

ENSIGN

Directional

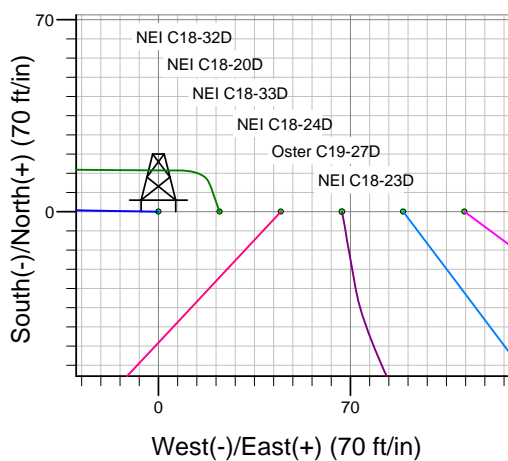
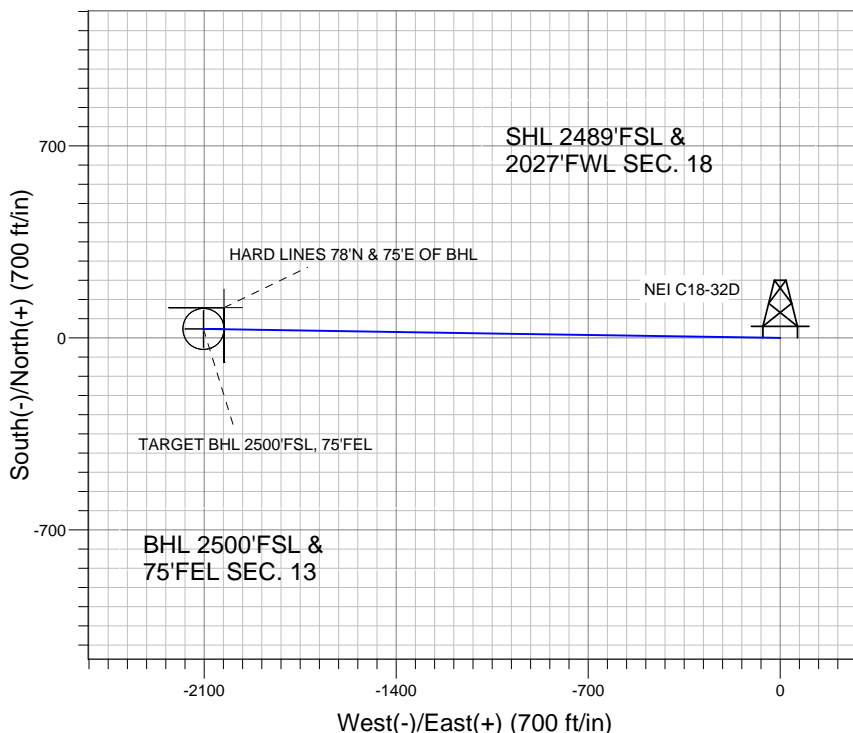
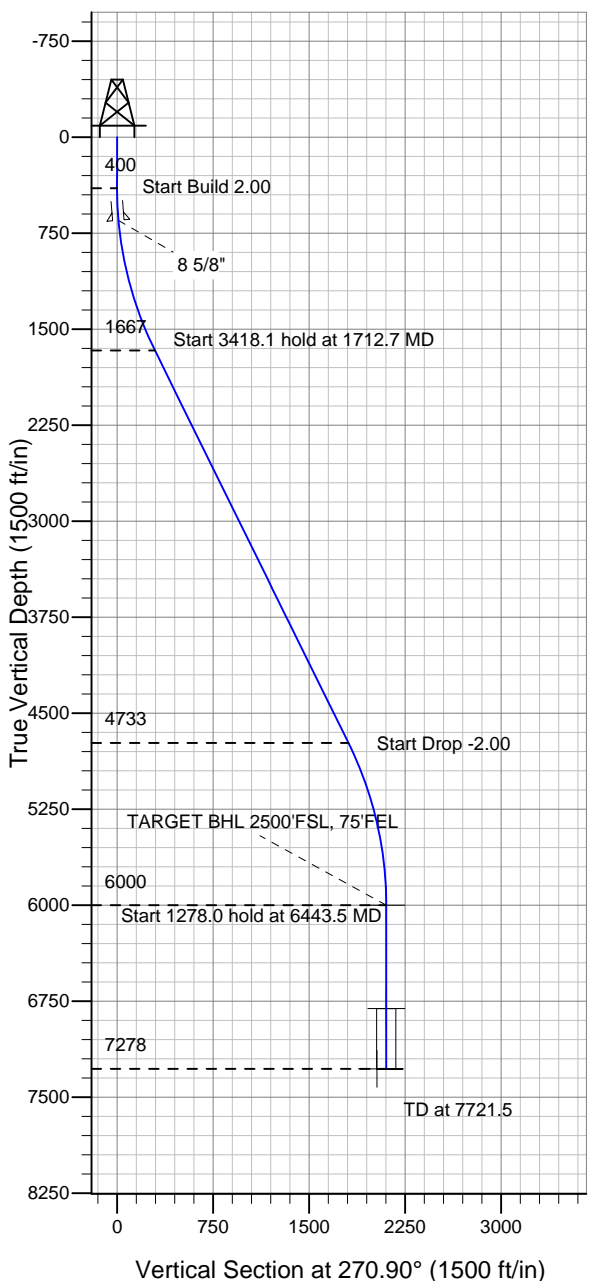
Well Name: NEI C18-32D

Surface Location: NEI C18-32 Pad Sec.18-T4N-R64W
 North American Datum 1983 , US State Plane 1983 , Colorado Northern Zone
 Ground Elevation: 4835.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1357747.15	3252422.52	40.311880	-104.594830	

Original Well Elev WELL @ 4848.0ft (Original Well Elev)

NOBLE ENERGY INC WELD COUNTY CO



NEI C18-32 Pad Sec.18-T4N-R64W
 NEI C18-32D
 Noble NEI C18-32D Plan #1 (6-21-11)
 16:51, July 12 2011



Azimuths to True North
 Magnetic North: 8.76°

Magnetic Field
 Strength: 53101.7snT
 Dip Angle: 67.01°
 Date: 6/21/2011
 Model: IGRF2010

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
TARGET BHL 2500'FSL, 75'FEL	6000.0	32.9	-2102.8	40.311970	-104.602370	Point
TARGET CIRCLE 2500'FSL & 75'FEL	6808.0	32.9	-2102.8	40.311970	-104.602370	Circle (Radius: 75.0)
HARD LINES 78'N & 75'E OF BHL	7278.0	110.9	-2027.8	40.312184	-104.602101	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	400.0	0.00	0.00	400.0	0.0	0.0	0.00	0.00	0.0	
3	1712.7	26.25	270.90	1667.2	4.6	-295.5	2.00	270.90	295.5	
4	5130.8	26.25	270.90	4732.8	28.3	-1807.3	0.00	0.00	1807.5	
5	6443.5	0.00	0.00	6000.0	32.9	-2102.8	2.00	180.00	2103.0	TARGET BHL 2500'FSL, 75'FEL
6	7721.5	0.00	0.00	7278.0	32.9	-2102.8	0.00	0.00	2103.0	



NOBLE ENERGY INC WELD COUNTY CO

SEC.18-T4N-R64W

NEI C18-32 Pad Sec.18-T4N-R64W

NEI C18-32D

Wellbore #1

Plan: Noble NEI C18-32D Plan #1 (6-21-11)

Standard Planning Report

12 July, 2011



Database:	Landmark	Local Co-ordinate Reference:	Well NEI C18-32D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4848.0ft (Original Well Elev)
Project:	SEC.18-T4N-R64W	MD Reference:	WELL @ 4848.0ft (Original Well Elev)
Site:	NEI C18-32 Pad Sec.18-T4N-R64W	North Reference:	True
Well:	NEI C18-32D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble NEI C18-32D Plan #1 (6-21-11)		

Project	SEC.18-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		NEI C18-32 Pad Sec.18-T4N-R64W				
Site Position:		Northing:	1,357,747.19ft	Latitude:	40.311880	
From:	Lat/Long	Easting:	3,252,422.52ft	Longitude:	-104.594830	
Position Uncertainty:		0.0 ft	Slot Radius:	"	Grid Convergence:	0.58 °

Well	NEI C18-32D					
Well Position	+N-S	0.0 ft	Northing:	1,357,747.15 ft	Latitude:	40.311880
	+E-W	0.0 ft	Easting:	3,252,422.52 ft	Longitude:	-104.594830
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,835.0 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	6/21/2011	8.76	67.01	53,102

Design	Noble NEI C18-32D Plan #1 (6-21-11)			
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	270.90

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	
400.0	0.00	0.00	400.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,712.7	26.25	270.90	1,667.2	4.6	-295.5	2.00	2.00	0.00	270.90	
5,130.8	26.25	270.90	4,732.8	28.3	-1,807.3	0.00	0.00	0.00	0.00	
6,443.5	0.00	0.00	6,000.0	32.9	-2,102.8	2.00	-2.00	0.00	180.00	TARGET BHL 250C
7,721.5	0.00	0.00	7,278.0	32.9	-2,102.8	0.00	0.00	0.00	0.00	

Database:	Landmark	Local Co-ordinate Reference:	Well NEI C18-32D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4848.0ft (Original Well Elev)
Project:	SEC.18-T4N-R64W	MD Reference:	WELL @ 4848.0ft (Original Well Elev)
Site:	NEI C18-32 Pad Sec.18-T4N-R64W	North Reference:	True
Well:	NEI C18-32D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble NEI C18-32D Plan #1 (6-21-11)		

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	0.80	270.90	440.0	0.0	-0.3	0.3	2.00	2.00	0.00
480.0	1.60	270.90	480.0	0.0	-1.1	1.1	2.00	2.00	0.00
520.0	2.40	270.90	520.0	0.0	-2.5	2.5	2.00	2.00	0.00
560.0	3.20	270.90	559.9	0.1	-4.5	4.5	2.00	2.00	0.00
600.0	4.00	270.90	599.8	0.1	-7.0	7.0	2.00	2.00	0.00
640.0	4.80	270.90	639.7	0.2	-10.0	10.0	2.00	2.00	0.00
650.3	5.01	270.90	650.0	0.2	-10.9	10.9	2.00	2.00	0.00
8 5/8"									
680.0	5.60	270.90	679.6	0.2	-13.7	13.7	2.00	2.00	0.00
720.0	6.40	270.90	719.3	0.3	-17.9	17.9	2.00	2.00	0.00
760.0	7.20	270.90	759.1	0.4	-22.6	22.6	2.00	2.00	0.00
800.0	8.00	270.90	798.7	0.4	-27.9	27.9	2.00	2.00	0.00
840.0	8.80	270.90	838.3	0.5	-33.7	33.7	2.00	2.00	0.00
880.0	9.60	270.90	877.8	0.6	-40.1	40.1	2.00	2.00	0.00
920.0	10.40	270.90	917.1	0.7	-47.1	47.1	2.00	2.00	0.00
960.0	11.20	270.90	956.4	0.9	-54.6	54.6	2.00	2.00	0.00
1,000.0	12.00	270.90	995.6	1.0	-62.6	62.6	2.00	2.00	0.00
1,040.0	12.80	270.90	1,034.7	1.1	-71.2	71.2	2.00	2.00	0.00
1,080.0	13.60	270.90	1,073.6	1.3	-80.3	80.3	2.00	2.00	0.00
1,120.0	14.40	270.90	1,112.4	1.4	-90.0	90.0	2.00	2.00	0.00
1,160.0	15.20	270.90	1,151.1	1.6	-100.2	100.2	2.00	2.00	0.00
1,200.0	16.00	270.90	1,189.6	1.7	-111.0	111.0	2.00	2.00	0.00
1,240.0	16.80	270.90	1,228.0	1.9	-122.3	122.3	2.00	2.00	0.00
1,280.0	17.60	270.90	1,266.2	2.1	-134.1	134.1	2.00	2.00	0.00
1,320.0	18.40	270.90	1,304.3	2.3	-146.4	146.5	2.00	2.00	0.00
1,360.0	19.20	270.90	1,342.1	2.5	-159.3	159.3	2.00	2.00	0.00
1,400.0	20.00	270.90	1,379.8	2.7	-172.7	172.8	2.00	2.00	0.00
1,440.0	20.80	270.90	1,417.3	2.9	-186.7	186.7	2.00	2.00	0.00
1,480.0	21.60	270.90	1,454.6	3.1	-201.2	201.2	2.00	2.00	0.00
1,520.0	22.40	270.90	1,491.7	3.4	-216.1	216.2	2.00	2.00	0.00
1,560.0	23.20	270.90	1,528.6	3.6	-231.6	231.7	2.00	2.00	0.00
1,600.0	24.00	270.90	1,565.2	3.9	-247.6	247.7	2.00	2.00	0.00
1,640.0	24.80	270.90	1,601.6	4.1	-264.2	264.2	2.00	2.00	0.00
1,680.0	25.60	270.90	1,637.8	4.4	-281.2	281.2	2.00	2.00	0.00
1,712.7	26.25	270.90	1,667.2	4.6	-295.5	295.5	2.00	2.00	0.00
1,720.0	26.25	270.90	1,673.8	4.7	-298.7	298.8	0.00	0.00	0.00
1,760.0	26.25	270.90	1,709.7	5.0	-316.4	316.4	0.00	0.00	0.00
1,800.0	26.25	270.90	1,745.5	5.2	-334.1	334.1	0.00	0.00	0.00
1,840.0	26.25	270.90	1,781.4	5.5	-351.8	351.8	0.00	0.00	0.00
1,880.0	26.25	270.90	1,817.3	5.8	-369.5	369.5	0.00	0.00	0.00
1,920.0	26.25	270.90	1,853.2	6.1	-387.2	387.2	0.00	0.00	0.00
1,960.0	26.25	270.90	1,889.0	6.3	-404.9	404.9	0.00	0.00	0.00
2,000.0	26.25	270.90	1,924.9	6.6	-422.6	422.6	0.00	0.00	0.00

Database:	Landmark	Local Co-ordinate Reference:	Well NEI C18-32D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4848.0ft (Original Well Elev)
Project:	SEC.18-T4N-R64W	MD Reference:	WELL @ 4848.0ft (Original Well Elev)
Site:	NEI C18-32 Pad Sec.18-T4N-R64W	North Reference:	True
Well:	NEI C18-32D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble NEI C18-32D Plan #1 (6-21-11)		

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	26.25	270.90	1,960.8	6.9	-440.3	440.3	0.00	0.00	0.00
2,080.0	26.25	270.90	1,996.7	7.2	-457.9	458.0	0.00	0.00	0.00
2,120.0	26.25	270.90	2,032.5	7.4	-475.6	475.7	0.00	0.00	0.00
2,160.0	26.25	270.90	2,068.4	7.7	-493.3	493.4	0.00	0.00	0.00
2,200.0	26.25	270.90	2,104.3	8.0	-511.0	511.1	0.00	0.00	0.00
2,240.0	26.25	270.90	2,140.1	8.3	-528.7	528.8	0.00	0.00	0.00
2,280.0	26.25	270.90	2,176.0	8.6	-546.4	546.5	0.00	0.00	0.00
2,320.0	26.25	270.90	2,211.9	8.8	-564.1	564.2	0.00	0.00	0.00
2,360.0	26.25	270.90	2,247.8	9.1	-581.8	581.9	0.00	0.00	0.00
2,400.0	26.25	270.90	2,283.6	9.4	-599.5	599.6	0.00	0.00	0.00
2,440.0	26.25	270.90	2,319.5	9.7	-617.2	617.2	0.00	0.00	0.00
2,480.0	26.25	270.90	2,355.4	9.9	-634.9	634.9	0.00	0.00	0.00
2,520.0	26.25	270.90	2,391.3	10.2	-652.6	652.6	0.00	0.00	0.00
2,560.0	26.25	270.90	2,427.1	10.5	-670.2	670.3	0.00	0.00	0.00
2,600.0	26.25	270.90	2,463.0	10.8	-687.9	688.0	0.00	0.00	0.00
2,640.0	26.25	270.90	2,498.9	11.0	-705.6	705.7	0.00	0.00	0.00
2,680.0	26.25	270.90	2,534.8	11.3	-723.3	723.4	0.00	0.00	0.00
2,720.0	26.25	270.90	2,570.6	11.6	-741.0	741.1	0.00	0.00	0.00
2,760.0	26.25	270.90	2,606.5	11.9	-758.7	758.8	0.00	0.00	0.00
2,800.0	26.25	270.90	2,642.4	12.2	-776.4	776.5	0.00	0.00	0.00
2,840.0	26.25	270.90	2,678.3	12.4	-794.1	794.2	0.00	0.00	0.00
2,880.0	26.25	270.90	2,714.1	12.7	-811.8	811.9	0.00	0.00	0.00
2,920.0	26.25	270.90	2,750.0	13.0	-829.5	829.6	0.00	0.00	0.00
2,960.0	26.25	270.90	2,785.9	13.3	-847.2	847.3	0.00	0.00	0.00
3,000.0	26.25	270.90	2,821.8	13.5	-864.9	865.0	0.00	0.00	0.00
3,040.0	26.25	270.90	2,857.6	13.8	-882.5	882.7	0.00	0.00	0.00
3,080.0	26.25	270.90	2,893.5	14.1	-900.2	900.3	0.00	0.00	0.00
3,120.0	26.25	270.90	2,929.4	14.4	-917.9	918.0	0.00	0.00	0.00
3,160.0	26.25	270.90	2,965.2	14.6	-935.6	935.7	0.00	0.00	0.00
3,200.0	26.25	270.90	3,001.1	14.9	-953.3	953.4	0.00	0.00	0.00
3,240.0	26.25	270.90	3,037.0	15.2	-971.0	971.1	0.00	0.00	0.00
3,280.0	26.25	270.90	3,072.9	15.5	-988.7	988.8	0.00	0.00	0.00
3,320.0	26.25	270.90	3,108.7	15.8	-1,006.4	1,006.5	0.00	0.00	0.00
3,360.0	26.25	270.90	3,144.6	16.0	-1,024.1	1,024.2	0.00	0.00	0.00
3,400.0	26.25	270.90	3,180.5	16.3	-1,041.8	1,041.9	0.00	0.00	0.00
3,440.0	26.25	270.90	3,216.4	16.6	-1,059.5	1,059.6	0.00	0.00	0.00
3,480.0	26.25	270.90	3,252.2	16.9	-1,077.2	1,077.3	0.00	0.00	0.00
3,520.0	26.25	270.90	3,288.1	17.1	-1,094.8	1,095.0	0.00	0.00	0.00
3,560.0	26.25	270.90	3,324.0	17.4	-1,112.5	1,112.7	0.00	0.00	0.00
3,600.0	26.25	270.90	3,359.9	17.7	-1,130.2	1,130.4	0.00	0.00	0.00
3,640.0	26.25	270.90	3,395.7	18.0	-1,147.9	1,148.1	0.00	0.00	0.00
3,680.0	26.25	270.90	3,431.6	18.2	-1,165.6	1,165.8	0.00	0.00	0.00
3,720.0	26.25	270.90	3,467.5	18.5	-1,183.3	1,183.5	0.00	0.00	0.00
3,760.0	26.25	270.90	3,503.4	18.8	-1,201.0	1,201.1	0.00	0.00	0.00
3,800.0	26.25	270.90	3,539.2	19.1	-1,218.7	1,218.8	0.00	0.00	0.00
3,840.0	26.25	270.90	3,575.1	19.4	-1,236.4	1,236.5	0.00	0.00	0.00
3,880.0	26.25	270.90	3,611.0	19.6	-1,254.1	1,254.2	0.00	0.00	0.00
3,920.0	26.25	270.90	3,646.8	19.9	-1,271.8	1,271.9	0.00	0.00	0.00
3,960.0	26.25	270.90	3,682.7	20.2	-1,289.5	1,289.6	0.00	0.00	0.00
4,000.0	26.25	270.90	3,718.6	20.5	-1,307.1	1,307.3	0.00	0.00	0.00
4,040.0	26.25	270.90	3,754.5	20.7	-1,324.8	1,325.0	0.00	0.00	0.00
4,080.0	26.25	270.90	3,790.3	21.0	-1,342.5	1,342.7	0.00	0.00	0.00
4,120.0	26.25	270.90	3,826.2	21.3	-1,360.2	1,360.4	0.00	0.00	0.00
4,160.0	26.25	270.90	3,862.1	21.6	-1,377.9	1,378.1	0.00	0.00	0.00

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Project:	SEC.18-T4N-R64W	MD Reference:	WELL @ 4848.0ft (Original Well Elev)
Site:	NEI C18-32 Pad Sec.18-T4N-R64W	North Reference:	True
Well:	NEI C18-32D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble NEI C18-32D Plan #1 (6-21-11)		

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)	
4,200.0	26.25	270.90	3,898.0	21.8	-1,395.6	1,395.8	0.00	0.00	0.00	
4,240.0	26.25	270.90	3,933.8	22.1	-1,413.3	1,413.5	0.00	0.00	0.00	
4,280.0	26.25	270.90	3,969.7	22.4	-1,431.0	1,431.2	0.00	0.00	0.00	
4,320.0	26.25	270.90	4,005.6	22.7	-1,448.7	1,448.9	0.00	0.00	0.00	
4,360.0	26.25	270.90	4,041.5	23.0	-1,466.4	1,466.6	0.00	0.00	0.00	
4,400.0	26.25	270.90	4,077.3	23.2	-1,484.1	1,484.2	0.00	0.00	0.00	
4,440.0	26.25	270.90	4,113.2	23.5	-1,501.8	1,501.9	0.00	0.00	0.00	
4,480.0	26.25	270.90	4,149.1	23.8	-1,519.4	1,519.6	0.00	0.00	0.00	
4,520.0	26.25	270.90	4,185.0	24.1	-1,537.1	1,537.3	0.00	0.00	0.00	
4,560.0	26.25	270.90	4,220.8	24.3	-1,554.8	1,555.0	0.00	0.00	0.00	
4,600.0	26.25	270.90	4,256.7	24.6	-1,572.5	1,572.7	0.00	0.00	0.00	
4,640.0	26.25	270.90	4,292.6	24.9	-1,590.2	1,590.4	0.00	0.00	0.00	
4,680.0	26.25	270.90	4,328.4	25.2	-1,607.9	1,608.1	0.00	0.00	0.00	
4,720.0	26.25	270.90	4,364.3	25.4	-1,625.6	1,625.8	0.00	0.00	0.00	
4,760.0	26.25	270.90	4,400.2	25.7	-1,643.3	1,643.5	0.00	0.00	0.00	
4,800.0	26.25	270.90	4,436.1	26.0	-1,661.0	1,661.2	0.00	0.00	0.00	
4,840.0	26.25	270.90	4,471.9	26.3	-1,678.7	1,678.9	0.00	0.00	0.00	
4,880.0	26.25	270.90	4,507.8	26.6	-1,696.4	1,696.6	0.00	0.00	0.00	
4,920.0	26.25	270.90	4,543.7	26.8	-1,714.1	1,714.3	0.00	0.00	0.00	
4,960.0	26.25	270.90	4,579.6	27.1	-1,731.7	1,732.0	0.00	0.00	0.00	
5,000.0	26.25	270.90	4,615.4	27.4	-1,749.4	1,749.7	0.00	0.00	0.00	
5,040.0	26.25	270.90	4,651.3	27.7	-1,767.1	1,767.3	0.00	0.00	0.00	
5,080.0	26.25	270.90	4,687.2	27.9	-1,784.8	1,785.0	0.00	0.00	0.00	
5,120.0	26.25	270.90	4,723.1	28.2	-1,802.5	1,802.7	0.00	0.00	0.00	
5,130.8	26.25	270.90	4,732.8	28.3	-1,807.3	1,807.5	0.00	0.00	0.00	
5,160.0	25.67	270.90	4,759.0	28.5	-1,820.1	1,820.3	2.00	-2.00	0.00	
5,200.0	24.87	270.90	4,795.2	28.8	-1,837.1	1,837.4	2.00	-2.00	0.00	
5,240.0	24.07	270.90	4,831.6	29.0	-1,853.7	1,853.9	2.00	-2.00	0.00	
5,280.0	23.27	270.90	4,868.2	29.3	-1,869.8	1,870.0	2.00	-2.00	0.00	
5,320.0	22.47	270.90	4,905.1	29.5	-1,885.3	1,885.5	2.00	-2.00	0.00	
5,360.0	21.67	270.90	4,942.1	29.7	-1,900.3	1,900.6	2.00	-2.00	0.00	
5,400.0	20.87	270.90	4,979.4	30.0	-1,914.9	1,915.1	2.00	-2.00	0.00	
5,440.0	20.07	270.90	5,016.9	30.2	-1,928.8	1,929.1	2.00	-2.00	0.00	
5,480.0	19.27	270.90	5,054.5	30.4	-1,942.3	1,942.5	2.00	-2.00	0.00	
5,520.0	18.47	270.90	5,092.4	30.6	-1,955.2	1,955.5	2.00	-2.00	0.00	
5,560.0	17.67	270.90	5,130.4	30.8	-1,967.6	1,967.9	2.00	-2.00	0.00	
5,600.0	16.87	270.90	5,168.6	31.0	-1,979.5	1,979.8	2.00	-2.00	0.00	
5,640.0	16.07	270.90	5,207.0	31.2	-1,990.9	1,991.1	2.00	-2.00	0.00	
5,680.0	15.27	270.90	5,245.5	31.3	-2,001.7	2,001.9	2.00	-2.00	0.00	
5,720.0	14.47	270.90	5,284.2	31.5	-2,011.9	2,012.2	2.00	-2.00	0.00	
5,760.0	13.67	270.90	5,323.0	31.6	-2,021.6	2,021.9	2.00	-2.00	0.00	
5,800.0	12.87	270.90	5,361.9	31.8	-2,030.8	2,031.1	2.00	-2.00	0.00	
5,840.0	12.07	270.90	5,400.9	31.9	-2,039.5	2,039.7	2.00	-2.00	0.00	
5,880.0	11.27	270.90	5,440.1	32.1	-2,047.6	2,047.8	2.00	-2.00	0.00	
5,920.0	10.47	270.90	5,479.4	32.2	-2,055.1	2,055.3	2.00	-2.00	0.00	
5,960.0	9.67	270.90	5,518.8	32.3	-2,062.1	2,062.3	2.00	-2.00	0.00	
6,000.0	8.87	270.90	5,558.3	32.4	-2,068.5	2,068.8	2.00	-2.00	0.00	
6,040.0	8.07	270.90	5,597.8	32.5	-2,074.4	2,074.7	2.00	-2.00	0.00	
6,080.0	7.27	270.90	5,637.5	32.6	-2,079.8	2,080.0	2.00	-2.00	0.00	
6,120.0	6.47	270.90	5,677.2	32.6	-2,084.5	2,084.8	2.00	-2.00	0.00	
6,160.0	5.67	270.90	5,716.9	32.7	-2,088.8	2,089.0	2.00	-2.00	0.00	
6,200.0	4.87	270.90	5,756.8	32.8	-2,092.4	2,092.7	2.00	-2.00	0.00	
6,240.0	4.07	270.90	5,796.7	32.8	-2,095.6	2,095.8	2.00	-2.00	0.00	
6,280.0	3.27	270.90	5,836.6	32.8	-2,098.1	2,098.4	2.00	-2.00	0.00	

Database:	Landmark	Local Co-ordinate Reference:	Well NEI C18-32D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4848.0ft (Original Well Elev)
Project:	SEC.18-T4N-R64W	MD Reference:	WELL @ 4848.0ft (Original Well Elev)
Site:	NEI C18-32 Pad Sec.18-T4N-R64W	North Reference:	True
Well:	NEI C18-32D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble NEI C18-32D Plan #1 (6-21-11)		

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)
6,320.0	2.47	270.90	5,876.5	32.9	-2,100.1	2,100.4	2.00	-2.00	0.00
6,360.0	1.67	270.90	5,916.5	32.9	-2,101.6	2,101.8	2.00	-2.00	0.00
6,400.0	0.87	270.90	5,956.5	32.9	-2,102.5	2,102.7	2.00	-2.00	0.00
6,440.0	0.07	270.90	5,996.5	32.9	-2,102.8	2,103.0	2.00	-2.00	0.00
6,443.5	0.00	0.00	6,000.0	32.9	-2,102.8	2,103.0	2.00	-2.00	2,535.95
TARGET BHL 2500'FSL, 75'FEL									
6,480.0	0.00	0.00	6,036.5	32.9	-2,102.8	2,103.0	0.00	0.00	0.00
6,520.0	0.00	0.00	6,076.5	32.9	-2,102.8	2,103.0	0.00	0.00	0.00
6,560.0	0.00	0.00	6,116.5	32.9	-2,102.8	2,103.0	0.00	0.00	0.00
6,600.0	0.00	0.00	6,156.5	32.9	-2,102.8	2,103.0	0.00	0.00	0.00
6,640.0	0.00	0.00	6,196.5	32.9	-2,102.8	2,103.0	0.00	0.00	0.00
6,680.0	0.00	0.00	6,236.5	32.9	-2,102.8	2,103.0	0.00	0.00	0.00
6,720.0	0.00	0.00	6,276.5	32.9	-2,102.8	2,103.0	0.00	0.00	0.00
6,760.0	0.00	0.00	6,316.5	32.9	-2,102.8	2,103.0	0.00	0.00	0.00
6,800.0	0.00	0.00	6,356.5	32.9	-2,102.8	2,103.0	0.00	0.00	0.00
6,840.0	0.00	0.00	6,396.5	32.9	-2,102.8	2,103.0	0.00	0.00	0.00
6,880.0	0.00	0.00	6,436.5	32.9	-2,102.8	2,103.0	0.00	0.00	0.00
6,920.0	0.00	0.00	6,476.5	32.9	-2,102.8	2,103.0	0.00	0.00	0.00
6,960.0	0.00	0.00	6,516.5	32.9	-2,102.8	2,103.0	0.00	0.00	0.00
7,000.0	0.00	0.00	6,556.5	32.9	-2,102.8	2,103.0	0.00	0.00	0.00
7,040.0	0.00	0.00	6,596.5	32.9	-2,102.8	2,103.0	0.00	0.00	0.00
7,080.0	0.00	0.00	6,636.5	32.9	-2,102.8	2,103.0	0.00	0.00	0.00
7,120.0	0.00	0.00	6,676.5	32.9	-2,102.8	2,103.0	0.00	0.00	0.00
7,160.0	0.00	0.00	6,716.5	32.9	-2,102.8	2,103.0	0.00	0.00	0.00
7,200.0	0.00	0.00	6,756.5	32.9	-2,102.8	2,103.0	0.00	0.00	0.00
7,240.0	0.00	0.00	6,796.5	32.9	-2,102.8	2,103.0	0.00	0.00	0.00
7,251.5	0.00	0.00	6,808.0	32.9	-2,102.8	2,103.0	0.00	0.00	0.00
NIOBRARA - TARGET CIRCLE 2500'FSL & 75'FEL									
7,280.0	0.00	0.00	6,836.5	32.9	-2,102.8	2,103.0	0.00	0.00	0.00
7,320.0	0.00	0.00	6,876.5	32.9	-2,102.8	2,103.0	0.00	0.00	0.00
7,360.0	0.00	0.00	6,916.5	32.9	-2,102.8	2,103.0	0.00	0.00	0.00
7,400.0	0.00	0.00	6,956.5	32.9	-2,102.8	2,103.0	0.00	0.00	0.00
7,440.0	0.00	0.00	6,996.5	32.9	-2,102.8	2,103.0	0.00	0.00	0.00
7,480.0	0.00	0.00	7,036.5	32.9	-2,102.8	2,103.0	0.00	0.00	0.00
7,520.0	0.00	0.00	7,076.5	32.9	-2,102.8	2,103.0	0.00	0.00	0.00
7,560.0	0.00	0.00	7,116.5	32.9	-2,102.8	2,103.0	0.00	0.00	0.00
7,571.5	0.00	0.00	7,128.0	32.9	-2,102.8	2,103.0	0.00	0.00	0.00
CODELL									
7,600.0	0.00	0.00	7,156.5	32.9	-2,102.8	2,103.0	0.00	0.00	0.00
7,640.0	0.00	0.00	7,196.5	32.9	-2,102.8	2,103.0	0.00	0.00	0.00
7,680.0	0.00	0.00	7,236.5	32.9	-2,102.8	2,103.0	0.00	0.00	0.00
7,720.0	0.00	0.00	7,276.5	32.9	-2,102.8	2,103.0	0.00	0.00	0.00
7,721.5	0.00	0.00	7,278.0	32.9	-2,102.8	2,103.0	0.00	0.00	0.00
HARD LINES 78'N & 75'E OF BHL									

Database:	Landmark	Local Co-ordinate Reference:	Well NEI C18-32D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4848.0ft (Original Well Elev)
Project:	SEC.18-T4N-R64W	MD Reference:	WELL @ 4848.0ft (Original Well Elev)
Site:	NEI C18-32 Pad Sec.18-T4N-R64W	North Reference:	True
Well:	NEI C18-32D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble NEI C18-32D Plan #1 (6-21-11)		

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	6,000.0	32.9	-2,102.8	1,357,758.60	3,250,319.60	40.311970	-104.602370
- plan hits target center									
- Point									
HARD LINES 78'N & 1	0.00	0.00	7,278.0	110.9	-2,027.8	1,357,837.35	3,250,393.78	40.312184	-104.602101
- plan misses target center by 108.2ft at 7721.5ft MD (7278.0 TVD, 32.9 N, -2102.8 E)									
- Polygon									
Point 1			7,278.0	0.0	0.0	1,357,837.35	3,250,393.78		
Point 2			7,278.0	-200.0	0.0	1,357,637.37	3,250,395.83		
Point 3			7,278.0	0.0	0.0	1,357,837.35	3,250,393.78		
Point 4			7,278.0	0.0	-200.0	1,357,835.31	3,250,193.80		
TARGET CIRCLE 250	0.00	0.00	6,808.0	32.9	-2,102.8	1,357,758.60	3,250,319.60	40.311970	-104.602370
- plan hits target center									
- Circle (radius 75.0)									

Casing Points					
	Measured Depth	Vertical Depth		Casing Diameter	Hole Diameter
	(ft)	(ft)	Name	(")	(")
	650.3	650.0	8 5/8"	8-5/8	12-1/4

Formations					
	Measured Depth	Vertical Depth			
	(ft)	(ft)	Name	Lithology	Dip
					(°)
					Dip Direction
					(°)
	7,251.5	6,808.0	NIOBRARA		0.00
	7,571.5	7,128.0	CODELL		0.00