



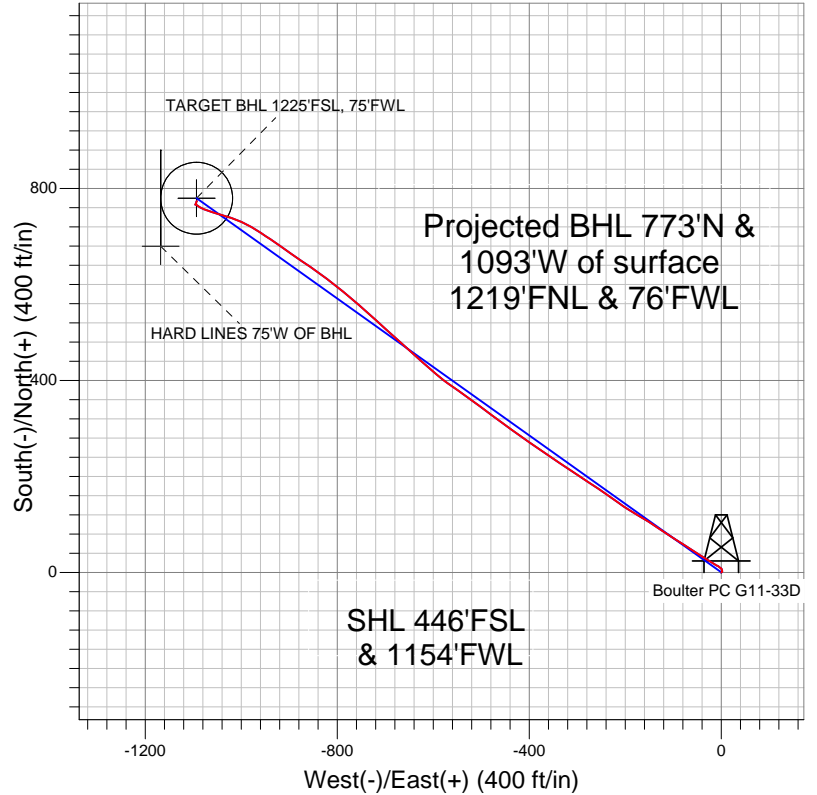
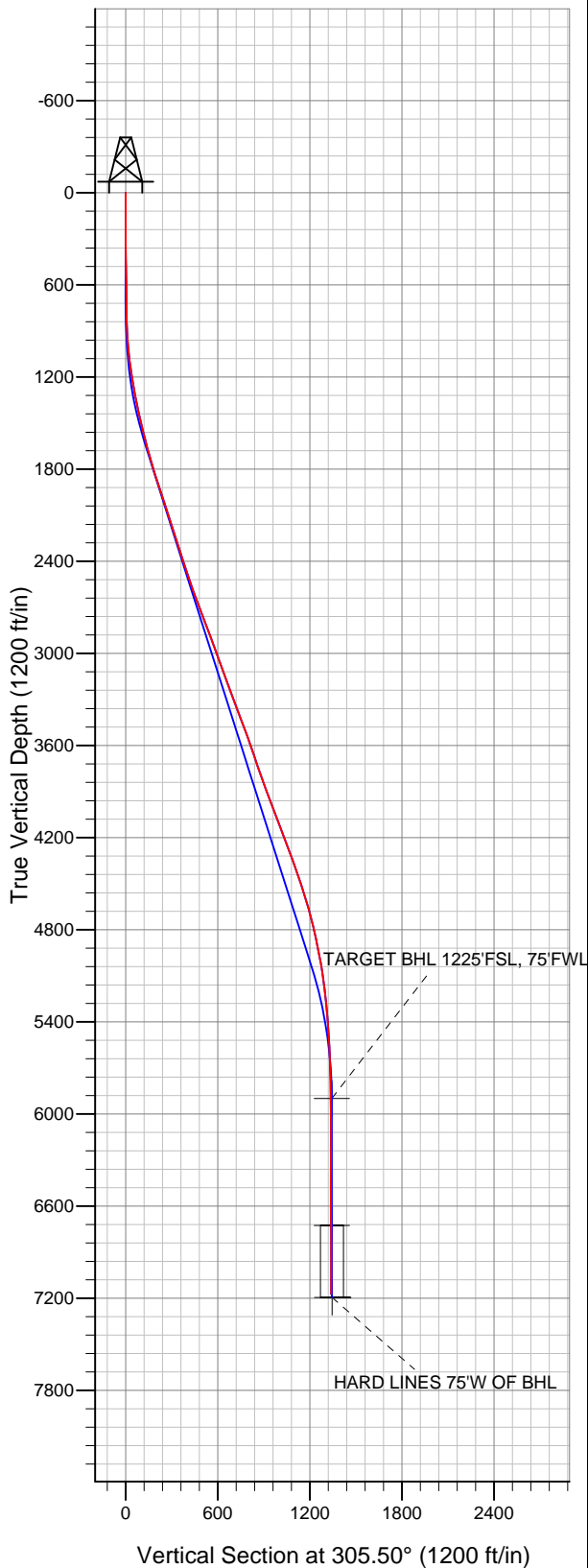
Well Name: Boulter PC G11-33D

Surface Location: Boulter PC G11-20D Pad Sec.11-T4N-R65W
 North American Datum 1983 US State Plane 1983Colorado Northern Zone
 Ground Elevation: 4683.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1360948.98	3241057.39	40.320980	-104.635470	

Original Well Elev WELL @ 4696.0ft (Original Well Elev)

NOBLE ENERGY INC WELD COUNTY CO



LEGEND

- Survey #1
- Boulter PC G11-33D, Wellbore #1, Noble Boulter PC G11-33D Plan #1 (12-27-11) R V0
- Wellbore #1

Final Survey Plot

Projected Final Survey -
 7380'MD & 7174'TVD @ 1339'VS
 0.20 deg Inc 65.60 deg AZ

Project: SEC.11-T4N-R65W
 Site: Boulter PC G11-20D Pad Sec.11-T4N-R65W
 Well: Boulter PC G11-33D
 Plan: Wellbore #1



NOBLE ENERGY INC WELD COUNTY CO

SEC.11-T4N-R65W

Boulter PC G11-20D Pad Sec.11-T4N-R65W

Boulter PC G11-33D

Wellbore #1

Survey: Survey #1

Standard Survey Report

04 January, 2012



Company:	NOBLE ENERGY INC WELD COUNTY CO	Local Co-ordinate Reference:	Well Boulter PC G11-33D
Project:	SEC.11-T4N-R65W	TVD Reference:	WELL @ 4696.0ft (Original Well Elev)
Site:	Boulter PC G11-20D Pad Sec.11-T4N-R65W	MD Reference:	WELL @ 4696.0ft (Original Well Elev)
Well:	Boulter PC G11-33D	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Landmark

Project	SEC.11-T4N-R65W, 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	Boulter PC G11-20D Pad Sec.11-T4N-R65W				
Site Position:		Northing:	1,360,974.49ft	Latitude:	40.321050
From:	Lat/Long	Easting:	3,241,057.14ft	Longitude:	-104.635470
Position Uncertainty:	0.0 ft	Slot Radius:	"	Grid Convergence:	0.56 °

Well	Boulter PC G11-33D					
Well Position	+N-S	0.0 ft	Northing:	1,360,948.98 ft	Latitude:	40.320980
	+E-W	0.0 ft	Easting:	3,241,057.39 ft	Longitude:	-104.635470
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,683.0 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	12/27/2011	8.67	67.00	53,072

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	305.50	

Survey Program	Date	1/4/2012			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
142.0	7,380.0	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	
142.0	0.40	69.20	142.0	0.2	0.5	-0.3	0.28	0.28	0.00	
237.0	1.00	45.00	237.0	0.9	1.4	-0.6	0.69	0.63	-25.47	
332.0	1.10	1.30	332.0	2.4	2.0	-0.2	0.83	0.11	-46.00	
427.0	0.90	339.40	427.0	4.0	1.7	0.9	0.45	-0.21	-23.05	
522.0	1.10	341.30	521.9	5.5	1.2	2.3	0.21	0.21	2.00	
617.0	0.40	348.30	616.9	6.7	0.8	3.3	0.74	-0.74	7.37	
701.0	0.50	342.10	700.9	7.4	0.6	3.8	0.13	0.12	-7.38	
768.0	0.70	304.60	767.9	7.9	0.2	4.4	0.64	0.30	-55.97	
849.0	2.00	303.40	848.9	8.9	-1.4	6.3	1.61	1.60	-1.48	
931.0	3.60	307.10	930.8	11.3	-4.6	10.3	1.96	1.95	4.51	
1,013.0	5.30	301.20	1,012.6	14.8	-9.9	16.7	2.14	2.07	-7.20	
1,094.0	7.10	301.10	1,093.1	19.3	-17.4	25.4	2.22	2.22	-0.12	

Company:	NOBLE ENERGY INC WELD COUNTY CO	Local Co-ordinate Reference:	Well Boulter PC G11-33D
Project:	SEC.11-T4N-R65W	TVD Reference:	WELL @ 4696.0ft (Original Well Elev)
Site:	Boulter PC G11-20D Pad Sec.11-T4N-R65W	MD Reference:	WELL @ 4696.0ft (Original Well Elev)
Well:	Boulter PC G11-33D	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)
1,176.0	8.50	299.70	1,174.3	24.9	-27.0	36.5	1.72	1.71	-1.71
1,258.0	9.60	303.60	1,255.3	31.7	-38.0	49.3	1.54	1.34	4.76
1,340.0	11.10	302.80	1,336.0	39.8	-50.3	64.1	1.84	1.83	-0.98
1,421.0	12.40	303.50	1,415.3	48.8	-64.1	80.5	1.61	1.60	0.86
1,503.0	12.80	302.20	1,495.3	58.5	-79.1	98.4	0.60	0.49	-1.59
1,585.0	14.20	301.80	1,575.0	68.7	-95.4	117.5	1.71	1.71	-0.49
1,667.0	15.30	304.10	1,654.3	80.0	-112.9	138.4	1.52	1.34	2.80
1,749.0	16.20	303.40	1,733.2	92.4	-131.4	160.6	1.12	1.10	-0.85
1,831.0	16.60	302.50	1,811.9	105.0	-150.8	183.7	0.58	0.49	-1.10
1,912.0	17.70	301.20	1,889.3	117.6	-171.1	207.6	1.44	1.36	-1.60
1,994.0	18.30	301.20	1,967.3	130.7	-192.8	232.8	0.73	0.73	0.00
2,076.0	18.70	305.90	2,045.1	145.1	-214.4	258.8	1.88	0.49	5.73
2,158.0	18.40	305.30	2,122.8	160.3	-235.6	284.9	0.43	-0.37	-0.73
2,239.0	17.90	304.20	2,199.8	174.6	-256.4	310.1	0.75	-0.62	-1.36
2,321.0	17.50	303.10	2,277.9	188.5	-277.1	335.1	0.64	-0.49	-1.34
2,403.0	17.60	303.70	2,356.1	202.1	-297.8	359.8	0.25	0.12	0.73
2,485.0	17.90	302.50	2,434.2	215.7	-318.7	384.7	0.58	0.37	-1.46
2,566.0	18.90	304.20	2,511.0	229.8	-340.1	410.3	1.40	1.23	2.10
2,648.0	20.20	304.70	2,588.3	245.3	-362.7	437.7	1.60	1.59	0.61
2,730.0	20.70	305.30	2,665.1	261.7	-386.2	466.4	0.66	0.61	0.73
2,811.0	20.40	304.00	2,741.0	277.9	-409.5	494.8	0.67	-0.37	-1.60
2,893.0	21.50	306.50	2,817.5	294.8	-433.5	524.1	1.73	1.34	3.05
2,975.0	19.30	305.50	2,894.4	311.7	-456.6	552.7	2.72	-2.68	-1.22
3,057.0	20.10	306.90	2,971.6	328.0	-478.9	580.3	1.13	0.98	1.71
3,139.0	20.70	306.90	3,048.5	345.1	-501.7	608.9	0.73	0.73	0.00
3,220.0	20.60	305.60	3,124.3	362.0	-524.8	637.5	0.58	-0.12	-1.60
3,302.0	19.80	305.70	3,201.2	378.5	-547.8	665.8	0.98	-0.98	0.12
3,384.0	20.30	304.90	3,278.2	394.8	-570.7	693.9	0.70	0.61	-0.98
3,466.0	20.60	310.90	3,355.1	412.4	-593.3	722.5	2.58	0.37	7.32
3,548.0	21.10	311.50	3,431.7	431.6	-615.3	751.5	0.66	0.61	0.73
3,629.0	20.70	312.60	3,507.4	450.9	-636.7	780.2	0.69	-0.49	1.36
3,711.0	18.90	310.50	3,584.5	469.4	-657.5	807.8	2.36	-2.20	-2.56
3,793.0	19.60	312.40	3,661.9	487.3	-677.7	834.7	1.15	0.85	2.32
3,875.0	19.10	312.60	3,739.3	505.6	-697.8	861.7	0.62	-0.61	0.24
3,956.0	20.50	312.20	3,815.5	524.1	-718.0	888.9	1.74	1.73	-0.49
4,038.0	20.00	312.10	3,892.5	543.2	-739.1	917.1	0.61	-0.61	-0.12
4,120.0	19.20	310.80	3,969.7	561.4	-759.7	944.5	1.11	-0.98	-1.59
4,202.0	20.80	309.10	4,046.8	579.4	-781.2	972.4	2.08	1.95	-2.07
4,283.0	21.90	307.80	4,122.2	597.7	-804.3	1,001.9	1.48	1.36	-1.60
4,365.0	20.40	308.20	4,198.7	615.9	-827.6	1,031.4	1.84	-1.83	0.49
4,447.0	20.00	304.30	4,275.6	632.7	-850.4	1,059.7	1.71	-0.49	-4.76
4,529.0	19.80	304.00	4,352.7	648.3	-873.5	1,087.6	0.27	-0.24	-0.37
4,611.0	20.30	305.00	4,429.8	664.3	-896.7	1,115.7	0.74	0.61	1.22
4,692.0	18.90	305.40	4,506.1	679.9	-918.9	1,142.9	1.74	-1.73	0.49
4,774.0	16.70	304.80	4,584.1	694.3	-939.4	1,168.0	2.69	-2.68	-0.73
4,856.0	16.00	301.40	4,662.8	706.9	-958.7	1,191.0	1.45	-0.85	-4.15
4,938.0	13.80	301.20	4,742.1	717.9	-976.7	1,212.1	2.68	-2.68	-0.24
5,020.0	12.40	296.70	4,821.9	726.9	-993.0	1,230.5	2.11	-1.71	-5.49
5,101.0	12.20	290.90	4,901.1	733.9	-1,008.7	1,247.4	1.54	-0.25	-7.16
5,183.0	11.70	288.20	4,981.3	739.6	-1,024.7	1,263.7	0.91	-0.61	-3.29
5,265.0	10.30	286.60	5,061.8	744.3	-1,039.6	1,278.6	1.75	-1.71	-1.95
5,347.0	8.00	286.60	5,142.7	748.0	-1,052.1	1,290.9	2.80	-2.80	0.00
5,429.0	6.60	286.90	5,224.1	751.0	-1,062.1	1,300.8	1.71	-1.71	0.37
5,510.0	5.30	291.10	5,304.6	753.7	-1,070.1	1,308.8	1.69	-1.60	5.19

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Design:	Wellbore #1	Database:	Landmark

Survey									
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5,592.0	4.30	293.40	5,386.3	756.3	-1,076.4	1,315.5	1.24	-1.22	2.80
5,674.0	3.40	292.60	5,468.2	758.4	-1,081.5	1,320.9	1.10	-1.10	-0.98
5,755.0	2.70	297.90	5,549.0	760.2	-1,085.4	1,325.1	0.93	-0.86	6.54
5,837.0	2.20	305.10	5,631.0	762.1	-1,088.4	1,328.6	0.71	-0.61	8.78
5,919.0	2.30	311.00	5,712.9	764.0	-1,090.9	1,331.8	0.31	0.12	7.20
6,001.0	1.50	295.00	5,794.9	765.6	-1,093.1	1,334.5	1.16	-0.98	-19.51
6,082.0	0.90	296.00	5,875.8	766.3	-1,094.7	1,336.2	0.74	-0.74	1.23
6,106.2	0.75	288.60	5,900.0	766.4	-1,095.0	1,336.5	0.75	-0.61	-30.62
TARGET BHL 1225'FSL, 75'FWL									
6,164.0	0.50	254.90	5,957.8	766.5	-1,095.6	1,337.0	0.75	-0.44	-58.27
6,246.0	0.20	192.90	6,039.8	766.3	-1,096.0	1,337.2	0.54	-0.37	-75.61
6,328.0	0.10	32.50	6,121.8	766.2	-1,096.0	1,337.2	0.36	-0.12	-195.61
6,409.0	0.50	10.30	6,202.8	766.6	-1,095.9	1,337.3	0.51	0.49	-27.41
6,491.0	0.80	51.50	6,284.8	767.3	-1,095.3	1,337.3	0.65	0.37	50.24
6,573.0	0.70	45.00	6,366.8	768.0	-1,094.5	1,337.1	0.16	-0.12	-7.93
6,655.0	0.60	9.10	6,448.8	768.8	-1,094.1	1,337.2	0.50	-0.12	-43.78
6,736.0	0.60	351.70	6,529.8	769.6	-1,094.1	1,337.7	0.22	0.00	-21.48
6,818.0	0.30	343.90	6,611.8	770.3	-1,094.2	1,338.1	0.37	-0.37	-9.51
6,932.2	0.48	29.20	6,726.1	771.0	-1,094.1	1,338.4	0.30	0.15	39.65
TARGET CIRCLE 1225'FSL & 75'FWL									
6,982.0	0.60	38.10	6,775.8	771.3	-1,093.8	1,338.4	0.30	0.25	17.89
7,145.0	0.40	16.80	6,938.8	772.6	-1,093.1	1,338.6	0.17	-0.12	-13.07
7,334.0	0.20	65.60	7,127.8	773.3	-1,092.6	1,338.6	0.16	-0.11	25.82
7,380.0	0.20	65.60	7,173.8	773.4	-1,092.5	1,338.5	0.00	0.00	0.00
HARD LINES 75'W OF BHL									

Checked By: _____	Approved By: _____	Date: _____
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