

# ENSIGN

## Directional

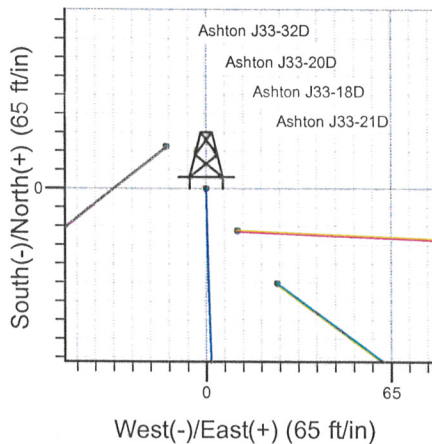
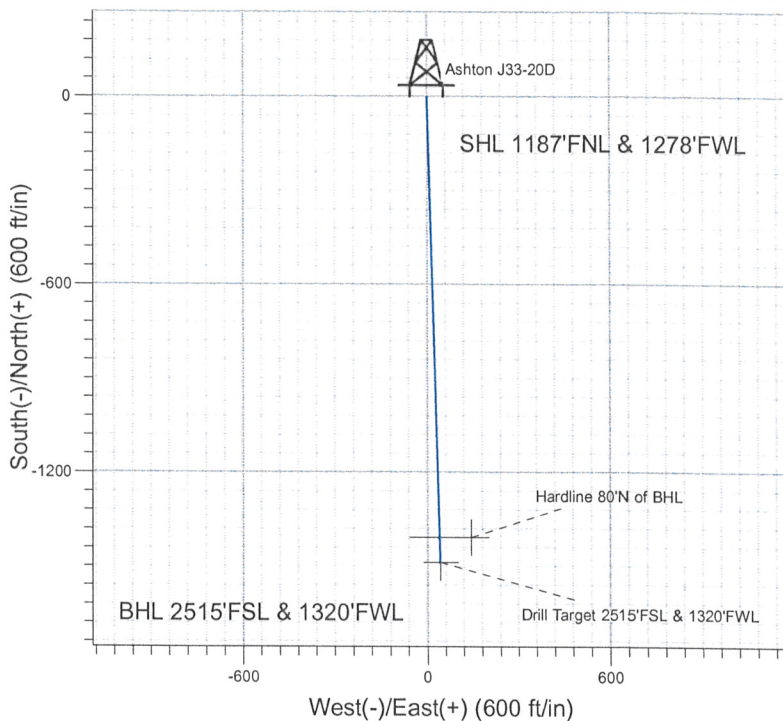
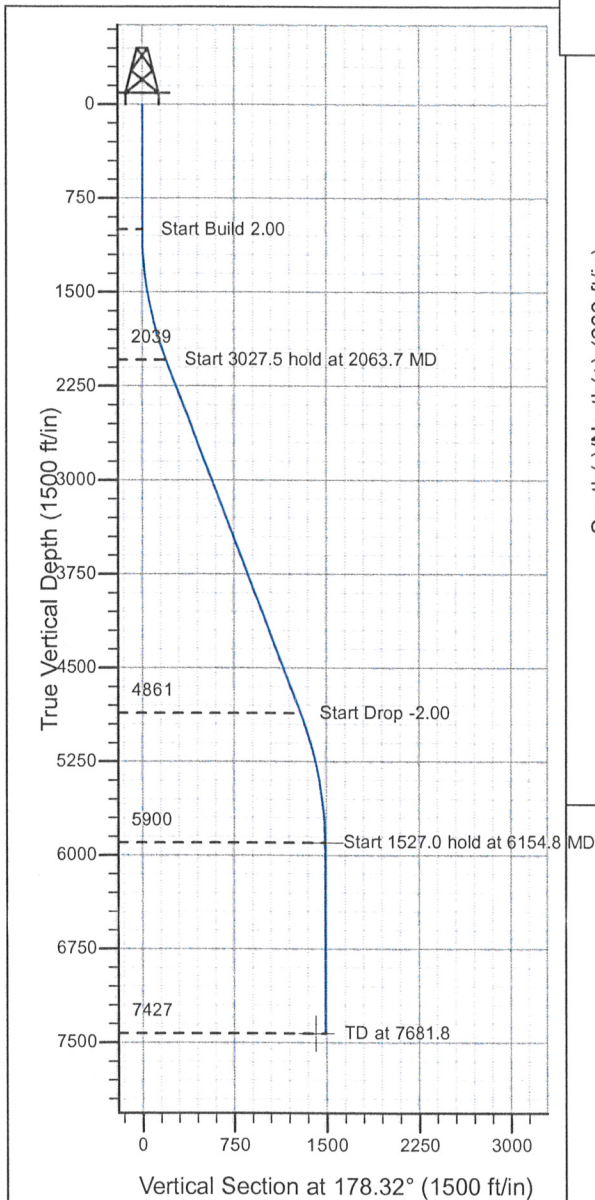
### Well Name: Ashton J33-20D

Surface Location: Ashton J33-20D Pad SEC.33-T5N-R66W  
North American Datum 1983 , US State Plane 1983 , Colorado Northern Zone

Ground Elevation: 4804.0

+N/-S+E/-W    Northing    Easting    Latitude    Longitude    Slot  
0.0    0.0 1374781.683197982.31 40° 21' 36.000 N 104° 47' 22.380 W  
Original Well Elev    WELL @ 4817.0ft (Original Well Elev)

### NOBLE ENERGY INC WELD COUNTY CO



Ashton J33-20D Pad SEC.33-T5N-R66W  
Ashton J33-20D  
Plan #3 (09-16-09)  
13:02, September 17 2009



Azimuths to True North  
Magnetic North: 9.09°

Magnetic Field  
Strength: 53320.9nT  
Dip Angle: 67.08°  
Date: 8/11/2009  
Model: IGRF200510

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

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
Drill Target 2515'FSL & 1320'FWL	5900.0	-1488.2	43.4	40° 21' 21.294 N	104° 47' 21.819 W	Point
Hardline 80°N of BHL	7427.0	-1408.2	143.4	40° 21' 22.084 N	104° 47' 20.527 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	1000.0	0.00	0.00	1000.0	0.0	0.0	0.00	0.00	0.0	
3	2063.7	21.27	178.33	2039.4	-195.1	5.7	2.00	178.33	195.2	
4	5091.2	21.27	178.33	4860.6	-1293.1	37.7	0.00	0.00	1293.6	
5	6154.8	0.00	0.00	5900.0	-1488.2	43.4	2.00	180.00	1488.8	Drill Target 2515'FSL & 1320'FWL
6	7681.8	0.00	0.00	7427.0	-1488.2	43.4	0.00	0.00	1488.8	



## **Directional**

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

SEC.33-T5N-R66W

Ashton J33-20D Pad SEC.33-T5N-R66W

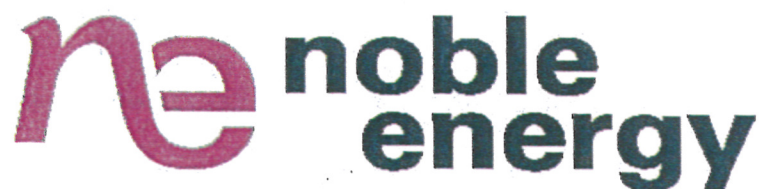
Ashton J33-20D

Ashton J33-20D

Plan: Plan #3 (09-16-09)

### **Standard Planning Report**

17 September, 2009





Database:	EDM den0-adp01 Server Data	Local Co-ordinate Reference:	Well Ashton J33-20D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4817.0ft (Original Well Elev)
Project:	SEC.33-T5N-R66W	MD Reference:	WELL @ 4817.0ft (Original Well Elev)
Site:	Ashton J33-20D Pad SEC.33-T5N-R66W	North Reference:	True
Well:	Ashton J33-20D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Ashton J33-20D		
Design:	Plan #3 (09-16-09)		

Project	SEC.33-T5N-R66W, 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	Ashton J33-20D Pad SEC.33-T5N-R66W		
Site Position:		Northing:	1,375,086.09ft
From:	Lat/Long	Easting:	3,197,324.97ft
Position Uncertainty:	0.0 ft	Slot Radius:	"
		Latitude:	40° 21' 39.060 N
		Longitude:	104° 47' 30.840 W
		Grid Convergence:	0.46 °

Well	Ashton J33-20D		
Well Position	+N/-S	-309.7 ft	Northing:
	+E/-W	654.9 ft	Easting:
Position Uncertainty	0.0 ft	Wellhead Elevation:	ft
		Latitude:	40° 21' 36.000 N
		Longitude:	104° 47' 22.380 W
		Ground Level:	4,804.0 ft

Wellbore	Ashton J33-20D				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	6/19/2008	9.24	67.12	53,439
	IGRF200510	8/11/2009	9.09	67.08	53,321

Design	Plan #3 (09-16-09)			
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	178.32

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	
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.00	0.00	0.00	0.00	
2,063.7	21.27	178.33	2,039.4	-195.1	5.7	2.00	2.00	0.00	178.33	
5,091.2	21.27	178.33	4,860.6	-1,293.1	37.7	0.00	0.00	0.00	0.00	
6,154.8	0.00	0.00	5,900.0	-1,488.2	43.4	2.00	-2.00	0.00	180.00	Drill Target 2515'FS
7,681.8	0.00	0.00	7,427.0	-1,488.2	43.4	0.00	0.00	0.00	0.00	

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Project:	SEC.33-T5N-R66W	MD Reference:	WELL @ 4817.0ft (Original Well Elev)
Site:	Ashton J33-20D Pad SEC.33-T5N-R66W	North Reference:	True
Well:	Ashton J33-20D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Ashton J33-20D		
Design:	Plan #3 (09-16-09)		

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	0.80	178.33	1,040.0	-0.3	0.0	0.3	2.00	2.00	0.00
1,080.0	1.60	178.33	1,080.0	-1.1	0.0	1.1	2.00	2.00	0.00
1,120.0	2.40	178.33	1,120.0	-2.5	0.1	2.5	2.00	2.00	0.00
1,160.0	3.20	178.33	1,159.9	-4.5	0.1	4.5	2.00	2.00	0.00
1,200.0	4.00	178.33	1,199.8	-7.0	0.2	7.0	2.00	2.00	0.00
1,240.0	4.80	178.33	1,239.7	-10.0	0.3	10.0	2.00	2.00	0.00
1,280.0	5.60	178.33	1,279.6	-13.7	0.4	13.7	2.00	2.00	0.00
1,320.0	6.40	178.33	1,319.3	-17.8	0.5	17.9	2.00	2.00	0.00
1,360.0	7.20	178.33	1,359.1	-22.6	0.7	22.6	2.00	2.00	0.00
1,400.0	8.00	178.33	1,398.7	-27.9	0.8	27.9	2.00	2.00	0.00
1,440.0	8.80	178.33	1,438.3	-33.7	1.0	33.7	2.00	2.00	0.00
1,480.0	9.60	178.33	1,477.8	-40.1	1.2	40.1	2.00	2.00	0.00
1,520.0	10.40	178.33	1,517.1	-47.0	1.4	47.1	2.00	2.00	0.00
1,560.0	11.20	178.33	1,556.4	-54.5	1.6	54.6	2.00	2.00	0.00
1,600.0	12.00	178.33	1,595.6	-62.6	1.8	62.6	2.00	2.00	0.00
1,640.0	12.80	178.33	1,634.7	-71.2	2.1	71.2	2.00	2.00	0.00
1,680.0	13.60	178.33	1,673.6	-80.3	2.3	80.3	2.00	2.00	0.00
1,720.0	14.40	178.33	1,712.4	-90.0	2.6	90.0	2.00	2.00	0.00
1,760.0	15.20	178.33	1,751.1	-100.2	2.9	100.2	2.00	2.00	0.00
1,800.0	16.00	178.33	1,789.6	-110.9	3.2	111.0	2.00	2.00	0.00
1,840.0	16.80	178.33	1,828.0	-122.2	3.6	122.3	2.00	2.00	0.00
1,880.0	17.60	178.33	1,866.2	-134.0	3.9	134.1	2.00	2.00	0.00
1,920.0	18.40	178.33	1,904.3	-146.4	4.3	146.5	2.00	2.00	0.00
1,960.0	19.20	178.33	1,942.1	-159.3	4.6	159.3	2.00	2.00	0.00
2,000.0	20.00	178.33	1,979.8	-172.7	5.0	172.8	2.00	2.00	0.00
2,040.0	20.80	178.33	2,017.3	-186.6	5.4	186.7	2.00	2.00	0.00
2,063.7	21.27	178.33	2,039.4	-195.1	5.7	195.2	2.00	2.00	0.00
2,080.0	21.27	178.33	2,054.6	-201.0	5.9	201.1	0.00	0.00	0.00



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Wellbore: Ashton J33-20D  
Design: Plan #3 (09-16-09)

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TVD Reference: WELL @ 4817.0ft (Original Well Elev)  
MD Reference: WELL @ 4817.0ft (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	21.27	178.33	2,091.9	-215.6	6.3	215.6	0.00	0.00	0.00
2,160.0	21.27	178.33	2,129.2	-230.1	6.7	230.2	0.00	0.00	0.00
2,200.0	21.27	178.33	2,166.4	-244.6	7.1	244.7	0.00	0.00	0.00
2,240.0	21.27	178.33	2,203.7	-259.1	7.6	259.2	0.00	0.00	0.00
2,280.0	21.27	178.33	2,241.0	-273.6	8.0	273.7	0.00	0.00	0.00
2,320.0	21.27	178.33	2,278.3	-288.1	8.4	288.2	0.00	0.00	0.00
2,360.0	21.27	178.33	2,315.5	-302.6	8.8	302.7	0.00	0.00	0.00
2,400.0	21.27	178.33	2,352.8	-317.1	9.3	317.2	0.00	0.00	0.00
2,440.0	21.27	178.33	2,390.1	-331.6	9.7	331.7	0.00	0.00	0.00
2,480.0	21.27	178.33	2,427.4	-346.1	10.1	346.3	0.00	0.00	0.00
2,520.0	21.27	178.33	2,464.6	-360.6	10.5	360.8	0.00	0.00	0.00
2,560.0	21.27	178.33	2,501.9	-375.1	10.9	375.3	0.00	0.00	0.00
2,600.0	21.27	178.33	2,539.2	-389.6	11.4	389.8	0.00	0.00	0.00
2,640.0	21.27	178.33	2,576.5	-404.1	11.8	404.3	0.00	0.00	0.00
2,680.0	21.27	178.33	2,613.7	-418.6	12.2	418.8	0.00	0.00	0.00
2,720.0	21.27	178.33	2,651.0	-433.2	12.6	433.3	0.00	0.00	0.00
2,760.0	21.27	178.33	2,688.3	-447.7	13.1	447.8	0.00	0.00	0.00
2,800.0	21.27	178.33	2,725.6	-462.2	13.5	462.4	0.00	0.00	0.00
2,840.0	21.27	178.33	2,762.8	-476.7	13.9	476.9	0.00	0.00	0.00
2,880.0	21.27	178.33	2,800.1	-491.2	14.3	491.4	0.00	0.00	0.00
2,920.0	21.27	178.33	2,837.4	-505.7	14.8	505.9	0.00	0.00	0.00
2,960.0	21.27	178.33	2,874.7	-520.2	15.2	520.4	0.00	0.00	0.00
3,000.0	21.27	178.33	2,911.9	-534.7	15.6	534.9	0.00	0.00	0.00
3,040.0	21.27	178.33	2,949.2	-549.2	16.0	549.4	0.00	0.00	0.00
3,080.0	21.27	178.33	2,986.5	-563.7	16.4	564.0	0.00	0.00	0.00
3,120.0	21.27	178.33	3,023.7	-578.2	16.9	578.5	0.00	0.00	0.00
3,160.0	21.27	178.33	3,061.0	-592.7	17.3	593.0	0.00	0.00	0.00
3,200.0	21.27	178.33	3,098.3	-607.2	17.7	607.5	0.00	0.00	0.00
3,240.0	21.27	178.33	3,135.6	-621.7	18.1	622.0	0.00	0.00	0.00
3,280.0	21.27	178.33	3,172.8	-636.2	18.6	636.5	0.00	0.00	0.00
3,320.0	21.27	178.33	3,210.1	-650.8	19.0	651.0	0.00	0.00	0.00
3,360.0	21.27	178.33	3,247.4	-665.3	19.4	665.5	0.00	0.00	0.00
3,400.0	21.27	178.33	3,284.7	-679.8	19.8	680.1	0.00	0.00	0.00
3,440.0	21.27	178.33	3,321.9	-694.3	20.3	694.6	0.00	0.00	0.00
3,480.0	21.27	178.33	3,359.2	-708.8	20.7	709.1	0.00	0.00	0.00
3,520.0	21.27	178.33	3,396.5	-723.3	21.1	723.6	0.00	0.00	0.00
3,560.0	21.27	178.33	3,433.8	-737.8	21.5	738.1	0.00	0.00	0.00
3,600.0	21.27	178.33	3,471.0	-752.3	21.9	752.6	0.00	0.00	0.00
3,640.0	21.27	178.33	3,508.3	-766.8	22.4	767.1	0.00	0.00	0.00
3,680.0	21.27	178.33	3,545.6	-781.3	22.8	781.6	0.00	0.00	0.00
3,720.0	21.27	178.33	3,582.9	-795.8	23.2	796.2	0.00	0.00	0.00
3,760.0	21.27	178.33	3,620.1	-810.3	23.6	810.7	0.00	0.00	0.00
3,800.0	21.27	178.33	3,657.4	-824.8	24.1	825.2	0.00	0.00	0.00
3,840.0	21.27	178.33	3,694.7	-839.3	24.5	839.7	0.00	0.00	0.00
3,880.0	21.27	178.33	3,732.0	-853.8	24.9	854.2	0.00	0.00	0.00
3,920.0	21.27	178.33	3,769.2	-868.4	25.3	868.7	0.00	0.00	0.00
3,960.0	21.27	178.33	3,806.5	-882.9	25.8	883.2	0.00	0.00	0.00
4,000.0	21.27	178.33	3,843.8	-897.4	26.2	897.7	0.00	0.00	0.00
4,040.0	21.27	178.33	3,881.1	-911.9	26.6	912.3	0.00	0.00	0.00
4,080.0	21.27	178.33	3,918.3	-926.4	27.0	926.8	0.00	0.00	0.00
4,120.0	21.27	178.33	3,955.6	-940.9	27.4	941.3	0.00	0.00	0.00
4,160.0	21.27	178.33	3,992.9	-955.4	27.9	955.8	0.00	0.00	0.00
4,200.0	21.27	178.33	4,030.2	-969.9	28.3	970.3	0.00	0.00	0.00
4,240.0	21.27	178.33	4,067.4	-984.4	28.7	984.8	0.00	0.00	0.00



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 MD Reference: WELL @ 4817.0ft (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	21.27	178.33	4,104.7	-998.9	29.1	999.3	0.00	0.00	0.00
4,320.0	21.27	178.33	4,142.0	-1,013.4	29.6	1,013.8	0.00	0.00	0.00
4,360.0	21.27	178.33	4,179.3	-1,027.9	30.0	1,028.4	0.00	0.00	0.00
4,400.0	21.27	178.33	4,216.5	-1,042.4	30.4	1,042.9	0.00	0.00	0.00
4,440.0	21.27	178.33	4,253.8	-1,056.9	30.8	1,057.4	0.00	0.00	0.00
4,480.0	21.27	178.33	4,291.1	-1,071.4	31.3	1,071.9	0.00	0.00	0.00
4,520.0	21.27	178.33	4,328.4	-1,085.9	31.7	1,086.4	0.00	0.00	0.00
4,560.0	21.27	178.33	4,365.6	-1,100.5	32.1	1,100.9	0.00	0.00	0.00
4,600.0	21.27	178.33	4,402.9	-1,115.0	32.5	1,115.4	0.00	0.00	0.00
4,640.0	21.27	178.33	4,440.2	-1,129.5	33.0	1,130.0	0.00	0.00	0.00
4,680.0	21.27	178.33	4,477.5	-1,144.0	33.4	1,144.5	0.00	0.00	0.00
4,720.0	21.27	178.33	4,514.7	-1,158.5	33.8	1,159.0	0.00	0.00	0.00
4,760.0	21.27	178.33	4,552.0	-1,173.0	34.2	1,173.5	0.00	0.00	0.00
4,800.0	21.27	178.33	4,589.3	-1,187.5	34.6	1,188.0	0.00	0.00	0.00
4,840.0	21.27	178.33	4,626.5	-1,202.0	35.1	1,202.5	0.00	0.00	0.00
4,880.0	21.27	178.33	4,663.8	-1,216.5	35.5	1,217.0	0.00	0.00	0.00
4,920.0	21.27	178.33	4,701.1	-1,231.0	35.9	1,231.5	0.00	0.00	0.00
4,960.0	21.27	178.33	4,738.4	-1,245.5	36.3	1,246.1	0.00	0.00	0.00
5,000.0	21.27	178.33	4,775.6	-1,260.0	36.8	1,260.6	0.00	0.00	0.00
5,040.0	21.27	178.33	4,812.9	-1,274.5	37.2	1,275.1	0.00	0.00	0.00
5,080.0	21.27	178.33	4,850.2	-1,289.0	37.6	1,289.6	0.00	0.00	0.00
5,091.2	21.27	178.33	4,860.6	-1,293.1	37.7	1,293.6	0.00	0.00	0.00
5,120.0	20.70	178.33	4,887.5	-1,303.4	38.0	1,304.0	2.00	-2.00	0.00
5,160.0	19.90	178.33	4,925.0	-1,317.3	38.4	1,317.8	2.00	-2.00	0.00
5,200.0	19.10	178.33	4,962.7	-1,330.6	38.8	1,331.2	2.00	-2.00	0.00
5,240.0	18.30	178.33	5,000.6	-1,343.4	39.2	1,344.0	2.00	-2.00	0.00
5,280.0	17.50	178.33	5,038.7	-1,355.7	39.6	1,356.3	2.00	-2.00	0.00
5,320.0	16.70	178.33	5,076.9	-1,367.5	39.9	1,368.1	2.00	-2.00	0.00
5,360.0	15.90	178.33	5,115.3	-1,378.7	40.2	1,379.3	2.00	-2.00	0.00
5,400.0	15.10	178.33	5,153.9	-1,389.4	40.5	1,390.0	2.00	-2.00	0.00
5,440.0	14.30	178.33	5,192.6	-1,399.5	40.8	1,400.1	2.00	-2.00	0.00
5,480.0	13.50	178.33	5,231.4	-1,409.1	41.1	1,409.7	2.00	-2.00	0.00
5,520.0	12.70	178.33	5,270.3	-1,418.2	41.4	1,418.8	2.00	-2.00	0.00
5,560.0	11.90	178.33	5,309.4	-1,426.7	41.6	1,427.3	2.00	-2.00	0.00
5,600.0	11.10	178.33	5,348.6	-1,434.7	41.9	1,435.3	2.00	-2.00	0.00
5,640.0	10.30	178.33	5,387.9	-1,442.1	42.1	1,442.7	2.00	-2.00	0.00
5,680.0	9.50	178.33	5,427.3	-1,449.0	42.3	1,449.6	2.00	-2.00	0.00
5,720.0	8.70	178.33	5,466.8	-1,455.3	42.5	1,455.9	2.00	-2.00	0.00
5,760.0	7.90	178.33	5,506.4	-1,461.1	42.6	1,461.7	2.00	-2.00	0.00
5,800.0	7.10	178.33	5,546.1	-1,466.3	42.8	1,466.9	2.00	-2.00	0.00
5,840.0	6.30	178.33	5,585.8	-1,470.9	42.9	1,471.6	2.00	-2.00	0.00
5,880.0	5.50	178.33	5,625.6	-1,475.0	43.0	1,475.7	2.00	-2.00	0.00
5,920.0	4.70	178.33	5,665.4	-1,478.6	43.1	1,479.2	2.00	-2.00	0.00
5,960.0	3.90	178.33	5,705.3	-1,481.6	43.2	1,482.2	2.00	-2.00	0.00
6,000.0	3.10	178.33	5,745.2	-1,484.0	43.3	1,484.7	2.00	-2.00	0.00
6,040.0	2.30	178.33	5,785.2	-1,485.9	43.4	1,486.5	2.00	-2.00	0.00
6,080.0	1.50	178.33	5,825.2	-1,487.2	43.4	1,487.9	2.00	-2.00	0.00
6,120.0	0.70	178.33	5,865.2	-1,488.0	43.4	1,488.6	2.00	-2.00	0.00
6,154.8	0.00	0.00	5,900.0	-1,488.2	43.4	1,488.8	2.00	-2.00	0.00
<b>Drill Target 2515'FSL &amp; 1320'FWL</b>									
6,160.0	0.00	0.00	5,905.2	-1,488.2	43.4	1,488.8	0.00	0.00	0.00
6,200.0	0.00	0.00	5,945.2	-1,488.2	43.4	1,488.8	0.00	0.00	0.00
6,240.0	0.00	0.00	5,985.2	-1,488.2	43.4	1,488.8	0.00	0.00	0.00



Database:	EDM den0-adp01 Server Data	Local Co-ordinate Reference:	Well Ashton J33-20D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4817.0ft (Original Well Elev)
Project:	SEC.33-T5N-R66W	MD Reference:	WELL @ 4817.0ft (Original Well Elev)
Site:	Ashton J33-20D Pad SEC.33-T5N-R66W	North Reference:	True
Well:	Ashton J33-20D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Ashton J33-20D		
Design:	Plan #3 (09-16-09)		

**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)
6,280.0	0.00	0.00	6,025.2	-1,488.2	43.4	1,488.8	0.00	0.00	0.00
6,320.0	0.00	0.00	6,065.2	-1,488.2	43.4	1,488.8	0.00	0.00	0.00
6,360.0	0.00	0.00	6,105.2	-1,488.2	43.4	1,488.8	0.00	0.00	0.00
6,400.0	0.00	0.00	6,145.2	-1,488.2	43.4	1,488.8	0.00	0.00	0.00
6,440.0	0.00	0.00	6,185.2	-1,488.2	43.4	1,488.8	0.00	0.00	0.00
6,480.0	0.00	0.00	6,225.2	-1,488.2	43.4	1,488.8	0.00	0.00	0.00
6,520.0	0.00	0.00	6,265.2	-1,488.2	43.4	1,488.8	0.00	0.00	0.00
6,560.0	0.00	0.00	6,305.2	-1,488.2	43.4	1,488.8	0.00	0.00	0.00
6,600.0	0.00	0.00	6,345.2	-1,488.2	43.4	1,488.8	0.00	0.00	0.00
6,640.0	0.00	0.00	6,385.2	-1,488.2	43.4	1,488.8	0.00	0.00	0.00
6,680.0	0.00	0.00	6,425.2	-1,488.2	43.4	1,488.8	0.00	0.00	0.00
6,720.0	0.00	0.00	6,465.2	-1,488.2	43.4	1,488.8	0.00	0.00	0.00
6,760.0	0.00	0.00	6,505.2	-1,488.2	43.4	1,488.8	0.00	0.00	0.00
6,800.0	0.00	0.00	6,545.2	-1,488.2	43.4	1,488.8	0.00	0.00	0.00
6,840.0	0.00	0.00	6,585.2	-1,488.2	43.4	1,488.8	0.00	0.00	0.00
6,880.0	0.00	0.00	6,625.2	-1,488.2	43.4	1,488.8	0.00	0.00	0.00
6,920.0	0.00	0.00	6,665.2	-1,488.2	43.4	1,488.8	0.00	0.00	0.00
6,960.0	0.00	0.00	6,705.2	-1,488.2	43.4	1,488.8	0.00	0.00	0.00
7,000.0	0.00	0.00	6,745.2	-1,488.2	43.4	1,488.8	0.00	0.00	0.00
7,040.0	0.00	0.00	6,785.2	-1,488.2	43.4	1,488.8	0.00	0.00	0.00
7,080.0	0.00	0.00	6,825.2	-1,488.2	43.4	1,488.8	0.00	0.00	0.00
7,120.0	0.00	0.00	6,865.2	-1,488.2	43.4	1,488.8	0.00	0.00	0.00
7,160.0	0.00	0.00	6,905.2	-1,488.2	43.4	1,488.8	0.00	0.00	0.00
7,200.0	0.00	0.00	6,945.2	-1,488.2	43.4	1,488.8	0.00	0.00	0.00
7,211.8	0.00	0.00	6,957.0	-1,488.2	43.4	1,488.8	0.00	0.00	0.00
<b>Niobrara</b>									
7,240.0	0.00	0.00	6,985.2	-1,488.2	43.4	1,488.8	0.00	0.00	0.00
7,280.0	0.00	0.00	7,025.2	-1,488.2	43.4	1,488.8	0.00	0.00	0.00
7,320.0	0.00	0.00	7,065.2	-1,488.2	43.4	1,488.8	0.00	0.00	0.00
7,360.0	0.00	0.00	7,105.2	-1,488.2	43.4	1,488.8	0.00	0.00	0.00
7,400.0	0.00	0.00	7,145.2	-1,488.2	43.4	1,488.8	0.00	0.00	0.00
7,440.0	0.00	0.00	7,185.2	-1,488.2	43.4	1,488.8	0.00	0.00	0.00
7,480.0	0.00	0.00	7,225.2	-1,488.2	43.4	1,488.8	0.00	0.00	0.00
7,520.0	0.00	0.00	7,265.2	-1,488.2	43.4	1,488.8	0.00	0.00	0.00
7,531.8	0.00	0.00	7,277.0	-1,488.2	43.4	1,488.8	0.00	0.00	0.00
<b>Codell</b>									
7,560.0	0.00	0.00	7,305.2	-1,488.2	43.4	1,488.8	0.00	0.00	0.00
7,600.0	0.00	0.00	7,345.2	-1,488.2	43.4	1,488.8	0.00	0.00	0.00
7,640.0	0.00	0.00	7,385.2	-1,488.2	43.4	1,488.8	0.00	0.00	0.00
7,680.0	0.00	0.00	7,425.2	-1,488.2	43.4	1,488.8	0.00	0.00	0.00
7,681.8	0.00	0.00	7,427.0	-1,488.2	43.4	1,488.8	0.00	0.00	0.00
<b>Hardline 80°N of BHL</b>									

Database: EDM den0-adp01 Server Data  
 Company: NOBLE ENERGY INC WELD COUNTY CO  
 Project: SEC.33-T5N-R66W  
 Site: Ashton J33-20D Pad SEC.33-T5N-R66W  
 Well: Ashton J33-20D  
 Wellbore: Ashton J33-20D  
 Design: Plan #3 (09-16-09)

Local Co-ordinate Reference: Well Ashton J33-20D  
 TVD Reference: WELL @ 4817.0ft (Original Well Elev)  
 MD Reference: WELL @ 4817.0ft (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 80'N of BHL	0.00	0.00	7,427.0	-1,408.2	143.4	1,373,374.73	3,198,137.03	40° 21' 22.084 N	104° 47' 20.527 W
- plan misses target center by 128.1ft at 7681.8ft MD (7427.0 TVD, -1488.2 N, 43.4 E)									
- Polygon									
Point 1			7,427.0	0.0	0.0	1,373,374.73	3,198,137.03		
Point 2			7,427.0	0.0	-200.0	1,373,373.13	3,197,937.05		
Drill Target 2515'FSL	0.00	0.00	5,900.0	-1,488.2	43.4	1,373,293.92	3,198,037.65	40° 21' 21.294 N	104° 47' 21.819 W
- plan hits target center									
- Point									

**Formations**

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
7,211.8	6,957.0	Niobrara		0.00	
7,531.8	7,277.0	Codell		0.00	