

Noble Energy

Weld County, CO (NAD 83)

Sec. 34-T4N-R65W

Beaman G34-99HZ

Plan #1 Rev 1 Proposal

Survey: Sperry MWD Survey

Sperry Drilling Services

Standard Report

29 November, 2010

Well Coordinates: 1,343,453.53 N, 3,239,782.51 E (40° 16' 22.76" N, 104° 38' 26.34" W)

Ground Level: 4,734.00 ft

Local Coordinate Origin:

Centered on Well Beaman G34-99HZ

Viewing Datum:

RKB 24' @ 4758.00ft (Original Well Elev)

TVDs to System:

N

North Reference:

Grid

Unit System:

API - US Survey Feet - Custom

Geodetic Scale Factor Applied

Version: 2003.16 Build: 431

HALLIBURTON

Survey Report for Beaman G34-99HZ - Sperry MWD Survey

| 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 |
| 145.00 | 0.34 | 80.75 | 145.00 | 0.07 | 0.42 | -0.43 | 0.23 |
| 207.00 | 0.41 | 50.00 | 207.00 | 0.24 | 0.78 | -0.78 | 0.34 |
| 267.00 | 0.39 | 41.44 | 267.00 | 0.53 | 1.08 | -1.09 | 0.10 |
| 330.00 | 0.15 | 96.16 | 330.00 | 0.68 | 1.30 | -1.31 | 0.52 |
| 422.00 | 0.14 | 26.64 | 422.00 | 0.77 | 1.47 | -1.49 | 0.18 |
| 513.00 | 0.32 | 24.73 | 512.99 | 1.10 | 1.63 | -1.65 | 0.20 |
| 605.00 | 0.08 | 299.92 | 604.99 | 1.37 | 1.68 | -1.71 | 0.35 |
| 697.00 | 0.37 | 314.86 | 696.99 | 1.61 | 1.41 | -1.45 | 0.32 |
| 822.00 | 0.37 | 330.43 | 821.99 | 2.24 | 0.93 | -0.98 | 0.08 |
| 914.00 | 0.55 | 310.19 | 913.99 | 2.79 | 0.44 | -0.50 | 0.26 |
| 1,005.00 | 0.64 | 292.61 | 1,004.98 | 3.27 | -0.36 | 0.29 | 0.22 |
| 1,096.00 | 0.54 | 283.14 | 1,095.98 | 3.56 | -1.25 | 1.17 | 0.15 |
| 1,188.00 | 0.47 | 289.02 | 1,187.97 | 3.78 | -2.03 | 1.94 | 0.09 |
| 1,280.00 | 0.53 | 285.59 | 1,279.97 | 4.02 | -2.79 | 2.70 | 0.07 |
| 1,374.00 | 0.39 | 282.87 | 1,373.97 | 4.21 | -3.52 | 3.43 | 0.15 |
| 1,469.00 | 0.45 | 284.82 | 1,468.97 | 4.37 | -4.20 | 4.10 | 0.06 |
| 1,563.00 | 0.41 | 303.15 | 1,562.96 | 4.65 | -4.84 | 4.73 | 0.15 |
| 1,658.00 | 0.84 | 322.62 | 1,657.96 | 5.39 | -5.55 | 5.42 | 0.50 |
| 1,752.00 | 1.15 | 325.45 | 1,751.94 | 6.71 | -6.50 | 6.35 | 0.33 |
| 1,846.00 | 0.69 | 296.44 | 1,845.93 | 7.74 | -7.54 | 7.37 | 0.68 |
| 1,941.00 | 0.41 | 272.14 | 1,940.93 | 8.01 | -8.39 | 8.21 | 0.38 |
| 2,035.00 | 0.29 | 289.66 | 2,034.92 | 8.10 | -8.95 | 8.77 | 0.17 |
| 2,130.00 | 0.45 | 276.04 | 2,129.92 | 8.22 | -9.55 | 9.36 | 0.19 |
| 2,224.00 | 0.98 | 249.87 | 2,223.92 | 7.99 | -10.67 | 10.49 | 0.65 |
| 2,319.00 | 1.19 | 228.33 | 2,318.90 | 7.05 | -12.17 | 12.01 | 0.48 |
| 2,413.00 | 1.42 | 203.46 | 2,412.88 | 5.33 | -13.36 | 13.24 | 0.64 |
| 2,508.00 | 1.69 | 203.38 | 2,507.84 | 2.97 | -14.39 | 14.32 | 0.28 |
| 2,602.00 | 1.53 | 195.87 | 2,601.80 | 0.49 | -15.28 | 15.27 | 0.28 |
| 2,697.00 | 1.16 | 204.73 | 2,696.78 | -1.61 | -16.03 | 16.06 | 0.45 |
| 2,791.00 | 1.37 | 200.77 | 2,790.75 | -3.52 | -16.83 | 16.90 | 0.24 |
| 2,886.00 | 1.32 | 195.09 | 2,885.73 | -5.64 | -17.51 | 17.64 | 0.15 |
| 2,980.00 | 1.04 | 187.98 | 2,979.71 | -7.53 | -17.92 | 18.08 | 0.34 |
| 3,075.00 | 0.92 | 156.78 | 3,074.69 | -9.08 | -17.73 | 17.93 | 0.57 |
| 3,169.00 | 2.17 | 123.38 | 3,168.66 | -10.76 | -15.95 | 16.18 | 1.59 |
| 3,264.00 | 3.22 | 129.83 | 3,263.55 | -13.45 | -12.40 | 12.69 | 1.15 |
| 3,358.00 | 1.64 | 125.55 | 3,357.47 | -15.93 | -9.28 | 9.63 | 1.69 |
| 3,453.00 | 0.48 | 125.47 | 3,452.45 | -16.95 | -7.85 | 8.22 | 1.22 |
| 3,547.00 | 1.22 | 48.51 | 3,546.44 | -16.51 | -6.78 | 7.14 | 1.28 |
| 3,642.00 | 0.17 | 347.54 | 3,641.43 | -15.71 | -6.05 | 6.40 | 1.21 |
| 3,736.00 | 0.71 | 235.16 | 3,735.43 | -15.90 | -6.56 | 6.91 | 0.84 |
| 3,831.00 | 0.33 | 311.47 | 3,830.43 | -16.06 | -7.25 | 7.60 | 0.75 |
| 3,925.00 | 0.15 | 6.40 | 3,924.43 | -15.76 | -7.44 | 7.78 | 0.29 |
| 4,020.00 | 0.60 | 75.89 | 4,019.42 | -15.51 | -6.94 | 7.28 | 0.59 |
| 4,114.00 | 1.50 | 95.74 | 4,113.41 | -15.52 | -5.24 | 5.58 | 1.02 |
| 4,209.00 | 1.81 | 109.69 | 4,208.37 | -16.15 | -2.59 | 2.94 | 0.53 |
| 4,304.00 | 1.58 | 122.04 | 4,303.33 | -17.35 | -0.06 | 0.45 | 0.45 |
| 4,398.00 | 1.43 | 120.07 | 4,397.29 | -18.62 | 2.05 | -1.64 | 0.17 |
| 4,493.00 | 1.07 | 129.01 | 4,492.27 | -19.77 | 3.76 | -3.32 | 0.43 |
| 4,587.00 | 0.55 | 143.11 | 4,586.26 | -20.69 | 4.72 | -4.26 | 0.59 |

Survey Report for Beaman G34-99HZ - Sperry MWD Survey

| Measured Depth (ft) | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Vertical Section (ft) | Dogleg Rate (°/100ft) |
|---------------------|-----------------|-------------|---------------------|------------|------------|-----------------------|-----------------------|
| 4,682.00 | 0.89 | 165.04 | 4,681.25 | -21.76 | 5.18 | -4.70 | 0.45 |
| 4,776.00 | 1.85 | 191.32 | 4,775.23 | -23.96 | 5.07 | -4.54 | 1.20 |
| 4,871.00 | 1.61 | 201.08 | 4,870.18 | -26.71 | 4.29 | -3.70 | 0.40 |
| 4,965.00 | 1.37 | 214.45 | 4,964.15 | -28.86 | 3.18 | -2.54 | 0.45 |
| 5,060.00 | 1.44 | 211.56 | 5,059.12 | -30.82 | 1.91 | -1.23 | 0.10 |
| 5,154.00 | 1.28 | 213.91 | 5,153.10 | -32.70 | 0.71 | 0.02 | 0.18 |
| 5,249.00 | 1.63 | 213.07 | 5,248.07 | -34.71 | -0.62 | 1.39 | 0.37 |
| 5,343.00 | 1.31 | 232.52 | 5,342.04 | -36.48 | -2.20 | 3.01 | 0.63 |
| 5,438.00 | 1.23 | 219.40 | 5,437.01 | -37.93 | -3.71 | 4.55 | 0.32 |
| 5,532.00 | 1.11 | 231.56 | 5,530.99 | -39.28 | -5.07 | 5.93 | 0.29 |
| 5,626.00 | 1.12 | 246.53 | 5,624.98 | -40.21 | -6.62 | 7.51 | 0.31 |
| 5,721.00 | 1.32 | 269.87 | 5,719.95 | -40.58 | -8.57 | 9.46 | 0.56 |
| 5,815.00 | 1.39 | 269.42 | 5,813.93 | -40.60 | -10.79 | 11.69 | 0.08 |
| 5,910.00 | 1.18 | 280.30 | 5,908.90 | -40.43 | -12.90 | 13.80 | 0.34 |
| 6,004.00 | 1.07 | 268.80 | 6,002.89 | -40.28 | -14.73 | 15.62 | 0.27 |
| 6,099.00 | 0.94 | 306.79 | 6,097.87 | -39.83 | -16.24 | 17.12 | 0.70 |
| 6,175.00 | 0.75 | 313.73 | 6,173.86 | -39.11 | -17.10 | 17.97 | 0.28 |
| 6,225.00 | 2.96 | 300.30 | 6,223.84 | -38.23 | -18.45 | 19.30 | 4.47 |
| 6,256.00 | 6.57 | 294.20 | 6,254.72 | -37.10 | -20.76 | 21.58 | 11.74 |
| 6,288.00 | 9.67 | 282.95 | 6,286.40 | -35.75 | -25.05 | 25.84 | 10.84 |
| 6,319.00 | 12.02 | 276.74 | 6,316.85 | -34.79 | -30.80 | 31.56 | 8.46 |
| 6,351.00 | 13.37 | 276.08 | 6,348.06 | -34.01 | -37.79 | 38.53 | 4.24 |
| 6,382.00 | 14.93 | 279.10 | 6,378.12 | -32.99 | -45.29 | 46.01 | 5.57 |
| 6,414.00 | 15.76 | 280.09 | 6,408.98 | -31.58 | -53.64 | 54.33 | 2.72 |
| 6,445.00 | 17.59 | 277.85 | 6,438.68 | -30.20 | -62.43 | 63.08 | 6.26 |
| 6,477.00 | 20.24 | 277.64 | 6,468.95 | -28.81 | -72.71 | 73.33 | 8.28 |
| 6,508.00 | 22.84 | 278.36 | 6,497.78 | -27.22 | -83.98 | 84.56 | 8.43 |
| 6,540.00 | 26.35 | 279.60 | 6,526.87 | -25.13 | -97.13 | 97.66 | 11.09 |
| 6,571.00 | 29.62 | 279.53 | 6,554.24 | -22.71 | -111.47 | 111.95 | 10.55 |
| 6,603.00 | 31.88 | 277.20 | 6,581.74 | -20.35 | -127.66 | 128.07 | 7.98 |
| 6,634.00 | 34.81 | 274.85 | 6,607.64 | -18.57 | -144.60 | 144.97 | 10.33 |
| 6,666.00 | 37.59 | 274.19 | 6,633.46 | -17.09 | -163.44 | 163.77 | 8.77 |
| 6,697.00 | 39.84 | 274.49 | 6,657.64 | -15.62 | -182.77 | 183.07 | 7.28 |
| 6,729.00 | 41.41 | 274.70 | 6,681.93 | -13.95 | -203.54 | 203.80 | 4.92 |
| 6,760.00 | 44.58 | 274.86 | 6,704.60 | -12.19 | -224.60 | 224.81 | 10.23 |
| 6,792.00 | 46.12 | 273.81 | 6,727.09 | -10.47 | -247.30 | 247.47 | 5.35 |
| 6,823.00 | 48.77 | 272.69 | 6,748.05 | -9.18 | -270.10 | 270.23 | 8.95 |
| 6,855.00 | 50.50 | 271.29 | 6,768.78 | -8.33 | -294.46 | 294.57 | 6.35 |
| 6,886.00 | 52.65 | 270.27 | 6,788.04 | -8.01 | -318.74 | 318.84 | 7.40 |
| 6,918.00 | 55.27 | 269.59 | 6,806.87 | -8.04 | -344.62 | 344.71 | 8.37 |
| 6,950.00 | 58.77 | 270.05 | 6,824.29 | -8.12 | -371.45 | 371.54 | 11.00 |
| 6,981.00 | 61.03 | 270.78 | 6,839.83 | -7.93 | -398.27 | 398.35 | 7.57 |
| 7,012.00 | 63.12 | 271.43 | 6,854.35 | -7.40 | -425.65 | 425.71 | 6.99 |
| 7,044.00 | 66.55 | 271.84 | 6,867.95 | -6.57 | -454.60 | 454.64 | 10.78 |
| 7,075.00 | 69.70 | 271.97 | 6,879.50 | -5.61 | -483.35 | 483.36 | 10.17 |
| 7,107.00 | 72.37 | 271.40 | 6,889.90 | -4.72 | -513.60 | 513.58 | 8.51 |
| 7,138.00 | 74.64 | 270.43 | 6,898.70 | -4.25 | -543.31 | 543.28 | 7.91 |
| 7,170.00 | 76.17 | 269.57 | 6,906.77 | -4.25 | -574.28 | 574.23 | 5.44 |
| 7,201.00 | 78.06 | 270.03 | 6,913.68 | -4.36 | -604.50 | 604.45 | 6.27 |
| 7,233.00 | 81.27 | 270.65 | 6,919.42 | -4.17 | -635.97 | 635.91 | 10.21 |

Survey Report for Beaman G34-99HZ - Sperry MWD Survey

| Measured Depth (ft) | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Vertical Section (ft) | Dogleg Rate (°/100ft) |
|---------------------|-----------------|-------------|---------------------|------------|------------|-----------------------|-----------------------|
| 7,252.00 | 83.37 | 270.32 | 6,921.96 | -4.01 | -654.80 | 654.73 | 11.19 |
| 7,322.00 | 85.17 | 271.62 | 6,928.95 | -2.83 | -724.44 | 724.32 | 3.17 |
| 7,354.00 | 87.84 | 269.76 | 6,930.90 | -2.45 | -756.37 | 756.24 | 10.16 |
| 7,417.00 | 88.58 | 270.52 | 6,932.87 | -2.29 | -819.34 | 819.19 | 1.68 |
| 7,481.00 | 89.07 | 266.55 | 6,934.18 | -3.93 | -883.29 | 883.16 | 6.25 |
| 7,545.00 | 89.07 | 266.44 | 6,935.22 | -7.84 | -947.16 | 947.11 | 0.17 |
| 7,609.00 | 90.56 | 264.83 | 6,935.42 | -12.71 | -1,010.97 | 1,011.01 | 3.43 |
| 7,670.00 | 88.08 | 267.21 | 6,936.15 | -16.94 | -1,071.81 | 1,071.93 | 5.63 |
| 7,734.00 | 90.86 | 266.97 | 6,936.74 | -20.19 | -1,135.72 | 1,135.89 | 4.36 |
| 7,797.00 | 90.74 | 267.25 | 6,935.86 | -23.37 | -1,198.64 | 1,198.86 | 0.48 |
| 7,866.00 | 91.42 | 266.64 | 6,934.56 | -27.05 | -1,267.53 | 1,267.81 | 1.32 |
| 7,930.00 | 91.54 | 265.97 | 6,932.91 | -31.17 | -1,331.37 | 1,331.73 | 1.06 |
| 7,994.00 | 90.19 | 265.68 | 6,931.94 | -35.83 | -1,395.19 | 1,395.64 | 2.16 |
| 8,058.00 | 89.51 | 264.35 | 6,932.11 | -41.39 | -1,458.95 | 1,459.51 | 2.33 |
| 8,121.00 | 90.43 | 265.17 | 6,932.14 | -47.14 | -1,521.68 | 1,522.35 | 1.96 |
| 8,185.00 | 90.80 | 264.36 | 6,931.46 | -52.98 | -1,585.41 | 1,586.20 | 1.39 |
| 8,250.00 | 90.99 | 265.72 | 6,930.44 | -58.60 | -1,650.16 | 1,651.05 | 2.11 |
| 8,313.00 | 90.56 | 263.79 | 6,929.59 | -64.36 | -1,712.89 | 1,713.89 | 3.14 |
| 8,377.00 | 90.37 | 265.81 | 6,929.07 | -70.16 | -1,776.62 | 1,777.74 | 3.17 |
| 8,441.00 | 88.89 | 265.93 | 6,929.48 | -74.77 | -1,840.45 | 1,841.65 | 2.32 |
| 8,505.00 | 88.70 | 262.42 | 6,930.83 | -81.26 | -1,904.09 | 1,905.43 | 5.49 |
| 8,569.00 | 89.26 | 265.81 | 6,931.97 | -87.82 | -1,967.74 | 1,969.20 | 5.37 |
| 8,632.00 | 89.26 | 268.61 | 6,932.78 | -90.89 | -2,030.65 | 2,032.17 | 4.44 |
| 8,696.00 | 91.30 | 268.80 | 6,932.47 | -92.33 | -2,094.63 | 2,096.16 | 3.20 |
| 8,760.00 | 91.17 | 268.43 | 6,931.09 | -93.88 | -2,158.60 | 2,160.15 | 0.61 |
| 8,824.00 | 91.73 | 268.20 | 6,929.47 | -95.76 | -2,222.55 | 2,224.12 | 0.95 |
| 8,888.00 | 90.25 | 268.33 | 6,928.36 | -97.70 | -2,286.51 | 2,288.11 | 2.32 |
| 8,952.00 | 90.43 | 270.84 | 6,927.98 | -98.16 | -2,350.50 | 2,352.10 | 3.93 |
| 9,016.00 | 90.00 | 271.74 | 6,927.74 | -96.72 | -2,414.48 | 2,416.03 | 1.56 |
| 9,080.00 | 91.48 | 266.76 | 6,926.92 | -97.56 | -2,478.45 | 2,480.00 | 8.12 |
| 9,144.00 | 91.24 | 268.27 | 6,925.40 | -100.33 | -2,542.37 | 2,543.97 | 2.39 |
| 9,207.00 | 90.86 | 267.51 | 6,924.24 | -102.65 | -2,605.32 | 2,606.95 | 1.35 |
| 9,271.00 | 88.70 | 266.43 | 6,924.49 | -106.03 | -2,669.22 | 2,670.91 | 3.77 |
| 9,335.00 | 89.01 | 265.80 | 6,925.77 | -110.37 | -2,733.06 | 2,734.84 | 1.10 |
| 9,399.00 | 89.20 | 267.88 | 6,926.77 | -113.90 | -2,796.95 | 2,798.79 | 3.26 |
| 9,462.00 | 89.69 | 268.72 | 6,927.38 | -115.77 | -2,859.92 | 2,861.78 | 1.54 |
| 9,526.00 | 91.05 | 269.55 | 6,926.96 | -116.73 | -2,923.91 | 2,925.78 | 2.49 |
| 9,590.00 | 90.93 | 270.91 | 6,925.86 | -116.47 | -2,987.90 | 2,989.75 | 2.13 |
| 9,654.00 | 90.68 | 272.51 | 6,924.96 | -114.56 | -3,051.86 | 3,053.65 | 2.53 |
| 9,717.00 | 90.74 | 272.03 | 6,924.18 | -112.07 | -3,114.81 | 3,116.53 | 0.77 |
| 9,781.00 | 90.68 | 271.07 | 6,923.39 | -110.34 | -3,178.78 | 3,180.44 | 1.50 |
| 9,844.00 | 91.55 | 271.01 | 6,922.16 | -109.20 | -3,241.75 | 3,243.38 | 1.38 |
| 9,908.00 | 91.85 | 271.54 | 6,920.26 | -107.77 | -3,305.71 | 3,307.29 | 0.95 |
| 9,972.00 | 91.48 | 270.83 | 6,918.40 | -106.45 | -3,369.67 | 3,371.20 | 1.25 |
| 10,036.00 | 91.30 | 270.46 | 6,916.85 | -105.73 | -3,433.65 | 3,435.15 | 0.64 |
| 10,100.00 | 90.87 | 270.09 | 6,915.64 | -105.42 | -3,497.63 | 3,499.11 | 0.89 |
| 10,164.00 | 90.37 | 271.48 | 6,914.94 | -104.54 | -3,561.62 | 3,563.06 | 2.31 |
| 10,227.00 | 90.19 | 270.97 | 6,914.64 | -103.20 | -3,624.61 | 3,626.00 | 0.86 |
| 10,291.00 | 91.05 | 271.50 | 6,913.94 | -101.82 | -3,688.59 | 3,689.94 | 1.58 |
| 10,355.00 | 91.11 | 271.01 | 6,912.74 | -100.42 | -3,752.56 | 3,753.86 | 0.77 |
| 10,419.00 | 90.99 | 270.69 | 6,911.56 | -99.47 | -3,816.54 | 3,817.81 | 0.53 |

Survey Report for Beaman G34-99HZ - Sperry MWD Survey

| Measured Depth (ft) | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Vertical Section (ft) | Dogleg Rate (°/100ft) |
|---------------------|-----------------|-------------|---------------------|------------|------------|-----------------------|-----------------------|
| 10,482.00 | 91.24 | 271.37 | 6,910.34 | -98.34 | -3,879.52 | 3,880.75 | 1.15 |
| 10,546.00 | 91.73 | 271.06 | 6,908.68 | -96.98 | -3,943.48 | 3,944.66 | 0.91 |
| 10,609.00 | 91.98 | 271.04 | 6,906.64 | -95.83 | -4,006.44 | 4,007.58 | 0.40 |
| 10,674.00 | 91.11 | 270.00 | 6,904.89 | -95.24 | -4,071.41 | 4,072.52 | 2.09 |
| 10,737.00 | 90.93 | 270.21 | 6,903.77 | -95.12 | -4,134.40 | 4,135.49 | 0.44 |
| 10,801.00 | 89.69 | 270.17 | 6,903.42 | -94.91 | -4,198.40 | 4,199.47 | 1.94 |
| 10,865.00 | 89.20 | 269.61 | 6,904.04 | -95.03 | -4,262.40 | 4,263.46 | 1.16 |
| 10,929.00 | 89.38 | 270.25 | 6,904.83 | -95.11 | -4,326.39 | 4,327.44 | 1.04 |
| 10,992.00 | 89.26 | 270.14 | 6,905.58 | -94.89 | -4,389.39 | 4,390.41 | 0.26 |
| 11,056.00 | 90.12 | 270.19 | 6,905.93 | -94.71 | -4,453.38 | 4,454.39 | 1.35 |
| 11,151.00 | 89.75 | 269.45 | 6,906.04 | -95.01 | -4,548.38 | 4,549.37 | 0.87 |
| 11,191.00 | 89.75 | 269.45 | 6,906.21 | -95.39 | -4,588.38 | 4,589.37 | 0.00 |

Vertical Section Information

| Angle Type | Target | Azimuth (°) | Origin Type | Origin +N/_S (ft) | Origin +E/-W (ft) | Start TVD (ft) |
|------------|-----------------------------------|-------------|-------------|-------------------|-------------------|----------------|
| Target | Beaman G34-99HZ Plan #1 BH Tgt | 268.73 | Slot | 0.00 | 0.00 | 0.00 |

Survey tool program

| From (ft) | To (ft) | Survey/Plan | Survey Tool |
|-----------|-----------|-------------------|-------------|
| 145.00 | 11,191.00 | Sperry MWD Survey | MWD |

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 |
|---|---------------|--------------|----------|------------|------------|---------------|--------------|------------------|-------------------|
| Beaman G34-99HZ Plk - survey misses target center by 54.10ft at 11191.00ft MD (6906.21 TVD, -95.39 N, -4588.38 E) - Point | 0.00 | 359.46 | 6,921.50 | -102.82 | -4,639.74 | 1,343,350.71 | 3,235,142.98 | 40° 16' 22.188 N | 104° 39' 26.208 W |
| Beaman G34-99HZ_PI - survey misses target center by 489.88ft at 11171.75ft MD (6906.13 TVD, -95.21 N, -4569.14 E) - Point | 0.00 | 0.00 | 6,905.66 | 394.65 | -4,573.84 | 1,343,848.16 | 3,235,208.87 | 40° 16' 27.097 N | 104° 39' 25.297 W |
| Beaman G34-99HZ Se - survey hits target center - Polygon | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1,343,453.53 | 3,239,782.51 | 40° 16' 22.764 N | 104° 38' 26.340 W |
| Beaman G34-99HZ Se - survey hits target center - Polygon | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1,343,453.53 | 3,239,782.51 | 40° 16' 22.764 N | 104° 38' 26.340 W |
| Beaman G34-99HZ_PI - survey misses target center by 51.90ft at 11191.00ft MD (6906.21 TVD, -95.39 N, -4588.38 E) - Point | 0.00 | 0.00 | 6,905.49 | -102.82 | -4,639.74 | 1,343,350.71 | 3,235,142.98 | 40° 16' 22.188 N | 104° 39' 26.208 W |

North Reference Sheet for Sec. 34-T4N-R65W - Beaman G34-99HZ - Plan #1 Rev 1
Proposal

All data is in US Feet unless otherwise stated. Directions and Coordinates are relative to Grid North Reference.
Vertical Depths are relative to RKB 24' @ 4758.00ft (Original Well Elev). Northing and Easting are relative to Beaman G34-99HZ
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° 30' 0.000 W°, Longitude Origin:0° 0' 0.000 E°, Latitude Origin:40° 47' 0.000 N°
False Easting: 3,000,000.00ft, False Northing: 1,000,000.00ft, Scale Reduction: 0.99995692

Grid Coordinates of Well: 1,343,453.53 ft N, 3,239,782.51 ft E
Geographical Coordinates of Well: 40° 16' 22.76" N, 104° 38' 26.34" W
Grid Convergence at Surface is: 0.56°

Based upon Minimum Curvature type calculations, at a Measured Depth of 11,191.00ft
the Bottom Hole Displacement is 4,589.37ft in the Direction of 268.81° (Grid).

Magnetic Convergence at surface is: -8.27° (18 November 2010, , BGGM2010)

