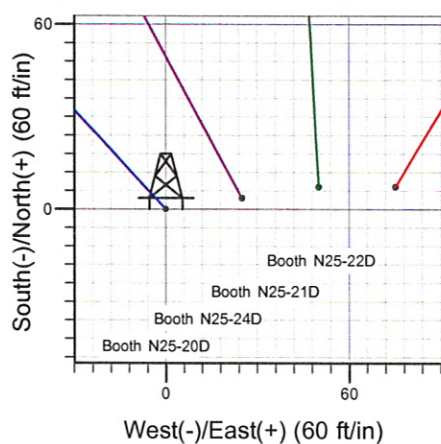
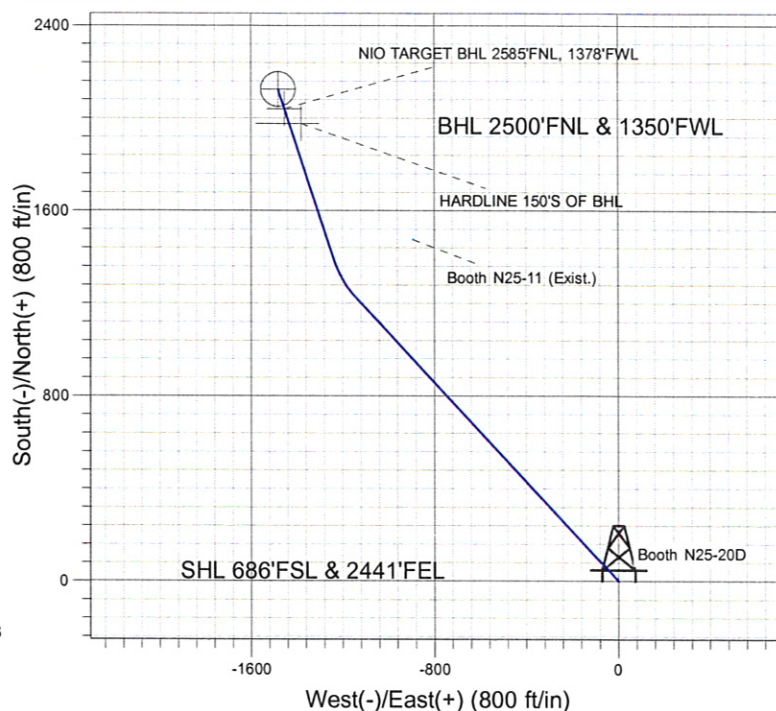
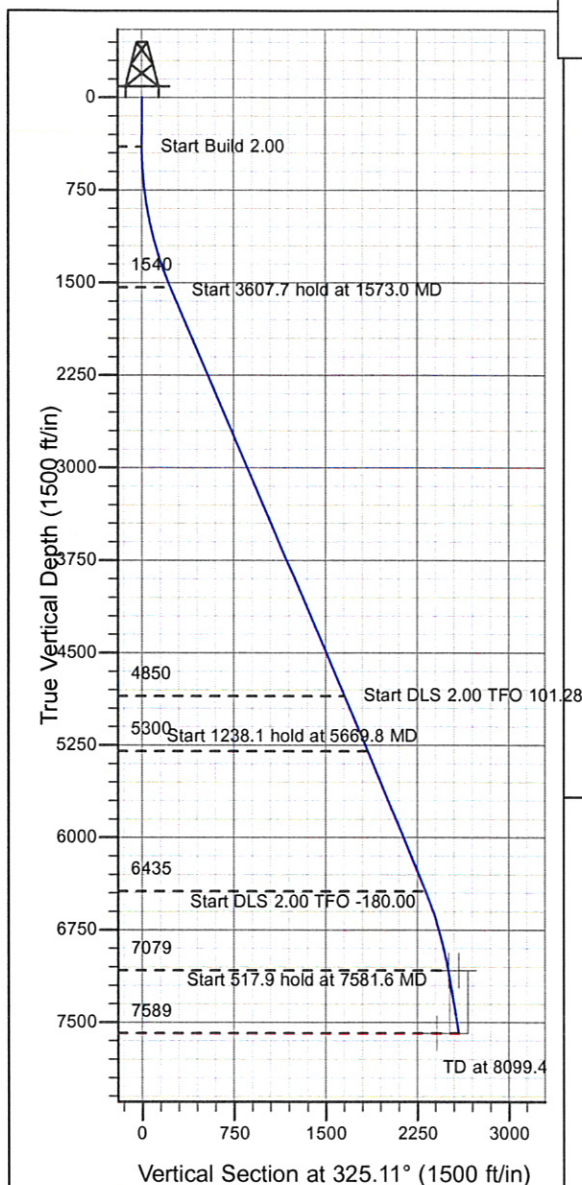


ENSIGN**Directional****Well Name: Booth N25-20D**

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 1376551.06 3183683.90 40° 21' 54.576 N 104° 50' 26.916 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 N25-20D
 Noble Booth N25-20D Plan #1 (03-16-10)
 13:46, March 23 2010



Azimuths to True North
 Magnetic North: 9.06°

Magnetic Field
 Strength: 53276.8snT
 Dip Angle: 67.07°
 Date: 12/31/2009
 Model: IGRF200510

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
NIO TARGET BHL 2585'FNL, 1378'FWL	7079.0	2039.8	-1453.6	40° 22' 14.732 N	104° 50' 45.696 W	Point
TARGET CIRCLE 2500'FNL, 1350'FWL	7079.0	2125.3	-1481.5	40° 22' 15.577 N	104° 50' 46.057 W	Circle (Radius: 75.0)
HARDLINE 150'S OF BHL	7589.0	1975.3	-1381.5	40° 22' 14.095 N	104° 50' 44.765 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	400.0	0.00	0.00	400.0	0.0	0.0	0.00	0.00	0.0	
3	1573.0	23.46	317.00	1540.5	173.2	-161.5	2.00	317.00	234.4	
4	5180.7	23.46	317.00	4850.0	1223.6	-1141.0	0.00	0.00	1656.3	
5	5669.8	23.47	341.72	5299.7	1387.7	-1238.2	2.00	101.28	1846.5	
6	6907.8	23.47	341.72	6435.3	1856.0	-1392.9	0.00	0.00	2319.1	
7	7581.6	10.00	341.72	7079.0	2039.8	-1453.6	2.00	-180.00	2504.6	NIO TARGET BHL 2585'FNL, 1378'FWL
8	8099.4	10.00	341.72	7589.0	2125.2	-1481.8	0.00	0.00	2590.8	



Directional

NOBLE ENERGY INC WELD COUNTY CO

SEC.25-T5N-R67W

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

Booth N25-20D

Wellbore #1

Plan: Noble Booth N25-20D Plan #1 (03-16-10)

Standard Planning Report

23 March, 2010



Database: EDM den0-adp01 Server Data
Company: NOBLE ENERGY INC WELD COUNTY CO
Project: SEC.25-T5N-R67W
Site: Booth N25-20D Pad Sec.25-T5N-R67W
Well: Booth N25-20D
Wellbore: Wellbore #1
Design: Noble Booth N25-20D Plan #1 (03-16-10)

Local Co-ordinate Reference: Well Booth N25-20D
TVD Reference: WELL @ 4939.0ft (Original Well Elev)
MD Reference: WELL @ 4939.0ft (Original Well Elev)
North Reference: True
Survey Calculation Method: Minimum Curvature

Project SEC.25-T5N-R67W, Weld County, Colorado

Map System: US State Plane 1983
Geo Datum: North American Datum 1983
Map Zone: Colorado Northern Zone

System Datum: Mean Sea Level
 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 N25-20D

Well Position +N/-S 0.0 ft Northing: 1,376,551.06 ft Latitude: 40° 21' 54.576 N
 +E/-W 0.0 ft Easting: 3,183,683.90 ft Longitude: 104° 50' 26.916 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 N25-20D 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	325.11

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	
1,573.0	23.46	317.00	1,540.5	173.2	-161.5	2.00	2.00	0.00	317.00	
5,180.7	23.46	317.00	4,850.0	1,223.6	-1,141.0	0.00	0.00	0.00	0.00	
5,669.8	23.47	341.72	5,299.7	1,387.7	-1,238.2	2.00	0.00	5.06	101.28	
6,907.8	23.47	341.72	6,435.3	1,856.0	-1,392.9	0.00	0.00	0.00	0.00	
7,581.6	10.00	341.72	7,079.0	2,039.8	-1,453.6	2.00	-2.00	0.00	-180.00	NIO TARGET BHL
8,099.4	10.00	341.72	7,589.0	2,125.2	-1,481.8	0.00	0.00	0.00	0.00	

Database: EDM den0-adp01 Server Data
Company: NOBLE ENERGY INC WELD COUNTY CO
Project: SEC.25-T5N-R67W
Site: Booth N25-20D Pad Sec.25-T5N-R67W
Well: Booth N25-20D
Wellbore: Wellbore #1
Design: Noble Booth N25-20D Plan #1 (03-16-10)

Local Co-ordinate Reference: Well Booth N25-20D
TVD Reference: WELL @ 4939.0ft (Original Well Elev)
MD Reference: WELL @ 4939.0ft (Original Well Elev)
North Reference: True
Survey Calculation Method: Minimum Curvature

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	317.00	440.0	0.2	-0.2	0.3	2.00	2.00	0.00
480.0	1.60	317.00	480.0	0.8	-0.8	1.1	2.00	2.00	0.00
520.0	2.40	317.00	520.0	1.8	-1.7	2.5	2.00	2.00	0.00
560.0	3.20	317.00	559.9	3.3	-3.0	4.4	2.00	2.00	0.00
600.0	4.00	317.00	599.8	5.1	-4.8	6.9	2.00	2.00	0.00
640.0	4.80	317.00	639.7	7.3	-6.9	9.9	2.00	2.00	0.00
680.0	5.60	317.00	679.6	10.0	-9.3	13.5	2.00	2.00	0.00
720.0	6.40	317.00	719.3	13.1	-12.2	17.7	2.00	2.00	0.00
760.0	7.20	317.00	759.1	16.5	-15.4	22.4	2.00	2.00	0.00
800.0	8.00	317.00	798.7	20.4	-19.0	27.6	2.00	2.00	0.00
840.0	8.80	317.00	838.3	24.7	-23.0	33.4	2.00	2.00	0.00
880.0	9.60	317.00	877.8	29.3	-27.4	39.7	2.00	2.00	0.00
920.0	10.40	317.00	917.1	34.4	-32.1	46.6	2.00	2.00	0.00
960.0	11.20	317.00	956.4	39.9	-37.2	54.0	2.00	2.00	0.00
1,000.0	12.00	317.00	995.6	45.8	-42.7	62.0	2.00	2.00	0.00
1,040.0	12.80	317.00	1,034.7	52.1	-48.6	70.5	2.00	2.00	0.00
1,080.0	13.60	317.00	1,073.6	58.7	-54.8	79.5	2.00	2.00	0.00
1,120.0	14.40	317.00	1,112.4	65.8	-61.4	89.1	2.00	2.00	0.00
1,160.0	15.20	317.00	1,151.1	73.3	-68.3	99.2	2.00	2.00	0.00
1,200.0	16.00	317.00	1,189.6	81.2	-75.7	109.9	2.00	2.00	0.00
1,240.0	16.80	317.00	1,228.0	89.4	-83.4	121.0	2.00	2.00	0.00
1,280.0	17.60	317.00	1,266.2	98.1	-91.5	132.8	2.00	2.00	0.00
1,320.0	18.40	317.00	1,304.3	107.1	-99.9	145.0	2.00	2.00	0.00
1,360.0	19.20	317.00	1,342.1	116.5	-108.7	157.8	2.00	2.00	0.00
1,400.0	20.00	317.00	1,379.8	126.4	-117.8	171.0	2.00	2.00	0.00
1,440.0	20.80	317.00	1,417.3	136.6	-127.3	184.8	2.00	2.00	0.00
1,480.0	21.60	317.00	1,454.6	147.1	-137.2	199.2	2.00	2.00	0.00
1,520.0	22.40	317.00	1,491.7	158.1	-147.4	214.0	2.00	2.00	0.00
1,560.0	23.20	317.00	1,528.6	169.4	-158.0	229.3	2.00	2.00	0.00
1,573.0	23.46	317.00	1,540.5	173.2	-161.5	234.4	2.00	2.00	0.00
1,600.0	23.46	317.00	1,565.3	181.1	-168.8	245.1	0.00	0.00	0.00
1,640.0	23.46	317.00	1,602.0	192.7	-179.7	260.8	0.00	0.00	0.00
1,680.0	23.46	317.00	1,638.7	204.3	-190.6	276.6	0.00	0.00	0.00
1,720.0	23.46	317.00	1,675.3	216.0	-201.4	292.4	0.00	0.00	0.00
1,760.0	23.46	317.00	1,712.0	227.6	-212.3	308.1	0.00	0.00	0.00
1,800.0	23.46	317.00	1,748.7	239.3	-223.1	323.9	0.00	0.00	0.00
1,840.0	23.46	317.00	1,785.4	250.9	-234.0	339.7	0.00	0.00	0.00
1,880.0	23.46	317.00	1,822.1	262.6	-244.9	355.4	0.00	0.00	0.00
1,920.0	23.46	317.00	1,858.8	274.2	-255.7	371.2	0.00	0.00	0.00
1,960.0	23.46	317.00	1,895.5	285.9	-266.6	387.0	0.00	0.00	0.00
2,000.0	23.46	317.00	1,932.2	297.5	-277.4	402.7	0.00	0.00	0.00
2,040.0	23.46	317.00	1,968.9	309.2	-288.3	418.5	0.00	0.00	0.00
2,080.0	23.46	317.00	2,005.6	320.8	-299.2	434.3	0.00	0.00	0.00

Database:	EDM den0-adp01 Server Data	Local Co-ordinate Reference:	Well Booth N25-20D
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 N25-20D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Booth N25-20D 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	23.46	317.00	2,042.3	332.5	-310.0	450.0	0.00	0.00	0.00
2,160.0	23.46	317.00	2,079.0	344.1	-320.9	465.8	0.00	0.00	0.00
2,200.0	23.46	317.00	2,115.7	355.7	-331.7	481.6	0.00	0.00	0.00
2,240.0	23.46	317.00	2,152.4	367.4	-342.6	497.3	0.00	0.00	0.00
2,280.0	23.46	317.00	2,189.1	379.0	-353.5	513.1	0.00	0.00	0.00
2,320.0	23.46	317.00	2,225.7	390.7	-364.3	528.8	0.00	0.00	0.00
2,360.0	23.46	317.00	2,262.4	402.3	-375.2	544.6	0.00	0.00	0.00
2,400.0	23.46	317.00	2,299.1	414.0	-386.0	560.4	0.00	0.00	0.00
2,440.0	23.46	317.00	2,335.8	425.6	-396.9	576.1	0.00	0.00	0.00
2,480.0	23.46	317.00	2,372.5	437.3	-407.8	591.9	0.00	0.00	0.00
2,520.0	23.46	317.00	2,409.2	448.9	-418.6	607.7	0.00	0.00	0.00
2,560.0	23.46	317.00	2,445.9	460.6	-429.5	623.4	0.00	0.00	0.00
2,600.0	23.46	317.00	2,482.6	472.2	-440.3	639.2	0.00	0.00	0.00
2,640.0	23.46	317.00	2,519.3	483.9	-451.2	655.0	0.00	0.00	0.00
2,680.0	23.46	317.00	2,556.0	495.5	-462.1	670.7	0.00	0.00	0.00
2,720.0	23.46	317.00	2,592.7	507.1	-472.9	686.5	0.00	0.00	0.00
2,760.0	23.46	317.00	2,629.4	518.8	-483.8	702.3	0.00	0.00	0.00
2,800.0	23.46	317.00	2,666.1	530.4	-494.6	718.0	0.00	0.00	0.00
2,840.0	23.46	317.00	2,702.8	542.1	-505.5	733.8	0.00	0.00	0.00
2,880.0	23.46	317.00	2,739.5	553.7	-516.4	749.6	0.00	0.00	0.00
2,920.0	23.46	317.00	2,776.2	565.4	-527.2	765.3	0.00	0.00	0.00
2,960.0	23.46	317.00	2,812.8	577.0	-538.1	781.1	0.00	0.00	0.00
3,000.0	23.46	317.00	2,849.5	588.7	-548.9	796.9	0.00	0.00	0.00
3,040.0	23.46	317.00	2,886.2	600.3	-559.8	812.6	0.00	0.00	0.00
3,080.0	23.46	317.00	2,922.9	612.0	-570.7	828.4	0.00	0.00	0.00
3,120.0	23.46	317.00	2,959.6	623.6	-581.5	844.1	0.00	0.00	0.00
3,160.0	23.46	317.00	2,996.3	635.3	-592.4	859.9	0.00	0.00	0.00
3,200.0	23.46	317.00	3,033.0	646.9	-603.2	875.7	0.00	0.00	0.00
3,240.0	23.46	317.00	3,069.7	658.6	-614.1	891.4	0.00	0.00	0.00
3,280.0	23.46	317.00	3,106.4	670.2	-625.0	907.2	0.00	0.00	0.00
3,320.0	23.46	317.00	3,143.1	681.8	-635.8	923.0	0.00	0.00	0.00
3,360.0	23.46	317.00	3,179.8	693.5	-646.7	938.7	0.00	0.00	0.00
3,400.0	23.46	317.00	3,216.5	705.1	-657.6	954.5	0.00	0.00	0.00
3,440.0	23.46	317.00	3,253.2	716.8	-668.4	970.3	0.00	0.00	0.00
3,480.0	23.46	317.00	3,289.9	728.4	-679.3	986.0	0.00	0.00	0.00
3,520.0	23.46	317.00	3,326.6	740.1	-690.1	1,001.8	0.00	0.00	0.00
3,560.0	23.46	317.00	3,363.2	751.7	-701.0	1,017.6	0.00	0.00	0.00
3,600.0	23.46	317.00	3,399.9	763.4	-711.9	1,033.3	0.00	0.00	0.00
3,640.0	23.46	317.00	3,436.6	775.0	-722.7	1,049.1	0.00	0.00	0.00
3,680.0	23.46	317.00	3,473.3	786.7	-733.6	1,064.9	0.00	0.00	0.00
3,720.0	23.46	317.00	3,510.0	798.3	-744.4	1,080.6	0.00	0.00	0.00
3,760.0	23.46	317.00	3,546.7	810.0	-755.3	1,096.4	0.00	0.00	0.00
3,800.0	23.46	317.00	3,583.4	821.6	-766.2	1,112.2	0.00	0.00	0.00
3,840.0	23.46	317.00	3,620.1	833.2	-777.0	1,127.9	0.00	0.00	0.00
3,880.0	23.46	317.00	3,656.8	844.9	-787.9	1,143.7	0.00	0.00	0.00
3,920.0	23.46	317.00	3,693.5	856.5	-798.7	1,159.4	0.00	0.00	0.00
3,960.0	23.46	317.00	3,730.2	868.2	-809.6	1,175.2	0.00	0.00	0.00
4,000.0	23.46	317.00	3,766.9	879.8	-820.5	1,191.0	0.00	0.00	0.00
4,040.0	23.46	317.00	3,803.6	891.5	-831.3	1,206.7	0.00	0.00	0.00
4,080.0	23.46	317.00	3,840.3	903.1	-842.2	1,222.5	0.00	0.00	0.00
4,120.0	23.46	317.00	3,877.0	914.8	-853.0	1,238.3	0.00	0.00	0.00
4,160.0	23.46	317.00	3,913.7	926.4	-863.9	1,254.0	0.00	0.00	0.00
4,200.0	23.46	317.00	3,950.3	938.1	-874.8	1,269.8	0.00	0.00	0.00
4,240.0	23.46	317.00	3,987.0	949.7	-885.6	1,285.6	0.00	0.00	0.00

Database: EDM den0-adp01 Server Data
Company: NOBLE ENERGY INC WELD COUNTY CO
Project: SEC.25-T5N-R67W
Site: Booth N25-20D Pad Sec.25-T5N-R67W
Well: Booth N25-20D
Wellbore: Wellbore #1
Design: Noble Booth N25-20D Plan #1 (03-16-10)

Local Co-ordinate Reference: Well Booth N25-20D
TVD Reference: WELL @ 4939.0ft (Original Well Elev)
MD Reference: WELL @ 4939.0ft (Original Well Elev)
North Reference: True
Survey Calculation Method: Minimum Curvature

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	23.46	317.00	4,023.7	961.4	-896.5	1,301.3	0.00	0.00	0.00
4,320.0	23.46	317.00	4,060.4	973.0	-907.3	1,317.1	0.00	0.00	0.00
4,360.0	23.46	317.00	4,097.1	984.6	-918.2	1,332.9	0.00	0.00	0.00
4,400.0	23.46	317.00	4,133.8	996.3	-929.1	1,348.6	0.00	0.00	0.00
4,440.0	23.46	317.00	4,170.5	1,007.9	-939.9	1,364.4	0.00	0.00	0.00
4,480.0	23.46	317.00	4,207.2	1,019.6	-950.8	1,380.2	0.00	0.00	0.00
4,520.0	23.46	317.00	4,243.9	1,031.2	-961.6	1,395.9	0.00	0.00	0.00
4,560.0	23.46	317.00	4,280.6	1,042.9	-972.5	1,411.7	0.00	0.00	0.00
4,600.0	23.46	317.00	4,317.3	1,054.5	-983.4	1,427.5	0.00	0.00	0.00
4,640.0	23.46	317.00	4,354.0	1,066.2	-994.2	1,443.2	0.00	0.00	0.00
4,680.0	23.46	317.00	4,390.7	1,077.8	-1,005.1	1,459.0	0.00	0.00	0.00
4,720.0	23.46	317.00	4,427.4	1,089.5	-1,015.9	1,474.7	0.00	0.00	0.00
4,760.0	23.46	317.00	4,464.1	1,101.1	-1,026.8	1,490.5	0.00	0.00	0.00
4,800.0	23.46	317.00	4,500.7	1,112.8	-1,037.7	1,506.3	0.00	0.00	0.00
4,840.0	23.46	317.00	4,537.4	1,124.4	-1,048.5	1,522.0	0.00	0.00	0.00
4,880.0	23.46	317.00	4,574.1	1,136.1	-1,059.4	1,537.8	0.00	0.00	0.00
4,920.0	23.46	317.00	4,610.8	1,147.7	-1,070.2	1,553.6	0.00	0.00	0.00
4,960.0	23.46	317.00	4,647.5	1,159.3	-1,081.1	1,569.3	0.00	0.00	0.00
5,000.0	23.46	317.00	4,684.2	1,171.0	-1,092.0	1,585.1	0.00	0.00	0.00
5,040.0	23.46	317.00	4,720.9	1,182.6	-1,102.8	1,600.9	0.00	0.00	0.00
5,080.0	23.46	317.00	4,757.6	1,194.3	-1,113.7	1,616.6	0.00	0.00	0.00
5,120.0	23.46	317.00	4,794.3	1,205.9	-1,124.5	1,632.4	0.00	0.00	0.00
5,160.0	23.46	317.00	4,831.0	1,217.6	-1,135.4	1,648.2	0.00	0.00	0.00
5,180.7	23.46	317.00	4,850.0	1,223.6	-1,141.0	1,656.3	0.00	0.00	0.00
5,200.0	23.39	317.95	4,867.7	1,229.3	-1,146.2	1,663.9	2.00	-0.38	4.94
5,240.0	23.26	319.95	4,904.4	1,241.2	-1,156.6	1,679.7	2.00	-0.33	4.98
5,280.0	23.15	321.96	4,941.2	1,253.4	-1,166.5	1,695.4	2.00	-0.27	5.03
5,320.0	23.07	323.99	4,978.0	1,266.0	-1,176.0	1,711.1	2.00	-0.20	5.07
5,360.0	23.01	326.03	5,014.8	1,278.8	-1,185.0	1,726.7	2.00	-0.14	5.10
5,400.0	22.98	328.07	5,051.6	1,291.9	-1,193.5	1,742.3	2.00	-0.07	5.12
5,440.0	22.98	330.12	5,088.4	1,305.3	-1,201.5	1,757.9	2.00	-0.01	5.12
5,480.0	23.01	332.17	5,125.3	1,319.0	-1,209.0	1,773.5	2.00	0.06	5.12
5,520.0	23.06	334.21	5,162.1	1,332.9	-1,216.1	1,788.9	2.00	0.13	5.10
5,560.0	23.13	336.24	5,198.9	1,347.2	-1,222.7	1,804.4	2.00	0.19	5.08
5,600.0	23.24	338.25	5,235.6	1,361.7	-1,228.8	1,819.8	2.00	0.26	5.04
5,640.0	23.36	340.25	5,272.4	1,376.5	-1,234.4	1,835.1	2.00	0.32	4.99
5,669.8	23.47	341.72	5,299.7	1,387.7	-1,238.2	1,846.5	2.00	0.37	4.94
5,680.0	23.47	341.72	5,309.1	1,391.6	-1,239.5	1,850.4	0.00	0.00	0.00
5,720.0	23.47	341.72	5,345.8	1,406.7	-1,244.5	1,865.7	0.00	0.00	0.00
5,760.0	23.47	341.72	5,382.5	1,421.8	-1,249.5	1,880.9	0.00	0.00	0.00
5,800.0	23.47	341.72	5,419.1	1,437.0	-1,254.5	1,896.2	0.00	0.00	0.00
5,840.0	23.47	341.72	5,455.8	1,452.1	-1,259.5	1,911.5	0.00	0.00	0.00
5,880.0	23.47	341.72	5,492.5	1,467.2	-1,264.5	1,926.8	0.00	0.00	0.00
5,920.0	23.47	341.72	5,529.2	1,482.3	-1,269.5	1,942.0	0.00	0.00	0.00
5,960.0	23.47	341.72	5,565.9	1,497.5	-1,274.5	1,957.3	0.00	0.00	0.00
6,000.0	23.47	341.72	5,602.6	1,512.6	-1,279.5	1,972.6	0.00	0.00	0.00
6,040.0	23.47	341.72	5,639.3	1,527.7	-1,284.5	1,987.8	0.00	0.00	0.00
6,080.0	23.47	341.72	5,676.0	1,542.9	-1,289.5	2,003.1	0.00	0.00	0.00
6,120.0	23.47	341.72	5,712.7	1,558.0	-1,294.5	2,018.4	0.00	0.00	0.00
6,160.0	23.47	341.72	5,749.3	1,573.1	-1,299.5	2,033.6	0.00	0.00	0.00
6,200.0	23.47	341.72	5,786.0	1,588.3	-1,304.5	2,048.9	0.00	0.00	0.00
6,240.0	23.47	341.72	5,822.7	1,603.4	-1,309.4	2,064.2	0.00	0.00	0.00
6,280.0	23.47	341.72	5,859.4	1,618.5	-1,314.4	2,079.4	0.00	0.00	0.00
6,320.0	23.47	341.72	5,896.1	1,633.6	-1,319.4	2,094.7	0.00	0.00	0.00

Database: EDM den0-adp01 Server Data
Company: NOBLE ENERGY INC WELD COUNTY CO
Project: SEC.25-T5N-R67W
Site: Booth N25-20D Pad Sec.25-T5N-R67W
Well: Booth N25-20D
Wellbore: Wellbore #1
Design: Noble Booth N25-20D Plan #1 (03-16-10)

Local Co-ordinate Reference: Well Booth N25-20D
TVD Reference: WELL @ 4939.0ft (Original Well Elev)
MD Reference: WELL @ 4939.0ft (Original Well Elev)
North Reference: True
Survey Calculation Method: Minimum Curvature

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)
6,360.0	23.47	341.72	5,932.8	1,648.8	-1,324.4	2,110.0	0.00	0.00	0.00
6,400.0	23.47	341.72	5,969.5	1,663.9	-1,329.4	2,125.3	0.00	0.00	0.00
6,440.0	23.47	341.72	6,006.2	1,679.0	-1,334.4	2,140.5	0.00	0.00	0.00
6,480.0	23.47	341.72	6,042.9	1,694.2	-1,339.4	2,155.8	0.00	0.00	0.00
6,520.0	23.47	341.72	6,079.6	1,709.3	-1,344.4	2,171.1	0.00	0.00	0.00
6,560.0	23.47	341.72	6,116.2	1,724.4	-1,349.4	2,186.3	0.00	0.00	0.00
6,600.0	23.47	341.72	6,152.9	1,739.5	-1,354.4	2,201.6	0.00	0.00	0.00
6,640.0	23.47	341.72	6,189.6	1,754.7	-1,359.4	2,216.9	0.00	0.00	0.00
6,680.0	23.47	341.72	6,226.3	1,769.8	-1,364.4	2,232.1	0.00	0.00	0.00
6,720.0	23.47	341.72	6,263.0	1,784.9	-1,369.4	2,247.4	0.00	0.00	0.00
6,760.0	23.47	341.72	6,299.7	1,800.1	-1,374.4	2,262.7	0.00	0.00	0.00
6,800.0	23.47	341.72	6,336.4	1,815.2	-1,379.4	2,277.9	0.00	0.00	0.00
6,840.0	23.47	341.72	6,373.1	1,830.3	-1,384.4	2,293.2	0.00	0.00	0.00
6,880.0	23.47	341.72	6,409.8	1,845.5	-1,389.4	2,308.5	0.00	0.00	0.00
6,907.8	23.47	341.72	6,435.3	1,856.0	-1,392.9	2,319.1	0.00	0.00	0.00
6,920.0	23.23	341.72	6,446.5	1,860.6	-1,394.4	2,323.7	2.00	-2.00	0.00
6,960.0	22.43	341.72	6,483.3	1,875.3	-1,399.3	2,338.6	2.00	-2.00	0.00
7,000.0	21.63	341.72	6,520.4	1,889.6	-1,404.0	2,353.0	2.00	-2.00	0.00
7,040.0	20.83	341.72	6,557.7	1,903.3	-1,408.5	2,366.9	2.00	-2.00	0.00
7,080.0	20.03	341.72	6,595.2	1,916.6	-1,412.9	2,380.2	2.00	-2.00	0.00
7,120.0	19.23	341.72	6,632.8	1,929.3	-1,417.1	2,393.1	2.00	-2.00	0.00
7,160.0	18.43	341.72	6,670.7	1,941.6	-1,421.2	2,405.5	2.00	-2.00	0.00
7,200.0	17.63	341.72	6,708.7	1,953.3	-1,425.0	2,417.4	2.00	-2.00	0.00
7,240.0	16.83	341.72	6,746.9	1,964.6	-1,428.8	2,428.7	2.00	-2.00	0.00
7,280.0	16.03	341.72	6,785.3	1,975.3	-1,432.3	2,439.6	2.00	-2.00	0.00
7,320.0	15.23	341.72	6,823.8	1,985.6	-1,435.7	2,449.9	2.00	-2.00	0.00
7,360.0	14.43	341.72	6,862.5	1,995.3	-1,438.9	2,459.7	2.00	-2.00	0.00
7,400.0	13.63	341.72	6,901.3	2,004.5	-1,441.9	2,469.0	2.00	-2.00	0.00
7,440.0	12.83	341.72	6,940.2	2,013.2	-1,444.8	2,477.8	2.00	-2.00	0.00
7,480.0	12.03	341.72	6,979.3	2,021.4	-1,447.5	2,486.0	2.00	-2.00	0.00
7,520.0	11.23	341.72	7,018.5	2,029.0	-1,450.0	2,493.7	2.00	-2.00	0.00
7,560.0	10.43	341.72	7,057.8	2,036.2	-1,452.4	2,500.9	2.00	-2.00	0.00
7,581.6	10.00	341.72	7,079.0	2,039.8	-1,453.6	2,504.6	2.00	-2.00	0.00
NIOBARRA - NIO TARGET BHL 2585'FNL, 1378'FWL									
7,597.2	10.00	341.72	7,094.4	2,042.4	-1,454.5	2,507.2	0.00	0.00	0.00
TARGET CIRCLE 2500'FNL, 1350'FWL									
7,600.0	10.00	341.72	7,097.1	2,042.8	-1,454.6	2,507.7	0.00	0.00	0.00
7,640.0	10.00	341.72	7,136.5	2,049.4	-1,456.8	2,514.3	0.00	0.00	0.00
7,680.0	10.00	341.72	7,175.9	2,056.0	-1,459.0	2,521.0	0.00	0.00	0.00
7,720.0	10.00	341.72	7,215.3	2,062.6	-1,461.1	2,527.6	0.00	0.00	0.00
7,760.0	10.00	341.72	7,254.7	2,069.2	-1,463.3	2,534.3	0.00	0.00	0.00
7,800.0	10.00	341.72	7,294.1	2,075.8	-1,465.5	2,541.0	0.00	0.00	0.00
7,840.0	10.00	341.72	7,333.5	2,082.4	-1,467.7	2,547.6	0.00	0.00	0.00
7,880.0	10.00	341.72	7,372.9	2,089.0	-1,469.9	2,554.3	0.00	0.00	0.00
7,920.0	10.00	341.72	7,412.3	2,095.6	-1,472.0	2,560.9	0.00	0.00	0.00
7,947.1	10.00	341.72	7,439.0	2,100.1	-1,473.5	2,565.4	0.00	0.00	0.00
CODELL									
7,960.0	10.00	341.72	7,451.7	2,102.2	-1,474.2	2,567.6	0.00	0.00	0.00
8,000.0	10.00	341.72	7,491.1	2,108.8	-1,476.4	2,574.2	0.00	0.00	0.00
8,040.0	10.00	341.72	7,530.5	2,115.4	-1,478.6	2,580.9	0.00	0.00	0.00
8,069.3	10.00	341.72	7,559.3	2,120.2	-1,480.2	2,585.8	0.00	0.00	0.00
HARDLINE 150'S OF BHL									
8,080.0	10.00	341.72	7,569.9	2,122.0	-1,480.7	2,587.6	0.00	0.00	0.00

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 Project: SEC.25-T5N-R67W
 Site: Booth N25-20D Pad Sec.25-T5N-R67W
 Well: Booth N25-20D
 Wellbore: Wellbore #1
 Design: Noble Booth N25-20D Plan #1 (03-16-10)

Local Co-ordinate Reference: Well Booth N25-20D
 TVD Reference: WELL @ 4939.0ft (Original Well Elev)
 MD Reference: WELL @ 4939.0ft (Original Well Elev)
 North Reference: True
 Survey Calculation Method: Minimum Curvature

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)
8,099.4	10.00	341.72	7,589.0	2,125.2	-1,481.8	2,590.8	0.00	0.00	0.00

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
NIO TARGET BHL 25 - plan hits target center - Point	0.00	0.00	7,079.0	2,039.8	-1,453.6	1,378,579.91	3,182,215.24	40° 22' 14.732 N	104° 50' 45.696 W
TARGET CIRCLE 25C - plan misses target center by 88.6ft at 7597.2ft MD (7094.4 TVD, 2042.4 N, -1454.5 E) - Circle (radius 75.0)	0.00	0.00	7,079.0	2,125.3	-1,481.5	1,378,665.20	3,182,186.71	40° 22' 15.577 N	104° 50' 46.057 W
HARDLINE 150'S OF - plan misses target center by 177.8ft at 8069.3ft MD (7559.3 TVD, 2120.2 N, -1480.2 E) - Polygon	0.00	0.00	7,589.0	1,975.3	-1,381.5	1,378,515.96	3,182,287.82	40° 22' 14.095 N	104° 50' 44.765 W
Point 1			7,589.0	0.0	0.0	1,378,515.96	3,182,287.82		
Point 2			7,589.0	0.0	-200.0	1,378,514.47	3,182,087.83		

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
7,581.6	7,079.0	NIOBRARA		0.00	
7,947.1	7,439.0	CODELL		0.00	