

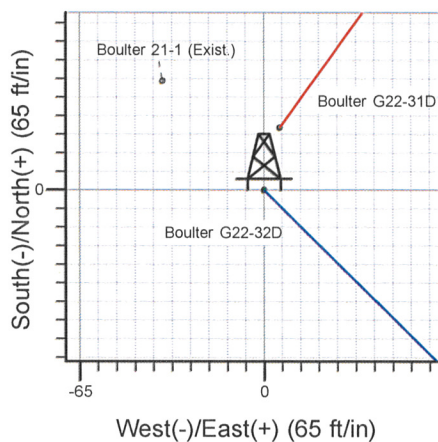
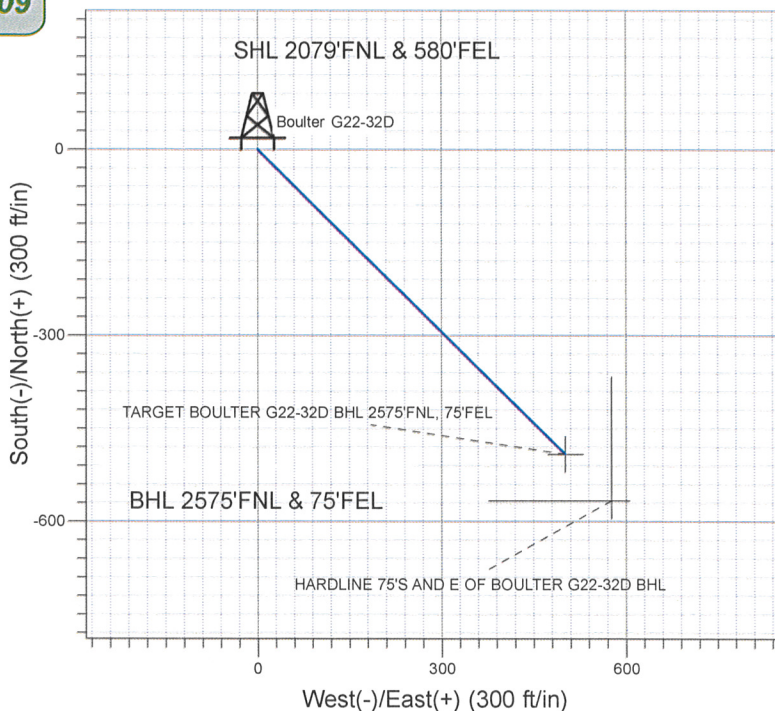
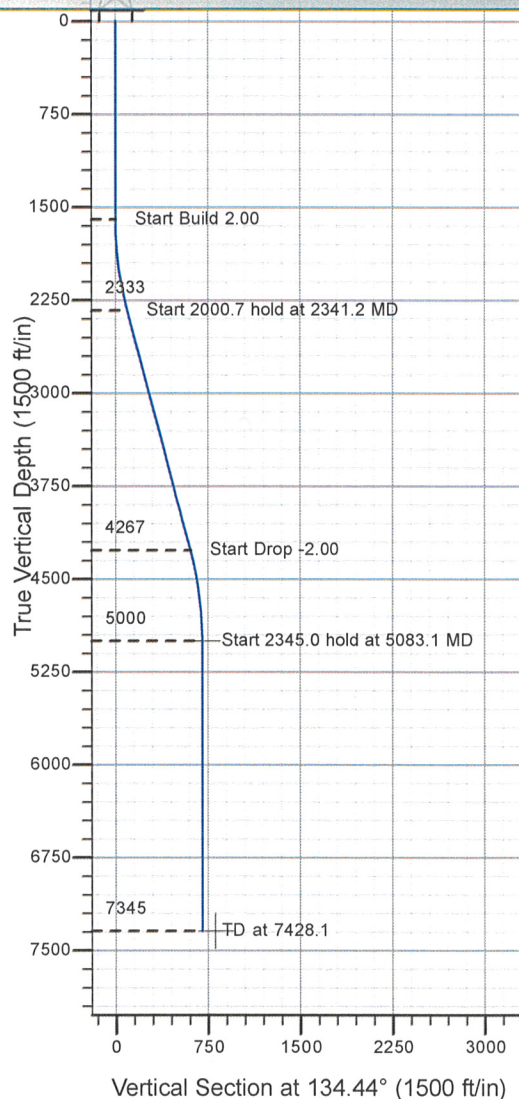
Well Name: Boulter G22-32D

Surface Location: Boulder Pad Sec.21-T4N-R65W  
North American Datum 1983 , US State Plane 1983 , Colorado Northern Zone  
Ground Elevation: 4808.0  
+S+E/-W    Northing    Easting    Latitude    Longitude    S  
0.0 1353041.85 3234057.86 40° 17' 58.056 N 104° 39' 39.024 W  
Original Well Elev    WELL @ 4821.0ft (Original Well Elev)

**APPROVED**

*By Doug Sproul at 9:32 am, Aug 19, 2009*

NOBLE ENERGY INC WELD COUNTY CO



Boulter Pad Sec.21-T4N-R65W  
Boulter G22-32D  
Plan #2 (07-16-09)  
16:01, July 16 2009



Azimuths to True North  
Magnetic North:  $9.02^\circ$

Magnetic Field  
Strength: 53310.3snT  
Dip Angle: 67.06°  
Date: 7/16/2009  
Model: IGRF200510

### WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
TARGET BOULTER G22-32D BHL 2575'FNL, 75'FEL	5000.0	-491.9	501.6	40° 17' 53.195 N	104° 39' 32.550 W	Point
HEADLINE 75'S AND E OF BOULTER G22-32D BHL	7345.0	-566.9	576.6	40° 17' 52.454 N	104° 39' 31.582 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	1600.0	0.00	0.00	1600.0	0.0	0.0	0.00	0.00	0.0	
3	2341.2	14.82	134.44	2333.0	-66.8	68.1	2.00	134.44	95.3	
4	4341.9	14.82	134.44	4267.0	-425.2	433.5	0.00	0.00	607.2	
5	5083.1	0.00	0.00	5000.0	-491.9	501.6	2.00	180.00	702.6	TARGET BOULTER G22-32D BHL 2575'FNL, 75'FEL
6	7428.1	0.00	0.00	7345.0	-491.9	501.6	0.00	0.00	702.6	



## **Directional**

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

**SEC.21-T4N-R65W**

**Boulter Pad Sec.21-T4N-R65W**

**Boulter G22-32D**

**Boulter G22-32D**

**Plan: Plan #2 (07-16-09)**

### **Standard Planning Report**

**16 July, 2009**





Database:	EDM den0-adp01 Server Data	Local Co-ordinate Reference:	Well Boulter G22-32D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4821.0ft (Original Well Elev)
Project:	SEC.21-T4N-R65W	MD Reference:	WELL @ 4821.0ft (Original Well Elev)
Site:	Boulter Pad Sec.21-T4N-R65W	North Reference:	True
Well:	Boulter G22-32D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Boulter G22-32D		
Design:	Plan #2 (07-16-09)		

Project	SEC.21-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 Pad Sec.21-T4N-R65W			
Site Position:		Northing:	1,353,041.86 ft	Latitude:	40° 17' 58.056 N
From:	Lat/Long	Easting:	3,234,057.86 ft	Longitude:	104° 39' 39.024 W
Position Uncertainty:	0.0 ft	Slot Radius:	"	Grid Convergence:	0.54 °

Well	Boulter G22-32D					
Well Position	+N/-S	0.0 ft	Northing:	1,353,041.85 ft	Latitude:	40° 17' 58.056 N
	+E/-W	0.0 ft	Easting:	3,234,057.86 ft	Longitude:	104° 39' 39.024 W
Position Uncertainty	0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,808.0 ft	

Wellbore	Boulter G22-32D				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	10/2/2008	9.13	67.09	53,392
	IGRF200510	7/16/2009	9.02	67.06	53,310

Design	Plan #2 (07-16-09)			
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	134.44

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	
1,600.0	0.00	0.00	1,600.0	0.0	0.0	0.00	0.00	0.00	0.00	
2,341.2	14.82	134.44	2,333.0	-66.8	68.1	2.00	2.00	0.00	134.44	
4,341.9	14.82	134.44	4,267.0	-425.2	433.5	0.00	0.00	0.00	0.00	
5,083.1	0.00	0.00	5,000.0	-491.9	501.6	2.00	-2.00	0.00	180.00	TARGET BOULTEF
7,428.1	0.00	0.00	7,345.0	-491.9	501.6	0.00	0.00	0.00	0.00	

Database:	EDM den0-adp01 Server Data	Local Co-ordinate Reference:	Well Boulter G22-32D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4821.0ft (Original Well Elev)
Project:	SEC.21-T4N-R65W	MD Reference:	WELL @ 4821.0ft (Original Well Elev)
Site:	Boulter Pad Sec.21-T4N-R65W	North Reference:	True
Well:	Boulter G22-32D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Boulter G22-32D		
Design:	Plan #2 (07-16-09)		

## 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	0.00	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	0.80	134.44	1,640.0	-0.2	0.2	0.3	2.00	2.00	0.00
1,680.0	1.60	134.44	1,680.0	-0.8	0.8	1.1	2.00	2.00	0.00
1,720.0	2.40	134.44	1,720.0	-1.8	1.8	2.5	2.00	2.00	0.00
1,760.0	3.20	134.44	1,759.9	-3.1	3.2	4.5	2.00	2.00	0.00
1,800.0	4.00	134.44	1,799.8	-4.9	5.0	7.0	2.00	2.00	0.00
1,840.0	4.80	134.44	1,839.7	-7.0	7.2	10.0	2.00	2.00	0.00
1,880.0	5.60	134.44	1,879.6	-9.6	9.8	13.7	2.00	2.00	0.00
1,920.0	6.40	134.44	1,919.3	-12.5	12.7	17.9	2.00	2.00	0.00
1,960.0	7.20	134.44	1,959.1	-15.8	16.1	22.6	2.00	2.00	0.00
2,000.0	8.00	134.44	1,998.7	-19.5	19.9	27.9	2.00	2.00	0.00
2,040.0	8.80	134.44	2,038.3	-23.6	24.1	33.7	2.00	2.00	0.00
2,080.0	9.60	134.44	2,077.8	-28.1	28.6	40.1	2.00	2.00	0.00
2,120.0	10.40	134.44	2,117.1	-33.0	33.6	47.1	2.00	2.00	0.00



Database:	EDM den0-adp01 Server Data	Local Co-ordinate Reference:	Well Boulter G22-32D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4821.0ft (Original Well Elev)
Project:	SEC.21-T4N-R65W	MD Reference:	WELL @ 4821.0ft (Original Well Elev)
Site:	Boulter Pad Sec.21-T4N-R65W	North Reference:	True
Well:	Boulter G22-32D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Boulter G22-32D		
Design:	Plan #2 (07-16-09)		

## 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	11.20	134.44	2,156.4	-38.2	39.0	54.6	2.00	2.00	0.00
2,200.0	12.00	134.44	2,195.6	-43.8	44.7	62.6	2.00	2.00	0.00
2,240.0	12.80	134.44	2,234.7	-49.8	50.8	71.2	2.00	2.00	0.00
2,280.0	13.60	134.44	2,273.6	-56.2	57.4	80.3	2.00	2.00	0.00
2,320.0	14.40	134.44	2,312.4	-63.0	64.3	90.0	2.00	2.00	0.00
2,341.2	14.82	134.44	2,333.0	-66.8	68.1	95.3	2.00	2.00	0.00
2,360.0	14.82	134.44	2,351.1	-70.1	71.5	100.2	0.00	0.00	0.00
2,400.0	14.82	134.44	2,389.8	-77.3	78.8	110.4	0.00	0.00	0.00
2,440.0	14.82	134.44	2,428.5	-84.5	86.1	120.6	0.00	0.00	0.00
2,480.0	14.82	134.44	2,467.1	-91.6	93.4	130.9	0.00	0.00	0.00
2,520.0	14.82	134.44	2,505.8	-98.8	100.7	141.1	0.00	0.00	0.00
2,560.0	14.82	134.44	2,544.5	-106.0	108.0	151.3	0.00	0.00	0.00
2,600.0	14.82	134.44	2,583.1	-113.1	115.4	161.6	0.00	0.00	0.00
2,640.0	14.82	134.44	2,621.8	-120.3	122.7	171.8	0.00	0.00	0.00
2,680.0	14.82	134.44	2,660.5	-127.5	130.0	182.0	0.00	0.00	0.00
2,720.0	14.82	134.44	2,699.2	-134.6	137.3	192.3	0.00	0.00	0.00
2,760.0	14.82	134.44	2,737.8	-141.8	144.6	202.5	0.00	0.00	0.00
2,800.0	14.82	134.44	2,776.5	-148.9	151.9	212.7	0.00	0.00	0.00
2,840.0	14.82	134.44	2,815.2	-156.1	159.2	223.0	0.00	0.00	0.00
2,879.1	14.82	134.44	2,853.0	-163.1	166.3	233.0	0.00	0.00	0.00
<b>PIERRE SILT</b>									
2,880.0	14.82	134.44	2,853.8	-163.3	166.5	233.2	0.00	0.00	0.00
2,920.0	14.82	134.44	2,892.5	-170.4	173.8	243.4	0.00	0.00	0.00
2,960.0	14.82	134.44	2,931.2	-177.6	181.1	253.7	0.00	0.00	0.00
3,000.0	14.82	134.44	2,969.8	-184.8	188.4	263.9	0.00	0.00	0.00
3,040.0	14.82	134.44	3,008.5	-191.9	195.7	274.1	0.00	0.00	0.00
3,080.0	14.82	134.44	3,047.2	-199.1	203.0	284.4	0.00	0.00	0.00
3,120.0	14.82	134.44	3,085.8	-206.3	210.3	294.6	0.00	0.00	0.00
3,160.0	14.82	134.44	3,124.5	-213.4	217.7	304.8	0.00	0.00	0.00
3,200.0	14.82	134.44	3,163.2	-220.6	225.0	315.1	0.00	0.00	0.00
3,240.0	14.82	134.44	3,201.8	-227.8	232.3	325.3	0.00	0.00	0.00
3,280.0	14.82	134.44	3,240.5	-234.9	239.6	335.5	0.00	0.00	0.00
3,320.0	14.82	134.44	3,279.2	-242.1	246.9	345.8	0.00	0.00	0.00
3,360.0	14.82	134.44	3,317.8	-249.3	254.2	356.0	0.00	0.00	0.00
3,400.0	14.82	134.44	3,356.5	-256.4	261.5	366.2	0.00	0.00	0.00
3,440.0	14.82	134.44	3,395.2	-263.6	268.8	376.5	0.00	0.00	0.00
3,480.0	14.82	134.44	3,433.9	-270.8	276.1	386.7	0.00	0.00	0.00
3,520.0	14.82	134.44	3,472.5	-277.9	283.4	396.9	0.00	0.00	0.00
3,560.0	14.82	134.44	3,511.2	-285.1	290.7	407.2	0.00	0.00	0.00
3,600.0	14.82	134.44	3,549.9	-292.3	298.0	417.4	0.00	0.00	0.00
3,640.0	14.82	134.44	3,588.5	-299.4	305.3	427.6	0.00	0.00	0.00
3,680.0	14.82	134.44	3,627.2	-306.6	312.6	437.9	0.00	0.00	0.00
3,720.0	14.82	134.44	3,665.9	-313.8	319.9	448.1	0.00	0.00	0.00
3,760.0	14.82	134.44	3,704.5	-320.9	327.3	458.3	0.00	0.00	0.00
3,800.0	14.82	134.44	3,743.2	-328.1	334.6	468.6	0.00	0.00	0.00
3,840.0	14.82	134.44	3,781.9	-335.2	341.9	478.8	0.00	0.00	0.00
3,849.4	14.82	134.44	3,791.0	-336.9	343.6	481.2	0.00	0.00	0.00
<b>PARKMAN</b>									
3,880.0	14.82	134.44	3,820.5	-342.4	349.2	489.1	0.00	0.00	0.00
3,920.0	14.82	134.44	3,859.2	-349.6	356.5	499.3	0.00	0.00	0.00
3,960.0	14.82	134.44	3,897.9	-356.7	363.8	509.5	0.00	0.00	0.00
4,000.0	14.82	134.44	3,936.5	-363.9	371.1	519.8	0.00	0.00	0.00
4,040.0	14.82	134.44	3,975.2	-371.1	378.4	530.0	0.00	0.00	0.00

Database: EDM den0-adp01 Server Data  
 Company: NOBLE ENERGY INC WELD COUNTY CO  
 Project: SEC.21-T4N-R65W  
 Site: Boulter Pad Sec.21-T4N-R65W  
 Well: Boulter G22-32D  
 Wellbore: Boulter G22-32D  
 Design: Plan #2 (07-16-09)

Local Co-ordinate Reference: Well Boulter G22-32D  
 TVD Reference: WELL @ 4821.0ft (Original Well Elev)  
 MD Reference: WELL @ 4821.0ft (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)
4,080.0	14.82	134.44	4,013.9	-378.2	385.7	540.2	0.00	0.00	0.00
4,120.0	14.82	134.44	4,052.6	-385.4	393.0	550.5	0.00	0.00	0.00
4,160.0	14.82	134.44	4,091.2	-392.6	400.3	560.7	0.00	0.00	0.00
4,200.0	14.82	134.44	4,129.9	-399.7	407.6	570.9	0.00	0.00	0.00
4,240.0	14.82	134.44	4,168.6	-406.9	414.9	581.2	0.00	0.00	0.00
4,280.0	14.82	134.44	4,207.2	-414.1	422.2	591.4	0.00	0.00	0.00
4,320.0	14.82	134.44	4,245.9	-421.2	429.5	601.6	0.00	0.00	0.00
4,341.9	14.82	134.44	4,267.0	-425.2	433.5	607.2	0.00	0.00	0.00
4,360.0	14.46	134.44	4,284.6	-428.4	436.8	611.8	2.00	-2.00	0.00
4,400.0	13.66	134.44	4,323.4	-435.2	443.8	621.5	2.00	-2.00	0.00
4,440.0	12.86	134.44	4,362.3	-441.6	450.3	630.7	2.00	-2.00	0.00
4,480.0	12.06	134.44	4,401.4	-447.6	456.5	639.3	2.00	-2.00	0.00
4,504.1	11.58	134.44	4,425.0	-451.1	460.0	644.3	2.00	-2.00	0.00
<b>SUSSEX</b>									
4,520.0	11.26	134.44	4,440.5	-453.3	462.2	647.4	2.00	-2.00	0.00
4,560.0	10.46	134.44	4,479.8	-458.6	467.6	654.9	2.00	-2.00	0.00
4,600.0	9.66	134.44	4,519.2	-463.5	472.6	661.9	2.00	-2.00	0.00
4,640.0	8.86	134.44	4,558.7	-468.0	477.2	668.4	2.00	-2.00	0.00
4,680.0	8.06	134.44	4,598.3	-472.1	481.4	674.3	2.00	-2.00	0.00
4,720.0	7.26	134.44	4,637.9	-475.8	485.2	679.6	2.00	-2.00	0.00
4,760.0	6.46	134.44	4,677.6	-479.2	488.6	684.4	2.00	-2.00	0.00
4,800.0	5.66	134.44	4,717.4	-482.1	491.6	688.6	2.00	-2.00	0.00
4,840.0	4.86	134.44	4,757.2	-484.7	494.3	692.3	2.00	-2.00	0.00
4,880.0	4.06	134.44	4,797.1	-486.9	496.5	695.4	2.00	-2.00	0.00
4,920.0	3.26	134.44	4,837.0	-488.7	498.3	697.9	2.00	-2.00	0.00
4,960.0	2.46	134.44	4,877.0	-490.1	499.7	699.9	2.00	-2.00	0.00
5,000.0	1.66	134.44	4,916.9	-491.1	500.8	701.4	2.00	-2.00	0.00
5,040.0	0.86	134.44	4,956.9	-491.7	501.4	702.2	2.00	-2.00	0.00
5,067.1	0.32	134.44	4,984.0	-491.9	501.6	702.5	2.00	-2.00	0.00
<b>SHANNON</b>									
5,080.0	0.06	134.44	4,996.9	-491.9	501.6	702.6	2.00	-2.00	0.00
5,083.1	0.00	0.00	5,000.0	-491.9	501.6	702.6	2.00	-2.00	-4,376.49
<b>TARGET BOULTER G22-32D BHL 2575'FNL, 75'FEL</b>									
5,120.0	0.00	0.00	5,036.9	-491.9	501.6	702.6	0.00	0.00	0.00
5,160.0	0.00	0.00	5,076.9	-491.9	501.6	702.6	0.00	0.00	0.00
5,200.0	0.00	0.00	5,116.9	-491.9	501.6	702.6	0.00	0.00	0.00
5,240.0	0.00	0.00	5,156.9	-491.9	501.6	702.6	0.00	0.00	0.00
5,280.0	0.00	0.00	5,196.9	-491.9	501.6	702.6	0.00	0.00	0.00
5,320.0	0.00	0.00	5,236.9	-491.9	501.6	702.6	0.00	0.00	0.00
5,360.0	0.00	0.00	5,276.9	-491.9	501.6	702.6	0.00	0.00	0.00
5,400.0	0.00	0.00	5,316.9	-491.9	501.6	702.6	0.00	0.00	0.00
5,440.0	0.00	0.00	5,356.9	-491.9	501.6	702.6	0.00	0.00	0.00
5,480.0	0.00	0.00	5,396.9	-491.9	501.6	702.6	0.00	0.00	0.00
5,520.0	0.00	0.00	5,436.9	-491.9	501.6	702.6	0.00	0.00	0.00
5,560.0	0.00	0.00	5,476.9	-491.9	501.6	702.6	0.00	0.00	0.00
5,600.0	0.00	0.00	5,516.9	-491.9	501.6	702.6	0.00	0.00	0.00
5,640.0	0.00	0.00	5,556.9	-491.9	501.6	702.6	0.00	0.00	0.00
5,680.0	0.00	0.00	5,596.9	-491.9	501.6	702.6	0.00	0.00	0.00
5,720.0	0.00	0.00	5,636.9	-491.9	501.6	702.6	0.00	0.00	0.00
5,760.0	0.00	0.00	5,676.9	-491.9	501.6	702.6	0.00	0.00	0.00
5,800.0	0.00	0.00	5,716.9	-491.9	501.6	702.6	0.00	0.00	0.00
5,840.0	0.00	0.00	5,756.9	-491.9	501.6	702.6	0.00	0.00	0.00
5,880.0	0.00	0.00	5,796.9	-491.9	501.6	702.6	0.00	0.00	0.00



Database:	EDM den0-adp01 Server Data	Local Co-ordinate Reference:	Well Boulter G22-32D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4821.0ft (Original Well Elev)
Project:	SEC.21-T4N-R65W	MD Reference:	WELL @ 4821.0ft (Original Well Elev)
Site:	Boulter Pad Sec.21-T4N-R65W	North Reference:	True
Well:	Boulter G22-32D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Boulter G22-32D		
Design:	Plan #2 (07-16-09)		

## 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)
5,920.0	0.00	0.00	5,836.9	-491.9	501.6	702.6	0.00	0.00	0.00
5,960.0	0.00	0.00	5,876.9	-491.9	501.6	702.6	0.00	0.00	0.00
6,000.0	0.00	0.00	5,916.9	-491.9	501.6	702.6	0.00	0.00	0.00
6,040.0	0.00	0.00	5,956.9	-491.9	501.6	702.6	0.00	0.00	0.00
6,080.0	0.00	0.00	5,996.9	-491.9	501.6	702.6	0.00	0.00	0.00
6,120.0	0.00	0.00	6,036.9	-491.9	501.6	702.6	0.00	0.00	0.00
6,160.0	0.00	0.00	6,076.9	-491.9	501.6	702.6	0.00	0.00	0.00
6,200.0	0.00	0.00	6,116.9	-491.9	501.6	702.6	0.00	0.00	0.00
6,240.0	0.00	0.00	6,156.9	-491.9	501.6	702.6	0.00	0.00	0.00
6,246.1	0.00	0.00	6,163.0	-491.9	501.6	702.6	0.00	0.00	0.00
<b>TEEPEE BUTTES</b>									
6,280.0	0.00	0.00	6,196.9	-491.9	501.6	702.6	0.00	0.00	0.00
6,320.0	0.00	0.00	6,236.9	-491.9	501.6	702.6	0.00	0.00	0.00
6,360.0	0.00	0.00	6,276.9	-491.9	501.6	702.6	0.00	0.00	0.00
6,400.0	0.00	0.00	6,316.9	-491.9	501.6	702.6	0.00	0.00	0.00
6,440.0	0.00	0.00	6,356.9	-491.9	501.6	702.6	0.00	0.00	0.00
6,480.0	0.00	0.00	6,396.9	-491.9	501.6	702.6	0.00	0.00	0.00
6,520.0	0.00	0.00	6,436.9	-491.9	501.6	702.6	0.00	0.00	0.00
6,560.0	0.00	0.00	6,476.9	-491.9	501.6	702.6	0.00	0.00	0.00
6,600.0	0.00	0.00	6,516.9	-491.9	501.6	702.6	0.00	0.00	0.00
6,640.0	0.00	0.00	6,556.9	-491.9	501.6	702.6	0.00	0.00	0.00
6,680.0	0.00	0.00	6,596.9	-491.9	501.6	702.6	0.00	0.00	0.00
6,720.0	0.00	0.00	6,636.9	-491.9	501.6	702.6	0.00	0.00	0.00
6,760.0	0.00	0.00	6,676.9	-491.9	501.6	702.6	0.00	0.00	0.00
6,800.0	0.00	0.00	6,716.9	-491.9	501.6	702.6	0.00	0.00	0.00
6,840.0	0.00	0.00	6,756.9	-491.9	501.6	702.6	0.00	0.00	0.00
6,880.0	0.00	0.00	6,796.9	-491.9	501.6	702.6	0.00	0.00	0.00
6,920.0	0.00	0.00	6,836.9	-491.9	501.6	702.6	0.00	0.00	0.00
6,960.0	0.00	0.00	6,876.9	-491.9	501.6	702.6	0.00	0.00	0.00
6,976.1	0.00	0.00	6,893.0	-491.9	501.6	702.6	0.00	0.00	0.00
<b>NIOBRARA</b>									
7,000.0	0.00	0.00	6,916.9	-491.9	501.6	702.6	0.00	0.00	0.00
7,040.0	0.00	0.00	6,956.9	-491.9	501.6	702.6	0.00	0.00	0.00
7,080.0	0.00	0.00	6,996.9	-491.9	501.6	702.6	0.00	0.00	0.00
7,120.0	0.00	0.00	7,036.9	-491.9	501.6	702.6	0.00	0.00	0.00
7,160.0	0.00	0.00	7,076.9	-491.9	501.6	702.6	0.00	0.00	0.00
7,200.0	0.00	0.00	7,116.9	-491.9	501.6	702.6	0.00	0.00	0.00
7,240.0	0.00	0.00	7,156.9	-491.9	501.6	702.6	0.00	0.00	0.00
7,253.1	0.00	0.00	7,170.0	-491.9	501.6	702.6	0.00	0.00	0.00
<b>FT HAYS</b>									
7,278.1	0.00	0.00	7,195.0	-491.9	501.6	702.6	0.00	0.00	0.00
<b>CODELL</b>									
7,280.0	0.00	0.00	7,196.9	-491.9	501.6	702.6	0.00	0.00	0.00
7,320.0	0.00	0.00	7,236.9	-491.9	501.6	702.6	0.00	0.00	0.00
7,360.0	0.00	0.00	7,276.9	-491.9	501.6	702.6	0.00	0.00	0.00
7,400.0	0.00	0.00	7,316.9	-491.9	501.6	702.6	0.00	0.00	0.00
7,428.1	0.00	0.00	7,345.0	-491.9	501.6	702.6	0.00	0.00	0.00
<b>HARDLINE 75'S AND E OF BOULTER G22-32D BHL</b>									

Database:	EDM den0-adp01 Server Data	Local Co-ordinate Reference:	Well Boulter G22-32D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4821.0ft (Original Well Elev)
Project:	SEC.21-T4N-R65W	MD Reference:	WELL @ 4821.0ft (Original Well Elev)
Site:	Boulter Pad Sec.21-T4N-R65W	North Reference:	True
Well:	Boulter G22-32D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Boulter G22-32D		
Design:	Plan #2 (07-16-09)		

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									
TARGET BOULTER C	0.00	0.00	5,000.0	-491.9	501.6	1,352,554.73	3,234,564.10	40° 17' 53.195 N	104° 39' 32.550 W
- plan hits target center									
- Point									
HARDLINE 75'S AND	0.00	0.00	7,345.0	-566.9	576.6	1,352,480.46	3,234,639.77	40° 17' 52.454 N	104° 39' 31.582 W
- plan misses target center by 106.0ft at 7428.1ft MD (7345.0 TVD, -491.9 N, 501.6 E)									
- Polygon									
Point 1			7,345.0	0.0	0.0	1,352,480.46	3,234,639.77		
Point 2			7,345.0	0.0	-200.0	1,352,478.57	3,234,439.79		
Point 3			7,345.0	0.0	0.0	1,352,480.46	3,234,639.77		
Point 4			7,345.0	200.0	0.0	1,352,680.44	3,234,637.88		

Formations						
Measured Depth	Vertical Depth	Name	Lithology	Dip	Dip Direction	
(ft)	(ft)			(°)	(°)	
2,879.1	2,853.0	PIERRE SILT		0.00		
3,849.4	3,791.0	PARKMAN		0.00		
4,504.1	4,425.0	SUSSEX		0.00		
5,067.1	4,984.0	SHANNON		0.00		
6,246.1	6,163.0	TEEPEE BUTTES		0.00		
6,976.1	6,893.0	NIOBRARA		0.00		
7,253.1	7,170.0	FT HAYS		0.00		
7,278.1	7,195.0	CODELL		0.00		