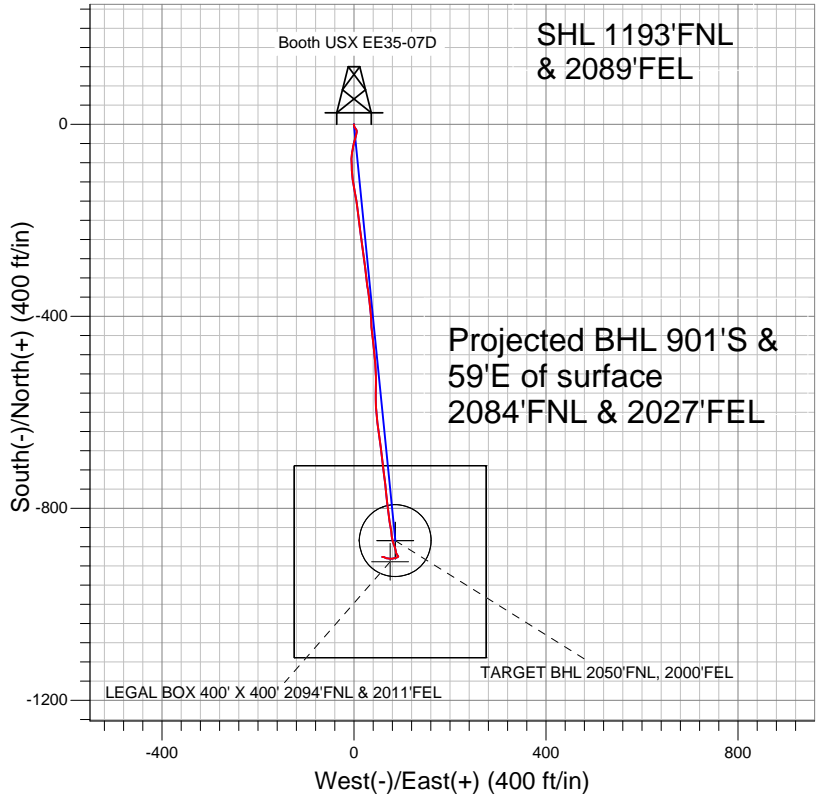


NOBLE ENERGY INC WELD COUNTY CO



LEGEND

- △ Booth USX EE35-07D, Wellbore #1, Noble Booth USX EE35-07D Plan #1 (7-13-11) V0
- Wellbore #1
- Survey #1

Final Survey Plot

Projected Final Survey -
 7391'MD & 7288'TVD @ 902'VS
 0.6 deg Inc 275.2 deg AZ

Project: SEC.35-T7N-R65W
 Site: Booth USX EE35-05D Pad Sec.35-T7N-R65W
 Well: Booth USX EE35-07D
 Plan: Wellbore #1



NOBLE ENERGY INC WELD COUNTY CO

SEC.35-T7N-R65W

Booth USX EE35-05D Pad Sec.35-T7N-R65W

Booth USX EE35-07D

Wellbore #1

Survey: Survey #1

Standard Survey Report

19 October, 2011



Company:	NOBLE ENERGY INC WELD COUNTY CO	Local Co-ordinate Reference:	Well Booth USX EE35-07D
Project:	SEC.35-T7N-R65W	TVD Reference:	WELL @ 4844.0ft (Original Well Elev)
Site:	Booth USX EE35-05D Pad Sec.35-T7N-R65W	MD Reference:	WELL @ 4844.0ft (Original Well Elev)
Well:	Booth USX EE35-07D	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Landmark

Project	SEC.35-T7N-R65W, 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	Booth USX EE35-05D Pad Sec.35-T7N-R65W				
Site Position:		Northing:	1,438,878.24ft	Latitude:	40.534850
From:	Lat/Long	Easting:	3,242,365.69ft	Longitude:	-104.628030
Position Uncertainty:	0.0 ft	Slot Radius:	"	Grid Convergence:	0.56 °

Well	Booth USX EE35-07D					
Well Position	+N/-S	0.0 ft	Northing:	1,438,830.87 ft	Latitude:	40.534720
	+E/-W	0.0 ft	Easting:	3,242,366.16 ft	Longitude:	-104.628030
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,831.0 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	7/13/2011	8.79	67.18	53,209

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 (°)	
	5,200.0	0.0	0.0	174.32	

Survey Program	Date	10/19/2011			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
138.0	7,391.0	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	
138.0	0.20	176.80	138.0	-0.2	0.0	0.2	0.14	0.14	0.00	
233.0	0.60	171.90	233.0	-0.9	0.1	0.9	0.42	0.42	-5.16	
328.0	0.70	168.90	328.0	-2.0	0.3	2.0	0.11	0.11	-3.16	
423.0	0.80	163.40	423.0	-3.2	0.6	3.2	0.13	0.11	-5.79	
518.0	0.90	160.90	518.0	-4.5	1.0	4.6	0.11	0.11	-2.63	
613.0	0.90	158.30	613.0	-5.9	1.5	6.0	0.04	0.00	-2.74	
708.0	1.00	152.00	707.9	-7.3	2.2	7.5	0.15	0.11	-6.63	
733.0	1.10	136.10	732.9	-7.7	2.5	7.9	1.23	0.40	-63.60	
849.0	1.60	138.80	848.9	-9.7	4.3	10.1	0.43	0.43	2.33	
931.0	2.30	160.80	930.9	-12.1	5.6	12.6	1.24	0.85	26.83	
1,012.0	3.60	185.20	1,011.8	-16.2	5.9	16.7	2.20	1.60	30.12	
1,094.0	4.60	197.50	1,093.5	-21.9	4.7	22.3	1.62	1.22	15.00	

Company:	NOBLE ENERGY INC WELD COUNTY CO	Local Co-ordinate Reference:	Well Booth USX EE35-07D
Project:	SEC.35-T7N-R65W	TVD Reference:	WELL @ 4844.0ft (Original Well Elev)
Site:	Booth USX EE35-05D Pad Sec.35-T7N-R65W	MD Reference:	WELL @ 4844.0ft (Original Well Elev)
Well:	Booth USX EE35-07D	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)
1,176.0	5.70	196.50	1,175.2	-28.9	2.5	29.0	1.35	1.34	-1.22
1,257.0	6.60	190.80	1,255.8	-37.4	0.5	37.2	1.34	1.11	-7.04
1,339.0	7.20	194.20	1,337.2	-47.0	-1.6	46.6	0.88	0.73	4.15
1,421.0	9.00	188.20	1,418.3	-58.3	-3.8	57.6	2.42	2.20	-7.32
1,503.0	9.80	180.70	1,499.2	-71.6	-4.8	70.8	1.78	0.98	-9.15
1,585.0	10.30	177.80	1,580.0	-85.9	-4.6	85.1	0.87	0.61	-3.54
1,667.0	12.40	176.20	1,660.4	-102.1	-3.7	101.2	2.59	2.56	-1.95
1,748.0	13.90	171.50	1,739.2	-120.4	-1.7	119.6	2.27	1.85	-5.80
1,830.0	14.80	169.60	1,818.7	-140.4	1.6	139.9	1.24	1.10	-2.32
1,912.0	14.80	169.70	1,898.0	-161.0	5.4	160.7	0.03	0.00	0.12
1,994.0	14.70	175.00	1,977.3	-181.7	8.2	181.6	1.65	-0.12	6.46
2,075.0	14.90	172.60	2,055.6	-202.2	10.4	202.3	0.80	0.25	-2.96
2,157.0	15.10	172.50	2,134.8	-223.3	13.2	223.5	0.25	0.24	-0.12
2,239.0	14.90	169.80	2,214.0	-244.2	16.4	244.7	0.89	-0.24	-3.29
2,321.0	14.80	172.90	2,293.3	-265.0	19.6	265.7	0.98	-0.12	3.78
2,402.0	14.70	175.00	2,371.6	-285.5	21.8	286.3	0.67	-0.12	2.59
2,484.0	15.00	173.60	2,450.9	-306.4	23.8	307.3	0.57	0.37	-1.71
2,566.0	14.20	172.10	2,530.2	-326.9	26.4	327.9	1.08	-0.98	-1.83
2,647.0	12.60	170.50	2,609.0	-345.5	29.2	346.7	2.03	-1.98	-1.98
2,729.0	12.90	173.40	2,689.0	-363.4	31.8	364.8	0.86	0.37	3.54
2,811.0	14.00	173.30	2,768.7	-382.4	34.0	383.8	1.34	1.34	-0.12
2,893.0	14.30	177.10	2,848.2	-402.3	35.6	403.9	1.19	0.37	4.63
2,975.0	13.30	177.20	2,927.9	-421.9	36.6	423.4	1.22	-1.22	0.12
3,056.0	12.70	173.40	3,006.8	-440.0	38.1	441.6	1.29	-0.74	-4.69
3,138.0	13.30	172.20	3,086.7	-458.3	40.4	460.1	0.80	0.73	-1.46
3,220.0	13.80	173.20	3,166.4	-477.4	42.8	479.3	0.67	0.61	1.22
3,302.0	14.80	177.90	3,245.9	-497.5	44.4	499.5	1.87	1.22	5.73
3,384.0	15.30	176.70	3,325.1	-518.8	45.4	520.8	0.72	0.61	-1.46
3,465.0	15.20	180.50	3,403.2	-540.1	45.9	542.0	1.24	-0.12	4.69
3,547.0	14.90	181.90	3,482.4	-561.4	45.5	563.1	0.57	-0.37	1.71
3,629.0	14.20	177.80	3,561.8	-582.0	45.5	583.6	1.52	-0.85	-5.00
3,711.0	13.60	174.30	3,641.4	-601.6	46.9	603.3	1.26	-0.73	-4.27
3,793.0	13.80	172.20	3,721.0	-620.9	49.1	622.7	0.65	0.24	-2.56
3,874.0	14.00	172.50	3,799.7	-640.2	51.7	642.2	0.26	0.25	0.37
3,956.0	15.30	172.90	3,879.0	-660.8	54.4	662.9	1.59	1.59	0.49
4,038.0	16.00	173.10	3,958.0	-682.7	57.1	685.0	0.86	0.85	0.24
4,120.0	16.40	173.30	4,036.7	-705.4	59.8	707.9	0.49	0.49	0.24
4,201.0	16.70	173.10	4,114.3	-728.3	62.5	730.9	0.38	0.37	-0.25
4,283.0	15.90	173.00	4,193.0	-751.2	65.3	754.0	0.98	-0.98	-0.12
4,365.0	13.70	174.00	4,272.3	-772.0	67.7	774.9	2.70	-2.68	1.22
4,447.0	12.60	174.30	4,352.2	-790.5	69.6	793.5	1.34	-1.34	0.37
4,528.0	11.60	172.20	4,431.4	-807.4	71.5	810.5	1.35	-1.23	-2.59
4,610.0	10.20	171.20	4,511.9	-822.7	73.8	826.0	1.72	-1.71	-1.22
4,692.0	9.30	170.70	4,592.7	-836.5	76.0	839.9	1.10	-1.10	-0.61
4,774.0	7.60	172.10	4,673.8	-848.4	77.8	851.9	2.09	-2.07	1.71
4,856.0	7.00	172.30	4,755.1	-858.7	79.2	862.3	0.73	-0.73	0.24
4,937.0	5.50	167.30	4,835.7	-867.4	80.7	871.1	1.97	-1.85	-6.17
5,019.0	4.00	157.00	4,917.4	-873.8	82.7	877.7	2.10	-1.83	-12.56
5,183.0	2.10	162.70	5,081.1	-882.0	85.8	886.1	1.17	-1.16	3.48
5,301.1	2.67	173.77	5,199.2	-886.8	86.8	891.0	0.62	0.48	9.37
TARGET BHL 2050'FNL, 2000'FEL									
5,346.0	2.90	176.80	5,244.0	-888.9	86.9	893.2	0.62	0.52	6.75
5,510.0	2.50	143.80	5,407.8	-896.0	89.3	900.4	0.96	-0.24	-20.12
5,673.0	0.60	122.40	5,570.7	-899.3	92.1	904.0	1.20	-1.17	-13.13

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Survey									
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5,837.0	0.70	216.90	5,734.7	-900.6	92.2	905.3	0.58	0.06	57.62
6,000.0	2.80	252.40	5,897.7	-902.6	87.8	906.8	1.39	1.29	21.78
6,164.0	3.30	262.00	6,061.4	-904.4	79.3	907.8	0.43	0.30	5.85
6,327.0	2.60	280.70	6,224.2	-904.4	71.1	907.0	0.72	-0.43	11.47
6,491.0	1.30	292.60	6,388.1	-903.0	65.7	905.1	0.83	-0.79	7.26
6,654.0	0.50	302.70	6,551.1	-901.9	63.4	903.7	0.50	-0.49	6.20
6,818.0	0.30	310.80	6,715.1	-901.2	62.5	903.0	0.13	-0.12	4.94
6,916.9	0.18	305.05	6,814.0	-901.0	62.1	902.7	0.13	-0.12	-5.81
LEGAL BOX 400' X 400' 2094'FNL & 2011'FEL - TARGET CIRCLE 2050'FNL & 2000'FEL									
6,981.0	0.10	293.80	6,878.1	-900.9	62.0	902.6	0.13	-0.12	-17.55
7,145.0	0.40	263.30	7,042.1	-900.9	61.3	902.5	0.19	0.18	-18.60
7,345.0	0.60	275.20	7,242.1	-900.9	59.6	902.4	0.11	0.10	5.95
7,391.0	0.60	275.20	7,288.1	-900.8	59.1	902.3	0.00	0.00	0.00

Checked By: _____	Approved By: _____	Date: _____
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