

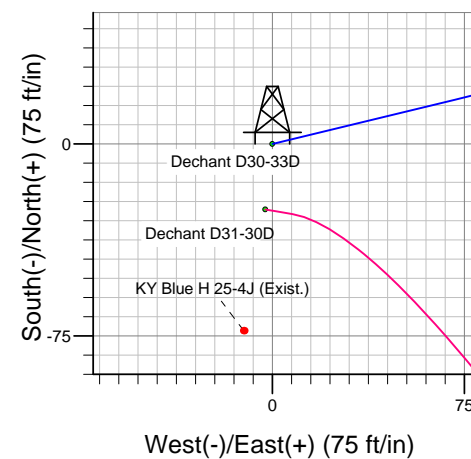
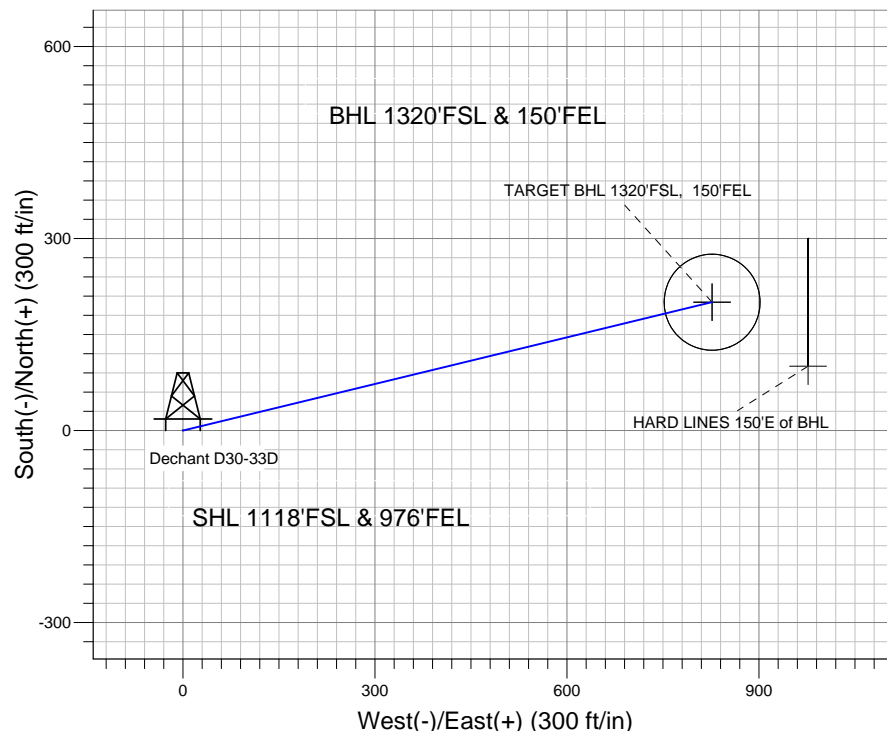
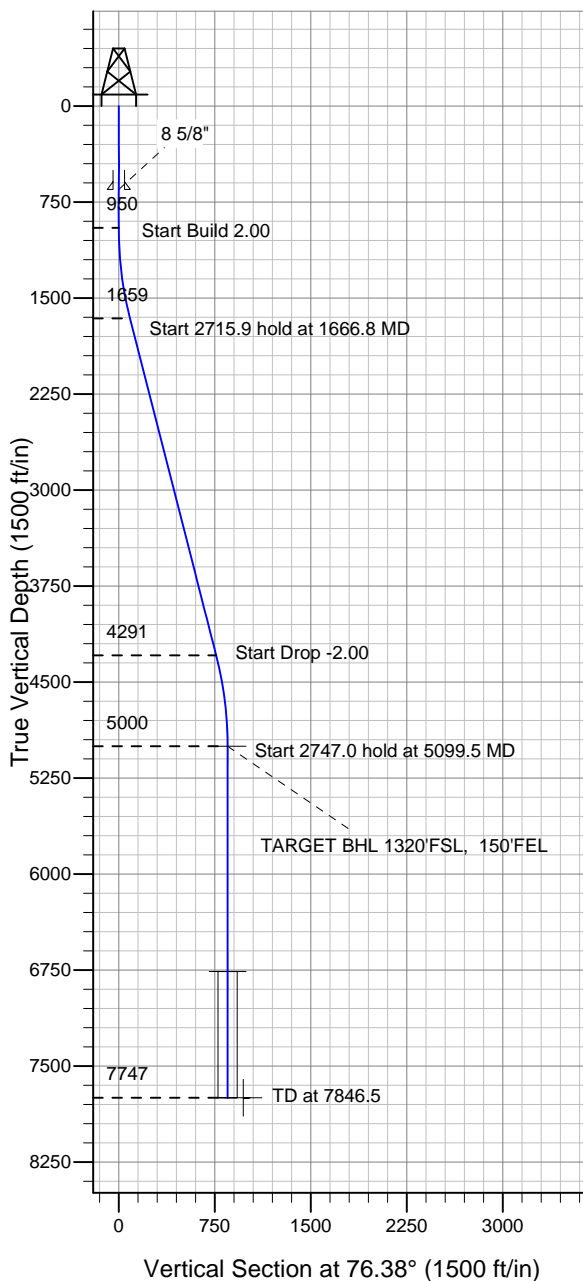
# ENSIGN

## Directional

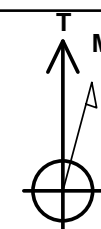
### Well Name: Dechant D30-33D

Surface Location: Dechant D31-30D Pad Sec.25-T3N-R65W  
 North American Datum 1983 US State Plane 1983 Colorado Northern Zone  
 Ground Elevation: 4799.0  
 +N/-S +E/-W Northing Easting Latitude Longitude Slot  
 0.0 0.0 1314028.12 3249667.12 40° 11' 31.020 N 104° 36' 22.644 W  
 Original Well Elev WELL @ 4812.0ft (Original Well Elev)

### NOBLE ENERGY INC WELD COUNTY CO



Dechant D31-30D Pad Sec.25-T3N-R65W  
 Dechant D30-33D  
 Noble Dechant D30-33D Plan #1 (11-24-10)  
 11:50, November 29 2010



Azimuths to True North  
 Magnetic North: 8.83°

Magnetic Field  
 Strength: 53096.7snT  
 Dip Angle: 66.93°  
 Date: 11/29/2010  
 Model: IGRF2010

### WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
TARGET BHL 1320'FSL, 150'FEL	5000.0	200.4	827.0	40° 11' 33.000 N	104° 36' 11.988 W	Point
TARGET CIRCLE 1320'FSL & 150'FEL	6762.0	200.4	827.0	40° 11' 33.000 N	104° 36' 11.988 W	Circle (Radius: 75.0)
HARD LINES 150'E of BHL	7747.0	100.4	977.0	40° 11' 32.012 N	104° 36' 10.055 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	950.0	0.00	0.00	950.0	0.0	0.0	0.00	0.00	0.0	
3	1666.8	14.34	76.38	1659.3	21.0	86.7	2.00	76.38	89.2	
4	4382.7	14.34	76.38	4290.7	179.4	740.3	0.00	0.00	761.7	
5	5099.5	0.00	0.00	5000.0	200.4	827.0	2.00	180.00	850.9	TARGET BHL 1320'FSL, 150'FEL
6	7846.5	0.00	0.00	7747.0	200.4	827.0	0.00	0.00	850.9	



## **Directional**

# **NOBLE ENERGY INC WELD COUNTY CO**

**SEC.25-T3N-R65W**

**Dechant D31-30D Pad Sec.25-T3N-R65W**

**Dechant D30-33D**

**Wellbore #1**

**Plan: Noble Dechant D30-33D Plan #1 (11-24-10)**

## **Standard Planning Report**

**29 November, 2010**



<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well Dechant D30-33D
<b>Company:</b>	NOBLE ENERGY INC WELD COUNTY CO	<b>TVD Reference:</b>	WELL @ 4812.0ft (Original Well Elev)
<b>Project:</b>	SEC.25-T3N-R65W	<b>MD Reference:</b>	WELL @ 4812.0ft (Original Well Elev)
<b>Site:</b>	Dechant D31-30D Pad Sec.25-T3N-R65W	<b>North Reference:</b>	True
<b>Well:</b>	Dechant D30-33D	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Noble Dechant D30-33D Plan #1 (11-24-10)		

<b>Project</b>	SEC.25-T3N-R65W, 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		Using Well Reference Point
<b>Map Zone:</b>	Colorado Northern Zone		Using geodetic scale factor

Site						Dechant D31-30D Pad Sec.25-T3N-R65W											
Site Position:						Northing:			1,314,002.60ft			Latitude:			40° 11' 30.768 N		
From:			Lat/Long			Easting:			3,249,664.58ft			Longitude:			104° 36' 22.680 W		
Position Uncertainty:			0.0 ft			Slot Radius:			"			Grid Convergence:			0.58 °		

Well	Dechant D30-33D					
Well Position	+N-S	25.5 ft	Northing:	1,314,028.12 ft	Latitude:	40° 11' 31.020 N
	+E-W	2.8 ft	Easting:	3,249,667.12 ft	Longitude:	104° 36' 22.644 W
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,799.0 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	11/29/2010	8.83	66.93	53,097

<b>Design</b>	Noble Dechant D30-33D Plan #1 (11-24-10)				
<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	76.38	

<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	
950.0	0.00	0.00	950.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,666.8	14.34	76.38	1,659.3	21.0	86.7	2.00	2.00	0.00	76.38	
4,382.7	14.34	76.38	4,290.7	179.4	740.3	0.00	0.00	0.00	0.00	
5,099.5	0.00	0.00	5,000.0	200.4	827.0	2.00	-2.00	0.00	180.00	TARGET BHL 132C
7,846.5	0.00	0.00	7,747.0	200.4	827.0	0.00	0.00	0.00	0.00	

<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well Dechant D30-33D
<b>Company:</b>	NOBLE ENERGY INC WELD COUNTY CO	<b>TVD Reference:</b>	WELL @ 4812.0ft (Original Well Elev)
<b>Project:</b>	SEC.25-T3N-R65W	<b>MD Reference:</b>	WELL @ 4812.0ft (Original Well Elev)
<b>Site:</b>	Dechant D31-30D Pad Sec.25-T3N-R65W	<b>North Reference:</b>	True
<b>Well:</b>	Dechant D30-33D	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Noble Dechant D30-33D Plan #1 (11-24-10)		

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	0.00	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
950.0	0.00	0.00	950.0	0.0	0.0	0.0	0.00	0.00	0.00
960.0	0.20	76.38	960.0	0.0	0.0	0.0	2.00	2.00	0.00
1,000.0	1.00	76.38	1,000.0	0.1	0.4	0.4	2.00	2.00	0.00
1,040.0	1.80	76.38	1,040.0	0.3	1.4	1.4	2.00	2.00	0.00
1,080.0	2.60	76.38	1,080.0	0.7	2.9	2.9	2.00	2.00	0.00
1,120.0	3.40	76.38	1,119.9	1.2	4.9	5.0	2.00	2.00	0.00
1,160.0	4.20	76.38	1,159.8	1.8	7.5	7.7	2.00	2.00	0.00
1,200.0	5.00	76.38	1,199.7	2.6	10.6	10.9	2.00	2.00	0.00
1,240.0	5.80	76.38	1,239.5	3.5	14.3	14.7	2.00	2.00	0.00
1,280.0	6.60	76.38	1,279.3	4.5	18.5	19.0	2.00	2.00	0.00
1,320.0	7.40	76.38	1,319.0	5.6	23.2	23.9	2.00	2.00	0.00
1,360.0	8.20	76.38	1,358.6	6.9	28.5	29.3	2.00	2.00	0.00
1,400.0	9.00	76.38	1,398.2	8.3	34.3	35.3	2.00	2.00	0.00
1,440.0	9.80	76.38	1,437.6	9.8	40.6	41.8	2.00	2.00	0.00
1,480.0	10.60	76.38	1,477.0	11.5	47.5	48.9	2.00	2.00	0.00
1,520.0	11.40	76.38	1,516.2	13.3	54.9	56.5	2.00	2.00	0.00
1,560.0	12.20	76.38	1,555.4	15.2	62.9	64.7	2.00	2.00	0.00
1,600.0	13.00	76.38	1,594.4	17.3	71.4	73.4	2.00	2.00	0.00
1,640.0	13.80	76.38	1,633.3	19.5	80.4	82.7	2.00	2.00	0.00
1,666.8	14.34	76.38	1,659.3	21.0	86.7	89.2	2.00	2.00	0.00
1,680.0	14.34	76.38	1,672.1	21.8	89.9	92.5	0.00	0.00	0.00
1,720.0	14.34	76.38	1,710.9	24.1	99.5	102.4	0.00	0.00	0.00
1,760.0	14.34	76.38	1,749.6	26.4	109.1	112.3	0.00	0.00	0.00
1,800.0	14.34	76.38	1,788.4	28.8	118.8	122.2	0.00	0.00	0.00
1,840.0	14.34	76.38	1,827.2	31.1	128.4	132.1	0.00	0.00	0.00
1,880.0	14.34	76.38	1,865.9	33.4	138.0	142.0	0.00	0.00	0.00
1,920.0	14.34	76.38	1,904.7	35.8	147.6	151.9	0.00	0.00	0.00
1,960.0	14.34	76.38	1,943.4	38.1	157.3	161.8	0.00	0.00	0.00

<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well Dechant D30-33D
<b>Company:</b>	NOBLE ENERGY INC WELD COUNTY CO	<b>TVD Reference:</b>	WELL @ 4812.0ft (Original Well Elev)
<b>Project:</b>	SEC.25-T3N-R65W	<b>MD Reference:</b>	WELL @ 4812.0ft (Original Well Elev)
<b>Site:</b>	Dechant D31-30D Pad Sec.25-T3N-R65W	<b>North Reference:</b>	True
<b>Well:</b>	Dechant D30-33D	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Noble Dechant D30-33D Plan #1 (11-24-10)		

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)
2,000.0	14.34	76.38	1,982.2	40.4	166.9	171.7	0.00	0.00	0.00
2,040.0	14.34	76.38	2,020.9	42.8	176.5	181.6	0.00	0.00	0.00
2,080.0	14.34	76.38	2,059.7	45.1	186.1	191.5	0.00	0.00	0.00
2,120.0	14.34	76.38	2,098.4	47.4	195.8	201.4	0.00	0.00	0.00
2,160.0	14.34	76.38	2,137.2	49.8	205.4	211.3	0.00	0.00	0.00
2,200.0	14.34	76.38	2,175.9	52.1	215.0	221.2	0.00	0.00	0.00
2,240.0	14.34	76.38	2,214.7	54.4	224.6	231.1	0.00	0.00	0.00
2,280.0	14.34	76.38	2,253.4	56.8	234.3	241.0	0.00	0.00	0.00
2,320.0	14.34	76.38	2,292.2	59.1	243.9	250.9	0.00	0.00	0.00
2,360.0	14.34	76.38	2,331.0	61.4	253.5	260.8	0.00	0.00	0.00
2,400.0	14.34	76.38	2,369.7	63.8	263.1	270.8	0.00	0.00	0.00
2,440.0	14.34	76.38	2,408.5	66.1	272.8	280.7	0.00	0.00	0.00
2,480.0	14.34	76.38	2,447.2	68.4	282.4	290.6	0.00	0.00	0.00
2,520.0	14.34	76.38	2,486.0	70.8	292.0	300.5	0.00	0.00	0.00
2,560.0	14.34	76.38	2,524.7	73.1	301.6	310.4	0.00	0.00	0.00
2,600.0	14.34	76.38	2,563.5	75.4	311.3	320.3	0.00	0.00	0.00
2,640.0	14.34	76.38	2,602.2	77.8	320.9	330.2	0.00	0.00	0.00
2,680.0	14.34	76.38	2,641.0	80.1	330.5	340.1	0.00	0.00	0.00
2,720.0	14.34	76.38	2,679.7	82.4	340.1	350.0	0.00	0.00	0.00
2,760.0	14.34	76.38	2,718.5	84.8	349.8	359.9	0.00	0.00	0.00
2,800.0	14.34	76.38	2,757.3	87.1	359.4	369.8	0.00	0.00	0.00
2,840.0	14.34	76.38	2,796.0	89.4	369.0	379.7	0.00	0.00	0.00
2,880.0	14.34	76.38	2,834.8	91.8	378.6	389.6	0.00	0.00	0.00
2,920.0	14.34	76.38	2,873.5	94.1	388.3	399.5	0.00	0.00	0.00
2,960.0	14.34	76.38	2,912.3	96.4	397.9	409.4	0.00	0.00	0.00
3,000.0	14.34	76.38	2,951.0	98.8	407.5	419.3	0.00	0.00	0.00
3,040.0	14.34	76.38	2,989.8	101.1	417.1	429.2	0.00	0.00	0.00
3,080.0	14.34	76.38	3,028.5	103.4	426.8	439.1	0.00	0.00	0.00
3,120.0	14.34	76.38	3,067.3	105.7	436.4	449.0	0.00	0.00	0.00
3,160.0	14.34	76.38	3,106.0	108.1	446.0	458.9	0.00	0.00	0.00
3,200.0	14.34	76.38	3,144.8	110.4	455.6	468.8	0.00	0.00	0.00
3,240.0	14.34	76.38	3,183.6	112.7	465.3	478.7	0.00	0.00	0.00
3,280.0	14.34	76.38	3,222.3	115.1	474.9	488.6	0.00	0.00	0.00
3,320.0	14.34	76.38	3,261.1	117.4	484.5	498.5	0.00	0.00	0.00
3,360.0	14.34	76.38	3,299.8	119.7	494.2	508.5	0.00	0.00	0.00
3,400.0	14.34	76.38	3,338.6	122.1	503.8	518.4	0.00	0.00	0.00
3,440.0	14.34	76.38	3,377.3	124.4	513.4	528.3	0.00	0.00	0.00
3,480.0	14.34	76.38	3,416.1	126.7	523.0	538.2	0.00	0.00	0.00
3,520.0	14.34	76.38	3,454.8	129.1	532.7	548.1	0.00	0.00	0.00
3,560.0	14.34	76.38	3,493.6	131.4	542.3	558.0	0.00	0.00	0.00
3,600.0	14.34	76.38	3,532.3	133.7	551.9	567.9	0.00	0.00	0.00
3,640.0	14.34	76.38	3,571.1	136.1	561.5	577.8	0.00	0.00	0.00
3,680.0	14.34	76.38	3,609.9	138.4	571.2	587.7	0.00	0.00	0.00
3,720.0	14.34	76.38	3,648.6	140.7	580.8	597.6	0.00	0.00	0.00
3,760.0	14.34	76.38	3,687.4	143.1	590.4	607.5	0.00	0.00	0.00
3,800.0	14.34	76.38	3,726.1	145.4	600.0	617.4	0.00	0.00	0.00
3,840.0	14.34	76.38	3,764.9	147.7	609.7	627.3	0.00	0.00	0.00
3,880.0	14.34	76.38	3,803.6	150.1	619.3	637.2	0.00	0.00	0.00
3,920.0	14.34	76.38	3,842.4	152.4	628.9	647.1	0.00	0.00	0.00
3,960.0	14.34	76.38	3,881.1	154.7	638.5	657.0	0.00	0.00	0.00
4,000.0	14.34	76.38	3,919.9	157.1	648.2	666.9	0.00	0.00	0.00
4,040.0	14.34	76.38	3,958.6	159.4	657.8	676.8	0.00	0.00	0.00
4,080.0	14.34	76.38	3,997.4	161.7	667.4	686.7	0.00	0.00	0.00
4,120.0	14.34	76.38	4,036.2	164.1	677.0	696.6	0.00	0.00	0.00

<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well Dechant D30-33D
<b>Company:</b>	NOBLE ENERGY INC WELD COUNTY CO	<b>TVD Reference:</b>	WELL @ 4812.0ft (Original Well Elev)
<b>Project:</b>	SEC.25-T3N-R65W	<b>MD Reference:</b>	WELL @ 4812.0ft (Original Well Elev)
<b>Site:</b>	Dechant D31-30D Pad Sec.25-T3N-R65W	<b>North Reference:</b>	True
<b>Well:</b>	Dechant D30-33D	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Noble Dechant D30-33D Plan #1 (11-24-10)		

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)
4,160.0	14.34	76.38	4,074.9	166.4	686.7	706.5	0.00	0.00	0.00
4,200.0	14.34	76.38	4,113.7	168.7	696.3	716.4	0.00	0.00	0.00
4,240.0	14.34	76.38	4,152.4	171.1	705.9	726.3	0.00	0.00	0.00
4,280.0	14.34	76.38	4,191.2	173.4	715.5	736.3	0.00	0.00	0.00
4,320.0	14.34	76.38	4,229.9	175.7	725.2	746.2	0.00	0.00	0.00
4,360.0	14.34	76.38	4,268.7	178.1	734.8	756.1	0.00	0.00	0.00
4,382.7	14.34	76.38	4,290.7	179.4	740.3	761.7	0.00	0.00	0.00
4,400.0	13.99	76.38	4,307.4	180.4	744.4	765.9	2.00	-2.00	0.00
4,440.0	13.19	76.38	4,346.3	182.6	753.5	775.3	2.00	-2.00	0.00
4,480.0	12.39	76.38	4,385.3	184.7	762.1	784.2	2.00	-2.00	0.00
4,520.0	11.59	76.38	4,424.5	186.6	770.2	792.5	2.00	-2.00	0.00
4,560.0	10.79	76.38	4,463.7	188.5	777.7	800.2	2.00	-2.00	0.00
4,600.0	9.99	76.38	4,503.0	190.2	784.7	807.5	2.00	-2.00	0.00
4,640.0	9.19	76.38	4,542.5	191.7	791.2	814.1	2.00	-2.00	0.00
4,680.0	8.39	76.38	4,582.0	193.2	797.2	820.2	2.00	-2.00	0.00
4,720.0	7.59	76.38	4,621.6	194.5	802.6	825.8	2.00	-2.00	0.00
4,760.0	6.79	76.38	4,661.3	195.7	807.4	830.8	2.00	-2.00	0.00
4,800.0	5.99	76.38	4,701.1	196.7	811.8	835.2	2.00	-2.00	0.00
4,840.0	5.19	76.38	4,740.9	197.6	815.5	839.1	2.00	-2.00	0.00
4,880.0	4.39	76.38	4,780.7	198.4	818.8	842.5	2.00	-2.00	0.00
4,920.0	3.59	76.38	4,820.6	199.1	821.5	845.3	2.00	-2.00	0.00
4,960.0	2.79	76.38	4,860.6	199.6	823.7	847.5	2.00	-2.00	0.00
5,000.0	1.99	76.38	4,900.5	200.0	825.3	849.2	2.00	-2.00	0.00
5,040.0	1.19	76.38	4,940.5	200.2	826.4	850.3	2.00	-2.00	0.00
5,080.0	0.39	76.38	4,980.5	200.4	826.9	850.8	2.00	-2.00	0.00
5,099.5	0.00	0.00	5,000.0	200.4	827.0	850.9	2.00	-2.00	-392.06
TARGET BHL 1320'FSL, 150'FEL									
5,120.0	0.00	0.00	5,020.5	200.4	827.0	850.9	0.00	0.00	0.00
5,160.0	0.00	0.00	5,060.5	200.4	827.0	850.9	0.00	0.00	0.00
5,200.0	0.00	0.00	5,100.5	200.4	827.0	850.9	0.00	0.00	0.00
5,240.0	0.00	0.00	5,140.5	200.4	827.0	850.9	0.00	0.00	0.00
5,280.0	0.00	0.00	5,180.5	200.4	827.0	850.9	0.00	0.00	0.00
5,320.0	0.00	0.00	5,220.5	200.4	827.0	850.9	0.00	0.00	0.00
5,360.0	0.00	0.00	5,260.5	200.4	827.0	850.9	0.00	0.00	0.00
5,400.0	0.00	0.00	5,300.5	200.4	827.0	850.9	0.00	0.00	0.00
5,440.0	0.00	0.00	5,340.5	200.4	827.0	850.9	0.00	0.00	0.00
5,480.0	0.00	0.00	5,380.5	200.4	827.0	850.9	0.00	0.00	0.00
5,520.0	0.00	0.00	5,420.5	200.4	827.0	850.9	0.00	0.00	0.00
5,560.0	0.00	0.00	5,460.5	200.4	827.0	850.9	0.00	0.00	0.00
5,600.0	0.00	0.00	5,500.5	200.4	827.0	850.9	0.00	0.00	0.00
5,640.0	0.00	0.00	5,540.5	200.4	827.0	850.9	0.00	0.00	0.00
5,680.0	0.00	0.00	5,580.5	200.4	827.0	850.9	0.00	0.00	0.00
5,720.0	0.00	0.00	5,620.5	200.4	827.0	850.9	0.00	0.00	0.00
5,760.0	0.00	0.00	5,660.5	200.4	827.0	850.9	0.00	0.00	0.00
5,800.0	0.00	0.00	5,700.5	200.4	827.0	850.9	0.00	0.00	0.00
5,840.0	0.00	0.00	5,740.5	200.4	827.0	850.9	0.00	0.00	0.00
5,880.0	0.00	0.00	5,780.5	200.4	827.0	850.9	0.00	0.00	0.00
5,920.0	0.00	0.00	5,820.5	200.4	827.0	850.9	0.00	0.00	0.00
5,960.0	0.00	0.00	5,860.5	200.4	827.0	850.9	0.00	0.00	0.00
6,000.0	0.00	0.00	5,900.5	200.4	827.0	850.9	0.00	0.00	0.00
6,040.0	0.00	0.00	5,940.5	200.4	827.0	850.9	0.00	0.00	0.00
6,080.0	0.00	0.00	5,980.5	200.4	827.0	850.9	0.00	0.00	0.00
6,120.0	0.00	0.00	6,020.5	200.4	827.0	850.9	0.00	0.00	0.00
6,160.0	0.00	0.00	6,060.5	200.4	827.0	850.9	0.00	0.00	0.00

<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well Dechant D30-33D
<b>Company:</b>	NOBLE ENERGY INC WELD COUNTY CO	<b>TVD Reference:</b>	WELL @ 4812.0ft (Original Well Elev)
<b>Project:</b>	SEC.25-T3N-R65W	<b>MD Reference:</b>	WELL @ 4812.0ft (Original Well Elev)
<b>Site:</b>	Dechant D31-30D Pad Sec.25-T3N-R65W	<b>North Reference:</b>	True
<b>Well:</b>	Dechant D30-33D	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Noble Dechant D30-33D Plan #1 (11-24-10)		

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)
6,200.0	0.00	0.00	6,100.5	200.4	827.0	850.9	0.00	0.00	0.00
6,240.0	0.00	0.00	6,140.5	200.4	827.0	850.9	0.00	0.00	0.00
6,280.0	0.00	0.00	6,180.5	200.4	827.0	850.9	0.00	0.00	0.00
6,320.0	0.00	0.00	6,220.5	200.4	827.0	850.9	0.00	0.00	0.00
6,360.0	0.00	0.00	6,260.5	200.4	827.0	850.9	0.00	0.00	0.00
6,400.0	0.00	0.00	6,300.5	200.4	827.0	850.9	0.00	0.00	0.00
6,440.0	0.00	0.00	6,340.5	200.4	827.0	850.9	0.00	0.00	0.00
6,480.0	0.00	0.00	6,380.5	200.4	827.0	850.9	0.00	0.00	0.00
6,520.0	0.00	0.00	6,420.5	200.4	827.0	850.9	0.00	0.00	0.00
6,560.0	0.00	0.00	6,460.5	200.4	827.0	850.9	0.00	0.00	0.00
6,600.0	0.00	0.00	6,500.5	200.4	827.0	850.9	0.00	0.00	0.00
6,640.0	0.00	0.00	6,540.5	200.4	827.0	850.9	0.00	0.00	0.00
6,680.0	0.00	0.00	6,580.5	200.4	827.0	850.9	0.00	0.00	0.00
6,720.0	0.00	0.00	6,620.5	200.4	827.0	850.9	0.00	0.00	0.00
6,760.0	0.00	0.00	6,660.5	200.4	827.0	850.9	0.00	0.00	0.00
6,800.0	0.00	0.00	6,700.5	200.4	827.0	850.9	0.00	0.00	0.00
6,840.0	0.00	0.00	6,740.5	200.4	827.0	850.9	0.00	0.00	0.00
6,861.5	0.00	0.00	6,762.0	200.4	827.0	850.9	0.00	0.00	0.00
<b>NIORARA - TARGET CIRCLE 1320'FSL &amp; 150'FEL</b>									
6,880.0	0.00	0.00	6,780.5	200.4	827.0	850.9	0.00	0.00	0.00
6,920.0	0.00	0.00	6,820.5	200.4	827.0	850.9	0.00	0.00	0.00
6,960.0	0.00	0.00	6,860.5	200.4	827.0	850.9	0.00	0.00	0.00
7,000.0	0.00	0.00	6,900.5	200.4	827.0	850.9	0.00	0.00	0.00
7,040.0	0.00	0.00	6,940.5	200.4	827.0	850.9	0.00	0.00	0.00
7,080.0	0.00	0.00	6,980.5	200.4	827.0	850.9	0.00	0.00	0.00
7,120.0	0.00	0.00	7,020.5	200.4	827.0	850.9	0.00	0.00	0.00
7,160.0	0.00	0.00	7,060.5	200.4	827.0	850.9	0.00	0.00	0.00
7,166.5	0.00	0.00	7,067.0	200.4	827.0	850.9	0.00	0.00	0.00
<b>CODELL</b>									
7,200.0	0.00	0.00	7,100.5	200.4	827.0	850.9	0.00	0.00	0.00
7,240.0	0.00	0.00	7,140.5	200.4	827.0	850.9	0.00	0.00	0.00
7,280.0	0.00	0.00	7,180.5	200.4	827.0	850.9	0.00	0.00	0.00
7,320.0	0.00	0.00	7,220.5	200.4	827.0	850.9	0.00	0.00	0.00
7,360.0	0.00	0.00	7,260.5	200.4	827.0	850.9	0.00	0.00	0.00
7,400.0	0.00	0.00	7,300.5	200.4	827.0	850.9	0.00	0.00	0.00
7,440.0	0.00	0.00	7,340.5	200.4	827.0	850.9	0.00	0.00	0.00
7,480.0	0.00	0.00	7,380.5	200.4	827.0	850.9	0.00	0.00	0.00
7,520.0	0.00	0.00	7,420.5	200.4	827.0	850.9	0.00	0.00	0.00
7,560.0	0.00	0.00	7,460.5	200.4	827.0	850.9	0.00	0.00	0.00
7,571.5	0.00	0.00	7,472.0	200.4	827.0	850.9	0.00	0.00	0.00
<b>D-SAND</b>									
7,600.0	0.00	0.00	7,500.5	200.4	827.0	850.9	0.00	0.00	0.00
7,640.0	0.00	0.00	7,540.5	200.4	827.0	850.9	0.00	0.00	0.00
7,646.5	0.00	0.00	7,547.0	200.4	827.0	850.9	0.00	0.00	0.00
<b>J-SAND</b>									
7,680.0	0.00	0.00	7,580.5	200.4	827.0	850.9	0.00	0.00	0.00
7,720.0	0.00	0.00	7,620.5	200.4	827.0	850.9	0.00	0.00	0.00
7,760.0	0.00	0.00	7,660.5	200.4	827.0	850.9	0.00	0.00	0.00
7,800.0	0.00	0.00	7,700.5	200.4	827.0	850.9	0.00	0.00	0.00
7,840.0	0.00	0.00	7,740.5	200.4	827.0	850.9	0.00	0.00	0.00
7,846.5	0.00	0.00	7,747.0	200.4	827.0	850.9	0.00	0.00	0.00
<b>HARD LINES 150'E of BHL</b>									



<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well Dechant D30-33D
<b>Company:</b>	NOBLE ENERGY INC WELD COUNTY CO	<b>TVD Reference:</b>	WELL @ 4812.0ft (Original Well Elev)
<b>Project:</b>	SEC.25-T3N-R65W	<b>MD Reference:</b>	WELL @ 4812.0ft (Original Well Elev)
<b>Site:</b>	Dechant D31-30D Pad Sec.25-T3N-R65W	<b>North Reference:</b>	True
<b>Well:</b>	Dechant D30-33D	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Noble Dechant D30-33D Plan #1 (11-24-10)		

Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
- hit/miss target									
- Shape									
HARD LINES 150'E o	0.00	0.00	7,747.0	100.4	977.0	1,314,138.36	3,250,643.01	40° 11' 32.012 N	104° 36' 10.055 W
- plan misses by 180.3ft at 7846.5ft MD (7747.0 TVD, 200.4 N, 827.0 E)									
- Polygon									
Point 1			7,747.0	0.0	0.0	1,314,138.36	3,250,643.01		
Point 2			7,747.0	200.0	0.0	1,314,338.34	3,250,641.00		
TARGET CIRCLE 132	0.00	0.00	6,762.0	200.4	827.0	1,314,236.82	3,250,491.97	40° 11' 33.000 N	104° 36' 11.988 W
- plan hits target									
- Circle (radius 75.0)									
TARGET BHL 1320'F:	0.00	0.00	5,000.0	200.4	827.0	1,314,236.82	3,250,491.97	40° 11' 33.000 N	104° 36' 11.988 W
- plan hits target									
- Point									

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 (°)
6,861.5	6,762.0	NIOBRARA		0.00	
7,166.5	7,067.0	CODELL		0.00	
7,571.5	7,472.0	D-SAND		0.00	
7,646.5	7,547.0	J-SAND		0.00	