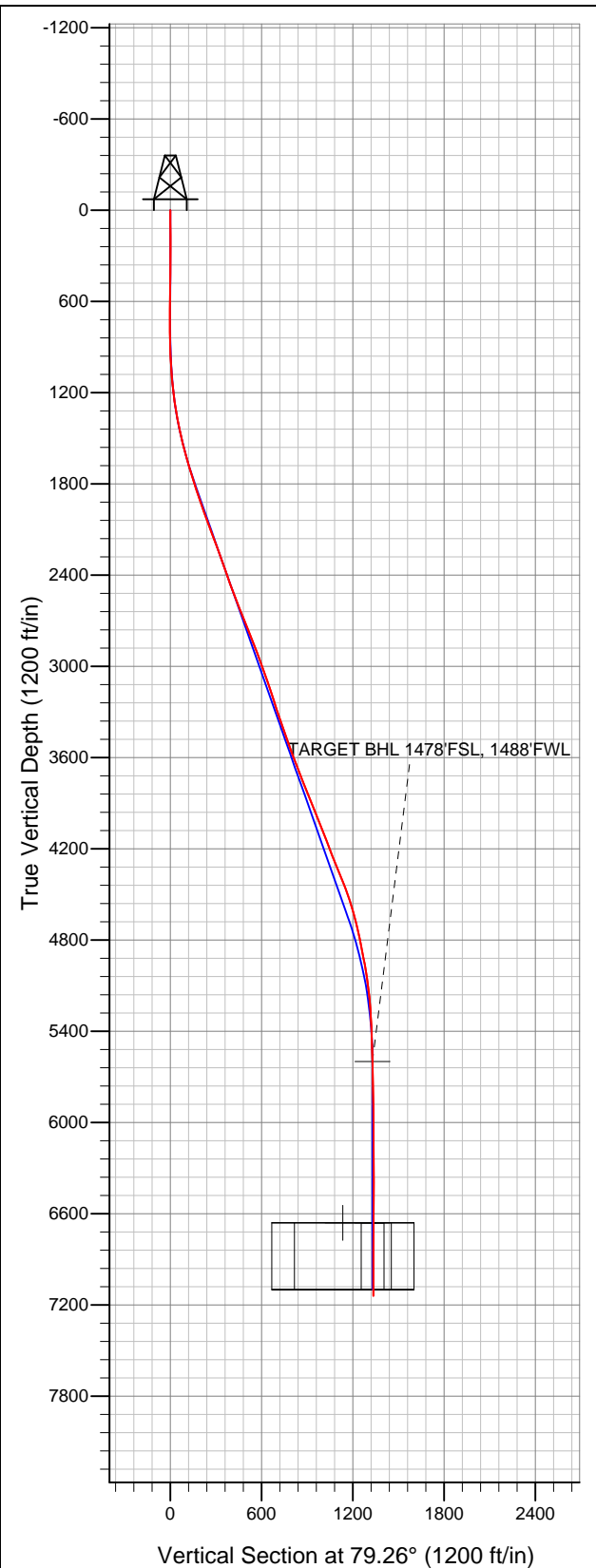


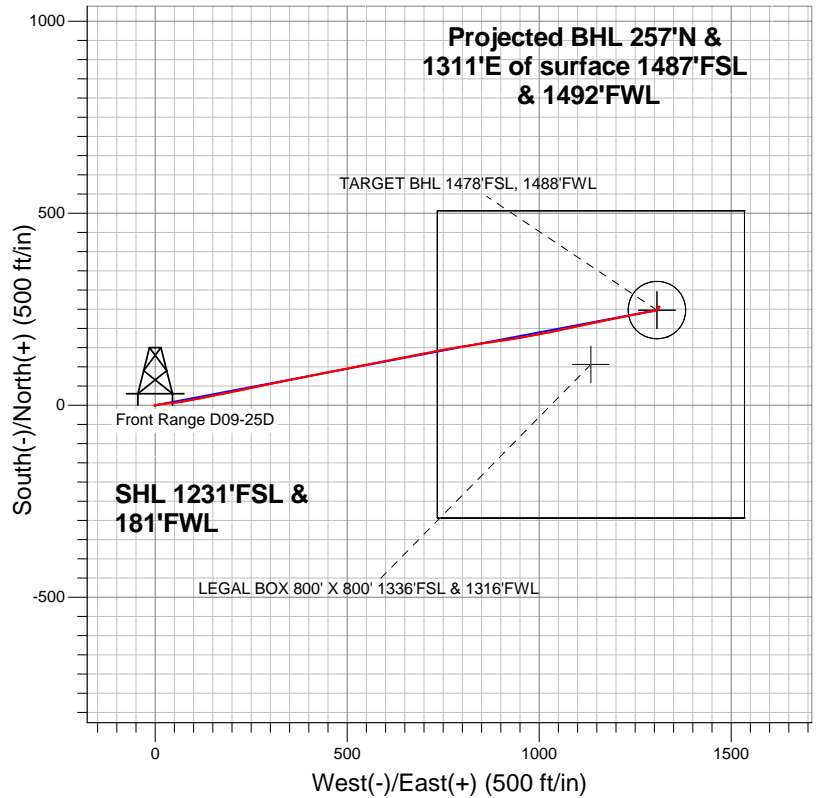
**Well Name: Front Range D09-25D**

Surface Location: Front Range D09-25D Pad Sec.9-T3N-R64W  
North American Datum 1983 US State Plane 1983Colorado Northern Zone  
Ground Elevation: 4737.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1330215.09	3261065.56	40.236060	-104.564880	
Original Well Elev		WELL @ 4750.0ft (Original Well Elev)				



**NOBLE ENERGY INC WELD COUNTY CO**



- LEGEND**
- Wellbore #1
  - Front Range D09-25D, Wellbore #1, Noble Front Range D09-25D Plan #1 (5-26-12) R V0
  - Survey #1

**Final Survey Plot**

Projected Final Survey -  
7358'MD & 7141'TVD @ 1336'VS  
0.30 deg Inc 339.00 deg AZ

Project: SEC.9-T3N-R64W  
Site: Front Range D09-25D Pad Sec.9-T3N-R64W  
Well: Front Range D09-25D  
Plan: Wellbore #1



# **NOBLE ENERGY INC WELD COUNTY CO**

**SEC.9-T3N-R64W**

**Front Range D09-25D Pad Sec.9-T3N-R64W**

**Front Range D09-25D**

**Wellbore #1**

**Survey: Survey #1**

## **Standard Survey Report**

**06 June, 2012**



<b>Company:</b>	NOBLE ENERGY INC WELD COUNTY CO	<b>Local Co-ordinate Reference:</b>	Well Front Range D09-25D
<b>Project:</b>	SEC.9-T3N-R64W	<b>TVD Reference:</b>	WELL @ 4750.0ft (Original Well Elev)
<b>Site:</b>	Front Range D09-25D Pad Sec.9-T3N-R64W	<b>MD Reference:</b>	WELL @ 4750.0ft (Original Well Elev)
<b>Well:</b>	Front Range D09-25D	<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.9-T3N-R64W, 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>	Front Range D09-25D Pad Sec.9-T3N-R64W		
<b>Site Position:</b>		<b>Northing:</b>	1,330,215.10ft
<b>From:</b>	Lat/Long	<b>Easting:</b>	3,261,065.56ft
<b>Position Uncertainty:</b>	0.0 ft	<b>Slot Radius:</b>	"
		<b>Latitude:</b>	40.236060
		<b>Longitude:</b>	-104.564880
		<b>Grid Convergence:</b>	0.60 °

<b>Well</b>	Front Range D09-25D		
<b>Well Position</b>	<b>+N/-S</b>	0.0 ft	<b>Northing:</b> 1,330,215.09 ft
	<b>+E/-W</b>	0.0 ft	<b>Easting:</b> 3,261,065.56 ft
<b>Position Uncertainty</b>	0.0 ft	<b>Wellhead Elevation:</b>	ft
		<b>Latitude:</b>	40.236060
		<b>Longitude:</b>	-104.564880
		<b>Ground Level:</b>	4,737.0 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	5/26/2012	8.62	66.92	52,968

<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>	
	5,600.0	0.0	0.0	79.26	

<b>Survey Program</b>	<b>Date</b>	6/6/2012			
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
77.0	7,358.0	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	
77.0	0.80	46.30	77.0	0.4	0.4	0.5	1.04	1.04	0.00	
167.0	0.40	157.00	167.0	0.5	1.0	1.0	1.13	-0.44	123.00	
257.0	0.30	257.10	257.0	0.2	0.9	0.9	0.60	-0.11	111.22	
373.0	0.10	267.80	373.0	0.1	0.5	0.5	0.17	-0.17	9.22	
501.0	0.40	244.40	501.0	-0.1	-0.1	-0.1	0.24	0.23	-18.28	
628.0	0.40	257.60	628.0	-0.4	-0.9	-0.9	0.07	0.00	10.39	
707.0	0.40	248.40	707.0	-0.5	-1.4	-1.5	0.08	0.00	-11.65	
769.0	0.50	248.60	769.0	-0.7	-1.9	-2.0	0.16	0.16	0.32	
897.0	1.60	82.80	897.0	-0.7	-0.6	-0.7	1.63	0.86	-129.53	
1,025.0	3.50	74.40	1,024.8	0.6	4.9	4.9	1.51	1.48	-6.56	
1,154.0	6.20	81.80	1,153.4	2.6	15.6	15.8	2.14	2.09	5.74	
1,282.0	8.50	85.30	1,280.3	4.4	31.9	32.1	1.83	1.80	2.73	

<b>Company:</b>	NOBLE ENERGY INC WELD COUNTY CO	<b>Local Co-ordinate Reference:</b>	Well Front Range D09-25D
<b>Project:</b>	SEC.9-T3N-R64W	<b>TVD Reference:</b>	WELL @ 4750.0ft (Original Well Elev)
<b>Site:</b>	Front Range D09-25D Pad Sec.9-T3N-R64W	<b>MD Reference:</b>	WELL @ 4750.0ft (Original Well Elev)
<b>Well:</b>	Front Range D09-25D	<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)
1,411.0	11.60	83.20	1,407.3	6.7	54.3	54.6	2.42	2.40	-1.63
1,539.0	13.50	79.00	1,532.3	11.1	81.7	82.4	1.65	1.48	-3.28
1,667.0	16.00	79.00	1,656.0	17.3	113.7	114.9	1.95	1.95	0.00
1,796.0	17.60	78.60	1,779.5	24.5	150.3	152.2	1.24	1.24	-0.31
1,924.0	18.80	78.80	1,901.1	32.4	189.5	192.2	0.94	0.94	0.16
2,053.0	20.40	77.40	2,022.6	41.3	231.8	235.5	1.29	1.24	-1.09
2,181.0	20.70	79.10	2,142.5	50.5	275.8	280.4	0.52	0.23	1.33
2,309.0	19.60	79.30	2,262.6	58.7	319.1	324.5	0.86	-0.86	0.16
2,438.0	19.50	77.20	2,384.2	67.5	361.4	367.6	0.55	-0.08	-1.63
2,566.0	20.20	79.00	2,504.6	76.5	403.9	411.1	0.73	0.55	1.41
2,695.0	22.20	78.80	2,624.9	85.5	449.7	457.7	1.55	1.55	-0.16
2,823.0	21.10	78.10	2,743.8	94.9	495.9	504.9	0.88	-0.86	-0.55
2,951.0	22.10	79.30	2,862.9	104.1	542.1	552.1	0.85	0.78	0.94
3,080.0	20.00	79.50	2,983.2	112.6	587.7	598.4	1.63	-1.63	0.16
3,208.0	19.10	78.80	3,103.9	120.7	629.8	641.2	0.73	-0.70	-0.55
3,337.0	17.20	79.90	3,226.4	128.1	669.2	681.4	1.50	-1.47	0.85
3,465.0	18.90	78.40	3,348.1	135.6	708.2	721.1	1.38	1.33	-1.17
3,593.0	19.70	79.30	3,468.9	143.8	749.7	763.4	0.67	0.63	0.70
3,722.0	20.10	80.60	3,590.2	151.5	792.9	807.3	0.46	0.31	1.01
3,850.0	21.40	81.80	3,709.9	158.4	837.7	852.6	1.07	1.02	0.94
3,979.0	22.20	81.10	3,829.7	165.5	885.1	900.4	0.65	0.62	-0.54
4,107.0	21.40	80.70	3,948.5	173.0	932.0	948.0	0.64	-0.63	-0.31
4,235.0	22.40	80.70	4,067.3	180.7	979.2	995.7	0.78	0.78	0.00
4,364.0	20.80	77.60	4,187.2	189.6	1,025.8	1,043.2	1.52	-1.24	-2.40
4,492.0	22.50	78.80	4,306.2	199.3	1,072.0	1,090.4	1.37	1.33	0.94
4,621.0	21.80	77.40	4,425.7	209.3	1,119.6	1,139.0	0.68	-0.54	-1.09
4,749.0	17.20	77.70	4,546.3	218.5	1,161.3	1,181.7	3.59	-3.59	0.23
4,877.0	14.90	79.70	4,669.3	225.5	1,196.0	1,217.1	1.85	-1.80	1.56
5,006.0	11.50	78.30	4,794.9	231.1	1,224.9	1,246.5	2.65	-2.64	-1.09
5,134.0	10.80	78.80	4,920.5	236.0	1,249.2	1,271.3	0.55	-0.55	0.39
5,263.0	8.70	79.90	5,047.6	240.0	1,270.6	1,293.1	1.63	-1.63	0.85
5,391.0	5.60	79.50	5,174.6	242.9	1,286.3	1,309.0	2.42	-2.42	-0.31
5,519.0	3.40	77.90	5,302.2	244.8	1,296.2	1,319.1	1.72	-1.72	-1.25
5,648.0	2.30	79.10	5,431.0	246.1	1,302.5	1,325.5	0.85	-0.85	0.93
5,776.0	1.60	39.80	5,559.0	248.0	1,306.1	1,329.4	1.15	-0.55	-30.70
5,817.0	1.50	41.53	5,600.0	248.8	1,306.8	1,330.3	0.26	-0.24	4.22
<b>TARGET BHL 1478'FSL, 1488'FWL</b>									
5,905.0	1.30	46.10	5,687.9	250.4	1,308.3	1,332.1	0.26	-0.23	5.19
6,033.0	1.00	51.90	5,815.9	252.1	1,310.2	1,334.3	0.25	-0.23	4.53
6,161.0	0.60	59.10	5,943.9	253.1	1,311.7	1,335.9	0.32	-0.31	5.63
6,290.0	0.40	51.00	6,072.9	253.7	1,312.6	1,336.9	0.16	-0.16	-6.28
6,418.0	0.40	26.40	6,200.9	254.4	1,313.2	1,337.6	0.13	0.00	-19.22
6,547.0	0.20	16.20	6,329.9	255.0	1,313.4	1,338.0	0.16	-0.16	-7.91
6,675.0	0.40	356.50	6,457.9	255.7	1,313.5	1,338.1	0.17	0.16	-15.39
6,803.0	0.40	233.50	6,585.9	255.9	1,313.1	1,337.8	0.55	0.00	-96.09
6,877.2	0.34	271.16	6,660.1	255.7	1,312.7	1,337.3	0.33	-0.08	50.77
<b>TARGET CIRCLE 1478'FSL &amp; 1488'FWL</b>									
6,878.2	0.34	271.75	6,661.1	255.7	1,312.7	1,337.3	0.33	0.03	55.49
<b>LEGAL BOX 800' X 800' 1336'FSL &amp; 1316'FWL</b>									
6,932.0	0.40	298.00	6,714.9	255.8	1,312.3	1,337.0	0.33	0.11	48.83
7,060.0	0.30	283.80	6,842.9	256.1	1,311.6	1,336.4	0.10	-0.08	-11.09
7,189.0	0.20	328.60	6,971.9	256.4	1,311.2	1,336.0	0.16	-0.08	34.73
7,311.0	0.30	339.70	7,093.9	256.9	1,310.9	1,335.8	0.09	0.08	9.10
7,358.0	0.30	339.00	7,140.9	257.1	1,310.9	1,335.8	0.01	0.00	-1.49

<b>Company:</b>	NOBLE ENERGY INC WELD COUNTY CO	<b>Local Co-ordinate Reference:</b>	Well Front Range D09-25D
<b>Project:</b>	SEC.9-T3N-R64W	<b>TVD Reference:</b>	WELL @ 4750.0ft (Original Well Elev)
<b>Site:</b>	Front Range D09-25D Pad Sec.9-T3N-R64W	<b>MD Reference:</b>	WELL @ 4750.0ft (Original Well Elev)
<b>Well:</b>	Front Range D09-25D	<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)

Checked By: _____	Approved By: _____	Date: _____
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