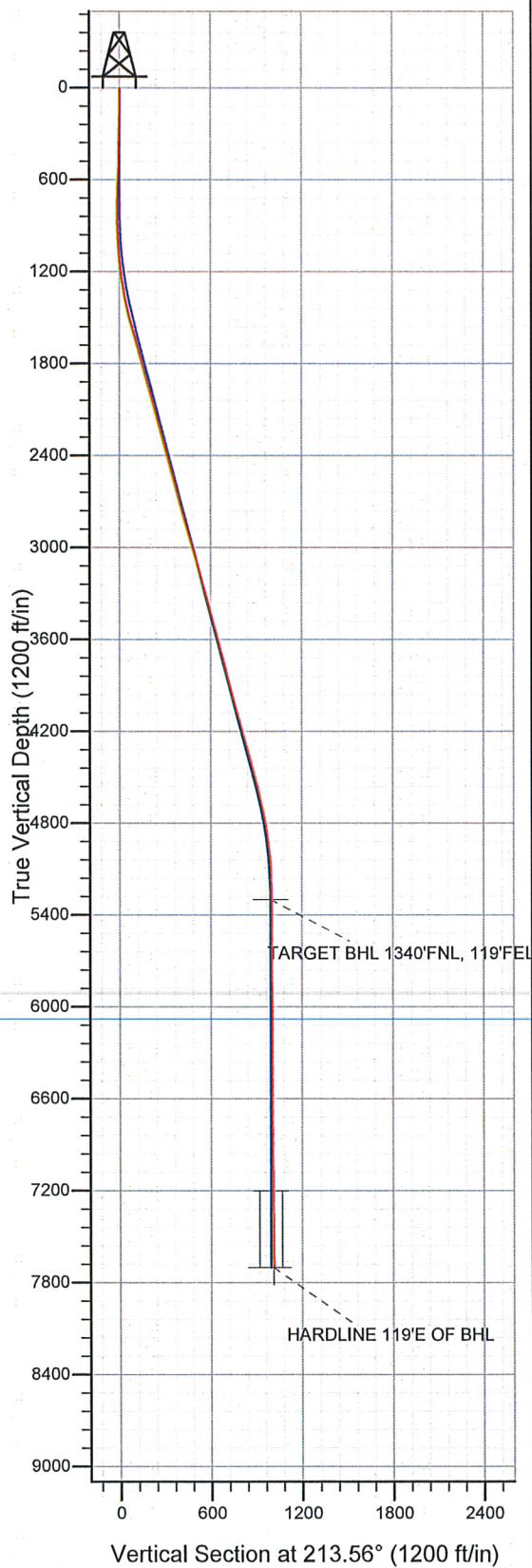
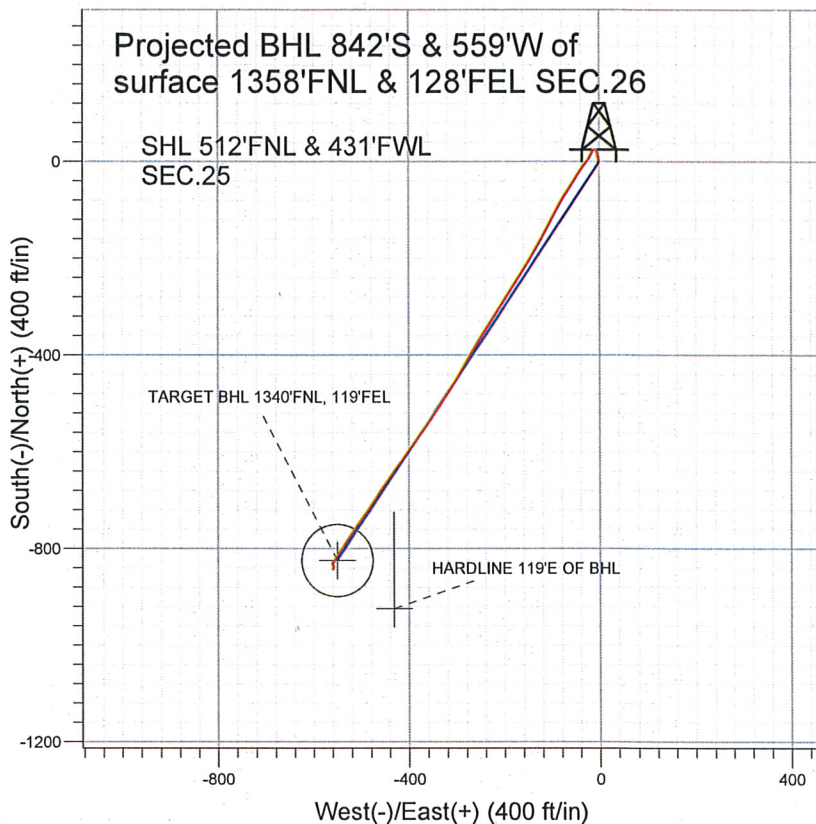


Surface Location: Booth N25-31D Pad Sec.25-T5N-R67W  
 North American Datum 1983 , US State Plane 1983 , Colorado Northern Zone  
 Ground Elevation: 5039.0  
 +N/-S +E/-W Northing Easting Latitude Longitude Slot  
 0.0 0.0 1380653.43 3181257.32 40° 22' 35.292 N 104° 50' 57.876 W  
 Original Well Elev WELL @ 5052.0ft (Original Well Elev)



### NOBLE ENERGY INC WELD COUNTY CO



#### LEGEND

- Booth N25-31D, Wellbore #1, Noble Booth N25-31D Plan #2 (01-14-11) V0
- Wellbore #1
- Survey #1

## Final Survey Plot

Projected Final Survey -  
 7824'MD & 7694'TVD @ 1011' VS  
 0.4 deg Inc 156.1 deg AZ

Project: SEC.25-T5N-R67W  
 Site: Booth N25-31D Pad Sec.25-T5N-R67W  
 Well: Booth N25-31D  
 Plan: Wellbore #1



Company:	NOBLE ENERGY INC WELD COUNTY CO	Local Co-ordinate Reference:	Well Booth N25-31D
Project:	SEC.25-T5N-R67W	TVD Reference:	WELL @ 5052.0ft (Original Well Elev)
Site:	Booth N25-31D Pad Sec.25-T5N-R67W	MD Reference:	WELL @ 5052.0ft (Original Well Elev)
Well:	Booth N25-31D	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Landmark

Project	SEC.25-T5N-R67W, Weld County, Colorado		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Northern Zone		Using geodetic scale factor

Site	Booth N25-31D Pad Sec.25-T5N-R67W				
Site Position:		Northing:	1,380,653.44 ft	Latitude:	40° 22' 35.292 N
From:	Lat/Long	Easting:	3,181,257.32 ft	Longitude:	104° 50' 57.876 W
Position Uncertainty:	0.0 ft	Slot Radius:	"	Grid Convergence:	0.42 °

Well	Booth N25-31D					
Well Position	+N/-S	0.0 ft	Northing:	1,380,653.43 ft	Latitude:	40° 22' 35.292 N
	+E/-W	0.0 ft	Easting:	3,181,257.32 ft	Longitude:	104° 50' 57.876 W
Position Uncertainty	0.0 ft	Wellhead Elevation:	ft	Ground Level:	5,039.0 ft	

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	1/14/2011	8.92	67.04	53,174

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	213.56	

Survey Program	Date 1/21/2011				
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
697.0	7,824.0	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	
697.0	3.40	346.50	696.6	20.1	-4.8	-14.1	0.49	0.49	0.00	
791.0	2.40	310.00	790.5	24.1	-7.0	-16.2	2.18	-1.06	-38.83	
884.0	1.90	272.00	883.4	25.4	-10.0	-15.6	1.59	-0.54	-40.86	
978.0	3.00	217.20	977.3	23.5	-13.1	-12.3	2.61	1.17	-58.30	
1,072.0	4.70	209.10	1,071.1	18.2	-16.4	-6.1	1.89	1.81	-8.62	
1,165.0	6.30	205.60	1,163.7	10.2	-20.5	2.8	1.76	1.72	-3.76	
1,259.0	8.80	217.90	1,256.9	-0.1	-27.1	15.1	3.15	2.66	13.09	
1,352.0	11.40	215.90	1,348.4	-13.2	-36.9	31.4	2.82	2.80	-2.15	
1,446.0	13.40	211.60	1,440.2	-30.0	-48.0	51.5	2.34	2.13	-4.57	
1,540.0	15.20	213.00	1,531.3	-49.6	-60.5	74.7	1.95	1.91	1.49	
1,633.0	15.80	211.90	1,620.9	-70.6	-73.8	99.6	0.72	0.65	-1.18	
1,727.0	15.40	207.30	1,711.5	-92.5	-86.3	124.8	1.38	-0.43	-4.89	



Company: NOBLE ENERGY INC WELD COUNTY CO  
 Project: SEC.25-T5N-R67W  
 Site: Booth N25-31D Pad Sec.25-T5N-R67W  
 Well: Booth N25-31D  
 Wellbore: Wellbore #1  
 Design: Wellbore #1

Local Co-ordinate Reference: Well Booth N25-31D  
 TVD Reference: WELL @ 5052.0ft (Original Well Elev)  
 MD Reference: WELL @ 5052.0ft (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)
1,820.0	15.90	208.00	1,801.0	-114.7	-97.9	149.7	0.57	0.54	0.75
1,914.0	15.80	207.90	1,891.5	-137.4	-110.0	175.3	0.11	-0.11	-0.11
2,007.0	15.60	209.00	1,981.0	-159.5	-121.9	200.4	0.39	-0.22	1.18
2,101.0	15.10	209.40	2,071.6	-181.3	-134.1	225.2	0.54	-0.53	0.43
2,194.0	14.90	212.70	2,161.5	-201.9	-146.5	249.2	0.94	-0.22	3.55
2,288.0	14.80	212.50	2,252.3	-222.2	-159.5	273.3	0.12	-0.11	-0.21
2,382.0	15.50	213.00	2,343.1	-242.8	-172.8	297.9	0.76	0.74	0.53
2,475.0	15.10	213.40	2,432.8	-263.4	-186.2	322.4	0.44	-0.43	0.43
2,569.0	15.60	211.50	2,523.4	-284.4	-199.5	347.3	0.75	0.53	-2.02
2,662.0	15.00	212.90	2,613.1	-305.1	-212.6	371.8	0.76	-0.65	1.51
2,756.0	15.30	212.20	2,703.8	-325.8	-225.8	396.4	0.37	0.32	-0.74
2,849.0	16.10	212.40	2,793.4	-347.1	-239.3	421.5	0.86	0.86	0.22
2,943.0	16.00	211.60	2,883.7	-369.2	-253.1	447.5	0.26	-0.11	-0.85
3,037.0	16.30	210.50	2,974.0	-391.6	-266.5	473.6	0.46	0.32	-1.17
3,130.0	15.00	208.60	3,063.6	-413.4	-278.9	498.6	1.50	-1.40	-2.04
3,224.0	15.40	211.40	3,154.3	-434.7	-291.2	523.2	0.89	0.43	2.98
3,317.0	15.90	211.60	3,243.8	-456.1	-304.4	548.3	0.54	0.54	0.22
3,411.0	15.60	213.60	3,334.3	-477.6	-318.1	573.8	0.66	-0.32	2.13
3,504.0	14.70	211.00	3,424.1	-498.1	-331.1	598.1	1.21	-0.97	-2.80
3,598.0	15.10	215.60	3,514.9	-518.3	-344.4	622.3	1.33	0.43	4.89
3,691.0	15.30	215.40	3,604.6	-538.1	-358.5	646.6	0.22	0.22	-0.22
3,785.0	14.80	214.70	3,695.4	-558.1	-372.5	671.0	0.57	-0.53	-0.74
3,879.0	15.00	214.10	3,786.3	-578.1	-386.2	695.2	0.27	0.21	-0.64
3,972.0	14.30	215.90	3,876.2	-597.3	-399.7	718.7	0.90	-0.75	1.94
4,066.0	15.80	215.70	3,967.0	-617.1	-414.0	743.1	1.60	1.60	-0.21
4,160.0	16.10	216.00	4,057.4	-638.1	-429.1	768.9	0.33	0.32	0.32
4,253.0	16.40	215.20	4,146.7	-659.2	-444.2	794.9	0.40	0.32	-0.86
4,347.0	16.10	214.90	4,236.9	-680.8	-459.3	821.2	0.33	-0.32	-0.32
4,441.0	14.40	213.40	4,327.6	-701.2	-473.2	845.9	1.86	-1.81	-1.60
4,534.0	14.60	211.80	4,417.6	-720.8	-485.8	869.2	0.48	0.22	-1.72
4,628.0	15.20	216.30	4,508.5	-740.8	-499.3	893.4	1.39	0.64	4.79
4,721.0	13.90	215.40	4,598.5	-759.8	-513.0	916.7	1.42	-1.40	-0.97
4,815.0	12.80	214.10	4,690.0	-777.6	-525.4	938.4	1.21	-1.17	-1.38
4,909.0	11.30	212.20	4,781.9	-794.0	-536.1	958.0	1.65	-1.60	-2.02
5,002.0	7.40	217.80	4,873.6	-806.5	-544.7	973.1	4.30	-4.19	6.02
5,096.0	6.10	211.20	4,967.0	-815.5	-551.0	984.1	1.61	-1.38	-7.02
5,190.0	4.60	203.80	5,060.6	-823.2	-555.1	992.8	1.75	-1.60	-7.87
5,283.0	1.50	211.10	5,153.4	-827.7	-557.2	997.7	3.35	-3.33	7.85
5,377.0	0.40	249.00	5,247.4	-828.9	-558.1	999.2	1.29	-1.17	40.32
5,429.5	0.43	275.01	5,299.9	-828.9	-558.5	999.5	0.36	0.05	49.53
TARGET BHL 1340'FNL, 119'FEL									
5,470.0	0.50	290.70	5,340.4	-828.8	-558.8	999.6	0.36	0.18	38.76
5,595.0	0.40	263.60	5,465.4	-828.7	-559.8	1,000.0	0.19	-0.08	-21.68
5,720.0	0.30	257.40	5,590.4	-828.8	-560.5	1,000.5	0.09	-0.08	-4.96
5,845.0	0.30	180.00	5,715.4	-829.2	-560.8	1,001.0	0.30	0.00	-61.92
5,969.0	0.70	157.50	5,839.4	-830.2	-560.5	1,001.7	0.35	0.32	-18.15
6,094.0	0.40	169.40	5,964.4	-831.4	-560.2	1,002.5	0.26	-0.24	9.52
6,219.0	0.40	185.80	6,089.4	-832.2	-560.1	1,003.2	0.09	0.00	13.12
6,344.0	0.40	190.70	6,214.4	-833.1	-560.3	1,003.9	0.03	0.00	3.92
6,468.0	0.50	144.10	6,338.4	-834.0	-560.0	1,004.5	0.30	0.08	-37.58
6,593.0	0.10	54.50	6,463.4	-834.3	-559.6	1,004.6	0.41	-0.32	-71.68
6,718.0	0.30	108.50	6,588.4	-834.4	-559.2	1,004.4	0.20	0.16	43.20
6,843.0	0.50	154.50	6,713.4	-835.0	-558.7	1,004.6	0.29	0.16	36.80
6,913.0	0.50	120.50	6,783.4	-835.4	-558.3	1,004.8	0.42	0.00	-48.57



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Local Co-ordinate Reference: Well Booth N25-31D  
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Survey Calculation Method: Minimum Curvature  
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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)
7,092.0	0.70	169.90	6,962.4	-836.9	-557.4	1,005.5	0.30	0.11	27.60
7,217.0	0.50	195.70	7,087.4	-838.1	-557.4	1,006.6	0.27	-0.16	20.64
7,331.5	0.68	221.65	7,201.8	-839.1	-558.0	1,007.7	0.28	0.16	22.67
TARGET CIRCLE 1340'FNL, 119'FEL									
7,342.0	0.70	223.30	7,212.4	-839.2	-558.1	1,007.9	0.28	0.20	15.65
7,467.0	0.50	210.50	7,337.3	-840.3	-558.9	1,009.2	0.19	-0.16	-10.24
7,592.0	0.30	189.50	7,462.3	-841.0	-559.2	1,010.0	0.20	-0.16	-16.80
7,716.0	0.40	161.60	7,586.3	-841.8	-559.1	1,010.6	0.16	0.08	-22.50
7,779.0	0.40	156.10	7,649.3	-842.2	-559.0	1,010.8	0.06	0.00	-8.73
7,824.0	0.40	156.10	7,694.3	-842.5	-558.9	1,011.0	0.00	0.00	0.00
HARDLINE 119'E OF BHL									

Checked By: \_\_\_\_\_ Approved By: \_\_\_\_\_ Date: \_\_\_\_\_