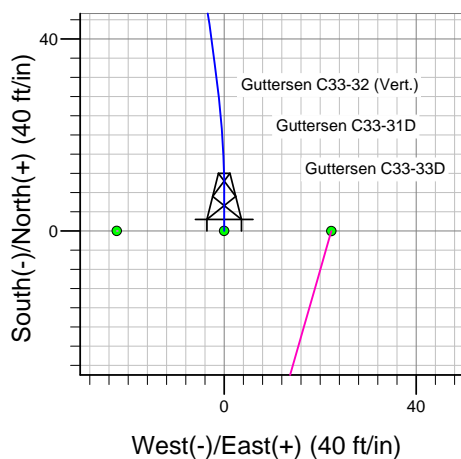
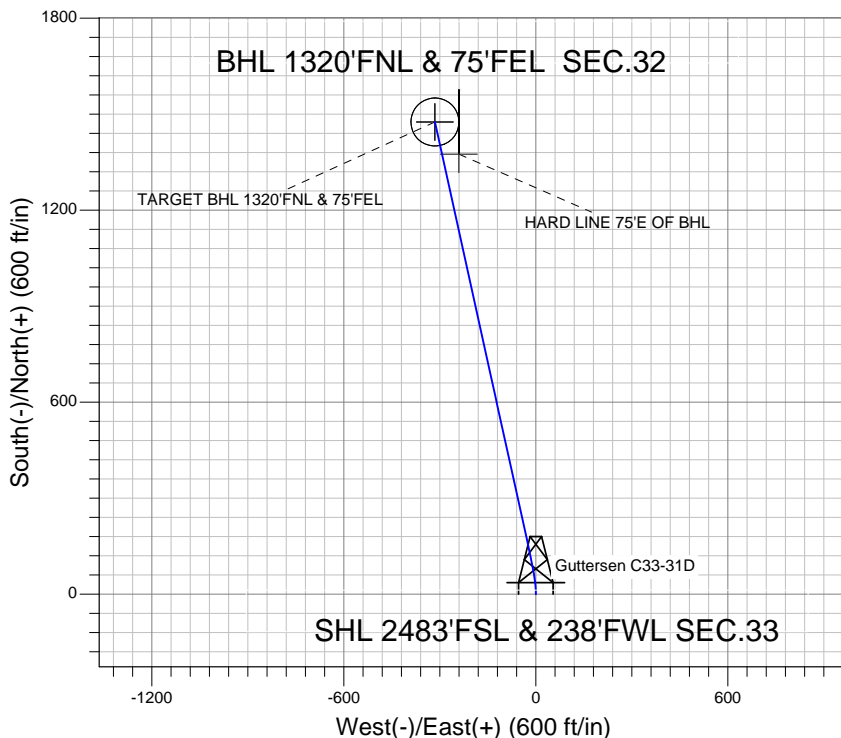
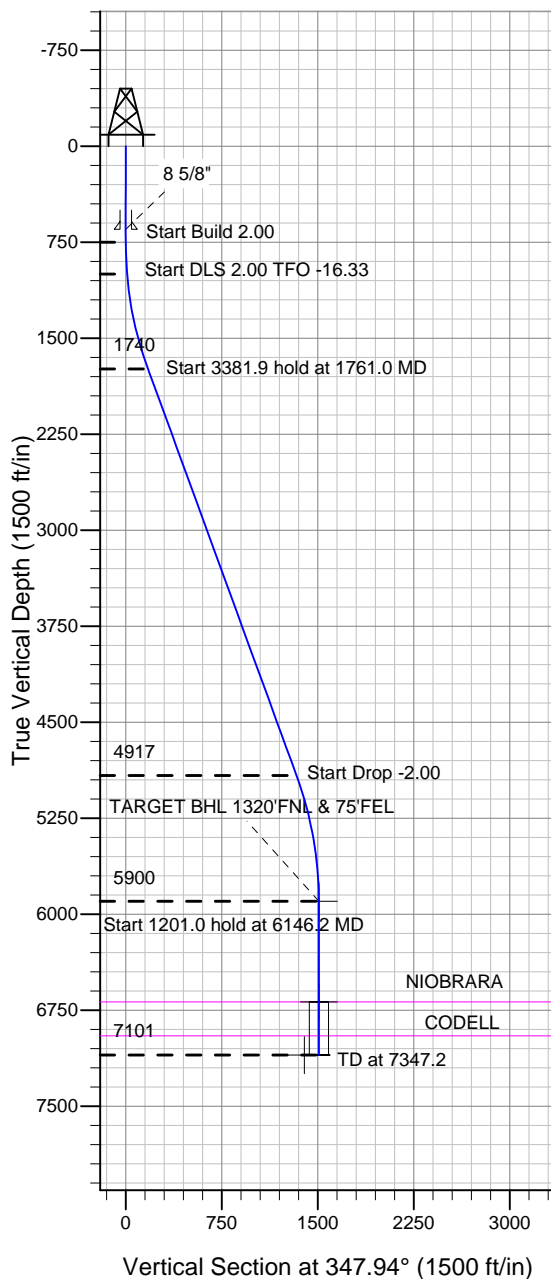


Well Name: Guttersen C33-31D

Surface Location: Guttersen C33-33D Pad Sec.33-T4N-R64W
 North American Datum 1983, US State Plane 1983 Colorado Northern Zone
 Ground Elevation: 4748.0
 +N/-S +E/-W Northing Easting Latitude Longitude Slot
 0.0 0.0 1342051.11 3261038.41 40.268550 -104.564530
 Original Well EleWELL @ 4761.0ft (Original Well Elev)

NOBLE ENERGY INC WELD COUNTY CO



Guttersen C33-33D Pad Sec.33-T4N-R64W
 Guttersen C33-31D
 Noble Guttersen C33-31D Plan#1 (8-09-11)
 16:19, August 12 2011



Azimuths to True North
 Magnetic North: 8.72°
 Magnetic Field
 Strength: 53068.7snT
 Dip Angle: 66.97°
 Date: 8/9/2011
 Model: IGRF2010

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
TARGET BHL 1320'FNL & 75'FEL	5900.0	1475.5	-315.3	40.272600	-104.565660	Point
TARGET CIRCLE 1320'FNL & 75'FEL	6686.0	1475.5	-315.3	40.272600	-104.565660	Circle (Radius: 75.0)
HARD LINE 75'E OF BHL	7101.0	1375.4	-240.3	40.272325	-104.565391	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	750.0	0.00	0.00	750.0	0.0	0.0	0.00	0.00	0.0	
3	1000.0	5.00	0.00	999.7	10.9	0.0	2.00	0.00	10.7	
4	1761.0	20.07	347.58	1740.5	172.5	-28.3	2.00	-16.33	174.6	
5	5142.9	20.07	347.58	4917.1	1305.6	-277.9	0.00	0.00	1334.9	
6	6146.2	0.00	0.00	5900.0	1475.5	-315.3	2.00	180.00	1508.8	TARGET BHL 1320'FNL & 75'FEL
7	7347.2	0.00	0.00	7101.0	1475.5	-315.3	0.00	0.00	1508.8	



Directional

NOBLE ENERGY INC WELD COUNTY CO

SEC.33-T4N-R64W

Guttersen C33-33D Pad Sec.33-T4N-R64W

Guttersen C33-31D

Wellbore #1

Plan: Noble Guttersen C33-31D Plan#1 (8-09-11)

Standard Planning Report

12 August, 2011



Database:	Landmark	Local Co-ordinate Reference:	Well Guttersen C33-31D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4761.0ft (Original Well Elev)
Project:	SEC.33-T4N-R64W	MD Reference:	WELL @ 4761.0ft (Original Well Elev)
Site:	Guttersen C33-33D Pad Sec.33-T4N-R64W	North Reference:	True
Well:	Guttersen C33-31D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Guttersen C33-31D Plan#1 (8-09-11)		

Project	SEC.33-T4N-R64W, Weld County, CO		
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						Guttersen C33-33D Pad Sec.33-T4N-R64W											
Site Position:						Northing:			1,342,051.37 ft			Latitude:			40.268550		
From:			Lat/Long			Easting:			3,261,060.74 ft			Longitude:			-104.564450		
Position Uncertainty:			0.0 ft			Slot Radius:			"			Grid Convergence:			0.60 °		

Well	Guttersen C33-31D					
Well Position	+N/-S	0.0 ft	Northing:	1,342,051.11 ft	Latitude:	40.268550
	+E/-W	-22.3 ft	Easting:	3,261,038.41 ft	Longitude:	-104.564530
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,748.0 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	8/9/2011	8.73	66.97	53,069

Design	Noble Guttersen C33-31D Plan#1 (8-09-11)			
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	347.94

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	
750.0	0.00	0.00	750.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,000.0	5.00	0.00	999.7	10.9	0.0	2.00	2.00	0.00	0.00	
1,761.0	20.07	347.58	1,740.5	172.5	-28.3	2.00	1.98	-1.63	-16.33	
5,142.9	20.07	347.58	4,917.1	1,305.6	-277.9	0.00	0.00	0.00	0.00	
6,146.2	0.00	0.00	5,900.0	1,475.5	-315.3	2.00	-2.00	0.00	180.00	TARGET BHL 132C
7,347.2	0.00	0.00	7,101.0	1,475.5	-315.3	0.00	0.00	0.00	0.00	

Database:	Landmark	Local Co-ordinate Reference:	Well Guttersen C33-31D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4761.0ft (Original Well Elev)
Project:	SEC.33-T4N-R64W	MD Reference:	WELL @ 4761.0ft (Original Well Elev)
Site:	Guttersen C33-33D Pad Sec.33-T4N-R64W	North Reference:	True
Well:	Guttersen C33-31D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Guttersen C33-31D Plan#1 (8-09-11)		

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
650.0	0.00	0.00	650.0	0.0	0.0	0.0	0.00	0.00	0.00
8 5/8"									
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
750.0	0.00	0.00	750.0	0.0	0.0	0.0	0.00	0.00	0.00
760.0	0.20	0.00	760.0	0.0	0.0	0.0	2.00	2.00	0.00
800.0	1.00	0.00	800.0	0.4	0.0	0.4	2.00	2.00	0.00
840.0	1.80	0.00	840.0	1.4	0.0	1.4	2.00	2.00	0.00
880.0	2.60	0.00	880.0	2.9	0.0	2.9	2.00	2.00	0.00
920.0	3.40	0.00	919.9	5.0	0.0	4.9	2.00	2.00	0.00
960.0	4.20	0.00	959.8	7.7	0.0	7.5	2.00	2.00	0.00
1,000.0	5.00	0.00	999.7	10.9	0.0	10.7	2.00	2.00	0.00
1,040.0	5.77	357.76	1,039.5	14.7	-0.1	14.3	2.00	1.93	-5.59
1,080.0	6.55	356.05	1,079.3	18.9	-0.3	18.6	2.00	1.95	-4.27
1,120.0	7.33	354.71	1,119.0	23.8	-0.7	23.4	2.00	1.96	-3.37
1,160.0	8.12	353.62	1,158.6	29.1	-1.3	28.7	2.00	1.97	-2.72
1,200.0	8.91	352.72	1,198.2	35.0	-2.0	34.6	2.00	1.97	-2.24
1,240.0	9.70	351.97	1,237.6	41.4	-2.8	41.1	2.00	1.98	-1.88
1,280.0	10.49	351.33	1,277.0	48.3	-3.8	48.1	2.00	1.98	-1.60
1,320.0	11.29	350.78	1,316.3	55.8	-5.0	55.6	2.00	1.98	-1.38
1,360.0	12.08	350.30	1,355.5	63.8	-6.4	63.7	2.00	1.99	-1.20
1,400.0	12.87	349.88	1,394.5	72.3	-7.8	72.3	2.00	1.99	-1.05
1,440.0	13.67	349.51	1,433.5	81.3	-9.5	81.5	2.00	1.99	-0.93
1,480.0	14.47	349.18	1,472.3	90.9	-11.3	91.2	2.00	1.99	-0.83
1,520.0	15.26	348.88	1,510.9	101.0	-13.2	101.5	2.00	1.99	-0.75
1,560.0	16.06	348.61	1,549.4	111.6	-15.3	112.3	2.00	1.99	-0.67
1,600.0	16.86	348.37	1,587.8	122.7	-17.6	123.6	2.00	1.99	-0.61
1,640.0	17.65	348.14	1,626.0	134.3	-20.0	135.5	2.00	1.99	-0.56
1,680.0	18.45	347.94	1,664.0	146.4	-22.6	147.9	2.00	1.99	-0.51
1,720.0	19.25	347.75	1,701.9	159.0	-25.3	160.8	2.00	1.99	-0.47
1,760.0	20.05	347.58	1,739.6	172.2	-28.2	174.3	2.00	1.99	-0.43
1,761.0	20.07	347.58	1,740.5	172.5	-28.3	174.6	2.00	1.99	-0.42
1,800.0	20.07	347.58	1,777.1	185.6	-31.1	188.0	0.00	0.00	0.00
1,840.0	20.07	347.58	1,814.7	199.0	-34.1	201.7	0.00	0.00	0.00
1,880.0	20.07	347.58	1,852.3	212.4	-37.0	215.4	0.00	0.00	0.00
1,920.0	20.07	347.58	1,889.8	225.8	-40.0	229.2	0.00	0.00	0.00
1,960.0	20.07	347.58	1,927.4	239.2	-42.9	242.9	0.00	0.00	0.00

Database:	Landmark	Local Co-ordinate Reference:	Well Guttersen C33-31D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4761.0ft (Original Well Elev)
Project:	SEC.33-T4N-R64W	MD Reference:	WELL @ 4761.0ft (Original Well Elev)
Site:	Guttersen C33-33D Pad Sec.33-T4N-R64W	North Reference:	True
Well:	Guttersen C33-31D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Guttersen C33-31D Plan#1 (8-09-11)		

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	20.07	347.58	1,965.0	252.6	-45.9	256.6	0.00	0.00	0.00
2,040.0	20.07	347.58	2,002.6	266.0	-48.9	270.3	0.00	0.00	0.00
2,080.0	20.07	347.58	2,040.1	279.4	-51.8	284.1	0.00	0.00	0.00
2,120.0	20.07	347.58	2,077.7	292.8	-54.8	297.8	0.00	0.00	0.00
2,160.0	20.07	347.58	2,115.3	306.2	-57.7	311.5	0.00	0.00	0.00
2,200.0	20.07	347.58	2,152.9	319.6	-60.7	325.2	0.00	0.00	0.00
2,240.0	20.07	347.58	2,190.4	333.0	-63.6	338.9	0.00	0.00	0.00
2,280.0	20.07	347.58	2,228.0	346.4	-66.6	352.7	0.00	0.00	0.00
2,320.0	20.07	347.58	2,265.6	359.8	-69.5	366.4	0.00	0.00	0.00
2,360.0	20.07	347.58	2,303.1	373.2	-72.5	380.1	0.00	0.00	0.00
2,400.0	20.07	347.58	2,340.7	386.6	-75.4	393.8	0.00	0.00	0.00
2,440.0	20.07	347.58	2,378.3	400.0	-78.4	407.6	0.00	0.00	0.00
2,480.0	20.07	347.58	2,415.9	413.4	-81.3	421.3	0.00	0.00	0.00
2,520.0	20.07	347.58	2,453.4	426.8	-84.3	435.0	0.00	0.00	0.00
2,560.0	20.07	347.58	2,491.0	440.2	-87.2	448.7	0.00	0.00	0.00
2,600.0	20.07	347.58	2,528.6	453.6	-90.2	462.5	0.00	0.00	0.00
2,640.0	20.07	347.58	2,566.1	467.0	-93.1	476.2	0.00	0.00	0.00
2,680.0	20.07	347.58	2,603.7	480.4	-96.1	489.9	0.00	0.00	0.00
2,720.0	20.07	347.58	2,641.3	493.8	-99.1	503.6	0.00	0.00	0.00
2,760.0	20.07	347.58	2,678.9	507.2	-102.0	517.3	0.00	0.00	0.00
2,800.0	20.07	347.58	2,716.4	520.6	-105.0	531.1	0.00	0.00	0.00
2,840.0	20.07	347.58	2,754.0	534.0	-107.9	544.8	0.00	0.00	0.00
2,880.0	20.07	347.58	2,791.6	547.4	-110.9	558.5	0.00	0.00	0.00
2,920.0	20.07	347.58	2,829.1	560.8	-113.8	572.2	0.00	0.00	0.00
2,960.0	20.07	347.58	2,866.7	574.2	-116.8	586.0	0.00	0.00	0.00
3,000.0	20.07	347.58	2,904.3	587.6	-119.7	599.7	0.00	0.00	0.00
3,040.0	20.07	347.58	2,941.9	601.0	-122.7	613.4	0.00	0.00	0.00
3,080.0	20.07	347.58	2,979.4	614.5	-125.6	627.1	0.00	0.00	0.00
3,120.0	20.07	347.58	3,017.0	627.9	-128.6	640.9	0.00	0.00	0.00
3,160.0	20.07	347.58	3,054.6	641.3	-131.5	654.6	0.00	0.00	0.00
3,200.0	20.07	347.58	3,092.2	654.7	-134.5	668.3	0.00	0.00	0.00
3,240.0	20.07	347.58	3,129.7	668.1	-137.4	682.0	0.00	0.00	0.00
3,280.0	20.07	347.58	3,167.3	681.5	-140.4	695.8	0.00	0.00	0.00
3,320.0	20.07	347.58	3,204.9	694.9	-143.3	709.5	0.00	0.00	0.00
3,360.0	20.07	347.58	3,242.4	708.3	-146.3	723.2	0.00	0.00	0.00
3,400.0	20.07	347.58	3,280.0	721.7	-149.2	736.9	0.00	0.00	0.00
3,440.0	20.07	347.58	3,317.6	735.1	-152.2	750.6	0.00	0.00	0.00
3,480.0	20.07	347.58	3,355.2	748.5	-155.2	764.4	0.00	0.00	0.00
3,520.0	20.07	347.58	3,392.7	761.9	-158.1	778.1	0.00	0.00	0.00
3,560.0	20.07	347.58	3,430.3	775.3	-161.1	791.8	0.00	0.00	0.00
3,600.0	20.07	347.58	3,467.9	788.7	-164.0	805.5	0.00	0.00	0.00
3,640.0	20.07	347.58	3,505.4	802.1	-167.0	819.3	0.00	0.00	0.00
3,680.0	20.07	347.58	3,543.0	815.5	-169.9	833.0	0.00	0.00	0.00
3,720.0	20.07	347.58	3,580.6	828.9	-172.9	846.7	0.00	0.00	0.00
3,760.0	20.07	347.58	3,618.2	842.3	-175.8	860.4	0.00	0.00	0.00
3,800.0	20.07	347.58	3,655.7	855.7	-178.8	874.2	0.00	0.00	0.00
3,840.0	20.07	347.58	3,693.3	869.1	-181.7	887.9	0.00	0.00	0.00
3,880.0	20.07	347.58	3,730.9	882.5	-184.7	901.6	0.00	0.00	0.00
3,920.0	20.07	347.58	3,768.4	895.9	-187.6	915.3	0.00	0.00	0.00
3,960.0	20.07	347.58	3,806.0	909.3	-190.6	929.1	0.00	0.00	0.00
4,000.0	20.07	347.58	3,843.6	922.7	-193.5	942.8	0.00	0.00	0.00
4,040.0	20.07	347.58	3,881.2	936.1	-196.5	956.5	0.00	0.00	0.00
4,080.0	20.07	347.58	3,918.7	949.5	-199.4	970.2	0.00	0.00	0.00
4,120.0	20.07	347.58	3,956.3	962.9	-202.4	983.9	0.00	0.00	0.00

Database:	Landmark	Local Co-ordinate Reference:	Well Guttersen C33-31D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4761.0ft (Original Well Elev)
Project:	SEC.33-T4N-R64W	MD Reference:	WELL @ 4761.0ft (Original Well Elev)
Site:	Guttersen C33-33D Pad Sec.33-T4N-R64W	North Reference:	True
Well:	Guttersen C33-31D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Guttersen C33-31D Plan#1 (8-09-11)		

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	20.07	347.58	3,993.9	976.3	-205.4	997.7	0.00	0.00	0.00
4,200.0	20.07	347.58	4,031.5	989.7	-208.3	1,011.4	0.00	0.00	0.00
4,240.0	20.07	347.58	4,069.0	1,003.1	-211.3	1,025.1	0.00	0.00	0.00
4,280.0	20.07	347.58	4,106.6	1,016.5	-214.2	1,038.8	0.00	0.00	0.00
4,320.0	20.07	347.58	4,144.2	1,029.9	-217.2	1,052.6	0.00	0.00	0.00
4,360.0	20.07	347.58	4,181.7	1,043.3	-220.1	1,066.3	0.00	0.00	0.00
4,400.0	20.07	347.58	4,219.3	1,056.7	-223.1	1,080.0	0.00	0.00	0.00
4,440.0	20.07	347.58	4,256.9	1,070.1	-226.0	1,093.7	0.00	0.00	0.00
4,480.0	20.07	347.58	4,294.5	1,083.5	-229.0	1,107.5	0.00	0.00	0.00
4,520.0	20.07	347.58	4,332.0	1,096.9	-231.9	1,121.2	0.00	0.00	0.00
4,560.0	20.07	347.58	4,369.6	1,110.3	-234.9	1,134.9	0.00	0.00	0.00
4,600.0	20.07	347.58	4,407.2	1,123.7	-237.8	1,148.6	0.00	0.00	0.00
4,640.0	20.07	347.58	4,444.7	1,137.1	-240.8	1,162.4	0.00	0.00	0.00
4,680.0	20.07	347.58	4,482.3	1,150.5	-243.7	1,176.1	0.00	0.00	0.00
4,720.0	20.07	347.58	4,519.9	1,163.9	-246.7	1,189.8	0.00	0.00	0.00
4,760.0	20.07	347.58	4,557.5	1,177.3	-249.6	1,203.5	0.00	0.00	0.00
4,800.0	20.07	347.58	4,595.0	1,190.8	-252.6	1,217.2	0.00	0.00	0.00
4,840.0	20.07	347.58	4,632.6	1,204.2	-255.5	1,231.0	0.00	0.00	0.00
4,880.0	20.07	347.58	4,670.2	1,217.6	-258.5	1,244.7	0.00	0.00	0.00
4,920.0	20.07	347.58	4,707.8	1,231.0	-261.5	1,258.4	0.00	0.00	0.00
4,960.0	20.07	347.58	4,745.3	1,244.4	-264.4	1,272.1	0.00	0.00	0.00
5,000.0	20.07	347.58	4,782.9	1,257.8	-267.4	1,285.9	0.00	0.00	0.00
5,040.0	20.07	347.58	4,820.5	1,271.2	-270.3	1,299.6	0.00	0.00	0.00
5,080.0	20.07	347.58	4,858.0	1,284.6	-273.3	1,313.3	0.00	0.00	0.00
5,120.0	20.07	347.58	4,895.6	1,298.0	-276.2	1,327.0	0.00	0.00	0.00
5,142.9	20.07	347.58	4,917.1	1,305.6	-277.9	1,334.9	0.00	0.00	0.00
5,160.0	19.72	347.58	4,933.2	1,311.3	-279.2	1,340.7	2.00	-2.00	0.00
5,200.0	18.92	347.58	4,970.9	1,324.3	-282.0	1,353.9	2.00	-2.00	0.00
5,240.0	18.12	347.58	5,008.9	1,336.7	-284.7	1,366.7	2.00	-2.00	0.00
5,280.0	17.32	347.58	5,047.0	1,348.6	-287.4	1,378.8	2.00	-2.00	0.00
5,320.0	16.52	347.58	5,085.2	1,359.9	-289.9	1,390.5	2.00	-2.00	0.00
5,360.0	15.72	347.58	5,123.7	1,370.8	-292.3	1,401.6	2.00	-2.00	0.00
5,400.0	14.92	347.58	5,162.2	1,381.1	-294.5	1,412.1	2.00	-2.00	0.00
5,440.0	14.12	347.58	5,201.0	1,390.9	-296.7	1,422.2	2.00	-2.00	0.00
5,480.0	13.32	347.58	5,239.8	1,400.2	-298.7	1,431.7	2.00	-2.00	0.00
5,520.0	12.52	347.58	5,278.8	1,408.9	-300.7	1,440.6	2.00	-2.00	0.00
5,560.0	11.72	347.58	5,317.9	1,417.1	-302.5	1,449.0	2.00	-2.00	0.00
5,600.0	10.92	347.58	5,357.1	1,424.8	-304.2	1,456.9	2.00	-2.00	0.00
5,640.0	10.12	347.58	5,396.5	1,431.9	-305.7	1,464.2	2.00	-2.00	0.00
5,680.0	9.32	347.58	5,435.9	1,438.5	-307.2	1,470.9	2.00	-2.00	0.00
5,720.0	8.52	347.58	5,475.4	1,444.6	-308.5	1,477.1	2.00	-2.00	0.00
5,760.0	7.72	347.58	5,515.0	1,450.1	-309.7	1,482.8	2.00	-2.00	0.00
5,800.0	6.92	347.58	5,554.7	1,455.1	-310.8	1,487.9	2.00	-2.00	0.00
5,840.0	6.12	347.58	5,594.4	1,459.5	-311.8	1,492.4	2.00	-2.00	0.00
5,880.0	5.32	347.58	5,634.2	1,463.4	-312.7	1,496.4	2.00	-2.00	0.00
5,920.0	4.52	347.58	5,674.1	1,466.7	-313.4	1,499.8	2.00	-2.00	0.00
5,960.0	3.72	347.58	5,714.0	1,469.5	-314.0	1,502.7	2.00	-2.00	0.00
6,000.0	2.92	347.58	5,753.9	1,471.8	-314.5	1,505.0	2.00	-2.00	0.00
6,040.0	2.12	347.58	5,793.9	1,473.5	-314.9	1,506.8	2.00	-2.00	0.00
6,080.0	1.32	347.58	5,833.8	1,474.7	-315.2	1,508.0	2.00	-2.00	0.00
6,120.0	0.52	347.58	5,873.8	1,475.3	-315.3	1,508.7	2.00	-2.00	0.00
6,146.2	0.00	0.00	5,900.0	1,475.5	-315.3	1,508.8	2.00	-2.00	0.00
TARGET BHL 1320'FNL & 75'FEL									
6,160.0	0.00	0.00	5,913.8	1,475.5	-315.3	1,508.8	0.00	0.00	0.00

Database:	Landmark	Local Co-ordinate Reference:	Well Guttersen C33-31D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4761.0ft (Original Well Elev)
Project:	SEC.33-T4N-R64W	MD Reference:	WELL @ 4761.0ft (Original Well Elev)
Site:	Guttersen C33-33D Pad Sec.33-T4N-R64W	North Reference:	True
Well:	Guttersen C33-31D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Guttersen C33-31D Plan#1 (8-09-11)		

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	5,953.8	1,475.5	-315.3	1,508.8	0.00	0.00	0.00
6,240.0	0.00	0.00	5,993.8	1,475.5	-315.3	1,508.8	0.00	0.00	0.00
6,280.0	0.00	0.00	6,033.8	1,475.5	-315.3	1,508.8	0.00	0.00	0.00
6,320.0	0.00	0.00	6,073.8	1,475.5	-315.3	1,508.8	0.00	0.00	0.00
6,360.0	0.00	0.00	6,113.8	1,475.5	-315.3	1,508.8	0.00	0.00	0.00
6,400.0	0.00	0.00	6,153.8	1,475.5	-315.3	1,508.8	0.00	0.00	0.00
6,440.0	0.00	0.00	6,193.8	1,475.5	-315.3	1,508.8	0.00	0.00	0.00
6,480.0	0.00	0.00	6,233.8	1,475.5	-315.3	1,508.8	0.00	0.00	0.00
6,520.0	0.00	0.00	6,273.8	1,475.5	-315.3	1,508.8	0.00	0.00	0.00
6,560.0	0.00	0.00	6,313.8	1,475.5	-315.3	1,508.8	0.00	0.00	0.00
6,600.0	0.00	0.00	6,353.8	1,475.5	-315.3	1,508.8	0.00	0.00	0.00
6,640.0	0.00	0.00	6,393.8	1,475.5	-315.3	1,508.8	0.00	0.00	0.00
6,680.0	0.00	0.00	6,433.8	1,475.5	-315.3	1,508.8	0.00	0.00	0.00
6,720.0	0.00	0.00	6,473.8	1,475.5	-315.3	1,508.8	0.00	0.00	0.00
6,760.0	0.00	0.00	6,513.8	1,475.5	-315.3	1,508.8	0.00	0.00	0.00
6,800.0	0.00	0.00	6,553.8	1,475.5	-315.3	1,508.8	0.00	0.00	0.00
6,840.0	0.00	0.00	6,593.8	1,475.5	-315.3	1,508.8	0.00	0.00	0.00
6,880.0	0.00	0.00	6,633.8	1,475.5	-315.3	1,508.8	0.00	0.00	0.00
6,920.0	0.00	0.00	6,673.8	1,475.5	-315.3	1,508.8	0.00	0.00	0.00
6,932.2	0.00	0.00	6,686.0	1,475.5	-315.3	1,508.8	0.00	0.00	0.00
NIOBRARA - TARGET CIRCLE 1320'FNL & 75'FEL									
6,960.0	0.00	0.00	6,713.8	1,475.5	-315.3	1,508.8	0.00	0.00	0.00
7,000.0	0.00	0.00	6,753.8	1,475.5	-315.3	1,508.8	0.00	0.00	0.00
7,040.0	0.00	0.00	6,793.8	1,475.5	-315.3	1,508.8	0.00	0.00	0.00
7,080.0	0.00	0.00	6,833.8	1,475.5	-315.3	1,508.8	0.00	0.00	0.00
7,120.0	0.00	0.00	6,873.8	1,475.5	-315.3	1,508.8	0.00	0.00	0.00
7,160.0	0.00	0.00	6,913.8	1,475.5	-315.3	1,508.8	0.00	0.00	0.00
7,197.2	0.00	0.00	6,951.0	1,475.5	-315.3	1,508.8	0.00	0.00	0.00
CODELL									
7,200.0	0.00	0.00	6,953.8	1,475.5	-315.3	1,508.8	0.00	0.00	0.00
7,240.0	0.00	0.00	6,993.8	1,475.5	-315.3	1,508.8	0.00	0.00	0.00
7,280.0	0.00	0.00	7,033.8	1,475.5	-315.3	1,508.8	0.00	0.00	0.00
7,320.0	0.00	0.00	7,073.8	1,475.5	-315.3	1,508.8	0.00	0.00	0.00
7,347.2	0.00	0.00	7,101.0	1,475.5	-315.3	1,508.8	0.00	0.00	0.00
HARD LINE 75'E OF BHL									

Database:	Landmark	Local Co-ordinate Reference:	Well Guttersen C33-31D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4761.0ft (Original Well Elev)
Project:	SEC.33-T4N-R64W	MD Reference:	WELL @ 4761.0ft (Original Well Elev)
Site:	Guttersen C33-33D Pad Sec.33-T4N-R64W	North Reference:	True
Well:	Guttersen C33-31D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Guttersen C33-31D Plan#1 (8-09-11)		

Targets									
Target Name									
- hit/miss target	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- Shape	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(ft)		
HARD LINE 75'E OF I	0.00	0.00	7,101.0	1,375.4	-240.3	1,343,423.85	3,260,783.63	40.272325	-104.565391
- plan misses target center by 125.0ft at 7347.2ft MD (7101.0 TVD, 1475.5 N, -315.3 E)									
- Polygon									
Point 1			7,101.0	0.0	0.0	1,343,423.85	3,260,783.63		
Point 2			7,101.0	200.0	0.0	1,343,623.83	3,260,781.52		
Point 3			7,101.0	0.0	0.0	1,343,423.85	3,260,783.63		
TARGET BHL 1320'F	0.00	0.00	5,900.0	1,475.5	-315.3	1,343,523.09	3,260,707.56	40.272600	-104.565660
- plan hits target center									
- Point									
TARGET CIRCLE 132	0.00	0.00	6,686.0	1,475.5	-315.3	1,343,523.09	3,260,707.56	40.272600	-104.565660
- plan hits target center									
- Circle (radius 75.0)									

Casing Points					
	Measured Depth	Vertical Depth		Casing Diameter	Hole Diameter
	(ft)	(ft)	Name	(")	(")
	650.0	650.0	8 5/8"	8-5/8	12-1/4

Formations					
	Measured Depth	Vertical Depth			
	(ft)	(ft)	Name	Lithology	Dip
					(°)
					Dip Direction
					(°)
	6,932.2	6,686.0	NIOBRARA		0.00
	7,197.2	6,951.0	CODELL		0.00