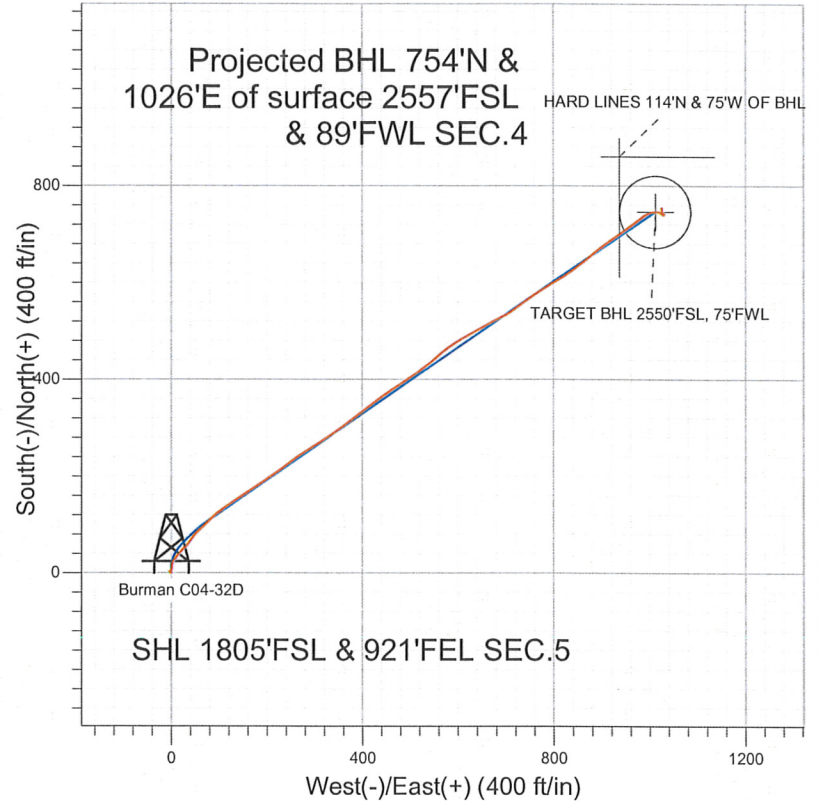


NOBLE ENERGY INC WELD COUNTY CO



LEGEND

- ✕ Burman C04-32D, Wellbore #1, Noble Burman C04-32D Plan #1 (6-15-11) V0
- Wellbore #1
- Survey #1

Final Survey Plot

Projected Final Survey -
 7742'MD & 7554'TVD @ 1273' VS
 0.3 deg Inc 315.0 deg AZ

Project: SEC.5-T4N-R64W
 Site: Burman C04-33D Pad Sec.5-T4N-R64W
 Well: Burman C04-32D
 Plan: Wellbore #1



Directional

NOBLE ENERGY INC WELD COUNTY CO

SEC.5-T4N-R64W

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

Burman C04-32D

Wellbore #1

Survey: Survey #1

Standard Survey Report

07 October, 2011



Company: NOBLE ENERGY INC WELD COUNTY CO
 Project: SEC.5-T4N-R64W
 Site: Burman C04-33D Pad Sec.5-T4N-R64W
 Well: Burman C04-32D
 Wellbore: Wellbore #1
 Design: Wellbore #1

Local Co-ordinate Reference: Well Burman C04-32D
 TVD Reference: WELL @ 4763.0ft (Original Well Elev)
 MD Reference: WELL @ 4763.0ft (Original Well Elev)
 North Reference: True
 Survey Calculation Method: Minimum Curvature
 Database: Landmark

Project	SEC.5-T4N-R64W, 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 Burman C04-33D Pad Sec.5-T4N-R64W

Site Position:		Northing:	1,367,739.92ft	Latitude:	40.339100
From:	Lat/Long	Easting:	3,259,777.75ft	Longitude:	-104.568080
Position Uncertainty:	0.0 ft	Slot Radius:	"	Grid Convergence:	0.60 °

Well	Burman C04-32D					
Well Position	+N/-S	0.0 ft	Northing:	1,367,739.66 ft	Latitude:	40.339100
	+E/-W	0.0 ft	Easting:	3,259,755.45 ft	Longitude:	-104.568160
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,750.0 ft

Wellbore Wellbore #1

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	6/22/2011	8.75	67.03	53,119

Design Wellbore #1

Audit Notes:

Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.0
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Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.0	0.0	0.0	53.66

Survey Program Date 10/7/2011

From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
74.0	7,742.0	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
74.0	0.50	43.20	74.0	0.2	0.2	0.3	0.68	0.68	0.00
165.0	0.80	332.20	165.0	1.1	0.2	0.8	0.87	0.33	-78.02
260.0	0.90	304.20	260.0	2.1	-0.7	0.7	0.44	0.11	-29.47
362.0	0.90	288.20	362.0	2.8	-2.2	-0.1	0.25	0.00	-15.69
444.0	0.10	261.30	444.0	3.0	-2.8	-0.5	0.99	-0.98	-32.80
526.0	0.40	85.90	526.0	3.0	-2.6	-0.3	0.61	0.37	-213.90
608.0	0.60	117.20	608.0	2.8	-2.0	0.1	0.40	0.24	38.17
689.0	0.50	51.10	689.0	2.8	-1.3	0.6	0.75	-0.12	-81.61
790.0	0.70	110.00	790.0	2.9	-0.4	1.4	0.61	0.20	58.32
872.0	1.40	29.10	871.9	3.6	0.6	2.6	1.78	0.85	-98.66
954.0	2.30	6.50	953.9	6.1	1.3	4.6	1.39	1.10	-27.56
1,036.0	3.00	1.20	1,035.8	9.9	1.5	7.1	0.90	0.85	-6.46

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Local Co-ordinate Reference: Well Burman C04-32D
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MD Reference: WELL @ 4763.0ft (Original Well Elev)
North Reference: True
Survey Calculation Method: Minimum Curvature
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)
1,117.0	3.10	358.20	1,116.7	14.2	1.5	9.6	0.23	0.12	-3.70
1,199.0	4.30	21.60	1,198.5	19.3	2.5	13.5	2.32	1.46	28.54
1,281.0	7.00	34.40	1,280.1	26.3	6.5	20.8	3.61	3.29	15.61
1,363.0	8.10	36.50	1,361.4	35.0	12.7	31.0	1.38	1.34	2.56
1,444.0	9.80	44.60	1,441.4	44.5	21.0	43.3	2.61	2.10	10.00
1,526.0	12.00	40.90	1,521.9	55.9	31.5	58.5	2.81	2.68	-4.51
1,608.0	13.40	37.90	1,601.9	69.9	42.9	75.9	1.89	1.71	-3.66
1,690.0	15.00	43.90	1,681.4	85.0	56.1	95.6	2.65	1.95	7.32
1,771.0	17.20	45.50	1,759.3	101.0	71.9	117.7	2.77	2.72	1.98
1,853.0	19.00	48.80	1,837.2	118.3	90.6	143.0	2.53	2.20	4.02
1,935.0	19.80	54.60	1,914.5	135.1	111.9	170.2	2.54	0.98	7.07
2,017.0	19.80	58.30	1,991.7	150.5	135.1	198.0	1.53	0.00	4.51
2,098.0	19.80	53.90	2,067.9	165.8	157.8	225.4	1.84	0.00	-5.43
2,180.0	19.80	57.10	2,145.1	181.5	180.7	253.1	1.32	0.00	3.90
2,262.0	19.10	57.80	2,222.4	196.2	203.7	280.4	0.90	-0.85	0.85
2,344.0	17.90	54.30	2,300.2	210.7	225.3	306.3	1.99	-1.46	-4.27
2,425.0	18.60	52.00	2,377.1	225.9	245.6	331.7	1.24	0.86	-2.84
2,507.0	19.10	55.30	2,454.7	241.6	266.9	358.2	1.44	0.61	4.02
2,589.0	19.40	57.40	2,532.1	256.6	289.4	385.2	0.92	0.37	2.56
2,670.0	20.40	58.00	2,608.3	271.3	312.8	412.7	1.26	1.23	0.74
2,752.0	22.20	56.00	2,684.7	287.5	337.7	442.4	2.37	2.20	-2.44
2,834.0	22.60	53.00	2,760.5	305.7	363.1	473.7	1.48	0.49	-3.66
2,916.0	23.50	53.60	2,835.9	324.9	388.9	505.8	1.13	1.10	0.73
2,997.0	22.90	51.80	2,910.4	344.2	414.3	537.7	1.15	-0.74	-2.22
3,079.0	20.50	55.90	2,986.6	362.1	438.7	568.0	3.46	-2.93	5.00
3,161.0	20.50	56.40	3,063.4	378.1	462.6	596.6	0.21	0.00	0.61
3,243.0	19.40	55.30	3,140.5	393.8	485.7	624.6	1.42	-1.34	-1.34
3,324.0	18.00	56.90	3,217.2	408.3	507.3	650.5	1.84	-1.73	1.98
3,406.0	16.70	52.20	3,295.4	422.4	527.2	675.0	2.33	-1.59	-5.73
3,488.0	16.40	52.70	3,374.1	436.7	545.7	698.3	0.40	-0.37	0.61
3,570.0	16.40	48.10	3,452.7	451.4	563.5	721.4	1.58	0.00	-5.61
3,651.0	13.50	52.20	3,531.0	464.9	579.5	742.3	3.81	-3.58	5.06
3,733.0	14.60	59.60	3,610.5	475.9	596.0	762.1	2.57	1.34	9.02
3,815.0	15.70	59.90	3,689.7	486.7	614.5	783.4	1.34	1.34	0.37
3,897.0	16.40	61.70	3,768.5	497.8	634.3	805.9	1.05	0.85	2.20
3,978.0	16.60	60.30	3,846.1	508.9	654.4	828.7	0.55	0.25	-1.73
4,060.0	16.10	62.20	3,924.8	520.1	674.6	851.6	0.89	-0.61	2.32
4,142.0	15.10	63.80	4,003.8	530.1	694.3	873.4	1.33	-1.22	1.95
4,224.0	16.40	55.20	4,082.7	541.4	713.4	895.5	3.25	1.59	-10.49
4,305.0	17.70	55.20	4,160.2	555.0	732.9	919.2	1.60	1.60	0.00
4,387.0	17.20	54.10	4,238.4	569.2	752.9	943.8	0.73	-0.61	-1.34
4,469.0	17.90	56.60	4,316.6	583.2	773.3	968.5	1.25	0.85	3.05
4,551.0	16.90	60.80	4,394.8	596.0	794.2	992.9	1.96	-1.22	5.12
4,632.0	17.90	57.10	4,472.1	608.5	814.9	1,017.0	1.84	1.23	-4.57
4,714.0	16.20	54.80	4,550.5	621.9	834.9	1,041.0	2.23	-2.07	-2.80
4,796.0	15.70	50.90	4,629.4	635.5	852.8	1,063.5	1.44	-0.61	-4.76
4,877.0	16.10	50.90	4,707.3	649.5	870.0	1,085.7	0.49	0.49	0.00
4,959.0	16.00	52.00	4,786.1	663.6	887.8	1,108.4	0.39	-0.12	1.34
5,041.0	14.10	52.00	4,865.3	676.7	904.6	1,129.6	2.32	-2.32	0.00
5,123.0	13.10	55.90	4,945.0	688.1	920.1	1,148.9	1.65	-1.22	4.76
5,204.0	14.10	55.00	5,023.7	698.9	935.8	1,168.0	1.26	1.23	-1.11
5,286.0	12.30	55.70	5,103.5	709.6	951.2	1,186.7	2.20	-2.20	0.85
5,368.0	10.60	52.30	5,183.9	719.1	964.4	1,202.9	2.23	-2.07	-4.15
5,450.0	8.90	53.20	5,264.7	727.5	975.4	1,216.8	2.08	-2.07	1.10

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5,531.0	6.60	50.40	5,344.9	734.2	984.0	1,227.7	2.88	-2.84	-3.46
5,613.0	6.10	53.90	5,426.4	739.8	991.2	1,236.8	0.77	-0.61	4.27
5,695.0	4.90	72.70	5,508.1	743.4	998.1	1,244.5	2.62	-1.46	22.93
5,777.0	4.00	73.10	5,589.8	745.3	1,004.1	1,250.5	1.10	-1.10	0.49
5,858.0	3.20	88.00	5,670.7	746.2	1,009.1	1,255.0	1.51	-0.99	18.40
5,940.0	2.60	83.50	5,752.6	746.5	1,013.2	1,258.5	0.78	-0.73	-5.49
6,022.0	1.90	97.90	5,834.5	746.5	1,016.4	1,261.1	1.09	-0.85	17.56
6,087.3	1.82	99.24	5,899.8	746.2	1,018.5	1,262.6	0.14	-0.12	2.05
TARGET BHL 2550'FSL, 75'FWL									
6,104.0	1.80	99.60	5,916.5	746.1	1,019.0	1,263.0	0.14	-0.12	2.16
6,185.0	1.10	82.90	5,997.4	746.0	1,021.1	1,264.5	1.00	-0.86	-20.62
6,267.0	1.00	130.20	6,079.4	745.6	1,022.4	1,265.4	1.03	-0.12	57.68
6,349.0	1.50	132.10	6,161.4	744.4	1,023.7	1,265.8	0.61	0.61	2.32
6,431.0	1.50	113.00	6,243.4	743.3	1,025.5	1,266.5	0.61	0.00	-23.29
6,512.0	1.50	120.00	6,324.3	742.3	1,027.4	1,267.5	0.23	0.00	8.64
6,594.0	1.00	126.30	6,406.3	741.4	1,028.9	1,268.1	0.63	-0.61	7.68
6,676.0	0.70	149.00	6,488.3	740.5	1,029.8	1,268.3	0.54	-0.37	27.68
6,757.0	0.50	73.10	6,569.3	740.2	1,030.3	1,268.6	0.93	-0.25	-93.70
6,810.6	0.60	41.08	6,622.9	740.5	1,030.8	1,269.1	0.59	0.18	-59.74
TARGET CIRCLE 2550'FSL & 75'FWL									
6,839.0	0.70	29.50	6,651.3	740.8	1,030.9	1,269.4	0.59	0.37	-40.76
6,921.0	0.60	51.30	6,733.3	741.5	1,031.5	1,270.3	0.32	-0.12	26.59
7,003.0	1.10	327.60	6,815.3	742.4	1,031.4	1,270.8	1.46	0.61	-102.07
7,084.0	1.10	303.50	6,896.3	743.5	1,030.4	1,270.5	0.57	0.00	-29.75
7,166.0	1.60	321.30	6,978.3	744.8	1,029.0	1,270.2	0.79	0.61	21.71
7,248.0	1.00	331.30	7,060.2	746.3	1,027.9	1,270.3	0.78	-0.73	12.20
7,330.0	1.40	336.90	7,142.2	747.9	1,027.2	1,270.6	0.51	0.49	6.83
7,411.0	1.00	3.50	7,223.2	749.5	1,026.9	1,271.3	0.83	-0.49	32.84
7,493.0	1.40	7.50	7,305.2	751.2	1,027.0	1,272.4	0.50	0.49	4.88
7,575.0	1.00	325.50	7,387.2	752.8	1,026.8	1,273.1	1.14	-0.49	-51.22
7,657.0	0.80	318.10	7,469.2	753.8	1,026.0	1,273.1	0.28	-0.24	-9.02
7,691.0	0.40	315.80	7,503.2	754.1	1,025.7	1,273.1	1.18	-1.18	-6.76
7,741.7	0.30	315.01	7,553.8	754.3	1,025.5	1,273.0	0.20	-0.20	-1.57
HARD LINES 114'N & 75'W OF BHL									
7,742.0	0.30	315.00	7,554.2	754.3	1,025.5	1,273.0	0.20	-0.20	-2.09

Checked By: _____ Approved By: _____ Date: _____