

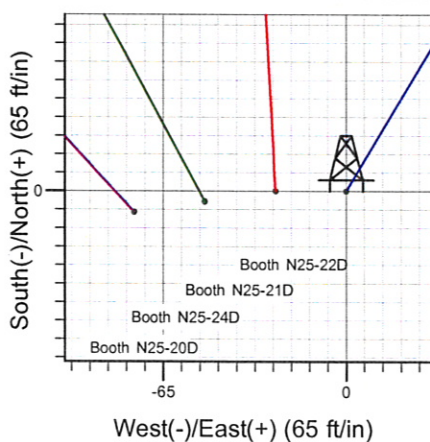
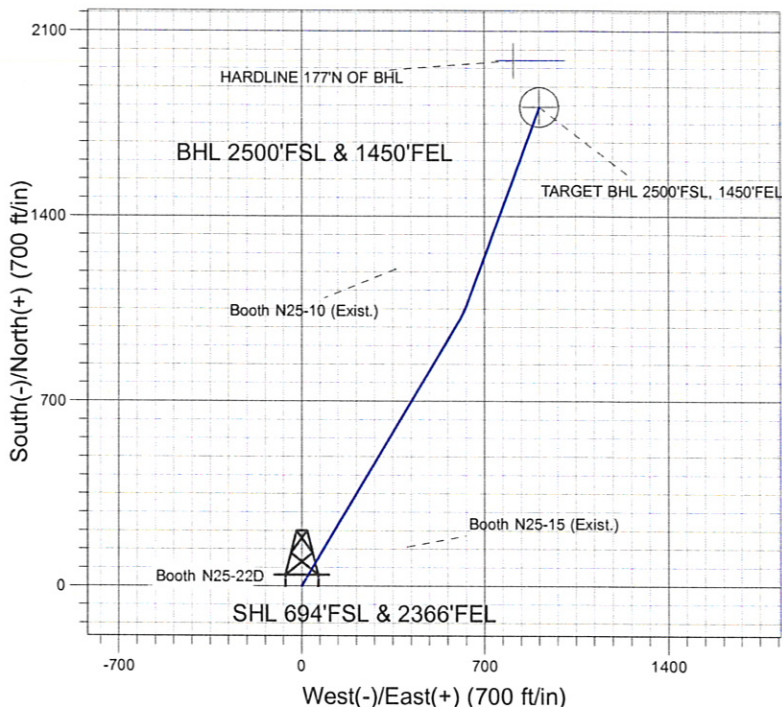
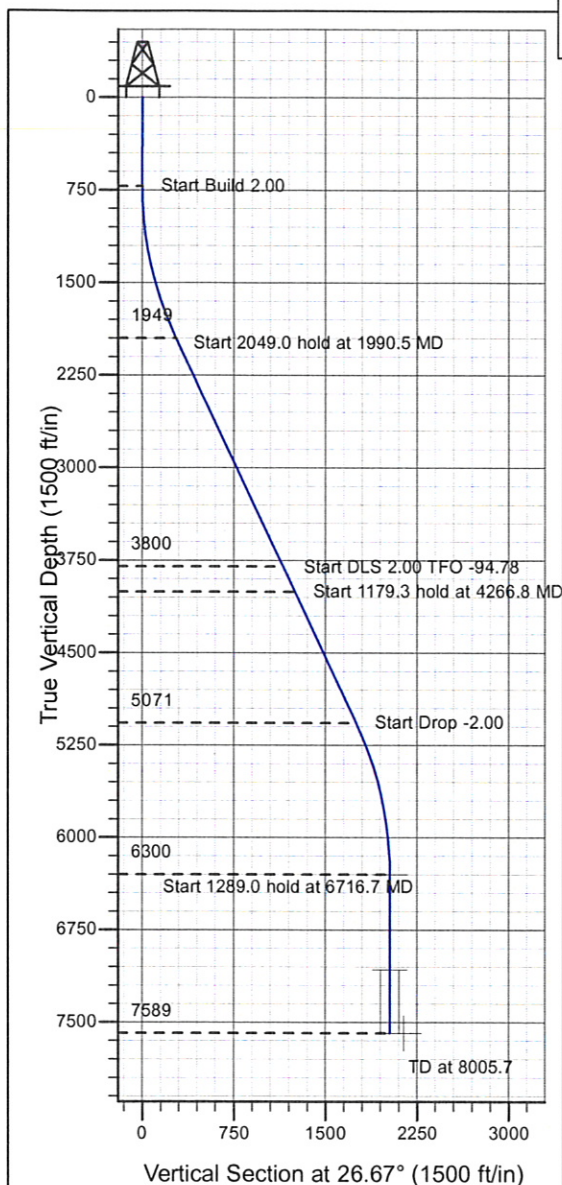
ENSIGN

Directional

Well Name: Booth N25-22D

Surface Location: Booth N25-20D Pad Sec.25-T5N-R67W
North American Datum 1983 , US State Plane 1983 , Colorado Northern Zone
Ground Elevation: 4926.0
+N/-S +E/-W Northing Easting Latitude Longitude Slot
0.0 0.01376558.91 3183759.08 40° 21' 54.648 N 104° 50' 25.944 W
Original Well Elev WELL @ 4939.0ft (Original Well Elev)

NOBLE ENERGY INC WELD COUNTY CO



Booth N25-20D Pad Sec.25-T5N-R67W
Booth N25-22D
Noble Booth N25-22D Plan #1 (03-16-10)
13:59, March 23 2010



Azimuths to True North
Magnetic North: 9.06°
Magnetic Field
Strength: 53276.9snT
Dip Angle: 67.07°
Date: 12/31/2009
Model: IGRF200510

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
TARGET BHL 2500'FSL, 1450'FEL	6300.0	1812.9	910.6	40° 22' 12.562 N	104° 50' 14.179 W	Point
TARGET CIRCLE 2500'FSL, 1450'FEL	7074.0	1812.9	910.6	40° 22' 12.562 N	104° 50' 14.179 W	Circle (Radius: 75.0)
HARDLINE 177'N OF BHL	7589.0	1989.9	810.6	40° 22' 14.311 N	104° 50' 15.471 W	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	720.0	0.00	0.00	720.0	0.0	0.0	0.00	0.00	0.0	
3	1990.5	25.41	31.00	1949.3	237.6	142.7	2.00	31.00	276.3	
4	4039.5	25.41	31.00	3800.0	991.2	595.6	0.00	0.00	1153.0	
5	4266.8	25.41	20.39	4005.5	1078.7	637.7	2.00	-94.78	1250.2	
6	5446.1	25.41	20.39	5070.7	1553.1	814.0	0.00	0.00	1753.2	
7	6716.7	0.00	0.00	6300.0	1812.9	910.6	2.00	180.00	2028.7	TARGET BHL 2500'FSL, 1450'FEL
8	8005.7	0.00	0.00	7589.0	1812.9	910.6	0.00	0.00	2028.7	



Directional

NOBLE ENERGY INC WELD COUNTY CO

SEC.25-T5N-R67W

Booth N25-20D Pad Sec.25-T5N-R67W

Booth N25-22D

Wellbore #1

Plan: Noble Booth N25-22D Plan #1 (03-16-10)

Standard Planning Report

23 March, 2010



Database:	EDM den0-adp01 Server Data	Local Co-ordinate Reference:	Well Booth N25-22D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4939.0ft (Original Well Elev)
Project:	SEC.25-T5N-R67W	MD Reference:	WELL @ 4939.0ft (Original Well Elev)
Site:	Booth N25-20D Pad Sec.25-T5N-R67W	North Reference:	True
Well:	Booth N25-22D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Booth N25-22D Plan #1 (03-16-10)		

Project	SEC.25-T5N-R67W, Weld County, Colorado		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Northern Zone		Using geodetic scale factor

Site Booth N25-20D Pad Sec.25-T5N-R67W					
Site Position:		Northing:	1,376,551.07 ft	Latitude:	40° 21' 54.576 N
From:	Lat/Long	Easting:	3,183,683.90 ft	Longitude:	104° 50' 26.916 W
Position Uncertainty:	0.0 ft	Slot Radius:	"	Grid Convergence:	0.43 °

Well	Booth N25-22D					
Well Position	+N/-S	7.3 ft	Northing:	1,376,558.91 ft	Latitude:	40° 21' 54.648 N
	+E/-W	75.2 ft	Easting:	3,183,759.08 ft	Longitude:	104° 50' 25.944 W
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,926.0 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	12/31/2009	9.06	67.07	53,277

Design	Noble Booth N25-22D Plan #1 (03-16-10)			
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Audit Notes:				
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.0	0.0	0.0	26.67

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	
720.0	0.00	0.00	720.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,990.5	25.41	31.00	1,949.3	237.6	142.7	2.00	2.00	0.00	31.00	
4,039.5	25.41	31.00	3,800.0	991.2	595.6	0.00	0.00	0.00	0.00	
4,266.8	25.41	20.39	4,005.5	1,078.7	637.7	2.00	0.00	-4.67	-94.78	
5,446.1	25.41	20.39	5,070.7	1,553.1	814.0	0.00	0.00	0.00	0.00	
6,716.7	0.00	0.00	6,300.0	1,812.9	910.6	2.00	-2.00	0.00	180.00	TARGET BHL 250C
8,005.7	0.00	0.00	7,589.0	1,812.9	910.6	0.00	0.00	0.00	0.00	

Database:	EDM den0-adp01 Server Data	Local Co-ordinate Reference:	Well Booth N25-22D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4939.0ft (Original Well Elev)
Project:	SEC.25-T5N-R67W	MD Reference:	WELL @ 4939.0ft (Original Well Elev)
Site:	Booth N25-20D Pad Sec.25-T5N-R67W	North Reference:	True
Well:	Booth N25-22D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Booth N25-22D Plan #1 (03-16-10)		

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
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	0.80	31.00	760.0	0.2	0.1	0.3	2.00	2.00	0.00
800.0	1.60	31.00	800.0	1.0	0.6	1.1	2.00	2.00	0.00
840.0	2.40	31.00	840.0	2.2	1.3	2.5	2.00	2.00	0.00
880.0	3.20	31.00	879.9	3.8	2.3	4.5	2.00	2.00	0.00
920.0	4.00	31.00	919.8	6.0	3.6	7.0	2.00	2.00	0.00
960.0	4.80	31.00	959.7	8.6	5.2	10.0	2.00	2.00	0.00
1,000.0	5.60	31.00	999.6	11.7	7.0	13.6	2.00	2.00	0.00
1,040.0	6.40	31.00	1,039.3	15.3	9.2	17.8	2.00	2.00	0.00
1,080.0	7.20	31.00	1,079.1	19.4	11.6	22.5	2.00	2.00	0.00
1,120.0	8.00	31.00	1,118.7	23.9	14.4	27.8	2.00	2.00	0.00
1,160.0	8.80	31.00	1,158.3	28.9	17.4	33.6	2.00	2.00	0.00
1,200.0	9.60	31.00	1,197.8	34.4	20.7	40.0	2.00	2.00	0.00
1,240.0	10.40	31.00	1,237.1	40.3	24.2	46.9	2.00	2.00	0.00
1,280.0	11.20	31.00	1,276.4	46.8	28.1	54.4	2.00	2.00	0.00
1,320.0	12.00	31.00	1,315.6	53.7	32.2	62.4	2.00	2.00	0.00
1,360.0	12.80	31.00	1,354.7	61.0	36.7	71.0	2.00	2.00	0.00
1,400.0	13.60	31.00	1,393.6	68.9	41.4	80.1	2.00	2.00	0.00
1,440.0	14.40	31.00	1,432.4	77.1	46.4	89.7	2.00	2.00	0.00
1,480.0	15.20	31.00	1,471.1	85.9	51.6	99.9	2.00	2.00	0.00
1,520.0	16.00	31.00	1,509.6	95.1	57.2	110.7	2.00	2.00	0.00
1,560.0	16.80	31.00	1,548.0	104.8	63.0	121.9	2.00	2.00	0.00
1,600.0	17.60	31.00	1,586.2	114.9	69.1	133.7	2.00	2.00	0.00
1,640.0	18.40	31.00	1,624.3	125.5	75.4	146.0	2.00	2.00	0.00
1,680.0	19.20	31.00	1,662.1	136.6	82.1	158.9	2.00	2.00	0.00
1,720.0	20.00	31.00	1,699.8	148.1	89.0	172.3	2.00	2.00	0.00
1,760.0	20.80	31.00	1,737.3	160.0	96.2	186.2	2.00	2.00	0.00
1,800.0	21.60	31.00	1,774.6	172.4	103.6	200.6	2.00	2.00	0.00
1,840.0	22.40	31.00	1,811.7	185.3	111.3	215.5	2.00	2.00	0.00
1,880.0	23.20	31.00	1,848.6	198.6	119.3	231.0	2.00	2.00	0.00
1,920.0	24.00	31.00	1,885.2	212.3	127.6	247.0	2.00	2.00	0.00
1,960.0	24.80	31.00	1,921.6	226.5	136.1	263.4	2.00	2.00	0.00
1,990.5	25.41	31.00	1,949.3	237.6	142.7	276.3	2.00	2.00	0.00
2,000.0	25.41	31.00	1,957.8	241.0	144.8	280.4	0.00	0.00	0.00
2,040.0	25.41	31.00	1,994.0	255.8	153.7	297.5	0.00	0.00	0.00
2,080.0	25.41	31.00	2,030.1	270.5	162.5	314.6	0.00	0.00	0.00

Database:	EDM den0-adp01 Server Data	Local Co-ordinate Reference:	Well Booth N25-22D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4939.0ft (Original Well Elev)
Project:	SEC.25-T5N-R67W	MD Reference:	WELL @ 4939.0ft (Original Well Elev)
Site:	Booth N25-20D Pad Sec.25-T5N-R67W	North Reference:	True
Well:	Booth N25-22D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Booth N25-22D Plan #1 (03-16-10)		

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)
2,120.0	25.41	31.00	2,066.2	285.2	171.4	331.8	0.00	0.00	0.00
2,160.0	25.41	31.00	2,102.4	299.9	180.2	348.9	0.00	0.00	0.00
2,200.0	25.41	31.00	2,138.5	314.6	189.0	366.0	0.00	0.00	0.00
2,240.0	25.41	31.00	2,174.6	329.3	197.9	383.1	0.00	0.00	0.00
2,280.0	25.41	31.00	2,210.8	344.0	206.7	400.2	0.00	0.00	0.00
2,320.0	25.41	31.00	2,246.9	358.7	215.6	417.3	0.00	0.00	0.00
2,360.0	25.41	31.00	2,283.0	373.5	224.4	434.4	0.00	0.00	0.00
2,400.0	25.41	31.00	2,319.1	388.2	233.2	451.6	0.00	0.00	0.00
2,440.0	25.41	31.00	2,355.3	402.9	242.1	468.7	0.00	0.00	0.00
2,480.0	25.41	31.00	2,391.4	417.6	250.9	485.8	0.00	0.00	0.00
2,520.0	25.41	31.00	2,427.5	432.3	259.8	502.9	0.00	0.00	0.00
2,560.0	25.41	31.00	2,463.7	447.0	268.6	520.0	0.00	0.00	0.00
2,600.0	25.41	31.00	2,499.8	461.7	277.4	537.1	0.00	0.00	0.00
2,640.0	25.41	31.00	2,535.9	476.4	286.3	554.2	0.00	0.00	0.00
2,680.0	25.41	31.00	2,572.1	491.2	295.1	571.4	0.00	0.00	0.00
2,720.0	25.41	31.00	2,608.2	505.9	304.0	588.5	0.00	0.00	0.00
2,760.0	25.41	31.00	2,644.3	520.6	312.8	605.6	0.00	0.00	0.00
2,800.0	25.41	31.00	2,680.4	535.3	321.6	622.7	0.00	0.00	0.00
2,840.0	25.41	31.00	2,716.6	550.0	330.5	639.8	0.00	0.00	0.00
2,880.0	25.41	31.00	2,752.7	564.7	339.3	656.9	0.00	0.00	0.00
2,920.0	25.41	31.00	2,788.8	579.4	348.2	674.1	0.00	0.00	0.00
2,960.0	25.41	31.00	2,825.0	594.1	357.0	691.2	0.00	0.00	0.00
3,000.0	25.41	31.00	2,861.1	608.9	365.8	708.3	0.00	0.00	0.00
3,040.0	25.41	31.00	2,897.2	623.6	374.7	725.4	0.00	0.00	0.00
3,080.0	25.41	31.00	2,933.4	638.3	383.5	742.5	0.00	0.00	0.00
3,120.0	25.41	31.00	2,969.5	653.0	392.4	759.6	0.00	0.00	0.00
3,160.0	25.41	31.00	3,005.6	667.7	401.2	776.7	0.00	0.00	0.00
3,200.0	25.41	31.00	3,041.8	682.4	410.0	793.9	0.00	0.00	0.00
3,240.0	25.41	31.00	3,077.9	697.1	418.9	811.0	0.00	0.00	0.00
3,280.0	25.41	31.00	3,114.0	711.8	427.7	828.1	0.00	0.00	0.00
3,320.0	25.41	31.00	3,150.1	726.5	436.6	845.2	0.00	0.00	0.00
3,360.0	25.41	31.00	3,186.3	741.3	445.4	862.3	0.00	0.00	0.00
3,400.0	25.41	31.00	3,222.4	756.0	454.2	879.4	0.00	0.00	0.00
3,440.0	25.41	31.00	3,258.5	770.7	463.1	896.5	0.00	0.00	0.00
3,480.0	25.41	31.00	3,294.7	785.4	471.9	913.7	0.00	0.00	0.00
3,520.0	25.41	31.00	3,330.8	800.1	480.8	930.8	0.00	0.00	0.00
3,560.0	25.41	31.00	3,366.9	814.8	489.6	947.9	0.00	0.00	0.00
3,600.0	25.41	31.00	3,403.1	829.5	498.4	965.0	0.00	0.00	0.00
3,640.0	25.41	31.00	3,439.2	844.2	507.3	982.1	0.00	0.00	0.00
3,680.0	25.41	31.00	3,475.3	859.0	516.1	999.2	0.00	0.00	0.00
3,720.0	25.41	31.00	3,511.4	873.7	525.0	1,016.3	0.00	0.00	0.00
3,760.0	25.41	31.00	3,547.6	888.4	533.8	1,033.5	0.00	0.00	0.00
3,800.0	25.41	31.00	3,583.7	903.1	542.6	1,050.6	0.00	0.00	0.00
3,840.0	25.41	31.00	3,619.8	917.8	551.5	1,067.7	0.00	0.00	0.00
3,880.0	25.41	31.00	3,656.0	932.5	560.3	1,084.8	0.00	0.00	0.00
3,920.0	25.41	31.00	3,692.1	947.2	569.2	1,101.9	0.00	0.00	0.00
3,960.0	25.41	31.00	3,728.2	961.9	578.0	1,119.0	0.00	0.00	0.00
4,000.0	25.41	31.00	3,764.4	976.7	586.8	1,136.1	0.00	0.00	0.00
4,039.5	25.41	31.00	3,800.0	991.2	595.6	1,153.0	0.00	0.00	0.00
4,040.0	25.41	30.97	3,800.5	991.4	595.7	1,153.3	2.00	-0.17	-4.64
4,080.0	25.35	29.11	3,836.6	1,006.2	604.3	1,170.4	2.00	-0.14	-4.66
4,120.0	25.32	27.24	3,872.8	1,021.3	612.3	1,187.5	2.00	-0.08	-4.67
4,160.0	25.32	25.37	3,908.9	1,036.6	619.9	1,204.6	2.00	-0.02	-4.68
4,200.0	25.33	23.50	3,945.1	1,052.2	627.0	1,221.7	2.00	0.04	-4.68

Database:	EDM den0-adp01 Server Data	Local Co-ordinate Reference:	Well Booth N25-22D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4939.0ft (Original Well Elev)
Project:	SEC.25-T5N-R67W	MD Reference:	WELL @ 4939.0ft (Original Well Elev)
Site:	Booth N25-20D Pad Sec.25-T5N-R67W	North Reference:	True
Well:	Booth N25-22D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Booth N25-22D Plan #1 (03-16-10)		

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)
4,240.0	25.37	21.64	3,981.2	1,068.0	633.6	1,238.8	2.00	0.10	-4.67
4,266.8	25.41	20.39	4,005.5	1,078.7	637.7	1,250.2	2.00	0.15	-4.65
4,280.0	25.41	20.39	4,017.4	1,084.1	639.7	1,255.8	0.00	0.00	0.00
4,320.0	25.41	20.39	4,053.5	1,100.1	645.6	1,272.9	0.00	0.00	0.00
4,360.0	25.41	20.39	4,089.6	1,116.2	651.6	1,290.0	0.00	0.00	0.00
4,400.0	25.41	20.39	4,125.8	1,132.3	657.6	1,307.0	0.00	0.00	0.00
4,440.0	25.41	20.39	4,161.9	1,148.4	663.6	1,324.1	0.00	0.00	0.00
4,480.0	25.41	20.39	4,198.0	1,164.5	669.6	1,341.1	0.00	0.00	0.00
4,520.0	25.41	20.39	4,234.2	1,180.6	675.6	1,358.2	0.00	0.00	0.00
4,560.0	25.41	20.39	4,270.3	1,196.7	681.5	1,375.3	0.00	0.00	0.00
4,600.0	25.41	20.39	4,306.4	1,212.8	687.5	1,392.3	0.00	0.00	0.00
4,640.0	25.41	20.39	4,342.6	1,228.9	693.5	1,409.4	0.00	0.00	0.00
4,680.0	25.41	20.39	4,378.7	1,244.9	699.5	1,426.4	0.00	0.00	0.00
4,720.0	25.41	20.39	4,414.8	1,261.0	705.5	1,443.5	0.00	0.00	0.00
4,760.0	25.41	20.39	4,450.9	1,277.1	711.4	1,460.6	0.00	0.00	0.00
4,800.0	25.41	20.39	4,487.1	1,293.2	717.4	1,477.6	0.00	0.00	0.00
4,840.0	25.41	20.39	4,523.2	1,309.3	723.4	1,494.7	0.00	0.00	0.00
4,880.0	25.41	20.39	4,559.3	1,325.4	729.4	1,511.8	0.00	0.00	0.00
4,920.0	25.41	20.39	4,595.5	1,341.5	735.4	1,528.8	0.00	0.00	0.00
4,960.0	25.41	20.39	4,631.6	1,357.6	741.3	1,545.9	0.00	0.00	0.00
5,000.0	25.41	20.39	4,667.7	1,373.7	747.3	1,562.9	0.00	0.00	0.00
5,040.0	25.41	20.39	4,703.9	1,389.7	753.3	1,580.0	0.00	0.00	0.00
5,080.0	25.41	20.39	4,740.0	1,405.8	759.3	1,597.1	0.00	0.00	0.00
5,120.0	25.41	20.39	4,776.1	1,421.9	765.3	1,614.1	0.00	0.00	0.00
5,160.0	25.41	20.39	4,812.2	1,438.0	771.2	1,631.2	0.00	0.00	0.00
5,200.0	25.41	20.39	4,848.4	1,454.1	777.2	1,648.2	0.00	0.00	0.00
5,240.0	25.41	20.39	4,884.5	1,470.2	783.2	1,665.3	0.00	0.00	0.00
5,280.0	25.41	20.39	4,920.6	1,486.3	789.2	1,682.4	0.00	0.00	0.00
5,320.0	25.41	20.39	4,956.8	1,502.4	795.2	1,699.4	0.00	0.00	0.00
5,360.0	25.41	20.39	4,992.9	1,518.5	801.1	1,716.5	0.00	0.00	0.00
5,400.0	25.41	20.39	5,029.0	1,534.5	807.1	1,733.6	0.00	0.00	0.00
5,440.0	25.41	20.39	5,065.2	1,550.6	813.1	1,750.6	0.00	0.00	0.00
5,446.1	25.41	20.39	5,070.7	1,553.1	814.0	1,753.2	0.00	0.00	0.00
5,480.0	24.73	20.39	5,101.4	1,566.6	819.0	1,767.5	2.00	-2.00	0.00
5,520.0	23.93	20.39	5,137.8	1,582.0	824.8	1,783.9	2.00	-2.00	0.00
5,560.0	23.13	20.39	5,174.5	1,597.0	830.3	1,799.8	2.00	-2.00	0.00
5,600.0	22.33	20.39	5,211.4	1,611.5	835.7	1,815.1	2.00	-2.00	0.00
5,640.0	21.53	20.39	5,248.5	1,625.5	840.9	1,830.0	2.00	-2.00	0.00
5,680.0	20.73	20.39	5,285.8	1,639.0	846.0	1,844.3	2.00	-2.00	0.00
5,720.0	19.93	20.39	5,323.3	1,652.0	850.8	1,858.1	2.00	-2.00	0.00
5,760.0	19.13	20.39	5,361.0	1,664.5	855.5	1,871.4	2.00	-2.00	0.00
5,800.0	18.33	20.39	5,398.9	1,676.6	859.9	1,884.2	2.00	-2.00	0.00
5,840.0	17.53	20.39	5,436.9	1,688.1	864.2	1,896.4	2.00	-2.00	0.00
5,880.0	16.73	20.39	5,475.2	1,699.2	868.3	1,908.1	2.00	-2.00	0.00
5,920.0	15.93	20.39	5,513.5	1,709.7	872.2	1,919.3	2.00	-2.00	0.00
5,960.0	15.13	20.39	5,552.1	1,719.8	876.0	1,930.0	2.00	-2.00	0.00
6,000.0	14.33	20.39	5,590.8	1,729.3	879.5	1,940.1	2.00	-2.00	0.00
6,040.0	13.53	20.39	5,629.6	1,738.3	882.9	1,949.7	2.00	-2.00	0.00
6,080.0	12.73	20.39	5,668.5	1,746.8	886.0	1,958.7	2.00	-2.00	0.00
6,120.0	11.93	20.39	5,707.6	1,754.9	889.0	1,967.2	2.00	-2.00	0.00
6,160.0	11.13	20.39	5,746.8	1,762.4	891.8	1,975.1	2.00	-2.00	0.00
6,200.0	10.33	20.39	5,786.1	1,769.3	894.4	1,982.5	2.00	-2.00	0.00
6,240.0	9.53	20.39	5,825.5	1,775.8	896.8	1,989.4	2.00	-2.00	0.00
6,280.0	8.73	20.39	5,865.0	1,781.8	899.0	1,995.7	2.00	-2.00	0.00

Database:	EDM den0-adp01 Server Data	Local Co-ordinate Reference:	Well Booth N25-22D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4939.0ft (Original Well Elev)
Project:	SEC.25-T5N-R67W	MD Reference:	WELL @ 4939.0ft (Original Well Elev)
Site:	Booth N25-20D Pad Sec.25-T5N-R67W	North Reference:	True
Well:	Booth N25-22D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Booth N25-22D Plan #1 (03-16-10)		

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	7.93	20.39	5,904.6	1,787.2	901.0	2,001.5	2.00	-2.00	0.00
6,360.0	7.13	20.39	5,944.2	1,792.1	902.9	2,006.7	2.00	-2.00	0.00
6,400.0	6.33	20.39	5,984.0	1,796.5	904.5	2,011.4	2.00	-2.00	0.00
6,440.0	5.53	20.39	6,023.7	1,800.4	905.9	2,015.5	2.00	-2.00	0.00
6,480.0	4.73	20.39	6,063.6	1,803.7	907.2	2,019.0	2.00	-2.00	0.00
6,520.0	3.93	20.39	6,103.5	1,806.6	908.2	2,022.0	2.00	-2.00	0.00
6,560.0	3.13	20.39	6,143.4	1,808.9	909.1	2,024.5	2.00	-2.00	0.00
6,600.0	2.33	20.39	6,183.3	1,810.7	909.8	2,026.4	2.00	-2.00	0.00
6,640.0	1.53	20.39	6,223.3	1,811.9	910.2	2,027.7	2.00	-2.00	0.00
6,680.0	0.73	20.39	6,263.3	1,812.7	910.5	2,028.5	2.00	-2.00	0.00
6,716.7	0.00	0.00	6,300.0	1,812.9	910.6	2,028.7	2.00	-2.00	0.00
TARGET BHL 2500'FSL, 1450'FEL									
6,720.0	0.00	0.00	6,303.3	1,812.9	910.6	2,028.7	0.00	0.00	0.00
6,760.0	0.00	0.00	6,343.3	1,812.9	910.6	2,028.7	0.00	0.00	0.00
6,800.0	0.00	0.00	6,383.3	1,812.9	910.6	2,028.7	0.00	0.00	0.00
6,840.0	0.00	0.00	6,423.3	1,812.9	910.6	2,028.7	0.00	0.00	0.00
6,880.0	0.00	0.00	6,463.3	1,812.9	910.6	2,028.7	0.00	0.00	0.00
6,920.0	0.00	0.00	6,503.3	1,812.9	910.6	2,028.7	0.00	0.00	0.00
6,960.0	0.00	0.00	6,543.3	1,812.9	910.6	2,028.7	0.00	0.00	0.00
7,000.0	0.00	0.00	6,583.3	1,812.9	910.6	2,028.7	0.00	0.00	0.00
7,040.0	0.00	0.00	6,623.3	1,812.9	910.6	2,028.7	0.00	0.00	0.00
7,080.0	0.00	0.00	6,663.3	1,812.9	910.6	2,028.7	0.00	0.00	0.00
7,120.0	0.00	0.00	6,703.3	1,812.9	910.6	2,028.7	0.00	0.00	0.00
7,160.0	0.00	0.00	6,743.3	1,812.9	910.6	2,028.7	0.00	0.00	0.00
7,200.0	0.00	0.00	6,783.3	1,812.9	910.6	2,028.7	0.00	0.00	0.00
7,240.0	0.00	0.00	6,823.3	1,812.9	910.6	2,028.7	0.00	0.00	0.00
7,280.0	0.00	0.00	6,863.3	1,812.9	910.6	2,028.7	0.00	0.00	0.00
7,320.0	0.00	0.00	6,903.3	1,812.9	910.6	2,028.7	0.00	0.00	0.00
7,360.0	0.00	0.00	6,943.3	1,812.9	910.6	2,028.7	0.00	0.00	0.00
7,400.0	0.00	0.00	6,983.3	1,812.9	910.6	2,028.7	0.00	0.00	0.00
7,440.0	0.00	0.00	7,023.3	1,812.9	910.6	2,028.7	0.00	0.00	0.00
7,480.0	0.00	0.00	7,063.3	1,812.9	910.6	2,028.7	0.00	0.00	0.00
7,490.7	0.00	0.00	7,074.0	1,812.9	910.6	2,028.7	0.00	0.00	0.00
NIOBRARA - TARGET CIRCLE 2500'FSL, 1450'FEL									
7,520.0	0.00	0.00	7,103.3	1,812.9	910.6	2,028.7	0.00	0.00	0.00
7,560.0	0.00	0.00	7,143.3	1,812.9	910.6	2,028.7	0.00	0.00	0.00
7,600.0	0.00	0.00	7,183.3	1,812.9	910.6	2,028.7	0.00	0.00	0.00
7,640.0	0.00	0.00	7,223.3	1,812.9	910.6	2,028.7	0.00	0.00	0.00
7,680.0	0.00	0.00	7,263.3	1,812.9	910.6	2,028.7	0.00	0.00	0.00
7,720.0	0.00	0.00	7,303.3	1,812.9	910.6	2,028.7	0.00	0.00	0.00
7,760.0	0.00	0.00	7,343.3	1,812.9	910.6	2,028.7	0.00	0.00	0.00
7,800.0	0.00	0.00	7,383.3	1,812.9	910.6	2,028.7	0.00	0.00	0.00
7,840.0	0.00	0.00	7,423.3	1,812.9	910.6	2,028.7	0.00	0.00	0.00
7,855.7	0.00	0.00	7,439.0	1,812.9	910.6	2,028.7	0.00	0.00	0.00
CODELL									
7,880.0	0.00	0.00	7,463.3	1,812.9	910.6	2,028.7	0.00	0.00	0.00
7,920.0	0.00	0.00	7,503.3	1,812.9	910.6	2,028.7	0.00	0.00	0.00
7,960.0	0.00	0.00	7,543.3	1,812.9	910.6	2,028.7	0.00	0.00	0.00
8,000.0	0.00	0.00	7,583.3	1,812.9	910.6	2,028.7	0.00	0.00	0.00
8,005.7	0.00	0.00	7,589.0	1,812.9	910.6	2,028.7	0.00	0.00	0.00
HARDLINE 177'N OF BHL									

Database:	EDM den0-adp01 Server Data	Local Co-ordinate Reference:	Well Booth N25-22D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4939.0ft (Original Well Elev)
Project:	SEC.25-T5N-R67W	MD Reference:	WELL @ 4939.0ft (Original Well Elev)
Site:	Booth N25-20D Pad Sec.25-T5N-R67W	North Reference:	True
Well:	Booth N25-22D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Booth N25-22D Plan #1 (03-16-10)		

Targets									
Target Name	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- hit/miss target	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(ft)		
- Shape									
TARGET CIRCLE 25(0.00	0.00	7,074.0	1,812.9	910.6	1,378,378.45	3,184,656.13	40° 22' 12.562 N	104° 50' 14.179 W
- plan hits target center									
- Circle (radius 75.0)									
HARDLINE 177°N OF	0.00	0.00	7,589.0	1,989.9	810.6	1,378,554.70	3,184,554.83	40° 22' 14.311 N	104° 50' 15.471 W
- plan misses target center by 203.3ft at 8005.7ft MD (7589.0 TVD, 1812.9 N, 910.6 E)									
- Polygon									
Point 1			7,589.0	0.0	0.0	1,378,554.70	3,184,554.83		
Point 2			7,589.0	0.0	200.0	1,378,556.18	3,184,754.81		
TARGET BHL 2500°F	0.00	0.00	6,300.0	1,812.9	910.6	1,378,378.44	3,184,656.13	40° 22' 12.562 N	104° 50' 14.179 W
- plan hits target center									
- Point									

Formations						
Measured Depth	Vertical Depth	Name	Lithology	Dip	Dip Direction	
(ft)	(ft)			(°)	(°)	
7,490.7	7,074.0	NIOBRARA		0.00		
7,855.7	7,439.0	CODELL		0.00		