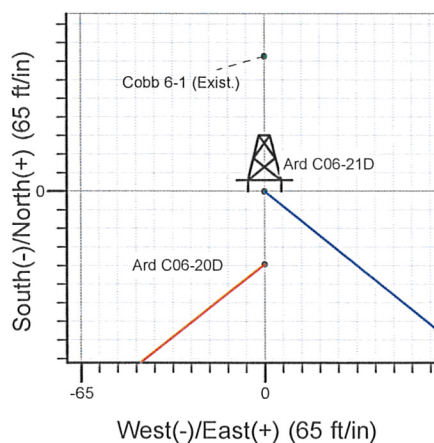
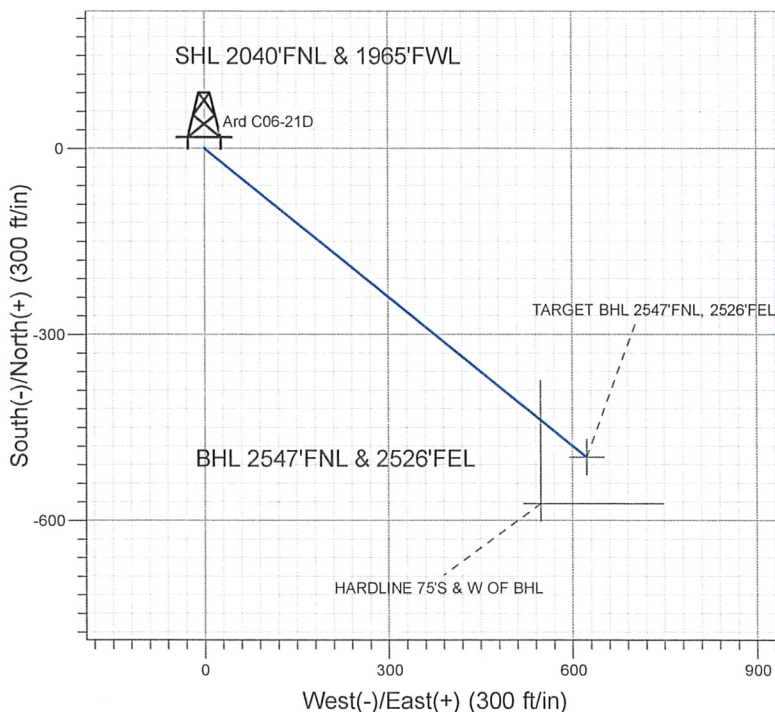
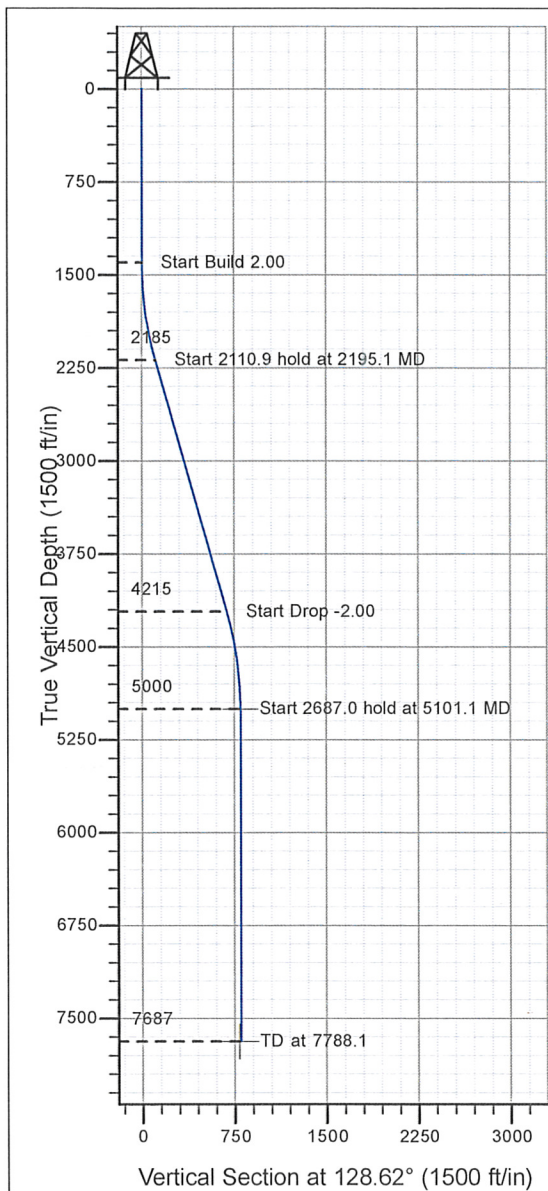


## Well Name: Ard C06-21D

Surface Location: Ard C06-21D Pad Sec.6-T4N-R64W  
North American Datum 1983 , US State Plane 1983 , Colorado Northern Zone  
Ground Elevation: 4814.0  
-S+E/-W Northing Easting Latitude Longitude S  
0.0 1369024.60 3252262.80 40° 20' 34.224 N104° 35' 41.964 W  
Original Well Elev WELL @ 4827.0ft (Original Well Elev)

+N/-S+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1369024.60	3252262.80	40° 20' 34.224 N104° 35' 41.964 W	
		Original Well Elev	WELL @ 4827.0ft	(Original Well Elev)	

**NOBLE ENERGY INC WELD COUNTY CO**



Ard C06-21D Pad Sec.6-T4N-R64W  
Ard C06-21D  
Noble Ard C06-21D Plan #1 (9-21-09)  
11:51, September 22 2009



Azimuths to True North  
Magnetic North: 8.96°

Magnetic Field  
Strength: 53321.0snT  
Dip Angle: 67.10°  
Date: 9/21/2009  
Model: IGRF200510

## WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
TARGET BHL 2547'FNL, 2526'FEL	5000.0	-497.8	623.2	40° 20' 29.305 N	104° 35' 33.915 W	Point
HEADLINE 75'S & W OF BHL	7687.0	-572.8	548.2	40° 20' 28.564 N	104° 35' 34.884 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	1400.0	0.00	0.00	1400.0	0.0	0.0	0.00	0.00	0.0	
3	2195.1	15.90	128.62	2184.9	-68.4	85.7	2.00	128.62	109.6	
4	4306.0	15.90	128.62	4215.1	-429.4	537.6	0.00	0.00	688.0	
5	5101.1	0.00	0.00	5000.0	-497.8	623.2	2.00	180.00	797.6	TARGET BHL 2547'FNL, 2526'FEL
6	7788.1	0.00	0.00	7687.0	-497.8	623.2	0.00	0.00	797.6	



## **Directional**

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

**SEC.6-T4N-R64W**

**Ard C06-21D Pad Sec.6-T4N-R64W**

**Ard C06-21D**

**Wellbore #1**

**Plan: Noble Ard C06-21D Plan #1 (9-21-09)**

### **Standard Planning Report**

**22 September, 2009**



**Database:** EDM den0-adp01 Server Data  
**Company:** NOBLE ENERGY INC WELD COUNTY CO  
**Project:** SEC.6-T4N-R64W  
**Site:** Ard C06-21D Pad Sec.6-T4N-R64W  
**Well:** Ard C06-21D  
**Wellbore:** Wellbore #1  
**Design:** Noble Ard C06-21D Plan #1 (9-21-09)

**Local Co-ordinate Reference:** Well Ard C06-21D  
**TVD Reference:** WELL @ 4827.0ft (Original Well Elev)  
**MD Reference:** WELL @ 4827.0ft (Original Well Elev)  
**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature

<b>Project</b>	SEC.6-T4N-R64W		
<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		Ard C06-21D Pad Sec.6-T4N-R64W			
Site Position:		Northing:	1,369,024.61 ft	Latitude:	40° 20' 34.224 N
From:	Lat/Long	Easting:	3,252,262.80 ft	Longitude:	104° 35' 41.964 W
Position Uncertainty:	0.0 ft	Slot Radius:	"	Grid Convergence:	0.58 °

Well	Ard C06-21D					
Well Position	+N/-S	0.0 ft	Northing:	1,369,024.60 ft	Latitude:	40° 20' 34.224 N
	+E/-W	0.0 ft	Easting:	3,252,262.80 ft	Longitude:	104° 35' 41.964 W
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,814.0 ft

<b>Wellbore</b>	Wellbore #1
-----------------	-------------

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	9/21/2009	8.96	67.10	53,321

<b>Design</b>	Noble Ard C06-21D Plan #1 (9-21-09)
---------------	-------------------------------------

<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)</b>	<b>+N/-S</b>	<b>+E/-W</b>	<b>Direction</b>
	(ft)	(ft)	(ft)	(°)
	0.0	0.0	0.0	128.62

<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	
1,400.0	0.00	0.00	1,400.0	0.0	0.0	0.00	0.00	0.00	0.00	
2,195.1	15.90	128.62	2,184.9	-68.4	85.7	2.00	2.00	0.00	128.62	
4,306.0	15.90	128.62	4,215.1	-429.4	537.6	0.00	0.00	0.00	0.00	
5,101.1	0.00	0.00	5,000.0	-497.8	623.2	2.00	-2.00	0.00	180.00	TARGET BHL 2547
7,788.1	0.00	0.00	7,687.0	-497.8	623.2	0.00	0.00	0.00	0.00	

Database:	EDM den0-adp01 Server Data	Local Co-ordinate Reference:	Well Ard C06-21D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4827.0ft (Original Well Elev)
Project:	SEC.6-T4N-R64W	MD Reference:	WELL @ 4827.0ft (Original Well Elev)
Site:	Ard C06-21D Pad Sec.6-T4N-R64W	North Reference:	True
Well:	Ard C06-21D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Ard C06-21D Plan #1 (9-21-09)		

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
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
960.0	0.00	0.00	960.0	0.0	0.0	0.0	0.00	0.00	0.00
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	0.00
1,040.0	0.00	0.00	1,040.0	0.0	0.0	0.0	0.00	0.00	0.00
1,080.0	0.00	0.00	1,080.0	0.0	0.0	0.0	0.00	0.00	0.00
1,120.0	0.00	0.00	1,120.0	0.0	0.0	0.0	0.00	0.00	0.00
1,160.0	0.00	0.00	1,160.0	0.0	0.0	0.0	0.00	0.00	0.00
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.0	0.00	0.00	0.00
1,240.0	0.00	0.00	1,240.0	0.0	0.0	0.0	0.00	0.00	0.00
1,280.0	0.00	0.00	1,280.0	0.0	0.0	0.0	0.00	0.00	0.00
1,320.0	0.00	0.00	1,320.0	0.0	0.0	0.0	0.00	0.00	0.00
1,360.0	0.00	0.00	1,360.0	0.0	0.0	0.0	0.00	0.00	0.00
1,400.0	0.00	0.00	1,400.0	0.0	0.0	0.0	0.00	0.00	0.00
1,440.0	0.80	128.62	1,440.0	-0.2	0.2	0.3	2.00	2.00	0.00
1,480.0	1.60	128.62	1,480.0	-0.7	0.9	1.1	2.00	2.00	0.00
1,520.0	2.40	128.62	1,520.0	-1.6	2.0	2.5	2.00	2.00	0.00
1,560.0	3.20	128.62	1,559.9	-2.8	3.5	4.5	2.00	2.00	0.00
1,600.0	4.00	128.62	1,599.8	-4.4	5.5	7.0	2.00	2.00	0.00
1,640.0	4.80	128.62	1,639.7	-6.3	7.9	10.0	2.00	2.00	0.00
1,680.0	5.60	128.62	1,679.6	-8.5	10.7	13.7	2.00	2.00	0.00
1,720.0	6.40	128.62	1,719.3	-11.1	13.9	17.9	2.00	2.00	0.00
1,760.0	7.20	128.62	1,759.1	-14.1	17.7	22.6	2.00	2.00	0.00
1,800.0	8.00	128.62	1,798.7	-17.4	21.8	27.9	2.00	2.00	0.00
1,840.0	8.80	128.62	1,838.3	-21.0	26.3	33.7	2.00	2.00	0.00
1,880.0	9.60	128.62	1,877.8	-25.0	31.3	40.1	2.00	2.00	0.00
1,920.0	10.40	128.62	1,917.1	-29.4	36.8	47.1	2.00	2.00	0.00
1,960.0	11.20	128.62	1,956.4	-34.1	42.6	54.6	2.00	2.00	0.00
2,000.0	12.00	128.62	1,995.6	-39.1	48.9	62.6	2.00	2.00	0.00
2,040.0	12.80	128.62	2,034.7	-44.4	55.6	71.2	2.00	2.00	0.00
2,080.0	13.60	128.62	2,073.6	-50.1	62.8	80.3	2.00	2.00	0.00
2,120.0	14.40	128.62	2,112.4	-56.2	70.3	90.0	2.00	2.00	0.00

Database:	EDM den0-adp01 Server Data	Local Co-ordinate Reference:	Well Ard C06-21D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4827.0ft (Original Well Elev)
Project:	SEC.6-T4N-R64W	MD Reference:	WELL @ 4827.0ft (Original Well Elev)
Site:	Ard C06-21D Pad Sec.6-T4N-R64W	North Reference:	True
Well:	Ard C06-21D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Ard C06-21D Plan #1 (9-21-09)		

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)	
2,160.0	15.20	128.62	2,151.1	-62.5	78.3	100.2	2.00	2.00	0.00	
2,195.1	15.90	128.62	2,184.9	-68.4	85.7	109.6	2.00	2.00	0.00	
2,200.0	15.90	128.62	2,189.6	-69.3	86.7	111.0	0.00	0.00	0.00	
2,240.0	15.90	128.62	2,228.1	-76.1	95.3	121.9	0.00	0.00	0.00	
2,280.0	15.90	128.62	2,266.6	-82.9	103.8	132.9	0.00	0.00	0.00	
2,320.0	15.90	128.62	2,305.1	-89.8	112.4	143.9	0.00	0.00	0.00	
2,360.0	15.90	128.62	2,343.5	-96.6	121.0	154.8	0.00	0.00	0.00	
2,400.0	15.90	128.62	2,382.0	-103.5	129.5	165.8	0.00	0.00	0.00	
2,440.0	15.90	128.62	2,420.5	-110.3	138.1	176.7	0.00	0.00	0.00	
2,480.0	15.90	128.62	2,458.9	-117.1	146.7	187.7	0.00	0.00	0.00	
2,520.0	15.90	128.62	2,497.4	-124.0	155.2	198.7	0.00	0.00	0.00	
2,560.0	15.90	128.62	2,535.9	-130.8	163.8	209.6	0.00	0.00	0.00	
2,600.0	15.90	128.62	2,574.3	-137.7	172.3	220.6	0.00	0.00	0.00	
2,640.0	15.90	128.62	2,612.8	-144.5	180.9	231.5	0.00	0.00	0.00	
2,680.0	15.90	128.62	2,651.3	-151.3	189.5	242.5	0.00	0.00	0.00	
2,720.0	15.90	128.62	2,689.7	-158.2	198.0	253.4	0.00	0.00	0.00	
2,760.0	15.90	128.62	2,728.2	-165.0	206.6	264.4	0.00	0.00	0.00	
2,800.0	15.90	128.62	2,766.7	-171.9	215.2	275.4	0.00	0.00	0.00	
2,840.0	15.90	128.62	2,805.2	-178.7	223.7	286.3	0.00	0.00	0.00	
2,880.0	15.90	128.62	2,843.6	-185.5	232.3	297.3	0.00	0.00	0.00	
2,920.0	15.90	128.62	2,882.1	-192.4	240.9	308.2	0.00	0.00	0.00	
2,960.0	15.90	128.62	2,920.6	-199.2	249.4	319.2	0.00	0.00	0.00	
3,000.0	15.90	128.62	2,959.0	-206.1	258.0	330.2	0.00	0.00	0.00	
3,040.0	15.90	128.62	2,997.5	-212.9	266.5	341.1	0.00	0.00	0.00	
3,080.0	15.90	128.62	3,036.0	-219.7	275.1	352.1	0.00	0.00	0.00	
3,120.0	15.90	128.62	3,074.4	-226.6	283.7	363.0	0.00	0.00	0.00	
3,160.0	15.90	128.62	3,112.9	-233.4	292.2	374.0	0.00	0.00	0.00	
3,200.0	15.90	128.62	3,151.4	-240.3	300.8	385.0	0.00	0.00	0.00	
3,240.0	15.90	128.62	3,189.8	-247.1	309.4	395.9	0.00	0.00	0.00	
3,280.0	15.90	128.62	3,228.3	-253.9	317.9	406.9	0.00	0.00	0.00	
3,320.0	15.90	128.62	3,266.8	-260.8	326.5	417.8	0.00	0.00	0.00	
3,360.0	15.90	128.62	3,305.3	-267.6	335.0	428.8	0.00	0.00	0.00	
3,400.0	15.90	128.62	3,343.7	-274.5	343.6	439.8	0.00	0.00	0.00	
3,440.0	15.90	128.62	3,382.2	-281.3	352.2	450.7	0.00	0.00	0.00	
3,480.0	15.90	128.62	3,420.7	-288.1	360.7	461.7	0.00	0.00	0.00	
3,520.0	15.90	128.62	3,459.1	-295.0	369.3	472.6	0.00	0.00	0.00	
3,560.0	15.90	128.62	3,497.6	-301.8	377.9	483.6	0.00	0.00	0.00	
3,600.0	15.90	128.62	3,536.1	-308.7	386.4	494.6	0.00	0.00	0.00	
3,640.0	15.90	128.62	3,574.5	-315.5	395.0	505.5	0.00	0.00	0.00	
3,680.0	15.90	128.62	3,613.0	-322.3	403.6	516.5	0.00	0.00	0.00	
3,720.0	15.90	128.62	3,651.5	-329.2	412.1	527.4	0.00	0.00	0.00	
3,760.0	15.90	128.62	3,689.9	-336.0	420.7	538.4	0.00	0.00	0.00	
3,800.0	15.90	128.62	3,728.4	-342.9	429.2	549.4	0.00	0.00	0.00	
3,840.0	15.90	128.62	3,766.9	-349.7	437.8	560.3	0.00	0.00	0.00	
3,880.0	15.90	128.62	3,805.4	-356.5	446.4	571.3	0.00	0.00	0.00	
3,920.0	15.90	128.62	3,843.8	-363.4	454.9	582.2	0.00	0.00	0.00	
3,960.0	15.90	128.62	3,882.3	-370.2	463.5	593.2	0.00	0.00	0.00	
4,000.0	15.90	128.62	3,920.8	-377.1	472.1	604.2	0.00	0.00	0.00	
4,040.0	15.90	128.62	3,959.2	-383.9	480.6	615.1	0.00	0.00	0.00	
4,080.0	15.90	128.62	3,997.7	-390.7	489.2	626.1	0.00	0.00	0.00	
4,120.0	15.90	128.62	4,036.2	-397.6	497.8	637.0	0.00	0.00	0.00	
4,160.0	15.90	128.62	4,074.6	-404.4	506.3	648.0	0.00	0.00	0.00	
4,200.0	15.90	128.62	4,113.1	-411.3	514.9	659.0	0.00	0.00	0.00	
4,240.0	15.90	128.62	4,151.6	-418.1	523.4	669.9	0.00	0.00	0.00	

Database:	EDM den0-adp01 Server Data	Local Co-ordinate Reference:	Well Ard C06-21D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4827.0ft (Original Well Elev)
Project:	SEC.6-T4N-R64W	MD Reference:	WELL @ 4827.0ft (Original Well Elev)
Site:	Ard C06-21D Pad Sec.6-T4N-R64W	North Reference:	True
Well:	Ard C06-21D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Ard C06-21D Plan #1 (9-21-09)		

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)
4,280.0	15.90	128.62	4,190.0	-424.9	532.0	680.9	0.00	0.00	0.00
4,306.0	15.90	128.62	4,215.1	-429.4	537.6	688.0	0.00	0.00	0.00
4,320.0	15.62	128.62	4,228.5	-431.8	540.5	691.8	2.00	-2.00	0.00
4,360.0	14.82	128.62	4,267.1	-438.3	548.8	702.3	2.00	-2.00	0.00
4,400.0	14.02	128.62	4,305.9	-444.5	556.5	712.3	2.00	-2.00	0.00
4,440.0	13.22	128.62	4,344.7	-450.4	563.9	721.7	2.00	-2.00	0.00
4,480.0	12.42	128.62	4,383.7	-455.9	570.8	730.6	2.00	-2.00	0.00
4,520.0	11.62	128.62	4,422.9	-461.1	577.3	738.9	2.00	-2.00	0.00
4,560.0	10.82	128.62	4,462.1	-466.0	583.4	746.7	2.00	-2.00	0.00
4,600.0	10.02	128.62	4,501.4	-470.5	589.1	753.9	2.00	-2.00	0.00
4,640.0	9.22	128.62	4,540.9	-474.7	594.3	760.6	2.00	-2.00	0.00
4,680.0	8.42	128.62	4,580.4	-478.5	599.1	766.7	2.00	-2.00	0.00
4,720.0	7.62	128.62	4,620.0	-482.0	603.5	772.3	2.00	-2.00	0.00
4,760.0	6.82	128.62	4,659.7	-485.1	607.4	777.4	2.00	-2.00	0.00
4,800.0	6.02	128.62	4,699.4	-487.9	610.9	781.8	2.00	-2.00	0.00
4,840.0	5.22	128.62	4,739.2	-490.4	613.9	785.7	2.00	-2.00	0.00
4,880.0	4.42	128.62	4,779.1	-492.5	616.6	789.1	2.00	-2.00	0.00
4,920.0	3.62	128.62	4,819.0	-494.2	618.8	791.9	2.00	-2.00	0.00
4,960.0	2.82	128.62	4,858.9	-495.6	620.5	794.2	2.00	-2.00	0.00
5,000.0	2.02	128.62	4,898.9	-496.7	621.8	795.9	2.00	-2.00	0.00
5,040.0	1.22	128.62	4,938.9	-497.4	622.7	797.0	2.00	-2.00	0.00
5,080.0	0.42	128.62	4,978.9	-497.8	623.2	797.6	2.00	-2.00	0.00
5,101.1	0.00	0.00	5,000.0	-497.8	623.2	797.6	2.00	-2.00	0.00
TARGET BHL 2547'FNL, 2526'FEL									
5,120.0	0.00	0.00	5,018.9	-497.8	623.2	797.6	0.00	0.00	0.00
5,160.0	0.00	0.00	5,058.9	-497.8	623.2	797.6	0.00	0.00	0.00
5,200.0	0.00	0.00	5,098.9	-497.8	623.2	797.6	0.00	0.00	0.00
5,240.0	0.00	0.00	5,138.9	-497.8	623.2	797.6	0.00	0.00	0.00
5,280.0	0.00	0.00	5,178.9	-497.8	623.2	797.6	0.00	0.00	0.00
5,320.0	0.00	0.00	5,218.9	-497.8	623.2	797.6	0.00	0.00	0.00
5,360.0	0.00	0.00	5,258.9	-497.8	623.2	797.6	0.00	0.00	0.00
5,400.0	0.00	0.00	5,298.9	-497.8	623.2	797.6	0.00	0.00	0.00
5,440.0	0.00	0.00	5,338.9	-497.8	623.2	797.6	0.00	0.00	0.00
5,480.0	0.00	0.00	5,378.9	-497.8	623.2	797.6	0.00	0.00	0.00
5,520.0	0.00	0.00	5,418.9	-497.8	623.2	797.6	0.00	0.00	0.00
5,560.0	0.00	0.00	5,458.9	-497.8	623.2	797.6	0.00	0.00	0.00
5,600.0	0.00	0.00	5,498.9	-497.8	623.2	797.6	0.00	0.00	0.00
5,640.0	0.00	0.00	5,538.9	-497.8	623.2	797.6	0.00	0.00	0.00
5,680.0	0.00	0.00	5,578.9	-497.8	623.2	797.6	0.00	0.00	0.00
5,720.0	0.00	0.00	5,618.9	-497.8	623.2	797.6	0.00	0.00	0.00
5,760.0	0.00	0.00	5,658.9	-497.8	623.2	797.6	0.00	0.00	0.00
5,800.0	0.00	0.00	5,698.9	-497.8	623.2	797.6	0.00	0.00	0.00
5,840.0	0.00	0.00	5,738.9	-497.8	623.2	797.6	0.00	0.00	0.00
5,880.0	0.00	0.00	5,778.9	-497.8	623.2	797.6	0.00	0.00	0.00
5,920.0	0.00	0.00	5,818.9	-497.8	623.2	797.6	0.00	0.00	0.00
5,960.0	0.00	0.00	5,858.9	-497.8	623.2	797.6	0.00	0.00	0.00
6,000.0	0.00	0.00	5,898.9	-497.8	623.2	797.6	0.00	0.00	0.00
6,040.0	0.00	0.00	5,938.9	-497.8	623.2	797.6	0.00	0.00	0.00
6,080.0	0.00	0.00	5,978.9	-497.8	623.2	797.6	0.00	0.00	0.00
6,120.0	0.00	0.00	6,018.9	-497.8	623.2	797.6	0.00	0.00	0.00
6,160.0	0.00	0.00	6,058.9	-497.8	623.2	797.6	0.00	0.00	0.00
6,200.0	0.00	0.00	6,098.9	-497.8	623.2	797.6	0.00	0.00	0.00
6,240.0	0.00	0.00	6,138.9	-497.8	623.2	797.6	0.00	0.00	0.00

Database:	EDM den0-adp01 Server Data	Local Co-ordinate Reference:	Well Ard C06-21D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4827.0ft (Original Well Elev)
Project:	SEC.6-T4N-R64W	MD Reference:	WELL @ 4827.0ft (Original Well Elev)
Site:	Ard C06-21D Pad Sec.6-T4N-R64W	North Reference:	True
Well:	Ard C06-21D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Ard C06-21D Plan #1 (9-21-09)		

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)
6,280.0	0.00	0.00	6,178.9	-497.8	623.2	797.6	0.00	0.00	0.00
6,320.0	0.00	0.00	6,218.9	-497.8	623.2	797.6	0.00	0.00	0.00
6,360.0	0.00	0.00	6,258.9	-497.8	623.2	797.6	0.00	0.00	0.00
6,400.0	0.00	0.00	6,298.9	-497.8	623.2	797.6	0.00	0.00	0.00
6,440.0	0.00	0.00	6,338.9	-497.8	623.2	797.6	0.00	0.00	0.00
6,480.0	0.00	0.00	6,378.9	-497.8	623.2	797.6	0.00	0.00	0.00
6,520.0	0.00	0.00	6,418.9	-497.8	623.2	797.6	0.00	0.00	0.00
6,560.0	0.00	0.00	6,458.9	-497.8	623.2	797.6	0.00	0.00	0.00
6,600.0	0.00	0.00	6,498.9	-497.8	623.2	797.6	0.00	0.00	0.00
6,640.0	0.00	0.00	6,538.9	-497.8	623.2	797.6	0.00	0.00	0.00
6,680.0	0.00	0.00	6,578.9	-497.8	623.2	797.6	0.00	0.00	0.00
6,720.0	0.00	0.00	6,618.9	-497.8	623.2	797.6	0.00	0.00	0.00
6,760.0	0.00	0.00	6,658.9	-497.8	623.2	797.6	0.00	0.00	0.00
6,800.0	0.00	0.00	6,698.9	-497.8	623.2	797.6	0.00	0.00	0.00
6,828.1	0.00	0.00	6,727.0	-497.8	623.2	797.6	0.00	0.00	0.00
NIOBRARA									
6,840.0	0.00	0.00	6,738.9	-497.8	623.2	797.6	0.00	0.00	0.00
6,880.0	0.00	0.00	6,778.9	-497.8	623.2	797.6	0.00	0.00	0.00
6,920.0	0.00	0.00	6,818.9	-497.8	623.2	797.6	0.00	0.00	0.00
6,960.0	0.00	0.00	6,858.9	-497.8	623.2	797.6	0.00	0.00	0.00
7,000.0	0.00	0.00	6,898.9	-497.8	623.2	797.6	0.00	0.00	0.00
7,040.0	0.00	0.00	6,938.9	-497.8	623.2	797.6	0.00	0.00	0.00
7,080.0	0.00	0.00	6,978.9	-497.8	623.2	797.6	0.00	0.00	0.00
7,120.0	0.00	0.00	7,018.9	-497.8	623.2	797.6	0.00	0.00	0.00
7,160.0	0.00	0.00	7,058.9	-497.8	623.2	797.6	0.00	0.00	0.00
7,168.1	0.00	0.00	7,067.0	-497.8	623.2	797.6	0.00	0.00	0.00
CODELL									
7,200.0	0.00	0.00	7,098.9	-497.8	623.2	797.6	0.00	0.00	0.00
7,240.0	0.00	0.00	7,138.9	-497.8	623.2	797.6	0.00	0.00	0.00
7,280.0	0.00	0.00	7,178.9	-497.8	623.2	797.6	0.00	0.00	0.00
7,320.0	0.00	0.00	7,218.9	-497.8	623.2	797.6	0.00	0.00	0.00
7,360.0	0.00	0.00	7,258.9	-497.8	623.2	797.6	0.00	0.00	0.00
7,400.0	0.00	0.00	7,298.9	-497.8	623.2	797.6	0.00	0.00	0.00
7,440.0	0.00	0.00	7,338.9	-497.8	623.2	797.6	0.00	0.00	0.00
7,480.0	0.00	0.00	7,378.9	-497.8	623.2	797.6	0.00	0.00	0.00
7,520.0	0.00	0.00	7,418.9	-497.8	623.2	797.6	0.00	0.00	0.00
7,560.0	0.00	0.00	7,458.9	-497.8	623.2	797.6	0.00	0.00	0.00
7,568.1	0.00	0.00	7,467.0	-497.8	623.2	797.6	0.00	0.00	0.00
D-SAND									
7,600.0	0.00	0.00	7,498.9	-497.8	623.2	797.6	0.00	0.00	0.00
7,638.1	0.00	0.00	7,537.0	-497.8	623.2	797.6	0.00	0.00	0.00
J-SAND									
7,640.0	0.00	0.00	7,538.9	-497.8	623.2	797.6	0.00	0.00	0.00
7,680.0	0.00	0.00	7,578.9	-497.8	623.2	797.6	0.00	0.00	0.00
7,720.0	0.00	0.00	7,618.9	-497.8	623.2	797.6	0.00	0.00	0.00
7,760.0	0.00	0.00	7,658.9	-497.8	623.2	797.6	0.00	0.00	0.00
7,788.1	0.00	0.00	7,687.0	-497.8	623.2	797.6	0.00	0.00	0.00
HARDLINE 75'S & W OF BHL									

Database:	EDM den0-adp01 Server Data	Local Co-ordinate Reference:	Well Ard C06-21D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4827.0ft (Original Well Elev)
Project:	SEC.6-T4N-R64W	MD Reference:	WELL @ 4827.0ft (Original Well Elev)
Site:	Ard C06-21D Pad Sec.6-T4N-R64W	North Reference:	True
Well:	Ard C06-21D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Ard C06-21D Plan #1 (9-21-09)		

Targets									
Target Name	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- hit/miss target	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(ft)		
- Shape									
HARDLINE 75'S & W	0.00	0.00	7,687.0	-572.8	548.2	1,368,457.45	3,252,816.79	40° 20' 28.564 N	104° 35' 34.884 W
- plan misses target center by 106.1ft at 7788.1ft MD (7687.0 TVD, -497.8 N, 623.2 E)									
- Polygon									
Point 1			7,687.0	0.0	0.0	1,368,457.45	3,252,816.79		
Point 2			7,687.0	0.0	200.0	1,368,459.49	3,253,016.77		
Point 3			7,687.0	0.0	0.0	1,368,457.45	3,252,816.79		
Point 4			7,687.0	200.0	0.0	1,368,657.43	3,252,814.75		
TARGET BHL 2547'F	0.00	0.00	5,000.0	-497.8	623.2	1,368,533.20	3,252,891.06	40° 20' 29.305 N	104° 35' 33.915 W
- plan hits target center									
- Point									

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
6,828.1	6,727.0	NIOBRARA		0.00		
7,168.1	7,067.0	CODELL		0.00		
7,568.1	7,467.0	D-SAND		0.00		
7,638.1	7,537.0	J-SAND		0.00		