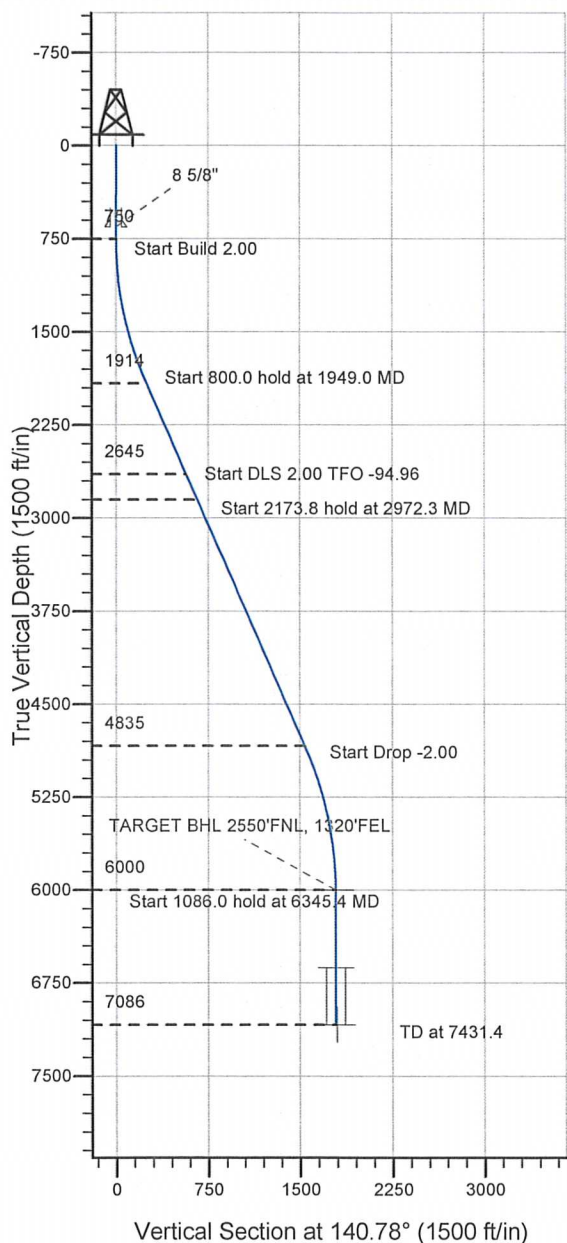


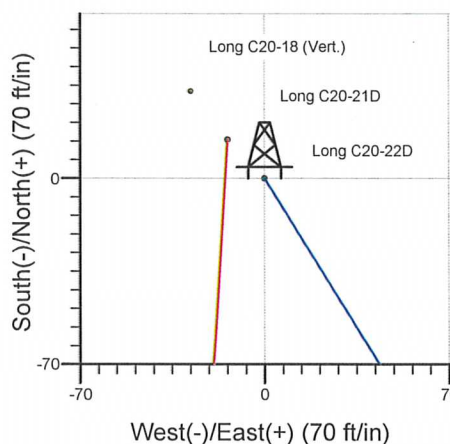
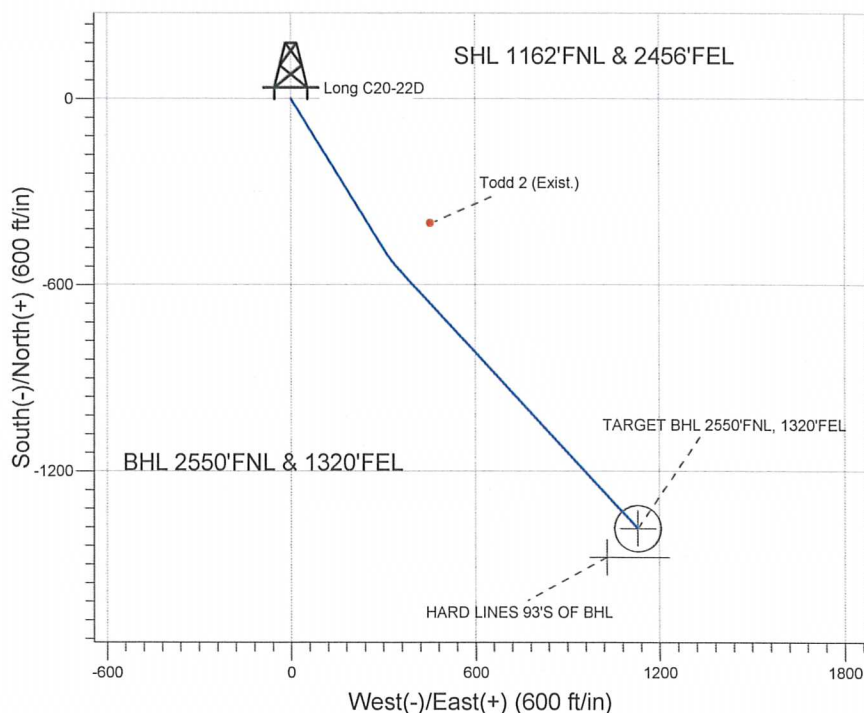
## Well Name: Long C20-22D

Surface Location: Long C20-18 Pad Sec.20-T4N-R64W  
North American Datum 1983      US State Plane 1983      Colorado Northern Zone

| Ground Elevation: 4733.0                                |       |            |            |           |             |      |
|---|-------|------------|------------|-----------|-------------|------|
| +N/-S   | +E/-W | Northing   | Easting    | Latitude  | Longitude   | Slot |
| 0.0   | 0.0   | 1354200.96 | 3258277.15 | 40.301980 | -104.573970 |      |
| Original Well Elev WELL @ 4746.0ft (Original Well Elev) |       |            |            |           |             |      |



NOBLE ENERGY INC WELD COUNTY CO



Long C20-18 Pad Sec.20-T4N-R64W  
Long C20-22D  
Noble Long C20-22D Plan #1 (7-06-11)  
9:49, July 07 2011



Azimuths to True North  
Magnetic North:  $8.75^\circ$

Magnetic Field  
Strength: 53095.3nT  
Dip Angle: 67.00°  
Date: 7/6/2011  
Model: IGRF2010

## WELLBORE TARGET DETAILS (LAT/LONG)

| Name                              | TVD    | +N/-S   | +E/-W  | Latitude  | Longitude   | Shape                 |
|-----------------------------------|--------|---------|--------|-----------|-------------|-----------------------|
| TARGET BHL 2550'FNL, 1320'FEL     | 6000.0 | -1384.3 | 1129.7 | 40.298180 | -104.569920 | Point                 |
| TARGET CIRCLE 2550'FNL & 1320'FEL | 6626.0 | -1384.3 | 1129.7 | 40.298180 | -104.569920 | Circle (Radius: 75.0) |
| HARD LINES 93'S OF BHL            | 7086.0 | -1477.3 | 1029.7 | 40.297925 | -104.570279 | Polygon               |

## SECTION DETAILS

| 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   | 750.0  | 0.00  | 0.00   | 750.0  | 0.0     | 0.0    | 0.00 | 0.00   | 0.0    |                               |
| 3   | 1949.0 | 23.98 | 148.00 | 1914.3 | -209.7  | 131.0  | 2.00 | 148.00 | 245.3  |                               |
| 4   | 2749.0 | 23.98 | 148.00 | 2645.3 | -485.4  | 303.3  | 0.00 | 0.00   | 567.9  |                               |
| 5   | 2972.3 | 23.99 | 137.00 | 2849.3 | -557.1  | 358.3  | 2.00 | -94.96 | 658.2  |                               |
| 6   | 5146.1 | 23.99 | 137.00 | 4835.4 | -1203.4 | 961.0  | 0.00 | 0.00   | 1539.9 |                               |
| 7   | 6345.4 | 0.00  | 0.00   | 6000.0 | -1384.3 | 1129.7 | 2.00 | 180.00 | 1786.8 | TARGET BHL 2550'FNL, 1320'FEL |
| 8   | 7431.4 | 0.00  | 0.00   | 7086.0 | -1384.3 | 1129.7 | 0.00 | 0.00   | 1786.8 |                               |



**Directional**

**NOBLE ENERGY INC WELD  
COUNTY CO**

**SEC.20-T4N-R64W**

**Long C20-18 Pad Sec.20-T4N-R64W**

**Long C20-22D**

**Wellbore #1**

**Plan: Noble Long C20-22D Plan #1 (7-06-11)**

**Standard Planning Report**

**07 July, 2011**



**Database:** Landmark  
**Company:** NOBLE ENERGY INC WELD COUNTY CO  
**Project:** SEC.20-T4N-R64W  
**Site:** Long C20-18 Pad Sec.20-T4N-R64W  
**Well:** Long C20-22D  
**Wellbore:** Wellbore #1  
**Design:** Noble Long C20-22D Plan #1 (7-06-11)

**Local Co-ordinate Reference:** Well Long C20-22D  
**TVD Reference:** WELL @ 4746.0ft (Original Well Elev)  
**MD Reference:** WELL @ 4746.0ft (Original Well Elev)  
**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature

|                    |  |                      |                             |
|--------------------|--|----------------------|-----------------------------|
| <b>Project</b>     | SEC.20-T4N-R64W, Weld County, Colorado |                      |                             |
| <b>Map System:</b> | US State Plane 1983                    | <b>System Datum:</b> | Mean Sea Level              |
| <b>Geo Datum:</b>  | North American Datum 1983              |                      | Using Well Reference Point  |
| <b>Map Zone:</b>   | Colorado Northern Zone                 |                      | Using geodetic scale factor |

|                              |                                 |                     |                 |                                 |
|------------------------------|---------------------------------|---------------------|-----------------|---------------------------------|
| <b>Site</b>                  | Long C20-18 Pad Sec.20-T4N-R64W |                     |                 |                                 |
| <b>Site Position:</b>        |                                 | <b>Northing:</b>    | 1,354,233.47 ft | <b>Latitude:</b> 40.302070      |
| <b>From:</b>                 | Lat/Long                        | <b>Easting:</b>     | 3,258,248.92 ft | <b>Longitude:</b> -104.574070   |
| <b>Position Uncertainty:</b> | 0.0 ft                          | <b>Slot Radius:</b> | "               | <b>Grid Convergence:</b> 0.60 ° |

|                             |              |          |                            |                 |
|-----------------------------|--------------|----------|----------------------------|-----------------|
| <b>Well</b>                 | Long C20-22D |          |                            |                 |
| <b>Well Position</b>        | <b>+N/-S</b> | -32.8 ft | <b>Northing:</b>           | 1,354,200.96 ft |
|                             | <b>+E/-W</b> | 27.9 ft  | <b>Easting:</b>            | 3,258,277.15 ft |
| <b>Position Uncertainty</b> |              | 0.0 ft   | <b>Wellhead Elevation:</b> | ft              |
|                             |              |          | <b>Ground Level:</b>       | 4,733.0 ft      |

|                  |                   |                    |                        |                      |                            |
|------------------|-------------------|--------------------|------------------------|----------------------|----------------------------|
| <b>Wellbore</b>  | Wellbore #1       |                    |                        |                      |                            |
| <b>Magnetics</b> | <b>Model Name</b> | <b>Sample Date</b> | <b>Declination (°)</b> | <b>Dip Angle (°)</b> | <b>Field Strength (nT)</b> |
|                  | IGRF2010          | 7/6/2011           | 8.75                   | 67.00                | 53,095                     |

|                          |                                      |                   |                      |                      |  |
|--------------------------|--------------------------------------|-------------------|----------------------|----------------------|--|
| <b>Design</b>            | Noble Long C20-22D Plan #1 (7-06-11) |                   |                      |                      |  |
| <b>Audit Notes:</b>      |                                      |                   |                      |                      |  |
| <b>Version:</b>          | <b>Phase:</b>                        | PROTOTYPE         | <b>Tie On Depth:</b> | 0.0                  |  |
| <b>Vertical Section:</b> | <b>Depth From (TVD) (ft)</b>         | <b>+N/-S (ft)</b> | <b>+E/-W (ft)</b>    | <b>Direction (°)</b> |  |
|                          | 0.0                                  | 0.0               | 0.0                  | 140.78               |  |

| 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    |                 |
| 750.0               | 0.00            | 0.00        | 750.0               | 0.0        | 0.0        | 0.00                  | 0.00                 | 0.00                | 0.00    |                 |
| 1,949.0             | 23.98           | 148.00      | 1,914.3             | -209.7     | 131.0      | 2.00                  | 2.00                 | 0.00                | 148.00  |                 |
| 2,749.0             | 23.98           | 148.00      | 2,645.3             | -485.4     | 303.3      | 0.00                  | 0.00                 | 0.00                | 0.00    |                 |
| 2,972.3             | 23.99           | 137.00      | 2,849.3             | -557.1     | 358.3      | 2.00                  | 0.00                 | -4.93               | -94.96  |                 |
| 5,146.1             | 23.99           | 137.00      | 4,835.4             | -1,203.4   | 961.0      | 0.00                  | 0.00                 | 0.00                | 0.00    |                 |
| 6,345.4             | 0.00            | 0.00        | 6,000.0             | -1,384.3   | 1,129.7    | 2.00                  | -2.00                | 0.00                | 180.00  | TARGET BHL 255C |
| 7,431.4             | 0.00            | 0.00        | 7,086.0             | -1,384.3   | 1,129.7    | 0.00                  | 0.00                 | 0.00                | 0.00    |                 |



Database: Landmark  
 Company: NOBLE ENERGY INC WELD COUNTY CO  
 Project: SEC.20-T4N-R64W  
 Site: Long C20-18 Pad Sec.20-T4N-R64W  
 Well: Long C20-22D  
 Wellbore: Wellbore #1  
 Design: Noble Long C20-22D Plan #1 (7-06-11)

Local Co-ordinate Reference: Well Long C20-22D  
 TVD Reference: WELL @ 4746.0ft (Original Well Elev)  
 MD Reference: WELL @ 4746.0ft (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                |
| 650.0               | 0.00            | 0.00        | 650.0               | 0.0        | 0.0        | 0.0                   | 0.00                  | 0.00                 | 0.00                |
| 8 5/8"              |                 |             |                     |            |            |                       |                       |                      |                     |
| 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                |
| 750.0               | 0.00            | 0.00        | 750.0               | 0.0        | 0.0        | 0.0                   | 0.00                  | 0.00                 | 0.00                |
| 760.0               | 0.20            | 148.00      | 760.0               | 0.0        | 0.0        | 0.0                   | 2.00                  | 2.00                 | 0.00                |
| 800.0               | 1.00            | 148.00      | 800.0               | -0.4       | 0.2        | 0.4                   | 2.00                  | 2.00                 | 0.00                |
| 840.0               | 1.80            | 148.00      | 840.0               | -1.2       | 0.7        | 1.4                   | 2.00                  | 2.00                 | 0.00                |
| 880.0               | 2.60            | 148.00      | 880.0               | -2.5       | 1.6        | 2.9                   | 2.00                  | 2.00                 | 0.00                |
| 920.0               | 3.40            | 148.00      | 919.9               | -4.3       | 2.7        | 5.0                   | 2.00                  | 2.00                 | 0.00                |
| 960.0               | 4.20            | 148.00      | 959.8               | -6.5       | 4.1        | 7.6                   | 2.00                  | 2.00                 | 0.00                |
| 1,000.0             | 5.00            | 148.00      | 999.7               | -9.2       | 5.8        | 10.8                  | 2.00                  | 2.00                 | 0.00                |
| 1,040.0             | 5.80            | 148.00      | 1,039.5             | -12.4      | 7.8        | 14.5                  | 2.00                  | 2.00                 | 0.00                |
| 1,080.0             | 6.60            | 148.00      | 1,079.3             | -16.1      | 10.1       | 18.8                  | 2.00                  | 2.00                 | 0.00                |
| 1,120.0             | 7.40            | 148.00      | 1,119.0             | -20.2      | 12.6       | 23.7                  | 2.00                  | 2.00                 | 0.00                |
| 1,160.0             | 8.20            | 148.00      | 1,158.6             | -24.8      | 15.5       | 29.1                  | 2.00                  | 2.00                 | 0.00                |
| 1,200.0             | 9.00            | 148.00      | 1,198.2             | -29.9      | 18.7       | 35.0                  | 2.00                  | 2.00                 | 0.00                |
| 1,240.0             | 9.80            | 148.00      | 1,237.6             | -35.5      | 22.2       | 41.5                  | 2.00                  | 2.00                 | 0.00                |
| 1,280.0             | 10.60           | 148.00      | 1,277.0             | -41.5      | 25.9       | 48.5                  | 2.00                  | 2.00                 | 0.00                |
| 1,320.0             | 11.40           | 148.00      | 1,316.2             | -47.9      | 30.0       | 56.1                  | 2.00                  | 2.00                 | 0.00                |
| 1,360.0             | 12.20           | 148.00      | 1,355.4             | -54.9      | 34.3       | 64.2                  | 2.00                  | 2.00                 | 0.00                |
| 1,400.0             | 13.00           | 148.00      | 1,394.4             | -62.3      | 38.9       | 72.8                  | 2.00                  | 2.00                 | 0.00                |
| 1,440.0             | 13.80           | 148.00      | 1,433.3             | -70.1      | 43.8       | 82.0                  | 2.00                  | 2.00                 | 0.00                |
| 1,480.0             | 14.60           | 148.00      | 1,472.1             | -78.4      | 49.0       | 91.8                  | 2.00                  | 2.00                 | 0.00                |
| 1,520.0             | 15.40           | 148.00      | 1,510.8             | -87.2      | 54.5       | 102.0                 | 2.00                  | 2.00                 | 0.00                |
| 1,560.0             | 16.20           | 148.00      | 1,549.3             | -96.5      | 60.3       | 112.8                 | 2.00                  | 2.00                 | 0.00                |
| 1,600.0             | 17.00           | 148.00      | 1,587.6             | -106.2     | 66.3       | 124.2                 | 2.00                  | 2.00                 | 0.00                |
| 1,640.0             | 17.80           | 148.00      | 1,625.8             | -116.3     | 72.7       | 136.1                 | 2.00                  | 2.00                 | 0.00                |
| 1,680.0             | 18.60           | 148.00      | 1,663.8             | -126.9     | 79.3       | 148.4                 | 2.00                  | 2.00                 | 0.00                |
| 1,720.0             | 19.40           | 148.00      | 1,701.6             | -137.9     | 86.2       | 161.4                 | 2.00                  | 2.00                 | 0.00                |
| 1,760.0             | 20.20           | 148.00      | 1,739.2             | -149.4     | 93.4       | 174.8                 | 2.00                  | 2.00                 | 0.00                |
| 1,800.0             | 21.00           | 148.00      | 1,776.6             | -161.4     | 100.8      | 188.8                 | 2.00                  | 2.00                 | 0.00                |
| 1,840.0             | 21.80           | 148.00      | 1,813.9             | -173.7     | 108.6      | 203.2                 | 2.00                  | 2.00                 | 0.00                |
| 1,880.0             | 22.60           | 148.00      | 1,850.9             | -186.6     | 116.6      | 218.2                 | 2.00                  | 2.00                 | 0.00                |
| 1,920.0             | 23.40           | 148.00      | 1,887.7             | -199.8     | 124.9      | 233.7                 | 2.00                  | 2.00                 | 0.00                |
| 1,949.0             | 23.98           | 148.00      | 1,914.3             | -209.7     | 131.0      | 245.3                 | 2.00                  | 2.00                 | 0.00                |
| 1,960.0             | 23.98           | 148.00      | 1,924.4             | -213.5     | 133.4      | 249.7                 | 0.00                  | 0.00                 | 0.00                |

Database: Landmark  
 Company: NOBLE ENERGY INC WELD COUNTY CO  
 Project: SEC.20-T4N-R64W  
 Site: Long C20-18 Pad Sec.20-T4N-R64W  
 Well: Long C20-22D  
 Wellbore: Wellbore #1  
 Design: Noble Long C20-22D Plan #1 (7-06-11)

Local Co-ordinate Reference: Well Long C20-22D  
 TVD Reference: WELL @ 4746.0ft (Original Well Elev)  
 MD Reference: WELL @ 4746.0ft (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) |
|---------------------|-----------------|-------------|---------------------|------------|------------|-----------------------|-----------------------|----------------------|---------------------|
| 2,000.0             | 23.98           | 148.00      | 1,960.9             | -227.3     | 142.0      | 265.9                 | 0.00                  | 0.00                 | 0.00                |
| 2,040.0             | 23.98           | 148.00      | 1,997.4             | -241.1     | 150.6      | 282.0                 | 0.00                  | 0.00                 | 0.00                |
| 2,080.0             | 23.98           | 148.00      | 2,034.0             | -254.8     | 159.2      | 298.1                 | 0.00                  | 0.00                 | 0.00                |
| 2,120.0             | 23.98           | 148.00      | 2,070.5             | -268.6     | 167.9      | 314.3                 | 0.00                  | 0.00                 | 0.00                |
| 2,160.0             | 23.98           | 148.00      | 2,107.1             | -282.4     | 176.5      | 330.4                 | 0.00                  | 0.00                 | 0.00                |
| 2,200.0             | 23.98           | 148.00      | 2,143.6             | -296.2     | 185.1      | 346.5                 | 0.00                  | 0.00                 | 0.00                |
| 2,240.0             | 23.98           | 148.00      | 2,180.2             | -310.0     | 193.7      | 362.6                 | 0.00                  | 0.00                 | 0.00                |
| 2,280.0             | 23.98           | 148.00      | 2,216.7             | -323.8     | 202.3      | 378.8                 | 0.00                  | 0.00                 | 0.00                |
| 2,320.0             | 23.98           | 148.00      | 2,253.3             | -337.6     | 210.9      | 394.9                 | 0.00                  | 0.00                 | 0.00                |
| 2,360.0             | 23.98           | 148.00      | 2,289.8             | -351.4     | 219.5      | 411.0                 | 0.00                  | 0.00                 | 0.00                |
| 2,400.0             | 23.98           | 148.00      | 2,326.4             | -365.1     | 228.2      | 427.2                 | 0.00                  | 0.00                 | 0.00                |
| 2,440.0             | 23.98           | 148.00      | 2,362.9             | -378.9     | 236.8      | 443.3                 | 0.00                  | 0.00                 | 0.00                |
| 2,480.0             | 23.98           | 148.00      | 2,399.5             | -392.7     | 245.4      | 459.4                 | 0.00                  | 0.00                 | 0.00                |
| 2,520.0             | 23.98           | 148.00      | 2,436.0             | -406.5     | 254.0      | 475.5                 | 0.00                  | 0.00                 | 0.00                |
| 2,560.0             | 23.98           | 148.00      | 2,472.6             | -420.3     | 262.6      | 491.7                 | 0.00                  | 0.00                 | 0.00                |
| 2,600.0             | 23.98           | 148.00      | 2,509.1             | -434.1     | 271.2      | 507.8                 | 0.00                  | 0.00                 | 0.00                |
| 2,640.0             | 23.98           | 148.00      | 2,545.7             | -447.9     | 279.9      | 523.9                 | 0.00                  | 0.00                 | 0.00                |
| 2,680.0             | 23.98           | 148.00      | 2,582.2             | -461.6     | 288.5      | 540.0                 | 0.00                  | 0.00                 | 0.00                |
| 2,720.0             | 23.98           | 148.00      | 2,618.8             | -475.4     | 297.1      | 556.2                 | 0.00                  | 0.00                 | 0.00                |
| 2,749.0             | 23.98           | 148.00      | 2,645.3             | -485.4     | 303.3      | 567.9                 | 0.00                  | 0.00                 | 0.00                |
| 2,760.0             | 23.96           | 147.46      | 2,655.3             | -489.2     | 305.7      | 572.3                 | 2.00                  | -0.16                | -4.91               |
| 2,800.0             | 23.91           | 145.49      | 2,691.9             | -502.7     | 314.7      | 588.4                 | 2.00                  | -0.12                | -4.92               |
| 2,840.0             | 23.89           | 143.52      | 2,728.4             | -515.9     | 324.1      | 604.6                 | 2.00                  | -0.06                | -4.93               |
| 2,880.0             | 23.89           | 141.54      | 2,765.0             | -528.8     | 333.9      | 620.8                 | 2.00                  | 0.00                 | -4.94               |
| 2,920.0             | 23.91           | 139.57      | 2,801.6             | -541.3     | 344.2      | 637.0                 | 2.00                  | 0.06                 | -4.93               |
| 2,960.0             | 23.96           | 137.60      | 2,838.1             | -553.5     | 355.0      | 653.2                 | 2.00                  | 0.13                 | -4.92               |
| 2,972.3             | 23.99           | 137.00      | 2,849.3             | -557.1     | 358.3      | 658.2                 | 2.00                  | 0.17                 | -4.90               |
| 3,000.0             | 23.99           | 137.00      | 2,874.7             | -565.4     | 366.0      | 669.5                 | 0.00                  | 0.00                 | 0.00                |
| 3,040.0             | 23.99           | 137.00      | 2,911.2             | -577.3     | 377.1      | 685.7                 | 0.00                  | 0.00                 | 0.00                |
| 3,080.0             | 23.99           | 137.00      | 2,947.8             | -589.2     | 388.2      | 701.9                 | 0.00                  | 0.00                 | 0.00                |
| 3,120.0             | 23.99           | 137.00      | 2,984.3             | -601.0     | 399.3      | 718.1                 | 0.00                  | 0.00                 | 0.00                |
| 3,160.0             | 23.99           | 137.00      | 3,020.9             | -612.9     | 410.4      | 734.4                 | 0.00                  | 0.00                 | 0.00                |
| 3,200.0             | 23.99           | 137.00      | 3,057.4             | -624.8     | 421.5      | 750.6                 | 0.00                  | 0.00                 | 0.00                |
| 3,240.0             | 23.99           | 137.00      | 3,094.0             | -636.7     | 432.6      | 766.8                 | 0.00                  | 0.00                 | 0.00                |
| 3,280.0             | 23.99           | 137.00      | 3,130.5             | -648.6     | 443.7      | 783.0                 | 0.00                  | 0.00                 | 0.00                |
| 3,320.0             | 23.99           | 137.00      | 3,167.1             | -660.5     | 454.7      | 799.2                 | 0.00                  | 0.00                 | 0.00                |
| 3,360.0             | 23.99           | 137.00      | 3,203.6             | -672.4     | 465.8      | 815.5                 | 0.00                  | 0.00                 | 0.00                |
| 3,400.0             | 23.99           | 137.00      | 3,240.1             | -684.3     | 476.9      | 831.7                 | 0.00                  | 0.00                 | 0.00                |
| 3,440.0             | 23.99           | 137.00      | 3,276.7             | -696.2     | 488.0      | 847.9                 | 0.00                  | 0.00                 | 0.00                |
| 3,480.0             | 23.99           | 137.00      | 3,313.2             | -708.1     | 499.1      | 864.1                 | 0.00                  | 0.00                 | 0.00                |
| 3,520.0             | 23.99           | 137.00      | 3,349.8             | -720.0     | 510.2      | 880.4                 | 0.00                  | 0.00                 | 0.00                |
| 3,560.0             | 23.99           | 137.00      | 3,386.3             | -731.9     | 521.3      | 896.6                 | 0.00                  | 0.00                 | 0.00                |
| 3,600.0             | 23.99           | 137.00      | 3,422.9             | -743.7     | 532.4      | 912.8                 | 0.00                  | 0.00                 | 0.00                |
| 3,640.0             | 23.99           | 137.00      | 3,459.4             | -755.6     | 543.5      | 929.0                 | 0.00                  | 0.00                 | 0.00                |
| 3,680.0             | 23.99           | 137.00      | 3,496.0             | -767.5     | 554.6      | 945.3                 | 0.00                  | 0.00                 | 0.00                |
| 3,720.0             | 23.99           | 137.00      | 3,532.5             | -779.4     | 565.6      | 961.5                 | 0.00                  | 0.00                 | 0.00                |
| 3,760.0             | 23.99           | 137.00      | 3,569.1             | -791.3     | 576.7      | 977.7                 | 0.00                  | 0.00                 | 0.00                |
| 3,800.0             | 23.99           | 137.00      | 3,605.6             | -803.2     | 587.8      | 993.9                 | 0.00                  | 0.00                 | 0.00                |
| 3,840.0             | 23.99           | 137.00      | 3,642.1             | -815.1     | 598.9      | 1,010.2               | 0.00                  | 0.00                 | 0.00                |
| 3,880.0             | 23.99           | 137.00      | 3,678.7             | -827.0     | 610.0      | 1,026.4               | 0.00                  | 0.00                 | 0.00                |
| 3,920.0             | 23.99           | 137.00      | 3,715.2             | -838.9     | 621.1      | 1,042.6               | 0.00                  | 0.00                 | 0.00                |
| 3,960.0             | 23.99           | 137.00      | 3,751.8             | -850.8     | 632.2      | 1,058.8               | 0.00                  | 0.00                 | 0.00                |
| 4,000.0             | 23.99           | 137.00      | 3,788.3             | -862.7     | 643.3      | 1,075.1               | 0.00                  | 0.00                 | 0.00                |
| 4,040.0             | 23.99           | 137.00      | 3,824.9             | -874.6     | 654.4      | 1,091.3               | 0.00                  | 0.00                 | 0.00                |



Database: Landmark  
 Company: NOBLE ENERGY INC WELD COUNTY CO  
 Project: SEC.20-T4N-R64W  
 Site: Long C20-18 Pad Sec.20-T4N-R64W  
 Well: Long C20-22D  
 Wellbore: Wellbore #1  
 Design: Noble Long C20-22D Plan #1 (7-06-11)

Local Co-ordinate Reference: Well Long C20-22D  
 TVD Reference: WELL @ 4746.0ft (Original Well Elev)  
 MD Reference: WELL @ 4746.0ft (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) |
|---------------------|-----------------|-------------|---------------------|------------|------------|-----------------------|-----------------------|----------------------|---------------------|
| 4,080.0             | 23.99           | 137.00      | 3,861.4             | -886.5     | 665.4      | 1,107.5               | 0.00                  | 0.00                 | 0.00                |
| 4,120.0             | 23.99           | 137.00      | 3,898.0             | -898.3     | 676.5      | 1,123.7               | 0.00                  | 0.00                 | 0.00                |
| 4,160.0             | 23.99           | 137.00      | 3,934.5             | -910.2     | 687.6      | 1,140.0               | 0.00                  | 0.00                 | 0.00                |
| 4,200.0             | 23.99           | 137.00      | 3,971.1             | -922.1     | 698.7      | 1,156.2               | 0.00                  | 0.00                 | 0.00                |
| 4,240.0             | 23.99           | 137.00      | 4,007.6             | -934.0     | 709.8      | 1,172.4               | 0.00                  | 0.00                 | 0.00                |
| 4,280.0             | 23.99           | 137.00      | 4,044.2             | -945.9     | 720.9      | 1,188.6               | 0.00                  | 0.00                 | 0.00                |
| 4,320.0             | 23.99           | 137.00      | 4,080.7             | -957.8     | 732.0      | 1,204.9               | 0.00                  | 0.00                 | 0.00                |
| 4,360.0             | 23.99           | 137.00      | 4,117.2             | -969.7     | 743.1      | 1,221.1               | 0.00                  | 0.00                 | 0.00                |
| 4,400.0             | 23.99           | 137.00      | 4,153.8             | -981.6     | 754.2      | 1,237.3               | 0.00                  | 0.00                 | 0.00                |
| 4,440.0             | 23.99           | 137.00      | 4,190.3             | -993.5     | 765.3      | 1,253.5               | 0.00                  | 0.00                 | 0.00                |
| 4,480.0             | 23.99           | 137.00      | 4,226.9             | -1,005.4   | 776.3      | 1,269.8               | 0.00                  | 0.00                 | 0.00                |
| 4,520.0             | 23.99           | 137.00      | 4,263.4             | -1,017.3   | 787.4      | 1,286.0               | 0.00                  | 0.00                 | 0.00                |
| 4,560.0             | 23.99           | 137.00      | 4,300.0             | -1,029.2   | 798.5      | 1,302.2               | 0.00                  | 0.00                 | 0.00                |
| 4,600.0             | 23.99           | 137.00      | 4,336.5             | -1,041.0   | 809.6      | 1,318.4               | 0.00                  | 0.00                 | 0.00                |
| 4,640.0             | 23.99           | 137.00      | 4,373.1             | -1,052.9   | 820.7      | 1,334.7               | 0.00                  | 0.00                 | 0.00                |
| 4,680.0             | 23.99           | 137.00      | 4,409.6             | -1,064.8   | 831.8      | 1,350.9               | 0.00                  | 0.00                 | 0.00                |
| 4,720.0             | 23.99           | 137.00      | 4,446.2             | -1,076.7   | 842.9      | 1,367.1               | 0.00                  | 0.00                 | 0.00                |
| 4,760.0             | 23.99           | 137.00      | 4,482.7             | -1,088.6   | 854.0      | 1,383.3               | 0.00                  | 0.00                 | 0.00                |
| 4,800.0             | 23.99           | 137.00      | 4,519.3             | -1,100.5   | 865.1      | 1,399.6               | 0.00                  | 0.00                 | 0.00                |
| 4,840.0             | 23.99           | 137.00      | 4,555.8             | -1,112.4   | 876.1      | 1,415.8               | 0.00                  | 0.00                 | 0.00                |
| 4,880.0             | 23.99           | 137.00      | 4,592.3             | -1,124.3   | 887.2      | 1,432.0               | 0.00                  | 0.00                 | 0.00                |
| 4,920.0             | 23.99           | 137.00      | 4,628.9             | -1,136.2   | 898.3      | 1,448.2               | 0.00                  | 0.00                 | 0.00                |
| 4,960.0             | 23.99           | 137.00      | 4,665.4             | -1,148.1   | 909.4      | 1,464.5               | 0.00                  | 0.00                 | 0.00                |
| 5,000.0             | 23.99           | 137.00      | 4,702.0             | -1,160.0   | 920.5      | 1,480.7               | 0.00                  | 0.00                 | 0.00                |
| 5,040.0             | 23.99           | 137.00      | 4,738.5             | -1,171.9   | 931.6      | 1,496.9               | 0.00                  | 0.00                 | 0.00                |
| 5,080.0             | 23.99           | 137.00      | 4,775.1             | -1,183.8   | 942.7      | 1,513.1               | 0.00                  | 0.00                 | 0.00                |
| 5,120.0             | 23.99           | 137.00      | 4,811.6             | -1,195.6   | 953.8      | 1,529.4               | 0.00                  | 0.00                 | 0.00                |
| 5,160.0             | 23.99           | 137.00      | 4,848.2             | -1,207.5   | 964.9      | 1,545.6               | 0.00                  | 0.00                 | 0.00                |
| 5,200.0             | 23.99           | 137.00      | 4,884.9             | -1,219.4   | 976.0      | 1,561.8               | 0.00                  | 0.00                 | 0.00                |
| 5,240.0             | 23.99           | 137.00      | 4,921.5             | -1,231.3   | 987.1      | 1,578.0               | 0.00                  | 0.00                 | 0.00                |
| 5,280.0             | 23.99           | 137.00      | 4,958.2             | -1,243.2   | 998.2      | 1,594.2               | 0.00                  | 0.00                 | 0.00                |
| 5,320.0             | 20.51           | 137.00      | 4,994.8             | -1,255.1   | 1,009.3    | 1,610.4               | 2.00                  | -2.00                | 0.00                |
| 5,360.0             | 19.71           | 137.00      | 5,031.4             | -1,267.0   | 1,020.4    | 1,626.6               | 2.00                  | -2.00                | 0.00                |
| 5,400.0             | 18.91           | 137.00      | 5,068.0             | -1,278.9   | 1,031.5    | 1,642.8               | 2.00                  | -2.00                | 0.00                |
| 5,440.0             | 18.11           | 137.00      | 5,104.6             | -1,290.8   | 1,042.6    | 1,659.0               | 2.00                  | -2.00                | 0.00                |
| 5,480.0             | 17.31           | 137.00      | 5,141.2             | -1,302.7   | 1,053.7    | 1,675.2               | 2.00                  | -2.00                | 0.00                |
| 5,520.0             | 16.51           | 137.00      | 5,177.8             | -1,314.6   | 1,064.8    | 1,691.4               | 2.00                  | -2.00                | 0.00                |
| 5,560.0             | 15.71           | 137.00      | 5,214.4             | -1,326.5   | 1,075.9    | 1,707.6               | 2.00                  | -2.00                | 0.00                |
| 5,600.0             | 14.91           | 137.00      | 5,251.0             | -1,338.4   | 1,087.0    | 1,723.8               | 2.00                  | -2.00                | 0.00                |
| 5,640.0             | 14.11           | 137.00      | 5,287.6             | -1,350.3   | 1,098.1    | 1,740.0               | 2.00                  | -2.00                | 0.00                |
| 5,680.0             | 13.31           | 137.00      | 5,324.2             | -1,362.2   | 1,109.2    | 1,756.2               | 2.00                  | -2.00                | 0.00                |
| 5,720.0             | 12.51           | 137.00      | 5,360.8             | -1,374.1   | 1,120.3    | 1,772.4               | 2.00                  | -2.00                | 0.00                |
| 5,760.0             | 11.71           | 137.00      | 5,397.4             | -1,386.0   | 1,131.4    | 1,788.6               | 2.00                  | -2.00                | 0.00                |
| 5,800.0             | 10.91           | 137.00      | 5,434.0             | -1,397.9   | 1,142.5    | 1,804.8               | 2.00                  | -2.00                | 0.00                |
| 5,840.0             | 10.11           | 137.00      | 5,470.6             | -1,409.8   | 1,153.6    | 1,821.0               | 2.00                  | -2.00                | 0.00                |
| 5,880.0             | 9.31            | 137.00      | 5,507.2             | -1,421.7   | 1,164.7    | 1,837.2               | 2.00                  | -2.00                | 0.00                |
| 5,920.0             | 8.51            | 137.00      | 5,543.8             | -1,433.6   | 1,175.8    | 1,853.4               | 2.00                  | -2.00                | 0.00                |
| 5,960.0             | 7.71            | 137.00      | 5,580.4             | -1,445.5   | 1,186.9    | 1,869.6               | 2.00                  | -2.00                | 0.00                |
| 6,000.0             | 6.91            | 137.00      | 5,617.0             | -1,457.4   | 1,198.0    | 1,885.8               | 2.00                  | -2.00                | 0.00                |
| 6,040.0             | 6.11            | 137.00      | 5,653.6             | -1,469.3   | 1,209.1    | 1,902.0               | 2.00                  | -2.00                | 0.00                |
| 6,080.0             | 5.31            | 137.00      | 5,690.2             | -1,481.2   | 1,220.2    | 1,918.2               | 2.00                  | -2.00                | 0.00                |
| 6,120.0             | 4.51            | 137.00      | 5,726.8             | -1,493.1   | 1,231.3    | 1,934.4               | 2.00                  | -2.00                | 0.00                |
| 6,160.0             | 3.71            | 137.00      | 5,763.4             | -1,505.0   | 1,242.4    | 1,950.6               | 2.00                  | -2.00                | 0.00                |

Database: Landmark  
 Company: NOBLE ENERGY INC WELD COUNTY CO  
 Project: SEC.20-T4N-R64W  
 Site: Long C20-18 Pad Sec.20-T4N-R64W  
 Well: Long C20-22D  
 Wellbore: Wellbore #1  
 Design: Noble Long C20-22D Plan #1 (7-06-11)

Local Co-ordinate Reference: Well Long C20-22D  
 TVD Reference: WELL @ 4746.0ft (Original Well Elev)  
 MD Reference: WELL @ 4746.0ft (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) |
|---|-----------------|-------------|---------------------|------------|------------|-----------------------|-----------------------|----------------------|---------------------|
| 6,200.0   | 2.91            | 137.00      | 5,854.7             | -1,381.6   | 1,127.2    | 1,783.1               | 2.00                  | -2.00                | 0.00                |
| 6,240.0   | 2.11            | 137.00      | 5,894.7             | -1,382.9   | 1,128.4    | 1,784.8               | 2.00                  | -2.00                | 0.00                |
| 6,280.0   | 1.31            | 137.00      | 5,934.7             | -1,383.8   | 1,129.2    | 1,786.0               | 2.00                  | -2.00                | 0.00                |
| 6,320.0   | 0.51            | 137.00      | 5,974.6             | -1,384.2   | 1,129.6    | 1,786.7               | 2.00                  | -2.00                | 0.00                |
| 6,345.4   | 0.00            | 0.00        | 6,000.0             | -1,384.3   | 1,129.7    | 1,786.8               | 2.00                  | -2.00                | 0.00                |
| <b>TARGET BHL 2550'FNL, 1320'FEL</b>                    |                 |             |                     |            |            |                       |                       |                      |                     |
| 6,360.0   | 0.00            | 0.00        | 6,014.6             | -1,384.3   | 1,129.7    | 1,786.8               | 0.00                  | 0.00                 | 0.00                |
| 6,400.0   | 0.00            | 0.00        | 6,054.6             | -1,384.3   | 1,129.7    | 1,786.8               | 0.00                  | 0.00                 | 0.00                |
| 6,440.0   | 0.00            | 0.00        | 6,094.6             | -1,384.3   | 1,129.7    | 1,786.8               | 0.00                  | 0.00                 | 0.00                |
| 6,480.0   | 0.00            | 0.00        | 6,134.6             | -1,384.3   | 1,129.7    | 1,786.8               | 0.00                  | 0.00                 | 0.00                |
| 6,520.0   | 0.00            | 0.00        | 6,174.6             | -1,384.3   | 1,129.7    | 1,786.8               | 0.00                  | 0.00                 | 0.00                |
| 6,560.0   | 0.00            | 0.00        | 6,214.6             | -1,384.3   | 1,129.7    | 1,786.8               | 0.00                  | 0.00                 | 0.00                |
| 6,600.0   | 0.00            | 0.00        | 6,254.6             | -1,384.3   | 1,129.7    | 1,786.8               | 0.00                  | 0.00                 | 0.00                |
| 6,640.0   | 0.00            | 0.00        | 6,294.6             | -1,384.3   | 1,129.7    | 1,786.8               | 0.00                  | 0.00                 | 0.00                |
| 6,680.0   | 0.00            | 0.00        | 6,334.6             | -1,384.3   | 1,129.7    | 1,786.8               | 0.00                  | 0.00                 | 0.00                |
| 6,720.0   | 0.00            | 0.00        | 6,374.6             | -1,384.3   | 1,129.7    | 1,786.8               | 0.00                  | 0.00                 | 0.00                |
| 6,760.0   | 0.00            | 0.00        | 6,414.6             | -1,384.3   | 1,129.7    | 1,786.8               | 0.00                  | 0.00                 | 0.00                |
| 6,800.0   | 0.00            | 0.00        | 6,454.6             | -1,384.3   | 1,129.7    | 1,786.8               | 0.00                  | 0.00                 | 0.00                |
| 6,840.0   | 0.00            | 0.00        | 6,494.6             | -1,384.3   | 1,129.7    | 1,786.8               | 0.00                  | 0.00                 | 0.00                |
| 6,880.0   | 0.00            | 0.00        | 6,534.6             | -1,384.3   | 1,129.7    | 1,786.8               | 0.00                  | 0.00                 | 0.00                |
| 6,920.0   | 0.00            | 0.00        | 6,574.6             | -1,384.3   | 1,129.7    | 1,786.8               | 0.00                  | 0.00                 | 0.00                |
| 6,960.0   | 0.00            | 0.00        | 6,614.6             | -1,384.3   | 1,129.7    | 1,786.8               | 0.00                  | 0.00                 | 0.00                |
| 6,971.4   | 0.00            | 0.00        | 6,626.0             | -1,384.3   | 1,129.7    | 1,786.8               | 0.00                  | 0.00                 | 0.00                |
| <b>NIOBRARA - TARGET CIRCLE 2550'FNL &amp; 1320'FEL</b> |                 |             |                     |            |            |                       |                       |                      |                     |
| 7,000.0   | 0.00            | 0.00        | 6,654.6             | -1,384.3   | 1,129.7    | 1,786.8               | 0.00                  | 0.00                 | 0.00                |
| 7,040.0   | 0.00            | 0.00        | 6,694.6             | -1,384.3   | 1,129.7    | 1,786.8               | 0.00                  | 0.00                 | 0.00                |
| 7,080.0   | 0.00            | 0.00        | 6,734.6             | -1,384.3   | 1,129.7    | 1,786.8               | 0.00                  | 0.00                 | 0.00                |
| 7,120.0   | 0.00            | 0.00        | 6,774.6             | -1,384.3   | 1,129.7    | 1,786.8               | 0.00                  | 0.00                 | 0.00                |
| 7,160.0   | 0.00            | 0.00        | 6,814.6             | -1,384.3   | 1,129.7    | 1,786.8               | 0.00                  | 0.00                 | 0.00                |
| 7,200.0   | 0.00            | 0.00        | 6,854.6             | -1,384.3   | 1,129.7    | 1,786.8               | 0.00                  | 0.00                 | 0.00                |
| 7,240.0   | 0.00            | 0.00        | 6,894.6             | -1,384.3   | 1,129.7    | 1,786.8               | 0.00                  | 0.00                 | 0.00                |
| 7,280.0   | 0.00            | 0.00        | 6,934.6             | -1,384.3   | 1,129.7    | 1,786.8               | 0.00                  | 0.00                 | 0.00                |
| 7,281.4   | 0.00            | 0.00        | 6,936.0             | -1,384.3   | 1,129.7    | 1,786.8               | 0.00                  | 0.00                 | 0.00                |
| <b>CODELL</b>   |                 |             |                     |            |            |                       |                       |                      |                     |
| 7,320.0   | 0.00            | 0.00        | 6,974.6             | -1,384.3   | 1,129.7    | 1,786.8               | 0.00                  | 0.00                 | 0.00                |
| 7,360.0   | 0.00            | 0.00        | 7,014.6             | -1,384.3   | 1,129.7    | 1,786.8               | 0.00                  | 0.00                 | 0.00                |
| 7,400.0   | 0.00            | 0.00        | 7,054.6             | -1,384.3   | 1,129.7    | 1,786.8               | 0.00                  | 0.00                 | 0.00                |
| 7,431.4   | 0.00            | 0.00        | 7,086.0             | -1,384.3   | 1,129.7    | 1,786.8               | 0.00                  | 0.00                 | 0.00                |
| <b>HARD LINES 93'S OF BHL</b>                           |                 |             |                     |            |            |                       |                       |                      |                     |

**Database:** Landmark  
**Company:** NOBLE ENERGY INC WELD COUNTY CO  
**Project:** SEC.20-T4N-R64W  
**Site:** Long C20-18 Pad Sec.20-T4N-R64W  
**Well:** Long C20-22D  
**Wellbore:** Wellbore #1  
**Design:** Noble Long C20-22D Plan #1 (7-06-11)

**Local Co-ordinate Reference:** Well Long C20-22D  
**TVD Reference:** WELL @ 4746.0ft (Original Well Elev)  
**MD Reference:** WELL @ 4746.0ft (Original Well Elev)  
**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature

#### Targets

| Target Name<br>- hit/miss target<br>- Shape  | Dip Angle<br>(°) | Dip Dir.<br>(°) | TVD<br>(ft) | +N/-S<br>(ft) | +E/-W<br>(ft) | Northing<br>(ft) | Easting<br>(ft) | Latitude  | Longitude   |
|--|------------------|-----------------|-------------|---------------|---------------|------------------|-----------------|-----------|-------------|
| HARD LINES 93'S OF<br>- plan misses target center by 136.6ft at 7431.4ft MD (7086.0 TVD, -1384.3 N, 1129.7 E)<br>- Polygon | 0.00             | 0.00            | 7,086.0     | -1,477.3      | 1,029.7       | 1,352,734.57     | 3,259,322.17    | 40.297925 | -104.570279 |
| Point 1  |                  |                 | 7,086.0     | 0.0           | 0.0           | 1,352,734.57     | 3,259,322.17    |           |             |
| Point 2  |                  |                 | 7,086.0     | 0.0           | 200.0         | 1,352,736.66     | 3,259,522.15    |           |             |
| TARGET BHL 2550'F<br>- plan hits target center<br>- Point  | 0.00             | 0.00            | 6,000.0     | -1,384.3      | 1,129.7       | 1,352,828.58     | 3,259,421.20    | 40.298180 | -104.569920 |
| TARGET CIRCLE 25'<br>- plan hits target center<br>- Circle (radius 75.0)   | 0.00             | 0.00            | 6,626.0     | -1,384.3      | 1,129.7       | 1,352,828.58     | 3,259,421.20    | 40.298180 | -104.569920 |

#### Casing Points

| Measured<br>Depth<br>(ft) | Vertical<br>Depth<br>(ft) | Name   | Casing<br>Diameter<br>(") | Hole<br>Diameter<br>(") |
|---------------------------|---------------------------|--------|---------------------------|-------------------------|
| 650.0                     | 650.0                     | 8 5/8" | 8-5/8                     | 12-1/4                  |

#### Formations

| Measured<br>Depth<br>(ft) | Vertical<br>Depth<br>(ft) | Name     | Lithology | Dip<br>(°) | Dip<br>Direction<br>(°) |
|---------------------------|---------------------------|----------|-----------|------------|-------------------------|
| 6,971.4                   | 6,626.0                   | NIOBRARA |           | 0.00       |                         |
| 7,281.4                   | 6,936.0                   | CODELL   |           | 0.00       |                         |