

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	400.0	0.00	0.00	400.0	0.0	0.0	0.00	0.00	0.0	
3	1696.7	25.93	66.22	1652.8	116.3	264.0	2.00	66.22	288.5	
4	5026.3	25.93	66.22	4647.2	703.5	1596.4	0.00	0.00	1744.6	
5	6322.9	0.00	0.00	5900.0	819.8	1860.4	2.00	180.00	2033.0	Target BHL1320'FNL & 1320'FEL
6	7396.9	0.00	0.00	6974.0	819.8	1860.4	0.00	0.00	2033.0	



**Directional**

**NOBLE ENERGY INC WELD  
COUNTY CO**

**SEC.8-T6N-R63W**

**NCLP PC AA08-17D Pad Sec.8-T6N-R63W**

**NCLP PC AA08-17D**

**Wellbore #1**

**Plan: Noble NCLP PC AA08-17D Plan #1 (8-05-10)**

**Standard Planning Report**

**12 August, 2010**

**Database:** Landmark  
**Company:** NOBLE ENERGY INC WELD COUNTY CO  
**Project:** SEC.8-T6N-R63W  
**Site:** NCLP PC AA08-17D Pad Sec.8-T6N-R63W  
**Well:** NCLP PC AA08-17D  
**Wellbore:** Wellbore #1  
**Design:** Noble NCLP PC AA08-17D Plan #1 (8-05-10)

**Local Co-ordinate Reference:** Well NCLP PC AA08-17D  
**TVD Reference:** WELL @ 4724.0ft (Original Well Elev)  
**MD Reference:** WELL @ 4724.0ft (Original Well Elev)  
**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature

<b>Project</b>	SEC.8-T6N-R63W, 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	NCLP PC AA08-17D Pad Sec.8-T6N-R63W				
Site Position:		Northing:	1,427,614.45 ft	Latitude:	40° 30' 9.252 N
From:	Lat/Long	Easting:	3,288,499.60 ft	Longitude:	104° 27' 45.144 W
Position Uncertainty:	0.0 ft	Slot Radius:	"	Grid Convergence:	0.67 °

Well	NCLP PC AA08-17D					
Well Position	+N/-S	0.0 ft	Northing:	1,427,614.42 ft	Latitude:	40° 30' 9.252 N
	+E/-W	0.0 ft	Easting:	3,288,499.60 ft	Longitude:	104° 27' 45.144 W
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,711.0 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	8/10/2010	8.82	67.21	53,308

**Design** Noble NCLP PC AA08-17D Plan #1 (8-05-10)

**Audit Notes:**

<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	66.22

**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	
400.0	0.00	0.00	400.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,696.7	25.93	66.22	1,652.8	116.3	264.0	2.00	2.00	0.00	66.22	
5,026.3	25.93	66.22	4,647.2	703.5	1,596.4	0.00	0.00	0.00	0.00	
6,322.9	0.00	0.00	5,900.0	819.8	1,860.4	2.00	-2.00	0.00	180.00	Target BHL1320'FN
7,396.9	0.00	0.00	6,974.0	819.8	1,860.4	0.00	0.00	0.00	0.00	



Database: Landmark  
Company: NOBLE ENERGY INC WELD COUNTY CO  
Project: SEC.8-T6N-R63W  
Site: NCLP PC AA08-17D Pad Sec.8-T6N-R63W  
Well: NCLP PC AA08-17D  
Wellbore: Wellbore #1  
Design: Noble NCLP PC AA08-17D Plan #1 (8-05-10)

Local Co-ordinate Reference: Well NCLP PC AA08-17D  
TVD Reference: WELL @ 4724.0ft (Original Well Elev)  
MD Reference: WELL @ 4724.0ft (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	0.80	66.22	440.0	0.1	0.3	0.3	2.00	2.00	0.00
480.0	1.60	66.22	480.0	0.5	1.0	1.1	2.00	2.00	0.00
500.0	2.00	66.22	500.0	0.7	1.6	1.7	2.00	2.00	0.00
8 5/8"									
520.0	2.40	66.22	520.0	1.0	2.3	2.5	2.00	2.00	0.00
560.0	3.20	66.22	559.9	1.8	4.1	4.5	2.00	2.00	0.00
600.0	4.00	66.22	599.8	2.8	6.4	7.0	2.00	2.00	0.00
640.0	4.80	66.22	639.7	4.1	9.2	10.0	2.00	2.00	0.00
680.0	5.60	66.22	679.6	5.5	12.5	13.7	2.00	2.00	0.00
720.0	6.40	66.22	719.3	7.2	16.3	17.9	2.00	2.00	0.00
760.0	7.20	66.22	759.1	9.1	20.7	22.6	2.00	2.00	0.00
800.0	8.00	66.22	798.7	11.2	25.5	27.9	2.00	2.00	0.00
840.0	8.80	66.22	838.3	13.6	30.9	33.7	2.00	2.00	0.00
880.0	9.60	66.22	877.8	16.2	36.7	40.1	2.00	2.00	0.00
920.0	10.40	66.22	917.1	19.0	43.1	47.1	2.00	2.00	0.00
960.0	11.20	66.22	956.4	22.0	49.9	54.6	2.00	2.00	0.00
1,000.0	12.00	66.22	995.6	25.2	57.3	62.6	2.00	2.00	0.00
1,040.0	12.80	66.22	1,034.7	28.7	65.1	71.2	2.00	2.00	0.00
1,080.0	13.60	66.22	1,073.6	32.4	73.5	80.3	2.00	2.00	0.00
1,120.0	14.40	66.22	1,112.4	36.3	82.4	90.0	2.00	2.00	0.00
1,160.0	15.20	66.22	1,151.1	40.4	91.7	100.2	2.00	2.00	0.00
1,200.0	16.00	66.22	1,189.6	44.8	101.6	111.0	2.00	2.00	0.00
1,240.0	16.80	66.22	1,228.0	49.3	111.9	122.3	2.00	2.00	0.00
1,280.0	17.60	66.22	1,266.2	54.1	122.7	134.1	2.00	2.00	0.00
1,320.0	18.40	66.22	1,304.3	59.1	134.0	146.5	2.00	2.00	0.00
1,360.0	19.20	66.22	1,342.1	64.3	145.8	159.3	2.00	2.00	0.00
1,400.0	20.00	66.22	1,379.8	69.7	158.1	172.8	2.00	2.00	0.00
1,440.0	20.80	66.22	1,417.3	75.3	170.9	186.7	2.00	2.00	0.00
1,480.0	21.60	66.22	1,454.6	81.1	184.1	201.2	2.00	2.00	0.00
1,520.0	22.40	66.22	1,491.7	87.2	197.8	216.2	2.00	2.00	0.00
1,560.0	23.20	66.22	1,528.6	93.4	212.0	231.7	2.00	2.00	0.00
1,600.0	24.00	66.22	1,565.2	99.9	226.6	247.7	2.00	2.00	0.00
1,640.0	24.80	66.22	1,601.6	106.5	241.8	264.2	2.00	2.00	0.00
1,680.0	25.60	66.22	1,637.8	113.4	257.4	281.2	2.00	2.00	0.00
1,696.7	25.93	66.22	1,652.8	116.3	264.0	288.5	2.00	2.00	0.00
1,720.0	25.93	66.22	1,673.8	120.4	273.3	298.7	0.00	0.00	0.00
1,760.0	25.93	66.22	1,709.8	127.5	289.3	316.2	0.00	0.00	0.00
1,800.0	25.93	66.22	1,745.8	134.5	305.3	333.7	0.00	0.00	0.00
1,840.0	25.93	66.22	1,781.7	141.6	321.3	351.2	0.00	0.00	0.00
1,880.0	25.93	66.22	1,817.7	148.7	337.3	368.6	0.00	0.00	0.00
1,920.0	25.93	66.22	1,853.7	155.7	353.4	386.1	0.00	0.00	0.00
1,960.0	25.93	66.22	1,889.7	162.8	369.4	403.6	0.00	0.00	0.00
2,000.0	25.93	66.22	1,925.6	169.8	385.4	421.1	0.00	0.00	0.00



Database: Landmark  
Company: NOBLE ENERGY INC WELD COUNTY CO  
Project: SEC.8-T6N-R63W  
Site: NCLP PC AA08-17D Pad Sec.8-T6N-R63W  
Well: NCLP PC AA08-17D  
Wellbore: Wellbore #1  
Design: Noble NCLP PC AA08-17D Plan #1 (8-05-10)

Local Co-ordinate Reference: Well NCLP PC AA08-17D  
TVD Reference: WELL @ 4724.0ft (Original Well Elev)  
MD Reference: WELL @ 4724.0ft (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)
2,040.0	25.93	66.22	1,961.6	176.9	401.4	438.6	0.00	0.00	0.00
2,080.0	25.93	66.22	1,997.6	183.9	417.4	456.1	0.00	0.00	0.00
2,120.0	25.93	66.22	2,033.6	191.0	433.4	473.6	0.00	0.00	0.00
2,160.0	25.93	66.22	2,069.5	198.0	449.4	491.1	0.00	0.00	0.00
2,200.0	25.93	66.22	2,105.5	205.1	465.4	508.6	0.00	0.00	0.00
2,240.0	25.93	66.22	2,141.5	212.1	481.4	526.1	0.00	0.00	0.00
2,280.0	25.93	66.22	2,177.4	219.2	497.4	543.6	0.00	0.00	0.00
2,320.0	25.93	66.22	2,213.4	226.2	513.4	561.1	0.00	0.00	0.00
2,360.0	25.93	66.22	2,249.4	233.3	529.4	578.6	0.00	0.00	0.00
2,400.0	25.93	66.22	2,285.4	240.4	545.4	596.1	0.00	0.00	0.00
2,440.0	25.93	66.22	2,321.3	247.4	561.5	613.5	0.00	0.00	0.00
2,480.0	25.93	66.22	2,357.3	254.5	577.5	631.0	0.00	0.00	0.00
2,520.0	25.93	66.22	2,393.3	261.5	593.5	648.5	0.00	0.00	0.00
2,560.0	25.93	66.22	2,429.2	268.6	609.5	666.0	0.00	0.00	0.00
2,600.0	25.93	66.22	2,465.2	275.6	625.5	683.5	0.00	0.00	0.00
2,640.0	25.93	66.22	2,501.2	282.7	641.5	701.0	0.00	0.00	0.00
2,680.0	25.93	66.22	2,537.2	289.7	657.5	718.5	0.00	0.00	0.00
2,720.0	25.93	66.22	2,573.1	296.8	673.5	736.0	0.00	0.00	0.00
2,760.0	25.93	66.22	2,609.1	303.8	689.5	753.5	0.00	0.00	0.00
2,800.0	25.93	66.22	2,645.1	310.9	705.5	771.0	0.00	0.00	0.00
2,840.0	25.93	66.22	2,681.1	318.0	721.5	788.5	0.00	0.00	0.00
2,880.0	25.93	66.22	2,717.0	325.0	737.5	806.0	0.00	0.00	0.00
2,920.0	25.93	66.22	2,753.0	332.1	753.5	823.5	0.00	0.00	0.00
2,960.0	25.93	66.22	2,789.0	339.1	769.5	841.0	0.00	0.00	0.00
3,000.0	25.93	66.22	2,824.9	346.2	785.6	858.4	0.00	0.00	0.00
3,040.0	25.93	66.22	2,860.9	353.2	801.6	875.9	0.00	0.00	0.00
3,080.0	25.93	66.22	2,896.9	360.3	817.6	893.4	0.00	0.00	0.00
3,120.0	25.93	66.22	2,932.9	367.3	833.6	910.9	0.00	0.00	0.00
3,160.0	25.93	66.22	2,968.8	374.4	849.6	928.4	0.00	0.00	0.00
3,200.0	25.93	66.22	3,004.8	381.4	865.6	945.9	0.00	0.00	0.00
3,240.0	25.93	66.22	3,040.8	388.5	881.6	963.4	0.00	0.00	0.00
3,280.0	25.93	66.22	3,076.7	395.5	897.6	980.9	0.00	0.00	0.00
3,320.0	25.93	66.22	3,112.7	402.6	913.6	998.4	0.00	0.00	0.00
3,360.0	25.93	66.22	3,148.7	409.7	929.6	1,015.9	0.00	0.00	0.00
3,400.0	25.93	66.22	3,184.7	416.7	945.6	1,033.4	0.00	0.00	0.00
3,440.0	25.93	66.22	3,220.6	423.8	961.6	1,050.9	0.00	0.00	0.00
3,480.0	25.93	66.22	3,256.6	430.8	977.6	1,068.4	0.00	0.00	0.00
3,520.0	25.93	66.22	3,292.6	437.9	993.7	1,085.9	0.00	0.00	0.00
3,560.0	25.93	66.22	3,328.6	444.9	1,009.7	1,103.3	0.00	0.00	0.00
3,600.0	25.93	66.22	3,364.5	452.0	1,025.7	1,120.8	0.00	0.00	0.00
3,640.0	25.93	66.22	3,400.5	459.0	1,041.7	1,138.3	0.00	0.00	0.00
3,680.0	25.93	66.22	3,436.5	466.1	1,057.7	1,155.8	0.00	0.00	0.00
3,720.0	25.93	66.22	3,472.4	473.1	1,073.7	1,173.3	0.00	0.00	0.00
3,760.0	25.93	66.22	3,508.4	480.2	1,089.7	1,190.8	0.00	0.00	0.00
3,800.0	25.93	66.22	3,544.4	487.2	1,105.7	1,208.3	0.00	0.00	0.00
3,840.0	25.93	66.22	3,580.4	494.3	1,121.7	1,225.8	0.00	0.00	0.00
3,880.0	25.93	66.22	3,616.3	501.4	1,137.7	1,243.3	0.00	0.00	0.00
3,920.0	25.93	66.22	3,652.3	508.4	1,153.7	1,260.8	0.00	0.00	0.00
3,960.0	25.93	66.22	3,688.3	515.5	1,169.7	1,278.3	0.00	0.00	0.00
4,000.0	25.93	66.22	3,724.2	522.5	1,185.7	1,295.8	0.00	0.00	0.00
4,040.0	25.93	66.22	3,760.2	529.6	1,201.8	1,313.3	0.00	0.00	0.00
4,080.0	25.93	66.22	3,796.2	536.6	1,217.8	1,330.8	0.00	0.00	0.00
4,120.0	25.93	66.22	3,832.2	543.7	1,233.8	1,348.2	0.00	0.00	0.00
4,160.0	25.93	66.22	3,868.1	550.7	1,249.8	1,365.7	0.00	0.00	0.00

Database: Landmark  
Company: NOBLE ENERGY INC WELD COUNTY CO  
Project: SEC.8-T6N-R63W  
Site: NCLP PC AA08-17D Pad Sec.8-T6N-R63W  
Well: NCLP PC AA08-17D  
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Local Co-ordinate Reference: Well NCLP PC AA08-17D  
TVD Reference: WELL @ 4724.0ft (Original Well Elev)  
MD Reference: WELL @ 4724.0ft (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)
4,200.0	25.93	66.22	3,904.1	557.8	1,265.8	1,383.2	0.00	0.00	0.00
4,240.0	25.93	66.22	3,940.1	564.8	1,281.8	1,400.7	0.00	0.00	0.00
4,280.0	25.93	66.22	3,976.1	571.9	1,297.8	1,418.2	0.00	0.00	0.00
4,320.0	25.93	66.22	4,012.0	578.9	1,313.8	1,435.7	0.00	0.00	0.00
4,360.0	25.93	66.22	4,048.0	586.0	1,329.8	1,453.2	0.00	0.00	0.00
4,400.0	25.93	66.22	4,084.0	593.1	1,345.8	1,470.7	0.00	0.00	0.00
4,440.0	25.93	66.22	4,119.9	600.1	1,361.8	1,488.2	0.00	0.00	0.00
4,480.0	25.93	66.22	4,155.9	607.2	1,377.8	1,505.7	0.00	0.00	0.00
4,520.0	25.93	66.22	4,191.9	614.2	1,393.8	1,523.2	0.00	0.00	0.00
4,560.0	25.93	66.22	4,227.9	621.3	1,409.9	1,540.7	0.00	0.00	0.00
4,600.0	25.93	66.22	4,263.8	628.3	1,425.9	1,558.2	0.00	0.00	0.00
4,640.0	25.93	66.22	4,299.8	635.4	1,441.9	1,575.7	0.00	0.00	0.00
4,680.0	25.93	66.22	4,335.8	642.4	1,457.9	1,593.1	0.00	0.00	0.00
4,720.0	25.93	66.22	4,371.7	649.5	1,473.9	1,610.6	0.00	0.00	0.00
4,760.0	25.93	66.22	4,407.7	656.5	1,489.9	1,628.1	0.00	0.00	0.00
4,800.0	25.93	66.22	4,443.7	663.6	1,505.9	1,645.6	0.00	0.00	0.00
4,840.0	25.93	66.22	4,479.7	670.6	1,521.9	1,663.1	0.00	0.00	0.00
4,880.0	25.93	66.22	4,515.6	677.7	1,537.9	1,680.6	0.00	0.00	0.00
4,920.0	25.93	66.22	4,551.6	684.8	1,553.9	1,698.1	0.00	0.00	0.00
4,960.0	25.93	66.22	4,587.6	691.8	1,569.9	1,715.6	0.00	0.00	0.00
5,000.0	25.93	66.22	4,623.6	698.9	1,585.9	1,733.1	0.00	0.00	0.00
5,026.3	25.93	66.22	4,647.2	703.5	1,596.4	1,744.6	0.00	0.00	0.00
5,040.0	25.66	66.22	4,659.5	705.9	1,601.9	1,750.6	2.00	-2.00	0.00
5,080.0	24.86	66.22	4,695.7	712.8	1,617.5	1,767.6	2.00	-2.00	0.00
5,120.0	24.06	66.22	4,732.1	719.5	1,632.7	1,784.2	2.00	-2.00	0.00
5,160.0	23.26	66.22	4,768.8	725.9	1,647.4	1,800.2	2.00	-2.00	0.00
5,200.0	22.46	66.22	4,805.6	732.2	1,661.6	1,815.8	2.00	-2.00	0.00
5,240.0	21.66	66.22	4,842.7	738.3	1,675.3	1,830.8	2.00	-2.00	0.00
5,280.0	20.86	66.22	4,880.0	744.1	1,688.6	1,845.3	2.00	-2.00	0.00
5,320.0	20.06	66.22	4,917.4	749.7	1,701.4	1,859.3	2.00	-2.00	0.00
5,360.0	19.26	66.22	4,955.1	755.2	1,713.7	1,872.7	2.00	-2.00	0.00
5,400.0	18.46	66.22	4,993.0	760.4	1,725.6	1,885.7	2.00	-2.00	0.00
5,440.0	17.66	66.22	5,031.0	765.4	1,736.9	1,898.1	2.00	-2.00	0.00
5,480.0	16.86	66.22	5,069.2	770.2	1,747.8	1,909.9	2.00	-2.00	0.00
5,520.0	16.06	66.22	5,107.6	774.7	1,758.1	1,921.3	2.00	-2.00	0.00
5,560.0	15.26	66.22	5,146.1	779.1	1,768.0	1,932.1	2.00	-2.00	0.00
5,600.0	14.46	66.22	5,184.7	783.2	1,777.4	1,942.3	2.00	-2.00	0.00
5,640.0	13.66	66.22	5,223.5	787.1	1,786.3	1,952.0	2.00	-2.00	0.00
5,680.0	12.86	66.22	5,262.5	790.8	1,794.7	1,961.2	2.00	-2.00	0.00
5,720.0	12.06	66.22	5,301.5	794.3	1,802.6	1,969.8	2.00	-2.00	0.00
5,760.0	11.26	66.22	5,340.7	797.6	1,810.0	1,977.9	2.00	-2.00	0.00
5,800.0	10.46	66.22	5,380.0	800.6	1,816.9	1,985.4	2.00	-2.00	0.00
5,840.0	9.66	66.22	5,419.4	803.4	1,823.3	1,992.4	2.00	-2.00	0.00
5,880.0	8.86	66.22	5,458.8	806.0	1,829.2	1,998.9	2.00	-2.00	0.00
5,920.0	8.06	66.22	5,498.4	808.4	1,834.5	2,004.8	2.00	-2.00	0.00
5,960.0	7.26	66.22	5,538.1	810.6	1,839.4	2,010.1	2.00	-2.00	0.00
6,000.0	6.46	66.22	5,577.8	812.5	1,843.8	2,014.9	2.00	-2.00	0.00
6,040.0	5.66	66.22	5,617.5	814.2	1,847.6	2,019.1	2.00	-2.00	0.00
6,080.0	4.86	66.22	5,657.4	815.7	1,851.0	2,022.7	2.00	-2.00	0.00
6,120.0	4.06	66.22	5,697.3	816.9	1,853.8	2,025.9	2.00	-2.00	0.00
6,160.0	3.26	66.22	5,737.2	817.9	1,856.2	2,028.4	2.00	-2.00	0.00
6,200.0	2.46	66.22	5,777.1	818.8	1,858.0	2,030.4	2.00	-2.00	0.00
6,240.0	1.66	66.22	5,817.1	819.3	1,859.3	2,031.8	2.00	-2.00	0.00
6,280.0	0.86	66.22	5,857.1	819.7	1,860.1	2,032.7	2.00	-2.00	0.00



Database: Landmark  
Company: NOBLE ENERGY INC WELD COUNTY CO  
Project: SEC.8-T6N-R63W  
Site: NCLP PC AA08-17D Pad Sec.8-T6N-R63W  
Well: NCLP PC AA08-17D  
Wellbore: Wellbore #1  
Design: Noble NCLP PC AA08-17D Plan #1 (8-05-10)

Local Co-ordinate Reference: Well NCLP PC AA08-17D  
TVD Reference: WELL @ 4724.0ft (Original Well Elev)  
MD Reference: WELL @ 4724.0ft (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)
6,320.0	0.06	66.22	5,897.1	819.8	1,860.4	2,033.0	2.00	-2.00	0.00
6,322.9	0.00	0.00	5,900.0	819.8	1,860.4	2,033.0	2.00	-2.00	-2,271.94
<b>Target BHL1320'FNL &amp; 1320'FEL</b>									
6,360.0	0.00	0.00	5,937.1	819.8	1,860.4	2,033.0	0.00	0.00	0.00
6,400.0	0.00	0.00	5,977.1	819.8	1,860.4	2,033.0	0.00	0.00	0.00
6,440.0	0.00	0.00	6,017.1	819.8	1,860.4	2,033.0	0.00	0.00	0.00
6,480.0	0.00	0.00	6,057.1	819.8	1,860.4	2,033.0	0.00	0.00	0.00
6,520.0	0.00	0.00	6,097.1	819.8	1,860.4	2,033.0	0.00	0.00	0.00
6,560.0	0.00	0.00	6,137.1	819.8	1,860.4	2,033.0	0.00	0.00	0.00
6,600.0	0.00	0.00	6,177.1	819.8	1,860.4	2,033.0	0.00	0.00	0.00
6,640.0	0.00	0.00	6,217.1	819.8	1,860.4	2,033.0	0.00	0.00	0.00
6,680.0	0.00	0.00	6,257.1	819.8	1,860.4	2,033.0	0.00	0.00	0.00
6,720.0	0.00	0.00	6,297.1	819.8	1,860.4	2,033.0	0.00	0.00	0.00
6,760.0	0.00	0.00	6,337.1	819.8	1,860.4	2,033.0	0.00	0.00	0.00
6,800.0	0.00	0.00	6,377.1	819.8	1,860.4	2,033.0	0.00	0.00	0.00
6,840.0	0.00	0.00	6,417.1	819.8	1,860.4	2,033.0	0.00	0.00	0.00
6,880.0	0.00	0.00	6,457.1	819.8	1,860.4	2,033.0	0.00	0.00	0.00
6,920.0	0.00	0.00	6,497.1	819.8	1,860.4	2,033.0	0.00	0.00	0.00
6,941.9	0.00	0.00	6,519.0	819.8	1,860.4	2,033.0	0.00	0.00	0.00
<b>Niobrara - Target Circle 1320'FNL &amp; 1320'FEL</b>									
6,960.0	0.00	0.00	6,537.1	819.8	1,860.4	2,033.0	0.00	0.00	0.00
7,000.0	0.00	0.00	6,577.1	819.8	1,860.4	2,033.0	0.00	0.00	0.00
7,040.0	0.00	0.00	6,617.1	819.8	1,860.4	2,033.0	0.00	0.00	0.00
7,080.0	0.00	0.00	6,657.1	819.8	1,860.4	2,033.0	0.00	0.00	0.00
7,120.0	0.00	0.00	6,697.1	819.8	1,860.4	2,033.0	0.00	0.00	0.00
7,160.0	0.00	0.00	6,737.1	819.8	1,860.4	2,033.0	0.00	0.00	0.00
7,200.0	0.00	0.00	6,777.1	819.8	1,860.4	2,033.0	0.00	0.00	0.00
7,240.0	0.00	0.00	6,817.1	819.8	1,860.4	2,033.0	0.00	0.00	0.00
7,246.9	0.00	0.00	6,824.0	819.8	1,860.4	2,033.0	0.00	0.00	0.00
<b>Codell</b>									
7,280.0	0.00	0.00	6,857.1	819.8	1,860.4	2,033.0	0.00	0.00	0.00
7,320.0	0.00	0.00	6,897.1	819.8	1,860.4	2,033.0	0.00	0.00	0.00
7,360.0	0.00	0.00	6,937.1	819.8	1,860.4	2,033.0	0.00	0.00	0.00
7,396.9	0.00	0.00	6,974.0	819.8	1,860.4	2,033.0	0.00	0.00	0.00
<b>Legal Box 800' X 800' 1321'FNL, 1335'FEL</b>									

## 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									
Target Circle 1320'FN	0.00	0.00	6,519.0	819.8	1,860.4	1,428,455.91	3,290,350.24	40° 30' 17.352 N	104° 27' 21.060 W
- plan hits target									
- Circle (radius 75.0)									
Legal Box 800' X 800'	0.00	0.00	6,974.0	820.8	1,845.4	1,428,456.72	3,290,335.21	40° 30' 17.362 N	104° 27' 21.254 W
- plan misses by 15.1ft at 7396.9ft MD (6974.0 TVD, 819.8 N, 1860.4 E)									
- Rectangle (sides W800.0 H800.0 D0.0)									
Target BHL1320'FNL	0.00	0.00	5,900.0	819.8	1,860.4	1,428,455.91	3,290,350.24	40° 30' 17.352 N	104° 27' 21.060 W
- plan hits target									
- Point									

**Database:** Landmark  
**Company:** NOBLE ENERGY INC WELD COUNTY CO  
**Project:** SEC.8-T6N-R63W  
**Site:** NCLP PC AA08-17D Pad Sec.8-T6N-R63W  
**Well:** NCLP PC AA08-17D  
**Wellbore:** Wellbore #1  
**Design:** Noble NCLP PC AA08-17D Plan #1 (8-05-10)

**Local Co-ordinate Reference:** Well NCLP PC AA08-17D  
**TVD Reference:** WELL @ 4724.0ft (Original Well Elev)  
**MD Reference:** WELL @ 4724.0ft (Original Well Elev)  
**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature

## Casing Points

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")
500.0	500.0	8 5/8"	8-5/8	12-1/4

## Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
6,941.9	6,519.0	Niobrara		0.00	
7,246.9	6,824.0	Codell		0.00	