

Noble Energy

Weld County, CO (NAD 83)

Sec. 7-T9N-R60W

Circle Ranch Federal LB07-62HN

Design: MWD Surveys

Sperry Drilling Services

Final Survey Report

14 April, 2013

Well Coordinates: 1,521,734.60 N, 3,380,277.77 E (40° 45' 26.89" N, 104° 07' 38.31" W)

Ground Level: 5,040.00 ft

Local Coordinate Origin: Centered on Well Circle Ranch Federal LB07-62HN

Viewing Datum: KB=24' @ 5064.00ft (H&P 322)

TVDs to System: N

North Reference: Grid

Unit System: API - US Survey Feet - Custom

Geodetic Scale Factor Applied

Version: 2003.16 Build: 431

HALLIBURTON

Design Report for Circle Ranch Federal LB07-62HN - MWD 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 |
| 817.00 | 0.00 | 0.00 | 817.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Surface Casing Assumed Vertical at 817.00 ft. MD | | | | | | | |
| 918.00 | 0.07 | 199.12 | 918.00 | -0.06 | -0.02 | 0.02 | 0.07 |
| First Sperry MWD Survey @ 918.00 ft. MD | | | | | | | |
| 1,012.00 | 0.23 | 68.90 | 1,012.00 | -0.04 | 0.14 | -0.14 | 0.30 |
| 1,105.00 | 0.58 | 36.05 | 1,105.00 | 0.40 | 0.59 | -0.57 | 0.44 |
| 1,198.00 | 0.52 | 33.41 | 1,197.99 | 1.14 | 1.10 | -1.05 | 0.07 |
| 1,291.00 | 0.26 | 60.98 | 1,290.99 | 1.59 | 1.51 | -1.45 | 0.34 |
| 1,384.00 | 0.44 | 113.14 | 1,383.99 | 1.55 | 2.03 | -1.96 | 0.37 |
| 1,477.00 | 0.77 | 149.47 | 1,476.98 | 0.87 | 2.67 | -2.64 | 0.53 |
| 1,571.00 | 0.83 | 146.63 | 1,570.98 | -0.24 | 3.37 | -3.38 | 0.08 |
| 1,666.00 | 0.85 | 131.13 | 1,665.97 | -1.28 | 4.28 | -4.33 | 0.24 |
| 1,761.00 | 1.01 | 143.77 | 1,760.95 | -2.42 | 5.30 | -5.40 | 0.27 |
| 1,856.00 | 1.10 | 133.71 | 1,855.94 | -3.72 | 6.46 | -6.60 | 0.22 |
| 1,951.00 | 1.26 | 130.02 | 1,950.92 | -5.02 | 7.92 | -8.12 | 0.19 |
| 2,045.00 | 1.31 | 112.66 | 2,044.89 | -6.10 | 9.70 | -9.94 | 0.42 |
| 2,140.00 | 1.88 | 37.29 | 2,139.86 | -5.28 | 11.65 | -11.85 | 2.11 |
| 2,235.00 | 3.96 | 18.63 | 2,234.74 | -0.93 | 13.64 | -13.66 | 2.38 |
| 2,329.00 | 5.22 | 354.30 | 2,328.44 | 6.40 | 14.25 | -13.98 | 2.44 |
| 2,424.00 | 7.34 | 344.15 | 2,422.87 | 16.54 | 12.16 | -11.48 | 2.51 |
| 2,519.00 | 10.22 | 342.74 | 2,516.75 | 30.43 | 8.00 | -6.75 | 3.04 |
| 2,614.00 | 10.68 | 345.36 | 2,610.17 | 46.99 | 3.28 | -1.35 | 0.70 |
| 2,709.00 | 11.82 | 359.34 | 2,703.36 | 65.24 | 0.94 | 1.73 | 3.10 |
| 2,803.00 | 12.71 | 350.80 | 2,795.22 | 85.08 | -0.82 | 4.30 | 2.15 |
| 2,898.00 | 14.04 | 350.15 | 2,887.65 | 106.75 | -4.47 | 8.83 | 1.41 |
| 2,993.00 | 14.39 | 349.70 | 2,979.74 | 129.72 | -8.55 | 13.84 | 0.39 |
| 3,088.00 | 14.69 | 349.41 | 3,071.69 | 153.18 | -12.87 | 19.12 | 0.32 |
| 3,183.00 | 13.89 | 348.57 | 3,163.75 | 176.19 | -17.35 | 24.54 | 0.87 |
| 3,277.00 | 14.04 | 347.88 | 3,254.98 | 198.40 | -21.98 | 30.07 | 0.24 |
| 3,372.00 | 12.54 | 353.13 | 3,347.43 | 219.91 | -25.63 | 34.60 | 2.03 |
| 3,467.00 | 10.97 | 352.63 | 3,440.44 | 239.11 | -28.02 | 37.78 | 1.66 |
| 3,562.00 | 8.56 | 347.61 | 3,534.06 | 254.98 | -30.70 | 41.10 | 2.69 |
| 3,657.00 | 9.44 | 348.72 | 3,627.88 | 269.53 | -33.74 | 44.73 | 0.94 |
| 3,752.00 | 10.37 | 350.49 | 3,721.47 | 285.60 | -36.68 | 48.32 | 1.03 |
| 3,847.00 | 10.60 | 352.61 | 3,814.88 | 302.70 | -39.21 | 51.56 | 0.47 |
| 3,942.00 | 8.49 | 357.61 | 3,908.56 | 318.38 | -40.63 | 53.61 | 2.38 |
| 4,037.00 | 6.74 | 358.55 | 4,002.72 | 330.96 | -41.06 | 54.56 | 1.85 |
| 4,131.00 | 3.33 | 6.05 | 4,096.35 | 339.19 | -40.91 | 54.75 | 3.69 |
| 4,226.00 | 3.08 | 341.83 | 4,191.20 | 344.36 | -41.42 | 55.47 | 1.44 |
| 4,321.00 | 1.69 | 214.31 | 4,286.16 | 345.63 | -43.01 | 57.10 | 4.55 |
| 4,416.00 | 1.55 | 262.98 | 4,381.12 | 344.31 | -45.07 | 59.11 | 1.41 |
| 4,511.00 | 3.11 | 141.61 | 4,476.08 | 342.13 | -44.75 | 58.70 | 4.35 |
| 4,605.00 | 3.42 | 137.53 | 4,569.93 | 338.07 | -41.27 | 55.06 | 0.41 |
| 4,700.00 | 2.91 | 126.75 | 4,664.78 | 334.53 | -37.42 | 51.07 | 0.82 |
| 4,795.00 | 2.52 | 119.90 | 4,759.67 | 332.05 | -33.68 | 47.23 | 0.53 |
| 4,890.00 | 1.94 | 104.92 | 4,854.60 | 330.59 | -30.32 | 43.81 | 0.86 |
| 4,984.00 | 2.63 | 140.92 | 4,948.53 | 328.51 | -27.42 | 40.83 | 1.66 |
| 5,079.00 | 2.75 | 142.15 | 5,043.43 | 325.02 | -24.65 | 37.92 | 0.14 |
| 5,174.00 | 2.12 | 109.58 | 5,138.35 | 322.63 | -21.59 | 34.77 | 1.57 |

Design Report for Circle Ranch Federal LB07-62HN - MWD Surveys

| Measured Depth (ft) | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Vertical Section (ft) | Dogleg Rate (°/100ft) |
|---|-----------------|-------------|---------------------|------------|------------|-----------------------|-----------------------|
| 5,269.00 | 1.92 | 125.89 | 5,233.29 | 321.11 | -18.65 | 31.76 | 0.64 |
| 5,364.00 | 0.83 | 117.22 | 5,328.26 | 319.86 | -16.75 | 29.81 | 1.16 |
| 5,459.00 | 1.02 | 115.64 | 5,423.25 | 319.18 | -15.37 | 28.41 | 0.20 |
| 5,554.00 | 0.82 | 149.18 | 5,518.23 | 318.23 | -14.26 | 27.26 | 0.59 |
| 5,649.00 | 0.98 | 162.10 | 5,613.22 | 316.87 | -13.66 | 26.61 | 0.27 |
| 5,744.00 | 0.84 | 184.86 | 5,708.21 | 315.41 | -13.47 | 26.36 | 0.40 |
| 5,832.00 | 0.69 | 208.29 | 5,796.20 | 314.30 | -13.78 | 26.62 | 0.39 |
| 5,927.00 | 3.07 | 253.57 | 5,891.15 | 313.07 | -16.49 | 29.28 | 2.77 |
| 5,974.00 | 8.02 | 257.38 | 5,937.91 | 312.00 | -20.90 | 33.64 | 10.56 |
| 6,021.00 | 11.66 | 251.03 | 5,984.22 | 309.74 | -28.59 | 41.24 | 8.07 |
| 6,068.00 | 14.52 | 251.34 | 6,029.99 | 306.31 | -38.67 | 51.16 | 6.09 |
| 6,116.00 | 17.53 | 255.08 | 6,076.12 | 302.52 | -51.36 | 63.69 | 6.63 |
| 6,163.00 | 21.36 | 256.20 | 6,120.43 | 298.66 | -66.52 | 78.67 | 8.19 |
| 6,211.00 | 24.96 | 258.36 | 6,164.56 | 294.53 | -84.93 | 96.90 | 7.70 |
| 6,258.00 | 29.10 | 259.63 | 6,206.41 | 290.47 | -105.90 | 117.69 | 8.89 |
| 6,306.00 | 33.01 | 260.37 | 6,247.53 | 286.18 | -130.28 | 141.87 | 8.18 |
| 6,353.00 | 36.56 | 265.94 | 6,286.13 | 283.04 | -156.88 | 168.32 | 10.13 |
| 6,401.00 | 39.84 | 268.59 | 6,323.85 | 281.65 | -186.52 | 197.88 | 7.64 |
| 6,448.00 | 43.42 | 270.18 | 6,358.98 | 281.33 | -217.73 | 229.05 | 7.94 |
| 6,496.00 | 46.56 | 269.81 | 6,392.92 | 281.33 | -251.66 | 262.96 | 6.56 |
| 6,543.00 | 50.40 | 270.62 | 6,424.07 | 281.47 | -286.85 | 298.12 | 8.27 |
| 6,591.00 | 55.14 | 270.30 | 6,453.10 | 281.77 | -325.05 | 336.30 | 9.89 |
| 6,638.00 | 60.25 | 270.21 | 6,478.21 | 281.94 | -364.76 | 375.99 | 10.87 |
| 6,686.00 | 63.51 | 270.24 | 6,500.83 | 282.11 | -407.09 | 418.29 | 6.79 |
| 6,733.00 | 65.39 | 269.77 | 6,521.10 | 282.11 | -449.49 | 460.65 | 4.10 |
| 6,781.00 | 68.71 | 269.72 | 6,539.82 | 281.92 | -493.69 | 504.80 | 6.92 |
| 6,828.00 | 73.19 | 268.22 | 6,555.15 | 281.11 | -538.09 | 549.14 | 10.00 |
| 6,876.00 | 77.22 | 266.48 | 6,567.41 | 278.96 | -584.44 | 595.36 | 9.10 |
| 6,922.00 | 81.48 | 266.66 | 6,575.91 | 276.26 | -629.56 | 640.33 | 9.27 |
| 6,967.00 | 84.24 | 267.70 | 6,581.50 | 274.06 | -674.15 | 684.79 | 6.56 |
| Estimated 7" Casing Point: 642' FSL, 869' FEL (Not a Survey Station) | | | | | | | |
| 7,044.00 | 88.98 | 269.46 | 6,586.05 | 272.16 | -750.97 | 761.47 | 6.56 |
| 7,139.00 | 93.08 | 269.64 | 6,584.34 | 271.41 | -845.93 | 856.32 | 4.32 |
| 7,234.00 | 93.82 | 269.45 | 6,578.62 | 270.66 | -940.75 | 951.03 | 0.80 |
| 7,329.00 | 85.46 | 269.95 | 6,579.22 | 270.16 | -1,035.66 | 1,045.85 | 8.82 |
| 7,424.00 | 89.48 | 270.74 | 6,583.41 | 270.74 | -1,130.55 | 1,140.67 | 4.31 |
| 7,519.00 | 90.00 | 272.50 | 6,583.84 | 273.42 | -1,225.51 | 1,235.66 | 1.93 |
| 7,614.00 | 89.66 | 270.22 | 6,584.13 | 275.68 | -1,320.47 | 1,330.64 | 2.43 |
| 7,709.00 | 89.69 | 267.89 | 6,584.66 | 274.11 | -1,415.45 | 1,425.48 | 2.45 |
| 7,804.00 | 89.23 | 267.99 | 6,585.56 | 270.69 | -1,510.39 | 1,520.19 | 0.50 |
| 7,898.00 | 88.00 | 267.55 | 6,587.83 | 267.04 | -1,604.29 | 1,613.86 | 1.39 |
| 7,993.00 | 90.86 | 267.54 | 6,588.78 | 262.97 | -1,699.18 | 1,708.52 | 3.01 |
| 8,088.00 | 89.51 | 267.62 | 6,588.47 | 258.96 | -1,794.10 | 1,803.18 | 1.42 |
| 8,183.00 | 90.43 | 269.14 | 6,588.52 | 256.27 | -1,889.05 | 1,897.95 | 1.87 |
| 8,278.00 | 89.11 | 268.77 | 6,588.90 | 254.54 | -1,984.04 | 1,992.78 | 1.44 |
| 8,373.00 | 91.26 | 269.01 | 6,588.59 | 252.70 | -2,079.01 | 2,087.61 | 2.28 |
| 8,467.00 | 89.48 | 268.70 | 6,587.99 | 250.82 | -2,172.99 | 2,181.43 | 1.92 |
| 8,562.00 | 89.91 | 268.66 | 6,588.49 | 248.63 | -2,267.96 | 2,276.23 | 0.45 |
| 8,658.00 | 90.15 | 268.81 | 6,588.44 | 246.51 | -2,363.94 | 2,372.04 | 0.29 |
| 8,753.00 | 88.21 | 268.58 | 6,589.80 | 244.35 | -2,458.90 | 2,466.83 | 2.06 |
| 8,848.00 | 90.71 | 269.00 | 6,590.70 | 242.34 | -2,553.86 | 2,561.64 | 2.67 |

Design Report for Circle Ranch Federal LB07-62HN - MWD Surveys

| Measured Depth (ft) | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Vertical Section (ft) | Dogleg Rate (°/100ft) |
|--|-----------------|-------------|---------------------|------------|------------|-----------------------|-----------------------|
| 8,942.00 | 88.83 | 268.46 | 6,591.07 | 240.26 | -2,647.84 | 2,655.45 | 2.08 |
| 9,037.00 | 90.22 | 267.18 | 6,591.86 | 236.65 | -2,742.76 | 2,750.14 | 1.99 |
| 9,132.00 | 90.06 | 268.30 | 6,591.63 | 232.90 | -2,837.68 | 2,844.83 | 1.19 |
| 9,227.00 | 91.66 | 268.12 | 6,590.20 | 229.93 | -2,932.62 | 2,939.57 | 1.69 |
| 9,322.00 | 90.59 | 267.92 | 6,588.34 | 226.65 | -3,027.55 | 3,034.28 | 1.15 |
| 9,416.00 | 90.09 | 269.54 | 6,587.78 | 224.57 | -3,121.52 | 3,128.09 | 1.80 |
| 9,511.00 | 88.43 | 268.63 | 6,589.01 | 223.05 | -3,216.50 | 3,222.93 | 1.99 |
| 9,606.00 | 89.38 | 269.08 | 6,590.82 | 221.15 | -3,311.46 | 3,317.73 | 1.11 |
| 9,701.00 | 90.34 | 269.80 | 6,591.06 | 220.23 | -3,406.45 | 3,412.61 | 1.26 |
| 9,796.00 | 90.37 | 269.17 | 6,590.47 | 219.37 | -3,501.44 | 3,507.49 | 0.66 |
| 9,891.00 | 91.02 | 269.64 | 6,589.31 | 218.39 | -3,596.43 | 3,602.35 | 0.84 |
| 9,986.00 | 88.55 | 268.40 | 6,589.67 | 216.76 | -3,691.41 | 3,697.18 | 2.91 |
| 10,081.00 | 88.64 | 267.88 | 6,592.00 | 213.68 | -3,786.33 | 3,791.90 | 0.56 |
| 10,176.00 | 89.20 | 266.24 | 6,593.79 | 208.81 | -3,881.18 | 3,886.48 | 1.82 |
| 10,270.00 | 90.25 | 266.99 | 6,594.24 | 203.26 | -3,975.02 | 3,980.00 | 1.37 |
| 10,366.00 | 91.08 | 266.67 | 6,593.13 | 197.95 | -4,070.86 | 4,075.55 | 0.93 |
| 10,460.00 | 91.88 | 266.66 | 6,590.70 | 192.48 | -4,164.67 | 4,169.06 | 0.85 |
| 10,555.00 | 91.14 | 266.75 | 6,588.20 | 187.02 | -4,259.48 | 4,263.57 | 0.78 |
| 10,636.00 | 91.60 | 266.17 | 6,586.26 | 182.02 | -4,340.30 | 4,344.12 | 0.91 |
| Final Sperry MWD Survey @ 10636.00 ft. MD | | | | | | | |
| 10,701.00 | 91.60 | 266.17 | 6,584.45 | 177.68 | -4,405.13 | 4,408.71 | 0.00 |
| Estimated BHL: 656' FSL, 670' FWL :: Straight Line Projection to TD @ 10701.00 ft. MD | | | | | | | |

Design Annotations

| Measured Depth (ft) | Vertical Depth (ft) | Local Coordinates | | Comment |
|---------------------|---------------------|-------------------|------------|---|
| | | +N/-S (ft) | +E/-W (ft) | |
| 817.00 | 817.00 | 0.00 | 0.00 | Surface Casing Assumed Vertical at 817.00 ft. MD |
| 918.00 | 918.00 | -0.06 | -0.02 | First Sperry MWD Survey @ 918.00 ft. MD |
| 6,967.00 | 6,581.50 | 274.06 | -674.15 | Estimated 7" Casing Point: 642' FSL, 869' FEL (Not a Survey Station) |
| 10,636.00 | 6,586.26 | 182.02 | -4,340.30 | Final Sperry MWD Survey @ 10636.00 ft. MD |
| 10,701.00 | 6,584.45 | 177.68 | -4,405.13 | Estimated BHL: 656' FSL, 670' FWL :: Straight Line Projection to TD @ 10701.00 ft. MD |

Vertical Section Information

| Angle Type | Target | Azimuth (°) | Origin Type | Origin | | Start TVD (ft) |
|------------|--|-------------|-------------|------------|------------|----------------|
| | | | | +N/-S (ft) | +E/-W (ft) | |
| Target | Circle Ranch Fed LB07-62HN_PlanA - Rev0_BH L Tgt | 272.34 | Slot | 0.00 | 0.00 | 0.00 |

Survey tool program

| From (ft) | To (ft) | Survey/Plan | Survey Tool |
|-----------|-----------|--------------------|-------------|
| 817.00 | 6,967.00 | Sperry MWD Surveys | MWD |
| 6,967.00 | 10,701.00 | Sperry MWD Surveys | MWD |

Design Report for Circle Ranch Federal LB07-62HN - MWD Surveys

Casing Details

| Measured Depth (ft) | Vertical Depth (ft) | Name | Casing Diameter (") | Hole Diameter (") |
|---------------------|---------------------|--------------|---------------------|-------------------|
| 6,967.00 | 6,581.50 | 7" Casing PT | 7 | 8-3/4 |

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 |
|--|---------------|--------------|----------|------------|------------|---------------|--------------|-----------|-------------|
| Circle Ranch Federal | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1,521,734.60 | 3,380,277.77 | 40.757469 | -104.127308 |
| - actual wellpath hits target center | | | | | | | | | |
| - Polygon | | | | | | | | | |
| Point 1 | | | | -400.00 | 257.00 | 1,521,991.60 | 3,379,877.77 | | |
| Point 2 | | | | -4,465.00 | 101.00 | 1,521,835.60 | 3,375,812.79 | | |
| Point 3 | | | | -4,544.00 | 4,190.00 | 1,525,924.58 | 3,375,733.79 | | |
| Point 4 | | | | -438.00 | 4,381.00 | 1,526,115.58 | 3,379,839.77 | | |
| Point 5 | | | | -400.00 | 257.00 | 1,521,991.60 | 3,379,877.77 | | |
| Circle Ranch Federal | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1,521,734.60 | 3,380,277.77 | 40.757469 | -104.127308 |
| - actual wellpath hits target center | | | | | | | | | |
| - Polygon | | | | | | | | | |
| Point 1 | | | | 200.00 | -343.00 | 1,521,391.60 | 3,380,477.77 | | |
| Point 2 | | | | -5,065.00 | -499.00 | 1,521,235.60 | 3,375,212.79 | | |
| Point 3 | | | | -5,144.00 | 4,790.00 | 1,526,524.58 | 3,375,133.79 | | |
| Point 4 | | | | 162.00 | 4,981.00 | 1,526,715.58 | 3,380,439.77 | | |
| Point 5 | | | | 200.00 | -343.00 | 1,521,391.60 | 3,380,477.77 | | |
| Circle Ranch Fed | 0.00 | 0.00 | 6,614.14 | 180.32 | -4,406.04 | 1,521,914.92 | 3,375,871.75 | 40.758150 | -104.143200 |
| - actual wellpath misses target center by 29.83ft at 10700.90ft MD (6584.45 TVD, 177.69 N, -4405.03 E) | | | | | | | | | |
| - Point | | | | | | | | | |

North Reference Sheet for Sec. 7-T9N-R60W - Circle Ranch Federal LB07-62HN

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

Vertical Depths are relative to KB=24' @ 5064.00ft (H&P 322). Northing and Easting are relative to Circle Ranch Federal LB07-62HN

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: 0.99999591

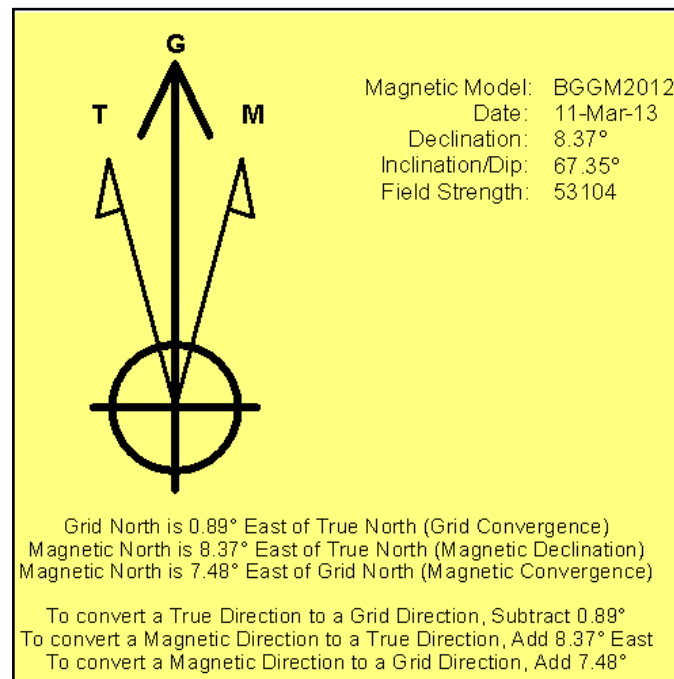
Grid Coordinates of Well: 1,521,734.60 ft N, 3,380,277.77 ft E

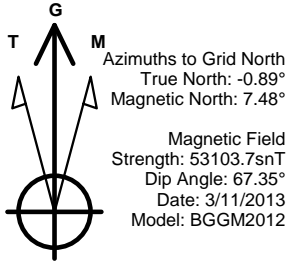
Geographical Coordinates of Well: 40° 45' 26.89" N, 104° 07' 38.31" W

Grid Convergence at Surface is: 0.89°

Based upon Minimum Curvature type calculations, at a Measured Depth of 10,701.00ft
the Bottom Hole Displacement is 4,408.71ft in the Direction of 272.31° (Grid).

Magnetic Convergence at surface is: -7.48° (11 March 2013, , BGGM2012)



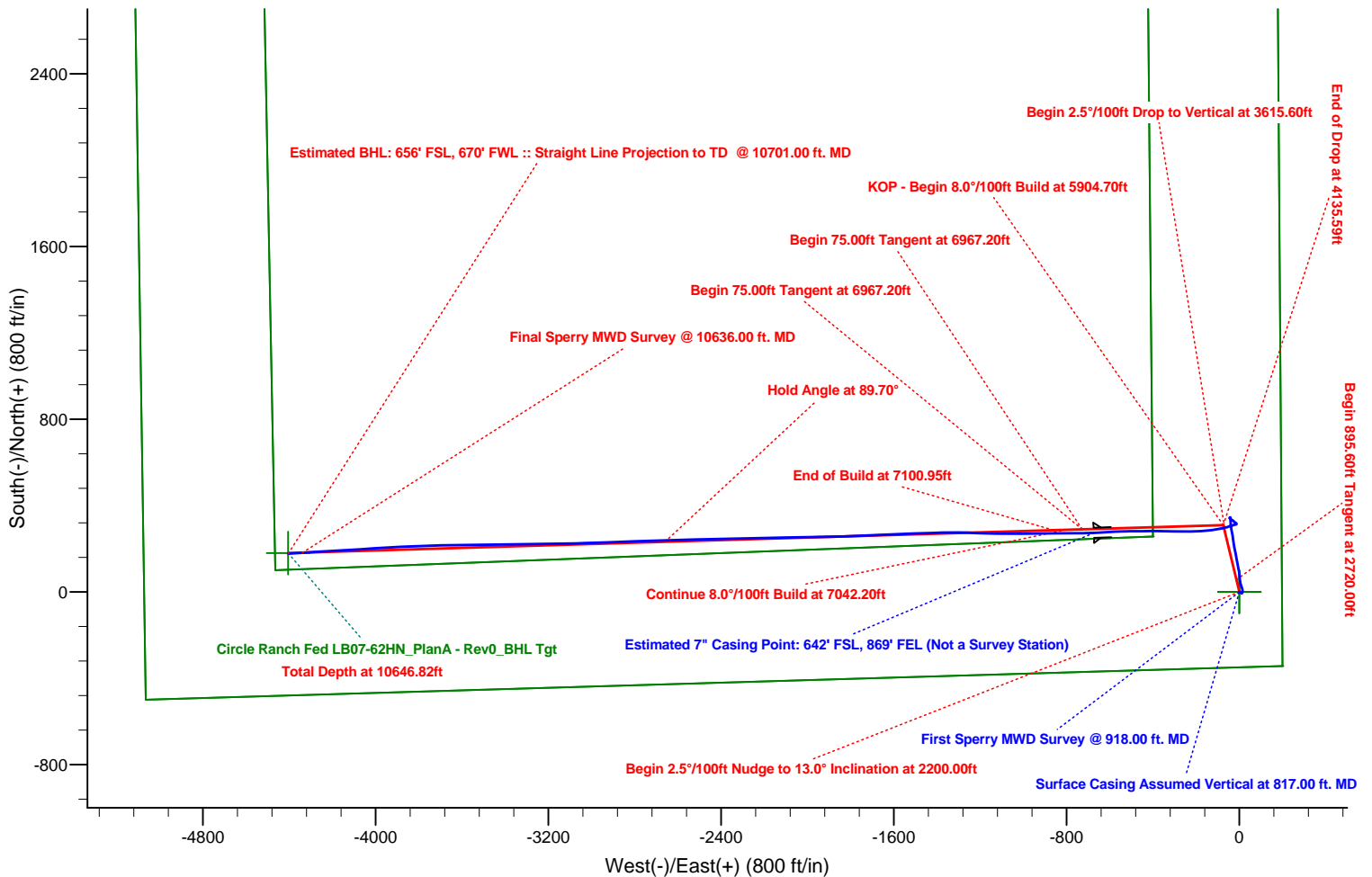


LEGEND

- Circle Ranch Federal LB07-62HN, Plan A, Plan A - Rev 0 Proposal V0
- MWD Surveys

Permitted BHL: 660' FSL, 660' FWL

Halliburton Energy Services, Inc. ("Halliburton") recently completed directional drilling and MWD operations at the Circle Ranch Federal LB07-62HN well located at Weld County, CO. At the conclusion of the job Halliburton performed a final survey on the well. Noble Energy has requested that Halliburton provide them the distances from BHL to section lines from that final survey to allow Noble Energy to meet its requirements under Colorado law. These distances are generated by a mathematical algorithm based on rough data collected after the well is drilled. Halliburton considers it to be a rough estimate only and it is not to be relied upon in any application where accurate data is required. In consideration for Halliburton releasing this data to Noble Energy, Noble Energy agrees to release Halliburton from any consequences of it or anyone else relying on such data.

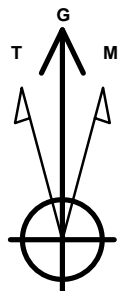


Project: Weld County, CO (NAD 83)
Site: Sec. 7-T9N-R60W
Well: Circle Ranch Federal LB07-62HN

Noble Energy

HALLIBURTON

Sperry Drilling



Azimuths to Grid North
True North: -0.89°
Magnetic North: 7.48°

Magnetic Field
Strength: 53103.7snT
Dip Angle: 67.35°
Date: 3/11/2013
Model: BGGM2012

LEGEND

- Circle Ranch Federal LB07-62HN, Plan A, Plan A - Rev 0 Proposal V0
- MWD Surveys

Halliburton Energy Services, Inc. ("Halliburton") recently completed directional drilling and MWD operations at the Circle Ranch Federal LB07-62HN well located at Weld County, CO. At the conclusion of the job Halliburton performed a final survey on the well. Noble Energy has requested that Halliburton provide them the distances from BHL to section lines from that final survey to allow Noble Energy to meet its requirements under Colorado law. These distances are generated by a mathematical algorithm based on rough data collected after the well is drilled. Halliburton considers it to be a rough estimate only and it is not to be relied upon in any application where accurate data is required. In consideration for Halliburton releasing this data to Noble Energy, Noble Energy agrees to release Halliburton from any consequences of it or anyone else relying on such data.

