

Well Name: NEI C18-24D

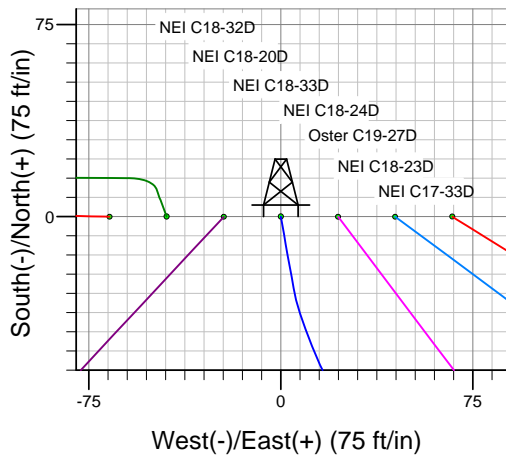
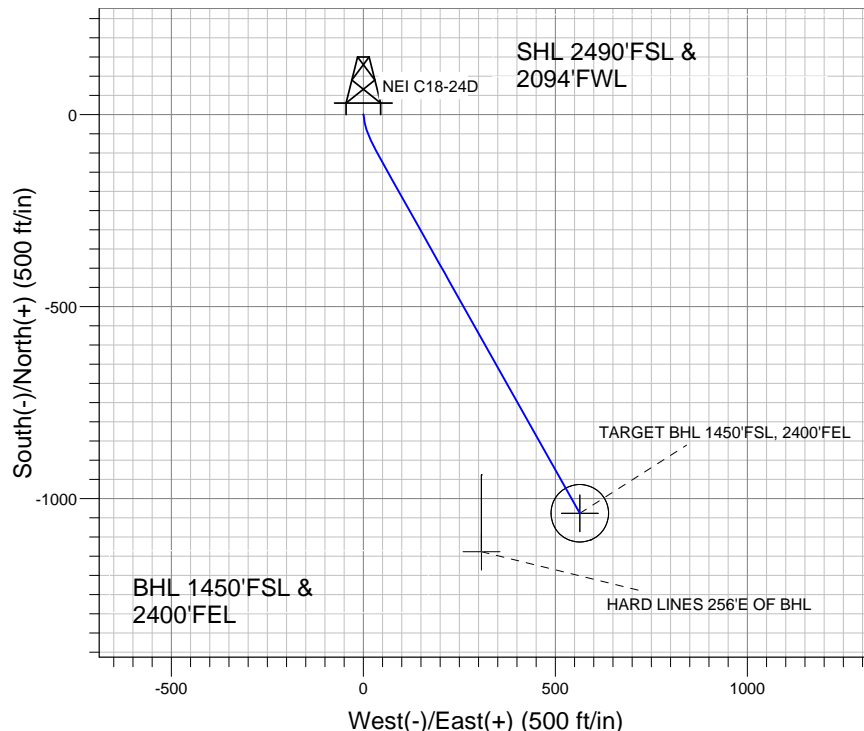
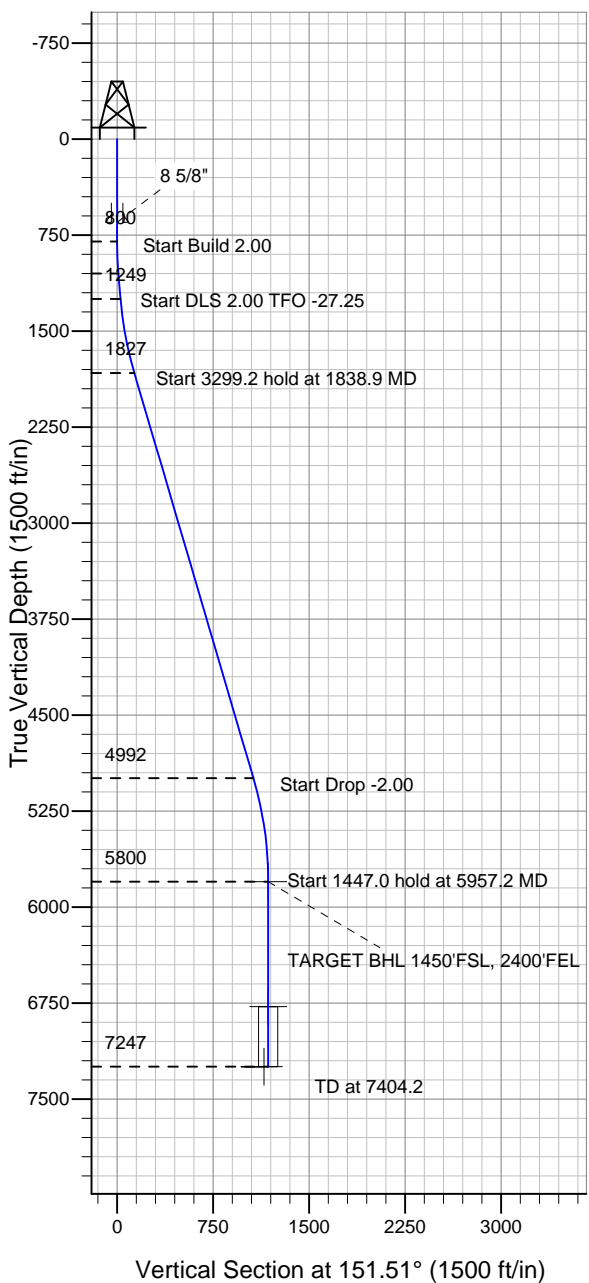
Surface Location: NEI C18-32 Pad Sec.18-T4N-R64W
North American Datum 1983 , US State Plane 1983 , Colorado Northern Zone

Ground Elevation: 4834.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1357747.85	3252489.45	40.311880	-104.594590	

Original Well Elev WELL @ 4847.0ft (Original Well Elev)

NOBLE ENERGY INC WELD COUNTY CO



NEI C18-32 Pad Sec.18-T4N-R64W
NEI C18-24D
Noble NEI C18-24D Plan #1 (6-21-11)
17:10, July 12 2011



Azimuths to True North
Magnetic North: 8.76°

Magnetic Field
Strength: 53101.8snT
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 1450'FSL, 2400'FEL	5800.0	-1038.2	563.4	40.309030	-104.592570	Point
TARGET CIRCLE 1450'FSL & 2400'FEL	6777.0	-1038.2	563.4	40.309030	-104.592570	Circle (Radius: 75.0)
HARD LINES 256'E OF BHL	7247.0	-1138.3	307.4	40.308755	-104.593488	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	800.0	0.00	0.00	800.0	0.0	0.0	0.00	0.00	0.0	
3	1050.0	5.00	170.00	1049.7	-10.7	1.9	2.00	170.00	10.3	
4	1250.0	5.00	170.00	1248.9	-27.9	4.9	0.00	0.00	26.9	
5	1838.9	16.38	150.65	1826.8	-125.9	50.2	2.00	-27.25	134.6	
6	5138.1	16.38	150.65	4992.1	-936.9	506.4	0.00	0.00	1065.0	
7	5957.2	0.00	0.00	5800.0	-1038.2	563.4	2.00	180.00	1181.2	TARGET BHL 1450'FSL, 2400'FEL
8	7404.2	0.00	0.00	7247.0	-1038.2	563.4	0.00	0.00	1181.2	



NOBLE ENERGY INC WELD COUNTY CO

SEC.18-T4N-R64W

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

NEI C18-24D

Wellbore #1

Plan: Noble NEI C18-24D Plan #1 (6-21-11)

Standard Planning Report

12 July, 2011



Database:	Landmark	Local Co-ordinate Reference:	Well NEI C18-24D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4847.0ft (Original Well Elev)
Project:	SEC.18-T4N-R64W	MD Reference:	WELL @ 4847.0ft (Original Well Elev)
Site:	NEI C18-32 Pad Sec.18-T4N-R64W	North Reference:	True
Well:	NEI C18-24D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble NEI C18-24D 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 C18-24D					
Well Position	+N/-S	0.0 ft	Northing:	1,357,747.85 ft	Latitude:	40.311880
	+E/-W	66.9 ft	Easting:	3,252,489.45 ft	Longitude:	-104.594590
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,834.0 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 C18-24D 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	151.51

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	
800.0	0.00	0.00	800.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,050.0	5.00	170.00	1,049.7	-10.7	1.9	2.00	2.00	0.00	170.00	
1,250.0	5.00	170.00	1,248.9	-27.9	4.9	0.00	0.00	0.00	0.00	
1,838.9	16.38	150.65	1,826.8	-125.9	50.2	2.00	1.93	-3.29	-27.25	
5,138.1	16.38	150.65	4,992.1	-936.9	506.4	0.00	0.00	0.00	0.00	
5,957.2	0.00	0.00	5,800.0	-1,038.2	563.4	2.00	-2.00	0.00	180.00	TARGET BHL 145C
7,404.2	0.00	0.00	7,247.0	-1,038.2	563.4	0.00	0.00	0.00	0.00	

Database:	Landmark	Local Co-ordinate Reference:	Well NEI C18-24D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4847.0ft (Original Well Elev)
Project:	SEC.18-T4N-R64W	MD Reference:	WELL @ 4847.0ft (Original Well Elev)
Site:	NEI C18-32 Pad Sec.18-T4N-R64W	North Reference:	True
Well:	NEI C18-24D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble NEI C18-24D 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	0.00	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	0.80	170.00	840.0	-0.3	0.0	0.3	2.00	2.00	0.00
880.0	1.60	170.00	880.0	-1.1	0.2	1.1	2.00	2.00	0.00
920.0	2.40	170.00	920.0	-2.5	0.4	2.4	2.00	2.00	0.00
960.0	3.20	170.00	959.9	-4.4	0.8	4.2	2.00	2.00	0.00
1,000.0	4.00	170.00	999.8	-6.9	1.2	6.6	2.00	2.00	0.00
1,040.0	4.80	170.00	1,039.7	-9.9	1.7	9.5	2.00	2.00	0.00
1,050.0	5.00	170.00	1,049.7	-10.7	1.9	10.3	2.00	2.00	0.00
1,080.0	5.00	170.00	1,079.6	-13.3	2.3	12.8	0.00	0.00	0.00
1,120.0	5.00	170.00	1,119.4	-16.7	3.0	16.1	0.00	0.00	0.00
1,160.0	5.00	170.00	1,159.3	-20.2	3.6	19.4	0.00	0.00	0.00
1,200.0	5.00	170.00	1,199.1	-23.6	4.2	22.7	0.00	0.00	0.00
1,240.0	5.00	170.00	1,239.0	-27.0	4.8	26.0	0.00	0.00	0.00
1,250.0	5.00	170.00	1,248.9	-27.9	4.9	26.9	0.00	0.00	0.00
1,280.0	5.54	167.15	1,278.8	-30.6	5.5	29.5	2.00	1.80	-9.49
1,320.0	6.28	164.13	1,318.6	-34.6	6.5	33.5	2.00	1.84	-7.56
1,360.0	7.03	161.74	1,358.3	-39.0	7.9	38.0	2.00	1.88	-5.97
1,400.0	7.79	159.81	1,398.0	-43.9	9.6	43.1	2.00	1.90	-4.81
1,440.0	8.56	158.23	1,437.6	-49.2	11.6	48.8	2.00	1.92	-3.96
1,480.0	9.33	156.91	1,477.1	-54.9	14.0	55.0	2.00	1.93	-3.31
1,520.0	10.11	155.78	1,516.5	-61.1	16.7	61.7	2.00	1.94	-2.81
1,560.0	10.89	154.82	1,555.8	-67.7	19.7	69.0	2.00	1.95	-2.41
1,600.0	11.67	153.99	1,595.1	-74.8	23.1	76.8	2.00	1.96	-2.09
1,640.0	12.46	153.25	1,634.2	-82.3	26.8	85.1	2.00	1.96	-1.83
1,680.0	13.24	152.61	1,673.2	-90.2	30.9	94.0	2.00	1.97	-1.62
1,720.0	14.03	152.03	1,712.1	-98.6	35.3	103.4	2.00	1.97	-1.44
1,760.0	14.82	151.52	1,750.8	-107.3	40.0	113.4	2.00	1.97	-1.29
1,800.0	15.61	151.05	1,789.4	-116.5	45.0	123.9	2.00	1.98	-1.16
1,838.9	16.38	150.65	1,826.8	-125.9	50.2	134.6	2.00	1.98	-1.05
1,840.0	16.38	150.65	1,827.8	-126.2	50.4	134.9	0.00	0.00	0.00
1,880.0	16.38	150.65	1,866.2	-136.0	55.9	146.2	0.00	0.00	0.00
1,920.0	16.38	150.65	1,904.6	-145.8	61.5	157.5	0.00	0.00	0.00

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Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4847.0ft (Original Well Elev)
Project:	SEC.18-T4N-R64W	MD Reference:	WELL @ 4847.0ft (Original Well Elev)
Site:	NEI C18-32 Pad Sec.18-T4N-R64W	North Reference:	True
Well:	NEI C18-24D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble NEI C18-24D 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)
1,960.0	16.38	150.65	1,943.0	-155.7	67.0	168.8	0.00	0.00	0.00
2,000.0	16.38	150.65	1,981.3	-165.5	72.5	180.1	0.00	0.00	0.00
2,040.0	16.38	150.65	2,019.7	-175.3	78.0	191.3	0.00	0.00	0.00
2,080.0	16.38	150.65	2,058.1	-185.2	83.6	202.6	0.00	0.00	0.00
2,120.0	16.38	150.65	2,096.5	-195.0	89.1	213.9	0.00	0.00	0.00
2,160.0	16.38	150.65	2,134.9	-204.8	94.6	225.2	0.00	0.00	0.00
2,200.0	16.38	150.65	2,173.2	-214.7	100.2	236.5	0.00	0.00	0.00
2,240.0	16.38	150.65	2,211.6	-224.5	105.7	247.7	0.00	0.00	0.00
2,280.0	16.38	150.65	2,250.0	-234.3	111.2	259.0	0.00	0.00	0.00
2,320.0	16.38	150.65	2,288.4	-244.2	116.8	270.3	0.00	0.00	0.00
2,360.0	16.38	150.65	2,326.7	-254.0	122.3	281.6	0.00	0.00	0.00
2,400.0	16.38	150.65	2,365.1	-263.8	127.8	292.8	0.00	0.00	0.00
2,440.0	16.38	150.65	2,403.5	-273.7	133.3	304.1	0.00	0.00	0.00
2,480.0	16.38	150.65	2,441.9	-283.5	138.9	315.4	0.00	0.00	0.00
2,520.0	16.38	150.65	2,480.2	-293.3	144.4	326.7	0.00	0.00	0.00
2,560.0	16.38	150.65	2,518.6	-303.2	149.9	338.0	0.00	0.00	0.00
2,600.0	16.38	150.65	2,557.0	-313.0	155.5	349.2	0.00	0.00	0.00
2,640.0	16.38	150.65	2,595.4	-322.8	161.0	360.5	0.00	0.00	0.00
2,680.0	16.38	150.65	2,633.7	-332.7	166.5	371.8	0.00	0.00	0.00
2,720.0	16.38	150.65	2,672.1	-342.5	172.1	383.1	0.00	0.00	0.00
2,760.0	16.38	150.65	2,710.5	-352.3	177.6	394.4	0.00	0.00	0.00
2,800.0	16.38	150.65	2,748.9	-362.2	183.1	405.6	0.00	0.00	0.00
2,840.0	16.38	150.65	2,787.2	-372.0	188.6	416.9	0.00	0.00	0.00
2,880.0	16.38	150.65	2,825.6	-381.8	194.2	428.2	0.00	0.00	0.00
2,920.0	16.38	150.65	2,864.0	-391.7	199.7	439.5	0.00	0.00	0.00
2,960.0	16.38	150.65	2,902.4	-401.5	205.2	450.8	0.00	0.00	0.00
3,000.0	16.38	150.65	2,940.8	-411.3	210.8	462.0	0.00	0.00	0.00
3,040.0	16.38	150.65	2,979.1	-421.1	216.3	473.3	0.00	0.00	0.00
3,080.0	16.38	150.65	3,017.5	-431.0	221.8	484.6	0.00	0.00	0.00
3,120.0	16.38	150.65	3,055.9	-440.8	227.4	495.9	0.00	0.00	0.00
3,160.0	16.38	150.65	3,094.3	-450.6	232.9	507.2	0.00	0.00	0.00
3,200.0	16.38	150.65	3,132.6	-460.5	238.4	518.4	0.00	0.00	0.00
3,240.0	16.38	150.65	3,171.0	-470.3	243.9	529.7	0.00	0.00	0.00
3,280.0	16.38	150.65	3,209.4	-480.1	249.5	541.0	0.00	0.00	0.00
3,320.0	16.38	150.65	3,247.8	-490.0	255.0	552.3	0.00	0.00	0.00
3,360.0	16.38	150.65	3,286.1	-499.8	260.5	563.6	0.00	0.00	0.00
3,400.0	16.38	150.65	3,324.5	-509.6	266.1	574.8	0.00	0.00	0.00
3,440.0	16.38	150.65	3,362.9	-519.5	271.6	586.1	0.00	0.00	0.00
3,480.0	16.38	150.65	3,401.3	-529.3	277.1	597.4	0.00	0.00	0.00
3,520.0	16.38	150.65	3,439.6	-539.1	282.7	608.7	0.00	0.00	0.00
3,560.0	16.38	150.65	3,478.0	-549.0	288.2	620.0	0.00	0.00	0.00
3,600.0	16.38	150.65	3,516.4	-558.8	293.7	631.2	0.00	0.00	0.00
3,640.0	16.38	150.65	3,554.8	-568.6	299.3	642.5	0.00	0.00	0.00
3,680.0	16.38	150.65	3,593.1	-578.5	304.8	653.8	0.00	0.00	0.00
3,720.0	16.38	150.65	3,631.5	-588.3	310.3	665.1	0.00	0.00	0.00
3,760.0	16.38	150.65	3,669.9	-598.1	315.8	676.4	0.00	0.00	0.00
3,800.0	16.38	150.65	3,708.3	-608.0	321.4	687.6	0.00	0.00	0.00
3,840.0	16.38	150.65	3,746.7	-617.8	326.9	698.9	0.00	0.00	0.00
3,880.0	16.38	150.65	3,785.0	-627.6	332.4	710.2	0.00	0.00	0.00
3,920.0	16.38	150.65	3,823.4	-637.5	338.0	721.5	0.00	0.00	0.00
3,960.0	16.38	150.65	3,861.8	-647.3	343.5	732.8	0.00	0.00	0.00
4,000.0	16.38	150.65	3,900.2	-657.1	349.0	744.0	0.00	0.00	0.00
4,040.0	16.38	150.65	3,938.5	-667.0	354.6	755.3	0.00	0.00	0.00
4,080.0	16.38	150.65	3,976.9	-676.8	360.1	766.6	0.00	0.00	0.00

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Site:	NEI C18-32 Pad Sec.18-T4N-R64W	North Reference:	True
Well:	NEI C18-24D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble NEI C18-24D 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)
4,120.0	16.38	150.65	4,015.3	-686.6	365.6	777.9	0.00	0.00	0.00
4,160.0	16.38	150.65	4,053.7	-696.5	371.1	789.2	0.00	0.00	0.00
4,200.0	16.38	150.65	4,092.0	-706.3	376.7	800.4	0.00	0.00	0.00
4,240.0	16.38	150.65	4,130.4	-716.1	382.2	811.7	0.00	0.00	0.00
4,280.0	16.38	150.65	4,168.8	-726.0	387.7	823.0	0.00	0.00	0.00
4,320.0	16.38	150.65	4,207.2	-735.8	393.3	834.3	0.00	0.00	0.00
4,360.0	16.38	150.65	4,245.5	-745.6	398.8	845.6	0.00	0.00	0.00
4,400.0	16.38	150.65	4,283.9	-755.5	404.3	856.8	0.00	0.00	0.00
4,440.0	16.38	150.65	4,322.3	-765.3	409.9	868.1	0.00	0.00	0.00
4,480.0	16.38	150.65	4,360.7	-775.1	415.4	879.4	0.00	0.00	0.00
4,520.0	16.38	150.65	4,399.1	-785.0	420.9	890.7	0.00	0.00	0.00
4,560.0	16.38	150.65	4,437.4	-794.8	426.4	902.0	0.00	0.00	0.00
4,600.0	16.38	150.65	4,475.8	-804.6	432.0	913.2	0.00	0.00	0.00
4,640.0	16.38	150.65	4,514.2	-814.4	437.5	924.5	0.00	0.00	0.00
4,680.0	16.38	150.65	4,552.6	-824.3	443.0	935.8	0.00	0.00	0.00
4,720.0	16.38	150.65	4,590.9	-834.1	448.6	947.1	0.00	0.00	0.00
4,760.0	16.38	150.65	4,629.3	-843.9	454.1	958.3	0.00	0.00	0.00
4,800.0	16.38	150.65	4,667.7	-853.8	459.6	969.6	0.00	0.00	0.00
4,840.0	16.38	150.65	4,706.1	-863.6	465.2	980.9	0.00	0.00	0.00
4,880.0	16.38	150.65	4,744.4	-873.4	470.7	992.2	0.00	0.00	0.00
4,920.0	16.38	150.65	4,782.8	-883.3	476.2	1,003.5	0.00	0.00	0.00
4,960.0	16.38	150.65	4,821.2	-893.1	481.7	1,014.7	0.00	0.00	0.00
5,000.0	16.38	150.65	4,859.6	-902.9	487.3	1,026.0	0.00	0.00	0.00
5,040.0	16.38	150.65	4,897.9	-912.8	492.8	1,037.3	0.00	0.00	0.00
5,080.0	16.38	150.65	4,936.3	-922.6	498.3	1,048.6	0.00	0.00	0.00
5,120.0	16.38	150.65	4,974.7	-932.4	503.9	1,059.9	0.00	0.00	0.00
5,138.1	16.38	150.65	4,992.1	-936.9	506.4	1,065.0	0.00	0.00	0.00
5,160.0	15.94	150.65	5,013.1	-942.2	509.4	1,071.1	2.00	-2.00	0.00
5,200.0	15.14	150.65	5,051.6	-951.5	514.6	1,081.8	2.00	-2.00	0.00
5,240.0	14.34	150.65	5,090.3	-960.4	519.6	1,092.0	2.00	-2.00	0.00
5,280.0	13.54	150.65	5,129.1	-968.8	524.3	1,101.6	2.00	-2.00	0.00
5,320.0	12.74	150.65	5,168.1	-976.7	528.8	1,110.7	2.00	-2.00	0.00
5,360.0	11.94	150.65	5,207.2	-984.2	533.0	1,119.2	2.00	-2.00	0.00
5,400.0	11.14	150.65	5,246.4	-991.2	536.9	1,127.2	2.00	-2.00	0.00
5,440.0	10.34	150.65	5,285.7	-997.7	540.6	1,134.7	2.00	-2.00	0.00
5,480.0	9.54	150.65	5,325.1	-1,003.7	543.9	1,141.6	2.00	-2.00	0.00
5,520.0	8.74	150.65	5,364.5	-1,009.2	547.1	1,148.0	2.00	-2.00	0.00
5,560.0	7.94	150.65	5,404.1	-1,014.3	549.9	1,153.8	2.00	-2.00	0.00
5,600.0	7.14	150.65	5,443.8	-1,018.9	552.5	1,159.0	2.00	-2.00	0.00
5,640.0	6.34	150.65	5,483.5	-1,023.0	554.8	1,163.7	2.00	-2.00	0.00
5,680.0	5.54	150.65	5,523.3	-1,026.6	556.8	1,167.9	2.00	-2.00	0.00
5,720.0	4.74	150.65	5,563.1	-1,029.7	558.6	1,171.4	2.00	-2.00	0.00
5,760.0	3.94	150.65	5,603.0	-1,032.3	560.0	1,174.5	2.00	-2.00	0.00
5,800.0	3.14	150.65	5,642.9	-1,034.5	561.3	1,176.9	2.00	-2.00	0.00
5,840.0	2.34	150.65	5,682.9	-1,036.2	562.2	1,178.9	2.00	-2.00	0.00
5,880.0	1.54	150.65	5,722.9	-1,037.3	562.9	1,180.2	2.00	-2.00	0.00
5,920.0	0.74	150.65	5,762.8	-1,038.0	563.3	1,181.0	2.00	-2.00	0.00
5,957.2	0.00	0.00	5,800.0	-1,038.2	563.4	1,181.2	2.00	-2.00	0.00
TARGET BHL 1450'FSL, 2400'FEL									
5,960.0	0.00	0.00	5,802.8	-1,038.2	563.4	1,181.2	0.00	0.00	0.00
6,000.0	0.00	0.00	5,842.8	-1,038.2	563.4	1,181.2	0.00	0.00	0.00
6,040.0	0.00	0.00	5,882.8	-1,038.2	563.4	1,181.2	0.00	0.00	0.00
6,080.0	0.00	0.00	5,922.8	-1,038.2	563.4	1,181.2	0.00	0.00	0.00
6,120.0	0.00	0.00	5,962.8	-1,038.2	563.4	1,181.2	0.00	0.00	0.00

Database:	Landmark	Local Co-ordinate Reference:	Well NEI C18-24D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4847.0ft (Original Well Elev)
Project:	SEC.18-T4N-R64W	MD Reference:	WELL @ 4847.0ft (Original Well Elev)
Site:	NEI C18-32 Pad Sec.18-T4N-R64W	North Reference:	True
Well:	NEI C18-24D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble NEI C18-24D 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)
6,160.0	0.00	0.00	6,002.8	-1,038.2	563.4	1,181.2	0.00	0.00	0.00
6,200.0	0.00	0.00	6,042.8	-1,038.2	563.4	1,181.2	0.00	0.00	0.00
6,240.0	0.00	0.00	6,082.8	-1,038.2	563.4	1,181.2	0.00	0.00	0.00
6,280.0	0.00	0.00	6,122.8	-1,038.2	563.4	1,181.2	0.00	0.00	0.00
6,320.0	0.00	0.00	6,162.8	-1,038.2	563.4	1,181.2	0.00	0.00	0.00
6,360.0	0.00	0.00	6,202.8	-1,038.2	563.4	1,181.2	0.00	0.00	0.00
6,400.0	0.00	0.00	6,242.8	-1,038.2	563.4	1,181.2	0.00	0.00	0.00
6,440.0	0.00	0.00	6,282.8	-1,038.2	563.4	1,181.2	0.00	0.00	0.00
6,480.0	0.00	0.00	6,322.8	-1,038.2	563.4	1,181.2	0.00	0.00	0.00
6,520.0	0.00	0.00	6,362.8	-1,038.2	563.4	1,181.2	0.00	0.00	0.00
6,560.0	0.00	0.00	6,402.8	-1,038.2	563.4	1,181.2	0.00	0.00	0.00
6,600.0	0.00	0.00	6,442.8	-1,038.2	563.4	1,181.2	0.00	0.00	0.00
6,640.0	0.00	0.00	6,482.8	-1,038.2	563.4	1,181.2	0.00	0.00	0.00
6,680.0	0.00	0.00	6,522.8	-1,038.2	563.4	1,181.2	0.00	0.00	0.00
6,720.0	0.00	0.00	6,562.8	-1,038.2	563.4	1,181.2	0.00	0.00	0.00
6,760.0	0.00	0.00	6,602.8	-1,038.2	563.4	1,181.2	0.00	0.00	0.00
6,800.0	0.00	0.00	6,642.8	-1,038.2	563.4	1,181.2	0.00	0.00	0.00
6,840.0	0.00	0.00	6,682.8	-1,038.2	563.4	1,181.2	0.00	0.00	0.00
6,880.0	0.00	0.00	6,722.8	-1,038.2	563.4	1,181.2	0.00	0.00	0.00
6,920.0	0.00	0.00	6,762.8	-1,038.2	563.4	1,181.2	0.00	0.00	0.00
6,934.2	0.00	0.00	6,777.0	-1,038.2	563.4	1,181.2	0.00	0.00	0.00
NOBRARA - TARGET CIRCLE 1450'FSL & 2400'FEL									
6,960.0	0.00	0.00	6,802.8	-1,038.2	563.4	1,181.2	0.00	0.00	0.00
7,000.0	0.00	0.00	6,842.8	-1,038.2	563.4	1,181.2	0.00	0.00	0.00
7,040.0	0.00	0.00	6,882.8	-1,038.2	563.4	1,181.2	0.00	0.00	0.00
7,080.0	0.00	0.00	6,922.8	-1,038.2	563.4	1,181.2	0.00	0.00	0.00
7,120.0	0.00	0.00	6,962.8	-1,038.2	563.4	1,181.2	0.00	0.00	0.00
7,160.0	0.00	0.00	7,002.8	-1,038.2	563.4	1,181.2	0.00	0.00	0.00
7,200.0	0.00	0.00	7,042.8	-1,038.2	563.4	1,181.2	0.00	0.00	0.00
7,240.0	0.00	0.00	7,082.8	-1,038.2	563.4	1,181.2	0.00	0.00	0.00
7,254.2	0.00	0.00	7,097.0	-1,038.2	563.4	1,181.2	0.00	0.00	0.00
CODELL									
7,280.0	0.00	0.00	7,122.8	-1,038.2	563.4	1,181.2	0.00	0.00	0.00
7,320.0	0.00	0.00	7,162.8	-1,038.2	563.4	1,181.2	0.00	0.00	0.00
7,360.0	0.00	0.00	7,202.8	-1,038.2	563.4	1,181.2	0.00	0.00	0.00
7,400.0	0.00	0.00	7,242.8	-1,038.2	563.4	1,181.2	0.00	0.00	0.00
7,404.2	0.00	0.00	7,247.0	-1,038.2	563.4	1,181.2	0.00	0.00	0.00
HARD LINES 256'E OF BHL									

Database:	Landmark	Local Co-ordinate Reference:	Well NEI C18-24D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4847.0ft (Original Well Elev)
Project:	SEC.18-T4N-R64W	MD Reference:	WELL @ 4847.0ft (Original Well Elev)
Site:	NEI C18-32 Pad Sec.18-T4N-R64W	North Reference:	True
Well:	NEI C18-24D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble NEI C18-24D 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)		
HARD LINES 256'E C	0.00	0.00	7,247.0	-1,138.3	307.4	1,356,612.81	3,252,808.44	40.308755	-104.593488
- plan misses target center by 274.8ft at 7404.2ft MD (7247.0 TVD, -1038.2 N, 563.4 E)									
- Polygon									
Point 1			7,247.0	0.0	0.0	1,356,612.81	3,252,808.44		
Point 2			7,247.0	200.0	0.0	1,356,812.79	3,252,806.40		
TARGET CIRCLE 145'	0.00	0.00	6,777.0	-1,038.2	563.4	1,356,715.46	3,253,063.36	40.309030	-104.592570
- plan hits target center									
- Circle (radius 75.0)									
TARGET BHL 1450'F:	0.00	0.00	5,800.0	-1,038.2	563.4	1,356,715.46	3,253,063.36	40.309030	-104.592570
- plan hits target center									
- Point									

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	(°)	(°)
	6,934.2	6,777.0	NIOBRARA	0.00	
	7,254.2	7,097.0	CODELL	0.00	