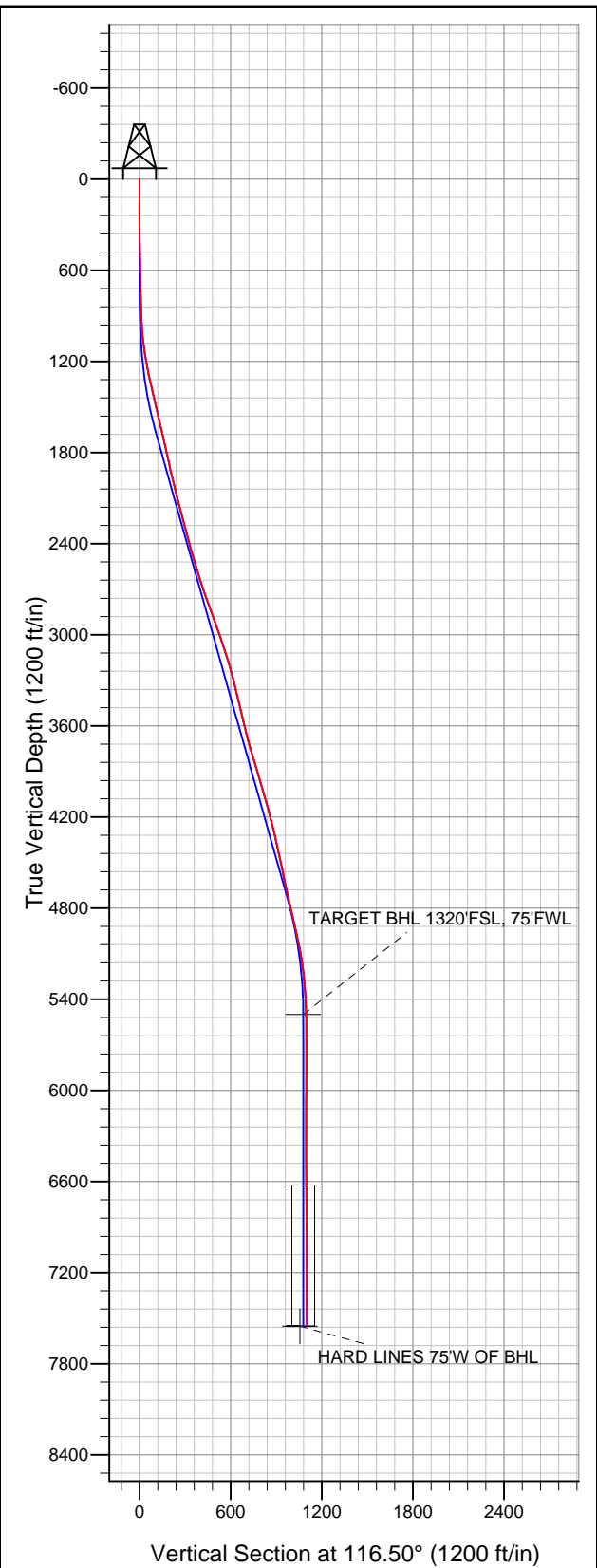




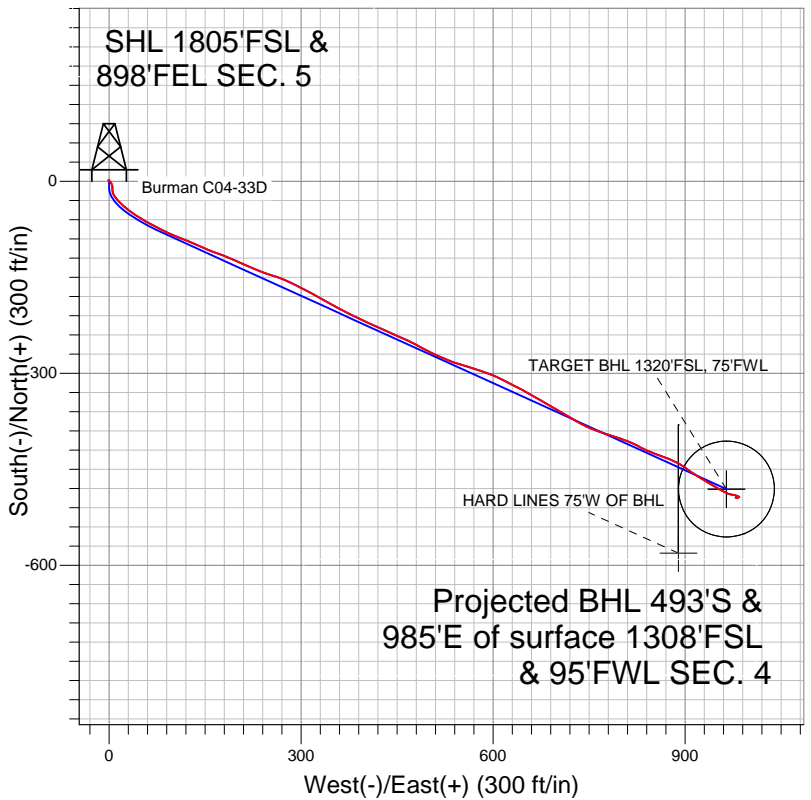
# Well Name: Burman C04-33D

Surface Location: Burman C04-33D Pad Sec.5-T4N-R64W  
North American Datum 1983 US State Plane 1983Colorado Northern Zone  
Ground Elevation: 4750.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1367739.91	3259777.75	40.339100	-104.568080	
Original Well EleWELL @ 4763.0ft (Original Well Elev)						



## NOBLE ENERGY INC WELD COUNTY CO



### LEGEND

- △ Burman C04-33D, Wellbore #1, Noble Burman C04-33D Plan #1 (6-15-11) V0
- Wellbore #1
- Survey #1

## Final Survey Plot

Projected Final Survey -  
7688'MD & 7548'TVD @ 1101' VS  
0.5 deg Inc 120.0 deg AZ

Project: SEC.5-T4N-R64W  
Site: Burman C04-33D Pad Sec.5-T4N-R64W  
Well: Burman C04-33D  
Plan: Wellbore #1



# **NOBLE ENERGY INC WELD COUNTY CO**

**SEC.5-T4N-R64W**

**Burman C04-33D Pad Sec.5-T4N-R64W**

**Burman C04-33D**

**Wellbore #1**

**Survey: Survey #1**

## **Standard Survey Report**

**03 October, 2011**



<b>Company:</b>	NOBLE ENERGY INC WELD COUNTY CO	<b>Local Co-ordinate Reference:</b>	Well Burman C04-33D
<b>Project:</b>	SEC.5-T4N-R64W	<b>TVD Reference:</b>	WELL @ 4763.0ft (Original Well Elev)
<b>Site:</b>	Burman C04-33D Pad Sec.5-T4N-R64W	<b>MD Reference:</b>	WELL @ 4763.0ft (Original Well Elev)
<b>Well:</b>	Burman C04-33D	<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.5-T4N-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>	Burman C04-33D Pad Sec.5-T4N-R64W		
<b>Site Position:</b>		<b>Northing:</b>	1,367,739.92 ft
<b>From:</b>	Lat/Long	<b>Easting:</b>	3,259,777.75 ft
<b>Position Uncertainty:</b>	0.0 ft	<b>Slot Radius:</b>	"
		<b>Latitude:</b>	40.339100
		<b>Longitude:</b>	-104.568080
		<b>Grid Convergence:</b>	0.60 °

<b>Well</b>	Burman C04-33D		
<b>Well Position</b>	<b>+N/-S</b>	0.0 ft	<b>Northing:</b> 1,367,739.91 ft
	<b>+E/-W</b>	0.0 ft	<b>Easting:</b> 3,259,777.75 ft
<b>Position Uncertainty</b>	0.0 ft	<b>Wellhead Elevation:</b>	ft
		<b>Latitude:</b>	40.339100
		<b>Longitude:</b>	-104.568080
		<b>Ground Level:</b>	4,750.0 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	9/23/2011	8.72	67.02	53,092

<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>	
	5,500.0	0.0	0.0	116.50	

<b>Survey Program</b>	<b>Date</b>	10/3/2011			
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
104.0	7,688.0	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	
104.0	1.00	331.30	104.0	0.8	-0.4	-0.7	0.96	0.96	0.00	
165.0	0.70	322.50	165.0	1.6	-0.9	-1.5	0.53	-0.49	-14.43	
198.0	0.60	325.90	198.0	1.9	-1.1	-1.8	0.32	-0.30	10.30	
260.0	0.40	102.10	260.0	2.1	-1.1	-1.9	1.50	-0.32	219.68	
322.0	0.60	139.70	322.0	1.8	-0.7	-1.4	0.60	0.32	60.65	
404.0	0.90	124.20	404.0	1.1	0.1	-0.4	0.44	0.37	-18.90	
485.0	1.30	144.30	485.0	0.0	1.2	1.1	0.68	0.49	24.81	
567.0	1.70	150.80	566.9	-1.8	2.3	2.9	0.53	0.49	7.93	
649.0	1.80	147.80	648.9	-4.0	3.6	5.0	0.17	0.12	-3.66	
659.0	1.50	154.80	658.9	-4.2	3.7	5.2	3.61	-3.00	70.00	
750.0	1.30	152.20	749.9	-6.2	4.7	7.0	0.23	-0.22	-2.86	
831.0	3.00	184.00	830.8	-9.1	5.0	8.6	2.49	2.10	39.26	

<b>Company:</b>	NOBLE ENERGY INC WELD COUNTY CO	<b>Local Co-ordinate Reference:</b>	Well Burman C04-33D
<b>Project:</b>	SEC.5-T4N-R64W	<b>TVD Reference:</b>	WELL @ 4763.0ft (Original Well Elev)
<b>Site:</b>	Burman C04-33D Pad Sec.5-T4N-R64W	<b>MD Reference:</b>	WELL @ 4763.0ft (Original Well Elev)
<b>Well:</b>	Burman C04-33D	<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)	
913.0	4.70	174.00	912.6	-14.6	5.2	11.2	2.22	2.07	-12.20	
995.0	5.80	151.50	994.3	-21.6	7.5	16.4	2.82	1.34	-27.44	
1,077.0	7.70	137.60	1,075.7	-29.3	13.2	24.9	3.04	2.32	-16.95	
1,158.0	9.20	133.70	1,155.8	-37.8	21.6	36.2	1.98	1.85	-4.81	
1,240.0	10.50	125.10	1,236.6	-46.6	32.4	49.8	2.39	1.59	-10.49	
1,322.0	12.20	122.80	1,317.0	-55.6	45.8	65.8	2.15	2.07	-2.80	
1,404.0	13.20	118.40	1,397.0	-64.7	61.3	83.8	1.70	1.22	-5.37	
1,485.0	13.90	117.60	1,475.8	-73.7	78.1	102.7	0.89	0.86	-0.99	
1,567.0	12.60	114.70	1,555.6	-82.0	94.9	121.5	1.78	-1.59	-3.54	
1,649.0	13.00	109.80	1,635.5	-88.8	111.7	139.6	1.41	0.49	-5.98	
1,730.0	13.40	114.00	1,714.4	-95.7	128.9	158.1	1.28	0.49	5.19	
1,812.0	12.80	113.70	1,794.3	-103.2	145.9	176.6	0.74	-0.73	-0.37	
1,894.0	12.00	110.40	1,874.4	-109.9	162.2	194.2	1.30	-0.98	-4.02	
1,976.0	13.60	110.70	1,954.3	-116.2	179.2	212.2	1.95	1.95	0.37	
2,057.0	13.90	113.90	2,033.0	-123.5	197.0	231.4	1.01	0.37	3.95	
2,139.0	14.90	114.60	2,112.4	-131.9	215.6	251.8	1.24	1.22	0.85	
2,221.0	14.90	111.90	2,191.7	-140.2	235.0	272.9	0.85	0.00	-3.29	
2,303.0	14.00	106.00	2,271.1	-146.9	254.3	293.1	2.10	-1.10	-7.20	
2,384.0	15.00	112.80	2,349.5	-153.7	273.4	313.2	2.44	1.23	8.40	
2,466.0	16.60	117.70	2,428.4	-163.2	293.5	335.5	2.54	1.95	5.98	
2,548.0	16.90	117.40	2,506.9	-174.2	314.5	359.2	0.38	0.37	-0.37	
2,630.0	16.90	120.40	2,585.4	-185.7	335.3	383.0	1.06	0.00	3.66	
2,711.0	17.10	117.60	2,662.8	-197.2	356.1	406.6	1.04	0.25	-3.46	
2,793.0	19.70	116.00	2,740.6	-208.8	379.2	432.5	3.23	3.17	-1.95	
2,875.0	20.00	115.40	2,817.8	-220.9	404.3	460.3	0.44	0.37	-0.73	
2,957.0	20.40	113.30	2,894.7	-232.5	430.0	488.6	1.01	0.49	-2.56	
3,038.0	18.40	114.00	2,971.1	-243.3	454.7	515.5	2.49	-2.47	0.86	
3,120.0	19.90	117.70	3,048.6	-255.1	478.9	542.4	2.35	1.83	4.51	
3,202.0	18.00	116.50	3,126.1	-267.2	502.6	569.0	2.37	-2.32	-1.46	
3,284.0	16.10	112.80	3,204.5	-277.3	524.4	593.0	2.67	-2.32	-4.51	
3,365.0	14.10	108.00	3,282.7	-284.7	544.1	614.0	2.91	-2.47	-5.93	
3,447.0	13.70	106.70	3,362.3	-290.6	562.9	633.4	0.62	-0.49	-1.59	
3,529.0	13.60	108.90	3,442.0	-296.5	581.4	652.6	0.64	-0.12	2.68	
3,610.0	13.80	111.90	3,520.7	-303.2	599.3	671.6	0.91	0.25	3.70	
3,692.0	13.50	117.60	3,600.4	-311.2	616.9	691.0	1.68	-0.37	6.95	
3,774.0	14.20	116.30	3,680.0	-320.1	634.4	710.6	0.93	0.85	-1.59	
3,856.0	16.30	120.20	3,759.1	-330.4	653.4	732.1	2.85	2.56	4.76	
3,937.0	16.90	119.50	3,836.8	-341.9	673.4	755.2	0.78	0.74	-0.86	
4,019.0	17.50	120.20	3,915.1	-354.0	694.5	779.4	0.77	0.73	0.85	
4,101.0	16.60	120.50	3,993.5	-366.1	715.2	803.4	1.10	-1.10	0.37	
4,183.0	14.00	119.70	4,072.6	-377.0	733.9	825.0	3.18	-3.17	-0.98	
4,264.0	15.00	112.10	4,151.0	-385.8	752.1	845.2	2.65	1.23	-9.38	
4,346.0	15.80	108.10	4,230.1	-393.2	772.6	866.9	1.62	0.98	-4.88	
4,428.0	14.30	108.90	4,309.2	-400.0	792.8	888.0	1.85	-1.83	0.98	
4,510.0	11.50	110.00	4,389.2	-406.1	810.0	906.1	3.43	-3.41	1.34	
4,591.0	12.40	117.60	4,468.4	-412.9	825.3	922.8	2.24	1.11	9.38	
4,673.0	12.30	115.80	4,548.5	-420.7	841.0	940.4	0.49	-0.12	-2.20	
4,755.0	10.50	109.80	4,628.9	-427.1	855.9	956.5	2.63	-2.20	-7.32	
4,837.0	13.30	109.30	4,709.1	-432.7	871.8	973.3	3.42	3.41	-0.61	
4,918.0	13.20	119.00	4,788.0	-440.3	888.7	991.8	2.74	-0.12	11.98	
5,000.0	12.40	127.80	4,867.9	-450.2	903.9	1,009.8	2.57	-0.98	10.73	
5,082.0	13.40	121.10	4,947.9	-460.5	919.0	1,027.9	2.19	1.22	-8.17	
5,164.0	12.70	120.70	5,027.8	-470.0	934.8	1,046.4	0.86	-0.85	-0.49	
5,245.0	9.80	121.40	5,107.2	-478.2	948.4	1,062.1	3.58	-3.58	0.86	

<b>Company:</b>	NOBLE ENERGY INC WELD COUNTY CO	<b>Local Co-ordinate Reference:</b>	Well Burman C04-33D
<b>Project:</b>	SEC.5-T4N-R64W	<b>TVD Reference:</b>	WELL @ 4763.0ft (Original Well Elev)
<b>Site:</b>	Burman C04-33D Pad Sec.5-T4N-R64W	<b>MD Reference:</b>	WELL @ 4763.0ft (Original Well Elev)
<b>Well:</b>	Burman C04-33D	<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)
5,327.0	7.40	117.70	5,188.3	-484.3	959.0	1,074.3	3.00	-2.93	-4.51
5,409.0	5.40	110.00	5,269.8	-488.0	967.3	1,083.5	2.65	-2.44	-9.39
5,491.0	3.80	95.10	5,351.5	-489.6	973.7	1,089.8	2.42	-1.95	-18.17
5,572.0	2.50	107.70	5,432.4	-490.4	978.0	1,094.1	1.81	-1.60	15.56
5,638.9	2.25	112.16	5,499.2	-491.3	980.6	1,096.8	0.46	-0.37	6.66
<b>TARGET BHL 1320'FSL, 75'FWL</b>									
5,654.0	2.20	113.30	5,514.3	-491.5	981.2	1,097.4	0.46	-0.35	7.56
5,735.0	0.20	255.00	5,595.3	-492.2	982.5	1,098.8	2.91	-2.47	174.94
5,817.0	0.70	216.90	5,677.3	-492.6	982.0	1,098.6	0.68	0.61	-46.46
5,899.0	0.50	277.30	5,759.3	-493.0	981.4	1,098.2	0.77	-0.24	73.66
5,981.0	0.40	282.30	5,841.3	-492.9	980.7	1,097.6	0.13	-0.12	6.10
6,063.0	0.40	199.10	5,923.3	-493.1	980.3	1,097.4	0.65	0.00	-101.46
6,144.0	0.60	221.30	6,004.3	-493.7	980.0	1,097.3	0.34	0.25	27.41
6,226.0	0.40	288.10	6,086.3	-493.9	979.4	1,096.9	0.70	-0.24	81.46
6,308.0	0.40	231.80	6,168.3	-494.0	978.9	1,096.5	0.46	0.00	-68.66
6,390.0	0.40	65.90	6,250.3	-494.1	979.0	1,096.6	0.97	0.00	-202.32
6,471.0	0.40	32.10	6,331.3	-493.7	979.4	1,096.8	0.29	0.00	-41.73
6,553.0	0.20	30.20	6,413.3	-493.3	979.6	1,096.8	0.24	-0.24	-2.32
6,635.0	0.60	154.60	6,495.3	-493.6	979.8	1,097.1	0.89	0.49	151.71
6,717.0	0.50	145.90	6,577.3	-494.3	980.2	1,097.8	0.16	-0.12	-10.61
6,762.6	0.40	103.05	6,622.9	-494.5	980.5	1,098.1	0.75	-0.22	-93.95
<b>TARGET CIRCLE 1320'FSL &amp; 75'FWL</b>									
6,798.0	0.50	71.20	6,658.3	-494.5	980.8	1,098.3	0.75	0.28	-90.00
6,880.0	0.40	152.00	6,740.3	-494.6	981.2	1,098.8	0.72	-0.12	98.54
6,962.0	0.40	86.10	6,822.3	-494.8	981.7	1,099.3	0.53	0.00	-80.37
7,044.0	0.10	349.40	6,904.3	-494.7	981.9	1,099.5	0.52	-0.37	-117.93
7,125.0	0.70	61.70	6,985.2	-494.4	982.4	1,099.8	0.83	0.74	89.26
7,207.0	0.30	58.30	7,067.2	-494.1	983.0	1,100.2	0.49	-0.49	-4.15
7,289.0	0.20	72.40	7,149.2	-493.9	983.3	1,100.4	0.14	-0.12	17.20
7,371.0	0.40	340.80	7,231.2	-493.6	983.3	1,100.3	0.55	0.24	-111.71
7,452.0	0.40	51.30	7,312.2	-493.2	983.5	1,100.2	0.57	0.00	87.04
7,534.0	0.30	61.10	7,394.2	-492.9	983.9	1,100.4	0.14	-0.12	11.95
7,616.0	0.30	78.00	7,476.2	-492.7	984.3	1,100.7	0.11	0.00	20.61
7,637.0	0.40	110.20	7,497.2	-492.8	984.4	1,100.8	1.03	0.48	153.33
7,688.0	0.50	120.00	7,548.2	-492.9	984.8	1,101.2	0.25	0.20	19.22
<b>HARD LINES 75'W OF BHL</b>									

Checked By: _____	Approved By: _____	Date: _____
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