

Noble Energy

Weld County, CO (NAD 83)

Sec. 25-T4N-R66W (Burton 25 PAD)

Burton K25-69-1HNL - A1

Original Wellbore

Design: Sperry MWD Survey

Sperry Drilling Services

Final Survey Report

10 November, 2014

Well Coordinates: 1,349,148.68 N, 3,213,665.17 E (40° 17' 21.41" N, 104° 44' 02.65" W)

Ground Level: 4,752.00 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 Burton K25-69-1HNL - Slot A1

KB=30' @ 4782.00usft (H&P 321)

N

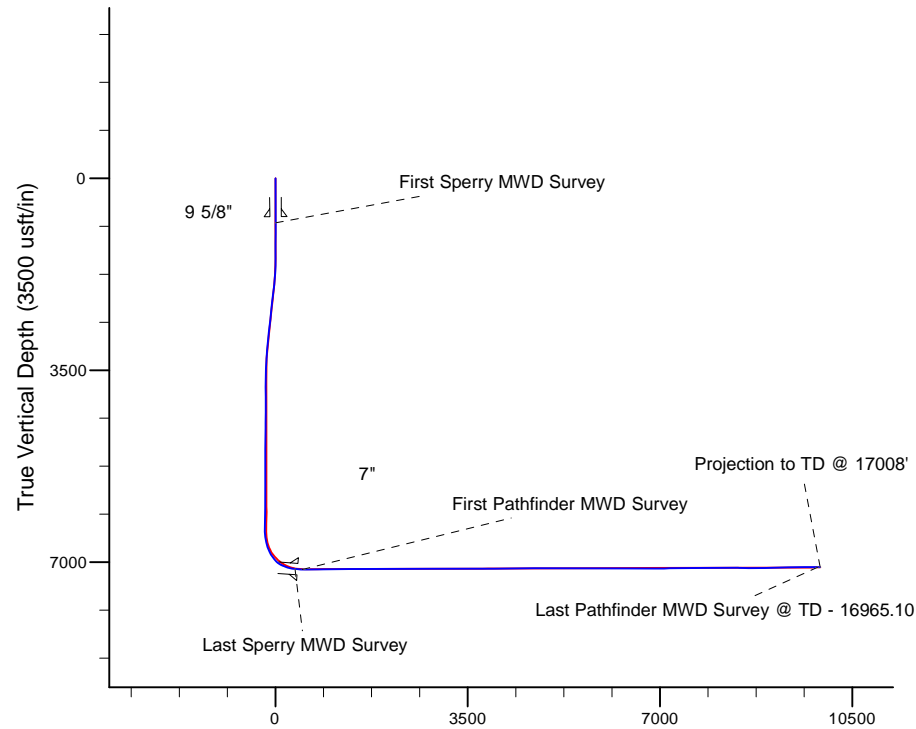
Grid

Dec-Deg - API - US Survey Feet - Custom

HALLIBURTON

Project: Weld County, CO (NAD 83)
 Site: Sec. 25-T4N-R66W (Burton 25 PAD)
 Well: Burton K25-69-1HNL
 Wellbore: Original Wellbore
 Design: Sperry MWD Survey

Noble Energy



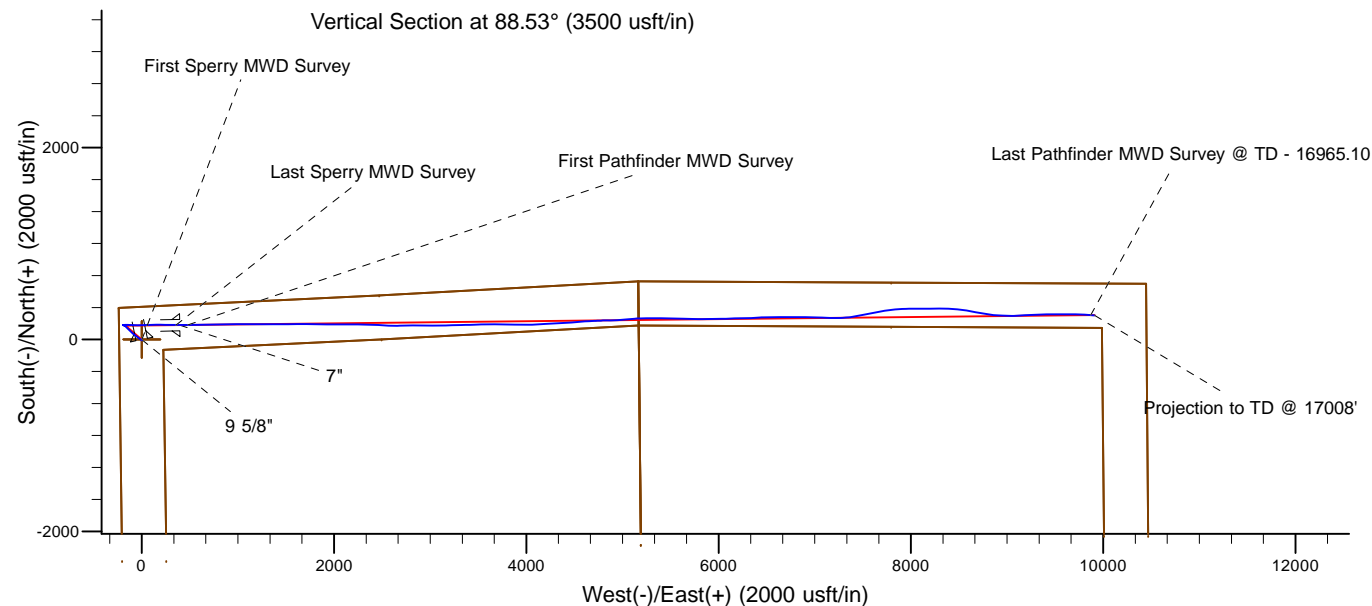
Platted SHL: 341 FNL, 236 FWL
 Platted Lat/Long: 40.28928 N, 104.73407 W
 Location: Sec. 25-T4N-R66W

~7" Casing: `410' FNL, `632' FWL
 Lat/Long: 40.289681 N 104.732642 W
 State Planes - CO Northern: 1349298.28 N 3214062.35 E
 Location: Sec. 25-T4N-R66W

Platted BHL: 330 FNL, 535 FEL
 Lat/Long: 40.28974 N, 104.69853 W
 State Planes - CO Northern: 1349403.86 N, 3223577.69 E
 Location: Sec. 30-T4N-R66W

LEGEND

- Burton K25-69-1HNL, Original Wellbore, Rev A0 Proposal V0
- Sperry MWD Survey



WELL DETAILS: Burton K25-69-1HNL

Ground Level: 4752.00
 KB=30' @ 4782.00usft (H&P 321)

Created By: Amanda Marchand
 Created On: 11/10/2014

Design Report for Burton K25-69-1HNL - Sperry MWD Survey

| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100usft) |
|--------------------------------|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|-------------------------|
| 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 812.00 | 0.37 | 168.30 | 811.99 | -2.57 | 0.53 | 0.47 | 0.05 |
| First Sperry MWD Survey | | | | | | | |
| 904.00 | 0.48 | 177.49 | 903.99 | -3.24 | 0.61 | 0.53 | 0.14 |
| 997.00 | 0.79 | 196.95 | 996.99 | -4.25 | 0.44 | 0.33 | 0.40 |
| 1,182.00 | 0.68 | 180.64 | 1,181.97 | -6.56 | 0.05 | -0.11 | 0.13 |
| 1,272.00 | 0.68 | 181.60 | 1,271.96 | -7.63 | 0.03 | -0.16 | 0.01 |
| 1,456.00 | 0.59 | 183.28 | 1,455.95 | -9.67 | -0.05 | -0.30 | 0.05 |
| 1,547.00 | 1.08 | 324.26 | 1,546.95 | -9.44 | -0.58 | -0.82 | 1.74 |
| 1,639.00 | 2.77 | 323.97 | 1,638.89 | -6.94 | -2.39 | -2.57 | 1.84 |
| 1,732.00 | 4.37 | 312.70 | 1,731.71 | -2.72 | -6.32 | -6.39 | 1.87 |
| 1,827.00 | 6.37 | 308.03 | 1,826.29 | 2.98 | -13.13 | -13.05 | 2.15 |
| 1,918.00 | 7.59 | 304.82 | 1,916.61 | 9.53 | -22.04 | -21.79 | 1.41 |
| 2,012.00 | 8.59 | 304.61 | 2,009.68 | 17.06 | -32.92 | -32.47 | 1.06 |
| 2,106.00 | 7.93 | 305.82 | 2,102.70 | 24.84 | -43.95 | -43.30 | 0.73 |
| 2,201.00 | 8.72 | 308.49 | 2,196.70 | 33.16 | -54.90 | -54.03 | 0.93 |
| 2,295.00 | 7.99 | 306.29 | 2,289.70 | 41.46 | -65.74 | -64.66 | 0.85 |
| 2,390.00 | 8.26 | 308.74 | 2,383.75 | 49.64 | -76.39 | -75.09 | 0.46 |
| 2,485.00 | 7.39 | 307.79 | 2,477.86 | 57.65 | -86.54 | -85.03 | 0.93 |
| 2,580.00 | 7.32 | 313.56 | 2,572.08 | 65.57 | -95.75 | -94.04 | 0.78 |
| 2,675.00 | 8.87 | 314.46 | 2,666.13 | 74.87 | -105.37 | -103.41 | 1.64 |
| 2,769.00 | 9.17 | 314.18 | 2,758.97 | 85.16 | -115.91 | -113.68 | 0.32 |
| 2,864.00 | 9.41 | 314.87 | 2,852.73 | 95.92 | -126.85 | -124.33 | 0.28 |
| 2,959.00 | 8.63 | 313.84 | 2,946.55 | 106.33 | -137.49 | -134.71 | 0.84 |
| 3,054.00 | 7.85 | 314.09 | 3,040.57 | 115.78 | -147.29 | -144.26 | 0.82 |
| 3,149.00 | 7.50 | 312.43 | 3,134.72 | 124.48 | -156.53 | -153.27 | 0.44 |
| 3,243.00 | 6.06 | 311.66 | 3,228.06 | 131.92 | -164.76 | -161.31 | 1.53 |
| 3,338.00 | 4.81 | 315.35 | 3,322.63 | 138.09 | -171.31 | -167.70 | 1.37 |
| 3,433.00 | 2.96 | 317.50 | 3,417.41 | 142.73 | -175.76 | -172.03 | 1.95 |
| 3,622.00 | 0.51 | 331.32 | 3,606.31 | 147.07 | -179.47 | -175.62 | 1.31 |
| 3,717.00 | 0.16 | 129.97 | 3,701.30 | 147.35 | -179.57 | -175.72 | 0.70 |
| 3,811.00 | 0.97 | 163.57 | 3,795.30 | 146.50 | -179.24 | -175.41 | 0.90 |
| 3,905.00 | 0.90 | 167.58 | 3,889.29 | 145.02 | -178.86 | -175.07 | 0.10 |
| 4,000.00 | 0.65 | 169.27 | 3,984.28 | 143.76 | -178.60 | -174.84 | 0.26 |
| 4,094.00 | 0.15 | 271.54 | 4,078.28 | 143.24 | -178.62 | -174.87 | 0.74 |
| 4,189.00 | 1.11 | 286.51 | 4,173.27 | 143.51 | -179.63 | -175.87 | 1.02 |
| 4,284.00 | 1.18 | 299.87 | 4,268.25 | 144.25 | -181.36 | -177.59 | 0.29 |
| 4,473.00 | 0.90 | 332.35 | 4,457.22 | 146.54 | -183.73 | -179.90 | 0.34 |
| 4,568.00 | 1.34 | 330.80 | 4,552.20 | 148.17 | -184.62 | -180.75 | 0.46 |
| 4,663.00 | 1.38 | 290.98 | 4,647.18 | 149.55 | -186.23 | -182.32 | 0.98 |
| 4,757.00 | 1.09 | 273.74 | 4,741.16 | 150.01 | -188.18 | -184.26 | 0.50 |
| 4,947.00 | 0.34 | 122.71 | 4,931.15 | 149.82 | -189.51 | -185.59 | 0.74 |
| 5,042.00 | 0.25 | 132.17 | 5,026.15 | 149.53 | -189.12 | -185.21 | 0.11 |
| 5,136.00 | 0.22 | 185.86 | 5,120.14 | 149.22 | -188.99 | -185.08 | 0.23 |
| 5,231.00 | 0.26 | 249.99 | 5,215.14 | 148.96 | -189.21 | -185.31 | 0.27 |
| 5,326.00 | 0.33 | 275.36 | 5,310.14 | 148.91 | -189.68 | -185.79 | 0.15 |
| 5,515.00 | 0.47 | 323.50 | 5,499.14 | 149.59 | -190.69 | -186.77 | 0.19 |
| 5,610.00 | 0.35 | 179.61 | 5,594.14 | 149.61 | -190.91 | -187.00 | 0.82 |
| 5,704.00 | 0.56 | 276.46 | 5,688.14 | 149.37 | -191.37 | -187.46 | 0.74 |
| 5,799.00 | 0.35 | 275.74 | 5,783.13 | 149.46 | -192.12 | -188.21 | 0.22 |

Design Report for Burton K25-69-1HNL - Sperry MWD Survey

| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100usft) |
|-----------------------------|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|-------------------------|
| 5,894.00 | 0.65 | 277.54 | 5,878.13 | 149.56 | -192.94 | -189.03 | 0.32 |
| 5,989.00 | 1.07 | 299.06 | 5,973.12 | 150.06 | -194.25 | -190.33 | 0.55 |
| 6,084.00 | 0.17 | 313.16 | 6,068.11 | 150.58 | -195.13 | -191.19 | 0.95 |
| 6,178.00 | 0.46 | 301.20 | 6,162.11 | 150.88 | -195.55 | -191.61 | 0.31 |
| 6,273.00 | 0.15 | 292.83 | 6,257.11 | 151.12 | -196.00 | -192.04 | 0.33 |
| 6,462.00 | 0.18 | 240.44 | 6,446.11 | 151.07 | -196.48 | -192.53 | 0.08 |
| 6,557.00 | 7.19 | 84.56 | 6,540.86 | 151.56 | -190.69 | -186.72 | 7.74 |
| 6,651.00 | 12.85 | 88.95 | 6,633.39 | 152.31 | -174.36 | -170.39 | 6.07 |
| 6,746.00 | 19.79 | 91.18 | 6,724.51 | 152.17 | -147.69 | -143.73 | 7.33 |
| 6,841.00 | 26.16 | 93.44 | 6,811.93 | 150.58 | -110.67 | -106.76 | 6.77 |
| 6,935.00 | 33.32 | 91.91 | 6,893.50 | 148.48 | -64.12 | -60.28 | 7.66 |
| 6,983.00 | 36.54 | 89.28 | 6,932.85 | 148.22 | -36.65 | -32.82 | 7.40 |
| 7,030.00 | 42.61 | 89.22 | 6,969.06 | 148.61 | -6.72 | -2.89 | 12.92 |
| 7,078.00 | 49.95 | 88.18 | 7,002.21 | 149.42 | 27.94 | 31.77 | 15.37 |
| 7,125.00 | 56.87 | 87.10 | 7,030.21 | 150.98 | 65.62 | 69.48 | 14.84 |
| 7,173.00 | 64.59 | 86.83 | 7,053.66 | 153.20 | 107.40 | 111.31 | 16.09 |
| 7,220.00 | 68.16 | 88.96 | 7,072.50 | 154.77 | 150.42 | 154.35 | 8.66 |
| 7,268.00 | 71.37 | 91.61 | 7,089.10 | 154.54 | 195.45 | 199.36 | 8.46 |
| 7,315.00 | 75.72 | 92.26 | 7,102.41 | 153.01 | 240.48 | 244.34 | 9.35 |
| 7,363.00 | 78.18 | 92.83 | 7,113.25 | 150.94 | 287.19 | 290.98 | 5.25 |
| 7,430.00 | 84.45 | 90.10 | 7,123.36 | 149.26 | 353.37 | 357.09 | 10.19 |
| Last Sperry MWD Survey | | | | | | | |
| 7,558.00 | 88.18 | 86.88 | 7,131.59 | 152.63 | 481.02 | 484.79 | 3.85 |
| First Pathfinder MWD Survey | | | | | | | |
| 7,653.00 | 90.96 | 89.53 | 7,132.30 | 155.61 | 575.95 | 579.76 | 4.04 |
| 7,748.00 | 91.96 | 89.78 | 7,129.88 | 156.18 | 670.92 | 674.71 | 1.09 |
| 7,842.00 | 90.00 | 90.11 | 7,128.27 | 156.27 | 764.90 | 768.67 | 2.11 |
| 7,937.00 | 90.62 | 89.72 | 7,127.76 | 156.41 | 859.90 | 863.64 | 0.77 |
| 8,032.00 | 90.07 | 87.74 | 7,127.19 | 158.51 | 954.87 | 958.63 | 2.16 |
| 8,126.00 | 90.62 | 89.98 | 7,126.62 | 160.38 | 1,048.84 | 1,052.62 | 2.45 |
| 8,221.00 | 90.41 | 90.17 | 7,125.77 | 160.26 | 1,143.83 | 1,147.58 | 0.30 |
| 8,316.00 | 90.24 | 90.74 | 7,125.23 | 159.51 | 1,238.83 | 1,242.52 | 0.63 |
| 8,411.00 | 90.31 | 90.01 | 7,124.77 | 158.88 | 1,333.83 | 1,337.47 | 0.77 |
| 8,505.00 | 90.21 | 89.85 | 7,124.34 | 159.00 | 1,427.82 | 1,431.44 | 0.20 |
| 8,600.00 | 90.28 | 89.99 | 7,123.94 | 159.13 | 1,522.82 | 1,526.41 | 0.16 |
| 8,695.00 | 90.00 | 89.10 | 7,123.71 | 159.89 | 1,617.82 | 1,621.40 | 0.98 |
| 8,789.00 | 90.21 | 90.80 | 7,123.53 | 159.97 | 1,711.82 | 1,715.37 | 1.82 |
| 8,884.00 | 90.17 | 89.53 | 7,123.22 | 159.69 | 1,806.81 | 1,810.32 | 1.34 |
| 8,979.00 | 90.14 | 90.56 | 7,122.96 | 159.62 | 1,901.81 | 1,905.29 | 1.08 |
| 9,074.00 | 90.45 | 90.77 | 7,122.47 | 158.52 | 1,996.80 | 2,000.22 | 0.39 |
| 9,168.00 | 90.45 | 90.22 | 7,121.73 | 157.70 | 2,090.80 | 2,094.16 | 0.59 |
| 9,263.00 | 90.31 | 91.51 | 7,121.10 | 156.27 | 2,185.78 | 2,189.08 | 1.37 |
| 9,357.00 | 90.14 | 88.51 | 7,120.74 | 156.25 | 2,279.77 | 2,283.04 | 3.20 |
| 9,452.00 | 90.58 | 90.98 | 7,120.14 | 156.68 | 2,374.76 | 2,378.01 | 2.64 |
| 9,547.00 | 90.17 | 94.80 | 7,119.52 | 151.89 | 2,469.62 | 2,472.71 | 4.04 |
| 9,642.00 | 90.07 | 94.49 | 7,119.32 | 144.19 | 2,564.31 | 2,567.17 | 0.34 |
| 9,737.00 | 90.34 | 86.14 | 7,118.98 | 143.67 | 2,659.22 | 2,662.04 | 8.79 |
| 9,831.00 | 90.03 | 89.86 | 7,118.67 | 146.95 | 2,753.15 | 2,756.02 | 3.97 |
| 9,926.00 | 90.14 | 90.16 | 7,118.53 | 146.94 | 2,848.15 | 2,850.98 | 0.34 |
| 10,021.00 | 90.17 | 90.61 | 7,118.28 | 146.30 | 2,943.14 | 2,945.93 | 0.47 |
| 10,116.00 | 90.28 | 90.23 | 7,117.90 | 145.60 | 3,038.14 | 3,040.88 | 0.42 |

Design Report for Burton K25-69-1HNL - Sperry MWD Survey

| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100usft) |
|-----------------------|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|-------------------------|
| 10,211.00 | 90.07 | 88.70 | 7,117.61 | 146.49 | 3,133.13 | 3,135.86 | 1.63 |
| 10,306.00 | 90.55 | 88.21 | 7,117.10 | 149.05 | 3,228.10 | 3,230.86 | 0.72 |
| 10,400.00 | 90.24 | 88.56 | 7,116.45 | 151.70 | 3,322.06 | 3,324.86 | 0.50 |
| 10,492.00 | 89.86 | 89.61 | 7,116.37 | 153.17 | 3,414.04 | 3,416.85 | 1.21 |
| 10,584.00 | 90.17 | 88.05 | 7,116.35 | 155.05 | 3,506.02 | 3,508.85 | 1.73 |
| 10,677.00 | 90.14 | 88.53 | 7,116.09 | 157.82 | 3,598.98 | 3,601.85 | 0.52 |
| 10,768.00 | 89.72 | 91.15 | 7,116.21 | 158.08 | 3,689.97 | 3,692.82 | 2.92 |
| 10,860.00 | 89.86 | 89.72 | 7,116.54 | 157.38 | 3,781.96 | 3,784.76 | 1.56 |
| 10,953.00 | 89.69 | 91.48 | 7,116.91 | 156.40 | 3,874.95 | 3,877.70 | 1.90 |
| 11,045.00 | 89.83 | 91.31 | 7,117.29 | 154.16 | 3,966.93 | 3,969.58 | 0.24 |
| 11,138.00 | 90.69 | 87.12 | 7,116.87 | 155.44 | 4,059.90 | 4,062.55 | 4.60 |
| 11,229.00 | 90.41 | 86.81 | 7,116.00 | 160.26 | 4,150.76 | 4,153.51 | 0.46 |
| 11,320.00 | 90.14 | 87.47 | 7,115.56 | 164.80 | 4,241.65 | 4,244.48 | 0.78 |
| 11,412.00 | 90.48 | 87.35 | 7,115.06 | 168.95 | 4,333.55 | 4,336.47 | 0.39 |
| 11,503.00 | 90.24 | 85.14 | 7,114.49 | 174.91 | 4,424.35 | 4,427.39 | 2.44 |
| 11,595.00 | 90.52 | 85.83 | 7,113.88 | 182.15 | 4,516.06 | 4,519.25 | 0.81 |
| 11,688.00 | 90.89 | 87.12 | 7,112.74 | 187.87 | 4,608.88 | 4,612.19 | 1.44 |
| 11,783.00 | 90.72 | 85.35 | 7,111.40 | 194.11 | 4,703.66 | 4,707.10 | 1.87 |
| 11,875.00 | 90.14 | 90.00 | 7,110.71 | 197.84 | 4,795.55 | 4,799.06 | 5.09 |
| 11,968.00 | 90.24 | 88.83 | 7,110.40 | 198.79 | 4,888.55 | 4,892.04 | 1.26 |
| 12,063.00 | 90.79 | 84.48 | 7,109.55 | 204.33 | 4,983.36 | 4,986.97 | 4.62 |
| 12,157.00 | 90.31 | 84.41 | 7,108.65 | 213.43 | 5,076.91 | 5,080.72 | 0.52 |
| 12,252.00 | 90.07 | 88.28 | 7,108.33 | 219.48 | 5,171.70 | 5,175.64 | 4.08 |
| 12,346.00 | 89.42 | 90.22 | 7,108.75 | 220.72 | 5,265.69 | 5,269.62 | 2.18 |
| 12,441.00 | 89.76 | 90.11 | 7,109.43 | 220.44 | 5,360.68 | 5,364.58 | 0.38 |
| 12,536.00 | 89.83 | 90.34 | 7,109.77 | 220.07 | 5,455.68 | 5,459.54 | 0.25 |
| 12,631.00 | 90.10 | 89.83 | 7,109.83 | 219.93 | 5,550.68 | 5,554.50 | 0.61 |
| 12,725.00 | 89.38 | 95.04 | 7,110.25 | 215.94 | 5,644.56 | 5,648.25 | 5.60 |
| 12,820.00 | 89.72 | 90.08 | 7,111.00 | 211.69 | 5,739.44 | 5,742.98 | 5.23 |
| 12,915.00 | 89.66 | 88.72 | 7,111.51 | 212.69 | 5,834.43 | 5,837.97 | 1.43 |
| 13,015.00 | 89.59 | 88.78 | 7,112.17 | 214.87 | 5,934.40 | 5,937.97 | 0.09 |
| 13,109.00 | 89.69 | 89.17 | 7,112.76 | 216.55 | 6,028.38 | 6,031.96 | 0.43 |
| 13,204.00 | 89.93 | 88.04 | 7,113.07 | 218.86 | 6,123.35 | 6,126.96 | 1.22 |
| 13,299.00 | 90.28 | 89.67 | 7,112.90 | 220.76 | 6,218.33 | 6,221.95 | 1.75 |
| 13,394.00 | 89.69 | 88.09 | 7,112.93 | 222.62 | 6,313.31 | 6,316.95 | 1.78 |
| 13,489.00 | 89.97 | 85.23 | 7,113.21 | 228.15 | 6,408.14 | 6,411.89 | 3.02 |
| 13,583.00 | 89.76 | 89.28 | 7,113.43 | 232.65 | 6,502.01 | 6,505.84 | 4.31 |
| 13,678.00 | 89.97 | 89.33 | 7,113.65 | 233.81 | 6,597.00 | 6,600.83 | 0.23 |
| 13,773.00 | 90.00 | 90.86 | 7,113.68 | 233.65 | 6,692.00 | 6,695.80 | 1.61 |
| 13,868.00 | 89.79 | 90.68 | 7,113.85 | 232.37 | 6,786.99 | 6,790.72 | 0.29 |
| 13,963.00 | 89.59 | 89.82 | 7,114.37 | 231.96 | 6,881.99 | 6,885.68 | 0.93 |
| 14,057.00 | 90.65 | 89.96 | 7,114.17 | 232.14 | 6,975.99 | 6,979.65 | 1.14 |
| 14,152.00 | 91.14 | 93.56 | 7,112.68 | 229.22 | 7,070.91 | 7,074.47 | 3.82 |
| 14,247.00 | 90.59 | 92.31 | 7,111.25 | 224.36 | 7,165.78 | 7,169.18 | 1.44 |
| 14,342.00 | 90.72 | 87.36 | 7,110.16 | 224.63 | 7,260.74 | 7,264.12 | 5.21 |
| 14,436.00 | 90.72 | 84.62 | 7,108.98 | 231.20 | 7,354.49 | 7,358.01 | 2.91 |
| 14,531.00 | 90.76 | 78.67 | 7,107.75 | 245.00 | 7,448.44 | 7,452.27 | 6.26 |
| 14,625.00 | 90.65 | 76.38 | 7,106.60 | 265.30 | 7,540.20 | 7,544.53 | 2.44 |
| 14,720.00 | 90.34 | 80.40 | 7,105.78 | 284.42 | 7,633.24 | 7,638.03 | 4.24 |
| 14,816.00 | 90.38 | 81.29 | 7,105.17 | 299.69 | 7,728.01 | 7,733.16 | 0.93 |
| 14,910.00 | 90.72 | 84.49 | 7,104.27 | 311.32 | 7,821.27 | 7,826.69 | 3.42 |

Design Report for Burton K25-69-1HNL - Sperry MWD Survey

| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100usft) |
|-----------------------|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|-------------------------|
| 15,005.00 | 90.79 | 87.23 | 7,103.02 | 318.18 | 7,916.01 | 7,921.57 | 2.88 |
| 15,100.00 | 90.65 | 89.31 | 7,101.82 | 321.05 | 8,010.95 | 8,016.56 | 2.19 |
| 15,194.00 | 90.76 | 91.35 | 7,100.67 | 320.51 | 8,104.94 | 8,110.50 | 2.17 |
| 15,289.00 | 90.17 | 88.56 | 7,099.90 | 320.58 | 8,199.92 | 8,205.46 | 3.00 |
| 15,384.00 | 89.76 | 89.25 | 7,099.95 | 322.40 | 8,294.91 | 8,300.45 | 0.84 |
| 15,479.00 | 88.90 | 92.28 | 7,101.07 | 321.13 | 8,389.88 | 8,395.36 | 3.32 |
| 15,574.00 | 87.63 | 95.97 | 7,103.94 | 314.30 | 8,484.57 | 8,489.85 | 4.11 |
| 15,668.00 | 87.94 | 99.26 | 7,107.58 | 301.86 | 8,577.66 | 8,582.59 | 3.51 |
| 15,763.00 | 90.69 | 100.41 | 7,108.71 | 285.63 | 8,671.25 | 8,675.72 | 3.14 |
| 15,858.00 | 90.89 | 100.04 | 7,107.40 | 268.77 | 8,764.73 | 8,768.74 | 0.44 |
| 15,953.00 | 91.14 | 96.51 | 7,105.72 | 255.10 | 8,858.71 | 8,862.34 | 3.72 |
| 16,047.00 | 91.79 | 92.01 | 7,103.32 | 248.12 | 8,952.39 | 8,955.81 | 4.84 |
| 16,143.00 | 91.92 | 89.64 | 7,100.21 | 246.74 | 9,048.33 | 9,051.68 | 2.47 |
| 16,237.00 | 91.55 | 86.30 | 7,097.36 | 250.07 | 9,142.21 | 9,145.62 | 3.57 |
| 16,332.00 | 90.58 | 86.90 | 7,095.59 | 255.70 | 9,237.03 | 9,240.55 | 1.20 |
| 16,427.00 | 90.93 | 88.23 | 7,094.34 | 259.74 | 9,331.93 | 9,335.52 | 1.45 |

Design Annotations

| Measured Depth (usft) | Vertical Depth (usft) | Local Coordinates | | Comment |
|-----------------------|-----------------------|-------------------|--------------|--|
| | | +N/-S (usft) | +E/-W (usft) | |
| 812.00 | 811.99 | -2.57 | 0.53 | First Sperry MWD Survey |
| 7,430.00 | 7,123.36 | 149.26 | 353.37 | Last Sperry MWD Survey |
| 7,558.00 | 7,131.59 | 152.63 | 481.02 | First Pathfinder MWD Survey |
| 16,965.00 | 7,088.12 | 254.14 | 9,869.61 | Last Pathfinder MWD Survey @ TD - 16965.10 |
| 17,008.00 | 7,088.02 | 250.80 | 9,912.48 | Projection to TD @ 17008' |

Vertical Section Information

| Angle Type | Target | Azimuth (°) | Origin Type | Origin | | Start TVD (usft) |
|------------|-------------------------------------|-------------|-------------|--------------|--------------|------------------|
| | | | | +N/_S (usft) | +E/-W (usft) | |
| Target | Burton K25-69-1HN_Rev A0_BHL Tgt | 88.53 | Slot | 0.00 | 0.00 | 0.00 |

Survey tool program

| From (usft) | To (usft) | Survey/Plan | Survey Tool |
|-------------|-----------|---------------------------------|----------------|
| 0.00 | 7,430.00 | Intermediate Surveys | MWD+IFR1+MS_WY |
| 7,558.00 | 17,008.00 | Production Surveys - Pathfinder | MWD+IFR1+MS_WY |

Casing Details

| Measured Depth (usft) | Vertical Depth (usft) | Name | Casing Diameter (") | Hole Diameter (") |
|-----------------------|-----------------------|--------|---------------------|-------------------|
| 699.00 | 699.00 | 9 5/8" | 9-5/8 | 13-3/4 |
| 7,474.00 | 7,127.13 | 7" | 7 | 8-3/4 |

Design Report for Burton K25-69-1HNL - Sperry MWD Survey

Wellbore Targets

| Target Name - hit/miss target - Shape | Dip Angle (°) | Dip Dir. (°) | TVD (usft) | +N/-S (usft) | +E/-W (usft) | Northing (usft) | Easting (usft) | Latitude | Longitude |
|--|---------------------|--------------------|---------------|-----------------|-----------------|--------------------|-------------------|--------------|-------------|
| Burton K25-69-1HN_S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1,349,148.68 | 3,213,665.17 | 40.289280 | -104.734070 |
| - actual wellpath hits target center | | | | | | | | | |
| - Polygon | | | | | | | | | |
| Point 1 | | | | 0.00 | -108.00 | 225.00 | 1,349,040.68 | 3,213,890.16 | |
| Point 2 | | | | 0.00 | 0.00 | 2,494.00 | 1,349,148.68 | 3,216,159.06 | |
| Point 3 | | | | 0.00 | 146.00 | 5,164.00 | 1,349,294.67 | 3,218,828.95 | |
| Point 4 | | | | 0.00 | 133.00 | 7,795.00 | 1,349,281.67 | 3,221,459.84 | |
| Point 5 | | | | 0.00 | 121.00 | 9,986.00 | 1,349,269.67 | 3,223,650.74 | |
| Point 6 | | | | 0.00 | -2,050.00 | 10,009.00 | 1,347,098.77 | 3,223,673.74 | |
| Point 7 | | | | 0.00 | -4,220.00 | 10,033.00 | 1,344,928.86 | 3,223,697.74 | |
| Point 8 | | | | 0.00 | -4,236.00 | 7,865.00 | 1,344,912.86 | 3,221,529.83 | |
| Point 9 | | | | 0.00 | -4,252.00 | 5,220.00 | 1,344,896.86 | 3,218,884.95 | |
| Point 10 | | | | 0.00 | -4,353.00 | 2,552.00 | 1,344,795.86 | 3,216,217.06 | |
| Point 11 | | | | 0.00 | -4,466.00 | 281.00 | 1,344,682.87 | 3,213,946.16 | |
| Point 12 | | | | 0.00 | -2,312.00 | 254.00 | 1,346,836.78 | 3,213,919.16 | |
| Point 13 | | | | 0.00 | -108.00 | 225.00 | 1,349,040.68 | 3,213,890.16 | |
| Burton K25-69-1HN_S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1,349,148.68 | 3,213,665.17 | 40.289280 | -104.734070 |
| - actual wellpath hits target center | | | | | | | | | |
| - Polygon | | | | | | | | | |
| Point 1 | | | | 0.00 | 606.00 | 5,164.00 | 1,349,754.65 | 3,218,828.95 | |
| Point 2 | | | | 0.00 | 593.00 | 7,795.00 | 1,349,741.65 | 3,221,459.84 | |
| Point 3 | | | | 0.00 | 581.00 | 10,446.00 | 1,349,729.65 | 3,224,110.72 | |
| Point 4 | | | | 0.00 | -2,050.00 | 10,469.00 | 1,347,098.77 | 3,224,133.72 | |
| Point 5 | | | | 0.00 | -4,680.00 | 10,493.00 | 1,344,468.88 | 3,224,157.72 | |
| Point 6 | | | | 0.00 | -4,696.00 | 7,865.00 | 1,344,452.88 | 3,221,529.83 | |
| Point 7 | | | | 0.00 | -4,712.00 | 5,220.00 | 1,344,436.88 | 3,218,884.95 | |
| Point 8 | | | | 0.00 | -2,141.00 | 5,191.00 | 1,347,007.77 | 3,218,855.95 | |
| Point 9 | | | | 0.00 | 606.00 | 5,164.00 | 1,349,754.65 | 3,218,828.95 | |
| Burton K25-69-1HN_S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1,349,148.68 | 3,213,665.17 | 40.289280 | -104.734070 |
| - actual wellpath hits target center | | | | | | | | | |
| - Polygon | | | | | | | | | |
| Point 1 | | | | 0.00 | 329.00 | -240.00 | 1,349,477.66 | 3,213,425.18 | |
| Point 2 | | | | 0.00 | 459.00 | 2,471.00 | 1,349,607.66 | 3,216,136.06 | |
| Point 3 | | | | 0.00 | 606.00 | 5,164.00 | 1,349,754.65 | 3,218,828.95 | |
| Point 4 | | | | 0.00 | -2,141.00 | 5,191.00 | 1,347,007.77 | 3,218,855.95 | |
| Point 5 | | | | 0.00 | -4,712.00 | 5,220.00 | 1,344,436.88 | 3,218,884.95 | |
| Point 6 | | | | 0.00 | -4,812.00 | 2,575.00 | 1,344,336.88 | 3,216,240.06 | |
| Point 7 | | | | 0.00 | -4,949.00 | -172.00 | 1,344,199.89 | 3,213,493.18 | |
| Point 8 | | | | 0.00 | -2,312.00 | -206.00 | 1,346,836.78 | 3,213,459.18 | |
| Point 9 | | | | 0.00 | 329.00 | -240.00 | 1,349,477.66 | 3,213,425.18 | |
| Burton K25-69-1HN_R | 0.00 | 0.00 | 7,094.38 | 255.20 | 9,912.95 | 1,349,403.86 | 3,223,577.69 | 40.289740 | -104.698530 |
| - actual wellpath misses target center by 581.04usft at 16427.00usft MD (7094.34 TVD, 259.74 N, 9331.93 E) | | | | | | | | | |
| - Point | | | | | | | | | |

Directional Difficulty Index

| | | | |
|-------------------------------------|----------------|-------------------------------|--------------------------------------|
| Average Dogleg over Survey: | 1.90 °/100usft | Maximum Dogleg over Survey: | 20.00 °/100usft at 16,965.10 usft |
| Net Tortousity applicable to Plans: | 1.27 °/100usft | Directional Difficulty Index: | 6.903 |

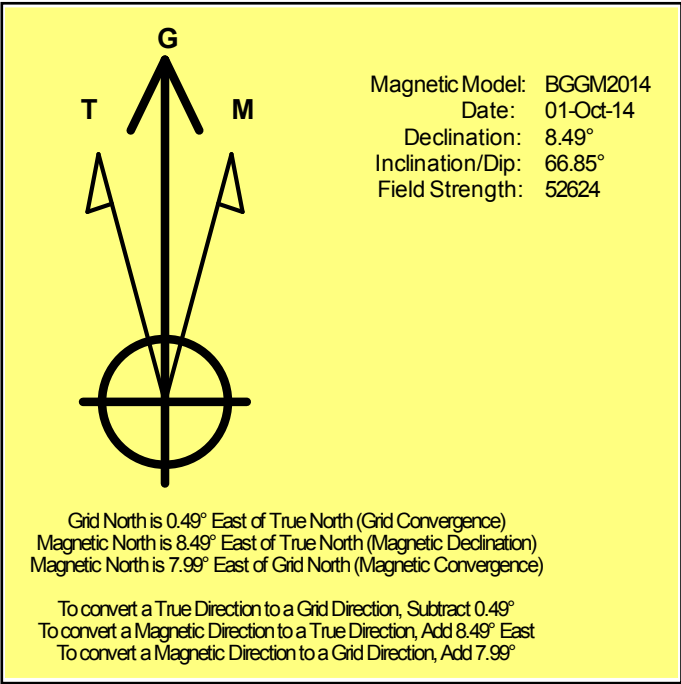
Audit Info

North Reference Sheet for Sec. 25-T4N-R66W (Burton 25 PAD) - Burton
K25-69-1HNL - Original Wellbore

All data is in US Feet unless otherwise stated. Directions and Coordinates are relative to Grid North Reference.
Vertical Depths are relative to KB=30' @ 4782.00usft (H&P 321). Northing and Easting are relative to Burton K25-69-1 HNL - Slot A1
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: 3,000,000.00usft, False Northing: 1,000,000.00usft, Scale Reduction: 0.99995707

Grid Coordinates of Well: 1,349,148.68 usft N, 3,213,665.17 usft E
Geographical Coordinates of Well: 40° 17' 21.41" N, 104° 44' 02.65" W
Grid Convergence at Surface is: 0.49°

Based upon Minimum Curvature type calculations, at a Measured Depth of 16,427.00usft
the Bottom Hole Displacement is 9,335.54usft in the Direction of 88.41° (Grid).
Magnetic Convergence at surface is: -7.99° (1 October 2014, , BGGM2014)



Noble Energy

Weld County, CO (NAD 83)

Sec. 25-T4N-R66W (Burton 25 PAD)

Burton K25-69-1HNL - A1

Original Wellbore

Design: Sperry MWD Survey

Sperry Drilling Services

Geodetic Report

10 November, 2014

Well Coordinates: 1,349,148.68 N, 3,213,665.17 E (40° 17' 21.41" N, 104° 44' 02.65" W)

Ground Level: 4,752.00 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 Burton K25-69-1HNL - Slot A1

KB=30' @ 4782.00usft (H&P 321)

N

Grid

Dec-Deg - API - US Survey Feet - Custom

HALLIBURTON

Design Report for Burton K25-69-1HNL - Sperry MWD Survey

| Measured | | | Vertical | | Local Coordinates | | Geographic Coordinates | | UTM Coordinates | |
|-----------------|--------------------|----------------|-----------------|--|-------------------|-----------------|------------------------|---------------------|--------------------|-------------------|
| Depth (usft) | Inclination (°) | Azimuth (°) | Depth (usft) | | +N/-S (usft) | +E/-W (usft) | Latitude (usft) | Longitude (usft) | Northing (usft) | Easting (usft) |
| 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | 40.289280 | -104.734070 | 1,349,148.68 | 3,213,665.17 |
| 812.00 | 0.37 | 168.30 | 811.99 | | -2.57 | 0.53 | 40.289273 | -104.734068 | 1,349,146.11 | 3,213,665.70 |
| 904.00 | 0.48 | 177.49 | 903.99 | | -3.24 | 0.61 | 40.289271 | -104.734068 | 1,349,145.43 | 3,213,665.78 |
| 997.00 | 0.79 | 196.95 | 996.99 | | -4.25 | 0.44 | 40.289268 | -104.734069 | 1,349,144.43 | 3,213,665.61 |
| 1,182.00 | 0.68 | 180.64 | 1,181.97 | | -6.56 | 0.05 | 40.289262 | -104.734070 | 1,349,142.11 | 3,213,665.23 |
| 1,272.00 | 0.68 | 181.60 | 1,271.96 | | -7.63 | 0.03 | 40.289259 | -104.734070 | 1,349,141.05 | 3,213,665.20 |
| 1,456.00 | 0.59 | 183.28 | 1,455.95 | | -9.67 | -0.05 | 40.289254 | -104.734071 | 1,349,139.01 | 3,213,665.12 |
| 1,547.00 | 1.08 | 324.26 | 1,546.95 | | -9.44 | -0.58 | 40.289254 | -104.734073 | 1,349,139.24 | 3,213,664.59 |
| 1,639.00 | 2.77 | 323.97 | 1,638.89 | | -6.94 | -2.39 | 40.289261 | -104.734079 | 1,349,141.74 | 3,213,662.78 |
| 1,732.00 | 4.37 | 312.70 | 1,731.71 | | -2.72 | -6.32 | 40.289273 | -104.734093 | 1,349,145.96 | 3,213,658.85 |
| 1,827.00 | 6.37 | 308.03 | 1,826.29 | | 2.98 | -13.13 | 40.289289 | -104.734117 | 1,349,151.66 | 3,213,652.04 |
| 1,918.00 | 7.59 | 304.82 | 1,916.61 | | 9.53 | -22.04 | 40.289307 | -104.734149 | 1,349,158.20 | 3,213,643.13 |
| 2,012.00 | 8.59 | 304.61 | 2,009.68 | | 17.06 | -32.92 | 40.289328 | -104.734188 | 1,349,165.73 | 3,213,632.26 |
| 2,106.00 | 7.93 | 305.82 | 2,102.70 | | 24.84 | -43.95 | 40.289349 | -104.734227 | 1,349,173.52 | 3,213,621.22 |
| 2,201.00 | 8.72 | 308.49 | 2,196.70 | | 33.16 | -54.90 | 40.289372 | -104.734266 | 1,349,181.83 | 3,213,610.27 |
| 2,295.00 | 7.99 | 306.29 | 2,289.70 | | 41.46 | -65.74 | 40.289395 | -104.734305 | 1,349,190.13 | 3,213,599.43 |
| 2,390.00 | 8.26 | 308.74 | 2,383.75 | | 49.64 | -76.39 | 40.289418 | -104.734343 | 1,349,198.31 | 3,213,588.78 |
| 2,485.00 | 7.39 | 307.79 | 2,477.86 | | 57.65 | -86.54 | 40.289440 | -104.734379 | 1,349,206.33 | 3,213,578.63 |
| 2,580.00 | 7.32 | 313.56 | 2,572.08 | | 65.57 | -95.75 | 40.289462 | -104.734411 | 1,349,214.24 | 3,213,569.42 |
| 2,675.00 | 8.87 | 314.46 | 2,666.13 | | 74.87 | -105.37 | 40.289488 | -104.734446 | 1,349,223.54 | 3,213,559.81 |
| 2,769.00 | 9.17 | 314.18 | 2,758.97 | | 85.16 | -115.91 | 40.289517 | -104.734483 | 1,349,233.84 | 3,213,549.26 |
| 2,864.00 | 9.41 | 314.87 | 2,852.73 | | 95.92 | -126.85 | 40.289546 | -104.734522 | 1,349,244.59 | 3,213,538.33 |
| 2,959.00 | 8.63 | 313.84 | 2,946.55 | | 106.33 | -137.49 | 40.289575 | -104.734560 | 1,349,255.01 | 3,213,527.69 |
| 3,054.00 | 7.85 | 314.09 | 3,040.57 | | 115.78 | -147.29 | 40.289601 | -104.734595 | 1,349,264.46 | 3,213,517.89 |
| 3,149.00 | 7.50 | 312.43 | 3,134.72 | | 124.48 | -156.53 | 40.289625 | -104.734627 | 1,349,273.15 | 3,213,508.65 |
| 3,243.00 | 6.06 | 311.66 | 3,228.06 | | 131.92 | -164.76 | 40.289646 | -104.734657 | 1,349,280.59 | 3,213,500.42 |
| 3,338.00 | 4.81 | 315.35 | 3,322.63 | | 138.09 | -171.31 | 40.289663 | -104.734680 | 1,349,286.76 | 3,213,493.87 |
| 3,433.00 | 2.96 | 317.50 | 3,417.41 | | 142.73 | -175.76 | 40.289676 | -104.734696 | 1,349,291.40 | 3,213,489.41 |
| 3,622.00 | 0.51 | 331.32 | 3,606.31 | | 147.07 | -179.47 | 40.289688 | -104.734709 | 1,349,295.74 | 3,213,485.71 |
| 3,717.00 | 0.16 | 129.97 | 3,701.30 | | 147.35 | -179.57 | 40.289689 | -104.734709 | 1,349,296.02 | 3,213,485.61 |
| 3,811.00 | 0.97 | 163.57 | 3,795.30 | | 146.50 | -179.24 | 40.289686 | -104.734708 | 1,349,295.17 | 3,213,485.94 |
| 3,905.00 | 0.90 | 167.58 | 3,889.29 | | 145.02 | -178.86 | 40.289682 | -104.734707 | 1,349,293.69 | 3,213,486.32 |
| 4,000.00 | 0.65 | 169.27 | 3,984.28 | | 143.76 | -178.60 | 40.289679 | -104.734706 | 1,349,292.43 | 3,213,486.58 |
| 4,094.00 | 0.15 | 271.54 | 4,078.28 | | 143.24 | -178.62 | 40.289677 | -104.734706 | 1,349,291.91 | 3,213,486.56 |
| 4,189.00 | 1.11 | 286.51 | 4,173.27 | | 143.51 | -179.63 | 40.289678 | -104.734710 | 1,349,292.18 | 3,213,485.55 |
| 4,284.00 | 1.18 | 299.87 | 4,268.25 | | 144.25 | -181.36 | 40.289680 | -104.734716 | 1,349,292.93 | 3,213,483.82 |
| 4,473.00 | 0.90 | 332.35 | 4,457.22 | | 146.54 | -183.73 | 40.289687 | -104.734724 | 1,349,295.21 | 3,213,481.44 |
| 4,568.00 | 1.34 | 330.80 | 4,552.20 | | 148.17 | -184.62 | 40.289691 | -104.734727 | 1,349,296.84 | 3,213,480.56 |
| 4,663.00 | 1.38 | 290.98 | 4,647.18 | | 149.55 | -186.23 | 40.289695 | -104.734733 | 1,349,298.22 | 3,213,478.95 |
| 4,757.00 | 1.09 | 273.74 | 4,741.16 | | 150.01 | -188.18 | 40.289696 | -104.734740 | 1,349,298.68 | 3,213,477.00 |
| 4,947.00 | 0.34 | 122.71 | 4,931.15 | | 149.82 | -189.51 | 40.289696 | -104.734745 | 1,349,298.50 | 3,213,475.67 |
| 5,042.00 | 0.25 | 132.17 | 5,026.15 | | 149.53 | -189.12 | 40.289695 | -104.734744 | 1,349,298.20 | 3,213,476.06 |

Design Report for Burton K25-69-1HNL - Sperry MWD Survey

| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | Local Coordinates | | Geographic Coordinates | | UTM Coordinates | |
|-----------------------------|--------------------|----------------|-----------------------------|-------------------|-----------------|------------------------|---------------------|--------------------|-------------------|
| | | | | +N/-S (usft) | +E/-W (usft) | Latitude (usft) | Longitude (usft) | Northing (usft) | Easting (usft) |
| 5,136.00 | 0.22 | 185.86 | 5,120.14 | 149.22 | -188.99 | 40.289694 | -104.734743 | 1,349,297.89 | 3,213,476.19 |
| 5,231.00 | 0.26 | 249.99 | 5,215.14 | 148.96 | -189.21 | 40.289693 | -104.734744 | 1,349,297.63 | 3,213,475.97 |
| 5,326.00 | 0.33 | 275.36 | 5,310.14 | 148.91 | -189.68 | 40.289693 | -104.734746 | 1,349,297.58 | 3,213,475.50 |
| 5,515.00 | 0.47 | 323.50 | 5,499.14 | 149.59 | -190.69 | 40.289695 | -104.734749 | 1,349,298.26 | 3,213,474.49 |
| 5,610.00 | 0.35 | 179.61 | 5,594.14 | 149.61 | -190.91 | 40.289695 | -104.734750 | 1,349,298.28 | 3,213,474.26 |
| 5,704.00 | 0.56 | 276.46 | 5,688.14 | 149.37 | -191.37 | 40.289695 | -104.734752 | 1,349,298.05 | 3,213,473.81 |
| 5,799.00 | 0.35 | 275.74 | 5,783.13 | 149.46 | -192.12 | 40.289695 | -104.734754 | 1,349,298.13 | 3,213,473.06 |
| 5,894.00 | 0.65 | 277.54 | 5,878.13 | 149.56 | -192.94 | 40.289695 | -104.734757 | 1,349,298.23 | 3,213,472.24 |
| 5,989.00 | 1.07 | 299.06 | 5,973.12 | 150.06 | -194.25 | 40.289697 | -104.734762 | 1,349,298.73 | 3,213,470.93 |
| 6,084.00 | 0.17 | 313.16 | 6,068.11 | 150.58 | -195.13 | 40.289698 | -104.734765 | 1,349,299.26 | 3,213,470.05 |
| 6,178.00 | 0.46 | 301.20 | 6,162.11 | 150.88 | -195.55 | 40.289699 | -104.734767 | 1,349,299.55 | 3,213,469.62 |
| 6,273.00 | 0.15 | 292.83 | 6,257.11 | 151.12 | -196.00 | 40.289700 | -104.734768 | 1,349,299.79 | 3,213,469.18 |
| 6,462.00 | 0.18 | 240.44 | 6,446.11 | 151.07 | -196.48 | 40.289699 | -104.734770 | 1,349,299.74 | 3,213,468.70 |
| 6,557.00 | 7.19 | 84.56 | 6,540.86 | 151.56 | -190.69 | 40.289701 | -104.734749 | 1,349,300.23 | 3,213,474.49 |
| 6,651.00 | 12.85 | 88.95 | 6,633.39 | 152.31 | -174.36 | 40.289702 | -104.734691 | 1,349,300.98 | 3,213,490.81 |
| 6,746.00 | 19.79 | 91.18 | 6,724.51 | 152.17 | -147.69 | 40.289701 | -104.734595 | 1,349,300.84 | 3,213,517.49 |
| 6,841.00 | 26.16 | 93.44 | 6,811.93 | 150.58 | -110.67 | 40.289696 | -104.734462 | 1,349,299.25 | 3,213,554.51 |
| 6,935.00 | 33.32 | 91.91 | 6,893.50 | 148.48 | -64.12 | 40.289689 | -104.734296 | 1,349,297.15 | 3,213,601.05 |
| 6,983.00 | 36.54 | 89.28 | 6,932.85 | 148.22 | -36.65 | 40.289688 | -104.734197 | 1,349,296.89 | 3,213,628.52 |
| 7,030.00 | 42.61 | 89.22 | 6,969.06 | 148.61 | -6.72 | 40.289688 | -104.734090 | 1,349,297.28 | 3,213,658.45 |
| 7,078.00 | 49.95 | 88.18 | 7,002.21 | 149.42 | 27.94 | 40.289690 | -104.733966 | 1,349,298.09 | 3,213,693.11 |
| 7,125.00 | 56.87 | 87.10 | 7,030.21 | 150.98 | 65.62 | 40.289693 | -104.733830 | 1,349,299.66 | 3,213,730.78 |
| 7,173.00 | 64.59 | 86.83 | 7,053.66 | 153.20 | 107.40 | 40.289698 | -104.733681 | 1,349,301.87 | 3,213,772.56 |
| 7,220.00 | 68.16 | 88.96 | 7,072.50 | 154.77 | 150.42 | 40.289701 | -104.733526 | 1,349,303.44 | 3,213,815.58 |
| 7,268.00 | 71.37 | 91.61 | 7,089.10 | 154.54 | 195.45 | 40.289700 | -104.733365 | 1,349,303.21 | 3,213,860.61 |
| 7,315.00 | 75.72 | 92.26 | 7,102.41 | 153.01 | 240.48 | 40.289694 | -104.733204 | 1,349,301.69 | 3,213,905.64 |
| 7,363.00 | 78.18 | 92.83 | 7,113.25 | 150.94 | 287.19 | 40.289688 | -104.733036 | 1,349,299.61 | 3,213,952.35 |
| 7,430.00 | 84.45 | 90.10 | 7,123.36 | 149.26 | 353.37 | 40.289681 | -104.732799 | 1,349,297.93 | 3,214,018.52 |
| 7,558.00 | 88.18 | 86.88 | 7,131.59 | 152.63 | 481.02 | 40.289688 | -104.732341 | 1,349,301.30 | 3,214,146.17 |
| 7,653.00 | 90.96 | 89.53 | 7,132.30 | 155.61 | 575.95 | 40.289694 | -104.732001 | 1,349,304.28 | 3,214,241.10 |
| 7,748.00 | 91.96 | 89.78 | 7,129.88 | 156.18 | 670.92 | 40.289693 | -104.731661 | 1,349,304.85 | 3,214,336.06 |
| 7,842.00 | 90.00 | 90.11 | 7,128.27 | 156.27 | 764.90 | 40.289691 | -104.731324 | 1,349,304.94 | 3,214,430.03 |
| 7,937.00 | 90.62 | 89.72 | 7,127.76 | 156.41 | 859.90 | 40.289689 | -104.730983 | 1,349,305.08 | 3,214,525.03 |
| 8,032.00 | 90.07 | 87.74 | 7,127.19 | 158.51 | 954.87 | 40.289692 | -104.730643 | 1,349,307.18 | 3,214,619.99 |
| 8,126.00 | 90.62 | 89.98 | 7,126.62 | 160.38 | 1,048.84 | 40.289695 | -104.730306 | 1,349,309.05 | 3,214,713.96 |
| 8,221.00 | 90.41 | 90.17 | 7,125.77 | 160.26 | 1,143.83 | 40.289693 | -104.729965 | 1,349,308.93 | 3,214,808.96 |
| 8,316.00 | 90.24 | 90.74 | 7,125.23 | 159.51 | 1,238.83 | 40.289688 | -104.729625 | 1,349,308.18 | 3,214,903.95 |
| 8,411.00 | 90.31 | 90.01 | 7,124.77 | 158.88 | 1,333.83 | 40.289684 | -104.729284 | 1,349,307.55 | 3,214,998.94 |
| 8,505.00 | 90.21 | 89.85 | 7,124.34 | 159.00 | 1,427.82 | 40.289683 | -104.728947 | 1,349,307.67 | 3,215,092.93 |
| 8,600.00 | 90.28 | 89.99 | 7,123.94 | 159.13 | 1,522.82 | 40.289681 | -104.728607 | 1,349,307.80 | 3,215,187.93 |
| 8,695.00 | 90.00 | 89.10 | 7,123.71 | 159.89 | 1,617.82 | 40.289680 | -104.728266 | 1,349,308.56 | 3,215,282.92 |
| 8,789.00 | 90.21 | 90.80 | 7,123.53 | 159.97 | 1,711.82 | 40.289678 | -104.727929 | 1,349,308.64 | 3,215,376.91 |

Design Report for Burton K25-69-1HNL - Sperry MWD Survey

| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | Local Coordinates | | Geographic Coordinates | | UTM Coordinates | |
|-----------------------------|--------------------|----------------|-----------------------------|-------------------|-----------------|------------------------|---------------------|--------------------|-------------------|
| | | | | +N/-S (usft) | +E/-W (usft) | Latitude (usft) | Longitude (usft) | Northing (usft) | Easting (usft) |
| 8,884.00 | 90.17 | 89.53 | 7,123.22 | 159.69 | 1,806.81 | 40.289675 | -104.727589 | 1,349,308.36 | 3,215,471.91 |
| 8,979.00 | 90.14 | 90.56 | 7,122.96 | 159.62 | 1,901.81 | 40.289673 | -104.727248 | 1,349,308.29 | 3,215,566.90 |
| 9,074.00 | 90.45 | 90.77 | 7,122.47 | 158.52 | 1,996.80 | 40.289668 | -104.726908 | 1,349,307.19 | 3,215,661.89 |
| 9,168.00 | 90.45 | 90.22 | 7,121.73 | 157.70 | 2,090.80 | 40.289663 | -104.726571 | 1,349,306.38 | 3,215,755.88 |
| 9,263.00 | 90.31 | 91.51 | 7,121.10 | 156.27 | 2,185.78 | 40.289657 | -104.726231 | 1,349,304.94 | 3,215,850.86 |
| 9,357.00 | 90.14 | 88.51 | 7,120.74 | 156.25 | 2,279.77 | 40.289655 | -104.725894 | 1,349,304.92 | 3,215,944.84 |
| 9,452.00 | 90.58 | 90.98 | 7,120.14 | 156.68 | 2,374.76 | 40.289654 | -104.725553 | 1,349,305.35 | 3,216,039.83 |
| 9,547.00 | 90.17 | 94.80 | 7,119.52 | 151.89 | 2,469.62 | 40.289638 | -104.725213 | 1,349,300.56 | 3,216,134.68 |
| 9,642.00 | 90.07 | 94.49 | 7,119.32 | 144.19 | 2,564.31 | 40.289615 | -104.724874 | 1,349,292.87 | 3,216,229.37 |
| 9,737.00 | 90.34 | 86.14 | 7,118.98 | 143.67 | 2,659.22 | 40.289611 | -104.724534 | 1,349,292.34 | 3,216,324.28 |
| 9,831.00 | 90.03 | 89.86 | 7,118.67 | 146.95 | 2,753.15 | 40.289618 | -104.724197 | 1,349,295.62 | 3,216,418.20 |
| 9,926.00 | 90.14 | 90.16 | 7,118.53 | 146.94 | 2,848.15 | 40.289615 | -104.723857 | 1,349,295.61 | 3,216,513.19 |
| 10,021.00 | 90.17 | 90.61 | 7,118.28 | 146.30 | 2,943.14 | 40.289611 | -104.723516 | 1,349,294.97 | 3,216,608.19 |
| 10,116.00 | 90.28 | 90.23 | 7,117.90 | 145.60 | 3,038.14 | 40.289607 | -104.723176 | 1,349,294.27 | 3,216,703.18 |
| 10,211.00 | 90.07 | 88.70 | 7,117.61 | 146.49 | 3,133.13 | 40.289607 | -104.722835 | 1,349,295.16 | 3,216,798.17 |
| 10,306.00 | 90.55 | 88.21 | 7,117.10 | 149.05 | 3,228.10 | 40.289612 | -104.722495 | 1,349,297.72 | 3,216,893.13 |
| 10,400.00 | 90.24 | 88.56 | 7,116.45 | 151.70 | 3,322.06 | 40.289617 | -104.722158 | 1,349,300.37 | 3,216,987.08 |
| 10,492.00 | 89.86 | 89.61 | 7,116.37 | 153.17 | 3,414.04 | 40.289619 | -104.721828 | 1,349,301.84 | 3,217,079.07 |
| 10,584.00 | 90.17 | 88.05 | 7,116.35 | 155.05 | 3,506.02 | 40.289622 | -104.721498 | 1,349,303.72 | 3,217,171.04 |
| 10,677.00 | 90.14 | 88.53 | 7,116.09 | 157.82 | 3,598.98 | 40.289627 | -104.721165 | 1,349,306.49 | 3,217,263.99 |
| 10,768.00 | 89.72 | 91.15 | 7,116.21 | 158.08 | 3,689.97 | 40.289626 | -104.720839 | 1,349,306.75 | 3,217,354.98 |
| 10,860.00 | 89.86 | 89.72 | 7,116.54 | 157.38 | 3,781.96 | 40.289622 | -104.720509 | 1,349,306.05 | 3,217,446.97 |
| 10,953.00 | 89.69 | 91.48 | 7,116.91 | 156.40 | 3,874.95 | 40.289617 | -104.720176 | 1,349,305.07 | 3,217,539.96 |
| 11,045.00 | 89.83 | 91.31 | 7,117.29 | 154.16 | 3,966.93 | 40.289608 | -104.719846 | 1,349,302.83 | 3,217,631.93 |
| 11,138.00 | 90.69 | 87.12 | 7,116.87 | 155.44 | 4,059.90 | 40.289610 | -104.719513 | 1,349,304.11 | 3,217,724.89 |
| 11,229.00 | 90.41 | 86.81 | 7,116.00 | 160.26 | 4,150.76 | 40.289621 | -104.719187 | 1,349,308.93 | 3,217,815.76 |
| 11,320.00 | 90.14 | 87.47 | 7,115.56 | 164.80 | 4,241.65 | 40.289631 | -104.718861 | 1,349,313.47 | 3,217,906.64 |
| 11,412.00 | 90.48 | 87.35 | 7,115.06 | 168.95 | 4,333.55 | 40.289640 | -104.718532 | 1,349,317.62 | 3,217,998.54 |
| 11,503.00 | 90.24 | 85.14 | 7,114.49 | 174.91 | 4,424.35 | 40.289654 | -104.718206 | 1,349,323.58 | 3,218,089.33 |
| 11,595.00 | 90.52 | 85.83 | 7,113.88 | 182.15 | 4,516.06 | 40.289672 | -104.717877 | 1,349,330.82 | 3,218,181.04 |
| 11,688.00 | 90.89 | 87.12 | 7,112.74 | 187.87 | 4,608.88 | 40.289685 | -104.717544 | 1,349,336.54 | 3,218,273.85 |
| 11,783.00 | 90.72 | 85.35 | 7,111.40 | 194.11 | 4,703.66 | 40.289700 | -104.717204 | 1,349,342.78 | 3,218,368.63 |
| 11,875.00 | 90.14 | 90.00 | 7,110.71 | 197.84 | 4,795.55 | 40.289708 | -104.716875 | 1,349,346.51 | 3,218,460.52 |
| 11,968.00 | 90.24 | 88.83 | 7,110.40 | 198.79 | 4,888.55 | 40.289709 | -104.716542 | 1,349,347.46 | 3,218,553.51 |
| 12,063.00 | 90.79 | 84.48 | 7,109.55 | 204.33 | 4,983.36 | 40.289721 | -104.716202 | 1,349,353.00 | 3,218,648.32 |
| 12,157.00 | 90.31 | 84.41 | 7,108.65 | 213.43 | 5,076.91 | 40.289744 | -104.715866 | 1,349,362.10 | 3,218,741.87 |
| 12,252.00 | 90.07 | 88.28 | 7,108.33 | 219.48 | 5,171.70 | 40.289758 | -104.715526 | 1,349,368.15 | 3,218,836.65 |
| 12,346.00 | 89.42 | 90.22 | 7,108.75 | 220.72 | 5,265.69 | 40.289760 | -104.715189 | 1,349,369.38 | 3,218,930.63 |
| 12,441.00 | 89.76 | 90.11 | 7,109.43 | 220.44 | 5,360.68 | 40.289756 | -104.714849 | 1,349,369.11 | 3,219,025.62 |
| 12,536.00 | 89.83 | 90.34 | 7,109.77 | 220.07 | 5,455.68 | 40.289753 | -104.714508 | 1,349,368.74 | 3,219,120.62 |
| 12,631.00 | 90.10 | 89.83 | 7,109.83 | 219.93 | 5,550.68 | 40.289750 | -104.714168 | 1,349,368.60 | 3,219,215.61 |
| 12,725.00 | 89.38 | 95.04 | 7,110.25 | 215.94 | 5,644.56 | 40.289737 | -104.713831 | 1,349,364.60 | 3,219,309.49 |

Design Report for Burton K25-69-1HNL - Sperry MWD Survey

| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | Local Coordinates | | Geographic Coordinates | | UTM Coordinates | |
|-----------------------------|--------------------|----------------|-----------------------------|-------------------|-----------------|------------------------|---------------------|--------------------|-------------------|
| | | | | +N/-S (usft) | +E/-W (usft) | Latitude (usft) | Longitude (usft) | Northing (usft) | Easting (usft) |
| 12,820.00 | 89.72 | 90.08 | 7,111.00 | 211.69 | 5,739.44 | 40.289723 | -104.713491 | 1,349,360.36 | 3,219,404.36 |
| 12,915.00 | 89.66 | 88.72 | 7,111.51 | 212.69 | 5,834.43 | 40.289724 | -104.713151 | 1,349,361.36 | 3,219,499.35 |
| 13,015.00 | 89.59 | 88.78 | 7,112.17 | 214.87 | 5,934.40 | 40.289727 | -104.712792 | 1,349,363.54 | 3,219,599.32 |
| 13,109.00 | 89.69 | 89.17 | 7,112.76 | 216.55 | 6,028.38 | 40.289730 | -104.712455 | 1,349,365.22 | 3,219,693.30 |
| 13,204.00 | 89.93 | 88.04 | 7,113.07 | 218.86 | 6,123.35 | 40.289734 | -104.712115 | 1,349,367.53 | 3,219,788.26 |
| 13,299.00 | 90.28 | 89.67 | 7,112.90 | 220.76 | 6,218.33 | 40.289736 | -104.711774 | 1,349,369.43 | 3,219,883.23 |
| 13,394.00 | 89.69 | 88.09 | 7,112.93 | 222.62 | 6,313.31 | 40.289739 | -104.711434 | 1,349,371.29 | 3,219,978.21 |
| 13,489.00 | 89.97 | 85.23 | 7,113.21 | 228.15 | 6,408.14 | 40.289752 | -104.711094 | 1,349,376.82 | 3,220,073.03 |
| 13,583.00 | 89.76 | 89.28 | 7,113.43 | 232.65 | 6,502.01 | 40.289762 | -104.710757 | 1,349,381.32 | 3,220,166.90 |
| 13,678.00 | 89.97 | 89.33 | 7,113.65 | 233.81 | 6,597.00 | 40.289763 | -104.710417 | 1,349,382.47 | 3,220,261.89 |
| 13,773.00 | 90.00 | 90.86 | 7,113.68 | 233.65 | 6,692.00 | 40.289760 | -104.710076 | 1,349,382.32 | 3,220,356.88 |
| 13,868.00 | 89.79 | 90.68 | 7,113.85 | 232.37 | 6,786.99 | 40.289754 | -104.709736 | 1,349,381.04 | 3,220,451.87 |
| 13,963.00 | 89.59 | 89.82 | 7,114.37 | 231.96 | 6,881.99 | 40.289751 | -104.709395 | 1,349,380.63 | 3,220,546.86 |
| 14,057.00 | 90.65 | 89.96 | 7,114.17 | 232.14 | 6,975.99 | 40.289749 | -104.709058 | 1,349,380.81 | 3,220,640.86 |
| 14,152.00 | 91.14 | 93.56 | 7,112.68 | 229.22 | 7,070.91 | 40.289739 | -104.708718 | 1,349,377.89 | 3,220,735.78 |
| 14,247.00 | 90.59 | 92.31 | 7,111.25 | 224.36 | 7,165.78 | 40.289723 | -104.708378 | 1,349,373.03 | 3,220,830.64 |
| 14,342.00 | 90.72 | 87.36 | 7,110.16 | 224.63 | 7,260.74 | 40.289722 | -104.708038 | 1,349,373.30 | 3,220,925.60 |
| 14,436.00 | 90.72 | 84.62 | 7,108.98 | 231.20 | 7,354.49 | 40.289737 | -104.707702 | 1,349,379.87 | 3,221,019.35 |
| 14,531.00 | 90.76 | 78.67 | 7,107.75 | 245.00 | 7,448.44 | 40.289773 | -104.707364 | 1,349,393.67 | 3,221,113.29 |
| 14,625.00 | 90.65 | 76.38 | 7,106.60 | 265.30 | 7,540.20 | 40.289826 | -104.707035 | 1,349,413.97 | 3,221,205.05 |
| 14,720.00 | 90.34 | 80.40 | 7,105.78 | 284.42 | 7,633.24 | 40.289877 | -104.706701 | 1,349,433.08 | 3,221,298.08 |
| 14,816.00 | 90.38 | 81.29 | 7,105.17 | 299.69 | 7,728.01 | 40.289916 | -104.706361 | 1,349,448.36 | 3,221,392.85 |
| 14,910.00 | 90.72 | 84.49 | 7,104.27 | 311.32 | 7,821.27 | 40.289946 | -104.706026 | 1,349,459.99 | 3,221,486.11 |
| 15,005.00 | 90.79 | 87.23 | 7,103.02 | 318.18 | 7,916.01 | 40.289962 | -104.705686 | 1,349,466.84 | 3,221,580.84 |
| 15,100.00 | 90.65 | 89.31 | 7,101.82 | 321.05 | 8,010.95 | 40.289968 | -104.705346 | 1,349,469.71 | 3,221,675.78 |
| 15,194.00 | 90.76 | 91.35 | 7,100.67 | 320.51 | 8,104.94 | 40.289964 | -104.705009 | 1,349,469.17 | 3,221,769.76 |
| 15,289.00 | 90.17 | 88.56 | 7,099.90 | 320.58 | 8,199.92 | 40.289962 | -104.704668 | 1,349,469.25 | 3,221,864.74 |
| 15,384.00 | 89.76 | 89.25 | 7,099.95 | 322.40 | 8,294.91 | 40.289965 | -104.704328 | 1,349,471.06 | 3,221,959.72 |
| 15,479.00 | 88.90 | 92.28 | 7,101.07 | 321.13 | 8,389.88 | 40.289959 | -104.703987 | 1,349,469.79 | 3,222,054.69 |
| 15,574.00 | 87.63 | 95.97 | 7,103.94 | 314.30 | 8,484.57 | 40.289938 | -104.703648 | 1,349,462.97 | 3,222,149.38 |
| 15,668.00 | 87.94 | 99.26 | 7,107.58 | 301.86 | 8,577.66 | 40.289901 | -104.703315 | 1,349,450.52 | 3,222,242.46 |
| 15,763.00 | 90.69 | 100.41 | 7,108.71 | 285.63 | 8,671.25 | 40.289854 | -104.702980 | 1,349,434.30 | 3,222,336.04 |
| 15,858.00 | 90.89 | 100.04 | 7,107.40 | 268.77 | 8,764.73 | 40.289806 | -104.702646 | 1,349,417.43 | 3,222,429.52 |
| 15,953.00 | 91.14 | 96.51 | 7,105.72 | 255.10 | 8,858.71 | 40.289766 | -104.702309 | 1,349,403.77 | 3,222,523.50 |
| 16,047.00 | 91.79 | 92.01 | 7,103.32 | 248.12 | 8,952.39 | 40.289744 | -104.701974 | 1,349,396.79 | 3,222,617.18 |
| 16,143.00 | 91.92 | 89.64 | 7,100.21 | 246.74 | 9,048.33 | 40.289738 | -104.701630 | 1,349,395.41 | 3,222,713.11 |
| 16,237.00 | 91.55 | 86.30 | 7,097.36 | 250.07 | 9,142.21 | 40.289745 | -104.701293 | 1,349,398.73 | 3,222,806.99 |
| 16,332.00 | 90.58 | 86.90 | 7,095.59 | 255.70 | 9,237.03 | 40.289758 | -104.700953 | 1,349,404.37 | 3,222,901.80 |
| 16,427.00 | 90.93 | 88.23 | 7,094.34 | 259.74 | 9,331.93 | 40.289767 | -104.700613 | 1,349,408.40 | 3,222,996.70 |

Design Report for Burton K25-69-1HNL - Sperry MWD Survey

Design Annotations

| Measured Depth (usft) | Vertical Depth (usft) | Local Coordinates | | Comment |
|-----------------------|-----------------------|-------------------|--------------|--|
| | | +N/-S (usft) | +E/-W (usft) | |
| 812.00 | 811.99 | -2.57 | 0.53 | First Sperry MWD Survey |
| 7,430.00 | 7,123.36 | 149.26 | 353.37 | Last Sperry MWD Survey |
| 7,558.00 | 7,131.59 | 152.63 | 481.02 | First Pathfinder MWD Survey |
| 16,965.00 | 7,088.12 | 254.14 | 9,869.61 | Last Pathfinder MWD Survey @ TD - 16965.10 |
| 17,008.00 | 7,088.02 | 250.80 | 9,912.48 | Projection to TD @ 17008' |

Vertical Section Information

| Angle Type | Target | Azimuth (°) | Origin Type | Origin | | Start TVD (usft) |
|------------|-------------------------------------|-------------|-------------|--------------|--------------|------------------|
| | | | | +N/-S (usft) | +E/-W (usft) | |
| Target | Burton K25-69-1HN_Rev A0_BHL Tgt | 88.53 | Slot | 0.00 | 0.00 | 0.00 |

Survey tool program

| From (usft) | To (usft) | Survey/Plan | Survey Tool |
|-------------|-----------|---------------------------------|----------------|
| 0.00 | 7,430.00 | Intermediate Surveys | MWD+IFR1+MS_WY |
| 7,558.00 | 17,008.00 | Production Surveys - Pathfinder | MWD+IFR1+MS_WY |

Casing Details

| Measured Depth (usft) | Vertical Depth (usft) | Name | Casing Diameter (") | Hole Diameter (") |
|-----------------------|-----------------------|--------|---------------------|-------------------|
| 699.00 | 699.00 | 9 5/8" | 9-5/8 | 13-3/4 |
| 7,474.00 | 7,127.13 | 7" | 7 | 8-3/4 |

Design Report for Burton K25-69-1HNL - Sperry MWD Survey

Design Targets

| Shape | Target Name | TVD (usft) | Northing (usft) | Easting (usft) | +N/-S usft | +E/-W usft | Created | Updated |
|---------|--------------------------|---------------|--------------------|-------------------|---------------|---------------|----------|-----------|
| Polygon | Burton K25-69-1HN_Sec. : | 0.00 | 1,349,148.68 | 3,213,665.17 | 0.00 | 0.00 | 9/2/2014 | 9/25/2014 |
| Polygon | Burton K25-69-1HN_Setba | 0.00 | 1,349,148.68 | 3,213,665.17 | 0.00 | 0.00 | 9/2/2014 | 9/2/2014 |
| Polygon | Burton K25-69-1HN_Sec. : | 0.00 | 1,349,148.68 | 3,213,665.17 | 0.00 | 0.00 | 9/2/2014 | 9/25/2014 |

Directional Difficulty Index

| | | | |
|-------------------------------------|----------------|-------------------------------|--------------------------------------|
| Average Dogleg over Survey: | 1.90 °/100usft | Maximum Dogleg over Survey: | 20.00 °/100usft at 16,965.10 usft |
| Net Tortousity applicable to Plans: | 1.27 °/100usft | Directional Difficulty Index: | 6.903 |

Audit Info

North Reference Sheet for Sec. 25-T4N-R66W (Burton 25 PAD) - Burton K25-69-1HNL - Original Wellbore

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

Vertical Depths are relative to KB=30' @ 4782.00usft (H&P 321). Northing and Easting are relative to Burton K25-69-1 HNL - Slot A1

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: 3,000,000.00usft, False Northing: 1,000,000.00usft, Scale Reduction: 0.99995707

Grid Coordinates of Well: 1,349,148.68 usft N, 3,213,665.17 usft E

Geographical Coordinates of Well: 40° 17' 21.41" N, 104° 44' 02.65" W

Grid Convergence at Surface is: 0.49°

Based upon Minimum Curvature type calculations, at a Measured Depth of 16,427.00usft

the Bottom Hole Displacement is 9,335.54usft in the Direction of 88.41° (Grid).

Magnetic Convergence at surface is: -7.99° (1 October 2014, , BGGM2014)

