

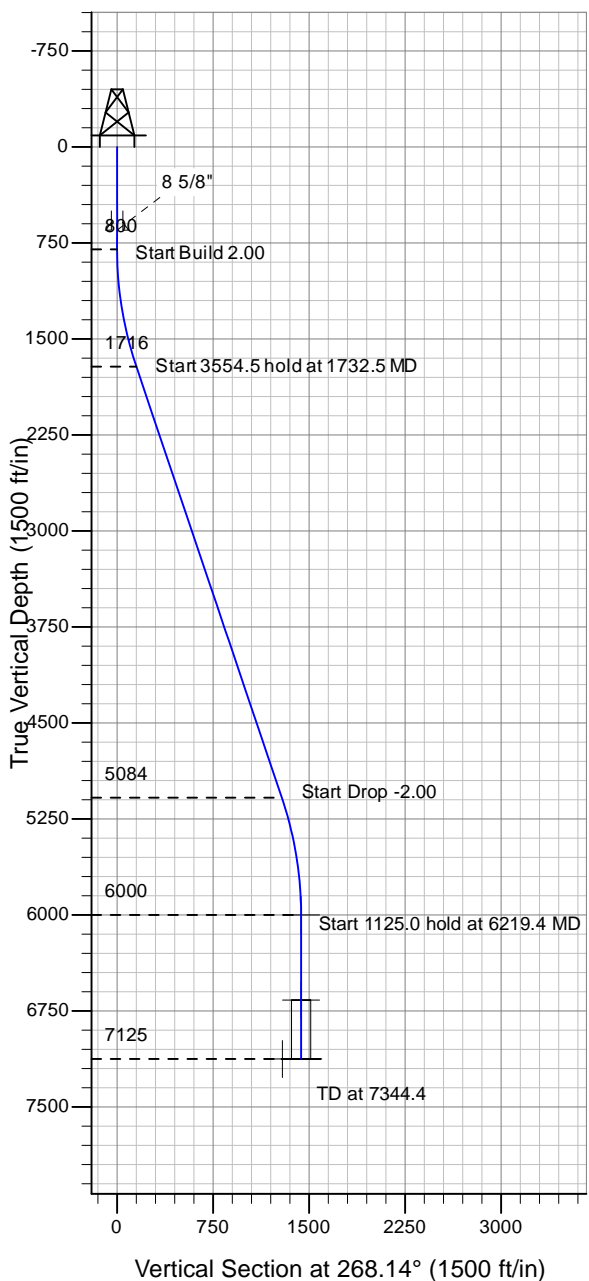
# ENSIGN

## Directional

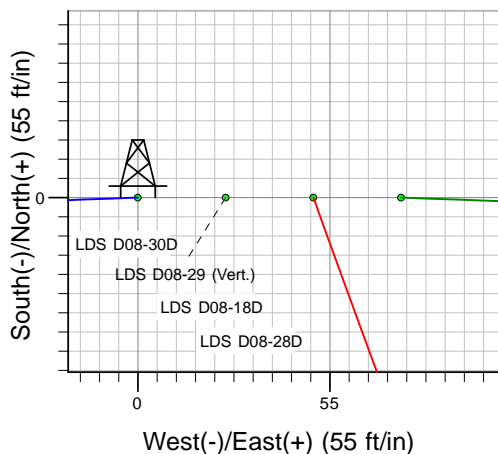
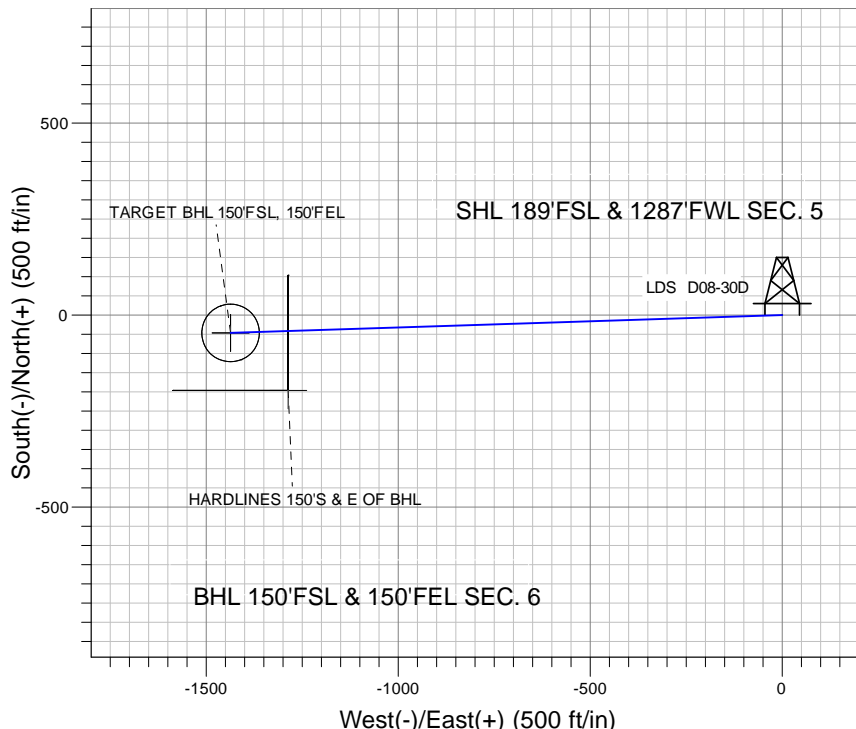
### Well Name: LDS D08-30D

Surface Location: LDS D08-30D Pad Sec.5-T3N-R64W  
North American Datum 1983 , US State Plane 1983 , Colorado Northern Zone  
Ground Elevation: 4752.0

+N/-S+E/-W Northing Easting Latitude Longitude Slot  
0.0 0.0 1334405.07 3256931.80 40° 14' 51.648 N 104° 34' 46.308 W  
Original Well Elev WELL @ 4765.0ft (Original Well Elev)



### NOBLE ENERGY INC WELD COUNTY CO



LDS D08-30D Pad Sec.5-T3N-R64W  
LDS D08-30D  
Noble LDS D08-30D Plan #1 (05-07-10)  
14:42, 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, 150'FEL	6000.0	-46.7	-1436.7	40° 14' 51.186 N	104° 35' 4.836 W	Point
TARGET CIRCLE 150'FSL, 150'FEL	6665.0	-46.7	-1436.7	40° 14' 51.186 N	104° 35' 4.836 W	Circle (Radius: 75.0)
HARDLINES 150'S & E OF BHL	7125.0	-196.7	-1286.7	40° 14' 49.704 N	104° 35' 2.902 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	1732.5	18.65	268.14	1716.1	-4.9	-150.3	2.00	268.14	150.4	
4	5286.9	18.65	268.14	5083.9	-41.8	-1286.4	0.00	0.00	1287.0	
5	6219.4	0.00	0.00	6000.0	-46.7	-1436.7	2.00	180.00	1437.5	TARGET BHL 150'FSL, 150'FEL
6	7344.4	0.00	0.00	7125.0	-46.7	-1436.7	0.00	0.00	1437.5	



# **NOBLE ENERGY INC WELD COUNTY CO**

**SEC.5-T3N-R64W**

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

**LDS D08-30D**

**Wellbore #1**

**Plan: Noble LDS D08-30D Plan #1 (05-07-10)**

## **Standard Planning Report**

**13 May, 2010**



<b>Database:</b>	EDM den0-adp01 Server Data	<b>Local Co-ordinate Reference:</b>	Well LDS D08-30D
<b>Company:</b>	NOBLE ENERGY INC WELD COUNTY CO	<b>TVD Reference:</b>	WELL @ 4765.0ft (Original Well Elev)
<b>Project:</b>	SEC.5-T3N-R64W	<b>MD Reference:</b>	WELL @ 4765.0ft (Original Well Elev)
<b>Site:</b>	LDS D08-30D Pad Sec.5-T3N-R64W	<b>North Reference:</b>	True
<b>Well:</b>	LDS D08-30D	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Noble LDS D08-30D Plan #1 (05-07-10)		

<b>Project</b>	SEC.5-T3N-R64W, Weld County, Colorado		
<b>Map System:</b>	US State Plane 1983	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	North American Datum 1983		
<b>Map Zone:</b>	Colorado Northern Zone		Using geodetic scale factor

Site						LDS D08-30D Pad Sec.5-T3N-R64W											
Site Position:			Northing:			1,334,405.07 ft			Latitude:			40° 14' 51.648 N					
From:			Lat/Long			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 D08-30D					
Well Position	+N-S	0.0 ft	Northing:	1,334,405.07 ft	Latitude:	40° 14' 51.648 N
	+E-W	0.0 ft	Easting:	3,256,931.80 ft	Longitude:	104° 34' 46.308 W
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,752.0 ft

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

<b>Design</b>	Noble LDS D08-30D Plan #1 (05-07-10)			
<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b>	PROTOTYPE	<b>Tie On Depth:</b>	0.0
<b>Vertical Section:</b>	<b>Depth From (TVD) (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>
	0.0	0.0	0.0	268.14

<b>Plan Sections</b>										
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	
1,732.5	18.65	268.14	1,716.1	-4.9	-150.3	2.00	2.00	0.00	268.14	
5,286.9	18.65	268.14	5,083.9	-41.8	-1,286.4	0.00	0.00	0.00	0.00	
6,219.4	0.00	0.00	6,000.0	-46.7	-1,436.7	2.00	-2.00	0.00	180.00	TARGET BHL 150'I
7,344.4	0.00	0.00	7,125.0	-46.7	-1,436.7	0.00	0.00	0.00	0.00	

<b>Database:</b>	EDM den0-adp01 Server Data	<b>Local Co-ordinate Reference:</b>	Well LDS D08-30D
<b>Company:</b>	NOBLE ENERGY INC WELD COUNTY CO	<b>TVD Reference:</b>	WELL @ 4765.0ft (Original Well Elev)
<b>Project:</b>	SEC.5-T3N-R64W	<b>MD Reference:</b>	WELL @ 4765.0ft (Original Well Elev)
<b>Site:</b>	LDS D08-30D Pad Sec.5-T3N-R64W	<b>North Reference:</b>	True
<b>Well:</b>	LDS D08-30D	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Noble LDS D08-30D 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	268.14	840.0	0.0	-0.3	0.3	2.00	2.00	0.00
880.0	1.60	268.14	880.0	0.0	-1.1	1.1	2.00	2.00	0.00
920.0	2.40	268.14	920.0	-0.1	-2.5	2.5	2.00	2.00	0.00
960.0	3.20	268.14	959.9	-0.1	-4.5	4.5	2.00	2.00	0.00
1,000.0	4.00	268.14	999.8	-0.2	-7.0	7.0	2.00	2.00	0.00
1,040.0	4.80	268.14	1,039.7	-0.3	-10.0	10.0	2.00	2.00	0.00
1,080.0	5.60	268.14	1,079.6	-0.4	-13.7	13.7	2.00	2.00	0.00
1,120.0	6.40	268.14	1,119.3	-0.6	-17.8	17.9	2.00	2.00	0.00
1,160.0	7.20	268.14	1,159.1	-0.7	-22.6	22.6	2.00	2.00	0.00
1,200.0	8.00	268.14	1,198.7	-0.9	-27.9	27.9	2.00	2.00	0.00
1,240.0	8.80	268.14	1,238.3	-1.1	-33.7	33.7	2.00	2.00	0.00
1,280.0	9.60	268.14	1,277.8	-1.3	-40.1	40.1	2.00	2.00	0.00
1,320.0	10.40	268.14	1,317.1	-1.5	-47.0	47.1	2.00	2.00	0.00
1,360.0	11.20	268.14	1,356.4	-1.8	-54.5	54.6	2.00	2.00	0.00
1,400.0	12.00	268.14	1,395.6	-2.0	-62.6	62.6	2.00	2.00	0.00
1,440.0	12.80	268.14	1,434.7	-2.3	-71.2	71.2	2.00	2.00	0.00
1,480.0	13.60	268.14	1,473.6	-2.6	-80.3	80.3	2.00	2.00	0.00
1,520.0	14.40	268.14	1,512.4	-2.9	-90.0	90.0	2.00	2.00	0.00
1,560.0	15.20	268.14	1,551.1	-3.3	-100.2	100.2	2.00	2.00	0.00
1,600.0	16.00	268.14	1,589.6	-3.6	-110.9	111.0	2.00	2.00	0.00
1,640.0	16.80	268.14	1,628.0	-4.0	-122.2	122.3	2.00	2.00	0.00
1,680.0	17.60	268.14	1,666.2	-4.4	-134.0	134.1	2.00	2.00	0.00
1,720.0	18.40	268.14	1,704.3	-4.8	-146.4	146.5	2.00	2.00	0.00
1,732.5	18.65	268.14	1,716.1	-4.9	-150.3	150.4	2.00	2.00	0.00
1,760.0	18.65	268.14	1,742.2	-5.2	-159.1	159.2	0.00	0.00	0.00
1,800.0	18.65	268.14	1,780.1	-5.6	-171.9	172.0	0.00	0.00	0.00
1,840.0	18.65	268.14	1,818.0	-6.0	-184.7	184.8	0.00	0.00	0.00
1,880.0	18.65	268.14	1,855.9	-6.4	-197.5	197.6	0.00	0.00	0.00
1,920.0	18.65	268.14	1,893.8	-6.8	-210.3	210.4	0.00	0.00	0.00
1,960.0	18.65	268.14	1,931.7	-7.2	-223.1	223.2	0.00	0.00	0.00
2,000.0	18.65	268.14	1,969.6	-7.7	-235.8	236.0	0.00	0.00	0.00

<b>Database:</b>	EDM den0-adp01 Server Data	<b>Local Co-ordinate Reference:</b>	Well LDS D08-30D
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<b>Project:</b>	SEC.5-T3N-R64W	<b>MD Reference:</b>	WELL @ 4765.0ft (Original Well Elev)
<b>Site:</b>	LDS D08-30D Pad Sec.5-T3N-R64W	<b>North Reference:</b>	True
<b>Well:</b>	LDS D08-30D	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Noble LDS D08-30D 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	18.65	268.14	2,007.5	-8.1	-248.6	248.8	0.00	0.00	0.00	
2,080.0	18.65	268.14	2,045.4	-8.5	-261.4	261.6	0.00	0.00	0.00	
2,120.0	18.65	268.14	2,083.3	-8.9	-274.2	274.3	0.00	0.00	0.00	
2,160.0	18.65	268.14	2,121.2	-9.3	-287.0	287.1	0.00	0.00	0.00	
2,200.0	18.65	268.14	2,159.1	-9.7	-299.8	299.9	0.00	0.00	0.00	
2,240.0	18.65	268.14	2,197.0	-10.1	-312.6	312.7	0.00	0.00	0.00	
2,280.0	18.65	268.14	2,234.9	-10.6	-325.3	325.5	0.00	0.00	0.00	
2,320.0	18.65	268.14	2,272.8	-11.0	-338.1	338.3	0.00	0.00	0.00	
2,360.0	18.65	268.14	2,310.7	-11.4	-350.9	351.1	0.00	0.00	0.00	
2,400.0	18.65	268.14	2,348.6	-11.8	-363.7	363.9	0.00	0.00	0.00	
2,440.0	18.65	268.14	2,386.5	-12.2	-376.5	376.7	0.00	0.00	0.00	
2,480.0	18.65	268.14	2,424.4	-12.6	-389.3	389.5	0.00	0.00	0.00	
2,520.0	18.65	268.14	2,462.3	-13.1	-402.0	402.3	0.00	0.00	0.00	
2,560.0	18.65	268.14	2,500.2	-13.5	-414.8	415.0	0.00	0.00	0.00	
2,600.0	18.65	268.14	2,538.1	-13.9	-427.6	427.8	0.00	0.00	0.00	
2,640.0	18.65	268.14	2,576.0	-14.3	-440.4	440.6	0.00	0.00	0.00	
2,680.0	18.65	268.14	2,613.9	-14.7	-453.2	453.4	0.00	0.00	0.00	
2,720.0	18.65	268.14	2,651.8	-15.1	-466.0	466.2	0.00	0.00	0.00	
2,760.0	18.65	268.14	2,689.7	-15.5	-478.7	479.0	0.00	0.00	0.00	
2,800.0	18.65	268.14	2,727.6	-16.0	-491.5	491.8	0.00	0.00	0.00	
2,840.0	18.65	268.14	2,765.5	-16.4	-504.3	504.6	0.00	0.00	0.00	
2,880.0	18.65	268.14	2,803.4	-16.8	-517.1	517.4	0.00	0.00	0.00	
2,920.0	18.65	268.14	2,841.3	-17.2	-529.9	530.2	0.00	0.00	0.00	
2,960.0	18.65	268.14	2,879.2	-17.6	-542.7	543.0	0.00	0.00	0.00	
3,000.0	18.65	268.14	2,917.1	-18.0	-555.5	555.7	0.00	0.00	0.00	
3,040.0	18.65	268.14	2,955.0	-18.5	-568.2	568.5	0.00	0.00	0.00	
3,080.0	18.65	268.14	2,992.9	-18.9	-581.0	581.3	0.00	0.00	0.00	
3,120.0	18.65	268.14	3,030.8	-19.3	-593.8	594.1	0.00	0.00	0.00	
3,160.0	18.65	268.14	3,068.7	-19.7	-606.6	606.9	0.00	0.00	0.00	
3,200.0	18.65	268.14	3,106.6	-20.1	-619.4	619.7	0.00	0.00	0.00	
3,240.0	18.65	268.14	3,144.5	-20.5	-632.2	632.5	0.00	0.00	0.00	
3,280.0	18.65	268.14	3,182.4	-20.9	-644.9	645.3	0.00	0.00	0.00	
3,320.0	18.65	268.14	3,220.3	-21.4	-657.7	658.1	0.00	0.00	0.00	
3,360.0	18.65	268.14	3,258.2	-21.8	-670.5	670.9	0.00	0.00	0.00	
3,400.0	18.65	268.14	3,296.1	-22.2	-683.3	683.7	0.00	0.00	0.00	
3,440.0	18.65	268.14	3,334.0	-22.6	-696.1	696.4	0.00	0.00	0.00	
3,480.0	18.65	268.14	3,371.9	-23.0	-708.9	709.2	0.00	0.00	0.00	
3,520.0	18.65	268.14	3,409.8	-23.4	-721.6	722.0	0.00	0.00	0.00	
3,560.0	18.65	268.14	3,447.7	-23.9	-734.4	734.8	0.00	0.00	0.00	
3,600.0	18.65	268.14	3,485.6	-24.3	-747.2	747.6	0.00	0.00	0.00	
3,640.0	18.65	268.14	3,523.5	-24.7	-760.0	760.4	0.00	0.00	0.00	
3,680.0	18.65	268.14	3,561.4	-25.1	-772.8	773.2	0.00	0.00	0.00	
3,720.0	18.65	268.14	3,599.3	-25.5	-785.6	786.0	0.00	0.00	0.00	
3,760.0	18.65	268.14	3,637.2	-25.9	-798.4	798.8	0.00	0.00	0.00	
3,800.0	18.65	268.14	3,675.1	-26.3	-811.1	811.6	0.00	0.00	0.00	
3,840.0	18.65	268.14	3,713.0	-26.8	-823.9	824.4	0.00	0.00	0.00	
3,880.0	18.65	268.14	3,750.9	-27.2	-836.7	837.1	0.00	0.00	0.00	
3,920.0	18.65	268.14	3,788.8	-27.6	-849.5	849.9	0.00	0.00	0.00	
3,960.0	18.65	268.14	3,826.7	-28.0	-862.3	862.7	0.00	0.00	0.00	
4,000.0	18.65	268.14	3,864.6	-28.4	-875.1	875.5	0.00	0.00	0.00	
4,040.0	18.65	268.14	3,902.5	-28.8	-887.8	888.3	0.00	0.00	0.00	
4,080.0	18.65	268.14	3,940.4	-29.2	-900.6	901.1	0.00	0.00	0.00	
4,120.0	18.65	268.14	3,978.3	-29.7	-913.4	913.9	0.00	0.00	0.00	
4,160.0	18.65	268.14	4,016.2	-30.1	-926.2	926.7	0.00	0.00	0.00	

<b>Database:</b>	EDM den0-adp01 Server Data	<b>Local Co-ordinate Reference:</b>	Well LDS D08-30D
<b>Company:</b>	NOBLE ENERGY INC WELD COUNTY CO	<b>TVD Reference:</b>	WELL @ 4765.0ft (Original Well Elev)
<b>Project:</b>	SEC.5-T3N-R64W	<b>MD Reference:</b>	WELL @ 4765.0ft (Original Well Elev)
<b>Site:</b>	LDS D08-30D Pad Sec.5-T3N-R64W	<b>North Reference:</b>	True
<b>Well:</b>	LDS D08-30D	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Noble LDS D08-30D 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	18.65	268.14	4,054.1	-30.5	-939.0	939.5	0.00	0.00	0.00
4,240.0	18.65	268.14	4,092.0	-30.9	-951.8	952.3	0.00	0.00	0.00
4,280.0	18.65	268.14	4,129.9	-31.3	-964.5	965.1	0.00	0.00	0.00
4,320.0	18.65	268.14	4,167.8	-31.7	-977.3	977.8	0.00	0.00	0.00
4,360.0	18.65	268.14	4,205.7	-32.2	-990.1	990.6	0.00	0.00	0.00
4,400.0	18.65	268.14	4,243.6	-32.6	-1,002.9	1,003.4	0.00	0.00	0.00
4,440.0	18.65	268.14	4,281.5	-33.0	-1,015.7	1,016.2	0.00	0.00	0.00
4,480.0	18.65	268.14	4,319.4	-33.4	-1,028.5	1,029.0	0.00	0.00	0.00
4,520.0	18.65	268.14	4,357.3	-33.8	-1,041.3	1,041.8	0.00	0.00	0.00
4,560.0	18.65	268.14	4,395.2	-34.2	-1,054.0	1,054.6	0.00	0.00	0.00
4,600.0	18.65	268.14	4,433.1	-34.6	-1,066.8	1,067.4	0.00	0.00	0.00
4,640.0	18.65	268.14	4,471.0	-35.1	-1,079.6	1,080.2	0.00	0.00	0.00
4,680.0	18.65	268.14	4,508.9	-35.5	-1,092.4	1,093.0	0.00	0.00	0.00
4,720.0	18.65	268.14	4,546.8	-35.9	-1,105.2	1,105.8	0.00	0.00	0.00
4,760.0	18.65	268.14	4,584.7	-36.3	-1,118.0	1,118.5	0.00	0.00	0.00
4,800.0	18.65	268.14	4,622.6	-36.7	-1,130.7	1,131.3	0.00	0.00	0.00
4,840.0	18.65	268.14	4,660.5	-37.1	-1,143.5	1,144.1	0.00	0.00	0.00
4,880.0	18.65	268.14	4,698.4	-37.6	-1,156.3	1,156.9	0.00	0.00	0.00
4,920.0	18.65	268.14	4,736.3	-38.0	-1,169.1	1,169.7	0.00	0.00	0.00
4,960.0	18.65	268.14	4,774.2	-38.4	-1,181.9	1,182.5	0.00	0.00	0.00
5,000.0	18.65	268.14	4,812.1	-38.8	-1,194.7	1,195.3	0.00	0.00	0.00
5,040.0	18.65	268.14	4,850.0	-39.2	-1,207.4	1,208.1	0.00	0.00	0.00
5,080.0	18.65	268.14	4,887.9	-39.6	-1,220.2	1,220.9	0.00	0.00	0.00
5,120.0	18.65	268.14	4,925.8	-40.0	-1,233.0	1,233.7	0.00	0.00	0.00
5,160.0	18.65	268.14	4,963.7	-40.5	-1,245.8	1,246.5	0.00	0.00	0.00
5,200.0	18.65	268.14	5,001.6	-40.9	-1,258.6	1,259.2	0.00	0.00	0.00
5,240.0	18.65	268.14	5,039.5	-41.3	-1,271.4	1,272.0	0.00	0.00	0.00
5,280.0	18.65	268.14	5,077.4	-41.7	-1,284.2	1,284.8	0.00	0.00	0.00
5,286.9	18.65	268.14	5,083.9	-41.8	-1,286.4	1,287.0	0.00	0.00	0.00
5,320.0	17.99	268.14	5,115.3	-42.1	-1,296.8	1,297.4	2.00	-2.00	0.00
5,360.0	17.19	268.14	5,153.4	-42.5	-1,308.8	1,309.5	2.00	-2.00	0.00
5,400.0	16.39	268.14	5,191.7	-42.9	-1,320.4	1,321.1	2.00	-2.00	0.00
5,440.0	15.59	268.14	5,230.2	-43.2	-1,331.4	1,332.1	2.00	-2.00	0.00
5,480.0	14.79	268.14	5,268.8	-43.6	-1,341.9	1,342.6	2.00	-2.00	0.00
5,520.0	13.99	268.14	5,307.5	-43.9	-1,351.8	1,352.5	2.00	-2.00	0.00
5,560.0	13.19	268.14	5,346.4	-44.2	-1,361.2	1,361.9	2.00	-2.00	0.00
5,600.0	12.39	268.14	5,385.4	-44.5	-1,370.0	1,370.8	2.00	-2.00	0.00
5,640.0	11.59	268.14	5,424.6	-44.8	-1,378.3	1,379.1	2.00	-2.00	0.00
5,680.0	10.79	268.14	5,463.8	-45.0	-1,386.1	1,386.8	2.00	-2.00	0.00
5,720.0	9.99	268.14	5,503.1	-45.2	-1,393.3	1,394.0	2.00	-2.00	0.00
5,760.0	9.19	268.14	5,542.6	-45.5	-1,400.0	1,400.7	2.00	-2.00	0.00
5,800.0	8.39	268.14	5,582.1	-45.7	-1,406.1	1,406.8	2.00	-2.00	0.00
5,840.0	7.59	268.14	5,621.7	-45.8	-1,411.6	1,412.4	2.00	-2.00	0.00
5,880.0	6.79	268.14	5,661.4	-46.0	-1,416.6	1,417.4	2.00	-2.00	0.00
5,920.0	5.99	268.14	5,701.2	-46.1	-1,421.1	1,421.8	2.00	-2.00	0.00
5,960.0	5.19	268.14	5,741.0	-46.3	-1,425.0	1,425.7	2.00	-2.00	0.00
6,000.0	4.39	268.14	5,780.8	-46.4	-1,428.3	1,429.1	2.00	-2.00	0.00
6,040.0	3.59	268.14	5,820.7	-46.5	-1,431.1	1,431.8	2.00	-2.00	0.00
6,080.0	2.79	268.14	5,860.7	-46.5	-1,433.3	1,434.1	2.00	-2.00	0.00
6,120.0	1.99	268.14	5,900.6	-46.6	-1,435.0	1,435.7	2.00	-2.00	0.00
6,160.0	1.19	268.14	5,940.6	-46.6	-1,436.1	1,436.8	2.00	-2.00	0.00
6,200.0	0.39	268.14	5,980.6	-46.7	-1,436.6	1,437.4	2.00	-2.00	0.00
6,219.4	0.00	0.00	6,000.0	-46.7	-1,436.7	1,437.5	2.00	-2.00	0.00
TARGET BHL 150°FSL, 150°FEL									

<b>Database:</b>	EDM den0-adp01 Server Data	<b>Local Co-ordinate Reference:</b>	Well LDS D08-30D
<b>Company:</b>	NOBLE ENERGY INC WELD COUNTY CO	<b>TVD Reference:</b>	WELL @ 4765.0ft (Original Well Elev)
<b>Project:</b>	SEC.5-T3N-R64W	<b>MD Reference:</b>	WELL @ 4765.0ft (Original Well Elev)
<b>Site:</b>	LDS D08-30D Pad Sec.5-T3N-R64W	<b>North Reference:</b>	True
<b>Well:</b>	LDS D08-30D	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Noble LDS D08-30D 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	6,020.6	-46.7	-1,436.7	1,437.5	0.00	0.00	0.00
6,280.0	0.00	0.00	6,060.6	-46.7	-1,436.7	1,437.5	0.00	0.00	0.00
6,320.0	0.00	0.00	6,100.6	-46.7	-1,436.7	1,437.5	0.00	0.00	0.00
6,360.0	0.00	0.00	6,140.6	-46.7	-1,436.7	1,437.5	0.00	0.00	0.00
6,400.0	0.00	0.00	6,180.6	-46.7	-1,436.7	1,437.5	0.00	0.00	0.00
6,440.0	0.00	0.00	6,220.6	-46.7	-1,436.7	1,437.5	0.00	0.00	0.00
6,480.0	0.00	0.00	6,260.6	-46.7	-1,436.7	1,437.5	0.00	0.00	0.00
6,520.0	0.00	0.00	6,300.6	-46.7	-1,436.7	1,437.5	0.00	0.00	0.00
6,560.0	0.00	0.00	6,340.6	-46.7	-1,436.7	1,437.5	0.00	0.00	0.00
6,600.0	0.00	0.00	6,380.6	-46.7	-1,436.7	1,437.5	0.00	0.00	0.00
6,640.0	0.00	0.00	6,420.6	-46.7	-1,436.7	1,437.5	0.00	0.00	0.00
6,680.0	0.00	0.00	6,460.6	-46.7	-1,436.7	1,437.5	0.00	0.00	0.00
6,720.0	0.00	0.00	6,500.6	-46.7	-1,436.7	1,437.5	0.00	0.00	0.00
6,760.0	0.00	0.00	6,540.6	-46.7	-1,436.7	1,437.5	0.00	0.00	0.00
6,800.0	0.00	0.00	6,580.6	-46.7	-1,436.7	1,437.5	0.00	0.00	0.00
6,840.0	0.00	0.00	6,620.6	-46.7	-1,436.7	1,437.5	0.00	0.00	0.00
6,880.0	0.00	0.00	6,660.6	-46.7	-1,436.7	1,437.5	0.00	0.00	0.00
6,884.4	0.00	0.00	6,665.0	-46.7	-1,436.7	1,437.5	0.00	0.00	0.00
<b>NIORRARA - TARGET CIRCLE 150'FSL, 150'FEL</b>									
6,920.0	0.00	0.00	6,700.6	-46.7	-1,436.7	1,437.5	0.00	0.00	0.00
6,960.0	0.00	0.00	6,740.6	-46.7	-1,436.7	1,437.5	0.00	0.00	0.00
7,000.0	0.00	0.00	6,780.6	-46.7	-1,436.7	1,437.5	0.00	0.00	0.00
7,040.0	0.00	0.00	6,820.6	-46.7	-1,436.7	1,437.5	0.00	0.00	0.00
7,080.0	0.00	0.00	6,860.6	-46.7	-1,436.7	1,437.5	0.00	0.00	0.00
7,120.0	0.00	0.00	6,900.6	-46.7	-1,436.7	1,437.5	0.00	0.00	0.00
7,160.0	0.00	0.00	6,940.6	-46.7	-1,436.7	1,437.5	0.00	0.00	0.00
7,194.4	0.00	0.00	6,975.0	-46.7	-1,436.7	1,437.5	0.00	0.00	0.00
<b>CODELL</b>									
7,200.0	0.00	0.00	6,980.6	-46.7	-1,436.7	1,437.5	0.00	0.00	0.00
7,240.0	0.00	0.00	7,020.6	-46.7	-1,436.7	1,437.5	0.00	0.00	0.00
7,280.0	0.00	0.00	7,060.6	-46.7	-1,436.7	1,437.5	0.00	0.00	0.00
7,320.0	0.00	0.00	7,100.6	-46.7	-1,436.7	1,437.5	0.00	0.00	0.00
7,344.4	0.00	0.00	7,125.0	-46.7	-1,436.7	1,437.5	0.00	0.00	0.00
<b>HARDLINES 150'S &amp; E OF BHL</b>									



<b>Database:</b>	EDM den0-adp01 Server Data	<b>Local Co-ordinate Reference:</b>	Well LDS D08-30D
<b>Company:</b>	NOBLE ENERGY INC WELD COUNTY CO	<b>TVD Reference:</b>	WELL @ 4765.0ft (Original Well Elev)
<b>Project:</b>	SEC.5-T3N-R64W	<b>MD Reference:</b>	WELL @ 4765.0ft (Original Well Elev)
<b>Site:</b>	LDS D08-30D Pad Sec.5-T3N-R64W	<b>North Reference:</b>	True
<b>Well:</b>	LDS D08-30D	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Noble LDS D08-30D Plan #1 (05-07-10)		

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 CIRCLE 150'	0.00	0.00	6,665.0	-46.7	-1,436.7	1,334,343.46	3,255,495.73	40° 14' 51.186 N	104° 35' 4.836 W
- plan hits target center									
- Circle (radius 75.0)									
TARGET BHL 150'FS	0.00	0.00	6,000.0	-46.7	-1,436.7	1,334,343.50	3,255,495.73	40° 14' 51.186 N	104° 35' 4.836 W
- plan hits target center									
- Point									
HARDLINES 150'S &	0.00	0.00	7,125.0	-196.7	-1,286.7	1,334,195.03	3,255,647.27	40° 14' 49.704 N	104° 35' 2.902 W
- plan misses target center by 212.2ft at 7344.4ft MD (7125.0 TVD, -46.7 N, -1436.7 E)									
- Polygon									
Point 1			7,125.0	0.0	0.0	1,334,195.03	3,255,647.27		
Point 2			7,125.0	0.0	-300.0	1,334,191.92	3,255,347.30		
Point 3			7,125.0	0.0	0.0	1,334,195.03	3,255,647.27		
Point 4			7,125.0	300.0	0.0	1,334,495.00	3,255,644.16		

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 (°)
6,884.4	6,665.0	NIOBRARA		0.00	
7,194.4	6,975.0	CODELL		0.00	