

# ENSIGN

## Directional

### Well Name: Booth USX EE35-12D

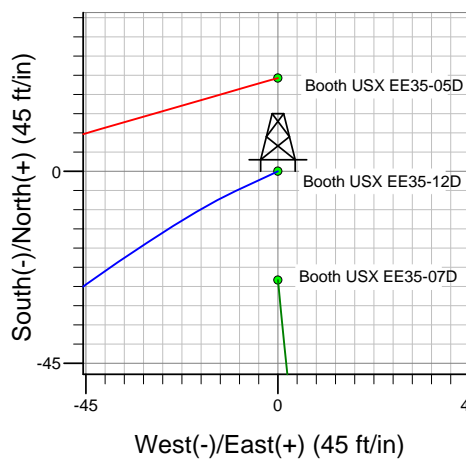
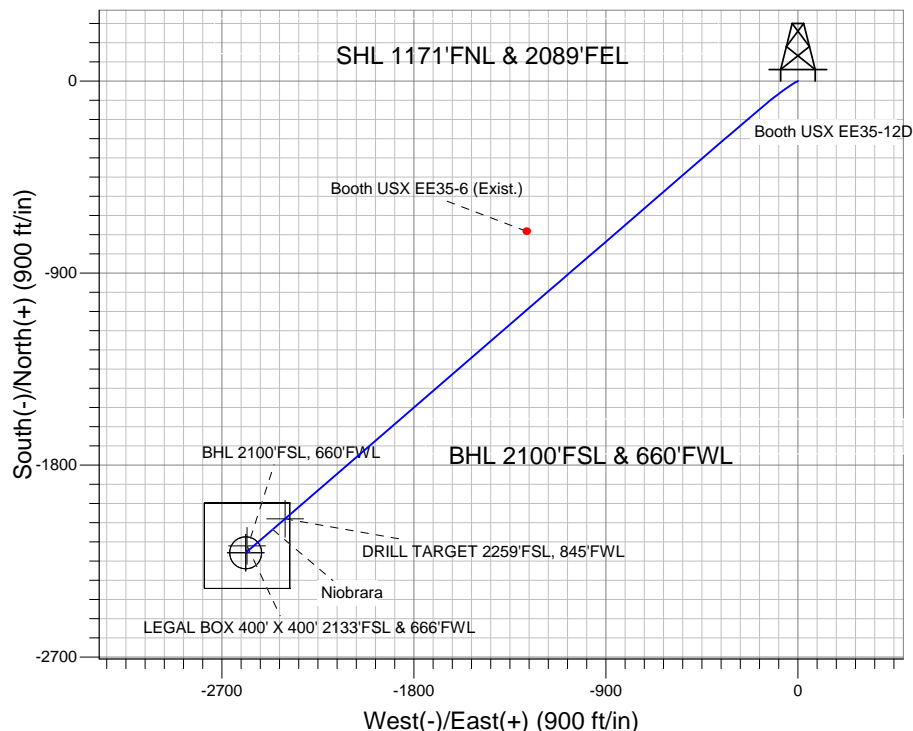
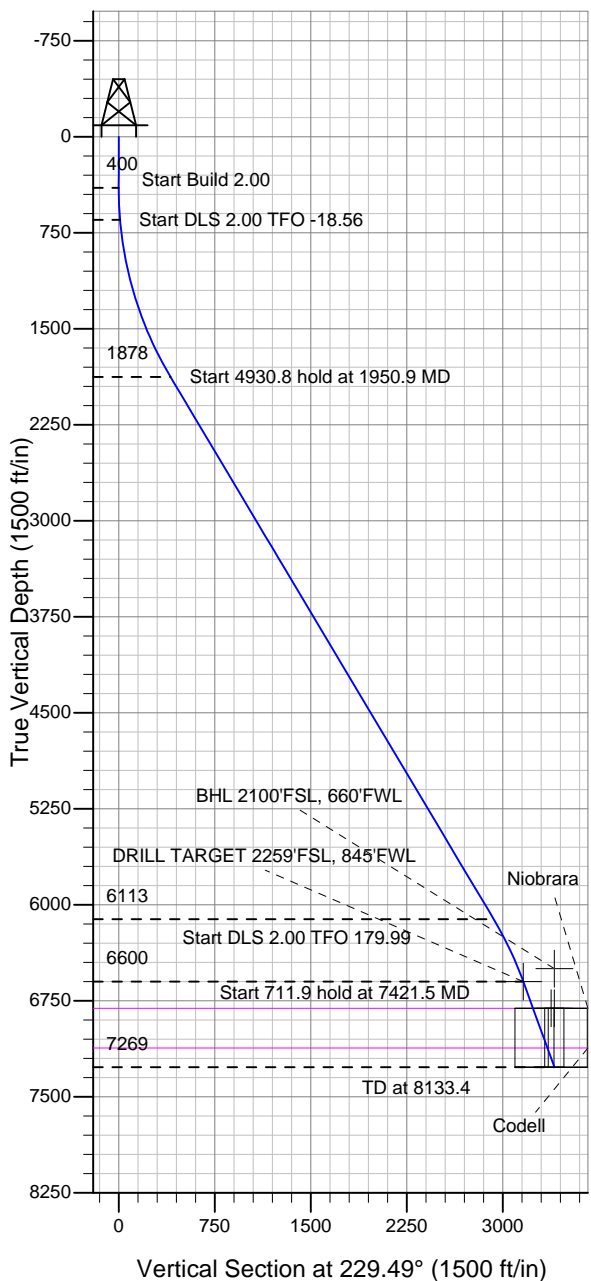
Surface Location: Booth USX EE35-05D Pad Sec.35-T7N-R65W  
North American Datum 1983 US State Plane 1983 Colorado Northern Zone

Ground Elevation: 4831.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1438856.37	3242365.91	40.534790	-104.628030	

Original Well Elev WELL @ 4844.0ft (Original Well Elev)

### NOBLE ENERGY INC WELD COUNTY CO



Booth USX EE35-05D Pad Sec.35-T7N-R65W  
Booth USX EE35-12D  
Noble Booth USX EE35-12D Plan #1 (7-13-11)  
12:52, July 19 2011



Azimuths to True North  
Magnetic North: 8.79°

Magnetic Field  
Strength: 53208.5snT  
Dip Angle: 67.18°  
Date: 7/13/2011  
Model: IGRF2010

### WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
BHL 2100'FSL, 660'FWL	6500.0	-2211.3	-2588.1	40.528720	-104.637340	Point
DRILL TARGET 2259'FSL, 845'FWL	6600.0	-2052.0	-2403.9	40.529157	-104.636677	Point
LEGAL BOX 400' X 400' 2133'FSL & 666'FWL	6809.0	-2178.3	-2582.1	40.528811	-104.637318	Rectangle (Sides: L400.0 W400.0)
TARGET CIRCLE 2100'FSL & 660'FWL	6809.0	-2211.3	-2588.1	40.528720	-104.637340	Circle (Radius: 75.0)

### SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	400.0	0.00	0.00	400.0	0.0	0.0	0.00	0.00	0.0	
3	650.0	5.00	245.00	649.7	-4.6	-9.9	2.00	245.00	10.5	
4	1950.9	30.80	229.18	1877.6	-250.5	-318.6	2.00	-18.56	405.0	
5	6881.7	30.80	229.18	6113.1	-1900.9	-2228.9	0.00	0.00	2929.4	
6	7421.5	20.00	229.18	6600.0	-2052.0	-2403.9	2.00	179.99	3160.6	DRILL TARGET 2259'FSL, 845'FWL
7	8133.4	20.00	229.18	7269.0	-2211.2	-2588.2	0.00	0.00	3404.1	



## **Directional**

### **NOBLE ENERGY INC WELD COUNTY CO**

**SEC.35-T7N-R65W**

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

**Booth USX EE35-12D**

**Wellbore #1**

**Plan: Noble Booth USX EE35-12D Plan #1 (7-13-11)**

### **Standard Planning Report**

**19 July, 2011**



<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well Booth USX EE35-12D
<b>Company:</b>	NOBLE ENERGY INC WELD COUNTY CO	<b>TVD Reference:</b>	WELL @ 4844.0ft (Original Well Elev)
<b>Project:</b>	SEC.35-T7N-R65W	<b>MD Reference:</b>	WELL @ 4844.0ft (Original Well Elev)
<b>Site:</b>	Booth USX EE35-05D Pad Sec.35-T7N-R65W	<b>North Reference:</b>	True
<b>Well:</b>	Booth USX EE35-12D	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Noble Booth USX EE35-12D Plan #1 (7-13-11)		

<b>Project</b>	SEC.35-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

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

Well	Booth USX EE35-12D					
Well Position	+N/-S	-21.9 ft	Northing:	1,438,856.37 ft	Latitude:	40.534790
	+E/-W	0.0 ft	Easting:	3,242,365.91 ft	Longitude:	-104.628030
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,831.0 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	7/13/2011	8.79	67.18	53,209

<b>Design</b>	Noble Booth USX EE35-12D Plan #1 (7-13-11)			
<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b>	PROTOTYPE	<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>
	0.0	0.0	0.0	229.49

<b>Plan Sections</b>										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
400.0	0.00	0.00	400.0	0.0	0.0	0.00	0.00	0.00	0.00	
650.0	5.00	245.00	649.7	-4.6	-9.9	2.00	2.00	0.00	245.00	
1,950.9	30.80	229.18	1,877.6	-250.5	-318.6	2.00	1.98	-1.22	-18.56	
6,881.7	30.80	229.18	6,113.1	-1,900.9	-2,228.9	0.00	0.00	0.00	0.00	
7,421.5	20.00	229.18	6,600.0	-2,052.0	-2,403.9	2.00	-2.00	0.00	179.99	DRILL TARGET 22
8,133.4	20.00	229.18	7,269.0	-2,211.2	-2,588.2	0.00	0.00	0.00	0.00	

<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well Booth USX EE35-12D
<b>Company:</b>	NOBLE ENERGY INC WELD COUNTY CO	<b>TVD Reference:</b>	WELL @ 4844.0ft (Original Well Elev)
<b>Project:</b>	SEC.35-T7N-R65W	<b>MD Reference:</b>	WELL @ 4844.0ft (Original Well Elev)
<b>Site:</b>	Booth USX EE35-05D Pad Sec.35-T7N-R65W	<b>North Reference:</b>	True
<b>Well:</b>	Booth USX EE35-12D	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Noble Booth USX EE35-12D Plan #1 (7-13-11)		

Planned 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
40.0	0.00	0.00	40.0	0.0	0.0	0.0	0.00	0.00	0.00
80.0	0.00	0.00	80.0	0.0	0.0	0.0	0.00	0.00	0.00
120.0	0.00	0.00	120.0	0.0	0.0	0.0	0.00	0.00	0.00
160.0	0.00	0.00	160.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
240.0	0.00	0.00	240.0	0.0	0.0	0.0	0.00	0.00	0.00
280.0	0.00	0.00	280.0	0.0	0.0	0.0	0.00	0.00	0.00
320.0	0.00	0.00	320.0	0.0	0.0	0.0	0.00	0.00	0.00
360.0	0.00	0.00	360.0	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00
440.0	0.80	245.00	440.0	-0.1	-0.3	0.3	2.00	2.00	0.00
480.0	1.60	245.00	480.0	-0.5	-1.0	1.1	2.00	2.00	0.00
520.0	2.40	245.00	520.0	-1.1	-2.3	2.4	2.00	2.00	0.00
560.0	3.20	245.00	559.9	-1.9	-4.0	4.3	2.00	2.00	0.00
600.0	4.00	245.00	599.8	-2.9	-6.3	6.7	2.00	2.00	0.00
640.0	4.80	245.00	639.7	-4.2	-9.1	9.7	2.00	2.00	0.00
650.0	5.00	245.00	649.7	-4.6	-9.9	10.5	2.00	2.00	0.00
680.0	5.57	243.03	679.6	-5.8	-12.4	13.2	2.00	1.91	-6.56
720.0	6.34	240.96	719.3	-7.8	-16.0	17.2	2.00	1.93	-5.17
760.0	7.12	239.34	759.1	-10.1	-20.1	21.8	2.00	1.94	-4.05
796.2	7.83	238.15	795.0	-12.6	-24.1	26.5	2.00	1.95	-3.29
8 5/8"									
800.0	7.90	238.04	798.7	-12.8	-24.6	27.0	2.00	1.96	-2.96
840.0	8.69	236.97	838.3	-15.9	-29.4	32.7	2.00	1.96	-2.67
880.0	9.47	236.08	877.8	-19.4	-34.7	39.0	2.00	1.97	-2.23
920.0	10.26	235.32	917.2	-23.3	-40.3	45.8	2.00	1.97	-1.89
960.0	11.05	234.67	956.5	-27.5	-46.4	53.2	2.00	1.98	-1.62
1,000.0	11.85	234.11	995.7	-32.1	-52.9	61.1	2.00	1.98	-1.41
1,040.0	12.64	233.62	1,034.8	-37.2	-59.7	69.5	2.00	1.98	-1.23
1,080.0	13.43	233.18	1,073.8	-42.5	-67.0	78.5	2.00	1.98	-1.09
1,120.0	14.23	232.79	1,112.6	-48.3	-74.6	88.1	2.00	1.99	-0.97
1,160.0	15.02	232.44	1,151.3	-54.4	-82.6	98.2	2.00	1.99	-0.87
1,200.0	15.82	232.13	1,189.9	-60.9	-91.0	108.8	2.00	1.99	-0.79
1,240.0	16.62	231.84	1,228.3	-67.8	-99.8	119.9	2.00	1.99	-0.71
1,280.0	17.41	231.58	1,266.5	-75.1	-109.0	131.6	2.00	1.99	-0.65
1,320.0	18.21	231.35	1,304.6	-82.7	-118.6	143.9	2.00	1.99	-0.59
1,360.0	19.01	231.13	1,342.5	-90.7	-128.5	156.6	2.00	1.99	-0.55
1,400.0	19.80	230.93	1,380.3	-99.0	-138.9	169.9	2.00	1.99	-0.50
1,440.0	20.60	230.74	1,417.8	-107.8	-149.6	183.7	2.00	1.99	-0.47
1,480.0	21.40	230.57	1,455.1	-116.8	-160.7	198.1	2.00	1.99	-0.43
1,520.0	22.20	230.41	1,492.3	-126.3	-172.1	212.9	2.00	1.99	-0.40
1,560.0	22.99	230.26	1,529.2	-136.1	-183.9	228.3	2.00	1.99	-0.38
1,600.0	23.79	230.12	1,565.9	-146.3	-196.1	244.1	2.00	2.00	-0.35
1,640.0	24.59	229.98	1,602.4	-156.8	-208.7	260.5	2.00	2.00	-0.33
1,680.0	25.39	229.86	1,638.7	-167.7	-221.6	277.4	2.00	2.00	-0.31
1,720.0	26.19	229.74	1,674.7	-178.9	-234.9	294.8	2.00	2.00	-0.29
1,760.0	26.98	229.63	1,710.5	-190.5	-248.6	312.7	2.00	2.00	-0.28
1,800.0	27.78	229.53	1,746.0	-202.4	-262.6	331.1	2.00	2.00	-0.26
1,840.0	28.58	229.43	1,781.2	-214.7	-276.9	350.0	2.00	2.00	-0.25
1,880.0	29.38	229.33	1,816.2	-227.3	-291.7	369.4	2.00	2.00	-0.24
1,920.0	30.18	229.24	1,850.9	-240.3	-306.7	389.3	2.00	2.00	-0.22
1,950.9	30.80	229.18	1,877.6	-250.5	-318.6	405.0	2.00	2.00	-0.22

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<b>Well:</b>	Booth USX EE35-12D	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Noble Booth USX EE35-12D Plan #1 (7-13-11)		

Planned 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)	
1,960.0	30.80	229.18	1,885.4	-253.6	-322.1	409.6	0.00	0.00	0.00	
2,000.0	30.80	229.18	1,919.7	-266.9	-337.6	430.1	0.00	0.00	0.00	
2,040.0	30.80	229.18	1,954.1	-280.3	-353.1	450.6	0.00	0.00	0.00	
2,080.0	30.80	229.18	1,988.5	-293.7	-368.6	471.0	0.00	0.00	0.00	
2,120.0	30.80	229.18	2,022.8	-307.1	-384.1	491.5	0.00	0.00	0.00	
2,160.0	30.80	229.18	2,057.2	-320.5	-399.6	512.0	0.00	0.00	0.00	
2,200.0	30.80	229.18	2,091.5	-333.9	-415.1	532.5	0.00	0.00	0.00	
2,240.0	30.80	229.18	2,125.9	-347.3	-430.6	553.0	0.00	0.00	0.00	
2,280.0	30.80	229.18	2,160.3	-360.7	-446.1	573.4	0.00	0.00	0.00	
2,320.0	30.80	229.18	2,194.6	-374.1	-461.6	593.9	0.00	0.00	0.00	
2,360.0	30.80	229.18	2,229.0	-387.4	-477.1	614.4	0.00	0.00	0.00	
2,400.0	30.80	229.18	2,263.3	-400.8	-492.6	634.9	0.00	0.00	0.00	
2,440.0	30.80	229.18	2,297.7	-414.2	-508.1	655.4	0.00	0.00	0.00	
2,480.0	30.80	229.18	2,332.1	-427.6	-523.6	675.8	0.00	0.00	0.00	
2,520.0	30.80	229.18	2,366.4	-441.0	-539.1	696.3	0.00	0.00	0.00	
2,560.0	30.80	229.18	2,400.8	-454.4	-554.6	716.8	0.00	0.00	0.00	
2,600.0	30.80	229.18	2,435.1	-467.8	-570.1	737.3	0.00	0.00	0.00	
2,640.0	30.80	229.18	2,469.5	-481.2	-585.6	757.8	0.00	0.00	0.00	
2,680.0	30.80	229.18	2,503.9	-494.5	-601.1	778.2	0.00	0.00	0.00	
2,720.0	30.80	229.18	2,538.2	-507.9	-616.6	798.7	0.00	0.00	0.00	
2,760.0	30.80	229.18	2,572.6	-521.3	-632.1	819.2	0.00	0.00	0.00	
2,800.0	30.80	229.18	2,606.9	-534.7	-647.6	839.7	0.00	0.00	0.00	
2,840.0	30.80	229.18	2,641.3	-548.1	-663.1	860.2	0.00	0.00	0.00	
2,880.0	30.80	229.18	2,675.7	-561.5	-678.6	880.6	0.00	0.00	0.00	
2,920.0	30.80	229.18	2,710.0	-574.9	-694.1	901.1	0.00	0.00	0.00	
2,960.0	30.80	229.18	2,744.4	-588.3	-709.5	921.6	0.00	0.00	0.00	
3,000.0	30.80	229.18	2,778.7	-601.7	-725.0	942.1	0.00	0.00	0.00	
3,040.0	30.80	229.18	2,813.1	-615.0	-740.5	962.5	0.00	0.00	0.00	
3,080.0	30.80	229.18	2,847.5	-628.4	-756.0	983.0	0.00	0.00	0.00	
3,120.0	30.80	229.18	2,881.8	-641.8	-771.5	1,003.5	0.00	0.00	0.00	
3,160.0	30.80	229.18	2,916.2	-655.2	-787.0	1,024.0	0.00	0.00	0.00	
3,200.0	30.80	229.18	2,950.5	-668.6	-802.5	1,044.5	0.00	0.00	0.00	
3,240.0	30.80	229.18	2,984.9	-682.0	-818.0	1,064.9	0.00	0.00	0.00	
3,280.0	30.80	229.18	3,019.2	-695.4	-833.5	1,085.4	0.00	0.00	0.00	
3,320.0	30.80	229.18	3,053.6	-708.8	-849.0	1,105.9	0.00	0.00	0.00	
3,360.0	30.80	229.18	3,088.0	-722.1	-864.5	1,126.4	0.00	0.00	0.00	
3,400.0	30.80	229.18	3,122.3	-735.5	-880.0	1,146.9	0.00	0.00	0.00	
3,440.0	30.80	229.18	3,156.7	-748.9	-895.5	1,167.3	0.00	0.00	0.00	
3,480.0	30.80	229.18	3,191.0	-762.3	-911.0	1,187.8	0.00	0.00	0.00	
3,520.0	30.80	229.18	3,225.4	-775.7	-926.5	1,208.3	0.00	0.00	0.00	
3,560.0	30.80	229.18	3,259.8	-789.1	-942.0	1,228.8	0.00	0.00	0.00	
3,600.0	30.80	229.18	3,294.1	-802.5	-957.5	1,249.3	0.00	0.00	0.00	
3,640.0	30.80	229.18	3,328.5	-815.9	-973.0	1,269.7	0.00	0.00	0.00	
3,680.0	30.80	229.18	3,362.8	-829.2	-988.5	1,290.2	0.00	0.00	0.00	
3,720.0	30.80	229.18	3,397.2	-842.6	-1,004.0	1,310.7	0.00	0.00	0.00	
3,760.0	30.80	229.18	3,431.6	-856.0	-1,019.5	1,331.2	0.00	0.00	0.00	
3,800.0	30.80	229.18	3,465.9	-869.4	-1,035.0	1,351.7	0.00	0.00	0.00	
3,840.0	30.80	229.18	3,500.3	-882.8	-1,050.5	1,372.1	0.00	0.00	0.00	
3,880.0	30.80	229.18	3,534.6	-896.2	-1,066.0	1,392.6	0.00	0.00	0.00	
3,920.0	30.80	229.18	3,569.0	-909.6	-1,081.5	1,413.1	0.00	0.00	0.00	
3,960.0	30.80	229.18	3,603.4	-923.0	-1,097.0	1,433.6	0.00	0.00	0.00	
4,000.0	30.80	229.18	3,637.7	-936.4	-1,112.5	1,454.0	0.00	0.00	0.00	
4,040.0	30.80	229.18	3,672.1	-949.7	-1,128.0	1,474.5	0.00	0.00	0.00	

<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well Booth USX EE35-12D
<b>Company:</b>	NOBLE ENERGY INC WELD COUNTY CO	<b>TVD Reference:</b>	WELL @ 4844.0ft (Original Well Elev)
<b>Project:</b>	SEC.35-T7N-R65W	<b>MD Reference:</b>	WELL @ 4844.0ft (Original Well Elev)
<b>Site:</b>	Booth USX EE35-05D Pad Sec.35-T7N-R65W	<b>North Reference:</b>	True
<b>Well:</b>	Booth USX EE35-12D	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Noble Booth USX EE35-12D Plan #1 (7-13-11)		

Planned 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)
4,080.0	30.80	229.18	3,706.4	-963.1	-1,143.5	1,495.0	0.00	0.00	0.00
4,120.0	30.80	229.18	3,740.8	-976.5	-1,159.0	1,515.5	0.00	0.00	0.00
4,160.0	30.80	229.18	3,775.2	-989.9	-1,174.5	1,536.0	0.00	0.00	0.00
4,200.0	30.80	229.18	3,809.5	-1,003.3	-1,190.0	1,556.4	0.00	0.00	0.00
4,240.0	30.80	229.18	3,843.9	-1,016.7	-1,205.5	1,576.9	0.00	0.00	0.00
4,280.0	30.80	229.18	3,878.2	-1,030.1	-1,221.0	1,597.4	0.00	0.00	0.00
4,320.0	30.80	229.18	3,912.6	-1,043.5	-1,236.5	1,617.9	0.00	0.00	0.00
4,360.0	30.80	229.18	3,947.0	-1,056.8	-1,252.0	1,638.4	0.00	0.00	0.00
4,400.0	30.80	229.18	3,981.3	-1,070.2	-1,267.5	1,658.8	0.00	0.00	0.00
4,440.0	30.80	229.18	4,015.7	-1,083.6	-1,283.0	1,679.3	0.00	0.00	0.00
4,480.0	30.80	229.18	4,050.0	-1,097.0	-1,298.4	1,699.8	0.00	0.00	0.00
4,520.0	30.80	229.18	4,084.4	-1,110.4	-1,313.9	1,720.3	0.00	0.00	0.00
4,560.0	30.80	229.18	4,118.8	-1,123.8	-1,329.4	1,740.8	0.00	0.00	0.00
4,600.0	30.80	229.18	4,153.1	-1,137.2	-1,344.9	1,761.2	0.00	0.00	0.00
4,640.0	30.80	229.18	4,187.5	-1,150.6	-1,360.4	1,781.7	0.00	0.00	0.00
4,680.0	30.80	229.18	4,221.8	-1,164.0	-1,375.9	1,802.2	0.00	0.00	0.00
4,720.0	30.80	229.18	4,256.2	-1,177.3	-1,391.4	1,822.7	0.00	0.00	0.00
4,760.0	30.80	229.18	4,290.6	-1,190.7	-1,406.9	1,843.2	0.00	0.00	0.00
4,800.0	30.80	229.18	4,324.9	-1,204.1	-1,422.4	1,863.6	0.00	0.00	0.00
4,840.0	30.80	229.18	4,359.3	-1,217.5	-1,437.9	1,884.1	0.00	0.00	0.00
4,880.0	30.80	229.18	4,393.6	-1,230.9	-1,453.4	1,904.6	0.00	0.00	0.00
4,920.0	30.80	229.18	4,428.0	-1,244.3	-1,468.9	1,925.1	0.00	0.00	0.00
4,960.0	30.80	229.18	4,462.4	-1,257.7	-1,484.4	1,945.6	0.00	0.00	0.00
5,000.0	30.80	229.18	4,496.7	-1,271.1	-1,499.9	1,966.0	0.00	0.00	0.00
5,040.0	30.80	229.18	4,531.1	-1,284.4	-1,515.4	1,986.5	0.00	0.00	0.00
5,080.0	30.80	229.18	4,565.4	-1,297.8	-1,530.9	2,007.0	0.00	0.00	0.00
5,120.0	30.80	229.18	4,599.8	-1,311.2	-1,546.4	2,027.5	0.00	0.00	0.00
5,160.0	30.80	229.18	4,634.2	-1,324.6	-1,561.9	2,047.9	0.00	0.00	0.00
5,200.0	30.80	229.18	4,668.5	-1,338.0	-1,577.4	2,068.4	0.00	0.00	0.00
5,240.0	30.80	229.18	4,702.9	-1,351.4	-1,592.9	2,088.9	0.00	0.00	0.00
5,280.0	30.80	229.18	4,737.2	-1,364.8	-1,608.4	2,109.4	0.00	0.00	0.00
5,320.0	30.80	229.18	4,771.6	-1,378.2	-1,623.9	2,129.9	0.00	0.00	0.00
5,360.0	30.80	229.18	4,806.0	-1,391.6	-1,639.4	2,150.3	0.00	0.00	0.00
5,400.0	30.80	229.18	4,840.3	-1,404.9	-1,654.9	2,170.8	0.00	0.00	0.00
5,440.0	30.80	229.18	4,874.7	-1,418.3	-1,670.4	2,191.3	0.00	0.00	0.00
5,480.0	30.80	229.18	4,909.0	-1,431.7	-1,685.9	2,211.8	0.00	0.00	0.00
5,520.0	30.80	229.18	4,943.4	-1,445.1	-1,701.4	2,232.3	0.00	0.00	0.00
5,560.0	30.80	229.18	4,977.8	-1,458.5	-1,716.9	2,252.7	0.00	0.00	0.00
5,600.0	30.80	229.18	5,012.1	-1,471.9	-1,732.4	2,273.2	0.00	0.00	0.00
5,640.0	30.80	229.18	5,046.5	-1,485.3	-1,747.9	2,293.7	0.00	0.00	0.00
5,680.0	30.80	229.18	5,080.8	-1,498.7	-1,763.4	2,314.2	0.00	0.00	0.00
5,720.0	30.80	229.18	5,115.2	-1,512.0	-1,778.9	2,334.7	0.00	0.00	0.00
5,760.0	30.80	229.18	5,149.5	-1,525.4	-1,794.4	2,355.1	0.00	0.00	0.00
5,800.0	30.80	229.18	5,183.9	-1,538.8	-1,809.9	2,375.6	0.00	0.00	0.00
5,840.0	30.80	229.18	5,218.3	-1,552.2	-1,825.4	2,396.1	0.00	0.00	0.00
5,880.0	30.80	229.18	5,252.6	-1,565.6	-1,840.9	2,416.6	0.00	0.00	0.00
5,920.0	30.80	229.18	5,287.0	-1,579.0	-1,856.4	2,437.1	0.00	0.00	0.00
5,960.0	30.80	229.18	5,321.3	-1,592.4	-1,871.9	2,457.5	0.00	0.00	0.00
6,000.0	30.80	229.18	5,355.7	-1,605.8	-1,887.4	2,478.0	0.00	0.00	0.00
6,040.0	30.80	229.18	5,390.1	-1,619.2	-1,902.8	2,498.5	0.00	0.00	0.00
6,080.0	30.80	229.18	5,424.4	-1,632.5	-1,918.3	2,519.0	0.00	0.00	0.00
6,120.0	30.80	229.18	5,458.8	-1,645.9	-1,933.8	2,539.4	0.00	0.00	0.00
6,160.0	30.80	229.18	5,493.1	-1,659.3	-1,949.3	2,559.9	0.00	0.00	0.00



<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well Booth USX EE35-12D
<b>Company:</b>	NOBLE ENERGY INC WELD COUNTY CO	<b>TVD Reference:</b>	WELL @ 4844.0ft (Original Well Elev)
<b>Project:</b>	SEC.35-T7N-R65W	<b>MD Reference:</b>	WELL @ 4844.0ft (Original Well Elev)
<b>Site:</b>	Booth USX EE35-05D Pad Sec.35-T7N-R65W	<b>North Reference:</b>	True
<b>Well:</b>	Booth USX EE35-12D	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Noble Booth USX EE35-12D Plan #1 (7-13-11)		

Planned 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)
6,200.0	30.80	229.18	5,527.5	-1,672.7	-1,964.8	2,580.4	0.00	0.00	0.00
6,240.0	30.80	229.18	5,561.9	-1,686.1	-1,980.3	2,600.9	0.00	0.00	0.00
6,280.0	30.80	229.18	5,596.2	-1,699.5	-1,995.8	2,621.4	0.00	0.00	0.00
6,320.0	30.80	229.18	5,630.6	-1,712.9	-2,011.3	2,641.8	0.00	0.00	0.00
6,360.0	30.80	229.18	5,664.9	-1,726.3	-2,026.8	2,662.3	0.00	0.00	0.00
6,400.0	30.80	229.18	5,699.3	-1,739.6	-2,042.3	2,682.8	0.00	0.00	0.00
6,440.0	30.80	229.18	5,733.7	-1,753.0	-2,057.8	2,703.3	0.00	0.00	0.00
6,480.0	30.80	229.18	5,768.0	-1,766.4	-2,073.3	2,723.8	0.00	0.00	0.00
6,520.0	30.80	229.18	5,802.4	-1,779.8	-2,088.8	2,744.2	0.00	0.00	0.00
6,560.0	30.80	229.18	5,836.7	-1,793.2	-2,104.3	2,764.7	0.00	0.00	0.00
6,600.0	30.80	229.18	5,871.1	-1,806.6	-2,119.8	2,785.2	0.00	0.00	0.00
6,640.0	30.80	229.18	5,905.5	-1,820.0	-2,135.3	2,805.7	0.00	0.00	0.00
6,680.0	30.80	229.18	5,939.8	-1,833.4	-2,150.8	2,826.2	0.00	0.00	0.00
6,720.0	30.80	229.18	5,974.2	-1,846.7	-2,166.3	2,846.6	0.00	0.00	0.00
6,760.0	30.80	229.18	6,008.5	-1,860.1	-2,181.8	2,867.1	0.00	0.00	0.00
6,800.0	30.80	229.18	6,042.9	-1,873.5	-2,197.3	2,887.6	0.00	0.00	0.00
6,840.0	30.80	229.18	6,077.3	-1,886.9	-2,212.8	2,908.1	0.00	0.00	0.00
6,880.0	30.80	229.18	6,111.6	-1,900.3	-2,228.3	2,928.6	0.00	0.00	0.00
6,881.7	30.80	229.18	6,113.1	-1,900.9	-2,228.9	2,929.4	0.00	0.00	0.00
6,920.0	30.03	229.18	6,146.1	-1,913.5	-2,243.6	2,948.8	2.00	-2.00	0.00
6,960.0	29.23	229.18	6,180.9	-1,926.5	-2,258.6	2,968.6	2.00	-2.00	0.00
7,000.0	28.43	229.18	6,215.9	-1,939.1	-2,273.2	2,987.9	2.00	-2.00	0.00
7,040.0	27.63	229.18	6,251.2	-1,951.4	-2,287.4	3,006.7	2.00	-2.00	0.00
7,080.0	26.83	229.18	6,286.8	-1,963.3	-2,301.3	3,025.0	2.00	-2.00	0.00
7,120.0	26.03	229.18	6,322.6	-1,975.0	-2,314.7	3,042.8	2.00	-2.00	0.00
7,160.0	25.23	229.18	6,358.7	-1,986.3	-2,327.8	3,060.1	2.00	-2.00	0.00
7,200.0	24.43	229.18	6,395.0	-1,997.3	-2,340.5	3,076.9	2.00	-2.00	0.00
7,240.0	23.63	229.18	6,431.5	-2,007.9	-2,352.9	3,093.2	2.00	-2.00	0.00
7,280.0	22.83	229.18	6,468.3	-2,018.2	-2,364.8	3,108.9	2.00	-2.00	0.00
7,320.0	22.03	229.18	6,505.2	-2,028.2	-2,376.4	3,124.2	2.00	-2.00	0.00
7,360.0	21.23	229.18	6,542.4	-2,037.8	-2,387.5	3,138.9	2.00	-2.00	0.00
7,400.0	20.43	229.18	6,579.8	-2,047.1	-2,398.3	3,153.2	2.00	-2.00	0.00
7,411.8	20.19	229.18	6,590.9	-2,049.8	-2,401.4	3,157.3	2.00	-2.00	0.00
<b>BHL 2100'FSL, 660'FWL</b>									
7,421.5	20.00	229.18	6,600.0	-2,052.0	-2,403.9	3,160.6	2.00	-2.00	0.00
<b>DRILL TARGET 2259'FSL, 845'FWL</b>									
7,440.0	20.00	229.18	6,617.4	-2,056.1	-2,408.7	3,166.9	0.00	0.00	0.00
7,480.0	20.00	229.18	6,655.0	-2,065.1	-2,419.0	3,180.6	0.00	0.00	0.00
7,520.0	20.00	229.18	6,692.5	-2,074.0	-2,429.4	3,194.3	0.00	0.00	0.00
7,560.0	20.00	229.18	6,730.1	-2,083.0	-2,439.7	3,208.0	0.00	0.00	0.00
7,600.0	20.00	229.18	6,767.7	-2,091.9	-2,450.1	3,221.7	0.00	0.00	0.00
7,640.0	20.00	229.18	6,805.3	-2,100.8	-2,460.5	3,235.3	0.00	0.00	0.00
7,643.9	20.00	229.18	6,809.0	-2,101.7	-2,461.5	3,236.7	0.00	0.00	0.00
<b>Niobrara</b>									
7,680.0	20.00	229.18	6,842.9	-2,109.8	-2,470.8	3,249.0	0.00	0.00	0.00
7,692.3	20.00	229.18	6,854.4	-2,112.5	-2,474.0	3,253.2	0.00	0.00	0.00
<b>LEGAL BOX 400' X 400' 2133'FSL &amp; 666'FWL</b>									
7,701.2	20.00	229.18	6,862.8	-2,114.5	-2,476.3	3,256.3	0.00	0.00	0.00
<b>TARGET CIRCLE 2100'FSL &amp; 660'FWL</b>									
7,720.0	20.00	229.18	6,880.5	-2,118.7	-2,481.2	3,262.7	0.00	0.00	0.00
7,760.0	20.00	229.18	6,918.1	-2,127.7	-2,491.5	3,276.4	0.00	0.00	0.00
7,800.0	20.00	229.18	6,955.7	-2,136.6	-2,501.9	3,290.1	0.00	0.00	0.00

<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well Booth USX EE35-12D
<b>Company:</b>	NOBLE ENERGY INC WELD COUNTY CO	<b>TVD Reference:</b>	WELL @ 4844.0ft (Original Well Elev)
<b>Project:</b>	SEC.35-T7N-R65W	<b>MD Reference:</b>	WELL @ 4844.0ft (Original Well Elev)
<b>Site:</b>	Booth USX EE35-05D Pad Sec.35-T7N-R65W	<b>North Reference:</b>	True
<b>Well:</b>	Booth USX EE35-12D	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Noble Booth USX EE35-12D Plan #1 (7-13-11)		

**Planned 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)
7,840.0	20.00	229.18	6,993.2	-2,145.6	-2,512.2	3,303.7	0.00	0.00	0.00
7,880.0	20.00	229.18	7,030.8	-2,154.5	-2,522.6	3,317.4	0.00	0.00	0.00
7,920.0	20.00	229.18	7,068.4	-2,163.4	-2,532.9	3,331.1	0.00	0.00	0.00
7,960.0	20.00	229.18	7,106.0	-2,172.4	-2,543.3	3,344.8	0.00	0.00	0.00
7,973.8	20.00	229.18	7,119.0	-2,175.5	-2,546.9	3,349.5	0.00	0.00	0.00
<b>Codell</b>									
8,000.0	20.00	229.18	7,143.6	-2,181.3	-2,553.6	3,358.5	0.00	0.00	0.00
8,040.0	20.00	229.18	7,181.2	-2,190.3	-2,564.0	3,372.1	0.00	0.00	0.00
8,080.0	20.00	229.18	7,218.8	-2,199.2	-2,574.3	3,385.8	0.00	0.00	0.00
8,120.0	20.00	229.18	7,256.4	-2,208.2	-2,584.7	3,399.5	0.00	0.00	0.00
8,133.4	20.00	229.18	7,269.0	-2,211.2	-2,588.2	3,404.1	0.00	0.00	0.00

**Targets**
**Target Name**

- hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
DRILL TARGET 2259 - plan hits target center - Point	0.00	0.00	6,600.0	-2,052.0	-2,403.9	1,436,780.90	3,239,982.38	40.529157	-104.636677
TARGET CIRCLE 210 - plan misses target center by 157.3ft at 7701.2ft MD (6862.8 TVD, -2114.5 N, -2476.3 E) - Circle (radius 75.0)	0.00	0.00	6,809.0	-2,211.3	-2,588.1	1,436,619.82	3,239,799.77	40.528720	-104.637340
LEGAL BOX 400' X 400' - plan misses target center by 134.5ft at 7692.3ft MD (6854.4 TVD, -2112.5 N, -2474.0 E) - Rectangle (sides W400.0 H400.0 D460.0)	0.00	0.00	6,809.0	-2,178.3	-2,582.1	1,436,652.86	3,239,805.44	40.528811	-104.637318
BHL 2100'FSL, 660'F - plan misses target center by 263.0ft at 7411.8ft MD (6590.9 TVD, -2049.8 N, -2401.4 E) - Point	0.00	0.00	6,500.0	-2,211.3	-2,588.1	1,436,619.82	3,239,799.77	40.528720	-104.637340

**Casing Points**

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")
796.2	795.0	8 5/8"	8-5/8	12-1/4

**Formations**

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
7,643.9	6,809.0	Niobrara		0.00	
7,973.8	7,119.0	Codell		0.00	