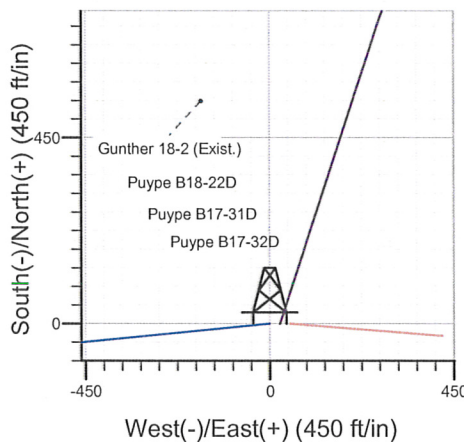
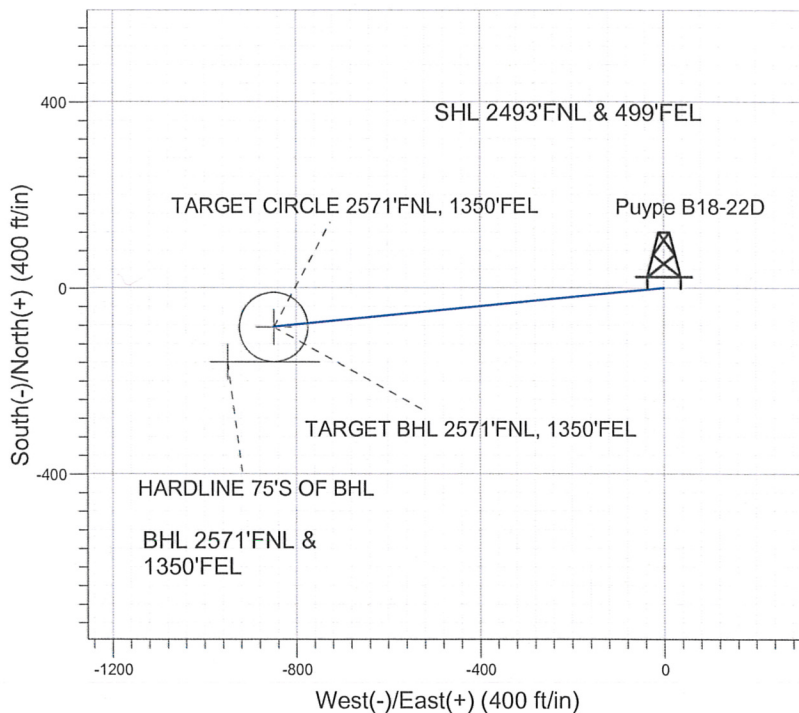
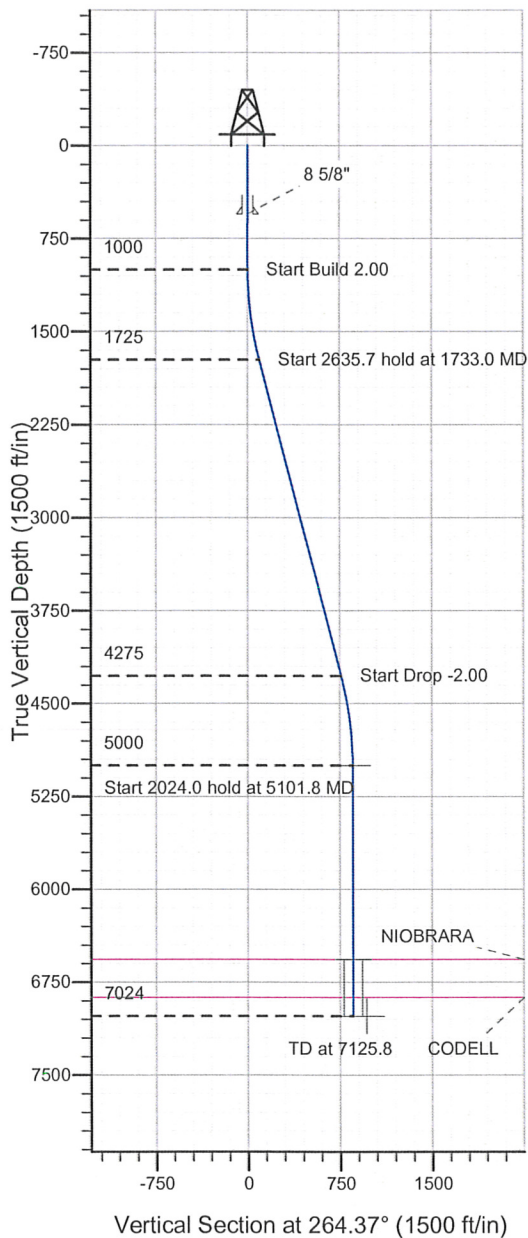


Well Name: **Puype B18-22D**

Surface Location: Puype B18-22D Pad Sec.18-T5N-R64W  
North American Datum 1983 , US State Plane 1983 , Colorado Northern Zone  
Ground Elevation: 4621.0

+N/-S +E/-W Northing Easting Latitude Longitude Slot  
0.0 0.0 1389725.11 3254767.16 40° 23' 58.524 N 104° 35' 6.864 W  
Original Well Elev WELL @ 4634.0ft (Original Well Elev)

### NOBLE ENERGY INC WELD COUNTY CO



Puype B18-22D  
Noble Puype B18-22D Plan #1 (06-04-10)  
12:13, June 07 2010



Azimuths to True North  
Magnetic North: 8.91°  
Magnetic Field  
Strength: 53261.2snT  
Dip Angle: 67.12°  
Date: 6/4/2010  
Model: IGRF2010

#### WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
TARGET BHL 2571'FNL, 1350'FEL	5000.0	-83.8	-849.5	40° 23' 57.696 N	104° 35' 17.844 W	Point
TARGET CIRCLE 2571'FNL, 1350'FEL	6564.0	-83.8	-849.5	40° 23' 57.696 N	104° 35' 17.844 W	Circle (Radius: 75.0)
HARDLINE 75'S OF BHL	7024.0	-158.8	-949.5	40° 23' 56.954 N	104° 35' 19.136 W	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	1000.0	0.00	0.00	1000.0	0.0	0.0	0.00	0.00	0.0	
3	1733.0	14.66	264.37	1725.1	-9.2	-92.8	2.00	264.37	93.3	
4	4368.7	14.66	264.37	4274.9	-74.6	-756.7	0.00	0.00	760.3	
5	5101.8	0.00	0.00	5000.0	-83.8	-849.5	2.00	180.00	853.6	TARGET BHL 2571'FNL, 1350'FEL
6	7125.8	0.00	0.00	7024.0	-83.8	-849.5	0.00	0.00	853.6	



**Directional**

**NOBLE ENERGY INC WELD  
COUNTY CO**

**SEC.18-T5N-R64W**

**Puype B18-22D Pad Sec.18-T5N-R64W**

**Puype B18-22D**

**Wellbore #1**

**Plan: Noble Puype B18-22D Plan #1 (06-04-10)**

**Standard Planning Report**

**07 June, 2010**

**Database:** Landmark  
**Company:** NOBLE ENERGY INC WELD COUNTY CO  
**Project:** SEC.18-T5N-R64W  
**Site:** Puype B18-22D Pad Sec.18-T5N-R64W  
**Well:** Puype B18-22D  
**Wellbore:** Wellbore #1  
**Design:** Noble Puype B18-22D Plan #1 (06-04-10)

**Local Co-ordinate Reference:** Well Puype B18-22D  
**TVD Reference:** WELL @ 4634.0ft (Original Well Elev)  
**MD Reference:** WELL @ 4634.0ft (Original Well Elev)  
**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature

<b>Project</b>	SEC.18-T5N-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

Site	Puype B18-22D Pad Sec.18-T5N-R64W				
Site Position:		Northing:	1,389,725.12 ft	Latitude:	40° 23' 58.524 N
From:	Lat/Long	Easting:	3,254,767.16 ft	Longitude:	104° 35' 6.864 W
Position Uncertainty:	0.0 ft	Slot Radius:	"	Grid Convergence:	0.59 °

Well	Puype B18-22D					
Well Position	+N/-S	0.0 ft	Northing:	1,389,725.11 ft	Latitude:	40° 23' 58.524 N
	+E/-W	0.0 ft	Easting:	3,254,767.16 ft	Longitude:	104° 35' 6.864 W
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,621.0 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	6/4/2010	8.91	67.12	53,261

<b>Design</b>	Noble Puype B18-22D Plan #1 (06-04-10)			
<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	264.37

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	
1,733.0	14.66	264.37	1,725.1	-9.2	-92.8	2.00	2.00	0.00	264.37	
4,368.7	14.66	264.37	4,274.9	-74.6	-756.7	0.00	0.00	0.00	0.00	
5,101.8	0.00	0.00	5,000.0	-83.8	-849.5	2.00	-2.00	0.00	180.00	TARGET BHL 2571
7,125.8	0.00	0.00	7,024.0	-83.8	-849.5	0.00	0.00	0.00	0.00	



Database: Landmark  
Company: NOBLE ENERGY INC WELD COUNTY CO  
Project: SEC.18-T5N-R64W  
Site: Puype B18-22D Pad Sec.18-T5N-R64W  
Well: Puype B18-22D  
Wellbore: Wellbore #1  
Design: Noble Puype B18-22D Plan #1 (06-04-10)

Local Co-ordinate Reference: Well Puype B18-22D  
TVD Reference: WELL @ 4634.0ft (Original Well Elev)  
MD Reference: WELL @ 4634.0ft (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
550.0	0.00	0.00	550.0	0.0	0.0	0.0	0.00	0.00	0.00
8 5/8"									
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	264.37	1,040.0	0.0	-0.3	0.3	2.00	2.00	0.00
1,080.0	1.60	264.37	1,080.0	-0.1	-1.1	1.1	2.00	2.00	0.00
1,120.0	2.40	264.37	1,120.0	-0.2	-2.5	2.5	2.00	2.00	0.00
1,160.0	3.20	264.37	1,159.9	-0.4	-4.4	4.5	2.00	2.00	0.00
1,200.0	4.00	264.37	1,199.8	-0.7	-6.9	7.0	2.00	2.00	0.00
1,240.0	4.80	264.37	1,239.7	-1.0	-10.0	10.0	2.00	2.00	0.00
1,280.0	5.60	264.37	1,279.6	-1.3	-13.6	13.7	2.00	2.00	0.00
1,320.0	6.40	264.37	1,319.3	-1.8	-17.8	17.9	2.00	2.00	0.00
1,360.0	7.20	264.37	1,359.1	-2.2	-22.5	22.6	2.00	2.00	0.00
1,400.0	8.00	264.37	1,398.7	-2.7	-27.7	27.9	2.00	2.00	0.00
1,440.0	8.80	264.37	1,438.3	-3.3	-33.6	33.7	2.00	2.00	0.00
1,480.0	9.60	264.37	1,477.8	-3.9	-39.9	40.1	2.00	2.00	0.00
1,520.0	10.40	264.37	1,517.1	-4.6	-46.8	47.1	2.00	2.00	0.00
1,560.0	11.20	264.37	1,556.4	-5.4	-54.3	54.6	2.00	2.00	0.00
1,600.0	12.00	264.37	1,595.6	-6.1	-62.3	62.6	2.00	2.00	0.00
1,640.0	12.80	264.37	1,634.7	-7.0	-70.8	71.2	2.00	2.00	0.00
1,680.0	13.60	264.37	1,673.6	-7.9	-79.9	80.3	2.00	2.00	0.00
1,720.0	14.40	264.37	1,712.4	-8.8	-89.6	90.0	2.00	2.00	0.00
1,733.0	14.66	264.37	1,725.1	-9.2	-92.8	93.3	2.00	2.00	0.00
1,760.0	14.66	264.37	1,751.1	-9.8	-99.6	100.1	0.00	0.00	0.00
1,800.0	14.66	264.37	1,789.8	-10.8	-109.7	110.2	0.00	0.00	0.00
1,840.0	14.66	264.37	1,828.5	-11.8	-119.8	120.3	0.00	0.00	0.00
1,880.0	14.66	264.37	1,867.2	-12.8	-129.8	130.5	0.00	0.00	0.00
1,920.0	14.66	264.37	1,905.9	-13.8	-139.9	140.6	0.00	0.00	0.00
1,960.0	14.66	264.37	1,944.6	-14.8	-150.0	150.7	0.00	0.00	0.00
2,000.0	14.66	264.37	1,983.3	-15.8	-160.1	160.8	0.00	0.00	0.00



Database: Landmark  
Company: NOBLE ENERGY INC WELD COUNTY CO  
Project: SEC.18-T5N-R64W  
Site: Puype B18-22D Pad Sec.18-T5N-R64W  
Well: Puype B18-22D  
Wellbore: Wellbore #1  
Design: Noble Puype B18-22D Plan #1 (06-04-10)

Local Co-ordinate Reference: Well Puype B18-22D  
TVD Reference: WELL @ 4634.0ft (Original Well Elev)  
MD Reference: WELL @ 4634.0ft (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)
2,040.0	14.66	264.37	2,022.0	-16.8	-170.1	171.0	0.00	0.00	0.00
2,080.0	14.66	264.37	2,060.7	-17.8	-180.2	181.1	0.00	0.00	0.00
2,120.0	14.66	264.37	2,099.4	-18.8	-190.3	191.2	0.00	0.00	0.00
2,160.0	14.66	264.37	2,138.1	-19.8	-200.4	201.3	0.00	0.00	0.00
2,200.0	14.66	264.37	2,176.8	-20.8	-210.4	211.5	0.00	0.00	0.00
2,240.0	14.66	264.37	2,215.5	-21.7	-220.5	221.6	0.00	0.00	0.00
2,280.0	14.66	264.37	2,254.2	-22.7	-230.6	231.7	0.00	0.00	0.00
2,320.0	14.66	264.37	2,292.9	-23.7	-240.7	241.8	0.00	0.00	0.00
2,360.0	14.66	264.37	2,331.6	-24.7	-250.7	252.0	0.00	0.00	0.00
2,400.0	14.66	264.37	2,370.3	-25.7	-260.8	262.1	0.00	0.00	0.00
2,440.0	14.66	264.37	2,409.0	-26.7	-270.9	272.2	0.00	0.00	0.00
2,480.0	14.66	264.37	2,447.7	-27.7	-281.0	282.3	0.00	0.00	0.00
2,520.0	14.66	264.37	2,486.4	-28.7	-291.0	292.4	0.00	0.00	0.00
2,560.0	14.66	264.37	2,525.1	-29.7	-301.1	302.6	0.00	0.00	0.00
2,600.0	14.66	264.37	2,563.8	-30.7	-311.2	312.7	0.00	0.00	0.00
2,640.0	14.66	264.37	2,602.5	-31.7	-321.3	322.8	0.00	0.00	0.00
2,680.0	14.66	264.37	2,641.2	-32.7	-331.3	332.9	0.00	0.00	0.00
2,720.0	14.66	264.37	2,679.9	-33.7	-341.4	343.1	0.00	0.00	0.00
2,760.0	14.66	264.37	2,718.6	-34.7	-351.5	353.2	0.00	0.00	0.00
2,800.0	14.66	264.37	2,757.3	-35.7	-361.6	363.3	0.00	0.00	0.00
2,840.0	14.66	264.37	2,796.0	-36.6	-371.6	373.4	0.00	0.00	0.00
2,880.0	14.66	264.37	2,834.7	-37.6	-381.7	383.6	0.00	0.00	0.00
2,920.0	14.66	264.37	2,873.4	-38.6	-391.8	393.7	0.00	0.00	0.00
2,960.0	14.66	264.37	2,912.1	-39.6	-401.9	403.8	0.00	0.00	0.00
3,000.0	14.66	264.37	2,950.8	-40.6	-411.9	413.9	0.00	0.00	0.00
3,040.0	14.66	264.37	2,989.5	-41.6	-422.0	424.1	0.00	0.00	0.00
3,080.0	14.66	264.37	3,028.2	-42.6	-432.1	434.2	0.00	0.00	0.00
3,120.0	14.66	264.37	3,066.9	-43.6	-442.2	444.3	0.00	0.00	0.00
3,160.0	14.66	264.37	3,105.6	-44.6	-452.2	454.4	0.00	0.00	0.00
3,200.0	14.66	264.37	3,144.3	-45.6	-462.3	464.6	0.00	0.00	0.00
3,240.0	14.66	264.37	3,183.0	-46.6	-472.4	474.7	0.00	0.00	0.00
3,280.0	14.66	264.37	3,221.7	-47.6	-482.5	484.8	0.00	0.00	0.00
3,320.0	14.66	264.37	3,260.4	-48.6	-492.5	494.9	0.00	0.00	0.00
3,360.0	14.66	264.37	3,299.1	-49.6	-502.6	505.0	0.00	0.00	0.00
3,400.0	14.66	264.37	3,337.8	-50.6	-512.7	515.2	0.00	0.00	0.00
3,440.0	14.66	264.37	3,376.5	-51.5	-522.8	525.3	0.00	0.00	0.00
3,480.0	14.66	264.37	3,415.1	-52.5	-532.8	535.4	0.00	0.00	0.00
3,520.0	14.66	264.37	3,453.8	-53.5	-542.9	545.5	0.00	0.00	0.00
3,560.0	14.66	264.37	3,492.5	-54.5	-553.0	555.7	0.00	0.00	0.00
3,600.0	14.66	264.37	3,531.2	-55.5	-563.1	565.8	0.00	0.00	0.00
3,640.0	14.66	264.37	3,569.9	-56.5	-573.1	575.9	0.00	0.00	0.00
3,680.0	14.66	264.37	3,608.6	-57.5	-583.2	586.0	0.00	0.00	0.00
3,720.0	14.66	264.37	3,647.3	-58.5	-593.3	596.2	0.00	0.00	0.00
3,760.0	14.66	264.37	3,686.0	-59.5	-603.4	606.3	0.00	0.00	0.00
3,800.0	14.66	264.37	3,724.7	-60.5	-613.4	616.4	0.00	0.00	0.00
3,840.0	14.66	264.37	3,763.4	-61.5	-623.5	626.5	0.00	0.00	0.00
3,880.0	14.66	264.37	3,802.1	-62.5	-633.6	636.7	0.00	0.00	0.00
3,920.0	14.66	264.37	3,840.8	-63.5	-643.7	646.8	0.00	0.00	0.00
3,960.0	14.66	264.37	3,879.5	-64.5	-653.7	656.9	0.00	0.00	0.00
4,000.0	14.66	264.37	3,918.2	-65.5	-663.8	667.0	0.00	0.00	0.00
4,040.0	14.66	264.37	3,956.9	-66.5	-673.9	677.1	0.00	0.00	0.00
4,080.0	14.66	264.37	3,995.6	-67.4	-684.0	687.3	0.00	0.00	0.00
4,120.0	14.66	264.37	4,034.3	-68.4	-694.0	697.4	0.00	0.00	0.00
4,160.0	14.66	264.37	4,073.0	-69.4	-704.1	707.5	0.00	0.00	0.00

Database: Landmark  
Company: NOBLE ENERGY INC WELD COUNTY CO  
Project: SEC.18-T5N-R64W  
Site: Puype B18-22D Pad Sec.18-T5N-R64W  
Well: Puype B18-22D  
Wellbore: Wellbore #1  
Design: Noble Puype B18-22D Plan #1 (06-04-10)

Local Co-ordinate Reference: Well Puype B18-22D  
TVD Reference: WELL @ 4634.0ft (Original Well Elev)  
MD Reference: WELL @ 4634.0ft (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	14.66	264.37	4,111.7	-70.4	-714.2	717.6	0.00	0.00	0.00
4,240.0	14.66	264.37	4,150.4	-71.4	-724.3	727.8	0.00	0.00	0.00
4,280.0	14.66	264.37	4,189.1	-72.4	-734.3	737.9	0.00	0.00	0.00
4,320.0	14.66	264.37	4,227.8	-73.4	-744.4	748.0	0.00	0.00	0.00
4,360.0	14.66	264.37	4,266.5	-74.4	-754.5	758.1	0.00	0.00	0.00
4,368.7	14.66	264.37	4,274.9	-74.6	-756.7	760.3	0.00	0.00	0.00
4,400.0	14.04	264.37	4,305.2	-75.4	-764.4	768.1	2.00	-2.00	0.00
4,440.0	13.24	264.37	4,344.1	-76.3	-773.8	777.5	2.00	-2.00	0.00
4,480.0	12.44	264.37	4,383.1	-77.2	-782.6	786.4	2.00	-2.00	0.00
4,520.0	11.64	264.37	4,422.2	-78.0	-790.9	794.8	2.00	-2.00	0.00
4,560.0	10.84	264.37	4,461.5	-78.8	-798.7	802.5	2.00	-2.00	0.00
4,600.0	10.04	264.37	4,500.8	-79.5	-805.9	809.8	2.00	-2.00	0.00
4,640.0	9.24	264.37	4,540.2	-80.1	-812.5	816.5	2.00	-2.00	0.00
4,680.0	8.44	264.37	4,579.8	-80.7	-818.7	822.6	2.00	-2.00	0.00
4,720.0	7.64	264.37	4,619.4	-81.3	-824.2	828.2	2.00	-2.00	0.00
4,760.0	6.84	264.37	4,659.1	-81.8	-829.2	833.3	2.00	-2.00	0.00
4,800.0	6.04	264.37	4,698.8	-82.2	-833.7	837.7	2.00	-2.00	0.00
4,840.0	5.24	264.37	4,738.6	-82.6	-837.6	841.7	2.00	-2.00	0.00
4,880.0	4.44	264.37	4,778.5	-82.9	-841.0	845.0	2.00	-2.00	0.00
4,920.0	3.64	264.37	4,818.4	-83.2	-843.8	847.9	2.00	-2.00	0.00
4,960.0	2.84	264.37	4,858.3	-83.4	-846.0	850.1	2.00	-2.00	0.00
5,000.0	2.04	264.37	4,898.3	-83.6	-847.7	851.8	2.00	-2.00	0.00
5,040.0	1.24	264.37	4,938.2	-83.7	-848.8	853.0	2.00	-2.00	0.00
5,080.0	0.44	264.37	4,978.2	-83.8	-849.4	853.5	2.00	-2.00	0.00
5,101.8	0.00	0.00	5,000.0	-83.8	-849.5	853.6	2.00	-2.00	0.00
TARGET BHL 2571'FNL, 1350'FEL									
5,120.0	0.00	0.00	5,018.2	-83.8	-849.5	853.6	0.00	0.00	0.00
5,160.0	0.00	0.00	5,058.2	-83.8	-849.5	853.6	0.00	0.00	0.00
5,200.0	0.00	0.00	5,098.2	-83.8	-849.5	853.6	0.00	0.00	0.00
5,240.0	0.00	0.00	5,138.2	-83.8	-849.5	853.6	0.00	0.00	0.00
5,280.0	0.00	0.00	5,178.2	-83.8	-849.5	853.6	0.00	0.00	0.00
5,320.0	0.00	0.00	5,218.2	-83.8	-849.5	853.6	0.00	0.00	0.00
5,360.0	0.00	0.00	5,258.2	-83.8	-849.5	853.6	0.00	0.00	0.00
5,400.0	0.00	0.00	5,298.2	-83.8	-849.5	853.6	0.00	0.00	0.00
5,440.0	0.00	0.00	5,338.2	-83.8	-849.5	853.6	0.00	0.00	0.00
5,480.0	0.00	0.00	5,378.2	-83.8	-849.5	853.6	0.00	0.00	0.00
5,520.0	0.00	0.00	5,418.2	-83.8	-849.5	853.6	0.00	0.00	0.00
5,560.0	0.00	0.00	5,458.2	-83.8	-849.5	853.6	0.00	0.00	0.00
5,600.0	0.00	0.00	5,498.2	-83.8	-849.5	853.6	0.00	0.00	0.00
5,640.0	0.00	0.00	5,538.2	-83.8	-849.5	853.6	0.00	0.00	0.00
5,680.0	0.00	0.00	5,578.2	-83.8	-849.5	853.6	0.00	0.00	0.00
5,720.0	0.00	0.00	5,618.2	-83.8	-849.5	853.6	0.00	0.00	0.00
5,760.0	0.00	0.00	5,658.2	-83.8	-849.5	853.6	0.00	0.00	0.00
5,800.0	0.00	0.00	5,698.2	-83.8	-849.5	853.6	0.00	0.00	0.00
5,840.0	0.00	0.00	5,738.2	-83.8	-849.5	853.6	0.00	0.00	0.00
5,880.0	0.00	0.00	5,778.2	-83.8	-849.5	853.6	0.00	0.00	0.00
5,920.0	0.00	0.00	5,818.2	-83.8	-849.5	853.6	0.00	0.00	0.00
5,960.0	0.00	0.00	5,858.2	-83.8	-849.5	853.6	0.00	0.00	0.00
6,000.0	0.00	0.00	5,898.2	-83.8	-849.5	853.6	0.00	0.00	0.00
6,040.0	0.00	0.00	5,938.2	-83.8	-849.5	853.6	0.00	0.00	0.00
6,080.0	0.00	0.00	5,978.2	-83.8	-849.5	853.6	0.00	0.00	0.00
6,120.0	0.00	0.00	6,018.2	-83.8	-849.5	853.6	0.00	0.00	0.00
6,160.0	0.00	0.00	6,058.2	-83.8	-849.5	853.6	0.00	0.00	0.00
6,200.0	0.00	0.00	6,098.2	-83.8	-849.5	853.6	0.00	0.00	0.00



**Database:** Landmark  
**Company:** NOBLE ENERGY INC WELD COUNTY CO  
**Project:** SEC.18-T5N-R64W  
**Site:** Puype B18-22D Pad Sec.18-T5N-R64W  
**Well:** Puype B18-22D  
**Wellbore:** Wellbore #1  
**Design:** Noble Puype B18-22D Plan #1 (06-04-10)

**Local Co-ordinate Reference:** Well Puype B18-22D  
**TVD Reference:** WELL @ 4634.0ft (Original Well Elev)  
**MD Reference:** WELL @ 4634.0ft (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	6,138.2	-83.8	-849.5	853.6	0.00	0.00	0.00
6,280.0	0.00	0.00	6,178.2	-83.8	-849.5	853.6	0.00	0.00	0.00
6,320.0	0.00	0.00	6,218.2	-83.8	-849.5	853.6	0.00	0.00	0.00
6,360.0	0.00	0.00	6,258.2	-83.8	-849.5	853.6	0.00	0.00	0.00
6,400.0	0.00	0.00	6,298.2	-83.8	-849.5	853.6	0.00	0.00	0.00
6,440.0	0.00	0.00	6,338.2	-83.8	-849.5	853.6	0.00	0.00	0.00
6,480.0	0.00	0.00	6,378.2	-83.8	-849.5	853.6	0.00	0.00	0.00
6,520.0	0.00	0.00	6,418.2	-83.8	-849.5	853.6	0.00	0.00	0.00
6,560.0	0.00	0.00	6,458.2	-83.8	-849.5	853.6	0.00	0.00	0.00
6,600.0	0.00	0.00	6,498.2	-83.8	-849.5	853.6	0.00	0.00	0.00
6,640.0	0.00	0.00	6,538.2	-83.8	-849.5	853.6	0.00	0.00	0.00
6,665.8	0.00	0.00	6,564.0	-83.8	-849.5	853.6	0.00	0.00	0.00
<b>NIOBRARA - TARGET CIRCLE 2571'FNL, 1350'FEL</b>									
6,680.0	0.00	0.00	6,578.2	-83.8	-849.5	853.6	0.00	0.00	0.00
6,720.0	0.00	0.00	6,618.2	-83.8	-849.5	853.6	0.00	0.00	0.00
6,760.0	0.00	0.00	6,658.2	-83.8	-849.5	853.6	0.00	0.00	0.00
6,800.0	0.00	0.00	6,698.2	-83.8	-849.5	853.6	0.00	0.00	0.00
6,840.0	0.00	0.00	6,738.2	-83.8	-849.5	853.6	0.00	0.00	0.00
6,880.0	0.00	0.00	6,778.2	-83.8	-849.5	853.6	0.00	0.00	0.00
6,920.0	0.00	0.00	6,818.2	-83.8	-849.5	853.6	0.00	0.00	0.00
6,960.0	0.00	0.00	6,858.2	-83.8	-849.5	853.6	0.00	0.00	0.00
6,975.8	0.00	0.00	6,874.0	-83.8	-849.5	853.6	0.00	0.00	0.00
<b>CODELL</b>									
7,000.0	0.00	0.00	6,898.2	-83.8	-849.5	853.6	0.00	0.00	0.00
7,040.0	0.00	0.00	6,938.2	-83.8	-849.5	853.6	0.00	0.00	0.00
7,080.0	0.00	0.00	6,978.2	-83.8	-849.5	853.6	0.00	0.00	0.00
7,120.0	0.00	0.00	7,018.2	-83.8	-849.5	853.6	0.00	0.00	0.00
7,125.8	0.00	0.00	7,024.0	-83.8	-849.5	853.6	0.00	0.00	0.00
<b>HARDLINE 75'S OF BHL</b>									

### 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 CIRCLE 2571'	0.00	0.00	6,564.0	-83.8	-849.5	1,389,632.55	3,253,918.60	40° 23' 57.696 N	104° 35' 17.844 W
- plan hits target									
- Circle (radius 75.0)									
HARDLINE 75'S OF E	0.00	0.00	7,024.0	-158.8	-949.5	1,389,556.53	3,253,819.38	40° 23' 56.954 N	104° 35' 19.136 W
- plan misses by 125.0ft at 7125.8ft MD (7024.0 TVD, -83.8 N, -849.5 E)									
- Polygon									
Point 1			7,024.0	0.0	0.0	1,389,556.53	3,253,819.38		
Point 2			7,024.0	0.0	200.0	1,389,558.59	3,254,019.37		
TARGET BHL 2571'F	0.00	0.00	5,000.0	-83.8	-849.5	1,389,632.58	3,253,918.60	40° 23' 57.696 N	104° 35' 17.844 W
- plan hits target									
- Point									

**Database:** Landmark  
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**Local Co-ordinate Reference:** Well Puype B18-22D  
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**MD Reference:** WELL @ 4634.0ft (Original Well Elev)  
**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature

### Casing Points

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")
550.0	550.0	8 5/8"	8-5/8	12-1/4

### Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
6,665.8	6,564.0	NIOBRARA		0.00	
6,975.8	6,874.0	CODELL		0.00	