

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	700.0	0.00	0.00	700.0	0.0	0.0	0.00	0.00	0.0	
3	1393.2	13.86	317.85	1386.5	61.9	-56.0	2.00	317.85	83.5	
4	4408.1	13.86	317.85	4313.5	597.5	-540.8	0.00	0.00	805.9	
5	5101.3	0.00	0.00	5000.0	659.4	-596.8	2.00	180.00	889.4	TARGET BHL 1250'FNL, 1400'FWL
6	7798.3	0.00	0.00	7697.0	659.4	-596.8	0.00	0.00	889.4	



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

**SEC.14-T4N-R65W**

**Boulter G14-19D Pad Sec.14-T4N-R65W**

**Boulter G14-19D**

**Wellbore #1**

**Plan: Noble Boulter G14-19D Plan #1 (11-3-10)**

## **Standard Planning Report**

**05 November, 2010**



Database: Landmark  
 Company: NOBLE ENERGY INC WELD COUNTY CO  
 Project: SEC.14-T4N-R65W  
 Site: Boulter G14-19D Pad Sec.14-T4N-R65W  
 Well: Boulter G14-19D  
 Wellbore: Wellbore #1  
 Design: Noble Boulter G14-19D Plan #1 (11-3-10)

Local Co-ordinate Reference: Well Boulter G14-19D  
 TVD Reference: WELL @ 4707.0ft (Original Well Elev)  
 MD Reference: WELL @ 4707.0ft (Original Well Elev)  
 North Reference: True  
 Survey Calculation Method: Minimum Curvature

Project	SEC.14-T4N-R65W, Weld County, Colorado		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		Using Well Reference Point
Map Zone:	Colorado Northern Zone		Using geodetic scale factor

Site	Boulter G14-19D Pad Sec.14-T4N-R65W				
Site Position:		Northing:	1,358,600.34 ft	Latitude:	40° 18' 52.236 N
From:	Lat/Long	Easting:	3,241,919.70 ft	Longitude:	104° 37' 56.856 W
Position Uncertainty:	0.0 ft	Slot Radius:	"	Grid Convergence:	0.56 °

Well	Boulter G14-19D					
Well Position	+N/-S	0.0 ft	Northing:	1,358,600.32 ft	Latitude:	40° 18' 52.236 N
	+E/-W	0.0 ft	Easting:	3,241,919.70 ft	Longitude:	104° 37' 56.856 W
Position Uncertainty	0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,694.0 ft	

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	11/3/2010	8.87	67.02	53,167

Design	Noble Boulter G14-19D Plan #1 (11-3-10)				
Audit Notes:					
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.0	
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)	
	0.0	0.0	0.0	317.85	

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	
700.0	0.00	0.00	700.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,393.2	13.86	317.85	1,386.5	61.9	-56.0	2.00	2.00	0.00	317.85	
4,408.1	13.86	317.85	4,313.5	597.5	-540.8	0.00	0.00	0.00	0.00	
5,101.3	0.00	0.00	5,000.0	659.4	-596.8	2.00	-2.00	0.00	180.00	TARGET BHL 125C
7,798.3	0.00	0.00	7,697.0	659.4	-596.8	0.00	0.00	0.00	0.00	



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 MD Reference: WELL @ 4707.0ft (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
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	0.00
8 5/8"									
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
720.0	0.40	317.85	720.0	0.1	0.0	0.1	2.00	2.00	0.00
760.0	1.20	317.85	760.0	0.5	-0.4	0.6	2.00	2.00	0.00
800.0	2.00	317.85	800.0	1.3	-1.2	1.7	2.00	2.00	0.00
840.0	2.80	317.85	839.9	2.5	-2.3	3.4	2.00	2.00	0.00
880.0	3.60	317.85	879.9	4.2	-3.8	5.7	2.00	2.00	0.00
920.0	4.40	317.85	919.8	6.3	-5.7	8.4	2.00	2.00	0.00
960.0	5.20	317.85	959.6	8.7	-7.9	11.8	2.00	2.00	0.00
1,000.0	6.00	317.85	999.5	11.6	-10.5	15.7	2.00	2.00	0.00
1,040.0	6.80	317.85	1,039.2	14.9	-13.5	20.2	2.00	2.00	0.00
1,080.0	7.60	317.85	1,078.9	18.7	-16.9	25.2	2.00	2.00	0.00
1,120.0	8.40	317.85	1,118.5	22.8	-20.6	30.7	2.00	2.00	0.00
1,160.0	9.20	317.85	1,158.0	27.3	-24.7	36.9	2.00	2.00	0.00
1,200.0	10.00	317.85	1,197.5	32.3	-29.2	43.5	2.00	2.00	0.00
1,240.0	10.80	317.85	1,236.8	37.6	-34.0	50.7	2.00	2.00	0.00
1,280.0	11.60	317.85	1,276.0	43.4	-39.3	58.5	2.00	2.00	0.00
1,320.0	12.40	317.85	1,315.2	49.5	-44.8	66.8	2.00	2.00	0.00
1,360.0	13.20	317.85	1,354.2	56.1	-50.8	75.7	2.00	2.00	0.00
1,393.2	13.86	317.85	1,386.5	61.9	-56.0	83.5	2.00	2.00	0.00
1,400.0	13.86	317.85	1,393.1	63.1	-57.1	85.1	0.00	0.00	0.00
1,440.0	13.86	317.85	1,431.9	70.2	-63.5	94.7	0.00	0.00	0.00
1,480.0	13.86	317.85	1,470.7	77.3	-70.0	104.3	0.00	0.00	0.00
1,520.0	13.86	317.85	1,509.6	84.4	-76.4	113.8	0.00	0.00	0.00
1,560.0	13.86	317.85	1,548.4	91.5	-82.8	123.4	0.00	0.00	0.00
1,600.0	13.86	317.85	1,587.2	98.6	-89.3	133.0	0.00	0.00	0.00
1,640.0	13.86	317.85	1,626.1	105.7	-95.7	142.6	0.00	0.00	0.00
1,680.0	13.86	317.85	1,664.9	112.8	-102.1	152.2	0.00	0.00	0.00
1,720.0	13.86	317.85	1,703.7	119.9	-108.5	161.8	0.00	0.00	0.00
1,760.0	13.86	317.85	1,742.6	127.0	-115.0	171.4	0.00	0.00	0.00
1,800.0	13.86	317.85	1,781.4	134.2	-121.4	180.9	0.00	0.00	0.00
1,840.0	13.86	317.85	1,820.2	141.3	-127.8	190.5	0.00	0.00	0.00
1,880.0	13.86	317.85	1,859.1	148.4	-134.3	200.1	0.00	0.00	0.00
1,920.0	13.86	317.85	1,897.9	155.5	-140.7	209.7	0.00	0.00	0.00
1,960.0	13.86	317.85	1,936.7	162.6	-147.1	219.3	0.00	0.00	0.00



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 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	13.86	317.85	1,975.6	169.7	-153.6	228.9	0.00	0.00	0.00
2,040.0	13.86	317.85	2,014.4	176.8	-160.0	238.4	0.00	0.00	0.00
2,080.0	13.86	317.85	2,053.2	183.9	-166.4	248.0	0.00	0.00	0.00
2,120.0	13.86	317.85	2,092.1	191.0	-172.9	257.6	0.00	0.00	0.00
2,160.0	13.86	317.85	2,130.9	198.1	-179.3	267.2	0.00	0.00	0.00
2,200.0	13.86	317.85	2,169.7	205.2	-185.7	276.8	0.00	0.00	0.00
2,240.0	13.86	317.85	2,208.6	212.3	-192.2	286.4	0.00	0.00	0.00
2,280.0	13.86	317.85	2,247.4	219.4	-198.6	296.0	0.00	0.00	0.00
2,320.0	13.86	317.85	2,286.3	226.5	-205.0	305.5	0.00	0.00	0.00
2,360.0	13.86	317.85	2,325.1	233.6	-211.5	315.1	0.00	0.00	0.00
2,400.0	13.86	317.85	2,363.9	240.8	-217.9	324.7	0.00	0.00	0.00
2,440.0	13.86	317.85	2,402.8	247.9	-224.3	334.3	0.00	0.00	0.00
2,480.0	13.86	317.85	2,441.6	255.0	-230.7	343.9	0.00	0.00	0.00
2,520.0	13.86	317.85	2,480.4	262.1	-237.2	353.5	0.00	0.00	0.00
2,560.0	13.86	317.85	2,519.3	269.2	-243.6	363.1	0.00	0.00	0.00
2,600.0	13.86	317.85	2,558.1	276.3	-250.0	372.6	0.00	0.00	0.00
2,640.0	13.86	317.85	2,596.9	283.4	-256.5	382.2	0.00	0.00	0.00
2,680.0	13.86	317.85	2,635.8	290.5	-262.9	391.8	0.00	0.00	0.00
2,720.0	13.86	317.85	2,674.6	297.6	-269.3	401.4	0.00	0.00	0.00
2,760.0	13.86	317.85	2,713.4	304.7	-275.8	411.0	0.00	0.00	0.00
2,800.0	13.86	317.85	2,752.3	311.8	-282.2	420.6	0.00	0.00	0.00
2,840.0	13.86	317.85	2,791.1	318.9	-288.6	430.1	0.00	0.00	0.00
2,880.0	13.86	317.85	2,829.9	326.0	-295.1	439.7	0.00	0.00	0.00
2,920.0	13.86	317.85	2,868.8	333.1	-301.5	449.3	0.00	0.00	0.00
2,960.0	13.86	317.85	2,907.6	340.2	-307.9	458.9	0.00	0.00	0.00
3,000.0	13.86	317.85	2,946.4	347.4	-314.4	468.5	0.00	0.00	0.00
3,040.0	13.86	317.85	2,985.3	354.5	-320.8	478.1	0.00	0.00	0.00
3,080.0	13.86	317.85	3,024.1	361.6	-327.2	487.7	0.00	0.00	0.00
3,120.0	13.86	317.85	3,062.9	368.7	-333.7	497.2	0.00	0.00	0.00
3,160.0	13.86	317.85	3,101.8	375.8	-340.1	506.8	0.00	0.00	0.00
3,200.0	13.86	317.85	3,140.6	382.9	-346.5	516.4	0.00	0.00	0.00
3,240.0	13.86	317.85	3,179.5	390.0	-352.9	526.0	0.00	0.00	0.00
3,280.0	13.86	317.85	3,218.3	397.1	-359.4	535.6	0.00	0.00	0.00
3,320.0	13.86	317.85	3,257.1	404.2	-365.8	545.2	0.00	0.00	0.00
3,360.0	13.86	317.85	3,296.0	411.3	-372.2	554.7	0.00	0.00	0.00
3,400.0	13.86	317.85	3,334.8	418.4	-378.7	564.3	0.00	0.00	0.00
3,440.0	13.86	317.85	3,373.6	425.5	-385.1	573.9	0.00	0.00	0.00
3,480.0	13.86	317.85	3,412.5	432.6	-391.5	583.5	0.00	0.00	0.00
3,520.0	13.86	317.85	3,451.3	439.7	-398.0	593.1	0.00	0.00	0.00
3,560.0	13.86	317.85	3,490.1	446.9	-404.4	602.7	0.00	0.00	0.00
3,600.0	13.86	317.85	3,529.0	454.0	-410.8	612.3	0.00	0.00	0.00
3,640.0	13.86	317.85	3,567.8	461.1	-417.3	621.8	0.00	0.00	0.00
3,680.0	13.86	317.85	3,606.6	468.2	-423.7	631.4	0.00	0.00	0.00
3,720.0	13.86	317.85	3,645.5	475.3	-430.1	641.0	0.00	0.00	0.00
3,760.0	13.86	317.85	3,684.3	482.4	-436.6	650.6	0.00	0.00	0.00
3,800.0	13.86	317.85	3,723.1	489.5	-443.0	660.2	0.00	0.00	0.00
3,840.0	13.86	317.85	3,762.0	496.6	-449.4	669.8	0.00	0.00	0.00
3,880.0	13.86	317.85	3,800.8	503.7	-455.9	679.4	0.00	0.00	0.00
3,920.0	13.86	317.85	3,839.6	510.8	-462.3	688.9	0.00	0.00	0.00
3,960.0	13.86	317.85	3,878.5	517.9	-468.7	698.5	0.00	0.00	0.00
4,000.0	13.86	317.85	3,917.3	525.0	-475.1	708.1	0.00	0.00	0.00
4,040.0	13.86	317.85	3,956.1	532.1	-481.6	717.7	0.00	0.00	0.00
4,080.0	13.86	317.85	3,995.0	539.2	-488.0	727.3	0.00	0.00	0.00
4,120.0	13.86	317.85	4,033.8	546.3	-494.4	736.9	0.00	0.00	0.00

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 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	13.86	317.85	4,072.6	553.5	-500.9	746.4	0.00	0.00	0.00
4,200.0	13.86	317.85	4,111.5	560.6	-507.3	756.0	0.00	0.00	0.00
4,240.0	13.86	317.85	4,150.3	567.7	-513.7	765.6	0.00	0.00	0.00
4,280.0	13.86	317.85	4,189.2	574.8	-520.2	775.2	0.00	0.00	0.00
4,320.0	13.86	317.85	4,228.0	581.9	-526.6	784.8	0.00	0.00	0.00
4,360.0	13.86	317.85	4,266.8	589.0	-533.0	794.4	0.00	0.00	0.00
4,400.0	13.86	317.85	4,305.7	596.1	-539.5	804.0	0.00	0.00	0.00
4,408.1	13.86	317.85	4,313.5	597.5	-540.8	805.9	0.00	0.00	0.00
4,440.0	13.23	317.85	4,344.5	603.1	-545.8	813.4	2.00	-2.00	0.00
4,480.0	12.43	317.85	4,383.5	609.7	-551.7	822.2	2.00	-2.00	0.00
4,520.0	11.63	317.85	4,422.7	615.8	-557.3	830.6	2.00	-2.00	0.00
4,560.0	10.83	317.85	4,461.9	621.6	-562.6	838.4	2.00	-2.00	0.00
4,600.0	10.03	317.85	4,501.2	627.0	-567.4	845.6	2.00	-2.00	0.00
4,640.0	9.23	317.85	4,540.7	631.9	-571.9	852.3	2.00	-2.00	0.00
4,680.0	8.43	317.85	4,580.2	636.5	-576.0	858.4	2.00	-2.00	0.00
4,720.0	7.63	317.85	4,619.8	640.6	-579.8	864.0	2.00	-2.00	0.00
4,760.0	6.83	317.85	4,659.5	644.4	-583.1	869.1	2.00	-2.00	0.00
4,800.0	6.03	317.85	4,699.2	647.7	-586.2	873.5	2.00	-2.00	0.00
4,840.0	5.23	317.85	4,739.0	650.6	-588.8	877.5	2.00	-2.00	0.00
4,880.0	4.43	317.85	4,778.9	653.1	-591.0	880.8	2.00	-2.00	0.00
4,920.0	3.63	317.85	4,818.8	655.2	-592.9	883.6	2.00	-2.00	0.00
4,960.0	2.83	317.85	4,858.7	656.8	-594.4	885.9	2.00	-2.00	0.00
5,000.0	2.03	317.85	4,898.7	658.1	-595.6	887.6	2.00	-2.00	0.00
5,040.0	1.23	317.85	4,938.7	658.9	-596.3	888.7	2.00	-2.00	0.00
5,080.0	0.43	317.85	4,978.7	659.4	-596.7	889.3	2.00	-2.00	0.00
5,101.3	0.00	0.00	5,000.0	659.4	-596.8	889.4	2.00	-2.00	0.00
TARGET BHL 1250'FNL, 1400'FWL									
5,120.0	0.00	0.00	5,018.7	659.4	-596.8	889.4	0.00	0.00	0.00
5,160.0	0.00	0.00	5,058.7	659.4	-596.8	889.4	0.00	0.00	0.00
5,200.0	0.00	0.00	5,098.7	659.4	-596.8	889.4	0.00	0.00	0.00
5,240.0	0.00	0.00	5,138.7	659.4	-596.8	889.4	0.00	0.00	0.00
5,280.0	0.00	0.00	5,178.7	659.4	-596.8	889.4	0.00	0.00	0.00
5,320.0	0.00	0.00	5,218.7	659.4	-596.8	889.4	0.00	0.00	0.00
5,360.0	0.00	0.00	5,258.7	659.4	-596.8	889.4	0.00	0.00	0.00
5,400.0	0.00	0.00	5,298.7	659.4	-596.8	889.4	0.00	0.00	0.00
5,440.0	0.00	0.00	5,338.7	659.4	-596.8	889.4	0.00	0.00	0.00
5,480.0	0.00	0.00	5,378.7	659.4	-596.8	889.4	0.00	0.00	0.00
5,520.0	0.00	0.00	5,418.7	659.4	-596.8	889.4	0.00	0.00	0.00
5,560.0	0.00	0.00	5,458.7	659.4	-596.8	889.4	0.00	0.00	0.00
5,600.0	0.00	0.00	5,498.7	659.4	-596.8	889.4	0.00	0.00	0.00
5,640.0	0.00	0.00	5,538.7	659.4	-596.8	889.4	0.00	0.00	0.00
5,680.0	0.00	0.00	5,578.7	659.4	-596.8	889.4	0.00	0.00	0.00
5,720.0	0.00	0.00	5,618.7	659.4	-596.8	889.4	0.00	0.00	0.00
5,760.0	0.00	0.00	5,658.7	659.4	-596.8	889.4	0.00	0.00	0.00
5,800.0	0.00	0.00	5,698.7	659.4	-596.8	889.4	0.00	0.00	0.00
5,840.0	0.00	0.00	5,738.7	659.4	-596.8	889.4	0.00	0.00	0.00
5,880.0	0.00	0.00	5,778.7	659.4	-596.8	889.4	0.00	0.00	0.00
5,920.0	0.00	0.00	5,818.7	659.4	-596.8	889.4	0.00	0.00	0.00
5,960.0	0.00	0.00	5,858.7	659.4	-596.8	889.4	0.00	0.00	0.00
6,000.0	0.00	0.00	5,898.7	659.4	-596.8	889.4	0.00	0.00	0.00
6,040.0	0.00	0.00	5,938.7	659.4	-596.8	889.4	0.00	0.00	0.00
6,080.0	0.00	0.00	5,978.7	659.4	-596.8	889.4	0.00	0.00	0.00
6,120.0	0.00	0.00	6,018.7	659.4	-596.8	889.4	0.00	0.00	0.00
6,160.0	0.00	0.00	6,058.7	659.4	-596.8	889.4	0.00	0.00	0.00



Database: Landmark  
 Company: NOBLE ENERGY INC WELD COUNTY CO  
 Project: SEC.14-T4N-R65W  
 Site: Boulter G14-19D Pad Sec.14-T4N-R65W  
 Well: Boulter G14-19D  
 Wellbore: Wellbore #1  
 Design: Noble Boulter G14-19D Plan #1 (11-3-10)

Local Co-ordinate Reference: Well Boulter G14-19D  
 TVD Reference: WELL @ 4707.0ft (Original Well Elev)  
 MD Reference: WELL @ 4707.0ft (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	6,098.7	659.4	-596.8	889.4	0.00	0.00	0.00
6,240.0	0.00	0.00	6,138.7	659.4	-596.8	889.4	0.00	0.00	0.00
6,280.0	0.00	0.00	6,178.7	659.4	-596.8	889.4	0.00	0.00	0.00
6,320.0	0.00	0.00	6,218.7	659.4	-596.8	889.4	0.00	0.00	0.00
6,360.0	0.00	0.00	6,258.7	659.4	-596.8	889.4	0.00	0.00	0.00
6,400.0	0.00	0.00	6,298.7	659.4	-596.8	889.4	0.00	0.00	0.00
6,440.0	0.00	0.00	6,338.7	659.4	-596.8	889.4	0.00	0.00	0.00
6,480.0	0.00	0.00	6,378.7	659.4	-596.8	889.4	0.00	0.00	0.00
6,520.0	0.00	0.00	6,418.7	659.4	-596.8	889.4	0.00	0.00	0.00
6,560.0	0.00	0.00	6,458.7	659.4	-596.8	889.4	0.00	0.00	0.00
6,600.0	0.00	0.00	6,498.7	659.4	-596.8	889.4	0.00	0.00	0.00
6,640.0	0.00	0.00	6,538.7	659.4	-596.8	889.4	0.00	0.00	0.00
6,680.0	0.00	0.00	6,578.7	659.4	-596.8	889.4	0.00	0.00	0.00
6,720.0	0.00	0.00	6,618.7	659.4	-596.8	889.4	0.00	0.00	0.00
6,760.0	0.00	0.00	6,658.7	659.4	-596.8	889.4	0.00	0.00	0.00
6,800.0	0.00	0.00	6,698.7	659.4	-596.8	889.4	0.00	0.00	0.00
6,840.0	0.00	0.00	6,738.7	659.4	-596.8	889.4	0.00	0.00	0.00
6,848.3	0.00	0.00	6,747.0	659.4	-596.8	889.4	0.00	0.00	0.00
NIOBRARA - TARGET CIRCLE 1250'FNL & 1400'FWL									
6,880.0	0.00	0.00	6,778.7	659.4	-596.8	889.4	0.00	0.00	0.00
6,920.0	0.00	0.00	6,818.7	659.4	-596.8	889.4	0.00	0.00	0.00
6,960.0	0.00	0.00	6,858.7	659.4	-596.8	889.4	0.00	0.00	0.00
7,000.0	0.00	0.00	6,898.7	659.4	-596.8	889.4	0.00	0.00	0.00
7,040.0	0.00	0.00	6,938.7	659.4	-596.8	889.4	0.00	0.00	0.00
7,080.0	0.00	0.00	6,978.7	659.4	-596.8	889.4	0.00	0.00	0.00
7,120.0	0.00	0.00	7,018.7	659.4	-596.8	889.4	0.00	0.00	0.00
7,148.3	0.00	0.00	7,047.0	659.4	-596.8	889.4	0.00	0.00	0.00
CODELL									
7,160.0	0.00	0.00	7,058.7	659.4	-596.8	889.4	0.00	0.00	0.00
7,200.0	0.00	0.00	7,098.7	659.4	-596.8	889.4	0.00	0.00	0.00
7,240.0	0.00	0.00	7,138.7	659.4	-596.8	889.4	0.00	0.00	0.00
7,280.0	0.00	0.00	7,178.7	659.4	-596.8	889.4	0.00	0.00	0.00
7,320.0	0.00	0.00	7,218.7	659.4	-596.8	889.4	0.00	0.00	0.00
7,360.0	0.00	0.00	7,258.7	659.4	-596.8	889.4	0.00	0.00	0.00
7,400.0	0.00	0.00	7,298.7	659.4	-596.8	889.4	0.00	0.00	0.00
7,440.0	0.00	0.00	7,338.7	659.4	-596.8	889.4	0.00	0.00	0.00
7,480.0	0.00	0.00	7,378.7	659.4	-596.8	889.4	0.00	0.00	0.00
7,520.0	0.00	0.00	7,418.7	659.4	-596.8	889.4	0.00	0.00	0.00
7,538.3	0.00	0.00	7,437.0	659.4	-596.8	889.4	0.00	0.00	0.00
D-SAND									
7,560.0	0.00	0.00	7,458.7	659.4	-596.8	889.4	0.00	0.00	0.00
7,598.3	0.00	0.00	7,497.0	659.4	-596.8	889.4	0.00	0.00	0.00
J-SAND									
7,600.0	0.00	0.00	7,498.7	659.4	-596.8	889.4	0.00	0.00	0.00
7,640.0	0.00	0.00	7,538.7	659.4	-596.8	889.4	0.00	0.00	0.00
7,680.0	0.00	0.00	7,578.7	659.4	-596.8	889.4	0.00	0.00	0.00
7,720.0	0.00	0.00	7,618.7	659.4	-596.8	889.4	0.00	0.00	0.00
7,760.0	0.00	0.00	7,658.7	659.4	-596.8	889.4	0.00	0.00	0.00
7,798.3	0.00	0.00	7,697.0	659.4	-596.8	889.4	0.00	0.00	0.00
LEGAL BOX 800' X 800' 1327'FNL & 1308'FWL									



**Database:** Landmark  
**Company:** NOBLE ENERGY INC WELD COUNTY CO  
**Project:** SEC.14-T4N-R65W  
**Site:** Boulter G14-19D Pad Sec.14-T4N-R65W  
**Well:** Boulter G14-19D  
**Wellbore:** Wellbore #1  
**Design:** Noble Boulter G14-19D Plan #1 (11-3-10)

**Local Co-ordinate Reference:** Well Boulter G14-19D  
**TVD Reference:** WELL @ 4707.0ft (Original Well Elev)  
**MD Reference:** WELL @ 4707.0ft (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 CIRCLE 12'	0.00	0.00	6,747.0	659.4	-596.8	1,359,253.84	3,241,316.53	40° 18' 58.752 N	104° 38' 4.560 W
- plan hits target - Circle (radius 75.0)									
LEGAL BOX 800' X 8'	0.00	0.00	7,697.0	582.4	-688.8	1,359,175.94	3,241,225.27	40° 18' 57.991 N	104° 38' 5.748 W
- plan misses by 120.0ft at 7798.3ft MD (7697.0 TVD, 659.4 N, -596.8 E) - Rectangle (sides W800.0 H800.0 D0.0)									
TARGET BHL 1250'F	0.00	0.00	5,000.0	659.4	-596.8	1,359,253.84	3,241,316.53	40° 18' 58.752 N	104° 38' 4.560 W
- plan hits target - Point									

#### 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 (°)
6,848.3	6,747.0	NIOBRARA		0.00	
7,148.3	7,047.0	CODELL		0.00	
7,538.3	7,437.0	D-SAND		0.00	
7,598.3	7,497.0	J-SAND		0.00	