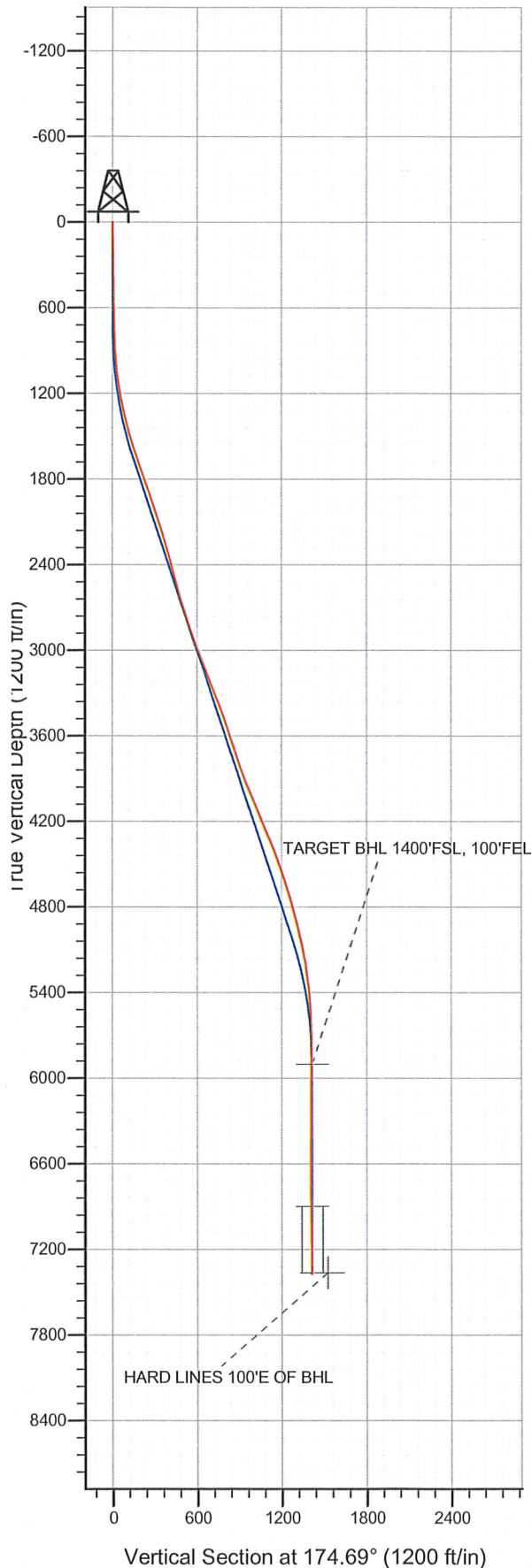
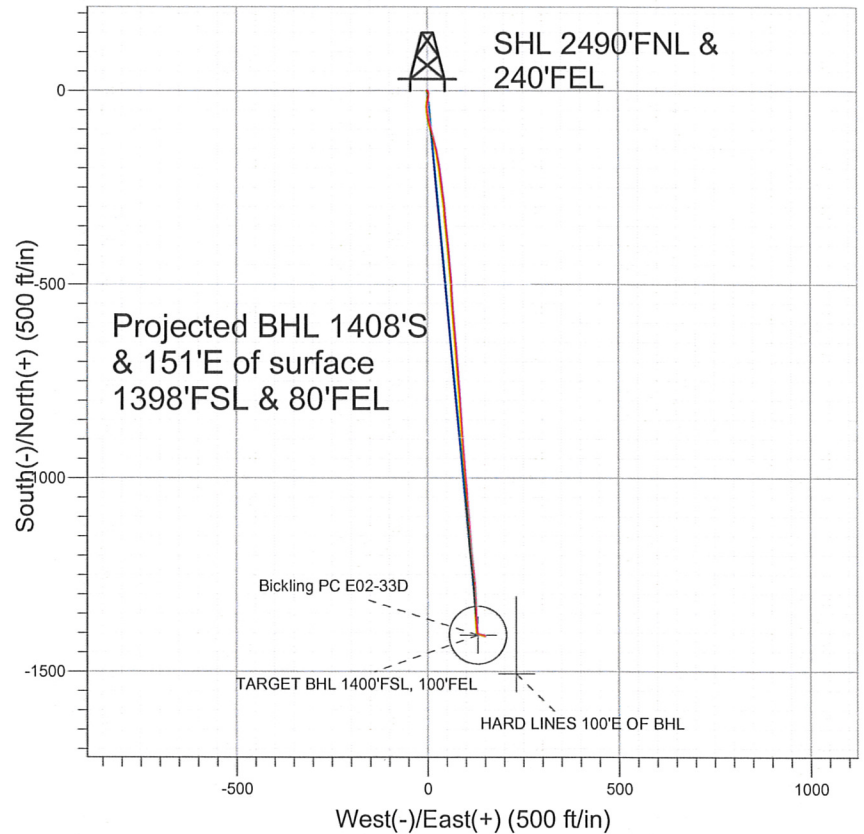


Well Name: **Bickling PC E02-33D**
 Surface Location: Brown PC E02-32 Pad Sec.3-T6N-R65W
 North American Datum 1983 US State Plane 1983 Colorado Northern Zone
 Ground Elevation: 4835.0
 +N/-S +E/-W Northing Easting Latitude Longitude Slot
 0.0 0.0 1432046.37 3238929.49 40.516190 -104.640630
 Original Well Elev WELL @ 4848.0ft (Original Well Elev)



NOBLE ENERGY INC WELD COUNTY CO



LEGEND

- △ Bickling PC E02-33D, Wellbore #1, Noble Bickling PC E02-33D Plan #1 (2-07-11) V0
- Wellbore #1
- Survey #1

Final Survey Plot

Projected Final Survey -
 7595'MD & 7372'TVD @ 1416'VS
 2.9 deg Inc 111.3 deg AZ

Project: SEC.3-T6N-R65W
 Site: Brown PC E02-32 Pad Sec.3-T6N-R65W
 Well: Bickling PC E02-33D
 Plan: Wellbore #1



Directional

**NOBLE ENERGY INC WELD
COUNTY CO**

SEC.3-T6N-R65W

Brown PC E02-32 Pad Sec.3-T6N-R65W

Bickling PC E02-33D

Wellbore #1

Survey: Survey #1

Standard Survey Report

15 August, 2011



Company: NOBLE ENERGY INC WELD COUNTY CO
Project: SEC.3-T6N-R65W
Site: Brown PC E02-32 Pad Sec.3-T6N-R65W
Well: Bickling PC E02-33D
Wellbore: Wellbore #1
Design: Wellbore #1

Local Co-ordinate Reference: Well Bickling PC E02-33D
TVD Reference: WELL @ 4848.0ft (Original Well Elev)
MD Reference: WELL @ 4848.0ft (Original Well Elev)
North Reference: True
Survey Calculation Method: Minimum Curvature
Database: Landmark

Project	SEC.3-T6N-R65W, 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 Brown PC E02-32 Pad Sec.3-T6N-R65W

Site Position:		Northing:	1,432,075.53 ft	Latitude:	40.516270
From:	Lat/Long	Easting:	3,238,929.21 ft	Longitude:	-104.640630
Position Uncertainty:	0.0 ft	Slot Radius:	"	Grid Convergence:	0.56 °

Well	Bickling PC E02-33D					
Well Position	+N/-S	0.0 ft	Northing:	1,432,046.37 ft	Latitude:	40.516190
	+E/-W	0.0 ft	Easting:	3,238,929.49 ft	Longitude:	-104.640630
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,835.0 ft

Wellbore Wellbore #1

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	2/7/2011	8.86	67.18	53,243

Design Wellbore #1

Audit Notes:

Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.0
-----------------	-----	---------------	--------	----------------------	-----

Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.0	0.0	0.0	174.69

Survey Program Date 8/15/2011

From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
102.0	7,595.0	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
102.0	0.80	150.90	102.0	-0.6	0.3	0.7	0.78	0.78	0.00
196.0	1.00	154.80	196.0	-1.9	1.0	2.0	0.22	0.21	4.15
289.0	1.10	146.70	289.0	-3.4	1.9	3.6	0.19	0.11	-8.71
382.0	1.10	146.00	382.0	-4.9	2.8	5.1	0.01	0.00	-0.75
474.0	1.20	171.50	473.9	-6.6	3.5	6.9	0.56	0.11	27.72
566.0	1.10	181.80	565.9	-8.4	3.6	8.7	0.25	-0.11	11.20
649.0	1.20	181.70	648.9	-10.1	3.5	10.4	0.12	0.12	-0.12
755.0	0.90	175.10	754.9	-12.0	3.6	12.3	0.30	-0.28	-6.23
837.0	1.80	185.00	836.9	-14.0	3.5	14.2	1.13	1.10	12.07
918.0	4.10	197.50	917.7	-18.0	2.5	18.1	2.93	2.84	15.43
1,000.0	6.00	190.20	999.4	-25.0	0.9	25.0	2.44	2.32	-8.90
1,082.0	8.00	185.20	1,080.8	-34.9	-0.4	34.7	2.55	2.44	-6.10

Company: NOBLE ENERGY INC WELD COUNTY CO
Project: SEC.3-T6N-R65W
Site: Brown PC E02-32 Pad Sec.3-T6N-R65W
Well: Bickling PC E02-33D
Wellbore: Wellbore #1
Design: Wellbore #1

Local Co-ordinate Reference: Well Bickling PC E02-33D
TVD Reference: WELL @ 4848.0ft (Original Well Elev)
MD Reference: WELL @ 4848.0ft (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)
1,164.0	9.70	175.00	1,161.8	-47.5	-0.3	47.2	2.81	2.07	-12.44
1,245.0	11.40	174.30	1,241.5	-62.2	1.1	62.1	2.10	2.10	-0.86
1,327.0	13.30	165.50	1,321.6	-79.4	4.3	79.5	3.26	2.32	-10.73
1,409.0	14.40	162.70	1,401.2	-98.3	9.7	98.8	1.57	1.34	-3.41
1,491.0	16.40	167.40	1,480.2	-119.3	15.2	120.2	2.87	2.44	5.73
1,572.0	17.30	166.00	1,557.8	-142.2	20.6	143.5	1.22	1.11	-1.73
1,654.0	18.70	167.60	1,635.7	-166.8	26.4	168.6	1.81	1.71	1.95
1,736.0	19.80	172.70	1,713.2	-193.5	31.0	195.5	2.45	1.34	6.22
1,818.0	20.10	172.50	1,790.2	-221.2	34.6	223.5	0.38	0.37	-0.24
1,899.0	19.80	172.00	1,866.4	-248.6	38.3	251.1	0.43	-0.37	-0.62
1,981.0	18.60	173.20	1,943.8	-275.3	41.8	278.0	1.54	-1.46	1.46
2,063.0	17.90	173.60	2,021.7	-300.8	44.7	303.7	0.87	-0.85	0.49
2,144.0	17.40	176.20	2,098.9	-325.3	46.9	328.2	1.15	-0.62	3.21
2,226.0	17.00	175.30	2,177.2	-349.5	48.7	352.5	0.59	-0.49	-1.10
2,308.0	16.70	172.50	2,255.7	-373.1	51.3	376.2	1.06	-0.37	-3.41
2,390.0	16.20	174.60	2,334.3	-396.2	53.9	399.5	0.95	-0.61	2.56
2,471.0	16.20	176.40	2,412.1	-418.7	55.6	422.1	0.62	0.00	2.22
2,553.0	15.30	172.70	2,491.1	-440.8	57.7	444.3	1.64	-1.10	-4.51
2,635.0	14.00	173.70	2,570.4	-461.4	60.2	465.0	1.62	-1.59	1.22
2,717.0	15.80	176.20	2,649.6	-482.4	62.0	486.1	2.33	2.20	3.05
2,798.0	18.60	178.30	2,727.0	-506.4	63.1	510.0	3.54	3.46	2.59
2,880.0	18.30	175.10	2,804.8	-532.3	64.6	536.0	1.29	-0.37	-3.90
2,962.0	19.40	178.10	2,882.4	-558.7	66.2	562.4	1.79	1.34	3.66
3,044.0	19.90	174.60	2,959.6	-586.2	67.9	590.0	1.56	0.61	-4.27
3,125.0	22.00	174.80	3,035.3	-615.0	70.6	618.9	2.59	2.59	0.25
3,207.0	20.80	174.60	3,111.6	-644.8	73.4	648.9	1.47	-1.46	-0.24
3,289.0	21.50	175.30	3,188.1	-674.3	76.0	678.4	0.91	0.85	0.85
3,371.0	22.20	176.20	3,264.2	-704.7	78.2	709.0	0.95	0.85	1.10
3,452.0	21.80	176.20	3,339.3	-735.0	80.2	739.3	0.49	-0.49	0.00
3,534.0	20.00	174.40	3,415.9	-764.2	82.6	768.5	2.33	-2.20	-2.20
3,616.0	19.30	176.40	3,493.1	-791.6	84.8	796.1	1.18	-0.85	2.44
3,698.0	19.10	176.70	3,570.6	-818.6	86.5	823.1	0.27	-0.24	0.37
3,779.0	18.60	177.40	3,647.2	-844.7	87.8	849.2	0.68	-0.62	0.86
3,861.0	18.50	177.10	3,724.9	-870.8	89.1	875.3	0.17	-0.12	-0.37
3,943.0	18.50	173.70	3,802.7	-896.7	91.2	901.3	1.32	0.00	-4.15
4,024.0	20.60	174.80	3,879.0	-923.6	93.9	928.4	2.63	2.59	1.36
4,106.0	21.90	175.70	3,955.5	-953.3	96.3	958.1	1.63	1.59	1.10
4,188.0	22.80	176.40	4,031.3	-984.4	98.5	989.3	1.14	1.10	0.85
4,270.0	23.50	174.10	4,106.7	-1,016.5	101.1	1,021.5	1.39	0.85	-2.80
4,351.0	23.70	175.50	4,180.9	-1,048.8	104.1	1,053.9	0.73	0.25	1.73
4,433.0	22.30	176.20	4,256.4	-1,080.7	106.4	1,085.9	1.74	-1.71	0.85
4,515.0	22.50	174.80	4,332.2	-1,111.9	108.8	1,117.2	0.69	0.24	-1.71
4,597.0	22.20	176.40	4,408.1	-1,143.0	111.2	1,148.4	0.83	-0.37	1.95
4,678.0	20.30	176.00	4,483.5	-1,172.3	113.2	1,177.7	2.35	-2.35	-0.49
4,760.0	18.30	175.30	4,560.9	-1,199.3	115.2	1,204.8	2.46	-2.44	-0.85
4,842.0	17.70	173.20	4,638.9	-1,224.5	117.8	1,230.1	1.08	-0.73	-2.56
4,924.0	17.20	172.30	4,717.1	-1,248.9	120.9	1,254.7	0.69	-0.61	-1.10
5,005.0	15.10	174.80	4,794.9	-1,271.3	123.4	1,277.2	2.73	-2.59	3.09
5,087.0	14.40	178.30	4,874.2	-1,292.1	124.7	1,298.1	1.38	-0.85	4.27
5,169.0	14.10	177.40	4,953.7	-1,312.3	125.5	1,318.2	0.45	-0.37	-1.10
5,251.0	12.90	178.30	5,033.5	-1,331.4	126.2	1,337.4	1.49	-1.46	1.10
5,332.0	11.50	176.70	5,112.6	-1,348.5	126.9	1,354.5	1.78	-1.73	-1.98
5,414.0	9.90	179.70	5,193.2	-1,363.7	127.4	1,369.6	2.07	-1.95	3.66
5,496.0	7.80	177.40	5,274.2	-1,376.3	127.7	1,382.2	2.60	-2.56	-2.80

Company: NOBLE ENERGY INC WELD COUNTY CO
Project: SEC.3-T6N-R65W
Site: Brown PC E02-32 Pad Sec.3-T6N-R65W
Well: Bickling PC E02-33D
Wellbore: Wellbore #1
Design: Wellbore #1

Local Co-ordinate Reference: Well Bickling PC E02-33D
TVD Reference: WELL @ 4848.0ft (Original Well Elev)
MD Reference: WELL @ 4848.0ft (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)
5,578.0	6.10	175.90	5,355.6	-1,386.2	128.3	1,392.1	2.08	-2.07	-1.83
5,659.0	4.30	175.10	5,436.3	-1,393.5	128.8	1,399.5	2.22	-2.22	-0.99
5,741.0	3.00	162.00	5,518.1	-1,398.6	129.8	1,404.6	1.87	-1.59	-15.98
5,823.0	2.60	162.80	5,600.0	-1,402.5	131.0	1,408.6	0.49	-0.49	0.98
5,904.0	1.00	167.60	5,681.0	-1,404.9	131.7	1,411.1	1.98	-1.98	5.93
5,986.0	0.50	110.50	5,763.0	-1,405.7	132.2	1,411.9	1.03	-0.61	-69.63
6,068.0	0.40	311.00	5,845.0	-1,405.7	132.3	1,411.9	1.08	-0.12	-194.51
6,123.0	0.40	311.87	5,900.0	-1,405.4	132.0	1,411.6	0.01	0.00	1.59
TARGET BHL 1400'FSL, 100'FEL									
6,150.0	0.40	312.30	5,927.0	-1,405.3	131.9	1,411.5	0.01	0.00	1.59
6,231.0	0.60	320.50	6,008.0	-1,404.8	131.4	1,410.9	0.26	0.25	10.12
6,313.0	0.40	308.40	6,090.0	-1,404.3	130.9	1,410.3	0.27	-0.24	-14.76
6,395.0	0.50	280.10	6,171.9	-1,404.0	130.3	1,410.1	0.29	0.12	-34.51
6,477.0	0.40	322.60	6,253.9	-1,403.7	129.8	1,409.7	0.41	-0.12	51.83
6,558.0	0.40	300.80	6,334.9	-1,403.4	129.4	1,409.3	0.19	0.00	-26.91
6,640.0	0.10	322.80	6,416.9	-1,403.2	129.1	1,409.1	0.38	-0.37	26.83
6,722.0	0.40	36.50	6,498.9	-1,402.9	129.2	1,408.8	0.47	0.37	89.88
6,804.0	0.40	56.30	6,580.9	-1,402.5	129.6	1,408.5	0.17	0.00	24.15
6,885.0	0.50	76.20	6,661.9	-1,402.2	130.2	1,408.3	0.23	0.12	24.57
6,967.0	0.70	112.00	6,743.9	-1,402.3	131.0	1,408.4	0.51	0.24	43.66
7,049.0	0.90	117.10	6,825.9	-1,402.8	132.0	1,409.0	0.26	0.24	6.22
7,121.1	1.07	107.84	6,898.0	-1,403.3	133.2	1,409.6	0.33	0.24	-12.85
TARGET CIRCLE 1400'FSL & 100'FEL									
7,131.0	1.10	106.80	6,907.9	-1,403.3	133.4	1,409.7	0.33	0.26	-10.47
7,212.0	1.50	98.00	6,988.9	-1,403.7	135.2	1,410.2	0.55	0.49	-10.86
7,294.0	1.90	103.60	7,070.9	-1,404.2	137.5	1,410.9	0.53	0.49	6.83
7,376.0	2.60	106.40	7,152.8	-1,405.0	140.6	1,412.0	0.86	0.85	3.41
7,458.0	3.00	104.00	7,234.7	-1,406.1	144.5	1,413.4	0.51	0.49	-2.93
7,539.0	2.60	110.10	7,315.6	-1,407.2	148.3	1,414.9	0.62	-0.49	7.53
7,544.0	2.70	103.80	7,320.6	-1,407.3	148.5	1,415.0	6.16	2.00	-126.00
7,591.6	2.89	110.84	7,368.2	-1,408.0	150.7	1,415.9	0.82	0.39	14.78
HARD LINES 100'E OF BHL									
7,595.0	2.90	111.30	7,371.5	-1,408.0	150.9	1,416.0	0.82	0.43	13.72

Checked By: _____ Approved By: _____ Date: _____