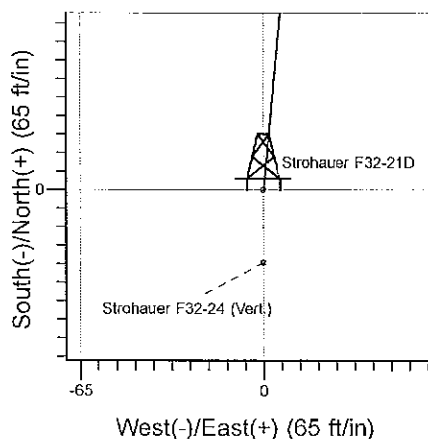
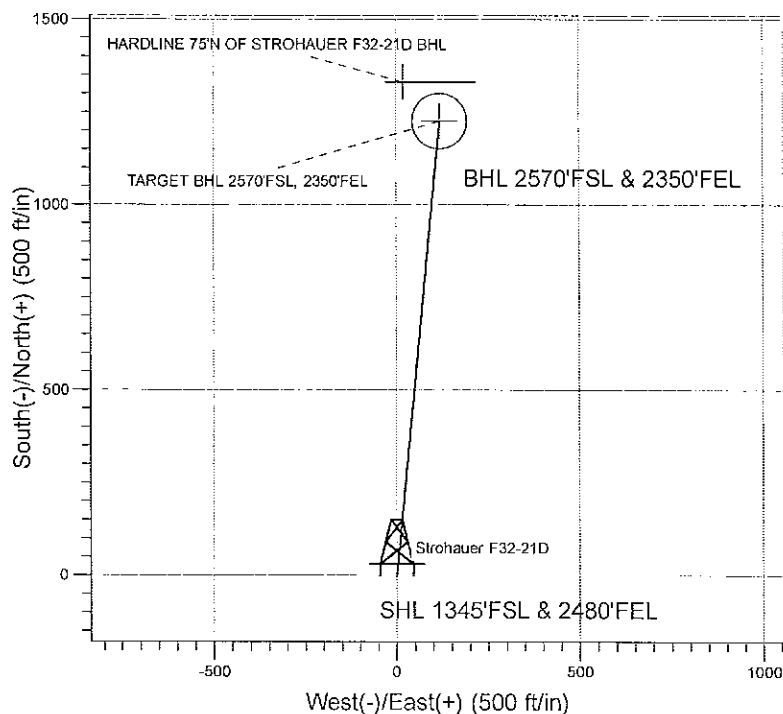
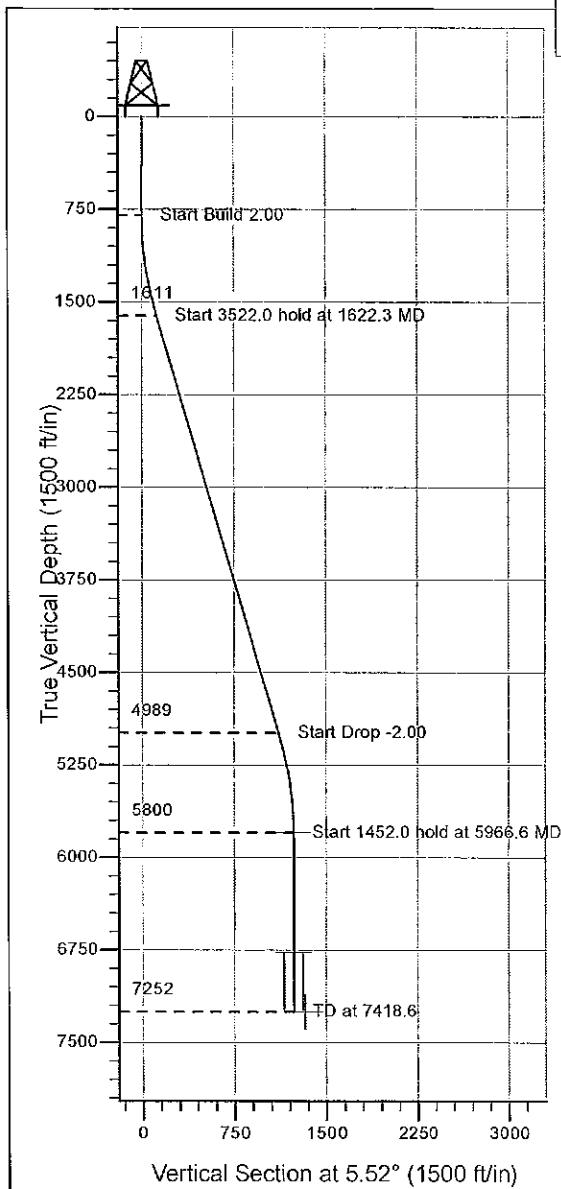


**ENSIGN****Directional****Well Name: Strohauer F32-21D**

Surface Location: Strohauer F32-21D Pad Sec.32-T5N-R65W  
 North American Datum 1983 , US State Plane 1983 , Colorado Northern Zone  
 Ground Elevation: 4669.0  
 +N/-S+E/-W Northing Easting Latitude Longitude Slot  
 0.0 0.0 1372179.15 3226655.14 40° 21' 7.848 N 104° 41' 12.300 W  
 Original Well Elev WELL @ 4682.0ft (Original Well Elev)

**NOBLE ENERGY INC WELD COUNTY CO**

Strohauer F32-21D Pad Sec.32-T5N-R65W  
 Strohauer F32-21D  
 Noble Strohauer F32-21D Plan #1 (01-29-10)  
 14:23, January 29 2010



Azimuths to True North  
 Magnetic North: 8.98°

Magnetic Field  
 Strength: 53288.7snT  
 Dip Angle: 67.08°  
 Date: 12/31/2009  
 Model: IGRF200510

**WELLBORE TARGET DETAILS (LAT/LONG)**

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
TARGET BHL 2570'FSL, 2350'FEL	5800.0	1225.8	118.5	40° 21' 19.961 N	104° 41' 10.770 W	Point
TARGET CIRCLE 2570'FSL, 2350'FEL	6767.0	1225.8	118.5	40° 21' 19.961 N	104° 41' 10.769 W	Circle (Radius: 75.0)
HARDLINE 75'N OF STROHAUER F32-21D BHL	7252.0	1330.8	18.5	40° 21' 20.998 N	104° 41' 12.061 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	800.0	0.00	0.00	800.0	0.0	0.0	0.00	0.00	0.0	
3	1622.3	16.45	5.52	1611.1	116.7	11.3	2.00	5.52	117.2	
4	5144.3	16.45	5.52	4988.9	1109.2	107.2	0.00	0.00	1114.3	
5	5966.6	0.00	0.00	5800.0	1225.8	118.5	2.00	180.00	1231.5	TARGET BHL 2570'FSL, 2350'FEL
6	7418.6	0.00	0.00	7252.0	1225.8	118.5	0.00	0.00	1231.5	

**ENSIGN**

**Directional**

**NOBLE ENERGY INC WELD  
COUNTY CO**

**SEC.32-T5N-R65W**

**Strohauer F32-21D Pad Sec.32-T5N-R65W**

**Strohauer F32-21D**

**Wellbore #1**

**Plan: Noble Strohauer F32-21D Plan #1 (01-29-10)**

**Standard Planning Report**

**29 January, 2010**



**Database:** EDM den0-adp01 Server Data  
**Company:** NOBLE ENERGY INC WELD COUNTY CO  
**Project:** SEC.32-T5N-R65W  
**Site:** Strothauer F32-21D Pad Sec.32-T5N-R65W  
**Well:** Strothauer F32-21D  
**Wellbore:** Wellbore #1  
**Design:** Noble Strothauer F32-21D Plan #1 (01-29-10)

**Local Co-ordinate Reference:** Well Strothauer F32-21D  
**TVD Reference:** WELL @ 4682.0ft (Original Well Elev)  
**MD Reference:** WELL @ 4682.0ft (Original Well Elev)  
**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature

<b>Project</b>	SEC.32-T5N-R65W, 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	Strohauer F32-21D Pad Sec.32-T5N-R65W				
Site Position:		Northing:	1,372,179.15 ft	Latitude:	40° 21' 7.848 N
From:	Lat/Long	Easting:	3,226,655.14 ft	Longitude:	104° 41' 12.300 W
Position Uncertainty:	0.0 ft	Slot Radius:	"	Grid Convergence:	0.53 °

Well	Strohauer F32-21D					
Well Position	+N/-S	0.0 ft	Northing:	1,372,179.15 ft	Latitude:	40° 21' 7.848 N
	+E/-W	0.0 ft	Easting:	3,226,655.14 ft	Longitude:	104° 41' 12.300 W
Position Uncertainty	0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,669.0 ft	

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	12/31/2009	8.98	67.08	53,289

<b>Design</b>	Noble Strothauer F32-21D Plan #1 (01-29-10)			
<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	5.52

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	
800.0	0.00	0.00	800.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,622.3	16.45	5.52	1,611.1	116.7	11.3	2.00	2.00	0.00	5.52	
5,144.3	16.45	5.52	4,988.9	1,109.2	107.2	0.00	0.00	0.00	0.00	
5,966.6	0.00	0.00	5,800.0	1,225.8	118.5	2.00	-2.00	0.00	180.00	TARGET BHL 2570
7,418.6	0.00	0.00	7,252.0	1,225.8	118.5	0.00	0.00	0.00	0.00	

Database: EDM den0-adp01 Server Data  
 Company: NOBLE ENERGY INC WELD COUNTY CO  
 Project: SEC.32-T5N-R65W  
 Site: Strothauer F32-21D Pad Sec.32-T5N-R65W  
 Well: Strothauer F32-21D  
 Wellbore: Wellbore #1  
 Design: Noble Strothauer F32-21D Plan #1 (01-29-10)

Local Co-ordinate Reference: Well Strothauer F32-21D  
 TVD Reference: WELL @ 4682.0ft (Original Well Elev)  
 MD Reference: WELL @ 4682.0ft (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
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	0.80	5.52	840.0	0.3	0.0	0.3	2.00	2.00	0.00
880.0	1.60	5.52	880.0	1.1	0.1	1.1	2.00	2.00	0.00
920.0	2.40	5.52	920.0	2.5	0.2	2.5	2.00	2.00	0.00
960.0	3.20	5.52	959.9	4.4	0.4	4.5	2.00	2.00	0.00
1,000.0	4.00	5.52	999.8	6.9	0.7	7.0	2.00	2.00	0.00
1,040.0	4.80	5.52	1,039.7	10.0	1.0	10.0	2.00	2.00	0.00
1,080.0	5.60	5.52	1,079.6	13.6	1.3	13.7	2.00	2.00	0.00
1,120.0	6.40	5.52	1,119.3	17.8	1.7	17.9	2.00	2.00	0.00
1,160.0	7.20	5.52	1,159.1	22.5	2.2	22.6	2.00	2.00	0.00
1,200.0	8.00	5.52	1,198.7	27.8	2.7	27.9	2.00	2.00	0.00
1,240.0	8.80	5.52	1,238.3	33.6	3.2	33.7	2.00	2.00	0.00
1,280.0	9.60	5.52	1,277.8	39.9	3.9	40.1	2.00	2.00	0.00
1,320.0	10.40	5.52	1,317.1	46.8	4.5	47.1	2.00	2.00	0.00
1,360.0	11.20	5.52	1,356.4	54.3	5.2	54.6	2.00	2.00	0.00
1,400.0	12.00	5.52	1,395.6	62.3	6.0	62.6	2.00	2.00	0.00
1,440.0	12.80	5.52	1,434.7	70.9	6.8	71.2	2.00	2.00	0.00
1,480.0	13.60	5.52	1,473.6	80.0	7.7	80.3	2.00	2.00	0.00
1,520.0	14.40	5.52	1,512.4	89.6	8.7	90.0	2.00	2.00	0.00
1,560.0	15.20	5.52	1,551.1	99.8	9.6	100.2	2.00	2.00	0.00
1,600.0	16.00	5.52	1,589.6	110.5	10.7	111.0	2.00	2.00	0.00
1,622.3	16.45	5.52	1,611.1	116.7	11.3	117.2	2.00	2.00	0.00
1,640.0	16.45	5.52	1,628.0	121.7	11.8	122.2	0.00	0.00	0.00
1,680.0	16.45	5.52	1,666.4	132.9	12.8	133.5	0.00	0.00	0.00
1,720.0	16.45	5.52	1,704.8	144.2	13.9	144.9	0.00	0.00	0.00
1,760.0	16.45	5.52	1,743.1	155.5	15.0	156.2	0.00	0.00	0.00
1,800.0	16.45	5.52	1,781.5	166.7	16.1	167.5	0.00	0.00	0.00
1,840.0	16.45	5.52	1,819.8	178.0	17.2	178.8	0.00	0.00	0.00
1,880.0	16.45	5.52	1,858.2	189.3	18.3	190.2	0.00	0.00	0.00
1,920.0	16.45	5.52	1,896.6	200.6	19.4	201.5	0.00	0.00	0.00
1,960.0	16.45	5.52	1,934.9	211.8	20.5	212.8	0.00	0.00	0.00
2,000.0	16.45	5.52	1,973.3	223.1	21.6	224.1	0.00	0.00	0.00
2,040.0	16.45	5.52	2,011.7	234.4	22.7	235.5	0.00	0.00	0.00
2,080.0	16.45	5.52	2,050.0	245.6	23.7	246.8	0.00	0.00	0.00

Database: EDM den0-adp01 Server Data  
 Company: NOBLE ENERGY INC WELD COUNTY CO  
 Project: SEC.32-T5N-R65W  
 Site: Strohauser F32-21D Pad Sec.32-T5N-R65W  
 Well: Strohauser F32-21D  
 Wellbore: Wellbore #1  
 Design: Noble Strohauser F32-21D Plan #1 (01-29-10)

Local Co-ordinate Reference: Well Strohauser F32-21D  
 TVD Reference: WELL @ 4682.0ft (Original Well Elev)  
 MD Reference: WELL @ 4682.0ft (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)
2,120.0	16.45	5.52	2,088.4	256.9	24.8	258.1	0.00	0.00	0.00
2,160.0	16.45	5.52	2,126.8	268.2	25.9	269.4	0.00	0.00	0.00
2,200.0	16.45	5.52	2,165.1	279.5	27.0	280.8	0.00	0.00	0.00
2,240.0	16.45	5.52	2,203.5	290.7	28.1	292.1	0.00	0.00	0.00
2,280.0	16.45	5.52	2,241.8	302.0	29.2	303.4	0.00	0.00	0.00
2,320.0	16.45	5.52	2,280.2	313.3	30.3	314.7	0.00	0.00	0.00
2,360.0	16.45	5.52	2,318.6	324.6	31.4	326.1	0.00	0.00	0.00
2,400.0	16.45	5.52	2,356.9	335.8	32.5	337.4	0.00	0.00	0.00
2,440.0	16.45	5.52	2,395.3	347.1	33.5	348.7	0.00	0.00	0.00
2,480.0	16.45	5.52	2,433.7	358.4	34.6	360.0	0.00	0.00	0.00
2,520.0	16.45	5.52	2,472.0	369.6	35.7	371.4	0.00	0.00	0.00
2,560.0	16.45	5.52	2,510.4	380.9	36.8	382.7	0.00	0.00	0.00
2,600.0	16.45	5.52	2,548.8	392.2	37.9	394.0	0.00	0.00	0.00
2,640.0	16.45	5.52	2,587.1	403.5	39.0	405.3	0.00	0.00	0.00
2,680.0	16.45	5.52	2,625.5	414.7	40.1	416.7	0.00	0.00	0.00
2,720.0	16.45	5.52	2,663.8	426.0	41.2	428.0	0.00	0.00	0.00
2,760.0	16.45	5.52	2,702.2	437.3	42.3	439.3	0.00	0.00	0.00
2,800.0	16.45	5.52	2,740.6	448.5	43.3	450.6	0.00	0.00	0.00
2,840.0	16.45	5.52	2,778.9	459.8	44.4	462.0	0.00	0.00	0.00
2,880.0	16.45	5.52	2,817.3	471.1	45.5	473.3	0.00	0.00	0.00
2,920.0	16.45	5.52	2,855.7	482.4	46.6	484.6	0.00	0.00	0.00
2,960.0	16.45	5.52	2,894.0	493.6	47.7	495.9	0.00	0.00	0.00
3,000.0	16.45	5.52	2,932.4	504.9	48.8	507.3	0.00	0.00	0.00
3,040.0	16.45	5.52	2,970.8	516.2	49.9	518.6	0.00	0.00	0.00
3,080.0	16.45	5.52	3,009.1	527.4	51.0	529.9	0.00	0.00	0.00
3,120.0	16.45	5.52	3,047.5	538.7	52.1	541.2	0.00	0.00	0.00
3,160.0	16.45	5.52	3,085.8	550.0	53.2	552.6	0.00	0.00	0.00
3,200.0	16.45	5.52	3,124.2	561.3	54.2	563.9	0.00	0.00	0.00
3,240.0	16.45	5.52	3,162.6	572.5	55.3	575.2	0.00	0.00	0.00
3,280.0	16.45	5.52	3,200.9	583.8	56.4	586.5	0.00	0.00	0.00
3,320.0	16.45	5.52	3,239.3	595.1	57.5	597.9	0.00	0.00	0.00
3,360.0	16.45	5.52	3,277.7	606.4	58.6	609.2	0.00	0.00	0.00
3,400.0	16.45	5.52	3,316.0	617.6	59.7	620.5	0.00	0.00	0.00
3,440.0	16.45	5.52	3,354.4	628.9	60.8	631.8	0.00	0.00	0.00
3,480.0	16.45	5.52	3,392.7	640.2	61.9	643.2	0.00	0.00	0.00
3,520.0	16.45	5.52	3,431.1	651.4	63.0	654.5	0.00	0.00	0.00
3,560.0	16.45	5.52	3,469.5	662.7	64.0	665.8	0.00	0.00	0.00
3,600.0	16.45	5.52	3,507.8	674.0	65.1	677.1	0.00	0.00	0.00
3,640.0	16.45	5.52	3,546.2	685.3	66.2	688.5	0.00	0.00	0.00
3,680.0	16.45	5.52	3,584.6	696.5	67.3	699.8	0.00	0.00	0.00
3,720.0	16.45	5.52	3,622.9	707.8	68.4	711.1	0.00	0.00	0.00
3,760.0	16.45	5.52	3,661.3	719.1	69.5	722.4	0.00	0.00	0.00
3,800.0	16.45	5.52	3,699.7	730.3	70.6	733.8	0.00	0.00	0.00
3,840.0	16.45	5.52	3,738.0	741.6	71.7	745.1	0.00	0.00	0.00
3,880.0	16.45	5.52	3,776.4	752.9	72.8	756.4	0.00	0.00	0.00
3,920.0	16.45	5.52	3,814.7	764.2	73.8	767.7	0.00	0.00	0.00
3,960.0	16.45	5.52	3,853.1	775.4	74.9	779.0	0.00	0.00	0.00
4,000.0	16.45	5.52	3,891.5	786.7	76.0	790.4	0.00	0.00	0.00
4,040.0	16.45	5.52	3,929.8	798.0	77.1	801.7	0.00	0.00	0.00
4,080.0	16.45	5.52	3,968.2	809.3	78.2	813.0	0.00	0.00	0.00
4,120.0	16.45	5.52	4,006.6	820.5	79.3	824.3	0.00	0.00	0.00
4,160.0	16.45	5.52	4,044.9	831.8	80.4	835.7	0.00	0.00	0.00
4,200.0	16.45	5.52	4,083.3	843.1	81.5	847.0	0.00	0.00	0.00
4,240.0	16.45	5.52	4,121.7	854.3	82.6	858.3	0.00	0.00	0.00

# ENSIGN

## Directional

## ENSIGN DIRECTIONAL

### Planning Report



Database: EDM den0-adp01 Server Data  
 Company: NOBLE ENERGY INC WELD COUNTY CO  
 Project: SEC.32-T5N-R65W  
 Site: Strohauer F32-21D Pad Sec.32-T5N-R65W  
 Well: Strohauer F32-21D  
 Wellbore: Wellbore #1  
 Design: Noble Strohauer F32-21D Plan #1 (01-29-10)

Local Co-ordinate Reference: Well Strohauer F32-21D  
 TVD Reference: WELL @ 4682.0ft (Original Well Elev)  
 MD Reference: WELL @ 4682.0ft (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)
4,280.0	16.45	5.52	4,160.0	865.6	83.7	869.6	0.00	0.00	0.00
4,320.0	16.45	5.52	4,198.4	876.9	84.7	881.0	0.00	0.00	0.00
4,360.0	16.45	5.52	4,236.7	888.2	85.8	892.3	0.00	0.00	0.00
4,400.0	16.45	5.52	4,275.1	899.4	86.9	903.6	0.00	0.00	0.00
4,440.0	16.45	5.52	4,313.5	910.7	88.0	914.9	0.00	0.00	0.00
4,480.0	16.45	5.52	4,351.8	922.0	89.1	926.3	0.00	0.00	0.00
4,520.0	16.45	5.52	4,390.2	933.2	90.2	937.6	0.00	0.00	0.00
4,560.0	16.45	5.52	4,428.6	944.5	91.3	948.9	0.00	0.00	0.00
4,600.0	16.45	5.52	4,466.9	955.8	92.4	960.2	0.00	0.00	0.00
4,640.0	16.45	5.52	4,505.3	967.1	93.5	971.6	0.00	0.00	0.00
4,680.0	16.45	5.52	4,543.7	978.3	94.5	982.9	0.00	0.00	0.00
4,720.0	16.45	5.52	4,582.0	989.6	95.6	994.2	0.00	0.00	0.00
4,760.0	16.45	5.52	4,620.4	1,000.9	96.7	1,005.5	0.00	0.00	0.00
4,800.0	16.45	5.52	4,658.7	1,012.2	97.8	1,016.9	0.00	0.00	0.00
4,840.0	16.45	5.52	4,697.1	1,023.4	98.9	1,028.2	0.00	0.00	0.00
4,880.0	16.45	5.52	4,735.5	1,034.7	100.0	1,039.5	0.00	0.00	0.00
4,920.0	16.45	5.52	4,773.8	1,046.0	101.1	1,050.8	0.00	0.00	0.00
4,960.0	16.45	5.52	4,812.2	1,057.2	102.2	1,062.2	0.00	0.00	0.00
5,000.0	16.45	5.52	4,850.6	1,068.5	103.3	1,073.5	0.00	0.00	0.00
5,040.0	16.45	5.52	4,888.9	1,079.8	104.4	1,084.8	0.00	0.00	0.00
5,080.0	16.45	5.52	4,927.3	1,091.1	105.4	1,096.1	0.00	0.00	0.00
5,120.0	16.45	5.52	4,965.6	1,102.3	106.5	1,107.5	0.00	0.00	0.00
5,144.3	16.45	5.52	4,988.9	1,109.2	107.2	1,114.3	0.00	0.00	0.00
5,160.0	16.13	5.52	5,004.0	1,113.6	107.6	1,118.7	2.00	-2.00	0.00
5,200.0	15.33	5.52	5,042.5	1,124.4	108.7	1,129.6	2.00	-2.00	0.00
5,240.0	14.53	5.52	5,081.2	1,134.6	109.7	1,139.9	2.00	-2.00	0.00
5,280.0	13.73	5.52	5,120.0	1,144.3	110.6	1,149.7	2.00	-2.00	0.00
5,320.0	12.93	5.52	5,158.9	1,153.5	111.5	1,158.9	2.00	-2.00	0.00
5,360.0	12.13	5.52	5,197.9	1,162.2	112.3	1,167.6	2.00	-2.00	0.00
5,400.0	11.33	5.52	5,237.1	1,170.3	113.1	1,175.7	2.00	-2.00	0.00
5,440.0	10.53	5.52	5,276.4	1,177.8	113.8	1,183.3	2.00	-2.00	0.00
5,480.0	9.73	5.52	5,315.7	1,184.8	114.5	1,190.3	2.00	-2.00	0.00
5,520.0	8.93	5.52	5,355.2	1,191.3	115.1	1,196.8	2.00	-2.00	0.00
5,560.0	8.13	5.52	5,394.8	1,197.2	115.7	1,202.7	2.00	-2.00	0.00
5,600.0	7.33	5.52	5,434.4	1,202.5	116.2	1,208.1	2.00	-2.00	0.00
5,640.0	6.53	5.52	5,474.1	1,207.3	116.7	1,213.0	2.00	-2.00	0.00
5,680.0	5.73	5.52	5,513.9	1,211.6	117.1	1,217.2	2.00	-2.00	0.00
5,720.0	4.93	5.52	5,553.7	1,215.3	117.4	1,220.9	2.00	-2.00	0.00
5,760.0	4.13	5.52	5,593.6	1,218.4	117.8	1,224.1	2.00	-2.00	0.00
5,800.0	3.33	5.52	5,633.5	1,221.0	118.0	1,226.7	2.00	-2.00	0.00
5,840.0	2.53	5.52	5,673.4	1,223.1	118.2	1,228.8	2.00	-2.00	0.00
5,880.0	1.73	5.52	5,713.4	1,224.5	118.3	1,230.2	2.00	-2.00	0.00
5,920.0	0.93	5.52	5,753.4	1,225.5	118.4	1,231.2	2.00	-2.00	0.00
5,960.0	0.13	5.52	5,793.4	1,225.8	118.5	1,231.5	2.00	-2.00	0.00
5,966.6	0.00	0.00	5,800.0	1,225.8	118.5	1,231.5	2.00	-2.00	0.00
TARGET BHL 2570'FSL, 2350'FEL									
6,000.0	0.00	0.00	5,833.4	1,225.8	118.5	1,231.5	0.00	0.00	0.00
6,040.0	0.00	0.00	5,873.4	1,225.8	118.5	1,231.5	0.00	0.00	0.00
6,080.0	0.00	0.00	5,913.4	1,225.8	118.5	1,231.5	0.00	0.00	0.00
6,120.0	0.00	0.00	5,953.4	1,225.8	118.5	1,231.5	0.00	0.00	0.00
6,160.0	0.00	0.00	5,993.4	1,225.8	118.5	1,231.5	0.00	0.00	0.00
6,200.0	0.00	0.00	6,033.4	1,225.8	118.5	1,231.5	0.00	0.00	0.00
6,240.0	0.00	0.00	6,073.4	1,225.8	118.5	1,231.5	0.00	0.00	0.00

**Database:** EDM den0-adp01 Server Data  
**Company:** NOBLE ENERGY INC WELD COUNTY CO  
**Project:** SEC.32-T5N-R65W  
**Site:** Strothauer F32-21D Pad Sec.32-T5N-R65W  
**Well:** Strothauer F32-21D  
**Wellbore:** Wellbore #1  
**Design:** Noble Strothauer F32-21D Plan #1 (01-29-10)

**Local Co-ordinate Reference:** Well Strothauer F32-21D  
**TVD Reference:** WELL @ 4682.0ft (Original Well Elev)  
**MD Reference:** WELL @ 4682.0ft (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)
6,280.0	0.00	0.00	6,113.4	1,225.8	118.5	1,231.5	0.00	0.00	0.00
6,320.0	0.00	0.00	6,153.4	1,225.8	118.5	1,231.5	0.00	0.00	0.00
6,360.0	0.00	0.00	6,193.4	1,225.8	118.5	1,231.5	0.00	0.00	0.00
6,400.0	0.00	0.00	6,233.4	1,225.8	118.5	1,231.5	0.00	0.00	0.00
6,440.0	0.00	0.00	6,273.4	1,225.8	118.5	1,231.5	0.00	0.00	0.00
6,480.0	0.00	0.00	6,313.4	1,225.8	118.5	1,231.5	0.00	0.00	0.00
6,520.0	0.00	0.00	6,353.4	1,225.8	118.5	1,231.5	0.00	0.00	0.00
6,560.0	0.00	0.00	6,393.4	1,225.8	118.5	1,231.5	0.00	0.00	0.00
6,600.0	0.00	0.00	6,433.4	1,225.8	118.5	1,231.5	0.00	0.00	0.00
6,640.0	0.00	0.00	6,473.4	1,225.8	118.5	1,231.5	0.00	0.00	0.00
6,680.0	0.00	0.00	6,513.4	1,225.8	118.5	1,231.5	0.00	0.00	0.00
6,720.0	0.00	0.00	6,553.4	1,225.8	118.5	1,231.5	0.00	0.00	0.00
6,760.0	0.00	0.00	6,593.4	1,225.8	118.5	1,231.5	0.00	0.00	0.00
6,800.0	0.00	0.00	6,633.4	1,225.8	118.5	1,231.5	0.00	0.00	0.00
6,840.0	0.00	0.00	6,673.4	1,225.8	118.5	1,231.5	0.00	0.00	0.00
6,880.0	0.00	0.00	6,713.4	1,225.8	118.5	1,231.5	0.00	0.00	0.00
6,920.0	0.00	0.00	6,753.4	1,225.8	118.5	1,231.5	0.00	0.00	0.00
6,933.6	0.00	0.00	6,767.0	1,225.8	118.5	1,231.5	0.00	0.00	0.00
<b>NIORARA - TARGET CIRCLE 2570'FSL, 2350'FEL</b>									
6,960.0	0.00	0.00	6,793.4	1,225.8	118.5	1,231.5	0.00	0.00	0.00
7,000.0	0.00	0.00	6,833.4	1,225.8	118.5	1,231.5	0.00	0.00	0.00
7,040.0	0.00	0.00	6,873.4	1,225.8	118.5	1,231.5	0.00	0.00	0.00
7,080.0	0.00	0.00	6,913.4	1,225.8	118.5	1,231.5	0.00	0.00	0.00
7,120.0	0.00	0.00	6,953.4	1,225.8	118.5	1,231.5	0.00	0.00	0.00
7,160.0	0.00	0.00	6,993.4	1,225.8	118.5	1,231.5	0.00	0.00	0.00
7,200.0	0.00	0.00	7,033.4	1,225.8	118.5	1,231.5	0.00	0.00	0.00
7,240.0	0.00	0.00	7,073.4	1,225.8	118.5	1,231.5	0.00	0.00	0.00
7,268.6	0.00	0.00	7,102.0	1,225.8	118.5	1,231.5	0.00	0.00	0.00
<b>CODELL</b>									
7,280.0	0.00	0.00	7,113.4	1,225.8	118.5	1,231.5	0.00	0.00	0.00
7,320.0	0.00	0.00	7,153.4	1,225.8	118.5	1,231.5	0.00	0.00	0.00
7,360.0	0.00	0.00	7,193.4	1,225.8	118.5	1,231.5	0.00	0.00	0.00
7,400.0	0.00	0.00	7,233.4	1,225.8	118.5	1,231.5	0.00	0.00	0.00
7,418.6	0.00	0.00	7,252.0	1,225.8	118.5	1,231.5	0.00	0.00	0.00
<b>HARDLINE 75'N OF STROTHAUER F32-21D BHL</b>									

Database: EDM den0-adp01 Server Data  
 Company: NOBLE ENERGY INC WELD COUNTY CO  
 Project: SEC.32-T5N-R65W  
 Site: Strohauer F32-21D Pad Sec.32-T5N-R65W  
 Well: Strohauer F32-21D  
 Wellbore: Wellbore #1  
 Design: Noble Strohauer F32-21D Plan #1 (01-29-10)

Local Co-ordinate Reference: Well Strohauer F32-21D  
 TVD Reference: WELL @ 4682.0ft (Original Well Elev)  
 MD Reference: WELL @ 4682.0ft (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
HARDLINE 75'N OF §	0.00	0.00	7,252.0	1,330.8	18.5	1,373,510.00	3,226,661.43	40° 21' 20.998 N	104° 41' 12.061 W
- plan misses target center by 144.9ft at 7418.6ft MD (7252.0 TVD, 1225.8 N, 118.5 E)									
- Polygon									
Point 1			7,252.0	0.0	0.0	1,373,510.00	3,226,661.43		
Point 2			7,252.0	0.0	200.0	1,373,511.84	3,226,861.41		
TARGET BHL 2570'F	0.00	0.00	5,800.0	1,225.8	118.5	1,373,405.97	3,226,762.35	40° 21' 19.961 N	104° 41' 10.770 W
- plan hits target center									
- Point									
TARGET CIRCLE 257	0.00	0.00	6,767.0	1,225.8	118.5	1,373,405.93	3,226,762.39	40° 21' 19.961 N	104° 41' 10.769 W
- plan misses target center by 0.1ft at 6933.6ft MD (6767.0 TVD, 1225.8 N, 118.5 E)									
- Circle (radius 75.0)									

**Formations**

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
6,933.6	6,767.0	NIOBRARA		0.00	
7,268.6	7,102.0	CODELL		0.00	