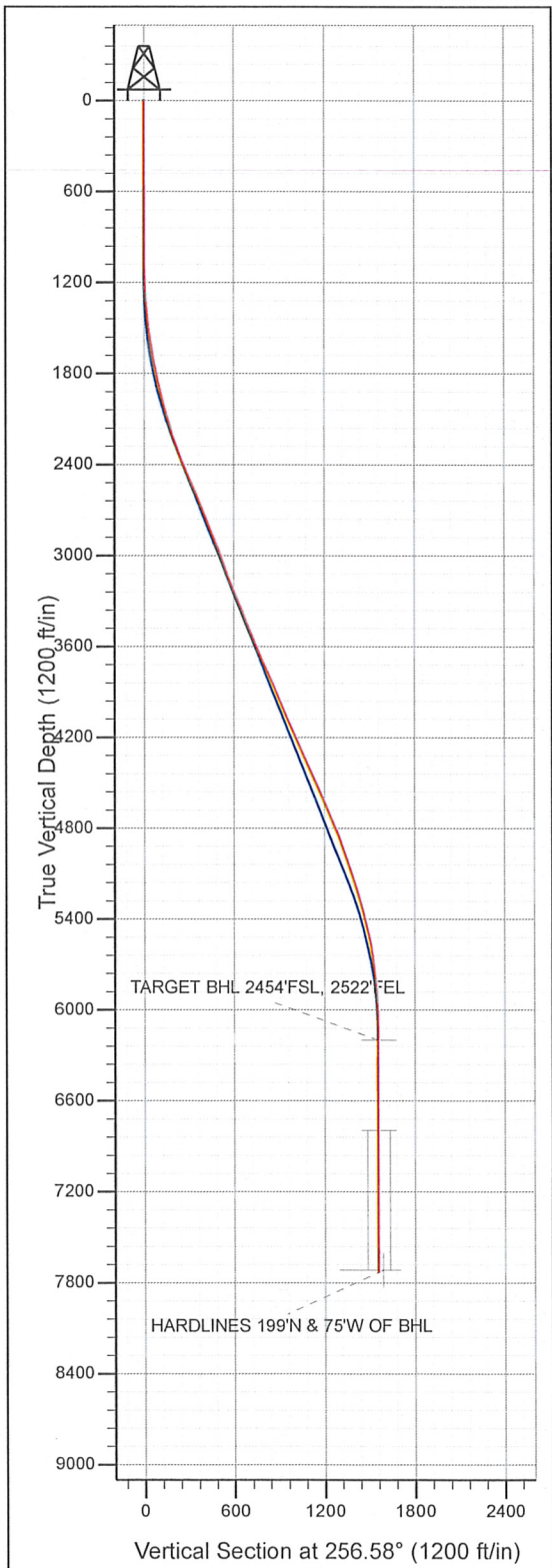




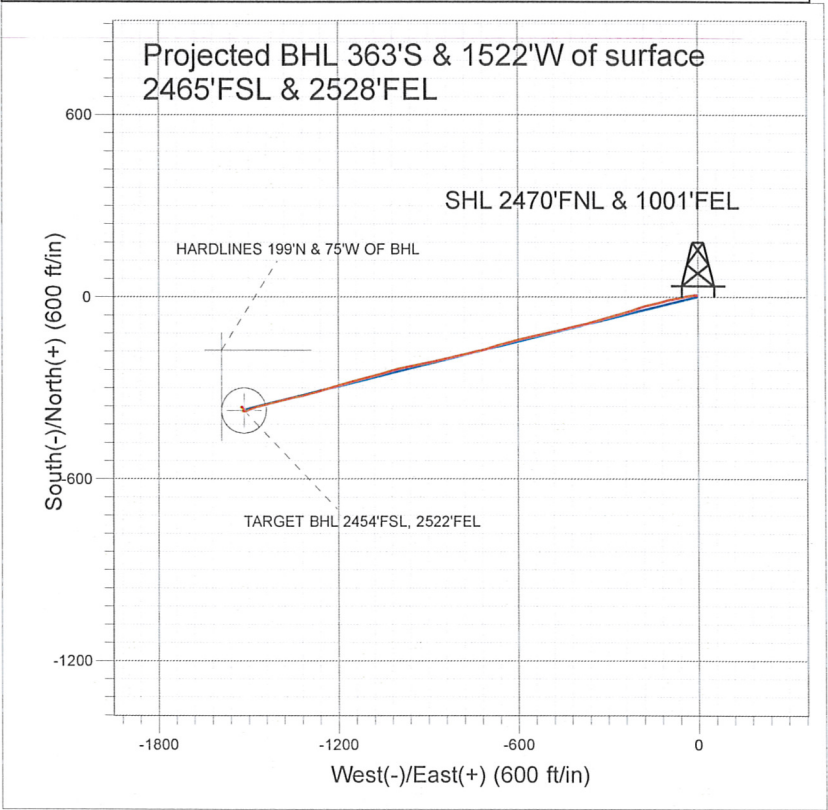
Well Name: **Horse Iron P21-21D**
 Surface Location: Horse Iron Pad Sec.21-T3N-R67W
 North American Datum 1983 , US State Plane 1983 , Colorado Northern Zone
 Ground Elevation: 4789.0

| | | | | | |
|------------|----------|------------|------------|------------------|-------------------|
| +N/-S+E/-W | Northing | Easting | Latitude | Longitude | Slot |
| 0.0 | 0.0 | 1320562.25 | 3170476.28 | 40° 12' 42.228 N | 104° 53' 22.524 W |

 Original Well Elev WELL @ 4802.0ft (Original Well Elev)



NOBLE ENERGY INC WELD COUNTY CO



| LEGEND | |
|--------|--|
| | Horse Iron P21-21D, Wellbore #1, Plan #2 (07-22-09) V0 |
| | Wellbore #1 |
| | Survey #1 |

Final Survey Plot

Projected Final Survey -
 8010'MD & 7730'TVD @ 1564' VS
 1.1 deg Inc 316.4 deg AZ

Project: SEC.21-T3N-R67W
 Site: Horse Iron Pad Sec.21-T3N-R67W
 Well: Horse Iron P21-21D
 Plan: Wellbore #1

Company: NOBLE ENERGY INC WELD COUNTY CO
Project: SEC.21-T3N-R67W
Site: Horse Iron Pad Sec.21-T3N-R67W
Well: Horse Iron P21-21D
Wellbore: Wellbore #1
Design: Wellbore #1

Local Co-ordinate Reference: Well Horse Iron P21-21D
TVD Reference: WELL @ 4802.0ft (Original Well Elev)
MD Reference: WELL @ 4802.0ft (Original Well Elev)
North Reference: True
Survey Calculation Method: Minimum Curvature
Database: EDM den0-adp01 Server Data

| | | | |
|-------------|--|---------------|-----------------------------|
| Project | SEC.21-T3N-R67W, Weld County, Colorado | | |
| Map System: | US State Plane 1983 | System Datum: | Mean Sea Level |
| Geo Datum: | North American Datum 1983 | | |
| Map Zone: | Colorado Northern Zone | | Using geodetic scale factor |

| | | | | | |
|-----------------------|--------------------------------|--------------|-----------------|-------------------|-------------------|
| Site | Horse Iron Pad Sec.21-T3N-R67W | | | | |
| Site Position: | | Northing: | 1,320,540.31 ft | Latitude: | 40° 12' 42.012 N |
| From: | Lat/Long | Easting: | 3,170,462.46 ft | Longitude: | 104° 53' 22.704 W |
| Position Uncertainty: | 0.0 ft | Slot Radius: | " | Grid Convergence: | 0.39 ° |

| | | | | | | |
|----------------------|--------------------|---------------------|-----------|-----------------|------------|-------------------|
| Well | Horse Iron P21-21D | | | | | |
| Well Position | +N/-S | 0.0 ft | Northing: | 1,320,562.25 ft | Latitude: | 40° 12' 42.228 N |
| | +E/-W | 0.0 ft | Easting: | 3,170,476.28 ft | Longitude: | 104° 53' 22.524 W |
| Position Uncertainty | 0.0 ft | Wellhead Elevation: | ft | Ground Level: | 4,789.0 ft | |

| | | | | | |
|-----------|-------------|-------------|-----------------|---------------|---------------------|
| Wellbore | Wellbore #1 | | | | |
| Magnetics | Model Name | Sample Date | Declination (°) | Dip Angle (°) | Field Strength (nT) |
| | IGRF2010 | 5/17/2010 | 9.06 | 66.91 | 53,133 |

| | | | | | |
|-------------------|--------------------------|---------------|---------------|------------------|-----|
| Design | Wellbore #1 | | | | |
| Audit Notes: | | | | | |
| Version: | 1.0 | Phase: | ACTUAL | Tie On Depth: | 0.0 |
| Vertical Section: | Depth From (TVD) (ft) | +N/-S (ft) | +E/-W (ft) | Direction (°) | |
| | 0.0 | 0.0 | 0.0 | 256.58 | |

| | | | | | |
|----------------|---------------|-------------------------|-----------|----------------|--|
| Survey Program | Date 6/6/2010 | | | | |
| From (ft) | To (ft) | Survey (Wellbore) | Tool Name | Description | |
| 563.0 | 8,010.0 | Survey #1 (Wellbore #1) | MWD | MWD - Standard | |

| Measured Depth (ft) | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Vertical Section (ft) | Dogleg Rate (°/100ft) | Build Rate (°/100ft) | Turn Rate (°/100ft) |
|---------------------|-----------------|-------------|---------------------|------------|------------|-----------------------|-----------------------|----------------------|---------------------|
| 0.0 | 0.00 | 0.00 | 0.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 563.0 | 0.30 | 329.20 | 563.0 | 1.3 | -0.8 | 0.4 | 0.05 | 0.05 | 0.00 |
| 648.0 | 0.40 | 323.00 | 648.0 | 1.7 | -1.0 | 0.6 | 0.13 | 0.12 | -7.29 |
| 733.0 | 0.40 | 309.30 | 733.0 | 2.1 | -1.5 | 0.9 | 0.11 | 0.00 | -16.12 |
| 819.0 | 0.50 | 334.00 | 819.0 | 2.6 | -1.9 | 1.2 | 0.25 | 0.12 | 28.72 |
| 905.0 | 0.50 | 297.00 | 905.0 | 3.2 | -2.4 | 1.6 | 0.37 | 0.00 | -43.02 |
| 991.0 | 0.30 | 328.70 | 991.0 | 3.5 | -2.8 | 1.9 | 0.34 | -0.23 | 36.86 |
| 1,076.0 | 0.50 | 324.30 | 1,076.0 | 4.0 | -3.1 | 2.1 | 0.24 | 0.24 | -5.18 |
| 1,162.0 | 1.80 | 270.40 | 1,162.0 | 4.3 | -4.7 | 3.6 | 1.81 | 1.51 | -62.67 |
| 1,248.0 | 3.80 | 266.40 | 1,247.9 | 4.2 | -8.9 | 7.7 | 2.34 | 2.33 | -4.65 |
| 1,333.0 | 5.00 | 265.00 | 1,332.6 | 3.7 | -15.4 | 14.1 | 1.42 | 1.41 | -1.65 |
| 1,419.0 | 5.70 | 261.20 | 1,418.2 | 2.7 | -23.4 | 22.1 | 0.91 | 0.81 | -4.42 |
| 1,505.0 | 7.80 | 260.50 | 1,503.6 | 1.1 | -33.3 | 32.2 | 2.44 | 2.44 | -0.81 |

Company: NOBLE ENERGY INC WELD COUNTY CO
Project: SEC.21-T3N-R67W
Site: Horse Iron Pad Sec.21-T3N-R67W
Well: Horse Iron P21-21D
Wellbore: Wellbore #1
Design: Wellbore #1

Local Co-ordinate Reference: Well Horse Iron P21-21D
TVD Reference: WELL @ 4802.0ft (Original Well Elev)
MD Reference: WELL @ 4802.0ft (Original Well Elev)
North Reference: True
Survey Calculation Method: Minimum Curvature
Database: EDM den0-adp01 Server Data

Survey

| Measured Depth (ft) | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Vertical Section (ft) | Dogleg Rate (°/100ft) | Build Rate (°/100ft) | Turn Rate (°/100ft) |
|---------------------|-----------------|-------------|---------------------|------------|------------|-----------------------|-----------------------|----------------------|---------------------|
| 1,590.0 | 8.90 | 254.30 | 1,587.7 | -1.7 | -45.4 | 44.5 | 1.67 | 1.29 | -7.29 |
| 1,676.0 | 9.50 | 258.60 | 1,672.6 | -4.9 | -58.7 | 58.2 | 1.06 | 0.70 | 5.00 |
| 1,762.0 | 11.60 | 260.90 | 1,757.2 | -7.6 | -74.2 | 74.0 | 2.49 | 2.44 | 2.67 |
| 1,847.0 | 12.10 | 255.40 | 1,840.4 | -11.2 | -91.3 | 91.4 | 1.45 | 0.59 | -6.47 |
| 1,933.0 | 13.70 | 254.30 | 1,924.2 | -16.3 | -109.8 | 110.6 | 1.88 | 1.86 | -1.28 |
| 2,019.0 | 15.00 | 254.90 | 2,007.5 | -21.9 | -130.3 | 131.9 | 1.52 | 1.51 | 0.70 |
| 2,104.0 | 15.40 | 256.60 | 2,089.5 | -27.4 | -151.9 | 154.2 | 0.70 | 0.47 | 2.00 |
| 2,190.0 | 16.90 | 256.00 | 2,172.1 | -33.1 | -175.2 | 178.1 | 1.75 | 1.74 | -0.70 |
| 2,276.0 | 19.20 | 249.00 | 2,253.9 | -41.2 | -200.5 | 204.6 | 3.67 | 2.67 | -8.14 |
| 2,361.0 | 20.40 | 254.70 | 2,333.9 | -50.1 | -227.9 | 233.3 | 2.67 | 1.41 | 6.71 |
| 2,447.0 | 23.60 | 253.00 | 2,413.6 | -59.1 | -258.8 | 265.4 | 3.79 | 3.72 | -1.98 |
| 2,533.0 | 24.50 | 254.40 | 2,492.1 | -68.9 | -292.4 | 300.4 | 1.24 | 1.05 | 1.63 |
| 2,618.0 | 24.30 | 254.40 | 2,569.6 | -78.4 | -326.3 | 335.5 | 0.24 | -0.24 | 0.00 |
| 2,704.0 | 23.50 | 255.20 | 2,648.2 | -87.5 | -359.9 | 370.4 | 1.00 | -0.93 | 0.93 |
| 2,790.0 | 21.70 | 257.90 | 2,727.6 | -95.2 | -392.0 | 403.4 | 2.42 | -2.09 | 3.14 |
| 2,876.0 | 22.10 | 256.50 | 2,807.4 | -102.3 | -423.3 | 435.5 | 0.76 | 0.47 | -1.63 |
| 2,961.0 | 21.30 | 255.10 | 2,886.3 | -110.0 | -453.7 | 466.9 | 1.12 | -0.94 | -1.65 |
| 3,047.0 | 20.70 | 257.10 | 2,966.6 | -117.4 | -483.7 | 497.7 | 1.09 | -0.70 | 2.33 |
| 3,133.0 | 20.20 | 259.20 | 3,047.2 | -123.6 | -513.1 | 527.7 | 1.03 | -0.58 | 2.44 |
| 3,218.0 | 21.70 | 256.60 | 3,126.6 | -130.0 | -542.8 | 558.1 | 2.08 | 1.76 | -3.06 |
| 3,304.0 | 22.50 | 256.90 | 3,206.3 | -137.4 | -574.3 | 590.5 | 0.94 | 0.93 | 0.35 |
| 3,389.0 | 22.60 | 256.60 | 3,284.8 | -144.9 | -606.0 | 623.1 | 0.18 | 0.12 | -0.35 |
| 3,475.0 | 22.10 | 254.80 | 3,364.3 | -153.0 | -637.7 | 655.8 | 0.99 | -0.58 | -2.09 |
| 3,561.0 | 21.50 | 251.90 | 3,444.2 | -162.1 | -668.3 | 687.6 | 1.43 | -0.70 | -3.37 |
| 3,646.0 | 22.10 | 253.20 | 3,523.1 | -171.6 | -698.4 | 719.1 | 0.91 | 0.71 | 1.53 |
| 3,732.0 | 23.10 | 257.80 | 3,602.5 | -179.8 | -730.4 | 752.1 | 2.36 | 1.16 | 5.35 |
| 3,817.0 | 24.70 | 256.60 | 3,680.2 | -187.4 | -763.9 | 786.6 | 1.97 | 1.88 | -1.41 |
| 3,903.0 | 24.00 | 257.10 | 3,758.6 | -195.5 | -798.5 | 822.0 | 0.85 | -0.81 | 0.58 |
| 3,989.0 | 24.50 | 255.20 | 3,837.0 | -204.0 | -832.7 | 857.3 | 1.08 | 0.58 | -2.21 |
| 4,074.0 | 23.00 | 257.00 | 3,914.8 | -212.2 | -866.0 | 891.6 | 1.96 | -1.76 | 2.12 |
| 4,160.0 | 22.50 | 258.50 | 3,994.1 | -219.3 | -898.5 | 924.8 | 0.89 | -0.58 | 1.74 |
| 4,245.0 | 22.90 | 260.80 | 4,072.5 | -225.1 | -930.7 | 957.6 | 1.15 | 0.47 | 2.71 |
| 4,331.0 | 23.10 | 258.70 | 4,151.7 | -231.1 | -963.8 | 991.1 | 0.98 | 0.23 | -2.44 |
| 4,417.0 | 24.70 | 256.00 | 4,230.3 | -238.8 | -997.8 | 1,025.9 | 2.25 | 1.86 | -3.14 |
| 4,502.0 | 25.10 | 254.10 | 4,307.4 | -248.0 | -1,032.3 | 1,061.7 | 1.05 | 0.47 | -2.24 |
| 4,588.0 | 24.20 | 255.20 | 4,385.5 | -257.5 | -1,066.9 | 1,097.6 | 1.17 | -1.05 | 1.28 |
| 4,673.0 | 23.70 | 254.60 | 4,463.2 | -266.5 | -1,100.2 | 1,132.1 | 0.65 | -0.59 | -0.71 |
| 4,759.0 | 23.50 | 254.70 | 4,542.0 | -275.6 | -1,133.4 | 1,166.5 | 0.24 | -0.23 | 0.12 |
| 4,845.0 | 24.40 | 254.30 | 4,620.6 | -285.0 | -1,167.1 | 1,201.4 | 1.06 | 1.05 | -0.47 |
| 4,930.0 | 24.20 | 254.20 | 4,698.1 | -294.4 | -1,200.7 | 1,236.3 | 0.24 | -0.24 | -0.12 |
| 5,016.0 | 23.10 | 252.60 | 4,776.9 | -304.3 | -1,233.8 | 1,270.7 | 1.48 | -1.28 | -1.86 |
| 5,102.0 | 20.70 | 254.90 | 4,856.7 | -313.3 | -1,264.6 | 1,302.8 | 2.96 | -2.79 | 2.67 |
| 5,187.0 | 19.00 | 255.80 | 4,936.6 | -320.6 | -1,292.5 | 1,331.6 | 2.03 | -2.00 | 1.06 |
| 5,273.0 | 19.60 | 257.30 | 5,017.8 | -327.2 | -1,320.2 | 1,360.0 | 0.90 | 0.70 | 1.74 |
| 5,359.0 | 19.10 | 257.30 | 5,098.9 | -333.5 | -1,348.0 | 1,388.5 | 0.58 | -0.58 | 0.00 |
| 5,444.0 | 16.80 | 255.60 | 5,179.8 | -339.6 | -1,373.4 | 1,414.7 | 2.77 | -2.71 | -2.00 |
| 5,530.0 | 16.40 | 255.70 | 5,262.2 | -345.7 | -1,397.2 | 1,439.3 | 0.47 | -0.47 | 0.12 |
| 5,616.0 | 14.80 | 256.00 | 5,345.0 | -351.3 | -1,419.6 | 1,462.4 | 1.86 | -1.86 | 0.35 |
| 5,701.0 | 13.70 | 255.20 | 5,427.4 | -356.5 | -1,439.9 | 1,483.3 | 1.31 | -1.29 | -0.94 |
| 5,787.0 | 11.60 | 257.00 | 5,511.3 | -361.1 | -1,458.2 | 1,502.2 | 2.48 | -2.44 | 2.09 |
| 5,872.0 | 11.00 | 251.30 | 5,594.7 | -365.6 | -1,474.2 | 1,518.8 | 1.49 | -0.71 | -6.71 |
| 5,958.0 | 7.90 | 249.30 | 5,679.5 | -370.3 | -1,487.5 | 1,532.8 | 3.62 | -3.60 | -2.33 |
| 6,044.0 | 6.60 | 246.50 | 5,764.8 | -374.4 | -1,497.6 | 1,543.6 | 1.57 | -1.51 | -3.26 |
| 6,129.0 | 4.70 | 243.50 | 5,849.4 | -377.9 | -1,505.2 | 1,551.8 | 2.26 | -2.24 | -3.53 |

Company: NOBLE ENERGY INC WELD COUNTY CO
Project: SEC.21-T3N-R67W
Site: Horse Iron Pad Sec.21-T3N-R67W
Well: Horse Iron P21-21D
Wellbore: Wellbore #1
Design: Wellbore #1

Local Co-ordinate Reference: Well Horse Iron P21-21D
TVD Reference: WELL @ 4802.0ft (Original Well Elev)
MD Reference: WELL @ 4802.0ft (Original Well Elev)
North Reference: True
Survey Calculation Method: Minimum Curvature
Database: EDM den0-adp01 Server Data

Survey

| Measured Depth (ft) | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Vertical Section (ft) | Dogleg Rate (°/100ft) | Build Rate (°/100ft) | Turn Rate (°/100ft) |
|--|-----------------|-------------|---------------------|------------|------------|-----------------------|-----------------------|----------------------|---------------------|
| 6,215.0 | 3.60 | 273.30 | 5,935.2 | -379.3 | -1,511.0 | 1,557.8 | 2.77 | -1.28 | 34.65 |
| 6,301.0 | 1.20 | 296.30 | 6,021.1 | -378.7 | -1,514.5 | 1,561.1 | 2.95 | -2.79 | 26.74 |
| 6,386.0 | 1.10 | 309.70 | 6,106.1 | -377.8 | -1,515.9 | 1,562.2 | 0.34 | -0.12 | 15.76 |
| 6,472.0 | 0.50 | 67.10 | 6,192.1 | -377.2 | -1,516.2 | 1,562.4 | 1.63 | -0.70 | 136.51 |
| 6,480.0 | 0.56 | 62.13 | 6,200.0 | -377.1 | -1,516.2 | 1,562.3 | 0.92 | 0.71 | -62.38 |
| TARGET BHL 2454'FSL, 2522'FEL | | | | | | | | | |
| 6,557.0 | 1.20 | 41.70 | 6,277.1 | -376.3 | -1,515.3 | 1,561.3 | 0.92 | 0.83 | -26.52 |
| 6,643.0 | 3.20 | 24.40 | 6,363.0 | -373.5 | -1,513.7 | 1,559.0 | 2.42 | 2.33 | -20.12 |
| 6,729.0 | 1.90 | 329.30 | 6,448.9 | -370.1 | -1,513.4 | 1,558.0 | 3.05 | -1.51 | -64.07 |
| 6,814.0 | 1.60 | 260.10 | 6,533.9 | -369.1 | -1,515.3 | 1,559.6 | 2.36 | -0.35 | -81.41 |
| 6,900.0 | 0.70 | 174.80 | 6,619.9 | -369.8 | -1,516.5 | 1,560.9 | 1.97 | -1.05 | -99.19 |
| 6,986.0 | 0.10 | 237.50 | 6,705.9 | -370.4 | -1,516.5 | 1,561.0 | 0.77 | -0.70 | 72.91 |
| 7,071.0 | 0.40 | 201.80 | 6,790.9 | -370.7 | -1,516.6 | 1,561.3 | 0.38 | 0.35 | -42.00 |
| 7,075.1 | 0.39 | 202.07 | 6,795.0 | -370.7 | -1,516.7 | 1,561.3 | 0.19 | -0.18 | 6.61 |
| TARGET CIRCLE 2454'FSL, 2522'FEL | | | | | | | | | |
| 7,199.0 | 0.18 | 220.60 | 6,918.9 | -371.2 | -1,516.9 | 1,561.7 | 0.19 | -0.17 | 14.96 |
| 7,328.0 | 0.50 | 15.40 | 7,047.9 | -370.9 | -1,516.9 | 1,561.6 | 0.52 | 0.25 | 120.00 |
| 7,456.0 | 0.50 | 356.60 | 7,175.9 | -369.8 | -1,516.8 | 1,561.2 | 0.13 | 0.00 | -14.69 |
| 7,584.0 | 0.60 | 345.00 | 7,303.8 | -368.6 | -1,517.0 | 1,561.1 | 0.12 | 0.08 | -9.06 |
| 7,713.0 | 0.90 | 325.00 | 7,432.8 | -367.1 | -1,517.8 | 1,561.5 | 0.31 | 0.23 | -15.50 |
| 7,841.0 | 1.10 | 312.10 | 7,560.8 | -365.4 | -1,519.3 | 1,562.6 | 0.23 | 0.16 | -10.08 |
| 7,965.0 | 1.10 | 316.40 | 7,684.8 | -363.8 | -1,521.0 | 1,563.9 | 0.07 | 0.00 | 3.47 |
| 7,997.7 | 1.10 | 316.40 | 7,717.5 | -363.3 | -1,521.4 | 1,564.2 | 0.00 | 0.00 | 0.00 |
| HARDLINES 199'N & 75'W OF BHL | | | | | | | | | |
| 8,010.0 | 1.10 | 316.40 | 7,729.8 | -363.1 | -1,521.6 | 1,564.3 | 0.00 | 0.00 | 0.00 |

Wellbore Targets

| Target Name | Dip Angle (°) | Dip Dir. (°) | TVD (ft) | +N/-S (ft) | +E/-W (ft) | Northing (ft) | Easting (ft) | Latitude | Longitude |
|---|---------------|--------------|----------|------------|------------|---------------|--------------|------------------|-------------------|
| - hit/miss target | | | | | | | | | |
| - Shape | | | | | | | | | |
| TARGET BHL 2454'F: | 0.00 | 0.00 | 6,200.0 | -373.9 | -1,515.5 | 1,320,177.92 | 3,168,963.43 | 40° 12' 38.532 N | 104° 53' 42.058 W |
| - survey misses target center by 3.3ft at 6480.0ft MD (6200.0 TVD, -377.1 N, -1516.2 E) | | | | | | | | | |
| - Point | | | | | | | | | |
| TARGET CIRCLE 2454'F: | 0.00 | 0.00 | 6,795.0 | -373.9 | -1,515.5 | 1,320,177.95 | 3,168,963.46 | 40° 12' 38.533 N | 104° 53' 42.058 W |
| - survey misses target center by 3.4ft at 7075.1ft MD (6795.0 TVD, -370.7 N, -1516.7 E) | | | | | | | | | |
| - Circle (radius 75.0) | | | | | | | | | |
| HARDLINES 199'N & 75'W OF BHL | 0.00 | 0.00 | 7,714.0 | -174.9 | -1,590.5 | 1,320,376.42 | 3,168,887.09 | 40° 12' 40.499 N | 104° 53' 43.025 W |
| - survey misses target center by 200.7ft at 7997.7ft MD (7717.5 TVD, -363.3 N, -1521.4 E) | | | | | | | | | |
| - Polygon | | | | | | | | | |
| Point 1 | | | 7,714.0 | 0.0 | 0.0 | 1,320,376.42 | 3,168,887.09 | | |
| Point 2 | | | 7,714.0 | -300.0 | 0.0 | 1,320,076.44 | 3,168,889.16 | | |
| Point 3 | | | 7,714.0 | 0.0 | 0.0 | 1,320,376.42 | 3,168,887.09 | | |
| Point 4 | | | 7,714.0 | 0.0 | 300.0 | 1,320,378.48 | 3,169,187.07 | | |

Checked By: _____ Approved By: _____ Date: _____