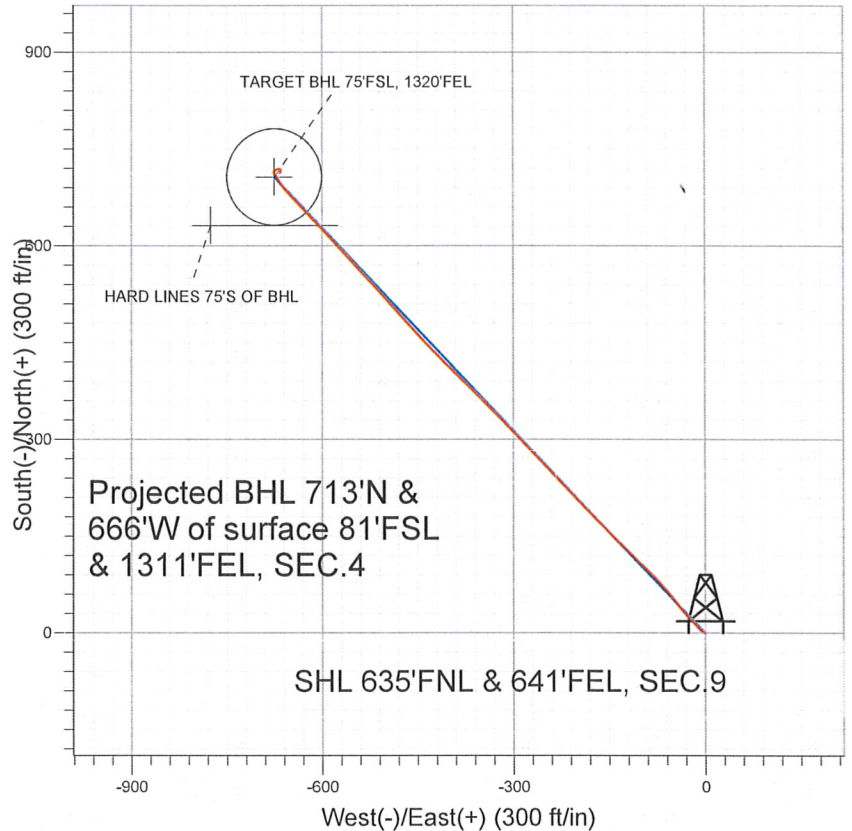


NOBLE ENERGY INC WELD COUNTY CO



LEGEND

- Guttersen D09-27D, Wellbore #1, Noble Guttersen D09-27D Plan #1 (5-04-11) V0
- Wellbore #1
- Survey #1

Final Survey Plot

Projected Final Survey -
 7205'MD & 7081'TVD @ 976'VS
 0.3 deg Inc 193.0 deg AZ

Project: SEC.9-T3N-R64W
 Site: Guttersen D10-30D Pad Sec.9-T3N-R64W
 Well: Guttersen D09-27D
 Plan: Wellbore #1



Directional

NOBLE ENERGY INC WELD COUNTY CO

SEC.9-T3N-R64W

Guttersen D10-30D Pad Sec.9-T3N-R64W

Guttersen D09-27D

Wellbore #1

Survey: Survey #1

Standard Survey Report

25 July, 2011



Company: NOBLE ENERGY INC WELD COUNTY CO
 Project: SEC.9-T3N-R64W
 Site: Guttersen D10-30D Pad Sec.9-T3N-R64W
 Well: Guttersen D09-27D
 Wellbore: Wellbore #1
 Design: Wellbore #1

Local Co-ordinate Reference: Well Guttersen D09-27D
 TVD Reference: WELL @ 4732.0ft (Original Well Elev)
 MD Reference: WELL @ 4732.0ft (Original Well Elev)
 North Reference: True
 Survey Calculation Method: Minimum Curvature
 Database: Landmark

Project	SEC.9-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 Guttersen D10-30D Pad Sec.9-T3N-R64W

Site Position:		Northing:	1,333,726.76 ft	Latitude:	40.245570
From:	Lat/Long	Easting:	3,265,495.09 ft	Longitude:	-104.548880
Position Uncertainty:	0.0 ft	Slot Radius:	"	Grid Convergence:	0.61 °

Well	Guttersen D09-27D					
Well Position	+N/-S	0.0 ft	Northing:	1,333,712.00 ft	Latitude:	40.245530
	+E/-W	0.0 ft	Easting:	3,265,478.50 ft	Longitude:	-104.548940
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,719.0 ft

Wellbore Wellbore #1

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	5/5/2011	8.71	66.97	53,108

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 (°)
	0.0	0.0	0.0	316.29

Survey Program Date 7/25/2011

From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
736.0	7,205.0	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
736.0	1.00	304.80	736.0	3.7	-5.3	6.3	0.14	0.14	0.00
830.0	2.10	315.40	829.9	5.4	-7.2	8.8	1.20	1.17	11.28
923.0	4.80	317.60	922.7	9.4	-11.0	14.4	2.91	2.90	2.37
1,017.0	6.30	312.20	1,016.3	15.8	-17.5	23.5	1.69	1.60	-5.74
1,110.0	8.60	318.00	1,108.5	24.4	-25.9	35.5	2.60	2.47	6.24
1,204.0	10.60	321.60	1,201.2	36.4	-36.0	51.2	2.22	2.13	3.83
1,298.0	12.70	322.20	1,293.3	51.4	-47.7	70.1	2.24	2.23	0.64
1,391.0	14.80	319.30	1,383.6	68.4	-61.7	92.1	2.38	2.26	-3.12
1,485.0	15.60	314.90	1,474.3	86.5	-78.5	116.7	1.49	0.85	-4.68
1,578.0	15.10	314.40	1,564.0	103.8	-96.0	141.3	0.56	-0.54	-0.54
1,672.0	16.00	314.00	1,654.5	121.3	-114.0	166.5	0.96	0.96	-0.43
1,766.0	16.10	314.20	1,744.9	139.4	-132.7	192.5	0.12	0.11	0.21

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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)
1,859.0	15.90	315.50	1,834.3	157.5	-150.9	218.1	0.44	-0.22	1.40
1,953.0	15.50	315.60	1,924.8	175.7	-168.7	243.5	0.43	-0.43	0.11
2,046.0	15.20	316.20	2,014.4	193.3	-185.8	268.2	0.36	-0.32	0.65
2,140.0	14.80	316.60	2,105.2	210.9	-202.6	292.5	0.44	-0.43	0.43
2,233.0	13.60	315.30	2,195.4	227.4	-218.5	315.3	1.34	-1.29	-1.40
2,327.0	13.60	316.10	2,286.8	243.2	-233.9	337.4	0.20	0.00	0.85
2,420.0	13.90	317.00	2,377.1	259.2	-249.1	359.5	0.40	0.32	0.97
2,514.0	13.60	317.00	2,468.4	275.6	-264.3	381.8	0.32	-0.32	0.00
2,608.0	13.60	315.80	2,559.8	291.6	-279.6	403.9	0.30	0.00	-1.28
2,701.0	14.80	316.50	2,649.9	308.0	-295.4	426.8	1.30	1.29	0.75
2,795.0	14.40	315.70	2,740.9	325.1	-311.8	450.4	0.48	-0.43	-0.85
2,888.0	14.40	313.90	2,831.0	341.4	-328.2	473.6	0.48	0.00	-1.94
2,982.0	14.20	315.30	2,922.1	357.7	-344.7	496.8	0.42	-0.21	1.49
3,076.0	14.20	314.70	3,013.2	374.0	-361.0	519.8	0.16	0.00	-0.64
3,169.0	14.10	314.10	3,103.4	389.9	-377.3	542.5	0.19	-0.11	-0.65
3,263.0	13.50	314.30	3,194.7	405.5	-393.4	565.0	0.64	-0.64	0.21
3,356.0	13.80	314.80	3,285.0	420.9	-409.0	586.9	0.35	0.32	0.54
3,450.0	15.10	316.50	3,376.1	437.7	-425.4	610.3	1.45	1.38	1.81
3,543.0	16.30	315.50	3,465.6	455.8	-442.9	635.5	1.32	1.29	-1.08
3,637.0	17.10	318.20	3,555.6	475.5	-461.3	662.5	1.19	0.85	2.87
3,730.0	16.80	317.80	3,644.6	495.7	-479.5	689.6	0.35	-0.32	-0.43
3,824.0	17.50	318.80	3,734.4	516.4	-497.9	717.3	0.81	0.74	1.06
3,918.0	17.60	316.90	3,824.0	537.4	-516.9	745.6	0.62	0.11	-2.02
4,011.0	16.80	316.40	3,912.9	557.4	-535.8	773.1	0.87	-0.86	-0.54
4,105.0	17.00	317.40	4,002.8	577.3	-554.5	800.5	0.38	0.21	1.06
4,199.0	18.20	316.90	4,092.4	598.2	-573.8	828.9	1.29	1.28	-0.53
4,292.0	16.00	317.20	4,181.3	618.2	-592.4	856.2	2.37	-2.37	0.32
4,386.0	15.10	317.00	4,271.8	636.6	-609.6	881.4	0.96	-0.96	-0.21
4,479.0	14.10	315.90	4,361.8	653.6	-625.7	904.9	1.12	-1.08	-1.18
4,573.0	12.30	316.00	4,453.4	669.1	-640.7	926.3	1.92	-1.91	0.11
4,666.0	9.80	318.30	4,544.6	682.1	-652.8	944.1	2.73	-2.69	2.47
4,760.0	8.00	320.50	4,637.5	693.1	-662.3	958.7	1.95	-1.91	2.34
4,853.0	6.00	329.10	4,729.8	702.3	-668.9	969.9	2.42	-2.15	9.25
4,947.0	3.50	333.40	4,823.5	709.1	-672.7	977.4	2.68	-2.66	4.57
5,041.0	1.50	332.70	4,917.4	712.7	-674.6	981.3	2.13	-2.13	-0.74
5,134.0	1.20	340.90	5,010.3	714.7	-675.4	983.4	0.38	-0.32	8.82
5,228.0	0.70	51.00	5,104.3	716.0	-675.3	984.2	1.24	-0.53	74.57
5,323.6	1.06	53.03	5,199.9	716.9	-674.2	984.1	0.38	0.37	2.12
TARGET BHL 75°FSL, 1320°FEL									
5,415.0	1.40	54.00	5,291.3	718.1	-672.6	983.8	0.38	0.37	1.06
5,602.0	1.00	90.40	5,478.3	719.4	-669.1	982.4	0.45	-0.21	19.47
5,789.0	0.60	95.50	5,665.2	719.3	-666.5	980.5	0.22	-0.21	2.73
5,976.0	0.30	183.60	5,852.2	718.7	-665.5	979.4	0.35	-0.16	47.11
6,163.0	0.50	143.80	6,039.2	717.6	-665.1	978.3	0.18	0.11	-21.28
6,351.0	0.20	195.70	6,227.2	716.6	-664.7	977.3	0.22	-0.16	27.61
6,538.0	0.50	195.00	6,414.2	715.5	-665.0	976.7	0.16	0.16	-0.37
6,725.0	0.50	263.00	6,601.2	714.6	-666.0	976.8	0.30	0.00	36.36
6,732.8	0.47	262.34	6,609.0	714.6	-666.1	976.8	0.36	-0.35	-8.49
TARGET CIRCLE 75°FSL & 1320°FEL									
6,912.0	0.20	123.90	6,788.2	714.3	-666.6	976.9	0.36	-0.15	-77.26
7,159.0	0.30	193.00	7,035.2	713.5	-666.3	976.2	0.12	0.04	27.98
7,184.3	0.30	193.00	7,060.5	713.3	-666.4	976.1	0.00	0.00	0.00
HARD LINES 75°S OF BHL									
7,205.0	0.30	193.00	7,081.2	713.2	-666.4	976.0	0.00	0.00	0.00

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Checked By: _____ Approved By: _____ Date: _____