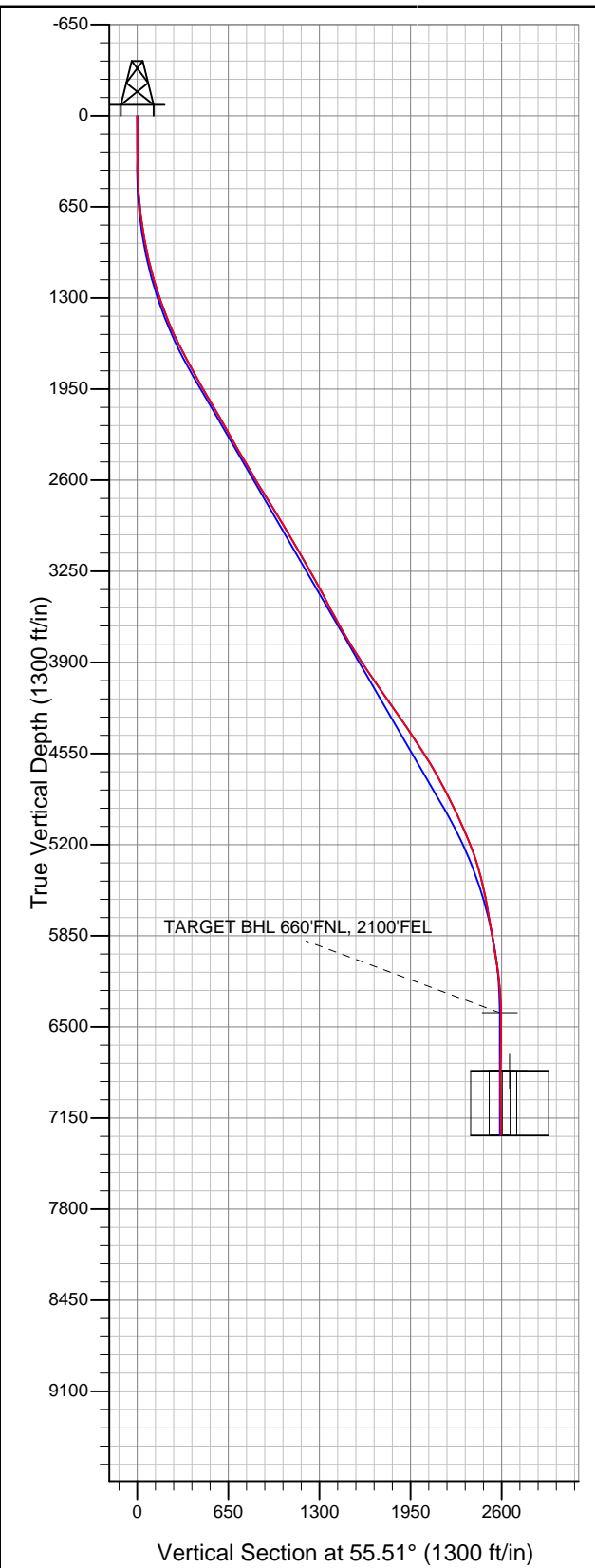


# Well Name: Booth USX EE25-02D

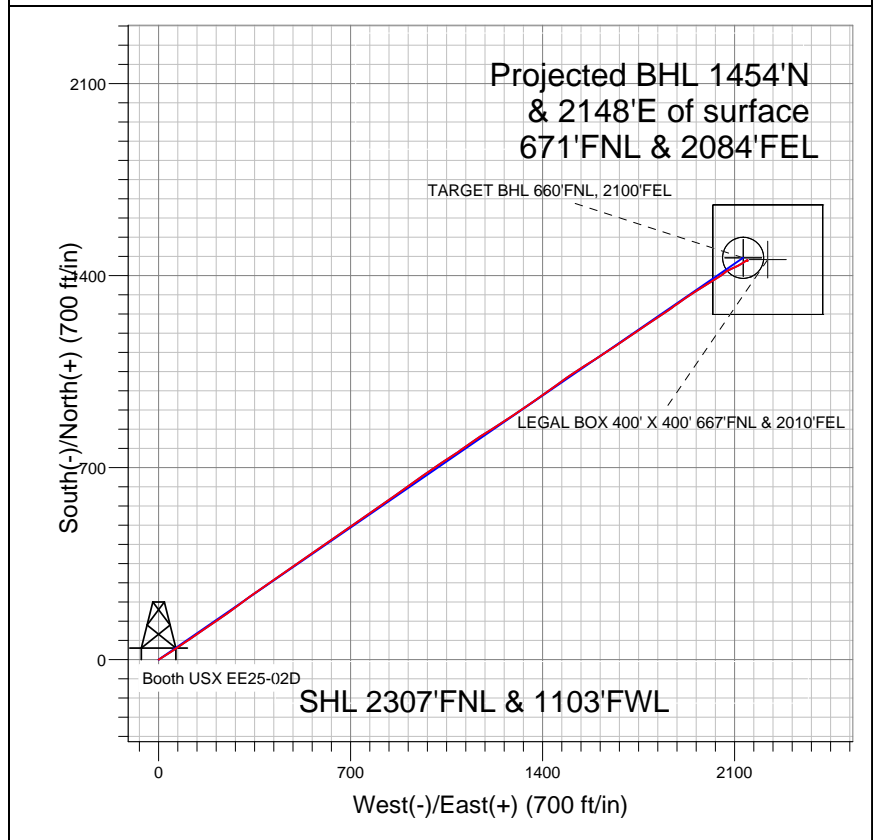
Surface Location: Booth USX EE25-02D Pad Sec.25-T7N-R65W  
 North American Datum 1983 US State Plane 1983 Colorado Northern Zone  
 Ground Elevation: 4821.0  

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1442876.89	3245511.39	40.545740	-104.616570	

 Original Well Elev WELL @ 4834.0ft (Original Well Elev)



## NOBLE ENERGY INC WELD COUNTY CO



### LEGEND

- Booth USX EE25-02D, Wellbore #1, Noble Booth USX EE25-02D Plan #1 (7-22-11) V0
- Wellbore #1
- Survey #1

## Final Survey Plot

Projected Final Survey -  
 7905'MD & 7270'TVD @ 2593'VS  
 0.4 deg Inc 37.3 deg AZ

Project: SEC.25-T7N-R65W  
 Site: Booth USX EE25-02D Pad Sec.25-T7N-R65W  
 Well: Booth USX EE25-02D  
 Plan: Wellbore #1



# **NOBLE ENERGY INC WELD COUNTY CO**

**SEC.25-T7N-R65W**

**Booth USX EE25-02D Pad Sec.25-T7N-R65W**

**Booth USX EE25-02D**

**Wellbore #1**

**Survey: Survey #1**

## **Standard Survey Report**

**21 November, 2011**



<b>Company:</b>	NOBLE ENERGY INC WELD COUNTY CO	<b>Local Co-ordinate Reference:</b>	Well Booth USX EE25-02D
<b>Project:</b>	SEC.25-T7N-R65W	<b>TVD Reference:</b>	WELL @ 4834.0ft (Original Well Elev)
<b>Site:</b>	Booth USX EE25-02D Pad Sec.25-T7N-R65W	<b>MD Reference:</b>	WELL @ 4834.0ft (Original Well Elev)
<b>Well:</b>	Booth USX EE25-02D	<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.25-T7N-R65W, Weld County, Colorado		
<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

<b>Site</b>	Booth USX EE25-02D Pad Sec.25-T7N-R65W		
<b>Site Position:</b>		<b>Northing:</b>	1,442,876.90ft
<b>From:</b>	Lat/Long	<b>Easting:</b>	3,245,511.39ft
<b>Position Uncertainty:</b>	0.0 ft	<b>Slot Radius:</b>	"
		<b>Latitude:</b>	40.545740
		<b>Longitude:</b>	-104.616570
		<b>Grid Convergence:</b>	0.57 °

<b>Well</b>	Booth USX EE25-02D		
<b>Well Position</b>	<b>+N/-S</b>	0.0 ft	<b>Northing:</b> 1,442,876.89 ft
	<b>+E/-W</b>	0.0 ft	<b>Easting:</b> 3,245,511.39 ft
<b>Position Uncertainty</b>	0.0 ft	<b>Wellhead Elevation:</b>	ft
		<b>Latitude:</b>	40.545740
		<b>Longitude:</b>	-104.616570
		<b>Ground Level:</b>	4,821.0 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	10/7/2011	8.76	67.18	53,191

<b>Design</b>	Wellbore #1				
<b>Audit Notes:</b>					
<b>Version:</b>	1.0	<b>Phase:</b>	ACTUAL	<b>Tie On Depth:</b>	0.0
<b>Vertical Section:</b>	<b>Depth From (TVD) (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>	
	6,400.0	0.0	0.0	55.51	

<b>Survey Program</b>	<b>Date</b>	11/21/2011			
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
129.0	7,905.0	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	
129.0	0.50	84.20	129.0	0.1	0.6	0.5	0.39	0.39	0.00	
220.0	0.70	75.00	220.0	0.2	1.5	1.4	0.24	0.22	-10.11	
311.0	0.50	45.90	311.0	0.7	2.3	2.3	0.39	-0.22	-31.98	
402.0	1.70	64.90	402.0	1.5	3.8	4.0	1.36	1.32	20.88	
493.0	2.60	56.90	492.9	3.2	6.8	7.4	1.04	0.99	-8.79	
584.0	4.40	57.60	583.7	6.2	11.4	13.0	1.98	1.98	0.77	
678.0	6.20	56.20	677.3	11.0	18.7	21.6	1.92	1.91	-1.49	
699.0	6.40	57.50	698.2	12.2	20.6	23.9	1.17	0.95	6.19	
772.0	8.00	57.30	770.6	17.2	28.3	33.1	2.19	2.19	-0.27	
867.0	10.00	56.40	864.4	25.3	40.8	47.9	2.11	2.11	-0.95	
961.0	12.00	55.90	956.7	35.3	55.7	65.9	2.13	2.13	-0.53	
1,054.0	13.10	56.90	1,047.5	46.5	72.5	86.1	1.21	1.18	1.08	

<b>Company:</b>	NOBLE ENERGY INC WELD COUNTY CO	<b>Local Co-ordinate Reference:</b>	Well Booth USX EE25-02D
<b>Project:</b>	SEC.25-T7N-R65W	<b>TVD Reference:</b>	WELL @ 4834.0ft (Original Well Elev)
<b>Site:</b>	Booth USX EE25-02D Pad Sec.25-T7N-R65W	<b>MD Reference:</b>	WELL @ 4834.0ft (Original Well Elev)
<b>Well:</b>	Booth USX EE25-02D	<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)	
1,147.0	15.40	55.70	1,137.6	59.2	91.5	109.0	2.49	2.47	-1.29	
1,240.0	17.70	55.70	1,226.8	74.1	113.4	135.5	2.47	2.47	0.00	
1,334.0	19.20	55.40	1,315.9	90.9	138.0	165.2	1.60	1.60	-0.32	
1,429.0	20.60	55.00	1,405.3	109.4	164.5	197.5	1.48	1.47	-0.42	
1,523.0	23.00	56.20	1,492.5	129.1	193.3	232.4	2.60	2.55	1.28	
1,616.0	25.10	55.90	1,577.5	150.3	224.7	270.3	2.26	2.26	-0.32	
1,709.0	27.30	54.30	1,660.9	173.8	258.4	311.4	2.48	2.37	-1.72	
1,803.0	28.30	52.50	1,744.0	199.9	293.6	355.2	1.39	1.06	-1.91	
1,896.0	28.70	54.10	1,825.8	226.4	329.2	399.5	0.93	0.43	1.72	
1,990.0	29.40	55.70	1,907.9	252.7	366.5	445.2	1.11	0.74	1.70	
2,084.0	30.10	55.00	1,989.6	279.2	404.9	491.8	0.83	0.74	-0.74	
2,177.0	30.90	55.20	2,069.7	306.2	443.6	539.0	0.87	0.86	0.22	
2,270.0	30.20	55.00	2,149.8	333.2	482.4	586.3	0.76	-0.75	-0.22	
2,364.0	29.20	55.00	2,231.4	360.0	520.5	632.9	1.06	-1.06	0.00	
2,458.0	29.10	54.80	2,313.5	386.3	558.0	678.6	0.15	-0.11	-0.21	
2,551.0	31.00	56.20	2,394.0	412.6	596.4	725.2	2.18	2.04	1.51	
2,646.0	30.30	54.70	2,475.8	440.1	636.3	773.6	1.09	-0.74	-1.58	
2,739.0	29.60	55.00	2,556.3	466.8	674.2	820.1	0.77	-0.75	0.32	
2,832.0	30.90	55.40	2,636.7	493.6	712.7	866.9	1.41	1.40	0.43	
2,926.0	31.70	55.00	2,717.0	521.4	752.8	915.7	0.88	0.85	-0.43	
3,020.0	31.80	55.90	2,796.9	549.5	793.5	965.2	0.51	0.11	0.96	
3,114.0	31.60	53.60	2,876.9	578.0	833.9	1,014.6	1.30	-0.21	-2.45	
3,208.0	30.60	56.10	2,957.4	606.0	873.5	1,063.1	1.74	-1.06	2.66	
3,301.0	31.20	54.10	3,037.2	633.3	912.7	1,110.9	1.28	0.65	-2.15	
3,394.0	29.10	54.30	3,117.6	660.6	950.6	1,157.6	2.26	-2.26	0.22	
3,487.0	29.00	54.70	3,198.9	686.8	987.3	1,202.7	0.23	-0.11	0.43	
3,580.0	30.10	56.10	3,279.8	712.9	1,025.1	1,248.6	1.40	1.18	1.51	
3,674.0	29.60	57.80	3,361.3	738.4	1,064.3	1,295.4	1.05	-0.53	1.81	
3,767.0	26.60	54.50	3,443.4	762.7	1,100.7	1,339.1	3.63	-3.23	-3.55	
3,860.0	28.30	55.20	3,525.9	787.4	1,135.8	1,382.0	1.86	1.83	0.75	
3,955.0	29.60	55.50	3,609.0	813.5	1,173.6	1,428.0	1.38	1.37	0.32	
4,048.0	30.20	58.70	3,689.7	838.7	1,212.5	1,474.3	1.83	0.65	3.44	
4,142.0	31.00	57.50	3,770.6	864.0	1,253.1	1,522.1	1.07	0.85	-1.28	
4,235.0	31.90	56.10	3,849.9	890.6	1,293.7	1,570.6	1.25	0.97	-1.51	
4,329.0	33.00	55.70	3,929.2	918.8	1,335.5	1,621.0	1.19	1.17	-0.43	
4,422.0	34.40	54.70	4,006.6	948.3	1,377.9	1,672.6	1.62	1.51	-1.08	
4,516.0	35.90	54.70	4,083.4	979.6	1,422.0	1,726.8	1.60	1.60	0.00	
4,609.0	35.10	53.80	4,159.2	1,011.1	1,465.8	1,780.7	1.03	-0.86	-0.97	
4,702.0	34.30	56.40	4,235.6	1,041.4	1,509.3	1,833.7	1.81	-0.86	2.80	
4,796.0	34.90	57.10	4,313.0	1,070.7	1,553.9	1,887.0	0.77	0.64	0.74	
4,890.0	33.90	57.80	4,390.6	1,099.2	1,598.7	1,940.1	1.14	-1.06	0.74	
4,983.0	33.30	55.40	4,468.0	1,127.6	1,641.6	1,991.6	1.57	-0.65	-2.58	
5,076.0	32.40	58.00	4,546.2	1,155.3	1,683.8	2,042.0	1.80	-0.97	2.80	
5,171.0	31.40	55.00	4,626.8	1,183.0	1,725.6	2,092.2	1.97	-1.05	-3.16	
5,265.0	29.10	55.50	4,708.0	1,210.0	1,764.5	2,139.5	2.46	-2.45	0.53	
5,358.0	27.10	55.40	4,790.0	1,234.8	1,800.6	2,183.3	2.15	-2.15	-0.11	
5,452.0	26.80	57.30	4,873.8	1,258.4	1,836.1	2,225.9	0.97	-0.32	2.02	
5,546.0	26.40	54.80	4,957.9	1,281.9	1,871.0	2,268.0	1.26	-0.43	-2.66	
5,640.0	23.70	53.60	5,043.0	1,305.2	1,903.3	2,307.8	2.92	-2.87	-1.28	
5,733.0	23.60	57.50	5,128.2	1,326.2	1,934.0	2,345.1	1.69	-0.11	4.19	
5,827.0	21.30	57.10	5,215.1	1,345.6	1,964.2	2,380.9	2.45	-2.45	-0.43	
5,922.0	18.20	57.60	5,304.5	1,363.0	1,991.2	2,413.0	3.27	-3.26	0.53	
6,016.0	16.20	58.00	5,394.3	1,377.8	2,014.8	2,440.8	2.13	-2.13	0.43	
6,109.0	13.30	60.10	5,484.2	1,390.0	2,035.0	2,464.4	3.17	-3.12	2.26	

<b>Company:</b>	NOBLE ENERGY INC WELD COUNTY CO	<b>Local Co-ordinate Reference:</b>	Well Booth USX EE25-02D
<b>Project:</b>	SEC.25-T7N-R65W	<b>TVD Reference:</b>	WELL @ 4834.0ft (Original Well Elev)
<b>Site:</b>	Booth USX EE25-02D Pad Sec.25-T7N-R65W	<b>MD Reference:</b>	WELL @ 4834.0ft (Original Well Elev)
<b>Well:</b>	Booth USX EE25-02D	<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)	
6,203.0	10.80	52.40	5,576.1	1,400.8	2,051.4	2,484.0	3.16	-2.66	-8.19	
6,297.0	10.00	51.20	5,668.6	1,411.2	2,064.7	2,500.9	0.88	-0.85	-1.28	
6,391.0	10.50	65.20	5,761.1	1,419.9	2,078.9	2,517.5	2.70	0.53	14.89	
6,483.0	9.40	68.70	5,851.7	1,426.2	2,093.5	2,533.1	1.36	-1.20	3.80	
6,576.0	9.70	61.90	5,943.4	1,432.6	2,107.5	2,548.3	1.25	0.32	-7.31	
6,670.0	8.90	59.40	6,036.2	1,440.1	2,120.7	2,563.4	0.95	-0.85	-2.66	
6,763.0	6.80	56.40	6,128.3	1,446.8	2,131.5	2,576.1	2.30	-2.26	-3.23	
6,857.0	5.40	55.90	6,221.8	1,452.3	2,139.8	2,586.1	1.49	-1.49	-0.53	
6,950.0	2.40	56.40	6,314.6	1,455.9	2,145.0	2,592.4	3.23	-3.23	0.54	
7,035.2	0.88	95.15	6,399.7	1,456.8	2,147.2	2,594.7	2.11	-1.79	45.50	
TARGET BHL 660'FNL, 2100'FEL										
7,043.0	0.80	105.10	6,407.5	1,456.8	2,147.3	2,594.8	2.11	-1.01	126.95	
7,137.0	1.20	184.40	6,501.5	1,455.6	2,147.8	2,594.6	1.40	0.43	84.36	
7,230.0	0.60	217.30	6,594.5	1,454.3	2,147.5	2,593.5	0.83	-0.65	35.38	
7,324.0	0.40	218.10	6,688.5	1,453.6	2,147.0	2,592.7	0.21	-0.21	0.85	
7,417.0	0.40	207.90	6,781.5	1,453.1	2,146.6	2,592.1	0.08	0.00	-10.97	
7,449.3	0.24	213.41	6,813.9	1,452.9	2,146.5	2,592.0	0.52	-0.51	17.05	
LEGAL BOX 400' X 400' 667'FNL & 2010'FEL										
7,449.5	0.24	213.41	6,814.0	1,452.9	2,146.5	2,592.0	0.00	0.00	0.00	
TARGET CIRCLE 660'FNL & 2100'FEL										
7,510.0	0.10	347.30	6,874.5	1,452.9	2,146.4	2,591.9	0.52	-0.22	221.30	
7,605.0	0.10	132.70	6,969.5	1,452.9	2,146.5	2,591.9	0.20	0.00	153.05	
7,698.0	0.30	50.80	7,062.5	1,453.0	2,146.7	2,592.2	0.33	0.22	-88.06	
7,792.0	0.20	58.50	7,156.5	1,453.2	2,147.1	2,592.6	0.11	-0.11	8.19	
7,853.0	0.40	37.30	7,217.5	1,453.5	2,147.3	2,592.9	0.37	0.33	-34.75	
7,905.0	0.40	37.30	7,269.5	1,453.8	2,147.5	2,593.2	0.00	0.00	0.00	

Checked By: _____	Approved By: _____	Date: _____
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