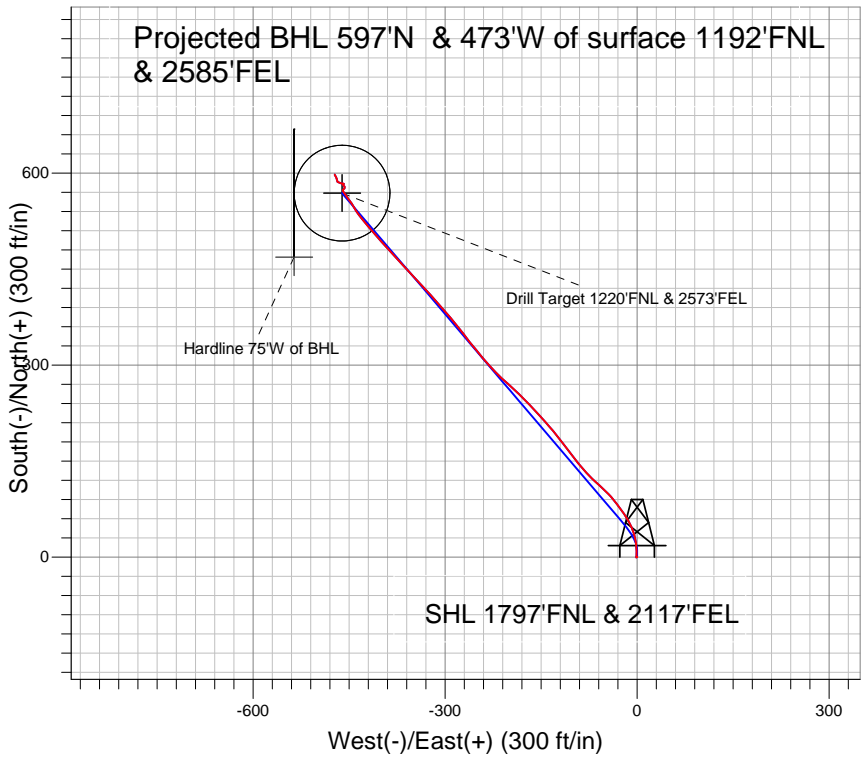
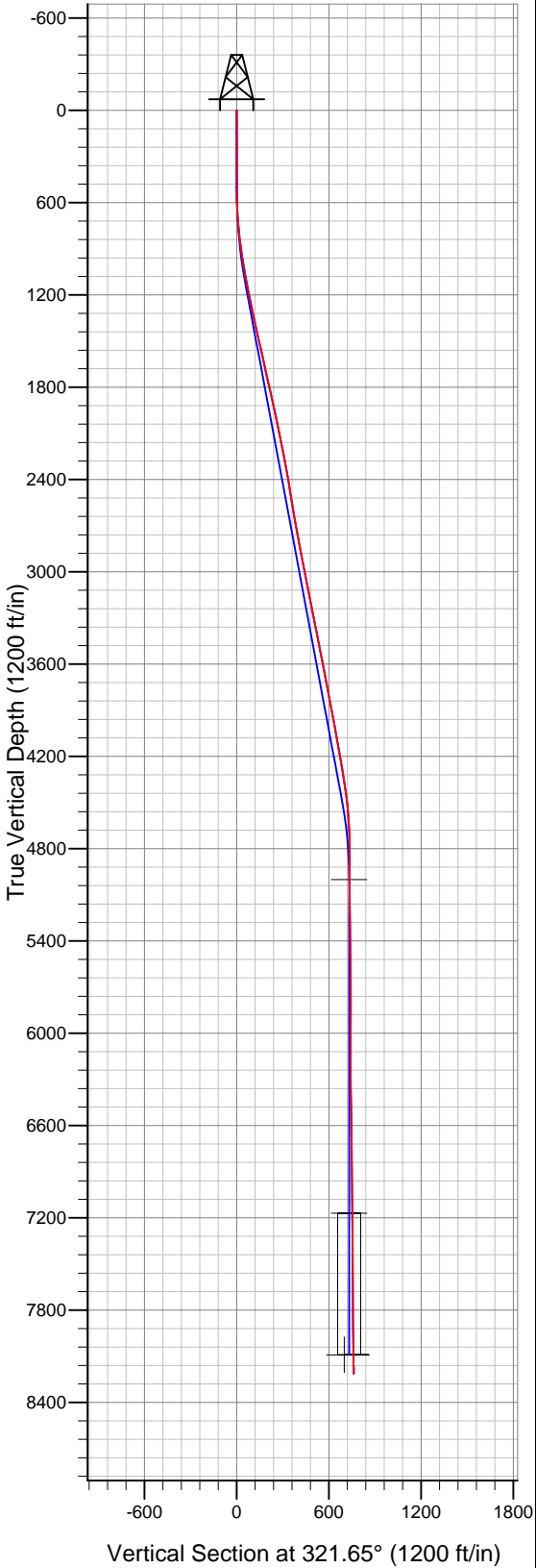


Well Name: **Ft. Lupton Highlands USX WW09-18D**
 Surface Location: Ft. Lupton Pad Sec.9-T1N-R66W
 North American Datum 1983 , US State Plane 1983 Colorado Northern Zone
 Ground Elevation: 5020.0
 +N/-S +E/-W Northing Easting Latitude Longitude Slot
 0.0 0.0 1268456.74 3201417.51 40° 4' 5.016 N 104° 46' 49.152 W

NOBLE ENERGY INC WELD COUNTY CO



LEGEND

- ▣ Ft. Lupton Highlands USX WW09-18D
- Survey #1

Final Survey Plot

Projected Final Survey -
 8284'MD & 8214'TVD @ 761' VS 1.0 deg Inc
 341.6 deg AZ

Project: SEC.9-T1N-R66W
 Site: Ft. Lupton Pad Sec.9-T1N-R66W
 Well: Ft. Lupton Highlands USX WW09-18D
 Plan: Ft. Lupton Highlands USX WW09-18D



NOBLE ENERGY INC WELD COUNTY CO

SEC.9-T1N-R66W

Ft. Lupton Pad Sec.9-T1N-R66W

Ft. Lupton Highlands USX WW09-18D

Ft. Lupton Highlands USX WW09-18D

Survey: Survey #1

Standard Survey Report

29 July, 2010

Company:	NOBLE ENERGY INC WELD COUNTY CO	Local Co-ordinate Reference:	Well Ft. Lupton Highlands USX WW09-18D
Project:	SEC.9-T1N-R66W	TVD Reference:	WELL @ 5033.0ft (Original Well Elev)
Site:	Ft. Lupton Pad Sec.9-T1N-R66W	MD Reference:	WELL @ 5033.0ft (Original Well Elev)
Well:	Ft. Lupton Highlands USX WW09-18D	North Reference:	True
Wellbore:	Ft. Lupton Highlands USX WW09-18D	Survey Calculation Method:	Minimum Curvature
Design:	Ft. Lupton Highlands USX WW09-18D	Database:	Landmark

Project	SEC.9-T1N-R66W, 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		

Site	Ft. Lupton Pad Sec.9-T1N-R66W		
Site Position:		Northing:	1,268,435.01 ft
From:	Lat/Long	Easting:	3,201,431.68 ft
Position Uncertainty:	0.0 ft	Slot Radius:	"
		Latitude:	40° 4' 4.800 N
		Longitude:	104° 46' 48.972 W
		Grid Convergence:	0.47 °

Well	Ft. Lupton Highlands USX WW09-18D		
Well Position	+N-S	0.0 ft	Northing: 1,268,456.74 ft
	+E-W	0.0 ft	Easting: 3,201,417.51 ft
Position Uncertainty		0.0 ft	Wellhead Elevation: ft
			Latitude: 40° 4' 5.016 N
			Longitude: 104° 46' 49.152 W
			Ground Level: 5,020.0 ft

Wellbore	Ft. Lupton Highlands USX WW09-18D				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	7/21/2010	8.96	66.81	53,048

Design	Ft. Lupton Highlands USX WW09-18D			
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	321.65

Survey Program	Date	7/28/2010		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
352.0	8,284.0	Survey #1 (Ft. Lupton Highlands USX WW	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	
352.0	0.50	256.10	352.0	-0.4	-1.5	0.6	0.14	0.14	0.00	
437.0	0.40	137.60	437.0	-0.7	-1.7	0.5	0.91	-0.12	-139.41	
522.0	0.70	22.20	522.0	-0.4	-1.3	0.5	1.11	0.35	-135.76	
608.0	2.50	357.50	608.0	1.9	-1.1	2.2	2.19	2.09	-28.72	
693.0	4.20	3.70	692.8	6.9	-1.0	6.0	2.04	2.00	7.29	
778.0	6.90	356.30	777.4	15.1	-1.1	12.6	3.28	3.18	-8.71	
863.0	8.60	349.00	861.6	26.4	-2.7	22.4	2.31	2.00	-8.59	
949.0	9.80	342.30	946.5	39.7	-6.1	35.0	1.87	1.40	-7.79	
1,034.0	10.10	332.40	1,030.2	53.2	-11.8	49.1	2.04	0.35	-11.65	
1,091.0	10.50	327.40	1,086.3	62.0	-16.9	59.1	1.72	0.70	-8.77	
1,158.0	10.20	323.40	1,152.2	71.9	-23.7	71.1	1.16	-0.45	-5.97	
1,243.0	11.20	323.80	1,235.8	84.6	-33.1	86.9	1.18	1.18	0.47	

Company:	NOBLE ENERGY INC WELD COUNTY CO	Local Co-ordinate Reference:	Well Ft. Lupton Highlands USX WW09-18D
Project:	SEC.9-T1N-R66W	TVD Reference:	WELL @ 5033.0ft (Original Well Elev)
Site:	Ft. Lupton Pad Sec.9-T1N-R66W	MD Reference:	WELL @ 5033.0ft (Original Well Elev)
Well:	Ft. Lupton Highlands USX WW09-18D	North Reference:	True
Wellbore:	Ft. Lupton Highlands USX WW09-18D	Survey Calculation Method:	Minimum Curvature
Design:	Ft. Lupton Highlands USX WW09-18D	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)	
1,329.0	13.00	315.90	1,319.9	98.3	-44.8	104.9	2.84	2.09	-9.19	
1,414.0	13.20	311.80	1,402.6	111.7	-58.7	124.0	1.12	0.24	-4.82	
1,500.0	12.30	316.00	1,486.5	124.8	-72.3	142.8	1.50	-1.05	4.88	
1,586.0	12.40	317.70	1,570.5	138.2	-84.9	161.1	0.44	0.12	1.98	
1,671.0	12.20	322.30	1,653.6	152.1	-96.5	179.2	1.18	-0.24	5.41	
1,757.0	13.10	322.90	1,737.5	167.0	-108.0	198.0	1.06	1.05	0.70	
1,842.0	13.10	321.50	1,820.3	182.3	-119.8	217.3	0.37	0.00	-1.65	
1,928.0	12.50	321.80	1,904.1	197.2	-131.6	236.3	0.70	-0.70	0.35	
2,013.0	12.00	317.40	1,987.2	210.9	-143.3	254.3	1.25	-0.59	-5.18	
2,099.0	11.00	316.40	2,071.5	223.5	-155.0	271.4	1.19	-1.16	-1.16	
2,185.0	11.70	318.70	2,155.8	235.9	-166.4	288.3	0.97	0.81	2.67	
2,270.0	11.10	314.70	2,239.1	248.2	-177.9	305.0	1.17	-0.71	-4.71	
2,356.0	10.60	312.70	2,323.6	259.4	-189.6	321.0	0.73	-0.58	-2.33	
2,442.0	9.90	311.20	2,408.2	269.6	-201.0	336.1	0.87	-0.81	-1.74	
2,528.0	9.20	314.10	2,493.0	279.3	-211.5	350.2	0.99	-0.81	3.37	
2,613.0	9.20	315.00	2,576.9	288.8	-221.2	363.7	0.17	0.00	1.06	
2,699.0	10.10	317.30	2,661.7	299.2	-231.1	378.1	1.14	1.05	2.67	
2,784.0	10.50	321.10	2,745.3	310.7	-241.1	393.2	0.93	0.47	4.47	
2,870.0	11.10	320.50	2,829.8	323.2	-251.2	409.3	0.71	0.70	-0.70	
2,956.0	10.30	320.40	2,914.3	335.5	-261.4	425.3	0.93	-0.93	-0.12	
3,041.0	10.60	322.70	2,997.9	347.6	-271.0	440.7	0.60	0.35	2.71	
3,127.0	11.60	322.30	3,082.3	360.7	-281.1	457.3	1.17	1.16	-0.47	
3,212.0	11.50	320.50	3,165.6	374.0	-291.7	474.3	0.44	-0.12	-2.12	
3,298.0	11.40	319.70	3,249.9	387.1	-302.6	491.4	0.22	-0.12	-0.93	
3,383.0	11.10	316.30	3,333.2	399.4	-313.7	507.9	0.86	-0.35	-4.00	
3,469.0	11.20	317.70	3,417.6	411.6	-325.1	524.5	0.34	0.12	1.63	
3,555.0	11.30	318.40	3,502.0	424.1	-336.3	541.2	0.20	0.12	0.81	
3,640.0	10.90	316.40	3,585.4	436.1	-347.4	557.5	0.65	-0.47	-2.35	
3,726.0	10.90	317.20	3,669.8	448.0	-358.5	573.7	0.18	0.00	0.93	
3,811.0	10.90	317.00	3,753.3	459.7	-369.4	589.8	0.04	0.00	-0.24	
3,897.0	10.70	316.40	3,837.8	471.5	-380.5	605.8	0.27	-0.23	-0.70	
3,983.0	11.10	317.90	3,922.2	483.4	-391.5	622.0	0.57	0.47	1.74	
4,068.0	10.50	320.10	4,005.7	495.4	-402.0	637.9	0.86	-0.71	2.59	
4,154.0	10.00	319.90	4,090.3	507.1	-411.8	653.2	0.58	-0.58	-0.23	
4,239.0	9.80	318.30	4,174.1	518.2	-421.4	667.8	0.40	-0.24	-1.88	
4,325.0	9.50	320.80	4,258.9	529.1	-430.7	682.2	0.60	-0.35	2.91	
4,411.0	9.40	328.90	4,343.7	540.7	-438.9	696.3	1.55	-0.12	9.42	
4,496.0	7.80	326.30	4,427.7	551.4	-445.6	708.9	1.94	-1.88	-3.06	
4,582.0	6.20	325.60	4,513.1	560.1	-451.5	719.4	1.86	-1.86	-0.81	
4,667.0	4.30	319.40	4,597.7	566.3	-456.2	727.1	2.33	-2.24	-7.29	
4,753.0	3.00	335.60	4,683.6	570.8	-459.2	732.5	1.92	-1.51	18.84	
4,839.0	1.10	39.00	4,769.5	573.5	-459.6	734.9	3.13	-2.21	73.72	
4,924.0	0.90	33.10	4,854.5	574.7	-458.7	735.3	0.26	-0.24	-6.94	
5,010.0	0.50	71.10	4,940.5	575.4	-458.0	735.4	0.69	-0.47	44.19	
5,069.5	0.47	52.07	4,999.9	575.6	-457.6	735.3	0.27	-0.05	-32.00	
Drill Target 1220'FNL & 2573'FEL										
5,138.0	0.50	30.00	5,068.5	576.0	-457.2	735.4	0.27	0.05	-32.21	
5,267.0	1.10	355.60	5,197.5	577.7	-457.0	736.7	0.58	0.47	-26.67	
5,396.0	0.20	279.90	5,326.5	579.0	-457.3	737.8	0.83	-0.70	-58.68	
5,524.0	0.60	328.70	5,454.5	579.6	-457.9	738.7	0.38	0.31	38.13	
5,652.0	0.90	307.00	5,582.4	580.8	-459.1	740.3	0.32	0.23	-16.95	
5,781.0	1.10	335.00	5,711.4	582.5	-460.4	742.5	0.40	0.16	21.71	
5,909.0	1.00	99.70	5,839.4	583.5	-459.8	742.9	1.45	-0.08	97.42	
6,038.0	0.40	112.50	5,968.4	583.1	-458.3	741.6	0.48	-0.47	9.92	

Company:	NOBLE ENERGY INC WELD COUNTY CO	Local Co-ordinate Reference:	Well Ft. Lupton Highlands USX WW09-18D
Project:	SEC.9-T1N-R66W	TVD Reference:	WELL @ 5033.0ft (Original Well Elev)
Site:	Ft. Lupton Pad Sec.9-T1N-R66W	MD Reference:	WELL @ 5033.0ft (Original Well Elev)
Well:	Ft. Lupton Highlands USX WW09-18D	North Reference:	True
Wellbore:	Ft. Lupton Highlands USX WW09-18D	Survey Calculation Method:	Minimum Curvature
Design:	Ft. Lupton Highlands USX WW09-18D	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)	
6,166.0	0.10	119.80	6,096.4	582.9	-457.8	741.1	0.24	-0.23	5.70	
6,294.0	0.50	277.60	6,224.4	582.9	-458.2	741.4	0.46	0.31	123.28	
6,423.0	0.80	280.50	6,353.4	583.1	-459.7	742.5	0.23	0.23	2.25	
6,551.0	0.90	290.60	6,481.4	583.6	-461.5	744.1	0.14	0.08	7.89	
6,680.0	0.90	288.50	6,610.4	584.3	-463.4	745.8	0.03	0.00	-1.63	
6,808.0	1.10	293.80	6,738.3	585.1	-465.5	747.7	0.17	0.16	4.14	
6,937.0	0.80	290.40	6,867.3	586.0	-467.5	749.6	0.24	-0.23	-2.64	
7,065.0	0.50	356.80	6,995.3	586.8	-468.3	750.8	0.59	-0.23	51.88	
7,194.0	0.60	344.80	7,124.3	588.0	-468.5	751.9	0.12	0.08	-9.30	
7,239.5	0.53	342.57	7,169.8	588.5	-468.7	752.3	0.17	-0.16	-4.90	
Target Circle 1220'FNL, 2573'FEL										
7,322.0	0.40	336.50	7,252.3	589.1	-468.9	752.9	0.17	-0.15	-7.36	
7,451.0	0.30	332.50	7,381.3	589.8	-469.2	753.7	0.08	-0.08	-3.10	
7,579.0	0.40	354.70	7,509.3	590.5	-469.4	754.4	0.13	0.08	17.34	
7,707.0	0.40	326.00	7,637.3	591.4	-469.7	755.2	0.15	0.00	-22.42	
7,836.0	0.30	14.80	7,766.3	592.1	-469.9	755.9	0.24	-0.08	37.83	
7,964.0	0.70	326.20	7,894.3	593.0	-470.2	756.8	0.43	0.31	-37.97	
8,093.0	1.01	331.44	8,023.3	594.7	-471.2	758.7	0.25	0.24	4.06	
8,158.5	0.92	328.16	8,088.8	595.6	-471.8	759.8	0.16	-0.14	-5.01	
Hardline 75'W of BHL										
8,221.0	0.84	324.40	8,151.3	596.4	-472.3	760.8	0.16	-0.13	-6.02	
8,239.0	1.00	341.60	8,169.3	596.7	-472.4	761.1	1.76	0.89	95.56	
8,284.0	1.00	341.60	8,214.3	597.4	-472.7	761.8	0.00	0.00	0.00	

Checked By: _____ Approved By: _____ Date: _____