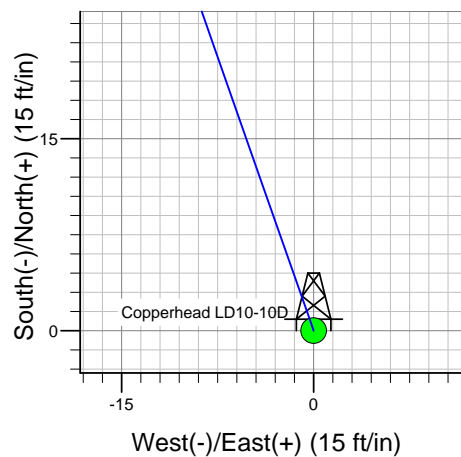
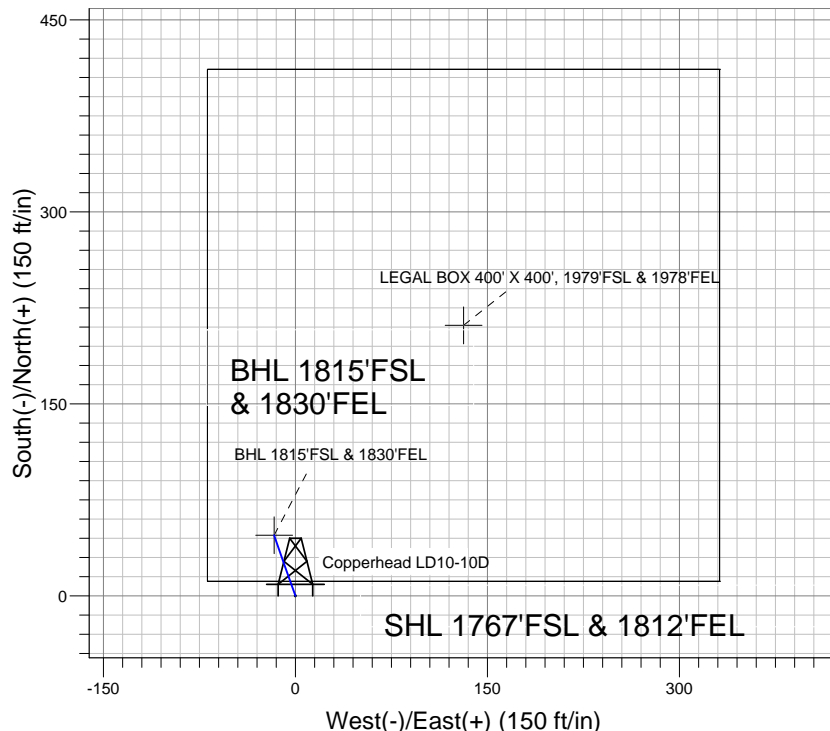
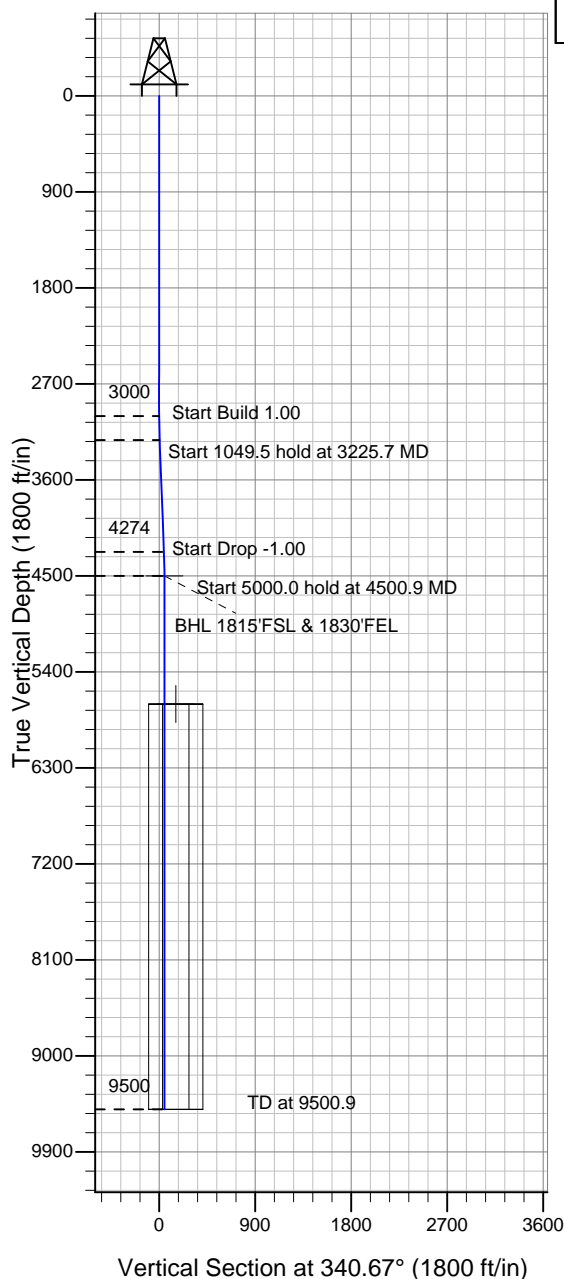


### Well Name: Copperhead LD10-10D

Surface Location: Copperhead LD10-10D Pad Sec.10-T9N-R58W  
 North American Datum 1983 , US State Plane 1983 , Colorado Northern Zone  
 Ground Elevation: 4692.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1525257.76	3457766.09	40.763510	-103.847420	
Original Well Elev WELL @ 4705.0ft (Original Well Elev)						

## NOBLE ENERGY INC WELD COUNTY CO



Copperhead LD10-10D  
 Noble Copperhead LD10-10D Plan #2 (7-25-13)  
 16:58, July 25 2013



Azimuths to True North  
 Magnetic North: 8.10°

Magnetic Field  
 Strength: 53192.6snT  
 Dip Angle: 67.42°  
 Date: 7/25/2013  
 Model: IGRF2010

### WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
BHL 1815'FSL & 1830'FEL	4500.0	47.4	-16.6	40.763640	-103.847480	Point
LEGAL BOX 400' X 400', 1979'FSL & 1978'FEL	5700.0	211.4	131.4	40.764090	-103.846946	Rectangle (Sides: L400.0 W400.0)

### 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	3000.0	0.00	0.00	3000.0	0.0	0.0	0.00	0.00	0.0	
3	3225.7	2.26	340.67	3225.7	4.2	-1.5	1.00	340.67	4.4	
4	4275.2	2.26	340.67	4274.3	43.2	-15.1	0.00	0.00	45.8	
5	4500.9	0.00	0.00	4500.0	47.4	-16.6	1.00	180.00	50.2	BHL 1815'FSL & 1830'FEL
6	9500.9	0.00	0.00	9500.0	47.4	-16.6	0.00	0.00	50.2	



# **NOBLE ENERGY INC WELD COUNTY CO**

**SEC.10-T9N-R58W**

**Copperhead LD10-10D Pad Sec.10-T9N-R58W**

**Copperhead LD10-10D**

**Wellbore #1**

**Plan: Noble Copperhead LD10-10D Plan #2 (7-25-13)**

## **Standard Planning Report**

**25 July, 2013**



<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well Copperhead LD10-10D
<b>Company:</b>	NOBLE ENERGY INC WELD COUNTY CO	<b>TVD Reference:</b>	WELL @ 4705.0ft (Original Well Elev)
<b>Project:</b>	SEC.10-T9N-R58W	<b>MD Reference:</b>	WELL @ 4705.0ft (Original Well Elev)
<b>Site:</b>	Copperhead LD10-10D Pad Sec.10-T9N-R58W	<b>North Reference:</b>	True
<b>Well:</b>	Copperhead LD10-10D	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Noble Copperhead LD10-10D Plan #2 (7-25-13)		

<b>Project</b>	SEC.10-T9N-R58W, Weld County, CO		
<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						Copperhead LD10-10D Pad Sec.10-T9N-R58W											
Site Position:						Northing:			1,525,257.79ft			Latitude:			40.763510		
From:			Lat/Long			Easting:			3,457,766.09ft			Longitude:			-103.847420		
Position Uncertainty:			0.0 ft			Slot Radius:			"			Grid Convergence:			1.07 °		

Well	Copperhead LD10-10D					
Well Position	+N-S	0.0 ft	Northing:	1,525,257.76 ft	Latitude:	40.763510
	+E-W	0.0 ft	Easting:	3,457,766.09 ft	Longitude:	-103.847420
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,692.0 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	7/25/2013	8.10	67.42	53,193

<b>Design</b>	Noble Copperhead LD10-10D Plan #2 (7-25-13)			
<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	340.67

<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	
3,000.0	0.00	0.00	3,000.0	0.0	0.0	0.00	0.00	0.00	0.00	
3,225.7	2.26	340.67	3,225.7	4.2	-1.5	1.00	1.00	0.00	340.67	
4,275.2	2.26	340.67	4,274.3	43.2	-15.1	0.00	0.00	0.00	0.00	
4,500.9	0.00	0.00	4,500.0	47.4	-16.6	1.00	-1.00	0.00	180.00	BHL 1815'FSL & 18
9,500.9	0.00	0.00	9,500.0	47.4	-16.6	0.00	0.00	0.00	0.00	

<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well Copperhead LD10-10D
<b>Company:</b>	NOBLE ENERGY INC WELD COUNTY CO	<b>TVD Reference:</b>	WELL @ 4705.0ft (Original Well Elev)
<b>Project:</b>	SEC.10-T9N-R58W	<b>MD Reference:</b>	WELL @ 4705.0ft (Original Well Elev)
<b>Site:</b>	Copperhead LD10-10D Pad Sec.10-T9N-R58W	<b>North Reference:</b>	True
<b>Well:</b>	Copperhead LD10-10D	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Noble Copperhead LD10-10D Plan #2 (7-25-13)		

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	0.00	0.00	1,440.0	0.0	0.0	0.0	0.00	0.00	0.00
1,480.0	0.00	0.00	1,480.0	0.0	0.0	0.0	0.00	0.00	0.00
1,520.0	0.00	0.00	1,520.0	0.0	0.0	0.0	0.00	0.00	0.00
1,560.0	0.00	0.00	1,560.0	0.0	0.0	0.0	0.00	0.00	0.00
1,600.0	0.00	0.00	1,600.0	0.0	0.0	0.0	0.00	0.00	0.00
1,640.0	0.00	0.00	1,640.0	0.0	0.0	0.0	0.00	0.00	0.00
1,680.0	0.00	0.00	1,680.0	0.0	0.0	0.0	0.00	0.00	0.00
1,720.0	0.00	0.00	1,720.0	0.0	0.0	0.0	0.00	0.00	0.00
1,760.0	0.00	0.00	1,760.0	0.0	0.0	0.0	0.00	0.00	0.00
1,800.0	0.00	0.00	1,800.0	0.0	0.0	0.0	0.00	0.00	0.00
1,840.0	0.00	0.00	1,840.0	0.0	0.0	0.0	0.00	0.00	0.00
1,880.0	0.00	0.00	1,880.0	0.0	0.0	0.0	0.00	0.00	0.00
1,920.0	0.00	0.00	1,920.0	0.0	0.0	0.0	0.00	0.00	0.00
1,960.0	0.00	0.00	1,960.0	0.0	0.0	0.0	0.00	0.00	0.00
2,000.0	0.00	0.00	2,000.0	0.0	0.0	0.0	0.00	0.00	0.00
2,040.0	0.00	0.00	2,040.0	0.0	0.0	0.0	0.00	0.00	0.00
2,080.0	0.00	0.00	2,080.0	0.0	0.0	0.0	0.00	0.00	0.00

<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well Copperhead LD10-10D
<b>Company:</b>	NOBLE ENERGY INC WELD COUNTY CO	<b>TVD Reference:</b>	WELL @ 4705.0ft (Original Well Elev)
<b>Project:</b>	SEC.10-T9N-R58W	<b>MD Reference:</b>	WELL @ 4705.0ft (Original Well Elev)
<b>Site:</b>	Copperhead LD10-10D Pad Sec.10-T9N-R58W	<b>North Reference:</b>	True
<b>Well:</b>	Copperhead LD10-10D	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Noble Copperhead LD10-10D Plan #2 (7-25-13)		

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)	
2,120.0	0.00	0.00	2,120.0	0.0	0.0	0.0	0.00	0.00	0.00	
2,160.0	0.00	0.00	2,160.0	0.0	0.0	0.0	0.00	0.00	0.00	
2,200.0	0.00	0.00	2,200.0	0.0	0.0	0.0	0.00	0.00	0.00	
2,240.0	0.00	0.00	2,240.0	0.0	0.0	0.0	0.00	0.00	0.00	
2,280.0	0.00	0.00	2,280.0	0.0	0.0	0.0	0.00	0.00	0.00	
2,320.0	0.00	0.00	2,320.0	0.0	0.0	0.0	0.00	0.00	0.00	
2,360.0	0.00	0.00	2,360.0	0.0	0.0	0.0	0.00	0.00	0.00	
2,400.0	0.00	0.00	2,400.0	0.0	0.0	0.0	0.00	0.00	0.00	
2,440.0	0.00	0.00	2,440.0	0.0	0.0	0.0	0.00	0.00	0.00	
2,480.0	0.00	0.00	2,480.0	0.0	0.0	0.0	0.00	0.00	0.00	
2,520.0	0.00	0.00	2,520.0	0.0	0.0	0.0	0.00	0.00	0.00	
2,560.0	0.00	0.00	2,560.0	0.0	0.0	0.0	0.00	0.00	0.00	
2,600.0	0.00	0.00	2,600.0	0.0	0.0	0.0	0.00	0.00	0.00	
2,640.0	0.00	0.00	2,640.0	0.0	0.0	0.0	0.00	0.00	0.00	
2,680.0	0.00	0.00	2,680.0	0.0	0.0	0.0	0.00	0.00	0.00	
2,720.0	0.00	0.00	2,720.0	0.0	0.0	0.0	0.00	0.00	0.00	
2,760.0	0.00	0.00	2,760.0	0.0	0.0	0.0	0.00	0.00	0.00	
2,800.0	0.00	0.00	2,800.0	0.0	0.0	0.0	0.00	0.00	0.00	
2,840.0	0.00	0.00	2,840.0	0.0	0.0	0.0	0.00	0.00	0.00	
2,880.0	0.00	0.00	2,880.0	0.0	0.0	0.0	0.00	0.00	0.00	
2,920.0	0.00	0.00	2,920.0	0.0	0.0	0.0	0.00	0.00	0.00	
2,960.0	0.00	0.00	2,960.0	0.0	0.0	0.0	0.00	0.00	0.00	
3,000.0	0.00	0.00	3,000.0	0.0	0.0	0.0	0.00	0.00	0.00	
3,040.0	0.40	340.67	3,040.0	0.1	0.0	0.1	1.00	1.00	0.00	
3,080.0	0.80	340.67	3,080.0	0.5	-0.2	0.6	1.00	1.00	0.00	
3,120.0	1.20	340.67	3,120.0	1.2	-0.4	1.3	1.00	1.00	0.00	
3,160.0	1.60	340.67	3,160.0	2.1	-0.7	2.2	1.00	1.00	0.00	
3,200.0	2.00	340.67	3,200.0	3.3	-1.2	3.5	1.00	1.00	0.00	
3,225.7	2.26	340.67	3,225.7	4.2	-1.5	4.4	1.00	1.00	0.00	
3,240.0	2.26	340.67	3,239.9	4.7	-1.7	5.0	0.00	0.00	0.00	
3,280.0	2.26	340.67	3,279.9	6.2	-2.2	6.6	0.00	0.00	0.00	
3,320.0	2.26	340.67	3,319.9	7.7	-2.7	8.2	0.00	0.00	0.00	
3,360.0	2.26	340.67	3,359.8	9.2	-3.2	9.7	0.00	0.00	0.00	
3,400.0	2.26	340.67	3,399.8	10.7	-3.7	11.3	0.00	0.00	0.00	
3,440.0	2.26	340.67	3,439.8	12.2	-4.3	12.9	0.00	0.00	0.00	
3,480.0	2.26	340.67	3,479.7	13.6	-4.8	14.5	0.00	0.00	0.00	
3,520.0	2.26	340.67	3,519.7	15.1	-5.3	16.0	0.00	0.00	0.00	
3,560.0	2.26	340.67	3,559.7	16.6	-5.8	17.6	0.00	0.00	0.00	
3,600.0	2.26	340.67	3,599.7	18.1	-6.3	19.2	0.00	0.00	0.00	
3,640.0	2.26	340.67	3,639.6	19.6	-6.9	20.8	0.00	0.00	0.00	
3,680.0	2.26	340.67	3,679.6	21.1	-7.4	22.3	0.00	0.00	0.00	
3,720.0	2.26	340.67	3,719.6	22.6	-7.9	23.9	0.00	0.00	0.00	
3,760.0	2.26	340.67	3,759.5	24.1	-8.4	25.5	0.00	0.00	0.00	
3,800.0	2.26	340.67	3,799.5	25.5	-9.0	27.1	0.00	0.00	0.00	
3,840.0	2.26	340.67	3,839.5	27.0	-9.5	28.6	0.00	0.00	0.00	
3,880.0	2.26	340.67	3,879.4	28.5	-10.0	30.2	0.00	0.00	0.00	
3,920.0	2.26	340.67	3,919.4	30.0	-10.5	31.8	0.00	0.00	0.00	
3,960.0	2.26	340.67	3,959.4	31.5	-11.0	33.4	0.00	0.00	0.00	
4,000.0	2.26	340.67	3,999.3	33.0	-11.6	34.9	0.00	0.00	0.00	
4,040.0	2.26	340.67	4,039.3	34.5	-12.1	36.5	0.00	0.00	0.00	
4,080.0	2.26	340.67	4,079.3	35.9	-12.6	38.1	0.00	0.00	0.00	
4,120.0	2.26	340.67	4,119.2	37.4	-13.1	39.7	0.00	0.00	0.00	
4,160.0	2.26	340.67	4,159.2	38.9	-13.6	41.2	0.00	0.00	0.00	

<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well Copperhead LD10-10D
<b>Company:</b>	NOBLE ENERGY INC WELD COUNTY CO	<b>TVD Reference:</b>	WELL @ 4705.0ft (Original Well Elev)
<b>Project:</b>	SEC.10-T9N-R58W	<b>MD Reference:</b>	WELL @ 4705.0ft (Original Well Elev)
<b>Site:</b>	Copperhead LD10-10D Pad Sec.10-T9N-R58W	<b>North Reference:</b>	True
<b>Well:</b>	Copperhead LD10-10D	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Noble Copperhead LD10-10D Plan #2 (7-25-13)		

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	2.26	340.67	4,199.2	40.4	-14.2	42.8	0.00	0.00	0.00	
4,240.0	2.26	340.67	4,239.2	41.9	-14.7	44.4	0.00	0.00	0.00	
4,275.2	2.26	340.67	4,274.3	43.2	-15.1	45.8	0.00	0.00	0.00	
4,280.0	2.21	340.67	4,279.1	43.4	-15.2	46.0	1.00	-1.00	0.00	
4,320.0	1.81	340.67	4,319.1	44.7	-15.7	47.4	1.00	-1.00	0.00	
4,360.0	1.41	340.67	4,359.1	45.8	-16.0	48.5	1.00	-1.00	0.00	
4,400.0	1.01	340.67	4,399.1	46.6	-16.3	49.3	1.00	-1.00	0.00	
4,440.0	0.61	340.67	4,439.1	47.1	-16.5	49.9	1.00	-1.00	0.00	
4,480.0	0.21	340.67	4,479.1	47.4	-16.6	50.2	1.00	-1.00	0.00	
4,500.9	0.00	0.00	4,500.0	47.4	-16.6	50.2	1.00	-1.00	92.33	
BHL 1815'FSL & 1830'FEL										
4,520.0	0.00	0.00	4,519.1	47.4	-16.6	50.2	0.00	0.00	0.00	
4,560.0	0.00	0.00	4,559.1	47.4	-16.6	50.2	0.00	0.00	0.00	
4,600.0	0.00	0.00	4,599.1	47.4	-16.6	50.2	0.00	0.00	0.00	
4,640.0	0.00	0.00	4,639.1	47.4	-16.6	50.2	0.00	0.00	0.00	
4,680.0	0.00	0.00	4,679.1	47.4	-16.6	50.2	0.00	0.00	0.00	
4,720.0	0.00	0.00	4,719.1	47.4	-16.6	50.2	0.00	0.00	0.00	
4,760.0	0.00	0.00	4,759.1	47.4	-16.6	50.2	0.00	0.00	0.00	
4,800.0	0.00	0.00	4,799.1	47.4	-16.6	50.2	0.00	0.00	0.00	
4,840.0	0.00	0.00	4,839.1	47.4	-16.6	50.2	0.00	0.00	0.00	
4,880.0	0.00	0.00	4,879.1	47.4	-16.6	50.2	0.00	0.00	0.00	
4,920.0	0.00	0.00	4,919.1	47.4	-16.6	50.2	0.00	0.00	0.00	
4,960.0	0.00	0.00	4,959.1	47.4	-16.6	50.2	0.00	0.00	0.00	
5,000.0	0.00	0.00	4,999.1	47.4	-16.6	50.2	0.00	0.00	0.00	
5,040.0	0.00	0.00	5,039.1	47.4	-16.6	50.2	0.00	0.00	0.00	
5,080.0	0.00	0.00	5,079.1	47.4	-16.6	50.2	0.00	0.00	0.00	
5,120.0	0.00	0.00	5,119.1	47.4	-16.6	50.2	0.00	0.00	0.00	
5,160.0	0.00	0.00	5,159.1	47.4	-16.6	50.2	0.00	0.00	0.00	
5,200.0	0.00	0.00	5,199.1	47.4	-16.6	50.2	0.00	0.00	0.00	
5,240.0	0.00	0.00	5,239.1	47.4	-16.6	50.2	0.00	0.00	0.00	
5,280.0	0.00	0.00	5,279.1	47.4	-16.6	50.2	0.00	0.00	0.00	
5,320.0	0.00	0.00	5,319.1	47.4	-16.6	50.2	0.00	0.00	0.00	
5,360.0	0.00	0.00	5,359.1	47.4	-16.6	50.2	0.00	0.00	0.00	
5,400.0	0.00	0.00	5,399.1	47.4	-16.6	50.2	0.00	0.00	0.00	
5,440.0	0.00	0.00	5,439.1	47.4	-16.6	50.2	0.00	0.00	0.00	
5,480.0	0.00	0.00	5,479.1	47.4	-16.6	50.2	0.00	0.00	0.00	
5,520.0	0.00	0.00	5,519.1	47.4	-16.6	50.2	0.00	0.00	0.00	
5,560.0	0.00	0.00	5,559.1	47.4	-16.6	50.2	0.00	0.00	0.00	
5,600.0	0.00	0.00	5,599.1	47.4	-16.6	50.2	0.00	0.00	0.00	
5,640.0	0.00	0.00	5,639.1	47.4	-16.6	50.2	0.00	0.00	0.00	
5,680.0	0.00	0.00	5,679.1	47.4	-16.6	50.2	0.00	0.00	0.00	
5,700.9	0.00	0.00	5,700.0	47.4	-16.6	50.2	0.00	0.00	0.00	
LEGAL BOX 400' X 400', 1979'FSL & 1978'FEL										
5,720.0	0.00	0.00	5,719.1	47.4	-16.6	50.2	0.00	0.00	0.00	
5,760.0	0.00	0.00	5,759.1	47.4	-16.6	50.2	0.00	0.00	0.00	
5,800.0	0.00	0.00	5,799.1	47.4	-16.6	50.2	0.00	0.00	0.00	
5,840.0	0.00	0.00	5,839.1	47.4	-16.6	50.2	0.00	0.00	0.00	
5,880.0	0.00	0.00	5,879.1	47.4	-16.6	50.2	0.00	0.00	0.00	
5,920.0	0.00	0.00	5,919.1	47.4	-16.6	50.2	0.00	0.00	0.00	
5,960.0	0.00	0.00	5,959.1	47.4	-16.6	50.2	0.00	0.00	0.00	
6,000.0	0.00	0.00	5,999.1	47.4	-16.6	50.2	0.00	0.00	0.00	
6,040.0	0.00	0.00	6,039.1	47.4	-16.6	50.2	0.00	0.00	0.00	
6,080.0	0.00	0.00	6,079.1	47.4	-16.6	50.2	0.00	0.00	0.00	

<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well Copperhead LD10-10D
<b>Company:</b>	NOBLE ENERGY INC WELD COUNTY CO	<b>TVD Reference:</b>	WELL @ 4705.0ft (Original Well Elev)
<b>Project:</b>	SEC.10-T9N-R58W	<b>MD Reference:</b>	WELL @ 4705.0ft (Original Well Elev)
<b>Site:</b>	Copperhead LD10-10D Pad Sec.10-T9N-R58W	<b>North Reference:</b>	True
<b>Well:</b>	Copperhead LD10-10D	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Noble Copperhead LD10-10D Plan #2 (7-25-13)		

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)
6,120.0	0.00	0.00	6,119.1	47.4	-16.6	50.2	0.00	0.00	0.00
6,160.0	0.00	0.00	6,159.1	47.4	-16.6	50.2	0.00	0.00	0.00
6,200.0	0.00	0.00	6,199.1	47.4	-16.6	50.2	0.00	0.00	0.00
6,240.0	0.00	0.00	6,239.1	47.4	-16.6	50.2	0.00	0.00	0.00
6,280.0	0.00	0.00	6,279.1	47.4	-16.6	50.2	0.00	0.00	0.00
6,320.0	0.00	0.00	6,319.1	47.4	-16.6	50.2	0.00	0.00	0.00
6,360.0	0.00	0.00	6,359.1	47.4	-16.6	50.2	0.00	0.00	0.00
6,400.0	0.00	0.00	6,399.1	47.4	-16.6	50.2	0.00	0.00	0.00
6,440.0	0.00	0.00	6,439.1	47.4	-16.6	50.2	0.00	0.00	0.00
6,480.0	0.00	0.00	6,479.1	47.4	-16.6	50.2	0.00	0.00	0.00
6,520.0	0.00	0.00	6,519.1	47.4	-16.6	50.2	0.00	0.00	0.00
6,560.0	0.00	0.00	6,559.1	47.4	-16.6	50.2	0.00	0.00	0.00
6,600.0	0.00	0.00	6,599.1	47.4	-16.6	50.2	0.00	0.00	0.00
6,640.0	0.00	0.00	6,639.1	47.4	-16.6	50.2	0.00	0.00	0.00
6,680.0	0.00	0.00	6,679.1	47.4	-16.6	50.2	0.00	0.00	0.00
6,720.0	0.00	0.00	6,719.1	47.4	-16.6	50.2	0.00	0.00	0.00
6,760.0	0.00	0.00	6,759.1	47.4	-16.6	50.2	0.00	0.00	0.00
6,800.0	0.00	0.00	6,799.1	47.4	-16.6	50.2	0.00	0.00	0.00
6,840.0	0.00	0.00	6,839.1	47.4	-16.6	50.2	0.00	0.00	0.00
6,880.0	0.00	0.00	6,879.1	47.4	-16.6	50.2	0.00	0.00	0.00
6,920.0	0.00	0.00	6,919.1	47.4	-16.6	50.2	0.00	0.00	0.00
6,960.0	0.00	0.00	6,959.1	47.4	-16.6	50.2	0.00	0.00	0.00
7,000.0	0.00	0.00	6,999.1	47.4	-16.6	50.2	0.00	0.00	0.00
7,040.0	0.00	0.00	7,039.1	47.4	-16.6	50.2	0.00	0.00	0.00
7,080.0	0.00	0.00	7,079.1	47.4	-16.6	50.2	0.00	0.00	0.00
7,120.0	0.00	0.00	7,119.1	47.4	-16.6	50.2	0.00	0.00	0.00
7,160.0	0.00	0.00	7,159.1	47.4	-16.6	50.2	0.00	0.00	0.00
7,200.0	0.00	0.00	7,199.1	47.4	-16.6	50.2	0.00	0.00	0.00
7,240.0	0.00	0.00	7,239.1	47.4	-16.6	50.2	0.00	0.00	0.00
7,280.0	0.00	0.00	7,279.1	47.4	-16.6	50.2	0.00	0.00	0.00
7,320.0	0.00	0.00	7,319.1	47.4	-16.6	50.2	0.00	0.00	0.00
7,360.0	0.00	0.00	7,359.1	47.4	-16.6	50.2	0.00	0.00	0.00
7,400.0	0.00	0.00	7,399.1	47.4	-16.6	50.2	0.00	0.00	0.00
7,440.0	0.00	0.00	7,439.1	47.4	-16.6	50.2	0.00	0.00	0.00
7,480.0	0.00	0.00	7,479.1	47.4	-16.6	50.2	0.00	0.00	0.00
7,520.0	0.00	0.00	7,519.1	47.4	-16.6	50.2	0.00	0.00	0.00
7,560.0	0.00	0.00	7,559.1	47.4	-16.6	50.2	0.00	0.00	0.00
7,600.0	0.00	0.00	7,599.1	47.4	-16.6	50.2	0.00	0.00	0.00
7,640.0	0.00	0.00	7,639.1	47.4	-16.6	50.2	0.00	0.00	0.00
7,680.0	0.00	0.00	7,679.1	47.4	-16.6	50.2	0.00	0.00	0.00
7,720.0	0.00	0.00	7,719.1	47.4	-16.6	50.2	0.00	0.00	0.00
7,760.0	0.00	0.00	7,759.1	47.4	-16.6	50.2	0.00	0.00	0.00
7,800.0	0.00	0.00	7,799.1	47.4	-16.6	50.2	0.00	0.00	0.00
7,840.0	0.00	0.00	7,839.1	47.4	-16.6	50.2	0.00	0.00	0.00
7,880.0	0.00	0.00	7,879.1	47.4	-16.6	50.2	0.00	0.00	0.00
7,920.0	0.00	0.00	7,919.1	47.4	-16.6	50.2	0.00	0.00	0.00
7,960.0	0.00	0.00	7,959.1	47.4	-16.6	50.2	0.00	0.00	0.00
8,000.0	0.00	0.00	7,999.1	47.4	-16.6	50.2	0.00	0.00	0.00
8,040.0	0.00	0.00	8,039.1	47.4	-16.6	50.2	0.00	0.00	0.00
8,080.0	0.00	0.00	8,079.1	47.4	-16.6	50.2	0.00	0.00	0.00
8,120.0	0.00	0.00	8,119.1	47.4	-16.6	50.2	0.00	0.00	0.00
8,160.0	0.00	0.00	8,159.1	47.4	-16.6	50.2	0.00	0.00	0.00
8,200.0	0.00	0.00	8,199.1	47.4	-16.6	50.2	0.00	0.00	0.00

<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well Copperhead LD10-10D
<b>Company:</b>	NOBLE ENERGY INC WELD COUNTY CO	<b>TVD Reference:</b>	WELL @ 4705.0ft (Original Well Elev)
<b>Project:</b>	SEC.10-T9N-R58W	<b>MD Reference:</b>	WELL @ 4705.0ft (Original Well Elev)
<b>Site:</b>	Copperhead LD10-10D Pad Sec.10-T9N-R58W	<b>North Reference:</b>	True
<b>Well:</b>	Copperhead LD10-10D	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Noble Copperhead LD10-10D Plan #2 (7-25-13)		

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)	
8,240.0	0.00	0.00	8,239.1	47.4	-16.6	50.2	0.00	0.00	0.00	
8,280.0	0.00	0.00	8,279.1	47.4	-16.6	50.2	0.00	0.00	0.00	
8,320.0	0.00	0.00	8,319.1	47.4	-16.6	50.2	0.00	0.00	0.00	
8,360.0	0.00	0.00	8,359.1	47.4	-16.6	50.2	0.00	0.00	0.00	
8,400.0	0.00	0.00	8,399.1	47.4	-16.6	50.2	0.00	0.00	0.00	
8,440.0	0.00	0.00	8,439.1	47.4	-16.6	50.2	0.00	0.00	0.00	
8,480.0	0.00	0.00	8,479.1	47.4	-16.6	50.2	0.00	0.00	0.00	
8,520.0	0.00	0.00	8,519.1	47.4	-16.6	50.2	0.00	0.00	0.00	
8,560.0	0.00	0.00	8,559.1	47.4	-16.6	50.2	0.00	0.00	0.00	
8,600.0	0.00	0.00	8,599.1	47.4	-16.6	50.2	0.00	0.00	0.00	
8,640.0	0.00	0.00	8,639.1	47.4	-16.6	50.2	0.00	0.00	0.00	
8,680.0	0.00	0.00	8,679.1	47.4	-16.6	50.2	0.00	0.00	0.00	
8,720.0	0.00	0.00	8,719.1	47.4	-16.6	50.2	0.00	0.00	0.00	
8,760.0	0.00	0.00	8,759.1	47.4	-16.6	50.2	0.00	0.00	0.00	
8,800.0	0.00	0.00	8,799.1	47.4	-16.6	50.2	0.00	0.00	0.00	
8,840.0	0.00	0.00	8,839.1	47.4	-16.6	50.2	0.00	0.00	0.00	
8,880.0	0.00	0.00	8,879.1	47.4	-16.6	50.2	0.00	0.00	0.00	
8,920.0	0.00	0.00	8,919.1	47.4	-16.6	50.2	0.00	0.00	0.00	
8,960.0	0.00	0.00	8,959.1	47.4	-16.6	50.2	0.00	0.00	0.00	
9,000.0	0.00	0.00	8,999.1	47.4	-16.6	50.2	0.00	0.00	0.00	
9,040.0	0.00	0.00	9,039.1	47.4	-16.6	50.2	0.00	0.00	0.00	
9,080.0	0.00	0.00	9,079.1	47.4	-16.6	50.2	0.00	0.00	0.00	
9,120.0	0.00	0.00	9,119.1	47.4	-16.6	50.2	0.00	0.00	0.00	
9,160.0	0.00	0.00	9,159.1	47.4	-16.6	50.2	0.00	0.00	0.00	
9,200.0	0.00	0.00	9,199.1	47.4	-16.6	50.2	0.00	0.00	0.00	
9,240.0	0.00	0.00	9,239.1	47.4	-16.6	50.2	0.00	0.00	0.00	
9,280.0	0.00	0.00	9,279.1	47.4	-16.6	50.2	0.00	0.00	0.00	
9,320.0	0.00	0.00	9,319.1	47.4	-16.6	50.2	0.00	0.00	0.00	
9,360.0	0.00	0.00	9,359.1	47.4	-16.6	50.2	0.00	0.00	0.00	
9,400.0	0.00	0.00	9,399.1	47.4	-16.6	50.2	0.00	0.00	0.00	
9,440.0	0.00	0.00	9,439.1	47.4	-16.6	50.2	0.00	0.00	0.00	
9,480.0	0.00	0.00	9,479.1	47.4	-16.6	50.2	0.00	0.00	0.00	
9,500.9	0.00	0.00	9,500.0	47.4	-16.6	50.2	0.00	0.00	0.00	

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										
BHL 1815'FSL & 1830'FSL	0.00	0.00	4,500.0	47.4	-16.6	1,525,304.84	3,457,748.59	40.763640	-103.847480	
- plan hits target center										
- Point										
LEGAL BOX 400' X 400'	0.00	0.00	5,700.0	211.4	131.4	1,525,471.57	3,457,893.53	40.764090	-103.846946	
- plan misses target center by 220.9ft at 5700.9ft MD (5700.0 TVD, 47.4 N, -16.6 E)										
- Rectangle (sides W400.0 H400.0 D3,800.0)										