

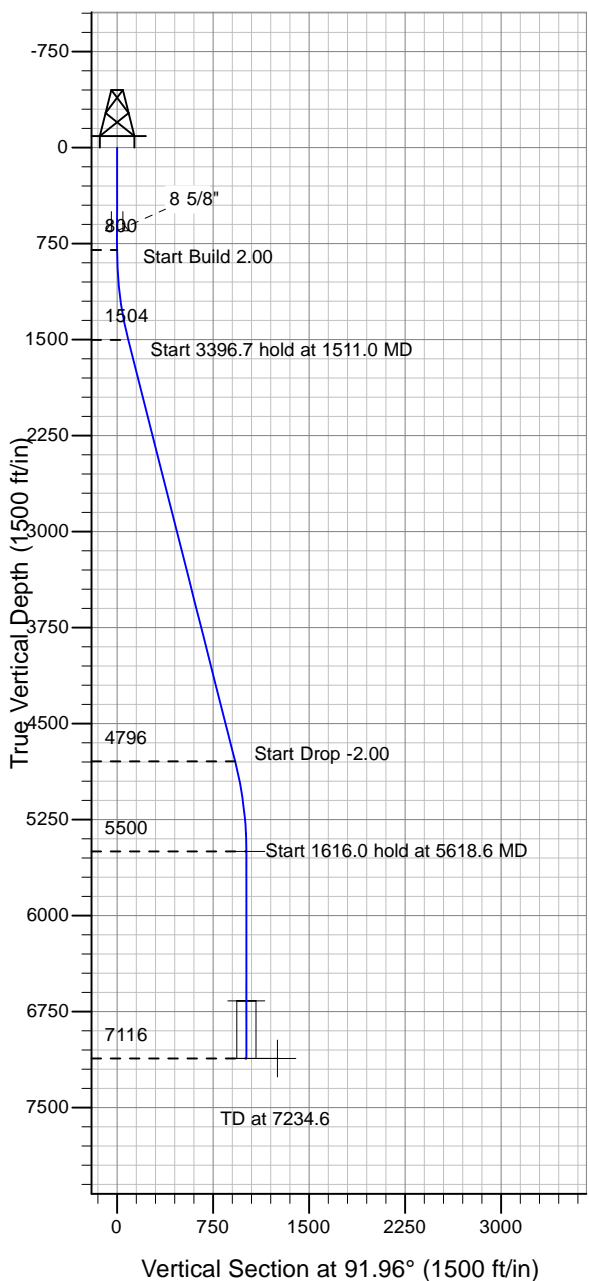
ENSIGN

Directional

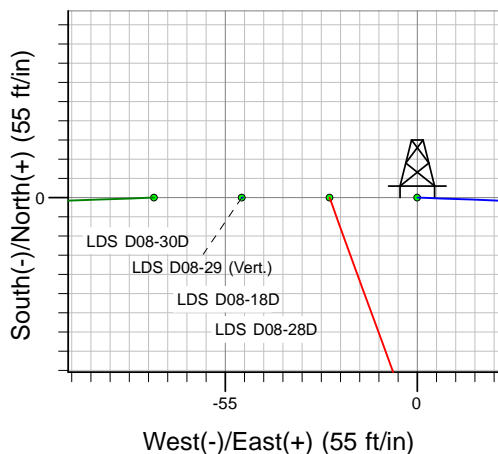
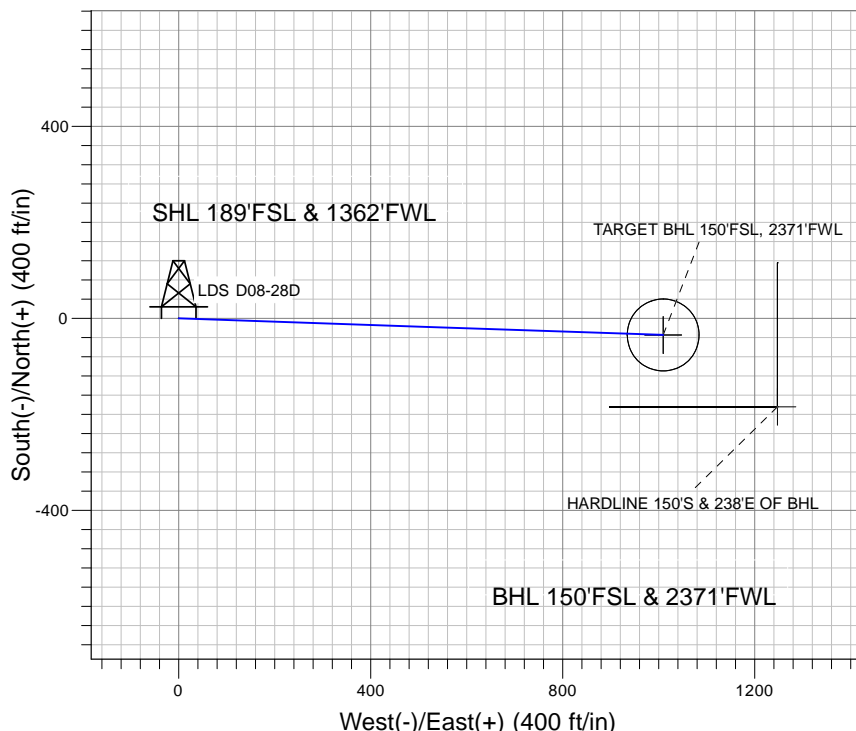
Well Name: LDS D08-28D

Surface Location: LDS D08-30D Pad Sec.5-T3N-R64W
 North American Datum 1983 , US State Plane 1983 , Colorado Northern Zone
 Ground Elevation: 4753.0

+N/-S+E/-W Northing Easting Latitude Longitude Slot
 0.0 0.0 1334405.85 3257007.17 40° 14' 51.648 N 104° 34' 45.336 W
 Original Well Elev WELL @ 4766.0ft (Original Well Elev)



NOBLE ENERGY INC WELD COUNTY CO



LDS D08-30D Pad Sec.5-T3N-R64W
 LDS D08-28D
 Noble LDS D08-28D Plan #1 (05-07-10)
 14:08, May 13 2010



Azimuths to True North
 Magnetic North: 8.90°

Magnetic Field
 Strength: 53189.0snT
 Dip Angle: 67.00°
 Date: 5/7/2010
 Model: IGRF2010

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
TARGET BHL 150'FSL, 2371'FWL	5500.0	-34.5	1009.3	40° 14' 51.307 N	104° 34' 32.320 W	Point
TARGET CIRCLE 150'FSL, 2371'FWL	6666.0	-34.5	1009.3	40° 14' 51.307 N	104° 34' 32.320 W	Circle (Radius: 75.0)
HARDLINE 150'S & 238'E OF BHL	7116.0	-184.5	1247.3	40° 14' 49.824 N	104° 34' 29.251 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	1511.0	14.22	91.96	1503.7	-3.0	87.7	2.00	91.96	87.8	
4	4907.6	14.22	91.96	4796.3	-31.5	921.6	0.00	0.00	922.1	
5	5618.6	0.00	0.00	5500.0	-34.5	1009.3	2.00	180.00	1009.9	TARGET BHL 150'FSL, 2371'FWL
6	7234.6	0.00	0.00	7116.0	-34.5	1009.3	0.00	0.00	1009.9	



NOBLE ENERGY INC WELD COUNTY CO

SEC.5-T3N-R64W

LDS D08-30D Pad Sec.5-T3N-R64W

LDS D08-28D

Wellbore #1

Plan: Noble LDS D08-28D Plan #1 (05-07-10)

Standard Planning Report

13 May, 2010



Database:	EDM den0-adp01 Server Data	Local Co-ordinate Reference:	Well LDS D08-28D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4766.0ft (Original Well Elev)
Project:	SEC.5-T3N-R64W	MD Reference:	WELL @ 4766.0ft (Original Well Elev)
Site:	LDS D08-30D Pad Sec.5-T3N-R64W	North Reference:	True
Well:	LDS D08-28D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble LDS D08-28D Plan #1 (05-07-10)		

Project	SEC.5-T3N-R64W, 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						LDS D08-30D Pad Sec.5-T3N-R64W							
Site Position: From:			Lat/Long			Northing:		1,334,405.07 ft		Latitude:		40° 14' 51.648 N	
						Easting:		3,256,931.80 ft		Longitude:		104° 34' 46.308 W	
Position Uncertainty:			0.0 ft			Slot Radius:		"		Grid Convergence:		0.59 °	

Well	LDS D08-28D					
Well Position	+N-S	0.0 ft	Northing:	1,334,405.85 ft	Latitude:	40° 14' 51.648 N
	+E-W	75.4 ft	Easting:	3,257,007.17 ft	Longitude:	104° 34' 45.336 W
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,753.0 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	5/7/2010	8.90	67.00	53,189

Design	Noble LDS D08-28D Plan #1 (05-07-10)			
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	91.96

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	
1,511.0	14.22	91.96	1,503.7	-3.0	87.7	2.00	2.00	0.00	91.96	
4,907.6	14.22	91.96	4,796.3	-31.5	921.6	0.00	0.00	0.00	0.00	
5,618.6	0.00	0.00	5,500.0	-34.5	1,009.3	2.00	-2.00	0.00	180.00	TARGET BHL 150'I
7,234.6	0.00	0.00	7,116.0	-34.5	1,009.3	0.00	0.00	0.00	0.00	

Database:	EDM den0-adp01 Server Data	Local Co-ordinate Reference:	Well LDS D08-28D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4766.0ft (Original Well Elev)
Project:	SEC.5-T3N-R64W	MD Reference:	WELL @ 4766.0ft (Original Well Elev)
Site:	LDS D08-30D Pad Sec.5-T3N-R64W	North Reference:	True
Well:	LDS D08-28D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble LDS D08-28D Plan #1 (05-07-10)		

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	91.96	840.0	0.0	0.3	0.3	2.00	2.00	0.00
880.0	1.60	91.96	880.0	0.0	1.1	1.1	2.00	2.00	0.00
920.0	2.40	91.96	920.0	-0.1	2.5	2.5	2.00	2.00	0.00
960.0	3.20	91.96	959.9	-0.2	4.5	4.5	2.00	2.00	0.00
1,000.0	4.00	91.96	999.8	-0.2	7.0	7.0	2.00	2.00	0.00
1,040.0	4.80	91.96	1,039.7	-0.3	10.0	10.0	2.00	2.00	0.00
1,080.0	5.60	91.96	1,079.6	-0.5	13.7	13.7	2.00	2.00	0.00
1,120.0	6.40	91.96	1,119.3	-0.6	17.8	17.9	2.00	2.00	0.00
1,160.0	7.20	91.96	1,159.1	-0.8	22.6	22.6	2.00	2.00	0.00
1,200.0	8.00	91.96	1,198.7	-1.0	27.9	27.9	2.00	2.00	0.00
1,240.0	8.80	91.96	1,238.3	-1.2	33.7	33.7	2.00	2.00	0.00
1,280.0	9.60	91.96	1,277.8	-1.4	40.1	40.1	2.00	2.00	0.00
1,320.0	10.40	91.96	1,317.1	-1.6	47.0	47.1	2.00	2.00	0.00
1,360.0	11.20	91.96	1,356.4	-1.9	54.5	54.6	2.00	2.00	0.00
1,400.0	12.00	91.96	1,395.6	-2.1	62.6	62.6	2.00	2.00	0.00
1,440.0	12.80	91.96	1,434.7	-2.4	71.2	71.2	2.00	2.00	0.00
1,480.0	13.60	91.96	1,473.6	-2.7	80.3	80.3	2.00	2.00	0.00
1,511.0	14.22	91.96	1,503.7	-3.0	87.7	87.8	2.00	2.00	0.00
1,520.0	14.22	91.96	1,512.4	-3.1	89.9	90.0	0.00	0.00	0.00
1,560.0	14.22	91.96	1,551.2	-3.4	99.8	99.8	0.00	0.00	0.00
1,600.0	14.22	91.96	1,590.0	-3.7	109.6	109.6	0.00	0.00	0.00
1,640.0	14.22	91.96	1,628.8	-4.1	119.4	119.5	0.00	0.00	0.00
1,680.0	14.22	91.96	1,667.5	-4.4	129.2	129.3	0.00	0.00	0.00
1,720.0	14.22	91.96	1,706.3	-4.8	139.0	139.1	0.00	0.00	0.00
1,760.0	14.22	91.96	1,745.1	-5.1	148.9	148.9	0.00	0.00	0.00
1,800.0	14.22	91.96	1,783.9	-5.4	158.7	158.8	0.00	0.00	0.00
1,840.0	14.22	91.96	1,822.6	-5.8	168.5	168.6	0.00	0.00	0.00
1,880.0	14.22	91.96	1,861.4	-6.1	178.3	178.4	0.00	0.00	0.00
1,920.0	14.22	91.96	1,900.2	-6.4	188.1	188.2	0.00	0.00	0.00
1,960.0	14.22	91.96	1,939.0	-6.8	198.0	198.1	0.00	0.00	0.00
2,000.0	14.22	91.96	1,977.7	-7.1	207.8	207.9	0.00	0.00	0.00

Database:	EDM den0-adp01 Server Data	Local Co-ordinate Reference:	Well LDS D08-28D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4766.0ft (Original Well Elev)
Project:	SEC.5-T3N-R64W	MD Reference:	WELL @ 4766.0ft (Original Well Elev)
Site:	LDS D08-30D Pad Sec.5-T3N-R64W	North Reference:	True
Well:	LDS D08-28D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble LDS D08-28D Plan #1 (05-07-10)		

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	14.22	91.96	2,016.5	-7.4	217.6	217.7	0.00	0.00	0.00
2,080.0	14.22	91.96	2,055.3	-7.8	227.4	227.5	0.00	0.00	0.00
2,120.0	14.22	91.96	2,094.1	-8.1	237.2	237.4	0.00	0.00	0.00
2,160.0	14.22	91.96	2,132.8	-8.4	247.1	247.2	0.00	0.00	0.00
2,200.0	14.22	91.96	2,171.6	-8.8	256.9	257.0	0.00	0.00	0.00
2,240.0	14.22	91.96	2,210.4	-9.1	266.7	266.8	0.00	0.00	0.00
2,280.0	14.22	91.96	2,249.2	-9.5	276.5	276.7	0.00	0.00	0.00
2,320.0	14.22	91.96	2,287.9	-9.8	286.3	286.5	0.00	0.00	0.00
2,360.0	14.22	91.96	2,326.7	-10.1	296.2	296.3	0.00	0.00	0.00
2,400.0	14.22	91.96	2,365.5	-10.5	306.0	306.2	0.00	0.00	0.00
2,440.0	14.22	91.96	2,404.3	-10.8	315.8	316.0	0.00	0.00	0.00
2,480.0	14.22	91.96	2,443.0	-11.1	325.6	325.8	0.00	0.00	0.00
2,520.0	14.22	91.96	2,481.8	-11.5	335.4	335.6	0.00	0.00	0.00
2,560.0	14.22	91.96	2,520.6	-11.8	345.3	345.5	0.00	0.00	0.00
2,600.0	14.22	91.96	2,559.4	-12.1	355.1	355.3	0.00	0.00	0.00
2,640.0	14.22	91.96	2,598.1	-12.5	364.9	365.1	0.00	0.00	0.00
2,680.0	14.22	91.96	2,636.9	-12.8	374.7	374.9	0.00	0.00	0.00
2,720.0	14.22	91.96	2,675.7	-13.1	384.5	384.8	0.00	0.00	0.00
2,760.0	14.22	91.96	2,714.5	-13.5	394.4	394.6	0.00	0.00	0.00
2,800.0	14.22	91.96	2,753.2	-13.8	404.2	404.4	0.00	0.00	0.00
2,840.0	14.22	91.96	2,792.0	-14.2	414.0	414.2	0.00	0.00	0.00
2,880.0	14.22	91.96	2,830.8	-14.5	423.8	424.1	0.00	0.00	0.00
2,920.0	14.22	91.96	2,869.6	-14.8	433.6	433.9	0.00	0.00	0.00
2,960.0	14.22	91.96	2,908.3	-15.2	443.5	443.7	0.00	0.00	0.00
3,000.0	14.22	91.96	2,947.1	-15.5	453.3	453.5	0.00	0.00	0.00
3,040.0	14.22	91.96	2,985.9	-15.8	463.1	463.4	0.00	0.00	0.00
3,080.0	14.22	91.96	3,024.7	-16.2	472.9	473.2	0.00	0.00	0.00
3,120.0	14.22	91.96	3,063.4	-16.5	482.7	483.0	0.00	0.00	0.00
3,160.0	14.22	91.96	3,102.2	-16.8	492.5	492.8	0.00	0.00	0.00
3,200.0	14.22	91.96	3,141.0	-17.2	502.4	502.7	0.00	0.00	0.00
3,240.0	14.22	91.96	3,179.7	-17.5	512.2	512.5	0.00	0.00	0.00
3,280.0	14.22	91.96	3,218.5	-17.8	522.0	522.3	0.00	0.00	0.00
3,320.0	14.22	91.96	3,257.3	-18.2	531.8	532.1	0.00	0.00	0.00
3,360.0	14.22	91.96	3,296.1	-18.5	541.6	542.0	0.00	0.00	0.00
3,400.0	14.22	91.96	3,334.8	-18.9	551.5	551.8	0.00	0.00	0.00
3,440.0	14.22	91.96	3,373.6	-19.2	561.3	561.6	0.00	0.00	0.00
3,480.0	14.22	91.96	3,412.4	-19.5	571.1	571.4	0.00	0.00	0.00
3,520.0	14.22	91.96	3,451.2	-19.9	580.9	581.3	0.00	0.00	0.00
3,560.0	14.22	91.96	3,489.9	-20.2	590.7	591.1	0.00	0.00	0.00
3,600.0	14.22	91.96	3,528.7	-20.5	600.6	600.9	0.00	0.00	0.00
3,640.0	14.22	91.96	3,567.5	-20.9	610.4	610.7	0.00	0.00	0.00
3,680.0	14.22	91.96	3,606.3	-21.2	620.2	620.6	0.00	0.00	0.00
3,720.0	14.22	91.96	3,645.0	-21.5	630.0	630.4	0.00	0.00	0.00
3,760.0	14.22	91.96	3,683.8	-21.9	639.8	640.2	0.00	0.00	0.00
3,800.0	14.22	91.96	3,722.6	-22.2	649.7	650.0	0.00	0.00	0.00
3,840.0	14.22	91.96	3,761.4	-22.5	659.5	659.9	0.00	0.00	0.00
3,880.0	14.22	91.96	3,800.1	-22.9	669.3	669.7	0.00	0.00	0.00
3,920.0	14.22	91.96	3,838.9	-23.2	679.1	679.5	0.00	0.00	0.00
3,960.0	14.22	91.96	3,877.7	-23.6	688.9	689.3	0.00	0.00	0.00
4,000.0	14.22	91.96	3,916.5	-23.9	698.8	699.2	0.00	0.00	0.00
4,040.0	14.22	91.96	3,955.2	-24.2	708.6	709.0	0.00	0.00	0.00
4,080.0	14.22	91.96	3,994.0	-24.6	718.4	718.8	0.00	0.00	0.00
4,120.0	14.22	91.96	4,032.8	-24.9	728.2	728.7	0.00	0.00	0.00
4,160.0	14.22	91.96	4,071.6	-25.2	738.0	738.5	0.00	0.00	0.00

Database:	EDM den0-adp01 Server Data	Local Co-ordinate Reference:	Well LDS D08-28D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4766.0ft (Original Well Elev)
Project:	SEC.5-T3N-R64W	MD Reference:	WELL @ 4766.0ft (Original Well Elev)
Site:	LDS D08-30D Pad Sec.5-T3N-R64W	North Reference:	True
Well:	LDS D08-28D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble LDS D08-28D Plan #1 (05-07-10)		

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	14.22	91.96	4,110.3	-25.6	747.9	748.3	0.00	0.00	0.00
4,240.0	14.22	91.96	4,149.1	-25.9	757.7	758.1	0.00	0.00	0.00
4,280.0	14.22	91.96	4,187.9	-26.2	767.5	768.0	0.00	0.00	0.00
4,320.0	14.22	91.96	4,226.7	-26.6	777.3	777.8	0.00	0.00	0.00
4,360.0	14.22	91.96	4,265.4	-26.9	787.1	787.6	0.00	0.00	0.00
4,400.0	14.22	91.96	4,304.2	-27.2	797.0	797.4	0.00	0.00	0.00
4,440.0	14.22	91.96	4,343.0	-27.6	806.8	807.3	0.00	0.00	0.00
4,480.0	14.22	91.96	4,381.8	-27.9	816.6	817.1	0.00	0.00	0.00
4,520.0	14.22	91.96	4,420.5	-28.3	826.4	826.9	0.00	0.00	0.00
4,560.0	14.22	91.96	4,459.3	-28.6	836.2	836.7	0.00	0.00	0.00
4,600.0	14.22	91.96	4,498.1	-28.9	846.1	846.6	0.00	0.00	0.00
4,640.0	14.22	91.96	4,536.9	-29.3	855.9	856.4	0.00	0.00	0.00
4,680.0	14.22	91.96	4,575.6	-29.6	865.7	866.2	0.00	0.00	0.00
4,720.0	14.22	91.96	4,614.4	-29.9	875.5	876.0	0.00	0.00	0.00
4,760.0	14.22	91.96	4,653.2	-30.3	885.3	885.9	0.00	0.00	0.00
4,800.0	14.22	91.96	4,692.0	-30.6	895.2	895.7	0.00	0.00	0.00
4,840.0	14.22	91.96	4,730.7	-30.9	905.0	905.5	0.00	0.00	0.00
4,880.0	14.22	91.96	4,769.5	-31.3	914.8	915.3	0.00	0.00	0.00
4,907.6	14.22	91.96	4,796.3	-31.5	921.6	922.1	0.00	0.00	0.00
4,920.0	13.97	91.96	4,808.3	-31.6	924.6	925.1	2.00	-2.00	0.00
4,960.0	13.17	91.96	4,847.2	-31.9	934.0	934.5	2.00	-2.00	0.00
5,000.0	12.37	91.96	4,886.2	-32.2	942.8	943.4	2.00	-2.00	0.00
5,040.0	11.57	91.96	4,925.3	-32.5	951.1	951.7	2.00	-2.00	0.00
5,080.0	10.77	91.96	4,964.5	-32.8	959.9	959.4	2.00	-2.00	0.00
5,120.0	9.97	91.96	5,003.9	-33.0	966.1	966.6	2.00	-2.00	0.00
5,160.0	9.17	91.96	5,043.3	-33.3	972.7	973.3	2.00	-2.00	0.00
5,200.0	8.37	91.96	5,082.9	-33.5	978.8	979.4	2.00	-2.00	0.00
5,240.0	7.57	91.96	5,122.5	-33.7	984.3	984.9	2.00	-2.00	0.00
5,280.0	6.77	91.96	5,162.2	-33.8	989.3	989.9	2.00	-2.00	0.00
5,320.0	5.97	91.96	5,201.9	-34.0	993.8	994.4	2.00	-2.00	0.00
5,360.0	5.17	91.96	5,241.7	-34.1	997.7	998.2	2.00	-2.00	0.00
5,400.0	4.37	91.96	5,281.6	-34.2	1,001.0	1,001.6	2.00	-2.00	0.00
5,440.0	3.57	91.96	5,321.5	-34.3	1,003.7	1,004.3	2.00	-2.00	0.00
5,480.0	2.77	91.96	5,361.4	-34.4	1,006.0	1,006.5	2.00	-2.00	0.00
5,520.0	1.97	91.96	5,401.4	-34.4	1,007.6	1,008.2	2.00	-2.00	0.00
5,560.0	1.17	91.96	5,441.4	-34.5	1,008.7	1,009.3	2.00	-2.00	0.00
5,600.0	0.37	91.96	5,481.4	-34.5	1,009.2	1,009.8	2.00	-2.00	0.00
5,618.6	0.00	0.00	5,500.0	-34.5	1,009.3	1,009.9	2.00	-2.00	-493.83
TARGET BHL 150'FSL, 2371'FWL									
5,640.0	0.00	0.00	5,521.4	-34.5	1,009.3	1,009.9	0.00	0.00	0.00
5,680.0	0.00	0.00	5,561.4	-34.5	1,009.3	1,009.9	0.00	0.00	0.00
5,720.0	0.00	0.00	5,601.4	-34.5	1,009.3	1,009.9	0.00	0.00	0.00
5,760.0	0.00	0.00	5,641.4	-34.5	1,009.3	1,009.9	0.00	0.00	0.00
5,800.0	0.00	0.00	5,681.4	-34.5	1,009.3	1,009.9	0.00	0.00	0.00
5,840.0	0.00	0.00	5,721.4	-34.5	1,009.3	1,009.9	0.00	0.00	0.00
5,880.0	0.00	0.00	5,761.4	-34.5	1,009.3	1,009.9	0.00	0.00	0.00
5,920.0	0.00	0.00	5,801.4	-34.5	1,009.3	1,009.9	0.00	0.00	0.00
5,960.0	0.00	0.00	5,841.4	-34.5	1,009.3	1,009.9	0.00	0.00	0.00
6,000.0	0.00	0.00	5,881.4	-34.5	1,009.3	1,009.9	0.00	0.00	0.00
6,040.0	0.00	0.00	5,921.4	-34.5	1,009.3	1,009.9	0.00	0.00	0.00
6,080.0	0.00	0.00	5,961.4	-34.5	1,009.3	1,009.9	0.00	0.00	0.00
6,120.0	0.00	0.00	6,001.4	-34.5	1,009.3	1,009.9	0.00	0.00	0.00
6,160.0	0.00	0.00	6,041.4	-34.5	1,009.3	1,009.9	0.00	0.00	0.00
6,200.0	0.00	0.00	6,081.4	-34.5	1,009.3	1,009.9	0.00	0.00	0.00

Database:	EDM den0-adp01 Server Data	Local Co-ordinate Reference:	Well LDS D08-28D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4766.0ft (Original Well Elev)
Project:	SEC.5-T3N-R64W	MD Reference:	WELL @ 4766.0ft (Original Well Elev)
Site:	LDS D08-30D Pad Sec.5-T3N-R64W	North Reference:	True
Well:	LDS D08-28D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble LDS D08-28D Plan #1 (05-07-10)		

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	6,121.4	-34.5	1,009.3	1,009.9	0.00	0.00	0.00
6,280.0	0.00	0.00	6,161.4	-34.5	1,009.3	1,009.9	0.00	0.00	0.00
6,320.0	0.00	0.00	6,201.4	-34.5	1,009.3	1,009.9	0.00	0.00	0.00
6,360.0	0.00	0.00	6,241.4	-34.5	1,009.3	1,009.9	0.00	0.00	0.00
6,400.0	0.00	0.00	6,281.4	-34.5	1,009.3	1,009.9	0.00	0.00	0.00
6,440.0	0.00	0.00	6,321.4	-34.5	1,009.3	1,009.9	0.00	0.00	0.00
6,480.0	0.00	0.00	6,361.4	-34.5	1,009.3	1,009.9	0.00	0.00	0.00
6,520.0	0.00	0.00	6,401.4	-34.5	1,009.3	1,009.9	0.00	0.00	0.00
6,560.0	0.00	0.00	6,441.4	-34.5	1,009.3	1,009.9	0.00	0.00	0.00
6,600.0	0.00	0.00	6,481.4	-34.5	1,009.3	1,009.9	0.00	0.00	0.00
6,640.0	0.00	0.00	6,521.4	-34.5	1,009.3	1,009.9	0.00	0.00	0.00
6,680.0	0.00	0.00	6,561.4	-34.5	1,009.3	1,009.9	0.00	0.00	0.00
6,720.0	0.00	0.00	6,601.4	-34.5	1,009.3	1,009.9	0.00	0.00	0.00
6,760.0	0.00	0.00	6,641.4	-34.5	1,009.3	1,009.9	0.00	0.00	0.00
6,784.6	0.00	0.00	6,666.0	-34.5	1,009.3	1,009.9	0.00	0.00	0.00
NIORARA - TARGET CIRCLE 150'FSL, 2371'FWL									
6,800.0	0.00	0.00	6,681.4	-34.5	1,009.3	1,009.9	0.00	0.00	0.00
6,840.0	0.00	0.00	6,721.4	-34.5	1,009.3	1,009.9	0.00	0.00	0.00
6,880.0	0.00	0.00	6,761.4	-34.5	1,009.3	1,009.9	0.00	0.00	0.00
6,920.0	0.00	0.00	6,801.4	-34.5	1,009.3	1,009.9	0.00	0.00	0.00
6,960.0	0.00	0.00	6,841.4	-34.5	1,009.3	1,009.9	0.00	0.00	0.00
7,000.0	0.00	0.00	6,881.4	-34.5	1,009.3	1,009.9	0.00	0.00	0.00
7,040.0	0.00	0.00	6,921.4	-34.5	1,009.3	1,009.9	0.00	0.00	0.00
7,080.0	0.00	0.00	6,961.4	-34.5	1,009.3	1,009.9	0.00	0.00	0.00
7,084.6	0.00	0.00	6,966.0	-34.5	1,009.3	1,009.9	0.00	0.00	0.00
CODELL									
7,120.0	0.00	0.00	7,001.4	-34.5	1,009.3	1,009.9	0.00	0.00	0.00
7,160.0	0.00	0.00	7,041.4	-34.5	1,009.3	1,009.9	0.00	0.00	0.00
7,200.0	0.00	0.00	7,081.4	-34.5	1,009.3	1,009.9	0.00	0.00	0.00
7,234.6	0.00	0.00	7,116.0	-34.5	1,009.3	1,009.9	0.00	0.00	0.00
HARDLINE 150'S & 238'E OF BHL									

Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
HARDLINE 150'S & 2	0.00	0.00	7,116.0	-184.5	1,247.3	1,334,234.32	3,258,256.26	40° 14' 49.824 N	104° 34' 29.251 W
- plan misses target center by 281.3ft at 7234.6ft MD (7116.0 TVD, -34.5 N, 1009.3 E)									
- Polygon									
Point 1			7,116.0	0.0	0.0	1,334,234.32	3,258,256.26		
Point 2			7,116.0	0.0	-350.0	1,334,230.68	3,257,906.29		
Point 3			7,116.0	0.0	0.0	1,334,234.32	3,258,256.26		
Point 4			7,116.0	300.0	0.0	1,334,534.29	3,258,253.14		
TARGET BHL 150'FS	0.00	0.00	5,500.0	-34.5	1,009.3	1,334,381.83	3,258,016.74	40° 14' 51.307 N	104° 34' 32.320 W
- plan hits target center									
- Point									
TARGET CIRCLE 150'	0.00	0.00	6,666.0	-34.5	1,009.3	1,334,381.83	3,258,016.72	40° 14' 51.307 N	104° 34' 32.320 W
- plan hits target center									
- Circle (radius 75.0)									

Database:	EDM den0-adp01 Server Data	Local Co-ordinate Reference:	Well LDS D08-28D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4766.0ft (Original Well Elev)
Project:	SEC.5-T3N-R64W	MD Reference:	WELL @ 4766.0ft (Original Well Elev)
Site:	LDS D08-30D Pad Sec.5-T3N-R64W	North Reference:	True
Well:	LDS D08-28D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble LDS D08-28D Plan #1 (05-07-10)		

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")	
650.0	650.0	8 5/8"	8-5/8	12-1/4	

Formations					
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
6,784.6	6,666.0	NIOBRARA		0.00	
7,084.6	6,966.0	CODELL		0.00	