

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	1742.6	14.85	160.52	1734.3	-90.2	31.9	2.00	160.52	95.7	
4	4568.4	14.85	160.52	4465.7	-773.1	273.4	0.00	0.00	820.0	
5	5311.0	0.00	0.00	5200.0	-863.3	305.4	2.00	180.00	915.7	TARGET BHL 1275'FSL, 100'FWL
6	7711.0	0.00	0.00	7600.0	-863.3	305.4	0.00	0.00	915.7	



## **Directional**

### **NOBLE ENERGY INC WELD COUNTY CO**

**SEC.26-T5N-R67W**

**Booth N25-33D Pad Sec.26-T5N-R67W**

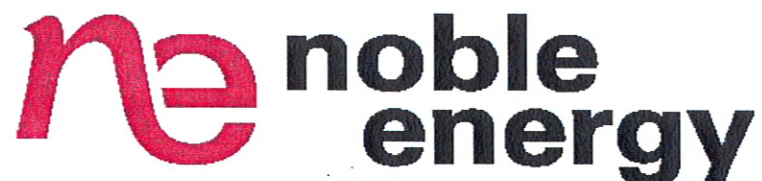
**Booth N25-33D**

**Wellbore #1**

**Plan: Noble Booth N25-33D Plan #1 (02-23-10)**

### **Standard Planning Report**

**23 February, 2010**





**Database:** EDM den0-adp01 Server Data  
**Company:** NOBLE ENERGY INC WELD COUNTY CO  
**Project:** SEC.26-T5N-R67W  
**Site:** Booth N25-33D Pad Sec.26-T5N-R67W  
**Well:** Booth N25-33D  
**Wellbore:** Wellbore #1  
**Design:** Noble Booth N25-33D Plan #1 (02-23-10)

**Local Co-ordinate Reference:** Well Booth N25-33D  
**TVD Reference:** WELL @ 4960.0ft (Original Well Elev)  
**MD Reference:** WELL @ 4960.0ft (Original Well Elev)  
**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature

<b>Project</b>	SEC.26-T5N-R67W, 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		
<b>Map Zone:</b>	Colorado Northern Zone		Using geodetic scale factor

Site	Booth N25-33D Pad Sec.26-T5N-R67W				
Site Position:		Northing:	1,377,960.32 ft	Latitude:	40° 22' 8.724 N
From:	Lat/Long	Easting:	3,180,636.19 ft	Longitude:	104° 51' 6.156 W
Position Uncertainty:	0.0 ft	Slot Radius:	"	Grid Convergence:	0.42 °

Well	Booth N25-33D					
Well Position	+N/-S	0.0 ft	Northing:	1,377,960.31 ft	Latitude:	40° 22' 8.724 N
	+E/-W	0.0 ft	Easting:	3,180,636.19 ft	Longitude:	104° 51' 6.156 W
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,947.0 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>
	IGRF200510	12/31/2009	9.07	67.07	53,278

**Design** Noble Booth N25-33D Plan #1 (02-23-10)

**Audit Notes:**  
**Version:** Phase: PROTOTYPE Tie On Depth: 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	160.52

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	
1,742.6	14.85	160.52	1,734.3	-90.2	31.9	2.00	2.00	0.00	160.52	
4,568.4	14.85	160.52	4,465.7	-773.1	273.4	0.00	0.00	0.00	0.00	
5,311.0	0.00	0.00	5,200.0	-863.3	305.4	2.00	-2.00	0.00	180.00	TARGET BHL 1275
7,711.0	0.00	0.00	7,600.0	-863.3	305.4	0.00	0.00	0.00	0.00	



**Database:** EDM den0-adp01 Server Data  
**Company:** NOBLE ENERGY INC WELD COUNTY CO  
**Project:** SEC.26-T5N-R67W  
**Site:** Booth N25-33D Pad Sec.26-T5N-R67W  
**Well:** Booth N25-33D  
**Wellbore:** Wellbore #1  
**Design:** Noble Booth N25-33D Plan #1 (02-23-10)

**Local Co-ordinate Reference:** Well Booth N25-33D  
**TVD Reference:** WELL @ 4960.0ft (Original Well Elev)  
**MD Reference:** WELL @ 4960.0ft (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	160.52	1,040.0	-0.3	0.1	0.3	2.00	2.00	0.00
1,080.0	1.60	160.52	1,080.0	-1.1	0.4	1.1	2.00	2.00	0.00
1,120.0	2.40	160.52	1,120.0	-2.4	0.8	2.5	2.00	2.00	0.00
1,160.0	3.20	160.52	1,159.9	-4.2	1.5	4.5	2.00	2.00	0.00
1,200.0	4.00	160.52	1,199.8	-6.6	2.3	7.0	2.00	2.00	0.00
1,240.0	4.80	160.52	1,239.7	-9.5	3.4	10.0	2.00	2.00	0.00
1,280.0	5.60	160.52	1,279.6	-12.9	4.6	13.7	2.00	2.00	0.00
1,320.0	6.40	160.52	1,319.3	-16.8	6.0	17.9	2.00	2.00	0.00
1,360.0	7.20	160.52	1,359.1	-21.3	7.5	22.6	2.00	2.00	0.00
1,400.0	8.00	160.52	1,398.7	-26.3	9.3	27.9	2.00	2.00	0.00
1,440.0	8.80	160.52	1,438.3	-31.8	11.2	33.7	2.00	2.00	0.00
1,480.0	9.60	160.52	1,477.8	-37.8	13.4	40.1	2.00	2.00	0.00
1,520.0	10.40	160.52	1,517.1	-44.4	15.7	47.1	2.00	2.00	0.00
1,560.0	11.20	160.52	1,556.4	-51.4	18.2	54.6	2.00	2.00	0.00
1,600.0	12.00	160.52	1,595.6	-59.0	20.9	62.6	2.00	2.00	0.00
1,640.0	12.80	160.52	1,634.7	-67.1	23.7	71.2	2.00	2.00	0.00
1,680.0	13.60	160.52	1,673.6	-75.7	26.8	80.3	2.00	2.00	0.00
1,720.0	14.40	160.52	1,712.4	-84.9	30.0	90.0	2.00	2.00	0.00
1,742.6	14.85	160.52	1,734.3	-90.2	31.9	95.7	2.00	2.00	0.00
1,760.0	14.85	160.52	1,751.1	-94.4	33.4	100.2	0.00	0.00	0.00
1,800.0	14.85	160.52	1,789.8	-104.1	36.8	110.4	0.00	0.00	0.00
1,840.0	14.85	160.52	1,828.5	-113.8	40.2	120.7	0.00	0.00	0.00
1,880.0	14.85	160.52	1,867.1	-123.4	43.7	130.9	0.00	0.00	0.00
1,920.0	14.85	160.52	1,905.8	-133.1	47.1	141.2	0.00	0.00	0.00
1,960.0	14.85	160.52	1,944.4	-142.8	50.5	151.4	0.00	0.00	0.00
2,000.0	14.85	160.52	1,983.1	-152.4	53.9	161.7	0.00	0.00	0.00
2,040.0	14.85	160.52	2,021.8	-162.1	57.3	171.9	0.00	0.00	0.00
2,080.0	14.85	160.52	2,060.4	-171.8	60.8	182.2	0.00	0.00	0.00



Database:	EDM den0-adp01 Server Data	Local Co-ordinate Reference:	Well Booth N25-33D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4960.0ft (Original Well Elev)
Project:	SEC.26-T5N-R67W	MD Reference:	WELL @ 4960.0ft (Original Well Elev)
Site:	Booth N25-33D Pad Sec.26-T5N-R67W	North Reference:	True
Well:	Booth N25-33D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Booth N25-33D Plan #1 (02-23-10)		

**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)
2,120.0	14.85	160.52	2,099.1	-181.4	64.2	192.4	0.00	0.00	0.00
2,160.0	14.85	160.52	2,137.8	-191.1	67.6	202.7	0.00	0.00	0.00
2,200.0	14.85	160.52	2,176.4	-200.8	71.0	212.9	0.00	0.00	0.00
2,240.0	14.85	160.52	2,215.1	-210.4	74.4	223.2	0.00	0.00	0.00
2,280.0	14.85	160.52	2,253.8	-220.1	77.9	233.4	0.00	0.00	0.00
2,320.0	14.85	160.52	2,292.4	-229.8	81.3	243.7	0.00	0.00	0.00
2,360.0	14.85	160.52	2,331.1	-239.4	84.7	254.0	0.00	0.00	0.00
2,400.0	14.85	160.52	2,369.8	-249.1	88.1	264.2	0.00	0.00	0.00
2,440.0	14.85	160.52	2,408.4	-258.7	91.5	274.5	0.00	0.00	0.00
2,480.0	14.85	160.52	2,447.1	-268.4	94.9	284.7	0.00	0.00	0.00
2,520.0	14.85	160.52	2,485.7	-278.1	98.4	295.0	0.00	0.00	0.00
2,560.0	14.85	160.52	2,524.4	-287.7	101.8	305.2	0.00	0.00	0.00
2,600.0	14.85	160.52	2,563.1	-297.4	105.2	315.5	0.00	0.00	0.00
2,640.0	14.85	160.52	2,601.7	-307.1	108.6	325.7	0.00	0.00	0.00
2,680.0	14.85	160.52	2,640.4	-316.7	112.0	336.0	0.00	0.00	0.00
2,720.0	14.85	160.52	2,679.1	-326.4	115.5	346.2	0.00	0.00	0.00
2,760.0	14.85	160.52	2,717.7	-336.1	118.9	356.5	0.00	0.00	0.00
2,800.0	14.85	160.52	2,756.4	-345.7	122.3	366.7	0.00	0.00	0.00
2,840.0	14.85	160.52	2,795.1	-355.4	125.7	377.0	0.00	0.00	0.00
2,880.0	14.85	160.52	2,833.7	-365.1	129.1	387.2	0.00	0.00	0.00
2,920.0	14.85	160.52	2,872.4	-374.7	132.6	397.5	0.00	0.00	0.00
2,960.0	14.85	160.52	2,911.0	-384.4	136.0	407.7	0.00	0.00	0.00
3,000.0	14.85	160.52	2,949.7	-394.1	139.4	418.0	0.00	0.00	0.00
3,040.0	14.85	160.52	2,988.4	-403.7	142.8	428.2	0.00	0.00	0.00
3,080.0	14.85	160.52	3,027.0	-413.4	146.2	438.5	0.00	0.00	0.00
3,120.0	14.85	160.52	3,065.7	-423.1	149.6	448.7	0.00	0.00	0.00
3,160.0	14.85	160.52	3,104.4	-432.7	153.1	459.0	0.00	0.00	0.00
3,200.0	14.85	160.52	3,143.0	-442.4	156.5	469.3	0.00	0.00	0.00
3,240.0	14.85	160.52	3,181.7	-452.1	159.9	479.5	0.00	0.00	0.00
3,280.0	14.85	160.52	3,220.4	-461.7	163.3	489.8	0.00	0.00	0.00
3,320.0	14.85	160.52	3,259.0	-471.4	166.7	500.0	0.00	0.00	0.00
3,360.0	14.85	160.52	3,297.7	-481.1	170.2	510.3	0.00	0.00	0.00
3,400.0	14.85	160.52	3,336.3	-490.7	173.6	520.5	0.00	0.00	0.00
3,440.0	14.85	160.52	3,375.0	-500.4	177.0	530.8	0.00	0.00	0.00
3,480.0	14.85	160.52	3,413.7	-510.1	180.4	541.0	0.00	0.00	0.00
3,520.0	14.85	160.52	3,452.3	-519.7	183.8	551.3	0.00	0.00	0.00
3,560.0	14.85	160.52	3,491.0	-529.4	187.3	561.5	0.00	0.00	0.00
3,600.0	14.85	160.52	3,529.7	-539.0	190.7	571.8	0.00	0.00	0.00
3,640.0	14.85	160.52	3,568.3	-548.7	194.1	582.0	0.00	0.00	0.00
3,680.0	14.85	160.52	3,607.0	-558.4	197.5	592.3	0.00	0.00	0.00
3,720.0	14.85	160.52	3,645.7	-568.0	200.9	602.5	0.00	0.00	0.00
3,760.0	14.85	160.52	3,684.3	-577.7	204.4	612.8	0.00	0.00	0.00
3,800.0	14.85	160.52	3,723.0	-587.4	207.8	623.0	0.00	0.00	0.00
3,840.0	14.85	160.52	3,761.6	-597.0	211.2	633.3	0.00	0.00	0.00
3,880.0	14.85	160.52	3,800.3	-606.7	214.6	643.5	0.00	0.00	0.00
3,920.0	14.85	160.52	3,839.0	-616.4	218.0	653.8	0.00	0.00	0.00
3,960.0	14.85	160.52	3,877.6	-626.0	221.4	664.0	0.00	0.00	0.00
4,000.0	14.85	160.52	3,916.3	-635.7	224.9	674.3	0.00	0.00	0.00
4,040.0	14.85	160.52	3,955.0	-645.4	228.3	684.6	0.00	0.00	0.00
4,080.0	14.85	160.52	3,993.6	-655.0	231.7	694.8	0.00	0.00	0.00
4,120.0	14.85	160.52	4,032.3	-664.7	235.1	705.1	0.00	0.00	0.00
4,160.0	14.85	160.52	4,071.0	-674.4	238.5	715.3	0.00	0.00	0.00
4,200.0	14.85	160.52	4,109.6	-684.0	242.0	725.6	0.00	0.00	0.00
4,240.0	14.85	160.52	4,148.3	-693.7	245.4	735.8	0.00	0.00	0.00



Database: EDM den0-adp01 Server Data  
 Company: NOBLE ENERGY INC WELD COUNTY CO  
 Project: SEC.26-T5N-R67W  
 Site: Booth N25-33D Pad Sec.26-T5N-R67W  
 Well: Booth N25-33D  
 Wellbore: Wellbore #1  
 Design: Noble Booth N25-33D Plan #1 (02-23-10)

Local Co-ordinate Reference: Well Booth N25-33D  
 TVD Reference: WELL @ 4960.0ft (Original Well Elev)  
 MD Reference: WELL @ 4960.0ft (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)
4,280.0	14.85	160.52	4,186.9	-703.4	248.8	746.1	0.00	0.00	0.00
4,320.0	14.85	160.52	4,225.6	-713.0	252.2	756.3	0.00	0.00	0.00
4,360.0	14.85	160.52	4,264.3	-722.7	255.6	766.6	0.00	0.00	0.00
4,400.0	14.85	160.52	4,302.9	-732.4	259.1	776.8	0.00	0.00	0.00
4,440.0	14.85	160.52	4,341.6	-742.0	262.5	787.1	0.00	0.00	0.00
4,480.0	14.85	160.52	4,380.3	-751.7	265.9	797.3	0.00	0.00	0.00
4,520.0	14.85	160.52	4,418.9	-761.4	269.3	807.6	0.00	0.00	0.00
4,560.0	14.85	160.52	4,457.6	-771.0	272.7	817.8	0.00	0.00	0.00
4,568.4	14.85	160.52	4,465.7	-773.1	273.4	820.0	0.00	0.00	0.00
4,600.0	14.22	160.52	4,496.3	-780.5	276.1	827.9	2.00	-2.00	0.00
4,640.0	13.42	160.52	4,535.1	-789.5	279.3	837.5	2.00	-2.00	0.00
4,680.0	12.62	160.52	4,574.1	-798.0	282.3	846.5	2.00	-2.00	0.00
4,720.0	11.82	160.52	4,613.2	-806.0	285.1	855.0	2.00	-2.00	0.00
4,760.0	11.02	160.52	4,652.4	-813.5	287.7	862.9	2.00	-2.00	0.00
4,800.0	10.22	160.52	4,691.7	-820.4	290.2	870.2	2.00	-2.00	0.00
4,840.0	9.42	160.52	4,731.1	-826.9	292.5	877.1	2.00	-2.00	0.00
4,880.0	8.62	160.52	4,770.7	-832.8	294.6	883.3	2.00	-2.00	0.00
4,920.0	7.82	160.52	4,810.2	-838.2	296.5	889.1	2.00	-2.00	0.00
4,960.0	7.02	160.52	4,849.9	-843.0	298.2	894.2	2.00	-2.00	0.00
5,000.0	6.22	160.52	4,889.6	-847.4	299.7	898.8	2.00	-2.00	0.00
5,040.0	5.42	160.52	4,929.4	-851.2	301.1	902.9	2.00	-2.00	0.00
5,080.0	4.62	160.52	4,969.3	-854.5	302.3	906.4	2.00	-2.00	0.00
5,120.0	3.82	160.52	5,009.2	-857.3	303.2	909.3	2.00	-2.00	0.00
5,160.0	3.02	160.52	5,049.1	-859.5	304.0	911.7	2.00	-2.00	0.00
5,200.0	2.22	160.52	5,089.1	-861.2	304.6	913.5	2.00	-2.00	0.00
5,240.0	1.42	160.52	5,129.0	-862.4	305.1	914.8	2.00	-2.00	0.00
5,280.0	0.62	160.52	5,169.0	-863.1	305.3	915.5	2.00	-2.00	0.00
5,311.0	0.00	0.00	5,200.0	-863.3	305.4	915.7	2.00	-2.00	0.00
TARGET BHL 1275'FSL, 100'FWL									
5,320.0	0.00	0.00	5,209.0	-863.3	305.4	915.7	0.00	0.00	0.00
5,360.0	0.00	0.00	5,249.0	-863.3	305.4	915.7	0.00	0.00	0.00
5,400.0	0.00	0.00	5,289.0	-863.3	305.4	915.7	0.00	0.00	0.00
5,440.0	0.00	0.00	5,329.0	-863.3	305.4	915.7	0.00	0.00	0.00
5,480.0	0.00	0.00	5,369.0	-863.3	305.4	915.7	0.00	0.00	0.00
5,520.0	0.00	0.00	5,409.0	-863.3	305.4	915.7	0.00	0.00	0.00
5,560.0	0.00	0.00	5,449.0	-863.3	305.4	915.7	0.00	0.00	0.00
5,600.0	0.00	0.00	5,489.0	-863.3	305.4	915.7	0.00	0.00	0.00
5,640.0	0.00	0.00	5,529.0	-863.3	305.4	915.7	0.00	0.00	0.00
5,680.0	0.00	0.00	5,569.0	-863.3	305.4	915.7	0.00	0.00	0.00
5,720.0	0.00	0.00	5,609.0	-863.3	305.4	915.7	0.00	0.00	0.00
5,760.0	0.00	0.00	5,649.0	-863.3	305.4	915.7	0.00	0.00	0.00
5,800.0	0.00	0.00	5,689.0	-863.3	305.4	915.7	0.00	0.00	0.00
5,840.0	0.00	0.00	5,729.0	-863.3	305.4	915.7	0.00	0.00	0.00
5,880.0	0.00	0.00	5,769.0	-863.3	305.4	915.7	0.00	0.00	0.00
5,920.0	0.00	0.00	5,809.0	-863.3	305.4	915.7	0.00	0.00	0.00
5,960.0	0.00	0.00	5,849.0	-863.3	305.4	915.7	0.00	0.00	0.00
6,000.0	0.00	0.00	5,889.0	-863.3	305.4	915.7	0.00	0.00	0.00
6,040.0	0.00	0.00	5,929.0	-863.3	305.4	915.7	0.00	0.00	0.00
6,080.0	0.00	0.00	5,969.0	-863.3	305.4	915.7	0.00	0.00	0.00
6,120.0	0.00	0.00	6,009.0	-863.3	305.4	915.7	0.00	0.00	0.00
6,160.0	0.00	0.00	6,049.0	-863.3	305.4	915.7	0.00	0.00	0.00
6,200.0	0.00	0.00	6,089.0	-863.3	305.4	915.7	0.00	0.00	0.00
6,240.0	0.00	0.00	6,129.0	-863.3	305.4	915.7	0.00	0.00	0.00



Database:	EDM den0-adp01 Server Data	Local Co-ordinate Reference:	Well Booth N25-33D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4960.0ft (Original Well Elev)
Project:	SEC.26-T5N-R67W	MD Reference:	WELL @ 4960.0ft (Original Well Elev)
Site:	Booth N25-33D Pad Sec.26-T5N-R67W	North Reference:	True
Well:	Booth N25-33D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Booth N25-33D Plan #1 (02-23-10)		

**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)
6,280.0	0.00	0.00	6,169.0	-863.3	305.4	915.7	0.00	0.00	0.00
6,320.0	0.00	0.00	6,209.0	-863.3	305.4	915.7	0.00	0.00	0.00
6,360.0	0.00	0.00	6,249.0	-863.3	305.4	915.7	0.00	0.00	0.00
6,400.0	0.00	0.00	6,289.0	-863.3	305.4	915.7	0.00	0.00	0.00
6,440.0	0.00	0.00	6,329.0	-863.3	305.4	915.7	0.00	0.00	0.00
6,480.0	0.00	0.00	6,369.0	-863.3	305.4	915.7	0.00	0.00	0.00
6,520.0	0.00	0.00	6,409.0	-863.3	305.4	915.7	0.00	0.00	0.00
6,560.0	0.00	0.00	6,449.0	-863.3	305.4	915.7	0.00	0.00	0.00
6,600.0	0.00	0.00	6,489.0	-863.3	305.4	915.7	0.00	0.00	0.00
6,640.0	0.00	0.00	6,529.0	-863.3	305.4	915.7	0.00	0.00	0.00
6,680.0	0.00	0.00	6,569.0	-863.3	305.4	915.7	0.00	0.00	0.00
6,720.0	0.00	0.00	6,609.0	-863.3	305.4	915.7	0.00	0.00	0.00
6,760.0	0.00	0.00	6,649.0	-863.3	305.4	915.7	0.00	0.00	0.00
6,800.0	0.00	0.00	6,689.0	-863.3	305.4	915.7	0.00	0.00	0.00
6,840.0	0.00	0.00	6,729.0	-863.3	305.4	915.7	0.00	0.00	0.00
6,880.0	0.00	0.00	6,769.0	-863.3	305.4	915.7	0.00	0.00	0.00
6,920.0	0.00	0.00	6,809.0	-863.3	305.4	915.7	0.00	0.00	0.00
6,960.0	0.00	0.00	6,849.0	-863.3	305.4	915.7	0.00	0.00	0.00
7,000.0	0.00	0.00	6,889.0	-863.3	305.4	915.7	0.00	0.00	0.00
7,040.0	0.00	0.00	6,929.0	-863.3	305.4	915.7	0.00	0.00	0.00
7,080.0	0.00	0.00	6,969.0	-863.3	305.4	915.7	0.00	0.00	0.00
7,120.0	0.00	0.00	7,009.0	-863.3	305.4	915.7	0.00	0.00	0.00
7,160.0	0.00	0.00	7,049.0	-863.3	305.4	915.7	0.00	0.00	0.00
7,200.0	0.00	0.00	7,089.0	-863.3	305.4	915.7	0.00	0.00	0.00
7,201.0	0.00	0.00	7,090.0	-863.3	305.4	915.7	0.00	0.00	0.00
<b>NIOBRARA - TARGET CIRCLE 1275'FSL, 100'FWL</b>									
7,240.0	0.00	0.00	7,129.0	-863.3	305.4	915.7	0.00	0.00	0.00
7,280.0	0.00	0.00	7,169.0	-863.3	305.4	915.7	0.00	0.00	0.00
7,320.0	0.00	0.00	7,209.0	-863.3	305.4	915.7	0.00	0.00	0.00
7,360.0	0.00	0.00	7,249.0	-863.3	305.4	915.7	0.00	0.00	0.00
7,400.0	0.00	0.00	7,289.0	-863.3	305.4	915.7	0.00	0.00	0.00
7,440.0	0.00	0.00	7,329.0	-863.3	305.4	915.7	0.00	0.00	0.00
7,480.0	0.00	0.00	7,369.0	-863.3	305.4	915.7	0.00	0.00	0.00
7,520.0	0.00	0.00	7,409.0	-863.3	305.4	915.7	0.00	0.00	0.00
7,560.0	0.00	0.00	7,449.0	-863.3	305.4	915.7	0.00	0.00	0.00
7,561.0	0.00	0.00	7,450.0	-863.3	305.4	915.7	0.00	0.00	0.00
<b>CODELL</b>									
7,600.0	0.00	0.00	7,489.0	-863.3	305.4	915.7	0.00	0.00	0.00
7,640.0	0.00	0.00	7,529.0	-863.3	305.4	915.7	0.00	0.00	0.00
7,680.0	0.00	0.00	7,569.0	-863.3	305.4	915.7	0.00	0.00	0.00
7,711.0	0.00	0.00	7,600.0	-863.3	305.4	915.7	0.00	0.00	0.00
<b>HARDLINE 100'W OF BHL</b>									

**Database:** EDM den0-adp01 Server Data  
**Company:** NOBLE ENERGY INC WELD COUNTY CO  
**Project:** SEC.26-T5N-R67W  
**Site:** Booth N25-33D Pad Sec.26-T5N-R67W  
**Well:** Booth N25-33D  
**Wellbore:** Wellbore #1  
**Design:** Noble Booth N25-33D Plan #1 (02-23-10)

**Local Co-ordinate Reference:** Well Booth N25-33D  
**TVD Reference:** WELL @ 4960.0ft (Original Well Elev)  
**MD Reference:** WELL @ 4960.0ft (Original Well Elev)  
**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature

**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									
HARDLINE 100'W OF	0.00	0.00	7,600.0	-963.3	205.4	1,376,998.58	3,180,848.62	40° 21' 59.205 N	104° 51' 3.502 W
- plan misses target center by 141.4ft at 7711.0ft MD (7600.0 TVD, -863.3 N, 305.4 E)									
- Polygon									
Point 1			7,600.0	0.0	0.0	1,376,998.58	3,180,848.62		
Point 2			7,600.0	200.0	0.0	1,377,198.57	3,180,847.16		
TARGET BHL 1275'F	0.00	0.00	5,200.0	-863.3	305.4	1,377,099.33	3,180,947.85	40° 22' 0.193 N	104° 51' 2.211 W
- plan hits target center									
- Point									
TARGET CIRCLE 127	0.00	0.00	7,090.0	-863.3	305.4	1,377,099.30	3,180,947.88	40° 22' 0.193 N	104° 51' 2.211 W
- plan hits target center									
- Circle (radius 75.0)									

**Formations**

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
7,201.0	7,090.0	NIOBRARA		0.00	
7,561.0	7,450.0	CODELL		0.00	