

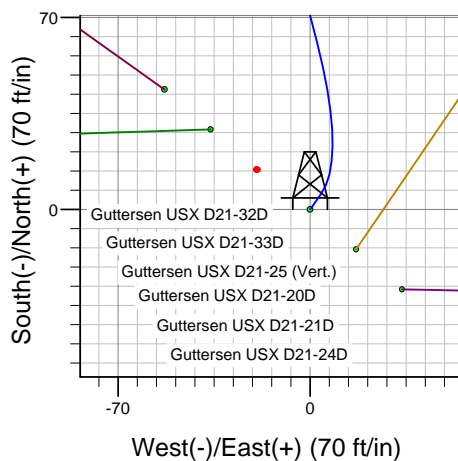
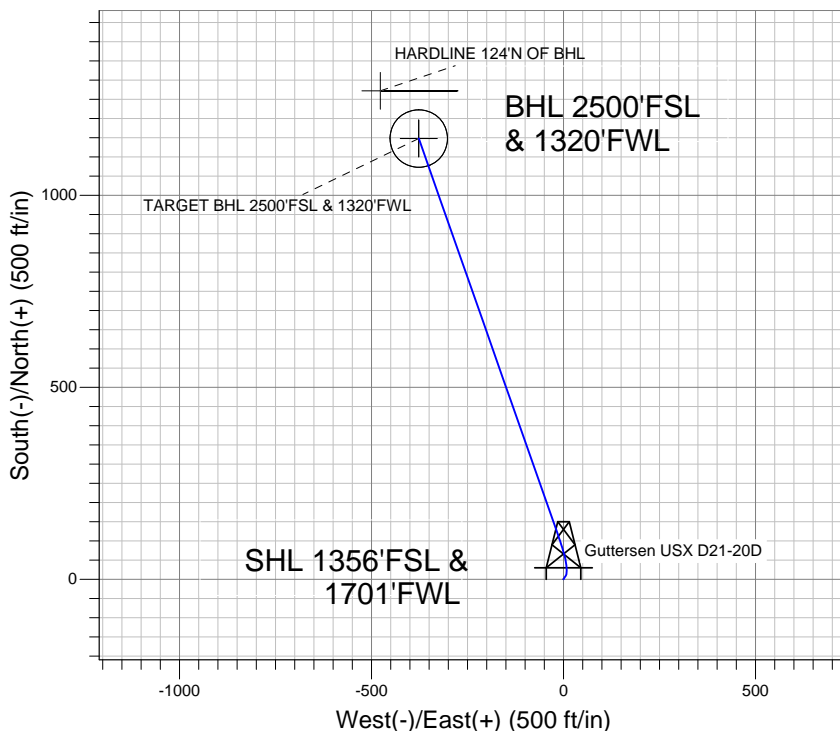
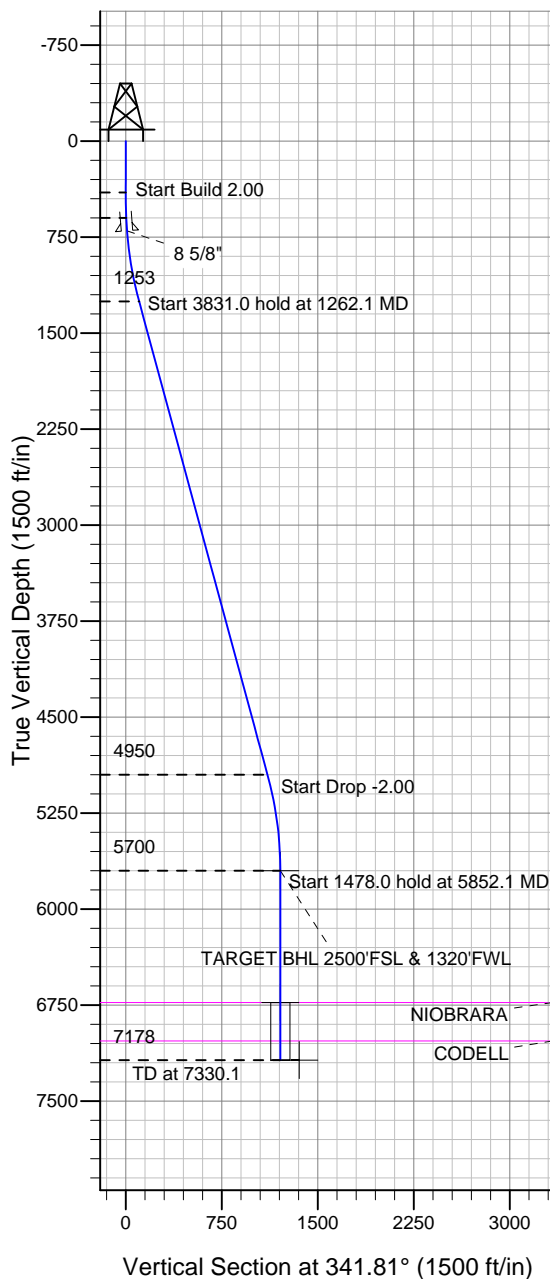
Well Name: Gutteresen USX D21-20D

Surface Location: Gutteresen USX D21-32D Pad Sec.21-T3N-R64W
North American Datum 1983, US State Plane 1983 Colorado Northern Zone
Ground Elevation: 4820.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1319801.76	3262647.38	40.207430	-104.559610	

Original Well EleWELL @ 4833.0ft (Original Well Elev)

NOBLE ENERGY INC WELD COUNTY CO



Gutteresen USX D21-32D Pad Sec.21-T3N-R64W
Gutteresen USX D21-20D
Noble Gutteresen D21-20D Plan #1 (11-1-11)
10:53, November 03 2011



Azimuths to True North
Magnetic North: 8.69°
Magnetic Field
Strength: 53012.2snT
Dip Angle: 66.92°
Date: 11/1/2011
Model: IGRF2010

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
TARGET BHL 2500'FSL & 1320'FWL	5700.0	1147.6	-377.1	40.210580	-104.560960	Point
TARGET CIRCLE 2500'FSL & 1320'FWL	6729.0	1147.6	-377.1	40.210580	-104.560960	Circle (Radius: 75.0)
HARDLINE 124°N OF BHL	7178.0	1271.6	-477.1	40.210920	-104.561318	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	400.0	0.00	0.00	400.0	0.0	0.0	0.00	0.00	0.0	
3	600.0	4.00	35.00	599.8	5.7	4.0	2.00	35.00	4.2	
4	1262.1	15.18	340.65	1252.5	106.9	-11.5	2.00	-68.25	105.1	
5	5093.2	15.18	340.65	4949.9	1053.3	-343.9	0.00	0.00	1108.0	
6	5852.1	0.00	0.00	5700.0	1147.6	-377.1	2.00	180.00	1207.9	TARGET BHL 2500'FSL & 1320'FWL
7	7330.1	0.00	0.00	7178.0	1147.6	-377.1	0.00	0.00	1207.9	



Directional

NOBLE ENERGY INC WELD COUNTY CO

SEC.21-T3N-R64W

Guttersen USX D21-32D Pad Sec.21-T3N-R64W

Guttersen USX D21-20D

Wellbore #1

Plan: Noble Guttersen D21-20D Plan #1 (11-1-11)

Standard Planning Report

03 November, 2011



Database:	Landmark	Local Co-ordinate Reference:	Well Guttersen USX D21-20D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4833.0ft (Original Well Elev)
Project:	SEC.21-T3N-R64W	MD Reference:	WELL @ 4833.0ft (Original Well Elev)
Site:	Guttersen USX D21-32D Pad Sec.21-T3N-R64W	North Reference:	True
Well:	Guttersen USX D21-20D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Guttersen D21-20D Plan #1 (11-1-11)		

Project	SEC.21-T3N-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 USX D21-32D Pad Sec.21-T3N-R64W											
Site Position:						Northing:			1,319,830.53ft			Latitude:			40.207510		
From:			Lat/Long			Easting:			3,262,610.76ft			Longitude:			-104.559740		
Position Uncertainty:			0.0 ft			Slot Radius:			"			Grid Convergence:			0.61 °		

Well	Guttersen USX D21-20D					
Well Position	+N/-S	-29.2 ft	Northing:	1,319,801.76 ft	Latitude:	40.207430
	+E/-W	36.3 ft	Easting:	3,262,647.38 ft	Longitude:	-104.559610
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,820.0 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	11/1/2011	8.69	66.92	53,012

Design	Noble Guttersen D21-20D Plan #1 (11-1-11)			
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	341.81

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	
400.0	0.00	0.00	400.0	0.0	0.0	0.00	0.00	0.00	0.00	
600.0	4.00	35.00	599.8	5.7	4.0	2.00	2.00	0.00	35.00	
1,262.1	15.18	340.65	1,252.5	106.9	-11.5	2.00	1.69	-8.21	-68.25	
5,093.2	15.18	340.65	4,949.9	1,053.3	-343.9	0.00	0.00	0.00	0.00	
5,852.1	0.00	0.00	5,700.0	1,147.6	-377.1	2.00	-2.00	0.00	180.00	TARGET BHL 250C
7,330.1	0.00	0.00	7,178.0	1,147.6	-377.1	0.00	0.00	0.00	0.00	

Database:	Landmark	Local Co-ordinate Reference:	Well Guttersen USX D21-20D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4833.0ft (Original Well Elev)
Project:	SEC.21-T3N-R64W	MD Reference:	WELL @ 4833.0ft (Original Well Elev)
Site:	Guttersen USX D21-32D Pad Sec.21-T3N-R64W	North Reference:	True
Well:	Guttersen USX D21-20D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Guttersen D21-20D Plan #1 (11-1-11)		

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	0.80	35.00	440.0	0.2	0.2	0.2	2.00	2.00	0.00
480.0	1.60	35.00	480.0	0.9	0.6	0.7	2.00	2.00	0.00
520.0	2.40	35.00	520.0	2.1	1.4	1.5	2.00	2.00	0.00
560.0	3.20	35.00	559.9	3.7	2.6	2.7	2.00	2.00	0.00
600.0	4.00	35.00	599.8	5.7	4.0	4.2	2.00	2.00	0.00
640.0	4.36	25.18	639.7	8.2	5.4	6.1	2.00	0.90	-24.55
680.0	4.83	17.05	679.6	11.2	6.6	8.6	2.00	1.17	-20.32
700.5	5.10	13.50	700.0	12.9	7.1	10.1	2.00	1.32	-17.34
8 5/8"									
720.0	5.37	10.46	719.4	14.7	7.4	11.6	2.00	1.41	-15.58
760.0	5.98	5.13	759.2	18.6	7.9	15.2	2.00	1.51	-13.31
800.0	6.62	0.81	799.0	23.0	8.2	19.3	2.00	1.61	-10.80
840.0	7.30	357.27	838.7	27.8	8.1	23.9	2.00	1.69	-8.85
880.0	7.99	354.33	878.4	33.1	7.7	29.1	2.00	1.75	-7.34
920.0	8.71	351.87	917.9	38.9	7.0	34.8	2.00	1.79	-6.15
960.0	9.44	349.79	957.4	45.1	6.0	41.0	2.00	1.82	-5.22
1,000.0	10.18	348.00	996.8	51.8	4.7	47.8	2.00	1.85	-4.47
1,040.0	10.93	346.45	1,036.2	58.9	3.0	55.0	2.00	1.87	-3.87
1,080.0	11.68	345.10	1,075.4	66.5	1.1	62.9	2.00	1.89	-3.38
1,120.0	12.44	343.91	1,114.5	74.6	-1.1	71.2	2.00	1.90	-2.97
1,160.0	13.21	342.86	1,153.5	83.1	-3.7	80.1	2.00	1.91	-2.63
1,200.0	13.98	341.92	1,192.4	92.1	-6.5	89.5	2.00	1.92	-2.35
1,240.0	14.75	341.08	1,231.1	101.5	-9.7	99.4	2.00	1.93	-2.11
1,262.1	15.18	340.65	1,252.5	106.9	-11.5	105.1	2.00	1.94	-1.94
1,280.0	15.18	340.65	1,269.8	111.3	-13.1	109.8	0.00	0.00	0.00
1,320.0	15.18	340.65	1,308.4	121.2	-16.6	120.3	0.00	0.00	0.00
1,360.0	15.18	340.65	1,347.0	131.0	-20.0	130.8	0.00	0.00	0.00
1,400.0	15.18	340.65	1,385.6	140.9	-23.5	141.2	0.00	0.00	0.00
1,440.0	15.18	340.65	1,424.2	150.8	-27.0	151.7	0.00	0.00	0.00
1,480.0	15.18	340.65	1,462.8	160.7	-30.4	162.2	0.00	0.00	0.00
1,520.0	15.18	340.65	1,501.4	170.6	-33.9	172.6	0.00	0.00	0.00
1,560.0	15.18	340.65	1,540.0	180.5	-37.4	183.1	0.00	0.00	0.00
1,600.0	15.18	340.65	1,578.6	190.3	-40.9	193.6	0.00	0.00	0.00
1,640.0	15.18	340.65	1,617.2	200.2	-44.3	204.0	0.00	0.00	0.00
1,680.0	15.18	340.65	1,655.8	210.1	-47.8	214.5	0.00	0.00	0.00
1,720.0	15.18	340.65	1,694.4	220.0	-51.3	225.0	0.00	0.00	0.00
1,760.0	15.18	340.65	1,733.0	229.9	-54.7	235.5	0.00	0.00	0.00
1,800.0	15.18	340.65	1,771.6	239.7	-58.2	245.9	0.00	0.00	0.00
1,840.0	15.18	340.65	1,810.2	249.6	-61.7	256.4	0.00	0.00	0.00
1,880.0	15.18	340.65	1,848.8	259.5	-65.2	266.9	0.00	0.00	0.00
1,920.0	15.18	340.65	1,887.4	269.4	-68.6	277.3	0.00	0.00	0.00
1,960.0	15.18	340.65	1,926.0	279.3	-72.1	287.8	0.00	0.00	0.00

Database:	Landmark	Local Co-ordinate Reference:	Well Guttersen USX D21-20D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4833.0ft (Original Well Elev)
Project:	SEC.21-T3N-R64W	MD Reference:	WELL @ 4833.0ft (Original Well Elev)
Site:	Guttersen USX D21-32D Pad Sec.21-T3N-R64W	North Reference:	True
Well:	Guttersen USX D21-20D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Guttersen D21-20D Plan #1 (11-1-11)		

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	15.18	340.65	1,964.6	289.1	-75.6	298.3	0.00	0.00	0.00	
2,040.0	15.18	340.65	2,003.3	299.0	-79.0	308.8	0.00	0.00	0.00	
2,080.0	15.18	340.65	2,041.9	308.9	-82.5	319.2	0.00	0.00	0.00	
2,120.0	15.18	340.65	2,080.5	318.8	-86.0	329.7	0.00	0.00	0.00	
2,160.0	15.18	340.65	2,119.1	328.7	-89.4	340.2	0.00	0.00	0.00	
2,200.0	15.18	340.65	2,157.7	338.6	-92.9	350.6	0.00	0.00	0.00	
2,240.0	15.18	340.65	2,196.3	348.4	-96.4	361.1	0.00	0.00	0.00	
2,280.0	15.18	340.65	2,234.9	358.3	-99.9	371.6	0.00	0.00	0.00	
2,320.0	15.18	340.65	2,273.5	368.2	-103.3	382.1	0.00	0.00	0.00	
2,360.0	15.18	340.65	2,312.1	378.1	-106.8	392.5	0.00	0.00	0.00	
2,400.0	15.18	340.65	2,350.7	388.0	-110.3	403.0	0.00	0.00	0.00	
2,440.0	15.18	340.65	2,389.3	397.8	-113.7	413.5	0.00	0.00	0.00	
2,480.0	15.18	340.65	2,427.9	407.7	-117.2	423.9	0.00	0.00	0.00	
2,520.0	15.18	340.65	2,466.5	417.6	-120.7	434.4	0.00	0.00	0.00	
2,560.0	15.18	340.65	2,505.1	427.5	-124.2	444.9	0.00	0.00	0.00	
2,600.0	15.18	340.65	2,543.7	437.4	-127.6	455.4	0.00	0.00	0.00	
2,640.0	15.18	340.65	2,582.3	447.2	-131.1	465.8	0.00	0.00	0.00	
2,680.0	15.18	340.65	2,620.9	457.1	-134.6	476.3	0.00	0.00	0.00	
2,720.0	15.18	340.65	2,659.5	467.0	-138.0	486.8	0.00	0.00	0.00	
2,760.0	15.18	340.65	2,698.1	476.9	-141.5	497.2	0.00	0.00	0.00	
2,800.0	15.18	340.65	2,736.7	486.8	-145.0	507.7	0.00	0.00	0.00	
2,840.0	15.18	340.65	2,775.3	496.7	-148.4	518.2	0.00	0.00	0.00	
2,880.0	15.18	340.65	2,814.0	506.5	-151.9	528.6	0.00	0.00	0.00	
2,920.0	15.18	340.65	2,852.6	516.4	-155.4	539.1	0.00	0.00	0.00	
2,960.0	15.18	340.65	2,891.2	526.3	-158.9	549.6	0.00	0.00	0.00	
3,000.0	15.18	340.65	2,929.8	536.2	-162.3	560.1	0.00	0.00	0.00	
3,040.0	15.18	340.65	2,968.4	546.1	-165.8	570.5	0.00	0.00	0.00	
3,080.0	15.18	340.65	3,007.0	555.9	-169.3	581.0	0.00	0.00	0.00	
3,120.0	15.18	340.65	3,045.6	565.8	-172.7	591.5	0.00	0.00	0.00	
3,160.0	15.18	340.65	3,084.2	575.7	-176.2	601.9	0.00	0.00	0.00	
3,200.0	15.18	340.65	3,122.8	585.6	-179.7	612.4	0.00	0.00	0.00	
3,240.0	15.18	340.65	3,161.4	595.5	-183.2	622.9	0.00	0.00	0.00	
3,280.0	15.18	340.65	3,200.0	605.4	-186.6	633.4	0.00	0.00	0.00	
3,320.0	15.18	340.65	3,238.6	615.2	-190.1	643.8	0.00	0.00	0.00	
3,360.0	15.18	340.65	3,277.2	625.1	-193.6	654.3	0.00	0.00	0.00	
3,400.0	15.18	340.65	3,315.8	635.0	-197.0	664.8	0.00	0.00	0.00	
3,440.0	15.18	340.65	3,354.4	644.9	-200.5	675.2	0.00	0.00	0.00	
3,480.0	15.18	340.65	3,393.0	654.8	-204.0	685.7	0.00	0.00	0.00	
3,520.0	15.18	340.65	3,431.6	664.6	-207.4	696.2	0.00	0.00	0.00	
3,560.0	15.18	340.65	3,470.2	674.5	-210.9	706.7	0.00	0.00	0.00	
3,600.0	15.18	340.65	3,508.8	684.4	-214.4	717.1	0.00	0.00	0.00	
3,640.0	15.18	340.65	3,547.4	694.3	-217.9	727.6	0.00	0.00	0.00	
3,680.0	15.18	340.65	3,586.0	704.2	-221.3	738.1	0.00	0.00	0.00	
3,720.0	15.18	340.65	3,624.6	714.0	-224.8	748.5	0.00	0.00	0.00	
3,760.0	15.18	340.65	3,663.3	723.9	-228.3	759.0	0.00	0.00	0.00	
3,800.0	15.18	340.65	3,701.9	733.8	-231.7	769.5	0.00	0.00	0.00	
3,840.0	15.18	340.65	3,740.5	743.7	-235.2	780.0	0.00	0.00	0.00	
3,880.0	15.18	340.65	3,779.1	753.6	-238.7	790.4	0.00	0.00	0.00	
3,920.0	15.18	340.65	3,817.7	763.5	-242.2	800.9	0.00	0.00	0.00	
3,960.0	15.18	340.65	3,856.3	773.3	-245.6	811.4	0.00	0.00	0.00	
4,000.0	15.18	340.65	3,894.9	783.2	-249.1	821.8	0.00	0.00	0.00	
4,040.0	15.18	340.65	3,933.5	793.1	-252.6	832.3	0.00	0.00	0.00	
4,080.0	15.18	340.65	3,972.1	803.0	-256.0	842.8	0.00	0.00	0.00	

Database:	Landmark	Local Co-ordinate Reference:	Well Guttersen USX D21-20D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4833.0ft (Original Well Elev)
Project:	SEC.21-T3N-R64W	MD Reference:	WELL @ 4833.0ft (Original Well Elev)
Site:	Guttersen USX D21-32D Pad Sec.21-T3N-R64W	North Reference:	True
Well:	Guttersen USX D21-20D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Guttersen D21-20D Plan #1 (11-1-11)		

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)
4,120.0	15.18	340.65	4,010.7	812.9	-259.5	853.2	0.00	0.00	0.00
4,160.0	15.18	340.65	4,049.3	822.7	-263.0	863.7	0.00	0.00	0.00
4,200.0	15.18	340.65	4,087.9	832.6	-266.4	874.2	0.00	0.00	0.00
4,240.0	15.18	340.65	4,126.5	842.5	-269.9	884.7	0.00	0.00	0.00
4,280.0	15.18	340.65	4,165.1	852.4	-273.4	895.1	0.00	0.00	0.00
4,320.0	15.18	340.65	4,203.7	862.3	-276.9	905.6	0.00	0.00	0.00
4,360.0	15.18	340.65	4,242.3	872.1	-280.3	916.1	0.00	0.00	0.00
4,400.0	15.18	340.65	4,280.9	882.0	-283.8	926.5	0.00	0.00	0.00
4,440.0	15.18	340.65	4,319.5	891.9	-287.3	937.0	0.00	0.00	0.00
4,480.0	15.18	340.65	4,358.1	901.8	-290.7	947.5	0.00	0.00	0.00
4,520.0	15.18	340.65	4,396.7	911.7	-294.2	958.0	0.00	0.00	0.00
4,560.0	15.18	340.65	4,435.3	921.6	-297.7	968.4	0.00	0.00	0.00
4,600.0	15.18	340.65	4,473.9	931.4	-301.1	978.9	0.00	0.00	0.00
4,640.0	15.18	340.65	4,512.6	941.3	-304.6	989.4	0.00	0.00	0.00
4,680.0	15.18	340.65	4,551.2	951.2	-308.1	999.8	0.00	0.00	0.00
4,720.0	15.18	340.65	4,589.8	961.1	-311.6	1,010.3	0.00	0.00	0.00
4,760.0	15.18	340.65	4,628.4	971.0	-315.0	1,020.8	0.00	0.00	0.00
4,800.0	15.18	340.65	4,667.0	980.8	-318.5	1,031.3	0.00	0.00	0.00
4,840.0	15.18	340.65	4,705.6	990.7	-322.0	1,041.7	0.00	0.00	0.00
4,880.0	15.18	340.65	4,744.2	1,000.6	-325.4	1,052.2	0.00	0.00	0.00
4,920.0	15.18	340.65	4,782.8	1,010.5	-328.9	1,062.7	0.00	0.00	0.00
4,960.0	15.18	340.65	4,821.4	1,020.4	-332.4	1,073.1	0.00	0.00	0.00
5,000.0	15.18	340.65	4,860.0	1,030.3	-335.9	1,083.6	0.00	0.00	0.00
5,040.0	15.18	340.65	4,898.6	1,040.1	-339.3	1,094.1	0.00	0.00	0.00
5,080.0	15.18	340.65	4,937.2	1,050.0	-342.8	1,104.6	0.00	0.00	0.00
5,093.2	15.18	340.65	4,949.9	1,053.3	-343.9	1,108.0	0.00	0.00	0.00
5,120.0	14.64	340.65	4,975.8	1,059.8	-346.2	1,114.9	2.00	-2.00	0.00
5,160.0	13.84	340.65	5,014.6	1,069.1	-349.5	1,124.7	2.00	-2.00	0.00
5,200.0	13.04	340.65	5,053.5	1,077.8	-352.6	1,134.0	2.00	-2.00	0.00
5,240.0	12.24	340.65	5,092.5	1,086.1	-355.5	1,142.8	2.00	-2.00	0.00
5,280.0	11.44	340.65	5,131.7	1,093.8	-358.2	1,151.0	2.00	-2.00	0.00
5,320.0	10.64	340.65	5,171.0	1,101.1	-360.7	1,158.7	2.00	-2.00	0.00
5,360.0	9.84	340.65	5,210.3	1,107.8	-363.1	1,165.8	2.00	-2.00	0.00
5,400.0	9.04	340.65	5,249.8	1,114.0	-365.3	1,172.3	2.00	-2.00	0.00
5,440.0	8.24	340.65	5,289.3	1,119.6	-367.3	1,178.3	2.00	-2.00	0.00
5,480.0	7.44	340.65	5,328.9	1,124.8	-369.1	1,183.8	2.00	-2.00	0.00
5,520.0	6.64	340.65	5,368.6	1,129.4	-370.7	1,188.7	2.00	-2.00	0.00
5,560.0	5.84	340.65	5,408.4	1,133.5	-372.1	1,193.0	2.00	-2.00	0.00
5,600.0	5.04	340.65	5,448.2	1,137.1	-373.4	1,196.8	2.00	-2.00	0.00
5,640.0	4.24	340.65	5,488.1	1,140.2	-374.5	1,200.1	2.00	-2.00	0.00
5,680.0	3.44	340.65	5,528.0	1,142.7	-375.3	1,202.8	2.00	-2.00	0.00
5,720.0	2.64	340.65	5,567.9	1,144.7	-376.0	1,204.9	2.00	-2.00	0.00
5,760.0	1.84	340.65	5,607.9	1,146.2	-376.6	1,206.4	2.00	-2.00	0.00
5,800.0	1.04	340.65	5,647.9	1,147.1	-376.9	1,207.4	2.00	-2.00	0.00
5,840.0	0.24	340.65	5,687.9	1,147.5	-377.0	1,207.9	2.00	-2.00	0.00
5,852.1	0.00	0.00	5,700.0	1,147.6	-377.1	1,207.9	2.00	-2.00	0.00
TARGET BHL 2500'FSL & 1320'FWL									
5,880.0	0.00	0.00	5,727.9	1,147.6	-377.1	1,207.9	0.00	0.00	0.00
5,920.0	0.00	0.00	5,767.9	1,147.6	-377.1	1,207.9	0.00	0.00	0.00
5,960.0	0.00	0.00	5,807.9	1,147.6	-377.1	1,207.9	0.00	0.00	0.00
6,000.0	0.00	0.00	5,847.9	1,147.6	-377.1	1,207.9	0.00	0.00	0.00
6,040.0	0.00	0.00	5,887.9	1,147.6	-377.1	1,207.9	0.00	0.00	0.00
6,080.0	0.00	0.00	5,927.9	1,147.6	-377.1	1,207.9	0.00	0.00	0.00

Database:	Landmark	Local Co-ordinate Reference:	Well Guttersen USX D21-20D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4833.0ft (Original Well Elev)
Project:	SEC.21-T3N-R64W	MD Reference:	WELL @ 4833.0ft (Original Well Elev)
Site:	Guttersen USX D21-32D Pad Sec.21-T3N-R64W	North Reference:	True
Well:	Guttersen USX D21-20D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Guttersen D21-20D Plan #1 (11-1-11)		

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)
6,120.0	0.00	0.00	5,967.9	1,147.6	-377.1	1,207.9	0.00	0.00	0.00
6,160.0	0.00	0.00	6,007.9	1,147.6	-377.1	1,207.9	0.00	0.00	0.00
6,200.0	0.00	0.00	6,047.9	1,147.6	-377.1	1,207.9	0.00	0.00	0.00
6,240.0	0.00	0.00	6,087.9	1,147.6	-377.1	1,207.9	0.00	0.00	0.00
6,280.0	0.00	0.00	6,127.9	1,147.6	-377.1	1,207.9	0.00	0.00	0.00
6,320.0	0.00	0.00	6,167.9	1,147.6	-377.1	1,207.9	0.00	0.00	0.00
6,360.0	0.00	0.00	6,207.9	1,147.6	-377.1	1,207.9	0.00	0.00	0.00
6,400.0	0.00	0.00	6,247.9	1,147.6	-377.1	1,207.9	0.00	0.00	0.00
6,440.0	0.00	0.00	6,287.9	1,147.6	-377.1	1,207.9	0.00	0.00	0.00
6,480.0	0.00	0.00	6,327.9	1,147.6	-377.1	1,207.9	0.00	0.00	0.00
6,520.0	0.00	0.00	6,367.9	1,147.6	-377.1	1,207.9	0.00	0.00	0.00
6,560.0	0.00	0.00	6,407.9	1,147.6	-377.1	1,207.9	0.00	0.00	0.00
6,600.0	0.00	0.00	6,447.9	1,147.6	-377.1	1,207.9	0.00	0.00	0.00
6,640.0	0.00	0.00	6,487.9	1,147.6	-377.1	1,207.9	0.00	0.00	0.00
6,680.0	0.00	0.00	6,527.9	1,147.6	-377.1	1,207.9	0.00	0.00	0.00
6,720.0	0.00	0.00	6,567.9	1,147.6	-377.1	1,207.9	0.00	0.00	0.00
6,760.0	0.00	0.00	6,607.9	1,147.6	-377.1	1,207.9	0.00	0.00	0.00
6,800.0	0.00	0.00	6,647.9	1,147.6	-377.1	1,207.9	0.00	0.00	0.00
6,840.0	0.00	0.00	6,687.9	1,147.6	-377.1	1,207.9	0.00	0.00	0.00
6,880.0	0.00	0.00	6,727.9	1,147.6	-377.1	1,207.9	0.00	0.00	0.00
6,881.1	0.00	0.00	6,729.0	1,147.6	-377.1	1,207.9	0.00	0.00	0.00
NIOBRARA - TARGET CIRCLE 2500'FSL & 1320'FWL									
6,920.0	0.00	0.00	6,767.9	1,147.6	-377.1	1,207.9	0.00	0.00	0.00
6,960.0	0.00	0.00	6,807.9	1,147.6	-377.1	1,207.9	0.00	0.00	0.00
7,000.0	0.00	0.00	6,847.9	1,147.6	-377.1	1,207.9	0.00	0.00	0.00
7,040.0	0.00	0.00	6,887.9	1,147.6	-377.1	1,207.9	0.00	0.00	0.00
7,080.0	0.00	0.00	6,927.9	1,147.6	-377.1	1,207.9	0.00	0.00	0.00
7,120.0	0.00	0.00	6,967.9	1,147.6	-377.1	1,207.9	0.00	0.00	0.00
7,160.0	0.00	0.00	7,007.9	1,147.6	-377.1	1,207.9	0.00	0.00	0.00
7,180.1	0.00	0.00	7,028.0	1,147.6	-377.1	1,207.9	0.00	0.00	0.00
CODELL									
7,200.0	0.00	0.00	7,047.9	1,147.6	-377.1	1,207.9	0.00	0.00	0.00
7,240.0	0.00	0.00	7,087.9	1,147.6	-377.1	1,207.9	0.00	0.00	0.00
7,280.0	0.00	0.00	7,127.9	1,147.6	-377.1	1,207.9	0.00	0.00	0.00
7,320.0	0.00	0.00	7,167.9	1,147.6	-377.1	1,207.9	0.00	0.00	0.00
7,330.1	0.00	0.00	7,178.0	1,147.6	-377.1	1,207.9	0.00	0.00	0.00
HARDLINE 124'N OF BHL									

Database:	Landmark	Local Co-ordinate Reference:	Well Guttersen USX D21-20D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4833.0ft (Original Well Elev)
Project:	SEC.21-T3N-R64W	MD Reference:	WELL @ 4833.0ft (Original Well Elev)
Site:	Guttersen USX D21-32D Pad Sec.21-T3N-R64W	North Reference:	True
Well:	Guttersen USX D21-20D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Guttersen D21-20D Plan #1 (11-1-11)		

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									
HARDLINE 124'N OF	0.00	0.00	7,178.0	1,271.6	-477.1	1,321,068.18	3,262,156.84	40.210920	-104.561318
- plan misses target center by 159.4ft at 7330.1ft MD (7178.0 TVD, 1147.6 N, -377.1 E)									
- Polygon									
Point 1			7,178.0	0.0	0.0	1,321,068.18	3,262,156.84		
Point 2			7,178.0	0.0	200.0	1,321,070.30	3,262,356.82		
TARGET CIRCLE 250'	0.00	0.00	6,729.0	1,147.6	-377.1	1,320,945.21	3,262,258.19	40.210580	-104.560960
- plan hits target center									
- Circle (radius 75.0)									
TARGET BHL 2500'F:	0.00	0.00	5,700.0	1,147.6	-377.1	1,320,945.21	3,262,258.19	40.210580	-104.560960
- plan hits target center									
- Point									

Casing Points					
Measured Depth	Vertical Depth	Name		Casing Diameter	Hole Diameter
(ft)	(ft)			(")	(")
700.5	700.0	8 5/8"		8-5/8	12-1/4

Formations						
Measured Depth	Vertical Depth	Name		Lithology	Dip	Dip Direction
(ft)	(ft)				(°)	(°)
6,881.1	6,729.0	NIOBRARA			0.00	
7,180.1	7,028.0	CODELL			0.00	