

Well Name: **NCLP PC AA08-03D**

Surface Location: NCLP PC AA08-03D Pad Sec.8-T6N-R63W
North American Datum 1983 US State Plane 1983 Colorado Northern Zone

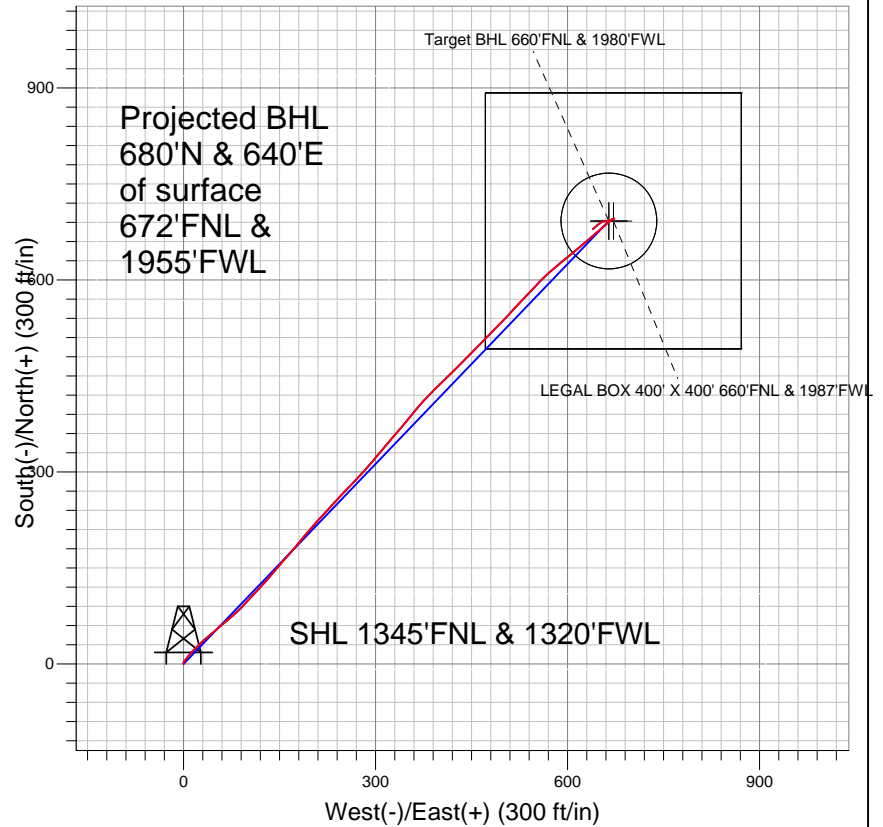
Ground Elevation: 4703.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.0	0.0	1428358.79	3287659.37	40° 30' 16.704 N	104° 27' 55.908 W

Original Well Elev WELL @ 4716.0ft (Original Well Elev)

Slot

NOBLE ENERGY INC WELD COUNTY CO

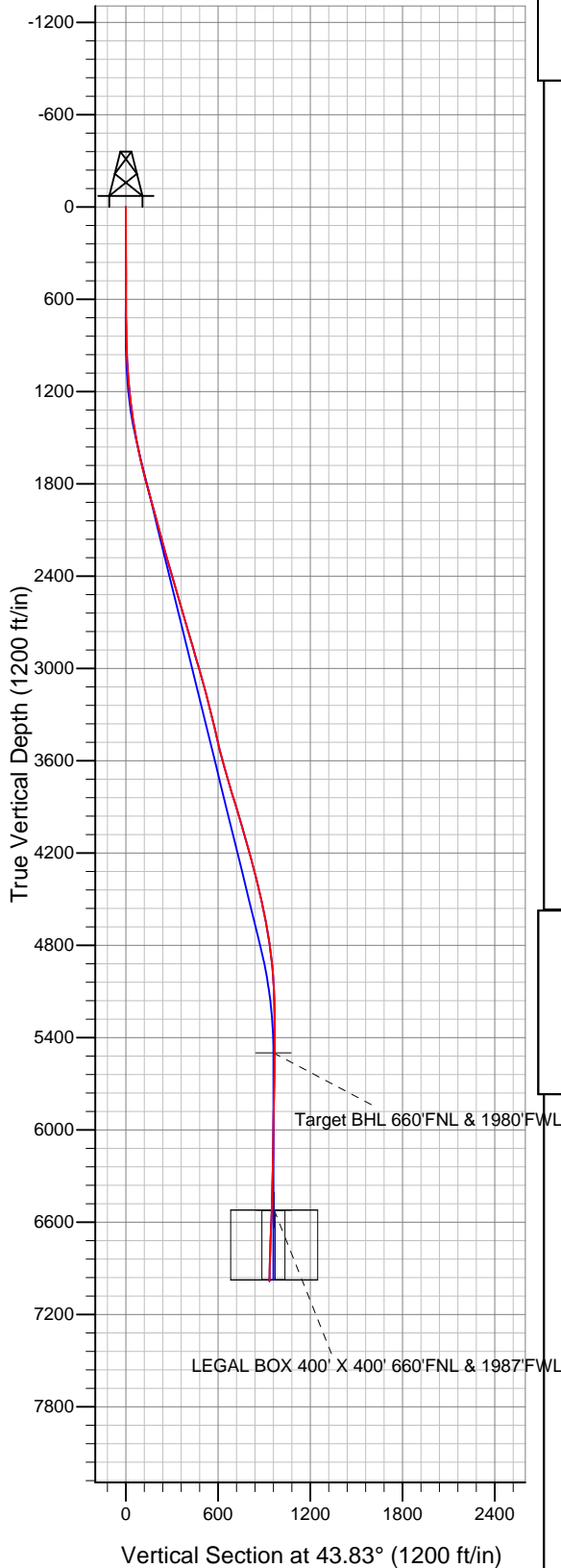


LEGEND

- NCLP PC AA08-03D, Wellbore #1, Noble NCLP PC AA08-03D Plan #1 (8-5-10) VO
- Wellbore #1
- Survey #1

Final Survey Plot

Projected Final Survey -
7105'MD & 6984'TVD @ 933'VS
1.5 deg Inc 240.1 deg AZ



Project: SEC.8-T6N-R63W
Site: NCLP PC AA08-03D Pad Sec.8-T6N-R63W
Well: NCLP PC AA08-03D
Plan: Wellbore #1



Directional

NOBLE ENERGY INC WELD COUNTY CO

SEC.8-T6N-R63W

NCLP PC AA08-03D Pad Sec.8-T6N-R63W

NCLP PC AA08-03D

Wellbore #1

Survey: Survey #1

Standard Survey Report

31 March, 2011



Company:	NOBLE ENERGY INC WELD COUNTY CO	Local Co-ordinate Reference:	Well NCLP PC AA08-03D
Project:	SEC.8-T6N-R63W	TVD Reference:	WELL @ 4716.0ft (Original Well Elev)
Site:	NCLP PC AA08-03D Pad Sec.8-T6N-R63W	MD Reference:	WELL @ 4716.0ft (Original Well Elev)
Well:	NCLP PC AA08-03D	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 AA08-03D Pad Sec.8-T6N-R63W		
Site Position:		Northing:	1,428,358.79 ft
From:	Lat/Long	Easting:	3,287,659.37 ft
Position Uncertainty:	0.0 ft	Slot Radius:	"
		Latitude:	40° 30' 16.704 N
		Longitude:	104° 27' 55.908 W
		Grid Convergence:	0.67 °

Well	NCLP PC AA08-03D		
Well Position	+N/-S	0.0 ft	Northing: 1,428,358.79 ft
	+E/-W	0.0 ft	Easting: 3,287,659.37 ft
Position Uncertainty	0.0 ft	Wellhead Elevation:	ft
		Latitude:	40° 30' 16.704 N
		Longitude:	104° 27' 55.908 W
		Ground Level:	4,703.0 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	3/18/2011	8.75	67.19	53,245

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 (°)	
	5,500.0	0.0	0.0	43.83	

Survey Program	Date	3/31/2011			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
630.0	7,105.0	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	
630.0	0.30	359.20	630.0	1.6	0.0	1.2	0.05	0.05	0.00	
712.0	0.40	359.50	712.0	2.2	0.0	1.5	0.12	0.12	0.37	
793.0	0.40	42.70	793.0	2.6	0.2	2.0	0.36	0.00	53.33	
875.0	1.80	34.40	875.0	3.9	1.1	3.6	1.71	1.71	-10.12	
957.0	2.50	34.70	956.9	6.4	2.8	6.6	0.85	0.85	0.37	
1,039.0	3.50	42.30	1,038.8	9.8	5.5	10.9	1.31	1.22	9.27	
1,121.0	4.70	43.30	1,120.6	14.1	9.5	16.7	1.47	1.46	1.22	
1,202.0	5.40	36.30	1,201.3	19.6	14.1	23.8	1.15	0.86	-8.64	
1,284.0	6.60	47.60	1,282.8	25.8	19.8	32.4	2.05	1.46	13.78	
1,366.0	8.50	46.80	1,364.1	33.2	27.7	43.1	2.32	2.32	-0.98	
1,448.0	9.50	46.80	1,445.1	41.9	37.1	55.9	1.22	1.22	0.00	
1,529.0	11.20	51.70	1,524.8	51.4	48.1	70.4	2.36	2.10	6.05	

Company:	NOBLE ENERGY INC WELD COUNTY CO	Local Co-ordinate Reference:	Well NCLP PC AA08-03D
Project:	SEC.8-T6N-R63W	TVD Reference:	WELL @ 4716.0ft (Original Well Elev)
Site:	NCLP PC AA08-03D Pad Sec.8-T6N-R63W	MD Reference:	WELL @ 4716.0ft (Original Well Elev)
Well:	NCLP PC AA08-03D	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)	
1,611.0	12.40	50.90	1,605.1	61.9	61.2	87.0	1.48	1.46	-0.98	
1,692.0	13.50	48.30	1,684.0	73.7	75.0	105.1	1.54	1.36	-3.21	
1,774.0	14.50	44.70	1,763.6	87.3	89.4	124.9	1.62	1.22	-4.39	
1,856.0	15.20	43.00	1,842.8	102.5	103.9	145.9	1.01	0.85	-2.07	
1,938.0	15.30	42.30	1,921.9	118.3	118.5	167.5	0.26	0.12	-0.85	
2,019.0	15.40	41.20	2,000.0	134.3	132.8	188.9	0.38	0.12	-1.36	
2,101.0	15.30	39.70	2,079.1	150.9	146.9	210.6	0.50	-0.12	-1.83	
2,178.0	15.10	42.70	2,153.4	166.1	160.2	230.7	1.05	-0.26	3.90	
2,259.0	15.70	39.80	2,231.5	182.2	174.4	252.2	1.21	0.74	-3.58	
2,341.0	15.80	39.10	2,310.4	199.4	188.5	274.4	0.26	0.12	-0.85	
2,423.0	16.00	41.50	2,389.3	216.5	203.0	296.8	0.84	0.24	2.93	
2,505.0	16.60	43.40	2,468.0	233.5	218.6	319.8	0.98	0.73	2.32	
2,587.0	16.50	42.10	2,546.6	250.7	234.4	343.2	0.47	-0.12	-1.59	
2,668.0	16.40	42.70	2,624.3	267.6	249.9	366.1	0.24	-0.12	0.74	
2,750.0	16.10	44.40	2,703.0	284.2	265.7	389.0	0.69	-0.37	2.07	
2,832.0	16.40	42.00	2,781.7	301.0	281.4	412.0	0.90	0.37	-2.93	
2,914.0	16.40	41.00	2,860.4	318.3	296.7	435.1	0.34	0.00	-1.22	
2,995.0	15.60	39.60	2,938.3	335.3	311.2	457.4	1.10	-0.99	-1.73	
3,077.0	16.30	40.40	3,017.1	352.6	325.7	479.9	0.89	0.85	0.98	
3,159.0	15.90	40.70	3,095.9	369.9	340.4	502.6	0.50	-0.49	0.37	
3,241.0	15.20	38.80	3,174.9	386.8	354.5	524.5	1.06	-0.85	-2.32	
3,322.0	13.90	40.00	3,253.3	402.5	367.4	544.8	1.65	-1.60	1.48	
3,404.0	13.50	44.90	3,333.0	416.8	380.5	564.2	1.50	-0.49	5.98	
3,486.0	12.90	44.90	3,412.8	430.1	393.7	582.9	0.73	-0.73	0.00	
3,568.0	13.10	45.40	3,492.7	443.1	406.8	601.4	0.28	0.24	0.61	
3,650.0	14.90	45.40	3,572.3	457.0	420.9	621.2	2.20	2.20	0.00	
3,731.0	15.70	44.90	3,650.4	472.1	436.1	642.5	1.00	0.99	-0.62	
3,813.0	16.40	44.80	3,729.2	488.2	452.1	665.2	0.85	0.85	-0.12	
3,900.0	17.10	44.50	3,812.5	506.0	469.7	690.3	0.81	0.80	-0.34	
3,982.0	17.50	43.90	3,890.8	523.5	486.7	714.7	0.53	0.49	-0.73	
4,064.0	16.80	43.40	3,969.1	541.0	503.4	738.9	0.87	-0.85	-0.61	
4,146.0	16.20	43.10	4,047.8	557.9	519.3	762.1	0.74	-0.73	-0.37	
4,227.0	15.40	43.30	4,125.7	574.0	534.4	784.2	0.99	-0.99	0.25	
4,309.0	15.20	44.30	4,204.8	589.6	549.4	805.8	0.40	-0.24	1.22	
4,391.0	13.80	44.90	4,284.2	604.2	563.8	826.4	1.72	-1.71	0.73	
4,473.0	13.90	48.90	4,363.8	617.7	578.1	845.9	1.17	0.12	4.88	
4,554.0	14.20	51.90	4,442.4	630.2	593.3	865.5	0.97	0.37	3.70	
4,636.0	12.90	50.00	4,522.1	642.3	608.2	884.5	1.68	-1.59	-2.32	
4,718.0	11.20	49.10	4,602.3	653.4	621.2	901.6	2.09	-2.07	-1.10	
4,800.0	10.40	50.00	4,682.8	663.3	632.9	916.9	1.00	-0.98	1.10	
4,881.0	9.10	49.40	4,762.7	672.2	643.4	930.5	1.61	-1.60	-0.74	
4,963.0	7.10	48.80	4,843.8	679.8	652.1	942.0	2.44	-2.44	-0.73	
5,039.0	5.20	48.50	4,919.4	685.1	658.3	950.1	2.50	-2.50	-0.39	
5,121.0	4.30	49.10	5,001.1	689.6	663.4	956.9	1.10	-1.10	0.73	
5,203.0	2.70	49.60	5,083.0	692.9	667.2	961.9	1.95	-1.95	0.61	
5,285.0	2.30	65.90	5,164.9	694.8	670.1	965.3	0.99	-0.49	19.88	
5,366.0	0.70	75.70	5,245.9	695.6	672.1	967.2	1.99	-1.98	12.10	
5,448.0	0.50	66.70	5,327.8	695.9	672.9	968.0	0.27	-0.24	-10.98	
5,530.0	0.40	262.60	5,409.8	696.0	673.0	968.1	1.09	-0.12	-200.12	
5,612.0	0.50	242.60	5,491.8	695.8	672.3	967.5	0.23	0.12	-24.39	
5,620.3	0.53	244.73	5,500.1	695.7	672.3	967.5	0.41	0.34	25.79	
Target BHL 660'FNL & 1980'FWL										
5,694.0	0.80	256.70	5,573.8	695.5	671.5	966.7	0.41	0.37	16.23	
5,776.0	0.90	241.00	5,655.8	695.0	670.4	965.6	0.31	0.12	-19.15	

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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)	
5,858.0	1.20	247.10	5,737.8	694.4	669.0	964.2	0.39	0.37	7.44	
5,940.0	1.50	252.30	5,819.8	693.7	667.2	962.5	0.39	0.37	6.34	
6,021.0	0.80	233.60	5,900.8	693.1	665.7	961.0	0.97	-0.86	-23.09	
6,103.0	1.10	247.40	5,982.8	692.4	664.5	959.7	0.46	0.37	16.83	
6,185.0	0.80	272.90	6,064.8	692.1	663.2	958.6	0.62	-0.37	31.10	
6,267.0	1.20	265.70	6,146.7	692.1	661.8	957.6	0.51	0.49	-8.78	
6,348.0	1.60	267.20	6,227.7	692.0	659.8	956.1	0.50	0.49	1.85	
6,430.0	1.90	269.70	6,309.7	691.9	657.3	954.4	0.38	0.37	3.05	
6,512.0	1.60	240.00	6,391.6	691.3	655.0	952.3	1.15	-0.37	-36.22	
6,594.0	2.00	240.50	6,473.6	690.1	652.7	949.8	0.49	0.49	0.61	
6,640.8	2.00	239.02	6,520.3	689.2	651.3	948.3	0.11	0.00	-3.17	
LEGAL BOX 400' X 400' 660'FNL & 1987'FWL										
6,641.0	2.00	239.01	6,520.5	689.2	651.3	948.3	0.11	0.00	-3.17	
Target Circle 660'FNL & 1980'FWL										
6,676.0	2.00	237.90	6,555.6	688.6	650.3	947.1	0.11	0.00	-3.17	
6,757.0	2.30	225.60	6,636.5	686.7	647.9	944.1	0.68	0.37	-15.19	
6,839.0	2.20	229.60	6,718.4	684.5	645.6	940.9	0.23	-0.12	4.88	
6,921.0	1.60	223.80	6,800.4	682.7	643.6	938.2	0.77	-0.73	-7.07	
7,002.0	1.50	228.50	6,881.4	681.2	642.0	936.0	0.20	-0.12	5.80	
7,060.0	1.50	240.10	6,939.3	680.3	640.8	934.5	0.52	0.00	20.00	
7,105.0	1.50	240.10	6,984.3	679.7	639.7	933.4	0.00	0.00	0.00	
Projection to TD										

Survey Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
7,105.0	6,984.3	679.7	639.7	Projection to TD	

Checked By: _____	Approved By: _____	Date: _____
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