

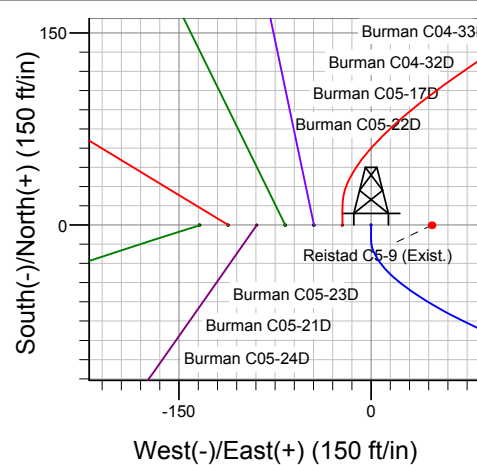
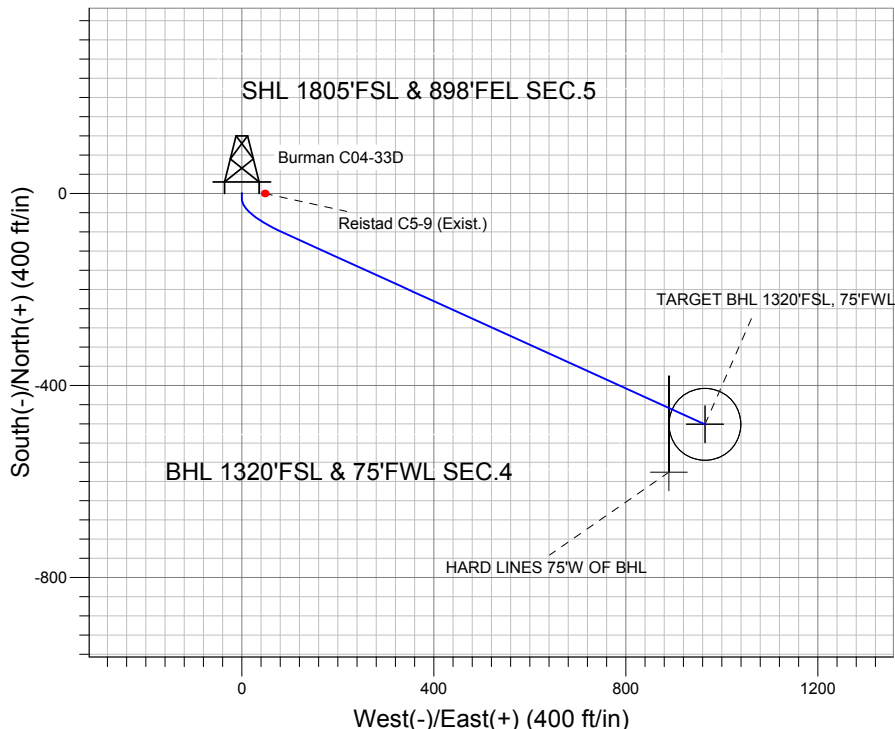
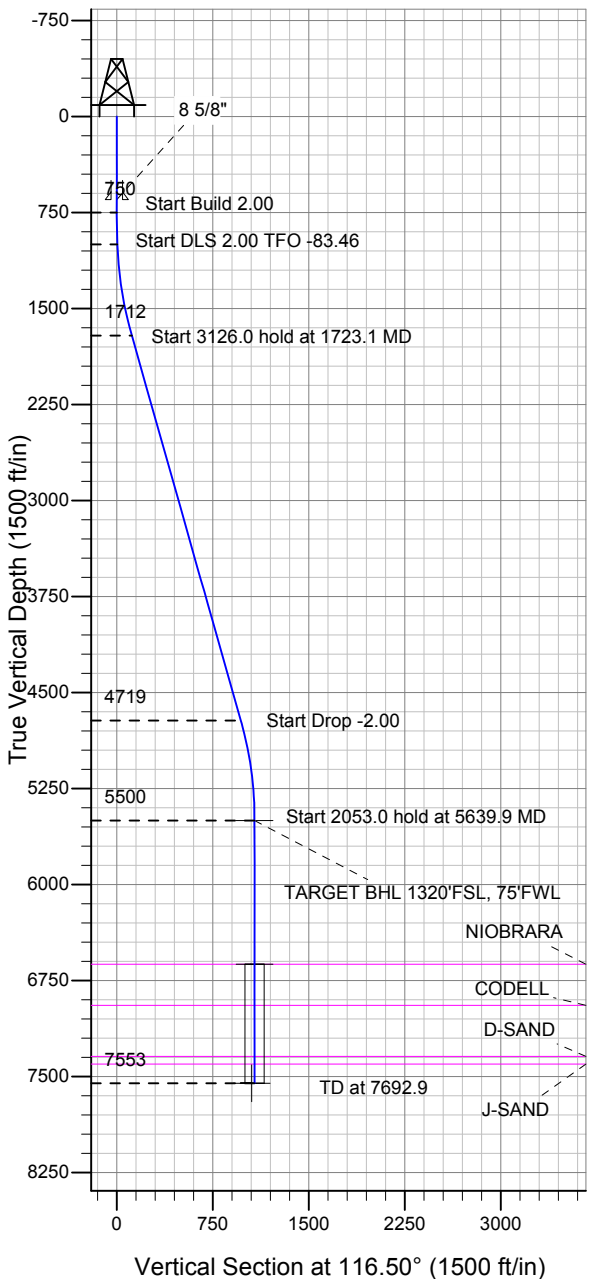
# ENSIGN

## Directional

### Well Name: Burman C04-33D

Surface Location: Burman C04-33D Pad Sec.5-T4N-R64W  
 North American Datum 1983 US State Plane 1983 Colorado Northern Zone  
 Ground Elevation: 4750.0  
 +N/-S +E/-W Northing Easting Latitude Longitude Slot  
 0.0 0.0 1367739.91 3259777.75 40.339100 -104.568080  
 Original Well Elev WELL @ 4763.0ft (Original Well Elev)

### NOBLE ENERGY INC WELD COUNTY CO



Burman C04-33D Pad Sec.5-T4N-R64W  
 Burman C04-33D  
 Noble Burman C04-33D Plan #1 (6-15-11)  
 13:20, June 22 2011



Azimuths to True North  
 Magnetic North: 8.75°  
 Magnetic Field  
 Strength: 53119.3snT  
 Dip Angle: 67.03°  
 Date: 6/22/2011  
 Model: IGRF2010

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

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
TARGET BHL 1320'FSL, 75'FWL	5500.0	-480.9	964.6	40.337780	-104.564620	Point
TARGET CIRCLE 1320'FSL & 75'FWL	6623.0	-480.9	964.6	40.337780	-104.564620	Circle (Radius: 75.0)
HARD LINES 75'W OF BHL	7553.0	-580.9	889.6	40.337505	-104.564889	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	1000.0	5.00	180.00	999.7	-10.9	0.0	2.00	180.00	4.9	
4	1723.1	15.82	114.44	1711.5	-83.6	90.2	2.00	-83.46	118.0	
5	4849.2	15.82	114.44	4719.2	-436.0	865.8	0.00	0.00	969.4	
6	5639.9	0.00	0.00	5500.0	-480.9	964.6	2.00	180.00	1077.8	TARGET BHL 1320'FSL, 75'FWL
7	7692.9	0.00	0.00	7553.0	-480.9	964.6	0.00	0.00	1077.8	



## **Directional**

# **NOBLE ENERGY INC WELD COUNTY CO**

**SEC.5-T4N-R64W**

**Burman C04-33D Pad Sec.5-T4N-R64W**

**Burman C04-33D**

**Wellbore #1**

**Plan: Noble Burman C04-33D Plan #1 (6-15-11)**

## **Standard Planning Report**

**22 June, 2011**



<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well Burman C04-33D
<b>Company:</b>	NOBLE ENERGY INC WELD COUNTY CO	<b>TVD Reference:</b>	WELL @ 4763.0ft (Original Well Elev)
<b>Project:</b>	SEC.5-T4N-R64W	<b>MD Reference:</b>	WELL @ 4763.0ft (Original Well Elev)
<b>Site:</b>	Burman C04-33D Pad Sec.5-T4N-R64W	<b>North Reference:</b>	True
<b>Well:</b>	Burman C04-33D	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Noble Burman C04-33D Plan #1 (6-15-11)		

<b>Project</b>	SEC.5-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

Site						Burman C04-33D Pad Sec.5-T4N-R64W											
Site Position:						Northing:			1,367,739.92 ft			Latitude:			40.339100		
From:			Lat/Long			Easting:			3,259,777.75 ft			Longitude:			-104.568080		
Position Uncertainty:			0.0 ft			Slot Radius:			"			Grid Convergence:			0.60 °		

Well	Burman C04-33D					
Well Position	+N/-S	0.0 ft	Northing:	1,367,739.91 ft	Latitude:	40.339100
	+E/-W	0.0 ft	Easting:	3,259,777.75 ft	Longitude:	-104.568080
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,750.0 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	6/22/2011	8.75	67.03	53,119

<b>Design</b>	Noble Burman C04-33D Plan #1 (6-15-11)			
<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	116.50

<b>Plan Sections</b>										
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	
1,000.0	5.00	180.00	999.7	-10.9	0.0	2.00	2.00	0.00	180.00	
1,723.1	15.82	114.44	1,711.5	-83.6	90.2	2.00	1.50	-9.07	-83.46	
4,849.2	15.82	114.44	4,719.2	-436.0	865.8	0.00	0.00	0.00	0.00	
5,639.9	0.00	0.00	5,500.0	-480.9	964.6	2.00	-2.00	0.00	180.00	TARGET BHL 1320
7,692.9	0.00	0.00	7,553.0	-480.9	964.6	0.00	0.00	0.00	0.00	

<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well Burman C04-33D
<b>Company:</b>	NOBLE ENERGY INC WELD COUNTY CO	<b>TVD Reference:</b>	WELL @ 4763.0ft (Original Well Elev)
<b>Project:</b>	SEC.5-T4N-R64W	<b>MD Reference:</b>	WELL @ 4763.0ft (Original Well Elev)
<b>Site:</b>	Burman C04-33D Pad Sec.5-T4N-R64W	<b>North Reference:</b>	True
<b>Well:</b>	Burman C04-33D	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Noble Burman C04-33D Plan #1 (6-15-11)		

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	180.00	760.0	0.0	0.0	0.0	2.00	2.00	0.00
800.0	1.00	180.00	800.0	-0.4	0.0	0.2	2.00	2.00	0.00
840.0	1.80	180.00	840.0	-1.4	0.0	0.6	2.00	2.00	0.00
880.0	2.60	180.00	880.0	-2.9	0.0	1.3	2.00	2.00	0.00
920.0	3.40	180.00	919.9	-5.0	0.0	2.2	2.00	2.00	0.00
960.0	4.20	180.00	959.8	-7.7	0.0	3.4	2.00	2.00	0.00
1,000.0	5.00	180.00	999.7	-10.9	0.0	4.9	2.00	2.00	0.00
1,040.0	5.15	171.12	1,039.5	-14.4	0.3	6.7	2.00	0.38	-22.21
1,080.0	5.42	162.92	1,079.4	-18.0	1.1	9.0	2.00	0.67	-20.48
1,120.0	5.79	155.63	1,119.2	-21.6	2.5	11.9	2.00	0.92	-18.23
1,160.0	6.23	149.29	1,158.9	-25.3	4.4	15.3	2.00	1.12	-15.85
1,200.0	6.75	143.85	1,198.7	-29.1	6.9	19.2	2.00	1.28	-13.60
1,240.0	7.31	139.21	1,238.4	-32.9	10.0	23.6	2.00	1.41	-11.60
1,280.0	7.92	135.26	1,278.0	-36.8	13.6	28.6	2.00	1.51	-9.89
1,320.0	8.55	131.87	1,317.6	-40.8	17.7	34.1	2.00	1.59	-8.46
1,360.0	9.21	128.96	1,357.1	-44.8	22.4	40.1	2.00	1.66	-7.27
1,400.0	9.90	126.44	1,396.6	-48.8	27.7	46.6	2.00	1.71	-6.29
1,440.0	10.60	124.25	1,436.0	-52.9	33.5	53.6	2.00	1.75	-5.48
1,480.0	11.31	122.33	1,475.2	-57.1	39.9	61.1	2.00	1.78	-4.80
1,520.0	12.03	120.64	1,514.4	-61.3	46.8	69.2	2.00	1.81	-4.24
1,560.0	12.76	119.13	1,553.5	-65.6	54.2	77.8	2.00	1.83	-3.76
1,600.0	13.50	117.79	1,592.4	-69.9	62.2	86.9	2.00	1.85	-3.36
1,640.0	14.25	116.58	1,631.3	-74.3	70.7	96.4	2.00	1.86	-3.01
1,680.0	15.00	115.50	1,670.0	-78.7	79.8	106.5	2.00	1.88	-2.72
1,720.0	15.76	114.51	1,708.5	-83.2	89.4	117.1	2.00	1.89	-2.46
1,723.1	15.82	114.44	1,711.5	-83.6	90.2	118.0	2.00	1.90	-2.34
1,760.0	15.82	114.44	1,747.0	-87.7	99.3	128.0	0.00	0.00	0.00
1,800.0	15.82	114.44	1,785.5	-92.2	109.3	138.9	0.00	0.00	0.00
1,840.0	15.82	114.44	1,824.0	-96.7	119.2	149.8	0.00	0.00	0.00
1,880.0	15.82	114.44	1,862.5	-101.2	129.1	160.7	0.00	0.00	0.00
1,920.0	15.82	114.44	1,901.0	-105.8	139.0	171.6	0.00	0.00	0.00
1,960.0	15.82	114.44	1,939.4	-110.3	149.0	182.5	0.00	0.00	0.00

<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well Burman C04-33D
<b>Company:</b>	NOBLE ENERGY INC WELD COUNTY CO	<b>TVD Reference:</b>	WELL @ 4763.0ft (Original Well Elev)
<b>Project:</b>	SEC.5-T4N-R64W	<b>MD Reference:</b>	WELL @ 4763.0ft (Original Well Elev)
<b>Site:</b>	Burman C04-33D Pad Sec.5-T4N-R64W	<b>North Reference:</b>	True
<b>Well:</b>	Burman C04-33D	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Noble Burman C04-33D Plan #1 (6-15-11)		

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	15.82	114.44	1,977.9	-114.8	158.9	193.4	0.00	0.00	0.00
2,040.0	15.82	114.44	2,016.4	-119.3	168.8	204.3	0.00	0.00	0.00
2,080.0	15.82	114.44	2,054.9	-123.8	178.7	215.2	0.00	0.00	0.00
2,120.0	15.82	114.44	2,093.4	-128.3	188.7	226.1	0.00	0.00	0.00
2,160.0	15.82	114.44	2,131.9	-132.8	198.6	237.0	0.00	0.00	0.00
2,200.0	15.82	114.44	2,170.4	-137.3	208.5	247.9	0.00	0.00	0.00
2,240.0	15.82	114.44	2,208.8	-141.8	218.4	258.8	0.00	0.00	0.00
2,280.0	15.82	114.44	2,247.3	-146.3	228.4	269.7	0.00	0.00	0.00
2,320.0	15.82	114.44	2,285.8	-150.9	238.3	280.6	0.00	0.00	0.00
2,360.0	15.82	114.44	2,324.3	-155.4	248.2	291.5	0.00	0.00	0.00
2,400.0	15.82	114.44	2,362.8	-159.9	258.1	302.4	0.00	0.00	0.00
2,440.0	15.82	114.44	2,401.3	-164.4	268.1	313.2	0.00	0.00	0.00
2,480.0	15.82	114.44	2,439.8	-168.9	278.0	324.1	0.00	0.00	0.00
2,520.0	15.82	114.44	2,478.2	-173.4	287.9	335.0	0.00	0.00	0.00
2,560.0	15.82	114.44	2,516.7	-177.9	297.8	345.9	0.00	0.00	0.00
2,600.0	15.82	114.44	2,555.2	-182.4	307.8	356.8	0.00	0.00	0.00
2,640.0	15.82	114.44	2,593.7	-186.9	317.7	367.7	0.00	0.00	0.00
2,680.0	15.82	114.44	2,632.2	-191.4	327.6	378.6	0.00	0.00	0.00
2,720.0	15.82	114.44	2,670.7	-196.0	337.5	389.5	0.00	0.00	0.00
2,760.0	15.82	114.44	2,709.2	-200.5	347.5	400.4	0.00	0.00	0.00
2,800.0	15.82	114.44	2,747.6	-205.0	357.4	411.3	0.00	0.00	0.00
2,840.0	15.82	114.44	2,786.1	-209.5	367.3	422.2	0.00	0.00	0.00
2,880.0	15.82	114.44	2,824.6	-214.0	377.2	433.1	0.00	0.00	0.00
2,920.0	15.82	114.44	2,863.1	-218.5	387.2	444.0	0.00	0.00	0.00
2,960.0	15.82	114.44	2,901.6	-223.0	397.1	454.9	0.00	0.00	0.00
3,000.0	15.82	114.44	2,940.1	-227.5	407.0	465.8	0.00	0.00	0.00
3,040.0	15.82	114.44	2,978.6	-232.0	416.9	476.7	0.00	0.00	0.00
3,080.0	15.82	114.44	3,017.0	-236.5	426.9	487.6	0.00	0.00	0.00
3,120.0	15.82	114.44	3,055.5	-241.0	436.8	498.5	0.00	0.00	0.00
3,160.0	15.82	114.44	3,094.0	-245.6	446.7	509.3	0.00	0.00	0.00
3,200.0	15.82	114.44	3,132.5	-250.1	456.6	520.2	0.00	0.00	0.00
3,240.0	15.82	114.44	3,171.0	-254.6	466.6	531.1	0.00	0.00	0.00
3,280.0	15.82	114.44	3,209.5	-259.1	476.5	542.0	0.00	0.00	0.00
3,320.0	15.82	114.44	3,248.0	-263.6	486.4	552.9	0.00	0.00	0.00
3,360.0	15.82	114.44	3,286.4	-268.1	496.3	563.8	0.00	0.00	0.00
3,400.0	15.82	114.44	3,324.9	-272.6	506.3	574.7	0.00	0.00	0.00
3,440.0	15.82	114.44	3,363.4	-277.1	516.2	585.6	0.00	0.00	0.00
3,480.0	15.82	114.44	3,401.9	-281.6	526.1	596.5	0.00	0.00	0.00
3,520.0	15.82	114.44	3,440.4	-286.1	536.0	607.4	0.00	0.00	0.00
3,560.0	15.82	114.44	3,478.9	-290.7	546.0	618.3	0.00	0.00	0.00
3,600.0	15.82	114.44	3,517.4	-295.2	555.9	629.2	0.00	0.00	0.00
3,640.0	15.82	114.44	3,555.8	-299.7	565.8	640.1	0.00	0.00	0.00
3,680.0	15.82	114.44	3,594.3	-304.2	575.7	651.0	0.00	0.00	0.00
3,720.0	15.82	114.44	3,632.8	-308.7	585.7	661.9	0.00	0.00	0.00
3,760.0	15.82	114.44	3,671.3	-313.2	595.6	672.8	0.00	0.00	0.00
3,800.0	15.82	114.44	3,709.8	-317.7	605.5	683.7	0.00	0.00	0.00
3,840.0	15.82	114.44	3,748.3	-322.2	615.4	694.6	0.00	0.00	0.00
3,880.0	15.82	114.44	3,786.8	-326.7	625.4	705.4	0.00	0.00	0.00
3,920.0	15.82	114.44	3,825.2	-331.2	635.3	716.3	0.00	0.00	0.00
3,960.0	15.82	114.44	3,863.7	-335.8	645.2	727.2	0.00	0.00	0.00
4,000.0	15.82	114.44	3,902.2	-340.3	655.1	738.1	0.00	0.00	0.00
4,040.0	15.82	114.44	3,940.7	-344.8	665.1	749.0	0.00	0.00	0.00
4,080.0	15.82	114.44	3,979.2	-349.3	675.0	759.9	0.00	0.00	0.00
4,120.0	15.82	114.44	4,017.7	-353.8	684.9	770.8	0.00	0.00	0.00

<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well Burman C04-33D
<b>Company:</b>	NOBLE ENERGY INC WELD COUNTY CO	<b>TVD Reference:</b>	WELL @ 4763.0ft (Original Well Elev)
<b>Project:</b>	SEC.5-T4N-R64W	<b>MD Reference:</b>	WELL @ 4763.0ft (Original Well Elev)
<b>Site:</b>	Burman C04-33D Pad Sec.5-T4N-R64W	<b>North Reference:</b>	True
<b>Well:</b>	Burman C04-33D	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Noble Burman C04-33D Plan #1 (6-15-11)		

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)
4,160.0	15.82	114.44	4,056.2	-358.3	694.8	781.7	0.00	0.00	0.00
4,200.0	15.82	114.44	4,094.6	-362.8	704.8	792.6	0.00	0.00	0.00
4,240.0	15.82	114.44	4,133.1	-367.3	714.7	803.5	0.00	0.00	0.00
4,280.0	15.82	114.44	4,171.6	-371.8	724.6	814.4	0.00	0.00	0.00
4,320.0	15.82	114.44	4,210.1	-376.3	734.5	825.3	0.00	0.00	0.00
4,360.0	15.82	114.44	4,248.6	-380.8	744.5	836.2	0.00	0.00	0.00
4,400.0	15.82	114.44	4,287.1	-385.4	754.4	847.1	0.00	0.00	0.00
4,440.0	15.82	114.44	4,325.6	-389.9	764.3	858.0	0.00	0.00	0.00
4,480.0	15.82	114.44	4,364.0	-394.4	774.2	868.9	0.00	0.00	0.00
4,520.0	15.82	114.44	4,402.5	-398.9	784.2	879.8	0.00	0.00	0.00
4,560.0	15.82	114.44	4,441.0	-403.4	794.1	890.7	0.00	0.00	0.00
4,600.0	15.82	114.44	4,479.5	-407.9	804.0	901.5	0.00	0.00	0.00
4,640.0	15.82	114.44	4,518.0	-412.4	813.9	912.4	0.00	0.00	0.00
4,680.0	15.82	114.44	4,556.5	-416.9	823.9	923.3	0.00	0.00	0.00
4,720.0	15.82	114.44	4,595.0	-421.4	833.8	934.2	0.00	0.00	0.00
4,760.0	15.82	114.44	4,633.4	-425.9	843.7	945.1	0.00	0.00	0.00
4,800.0	15.82	114.44	4,671.9	-430.5	853.6	956.0	0.00	0.00	0.00
4,840.0	15.82	114.44	4,710.4	-435.0	863.6	966.9	0.00	0.00	0.00
4,849.2	15.82	114.44	4,719.2	-436.0	865.8	969.4	0.00	0.00	0.00
4,880.0	15.20	114.44	4,748.9	-439.4	873.3	977.6	2.00	-2.00	0.00
4,920.0	14.40	114.44	4,787.6	-443.6	882.6	987.9	2.00	-2.00	0.00
4,960.0	13.60	114.44	4,826.4	-447.6	891.5	997.5	2.00	-2.00	0.00
5,000.0	12.80	114.44	4,865.4	-451.4	899.8	1,006.7	2.00	-2.00	0.00
5,040.0	12.00	114.44	4,904.4	-455.0	907.6	1,015.2	2.00	-2.00	0.00
5,080.0	11.20	114.44	4,943.6	-458.3	914.9	1,023.3	2.00	-2.00	0.00
5,120.0	10.40	114.44	4,982.9	-461.4	921.7	1,030.8	2.00	-2.00	0.00
5,160.0	9.60	114.44	5,022.3	-464.3	928.1	1,037.7	2.00	-2.00	0.00
5,200.0	8.80	114.44	5,061.8	-466.9	933.9	1,044.1	2.00	-2.00	0.00
5,240.0	8.00	114.44	5,101.4	-469.3	939.2	1,049.9	2.00	-2.00	0.00
5,280.0	7.20	114.44	5,141.0	-471.5	944.0	1,055.2	2.00	-2.00	0.00
5,320.0	6.40	114.44	5,180.7	-473.5	948.3	1,060.0	2.00	-2.00	0.00
5,360.0	5.60	114.44	5,220.5	-475.2	952.1	1,064.1	2.00	-2.00	0.00
5,400.0	4.80	114.44	5,260.3	-476.7	955.4	1,067.8	2.00	-2.00	0.00
5,440.0	4.00	114.44	5,300.2	-478.0	958.2	1,070.8	2.00	-2.00	0.00
5,480.0	3.20	114.44	5,340.1	-479.0	960.5	1,073.3	2.00	-2.00	0.00
5,520.0	2.40	114.44	5,380.1	-479.8	962.3	1,075.3	2.00	-2.00	0.00
5,560.0	1.60	114.44	5,420.1	-480.4	963.6	1,076.7	2.00	-2.00	0.00
5,600.0	0.80	114.44	5,460.1	-480.7	964.3	1,077.5	2.00	-2.00	0.00
5,639.9	0.00	0.00	5,500.0	-480.9	964.6	1,077.8	2.00	-2.00	0.00
TARGET BHL 1320'FSL, 75'FWL									
5,640.0	0.00	0.00	5,500.1	-480.9	964.6	1,077.8	0.00	0.00	0.00
5,680.0	0.00	0.00	5,540.1	-480.9	964.6	1,077.8	0.00	0.00	0.00
5,720.0	0.00	0.00	5,580.1	-480.9	964.6	1,077.8	0.00	0.00	0.00
5,760.0	0.00	0.00	5,620.1	-480.9	964.6	1,077.8	0.00	0.00	0.00
5,800.0	0.00	0.00	5,660.1	-480.9	964.6	1,077.8	0.00	0.00	0.00
5,840.0	0.00	0.00	5,700.1	-480.9	964.6	1,077.8	0.00	0.00	0.00
5,880.0	0.00	0.00	5,740.1	-480.9	964.6	1,077.8	0.00	0.00	0.00
5,920.0	0.00	0.00	5,780.1	-480.9	964.6	1,077.8	0.00	0.00	0.00
5,960.0	0.00	0.00	5,820.1	-480.9	964.6	1,077.8	0.00	0.00	0.00
6,000.0	0.00	0.00	5,860.1	-480.9	964.6	1,077.8	0.00	0.00	0.00
6,040.0	0.00	0.00	5,900.1	-480.9	964.6	1,077.8	0.00	0.00	0.00
6,080.0	0.00	0.00	5,940.1	-480.9	964.6	1,077.8	0.00	0.00	0.00
6,120.0	0.00	0.00	5,980.1	-480.9	964.6	1,077.8	0.00	0.00	0.00
6,160.0	0.00	0.00	6,020.1	-480.9	964.6	1,077.8	0.00	0.00	0.00

<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well Burman C04-33D
<b>Company:</b>	NOBLE ENERGY INC WELD COUNTY CO	<b>TVD Reference:</b>	WELL @ 4763.0ft (Original Well Elev)
<b>Project:</b>	SEC.5-T4N-R64W	<b>MD Reference:</b>	WELL @ 4763.0ft (Original Well Elev)
<b>Site:</b>	Burman C04-33D Pad Sec.5-T4N-R64W	<b>North Reference:</b>	True
<b>Well:</b>	Burman C04-33D	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Noble Burman C04-33D Plan #1 (6-15-11)		

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	0.00	0.00	6,060.1	-480.9	964.6	1,077.8	0.00	0.00	0.00
6,240.0	0.00	0.00	6,100.1	-480.9	964.6	1,077.8	0.00	0.00	0.00
6,280.0	0.00	0.00	6,140.1	-480.9	964.6	1,077.8	0.00	0.00	0.00
6,320.0	0.00	0.00	6,180.1	-480.9	964.6	1,077.8	0.00	0.00	0.00
6,360.0	0.00	0.00	6,220.1	-480.9	964.6	1,077.8	0.00	0.00	0.00
6,400.0	0.00	0.00	6,260.1	-480.9	964.6	1,077.8	0.00	0.00	0.00
6,440.0	0.00	0.00	6,300.1	-480.9	964.6	1,077.8	0.00	0.00	0.00
6,480.0	0.00	0.00	6,340.1	-480.9	964.6	1,077.8	0.00	0.00	0.00
6,520.0	0.00	0.00	6,380.1	-480.9	964.6	1,077.8	0.00	0.00	0.00
6,560.0	0.00	0.00	6,420.1	-480.9	964.6	1,077.8	0.00	0.00	0.00
6,600.0	0.00	0.00	6,460.1	-480.9	964.6	1,077.8	0.00	0.00	0.00
6,640.0	0.00	0.00	6,500.1	-480.9	964.6	1,077.8	0.00	0.00	0.00
6,680.0	0.00	0.00	6,540.1	-480.9	964.6	1,077.8	0.00	0.00	0.00
6,720.0	0.00	0.00	6,580.1	-480.9	964.6	1,077.8	0.00	0.00	0.00
6,760.0	0.00	0.00	6,620.1	-480.9	964.6	1,077.8	0.00	0.00	0.00
6,762.9	0.00	0.00	6,623.0	-480.9	964.6	1,077.8	0.00	0.00	0.00
<b>NIORARA - TARGET CIRCLE 1320'FSL &amp; 75'FWL</b>									
6,800.0	0.00	0.00	6,660.1	-480.9	964.6	1,077.8	0.00	0.00	0.00
6,840.0	0.00	0.00	6,700.1	-480.9	964.6	1,077.8	0.00	0.00	0.00
6,880.0	0.00	0.00	6,740.1	-480.9	964.6	1,077.8	0.00	0.00	0.00
6,920.0	0.00	0.00	6,780.1	-480.9	964.6	1,077.8	0.00	0.00	0.00
6,960.0	0.00	0.00	6,820.1	-480.9	964.6	1,077.8	0.00	0.00	0.00
7,000.0	0.00	0.00	6,860.1	-480.9	964.6	1,077.8	0.00	0.00	0.00
7,040.0	0.00	0.00	6,900.1	-480.9	964.6	1,077.8	0.00	0.00	0.00
7,080.0	0.00	0.00	6,940.1	-480.9	964.6	1,077.8	0.00	0.00	0.00
7,082.9	0.00	0.00	6,943.0	-480.9	964.6	1,077.8	0.00	0.00	0.00
<b>CODELL</b>									
7,120.0	0.00	0.00	6,980.1	-480.9	964.6	1,077.8	0.00	0.00	0.00
7,160.0	0.00	0.00	7,020.1	-480.9	964.6	1,077.8	0.00	0.00	0.00
7,200.0	0.00	0.00	7,060.1	-480.9	964.6	1,077.8	0.00	0.00	0.00
7,240.0	0.00	0.00	7,100.1	-480.9	964.6	1,077.8	0.00	0.00	0.00
7,280.0	0.00	0.00	7,140.1	-480.9	964.6	1,077.8	0.00	0.00	0.00
7,320.0	0.00	0.00	7,180.1	-480.9	964.6	1,077.8	0.00	0.00	0.00
7,360.0	0.00	0.00	7,220.1	-480.9	964.6	1,077.8	0.00	0.00	0.00
7,400.0	0.00	0.00	7,260.1	-480.9	964.6	1,077.8	0.00	0.00	0.00
7,440.0	0.00	0.00	7,300.1	-480.9	964.6	1,077.8	0.00	0.00	0.00
7,480.0	0.00	0.00	7,340.1	-480.9	964.6	1,077.8	0.00	0.00	0.00
7,482.9	0.00	0.00	7,343.0	-480.9	964.6	1,077.8	0.00	0.00	0.00
<b>D-SAND</b>									
7,520.0	0.00	0.00	7,380.1	-480.9	964.6	1,077.8	0.00	0.00	0.00
7,542.9	0.00	0.00	7,403.0	-480.9	964.6	1,077.8	0.00	0.00	0.00
<b>J-SAND</b>									
7,560.0	0.00	0.00	7,420.1	-480.9	964.6	1,077.8	0.00	0.00	0.00
7,600.0	0.00	0.00	7,460.1	-480.9	964.6	1,077.8	0.00	0.00	0.00
7,640.0	0.00	0.00	7,500.1	-480.9	964.6	1,077.8	0.00	0.00	0.00
7,680.0	0.00	0.00	7,540.1	-480.9	964.6	1,077.8	0.00	0.00	0.00
7,692.9	0.00	0.00	7,553.0	-480.9	964.6	1,077.8	0.00	0.00	0.00
<b>HARD LINES 75'W OF BHL</b>									



<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well Burman C04-33D
<b>Company:</b>	NOBLE ENERGY INC WELD COUNTY CO	<b>TVD Reference:</b>	WELL @ 4763.0ft (Original Well Elev)
<b>Project:</b>	SEC.5-T4N-R64W	<b>MD Reference:</b>	WELL @ 4763.0ft (Original Well Elev)
<b>Site:</b>	Burman C04-33D Pad Sec.5-T4N-R64W	<b>North Reference:</b>	True
<b>Well:</b>	Burman C04-33D	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Noble Burman C04-33D Plan #1 (6-15-11)		

Targets									
Target Name									
- hit/miss target	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- Shape	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(ft)		
TARGET CIRCLE 132'	0.00	0.00	6,623.0	-480.9	964.6	1,367,269.24	3,260,747.28	40.337780	-104.564620
- plan hits target center									
- Circle (radius 75.0)									
TARGET BHL 1320'F	0.00	0.00	5,500.0	-480.9	964.6	1,367,269.24	3,260,747.28	40.337780	-104.564620
- plan hits target center									
- Point									
HARD LINES 75'W O	0.00	0.00	7,553.0	-580.9	889.6	1,367,168.42	3,260,673.36	40.337505	-104.564889
- plan misses target center by 125.0ft at 7692.9ft MD (7553.0 TVD, -480.9 N, 964.6 E)									
- Polygon									
Point 1			7,553.0	0.0	0.0	1,367,168.42	3,260,673.36		
Point 2			7,553.0	200.0	0.0	1,367,368.40	3,260,671.26		

Casing Points					
Measured Depth	Vertical Depth		Name	Casing Diameter	Hole Diameter
(ft)	(ft)			(")	(")
650.0	650.0	8 5/8"		8-5/8	12-1/4

Formations					
Measured Depth	Vertical Depth	Name	Lithology	Dip	Dip Direction
(ft)	(ft)			(°)	(°)
6,762.9	6,623.0	NIOBRARA		0.00	
7,082.9	6,943.0	CODELL		0.00	
7,482.9	7,343.0	D-SAND		0.00	
7,542.9	7,403.0	J-SAND		0.00	