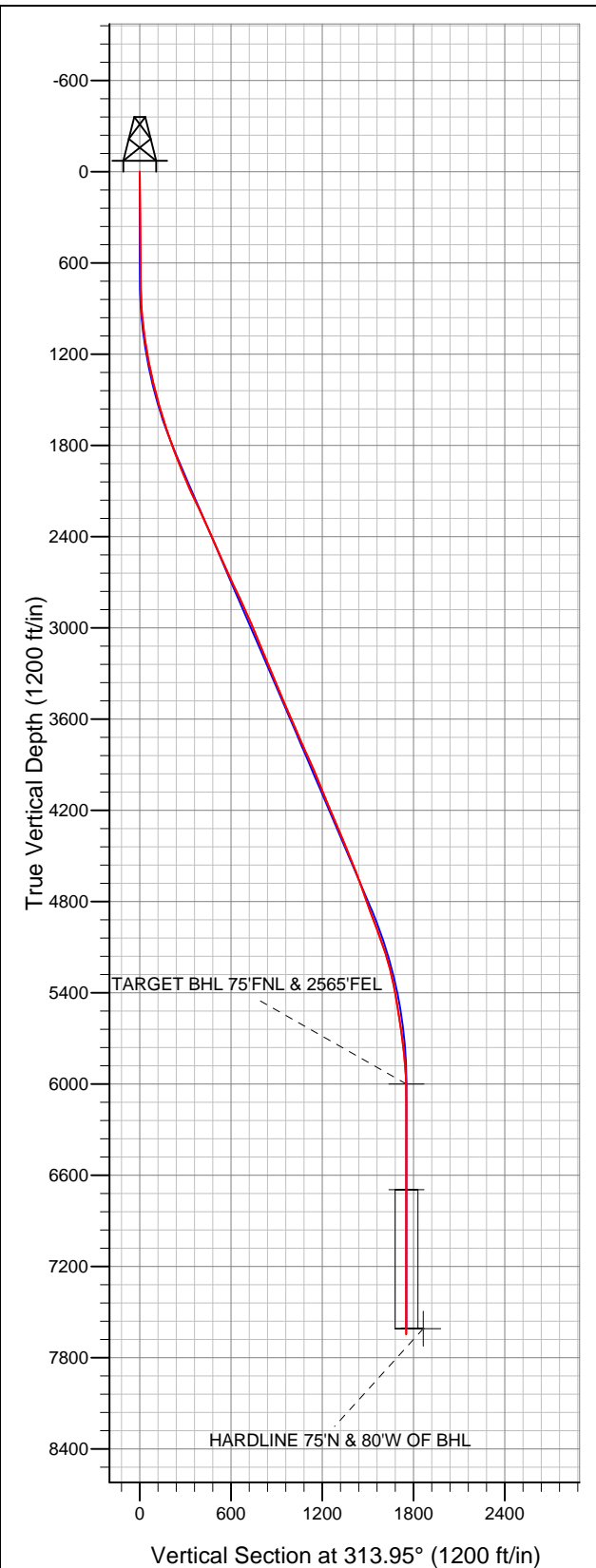




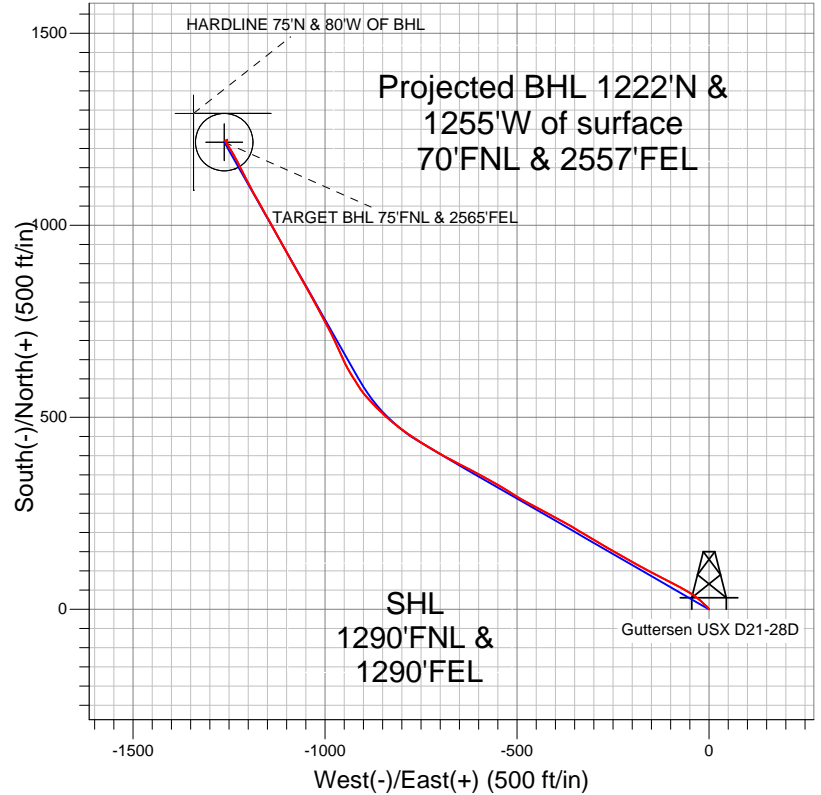
# Well Name: Gutteresen USX D21-28D

Surface Location: Gutteresen USX D21-28D Pad Sec.21-T3N-R64W  
North American Datum 1983 US State Plane 1983Colorado Northern Zone  
Ground Elevation: 4802.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1322427.05	3264915.37	40.214570	-104.551390	
		Original Well Elev	WELL @ 4815.0ft (Original Well Elev)			



## NOBLE ENERGY INC WELD COUNTY CO



### LEGEND

- Survey #1
- Gutteresen USX D21-28D, Wellbore #1, Noble Gutteresen USX D21-28D Plan #2 (11-15-11) V0
- Wellbore #1

## Final Survey Plot

Projected Final Survey -  
7992'MD & 7647'TVD @ 1751'VS  
0.30 deg Inc 145.00 deg AZ

Project: SEC.21-T3N-R64W  
Site: Gutteresen USX D21-28D Pad Sec.21-T3N-R64W  
Well: Gutteresen USX D21-28D  
Plan: Wellbore #1



# **NOBLE ENERGY INC WELD COUNTY CO**

**SEC.21-T3N-R64W**

**Guttersen USX D21-28D Pad Sec.21-T3N-R64W**

**Guttersen USX D21-28D**

**Wellbore #1**

**Survey: Survey #1**

## **Standard Survey Report**

**27 March, 2012**



<b>Company:</b>	NOBLE ENERGY INC WELD COUNTY CO	<b>Local Co-ordinate Reference:</b>	Well Guttersten USX D21-28D
<b>Project:</b>	SEC.21-T3N-R64W	<b>TVD Reference:</b>	WELL @ 4815.0ft (Original Well Elev)
<b>Site:</b>	Guttersten USX D21-28D Pad Sec.21-T3N-R64W	<b>MD Reference:</b>	WELL @ 4815.0ft (Original Well Elev)
<b>Well:</b>	Guttersten USX D21-28D	<b>North Reference:</b>	True
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Wellbore #1	<b>Database:</b>	Landmark

<b>Project</b>	SEC.21-T3N-R64W, Weld County, CO		
<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		Guttersen USX D21-28D Pad Sec.21-T3N-R64W			
Site Position:		Northing:	1,322,427.07 ft	Latitude:	40.214570
From:	Lat/Long	Easting:	3,264,915.28 ft	Longitude:	-104.551390
Position Uncertainty:	0.0 ft	Slot Radius:	"	Grid Convergence:	0.61 °

Well	Guttersten USX D21-28D					
Well Position	+N-S	0.0 ft	Northing:	1,322,427.05 ft	Latitude:	40.214570
	+E-W	0.0 ft	Easting:	3,264,915.37 ft	Longitude:	-104.551390
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,802.0 ft

<b>Wellbore</b>	Wellbore #1				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2010	3/19/2012	8.63	66.91	52,977

Design	Wellbore #1				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)	
	6,000.0	0.0	0.0	313.95	

<b>Survey Program</b>	<b>Date</b>	3/27/2012			
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
778.0	7,992.0	Survey #1 (Wellbore #1)	MWD	MWD - Standard	

<b>Survey</b>									
<b>Measured Depth (ft)</b>	<b>Inclination (°)</b>	<b>Azimuth (°)</b>	<b>Vertical Depth (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Vertical Section (ft)</b>	<b>Dogleg Rate (°/100ft)</b>	<b>Build Rate (°/100ft)</b>	<b>Turn Rate (°/100ft)</b>
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
778.0	1.00	325.40	778.0	5.6	-3.9	6.7	0.13	0.13	0.00
872.0	2.70	313.10	871.9	7.8	-5.9	9.7	1.85	1.81	-13.09
966.0	5.50	313.10	965.7	12.4	-10.8	16.4	2.98	2.98	0.00
1,059.0	7.20	310.10	1,058.1	19.2	-18.6	26.7	1.86	1.83	-3.23
1,153.0	9.70	310.30	1,151.1	28.1	-29.1	40.4	2.66	2.66	0.21
1,246.0	11.30	305.90	1,242.5	38.5	-42.5	57.3	1.92	1.72	-4.73
1,339.0	12.90	299.00	1,333.4	48.9	-58.9	76.3	2.32	1.72	-7.42
1,432.0	14.50	297.30	1,423.8	59.2	-78.4	97.5	1.77	1.72	-1.83
1,526.0	16.00	297.30	1,514.5	70.6	-100.3	121.2	1.60	1.60	0.00
1,620.0	17.60	297.30	1,604.5	83.0	-124.5	147.2	1.70	1.70	0.00
1,714.0	18.60	297.30	1,693.8	96.4	-150.4	175.2	1.06	1.06	0.00

<b>Company:</b>	NOBLE ENERGY INC WELD COUNTY CO	<b>Local Co-ordinate Reference:</b>	Well Guttersten USX D21-28D
<b>Project:</b>	SEC.21-T3N-R64W	<b>TVD Reference:</b>	WELL @ 4815.0ft (Original Well Elev)
<b>Site:</b>	Guttersten USX D21-28D Pad Sec.21-T3N-R64W	<b>MD Reference:</b>	WELL @ 4815.0ft (Original Well Elev)
<b>Well:</b>	Guttersten USX D21-28D	<b>North Reference:</b>	True
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Wellbore #1	<b>Database:</b>	Landmark

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)
1,809.0	20.80	300.10	1,783.2	111.9	-178.5	206.1	2.52	2.32	2.95
1,901.0	22.20	298.00	1,868.8	128.2	-208.0	238.7	1.74	1.52	-2.28
1,995.0	22.20	299.90	1,955.9	145.4	-239.0	273.0	0.76	0.00	2.02
2,088.0	23.50	301.10	2,041.6	163.7	-270.1	308.1	1.48	1.40	1.29
2,183.0	25.60	300.10	2,128.0	183.8	-304.1	346.5	2.25	2.21	-1.05
2,276.0	26.70	301.30	2,211.5	204.7	-339.4	386.4	1.31	1.18	1.29
2,369.0	25.50	298.90	2,295.0	225.3	-374.7	426.1	1.72	-1.29	-2.58
2,463.0	24.40	298.00	2,380.2	244.2	-409.6	464.3	1.24	-1.17	-0.96
2,557.0	24.30	298.20	2,465.8	262.4	-443.8	501.6	0.14	-0.11	0.21
2,651.0	24.40	298.30	2,551.5	280.8	-477.9	538.9	0.12	0.11	0.11
2,744.0	25.00	302.90	2,636.0	300.5	-511.3	576.7	2.16	0.65	4.95
2,837.0	26.30	300.30	2,719.8	321.6	-545.6	616.0	1.85	1.40	-2.80
2,931.0	25.80	298.70	2,804.3	342.0	-581.6	656.0	0.92	-0.53	-1.70
3,025.0	25.20	298.00	2,889.1	361.2	-617.2	695.0	0.71	-0.64	-0.74
3,118.0	24.70	296.90	2,973.4	379.3	-652.0	732.6	0.73	-0.54	-1.18
3,212.0	23.40	299.70	3,059.3	397.4	-685.7	769.5	1.84	-1.38	2.98
3,306.0	23.10	299.20	3,145.6	415.6	-718.0	805.4	0.38	-0.32	-0.53
3,400.0	22.90	303.40	3,232.2	434.7	-749.4	841.2	1.76	-0.21	4.47
3,498.0	22.10	303.10	3,322.7	455.3	-780.7	878.1	0.82	-0.82	-0.31
3,591.0	22.50	307.30	3,408.8	475.6	-809.6	912.9	1.77	0.43	4.52
3,684.0	24.80	312.40	3,494.0	499.5	-838.1	950.1	3.31	2.47	5.48
3,778.0	23.30	314.30	3,579.8	525.8	-866.0	988.4	1.80	-1.60	2.02
3,871.0	23.20	319.60	3,665.2	552.6	-891.0	1,025.0	2.25	-0.11	5.70
3,966.0	23.70	326.80	3,752.4	582.9	-913.6	1,062.3	3.06	0.53	7.58
4,060.0	25.60	329.10	3,837.9	616.1	-934.4	1,100.3	2.26	2.02	2.45
4,154.0	25.30	335.90	3,922.7	651.9	-953.0	1,138.5	3.12	-0.32	7.23
4,248.0	23.60	335.80	4,008.3	687.4	-968.9	1,174.6	1.81	-1.81	-0.11
4,341.0	23.30	332.60	4,093.6	720.7	-985.0	1,209.4	1.41	-0.32	-3.44
4,436.0	23.10	332.60	4,181.0	753.9	-1,002.3	1,244.8	0.21	-0.21	0.00
4,529.0	23.80	331.00	4,266.3	786.5	-1,019.8	1,280.0	1.02	0.75	-1.72
4,623.0	24.00	331.20	4,352.2	819.8	-1,038.2	1,316.4	0.23	0.21	0.21
4,717.0	23.40	330.50	4,438.3	852.8	-1,056.6	1,352.6	0.70	-0.64	-0.74
4,813.0	23.70	330.00	4,526.3	886.1	-1,075.6	1,389.4	0.38	0.31	-0.52
4,905.0	21.50	331.60	4,611.2	917.0	-1,092.9	1,423.2	2.48	-2.39	1.74
4,998.0	20.40	332.60	4,698.1	946.4	-1,108.4	1,454.8	1.24	-1.18	1.08
5,089.0	20.60	328.00	4,783.3	974.0	-1,124.2	1,485.4	1.78	0.22	-5.05
5,179.0	20.30	332.20	4,867.6	1,001.3	-1,139.9	1,515.6	1.66	-0.33	4.67
5,272.0	22.10	331.00	4,954.4	1,030.8	-1,155.9	1,547.6	1.99	1.94	-1.29
5,365.0	21.60	330.30	5,040.7	1,061.0	-1,172.9	1,580.8	0.61	-0.54	-0.75
5,458.0	18.30	330.50	5,128.1	1,088.6	-1,188.5	1,611.2	3.55	-3.55	0.22
5,552.0	15.80	334.20	5,217.9	1,113.0	-1,201.4	1,637.4	2.90	-2.66	3.94
5,646.0	13.50	333.30	5,308.9	1,134.3	-1,211.9	1,659.7	2.46	-2.45	-0.96
5,739.0	10.90	331.50	5,399.8	1,151.7	-1,220.9	1,678.3	2.83	-2.80	-1.94
5,832.0	9.50	333.50	5,491.3	1,166.3	-1,228.6	1,694.0	1.55	-1.51	2.15
5,927.0	8.80	332.90	5,585.1	1,179.8	-1,235.4	1,708.2	0.74	-0.74	-0.63
6,020.0	9.00	327.10	5,677.0	1,192.2	-1,242.6	1,722.0	0.99	0.22	-6.24
6,114.0	6.50	327.00	5,770.1	1,202.9	-1,249.5	1,734.4	2.66	-2.66	-0.11
6,208.0	4.70	329.40	5,863.7	1,210.7	-1,254.3	1,743.3	1.93	-1.91	2.55
6,302.0	3.10	333.50	5,957.4	1,216.3	-1,257.4	1,749.4	1.73	-1.70	4.36
6,344.6	1.98	331.41	6,000.0	1,217.9	-1,258.3	1,751.2	2.63	-2.62	-4.89
TARGET BHL 75'FNL & 2565'FEL									
6,398.0	0.60	317.80	6,053.4	1,218.9	-1,258.9	1,752.3	2.63	-2.59	-25.51
6,492.0	0.30	346.30	6,147.4	1,219.6	-1,259.3	1,753.0	0.39	-0.32	30.32

<b>Company:</b>	NOBLE ENERGY INC WELD COUNTY CO	<b>Local Co-ordinate Reference:</b>	Well Guttersen USX D21-28D
<b>Project:</b>	SEC.21-T3N-R64W	<b>TVD Reference:</b>	WELL @ 4815.0ft (Original Well Elev)
<b>Site:</b>	Guttersen USX D21-28D Pad Sec.21-T3N-R64W	<b>MD Reference:</b>	WELL @ 4815.0ft (Original Well Elev)
<b>Well:</b>	Guttersen USX D21-28D	<b>North Reference:</b>	True
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Wellbore #1	<b>Database:</b>	Landmark

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)
6,585.0	0.30	33.10	6,240.4	1,220.0	-1,259.2	1,753.3	0.26	0.00	50.32
6,679.0	0.40	39.60	6,334.4	1,220.5	-1,258.9	1,753.4	0.11	0.11	6.91
6,772.0	0.40	76.00	6,427.4	1,220.8	-1,258.4	1,753.2	0.27	0.00	39.14
6,865.0	0.20	68.40	6,520.4	1,220.9	-1,257.9	1,753.0	0.22	-0.22	-8.17
6,958.0	0.40	65.90	6,613.4	1,221.1	-1,257.4	1,752.8	0.22	0.22	-2.69
7,039.6	0.40	71.28	6,695.0	1,221.3	-1,256.9	1,752.5	0.05	0.00	6.60
TARGET CIRCLE 75°FNL & 2565°FEL									
7,052.0	0.40	72.10	6,707.4	1,221.3	-1,256.8	1,752.5	0.05	0.00	6.59
7,145.0	0.30	88.80	6,800.4	1,221.5	-1,256.3	1,752.2	0.15	-0.11	17.96
7,238.0	0.40	83.20	6,893.4	1,221.5	-1,255.7	1,751.8	0.11	0.11	-6.02
7,333.0	0.20	70.20	6,988.4	1,221.6	-1,255.2	1,751.5	0.22	-0.21	-13.68
7,427.0	0.20	88.60	7,082.4	1,221.7	-1,254.9	1,751.3	0.07	0.00	19.57
7,521.0	0.40	330.30	7,176.4	1,221.9	-1,254.9	1,751.5	0.56	0.21	-125.85
7,614.0	0.30	336.80	7,269.4	1,222.4	-1,255.2	1,752.1	0.12	-0.11	6.99
7,708.0	0.00	109.40	7,363.4	1,222.7	-1,255.3	1,752.3	0.32	-0.32	0.00
7,800.0	0.20	150.80	7,455.4	1,222.5	-1,255.2	1,752.1	0.22	0.22	0.00
7,894.0	0.30	167.00	7,549.4	1,222.1	-1,255.0	1,751.8	0.13	0.11	17.23
7,940.0	0.30	145.00	7,595.4	1,221.9	-1,254.9	1,751.6	0.25	0.00	-47.83
HARDLINE 75°N & 80°W OF BHL									
7,992.0	0.30	145.00	7,647.4	1,221.7	-1,254.8	1,751.3	0.00	0.00	0.00

Checked By: \_\_\_\_\_ Approved By: \_\_\_\_\_ Date: \_\_\_\_\_