

| Sec | MD | Inc | Azi | TVD | +N/-S | +E/-W | DLeg | TFace | VSec | Target |
|-----|--------|-------|--------|--------|-------|--------|------|--------|-------|---------------------------|
| 1 | 0.0 | 0.00 | 0.00 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.0 | |
| 2 | 1000.0 | 0.00 | 0.00 | 1000.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.0 | |
| 3 | 1739.3 | 14.79 | 337.51 | 1731.1 | 87.7 | -36.3 | 2.00 | 337.51 | 94.9 | |
| 4 | 4364.0 | 14.79 | 337.51 | 4268.9 | 706.6 | -292.5 | 0.00 | 0.00 | 764.7 | |
| 5 | 5103.3 | 0.00 | 0.00 | 5000.0 | 794.2 | -328.8 | 2.00 | 180.00 | 859.6 | TARGET BHL 75'FNL, 75'FWL |
| 6 | 7646.3 | 0.00 | 0.00 | 7543.0 | 794.2 | -328.8 | 0.00 | 0.00 | 859.6 | |



Directional

**NOBLE ENERGY INC WELD
COUNTY CO**

SEC.31-T5N-R66W

Bernhardt PC J31-32D Pad Sec.31-T5N-R66W

Bernhardt PC J31-30D

Wellbore #1

Plan: Noble Bernhardt PC J31-30D Plan #1 (10-19-10)

Standard Planning Report

22 October, 2010



| | | | |
|------------------|---|-------------------------------------|--------------------------------------|
| Database: | Landmark | Local Co-ordinate Reference: | Well Bernhardt PC J31-30D |
| Company: | NOBLE ENERGY INC WELD COUNTY CO | TVD Reference: | WELL @ 4913.0ft (Original Well Elev) |
| Project: | SEC.31-T5N-R66W | MD Reference: | WELL @ 4913.0ft (Original Well Elev) |
| Site: | Bernhardt PC J31-32D Pad Sec.31-T5N-R66W | North Reference: | True |
| Well: | Bernhardt PC J31-30D | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | Wellbore #1 | | |
| Design: | Noble Bernhardt PC J31-30D Plan #1 (10-19-1 | | |

| | | | |
|--------------------|--|----------------------|-----------------------------|
| Project | SEC.31-T5N-R66W, 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 | Bernhardt PC J31-32D Pad Sec.31-T5N-R66W | | | | |
| Site Position: | | Northing: | 1,374,995.23 ft | Latitude: | 40° 21' 38.988 N |
| From: | Lat/Long | Easting: | 3,186,565.86 ft | Longitude: | 104° 49' 49.836 W |
| Position Uncertainty: | 0.0 ft | Slot Radius: | " | Grid Convergence: | 0.43 ° |

| | | | | | | |
|-----------------------------|----------------------|----------|----------------------------|-----------------|----------------------|-------------------|
| Well | Bernhardt PC J31-30D | | | | | |
| Well Position | +N/-S | 40.1 ft | Northing: | 1,375,035.10 ft | Latitude: | 40° 21' 39.384 N |
| | +E/-W | -25.1 ft | Easting: | 3,186,540.48 ft | Longitude: | 104° 49' 50.160 W |
| Position Uncertainty | | 0.0 ft | Wellhead Elevation: | ft | Ground Level: | 4,900.0 ft |

| | | | | | | |
|------------------|-------------------|--------------------|------------------------|----------------------|----------------------------|--|
| Wellbore | Wellbore #1 | | | | | |
| Magnetics | Model Name | Sample Date | Declination (°) | Dip Angle (°) | Field Strength (nT) | |
| | IGRF2010 | 10/22/2010 | 8.98 | 67.03 | 53,171 | |

Design Noble Bernhardt PC J31-30D Plan #1 (10-19-10)

Audit Notes:

Version: Phase: PROTOTYPE Tie On Depth: 0.0

| | | | | |
|--------------------------|-------------------------|-------------------|-------------------|----------------------|
| Vertical Section: | Depth From (TVD) | +N/-S (ft) | +E/-W (ft) | Direction (°) |
| | 0.0 | 0.0 | 0.0 | 337.51 |

Plan Sections

| Measured Depth (ft) | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Dogleg Rate (°/100ft) | Build Rate (°/100ft) | Turn Rate (°/100ft) | TFO (°) | Target |
|---------------------|-----------------|-------------|---------------------|------------|------------|-----------------------|----------------------|---------------------|---------|------------------|
| 0.0 | 0.00 | 0.00 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 1,000.0 | 0.00 | 0.00 | 1,000.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 1,739.3 | 14.79 | 337.51 | 1,731.1 | 87.7 | -36.3 | 2.00 | 2.00 | 0.00 | 337.51 | |
| 4,364.0 | 14.79 | 337.51 | 4,268.9 | 706.6 | -292.5 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 5,103.3 | 0.00 | 0.00 | 5,000.0 | 794.2 | -328.8 | 2.00 | -2.00 | 0.00 | 180.00 | TARGET BHL 75°FI |
| 7,646.3 | 0.00 | 0.00 | 7,543.0 | 794.2 | -328.8 | 0.00 | 0.00 | 0.00 | 0.00 | |

Database: Landmark
 Company: NOBLE ENERGY INC WELD COUNTY CO
 Project: SEC.31-T5N-R66W
 Site: Bernhardt PC J31-32D Pad
 Sec.31-T5N-R66W
 Well: Bernhardt PC J31-30D
 Wellbore: Wellbore #1
 Design: Noble Bernhardt PC J31-30D Plan #1 (10-19-1

Local Co-ordinate Reference: Well Bernhardt PC J31-30D
 TVD Reference: WELL @ 4913.0ft (Original Well Elev)
 MD Reference: WELL @ 4913.0ft (Original Well Elev)
 North Reference: True
 Survey Calculation Method: Minimum Curvature

Planned 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) |
|---------------------|-----------------|-------------|---------------------|------------|------------|-----------------------|-----------------------|----------------------|---------------------|
| 0.0 | 0.00 | 0.00 | 0.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 40.0 | 0.00 | 0.00 | 40.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 80.0 | 0.00 | 0.00 | 80.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 120.0 | 0.00 | 0.00 | 120.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 160.0 | 0.00 | 0.00 | 160.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 200.0 | 0.00 | 0.00 | 200.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 240.0 | 0.00 | 0.00 | 240.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 280.0 | 0.00 | 0.00 | 280.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 320.0 | 0.00 | 0.00 | 320.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 360.0 | 0.00 | 0.00 | 360.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 400.0 | 0.00 | 0.00 | 400.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 440.0 | 0.00 | 0.00 | 440.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 480.0 | 0.00 | 0.00 | 480.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 520.0 | 0.00 | 0.00 | 520.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 560.0 | 0.00 | 0.00 | 560.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 600.0 | 0.00 | 0.00 | 600.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 640.0 | 0.00 | 0.00 | 640.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 680.0 | 0.00 | 0.00 | 680.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 720.0 | 0.00 | 0.00 | 720.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 760.0 | 0.00 | 0.00 | 760.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 800.0 | 0.00 | 0.00 | 800.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 840.0 | 0.00 | 0.00 | 840.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 880.0 | 0.00 | 0.00 | 880.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 920.0 | 0.00 | 0.00 | 920.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 960.0 | 0.00 | 0.00 | 960.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 1,000.0 | 0.00 | 0.00 | 1,000.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 1,040.0 | 0.80 | 337.51 | 1,040.0 | 0.3 | -0.1 | 0.3 | 2.00 | 2.00 | 0.00 |
| 1,080.0 | 1.60 | 337.51 | 1,080.0 | 1.0 | -0.4 | 1.1 | 2.00 | 2.00 | 0.00 |
| 1,120.0 | 2.40 | 337.51 | 1,120.0 | 2.3 | -1.0 | 2.5 | 2.00 | 2.00 | 0.00 |
| 1,160.0 | 3.20 | 337.51 | 1,159.9 | 4.1 | -1.7 | 4.5 | 2.00 | 2.00 | 0.00 |
| 1,200.0 | 4.00 | 337.51 | 1,199.8 | 6.4 | -2.7 | 7.0 | 2.00 | 2.00 | 0.00 |
| 1,240.0 | 4.80 | 337.51 | 1,239.7 | 9.3 | -3.8 | 10.0 | 2.00 | 2.00 | 0.00 |
| 1,280.0 | 5.60 | 337.51 | 1,279.6 | 12.6 | -5.2 | 13.7 | 2.00 | 2.00 | 0.00 |
| 1,320.0 | 6.40 | 337.51 | 1,319.3 | 16.5 | -6.8 | 17.9 | 2.00 | 2.00 | 0.00 |
| 1,360.0 | 7.20 | 337.51 | 1,359.1 | 20.9 | -8.6 | 22.6 | 2.00 | 2.00 | 0.00 |
| 1,400.0 | 8.00 | 337.51 | 1,398.7 | 25.8 | -10.7 | 27.9 | 2.00 | 2.00 | 0.00 |
| 1,440.0 | 8.80 | 337.51 | 1,438.3 | 31.2 | -12.9 | 33.7 | 2.00 | 2.00 | 0.00 |
| 1,480.0 | 9.60 | 337.51 | 1,477.8 | 37.1 | -15.3 | 40.1 | 2.00 | 2.00 | 0.00 |
| 1,520.0 | 10.40 | 337.51 | 1,517.1 | 43.5 | -18.0 | 47.1 | 2.00 | 2.00 | 0.00 |
| 1,560.0 | 11.20 | 337.51 | 1,556.4 | 50.4 | -20.9 | 54.6 | 2.00 | 2.00 | 0.00 |
| 1,600.0 | 12.00 | 337.51 | 1,595.6 | 57.8 | -23.9 | 62.6 | 2.00 | 2.00 | 0.00 |
| 1,640.0 | 12.80 | 337.51 | 1,634.7 | 65.8 | -27.2 | 71.2 | 2.00 | 2.00 | 0.00 |
| 1,680.0 | 13.60 | 337.51 | 1,673.6 | 74.2 | -30.7 | 80.3 | 2.00 | 2.00 | 0.00 |
| 1,720.0 | 14.40 | 337.51 | 1,712.4 | 83.2 | -34.4 | 90.0 | 2.00 | 2.00 | 0.00 |
| 1,739.3 | 14.79 | 337.51 | 1,731.1 | 87.7 | -36.3 | 94.9 | 2.00 | 2.00 | 0.00 |
| 1,760.0 | 14.79 | 337.51 | 1,751.1 | 92.5 | -38.3 | 100.1 | 0.00 | 0.00 | 0.00 |
| 1,800.0 | 14.79 | 337.51 | 1,789.8 | 102.0 | -42.2 | 110.4 | 0.00 | 0.00 | 0.00 |
| 1,840.0 | 14.79 | 337.51 | 1,828.5 | 111.4 | -46.1 | 120.6 | 0.00 | 0.00 | 0.00 |
| 1,880.0 | 14.79 | 337.51 | 1,867.2 | 120.8 | -50.0 | 130.8 | 0.00 | 0.00 | 0.00 |
| 1,920.0 | 14.79 | 337.51 | 1,905.8 | 130.3 | -53.9 | 141.0 | 0.00 | 0.00 | 0.00 |
| 1,960.0 | 14.79 | 337.51 | 1,944.5 | 139.7 | -57.8 | 151.2 | 0.00 | 0.00 | 0.00 |
| 2,000.0 | 14.79 | 337.51 | 1,983.2 | 149.1 | -61.7 | 161.4 | 0.00 | 0.00 | 0.00 |
| 2,040.0 | 14.79 | 337.51 | 2,021.9 | 158.6 | -65.6 | 171.6 | 0.00 | 0.00 | 0.00 |

Database: Landmark
 Company: NOBLE ENERGY INC WELD COUNTY CO
 Project: SEC.31-T5N-R66W
 Site: Bernhardt PC J31-32D Pad
 Sec.31-T5N-R66W
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 Wellbore: Wellbore #1
 Design: Noble Bernhardt PC J31-30D Plan #1 (10-19-1

Local Co-ordinate Reference: Well Bernhardt PC J31-30D
 TVD Reference: WELL @ 4913.0ft (Original Well Elev)
 MD Reference: WELL @ 4913.0ft (Original Well Elev)
 North Reference: True
 Survey Calculation Method: Minimum Curvature

Planned 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) |
|---------------------|-----------------|-------------|---------------------|------------|------------|-----------------------|-----------------------|----------------------|---------------------|
| 2,080.0 | 14.79 | 337.51 | 2,060.5 | 168.0 | -69.6 | 181.8 | 0.00 | 0.00 | 0.00 |
| 2,120.0 | 14.79 | 337.51 | 2,099.2 | 177.4 | -73.5 | 192.0 | 0.00 | 0.00 | 0.00 |
| 2,160.0 | 14.79 | 337.51 | 2,137.9 | 186.9 | -77.4 | 202.2 | 0.00 | 0.00 | 0.00 |
| 2,200.0 | 14.79 | 337.51 | 2,176.6 | 196.3 | -81.3 | 212.4 | 0.00 | 0.00 | 0.00 |
| 2,240.0 | 14.79 | 337.51 | 2,215.2 | 205.7 | -85.2 | 222.7 | 0.00 | 0.00 | 0.00 |
| 2,280.0 | 14.79 | 337.51 | 2,253.9 | 215.1 | -89.1 | 232.9 | 0.00 | 0.00 | 0.00 |
| 2,320.0 | 14.79 | 337.51 | 2,292.6 | 224.6 | -93.0 | 243.1 | 0.00 | 0.00 | 0.00 |
| 2,360.0 | 14.79 | 337.51 | 2,331.3 | 234.0 | -96.9 | 253.3 | 0.00 | 0.00 | 0.00 |
| 2,400.0 | 14.79 | 337.51 | 2,369.9 | 243.4 | -100.8 | 263.5 | 0.00 | 0.00 | 0.00 |
| 2,440.0 | 14.79 | 337.51 | 2,408.6 | 252.9 | -104.7 | 273.7 | 0.00 | 0.00 | 0.00 |
| 2,480.0 | 14.79 | 337.51 | 2,447.3 | 262.3 | -108.6 | 283.9 | 0.00 | 0.00 | 0.00 |
| 2,520.0 | 14.79 | 337.51 | 2,486.0 | 271.7 | -112.5 | 294.1 | 0.00 | 0.00 | 0.00 |
| 2,560.0 | 14.79 | 337.51 | 2,524.6 | 281.2 | -116.4 | 304.3 | 0.00 | 0.00 | 0.00 |
| 2,600.0 | 14.79 | 337.51 | 2,563.3 | 290.6 | -120.3 | 314.5 | 0.00 | 0.00 | 0.00 |
| 2,640.0 | 14.79 | 337.51 | 2,602.0 | 300.0 | -124.2 | 324.7 | 0.00 | 0.00 | 0.00 |
| 2,680.0 | 14.79 | 337.51 | 2,640.7 | 309.5 | -128.1 | 334.9 | 0.00 | 0.00 | 0.00 |
| 2,720.0 | 14.79 | 337.51 | 2,679.3 | 318.9 | -132.0 | 345.2 | 0.00 | 0.00 | 0.00 |
| 2,760.0 | 14.79 | 337.51 | 2,718.0 | 328.3 | -135.9 | 355.4 | 0.00 | 0.00 | 0.00 |
| 2,800.0 | 14.79 | 337.51 | 2,756.7 | 337.8 | -139.8 | 365.6 | 0.00 | 0.00 | 0.00 |
| 2,840.0 | 14.79 | 337.51 | 2,795.4 | 347.2 | -143.8 | 375.8 | 0.00 | 0.00 | 0.00 |
| 2,880.0 | 14.79 | 337.51 | 2,834.0 | 356.6 | -147.7 | 386.0 | 0.00 | 0.00 | 0.00 |
| 2,920.0 | 14.79 | 337.51 | 2,872.7 | 366.1 | -151.6 | 396.2 | 0.00 | 0.00 | 0.00 |
| 2,960.0 | 14.79 | 337.51 | 2,911.4 | 375.5 | -155.5 | 406.4 | 0.00 | 0.00 | 0.00 |
| 3,000.0 | 14.79 | 337.51 | 2,950.1 | 384.9 | -159.4 | 416.6 | 0.00 | 0.00 | 0.00 |
| 3,040.0 | 14.79 | 337.51 | 2,988.7 | 394.4 | -163.3 | 426.8 | 0.00 | 0.00 | 0.00 |
| 3,080.0 | 14.79 | 337.51 | 3,027.4 | 403.8 | -167.2 | 437.0 | 0.00 | 0.00 | 0.00 |
| 3,120.0 | 14.79 | 337.51 | 3,066.1 | 413.2 | -171.1 | 447.2 | 0.00 | 0.00 | 0.00 |
| 3,160.0 | 14.79 | 337.51 | 3,104.8 | 422.7 | -175.0 | 457.5 | 0.00 | 0.00 | 0.00 |
| 3,200.0 | 14.79 | 337.51 | 3,143.4 | 432.1 | -178.9 | 467.7 | 0.00 | 0.00 | 0.00 |
| 3,240.0 | 14.79 | 337.51 | 3,182.1 | 441.5 | -182.8 | 477.9 | 0.00 | 0.00 | 0.00 |
| 3,280.0 | 14.79 | 337.51 | 3,220.8 | 451.0 | -186.7 | 488.1 | 0.00 | 0.00 | 0.00 |
| 3,320.0 | 14.79 | 337.51 | 3,259.5 | 460.4 | -190.6 | 498.3 | 0.00 | 0.00 | 0.00 |
| 3,360.0 | 14.79 | 337.51 | 3,298.1 | 469.8 | -194.5 | 508.5 | 0.00 | 0.00 | 0.00 |
| 3,400.0 | 14.79 | 337.51 | 3,336.8 | 479.3 | -198.4 | 518.7 | 0.00 | 0.00 | 0.00 |
| 3,440.0 | 14.79 | 337.51 | 3,375.5 | 488.7 | -202.3 | 528.9 | 0.00 | 0.00 | 0.00 |
| 3,480.0 | 14.79 | 337.51 | 3,414.2 | 498.1 | -206.2 | 539.1 | 0.00 | 0.00 | 0.00 |
| 3,520.0 | 14.79 | 337.51 | 3,452.9 | 507.5 | -210.1 | 549.3 | 0.00 | 0.00 | 0.00 |
| 3,560.0 | 14.79 | 337.51 | 3,491.5 | 517.0 | -214.1 | 559.5 | 0.00 | 0.00 | 0.00 |
| 3,600.0 | 14.79 | 337.51 | 3,530.2 | 526.4 | -218.0 | 569.7 | 0.00 | 0.00 | 0.00 |
| 3,640.0 | 14.79 | 337.51 | 3,568.9 | 535.8 | -221.9 | 580.0 | 0.00 | 0.00 | 0.00 |
| 3,680.0 | 14.79 | 337.51 | 3,607.6 | 545.3 | -225.8 | 590.2 | 0.00 | 0.00 | 0.00 |
| 3,720.0 | 14.79 | 337.51 | 3,646.2 | 554.7 | -229.7 | 600.4 | 0.00 | 0.00 | 0.00 |
| 3,760.0 | 14.79 | 337.51 | 3,684.9 | 564.1 | -233.6 | 610.6 | 0.00 | 0.00 | 0.00 |
| 3,800.0 | 14.79 | 337.51 | 3,723.6 | 573.6 | -237.5 | 620.8 | 0.00 | 0.00 | 0.00 |
| 3,840.0 | 14.79 | 337.51 | 3,762.3 | 583.0 | -241.4 | 631.0 | 0.00 | 0.00 | 0.00 |
| 3,880.0 | 14.79 | 337.51 | 3,800.9 | 592.4 | -245.3 | 641.2 | 0.00 | 0.00 | 0.00 |
| 3,920.0 | 14.79 | 337.51 | 3,839.6 | 601.9 | -249.2 | 651.4 | 0.00 | 0.00 | 0.00 |
| 3,960.0 | 14.79 | 337.51 | 3,878.3 | 611.3 | -253.1 | 661.6 | 0.00 | 0.00 | 0.00 |
| 4,000.0 | 14.79 | 337.51 | 3,917.0 | 620.7 | -257.0 | 671.8 | 0.00 | 0.00 | 0.00 |
| 4,040.0 | 14.79 | 337.51 | 3,955.6 | 630.2 | -260.9 | 682.0 | 0.00 | 0.00 | 0.00 |
| 4,080.0 | 14.79 | 337.51 | 3,994.3 | 639.6 | -264.8 | 692.3 | 0.00 | 0.00 | 0.00 |
| 4,120.0 | 14.79 | 337.51 | 4,033.0 | 649.0 | -268.7 | 702.5 | 0.00 | 0.00 | 0.00 |
| 4,160.0 | 14.79 | 337.51 | 4,071.7 | 658.5 | -272.6 | 712.7 | 0.00 | 0.00 | 0.00 |

Database: Landmark
 Company: NOBLE ENERGY INC WELD COUNTY CO
 Project: SEC.31-T5N-R66W
 Site: Bernhardt PC J31-32D Pad
 Sec.31-T5N-R66W
 Well: Bernhardt PC J31-30D
 Wellbore: Wellbore #1
 Design: Noble Bernhardt PC J31-30D Plan #1 (10-19-1

Local Co-ordinate Reference: Well Bernhardt PC J31-30D
 TVD Reference: WELL @ 4913.0ft (Original Well Elev)
 MD Reference: WELL @ 4913.0ft (Original Well Elev)
 North Reference: True
 Survey Calculation Method: Minimum Curvature

Planned 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) |
|---------------------------|--------------------|----------------|---------------------------|---------------|---------------|-----------------------------|-----------------------------|----------------------------|---------------------------|
| 4,200.0 | 14.79 | 337.51 | 4,110.3 | 667.9 | -276.5 | 722.9 | 0.00 | 0.00 | 0.00 |
| 4,240.0 | 14.79 | 337.51 | 4,149.0 | 677.3 | -280.4 | 733.1 | 0.00 | 0.00 | 0.00 |
| 4,280.0 | 14.79 | 337.51 | 4,187.7 | 686.8 | -284.3 | 743.3 | 0.00 | 0.00 | 0.00 |
| 4,320.0 | 14.79 | 337.51 | 4,226.4 | 696.2 | -288.3 | 753.5 | 0.00 | 0.00 | 0.00 |
| 4,360.0 | 14.79 | 337.51 | 4,265.0 | 705.6 | -292.2 | 763.7 | 0.00 | 0.00 | 0.00 |
| 4,364.0 | 14.79 | 337.51 | 4,268.9 | 706.6 | -292.5 | 764.7 | 0.00 | 0.00 | 0.00 |
| 4,400.0 | 14.07 | 337.51 | 4,303.8 | 714.9 | -296.0 | 773.7 | 2.00 | -2.00 | 0.00 |
| 4,440.0 | 13.27 | 337.51 | 4,342.6 | 723.6 | -299.6 | 783.2 | 2.00 | -2.00 | 0.00 |
| 4,480.0 | 12.47 | 337.51 | 4,381.6 | 731.8 | -303.0 | 792.1 | 2.00 | -2.00 | 0.00 |
| 4,520.0 | 11.67 | 337.51 | 4,420.7 | 739.5 | -306.2 | 800.4 | 2.00 | -2.00 | 0.00 |
| 4,560.0 | 10.87 | 337.51 | 4,460.0 | 746.8 | -309.2 | 808.2 | 2.00 | -2.00 | 0.00 |
| 4,600.0 | 10.07 | 337.51 | 4,499.3 | 753.5 | -312.0 | 815.5 | 2.00 | -2.00 | 0.00 |
| 4,640.0 | 9.27 | 337.51 | 4,538.7 | 759.7 | -314.5 | 822.2 | 2.00 | -2.00 | 0.00 |
| 4,680.0 | 8.47 | 337.51 | 4,578.3 | 765.4 | -316.9 | 828.4 | 2.00 | -2.00 | 0.00 |
| 4,720.0 | 7.67 | 337.51 | 4,617.9 | 770.6 | -319.0 | 834.0 | 2.00 | -2.00 | 0.00 |
| 4,760.0 | 6.87 | 337.51 | 4,657.5 | 775.2 | -321.0 | 839.1 | 2.00 | -2.00 | 0.00 |
| 4,800.0 | 6.07 | 337.51 | 4,697.3 | 779.4 | -322.7 | 843.6 | 2.00 | -2.00 | 0.00 |
| 4,840.0 | 5.27 | 337.51 | 4,737.1 | 783.0 | -324.2 | 847.5 | 2.00 | -2.00 | 0.00 |
| 4,880.0 | 4.47 | 337.51 | 4,776.9 | 786.2 | -325.5 | 850.9 | 2.00 | -2.00 | 0.00 |
| 4,920.0 | 3.67 | 337.51 | 4,816.8 | 788.8 | -326.6 | 853.7 | 2.00 | -2.00 | 0.00 |
| 4,960.0 | 2.87 | 337.51 | 4,856.8 | 790.9 | -327.5 | 856.0 | 2.00 | -2.00 | 0.00 |
| 5,000.0 | 2.07 | 337.51 | 4,896.7 | 792.5 | -328.1 | 857.7 | 2.00 | -2.00 | 0.00 |
| 5,040.0 | 1.27 | 337.51 | 4,936.7 | 793.6 | -328.6 | 858.9 | 2.00 | -2.00 | 0.00 |
| 5,080.0 | 0.47 | 337.51 | 4,976.7 | 794.1 | -328.8 | 859.5 | 2.00 | -2.00 | 0.00 |
| 5,103.3 | 0.00 | 0.00 | 5,000.0 | 794.2 | -328.8 | 859.6 | 2.00 | -2.00 | 0.00 |
| 5,120.0 | 0.00 | 0.00 | 5,016.7 | 794.2 | -328.8 | 859.6 | 0.00 | 0.00 | 0.00 |
| 5,160.0 | 0.00 | 0.00 | 5,056.7 | 794.2 | -328.8 | 859.6 | 0.00 | 0.00 | 0.00 |
| 5,200.0 | 0.00 | 0.00 | 5,096.7 | 794.2 | -328.8 | 859.6 | 0.00 | 0.00 | 0.00 |
| 5,240.0 | 0.00 | 0.00 | 5,136.7 | 794.2 | -328.8 | 859.6 | 0.00 | 0.00 | 0.00 |
| 5,280.0 | 0.00 | 0.00 | 5,176.7 | 794.2 | -328.8 | 859.6 | 0.00 | 0.00 | 0.00 |
| 5,320.0 | 0.00 | 0.00 | 5,216.7 | 794.2 | -328.8 | 859.6 | 0.00 | 0.00 | 0.00 |
| 5,360.0 | 0.00 | 0.00 | 5,256.7 | 794.2 | -328.8 | 859.6 | 0.00 | 0.00 | 0.00 |
| 5,400.0 | 0.00 | 0.00 | 5,296.7 | 794.2 | -328.8 | 859.6 | 0.00 | 0.00 | 0.00 |
| 5,440.0 | 0.00 | 0.00 | 5,336.7 | 794.2 | -328.8 | 859.6 | 0.00 | 0.00 | 0.00 |
| 5,480.0 | 0.00 | 0.00 | 5,376.7 | 794.2 | -328.8 | 859.6 | 0.00 | 0.00 | 0.00 |
| 5,520.0 | 0.00 | 0.00 | 5,416.7 | 794.2 | -328.8 | 859.6 | 0.00 | 0.00 | 0.00 |
| 5,560.0 | 0.00 | 0.00 | 5,456.7 | 794.2 | -328.8 | 859.6 | 0.00 | 0.00 | 0.00 |
| 5,600.0 | 0.00 | 0.00 | 5,496.7 | 794.2 | -328.8 | 859.6 | 0.00 | 0.00 | 0.00 |
| 5,640.0 | 0.00 | 0.00 | 5,536.7 | 794.2 | -328.8 | 859.6 | 0.00 | 0.00 | 0.00 |
| 5,680.0 | 0.00 | 0.00 | 5,576.7 | 794.2 | -328.8 | 859.6 | 0.00 | 0.00 | 0.00 |
| 5,720.0 | 0.00 | 0.00 | 5,616.7 | 794.2 | -328.8 | 859.6 | 0.00 | 0.00 | 0.00 |
| 5,760.0 | 0.00 | 0.00 | 5,656.7 | 794.2 | -328.8 | 859.6 | 0.00 | 0.00 | 0.00 |
| 5,800.0 | 0.00 | 0.00 | 5,696.7 | 794.2 | -328.8 | 859.6 | 0.00 | 0.00 | 0.00 |
| 5,840.0 | 0.00 | 0.00 | 5,736.7 | 794.2 | -328.8 | 859.6 | 0.00 | 0.00 | 0.00 |
| 5,880.0 | 0.00 | 0.00 | 5,776.7 | 794.2 | -328.8 | 859.6 | 0.00 | 0.00 | 0.00 |
| 5,920.0 | 0.00 | 0.00 | 5,816.7 | 794.2 | -328.8 | 859.6 | 0.00 | 0.00 | 0.00 |
| 5,960.0 | 0.00 | 0.00 | 5,856.7 | 794.2 | -328.8 | 859.6 | 0.00 | 0.00 | 0.00 |
| 6,000.0 | 0.00 | 0.00 | 5,896.7 | 794.2 | -328.8 | 859.6 | 0.00 | 0.00 | 0.00 |
| 6,040.0 | 0.00 | 0.00 | 5,936.7 | 794.2 | -328.8 | 859.6 | 0.00 | 0.00 | 0.00 |
| 6,080.0 | 0.00 | 0.00 | 5,976.7 | 794.2 | -328.8 | 859.6 | 0.00 | 0.00 | 0.00 |
| 6,120.0 | 0.00 | 0.00 | 6,016.7 | 794.2 | -328.8 | 859.6 | 0.00 | 0.00 | 0.00 |
| 6,160.0 | 0.00 | 0.00 | 6,056.7 | 794.2 | -328.8 | 859.6 | 0.00 | 0.00 | 0.00 |
| 6,200.0 | 0.00 | 0.00 | 6,096.7 | 794.2 | -328.8 | 859.6 | 0.00 | 0.00 | 0.00 |

Database: Landmark
Company: NOBLE ENERGY INC WELD COUNTY CO
Project: SEC.31-T5N-R66W
Site: Bernhardt PC J31-32D Pad
 Sec.31-T5N-R66W
Well: Bernhardt PC J31-30D
Wellbore: Wellbore #1
Design: Noble Bernhardt PC J31-30D Plan #1 (10-19-1

Local Co-ordinate Reference: Well Bernhardt PC J31-30D
TVD Reference: WELL @ 4913.0ft (Original Well Elev)
MD Reference: WELL @ 4913.0ft (Original Well Elev)
North Reference: True
Survey Calculation Method: Minimum Curvature

Planned 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) |
|---------------------------|--------------------|----------------|---------------------------|---------------|---------------|-----------------------------|-----------------------------|----------------------------|---------------------------|
| 6,240.0 | 0.00 | 0.00 | 6,136.7 | 794.2 | -328.8 | 859.6 | 0.00 | 0.00 | 0.00 |
| 6,280.0 | 0.00 | 0.00 | 6,176.7 | 794.2 | -328.8 | 859.6 | 0.00 | 0.00 | 0.00 |
| 6,320.0 | 0.00 | 0.00 | 6,216.7 | 794.2 | -328.8 | 859.6 | 0.00 | 0.00 | 0.00 |
| 6,360.0 | 0.00 | 0.00 | 6,256.7 | 794.2 | -328.8 | 859.6 | 0.00 | 0.00 | 0.00 |
| 6,400.0 | 0.00 | 0.00 | 6,296.7 | 794.2 | -328.8 | 859.6 | 0.00 | 0.00 | 0.00 |
| 6,440.0 | 0.00 | 0.00 | 6,336.7 | 794.2 | -328.8 | 859.6 | 0.00 | 0.00 | 0.00 |
| 6,480.0 | 0.00 | 0.00 | 6,376.7 | 794.2 | -328.8 | 859.6 | 0.00 | 0.00 | 0.00 |
| 6,520.0 | 0.00 | 0.00 | 6,416.7 | 794.2 | -328.8 | 859.6 | 0.00 | 0.00 | 0.00 |
| 6,560.0 | 0.00 | 0.00 | 6,456.7 | 794.2 | -328.8 | 859.6 | 0.00 | 0.00 | 0.00 |
| 6,600.0 | 0.00 | 0.00 | 6,496.7 | 794.2 | -328.8 | 859.6 | 0.00 | 0.00 | 0.00 |
| 6,640.0 | 0.00 | 0.00 | 6,536.7 | 794.2 | -328.8 | 859.6 | 0.00 | 0.00 | 0.00 |
| 6,680.0 | 0.00 | 0.00 | 6,576.7 | 794.2 | -328.8 | 859.6 | 0.00 | 0.00 | 0.00 |
| 6,720.0 | 0.00 | 0.00 | 6,616.7 | 794.2 | -328.8 | 859.6 | 0.00 | 0.00 | 0.00 |
| 6,760.0 | 0.00 | 0.00 | 6,656.7 | 794.2 | -328.8 | 859.6 | 0.00 | 0.00 | 0.00 |
| 6,800.0 | 0.00 | 0.00 | 6,696.7 | 794.2 | -328.8 | 859.6 | 0.00 | 0.00 | 0.00 |
| 6,840.0 | 0.00 | 0.00 | 6,736.7 | 794.2 | -328.8 | 859.6 | 0.00 | 0.00 | 0.00 |
| 6,880.0 | 0.00 | 0.00 | 6,776.7 | 794.2 | -328.8 | 859.6 | 0.00 | 0.00 | 0.00 |
| 6,920.0 | 0.00 | 0.00 | 6,816.7 | 794.2 | -328.8 | 859.6 | 0.00 | 0.00 | 0.00 |
| 6,960.0 | 0.00 | 0.00 | 6,856.7 | 794.2 | -328.8 | 859.6 | 0.00 | 0.00 | 0.00 |
| 7,000.0 | 0.00 | 0.00 | 6,896.7 | 794.2 | -328.8 | 859.6 | 0.00 | 0.00 | 0.00 |
| 7,040.0 | 0.00 | 0.00 | 6,936.7 | 794.2 | -328.8 | 859.6 | 0.00 | 0.00 | 0.00 |
| 7,080.0 | 0.00 | 0.00 | 6,976.7 | 794.2 | -328.8 | 859.6 | 0.00 | 0.00 | 0.00 |
| 7,120.0 | 0.00 | 0.00 | 7,016.7 | 794.2 | -328.8 | 859.6 | 0.00 | 0.00 | 0.00 |
| 7,160.0 | 0.00 | 0.00 | 7,056.7 | 794.2 | -328.8 | 859.6 | 0.00 | 0.00 | 0.00 |
| 7,200.0 | 0.00 | 0.00 | 7,096.7 | 794.2 | -328.8 | 859.6 | 0.00 | 0.00 | 0.00 |
| 7,240.0 | 0.00 | 0.00 | 7,136.7 | 794.2 | -328.8 | 859.6 | 0.00 | 0.00 | 0.00 |
| 7,280.0 | 0.00 | 0.00 | 7,176.7 | 794.2 | -328.8 | 859.6 | 0.00 | 0.00 | 0.00 |
| 7,320.0 | 0.00 | 0.00 | 7,216.7 | 794.2 | -328.8 | 859.6 | 0.00 | 0.00 | 0.00 |
| 7,360.0 | 0.00 | 0.00 | 7,256.7 | 794.2 | -328.8 | 859.6 | 0.00 | 0.00 | 0.00 |
| 7,400.0 | 0.00 | 0.00 | 7,296.7 | 794.2 | -328.8 | 859.6 | 0.00 | 0.00 | 0.00 |
| 7,440.0 | 0.00 | 0.00 | 7,336.7 | 794.2 | -328.8 | 859.6 | 0.00 | 0.00 | 0.00 |
| 7,480.0 | 0.00 | 0.00 | 7,376.7 | 794.2 | -328.8 | 859.6 | 0.00 | 0.00 | 0.00 |
| 7,520.0 | 0.00 | 0.00 | 7,416.7 | 794.2 | -328.8 | 859.6 | 0.00 | 0.00 | 0.00 |
| 7,560.0 | 0.00 | 0.00 | 7,456.7 | 794.2 | -328.8 | 859.6 | 0.00 | 0.00 | 0.00 |
| 7,600.0 | 0.00 | 0.00 | 7,496.7 | 794.2 | -328.8 | 859.6 | 0.00 | 0.00 | 0.00 |
| 7,640.0 | 0.00 | 0.00 | 7,536.7 | 794.2 | -328.8 | 859.6 | 0.00 | 0.00 | 0.00 |
| 7,646.3 | 0.00 | 0.00 | 7,543.0 | 794.2 | -328.8 | 859.6 | 0.00 | 0.00 | 0.00 |

Database: Landmark
Company: NOBLE ENERGY INC WELD COUNTY CO
Project: SEC.31-T5N-R66W
Site: Bernhardt PC J31-32D Pad
 Sec.31-T5N-R66W
Well: Bernhardt PC J31-30D
Wellbore: Wellbore #1
Design: Noble Bernhardt PC J31-30D Plan #1 (10-19-1

Local Co-ordinate Reference: Well Bernhardt PC J31-30D
TVD Reference: WELL @ 4913.0ft (Original Well Elev)
MD Reference: WELL @ 4913.0ft (Original Well Elev)
North Reference: True
Survey Calculation Method: Minimum Curvature

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 |
|---|------------------|-----------------|-------------|---------------|---------------|------------------|-----------------|------------------|-------------------|
| TARGET CIRCLE 75' - plan hits target - Circle (radius 75.0) | 0.00 | 0.00 | 7,053.0 | 794.2 | -328.8 | 1,375,826.77 | 3,186,205.67 | 40° 21' 47.232 N | 104° 49' 54.408 W |
| TARGET BHL 75'FNL - plan hits target - Point | 0.00 | 0.00 | 5,000.0 | 794.2 | -328.8 | 1,375,826.77 | 3,186,205.67 | 40° 21' 47.232 N | 104° 49' 54.408 W |
| HARD LINES 75'N & ' - plan misses by 106.0ft at 7646.3ft MD (7543.0 TVD, 794.2 N, -328.8 E) - Polygon | 0.00 | 0.00 | 7,543.0 | 869.2 | -403.8 | 1,375,901.19 | 3,186,130.15 | 40° 21' 47.973 N | 104° 49' 55.376 W |
| Point 1 | | | 7,543.0 | 0.0 | 0.0 | 1,375,901.19 | 3,186,130.15 | | |
| Point 2 | | | 7,543.0 | -200.0 | 0.0 | 1,375,701.20 | 3,186,131.66 | | |
| Point 3 | | | 7,543.0 | 0.0 | 0.0 | 1,375,901.19 | 3,186,130.15 | | |
| Point 4 | | | 7,543.0 | 0.0 | 200.0 | 1,375,902.70 | 3,186,330.13 | | |

Casing Points

| Measured Depth (ft) | Vertical Depth (ft) | Name | Casing Diameter (") | Hole Diameter (") |
|---------------------------|---------------------------|--------|---------------------------|-------------------------|
| 600.0 | 600.0 | 8 5/8" | 8-5/8 | 12-1/4 |

Formations

| Measured Depth (ft) | Vertical Depth (ft) | Name | Lithology | Dip (°) | Dip Direction (°) |
|---------------------------|---------------------------|----------|-----------|------------|-------------------------|
| 7,156.3 | 7,053.0 | NIOBRARA | | 0.00 | |
| 7,496.3 | 7,393.0 | CODELL | | 0.00 | |