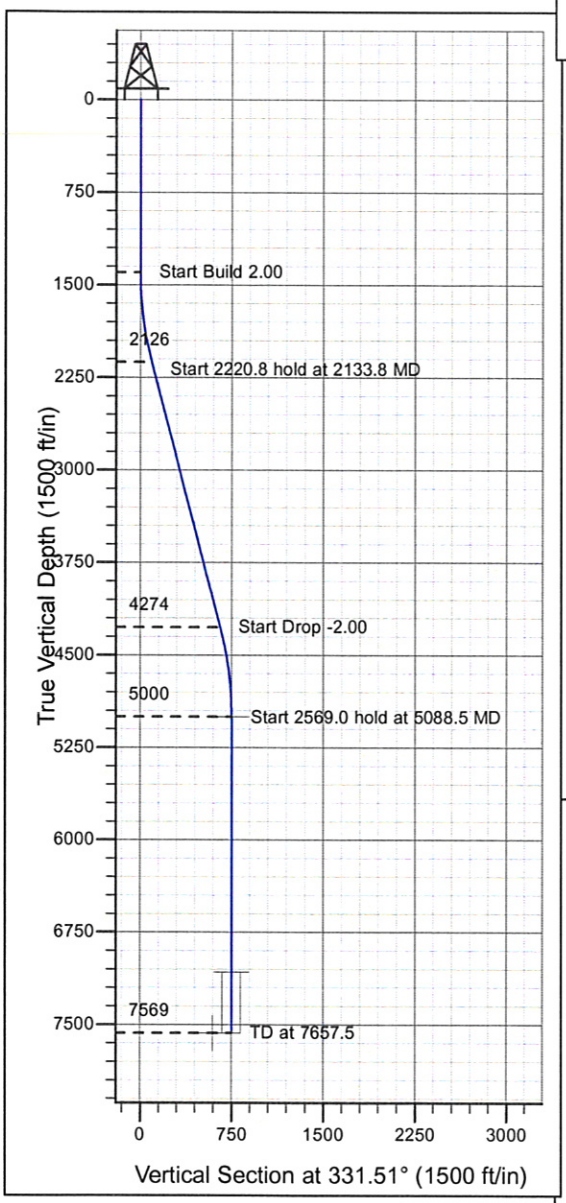
ENSIGN Directional

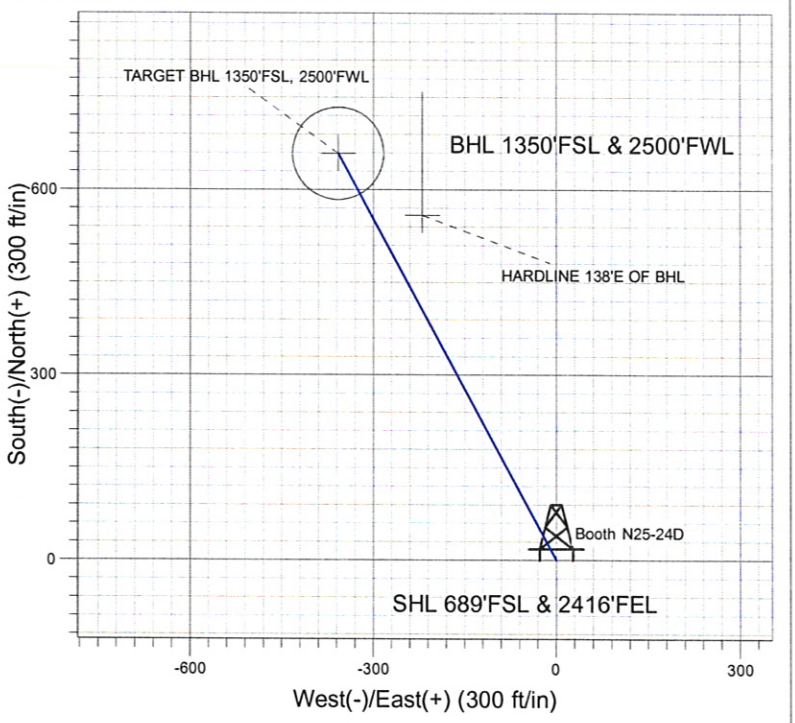
Well Name: Booth N25-24D
Surface Location: Booth N25-20D Pad Sec.25-T5N-R67W
North American Datum 1983 , US State Plane 1983 , Colorado Northern Zone
Ground Elevation: 4926.0

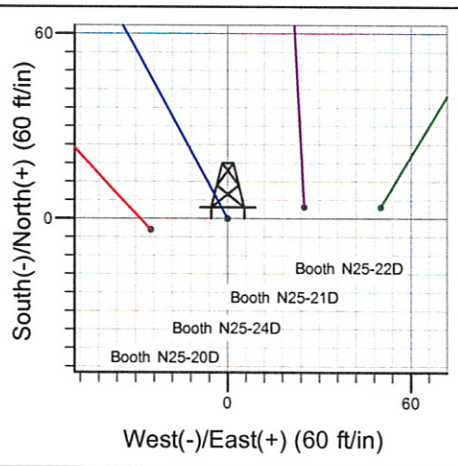
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1376554.89	3183708.95	40° 21' 54.612 N	104° 50' 26.592 W	

Original Well Elev WELL @ 4939.0ft (Original Well Elev)

NOBLE ENERGY INC WELD COUNTY CO







Booth N25-20D Pad Sec.25-T5N-R67W
Booth N25-24D
Noble Booth N25-24D Plan #1 (03-16-10)
13:53, 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 1350'FSL, 2500'FWL	5000.0	658.8	-357.6	40° 22' 1.122 N	104° 50' 31.211 W	Point
TARGET CIRCLE 1350'FSL, 2500'FWL	7074.0	658.8	-357.6	40° 22' 1.122 N	104° 50' 31.212 W	Circle (Radius: 75.0)
HARDLINE 138'E OF BHL	7569.0	558.8	-219.6	40° 22' 0.134 N	104° 50' 29.429 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	1400.0	0.00	0.00	1400.0	0.0	0.0	0.00	0.00	0.0	
3	2133.8	14.68	331.51	2125.8	82.2	-44.6	2.00	331.51	93.5	
4	4354.6	14.68	331.51	4274.2	576.7	-313.0	0.00	0.00	656.1	
5	5088.5	0.00	0.00	5000.0	658.8	-357.6	2.00	180.00	749.6	TARGET BHL 1350'FSL, 2500'FWL
6	7657.5	0.00	0.00	7569.0	658.8	-357.6	0.00	0.00	749.6	

ENSIGN
Directional

NOBLE ENERGY INC WELD COUNTY CO

SEC.25-T5N-R67W
Booth N25-20D Pad Sec.25-T5N-R67W
Booth N25-24D

Wellbore #1

Plan: Noble Booth N25-24D Plan #1 (03-16-10)

Standard Planning Report

23 March, 2010

noble energy

Database:	EDM den0-adp01 Server Data	**Local Co-ordinate Reference:**	Well Booth N25-24D
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 N25-24D	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Booth N25-24D 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 N25-24D

Well Position	**+N/-S**	3.6 ft	**Northing:**	1,376,554.89 ft	**Latitude:**	40° 21' 54.612 N
	+E/-W	25.1 ft	**Easting:**	3,183,708.95 ft	**Longitude:**	104° 50' 26.592 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 N25-24D Plan #1 (03-16-10)

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	331.51

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	
1,400.0	0.00	0.00	1,400.0	0.0	0.0	0.00	0.00	0.00	0.00	
2,133.8	14.68	331.51	2,125.8	82.2	-44.6	2.00	2.00	0.00	331.51	
4,354.6	14.68	331.51	4,274.2	576.7	-313.0	0.00	0.00	0.00	0.00	
5,088.5	0.00	0.00	5,000.0	658.8	-357.6	2.00	-2.00	0.00	180.00	TARGET BHL 135(
7,657.5	0.00	0.00	7,569.0	658.8	-357.6	0.00	0.00	0.00	0.00	

Database:	EDM den0-adp01 Server Data	**Local Co-ordinate Reference:**	Well Booth N25-24D
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 N25-24D	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Booth N25-24D 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	0.00	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
960.0	0.00	0.00	960.0	0.0	0.0	0.0	0.00	0.00	0.00
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	0.00
1,040.0	0.00	0.00	1,040.0	0.0	0.0	0.0	0.00	0.00	0.00
1,080.0	0.00	0.00	1,080.0	0.0	0.0	0.0	0.00	0.00	0.00
1,120.0	0.00	0.00	1,120.0	0.0	0.0	0.0	0.00	0.00	0.00
1,160.0	0.00	0.00	1,160.0	0.0	0.0	0.0	0.00	0.00	0.00
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.0	0.00	0.00	0.00
1,240.0	0.00	0.00	1,240.0	0.0	0.0	0.0	0.00	0.00	0.00
1,280.0	0.00	0.00	1,280.0	0.0	0.0	0.0	0.00	0.00	0.00
1,320.0	0.00	0.00	1,320.0	0.0	0.0	0.0	0.00	0.00	0.00
1,360.0	0.00	0.00	1,360.0	0.0	0.0	0.0	0.00	0.00	0.00
1,400.0	0.00	0.00	1,400.0	0.0	0.0	0.0	0.00	0.00	0.00
1,440.0	0.80	331.51	1,440.0	0.2	-0.1	0.3	2.00	2.00	0.00
1,480.0	1.60	331.51	1,480.0	1.0	-0.5	1.1	2.00	2.00	0.00
1,520.0	2.40	331.51	1,520.0	2.2	-1.2	2.5	2.00	2.00	0.00
1,560.0	3.20	331.51	1,559.9	3.9	-2.1	4.5	2.00	2.00	0.00
1,600.0	4.00	331.51	1,599.8	6.1	-3.3	7.0	2.00	2.00	0.00
1,640.0	4.80	331.51	1,639.7	8.8	-4.8	10.0	2.00	2.00	0.00
1,680.0	5.60	331.51	1,679.6	12.0	-6.5	13.7	2.00	2.00	0.00
1,720.0	6.40	331.51	1,719.3	15.7	-8.5	17.9	2.00	2.00	0.00
1,760.0	7.20	331.51	1,759.1	19.9	-10.8	22.6	2.00	2.00	0.00
1,800.0	8.00	331.51	1,798.7	24.5	-13.3	27.9	2.00	2.00	0.00
1,840.0	8.80	331.51	1,838.3	29.6	-16.1	33.7	2.00	2.00	0.00
1,880.0	9.60	331.51	1,877.8	35.3	-19.1	40.1	2.00	2.00	0.00
1,920.0	10.40	331.51	1,917.1	41.4	-22.4	47.1	2.00	2.00	0.00
1,960.0	11.20	331.51	1,956.4	48.0	-26.0	54.6	2.00	2.00	0.00
2,000.0	12.00	331.51	1,995.6	55.0	-29.9	62.6	2.00	2.00	0.00
2,040.0	12.80	331.51	2,034.7	62.6	-34.0	71.2	2.00	2.00	0.00
2,080.0	13.60	331.51	2,073.6	70.6	-38.3	80.3	2.00	2.00	0.00
2,120.0	14.40	331.51	2,112.4	79.1	-42.9	90.0	2.00	2.00	0.00

Database:	EDM den0-adp01 Server Data	**Local Co-ordinate Reference:**	Well Booth N25-24D
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 N25-24D	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Booth N25-24D 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)
2,133.8	14.68	331.51	2,125.8	82.2	-44.6	93.5	2.00	2.00	0.00
2,160.0	14.68	331.51	2,151.1	88.0	-47.8	100.1	0.00	0.00	0.00
2,200.0	14.68	331.51	2,189.8	96.9	-52.6	110.2	0.00	0.00	0.00
2,240.0	14.68	331.51	2,228.5	105.8	-57.4	120.4	0.00	0.00	0.00
2,280.0	14.68	331.51	2,267.2	114.7	-62.3	130.5	0.00	0.00	0.00
2,320.0	14.68	331.51	2,305.9	123.6	-67.1	140.6	0.00	0.00	0.00
2,360.0	14.68	331.51	2,344.6	132.5	-71.9	150.8	0.00	0.00	0.00
2,400.0	14.68	331.51	2,383.3	141.4	-76.8	160.9	0.00	0.00	0.00
2,440.0	14.68	331.51	2,422.0	150.3	-81.6	171.0	0.00	0.00	0.00
2,480.0	14.68	331.51	2,460.7	159.2	-86.4	181.2	0.00	0.00	0.00
2,520.0	14.68	331.51	2,499.4	168.1	-91.3	191.3	0.00	0.00	0.00
2,560.0	14.68	331.51	2,538.1	177.1	-96.1	201.4	0.00	0.00	0.00
2,600.0	14.68	331.51	2,576.8	186.0	-100.9	211.6	0.00	0.00	0.00
2,640.0	14.68	331.51	2,615.5	194.9	-105.8	221.7	0.00	0.00	0.00
2,680.0	14.68	331.51	2,654.2	203.8	-110.6	231.9	0.00	0.00	0.00
2,720.0	14.68	331.51	2,692.9	212.7	-115.4	242.0	0.00	0.00	0.00
2,760.0	14.68	331.51	2,731.6	221.6	-120.3	252.1	0.00	0.00	0.00
2,800.0	14.68	331.51	2,770.3	230.5	-125.1	262.3	0.00	0.00	0.00
2,840.0	14.68	331.51	2,809.0	239.4	-129.9	272.4	0.00	0.00	0.00
2,880.0	14.68	331.51	2,847.7	248.3	-134.8	282.5	0.00	0.00	0.00
2,920.0	14.68	331.51	2,886.4	257.2	-139.6	292.7	0.00	0.00	0.00
2,960.0	14.68	331.51	2,925.0	266.1	-144.4	302.8	0.00	0.00	0.00
3,000.0	14.68	331.51	2,963.7	275.0	-149.3	312.9	0.00	0.00	0.00
3,040.0	14.68	331.51	3,002.4	283.9	-154.1	323.1	0.00	0.00	0.00
3,080.0	14.68	331.51	3,041.1	292.8	-158.9	333.2	0.00	0.00	0.00
3,120.0	14.68	331.51	3,079.8	301.8	-163.8	343.3	0.00	0.00	0.00
3,160.0	14.68	331.51	3,118.5	310.7	-168.6	353.5	0.00	0.00	0.00
3,200.0	14.68	331.51	3,157.2	319.6	-173.4	363.6	0.00	0.00	0.00
3,240.0	14.68	331.51	3,195.9	328.5	-178.3	373.7	0.00	0.00	0.00
3,280.0	14.68	331.51	3,234.6	337.4	-183.1	383.9	0.00	0.00	0.00
3,320.0	14.68	331.51	3,273.3	346.3	-187.9	394.0	0.00	0.00	0.00
3,360.0	14.68	331.51	3,312.0	355.2	-192.8	404.1	0.00	0.00	0.00
3,400.0	14.68	331.51	3,350.7	364.1	-197.6	414.3	0.00	0.00	0.00
3,440.0	14.68	331.51	3,389.4	373.0	-202.4	424.4	0.00	0.00	0.00
3,480.0	14.68	331.51	3,428.1	381.9	-207.3	434.5	0.00	0.00	0.00
3,520.0	14.68	331.51	3,466.8	390.8	-212.1	444.7	0.00	0.00	0.00
3,560.0	14.68	331.51	3,505.5	399.7	-216.9	454.8	0.00	0.00	0.00
3,600.0	14.68	331.51	3,544.2	408.6	-221.8	464.9	0.00	0.00	0.00
3,640.0	14.68	331.51	3,582.9	417.5	-226.6	475.1	0.00	0.00	0.00
3,680.0	14.68	331.51	3,621.6	426.5	-231.4	485.2	0.00	0.00	0.00
3,720.0	14.68	331.51	3,660.2	435.4	-236.3	495.3	0.00	0.00	0.00
3,760.0	14.68	331.51	3,698.9	444.3	-241.1	505.5	0.00	0.00	0.00
3,800.0	14.68	331.51	3,737.6	453.2	-245.9	515.6	0.00	0.00	0.00
3,840.0	14.68	331.51	3,776.3	462.1	-250.8	525.7	0.00	0.00	0.00
3,880.0	14.68	331.51	3,815.0	471.0	-255.6	535.9	0.00	0.00	0.00
3,920.0	14.68	331.51	3,853.7	479.9	-260.5	546.0	0.00	0.00	0.00
3,960.0	14.68	331.51	3,892.4	488.8	-265.3	556.1	0.00	0.00	0.00
4,000.0	14.68	331.51	3,931.1	497.7	-270.1	566.3	0.00	0.00	0.00
4,040.0	14.68	331.51	3,969.8	506.6	-275.0	576.4	0.00	0.00	0.00
4,080.0	14.68	331.51	4,008.5	515.5	-279.8	586.6	0.00	0.00	0.00
4,120.0	14.68	331.51	4,047.2	524.4	-284.6	596.7	0.00	0.00	0.00
4,160.0	14.68	331.51	4,085.9	533.3	-289.5	606.8	0.00	0.00	0.00
4,200.0	14.68	331.51	4,124.6	542.2	-294.3	617.0	0.00	0.00	0.00
4,240.0	14.68	331.51	4,163.3	551.1	-299.1	627.1	0.00	0.00	0.00

Database:	EDM den0-adp01 Server Data	**Local Co-ordinate Reference:**	Well Booth N25-24D
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 N25-24D	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Booth N25-24D 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)
4,280.0	14.68	331.51	4,202.0	560.1	-304.0	637.2	0.00	0.00	0.00
4,320.0	14.68	331.51	4,240.7	569.0	-308.8	647.4	0.00	0.00	0.00
4,354.6	14.68	331.51	4,274.2	576.7	-313.0	656.1	0.00	0.00	0.00
4,360.0	14.57	331.51	4,279.4	577.9	-313.6	657.5	2.00	-2.00	0.00
4,400.0	13.77	331.51	4,318.2	586.5	-318.3	667.3	2.00	-2.00	0.00
4,440.0	12.97	331.51	4,357.1	594.6	-322.7	676.5	2.00	-2.00	0.00
4,480.0	12.17	331.51	4,396.1	602.3	-326.9	685.2	2.00	-2.00	0.00
4,520.0	11.37	331.51	4,435.3	609.4	-330.7	693.4	2.00	-2.00	0.00
4,560.0	10.57	331.51	4,474.5	616.1	-334.4	701.0	2.00	-2.00	0.00
4,600.0	9.77	331.51	4,513.9	622.3	-337.7	708.1	2.00	-2.00	0.00
4,640.0	8.97	331.51	4,553.4	628.0	-340.9	714.6	2.00	-2.00	0.00
4,680.0	8.17	331.51	4,592.9	633.3	-343.7	720.5	2.00	-2.00	0.00
4,720.0	7.37	331.51	4,632.6	638.0	-346.3	725.9	2.00	-2.00	0.00
4,760.0	6.57	331.51	4,672.3	642.3	-348.6	730.8	2.00	-2.00	0.00
4,800.0	5.77	331.51	4,712.0	646.1	-350.6	735.1	2.00	-2.00	0.00
4,840.0	4.97	331.51	4,751.9	649.4	-352.4	738.8	2.00	-2.00	0.00
4,880.0	4.17	331.51	4,791.7	652.2	-353.9	742.0	2.00	-2.00	0.00
4,920.0	3.37	331.51	4,831.6	654.5	-355.2	744.7	2.00	-2.00	0.00
4,960.0	2.57	331.51	4,871.6	656.3	-356.2	746.7	2.00	-2.00	0.00
5,000.0	1.77	331.51	4,911.6	657.6	-356.9	748.2	2.00	-2.00	0.00
5,040.0	0.97	331.51	4,951.5	658.5	-357.4	749.2	2.00	-2.00	0.00
5,080.0	0.17	331.51	4,991.5	658.8	-357.6	749.6	2.00	-2.00	0.00
5,088.5	0.00	0.00	5,000.0	658.8	-357.6	749.6	2.00	-2.00	336.92
TARGET BHL 1350'FSL, 2500'FWL									
5,120.0	0.00	0.00	5,031.5	658.8	-357.6	749.6	0.00	0.00	0.00
5,160.0	0.00	0.00	5,071.5	658.8	-357.6	749.6	0.00	0.00	0.00
5,200.0	0.00	0.00	5,111.5	658.8	-357.6	749.6	0.00	0.00	0.00
5,240.0	0.00	0.00	5,151.5	658.8	-357.6	749.6	0.00	0.00	0.00
5,280.0	0.00	0.00	5,191.5	658.8	-357.6	749.6	0.00	0.00	0.00
5,320.0	0.00	0.00	5,231.5	658.8	-357.6	749.6	0.00	0.00	0.00
5,360.0	0.00	0.00	5,271.5	658.8	-357.6	749.6	0.00	0.00	0.00
5,400.0	0.00	0.00	5,311.5	658.8	-357.6	749.6	0.00	0.00	0.00
5,440.0	0.00	0.00	5,351.5	658.8	-357.6	749.6	0.00	0.00	0.00
5,480.0	0.00	0.00	5,391.5	658.8	-357.6	749.6	0.00	0.00	0.00
5,520.0	0.00	0.00	5,431.5	658.8	-357.6	749.6	0.00	0.00	0.00
5,560.0	0.00	0.00	5,471.5	658.8	-357.6	749.6	0.00	0.00	0.00
5,600.0	0.00	0.00	5,511.5	658.8	-357.6	749.6	0.00	0.00	0.00
5,640.0	0.00	0.00	5,551.5	658.8	-357.6	749.6	0.00	0.00	0.00
5,680.0	0.00	0.00	5,591.5	658.8	-357.6	749.6	0.00	0.00	0.00
5,720.0	0.00	0.00	5,631.5	658.8	-357.6	749.6	0.00	0.00	0.00
5,760.0	0.00	0.00	5,671.5	658.8	-357.6	749.6	0.00	0.00	0.00
5,800.0	0.00	0.00	5,711.5	658.8	-357.6	749.6	0.00	0.00	0.00
5,840.0	0.00	0.00	5,751.5	658.8	-357.6	749.6	0.00	0.00	0.00
5,880.0	0.00	0.00	5,791.5	658.8	-357.6	749.6	0.00	0.00	0.00
5,920.0	0.00	0.00	5,831.5	658.8	-357.6	749.6	0.00	0.00	0.00
5,960.0	0.00	0.00	5,871.5	658.8	-357.6	749.6	0.00	0.00	0.00
6,000.0	0.00	0.00	5,911.5	658.8	-357.6	749.6	0.00	0.00	0.00
6,040.0	0.00	0.00	5,951.5	658.8	-357.6	749.6	0.00	0.00	0.00
6,080.0	0.00	0.00	5,991.5	658.8	-357.6	749.6	0.00	0.00	0.00
6,120.0	0.00	0.00	6,031.5	658.8	-357.6	749.6	0.00	0.00	0.00
6,160.0	0.00	0.00	6,071.5	658.8	-357.6	749.6	0.00	0.00	0.00
6,200.0	0.00	0.00	6,111.5	658.8	-357.6	749.6	0.00	0.00	0.00
6,240.0	0.00	0.00	6,151.5	658.8	-357.6	749.6	0.00	0.00	0.00

Database:	EDM den0-adp01 Server Data	**Local Co-ordinate Reference:**	Well Booth N25-24D
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 N25-24D	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Booth N25-24D 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)
6,280.0	0.00	0.00	6,191.5	658.8	-357.6	749.6	0.00	0.00	0.00
6,320.0	0.00	0.00	6,231.5	658.8	-357.6	749.6	0.00	0.00	0.00
6,360.0	0.00	0.00	6,271.5	658.8	-357.6	749.6	0.00	0.00	0.00
6,400.0	0.00	0.00	6,311.5	658.8	-357.6	749.6	0.00	0.00	0.00
6,440.0	0.00	0.00	6,351.5	658.8	-357.6	749.6	0.00	0.00	0.00
6,480.0	0.00	0.00	6,391.5	658.8	-357.6	749.6	0.00	0.00	0.00
6,520.0	0.00	0.00	6,431.5	658.8	-357.6	749.6	0.00	0.00	0.00
6,560.0	0.00	0.00	6,471.5	658.8	-357.6	749.6	0.00	0.00	0.00
6,600.0	0.00	0.00	6,511.5	658.8	-357.6	749.6	0.00	0.00	0.00
6,640.0	0.00	0.00	6,551.5	658.8	-357.6	749.6	0.00	0.00	0.00
6,680.0	0.00	0.00	6,591.5	658.8	-357.6	749.6	0.00	0.00	0.00
6,720.0	0.00	0.00	6,631.5	658.8	-357.6	749.6	0.00	0.00	0.00
6,760.0	0.00	0.00	6,671.5	658.8	-357.6	749.6	0.00	0.00	0.00
6,800.0	0.00	0.00	6,711.5	658.8	-357.6	749.6	0.00	0.00	0.00
6,840.0	0.00	0.00	6,751.5	658.8	-357.6	749.6	0.00	0.00	0.00
6,880.0	0.00	0.00	6,791.5	658.8	-357.6	749.6	0.00	0.00	0.00
6,920.0	0.00	0.00	6,831.5	658.8	-357.6	749.6	0.00	0.00	0.00
6,960.0	0.00	0.00	6,871.5	658.8	-357.6	749.6	0.00	0.00	0.00
7,000.0	0.00	0.00	6,911.5	658.8	-357.6	749.6	0.00	0.00	0.00
7,040.0	0.00	0.00	6,951.5	658.8	-357.6	749.6	0.00	0.00	0.00
7,080.0	0.00	0.00	6,991.5	658.8	-357.6	749.6	0.00	0.00	0.00
7,120.0	0.00	0.00	7,031.5	658.8	-357.6	749.6	0.00	0.00	0.00
7,160.0	0.00	0.00	7,071.5	658.8	-357.6	749.6	0.00	0.00	0.00
7,162.5	0.00	0.00	7,074.0	658.8	-357.6	749.6	0.00	0.00	0.00
NIOBRARA - TARGET CIRCLE 1350'FSL, 2500'FWL									
7,200.0	0.00	0.00	7,111.5	658.8	-357.6	749.6	0.00	0.00	0.00
7,240.0	0.00	0.00	7,151.5	658.8	-357.6	749.6	0.00	0.00	0.00
7,280.0	0.00	0.00	7,191.5	658.8	-357.6	749.6	0.00	0.00	0.00
7,320.0	0.00	0.00	7,231.5	658.8	-357.6	749.6	0.00	0.00	0.00
7,360.0	0.00	0.00	7,271.5	658.8	-357.6	749.6	0.00	0.00	0.00
7,400.0	0.00	0.00	7,311.5	658.8	-357.6	749.6	0.00	0.00	0.00
7,440.0	0.00	0.00	7,351.5	658.8	-357.6	749.6	0.00	0.00	0.00
7,480.0	0.00	0.00	7,391.5	658.8	-357.6	749.6	0.00	0.00	0.00
7,507.5	0.00	0.00	7,419.0	658.8	-357.6	749.6	0.00	0.00	0.00
CODELL									
7,520.0	0.00	0.00	7,431.5	658.8	-357.6	749.6	0.00	0.00	0.00
7,560.0	0.00	0.00	7,471.5	658.8	-357.6	749.6	0.00	0.00	0.00
7,600.0	0.00	0.00	7,511.5	658.8	-357.6	749.6	0.00	0.00	0.00
7,640.0	0.00	0.00	7,551.5	658.8	-357.6	749.6	0.00	0.00	0.00
7,657.5	0.00	0.00	7,569.0	658.8	-357.6	749.6	0.00	0.00	0.00
HARDLINE 138'E OF BHL									

Database:	EDM den0-adp01 Server Data	**Local Co-ordinate Reference:**	Well Booth N25-24D
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 N25-24D	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Booth N25-24D Plan #1 (03-16-10)		

Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
TARGET CIRCLE 13 - plan hits target center - Circle (radius 75.0)	0.00	0.00	7,074.0	658.8	-357.6	1,377,210.99	3,183,346.48	40° 22' 1.122 N	104° 50' 31.212 W
HARDLINE 138'E OF - plan misses target center by 170.4ft at 7657.5ft MD (7569.0 TVD, 658.8 N, -357.6 E) - Polygon	0.00	0.00	7,569.0	558.8	-219.6	1,377,112.02	3,183,485.21	40° 22' 0.134 N	104° 50' 29.429 W
Point 1			7,569.0	0.0	0.0	1,377,112.02	3,183,485.21		
Point 2			7,569.0	200.0	0.0	1,377,312.01	3,183,483.73		
TARGET BHL 1350'F - plan hits target center - Point	0.00	0.00	5,000.0	658.8	-357.6	1,377,211.01	3,183,346.52	40° 22' 1.122 N	104° 50' 31.211 W

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
7,162.5	7,074.0	NIOBRARA		0.00	
7,507.5	7,419.0	CODELL		0.00	