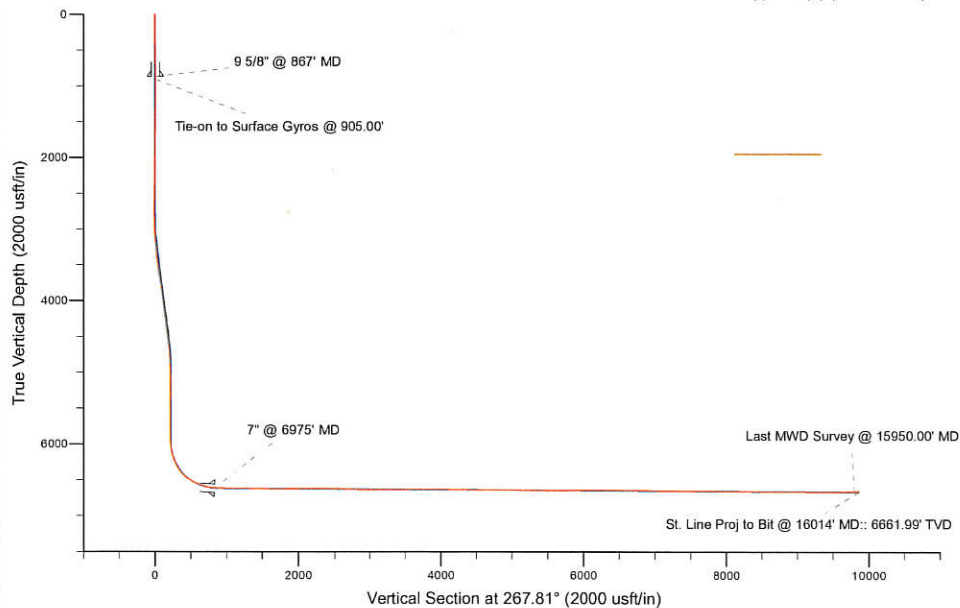
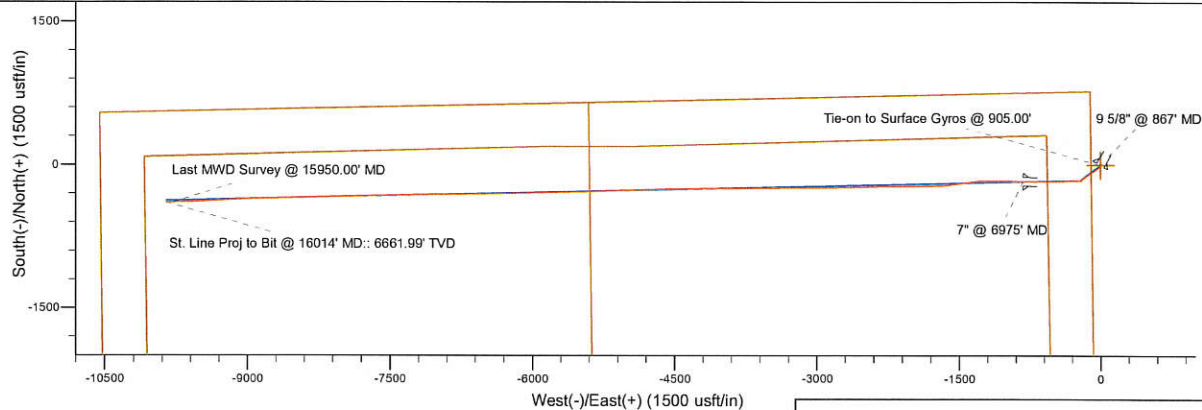


Project: Weld County, CO (NAD 83)
 Site: Sec. 4-T6N-R63W (NCLP AA04-04/05-B)
 Well: NCLP AA06-68-1HNA
 Wellbore: Plan B
 Design: Field Surveys

Noble Energy

HALLIBURTON
 Drilling



LEGEND

— NCLP AA06-68-1HNA, Plan B, Rev B0 - PROPOSAL V0
 — Field Surveys

Platted SHL: 810' FNL, 100' FWL
 Platted Lat/Long: 40.520880 N, 104.450860 W
 Location: Sec. 4-T6N-R63W

~7" Casing: 722' FEL, 928' FNL
 Lat/Long: 40.520434 N, 104.453824 W
 State Planes - CO Northern: 1,434,150.49 N, 3,290,846.47 E
 Location: Sec. 5-T6N-R63W

~BHL: 685' FWL, 951' FNL
 Lat/Long: 40.520109 N, 104.486319 W
 State Planes - CO Northern: 1,433,927.17 N, 3,281,814.49 E
 Location: Sec. 6-T6N-R63W

WELL DETAILS: NCLP AA06-68-1HNA

Ground Level: 4712.00
 RKB=30ft @ 4742.00usft (H&P 321)

Created By: Pari Amanlou
 Created On: July 8 2014

Noble Energy

Weld County, CO (NAD 83)

Sec. 4-T6N-R63W (NCLP AA04-04/05-B)

NCLP AA06-68-1HNA

Plan B

Design: Field Surveys

Sperry Drilling Services

Final Survey Report

08 August, 2014

Well Coordinates: 1,434,322.63 N, 3,291,668.54 E (40° 31' 15.17" N, 104° 27' 03.10" W)

Ground Level: 4,712.00 usft

Local Coordinate Origin:

Viewing Datum:

TVDs to System:

North Reference:

Unit System:

Geodetic Scale Factor Applied

Version: 5000.1 Build: 70

Centered on Well NCLP AA06-68-1HNA

RKB=30ft @ 4742.00usft (H&P 321)

N

Grid

Dec-Deg - API - US Survey Feet - Custom

HALLIBURTON

Design Report for NCLP AA06-68-1HNA - Field Surveys

| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) | Toolface Azimuth (°) |
|-----------------------------------|--------------------|----------------|-----------------------------|-----------------|-----------------|-------------------------------|-------------------------------|------------------------------|-----------------------------|----------------------------|
| 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 269.00 | 0.10 | 327.47 | 269.00 | 0.20 | -0.13 | 0.12 | 0.04 | 0.04 | 0.00 | 327.47 |
| 543.00 | 1.00 | 299.67 | 542.98 | 1.58 | -2.33 | 2.27 | 0.33 | 0.33 | -10.15 | -30.73 |
| 852.00 | 0.50 | 206.97 | 851.97 | 1.72 | -5.29 | 5.22 | 0.37 | -0.16 | -30.00 | -153.99 |
| 867.00 | 0.50 | 210.59 | 866.96 | 1.60 | -5.35 | 5.28 | 0.21 | 0.02 | 24.10 | 86.03 |
| 9 5/8" @ 867' MD | | | | | | | | | | |
| 905.00 | 0.52 | 219.42 | 904.96 | 1.32 | -5.54 | 5.49 | 0.21 | 0.04 | 23.25 | 82.42 |
| Tie-on to Surface Gyros @ 905.00' | | | | | | | | | | |
| 996.00 | 0.70 | 203.19 | 995.96 | 0.49 | -6.03 | 6.00 | 0.27 | 0.20 | -17.84 | -52.14 |
| 1,089.00 | 0.70 | 217.69 | 1,088.95 | -0.48 | -6.60 | 6.61 | 0.19 | 0.00 | 15.59 | 97.25 |
| 1,183.00 | 0.99 | 72.02 | 1,182.95 | -0.68 | -6.18 | 6.20 | 1.72 | 0.31 | -154.97 | -159.80 |
| 1,274.00 | 1.22 | 50.03 | 1,273.93 | 0.18 | -4.68 | 4.67 | 0.53 | 0.25 | -24.16 | -72.82 |
| 1,366.00 | 1.39 | 53.48 | 1,365.91 | 1.48 | -3.04 | 2.98 | 0.20 | 0.18 | 3.75 | 26.54 |
| 1,457.00 | 1.49 | 50.58 | 1,456.88 | 2.89 | -1.24 | 1.13 | 0.14 | 0.11 | -3.19 | -37.54 |
| 1,549.00 | 0.20 | 301.42 | 1,548.87 | 3.73 | -0.45 | 0.31 | 1.70 | -1.40 | -118.65 | -173.07 |
| 1,642.00 | 0.15 | 246.15 | 1,641.87 | 3.76 | -0.70 | 0.56 | 0.18 | -0.05 | -59.43 | -132.90 |
| 1,735.00 | 0.15 | 107.39 | 1,734.87 | 3.68 | -0.69 | 0.55 | 0.30 | 0.00 | -149.20 | -159.38 |
| 1,828.00 | 0.22 | 15.69 | 1,827.87 | 3.81 | -0.53 | 0.38 | 0.29 | 0.08 | -98.60 | -125.44 |
| 1,921.00 | 0.25 | 336.59 | 1,920.87 | 4.17 | -0.56 | 0.40 | 0.17 | 0.03 | -42.04 | -99.36 |
| 2,015.00 | 0.37 | 41.73 | 2,014.86 | 4.59 | -0.44 | 0.27 | 0.37 | 0.13 | 69.30 | 105.71 |
| 2,110.00 | 0.35 | 24.11 | 2,109.86 | 5.08 | -0.12 | -0.08 | 0.12 | -0.02 | -18.55 | -108.97 |
| 2,204.00 | 0.72 | 55.44 | 2,203.86 | 5.68 | 0.48 | -0.70 | 0.49 | 0.39 | 33.33 | 54.71 |
| 2,299.00 | 0.83 | 75.89 | 2,298.85 | 6.18 | 1.64 | -1.88 | 0.31 | 0.12 | 21.53 | 78.75 |
| 2,394.00 | 1.03 | 60.08 | 2,393.84 | 6.78 | 3.05 | -3.31 | 0.34 | 0.21 | -16.64 | -60.15 |
| 2,488.00 | 1.29 | 67.25 | 2,487.82 | 7.61 | 4.76 | -5.05 | 0.32 | 0.28 | 7.63 | 32.79 |
| 2,583.00 | 1.08 | 90.51 | 2,582.80 | 8.01 | 6.64 | -6.94 | 0.55 | -0.22 | 24.48 | 124.92 |
| 2,677.00 | 1.55 | 76.45 | 2,676.77 | 8.30 | 8.76 | -9.07 | 0.60 | 0.50 | -14.96 | -41.63 |
| 2,772.00 | 0.21 | 204.55 | 2,771.76 | 8.45 | 9.94 | -10.25 | 1.78 | -1.41 | 134.84 | 174.38 |
| 2,867.00 | 2.64 | 226.31 | 2,866.73 | 6.78 | 8.28 | -8.54 | 2.57 | 2.56 | 22.91 | 23.58 |
| 2,962.00 | 4.12 | 225.44 | 2,961.56 | 2.87 | 4.27 | -4.38 | 1.56 | 1.56 | -0.92 | -2.42 |
| 3,057.00 | 6.18 | 222.94 | 3,056.17 | -3.27 | -1.65 | 1.77 | 2.18 | 2.17 | -2.63 | -7.46 |
| 3,151.00 | 5.60 | 210.61 | 3,149.68 | -10.92 | -7.43 | 7.84 | 1.48 | -0.62 | -13.12 | -120.68 |
| 3,246.00 | 6.99 | 217.45 | 3,244.10 | -19.50 | -13.30 | 14.04 | 1.66 | 1.46 | 7.20 | 31.78 |
| 3,341.00 | 8.26 | 228.04 | 3,338.27 | -28.65 | -21.89 | 22.97 | 1.99 | 1.34 | 11.15 | 53.22 |
| 3,436.00 | 9.23 | 231.72 | 3,432.16 | -37.93 | -32.95 | 34.38 | 1.18 | 1.02 | 3.87 | 31.80 |
| 3,531.00 | 8.88 | 232.25 | 3,525.98 | -47.14 | -44.73 | 46.50 | 0.38 | -0.37 | 0.56 | 166.86 |
| 3,625.00 | 10.24 | 236.48 | 3,618.67 | -56.20 | -57.43 | 59.54 | 1.63 | 1.45 | 4.50 | 29.42 |
| 3,720.00 | 11.22 | 237.89 | 3,712.01 | -65.78 | -72.30 | 74.76 | 1.07 | 1.03 | 1.48 | 15.69 |
| 3,815.00 | 10.01 | 239.19 | 3,805.38 | -74.92 | -87.22 | 90.02 | 1.30 | -1.27 | 1.37 | 169.44 |
| 3,909.00 | 8.16 | 235.27 | 3,898.20 | -82.90 | -99.72 | 102.82 | 2.07 | -1.97 | -4.17 | -163.43 |
| 4,004.00 | 7.28 | 234.23 | 3,992.34 | -90.26 | -110.15 | 113.51 | 0.94 | -0.93 | -1.09 | -171.49 |
| 4,099.00 | 8.45 | 231.91 | 4,086.44 | -98.09 | -120.52 | 124.18 | 1.28 | 1.23 | -2.44 | -16.33 |
| 4,194.00 | 9.29 | 230.71 | 4,180.31 | -107.25 | -131.95 | 135.95 | 0.91 | 0.88 | -1.26 | -13.02 |
| 4,289.00 | 8.75 | 241.26 | 4,274.14 | -115.58 | -144.22 | 148.53 | 1.83 | -0.57 | 11.11 | 113.24 |
| 4,383.00 | 8.86 | 240.21 | 4,367.03 | -122.61 | -156.77 | 161.35 | 0.21 | 0.12 | -1.12 | -56.13 |
| 4,478.00 | 10.29 | 233.15 | 4,460.71 | -131.34 | -169.91 | 174.81 | 1.95 | 1.51 | -7.43 | -42.91 |
| 4,573.00 | 9.14 | 230.50 | 4,554.34 | -141.23 | -182.53 | 187.79 | 1.30 | -1.21 | -2.79 | -160.05 |
| 4,668.00 | 7.04 | 227.30 | 4,648.39 | -149.98 | -192.63 | 198.22 | 2.26 | -2.21 | -3.37 | -169.48 |
| 4,763.00 | 6.05 | 223.28 | 4,742.77 | -157.57 | -200.34 | 206.21 | 1.15 | -1.04 | -4.23 | -157.15 |
| 4,857.00 | 3.99 | 230.14 | 4,836.41 | -163.27 | -206.25 | 212.34 | 2.28 | -2.19 | 7.30 | 167.15 |
| 4,952.00 | 0.70 | 251.38 | 4,931.32 | -165.58 | -209.33 | 215.51 | 3.52 | -3.46 | 22.36 | 175.65 |
| 5,047.00 | 1.41 | 279.50 | 5,026.30 | -165.57 | -211.04 | 217.21 | 0.90 | 0.75 | 29.60 | 50.72 |
| 5,142.00 | 0.35 | 37.67 | 5,121.29 | -165.15 | -212.01 | 218.17 | 1.69 | -1.12 | 124.39 | 168.92 |
| 5,237.00 | 0.62 | 329.82 | 5,216.29 | -164.47 | -212.09 | 218.22 | 0.62 | 0.28 | -71.42 | -101.44 |
| 5,332.00 | 0.36 | 330.11 | 5,311.29 | -163.77 | -212.50 | 218.60 | 0.27 | -0.27 | 0.31 | 179.60 |
| 5,427.00 | 0.51 | 103.25 | 5,406.28 | -163.61 | -212.24 | 218.34 | 0.84 | 0.16 | 140.15 | 152.30 |
| 5,522.00 | 0.51 | 96.33 | 5,501.28 | -163.75 | -211.41 | 217.51 | 0.06 | 0.00 | -7.28 | -93.46 |
| 5,616.00 | 0.52 | 89.28 | 5,595.28 | -163.79 | -210.56 | 216.67 | 0.07 | 0.01 | -7.50 | -84.57 |

Design Report for NCLP AA06-68-1HNA - Field Surveys

| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) | Toolface Azimuth (°) |
|-------------------------------------|--------------------|----------------|-----------------------------|-----------------|-----------------|-------------------------------|-------------------------------|------------------------------|-----------------------------|----------------------------|
| 5,711.00 | 0.10 | 312.01 | 5,690.28 | -163.73 | -210.19 | 216.30 | 0.63 | -0.44 | -144.49 | -173.48 |
| 5,806.00 | 0.59 | 328.04 | 5,785.27 | -163.26 | -210.51 | 216.60 | 0.52 | 0.52 | 16.87 | 19.23 |
| 5,887.00 | 0.50 | 342.83 | 5,866.27 | -162.57 | -210.84 | 216.90 | 0.21 | -0.11 | 18.26 | 129.86 |
| 5,949.00 | 0.65 | 292.53 | 5,928.27 | -162.17 | -211.24 | 217.29 | 0.82 | 0.24 | -81.13 | -99.62 |
| 5,994.00 | 1.01 | 276.69 | 5,973.26 | -162.03 | -211.87 | 217.91 | 0.94 | 0.80 | -35.20 | -40.60 |
| 6,042.00 | 5.33 | 265.45 | 6,021.18 | -162.16 | -214.52 | 220.56 | 9.05 | 9.00 | -23.42 | -13.83 |
| 6,090.00 | 9.46 | 262.37 | 6,068.77 | -162.86 | -220.65 | 226.72 | 8.64 | 8.60 | -6.42 | -7.01 |
| 6,138.00 | 12.94 | 264.47 | 6,115.85 | -163.90 | -229.91 | 236.01 | 7.30 | 7.25 | 4.37 | 7.72 |
| 6,184.00 | 15.47 | 268.75 | 6,160.44 | -164.53 | -241.18 | 247.29 | 5.95 | 5.50 | 9.30 | 24.63 |
| 6,232.00 | 19.37 | 268.46 | 6,206.23 | -164.89 | -255.54 | 261.65 | 8.13 | 8.12 | -0.60 | -1.41 |
| 6,279.00 | 23.57 | 268.40 | 6,249.96 | -165.36 | -272.73 | 278.85 | 8.94 | 8.94 | -0.13 | -0.33 |
| 6,327.00 | 28.26 | 270.34 | 6,293.12 | -165.56 | -293.70 | 299.81 | 9.93 | 9.77 | 4.04 | 11.12 |
| 6,374.00 | 31.40 | 267.48 | 6,333.89 | -166.03 | -317.07 | 323.18 | 7.33 | 6.68 | -6.09 | -25.62 |
| 6,422.00 | 36.12 | 264.23 | 6,373.79 | -168.00 | -343.65 | 349.82 | 10.53 | 9.83 | -6.77 | -22.30 |
| 6,469.00 | 40.90 | 264.31 | 6,410.55 | -170.92 | -372.76 | 379.02 | 10.17 | 10.17 | 0.17 | 0.63 |
| 6,517.00 | 46.88 | 267.20 | 6,445.13 | -173.34 | -405.93 | 412.26 | 13.14 | 12.46 | 6.02 | 19.58 |
| 6,564.00 | 52.49 | 269.31 | 6,475.53 | -174.40 | -441.73 | 448.07 | 12.42 | 11.94 | 4.49 | 16.69 |
| 6,612.00 | 58.04 | 270.37 | 6,502.87 | -174.50 | -481.16 | 487.48 | 11.70 | 11.56 | 2.21 | 9.23 |
| 6,658.00 | 62.73 | 269.72 | 6,525.60 | -174.48 | -521.14 | 527.43 | 10.27 | 10.20 | -1.41 | -7.03 |
| 6,706.00 | 66.57 | 270.18 | 6,546.14 | -174.51 | -564.51 | 570.77 | 8.05 | 8.00 | 0.96 | 6.28 |
| 6,753.00 | 68.36 | 270.21 | 6,564.16 | -174.36 | -607.92 | 614.14 | 3.81 | 3.81 | 0.06 | 0.89 |
| 6,801.00 | 69.88 | 269.51 | 6,581.26 | -174.47 | -652.77 | 658.96 | 3.45 | 3.17 | -1.46 | -23.41 |
| 6,848.00 | 72.83 | 269.85 | 6,596.29 | -174.72 | -697.29 | 703.46 | 6.31 | 6.28 | 0.72 | 6.29 |
| 6,896.00 | 78.18 | 271.21 | 6,608.30 | -174.28 | -743.74 | 749.86 | 11.48 | 11.15 | 2.83 | 14.00 |
| 6,931.00 | 83.76 | 271.91 | 6,613.79 | -173.34 | -778.28 | 784.34 | 16.06 | 15.94 | 2.00 | 7.12 |
| Last Intermediate Survey @ 6931.00' | | | | | | | | | | |
| 6,975.00 | 86.25 | 271.20 | 6,617.62 | -172.15 | -822.10 | 828.08 | 5.89 | 5.66 | -1.62 | -15.90 |
| 7" @ 6975' MD | | | | | | | | | | |
| 7,026.00 | 89.14 | 270.38 | 6,619.67 | -171.45 | -873.05 | 878.96 | 5.89 | 5.66 | -1.61 | -15.84 |
| 7,121.00 | 90.06 | 271.24 | 6,620.33 | -170.11 | -968.03 | 973.83 | 1.33 | 0.97 | 0.91 | 43.07 |
| 7,215.00 | 89.14 | 269.91 | 6,620.99 | -169.17 | -1,062.02 | 1,067.71 | 1.72 | -0.98 | -1.41 | -124.68 |
| 7,310.00 | 90.22 | 270.52 | 6,621.52 | -168.81 | -1,157.02 | 1,162.62 | 1.31 | 1.14 | 0.64 | 29.46 |
| 7,404.00 | 89.23 | 267.94 | 6,621.97 | -170.07 | -1,251.00 | 1,256.59 | 2.94 | -1.05 | -2.74 | -111.00 |
| 7,499.00 | 89.23 | 263.16 | 6,623.25 | -177.44 | -1,345.68 | 1,351.48 | 5.03 | 0.00 | -5.03 | -90.03 |
| 7,594.00 | 88.92 | 261.14 | 6,624.78 | -190.41 | -1,439.77 | 1,445.99 | 2.15 | -0.33 | -2.13 | -98.74 |
| 7,689.00 | 87.90 | 262.45 | 6,627.42 | -203.97 | -1,533.76 | 1,540.43 | 1.75 | -1.07 | 1.38 | 127.93 |
| 7,784.00 | 88.80 | 264.51 | 6,630.15 | -214.75 | -1,628.10 | 1,635.12 | 2.37 | 0.95 | 2.17 | 66.42 |
| 7,879.00 | 90.15 | 268.46 | 6,631.02 | -220.57 | -1,722.89 | 1,730.07 | 4.39 | 1.42 | 4.16 | 71.16 |
| 7,974.00 | 90.40 | 269.32 | 6,630.57 | -222.41 | -1,817.87 | 1,825.05 | 0.94 | 0.26 | 0.91 | 73.79 |
| 8,069.00 | 90.74 | 268.51 | 6,629.62 | -224.21 | -1,912.85 | 1,920.02 | 0.92 | 0.36 | -0.85 | -67.22 |
| 8,163.00 | 91.54 | 269.36 | 6,627.75 | -225.96 | -2,006.81 | 2,013.98 | 1.24 | 0.85 | 0.90 | 46.72 |
| 8,258.00 | 91.20 | 269.82 | 6,625.48 | -226.64 | -2,101.78 | 2,108.91 | 0.60 | -0.36 | 0.48 | 126.47 |
| 8,353.00 | 90.71 | 269.99 | 6,623.90 | -226.79 | -2,196.77 | 2,203.83 | 0.55 | -0.52 | 0.18 | 160.87 |
| 8,447.00 | 89.04 | 269.60 | 6,624.10 | -227.13 | -2,290.77 | 2,297.77 | 1.82 | -1.78 | -0.41 | -166.86 |
| 8,542.00 | 88.89 | 268.51 | 6,625.82 | -228.70 | -2,385.74 | 2,392.73 | 1.16 | -0.16 | -1.15 | -97.85 |
| 8,637.00 | 88.58 | 268.03 | 6,627.92 | -231.56 | -2,480.67 | 2,487.71 | 0.60 | -0.33 | -0.51 | -122.87 |
| 8,732.00 | 88.86 | 268.86 | 6,630.04 | -234.14 | -2,575.61 | 2,582.68 | 0.92 | 0.29 | 0.87 | 71.36 |
| 8,827.00 | 87.72 | 267.76 | 6,632.87 | -236.94 | -2,670.52 | 2,677.63 | 1.67 | -1.20 | -1.16 | -136.05 |
| 8,922.00 | 88.61 | 269.64 | 6,635.92 | -239.09 | -2,765.45 | 2,772.56 | 2.19 | 0.94 | 1.98 | 64.69 |
| 9,017.00 | 89.29 | 270.46 | 6,637.66 | -239.01 | -2,860.43 | 2,867.47 | 1.12 | 0.72 | 0.86 | 50.34 |
| 9,111.00 | 89.01 | 269.89 | 6,639.05 | -238.72 | -2,954.42 | 2,961.38 | 0.68 | -0.30 | -0.61 | -116.17 |
| 9,206.00 | 89.75 | 270.05 | 6,640.08 | -238.77 | -3,049.41 | 3,056.31 | 0.80 | 0.78 | 0.17 | 12.20 |
| 9,301.00 | 90.31 | 269.48 | 6,640.03 | -239.16 | -3,144.41 | 3,151.25 | 0.84 | 0.59 | -0.60 | -45.51 |
| 9,396.00 | 89.41 | 269.23 | 6,640.26 | -240.23 | -3,239.40 | 3,246.22 | 0.98 | -0.95 | -0.26 | -164.48 |
| 9,490.00 | 91.11 | 269.60 | 6,639.84 | -241.19 | -3,333.39 | 3,340.18 | 1.85 | 1.81 | 0.39 | 12.28 |
| 9,585.00 | 90.96 | 268.76 | 6,638.12 | -242.55 | -3,428.37 | 3,435.13 | 0.90 | -0.16 | -0.88 | -100.12 |
| 9,680.00 | 91.29 | 269.66 | 6,636.25 | -243.86 | -3,523.34 | 3,530.08 | 1.01 | 0.35 | 0.95 | 69.85 |
| 9,775.00 | 89.97 | 269.01 | 6,635.21 | -244.96 | -3,618.32 | 3,625.04 | 1.55 | -1.39 | -0.68 | -153.78 |
| 9,869.00 | 90.12 | 268.85 | 6,635.14 | -246.72 | -3,712.31 | 3,719.02 | 0.23 | 0.16 | -0.17 | -46.85 |
| 9,964.00 | 89.23 | 269.60 | 6,635.68 | -248.00 | -3,807.29 | 3,813.99 | 1.23 | -0.94 | 0.79 | 139.88 |

Design Report for NCLP AA06-68-1HNA - Field Surveys

| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) | Toolface Azimuth (°) |
|-----------------------------|--------------------|----------------|-----------------------------|-----------------|-----------------|-------------------------------|-------------------------------|------------------------------|-----------------------------|----------------------------|
| 10,057.00 | 89.63 | 270.13 | 6,636.60 | -248.22 | -3,900.29 | 3,906.93 | 0.71 | 0.43 | 0.57 | 52.96 |
| 10,149.00 | 89.66 | 270.00 | 6,637.17 | -248.12 | -3,992.29 | 3,998.85 | 0.15 | 0.03 | -0.14 | -77.01 |
| 10,241.00 | 89.91 | 270.33 | 6,637.52 | -247.85 | -4,084.29 | 4,090.78 | 0.45 | 0.27 | 0.36 | 52.85 |
| 10,333.00 | 89.01 | 269.18 | 6,638.38 | -248.25 | -4,176.28 | 4,182.72 | 1.59 | -0.98 | -1.25 | -128.05 |
| 10,425.00 | 88.98 | 269.09 | 6,640.00 | -249.64 | -4,268.25 | 4,274.68 | 0.10 | -0.03 | -0.10 | -108.44 |
| 10,518.00 | 88.83 | 269.09 | 6,641.77 | -251.11 | -4,361.23 | 4,367.64 | 0.16 | -0.16 | 0.00 | 180.00 |
| 10,610.00 | 88.55 | 268.87 | 6,643.88 | -252.75 | -4,453.19 | 4,459.59 | 0.39 | -0.30 | -0.24 | -141.85 |
| 10,701.00 | 90.06 | 268.87 | 6,644.98 | -254.54 | -4,544.16 | 4,550.57 | 1.66 | 1.66 | 0.00 | 0.00 |
| 10,793.00 | 90.22 | 268.52 | 6,644.76 | -256.64 | -4,636.14 | 4,642.56 | 0.42 | 0.17 | -0.38 | -65.43 |
| 10,884.00 | 90.22 | 267.98 | 6,644.41 | -259.42 | -4,727.09 | 4,733.55 | 0.59 | 0.00 | -0.59 | -90.00 |
| 10,977.00 | 90.52 | 268.18 | 6,643.81 | -262.53 | -4,820.04 | 4,826.55 | 0.39 | 0.32 | 0.22 | 33.69 |
| 11,071.00 | 89.94 | 267.75 | 6,643.43 | -265.87 | -4,913.98 | 4,920.55 | 0.77 | -0.62 | -0.46 | -143.45 |
| 11,162.00 | 89.78 | 267.82 | 6,643.65 | -269.39 | -5,004.91 | 5,011.55 | 0.19 | -0.18 | 0.08 | 156.37 |
| 11,254.00 | 88.34 | 267.95 | 6,645.16 | -272.78 | -5,096.83 | 5,103.53 | 1.57 | -1.57 | 0.14 | 174.84 |
| 11,345.00 | 89.14 | 267.81 | 6,647.16 | -276.15 | -5,187.75 | 5,194.51 | 0.89 | 0.88 | -0.15 | -9.93 |
| 11,437.00 | 89.01 | 268.62 | 6,648.65 | -279.01 | -5,279.69 | 5,286.50 | 0.89 | -0.14 | 0.88 | 99.13 |
| 11,530.00 | 89.66 | 269.01 | 6,649.73 | -280.94 | -5,372.66 | 5,379.47 | 0.82 | 0.70 | 0.42 | 30.96 |
| 11,623.00 | 89.94 | 268.68 | 6,650.05 | -282.81 | -5,465.64 | 5,472.46 | 0.47 | 0.30 | -0.35 | -49.69 |
| 11,716.00 | 89.54 | 268.35 | 6,650.47 | -285.22 | -5,558.61 | 5,565.45 | 0.56 | -0.43 | -0.35 | -140.48 |
| 11,809.00 | 88.89 | 268.06 | 6,651.75 | -288.14 | -5,651.55 | 5,658.44 | 0.77 | -0.70 | -0.31 | -155.96 |
| 11,903.00 | 91.11 | 269.16 | 6,651.75 | -290.42 | -5,745.52 | 5,752.42 | 2.64 | 2.36 | 1.17 | 26.36 |
| 11,998.00 | 91.36 | 269.02 | 6,649.70 | -291.92 | -5,840.49 | 5,847.38 | 0.30 | 0.26 | -0.15 | -29.24 |
| 12,092.00 | 91.17 | 268.41 | 6,647.62 | -294.03 | -5,934.44 | 5,941.34 | 0.68 | -0.20 | -0.65 | -107.30 |
| 12,187.00 | 90.43 | 267.97 | 6,646.30 | -297.03 | -6,029.38 | 6,036.33 | 0.91 | -0.78 | -0.46 | -149.26 |
| 12,282.00 | 90.37 | 269.26 | 6,645.63 | -299.33 | -6,124.35 | 6,131.31 | 1.36 | -0.06 | 1.36 | 92.66 |
| 12,377.00 | 90.03 | 269.27 | 6,645.30 | -300.55 | -6,219.34 | 6,226.28 | 0.36 | -0.36 | 0.01 | 178.32 |
| 12,471.00 | 90.06 | 269.44 | 6,645.23 | -301.60 | -6,313.33 | 6,320.25 | 0.18 | 0.03 | 0.18 | 79.99 |
| 12,566.00 | 89.41 | 268.70 | 6,645.67 | -303.15 | -6,408.32 | 6,415.22 | 1.04 | -0.68 | -0.78 | -131.30 |
| 12,661.00 | 88.58 | 268.11 | 6,647.33 | -305.79 | -6,503.27 | 6,510.20 | 1.07 | -0.87 | -0.62 | -144.60 |
| 12,756.00 | 89.48 | 268.48 | 6,648.94 | -308.62 | -6,598.21 | 6,605.18 | 1.02 | 0.95 | 0.39 | 22.35 |
| 12,850.00 | 89.63 | 269.58 | 6,649.67 | -310.21 | -6,692.19 | 6,699.16 | 1.18 | 0.16 | 1.17 | 82.24 |
| 12,945.00 | 89.20 | 269.71 | 6,650.64 | -310.80 | -6,787.19 | 6,794.11 | 0.47 | -0.45 | 0.14 | 163.18 |
| 13,040.00 | 88.80 | 269.37 | 6,652.30 | -311.56 | -6,882.17 | 6,889.05 | 0.55 | -0.42 | -0.36 | -139.64 |
| 13,140.00 | 88.52 | 268.97 | 6,654.64 | -313.01 | -6,982.13 | 6,988.99 | 0.49 | -0.28 | -0.40 | -125.00 |
| 13,234.00 | 90.31 | 269.20 | 6,655.60 | -314.51 | -7,076.11 | 7,082.96 | 1.92 | 1.90 | 0.24 | 7.32 |
| 13,329.00 | 90.71 | 269.63 | 6,654.75 | -315.48 | -7,171.10 | 7,177.92 | 0.62 | 0.42 | 0.45 | 47.07 |
| 13,424.00 | 88.86 | 268.43 | 6,655.11 | -317.09 | -7,266.08 | 7,272.89 | 2.32 | -1.95 | -1.26 | -147.03 |
| 13,518.00 | 89.81 | 269.28 | 6,656.20 | -318.96 | -7,360.05 | 7,366.87 | 1.36 | 1.01 | 0.90 | 41.82 |
| 13,613.00 | 89.54 | 268.71 | 6,656.74 | -320.63 | -7,455.04 | 7,461.84 | 0.66 | -0.28 | -0.60 | -115.35 |
| 13,708.00 | 89.14 | 268.01 | 6,657.83 | -323.35 | -7,549.99 | 7,556.83 | 0.85 | -0.42 | -0.74 | -119.75 |
| 13,802.00 | 90.99 | 270.22 | 6,657.73 | -324.80 | -7,643.97 | 7,650.80 | 3.07 | 1.97 | 2.35 | 50.07 |
| 13,897.00 | 88.55 | 267.48 | 6,658.11 | -326.71 | -7,738.93 | 7,745.76 | 3.86 | -2.57 | -2.88 | -131.68 |
| 13,992.00 | 89.66 | 268.53 | 6,659.59 | -330.01 | -7,833.86 | 7,840.75 | 1.61 | 1.17 | 1.11 | 43.41 |
| 14,087.00 | 88.67 | 267.89 | 6,660.98 | -332.98 | -7,928.80 | 7,935.74 | 1.24 | -1.04 | -0.67 | -147.13 |
| 14,182.00 | 90.25 | 269.79 | 6,661.87 | -334.90 | -8,023.77 | 8,030.71 | 2.60 | 1.66 | 2.00 | 50.26 |
| 14,276.00 | 88.61 | 268.09 | 6,662.81 | -336.64 | -8,117.74 | 8,124.68 | 2.51 | -1.74 | -1.81 | -133.98 |
| 14,371.00 | 88.74 | 268.32 | 6,665.00 | -339.62 | -8,212.67 | 8,219.65 | 0.28 | 0.14 | 0.24 | 60.52 |
| 14,466.00 | 89.75 | 268.61 | 6,666.26 | -342.16 | -8,307.63 | 8,314.64 | 1.11 | 1.06 | 0.31 | 16.02 |
| 14,561.00 | 90.43 | 268.52 | 6,666.11 | -344.54 | -8,402.60 | 8,409.63 | 0.72 | 0.72 | -0.09 | -7.54 |
| 14,655.00 | 89.35 | 267.43 | 6,666.29 | -347.86 | -8,496.54 | 8,503.62 | 1.63 | -1.15 | -1.16 | -134.74 |
| 14,750.00 | 89.41 | 268.85 | 6,667.32 | -350.94 | -8,591.48 | 8,598.61 | 1.50 | 0.06 | 1.49 | 87.59 |
| 14,845.00 | 90.03 | 269.46 | 6,667.78 | -352.35 | -8,686.47 | 8,693.59 | 0.92 | 0.65 | 0.64 | 44.54 |
| 14,940.00 | 89.26 | 268.48 | 6,668.37 | -354.05 | -8,781.45 | 8,788.56 | 1.31 | -0.81 | -1.03 | -128.16 |
| 15,035.00 | 90.31 | 269.47 | 6,668.72 | -355.75 | -8,876.43 | 8,883.54 | 1.52 | 1.11 | 1.04 | 43.32 |
| 15,130.00 | 88.92 | 267.10 | 6,669.36 | -358.60 | -8,971.37 | 8,978.52 | 2.89 | -1.46 | -2.49 | -120.40 |
| 15,225.00 | 90.37 | 267.83 | 6,669.95 | -362.80 | -9,066.28 | 9,073.52 | 1.71 | 1.53 | 0.77 | 26.73 |
| 15,320.00 | 89.60 | 266.78 | 6,669.98 | -367.26 | -9,161.17 | 9,168.51 | 1.37 | -0.81 | -1.11 | -126.25 |
| 15,414.00 | 89.54 | 266.17 | 6,670.68 | -373.04 | -9,254.99 | 9,262.48 | 0.65 | -0.06 | -0.65 | -95.62 |
| 15,509.00 | 90.59 | 268.26 | 6,670.57 | -377.66 | -9,349.87 | 9,357.47 | 2.46 | 1.11 | 2.20 | 63.33 |
| 15,604.00 | 89.44 | 266.04 | 6,670.55 | -382.38 | -9,444.74 | 9,452.46 | 2.63 | -1.21 | -2.34 | -117.38 |

Design Report for NCLP AA06-68-1HNA - Field Surveys

| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) | Toolface Azimuth (°) |
|---|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|-------------------------|------------------------|-----------------------|----------------------|
| 15,699.00 | 90.99 | 267.14 | 6,670.19 | -388.03 | -9,539.57 | 9,547.43 | 2.00 | 1.63 | 1.16 | 35.36 |
| 15,793.00 | 92.25 | 268.82 | 6,667.54 | -391.34 | -9,633.47 | 9,641.39 | 2.23 | 1.34 | 1.79 | 53.10 |
| 15,888.00 | 91.08 | 269.08 | 6,664.78 | -393.08 | -9,728.41 | 9,736.33 | 1.26 | -1.23 | 0.27 | 167.47 |
| 15,950.00 | 91.33 | 268.86 | 6,663.47 | -394.20 | -9,790.39 | 9,798.30 | 0.54 | 0.40 | -0.35 | -41.34 |
| Last MWD Survey @ 15950.00' MD | | | | | | | | | | |
| 16,014.00 | 91.33 | 268.86 | 6,661.99 | -395.47 | -9,854.36 | 9,862.27 | 0.00 | 0.00 | 0.00 | 180.00 |
| St. Line Proj to Bit @ 16014' MD:: 6661.99' TVD - NCLP AA06-68-1HNA_BHL | | | | | | | | | | |

Design Annotations

| Measured Depth (usft) | Vertical Depth (usft) | Local Coordinates | | Comment |
|-----------------------|-----------------------|-------------------|--------------|---|
| | | +N/-S (usft) | +E/-W (usft) | |
| 905.00 | 904.96 | 1.32 | -5.54 | Tie-on to Surface Gyros @ 905.00' |
| 6,931.00 | 6,613.79 | -173.34 | -778.28 | Last Intermediate Survey @ 6931.00' |
| 15,950.00 | 6,663.47 | -394.20 | -9,790.39 | Last MWD Survey @ 15950.00' MD |
| 16,014.00 | 6,661.99 | -395.47 | -9,854.36 | St. Line Proj to Bit @ 16014' MD:: 6661.99' TVD |

Vertical Section Information

| Angle Type | Target | Azimuth (°) | Origin Type | Origin +N/-S (usft) | Origin +E/-W (usft) | Start TVD (usft) |
|------------|-----------------------|-------------|-------------|---------------------|---------------------|------------------|
| Target | NCLP AA06-68-1HNA_BHL | 267.81 | Slot | 0.00 | 0.00 | 0.00 |

Survey tool program

| From (usft) | To (usft) | Survey/Plan | Survey Tool |
|-------------|-----------|--------------------------|----------------|
| 269.00 | 852.00 | SurfaceGyro | Flexi-Shot |
| 905.00 | 6,931.00 | MWD Surveys-Intermediate | MWD+IFR1+MS_WY |
| 7,026.00 | 15,950.00 | MWD Surveys-Production | MWD+IFR1+MS_WY |

Casing Details

| Measured Depth (usft) | Vertical Depth (usft) | Name | Casing Diameter (") | Hole Diameter (") |
|-----------------------|-----------------------|------------------|---------------------|-------------------|
| 867.00 | 866.96 | 9 5/8" @ 867' MD | 9-5/8 | 13-3/4 |
| 6,975.00 | 6,617.62 | 7" @ 6975' MD | 7 | 8-3/4 |

Design Report for NCLP AA06-68-1HNA - Field Surveys

Targets associated with this wellbore

| Target Name | TVD (usft) | +N/-S (usft) | +E/-W (usft) | Shape |
|-----------------------|---------------|-----------------|-----------------|---------|
| NCLP AA06-68-1HNA_SHL | 0.00 | 0.00 | 0.00 | Point |
| NCLP AA06-68-1HNA_SL | 0.00 | 0.00 | 0.00 | Polygon |
| NCLP AA06-68-1HNA_460 | 0.00 | 0.00 | 0.00 | Polygon |
| NCLP AA06-68-1HNA_BHL | 6,669.60 | -376.95 | -9,855.02 | Point |

Directional Difficulty Index

| | | | |
|-------------------------------------|----------------|-------------------------------|-------------------------------------|
| Average Dogleg over Survey: | 1.62 °/100usft | Maximum Dogleg over Survey: | 16.06 °/100usft at 6,931.00 usft |
| Net Tortousity applicable to Plans: | 0.94 °/100usft | Directional Difficulty Index: | 6.792 |

Audit Info

**North Reference Sheet for Sec. 4-T6N-R63W (NCLP AA04-04/05-B) - NCLP
AA06-68-1HNA - Plan B**

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

Vertical Depths are relative to RKB=30ft @ 4742.00usft (H&P 321). Northing and Easting are relative to NCLP AA06-68-1HNA

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 -105.50°, Longitude Origin:0.000000°, Latitude Origin:40.783333°

False Easting: 3,000,000.00usft, False Northing: 1,000,000.00usft, Scale Reduction: 0.99996793

Grid Coordinates of Well: 1,434,322.63 usft N, 3,291,668.54 usft E

Geographical Coordinates of Well: 40° 31' 15.17" N, 104° 27' 03.10" W

Grid Convergence at Surface is: 0.68°

Based upon Minimum Curvature type calculations, at a Measured Depth of 16,014.00usft
the Bottom Hole Displacement is 9,862.29usft in the Direction of 267.70° (Grid).

Magnetic Convergence at surface is: -7.67° (7 June 2014, , BGGM2013)

