

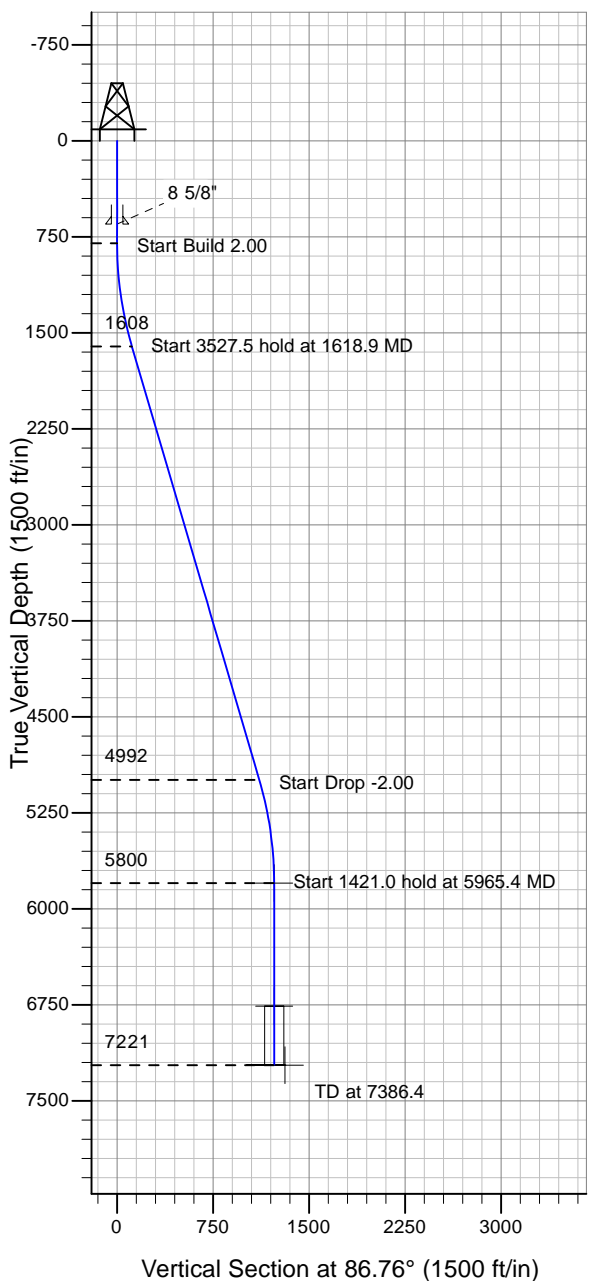
ENSIGN

Directional

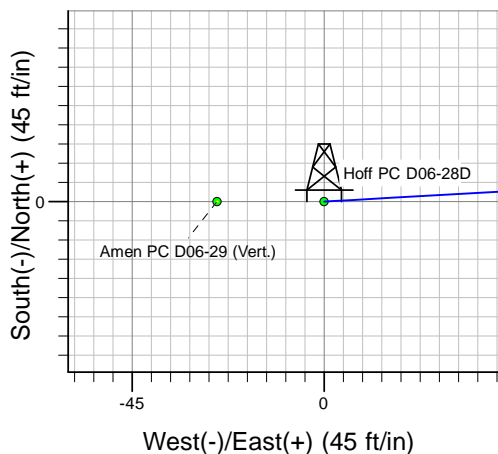
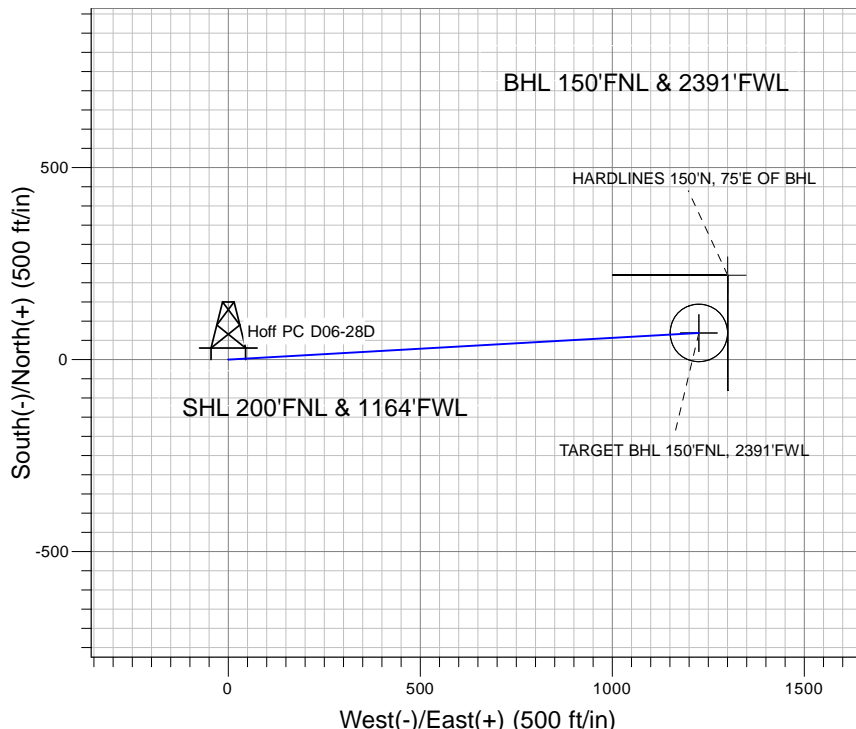
Well Name: Hoff PC D06-28D

Surface Location: Hoff PC D06-28D Pad Sec.6-T3N-R64W
 North American Datum 1983 , US State Plane 1983 , Colorado Northern Zone
 Ground Elevation: 4838.0

+N/-S+E/-W Northing Easting Latitude Longitude Slot
 0.0 0.0 1339199.72 3251651.76 40° 15' 39.564 N 104° 35' 53.772 W
 Original Well Elev WELL @ 4851.0ft (Original Well Elev)



NOBLE ENERGY INC WELD COUNTY CO



Hoff PC D06-28D Pad Sec.6-T3N-R64W
 Hoff PC D06-28D
 Noble Hoff PC D06-28D Plan #1 (06-16-10)
 17:36, June 21 2010



Azimuths to True North
 Magnetic North: 8.90°

Magnetic Field
 Strength: 53181.7snT
 Dip Angle: 67.00°
 Date: 6/16/2010
 Model: IGRF2010

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
TARGET BHL 150'FNL, 2391'FWL	5800.0	69.3	1225.2	40° 15' 40.248 N	104° 35' 37.968 W	Point
TARGET CIRCLE 150'FNL, 2391'FWL	6761.0	69.3	1225.2	40° 15' 40.248 N	104° 35' 37.968 W	Circle (Radius: 75.0)
HARDLINES 150'N, 75'E OF BHL	7221.0	219.3	1300.2	40° 15' 41.731 N	104° 35' 37.001 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	800.0	0.00	0.00	800.0	0.0	0.0	0.00	0.00	0.0	
3	1618.9	16.38	86.76	1607.8	6.6	116.1	2.00	86.76	116.2	
4	5146.4	16.38	86.76	4992.2	62.7	1109.2	0.00	0.00	1110.9	
5	5965.4	0.00	0.00	5800.0	69.3	1225.2	2.00	180.00	1227.2	TARGET BHL 150'FNL, 2391'FWL
6	7386.4	0.00	0.00	7221.0	69.3	1225.2	0.00	0.00	1227.2	



NOBLE ENERGY INC WELD COUNTY CO

SEC.6-T3N-R64W

Hoff PC D06-28D Pad Sec.6-T3N-R64W

Hoff PC D06-28D

Wellbore #1

Plan: Noble Hoff PC D06-28D Plan #1 (06-16-10)

Standard Planning Report

21 June, 2010



Database:	EDM den0-adp01 Server Data	Local Co-ordinate Reference:	Well Hoff PC D06-28D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4851.0ft (Original Well Elev)
Project:	SEC.6-T3N-R64W	MD Reference:	WELL @ 4851.0ft (Original Well Elev)
Site:	Hoff PC D06-28D Pad Sec.6-T3N-R64W	North Reference:	True
Well:	Hoff PC D06-28D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Hoff PC D06-28D Plan #1 (06-16-10)		

Project	SEC.6-T3N-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 Hoff PC D06-28D Pad Sec.6-T3N-R64W					
Site Position:		Northing:	1,339,199.73ft	Latitude:	40° 15' 39.564 N
From:	Lat/Long	Easting:	3,251,651.76ft	Longitude:	104° 35' 53.772 W
Position Uncertainty:	0.0 ft	Slot Radius:	"	Grid Convergence:	0.58 °

Well	Hoff PC D06-28D					
Well Position	+N-S	0.0 ft	Northing:	1,339,199.72 ft	Latitude:	40° 15' 39.564 N
	+E-W	0.0 ft	Easting:	3,251,651.76 ft	Longitude:	104° 35' 53.772 W
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,838.0 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	6/16/2010	8.90	67.00	53,182

Design	Noble Hoff PC D06-28D Plan #1 (06-16-10)			
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	86.76

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	
1,618.9	16.38	86.76	1,607.8	6.6	116.1	2.00	2.00	0.00	86.76	
5,146.4	16.38	86.76	4,992.2	62.7	1,109.2	0.00	0.00	0.00	0.00	
5,965.4	0.00	0.00	5,800.0	69.3	1,225.2	2.00	-2.00	0.00	180.00	TARGET BHL 150'I
7,386.4	0.00	0.00	7,221.0	69.3	1,225.2	0.00	0.00	0.00	0.00	

Database:	EDM den0-adp01 Server Data	Local Co-ordinate Reference:	Well Hoff PC D06-28D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4851.0ft (Original Well Elev)
Project:	SEC.6-T3N-R64W	MD Reference:	WELL @ 4851.0ft (Original Well Elev)
Site:	Hoff PC D06-28D Pad Sec.6-T3N-R64W	North Reference:	True
Well:	Hoff PC D06-28D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Hoff PC D06-28D Plan #1 (06-16-10)		

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
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	86.76	840.0	0.0	0.3	0.3	2.00	2.00	0.00
880.0	1.60	86.76	880.0	0.1	1.1	1.1	2.00	2.00	0.00
920.0	2.40	86.76	920.0	0.1	2.5	2.5	2.00	2.00	0.00
960.0	3.20	86.76	959.9	0.3	4.5	4.5	2.00	2.00	0.00
1,000.0	4.00	86.76	999.8	0.4	7.0	7.0	2.00	2.00	0.00
1,040.0	4.80	86.76	1,039.7	0.6	10.0	10.0	2.00	2.00	0.00
1,080.0	5.60	86.76	1,079.6	0.8	13.7	13.7	2.00	2.00	0.00
1,120.0	6.40	86.76	1,119.3	1.0	17.8	17.9	2.00	2.00	0.00
1,160.0	7.20	86.76	1,159.1	1.3	22.6	22.6	2.00	2.00	0.00
1,200.0	8.00	86.76	1,198.7	1.6	27.8	27.9	2.00	2.00	0.00
1,240.0	8.80	86.76	1,238.3	1.9	33.7	33.7	2.00	2.00	0.00
1,280.0	9.60	86.76	1,277.8	2.3	40.1	40.1	2.00	2.00	0.00
1,320.0	10.40	86.76	1,317.1	2.7	47.0	47.1	2.00	2.00	0.00
1,360.0	11.20	86.76	1,356.4	3.1	54.5	54.6	2.00	2.00	0.00
1,400.0	12.00	86.76	1,395.6	3.5	62.5	62.6	2.00	2.00	0.00
1,440.0	12.80	86.76	1,434.7	4.0	71.1	71.2	2.00	2.00	0.00
1,480.0	13.60	86.76	1,473.6	4.5	80.2	80.3	2.00	2.00	0.00
1,520.0	14.40	86.76	1,512.4	5.1	89.9	90.0	2.00	2.00	0.00
1,560.0	15.20	86.76	1,551.1	5.7	100.1	100.2	2.00	2.00	0.00
1,600.0	16.00	86.76	1,589.6	6.3	110.8	111.0	2.00	2.00	0.00
1,618.9	16.38	86.76	1,607.8	6.6	116.1	116.2	2.00	2.00	0.00
1,640.0	16.38	86.76	1,628.0	6.9	122.0	122.2	0.00	0.00	0.00
1,680.0	16.38	86.76	1,666.4	7.5	133.3	133.5	0.00	0.00	0.00
1,720.0	16.38	86.76	1,704.8	8.2	144.5	144.8	0.00	0.00	0.00
1,760.0	16.38	86.76	1,743.2	8.8	155.8	156.0	0.00	0.00	0.00
1,800.0	16.38	86.76	1,781.5	9.4	167.0	167.3	0.00	0.00	0.00
1,840.0	16.38	86.76	1,819.9	10.1	178.3	178.6	0.00	0.00	0.00
1,880.0	16.38	86.76	1,858.3	10.7	189.6	189.9	0.00	0.00	0.00
1,920.0	16.38	86.76	1,896.7	11.4	200.8	201.1	0.00	0.00	0.00
1,960.0	16.38	86.76	1,935.1	12.0	212.1	212.4	0.00	0.00	0.00
2,000.0	16.38	86.76	1,973.4	12.6	223.4	223.7	0.00	0.00	0.00

Database:	EDM den0-adp01 Server Data	Local Co-ordinate Reference:	Well Hoff PC D06-28D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4851.0ft (Original Well Elev)
Project:	SEC.6-T3N-R64W	MD Reference:	WELL @ 4851.0ft (Original Well Elev)
Site:	Hoff PC D06-28D Pad Sec.6-T3N-R64W	North Reference:	True
Well:	Hoff PC D06-28D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Hoff PC D06-28D Plan #1 (06-16-10)		

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)
2,040.0	16.38	86.76	2,011.8	13.3	234.6	235.0	0.00	0.00	0.00
2,080.0	16.38	86.76	2,050.2	13.9	245.9	246.3	0.00	0.00	0.00
2,120.0	16.38	86.76	2,088.6	14.5	257.1	257.5	0.00	0.00	0.00
2,160.0	16.38	86.76	2,126.9	15.2	268.4	268.8	0.00	0.00	0.00
2,200.0	16.38	86.76	2,165.3	15.8	279.7	280.1	0.00	0.00	0.00
2,240.0	16.38	86.76	2,203.7	16.4	290.9	291.4	0.00	0.00	0.00
2,280.0	16.38	86.76	2,242.1	17.1	302.2	302.7	0.00	0.00	0.00
2,320.0	16.38	86.76	2,280.4	17.7	313.4	313.9	0.00	0.00	0.00
2,360.0	16.38	86.76	2,318.8	18.4	324.7	325.2	0.00	0.00	0.00
2,400.0	16.38	86.76	2,357.2	19.0	336.0	336.5	0.00	0.00	0.00
2,440.0	16.38	86.76	2,395.6	19.6	347.2	347.8	0.00	0.00	0.00
2,480.0	16.38	86.76	2,434.0	20.3	358.5	359.1	0.00	0.00	0.00
2,520.0	16.38	86.76	2,472.3	20.9	369.7	370.3	0.00	0.00	0.00
2,560.0	16.38	86.76	2,510.7	21.5	381.0	381.6	0.00	0.00	0.00
2,600.0	16.38	86.76	2,549.1	22.2	392.3	392.9	0.00	0.00	0.00
2,640.0	16.38	86.76	2,587.5	22.8	403.5	404.2	0.00	0.00	0.00
2,680.0	16.38	86.76	2,625.8	23.4	414.8	415.5	0.00	0.00	0.00
2,720.0	16.38	86.76	2,664.2	24.1	426.0	426.7	0.00	0.00	0.00
2,760.0	16.38	86.76	2,702.6	24.7	437.3	438.0	0.00	0.00	0.00
2,800.0	16.38	86.76	2,741.0	25.4	448.6	449.3	0.00	0.00	0.00
2,840.0	16.38	86.76	2,779.3	26.0	459.8	460.6	0.00	0.00	0.00
2,880.0	16.38	86.76	2,817.7	26.6	471.1	471.8	0.00	0.00	0.00
2,920.0	16.38	86.76	2,856.1	27.3	482.4	483.1	0.00	0.00	0.00
2,960.0	16.38	86.76	2,894.5	27.9	493.6	494.4	0.00	0.00	0.00
3,000.0	16.38	86.76	2,932.9	28.5	504.9	505.7	0.00	0.00	0.00
3,040.0	16.38	86.76	2,971.2	29.2	516.1	517.0	0.00	0.00	0.00
3,080.0	16.38	86.76	3,009.6	29.8	527.4	528.2	0.00	0.00	0.00
3,120.0	16.38	86.76	3,048.0	30.4	538.7	539.5	0.00	0.00	0.00
3,160.0	16.38	86.76	3,086.4	31.1	549.9	550.8	0.00	0.00	0.00
3,200.0	16.38	86.76	3,124.7	31.7	561.2	562.1	0.00	0.00	0.00
3,240.0	16.38	86.76	3,163.1	32.4	572.4	573.4	0.00	0.00	0.00
3,280.0	16.38	86.76	3,201.5	33.0	583.7	584.6	0.00	0.00	0.00
3,320.0	16.38	86.76	3,239.9	33.6	595.0	595.9	0.00	0.00	0.00
3,360.0	16.38	86.76	3,278.2	34.3	606.2	607.2	0.00	0.00	0.00
3,400.0	16.38	86.76	3,316.6	34.9	617.5	618.5	0.00	0.00	0.00
3,440.0	16.38	86.76	3,355.0	35.5	628.7	629.8	0.00	0.00	0.00
3,480.0	16.38	86.76	3,393.4	36.2	640.0	641.0	0.00	0.00	0.00
3,520.0	16.38	86.76	3,431.8	36.8	651.3	652.3	0.00	0.00	0.00
3,560.0	16.38	86.76	3,470.1	37.4	662.5	663.6	0.00	0.00	0.00
3,600.0	16.38	86.76	3,508.5	38.1	673.8	674.9	0.00	0.00	0.00
3,640.0	16.38	86.76	3,546.9	38.7	685.1	686.1	0.00	0.00	0.00
3,680.0	16.38	86.76	3,585.3	39.4	696.3	697.4	0.00	0.00	0.00
3,720.0	16.38	86.76	3,623.6	40.0	707.6	708.7	0.00	0.00	0.00
3,760.0	16.38	86.76	3,662.0	40.6	718.8	720.0	0.00	0.00	0.00
3,800.0	16.38	86.76	3,700.4	41.3	730.1	731.3	0.00	0.00	0.00
3,840.0	16.38	86.76	3,738.8	41.9	741.4	742.5	0.00	0.00	0.00
3,880.0	16.38	86.76	3,777.1	42.5	752.6	753.8	0.00	0.00	0.00
3,920.0	16.38	86.76	3,815.5	43.2	763.9	765.1	0.00	0.00	0.00
3,960.0	16.38	86.76	3,853.9	43.8	775.1	776.4	0.00	0.00	0.00
4,000.0	16.38	86.76	3,892.3	44.5	786.4	787.7	0.00	0.00	0.00
4,040.0	16.38	86.76	3,930.6	45.1	797.7	798.9	0.00	0.00	0.00
4,080.0	16.38	86.76	3,969.0	45.7	808.9	810.2	0.00	0.00	0.00
4,120.0	16.38	86.76	4,007.4	46.4	820.2	821.5	0.00	0.00	0.00
4,160.0	16.38	86.76	4,045.8	47.0	831.4	832.8	0.00	0.00	0.00

Database:	EDM den0-adp01 Server Data	Local Co-ordinate Reference:	Well Hoff PC D06-28D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4851.0ft (Original Well Elev)
Project:	SEC.6-T3N-R64W	MD Reference:	WELL @ 4851.0ft (Original Well Elev)
Site:	Hoff PC D06-28D Pad Sec.6-T3N-R64W	North Reference:	True
Well:	Hoff PC D06-28D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Hoff PC D06-28D Plan #1 (06-16-10)		

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)
4,200.0	16.38	86.76	4,084.2	47.6	842.7	844.1	0.00	0.00	0.00
4,240.0	16.38	86.76	4,122.5	48.3	854.0	855.3	0.00	0.00	0.00
4,280.0	16.38	86.76	4,160.9	48.9	865.2	866.6	0.00	0.00	0.00
4,320.0	16.38	86.76	4,199.3	49.5	876.5	877.9	0.00	0.00	0.00
4,360.0	16.38	86.76	4,237.7	50.2	887.8	889.2	0.00	0.00	0.00
4,400.0	16.38	86.76	4,276.0	50.8	899.0	900.4	0.00	0.00	0.00
4,440.0	16.38	86.76	4,314.4	51.5	910.3	911.7	0.00	0.00	0.00
4,480.0	16.38	86.76	4,352.8	52.1	921.5	923.0	0.00	0.00	0.00
4,520.0	16.38	86.76	4,391.2	52.7	932.8	934.3	0.00	0.00	0.00
4,560.0	16.38	86.76	4,429.5	53.4	944.1	945.6	0.00	0.00	0.00
4,600.0	16.38	86.76	4,467.9	54.0	955.3	956.8	0.00	0.00	0.00
4,640.0	16.38	86.76	4,506.3	54.6	966.6	968.1	0.00	0.00	0.00
4,680.0	16.38	86.76	4,544.7	55.3	977.8	979.4	0.00	0.00	0.00
4,720.0	16.38	86.76	4,583.1	55.9	989.1	990.7	0.00	0.00	0.00
4,760.0	16.38	86.76	4,621.4	56.5	1,000.4	1,002.0	0.00	0.00	0.00
4,800.0	16.38	86.76	4,659.8	57.2	1,011.6	1,013.2	0.00	0.00	0.00
4,840.0	16.38	86.76	4,698.2	57.8	1,022.9	1,024.5	0.00	0.00	0.00
4,880.0	16.38	86.76	4,736.6	58.5	1,034.1	1,035.8	0.00	0.00	0.00
4,920.0	16.38	86.76	4,774.9	59.1	1,045.4	1,047.1	0.00	0.00	0.00
4,960.0	16.38	86.76	4,813.3	59.7	1,056.7	1,058.4	0.00	0.00	0.00
5,000.0	16.38	86.76	4,851.7	60.4	1,067.9	1,069.6	0.00	0.00	0.00
5,040.0	16.38	86.76	4,890.1	61.0	1,079.2	1,080.9	0.00	0.00	0.00
5,080.0	16.38	86.76	4,928.4	61.6	1,090.4	1,092.2	0.00	0.00	0.00
5,120.0	16.38	86.76	4,966.8	62.3	1,101.7	1,103.5	0.00	0.00	0.00
5,146.4	16.38	86.76	4,992.2	62.7	1,109.2	1,110.9	0.00	0.00	0.00
5,160.0	16.11	86.76	5,005.2	62.9	1,112.9	1,114.7	2.00	-2.00	0.00
5,200.0	15.31	86.76	5,043.7	63.5	1,123.8	1,125.5	2.00	-2.00	0.00
5,240.0	14.51	86.76	5,082.4	64.1	1,134.0	1,135.8	2.00	-2.00	0.00
5,280.0	13.71	86.76	5,121.2	64.7	1,143.8	1,145.6	2.00	-2.00	0.00
5,320.0	12.91	86.76	5,160.1	65.2	1,153.0	1,154.8	2.00	-2.00	0.00
5,360.0	12.11	86.76	5,199.1	65.7	1,161.6	1,163.5	2.00	-2.00	0.00
5,400.0	11.31	86.76	5,238.3	66.1	1,169.7	1,171.6	2.00	-2.00	0.00
5,440.0	10.51	86.76	5,277.6	66.5	1,177.3	1,179.1	2.00	-2.00	0.00
5,480.0	9.71	86.76	5,317.0	66.9	1,184.3	1,186.2	2.00	-2.00	0.00
5,520.0	8.91	86.76	5,356.4	67.3	1,190.7	1,192.6	2.00	-2.00	0.00
5,560.0	8.11	86.76	5,396.0	67.6	1,196.6	1,198.5	2.00	-2.00	0.00
5,600.0	7.31	86.76	5,435.6	67.9	1,202.0	1,203.9	2.00	-2.00	0.00
5,640.0	6.51	86.76	5,475.3	68.2	1,206.8	1,208.7	2.00	-2.00	0.00
5,680.0	5.71	86.76	5,515.1	68.5	1,211.0	1,213.0	2.00	-2.00	0.00
5,720.0	4.91	86.76	5,554.9	68.7	1,214.7	1,216.7	2.00	-2.00	0.00
5,760.0	4.11	86.76	5,594.8	68.8	1,217.9	1,219.8	2.00	-2.00	0.00
5,800.0	3.31	86.76	5,634.7	69.0	1,220.5	1,222.4	2.00	-2.00	0.00
5,840.0	2.51	86.76	5,674.7	69.1	1,222.5	1,224.4	2.00	-2.00	0.00
5,880.0	1.71	86.76	5,714.7	69.2	1,223.9	1,225.9	2.00	-2.00	0.00
5,920.0	0.91	86.76	5,754.6	69.2	1,224.9	1,226.8	2.00	-2.00	0.00
5,960.0	0.11	86.76	5,794.6	69.3	1,225.2	1,227.2	2.00	-2.00	0.00
5,965.4	0.00	0.00	5,800.0	69.3	1,225.2	1,227.2	2.00	-2.00	0.00
TARGET BHL 150'FNL, 2391'FWL									
6,000.0	0.00	0.00	5,834.6	69.3	1,225.2	1,227.2	0.00	0.00	0.00
6,040.0	0.00	0.00	5,874.6	69.3	1,225.2	1,227.2	0.00	0.00	0.00
6,080.0	0.00	0.00	5,914.6	69.3	1,225.2	1,227.2	0.00	0.00	0.00
6,120.0	0.00	0.00	5,954.6	69.3	1,225.2	1,227.2	0.00	0.00	0.00
6,160.0	0.00	0.00	5,994.6	69.3	1,225.2	1,227.2	0.00	0.00	0.00
6,200.0	0.00	0.00	6,034.6	69.3	1,225.2	1,227.2	0.00	0.00	0.00

Database:	EDM den0-adp01 Server Data	Local Co-ordinate Reference:	Well Hoff PC D06-28D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4851.0ft (Original Well Elev)
Project:	SEC.6-T3N-R64W	MD Reference:	WELL @ 4851.0ft (Original Well Elev)
Site:	Hoff PC D06-28D Pad Sec.6-T3N-R64W	North Reference:	True
Well:	Hoff PC D06-28D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Hoff PC D06-28D Plan #1 (06-16-10)		

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)
6,240.0	0.00	0.00	6,074.6	69.3	1,225.2	1,227.2	0.00	0.00	0.00
6,280.0	0.00	0.00	6,114.6	69.3	1,225.2	1,227.2	0.00	0.00	0.00
6,320.0	0.00	0.00	6,154.6	69.3	1,225.2	1,227.2	0.00	0.00	0.00
6,360.0	0.00	0.00	6,194.6	69.3	1,225.2	1,227.2	0.00	0.00	0.00
6,400.0	0.00	0.00	6,234.6	69.3	1,225.2	1,227.2	0.00	0.00	0.00
6,440.0	0.00	0.00	6,274.6	69.3	1,225.2	1,227.2	0.00	0.00	0.00
6,480.0	0.00	0.00	6,314.6	69.3	1,225.2	1,227.2	0.00	0.00	0.00
6,520.0	0.00	0.00	6,354.6	69.3	1,225.2	1,227.2	0.00	0.00	0.00
6,560.0	0.00	0.00	6,394.6	69.3	1,225.2	1,227.2	0.00	0.00	0.00
6,600.0	0.00	0.00	6,434.6	69.3	1,225.2	1,227.2	0.00	0.00	0.00
6,640.0	0.00	0.00	6,474.6	69.3	1,225.2	1,227.2	0.00	0.00	0.00
6,680.0	0.00	0.00	6,514.6	69.3	1,225.2	1,227.2	0.00	0.00	0.00
6,720.0	0.00	0.00	6,554.6	69.3	1,225.2	1,227.2	0.00	0.00	0.00
6,760.0	0.00	0.00	6,594.6	69.3	1,225.2	1,227.2	0.00	0.00	0.00
6,800.0	0.00	0.00	6,634.6	69.3	1,225.2	1,227.2	0.00	0.00	0.00
6,840.0	0.00	0.00	6,674.6	69.3	1,225.2	1,227.2	0.00	0.00	0.00
6,880.0	0.00	0.00	6,714.6	69.3	1,225.2	1,227.2	0.00	0.00	0.00
6,920.0	0.00	0.00	6,754.6	69.3	1,225.2	1,227.2	0.00	0.00	0.00
6,926.4	0.00	0.00	6,761.0	69.3	1,225.2	1,227.2	0.00	0.00	0.00
NIOBRARA - TARGET CIRCLE 150'FNL, 2391'FWL									
6,960.0	0.00	0.00	6,794.6	69.3	1,225.2	1,227.2	0.00	0.00	0.00
7,000.0	0.00	0.00	6,834.6	69.3	1,225.2	1,227.2	0.00	0.00	0.00
7,040.0	0.00	0.00	6,874.6	69.3	1,225.2	1,227.2	0.00	0.00	0.00
7,080.0	0.00	0.00	6,914.6	69.3	1,225.2	1,227.2	0.00	0.00	0.00
7,120.0	0.00	0.00	6,954.6	69.3	1,225.2	1,227.2	0.00	0.00	0.00
7,160.0	0.00	0.00	6,994.6	69.3	1,225.2	1,227.2	0.00	0.00	0.00
7,200.0	0.00	0.00	7,034.6	69.3	1,225.2	1,227.2	0.00	0.00	0.00
7,236.4	0.00	0.00	7,071.0	69.3	1,225.2	1,227.2	0.00	0.00	0.00
CODELL									
7,240.0	0.00	0.00	7,074.6	69.3	1,225.2	1,227.2	0.00	0.00	0.00
7,280.0	0.00	0.00	7,114.6	69.3	1,225.2	1,227.2	0.00	0.00	0.00
7,320.0	0.00	0.00	7,154.6	69.3	1,225.2	1,227.2	0.00	0.00	0.00
7,360.0	0.00	0.00	7,194.6	69.3	1,225.2	1,227.2	0.00	0.00	0.00
7,386.4	0.00	0.00	7,221.0	69.3	1,225.2	1,227.2	0.00	0.00	0.00
HARDLINES 150'N, 75'E OF BHL									

Database:	EDM den0-adp01 Server Data	Local Co-ordinate Reference:	Well Hoff PC D06-28D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4851.0ft (Original Well Elev)
Project:	SEC.6-T3N-R64W	MD Reference:	WELL @ 4851.0ft (Original Well Elev)
Site:	Hoff PC D06-28D Pad Sec.6-T3N-R64W	North Reference:	True
Well:	Hoff PC D06-28D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Hoff PC D06-28D Plan #1 (06-16-10)		

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 150'FN	0.00	0.00	5,800.0	69.3	1,225.2	1,339,281.43	3,252,876.16	40° 15' 40.248 N	104° 35' 37.968 W
- plan hits target center									
- Point									
HARDLINES 150'N, 7	0.00	0.00	7,221.0	219.3	1,300.2	1,339,432.22	3,252,949.61	40° 15' 41.731 N	104° 35' 37.001 W
- plan misses target center by 167.7ft at 7386.4ft MD (7221.0 TVD, 69.3 N, 1225.2 E)									
- Polygon									
Point 1			7,221.0	0.0	0.0	1,339,432.22	3,252,949.61		
Point 2			7,221.0	0.0	-300.0	1,339,429.17	3,252,649.64		
Point 3			7,221.0	0.0	0.0	1,339,432.22	3,252,949.61		
Point 4			7,221.0	-300.0	0.0	1,339,132.25	3,252,952.66		
TARGET CIRCLE 150'	0.00	0.00	6,761.0	69.3	1,225.2	1,339,281.47	3,252,876.14	40° 15' 40.248 N	104° 35' 37.968 W
- plan hits target center									
- Circle (radius 75.0)									

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			
	(ft)	(ft)	Name	Lithology	Dip
					(°)
					Dip Direction
					(°)
	6,926.4	6,761.0	NIOBRARA		0.00
	7,236.4	7,071.0	CODELL		0.00