



Chisholm Energy Holdings

GE 3619 + 26 @ 3645.00usft (Latshaw 17)

Ground Level: 3619.00

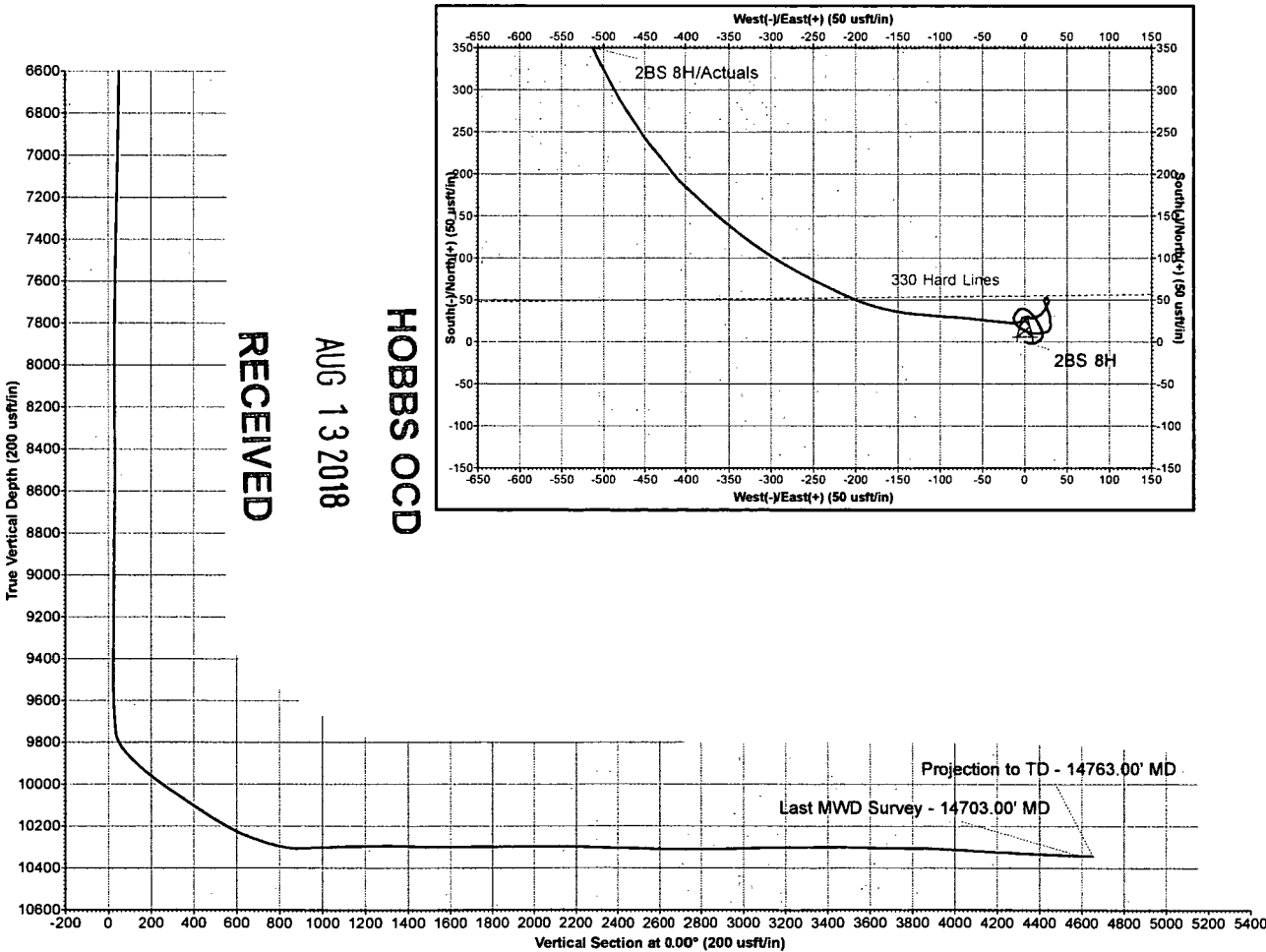
Project: Lea County, NM (NAD 83)
 Site: Grama Ridge East 34 State
 Well: 2BS 8H
 Wellbore: Wellbore #1
 Design: Actuals
 Rig: Latshaw 17

Map System: US State Plane 1983
 Datum: North American Datum 1983
 Ellipsoid: GRS 1980
 Zone Name: New Mexico Eastern Zone

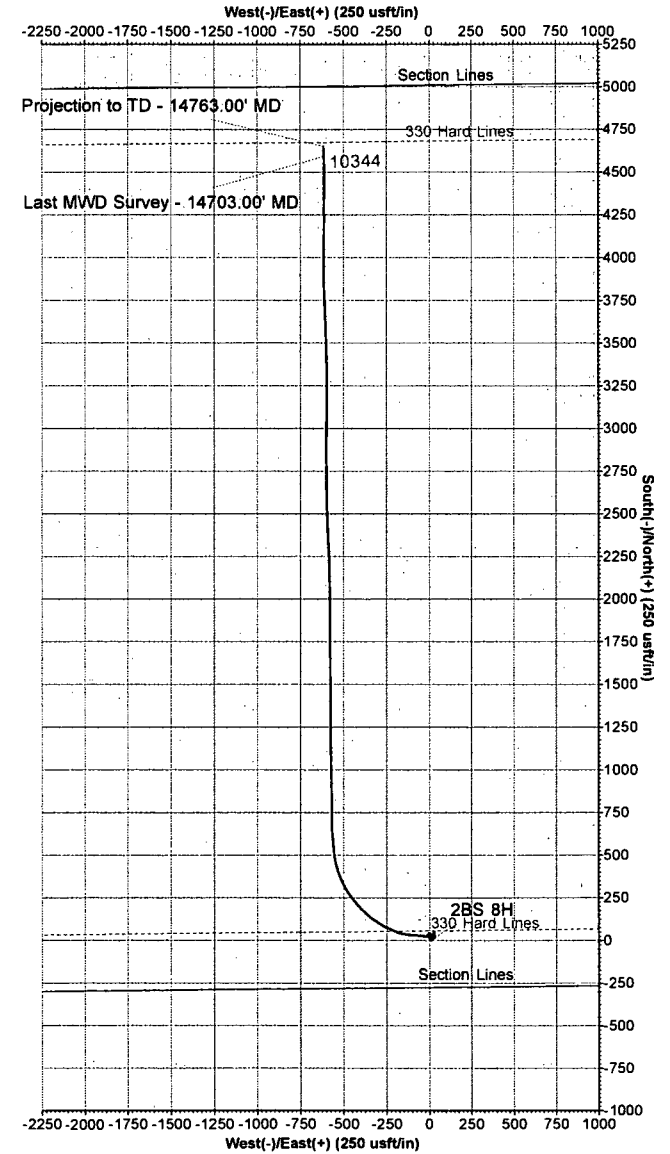


Azimuths to Grid North
 True North: -0.47°
 Magnetic North: 8.38°
 Magnetic Field
 Strength: 48013.5nT
 Dip Angle: 60.23°
 Date: 6/16/2018
 Model: BGM2018

| WELL DETAILS | | | | | |
|-----------------------|-------|-----------|-----------|-------------|---------------|
| Ground Level: 3619.00 | | | | | |
| +N/-S | +E/-W | Northing | Easting | Latitude | Longitude |
| 0.00 | 0.00 | 520886.00 | 812717.60 | 32.42891094 | -103.45377558 |



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 HOBBS OCD



Latshaw 17

Chisholm Energy Holdings

Lea County, NM (NAD 83) Grama Ridge East 34 State

API#

2BS 8H

Wellbore #1

Design: Actuals

Sperry Drilling Services Combo Report

24 July, 2018

Well Coordinates: 32
-103

North American Datum 1983
New Mexico Eastern Zone
520,886.00 N
812,717.60 E

Ground Level: 3,619.00 usft

Local Coordinate Origin:

Viewing Datum:

TVDs to System:

North Reference:

Unit System:

Centered on Well 2BS 8H

GE 3619 + 26 @ 3645.00usft (Latshaw 17)

N

Grid

Midcon (2 decimal)

Version: 5000.1 Build: 81E

Report Version: Midcon Combo v1.13

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HALLIBURTON

HALLIBURTON**Design Report for 2BS 8H - Actuals**

| Measured Depth (usft) | Inclination (°) | Grid Azimuth (°) | Vertical Depth (usft) | Local Coordinates | | Map Coordinates | | Dogleg Rate (°/100usft) | Vertical Section (usft) | Toolface Angle (°) | Comments |
|-----------------------|-----------------|------------------|-----------------------|-------------------|----------------|-----------------|----------------|-------------------------|-------------------------|--------------------|----------|
| | | | | Northing (usft) | Easting (usft) | Northing (usft) | Easting (usft) | | | | |
| 0.00 | 0.00 | 0.00 | 0.00 | 0.00 N | 0.00 E | 520,886.00 | 812,717.60 | 0.00 | 0.00 | 0.00 | |
| 171.00 | 0.64 | 89.50 | 171.00 | 0.01 N | 0.95 E | 520,886.01 | 812,718.55 | 0.37 | 0.01 | 89.50 | |
| 230.00 | 0.83 | 97.91 | 229.99 | 0.05 S | 1.71 E | 520,885.95 | 812,719.31 | 0.37 | -0.05 | 33.84 | |
| 287.00 | 0.94 | 125.06 | 286.99 | 0.37 S | 2.50 E | 520,885.63 | 812,720.10 | 0.75 | -0.37 | 89.14 | |
| 374.00 | 0.65 | 120.66 | 373.98 | 1.03 S | 3.51 E | 520,884.97 | 812,721.11 | 0.34 | -1.03 | -170.31 | |
| 520.00 | 0.61 | 107.62 | 519.97 | 1.69 S | 4.96 E | 520,884.31 | 812,722.56 | 0.10 | -1.69 | -112.04 | |
| 608.00 | 0.80 | 85.23 | 607.96 | 1.78 S | 6.02 E | 520,884.22 | 812,723.62 | 0.38 | -1.78 | -66.94 | |
| 706.00 | 0.96 | 88.58 | 705.95 | 1.71 S | 7.52 E | 520,884.29 | 812,725.12 | 0.17 | -1.71 | 19.51 | |
| 800.00 | 1.38 | 84.98 | 799.93 | 1.59 S | 9.44 E | 520,884.41 | 812,727.04 | 0.45 | -1.59 | -11.73 | |
| 894.00 | 2.13 | 74.10 | 893.89 | 1.01 S | 12.24 E | 520,884.99 | 812,729.84 | 0.87 | -1.01 | -29.46 | |
| 988.00 | 1.38 | 61.87 | 987.84 | 0.00 N | 14.92 E | 520,886.00 | 812,732.52 | 0.89 | 0.00 | -159.49 | |
| 1,082.00 | 1.22 | 50.59 | 1,081.82 | 1.17 N | 16.69 E | 520,887.17 | 812,734.29 | 0.32 | 1.17 | -127.57 | |
| 1,178.00 | 1.25 | 45.37 | 1,177.79 | 2.56 N | 18.23 E | 520,888.56 | 812,735.83 | 0.12 | 2.56 | -77.69 | |
| 1,272.00 | 1.27 | 34.00 | 1,271.77 | 4.14 N | 19.54 E | 520,890.14 | 812,737.14 | 0.27 | 4.14 | -91.13 | |
| 1,367.00 | 0.99 | 18.41 | 1,366.75 | 5.79 N | 20.39 E | 520,891.79 | 812,737.99 | 0.44 | 5.79 | -139.94 | |
| 1,462.00 | 0.71 | 10.14 | 1,461.74 | 7.15 N | 20.75 E | 520,893.15 | 812,738.35 | 0.32 | 7.15 | -160.44 | |
| 1,557.00 | 1.01 | 4.43 | 1,556.73 | 8.56 N | 20.92 E | 520,894.56 | 812,738.52 | 0.33 | 8.56 | -18.81 | |
| 1,651.00 | 1.40 | 354.19 | 1,650.71 | 10.53 N | 20.87 E | 520,896.53 | 812,738.47 | 0.47 | 10.53 | -34.09 | |
| 1,745.00 | 2.03 | 337.98 | 1,744.67 | 13.22 N | 20.13 E | 520,899.22 | 812,737.73 | 0.84 | 13.22 | -45.89 | |
| 1,797.00 | 2.52 | 335.17 | 1,796.63 | 15.11 N | 19.30 E | 520,901.11 | 812,736.90 | 0.97 | 15.11 | -14.23 | |
| 1,893.00 | 3.05 | 333.54 | 1,892.51 | 19.31 N | 17.28 E | 520,905.31 | 812,734.88 | 0.56 | 19.31 | -9.31 | |
| 1,988.00 | 3.00 | 333.55 | 1,987.38 | 23.80 N | 15.04 E | 520,909.80 | 812,732.64 | 0.05 | 23.80 | 179.40 | |
| 2,081.00 | 2.67 | 328.09 | 2,080.27 | 27.82 N | 12.82 E | 520,913.82 | 812,730.42 | 0.46 | 27.82 | -143.41 | |
| 2,176.00 | 2.42 | 321.21 | 2,175.17 | 31.26 N | 10.39 E | 520,917.26 | 812,727.99 | 0.42 | 31.26 | -132.70 | |
| 2,271.00 | 2.66 | 311.12 | 2,270.08 | 34.27 N | 7.47 E | 520,920.27 | 812,725.07 | 0.53 | 34.27 | -66.88 | |
| 2,365.00 | 2.34 | 307.22 | 2,363.99 | 36.87 N | 4.30 E | 520,922.87 | 812,721.90 | 0.39 | 36.87 | -153.94 | |
| 2,460.00 | 1.89 | 294.73 | 2,458.93 | 38.70 N | 1.33 E | 520,924.70 | 812,718.93 | 0.68 | 38.70 | -140.44 | |
| 2,555.00 | 1.70 | 281.60 | 2,553.88 | 39.63 N | 1.47 W | 520,925.63 | 812,716.13 | 0.48 | 39.63 | -121.26 | |
| 2,650.00 | 1.76 | 266.04 | 2,648.84 | 39.82 N | 4.31 W | 520,925.82 | 812,713.29 | 0.50 | 39.82 | -90.54 | |
| 2,745.00 | 1.95 | 225.36 | 2,743.79 | 38.58 N | 6.91 W | 520,924.58 | 812,710.69 | 1.37 | 38.58 | -102.46 | |
| 2,840.00 | 2.33 | 218.63 | 2,838.73 | 35.94 N | 9.27 W | 520,921.94 | 812,708.33 | 0.48 | 35.94 | -36.87 | |
| 2,935.00 | 2.24 | 214.37 | 2,933.65 | 32.90 N | 11.52 W | 520,918.90 | 812,706.08 | 0.20 | 32.90 | -120.04 | |
| 3,029.00 | 2.37 | 192.96 | 3,027.58 | 29.48 N | 12.99 W | 520,915.48 | 812,704.61 | 0.92 | 29.48 | -92.21 | |
| 3,124.00 | 2.52 | 164.01 | 3,122.49 | 25.56 N | 12.86 W | 520,911.56 | 812,704.74 | 1.30 | 25.56 | -97.68 | |
| 3,218.00 | 3.08 | 146.31 | 3,216.38 | 21.48 N | 10.89 W | 520,907.48 | 812,706.71 | 1.09 | 21.48 | -66.12 | |
| 3,313.00 | 2.90 | 121.35 | 3,311.26 | 18.10 N | 7.42 W | 520,904.10 | 812,710.18 | 1.37 | 18.10 | -110.21 | |

HALLIBURTON**Design Report for 2BS 8H - Actuals**

| Measured Depth (usft) | Inclination (°) | Grid Azimuth (°) | Vertical Depth (usft) | Local Coordinates | | Map Coordinates | | Dogleg Rate (°/100usft) | Vertical Section (usft) | Tooface Angle (°) | Comments |
|-----------------------------|--------------------|------------------------|-----------------------------|--------------------|-------------------|--------------------|-------------------|-------------------------------|-------------------------------|-------------------------|----------|
| | | | | Northing (usft) | Easting (usft) | Northing (usft) | Easting (usft) | | | | |
| 3,408.00 | 3.05 | 119.93 | 3,406.13 | 15.59 N | 3.18 W | 520,901.59 | 812,714.42 | 0.18 | 15.59 | -26.88 | |
| 3,503.00 | 3.50 | 118.28 | 3,500.97 | 12.95 N | 1.57 E | 520,898.95 | 812,719.17 | 0.48 | 12.95 | -12.66 | |
| 3,598.00 | 3.68 | 106.93 | 3,595.79 | 10.69 N | 7.04 E | 520,896.69 | 812,724.64 | 0.77 | 10.69 | -81.50 | |
| 3,693.00 | 2.84 | 87.02 | 3,690.64 | 9.93 N | 12.30 E | 520,895.93 | 812,729.90 | 1.47 | 9.93 | -136.23 | |
| 3,792.00 | 2.49 | 83.61 | 3,789.53 | 10.29 N | 16.89 E | 520,896.29 | 812,734.49 | 0.39 | 10.29 | -157.33 | |
| 3,887.00 | 2.19 | 84.35 | 3,884.45 | 10.70 N | 20.75 E | 520,896.70 | 812,738.35 | 0.32 | 10.70 | 174.62 | |
| 3,981.00 | 2.28 | 75.03 | 3,978.38 | 11.36 N | 24.34 E | 520,897.36 | 812,741.94 | 0.40 | 11.36 | -80.78 | |
| 4,076.00 | 1.87 | 52.04 | 4,073.32 | 12.80 N | 27.39 E | 520,898.80 | 812,744.99 | 0.97 | 12.80 | -127.40 | |
| 4,169.00 | 1.42 | 23.82 | 4,166.28 | 14.79 N | 29.05 E | 520,900.79 | 812,746.65 | 0.98 | 14.79 | -132.66 | |
| 4,264.00 | 1.25 | 17.09 | 4,261.26 | 16.86 N | 29.83 E | 520,902.86 | 812,747.43 | 0.24 | 16.86 | -140.65 | |
| 4,365.00 | 1.08 | 13.50 | 4,362.24 | 18.84 N | 30.38 E | 520,904.84 | 812,747.98 | 0.18 | 18.84 | -158.55 | |
| 4,460.00 | 0.97 | 353.92 | 4,457.22 | 20.51 N | 30.50 E | 520,906.51 | 812,748.10 | 0.38 | 20.51 | -117.06 | |
| 4,554.00 | 1.22 | 355.42 | 4,551.20 | 22.30 N | 30.34 E | 520,908.30 | 812,747.94 | 0.27 | 22.30 | 7.29 | |
| 4,649.00 | 1.57 | 342.83 | 4,646.18 | 24.55 N | 29.87 E | 520,910.55 | 812,747.47 | 0.49 | 24.55 | -47.62 | |
| 4,744.00 | 2.17 | 0.43 | 4,741.12 | 27.59 N | 29.50 E | 520,913.59 | 812,747.10 | 0.87 | 27.59 | 52.77 | |
| 4,839.00 | 2.16 | 349.07 | 4,836.06 | 31.15 N | 29.17 E | 520,917.15 | 812,746.77 | 0.45 | 31.15 | -97.01 | |
| 4,933.00 | 1.75 | 340.71 | 4,930.00 | 34.24 N | 28.36 E | 520,920.24 | 812,745.96 | 0.53 | 34.24 | -149.31 | |
| 5,027.00 | 1.53 | 335.55 | 5,023.96 | 36.74 N | 27.37 E | 520,922.74 | 812,744.97 | 0.28 | 36.74 | -148.69 | |
| 5,122.00 | 1.28 | 349.04 | 5,118.94 | 38.93 N | 26.64 E | 520,924.93 | 812,744.24 | 0.43 | 38.93 | 133.70 | |
| 5,216.00 | 1.09 | 342.32 | 5,212.92 | 40.82 N | 26.17 E | 520,926.82 | 812,743.77 | 0.25 | 40.82 | -147.14 | |
| 5,311.00 | 1.26 | 331.69 | 5,307.90 | 42.60 N | 25.40 E | 520,928.60 | 812,743.00 | 0.29 | 42.60 | -57.44 | |
| 5,405.00 | 0.94 | 333.53 | 5,401.88 | 44.20 N | 24.57 E | 520,930.20 | 812,742.17 | 0.34 | 44.20 | 174.62 | |
| 5,499.00 | 1.22 | 342.02 | 5,495.86 | 45.84 N | 23.92 E | 520,931.84 | 812,741.52 | 0.34 | 45.84 | 34.04 | |
| 5,594.00 | 0.84 | 333.02 | 5,590.85 | 47.42 N | 23.29 E | 520,933.42 | 812,740.89 | 0.43 | 47.42 | -161.40 | |
| 5,669.00 | 0.87 | 353.40 | 5,665.84 | 48.48 N | 22.97 E | 520,934.48 | 812,740.57 | 0.41 | 48.48 | 94.61 | |
| 5,735.00 | 0.60 | 7.26 | 5,731.83 | 49.32 N | 22.96 E | 520,935.32 | 812,740.56 | 0.49 | 49.32 | 153.44 | |
| 5,829.00 | 0.63 | 17.42 | 5,825.83 | 50.30 N | 23.18 E | 520,936.30 | 812,740.78 | 0.12 | 50.30 | 79.74 | |
| 5,925.00 | 0.64 | 20.65 | 5,921.82 | 51.30 N | 23.52 E | 520,937.30 | 812,741.12 | 0.04 | 51.30 | 76.01 | |
| 6,020.00 | 0.63 | 27.73 | 6,016.82 | 52.26 N | 23.95 E | 520,938.26 | 812,741.55 | 0.08 | 52.26 | 100.79 | |
| 6,112.00 | 0.61 | 66.13 | 6,108.81 | 52.91 N | 24.64 E | 520,938.91 | 812,742.24 | 0.44 | 52.91 | 111.85 | |
| 6,207.00 | 0.74 | 131.26 | 6,203.81 | 52.71 N | 25.56 E | 520,938.71 | 812,743.16 | 0.77 | 52.71 | 113.99 | |
| 6,302.00 | 0.74 | 142.22 | 6,298.80 | 51.82 N | 26.40 E | 520,937.82 | 812,744.00 | 0.15 | 51.82 | 95.48 | |
| 6,397.00 | 0.62 | 137.37 | 6,393.79 | 50.96 N | 27.12 E | 520,936.96 | 812,744.72 | 0.14 | 50.96 | -156.79 | |
| 6,491.00 | 0.57 | 163.71 | 6,487.79 | 50.13 N | 27.60 E | 520,936.13 | 812,745.20 | 0.29 | 50.13 | 113.35 | |
| 6,585.00 | 0.43 | 164.50 | 6,581.78 | 49.34 N | 27.82 E | 520,935.34 | 812,745.42 | 0.15 | 49.34 | 177.58 | |
| 6,679.00 | 0.39 | 160.48 | 6,675.78 | 48.70 N | 28.02 E | 520,934.70 | 812,745.62 | 0.05 | 48.70 | -146.28 | |
| 6,774.00 | 1.01 | 199.18 | 6,770.77 | 47.61 N | 27.86 E | 520,933.61 | 812,745.46 | 0.79 | 47.61 | 57.76 | |

HALLIBURTON

Design Report for 2BS 8H - Actuals

| Measured Depth (usft) | Inclination (°) | Grid Azimuth (°) | Vertical Depth (usft) | Local Coordinates | | Map Coordinates | | Dogleg Rate (°/100usft) | Vertical Section (usft) | Toolface Angle (°) | Comments |
|-----------------------|-----------------|------------------|-----------------------|-------------------|----------------|-----------------|----------------|-------------------------|-------------------------|--------------------|----------|
| | | | | Northing (usft) | Easting (usft) | Northing (usft) | Easting (usft) | | | | |
| 6,868.00 | 1.26 | 209.67 | 6,864.75 | 45.93 N | 27.07 E | 520,931.93 | 812,744.67 | 0.34 | 45.93 | 45.05 | |
| 6,962.00 | 1.07 | 196.58 | 6,958.73 | 44.19 N | 26.31 E | 520,930.19 | 812,743.91 | 0.35 | 44.19 | -131.95 | |
| 7,057.00 | 1.31 | 205.30 | 7,053.71 | 42.36 N | 25.59 E | 520,928.36 | 812,743.19 | 0.32 | 42.36 | 41.45 | |
| 7,152.00 | 1.26 | 209.21 | 7,148.69 | 40.46 N | 24.62 E | 520,926.46 | 812,742.22 | 0.11 | 40.46 | 121.64 | |
| 7,247.00 | 1.59 | 209.50 | 7,243.66 | 38.40 N | 23.46 E | 520,924.40 | 812,741.06 | 0.35 | 38.40 | 1.40 | |
| 7,341.00 | 1.65 | 217.83 | 7,337.62 | 36.20 N | 21.99 E | 520,922.20 | 812,739.59 | 0.26 | 36.20 | 79.89 | |
| 7,435.00 | 1.48 | 226.63 | 7,431.59 | 34.30 N | 20.28 E | 520,920.30 | 812,737.88 | 0.31 | 34.30 | 129.62 | |
| 7,530.00 | 1.23 | 234.98 | 7,526.56 | 32.87 N | 18.55 E | 520,918.87 | 812,736.15 | 0.33 | 32.87 | 145.82 | |
| 7,625.00 | 1.36 | 232.63 | 7,621.54 | 31.60 N | 16.82 E | 520,917.60 | 812,734.42 | 0.15 | 31.60 | -23.40 | |
| 7,719.00 | 1.30 | 240.65 | 7,715.51 | 30.40 N | 15.00 E | 520,916.40 | 812,732.60 | 0.21 | 30.40 | 111.85 | |
| 7,813.00 | 0.83 | 255.01 | 7,809.50 | 29.70 N | 13.42 E | 520,915.70 | 812,731.02 | 0.57 | 29.70 | 157.46 | |
| 7,908.00 | 1.12 | 250.93 | 7,904.48 | 29.22 N | 11.87 E | 520,915.22 | 812,729.47 | 0.31 | 29.22 | -15.51 | |
| 8,003.00 | 0.99 | 258.87 | 7,999.47 | 28.76 N | 10.19 E | 520,914.76 | 812,727.79 | 0.21 | 28.76 | 135.57 | |
| 8,097.00 | 0.83 | 263.52 | 8,093.45 | 28.53 N | 8.72 E | 520,914.53 | 812,726.32 | 0.19 | 28.53 | 157.54 | |
| 8,192.00 | 0.80 | 282.50 | 8,188.44 | 28.59 N | 7.39 E | 520,914.59 | 812,724.99 | 0.28 | 28.59 | 105.77 | |
| 8,286.00 | 0.91 | 298.52 | 8,282.43 | 29.09 N | 6.09 E | 520,915.09 | 812,723.69 | 0.28 | 29.09 | 73.44 | |
| 8,381.00 | 0.75 | 308.55 | 8,377.42 | 29.84 N | 4.94 E | 520,915.84 | 812,722.54 | 0.23 | 29.84 | 142.70 | |
| 8,475.00 | 0.55 | 278.25 | 8,471.42 | 30.29 N | 4.01 E | 520,916.29 | 812,721.61 | 0.42 | 30.29 | -134.76 | |
| 8,569.00 | 0.42 | 222.49 | 8,565.42 | 30.10 N | 3.33 E | 520,916.10 | 812,720.93 | 0.50 | 30.10 | -132.10 | |
| 8,663.00 | 0.74 | 235.50 | 8,659.41 | 29.50 N | 2.60 E | 520,915.50 | 812,720.20 | 0.37 | 29.50 | 28.96 | |
| 8,758.00 | 0.68 | 196.36 | 8,754.40 | 28.61 N | 1.94 E | 520,914.61 | 812,719.54 | 0.50 | 28.61 | -116.35 | |
| 8,852.00 | 0.74 | 185.51 | 8,848.40 | 27.47 N | 1.72 E | 520,913.47 | 812,719.32 | 0.16 | 27.47 | -71.44 | |
| 8,947.00 | 0.64 | 225.34 | 8,943.39 | 26.49 N | 1.29 E | 520,912.49 | 812,718.89 | 0.50 | 26.49 | 121.22 | |
| 9,041.00 | 0.84 | 230.98 | 9,037.38 | 25.68 N | 0.38 E | 520,911.68 | 812,717.98 | 0.23 | 25.68 | 22.85 | |
| 9,135.00 | 1.05 | 240.67 | 9,131.37 | 24.83 N | 0.91 W | 520,910.83 | 812,716.69 | 0.28 | 24.83 | 42.18 | |
| 9,229.00 | 1.55 | 253.94 | 9,225.35 | 24.06 N | 2.88 W | 520,910.06 | 812,714.72 | 0.62 | 24.06 | 37.80 | |
| 9,324.00 | 2.81 | 266.05 | 9,320.28 | 23.54 N | 6.44 W | 520,909.54 | 812,711.16 | 1.40 | 23.54 | 26.20 | |
| 9,419.00 | 2.49 | 260.26 | 9,415.17 | 23.03 N | 10.80 W | 520,909.03 | 812,706.80 | 0.44 | 23.03 | -142.95 | |
| 9,495.00 | 2.52 | 261.58 | 9,491.10 | 22.51 N | 14.08 W | 520,908.51 | 812,703.52 | 0.09 | 22.51 | 63.19 | |
| 9,527.00 | 5.89 | 274.49 | 9,523.01 | 22.53 N | 16.41 W | 520,908.53 | 812,701.19 | 10.87 | 22.53 | 22.20 | |
| 9,558.00 | 10.61 | 277.00 | 9,553.68 | 23.00 N | 20.83 W | 520,909.00 | 812,696.77 | 15.27 | 23.00 | 5.61 | |
| 9,590.00 | 16.21 | 275.74 | 9,584.80 | 23.81 N | 28.21 W | 520,909.81 | 812,689.39 | 17.52 | 23.81 | -3.60 | |
| 9,622.00 | 21.28 | 276.48 | 9,615.09 | 24.91 N | 38.43 W | 520,910.91 | 812,679.17 | 15.86 | 24.91 | 3.04 | |
| 9,653.00 | 26.59 | 276.71 | 9,643.41 | 26.36 N | 50.91 W | 520,912.36 | 812,666.69 | 17.13 | 26.36 | 1.11 | |
| 9,685.00 | 32.30 | 275.28 | 9,671.27 | 27.98 N | 66.55 W | 520,913.98 | 812,651.05 | 17.98 | 27.98 | -7.65 | |
| 9,717.00 | 37.07 | 273.89 | 9,697.58 | 29.43 N | 84.70 W | 520,915.43 | 812,632.90 | 15.11 | 29.43 | -9.99 | |
| 9,748.00 | 42.23 | 274.38 | 9,721.44 | 30.86 N | 104.42 W | 520,916.86 | 812,613.18 | 16.68 | 30.86 | 3.66 | |

HALLIBURTON**Design Report for 2BS 8H - Actuals**

| Measured Depth (usft) | Inclination (°) | Grid Azimuth (°) | Vertical Depth (usft) | Local Coordinates | | Map Coordinates | | Dogleg Rate (°/100usft) | Vertical Section (usft) | Toolface Angle (°) | Comments |
|-----------------------------|--------------------|------------------------|-----------------------------|--------------------|-------------------|--------------------|-------------------|-------------------------------|-------------------------------|--------------------------|----------|
| | | | | Northing (usft) | Easting (usft) | Northing (usft) | Easting (usft) | | | | |
| 9,780.00 | 46.87 | 275.28 | 9,744.23 | 32.75 N | 126.78 W | 520,918.75 | 812,590.82 | 14.63 | 32.75 | 8.07 | |
| 9,811.00 | 50.55 | 279.79 | 9,764.69 | 35.83 N | 149.86 W | 520,921.83 | 812,567.74 | 16.13 | 35.83 | 44.15 | |
| 9,843.00 | 52.80 | 285.54 | 9,784.55 | 41.35 N | 174.33 W | 520,927.35 | 812,543.27 | 15.75 | 41.35 | 65.30 | |
| 9,874.00 | 54.94 | 291.98 | 9,802.84 | 49.41 N | 198.01 W | 520,935.41 | 812,519.59 | 18.14 | 49.41 | 69.56 | |
| 9,906.00 | 57.71 | 295.33 | 9,820.58 | 60.11 N | 222.39 W | 520,946.11 | 812,495.21 | 12.28 | 60.11 | 46.12 | |
| 9,937.00 | 59.17 | 296.72 | 9,836.81 | 71.70 N | 246.12 W | 520,957.70 | 812,471.48 | 6.06 | 71.70 | 39.42 | |
| 9,969.00 | 59.72 | 299.18 | 9,853.08 | 84.61 N | 270.46 W | 520,970.61 | 812,447.14 | 6.84 | 84.61 | 76.07 | |
| 10,001.00 | 60.02 | 302.06 | 9,869.14 | 98.71 N | 294.27 W | 520,984.71 | 812,423.33 | 7.84 | 98.71 | 83.86 | |
| 10,032.00 | 60.26 | 305.08 | 9,884.58 | 113.57 N | 316.67 W | 520,999.57 | 812,400.93 | 8.48 | 113.57 | 85.52 | |
| 10,064.00 | 59.84 | 307.97 | 9,900.56 | 130.07 N | 338.95 W | 521,016.07 | 812,378.65 | 7.93 | 130.07 | 100.24 | |
| 10,095.00 | 59.65 | 310.81 | 9,916.18 | 147.06 N | 359.64 W | 521,033.06 | 812,357.96 | 7.94 | 147.06 | 95.14 | |
| 10,127.00 | 59.79 | 312.99 | 9,932.31 | 165.51 N | 380.20 W | 521,051.51 | 812,337.40 | 5.90 | 165.51 | 86.30 | |
| 10,158.00 | 59.67 | 315.05 | 9,947.94 | 184.12 N | 399.46 W | 521,070.12 | 812,318.14 | 5.75 | 184.12 | 94.38 | |
| 10,190.00 | 59.83 | 317.88 | 9,964.07 | 204.15 N | 418.49 W | 521,090.15 | 812,299.11 | 7.66 | 204.15 | 86.97 | |
| 10,222.00 | 59.62 | 320.87 | 9,980.20 | 225.13 N | 436.48 W | 521,111.13 | 812,281.12 | 8.10 | 225.13 | 95.40 | |
| 10,253.00 | 58.90 | 324.36 | 9,996.05 | 246.29 N | 452.66 W | 521,132.29 | 812,264.94 | 9.95 | 246.29 | 104.39 | |
| 10,285.00 | 58.75 | 326.74 | 10,012.62 | 268.86 N | 468.15 W | 521,154.86 | 812,249.45 | 6.38 | 268.86 | 94.83 | |
| 10,316.00 | 58.72 | 329.63 | 10,028.71 | 291.38 N | 482.11 W | 521,177.38 | 812,235.49 | 7.97 | 291.38 | 91.45 | |
| 10,348.00 | 58.99 | 332.09 | 10,045.26 | 315.30 N | 495.45 W | 521,201.30 | 812,222.15 | 6.63 | 315.30 | 83.33 | |
| 10,379.00 | 59.02 | 334.77 | 10,061.23 | 339.06 N | 507.33 W | 521,225.06 | 812,210.27 | 7.41 | 339.06 | 89.94 | |
| 10,411.00 | 58.01 | 337.33 | 10,077.94 | 363.99 N | 518.41 W | 521,249.99 | 812,199.19 | 7.52 | 363.99 | 115.49 | |
| 10,442.00 | 57.17 | 340.55 | 10,094.56 | 388.41 N | 527.82 W | 521,274.41 | 812,189.78 | 9.18 | 388.41 | 108.03 | |
| 10,474.00 | 56.83 | 342.89 | 10,111.99 | 413.89 N | 536.23 W | 521,299.89 | 812,181.37 | 6.22 | 413.89 | 100.46 | |
| 10,505.00 | 56.69 | 345.96 | 10,128.98 | 438.86 N | 543.20 W | 521,324.86 | 812,174.40 | 8.29 | 438.86 | 93.96 | |
| 10,537.00 | 56.70 | 349.12 | 10,146.56 | 464.97 N | 548.96 W | 521,350.97 | 812,168.64 | 8.25 | 464.97 | 90.65 | |
| 10,569.00 | 57.37 | 352.27 | 10,163.97 | 491.46 N | 553.30 W | 521,377.46 | 812,164.30 | 8.52 | 491.46 | 76.64 | |
| 10,600.00 | 58.39 | 354.32 | 10,180.46 | 517.53 N | 556.36 W | 521,403.53 | 812,161.24 | 6.50 | 517.53 | 60.11 | |
| 10,632.00 | 60.10 | 354.54 | 10,196.82 | 544.90 N | 559.03 W | 521,430.90 | 812,158.57 | 5.38 | 544.90 | 6.37 | |
| 10,664.00 | 61.84 | 354.09 | 10,212.35 | 572.74 N | 561.81 W | 521,458.74 | 812,155.79 | 5.57 | 572.74 | -12.85 | |
| 10,695.00 | 63.62 | 354.83 | 10,226.55 | 600.17 N | 564.46 W | 521,486.17 | 812,153.14 | 6.12 | 600.17 | 20.45 | |
| 10,727.00 | 66.83 | 355.79 | 10,239.96 | 629.12 N | 566.84 W | 521,515.12 | 812,150.76 | 10.39 | 629.12 | 15.40 | |
| 10,758.00 | 68.65 | 357.14 | 10,251.70 | 657.75 N | 568.60 W | 521,543.75 | 812,149.00 | 7.12 | 657.75 | 34.73 | |
| 10,790.00 | 69.83 | 359.23 | 10,263.05 | 687.66 N | 569.55 W | 521,573.66 | 812,148.05 | 7.13 | 687.66 | 59.25 | |
| 10,822.00 | 71.57 | 0.37 | 10,273.62 | 717.86 N | 569.65 W | 521,603.86 | 812,147.95 | 6.39 | 717.86 | 31.92 | |
| 10,854.00 | 73.23 | 0.44 | 10,283.30 | 748.36 N | 569.44 W | 521,634.36 | 812,148.16 | 5.19 | 748.36 | 2.31 | |
| 10,885.00 | 75.47 | 0.30 | 10,291.66 | 778.21 N | 569.24 W | 521,664.21 | 812,148.36 | 7.24 | 778.21 | -3.46 | |

HALLIBURTON**Design Report for 2BS 8H - Actuals**

| Measured Depth (usft) | Inclination (°) | Grid Azimuth (°) | Vertical Depth (usft) | Local Coordinates | | Map Coordinates | | Dogleg Rate (°/100usft) | Vertical Section (usft) | Toolface Angle (°) | Comments |
|-----------------------------|--------------------|------------------------|-----------------------------|--------------------|-------------------|--------------------|-------------------|-------------------------------|-------------------------------|--------------------------|----------|
| | | | | Northing (usft) | Easting (usft) | Northing (usft) | Easting (usft) | | | | |
| 10,917.00 | 78.66 | 359.98 | 10,298.82 | 809.39 N | 569.17 W | 521,695.39 | 812,148.43 | 10.02 | 809.39 | -5.62 | |
| 10,948.00 | 82.74 | 359.53 | 10,303.83 | 839.98 N | 569.30 W | 521,725.98 | 812,148.30 | 13.24 | 839.98 | -6.25 | |
| 10,980.00 | 88.33 | 358.79 | 10,306.32 | 871.86 N | 569.77 W | 521,757.86 | 812,147.83 | 17.62 | 871.86 | -7.55 | |
| 11,012.00 | 91.82 | 358.25 | 10,306.28 | 903.85 N | 570.59 W | 521,789.85 | 812,147.01 | 11.04 | 903.85 | -8.80 | |
| 11,043.00 | 92.44 | 358.40 | 10,305.13 | 934.81 N | 571.50 W | 521,820.81 | 812,146.10 | 2.06 | 934.81 | 13.59 | |
| 11,102.00 | 93.27 | 358.76 | 10,302.19 | 993.72 N | 572.96 W | 521,879.72 | 812,144.64 | 1.53 | 993.72 | 23.41 | |
| 11,196.00 | 90.49 | 359.46 | 10,299.11 | 1,087.65 N | 574.42 W | 521,973.65 | 812,143.18 | 3.05 | 1,087.65 | 165.86 | |
| 11,291.00 | 91.79 | 359.84 | 10,297.22 | 1,182.63 N | 575.00 W | 522,068.63 | 812,142.60 | 1.43 | 1,182.63 | 16.29 | |
| 11,386.00 | 90.62 | 359.68 | 10,295.22 | 1,277.60 N | 575.40 W | 522,163.60 | 812,142.20 | 1.24 | 1,277.60 | -172.21 | |
| 11,480.00 | 87.77 | 359.45 | 10,296.54 | 1,371.58 N | 576.11 W | 522,257.58 | 812,141.49 | 3.04 | 1,371.58 | -175.39 | |
| 11,576.00 | 88.83 | 359.55 | 10,299.39 | 1,467.53 N | 576.95 W | 522,353.53 | 812,140.65 | 1.11 | 1,467.53 | 5.39 | |
| 11,670.00 | 90.19 | 359.89 | 10,300.19 | 1,561.53 N | 577.41 W | 522,447.53 | 812,140.19 | 1.49 | 1,561.53 | 14.04 | |
| 11,765.00 | 89.94 | 359.71 | 10,300.08 | 1,656.53 N | 577.74 W | 522,542.53 | 812,139.86 | 0.32 | 1,656.53 | -144.25 | |
| 11,860.00 | 90.86 | 359.69 | 10,299.42 | 1,751.52 N | 578.24 W | 522,637.52 | 812,139.36 | 0.97 | 1,751.52 | -1.25 | |
| 11,955.00 | 90.25 | 359.90 | 10,298.50 | 1,846.52 N | 578.58 W | 522,732.52 | 812,139.02 | 0.68 | 1,846.52 | 161.00 | |
| 12,048.00 | 89.57 | 359.22 | 10,298.64 | 1,939.51 N | 579.29 W | 522,825.51 | 812,138.31 | 1.03 | 1,939.51 | -135.00 | |
| 12,143.00 | 90.93 | 359.13 | 10,298.23 | 2,034.50 N | 580.66 W | 522,920.50 | 812,136.94 | 1.43 | 2,034.50 | -3.79 | |
| 12,238.00 | 89.69 | 359.39 | 10,297.72 | 2,129.49 N | 581.89 W | 523,015.49 | 812,135.71 | 1.33 | 2,129.49 | 168.16 | |
| 12,333.00 | 87.77 | 358.11 | 10,299.82 | 2,224.44 N | 583.96 W | 523,110.44 | 812,133.64 | 2.43 | 2,224.44 | -146.33 | |
| 12,427.00 | 88.21 | 357.56 | 10,303.12 | 2,318.31 N | 587.51 W | 523,204.31 | 812,130.09 | 0.75 | 2,318.31 | -51.33 | |
| 12,522.00 | 88.83 | 356.95 | 10,305.57 | 2,413.17 N | 592.05 W | 523,299.17 | 812,125.55 | 0.92 | 2,413.17 | -44.53 | |
| 12,617.00 | 88.83 | 358.10 | 10,307.51 | 2,508.06 N | 596.16 W | 523,394.06 | 812,121.44 | 1.21 | 2,508.06 | 90.01 | |
| 12,712.00 | 88.70 | 359.57 | 10,309.56 | 2,603.01 N | 598.09 W | 523,489.01 | 812,119.51 | 1.55 | 2,603.01 | 95.07 | |
| 12,807.00 | 89.69 | 359.56 | 10,310.89 | 2,698.00 N | 598.81 W | 523,584.00 | 812,118.79 | 1.04 | 2,698.00 | -0.58 | |
| 12,902.00 | 90.43 | 359.01 | 10,310.80 | 2,792.99 N | 599.99 W | 523,678.99 | 812,117.61 | 0.97 | 2,792.99 | -36.62 | |
| 12,997.00 | 91.24 | 0.12 | 10,309.41 | 2,887.98 N | 600.71 W | 523,773.98 | 812,116.89 | 1.45 | 2,887.98 | 53.87 | |
| 13,091.00 | 91.24 | 1.19 | 10,307.38 | 2,981.95 N | 599.64 W | 523,867.95 | 812,117.96 | 1.14 | 2,981.95 | 89.99 | |
| 13,187.00 | 91.79 | 0.78 | 10,304.84 | 3,077.90 N | 597.99 W | 523,963.90 | 812,119.61 | 0.71 | 3,077.90 | -36.69 | |
| 13,226.00 | 91.61 | 359.95 | 10,303.68 | 3,116.88 N | 597.74 W | 524,002.88 | 812,119.86 | 2.18 | 3,116.88 | -102.23 | |
| 13,282.00 | 90.74 | 0.60 | 10,302.53 | 3,172.87 N | 597.47 W | 524,058.87 | 812,120.13 | 1.94 | 3,172.87 | 143.23 | |
| 13,377.00 | 90.06 | 359.81 | 10,301.87 | 3,267.86 N | 597.13 W | 524,153.86 | 812,120.47 | 1.10 | 3,267.86 | -130.72 | |
| 13,471.00 | 90.86 | 359.31 | 10,301.12 | 3,361.86 N | 597.85 W | 524,247.86 | 812,119.75 | 1.00 | 3,361.86 | -32.00 | |
| 13,566.00 | 89.51 | 358.42 | 10,300.81 | 3,456.83 N | 599.74 W | 524,342.83 | 812,117.86 | 1.70 | 3,456.83 | -146.60 | |
| 13,662.00 | 88.33 | 358.33 | 10,302.62 | 3,552.78 N | 602.46 W | 524,438.78 | 812,115.14 | 1.23 | 3,552.78 | -175.64 | |
| 13,757.00 | 88.83 | 357.03 | 10,304.97 | 3,647.67 N | 606.30 W | 524,533.67 | 812,111.30 | 1.47 | 3,647.67 | -68.97 | |
| 13,850.00 | 89.81 | 357.62 | 10,306.08 | 3,740.56 N | 610.64 W | 524,626.56 | 812,106.96 | 1.23 | 3,740.56 | 31.05 | |
| 13,946.00 | 89.51 | 358.54 | 10,306.65 | 3,836.50 N | 613.86 W | 524,722.50 | 812,103.74 | 1.01 | 3,836.50 | 108.06 | |

HALLIBURTON

Design Report for 2BS 8H - Actuals

| Measured Depth (usft) | Inclination (°) | Grid Azimuth (°) | Vertical Depth (usft) | Local Coordinates | | Map Coordinates | | Dogleg Rate (°/100usft) | Vertical Section (usft) | Toolface Angle (°) | Comments |
|-----------------------|-----------------|------------------|-----------------------|-------------------|----------------|-----------------|----------------|-------------------------|-------------------------|--------------------|---------------------------------|
| | | | | Northing (usft) | Easting (usft) | Northing (usft) | Easting (usft) | | | | |
| 14,041.00 | 87.28 | 0.19 | 10,309.31 | 3,931.45 N | 614.91 W | 524,817.45 | 812,102.69 | 2.92 | 3,931.45 | 143.53 | |
| 14,135.00 | 86.85 | 0.92 | 10,314.12 | 4,025.32 N | 614.00 W | 524,911.32 | 812,103.60 | 0.90 | 4,025.32 | 120.55 | |
| 14,230.00 | 86.23 | 0.49 | 10,319.85 | 4,120.14 N | 612.84 W | 525,006.14 | 812,104.76 | 0.79 | 4,120.14 | -145.32 | |
| 14,325.00 | 87.22 | 359.73 | 10,325.28 | 4,214.98 N | 612.65 W | 525,100.98 | 812,104.95 | 1.31 | 4,214.98 | -37.49 | |
| 14,420.00 | 87.22 | 0.03 | 10,329.89 | 4,309.87 N | 612.85 W | 525,195.87 | 812,104.75 | 0.32 | 4,309.87 | 90.01 | |
| 14,514.00 | 87.34 | 0.53 | 10,334.35 | 4,403.76 N | 612.39 W | 525,289.76 | 812,105.21 | 0.55 | 4,403.76 | 76.50 | |
| 14,610.00 | 87.71 | 359.77 | 10,338.49 | 4,499.67 N | 612.14 W | 525,385.67 | 812,105.46 | 0.88 | 4,499.67 | -64.04 | |
| 14,703.00 | 88.27 | 358.62 | 10,341.76 | 4,592.60 N | 613.45 W | 525,478.60 | 812,104.15 | 1.37 | 4,592.60 | -64.04 | Last MWD Survey - 14703.00' MD |
| 14,763.00 | 88.27 | 358.62 | 10,343.57 | 4,652.56 N | 614.89 W | 525,538.56 | 812,102.71 | 0.00 | 4,652.56 | 0.00 | Projection to TD - 14763.00' MD |

Design Annotations

| Measured Depth (usft) | Vertical Depth (usft) | Local Coordinates | | Comment |
|-----------------------|-----------------------|-------------------|--------------|---------------------------------|
| | | +N/-S (usft) | +E/-W (usft) | |
| 14,703.00 | 10,341.76 | 4,592.60 | -613.45 | Last MWD Survey - 14703.00' MD |
| 14,763.00 | 10,343.57 | 4,652.56 | -614.89 | Projection to TD - 14763.00' MD |

Vertical Section Information

| Angle Type | Target | Azimuth (°) | Origin Type | Origin | | Start TVD (usft) |
|------------|----------------------|-------------|-------------|--------------|--------------|------------------|
| | | | | +N/_S (usft) | +E/-W (usft) | |
| User | No Target (Freehand) | 0.00 | Slot | 0.00 | 0.00 | 0.00 |

Survey tool program

| From (usft) | To (usft) | Survey/Plan | Survey Tool |
|-------------|-----------|------------------|--------------|
| 171.00 | 14,703.00 | HAL MWD | MWD |
| 14,763.00 | 14,763.00 | Projection to TD | Blind (OWSG) |

HALLIBURTON

Design Report for 2BS 8H - Actuals

Design Targets

| Target Name | Dip Angle | Dip Dir. | TVD | +N/-S | +E/-W | Northing | Easting | Latitude | Longitude |
|-------------------|-----------|----------|-----|-------|-------|----------|---------|----------|-----------|
| - hit/miss target | () | () | () | () | () | () | () | | |
| - Shape | | | | | | | | | |

Directional Difficulty Index

Average Dogleg over Survey: 1.64 °/100usft Maximum Dogleg over Survey: 18.14 °/100usft at 9,874.00 usft

Net Tortousity applicable to Plans: 0.07 °/100usft Directional Difficulty Index: 6.254

Audit Info

North Reference Sheet for Grama Ridge East 34 State - 2BS 8H - Wellbore #1

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

Vertical Depths are relative to GE 3619 + 26 @ 3645.00usft (Latshaw 17). Northing and Easting are relative to 2BS 8H

Coordinate System is US State Plane 1983, New Mexico Eastern Zone using datum North American Datum 1983, ellipsoid GRS 1980

Projection method is Transverse Mercator (Gauss-Kruger)

Central Meridian is -104.33333333°, Longitude Origin:0.00000000°, Latitude Origin:0.00000000°

False Easting: 541,337.50usft, False Northing: 0.00usft, Scale Reduction: 0.99999344

Grid Coordinates of Well: 520,886.00 usft N, 812,717.60 usft E

Geographical Coordinates of Well: 32° 25' 44.08" N, 103° 27' 13.59" W

Grid Convergence at Surface is: 0.47°

Based upon Minimum Curvature type calculations, at a Measured Depth of 14,763.00usft

the Bottom Hole Displacement is 4,693.02usft in the Direction of 352.47° (Grid).

Magnetic Convergence at surface is: -6.39° (16 June 2018, , BGGM2018)

