

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	850.0	0.00	0.00	850.0	0.0	0.0	0.00	0.00	0.0	
3	1456.7	12.13	38.83	1452.2	49.9	40.1	2.00	38.83	64.0	
4	4469.6	12.13	38.83	4397.8	543.2	437.2	0.00	0.00	697.3	
5	5076.4	0.00	0.00	5000.0	593.1	477.4	2.00	180.00	761.3	TARGET BHL 150'FSL, 1501'FEL
6	7721.4	0.00	0.00	7645.0	593.1	477.4	0.00	0.00	761.3	



## **Directional**

### **NOBLE ENERGY INC WELD COUNTY CO**

**SEC.30-T3N-R64W**

**Adams D30-27D Pad Sec.30-T3N-R64W**

**Adams D30-27D**

**Wellbore #1**

**Plan: Noble Adams D30-27D Plan #1 (12-01-10)**

### **Standard Planning Report**

**03 December, 2010**



**Database:** Landmark  
**Company:** NOBLE ENERGY INC WELD COUNTY CO  
**Project:** SEC.30-T3N-R64W  
**Site:** Adams D30-27D Pad Sec.30-T3N-R64W  
**Well:** Adams D30-27D  
**Wellbore:** Wellbore #1  
**Design:** Noble Adams D30-27D Plan #1 (12-01-10)

**Local Co-ordinate Reference:** Well Adams D30-27D  
**TVD Reference:** WELL @ 4795.0ft (Original Well Elev)  
**MD Reference:** WELL @ 4795.0ft (Original Well Elev)  
**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature

<b>Project</b>	SEC.30-T3N-R64W		
<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		Adams D30-27D Pad Sec.30-T3N-R64W			
Site Position:		Northing:	1,317,819.17 ft	Latitude:	40° 12' 8.075 N
From:	Lat/Long	Easting:	3,253,729.85 ft	Longitude:	104° 35' 29.792 W
Position Uncertainty:	0.0 ft	Slot Radius:	"	Grid Convergence:	0.59 °

Well	Adams D30-27D					
Well Position	+N/-S	0.0 ft	Northing:	1,317,819.16 ft	Latitude:	40° 12' 8.075 N
	+E/-W	0.0 ft	Easting:	3,253,729.85 ft	Longitude:	104° 35' 29.792 W
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,782.0 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	12/3/2010	8.83	66.94	53,103

<b>Design</b>	Noble Adams D30-27D Plan #1 (12-01-10)				
<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	38.83	

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	
850.0	0.00	0.00	850.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,456.7	12.13	38.83	1,452.2	49.9	40.1	2.00	2.00	0.00	38.83	
4,469.6	12.13	38.83	4,397.8	543.2	437.2	0.00	0.00	0.00	0.00	
5,076.4	0.00	0.00	5,000.0	593.1	477.4	2.00	-2.00	0.00	180.00	TARGET BHL 150'
7,721.4	0.00	0.00	7,645.0	593.1	477.4	0.00	0.00	0.00	0.00	



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**MD Reference:** WELL @ 4795.0ft (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	0.00	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
680.0	0.00	0.00	680.0	0.0	0.0	0.0	0.00	0.00	0.00
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	0.00
8 5/8"									
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
850.0	0.00	0.00	850.0	0.0	0.0	0.0	0.00	0.00	0.00
880.0	0.60	38.83	880.0	0.1	0.1	0.2	2.00	2.00	0.00
920.0	1.40	38.83	920.0	0.7	0.5	0.9	2.00	2.00	0.00
960.0	2.20	38.83	960.0	1.6	1.3	2.1	2.00	2.00	0.00
1,000.0	3.00	38.83	999.9	3.1	2.5	3.9	2.00	2.00	0.00
1,040.0	3.80	38.83	1,039.9	4.9	3.9	6.3	2.00	2.00	0.00
1,080.0	4.60	38.83	1,079.8	7.2	5.8	9.2	2.00	2.00	0.00
1,120.0	5.40	38.83	1,119.6	9.9	8.0	12.7	2.00	2.00	0.00
1,160.0	6.20	38.83	1,159.4	13.1	10.5	16.8	2.00	2.00	0.00
1,200.0	7.00	38.83	1,199.1	16.6	13.4	21.4	2.00	2.00	0.00
1,240.0	7.80	38.83	1,238.8	20.6	16.6	26.5	2.00	2.00	0.00
1,280.0	8.60	38.83	1,278.4	25.1	20.2	32.2	2.00	2.00	0.00
1,320.0	9.40	38.83	1,317.9	30.0	24.1	38.5	2.00	2.00	0.00
1,360.0	10.20	38.83	1,357.3	35.3	28.4	45.3	2.00	2.00	0.00
1,400.0	11.00	38.83	1,396.6	41.0	33.0	52.6	2.00	2.00	0.00
1,440.0	11.80	38.83	1,435.8	47.2	38.0	60.5	2.00	2.00	0.00
1,456.7	12.13	38.83	1,452.2	49.9	40.1	64.0	2.00	2.00	0.00
1,480.0	12.13	38.83	1,475.0	53.7	43.2	68.9	0.00	0.00	0.00
1,520.0	12.13	38.83	1,514.1	60.2	48.5	77.3	0.00	0.00	0.00
1,560.0	12.13	38.83	1,553.2	66.8	53.7	85.7	0.00	0.00	0.00
1,600.0	12.13	38.83	1,592.3	73.3	59.0	94.1	0.00	0.00	0.00
1,640.0	12.13	38.83	1,631.4	79.9	64.3	102.5	0.00	0.00	0.00
1,680.0	12.13	38.83	1,670.5	86.4	69.6	110.9	0.00	0.00	0.00
1,720.0	12.13	38.83	1,709.6	93.0	74.8	119.3	0.00	0.00	0.00
1,760.0	12.13	38.83	1,748.7	99.5	80.1	127.8	0.00	0.00	0.00
1,800.0	12.13	38.83	1,787.8	106.1	85.4	136.2	0.00	0.00	0.00
1,840.0	12.13	38.83	1,826.9	112.6	90.6	144.6	0.00	0.00	0.00
1,880.0	12.13	38.83	1,866.0	119.2	95.9	153.0	0.00	0.00	0.00
1,920.0	12.13	38.83	1,905.1	125.7	101.2	161.4	0.00	0.00	0.00
1,960.0	12.13	38.83	1,944.2	132.3	106.5	169.8	0.00	0.00	0.00

Database: Landmark  
 Company: NOBLE ENERGY INC WELD COUNTY CO  
 Project: SEC.30-T3N-R64W  
 Site: Adams D30-27D Pad Sec.30-T3N-R64W  
 Well: Adams D30-27D  
 Wellbore: Wellbore #1  
 Design: Noble Adams D30-27D Plan #1 (12-01-10)

Local Co-ordinate Reference: Well Adams D30-27D  
 TVD Reference: WELL @ 4795.0ft (Original Well Elev)  
 MD Reference: WELL @ 4795.0ft (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)
2,000.0	12.13	38.83	1,983.3	138.8	111.7	178.2	0.00	0.00	0.00
2,040.0	12.13	38.83	2,022.4	145.4	117.0	186.6	0.00	0.00	0.00
2,080.0	12.13	38.83	2,061.5	151.9	122.3	195.0	0.00	0.00	0.00
2,120.0	12.13	38.83	2,100.7	158.5	127.6	203.4	0.00	0.00	0.00
2,160.0	12.13	38.83	2,139.8	165.0	132.8	211.8	0.00	0.00	0.00
2,200.0	12.13	38.83	2,178.9	171.6	138.1	220.2	0.00	0.00	0.00
2,240.0	12.13	38.83	2,218.0	178.1	143.4	228.7	0.00	0.00	0.00
2,280.0	12.13	38.83	2,257.1	184.7	148.6	237.1	0.00	0.00	0.00
2,320.0	12.13	38.83	2,296.2	191.2	153.9	245.5	0.00	0.00	0.00
2,360.0	12.13	38.83	2,335.3	197.8	159.2	253.9	0.00	0.00	0.00
2,400.0	12.13	38.83	2,374.4	204.3	164.5	262.3	0.00	0.00	0.00
2,440.0	12.13	38.83	2,413.5	210.9	169.7	270.7	0.00	0.00	0.00
2,480.0	12.13	38.83	2,452.6	217.4	175.0	279.1	0.00	0.00	0.00
2,520.0	12.13	38.83	2,491.7	224.0	180.3	287.5	0.00	0.00	0.00
2,560.0	12.13	38.83	2,530.8	230.5	185.5	295.9	0.00	0.00	0.00
2,600.0	12.13	38.83	2,569.9	237.1	190.8	304.3	0.00	0.00	0.00
2,640.0	12.13	38.83	2,609.0	243.6	196.1	312.7	0.00	0.00	0.00
2,680.0	12.13	38.83	2,648.1	250.2	201.4	321.1	0.00	0.00	0.00
2,720.0	12.13	38.83	2,687.2	256.7	206.6	329.6	0.00	0.00	0.00
2,760.0	12.13	38.83	2,726.4	263.3	211.9	338.0	0.00	0.00	0.00
2,800.0	12.13	38.83	2,765.5	269.8	217.2	346.4	0.00	0.00	0.00
2,840.0	12.13	38.83	2,804.6	276.4	222.5	354.8	0.00	0.00	0.00
2,880.0	12.13	38.83	2,843.7	282.9	227.7	363.2	0.00	0.00	0.00
2,920.0	12.13	38.83	2,882.8	289.5	233.0	371.6	0.00	0.00	0.00
2,960.0	12.13	38.83	2,921.9	296.0	238.3	380.0	0.00	0.00	0.00
3,000.0	12.13	38.83	2,961.0	302.6	243.5	388.4	0.00	0.00	0.00
3,040.0	12.13	38.83	3,000.1	309.1	248.8	396.8	0.00	0.00	0.00
3,080.0	12.13	38.83	3,039.2	315.7	254.1	405.2	0.00	0.00	0.00
3,120.0	12.13	38.83	3,078.3	322.2	259.4	413.6	0.00	0.00	0.00
3,160.0	12.13	38.83	3,117.4	328.8	264.6	422.0	0.00	0.00	0.00
3,200.0	12.13	38.83	3,156.5	335.3	269.9	430.5	0.00	0.00	0.00
3,240.0	12.13	38.83	3,195.6	341.9	275.2	438.9	0.00	0.00	0.00
3,280.0	12.13	38.83	3,234.7	348.4	280.4	447.3	0.00	0.00	0.00
3,320.0	12.13	38.83	3,273.8	355.0	285.7	455.7	0.00	0.00	0.00
3,360.0	12.13	38.83	3,313.0	361.5	291.0	464.1	0.00	0.00	0.00
3,400.0	12.13	38.83	3,352.1	368.1	296.3	472.5	0.00	0.00	0.00
3,440.0	12.13	38.83	3,391.2	374.6	301.5	480.9	0.00	0.00	0.00
3,480.0	12.13	38.83	3,430.3	381.2	306.8	489.3	0.00	0.00	0.00
3,520.0	12.13	38.83	3,469.4	387.7	312.1	497.7	0.00	0.00	0.00
3,560.0	12.13	38.83	3,508.5	394.3	317.3	506.1	0.00	0.00	0.00
3,600.0	12.13	38.83	3,547.6	400.8	322.6	514.5	0.00	0.00	0.00
3,640.0	12.13	38.83	3,586.7	407.4	327.9	522.9	0.00	0.00	0.00
3,680.0	12.13	38.83	3,625.8	413.9	333.2	531.4	0.00	0.00	0.00
3,720.0	12.13	38.83	3,664.9	420.5	338.4	539.8	0.00	0.00	0.00
3,760.0	12.13	38.83	3,704.0	427.0	343.7	548.2	0.00	0.00	0.00
3,800.0	12.13	38.83	3,743.1	433.6	349.0	556.6	0.00	0.00	0.00
3,840.0	12.13	38.83	3,782.2	440.1	354.3	565.0	0.00	0.00	0.00
3,880.0	12.13	38.83	3,821.3	446.7	359.5	573.4	0.00	0.00	0.00
3,920.0	12.13	38.83	3,860.4	453.2	364.8	581.8	0.00	0.00	0.00
3,960.0	12.13	38.83	3,899.5	459.8	370.1	590.2	0.00	0.00	0.00
4,000.0	12.13	38.83	3,938.7	466.3	375.3	598.6	0.00	0.00	0.00
4,040.0	12.13	38.83	3,977.8	472.9	380.6	607.0	0.00	0.00	0.00
4,080.0	12.13	38.83	4,016.9	479.4	385.9	615.4	0.00	0.00	0.00
4,120.0	12.13	38.83	4,056.0	486.0	391.2	623.8	0.00	0.00	0.00



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 MD Reference: WELL @ 4795.0ft (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)
4,160.0	12.13	38.83	4,095.1	492.5	396.4	632.2	0.00	0.00	0.00
4,200.0	12.13	38.83	4,134.2	499.1	401.7	640.7	0.00	0.00	0.00
4,240.0	12.13	38.83	4,173.3	505.6	407.0	649.1	0.00	0.00	0.00
4,280.0	12.13	38.83	4,212.4	512.2	412.2	657.5	0.00	0.00	0.00
4,320.0	12.13	38.83	4,251.5	518.7	417.5	665.9	0.00	0.00	0.00
4,360.0	12.13	38.83	4,290.6	525.3	422.8	674.3	0.00	0.00	0.00
4,400.0	12.13	38.83	4,329.7	531.8	428.1	682.7	0.00	0.00	0.00
4,440.0	12.13	38.83	4,368.8	538.4	433.3	691.1	0.00	0.00	0.00
4,469.6	12.13	38.83	4,397.8	543.2	437.2	697.3	0.00	0.00	0.00
4,480.0	11.93	38.83	4,407.9	544.9	438.6	699.5	2.00	-2.00	0.00
4,520.0	11.13	38.83	4,447.1	551.1	443.6	707.5	2.00	-2.00	0.00
4,560.0	10.33	38.83	4,486.4	556.9	448.3	714.9	2.00	-2.00	0.00
4,600.0	9.53	38.83	4,525.8	562.3	452.6	721.8	2.00	-2.00	0.00
4,640.0	8.73	38.83	4,565.3	567.3	456.6	728.2	2.00	-2.00	0.00
4,680.0	7.93	38.83	4,604.9	571.8	460.2	734.0	2.00	-2.00	0.00
4,720.0	7.13	38.83	4,644.6	575.9	463.5	739.2	2.00	-2.00	0.00
4,760.0	6.33	38.83	4,684.3	579.5	466.4	743.9	2.00	-2.00	0.00
4,800.0	5.53	38.83	4,724.1	582.7	469.0	748.0	2.00	-2.00	0.00
4,840.0	4.73	38.83	4,763.9	585.5	471.3	751.6	2.00	-2.00	0.00
4,880.0	3.93	38.83	4,803.8	587.9	473.2	754.6	2.00	-2.00	0.00
4,920.0	3.13	38.83	4,843.7	589.8	474.7	757.1	2.00	-2.00	0.00
4,960.0	2.33	38.83	4,883.7	591.3	475.9	759.0	2.00	-2.00	0.00
5,000.0	1.53	38.83	4,923.6	592.3	476.7	760.3	2.00	-2.00	0.00
5,040.0	0.73	38.83	4,963.6	592.9	477.2	761.1	2.00	-2.00	0.00
5,076.4	0.00	0.00	5,000.0	593.1	477.4	761.3	2.00	-2.00	0.00
TARGET BHL 150°FSL, 1501°FEL									
5,080.0	0.00	0.00	5,003.6	593.1	477.4	761.3	0.00	0.00	0.00
5,120.0	0.00	0.00	5,043.6	593.1	477.4	761.3	0.00	0.00	0.00
5,160.0	0.00	0.00	5,083.6	593.1	477.4	761.3	0.00	0.00	0.00
5,200.0	0.00	0.00	5,123.6	593.1	477.4	761.3	0.00	0.00	0.00
5,240.0	0.00	0.00	5,163.6	593.1	477.4	761.3	0.00	0.00	0.00
5,280.0	0.00	0.00	5,203.6	593.1	477.4	761.3	0.00	0.00	0.00
5,320.0	0.00	0.00	5,243.6	593.1	477.4	761.3	0.00	0.00	0.00
5,360.0	0.00	0.00	5,283.6	593.1	477.4	761.3	0.00	0.00	0.00
5,400.0	0.00	0.00	5,323.6	593.1	477.4	761.3	0.00	0.00	0.00
5,440.0	0.00	0.00	5,363.6	593.1	477.4	761.3	0.00	0.00	0.00
5,480.0	0.00	0.00	5,403.6	593.1	477.4	761.3	0.00	0.00	0.00
5,520.0	0.00	0.00	5,443.6	593.1	477.4	761.3	0.00	0.00	0.00
5,560.0	0.00	0.00	5,483.6	593.1	477.4	761.3	0.00	0.00	0.00
5,600.0	0.00	0.00	5,523.6	593.1	477.4	761.3	0.00	0.00	0.00
5,640.0	0.00	0.00	5,563.6	593.1	477.4	761.3	0.00	0.00	0.00
5,680.0	0.00	0.00	5,603.6	593.1	477.4	761.3	0.00	0.00	0.00
5,720.0	0.00	0.00	5,643.6	593.1	477.4	761.3	0.00	0.00	0.00
5,760.0	0.00	0.00	5,683.6	593.1	477.4	761.3	0.00	0.00	0.00
5,800.0	0.00	0.00	5,723.6	593.1	477.4	761.3	0.00	0.00	0.00
5,840.0	0.00	0.00	5,763.6	593.1	477.4	761.3	0.00	0.00	0.00
5,880.0	0.00	0.00	5,803.6	593.1	477.4	761.3	0.00	0.00	0.00
5,920.0	0.00	0.00	5,843.6	593.1	477.4	761.3	0.00	0.00	0.00
5,960.0	0.00	0.00	5,883.6	593.1	477.4	761.3	0.00	0.00	0.00
6,000.0	0.00	0.00	5,923.6	593.1	477.4	761.3	0.00	0.00	0.00
6,040.0	0.00	0.00	5,963.6	593.1	477.4	761.3	0.00	0.00	0.00
6,080.0	0.00	0.00	6,003.6	593.1	477.4	761.3	0.00	0.00	0.00
6,120.0	0.00	0.00	6,043.6	593.1	477.4	761.3	0.00	0.00	0.00
6,160.0	0.00	0.00	6,083.6	593.1	477.4	761.3	0.00	0.00	0.00

Database: Landmark  
 Company: NOBLE ENERGY INC WELD COUNTY CO  
 Project: SEC.30-T3N-R64W  
 Site: Adams D30-27D Pad Sec.30-T3N-R64W  
 Well: Adams D30-27D  
 Wellbore: Wellbore #1  
 Design: Noble Adams D30-27D Plan #1 (12-01-10)

Local Co-ordinate Reference: Well Adams D30-27D  
 TVD Reference: WELL @ 4795.0ft (Original Well Elev)  
 MD Reference: WELL @ 4795.0ft (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)
6,200.0	0.00	0.00	6,123.6	593.1	477.4	761.3	0.00	0.00	0.00
6,240.0	0.00	0.00	6,163.6	593.1	477.4	761.3	0.00	0.00	0.00
6,280.0	0.00	0.00	6,203.6	593.1	477.4	761.3	0.00	0.00	0.00
6,320.0	0.00	0.00	6,243.6	593.1	477.4	761.3	0.00	0.00	0.00
6,360.0	0.00	0.00	6,283.6	593.1	477.4	761.3	0.00	0.00	0.00
6,400.0	0.00	0.00	6,323.6	593.1	477.4	761.3	0.00	0.00	0.00
6,440.0	0.00	0.00	6,363.6	593.1	477.4	761.3	0.00	0.00	0.00
6,480.0	0.00	0.00	6,403.6	593.1	477.4	761.3	0.00	0.00	0.00
6,520.0	0.00	0.00	6,443.6	593.1	477.4	761.3	0.00	0.00	0.00
6,560.0	0.00	0.00	6,483.6	593.1	477.4	761.3	0.00	0.00	0.00
6,600.0	0.00	0.00	6,523.6	593.1	477.4	761.3	0.00	0.00	0.00
6,640.0	0.00	0.00	6,563.6	593.1	477.4	761.3	0.00	0.00	0.00
6,680.0	0.00	0.00	6,603.6	593.1	477.4	761.3	0.00	0.00	0.00
6,720.0	0.00	0.00	6,643.6	593.1	477.4	761.3	0.00	0.00	0.00
6,760.0	0.00	0.00	6,683.6	593.1	477.4	761.3	0.00	0.00	0.00
6,800.0	0.00	0.00	6,723.6	593.1	477.4	761.3	0.00	0.00	0.00
6,811.4	0.00	0.00	6,735.0	593.1	477.4	761.3	0.00	0.00	0.00
NIOBRARA - TARGET CIRCLE 150'FSL & 1501'FEL									
6,840.0	0.00	0.00	6,763.6	593.1	477.4	761.3	0.00	0.00	0.00
6,880.0	0.00	0.00	6,803.6	593.1	477.4	761.3	0.00	0.00	0.00
6,920.0	0.00	0.00	6,843.6	593.1	477.4	761.3	0.00	0.00	0.00
6,960.0	0.00	0.00	6,883.6	593.1	477.4	761.3	0.00	0.00	0.00
7,000.0	0.00	0.00	6,923.6	593.1	477.4	761.3	0.00	0.00	0.00
7,040.0	0.00	0.00	6,963.6	593.1	477.4	761.3	0.00	0.00	0.00
7,080.0	0.00	0.00	7,003.6	593.1	477.4	761.3	0.00	0.00	0.00
7,111.4	0.00	0.00	7,035.0	593.1	477.4	761.3	0.00	0.00	0.00
CODELL									
7,120.0	0.00	0.00	7,043.6	593.1	477.4	761.3	0.00	0.00	0.00
7,160.0	0.00	0.00	7,083.6	593.1	477.4	761.3	0.00	0.00	0.00
7,200.0	0.00	0.00	7,123.6	593.1	477.4	761.3	0.00	0.00	0.00
7,240.0	0.00	0.00	7,163.6	593.1	477.4	761.3	0.00	0.00	0.00
7,280.0	0.00	0.00	7,203.6	593.1	477.4	761.3	0.00	0.00	0.00
7,320.0	0.00	0.00	7,243.6	593.1	477.4	761.3	0.00	0.00	0.00
7,360.0	0.00	0.00	7,283.6	593.1	477.4	761.3	0.00	0.00	0.00
7,400.0	0.00	0.00	7,323.6	593.1	477.4	761.3	0.00	0.00	0.00
7,440.0	0.00	0.00	7,363.6	593.1	477.4	761.3	0.00	0.00	0.00
7,480.0	0.00	0.00	7,403.6	593.1	477.4	761.3	0.00	0.00	0.00
7,516.4	0.00	0.00	7,440.0	593.1	477.4	761.3	0.00	0.00	0.00
D-SAND									
7,520.0	0.00	0.00	7,443.6	593.1	477.4	761.3	0.00	0.00	0.00
7,560.0	0.00	0.00	7,483.6	593.1	477.4	761.3	0.00	0.00	0.00
7,571.4	0.00	0.00	7,495.0	593.1	477.4	761.3	0.00	0.00	0.00
J-SAND									
7,600.0	0.00	0.00	7,523.6	593.1	477.4	761.3	0.00	0.00	0.00
7,640.0	0.00	0.00	7,563.6	593.1	477.4	761.3	0.00	0.00	0.00
7,680.0	0.00	0.00	7,603.6	593.1	477.4	761.3	0.00	0.00	0.00
7,720.0	0.00	0.00	7,643.6	593.1	477.4	761.3	0.00	0.00	0.00
7,721.4	0.00	0.00	7,645.0	593.1	477.4	761.3	0.00	0.00	0.00
HARD LINES 150'S of BHL									



**Database:** Landmark  
**Company:** NOBLE ENERGY INC WELD COUNTY CO  
**Project:** SEC.30-T3N-R64W  
**Site:** Adams D30-27D Pad Sec.30-T3N-R64W  
**Well:** Adams D30-27D  
**Wellbore:** Wellbore #1  
**Design:** Noble Adams D30-27D Plan #1 (12-01-10)

**Local Co-ordinate Reference:** Well Adams D30-27D  
**TVD Reference:** WELL @ 4795.0ft (Original Well Elev)  
**MD Reference:** WELL @ 4795.0ft (Original Well Elev)  
**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature

**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
TARGET BHL 150'FS - plan hits target - Point	0.00	0.00	5,000.0	593.1	477.4	1,318,417.09	3,254,201.11	40° 12' 13.936 N	104° 35' 23.640 W
TARGET CIRCLE 150' - plan hits target - Circle (radius 75.0)	0.00	0.00	6,735.0	593.1	477.4	1,318,417.09	3,254,201.11	40° 12' 13.936 N	104° 35' 23.640 W
HARD LINES 150'S o - plan misses by 180.3ft at 7721.4ft MD (7645.0 TVD, 593.1 N, 477.4 E) - Polygon Point 1 Point 2	0.00	0.00	7,645.0	443.1	577.4	1,318,268.14	3,254,302.66	40° 12' 12.453 N	104° 35' 22.351 W
			7,645.0	0.0	0.0	1,318,268.14	3,254,302.66		
			7,645.0	0.0	-200.0	1,318,266.09	3,254,102.68		

**Casing Points**

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")
700.0	700.0	8 5/8"	8-5/8	12-1/4

**Formations**

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
6,811.4	6,735.0	NIOBRARA		0.00	
7,111.4	7,035.0	CODELL		0.00	
7,516.4	7,440.0	D-SAND		0.00	
7,571.4	7,495.0	J-SAND		0.00	