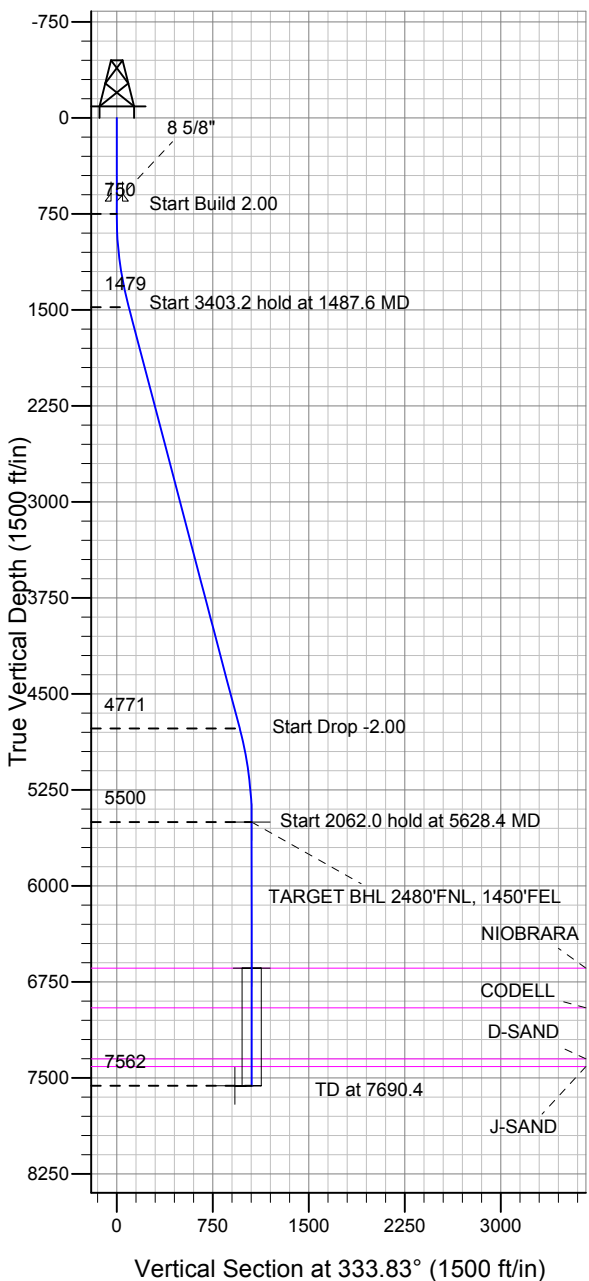


# ENSIGN

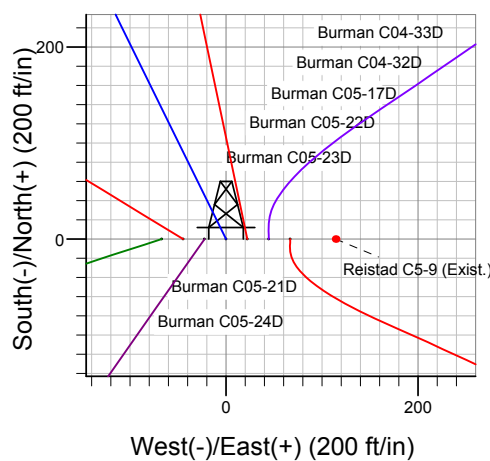
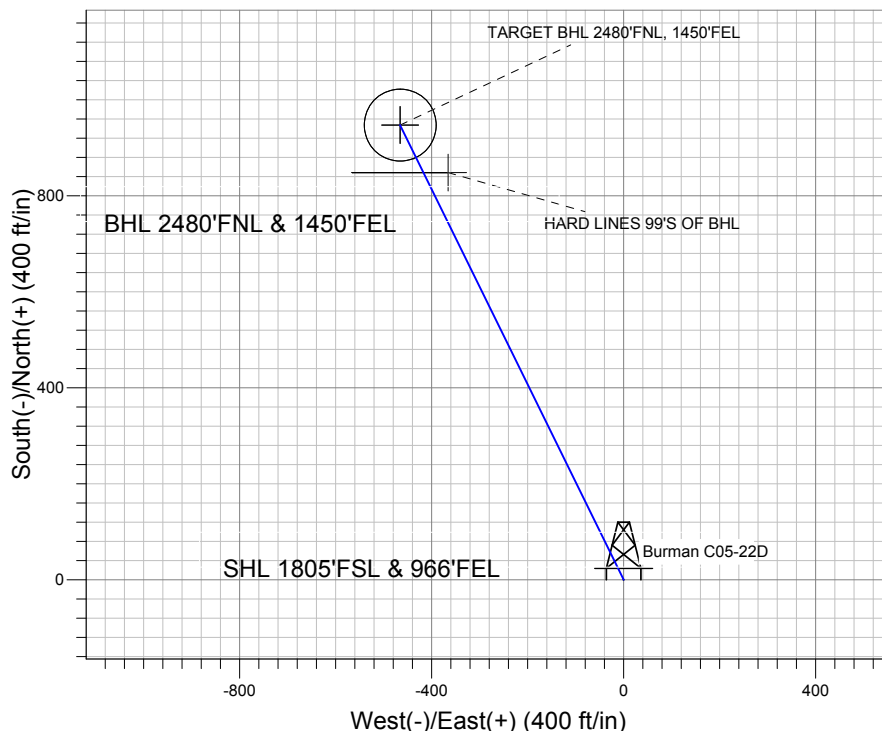
## Directional

### Well Name: Burman C05-22D

Surface Location: Burman C04-33D Pad Sec.5-T4N-R64W  
 North American Datum 1983 US State Plane 1983 Colorado Northern Zone  
 Ground Elevation: 4749.0  
 +N/-S +E/-W Northing Easting Latitude Longitude Slot  
 0.0 0.0 1367739.20 3259710.85 40.339100 -104.568320  
 Original Well Elev WELL @ 4762.0ft (Original Well Elev)



### NOBLE ENERGY INC WELD COUNTY CO



Burman C04-33D Pad Sec.5-T4N-R64W  
 Burman C05-22D  
 Noble Burman C05-22D Plan #1 (6-15-11)  
 14:20, 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 2480'FNL, 1450'FEL	5500.0	947.2	-465.5	40.341700	-104.569990	Point
TARGET CIRCLE 2480'FNL & 1450'FEL	6642.0	947.2	-465.5	40.341700	-104.569990	Circle (Radius: 75.0)
HARD LINES 99'S OF BHL	7562.0	848.2	-365.5	40.341428	-104.569631	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	1487.6	14.75	333.83	1479.5	84.7	-41.7	2.00	333.83	94.4	
4	4890.8	14.75	333.83	4770.5	862.5	-423.9	0.00	0.00	961.0	
5	5628.4	0.00	0.00	5500.0	947.2	-465.5	2.00	180.00	1055.4	TARGET BHL 2480'FNL, 1450'FEL
6	7690.4	0.00	0.00	7562.0	947.2	-465.5	0.00	0.00	1055.4	



## **Directional**

# **NOBLE ENERGY INC WELD COUNTY CO**

**SEC.5-T4N-R64W**

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

**Burman C05-22D**

**Wellbore #1**

**Plan: Noble Burman C05-22D Plan #1 (6-15-11)**

## **Standard Planning Report**

**22 June, 2011**



<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well Burman C05-22D
<b>Company:</b>	NOBLE ENERGY INC WELD COUNTY CO	<b>TVD Reference:</b>	WELL @ 4762.0ft (Original Well Elev)
<b>Project:</b>	SEC.5-T4N-R64W	<b>MD Reference:</b>	WELL @ 4762.0ft (Original Well Elev)
<b>Site:</b>	Burman C04-33D Pad Sec.5-T4N-R64W	<b>North Reference:</b>	True
<b>Well:</b>	Burman C05-22D	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Noble Burman C05-22D 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											
<b>Site Position:</b>						<b>Northing:</b>			1,367,739.92 ft			<b>Latitude:</b>			40.339100		
<b>From:</b>			Lat/Long			<b>Easting:</b>			3,259,777.75 ft			<b>Longitude:</b>			-104.568080		
<b>Position Uncertainty:</b>			0.0 ft			<b>Slot Radius:</b>			"			<b>Grid Convergence:</b>			0.60 °		

Well	Burman C05-22D					
Well Position	+N/-S	0.0 ft	Northing:	1,367,739.20 ft	Latitude:	40.339100
	+E/-W	-66.9 ft	Easting:	3,259,710.85 ft	Longitude:	-104.568320
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,749.0 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 C05-22D 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	333.83

<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	
1,487.6	14.75	333.83	1,479.5	84.7	-41.7	2.00	2.00	0.00	333.83	
4,890.8	14.75	333.83	4,770.5	862.5	-423.9	0.00	0.00	0.00	0.00	
5,628.4	0.00	0.00	5,500.0	947.2	-465.5	2.00	-2.00	0.00	180.00	TARGET BHL 248C
7,690.4	0.00	0.00	7,562.0	947.2	-465.5	0.00	0.00	0.00	0.00	

<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well Burman C05-22D
<b>Company:</b>	NOBLE ENERGY INC WELD COUNTY CO	<b>TVD Reference:</b>	WELL @ 4762.0ft (Original Well Elev)
<b>Project:</b>	SEC.5-T4N-R64W	<b>MD Reference:</b>	WELL @ 4762.0ft (Original Well Elev)
<b>Site:</b>	Burman C04-33D Pad Sec.5-T4N-R64W	<b>North Reference:</b>	True
<b>Well:</b>	Burman C05-22D	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Noble Burman C05-22D 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	333.83	760.0	0.0	0.0	0.0	2.00	2.00	0.00
800.0	1.00	333.83	800.0	0.4	-0.2	0.4	2.00	2.00	0.00
840.0	1.80	333.83	840.0	1.3	-0.6	1.4	2.00	2.00	0.00
880.0	2.60	333.83	880.0	2.6	-1.3	2.9	2.00	2.00	0.00
920.0	3.40	333.83	919.9	4.5	-2.2	5.0	2.00	2.00	0.00
960.0	4.20	333.83	959.8	6.9	-3.4	7.7	2.00	2.00	0.00
1,000.0	5.00	333.83	999.7	9.8	-4.8	10.9	2.00	2.00	0.00
1,040.0	5.80	333.83	1,039.5	13.2	-6.5	14.7	2.00	2.00	0.00
1,080.0	6.60	333.83	1,079.3	17.0	-8.4	19.0	2.00	2.00	0.00
1,120.0	7.40	333.83	1,119.0	21.4	-10.5	23.9	2.00	2.00	0.00
1,160.0	8.20	333.83	1,158.6	26.3	-12.9	29.3	2.00	2.00	0.00
1,200.0	9.00	333.83	1,198.2	31.7	-15.6	35.3	2.00	2.00	0.00
1,240.0	9.80	333.83	1,237.6	37.5	-18.4	41.8	2.00	2.00	0.00
1,280.0	10.60	333.83	1,277.0	43.9	-21.6	48.9	2.00	2.00	0.00
1,320.0	11.40	333.83	1,316.2	50.7	-24.9	56.5	2.00	2.00	0.00
1,360.0	12.20	333.83	1,355.4	58.1	-28.5	64.7	2.00	2.00	0.00
1,400.0	13.00	333.83	1,394.4	65.9	-32.4	73.4	2.00	2.00	0.00
1,440.0	13.80	333.83	1,433.3	74.2	-36.5	82.7	2.00	2.00	0.00
1,480.0	14.60	333.83	1,472.1	83.0	-40.8	92.5	2.00	2.00	0.00
1,487.6	14.75	333.83	1,479.5	84.7	-41.7	94.4	2.00	2.00	0.00
1,520.0	14.75	333.83	1,510.8	92.2	-45.3	102.7	0.00	0.00	0.00
1,560.0	14.75	333.83	1,549.5	101.3	-49.8	112.9	0.00	0.00	0.00
1,600.0	14.75	333.83	1,588.2	110.4	-54.3	123.1	0.00	0.00	0.00
1,640.0	14.75	333.83	1,626.9	119.6	-58.8	133.2	0.00	0.00	0.00
1,680.0	14.75	333.83	1,665.5	128.7	-63.3	143.4	0.00	0.00	0.00
1,720.0	14.75	333.83	1,704.2	137.9	-67.8	153.6	0.00	0.00	0.00
1,760.0	14.75	333.83	1,742.9	147.0	-72.2	163.8	0.00	0.00	0.00
1,800.0	14.75	333.83	1,781.6	156.1	-76.7	174.0	0.00	0.00	0.00
1,840.0	14.75	333.83	1,820.3	165.3	-81.2	184.2	0.00	0.00	0.00
1,880.0	14.75	333.83	1,858.9	174.4	-85.7	194.3	0.00	0.00	0.00
1,920.0	14.75	333.83	1,897.6	183.6	-90.2	204.5	0.00	0.00	0.00
1,960.0	14.75	333.83	1,936.3	192.7	-94.7	214.7	0.00	0.00	0.00

<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well Burman C05-22D
<b>Company:</b>	NOBLE ENERGY INC WELD COUNTY CO	<b>TVD Reference:</b>	WELL @ 4762.0ft (Original Well Elev)
<b>Project:</b>	SEC.5-T4N-R64W	<b>MD Reference:</b>	WELL @ 4762.0ft (Original Well Elev)
<b>Site:</b>	Burman C04-33D Pad Sec.5-T4N-R64W	<b>North Reference:</b>	True
<b>Well:</b>	Burman C05-22D	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Noble Burman C05-22D 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	14.75	333.83	1,975.0	201.8	-99.2	224.9	0.00	0.00	0.00
2,040.0	14.75	333.83	2,013.7	211.0	-103.7	235.1	0.00	0.00	0.00
2,080.0	14.75	333.83	2,052.4	220.1	-108.2	245.3	0.00	0.00	0.00
2,120.0	14.75	333.83	2,091.0	229.3	-112.7	255.5	0.00	0.00	0.00
2,160.0	14.75	333.83	2,129.7	238.4	-117.2	265.6	0.00	0.00	0.00
2,200.0	14.75	333.83	2,168.4	247.6	-121.7	275.8	0.00	0.00	0.00
2,240.0	14.75	333.83	2,207.1	256.7	-126.2	286.0	0.00	0.00	0.00
2,280.0	14.75	333.83	2,245.8	265.8	-130.6	296.2	0.00	0.00	0.00
2,320.0	14.75	333.83	2,284.4	275.0	-135.1	306.4	0.00	0.00	0.00
2,360.0	14.75	333.83	2,323.1	284.1	-139.6	316.6	0.00	0.00	0.00
2,400.0	14.75	333.83	2,361.8	293.3	-144.1	326.8	0.00	0.00	0.00
2,440.0	14.75	333.83	2,400.5	302.4	-148.6	336.9	0.00	0.00	0.00
2,480.0	14.75	333.83	2,439.2	311.5	-153.1	347.1	0.00	0.00	0.00
2,520.0	14.75	333.83	2,477.8	320.7	-157.6	357.3	0.00	0.00	0.00
2,560.0	14.75	333.83	2,516.5	329.8	-162.1	367.5	0.00	0.00	0.00
2,600.0	14.75	333.83	2,555.2	339.0	-166.6	377.7	0.00	0.00	0.00
2,640.0	14.75	333.83	2,593.9	348.1	-171.1	387.9	0.00	0.00	0.00
2,680.0	14.75	333.83	2,632.6	357.2	-175.6	398.1	0.00	0.00	0.00
2,720.0	14.75	333.83	2,671.3	366.4	-180.1	408.2	0.00	0.00	0.00
2,760.0	14.75	333.83	2,709.9	375.5	-184.6	418.4	0.00	0.00	0.00
2,800.0	14.75	333.83	2,748.6	384.7	-189.1	428.6	0.00	0.00	0.00
2,840.0	14.75	333.83	2,787.3	393.8	-193.5	438.8	0.00	0.00	0.00
2,880.0	14.75	333.83	2,826.0	402.9	-198.0	449.0	0.00	0.00	0.00
2,920.0	14.75	333.83	2,864.7	412.1	-202.5	459.2	0.00	0.00	0.00
2,960.0	14.75	333.83	2,903.3	421.2	-207.0	469.4	0.00	0.00	0.00
3,000.0	14.75	333.83	2,942.0	430.4	-211.5	479.5	0.00	0.00	0.00
3,040.0	14.75	333.83	2,980.7	439.5	-216.0	489.7	0.00	0.00	0.00
3,080.0	14.75	333.83	3,019.4	448.7	-220.5	499.9	0.00	0.00	0.00
3,120.0	14.75	333.83	3,058.1	457.8	-225.0	510.1	0.00	0.00	0.00
3,160.0	14.75	333.83	3,096.8	466.9	-229.5	520.3	0.00	0.00	0.00
3,200.0	14.75	333.83	3,135.4	476.1	-234.0	530.5	0.00	0.00	0.00
3,240.0	14.75	333.83	3,174.1	485.2	-238.5	540.7	0.00	0.00	0.00
3,280.0	14.75	333.83	3,212.8	494.4	-243.0	550.8	0.00	0.00	0.00
3,320.0	14.75	333.83	3,251.5	503.5	-247.5	561.0	0.00	0.00	0.00
3,360.0	14.75	333.83	3,290.2	512.6	-251.9	571.2	0.00	0.00	0.00
3,400.0	14.75	333.83	3,328.8	521.8	-256.4	581.4	0.00	0.00	0.00
3,440.0	14.75	333.83	3,367.5	530.9	-260.9	591.6	0.00	0.00	0.00
3,480.0	14.75	333.83	3,406.2	540.1	-265.4	601.8	0.00	0.00	0.00
3,520.0	14.75	333.83	3,444.9	549.2	-269.9	611.9	0.00	0.00	0.00
3,560.0	14.75	333.83	3,483.6	558.3	-274.4	622.1	0.00	0.00	0.00
3,600.0	14.75	333.83	3,522.2	567.5	-278.9	632.3	0.00	0.00	0.00
3,640.0	14.75	333.83	3,560.9	576.6	-283.4	642.5	0.00	0.00	0.00
3,680.0	14.75	333.83	3,599.6	585.8	-287.9	652.7	0.00	0.00	0.00
3,720.0	14.75	333.83	3,638.3	594.9	-292.4	662.9	0.00	0.00	0.00
3,760.0	14.75	333.83	3,677.0	604.1	-296.9	673.1	0.00	0.00	0.00
3,800.0	14.75	333.83	3,715.7	613.2	-301.4	683.2	0.00	0.00	0.00
3,840.0	14.75	333.83	3,754.3	622.3	-305.9	693.4	0.00	0.00	0.00
3,880.0	14.75	333.83	3,793.0	631.5	-310.4	703.6	0.00	0.00	0.00
3,920.0	14.75	333.83	3,831.7	640.6	-314.8	713.8	0.00	0.00	0.00
3,960.0	14.75	333.83	3,870.4	649.8	-319.3	724.0	0.00	0.00	0.00
4,000.0	14.75	333.83	3,909.1	658.9	-323.8	734.2	0.00	0.00	0.00
4,040.0	14.75	333.83	3,947.7	668.0	-328.3	744.4	0.00	0.00	0.00
4,080.0	14.75	333.83	3,986.4	677.2	-332.8	754.5	0.00	0.00	0.00
4,120.0	14.75	333.83	4,025.1	686.3	-337.3	764.7	0.00	0.00	0.00

<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well Burman C05-22D
<b>Company:</b>	NOBLE ENERGY INC WELD COUNTY CO	<b>TVD Reference:</b>	WELL @ 4762.0ft (Original Well Elev)
<b>Project:</b>	SEC.5-T4N-R64W	<b>MD Reference:</b>	WELL @ 4762.0ft (Original Well Elev)
<b>Site:</b>	Burman C04-33D Pad Sec.5-T4N-R64W	<b>North Reference:</b>	True
<b>Well:</b>	Burman C05-22D	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Noble Burman C05-22D 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	14.75	333.83	4,063.8	695.5	-341.8	774.9	0.00	0.00	0.00
4,200.0	14.75	333.83	4,102.5	704.6	-346.3	785.1	0.00	0.00	0.00
4,240.0	14.75	333.83	4,141.2	713.7	-350.8	795.3	0.00	0.00	0.00
4,280.0	14.75	333.83	4,179.8	722.9	-355.3	805.5	0.00	0.00	0.00
4,320.0	14.75	333.83	4,218.5	732.0	-359.8	815.7	0.00	0.00	0.00
4,360.0	14.75	333.83	4,257.2	741.2	-364.3	825.8	0.00	0.00	0.00
4,400.0	14.75	333.83	4,295.9	750.3	-368.8	836.0	0.00	0.00	0.00
4,440.0	14.75	333.83	4,334.6	759.4	-373.2	846.2	0.00	0.00	0.00
4,480.0	14.75	333.83	4,373.2	768.6	-377.7	856.4	0.00	0.00	0.00
4,520.0	14.75	333.83	4,411.9	777.7	-382.2	866.6	0.00	0.00	0.00
4,560.0	14.75	333.83	4,450.6	786.9	-386.7	876.8	0.00	0.00	0.00
4,600.0	14.75	333.83	4,489.3	796.0	-391.2	887.0	0.00	0.00	0.00
4,640.0	14.75	333.83	4,528.0	805.2	-395.7	897.1	0.00	0.00	0.00
4,680.0	14.75	333.83	4,566.6	814.3	-400.2	907.3	0.00	0.00	0.00
4,720.0	14.75	333.83	4,605.3	823.4	-404.7	917.5	0.00	0.00	0.00
4,760.0	14.75	333.83	4,644.0	832.6	-409.2	927.7	0.00	0.00	0.00
4,800.0	14.75	333.83	4,682.7	841.7	-413.7	937.9	0.00	0.00	0.00
4,840.0	14.75	333.83	4,721.4	850.9	-418.2	948.1	0.00	0.00	0.00
4,880.0	14.75	333.83	4,760.1	860.0	-422.7	958.3	0.00	0.00	0.00
4,890.8	14.75	333.83	4,770.5	862.5	-423.9	961.0	0.00	0.00	0.00
4,920.0	14.17	333.83	4,798.8	869.0	-427.1	968.3	2.00	-2.00	0.00
4,960.0	13.37	333.83	4,837.6	877.6	-431.3	977.8	2.00	-2.00	0.00
5,000.0	12.57	333.83	4,876.6	885.6	-435.3	986.8	2.00	-2.00	0.00
5,040.0	11.77	333.83	4,915.7	893.2	-439.0	995.2	2.00	-2.00	0.00
5,080.0	10.97	333.83	4,954.9	900.3	-442.4	1,003.1	2.00	-2.00	0.00
5,120.0	10.17	333.83	4,994.2	906.8	-445.7	1,010.4	2.00	-2.00	0.00
5,160.0	9.37	333.83	5,033.7	912.9	-448.7	1,017.2	2.00	-2.00	0.00
5,200.0	8.57	333.83	5,073.2	918.5	-451.4	1,023.5	2.00	-2.00	0.00
5,240.0	7.77	333.83	5,112.8	923.6	-453.9	1,029.1	2.00	-2.00	0.00
5,280.0	6.97	333.83	5,152.4	928.2	-456.2	1,034.3	2.00	-2.00	0.00
5,320.0	6.17	333.83	5,192.2	932.3	-458.2	1,038.9	2.00	-2.00	0.00
5,360.0	5.37	333.83	5,232.0	935.9	-460.0	1,042.9	2.00	-2.00	0.00
5,400.0	4.57	333.83	5,271.8	939.1	-461.5	1,046.3	2.00	-2.00	0.00
5,440.0	3.77	333.83	5,311.7	941.7	-462.8	1,049.2	2.00	-2.00	0.00
5,480.0	2.97	333.83	5,351.6	943.8	-463.8	1,051.6	2.00	-2.00	0.00
5,520.0	2.17	333.83	5,391.6	945.4	-464.6	1,053.4	2.00	-2.00	0.00
5,560.0	1.37	333.83	5,431.6	946.5	-465.2	1,054.6	2.00	-2.00	0.00
5,600.0	0.57	333.83	5,471.6	947.1	-465.5	1,055.3	2.00	-2.00	0.00
5,628.4	0.00	0.00	5,500.0	947.2	-465.5	1,055.4	2.00	-2.00	92.08
TARGET BHL 2480'FNL, 1450'FEL									
5,640.0	0.00	0.00	5,511.6	947.2	-465.5	1,055.4	0.00	0.00	0.00
5,680.0	0.00	0.00	5,551.6	947.2	-465.5	1,055.4	0.00	0.00	0.00
5,720.0	0.00	0.00	5,591.6	947.2	-465.5	1,055.4	0.00	0.00	0.00
5,760.0	0.00	0.00	5,631.6	947.2	-465.5	1,055.4	0.00	0.00	0.00
5,800.0	0.00	0.00	5,671.6	947.2	-465.5	1,055.4	0.00	0.00	0.00
5,840.0	0.00	0.00	5,711.6	947.2	-465.5	1,055.4	0.00	0.00	0.00
5,880.0	0.00	0.00	5,751.6	947.2	-465.5	1,055.4	0.00	0.00	0.00
5,920.0	0.00	0.00	5,791.6	947.2	-465.5	1,055.4	0.00	0.00	0.00
5,960.0	0.00	0.00	5,831.6	947.2	-465.5	1,055.4	0.00	0.00	0.00
6,000.0	0.00	0.00	5,871.6	947.2	-465.5	1,055.4	0.00	0.00	0.00
6,040.0	0.00	0.00	5,911.6	947.2	-465.5	1,055.4	0.00	0.00	0.00
6,080.0	0.00	0.00	5,951.6	947.2	-465.5	1,055.4	0.00	0.00	0.00
6,120.0	0.00	0.00	5,991.6	947.2	-465.5	1,055.4	0.00	0.00	0.00
6,160.0	0.00	0.00	6,031.6	947.2	-465.5	1,055.4	0.00	0.00	0.00

<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well Burman C05-22D
<b>Company:</b>	NOBLE ENERGY INC WELD COUNTY CO	<b>TVD Reference:</b>	WELL @ 4762.0ft (Original Well Elev)
<b>Project:</b>	SEC.5-T4N-R64W	<b>MD Reference:</b>	WELL @ 4762.0ft (Original Well Elev)
<b>Site:</b>	Burman C04-33D Pad Sec.5-T4N-R64W	<b>North Reference:</b>	True
<b>Well:</b>	Burman C05-22D	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Noble Burman C05-22D 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	6,071.6	947.2	-465.5	1,055.4	0.00	0.00	0.00
6,240.0	0.00	0.00	6,111.6	947.2	-465.5	1,055.4	0.00	0.00	0.00
6,280.0	0.00	0.00	6,151.6	947.2	-465.5	1,055.4	0.00	0.00	0.00
6,320.0	0.00	0.00	6,191.6	947.2	-465.5	1,055.4	0.00	0.00	0.00
6,360.0	0.00	0.00	6,231.6	947.2	-465.5	1,055.4	0.00	0.00	0.00
6,400.0	0.00	0.00	6,271.6	947.2	-465.5	1,055.4	0.00	0.00	0.00
6,440.0	0.00	0.00	6,311.6	947.2	-465.5	1,055.4	0.00	0.00	0.00
6,480.0	0.00	0.00	6,351.6	947.2	-465.5	1,055.4	0.00	0.00	0.00
6,520.0	0.00	0.00	6,391.6	947.2	-465.5	1,055.4	0.00	0.00	0.00
6,560.0	0.00	0.00	6,431.6	947.2	-465.5	1,055.4	0.00	0.00	0.00
6,600.0	0.00	0.00	6,471.6	947.2	-465.5	1,055.4	0.00	0.00	0.00
6,640.0	0.00	0.00	6,511.6	947.2	-465.5	1,055.4	0.00	0.00	0.00
6,680.0	0.00	0.00	6,551.6	947.2	-465.5	1,055.4	0.00	0.00	0.00
6,720.0	0.00	0.00	6,591.6	947.2	-465.5	1,055.4	0.00	0.00	0.00
6,760.0	0.00	0.00	6,631.6	947.2	-465.5	1,055.4	0.00	0.00	0.00
6,770.4	0.00	0.00	6,642.0	947.2	-465.5	1,055.4	0.00	0.00	0.00
<b>NIORARA - TARGET CIRCLE 2480'FNL &amp; 1450'FEL</b>									
6,800.0	0.00	0.00	6,671.6	947.2	-465.5	1,055.4	0.00	0.00	0.00
6,840.0	0.00	0.00	6,711.6	947.2	-465.5	1,055.4	0.00	0.00	0.00
6,880.0	0.00	0.00	6,751.6	947.2	-465.5	1,055.4	0.00	0.00	0.00
6,920.0	0.00	0.00	6,791.6	947.2	-465.5	1,055.4	0.00	0.00	0.00
6,960.0	0.00	0.00	6,831.6	947.2	-465.5	1,055.4	0.00	0.00	0.00
7,000.0	0.00	0.00	6,871.6	947.2	-465.5	1,055.4	0.00	0.00	0.00
7,040.0	0.00	0.00	6,911.6	947.2	-465.5	1,055.4	0.00	0.00	0.00
7,080.0	0.00	0.00	6,951.6	947.2	-465.5	1,055.4	0.00	0.00	0.00
7,080.4	0.00	0.00	6,952.0	947.2	-465.5	1,055.4	0.00	0.00	0.00
<b>CODELL</b>									
7,120.0	0.00	0.00	6,991.6	947.2	-465.5	1,055.4	0.00	0.00	0.00
7,160.0	0.00	0.00	7,031.6	947.2	-465.5	1,055.4	0.00	0.00	0.00
7,200.0	0.00	0.00	7,071.6	947.2	-465.5	1,055.4	0.00	0.00	0.00
7,240.0	0.00	0.00	7,111.6	947.2	-465.5	1,055.4	0.00	0.00	0.00
7,280.0	0.00	0.00	7,151.6	947.2	-465.5	1,055.4	0.00	0.00	0.00
7,320.0	0.00	0.00	7,191.6	947.2	-465.5	1,055.4	0.00	0.00	0.00
7,360.0	0.00	0.00	7,231.6	947.2	-465.5	1,055.4	0.00	0.00	0.00
7,400.0	0.00	0.00	7,271.6	947.2	-465.5	1,055.4	0.00	0.00	0.00
7,440.0	0.00	0.00	7,311.6	947.2	-465.5	1,055.4	0.00	0.00	0.00
7,480.0	0.00	0.00	7,351.6	947.2	-465.5	1,055.4	0.00	0.00	0.00
7,480.4	0.00	0.00	7,352.0	947.2	-465.5	1,055.4	0.00	0.00	0.00
<b>D-SAND</b>									
7,520.0	0.00	0.00	7,391.6	947.2	-465.5	1,055.4	0.00	0.00	0.00
7,540.4	0.00	0.00	7,412.0	947.2	-465.5	1,055.4	0.00	0.00	0.00
<b>J-SAND</b>									
7,560.0	0.00	0.00	7,431.6	947.2	-465.5	1,055.4	0.00	0.00	0.00
7,600.0	0.00	0.00	7,471.6	947.2	-465.5	1,055.4	0.00	0.00	0.00
7,640.0	0.00	0.00	7,511.6	947.2	-465.5	1,055.4	0.00	0.00	0.00
7,680.0	0.00	0.00	7,551.6	947.2	-465.5	1,055.4	0.00	0.00	0.00
7,690.4	0.00	0.00	7,562.0	947.2	-465.5	1,055.4	0.00	0.00	0.00
<b>HARD LINES 99'S OF BHL</b>									



<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well Burman C05-22D
<b>Company:</b>	NOBLE ENERGY INC WELD COUNTY CO	<b>TVD Reference:</b>	WELL @ 4762.0ft (Original Well Elev)
<b>Project:</b>	SEC.5-T4N-R64W	<b>MD Reference:</b>	WELL @ 4762.0ft (Original Well Elev)
<b>Site:</b>	Burman C04-33D Pad Sec.5-T4N-R64W	<b>North Reference:</b>	True
<b>Well:</b>	Burman C05-22D	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Noble Burman C05-22D 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 24'	0.00	0.00	6,642.0	947.2	-465.5	1,368,681.44	3,259,235.41	40.341700	-104.569990
- plan hits target center									
- Circle (radius 75.0)									
TARGET BHL 2480'F	0.00	0.00	5,500.0	947.2	-465.5	1,368,681.44	3,259,235.41	40.341700	-104.569990
- plan hits target center									
- Point									
HARD LINES 99'S OF	0.00	0.00	7,562.0	848.2	-365.5	1,368,583.48	3,259,336.47	40.341428	-104.569631
- plan misses target center by 140.8ft at 7690.4ft MD (7562.0 TVD, 947.2 N, -465.5 E)									
- Polygon									
Point 1			7,562.0	0.0	0.0	1,368,583.48	3,259,336.47		
Point 2			7,562.0	0.0	-200.0	1,368,581.38	3,259,136.49		

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

Formations					
Measured Depth	Vertical Depth			Dip	Dip Direction
(ft)	(ft)	Name	Lithology	(°)	(°)
6,770.4	6,642.0	NIOBRARA		0.00	
7,080.4	6,952.0	CODELL		0.00	
7,480.4	7,352.0	D-SAND		0.00	
7,540.4	7,412.0	J-SAND		0.00	