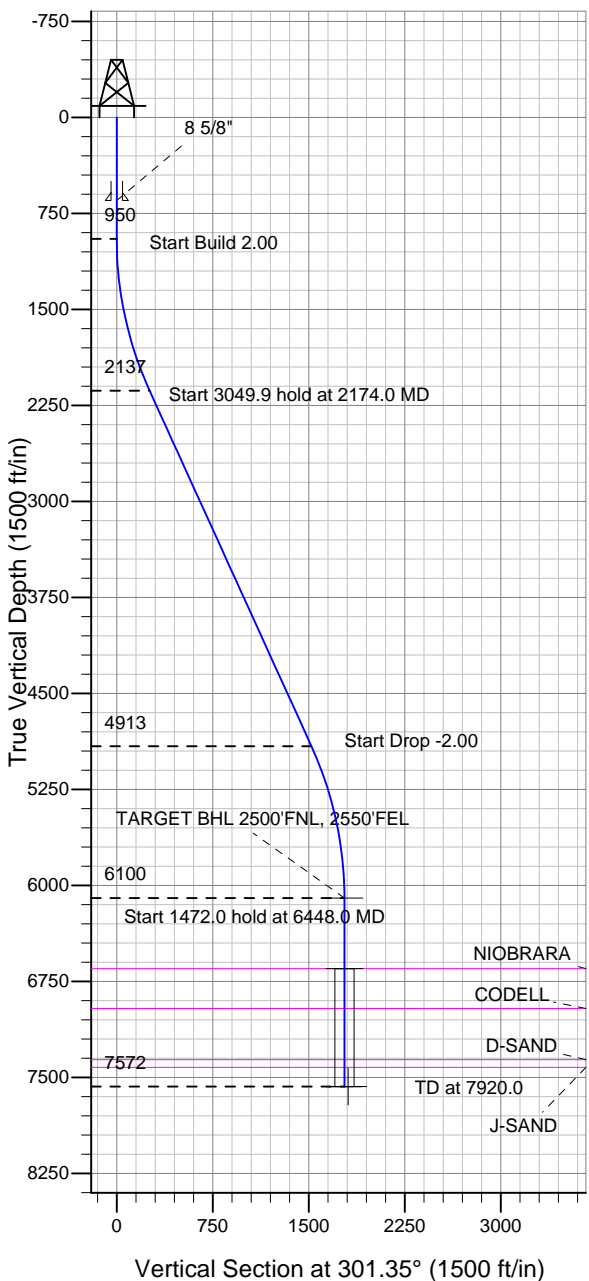


ENSIGN

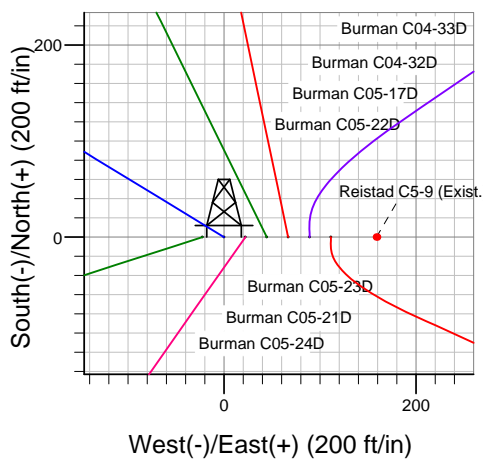
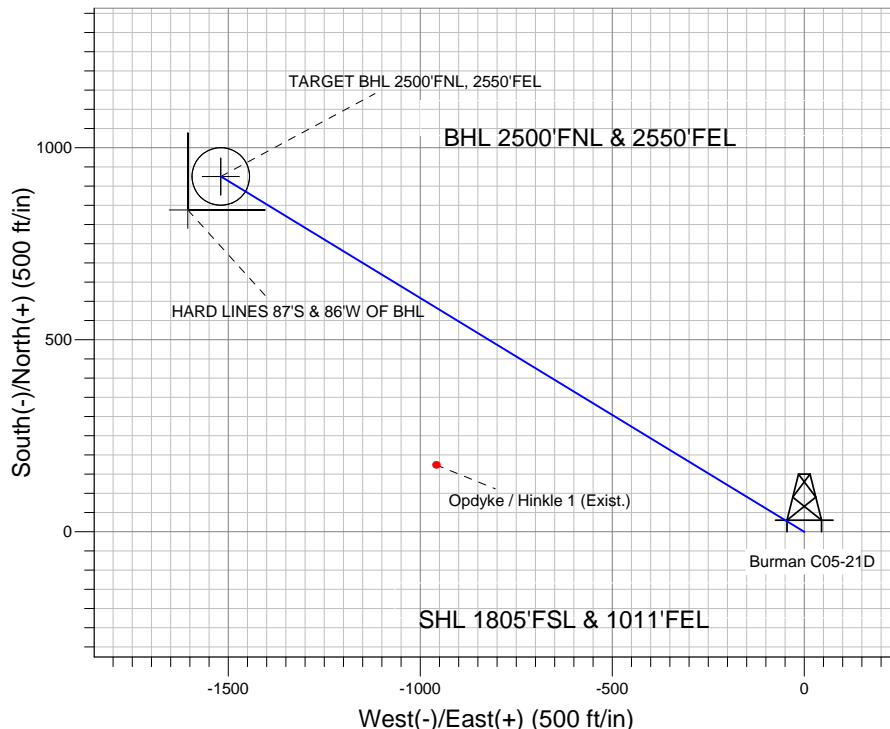
Directional

Well Name: Burman C05-21D

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 1367738.71 3259666.25 40.339100 -104.568480
 Original Well Elev WELL @ 4762.0ft (Original Well Elev)



NOBLE ENERGY INC WELD COUNTY CO



Burman C04-33D Pad Sec.5-T4N-R64W
 Burman C05-21D
 Noble Burman C05-21D Plan #1 (6-15-11)
 8:21, June 23 2011



Azimuths to True North
 Magnetic North: 8.75°

Magnetic Field
 Strength: 53119.0snT
 Dip Angle: 67.03°
 Date: 6/23/2011
 Model: IGRF2010

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
TARGET BHL 2500'FNL, 2550'FEL	6100.0	925.4	-1519.3	40.341640	-104.573930	Point
TARGET CIRCLE 2550'FNL & 2550'FEL	6652.0	925.4	-1519.3	40.341640	-104.573930	Circle (Radius: 75.0)
HARD LINES 87'S & 86'W OF BHL	7572.0	838.4	-1605.3	40.341401	-104.574239	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	950.0	0.00	0.00	950.0	0.0	0.0	0.00	0.00	0.0	
3	2174.0	24.48	301.35	2137.1	134.0	-219.9	2.00	301.35	257.5	
4	5224.0	24.48	301.35	4912.9	791.5	-1299.3	0.00	0.00	1521.4	
5	6448.0	0.00	0.00	6100.0	925.4	-1519.3	2.00	180.00	1778.9	TARGET BHL 2500'FNL, 2550'FEL
6	7920.0	0.00	0.00	7572.0	925.4	-1519.3	0.00	0.00	1778.9	



Directional

NOBLE ENERGY INC WELD COUNTY CO

SEC.5-T4N-R64W

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

Burman C05-21D

Wellbore #1

Plan: Noble Burman C05-21D Plan #1 (6-15-11)

Standard Planning Report

23 June, 2011



Database:	Landmark	Local Co-ordinate Reference:	Well Burman C05-21D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4762.0ft (Original Well Elev)
Project:	SEC.5-T4N-R64W	MD Reference:	WELL @ 4762.0ft (Original Well Elev)
Site:	Burman C04-33D Pad Sec.5-T4N-R64W	North Reference:	True
Well:	Burman C05-21D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Burman C05-21D Plan #1 (6-15-11)		

Project	SEC.5-T4N-R64W, Weld County, Colorado		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		Using Well Reference Point
Map Zone:	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 C05-21D					
Well Position	+N/-S	0.0 ft	Northing:	1,367,738.71 ft	Latitude:	40.339100
	+E/-W	-111.5 ft	Easting:	3,259,666.25 ft	Longitude:	-104.568480
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,749.0 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	6/23/2011	8.75	67.03	53,119

Design	Noble Burman C05-21D Plan #1 (6-15-11)			
Audit Notes:				
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.0	0.0	0.0	301.35

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	
950.0	0.00	0.00	950.0	0.0	0.0	0.00	0.00	0.00	0.00	
2,174.0	24.48	301.35	2,137.1	134.0	-219.9	2.00	2.00	0.00	301.35	
5,224.0	24.48	301.35	4,912.9	791.5	-1,299.3	0.00	0.00	0.00	0.00	
6,448.0	0.00	0.00	6,100.0	925.4	-1,519.3	2.00	-2.00	0.00	180.00	TARGET BHL 250C
7,920.0	0.00	0.00	7,572.0	925.4	-1,519.3	0.00	0.00	0.00	0.00	

Database:	Landmark	Local Co-ordinate Reference:	Well Burman C05-21D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4762.0ft (Original Well Elev)
Project:	SEC.5-T4N-R64W	MD Reference:	WELL @ 4762.0ft (Original Well Elev)
Site:	Burman C04-33D Pad Sec.5-T4N-R64W	North Reference:	True
Well:	Burman C05-21D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Burman C05-21D 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
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
950.0	0.00	0.00	950.0	0.0	0.0	0.0	0.00	0.00	0.00
960.0	0.20	301.35	960.0	0.0	0.0	0.0	2.00	2.00	0.00
1,000.0	1.00	301.35	1,000.0	0.2	-0.4	0.4	2.00	2.00	0.00
1,040.0	1.80	301.35	1,040.0	0.7	-1.2	1.4	2.00	2.00	0.00
1,080.0	2.60	301.35	1,080.0	1.5	-2.5	2.9	2.00	2.00	0.00
1,120.0	3.40	301.35	1,119.9	2.6	-4.3	5.0	2.00	2.00	0.00
1,160.0	4.20	301.35	1,159.8	4.0	-6.6	7.7	2.00	2.00	0.00
1,200.0	5.00	301.35	1,199.7	5.7	-9.3	10.9	2.00	2.00	0.00
1,240.0	5.80	301.35	1,239.5	7.6	-12.5	14.7	2.00	2.00	0.00
1,280.0	6.60	301.35	1,279.3	9.9	-16.2	19.0	2.00	2.00	0.00
1,320.0	7.40	301.35	1,319.0	12.4	-20.4	23.9	2.00	2.00	0.00
1,360.0	8.20	301.35	1,358.6	15.2	-25.0	29.3	2.00	2.00	0.00
1,400.0	9.00	301.35	1,398.2	18.3	-30.1	35.3	2.00	2.00	0.00
1,440.0	9.80	301.35	1,437.6	21.7	-35.7	41.8	2.00	2.00	0.00
1,480.0	10.60	301.35	1,477.0	25.4	-41.8	48.9	2.00	2.00	0.00
1,520.0	11.40	301.35	1,516.2	29.4	-48.3	56.5	2.00	2.00	0.00
1,560.0	12.20	301.35	1,555.4	33.7	-55.3	64.7	2.00	2.00	0.00
1,600.0	13.00	301.35	1,594.4	38.2	-62.7	73.4	2.00	2.00	0.00
1,640.0	13.80	301.35	1,633.3	43.0	-70.6	82.7	2.00	2.00	0.00
1,680.0	14.60	301.35	1,672.1	48.1	-79.0	92.5	2.00	2.00	0.00
1,720.0	15.40	301.35	1,710.8	53.5	-87.8	102.9	2.00	2.00	0.00
1,760.0	16.20	301.35	1,749.3	59.2	-97.1	113.7	2.00	2.00	0.00
1,800.0	17.00	301.35	1,787.6	65.1	-106.9	125.2	2.00	2.00	0.00
1,840.0	17.80	301.35	1,825.8	71.3	-117.1	137.1	2.00	2.00	0.00
1,880.0	18.60	301.35	1,863.8	77.8	-127.8	149.6	2.00	2.00	0.00
1,920.0	19.40	301.35	1,901.6	84.6	-138.9	162.7	2.00	2.00	0.00
1,960.0	20.20	301.35	1,939.2	91.7	-150.5	176.2	2.00	2.00	0.00
2,000.0	21.00	301.35	1,976.6	99.0	-162.5	190.3	2.00	2.00	0.00

Database:	Landmark	Local Co-ordinate Reference:	Well Burman C05-21D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4762.0ft (Original Well Elev)
Project:	SEC.5-T4N-R64W	MD Reference:	WELL @ 4762.0ft (Original Well Elev)
Site:	Burman C04-33D Pad Sec.5-T4N-R64W	North Reference:	True
Well:	Burman C05-21D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Burman C05-21D 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)	
2,040.0	21.80	301.35	2,013.9	106.6	-175.0	204.9	2.00	2.00	0.00	
2,080.0	22.60	301.35	2,050.9	114.4	-187.9	220.0	2.00	2.00	0.00	
2,120.0	23.40	301.35	2,087.7	122.6	-201.2	235.6	2.00	2.00	0.00	
2,160.0	24.20	301.35	2,124.3	131.0	-215.0	251.8	2.00	2.00	0.00	
2,174.0	24.48	301.35	2,137.1	134.0	-219.9	257.5	2.00	2.00	0.00	
2,200.0	24.48	301.35	2,160.8	139.6	-229.1	268.3	0.00	0.00	0.00	
2,240.0	24.48	301.35	2,197.2	148.2	-243.3	284.9	0.00	0.00	0.00	
2,280.0	24.48	301.35	2,233.6	156.8	-257.4	301.5	0.00	0.00	0.00	
2,320.0	24.48	301.35	2,270.0	165.4	-271.6	318.0	0.00	0.00	0.00	
2,360.0	24.48	301.35	2,306.4	174.1	-285.8	334.6	0.00	0.00	0.00	
2,400.0	24.48	301.35	2,342.8	182.7	-299.9	351.2	0.00	0.00	0.00	
2,440.0	24.48	301.35	2,379.2	191.3	-314.1	367.8	0.00	0.00	0.00	
2,480.0	24.48	301.35	2,415.6	199.9	-328.2	384.3	0.00	0.00	0.00	
2,520.0	24.48	301.35	2,452.0	208.6	-342.4	400.9	0.00	0.00	0.00	
2,560.0	24.48	301.35	2,488.4	217.2	-356.5	417.5	0.00	0.00	0.00	
2,600.0	24.48	301.35	2,524.8	225.8	-370.7	434.1	0.00	0.00	0.00	
2,640.0	24.48	301.35	2,561.2	234.4	-384.9	450.6	0.00	0.00	0.00	
2,680.0	24.48	301.35	2,597.6	243.1	-399.0	467.2	0.00	0.00	0.00	
2,720.0	24.48	301.35	2,634.0	251.7	-413.2	483.8	0.00	0.00	0.00	
2,760.0	24.48	301.35	2,670.4	260.3	-427.3	500.4	0.00	0.00	0.00	
2,800.0	24.48	301.35	2,706.8	268.9	-441.5	516.9	0.00	0.00	0.00	
2,840.0	24.48	301.35	2,743.2	277.5	-455.6	533.5	0.00	0.00	0.00	
2,880.0	24.48	301.35	2,779.6	286.2	-469.8	550.1	0.00	0.00	0.00	
2,920.0	24.48	301.35	2,816.0	294.8	-483.9	566.7	0.00	0.00	0.00	
2,960.0	24.48	301.35	2,852.4	303.4	-498.1	583.2	0.00	0.00	0.00	
3,000.0	24.48	301.35	2,888.8	312.0	-512.3	599.8	0.00	0.00	0.00	
3,040.0	24.48	301.35	2,925.2	320.7	-526.4	616.4	0.00	0.00	0.00	
3,080.0	24.48	301.35	2,961.7	329.3	-540.6	633.0	0.00	0.00	0.00	
3,120.0	24.48	301.35	2,998.1	337.9	-554.7	649.5	0.00	0.00	0.00	
3,160.0	24.48	301.35	3,034.5	346.5	-568.9	666.1	0.00	0.00	0.00	
3,200.0	24.48	301.35	3,070.9	355.1	-583.0	682.7	0.00	0.00	0.00	
3,240.0	24.48	301.35	3,107.3	363.8	-597.2	699.3	0.00	0.00	0.00	
3,280.0	24.48	301.35	3,143.7	372.4	-611.3	715.8	0.00	0.00	0.00	
3,320.0	24.48	301.35	3,180.1	381.0	-625.5	732.4	0.00	0.00	0.00	
3,360.0	24.48	301.35	3,216.5	389.6	-639.7	749.0	0.00	0.00	0.00	
3,400.0	24.48	301.35	3,252.9	398.3	-653.8	765.6	0.00	0.00	0.00	
3,440.0	24.48	301.35	3,289.3	406.9	-668.0	782.1	0.00	0.00	0.00	
3,480.0	24.48	301.35	3,325.7	415.5	-682.1	798.7	0.00	0.00	0.00	
3,520.0	24.48	301.35	3,362.1	424.1	-696.3	815.3	0.00	0.00	0.00	
3,560.0	24.48	301.35	3,398.5	432.8	-710.4	831.9	0.00	0.00	0.00	
3,600.0	24.48	301.35	3,434.9	441.4	-724.6	848.4	0.00	0.00	0.00	
3,640.0	24.48	301.35	3,471.3	450.0	-738.7	865.0	0.00	0.00	0.00	
3,680.0	24.48	301.35	3,507.7	458.6	-752.9	881.6	0.00	0.00	0.00	
3,720.0	24.48	301.35	3,544.1	467.2	-767.1	898.2	0.00	0.00	0.00	
3,760.0	24.48	301.35	3,580.5	475.9	-781.2	914.7	0.00	0.00	0.00	
3,800.0	24.48	301.35	3,616.9	484.5	-795.4	931.3	0.00	0.00	0.00	
3,840.0	24.48	301.35	3,653.3	493.1	-809.5	947.9	0.00	0.00	0.00	
3,880.0	24.48	301.35	3,689.7	501.7	-823.7	964.5	0.00	0.00	0.00	
3,920.0	24.48	301.35	3,726.1	510.4	-837.8	981.0	0.00	0.00	0.00	
3,960.0	24.48	301.35	3,762.5	519.0	-852.0	997.6	0.00	0.00	0.00	
4,000.0	24.48	301.35	3,798.9	527.6	-866.2	1,014.2	0.00	0.00	0.00	
4,040.0	24.48	301.35	3,835.3	536.2	-880.3	1,030.8	0.00	0.00	0.00	
4,080.0	24.48	301.35	3,871.8	544.9	-894.5	1,047.3	0.00	0.00	0.00	
4,120.0	24.48	301.35	3,908.2	553.5	-908.6	1,063.9	0.00	0.00	0.00	

Database:	Landmark	Local Co-ordinate Reference:	Well Burman C05-21D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4762.0ft (Original Well Elev)
Project:	SEC.5-T4N-R64W	MD Reference:	WELL @ 4762.0ft (Original Well Elev)
Site:	Burman C04-33D Pad Sec.5-T4N-R64W	North Reference:	True
Well:	Burman C05-21D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Burman C05-21D 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	24.48	301.35	3,944.6	562.1	-922.8	1,080.5	0.00	0.00	0.00
4,200.0	24.48	301.35	3,981.0	570.7	-936.9	1,097.1	0.00	0.00	0.00
4,240.0	24.48	301.35	4,017.4	579.3	-951.1	1,113.6	0.00	0.00	0.00
4,280.0	24.48	301.35	4,053.8	588.0	-965.2	1,130.2	0.00	0.00	0.00
4,320.0	24.48	301.35	4,090.2	596.6	-979.4	1,146.8	0.00	0.00	0.00
4,360.0	24.48	301.35	4,126.6	605.2	-993.6	1,163.4	0.00	0.00	0.00
4,400.0	24.48	301.35	4,163.0	613.8	-1,007.7	1,179.9	0.00	0.00	0.00
4,440.0	24.48	301.35	4,199.4	622.5	-1,021.9	1,196.5	0.00	0.00	0.00
4,480.0	24.48	301.35	4,235.8	631.1	-1,036.0	1,213.1	0.00	0.00	0.00
4,520.0	24.48	301.35	4,272.2	639.7	-1,050.2	1,229.7	0.00	0.00	0.00
4,560.0	24.48	301.35	4,308.6	648.3	-1,064.3	1,246.2	0.00	0.00	0.00
4,600.0	24.48	301.35	4,345.0	656.9	-1,078.5	1,262.8	0.00	0.00	0.00
4,640.0	24.48	301.35	4,381.4	665.6	-1,092.6	1,279.4	0.00	0.00	0.00
4,680.0	24.48	301.35	4,417.8	674.2	-1,106.8	1,296.0	0.00	0.00	0.00
4,720.0	24.48	301.35	4,454.2	682.8	-1,121.0	1,312.5	0.00	0.00	0.00
4,760.0	24.48	301.35	4,490.6	691.4	-1,135.1	1,329.1	0.00	0.00	0.00
4,800.0	24.48	301.35	4,527.0	700.1	-1,149.3	1,345.7	0.00	0.00	0.00
4,840.0	24.48	301.35	4,563.4	708.7	-1,163.4	1,362.3	0.00	0.00	0.00
4,880.0	24.48	301.35	4,599.8	717.3	-1,177.6	1,378.9	0.00	0.00	0.00
4,920.0	24.48	301.35	4,636.2	725.9	-1,191.7	1,395.4	0.00	0.00	0.00
4,960.0	24.48	301.35	4,672.6	734.6	-1,205.9	1,412.0	0.00	0.00	0.00
5,000.0	24.48	301.35	4,709.0	743.2	-1,220.0	1,428.6	0.00	0.00	0.00
5,040.0	24.48	301.35	4,745.5	751.8	-1,234.2	1,445.2	0.00	0.00	0.00
5,080.0	24.48	301.35	4,781.9	760.4	-1,248.4	1,461.7	0.00	0.00	0.00
5,120.0	24.48	301.35	4,818.3	769.0	-1,262.5	1,478.3	0.00	0.00	0.00
5,160.0	24.48	301.35	4,854.7	777.7	-1,276.7	1,494.9	0.00	0.00	0.00
5,200.0	24.48	301.35	4,891.1	786.3	-1,290.8	1,511.5	0.00	0.00	0.00
5,224.0	24.48	301.35	4,912.9	791.5	-1,299.3	1,521.4	0.00	0.00	0.00
5,240.0	24.16	301.35	4,927.5	794.9	-1,304.9	1,528.0	2.00	-2.00	0.00
5,280.0	23.36	301.35	4,964.1	803.3	-1,318.7	1,544.1	2.00	-2.00	0.00
5,320.0	22.56	301.35	5,000.9	811.4	-1,332.0	1,559.7	2.00	-2.00	0.00
5,360.0	21.76	301.35	5,038.0	819.2	-1,344.9	1,574.8	2.00	-2.00	0.00
5,400.0	20.96	301.35	5,075.2	826.8	-1,357.4	1,589.4	2.00	-2.00	0.00
5,440.0	20.16	301.35	5,112.7	834.1	-1,369.4	1,603.4	2.00	-2.00	0.00
5,480.0	19.36	301.35	5,150.3	841.2	-1,380.9	1,616.9	2.00	-2.00	0.00
5,520.0	18.56	301.35	5,188.2	847.9	-1,392.0	1,629.9	2.00	-2.00	0.00
5,560.0	17.76	301.35	5,226.2	854.4	-1,402.7	1,642.4	2.00	-2.00	0.00
5,600.0	16.96	301.35	5,264.3	860.6	-1,412.9	1,654.3	2.00	-2.00	0.00
5,640.0	16.16	301.35	5,302.7	866.6	-1,422.6	1,665.7	2.00	-2.00	0.00
5,680.0	15.36	301.35	5,341.2	872.2	-1,431.9	1,676.6	2.00	-2.00	0.00
5,720.0	14.56	301.35	5,379.8	877.6	-1,440.7	1,686.9	2.00	-2.00	0.00
5,760.0	13.76	301.35	5,418.6	882.7	-1,449.0	1,696.7	2.00	-2.00	0.00
5,800.0	12.96	301.35	5,457.5	887.5	-1,456.9	1,705.9	2.00	-2.00	0.00
5,840.0	12.16	301.35	5,496.6	892.0	-1,464.4	1,714.6	2.00	-2.00	0.00
5,880.0	11.36	301.35	5,535.7	896.2	-1,471.3	1,722.8	2.00	-2.00	0.00
5,920.0	10.56	301.35	5,575.0	900.2	-1,477.8	1,730.4	2.00	-2.00	0.00
5,960.0	9.76	301.35	5,614.4	903.9	-1,483.8	1,737.5	2.00	-2.00	0.00
6,000.0	8.96	301.35	5,653.8	907.2	-1,489.4	1,744.0	2.00	-2.00	0.00
6,040.0	8.16	301.35	5,693.4	910.3	-1,494.5	1,749.9	2.00	-2.00	0.00
6,080.0	7.36	301.35	5,733.0	913.2	-1,499.1	1,755.3	2.00	-2.00	0.00
6,120.0	6.56	301.35	5,772.7	915.7	-1,503.2	1,760.2	2.00	-2.00	0.00
6,160.0	5.76	301.35	5,812.5	917.9	-1,506.9	1,764.5	2.00	-2.00	0.00
6,200.0	4.96	301.35	5,852.3	919.9	-1,510.1	1,768.2	2.00	-2.00	0.00
6,240.0	4.16	301.35	5,892.2	921.5	-1,512.8	1,771.4	2.00	-2.00	0.00

Database:	Landmark	Local Co-ordinate Reference:	Well Burman C05-21D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4762.0ft (Original Well Elev)
Project:	SEC.5-T4N-R64W	MD Reference:	WELL @ 4762.0ft (Original Well Elev)
Site:	Burman C04-33D Pad Sec.5-T4N-R64W	North Reference:	True
Well:	Burman C05-21D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Burman C05-21D 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)	
6,280.0	3.36	301.35	5,932.1	922.9	-1,515.0	1,774.0	2.00	-2.00	0.00	
6,320.0	2.56	301.35	5,972.1	923.9	-1,516.8	1,776.1	2.00	-2.00	0.00	
6,360.0	1.76	301.35	6,012.0	924.7	-1,518.1	1,777.6	2.00	-2.00	0.00	
6,400.0	0.96	301.35	6,052.0	925.2	-1,518.9	1,778.5	2.00	-2.00	0.00	
6,440.0	0.16	301.35	6,092.0	925.4	-1,519.2	1,778.9	2.00	-2.00	0.00	
6,448.0	0.00	0.00	6,100.0	925.4	-1,519.3	1,778.9	2.00	-2.00	734.01	
TARGET BHL 2500'FNL, 2550'FEL										
6,480.0	0.00	0.00	6,132.0	925.4	-1,519.3	1,778.9	0.00	0.00	0.00	
6,520.0	0.00	0.00	6,172.0	925.4	-1,519.3	1,778.9	0.00	0.00	0.00	
6,560.0	0.00	0.00	6,212.0	925.4	-1,519.3	1,778.9	0.00	0.00	0.00	
6,600.0	0.00	0.00	6,252.0	925.4	-1,519.3	1,778.9	0.00	0.00	0.00	
6,640.0	0.00	0.00	6,292.0	925.4	-1,519.3	1,778.9	0.00	0.00	0.00	
6,680.0	0.00	0.00	6,332.0	925.4	-1,519.3	1,778.9	0.00	0.00	0.00	
6,720.0	0.00	0.00	6,372.0	925.4	-1,519.3	1,778.9	0.00	0.00	0.00	
6,760.0	0.00	0.00	6,412.0	925.4	-1,519.3	1,778.9	0.00	0.00	0.00	
6,800.0	0.00	0.00	6,452.0	925.4	-1,519.3	1,778.9	0.00	0.00	0.00	
6,840.0	0.00	0.00	6,492.0	925.4	-1,519.3	1,778.9	0.00	0.00	0.00	
6,880.0	0.00	0.00	6,532.0	925.4	-1,519.3	1,778.9	0.00	0.00	0.00	
6,920.0	0.00	0.00	6,572.0	925.4	-1,519.3	1,778.9	0.00	0.00	0.00	
6,960.0	0.00	0.00	6,612.0	925.4	-1,519.3	1,778.9	0.00	0.00	0.00	
7,000.0	0.00	0.00	6,652.0	925.4	-1,519.3	1,778.9	0.00	0.00	0.00	
NIOBRARA - TARGET CIRCLE 2550'FNL & 2550'FEL										
7,040.0	0.00	0.00	6,692.0	925.4	-1,519.3	1,778.9	0.00	0.00	0.00	
7,080.0	0.00	0.00	6,732.0	925.4	-1,519.3	1,778.9	0.00	0.00	0.00	
7,120.0	0.00	0.00	6,772.0	925.4	-1,519.3	1,778.9	0.00	0.00	0.00	
7,160.0	0.00	0.00	6,812.0	925.4	-1,519.3	1,778.9	0.00	0.00	0.00	
7,200.0	0.00	0.00	6,852.0	925.4	-1,519.3	1,778.9	0.00	0.00	0.00	
7,240.0	0.00	0.00	6,892.0	925.4	-1,519.3	1,778.9	0.00	0.00	0.00	
7,280.0	0.00	0.00	6,932.0	925.4	-1,519.3	1,778.9	0.00	0.00	0.00	
7,310.0	0.00	0.00	6,962.0	925.4	-1,519.3	1,778.9	0.00	0.00	0.00	
CODELL										
7,320.0	0.00	0.00	6,972.0	925.4	-1,519.3	1,778.9	0.00	0.00	0.00	
7,360.0	0.00	0.00	7,012.0	925.4	-1,519.3	1,778.9	0.00	0.00	0.00	
7,400.0	0.00	0.00	7,052.0	925.4	-1,519.3	1,778.9	0.00	0.00	0.00	
7,440.0	0.00	0.00	7,092.0	925.4	-1,519.3	1,778.9	0.00	0.00	0.00	
7,480.0	0.00	0.00	7,132.0	925.4	-1,519.3	1,778.9	0.00	0.00	0.00	
7,520.0	0.00	0.00	7,172.0	925.4	-1,519.3	1,778.9	0.00	0.00	0.00	
7,560.0	0.00	0.00	7,212.0	925.4	-1,519.3	1,778.9	0.00	0.00	0.00	
7,600.0	0.00	0.00	7,252.0	925.4	-1,519.3	1,778.9	0.00	0.00	0.00	
7,640.0	0.00	0.00	7,292.0	925.4	-1,519.3	1,778.9	0.00	0.00	0.00	
7,680.0	0.00	0.00	7,332.0	925.4	-1,519.3	1,778.9	0.00	0.00	0.00	
7,710.0	0.00	0.00	7,362.0	925.4	-1,519.3	1,778.9	0.00	0.00	0.00	
D-SAND										
7,720.0	0.00	0.00	7,372.0	925.4	-1,519.3	1,778.9	0.00	0.00	0.00	
7,760.0	0.00	0.00	7,412.0	925.4	-1,519.3	1,778.9	0.00	0.00	0.00	
7,770.0	0.00	0.00	7,422.0	925.4	-1,519.3	1,778.9	0.00	0.00	0.00	
J-SAND										
7,800.0	0.00	0.00	7,452.0	925.4	-1,519.3	1,778.9	0.00	0.00	0.00	
7,840.0	0.00	0.00	7,492.0	925.4	-1,519.3	1,778.9	0.00	0.00	0.00	
7,880.0	0.00	0.00	7,532.0	925.4	-1,519.3	1,778.9	0.00	0.00	0.00	
7,920.0	0.00	0.00	7,572.0	925.4	-1,519.3	1,778.9	0.00	0.00	0.00	
HARD LINES 87'S & 86'W OF BHL										

Database:	Landmark	Local Co-ordinate Reference:	Well Burman C05-21D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4762.0ft (Original Well Elev)
Project:	SEC.5-T4N-R64W	MD Reference:	WELL @ 4762.0ft (Original Well Elev)
Site:	Burman C04-33D Pad Sec.5-T4N-R64W	North Reference:	True
Well:	Burman C05-21D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Burman C05-21D 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 BHL 2500'F	0.00	0.00	6,100.0	925.4	-1,519.3	1,368,648.09	3,258,137.42	40.341640	-104.573930
- plan hits target center									
- Point									
HARD LINES 87'S & 1	0.00	0.00	7,572.0	838.4	-1,605.3	1,368,560.16	3,258,052.30	40.341401	-104.574239
- plan misses target center by 122.4ft at 7920.0ft MD (7572.0 TVD, 925.4 N, -1519.3 E)									
- Polygon									
Point 1			7,572.0	0.0	0.0	1,368,560.16	3,258,052.30		
Point 2			7,572.0	200.0	0.0	1,368,760.14	3,258,050.20		
Point 3			7,572.0	0.0	0.0	1,368,560.16	3,258,052.30		
Point 4			7,572.0	0.0	200.0	1,368,562.27	3,258,252.28		
TARGET CIRCLE 25'	0.00	0.00	6,652.0	925.4	-1,519.3	1,368,648.09	3,258,137.42	40.341640	-104.573930
- plan hits target center									
- Circle (radius 75.0)									

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	(°)	(°)
	7,000.0	6,652.0	NIOBRARA		0.00	
	7,310.0	6,962.0	CODELL		0.00	
	7,710.0	7,362.0	D-SAND		0.00	
	7,770.0	7,422.0	J-SAND		0.00	