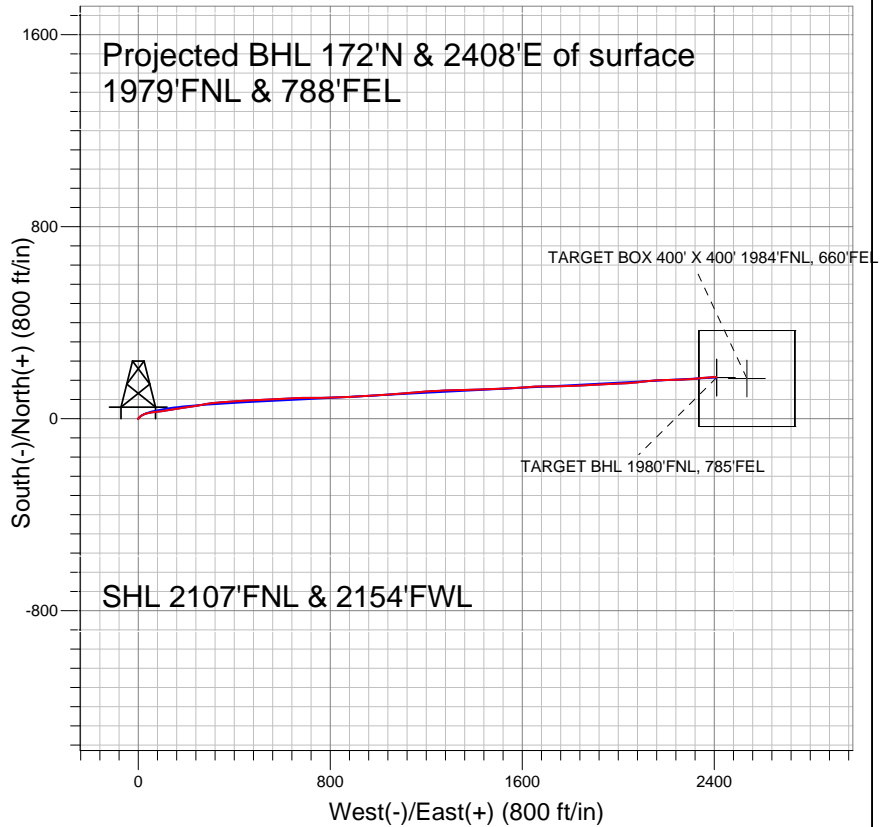


NOBLE ENERGY INC WELD COUNTY CO



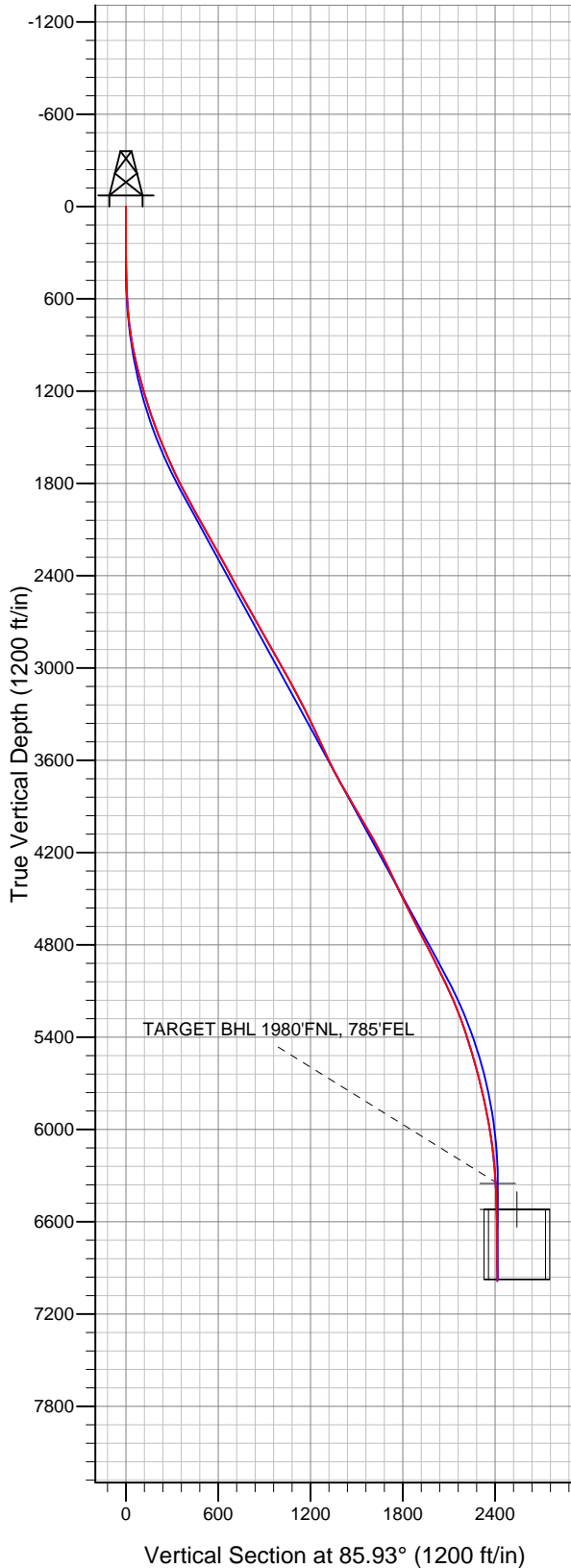
LEGEND

- ◆ NCLP PC AA08-08D, Wellbore #1, Noble NCLP PC AA08-08D Plan #4 (4-20-11) V0
- Wellbore #1
- Survey #1

Final Survey Plot

Projected Final Survey -
 7522'MD & 6984'TVD @ 2415'VS
 0.6 deg Inc 154.0 deg AZ

Project: SEC.8-T6N-R63W
 Site: NCLP PC AA08-07D Pad Sec.8-T6N-R63W
 Well: NCLP PC AA08-08D
 Plan: Wellbore #1





Directional

NOBLE ENERGY INC WELD COUNTY CO

SEC.8-T6N-R63W

NCLP PC AA08-07D Pad Sec.8-T6N-R63W

NCLP PC AA08-08D

Wellbore #1

Survey: Survey #1

Standard Survey Report

06 May, 2011



Company:	NOBLE ENERGY INC WELD COUNTY CO	Local Co-ordinate Reference:	Well NCLP PC AA08-08D
Project:	SEC.8-T6N-R63W	TVD Reference:	WELL @ 4724.0ft (Original Well Elev)
Site:	NCLP PC AA08-07D Pad Sec.8-T6N-R63W	MD Reference:	WELL @ 4724.0ft (Original Well Elev)
Well:	NCLP PC AA08-08D	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Landmark

Project	SEC.8-T6N-R63W, 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		NCLP PC AA08-07D Pad Sec.8-T6N-R63W			
Site Position:		Northing:	1,427,592.72 ft	Latitude:	40.502510
From:	Lat/Long	Easting:	3,288,510.98 ft	Longitude:	-104.462500
Position Uncertainty:	0.0 ft	Slot Radius:	"	Grid Convergence:	0.67 °

Well	NCLP PC AA08-08D					
Well Position	+N-S	0.0 ft	Northing:	1,427,614.43 ft	Latitude:	40.502570
	+E-W	0.0 ft	Easting:	3,288,499.60 ft	Longitude:	-104.462540
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,711.0 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	1/28/2011	8.76	67.20	53,258

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	85.93	

Survey Program	Date	5/6/2011			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
215.0	5,174.0	Survey #1 (Wellbore #1)	MWD	MWD - Standard	
5,260.0	7,522.0	Survey #2 (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	
215.0	0.30	211.50	215.0	-0.5	-0.3	-0.3	0.14	0.14	0.00	
299.0	0.50	81.50	299.0	-0.6	0.0	-0.1	0.87	0.24	-154.76	
384.0	1.10	38.60	384.0	0.1	0.8	0.8	0.95	0.71	-50.47	
470.0	2.00	45.80	470.0	1.8	2.4	2.5	1.07	1.05	8.37	
553.0	3.30	38.40	552.9	4.7	4.9	5.3	1.62	1.57	-8.92	
638.0	4.70	47.70	637.7	8.9	9.0	9.6	1.81	1.65	10.94	
724.0	6.40	59.10	723.3	13.7	15.8	16.7	2.35	1.98	13.26	
810.0	8.60	68.90	808.5	18.5	25.9	27.1	2.95	2.56	11.40	
896.0	10.40	76.80	893.3	22.6	39.4	40.9	2.58	2.09	9.19	
981.0	12.00	82.80	976.7	25.5	55.7	57.3	2.33	1.88	7.06	
1,067.0	14.10	84.10	1,060.5	27.7	75.0	76.7	2.47	2.44	1.51	

Company:	NOBLE ENERGY INC WELD COUNTY CO	Local Co-ordinate Reference:	Well NCLP PC AA08-08D
Project:	SEC.8-T6N-R63W	TVD Reference:	WELL @ 4724.0ft (Original Well Elev)
Site:	NCLP PC AA08-07D Pad Sec.8-T6N-R63W	MD Reference:	WELL @ 4724.0ft (Original Well Elev)
Well:	NCLP PC AA08-08D	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	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)
1,152.0	15.60	79.70	1,142.7	30.8	96.5	98.4	2.21	1.76	-5.18
1,238.0	16.80	81.20	1,225.2	34.7	120.2	122.3	1.48	1.40	1.74
1,323.0	17.90	82.70	1,306.4	38.3	145.3	147.6	1.40	1.29	1.76
1,409.0	19.50	80.50	1,387.8	42.3	172.5	175.1	2.03	1.86	-2.56
1,494.0	21.00	81.20	1,467.6	47.0	201.6	204.4	1.79	1.76	0.82
1,580.0	23.00	81.20	1,547.3	51.9	233.4	236.5	2.33	2.33	0.00
1,667.0	23.60	78.60	1,627.2	58.0	267.3	270.7	1.37	0.69	-2.99
1,751.0	24.70	81.10	1,703.9	64.0	301.1	304.9	1.79	1.31	2.98
1,837.0	26.10	86.80	1,781.6	67.9	337.8	341.7	3.27	1.63	6.63
1,923.0	28.90	86.80	1,857.8	70.1	377.4	381.4	3.26	3.26	0.00
2,008.0	28.40	85.30	1,932.4	72.9	418.0	422.2	1.03	-0.59	-1.76
2,094.0	29.00	87.00	2,007.9	75.6	459.3	463.5	1.18	0.70	1.98
2,179.0	29.20	86.30	2,082.1	78.1	500.5	504.8	0.46	0.24	-0.82
2,263.0	29.60	87.10	2,155.3	80.4	541.7	546.0	0.67	0.48	0.95
2,349.0	29.70	88.40	2,230.1	82.1	584.2	588.5	0.76	0.12	1.51
2,434.0	28.50	86.60	2,304.3	83.9	625.5	629.9	1.75	-1.41	-2.12
2,520.0	28.00	87.40	2,380.1	86.0	666.1	670.6	0.73	-0.58	0.93
2,606.0	29.10	90.10	2,455.6	86.9	707.2	711.6	1.97	1.28	3.14
2,691.0	29.60	90.00	2,529.7	86.9	748.9	753.2	0.59	0.59	-0.12
2,777.0	29.40	88.30	2,604.6	87.5	791.2	795.4	1.00	-0.23	-1.98
2,862.0	29.50	88.10	2,678.6	88.8	833.0	837.2	0.16	0.12	-0.24
2,948.0	29.30	87.50	2,753.5	90.4	875.2	879.4	0.41	-0.23	-0.70
3,034.0	29.10	88.50	2,828.6	91.9	917.1	921.3	0.61	-0.23	1.16
3,119.0	29.50	85.50	2,902.7	94.1	958.6	962.9	1.79	0.47	-3.53
3,205.0	28.80	84.80	2,977.8	97.6	1,000.4	1,004.8	0.91	-0.81	-0.81
3,290.0	28.80	87.00	3,052.3	100.5	1,041.2	1,045.7	1.25	0.00	2.59
3,376.0	29.10	85.20	3,127.6	103.4	1,082.7	1,087.3	1.07	0.35	-2.09
3,462.0	28.40	85.40	3,203.0	106.8	1,124.0	1,128.7	0.82	-0.81	0.23
3,547.0	25.90	85.50	3,278.6	109.8	1,162.6	1,167.5	2.94	-2.94	0.12
3,633.0	25.30	86.10	3,356.1	112.6	1,199.7	1,204.6	0.76	-0.70	0.70
3,719.0	25.20	85.50	3,433.9	115.2	1,236.3	1,241.3	0.32	-0.12	-0.70
3,804.0	25.10	88.40	3,510.9	117.2	1,272.3	1,277.4	1.45	-0.12	3.41
3,890.0	25.20	88.20	3,588.7	118.3	1,308.9	1,314.0	0.15	0.12	-0.23
3,975.0	27.00	88.40	3,665.1	119.4	1,346.2	1,351.3	2.12	2.12	0.24
4,061.0	28.70	88.20	3,741.1	120.6	1,386.4	1,391.5	1.98	1.98	-0.23
4,147.0	30.20	89.00	3,816.0	121.6	1,428.7	1,433.7	1.80	1.74	0.93
4,232.0	31.20	88.40	3,889.1	122.6	1,472.1	1,477.0	1.23	1.18	-0.71
4,318.0	31.10	85.60	3,962.7	124.9	1,516.5	1,521.5	1.69	-0.12	-3.26
4,404.0	29.70	88.40	4,036.8	127.2	1,559.9	1,565.0	2.32	-1.63	3.26
4,489.0	29.40	85.30	4,110.8	129.5	1,601.8	1,606.9	1.83	-0.35	-3.65
4,575.0	28.50	86.30	4,186.0	132.5	1,643.3	1,648.5	1.19	-1.05	1.16
4,660.0	26.20	87.60	4,261.5	134.6	1,682.3	1,687.6	2.80	-2.71	1.53
4,746.0	25.10	91.10	4,339.1	135.1	1,719.5	1,724.7	2.18	-1.28	4.07
4,832.0	25.20	89.50	4,416.9	134.9	1,756.0	1,761.2	0.80	0.12	-1.86
4,918.0	26.90	88.60	4,494.2	135.5	1,793.8	1,798.9	2.03	1.98	-1.05
5,003.0	27.20	85.50	4,569.9	137.5	1,832.4	1,837.5	1.70	0.35	-3.65
5,089.0	26.30	88.20	4,646.7	139.7	1,871.0	1,876.2	1.76	-1.05	3.14
5,174.0	26.40	87.40	4,722.8	141.1	1,908.7	1,913.9	0.43	0.12	-0.94
5,260.0	28.20	86.50	4,799.3	143.2	1,948.1	1,953.3	2.15	2.09	-1.05
5,346.0	26.20	86.80	4,875.8	145.5	1,987.3	1,992.6	2.33	-2.33	0.35
5,431.0	26.10	87.50	4,952.1	147.4	2,024.7	2,030.1	0.38	-0.12	0.82
5,517.0	26.20	85.10	5,029.3	149.8	2,062.6	2,068.0	1.24	0.12	-2.79
5,602.0	24.40	83.50	5,106.1	153.4	2,098.7	2,104.3	2.27	-2.12	-1.88
5,688.0	22.20	84.10	5,185.1	157.1	2,132.5	2,138.3	2.57	-2.56	0.70

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Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	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)
5,774.0	21.30	86.70	5,265.0	159.7	2,164.3	2,170.2	1.53	-1.05	3.02
5,859.0	19.00	88.10	5,344.7	161.0	2,193.5	2,199.4	2.76	-2.71	1.65
5,945.0	16.70	88.80	5,426.6	161.7	2,219.9	2,225.8	2.69	-2.67	0.81
6,031.0	16.30	90.60	5,509.1	161.9	2,244.3	2,250.1	0.75	-0.47	2.09
6,116.0	16.60	85.70	5,590.6	162.7	2,268.3	2,274.2	1.67	0.35	-5.76
6,202.0	13.70	85.20	5,673.6	164.4	2,290.7	2,296.6	3.38	-3.37	-0.58
6,287.0	12.40	85.60	5,756.4	166.0	2,309.9	2,315.8	1.53	-1.53	0.47
6,373.0	12.60	85.50	5,840.4	167.4	2,328.4	2,334.4	0.23	0.23	-0.12
6,459.0	10.40	83.30	5,924.6	169.1	2,345.5	2,351.6	2.61	-2.56	-2.56
6,544.0	9.50	85.90	6,008.3	170.5	2,360.1	2,366.2	1.18	-1.06	3.06
6,630.0	7.00	86.00	6,093.4	171.3	2,372.4	2,378.6	2.91	-2.91	0.12
6,715.0	6.80	89.00	6,177.8	171.8	2,382.6	2,388.8	0.48	-0.24	3.53
6,801.0	4.70	84.20	6,263.4	172.2	2,391.2	2,397.4	2.50	-2.44	-5.58
6,886.0	2.90	82.10	6,348.2	172.9	2,396.8	2,403.0	2.12	-2.12	-2.47
6,888.4	2.87	82.07	6,350.6	172.9	2,396.9	2,403.1	1.28	-1.28	-1.09
TARGET BHL 1980'FNL, 785'FEL									
6,972.0	1.80	80.60	6,434.1	173.4	2,400.3	2,406.5	1.28	-1.28	-1.76
7,057.1	1.60	89.90	6,519.2	173.6	2,402.8	2,409.1	0.40	-0.23	10.92
TARGET CIRCLE 1980'FNL, 785'FEL									
7,058.0	1.60	90.00	6,520.1	173.6	2,402.8	2,409.1	0.40	-0.20	12.23
7,059.8	1.59	89.93	6,521.9	173.6	2,402.9	2,409.1	0.84	-0.83	-4.13
TARGET BOX 400' X 400' 1984'FNL, 660'FEL									
7,143.0	0.90	83.80	6,605.1	173.7	2,404.7	2,410.9	0.84	-0.82	-7.36
7,229.0	0.60	103.60	6,691.1	173.7	2,405.8	2,412.0	0.46	-0.35	23.02
7,315.0	0.60	126.30	6,777.1	173.3	2,406.6	2,412.8	0.27	0.00	26.40
7,400.0	0.60	109.80	6,862.1	172.9	2,407.4	2,413.6	0.20	0.00	-19.41
7,486.0	0.60	110.20	6,948.1	172.6	2,408.2	2,414.4	0.00	0.00	0.47
7,522.0	0.60	154.00	6,984.0	172.3	2,408.5	2,414.6	1.24	0.00	121.67

Checked By: _____	Approved By: _____	Date: _____
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