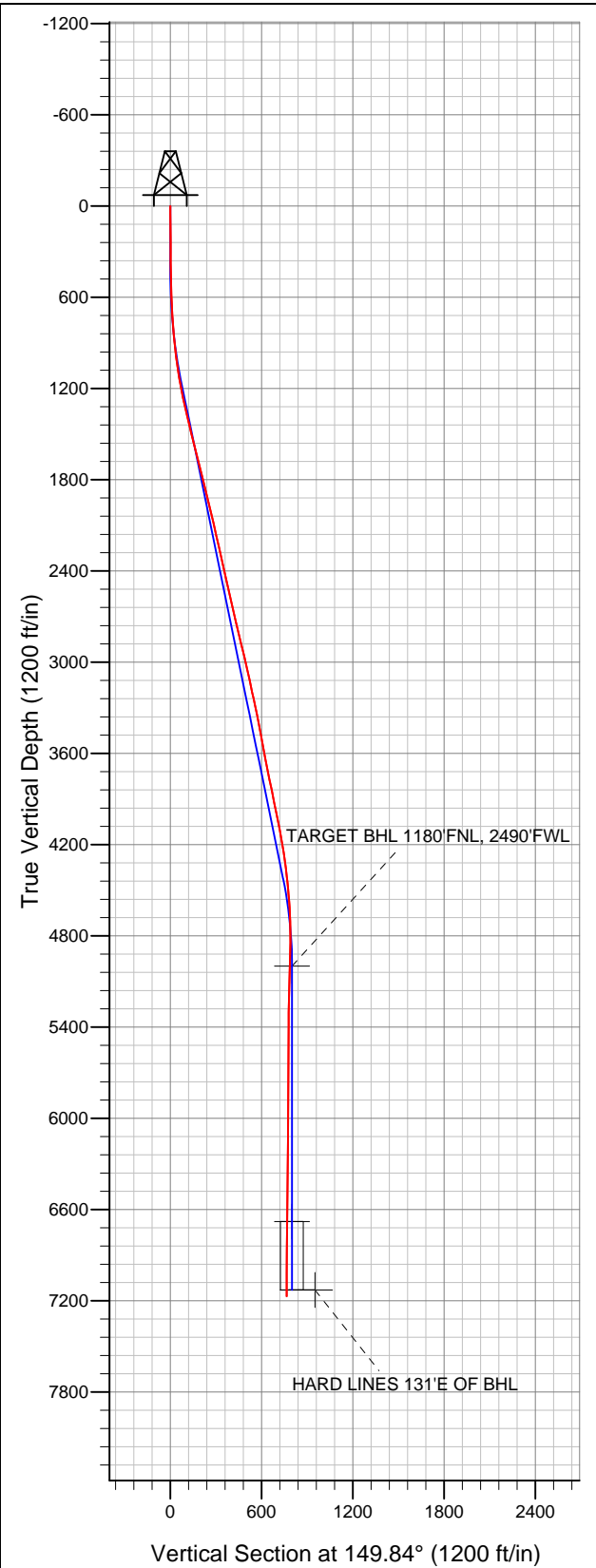




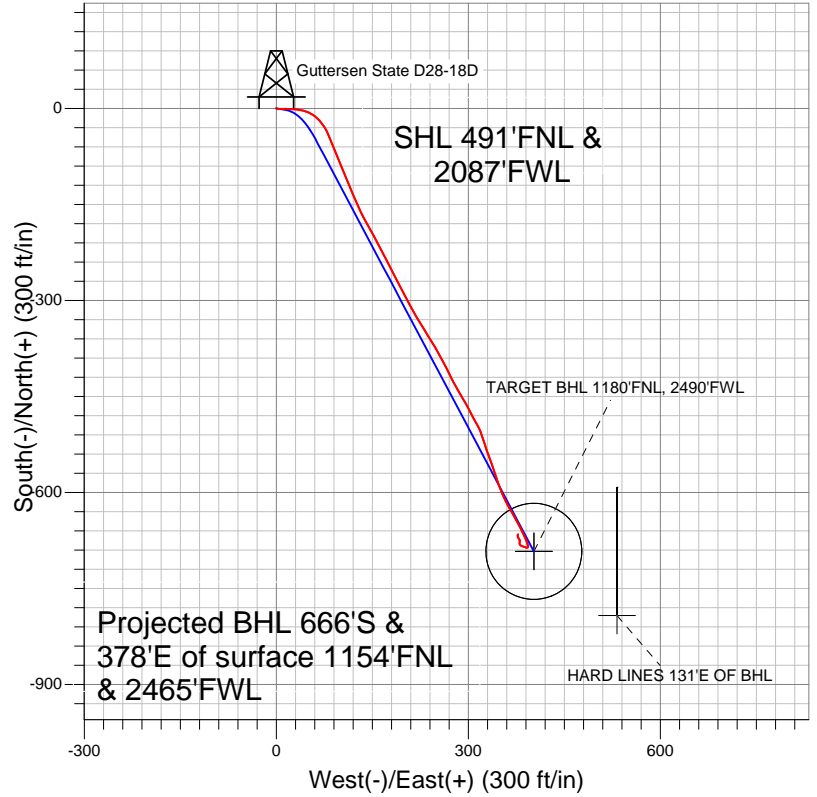
Well Name: Gutttersen State D28-18D

Surface Location: Gutttersen State D28-28D Pad Sec.28-T3N-R64W
North American Datum 1983 US State Plane 1983Colorado Northern Zone
Ground Elevation: 4791.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1317955.34	3263046.86	40.202350	-104.558250	
Original Well Elev			WELL @ 4804.0ft (Original Well Elev)			



NOBLE ENERGY INC WELD COUNTY CO



- LEGEND
- Wellbore #1
 - Gutttersen State D28-18D, Wellbore #1, Noble Gutttersen State D28-18D Plan #1 (3-23-12) V0
 - Survey #1

Final Survey Plot

Projected Final Survey -
7255'MD & 7172'TVD @ 765'VS
0.60 deg Inc 45.20 deg AZ

Project: SEC.28-T3N-R64W
Site: Gutttersen State D28-28D Pad Sec.28-T3N-R64W
Well: Gutttersen State D28-18D
Plan: Wellbore #1



NOBLE ENERGY INC WELD COUNTY CO

SEC.28-T3N-R64W

Guttersen State D28-28D Pad Sec.28-T3N-R64W

Guttersen State D28-18D

Wellbore #1

Survey: Survey #1

Standard Survey Report

30 April, 2012



Company:	NOBLE ENERGY INC WELD COUNTY CO	Local Co-ordinate Reference:	Well Gutteresen State D28-18D
Project:	SEC.28-T3N-R64W	TVD Reference:	WELL @ 4804.0ft (Original Well Elev)
Site:	Gutteresen State D28-28D Pad Sec.28-T3N-R64W	MD Reference:	WELL @ 4804.0ft (Original Well Elev)
Well:	Gutteresen State D28-18D	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Landmark

Project	SEC.28-T3N-R64W, 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		Gutteresen State D28-28D Pad Sec.28-T3N-R64W			
Site Position:		Northing:	1,317,977.21 ft	Latitude:	40.202410
From:	Lat/Long	Easting:	3,263,046.63 ft	Longitude:	-104.558250
Position Uncertainty:	0.0 ft	Slot Radius:	"	Grid Convergence:	0.61 °

Well	Guttersen State D28-18D					
Well Position	+N-S	0.0 ft	Northing:	1,317,955.34 ft	Latitude:	40.202350
	+E-W	0.0 ft	Easting:	3,263,046.86 ft	Longitude:	-104.558250
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,791.0 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	12/9/2011	8.67	66.91	52,999

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 (°)	
	5,000.0	0.0	0.0	149.84	

Survey Program	Date	4/30/2012			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
47.0	7,255.0	Survey #1 (Wellbore #1)	MWD	MWD - Standard	

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	
47.0	0.50	113.70	47.0	-0.1	0.2	0.2	1.06	1.06	0.00	
142.0	1.00	108.30	142.0	-0.5	1.4	1.1	0.53	0.53	-5.68	
237.0	1.10	100.60	237.0	-0.9	3.0	2.3	0.18	0.11	-8.11	
332.0	1.20	96.70	332.0	-1.2	4.9	3.5	0.13	0.11	-4.11	
427.0	1.40	88.60	426.9	-1.3	7.1	4.7	0.29	0.21	-8.53	
522.0	2.50	89.10	521.9	-1.2	10.3	6.3	1.16	1.16	0.53	
616.0	4.00	87.20	615.7	-1.1	15.6	8.8	1.60	1.60	-2.02	
743.0	6.40	93.50	742.2	-1.3	27.1	14.7	1.94	1.89	4.96	
808.0	6.70	96.30	806.8	-1.9	34.5	19.0	0.67	0.46	4.31	
890.0	7.80	108.80	888.1	-4.2	44.5	26.0	2.34	1.34	15.24	
972.0	8.40	120.80	969.3	-9.1	54.9	35.5	2.18	0.73	14.63	

Company:	NOBLE ENERGY INC WELD COUNTY CO	Local Co-ordinate Reference:	Well Guttersen State D28-18D
Project:	SEC.28-T3N-R64W	TVD Reference:	WELL @ 4804.0ft (Original Well Elev)
Site:	Guttersen State D28-28D Pad Sec.28-T3N-R64W	MD Reference:	WELL @ 4804.0ft (Original Well Elev)
Well:	Guttersen State D28-18D	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	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)
1,053.0	9.10	133.10	1,049.4	-16.5	64.7	46.8	2.46	0.86	15.19
1,135.0	9.90	145.70	1,130.2	-26.7	73.4	60.0	2.71	0.98	15.37
1,217.0	10.80	156.80	1,210.9	-39.6	80.4	74.7	2.66	1.10	13.54
1,299.0	12.20	158.60	1,291.3	-54.8	86.6	90.9	1.76	1.71	2.20
1,380.0	13.50	157.00	1,370.2	-71.4	93.4	108.7	1.66	1.60	-1.98
1,462.0	13.00	157.20	1,450.1	-88.7	100.7	127.3	0.61	-0.61	0.24
1,544.0	14.60	158.40	1,529.7	-106.9	108.1	146.7	1.98	1.95	1.46
1,626.0	14.60	156.60	1,609.0	-126.0	116.0	167.2	0.55	0.00	-2.20
1,708.0	13.80	157.20	1,688.5	-144.5	123.9	187.2	0.99	-0.98	0.73
1,790.0	13.50	154.00	1,768.2	-162.1	131.9	206.4	0.99	-0.37	-3.90
1,871.0	14.20	151.00	1,846.9	-179.3	140.9	225.8	1.24	0.86	-3.70
1,953.0	14.00	151.50	1,926.4	-196.8	150.5	245.7	0.29	-0.24	0.61
2,035.0	13.50	151.70	2,006.0	-213.9	159.7	265.2	0.61	-0.61	0.24
2,117.0	13.00	150.70	2,085.9	-230.4	168.8	284.0	0.67	-0.61	-1.22
2,198.0	12.70	154.90	2,164.8	-246.4	177.0	302.0	1.21	-0.37	5.19
2,280.0	13.20	152.60	2,244.8	-262.9	185.2	320.3	0.88	0.61	-2.80
2,362.0	12.80	153.10	2,324.7	-279.3	193.6	338.7	0.51	-0.49	0.61
2,444.0	12.20	150.70	2,404.7	-294.9	201.9	356.5	0.97	-0.73	-2.93
2,525.0	12.70	152.60	2,483.8	-310.3	210.2	373.9	0.80	0.62	2.35
2,607.0	12.70	149.80	2,563.8	-326.1	218.9	391.9	0.75	0.00	-3.41
2,689.0	12.80	147.10	2,643.8	-341.5	228.4	410.0	0.74	0.12	-3.29
2,770.0	13.20	149.20	2,722.7	-357.0	238.0	428.2	0.76	0.49	2.59
2,852.0	13.70	148.90	2,802.5	-373.4	247.8	447.3	0.62	0.61	-0.37
2,934.0	13.80	152.20	2,882.1	-390.3	257.4	466.8	0.96	0.12	4.02
3,016.0	13.10	152.20	2,961.9	-407.2	266.3	485.8	0.85	-0.85	0.00
3,098.0	12.80	153.50	3,041.8	-423.5	274.6	504.2	0.51	-0.37	1.59
3,179.0	12.30	151.00	3,120.8	-439.1	282.8	521.8	0.91	-0.62	-3.09
3,261.0	12.80	148.70	3,200.9	-454.5	291.8	539.6	0.86	0.61	-2.80
3,343.0	11.70	152.90	3,281.0	-469.7	300.3	557.0	1.73	-1.34	5.12
3,425.0	11.30	151.40	3,361.4	-484.1	307.9	573.3	0.61	-0.49	-1.83
3,507.0	10.50	151.60	3,441.9	-497.8	315.3	588.8	0.98	-0.98	0.24
3,588.0	10.30	161.40	3,521.6	-511.1	321.1	603.3	2.20	-0.25	12.10
3,670.0	11.10	162.60	3,602.1	-525.6	325.8	618.2	1.01	0.98	1.46
3,752.0	12.20	160.80	3,682.4	-541.3	331.0	634.4	1.41	1.34	-2.20
3,834.0	11.50	160.00	3,762.7	-557.2	336.7	650.9	0.88	-0.85	-0.98
3,915.0	12.00	160.50	3,842.0	-572.7	342.3	667.1	0.63	0.62	0.62
3,997.0	11.50	162.10	3,922.3	-588.5	347.6	683.5	0.73	-0.61	1.95
4,079.0	11.60	156.30	4,002.6	-603.8	353.4	699.7	1.42	0.12	-7.07
4,161.0	11.20	151.50	4,083.0	-618.4	360.6	715.8	1.26	-0.49	-5.85
4,242.0	9.80	150.10	4,162.6	-631.3	367.8	730.6	1.76	-1.73	-1.73
4,324.0	9.10	151.20	4,243.5	-643.0	374.4	744.1	0.88	-0.85	1.34
4,406.0	7.70	152.40	4,324.6	-653.6	380.0	756.0	1.72	-1.71	1.46
4,488.0	6.50	153.60	4,406.0	-662.6	384.6	766.1	1.47	-1.46	1.46
4,570.0	5.40	156.80	4,487.6	-670.3	388.2	774.6	1.40	-1.34	3.90
4,651.0	4.30	158.00	4,568.3	-676.6	390.9	781.4	1.36	-1.36	1.48
4,733.0	2.60	163.30	4,650.1	-681.3	392.5	786.2	2.11	-2.07	6.46
4,815.0	1.90	176.30	4,732.1	-684.4	393.2	789.3	1.05	-0.85	15.85
4,979.0	1.80	286.90	4,896.0	-686.4	390.9	789.8	1.86	-0.06	67.44
5,082.4	2.31	287.76	4,999.4	-685.2	387.3	787.1	0.49	0.49	0.83
TARGET BHL 1180'FNL, 2490'FWL									
5,142.0	2.60	288.10	5,058.9	-684.5	384.9	785.2	0.49	0.49	0.57
5,306.0	1.30	332.40	5,222.8	-681.7	380.5	780.6	1.16	-0.79	27.01
5,469.0	0.10	96.50	5,385.8	-680.0	379.8	778.8	0.83	-0.74	76.14

Company:	NOBLE ENERGY INC WELD COUNTY CO	Local Co-ordinate Reference:	Well Gutteresen State D28-18D
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Site:	Gutteresen State D28-28D Pad Sec.28-T3N-R64W	MD Reference:	WELL @ 4804.0ft (Original Well Elev)
Well:	Gutteresen State D28-18D	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	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)
5,633.0	0.60	353.30	5,549.8	-679.2	379.8	778.1	0.38	0.30	-62.93
5,796.0	1.10	7.90	5,712.8	-676.8	380.0	776.1	0.33	0.31	8.96
5,959.0	0.10	32.00	5,875.8	-675.1	380.2	774.8	0.62	-0.61	14.79
6,123.0	0.10	195.80	6,039.8	-675.1	380.3	774.8	0.12	0.00	99.88
6,287.0	0.90	341.00	6,203.8	-674.1	379.8	773.6	0.60	0.49	88.54
6,450.0	0.70	321.90	6,366.7	-672.1	378.8	771.4	0.20	-0.12	-11.72
6,614.0	0.40	307.40	6,530.7	-670.9	377.7	769.9	0.20	-0.18	-8.84
6,762.0	0.57	355.04	6,678.8	-669.9	377.2	768.7	0.28	0.11	32.19
TARGET CIRCLE 1180'FNL, 2490'FWL									
6,777.0	0.60	357.90	6,693.7	-669.7	377.2	768.6	0.28	0.21	19.08
6,941.0	0.50	343.30	6,857.7	-668.2	377.0	767.1	0.10	-0.06	-8.90
7,104.0	0.40	1.80	7,020.7	-666.9	376.8	766.0	0.11	-0.06	11.35
7,209.0	0.60	45.20	7,125.7	-666.2	377.2	765.5	0.39	0.19	41.33
HARD LINES 131'E OF BHL									
7,255.0	0.60	45.20	7,171.7	-665.9	377.6	765.4	0.00	0.00	0.00

Checked By: _____ Approved By: _____ Date: _____