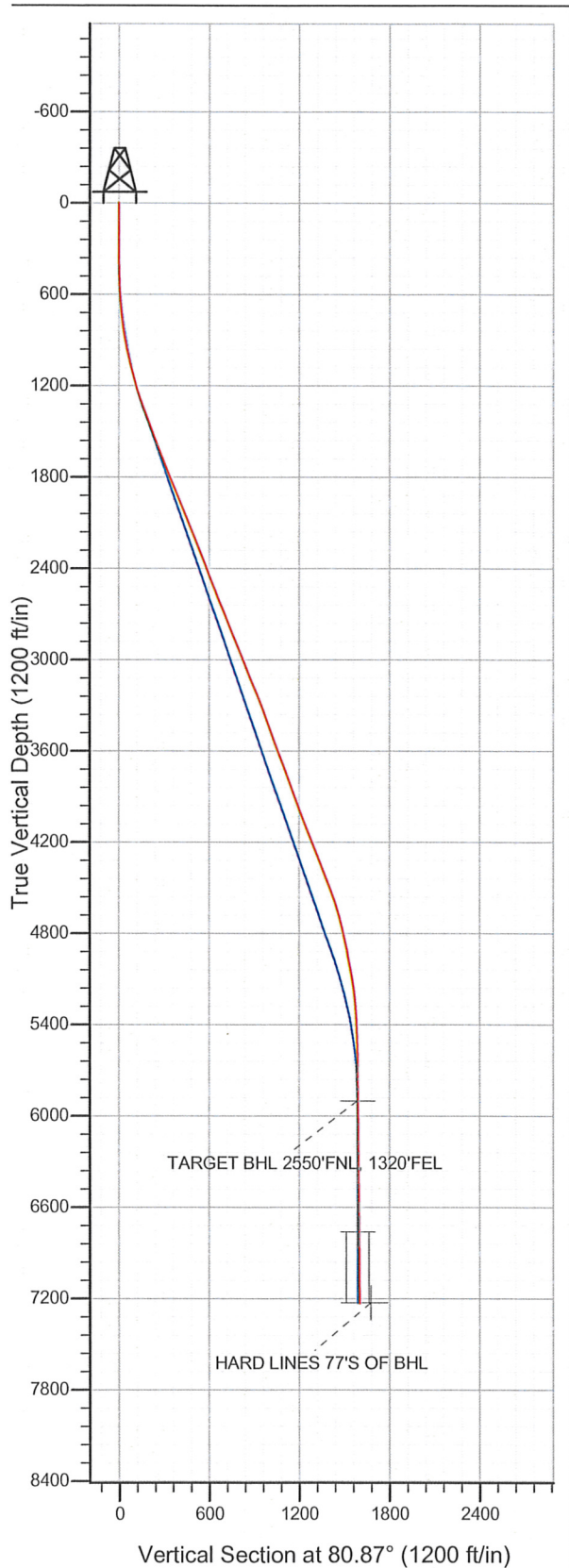
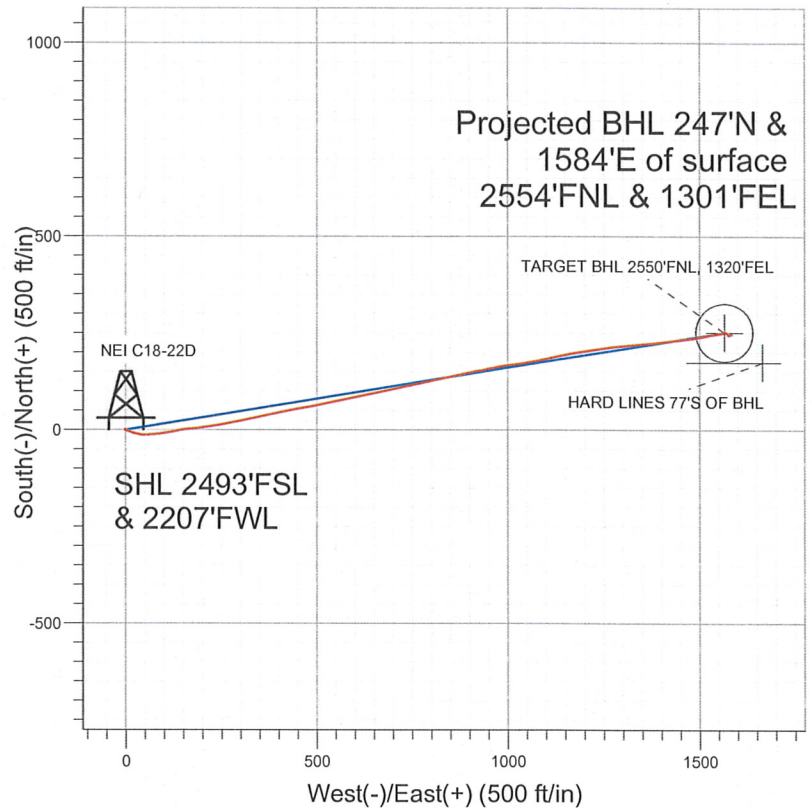


Surface Location: NEI C18-32D Pad Sec.18-T4N-R64W
 North American Datum 1983 US State Plane 1983 Colorado Northern Zone
 Ground Elevation: 4834.0
 +N/-S +E/-W Northing Easting Latitude Longitude Slot
 0.0 0.0 1357749.00 3252600.99 40.311880 -104.594190
 Original Well Elev WELL @ 4847.0ft (Original Well Elev)



NOBLE ENERGY INC WELD COUNTY CO



LEGEND

- NEI C18-22D, Wellbore #1, Noble NEI C18-22D Plan #1 (12-13-11) R V0
- Wellbore #1
- Survey #1

Final Survey Plot

Projected Final Survey -
 7505'MD & 7228'TVD @ 1603'VS
 1.1 deg Inc 83.0 deg AZ

Project: SEC.18-T4N-R64W
 Site: NEI C18-32D Pad Sec.18-T4N-R64W
 Well: NEI C18-22D
 Plan: Wellbore #1



Directional

**NOBLE ENERGY INC WELD
COUNTY CO**

SEC.18-T4N-R64W

NEI C18-32D Pad Sec.18-T4N-R64W

NEI C18-22D

Wellbore #1

Survey: Survey #1

Standard Survey Report

20 December, 2011



Company: NOBLE ENERGY INC WELD COUNTY CO
 Project: SEC.18-T4N-R64W
 Site: NEI C18-32D Pad Sec.18-T4N-R64W
 Well: NEI C18-22D
 Wellbore: Wellbore #1
 Design: Wellbore #1

Local Co-ordinate Reference: Well NEI C18-22D
 TVD Reference: WELL @ 4847.0ft (Original Well Elev)
 MD Reference: WELL @ 4847.0ft (Original Well Elev)
 North Reference: True
 Survey Calculation Method: Minimum Curvature
 Database: Landmark

Project	SEC.18-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 NEI C18-32D Pad Sec.18-T4N-R64W

Site Position:	Northing:	1,357,747.19 ft	Latitude:	40.311880
From: Lat/Long	Easting:	3,252,422.52 ft	Longitude:	-104.594830
Position Uncertainty: 0.0 ft	Slot Radius:	"	Grid Convergence:	0.58 °

Well	NEI C18-22D
Well Position	+N/-S 0.0 ft Northing: 1,357,749.00 ft Latitude: 40.311880
	+E/-W 0.0 ft Easting: 3,252,600.99 ft Longitude: -104.594190
Position Uncertainty	0.0 ft Wellhead Elevation: ft Ground Level: 4,834.0 ft

Wellbore Wellbore #1

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	12/13/2011	8.70	66.99	53,051

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 (°)
	5,900.0	0.0	0.0	80.87

Survey Program Date 12/20/2011

From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
134.0	7,505.0	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
134.0	0.90	313.20	134.0	0.7	-0.8	-0.6	0.67	0.67	0.00
225.0	0.40	148.60	225.0	0.9	-1.1	-1.0	1.42	-0.55	-180.88
316.0	0.60	167.10	316.0	0.2	-0.9	-0.8	0.28	0.22	20.33
444.0	1.80	116.50	444.0	-1.3	1.1	0.9	1.17	0.94	-39.53
572.0	3.90	110.00	571.8	-3.7	7.0	6.3	1.66	1.64	-5.08
661.0	5.00	110.80	660.5	-6.1	13.5	12.3	1.24	1.24	0.90
725.0	5.80	107.30	724.2	-8.1	19.2	17.6	1.35	1.25	-5.47
854.0	9.70	100.30	852.0	-12.0	36.1	33.7	3.11	3.02	-5.43
982.0	12.00	86.80	977.8	-13.2	60.0	57.1	2.67	1.80	-10.55
1,110.0	14.90	82.70	1,102.2	-10.3	89.6	86.8	2.38	2.27	-3.20
1,239.0	18.20	78.10	1,225.9	-4.1	125.8	123.5	2.75	2.56	-3.57
1,367.0	18.40	84.10	1,347.4	2.1	165.4	163.7	1.48	0.16	4.69

Company: NOBLE ENERGY INC WELD COUNTY CO
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 Wellbore: Wellbore #1
 Design: Wellbore #1

Local Co-ordinate Reference: Well NEI C18-22D
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 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)
1,496.0	21.90	82.90	1,468.5	7.2	209.6	208.1	2.73	2.71	-0.93
1,624.0	22.20	78.30	1,587.2	15.1	256.9	256.1	1.37	0.23	-3.59
1,752.0	21.50	79.40	1,706.0	24.3	303.7	303.7	0.63	-0.55	0.86
1,881.0	22.40	78.10	1,825.6	33.7	351.0	351.9	0.79	0.70	-1.01
2,009.0	22.30	77.30	1,944.0	44.1	398.5	400.5	0.25	-0.08	-0.63
2,138.0	22.50	80.30	2,063.3	53.6	446.7	449.6	0.90	0.16	2.33
2,266.0	21.90	79.50	2,181.8	62.1	494.3	497.9	0.52	-0.47	-0.63
2,394.0	22.10	77.30	2,300.5	71.7	541.3	545.8	0.66	0.16	-1.72
2,523.0	20.30	79.00	2,420.7	81.3	586.9	592.4	1.47	-1.40	1.32
2,651.0	21.20	79.50	2,540.4	89.8	631.5	637.7	0.72	0.70	0.39
2,780.0	22.60	76.40	2,660.1	99.9	678.5	685.8	1.41	1.09	-2.40
2,908.0	22.90	77.80	2,778.2	110.9	726.8	735.2	0.48	0.23	1.09
3,036.0	22.80	77.60	2,896.1	121.5	775.3	784.8	0.10	-0.08	-0.16
3,165.0	22.30	78.10	3,015.2	131.9	823.7	834.2	0.42	-0.39	0.39
3,293.0	21.80	78.50	3,133.9	141.7	870.8	882.2	0.41	-0.39	0.31
3,422.0	22.20	79.00	3,253.5	151.1	918.1	930.5	0.34	0.31	0.39
3,550.0	20.00	77.30	3,372.9	160.5	963.2	976.5	1.78	-1.72	-1.33
3,678.0	20.30	84.10	3,493.1	167.6	1,006.7	1,020.5	1.84	0.23	5.31
3,807.0	21.00	79.90	3,613.8	174.0	1,051.7	1,066.0	1.27	0.54	-3.26
3,935.0	20.00	78.80	3,733.7	182.2	1,095.8	1,110.8	0.84	-0.78	-0.86
4,064.0	19.00	76.60	3,855.3	191.4	1,137.8	1,153.8	0.96	-0.78	-1.71
4,192.0	21.20	80.60	3,975.5	200.0	1,180.9	1,197.7	2.03	1.72	3.13
4,320.0	21.60	81.00	4,094.7	207.5	1,227.0	1,244.4	0.33	0.31	0.31
4,449.0	21.20	83.80	4,214.8	213.7	1,273.7	1,291.5	0.85	-0.31	2.17
4,577.0	22.20	84.30	4,333.7	218.6	1,320.8	1,338.7	0.79	0.78	0.39
4,706.0	21.30	85.90	4,453.5	222.7	1,368.4	1,386.4	0.84	-0.70	1.24
4,834.0	19.20	81.30	4,573.6	227.5	1,412.4	1,430.6	2.06	-1.64	-3.59
4,962.0	14.40	82.50	4,696.1	232.8	1,449.0	1,467.6	3.76	-3.75	0.94
5,091.0	12.90	84.30	4,821.5	236.3	1,479.2	1,498.0	1.21	-1.16	1.40
5,219.0	10.90	77.80	4,946.7	240.3	1,505.3	1,524.3	1.88	-1.56	-5.08
5,348.0	9.80	76.90	5,073.6	245.4	1,527.9	1,547.5	0.86	-0.85	-0.70
5,476.0	6.50	84.60	5,200.3	248.5	1,545.7	1,565.6	2.71	-2.58	6.02
5,604.0	3.80	79.50	5,327.8	250.0	1,557.1	1,577.0	2.14	-2.11	-3.98
5,733.0	1.90	54.20	5,456.6	252.0	1,563.0	1,583.2	1.73	-1.47	-19.61
5,861.0	0.80	99.20	5,584.6	253.1	1,565.6	1,586.0	1.13	-0.86	35.16
5,990.0	1.10	110.80	5,713.6	252.5	1,567.7	1,587.9	0.28	0.23	8.99
6,118.0	1.00	141.40	5,841.6	251.2	1,569.5	1,589.5	0.44	-0.08	23.91
6,176.4	1.01	127.84	5,899.9	250.5	1,570.3	1,590.1	0.41	0.02	-23.24
TARGET BHL 2550'FNL, 1320'FEL									
6,246.0	1.10	113.10	5,969.5	249.9	1,571.4	1,591.1	0.41	0.12	-21.16
6,375.0	0.90	145.50	6,098.5	248.5	1,573.1	1,592.6	0.46	-0.16	25.12
6,503.0	0.50	103.30	6,226.5	247.6	1,574.2	1,593.5	0.49	-0.31	-32.97
6,632.0	0.70	135.10	6,355.5	246.9	1,575.3	1,594.5	0.30	0.16	24.65
6,760.0	0.40	176.40	6,483.5	245.9	1,575.9	1,594.9	0.37	-0.23	32.27
6,888.0	0.50	85.00	6,611.5	245.5	1,576.5	1,595.4	0.51	0.08	-71.41
7,017.0	0.50	55.30	6,740.5	245.9	1,577.5	1,596.5	0.20	0.00	-23.02
7,038.4	0.54	60.79	6,761.9	246.0	1,577.6	1,596.7	0.31	0.20	25.63
TARGET CIRCLE 2550'FNL & 1320'FEL									
7,145.0	0.80	78.10	6,868.5	246.4	1,578.8	1,597.9	0.31	0.24	16.24
7,274.0	0.50	80.60	6,997.5	246.6	1,580.2	1,599.4	0.23	-0.23	1.94
7,402.0	1.10	73.00	7,125.5	247.1	1,582.0	1,601.1	0.47	0.47	-5.94
7,456.0	1.10	83.20	7,179.4	247.3	1,583.0	1,602.2	0.36	0.00	18.89
7,504.9	1.10	83.00	7,228.4	247.4	1,583.9	1,603.1	0.01	0.00	-0.41
HARD LINES 77'S OF BHL									

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7,505.0	1.10	83.00	7,228.4	247.4	1,583.9	1,603.1	0.01	0.00	-0.41

Checked By: _____ Approved By: _____ Date: _____