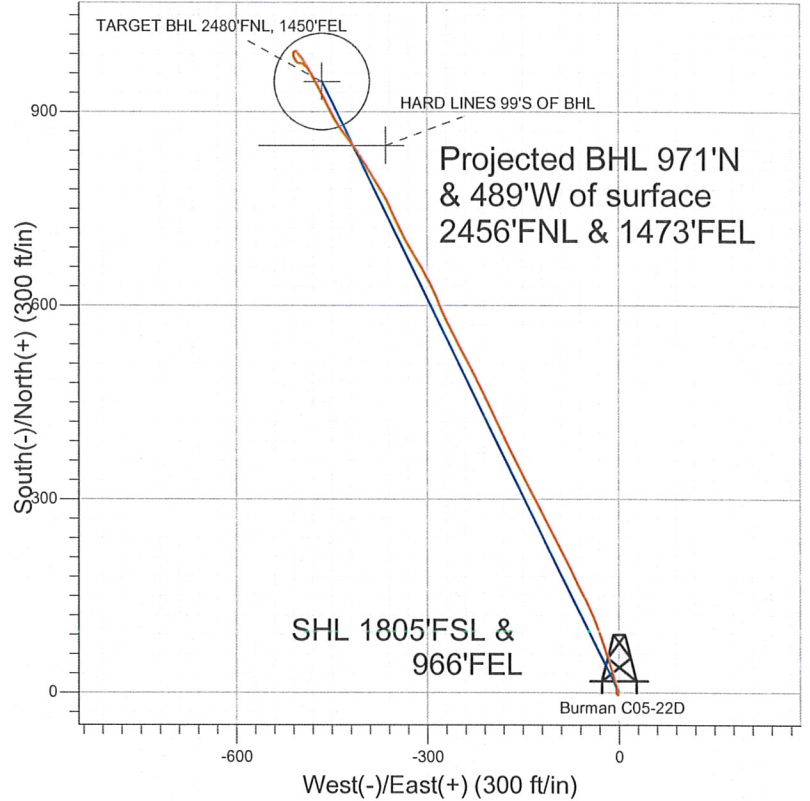


NOBLE ENERGY INC WELD COUNTY CO



LEGEND

- Burman C05-22D, Wellbore #1, Noble Burman C05-22D Plan #1 (6-15-11) V0
- Wellbore #1
- Survey #1

Final Survey Plot

Projected Final Survey -
7700'MD & 7545'TVD @ 1087'VS
0.5 deg Inc 23.0 deg AZ

Project: SEC.5-T4N-R64W
Site: Burman C04-33D Pad Sec.5-T4N-R64W
Well: Burman C05-22D
Plan: Wellbore #1



Directional

**NOBLE ENERGY INC WELD
COUNTY CO**

SEC.5-T4N-R64W

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

Burman C05-22D

Wellbore #1

Survey: Survey #1

Standard Survey Report

20 October, 2011



Company:	NOBLE ENERGY INC WELD COUNTY CO	Local Co-ordinate Reference:	Well Burman C05-22D
Project:	SEC.5-T4N-R64W	TVD Reference:	WELL @ 4762.0ft (Original Well Elev)
Site:	Burman C04-33D Pad Sec.5-T4N-R64W	MD Reference:	WELL @ 4762.0ft (Original Well Elev)
Well:	Burman C05-22D	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	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:	1,367,739.92 ft	Latitude:	40.339100
From:	Lat/Long	Easting:	3,259,777.75 ft	Longitude:	-104.568080
Position Uncertainty:	0.0 ft	Slot Radius:	"	Grid Convergence:	0.60 °

Well	Burman C05-22D					
Well Position	+N/-S	0.0 ft	Northing:	1,367,739.20 ft	Latitude:	40.339100
	+E/-W	0.0 ft	Easting:	3,259,710.85 ft	Longitude:	-104.568320
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,749.0 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
Vertical Section:	Depth From (TVD)	+N/-S (ft)	+E/-W (ft)	Direction (°)	
	5,500.0	0.0	0.0	333.83	

Survey Program	Date	10/20/2011			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
74.0	7,700.0	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	0.60	209.30	74.0	-0.3	-0.2	-0.2	0.81	0.81	0.00
165.0	0.90	209.00	165.0	-1.4	-0.8	-0.9	0.33	0.33	-0.33
260.0	0.60	197.90	260.0	-2.5	-1.3	-1.7	0.35	-0.32	-11.68
362.0	0.60	307.80	362.0	-2.7	-1.9	-1.6	0.96	0.00	107.75
444.0	0.80	316.50	444.0	-2.0	-2.6	-0.7	0.28	0.24	10.61
526.0	1.10	328.10	526.0	-0.9	-3.4	0.7	0.43	0.37	14.15
608.0	0.40	347.70	608.0	0.0	-3.9	1.7	0.90	-0.85	23.90
659.0	0.60	333.20	659.0	0.4	-4.0	2.2	0.46	0.39	-28.43
751.0	0.40	344.50	750.9	1.2	-4.4	3.0	0.24	-0.22	12.28
833.0	2.50	8.00	832.9	3.2	-4.2	4.7	2.61	2.56	28.66
915.0	4.50	358.20	914.8	8.2	-4.0	9.1	2.54	2.44	-11.95
997.0	6.90	343.30	996.4	16.1	-5.5	16.9	3.41	2.93	-18.17

Company: NOBLE ENERGY INC WELD COUNTY CO
Project: SEC.5-T4N-R64W
Site: Burman C04-33D Pad Sec.5-T4N-R64W
Well: Burman C05-22D
Wellbore: Wellbore #1
Design: Wellbore #1

Local Co-ordinate Reference: Well Burman C05-22D
TVD Reference: WELL @ 4762.0ft (Original Well Elev)
MD Reference: WELL @ 4762.0ft (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)
1,078.0	9.50	343.10	1,076.5	27.2	-8.9	28.3	3.21	3.21	-0.25
1,160.0	10.60	342.90	1,157.3	40.9	-13.1	42.5	1.34	1.34	-0.24
1,242.0	13.70	343.30	1,237.4	57.4	-18.1	59.5	3.78	3.78	0.49
1,324.0	14.90	342.00	1,316.9	76.7	-24.1	79.5	1.51	1.46	-1.59
1,405.0	16.00	340.10	1,394.9	97.1	-31.2	100.9	1.49	1.36	-2.35
1,487.0	18.10	337.30	1,473.3	119.5	-39.9	124.9	2.75	2.56	-3.41
1,569.0	17.70	332.90	1,551.4	142.4	-50.5	150.0	1.72	-0.49	-5.37
1,651.0	18.40	333.90	1,629.3	165.1	-61.9	175.4	0.93	0.85	1.22
1,732.0	19.30	333.90	1,706.0	188.6	-73.4	201.6	1.11	1.11	0.00
1,814.0	18.60	333.90	1,783.5	212.5	-85.1	228.2	0.85	-0.85	0.00
1,896.0	19.40	333.40	1,861.1	236.4	-97.0	254.9	1.00	0.98	-0.61
1,977.0	18.40	331.10	1,937.7	259.6	-109.2	281.2	1.54	-1.23	-2.84
2,059.0	18.60	332.50	2,015.5	282.6	-121.5	307.2	0.59	0.24	1.71
2,141.0	19.00	331.80	2,093.1	305.9	-133.8	333.6	0.56	0.49	-0.85
2,223.0	19.20	334.10	2,170.6	329.8	-146.0	360.4	0.95	0.24	2.80
2,304.0	17.30	333.80	2,247.5	352.6	-157.1	385.8	2.35	-2.35	-0.37
2,386.0	17.40	332.90	2,325.8	374.5	-168.1	410.2	0.35	0.12	-1.10
2,468.0	17.40	333.90	2,404.0	396.4	-179.1	434.7	0.36	0.00	1.22
2,550.0	17.70	335.40	2,482.2	418.7	-189.7	459.5	0.66	0.37	1.83
2,631.0	17.10	334.30	2,559.5	440.7	-200.0	483.7	0.84	-0.74	-1.36
2,713.0	17.50	333.20	2,637.8	462.5	-210.7	508.1	0.63	0.49	-1.34
2,795.0	18.70	333.90	2,715.7	485.3	-222.1	533.5	1.49	1.46	0.85
2,877.0	18.70	331.70	2,793.4	508.7	-234.1	559.8	0.86	0.00	-2.68
2,958.0	18.60	331.80	2,870.2	531.5	-246.4	585.7	0.13	-0.12	0.12
3,040.0	16.20	332.70	2,948.4	553.2	-257.8	610.2	2.95	-2.93	1.10
3,122.0	16.10	332.70	3,027.2	573.5	-268.3	633.0	0.12	-0.12	0.00
3,204.0	15.90	338.70	3,106.0	594.1	-277.5	655.6	2.03	-0.24	7.32
3,285.0	16.30	336.20	3,183.8	614.8	-286.2	678.0	0.99	0.49	-3.09
3,367.0	16.80	332.50	3,262.4	635.8	-296.3	701.3	1.42	0.61	-4.51
3,449.0	15.90	329.90	3,341.1	656.1	-307.4	724.4	1.41	-1.10	-3.17
3,531.0	15.20	330.10	3,420.1	675.1	-318.4	746.3	0.86	-0.85	0.24
3,612.0	15.70	328.30	3,498.2	693.6	-329.4	767.8	0.86	0.62	-2.22
3,694.0	16.10	333.20	3,577.0	713.2	-340.4	790.2	1.71	0.49	5.98
3,776.0	16.30	335.70	3,655.8	733.9	-350.2	813.1	0.88	0.24	3.05
3,857.0	17.60	335.20	3,733.3	755.3	-360.1	836.7	1.61	1.60	-0.62
3,939.0	18.30	328.70	3,811.3	777.6	-372.0	861.9	2.59	0.85	-7.93
4,021.0	18.30	328.00	3,889.1	799.5	-385.5	887.6	0.27	0.00	-0.85
4,103.0	17.30	328.70	3,967.2	820.9	-398.6	912.5	1.25	-1.22	0.85
4,184.0	16.70	324.80	4,044.7	840.7	-411.6	936.0	1.59	-0.74	-4.81
4,266.0	16.10	323.60	4,123.3	859.4	-425.1	958.8	0.84	-0.73	-1.46
4,348.0	13.50	324.50	4,202.6	876.4	-437.4	979.5	3.18	-3.17	1.10
4,430.0	11.00	331.10	4,282.7	891.0	-446.8	996.7	3.49	-3.05	8.05
4,511.0	10.10	334.80	4,362.4	904.2	-453.5	1,011.6	1.39	-1.11	4.57
4,593.0	9.10	333.80	4,443.2	916.5	-459.5	1,025.2	1.24	-1.22	-1.22
4,675.0	9.10	331.50	4,524.2	928.1	-465.4	1,038.2	0.44	0.00	-2.80
4,757.0	8.40	331.80	4,605.2	939.0	-471.3	1,050.7	0.86	-0.85	0.37
4,838.0	6.30	331.30	4,685.6	948.2	-476.3	1,061.0	2.59	-2.59	-0.62
4,920.0	5.90	330.60	4,767.1	955.8	-480.5	1,069.7	0.50	-0.49	-0.85
5,002.0	5.00	328.80	4,848.7	962.5	-484.4	1,077.5	1.12	-1.10	-2.20
5,084.0	5.00	332.50	4,930.4	968.7	-487.9	1,084.6	0.39	0.00	4.51
5,165.0	4.70	330.30	5,011.1	974.7	-491.2	1,091.5	0.44	-0.37	-2.72
5,247.0	4.60	323.20	5,092.9	980.3	-494.8	1,098.0	0.71	-0.12	-8.66
5,329.0	4.40	321.80	5,174.6	985.4	-498.7	1,104.3	0.28	-0.24	-1.71
5,411.0	3.00	319.00	5,256.4	989.5	-502.1	1,109.5	1.72	-1.71	-3.41

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5,492.0	2.90	323.00	5,337.3	992.7	-504.7	1,113.6	0.28	-0.12	4.94
5,574.0	1.40	248.00	5,419.3	994.0	-506.9	1,115.7	3.51	-1.83	-91.46
5,654.2	1.89	242.10	5,499.4	993.0	-509.0	1,115.7	0.64	0.61	-7.36
TARGET BHL 2480'FNL, 1450'FEL									
5,656.0	1.90	242.00	5,501.2	993.0	-509.0	1,115.7	0.64	0.62	-5.41
5,738.0	3.00	175.40	5,583.2	990.2	-510.1	1,113.7	3.47	1.34	-81.22
5,819.0	2.60	167.00	5,664.1	986.3	-509.5	1,109.9	0.71	-0.49	-10.37
5,901.0	1.70	148.30	5,746.0	983.5	-508.4	1,106.9	1.38	-1.10	-22.80
5,983.0	1.80	147.80	5,828.0	981.3	-507.1	1,104.4	0.12	0.12	-0.61
6,064.0	1.60	148.70	5,908.9	979.3	-505.8	1,102.0	0.25	-0.25	1.11
6,146.0	1.20	136.70	5,990.9	977.7	-504.6	1,100.0	0.60	-0.49	-14.63
6,228.0	1.20	133.60	6,072.9	976.5	-503.4	1,098.4	0.08	0.00	-3.78
6,310.0	1.10	104.60	6,154.9	975.7	-502.0	1,097.1	0.71	-0.12	-35.37
6,391.0	0.90	94.40	6,235.9	975.4	-500.7	1,096.3	0.33	-0.25	-12.59
6,473.0	1.00	90.30	6,317.9	975.4	-499.3	1,095.6	0.15	0.12	-5.00
6,555.0	1.10	100.70	6,399.9	975.2	-497.8	1,094.8	0.26	0.12	12.68
6,637.0	1.10	111.60	6,481.8	974.8	-496.3	1,093.8	0.25	0.00	13.29
6,718.0	0.70	104.40	6,562.8	974.4	-495.1	1,092.9	0.51	-0.49	-8.89
6,797.7	0.89	130.53	6,642.5	973.9	-494.2	1,092.0	0.51	0.24	32.79
TARGET CIRCLE 2480'FNL & 1450'FEL									
6,800.0	0.90	131.10	6,644.8	973.8	-494.1	1,091.9	0.51	0.33	24.63
6,882.0	1.00	144.50	6,726.8	972.8	-493.2	1,090.6	0.30	0.12	16.34
6,964.0	1.10	120.00	6,808.8	971.9	-492.1	1,089.3	0.56	0.12	-29.88
7,045.0	1.10	128.10	6,889.8	971.0	-490.8	1,087.9	0.19	0.00	10.00
7,127.0	0.80	130.90	6,971.8	970.1	-489.8	1,086.7	0.37	-0.37	3.41
7,209.0	0.90	106.70	7,053.8	969.6	-488.7	1,085.7	0.45	0.12	-29.51
7,291.0	0.20	169.80	7,135.8	969.2	-488.1	1,085.2	1.01	-0.85	76.95
7,372.0	0.40	318.70	7,216.8	969.3	-488.3	1,085.3	0.72	0.25	183.83
7,454.0	0.40	252.90	7,298.8	969.5	-488.7	1,085.6	0.53	0.00	-80.24
7,536.0	0.40	350.30	7,380.8	969.6	-489.1	1,085.9	0.73	0.00	118.78
7,618.0	0.70	0.10	7,462.7	970.4	-489.1	1,086.7	0.38	0.37	11.95
7,649.0	0.60	11.90	7,493.7	970.8	-489.1	1,087.0	0.54	-0.32	38.06
7,700.0	0.50	23.00	7,544.7	971.2	-488.9	1,087.3	0.29	-0.20	21.76
HARD LINES 99'S OF BHL									

Checked By: _____ Approved By: _____ Date: _____