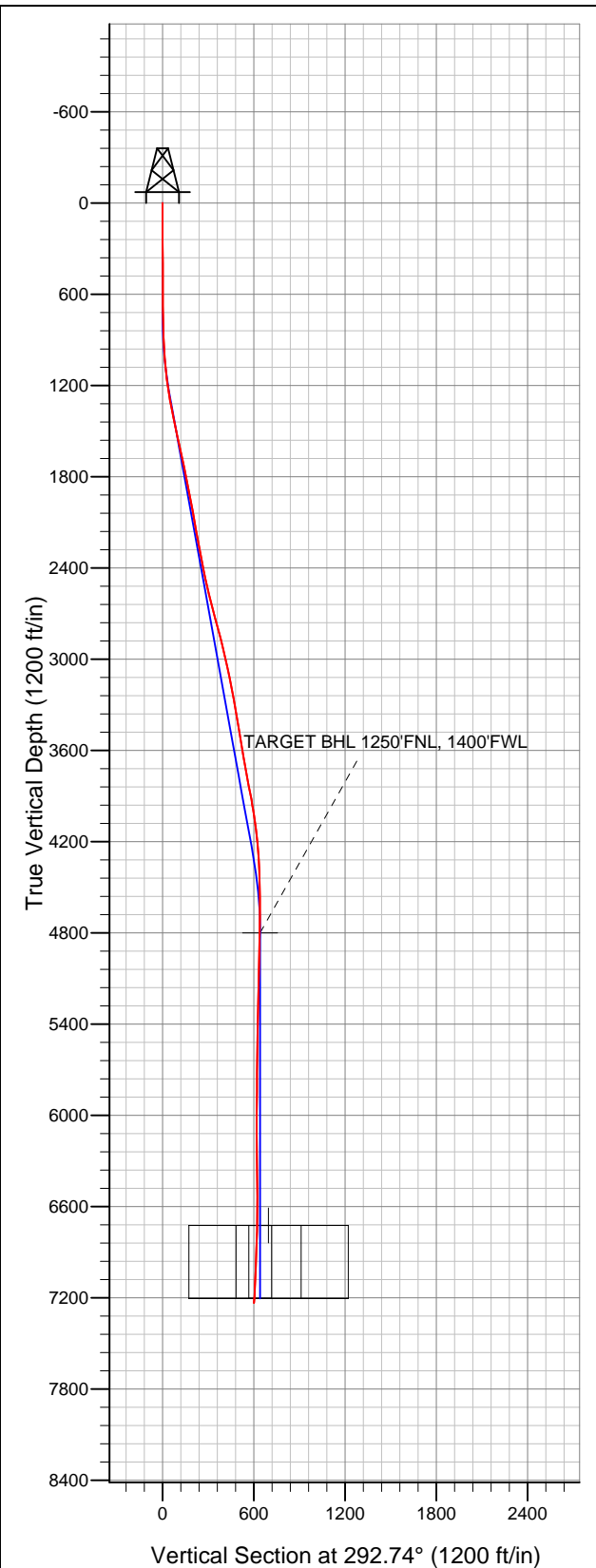


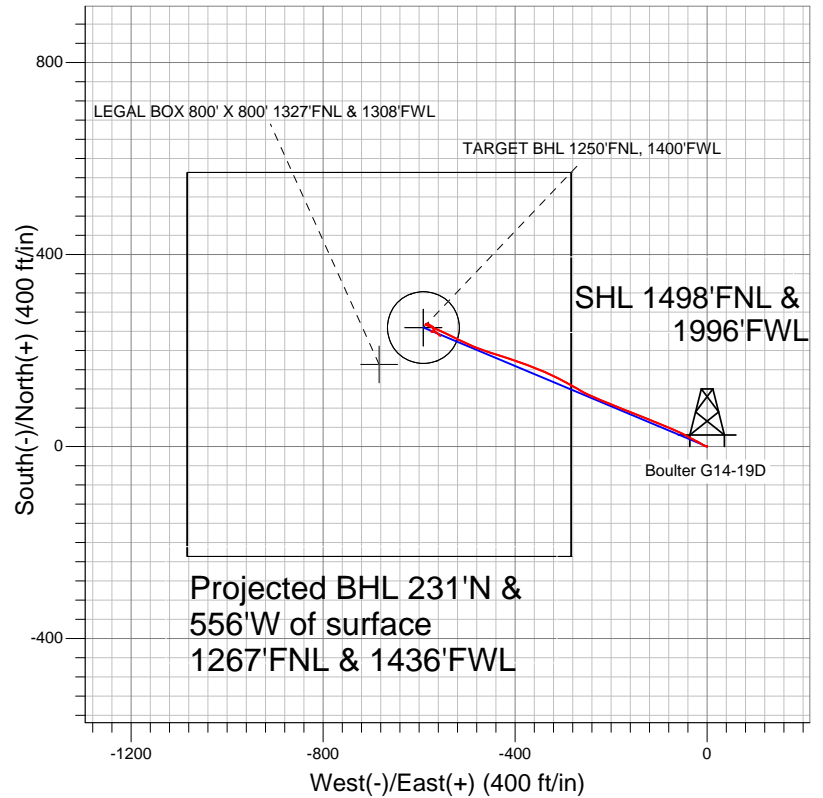
Well Name: Boulder G14-19D

Surface Location: Boulder G14-19D Pad Sec.14-T4N-R65W
North American Datum 1983 US State Plane 1983Colorado Northern Zone
Ground Elevation: 4700.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1359011.90	3241910.10	40.315640	-104.632480	
Original Well ElevWELL @ 4713.0ft (Original Well Elev.)						



NOBLE ENERGY INC WELD COUNTY CO



- LEGEND
- Survey #1
 - △ Boulder G14-19D, Wellbore #1, Noble Boulder G14-19D Plan #2 (11-09-11) V0
 - Wellbore #1

Final Survey Plot

Projected Final Survey -
7295'MD & 7233'TVD @ 602'VS
3.30 deg Inc 130.40 deg AZ

Project: SEC.14-T4N-R65W
Site: Boulder G14-19D Pad Sec.14-T4N-R65W
Well: Boulder G14-19D
Plan: Wellbore #1



NOBLE ENERGY INC WELD COUNTY CO

SEC.14-T4N-R65W

Boulter G14-19D Pad Sec.14-T4N-R65W

Boulter G14-19D

Wellbore #1

Survey: Survey #1

Standard Survey Report

05 March, 2012



Company:	NOBLE ENERGY INC WELD COUNTY CO	Local Co-ordinate Reference:	Site Boulter G14-19D Pad Sec.14-T4N-R65W
Project:	SEC.14-T4N-R65W	TVD Reference:	WELL @ 4713.0ft (Original Well Elev.)
Site:	Boulter G14-19D Pad Sec.14-T4N-R65W	MD Reference:	WELL @ 4713.0ft (Original Well Elev.)
Well:	Boulter G14-19D	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Landmark

Project	SEC.14-T4N-R65W, 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	Boulter G14-19D Pad Sec.14-T4N-R65W				
Site Position:		Northing:	1,359,011.91 ft	Latitude:	40.315640
From:	Lat/Long	Easting:	3,241,910.10 ft	Longitude:	-104.632480
Position Uncertainty:	0.0 ft	Slot Radius:	"	Grid Convergence:	0.56 °

Well	Boulter G14-19D					
Well Position	+N-S	0.0 ft	Northing:	1,359,011.90 ft	Latitude:	40.315640
	+E-W	0.0 ft	Easting:	3,241,910.10 ft	Longitude:	-104.632480
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,700.0 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	2/21/2012	8.69	66.98	53,030

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 (°)	
	4,800.0	0.0	0.0	292.74	

Survey Program	Date	3/5/2012			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
78.0	7,295.0	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	
78.0	0.30	248.70	78.0	-0.1	-0.2	0.1	0.38	0.38	0.00	
167.0	0.20	30.00	167.0	0.0	-0.3	0.3	0.53	-0.11	158.76	
258.0	0.30	21.70	258.0	0.3	-0.2	0.3	0.12	0.11	-9.12	
362.0	0.40	282.80	362.0	0.7	-0.4	0.6	0.52	0.10	-95.10	
489.0	0.30	278.70	489.0	0.8	-1.2	1.4	0.08	-0.08	-3.23	
617.0	0.40	284.50	617.0	1.0	-1.9	2.2	0.08	0.08	4.53	
669.0	0.40	239.40	669.0	0.9	-2.3	2.5	0.59	0.00	-86.73	
771.0	0.60	235.50	771.0	0.4	-3.0	3.0	0.20	0.20	-3.82	
899.0	2.20	303.20	899.0	1.4	-5.6	5.7	1.60	1.25	52.89	
1,027.0	5.00	303.20	1,026.7	5.8	-12.4	13.6	2.19	2.19	0.00	
1,156.0	7.20	295.10	1,154.9	12.3	-24.4	27.2	1.83	1.71	-6.28	
1,284.0	10.00	299.10	1,281.5	21.1	-41.4	46.3	2.24	2.19	3.13	

Company:	NOBLE ENERGY INC WELD COUNTY CO	Local Co-ordinate Reference:	Site Boulter G14-19D Pad Sec.14-T4N-R65W
Project:	SEC.14-T4N-R65W	TVD Reference:	WELL @ 4713.0ft (Original Well Elev.)
Site:	Boulter G14-19D Pad Sec.14-T4N-R65W	MD Reference:	WELL @ 4713.0ft (Original Well Elev.)
Well:	Boulter G14-19D	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)	
1,413.0	12.10	294.40	1,408.1	32.2	-63.5	71.0	1.77	1.63	-3.64	
1,541.0	11.60	292.60	1,533.4	42.6	-87.6	97.2	0.49	-0.39	-1.41	
1,669.0	12.70	292.10	1,658.5	52.9	-112.5	124.2	0.86	0.86	-0.39	
1,798.0	11.60	290.30	1,784.6	62.7	-137.8	151.3	0.90	-0.85	-1.40	
1,926.0	11.00	291.90	1,910.1	71.7	-161.2	176.4	0.53	-0.47	1.25	
2,055.0	9.50	293.00	2,037.1	80.5	-182.4	199.3	1.17	-1.16	0.85	
2,183.0	10.40	293.00	2,163.1	89.1	-202.8	221.5	0.70	0.70	0.00	
2,311.0	11.00	292.10	2,288.9	98.2	-224.7	245.2	0.49	0.47	-0.70	
2,440.0	11.30	294.70	2,415.5	108.2	-247.6	270.2	0.45	0.23	2.02	
2,568.0	13.10	300.50	2,540.6	120.8	-271.5	297.1	1.70	1.41	4.53	
2,697.0	14.80	297.90	2,665.8	135.9	-298.6	328.0	1.40	1.32	-2.02	
2,825.0	15.80	294.70	2,789.2	150.8	-328.9	361.7	1.02	0.78	-2.50	
2,953.0	12.90	292.30	2,913.2	163.5	-358.0	393.4	2.31	-2.27	-1.88	
3,082.0	13.00	288.20	3,039.0	173.5	-385.1	422.2	0.72	0.08	-3.18	
3,210.0	10.70	289.50	3,164.2	182.0	-410.0	448.5	1.81	-1.80	1.02	
3,339.0	10.10	287.50	3,291.1	189.4	-432.0	471.7	0.54	-0.47	-1.55	
3,467.0	10.10	287.70	3,417.1	196.2	-453.4	494.0	0.03	0.00	0.16	
3,595.0	9.60	290.70	3,543.2	203.4	-474.1	515.9	0.56	-0.39	2.34	
3,724.0	9.10	294.00	3,670.5	211.3	-493.5	536.8	0.57	-0.39	2.56	
3,852.0	11.00	295.30	3,796.6	220.6	-513.8	559.1	1.49	1.48	1.02	
3,981.0	10.90	295.60	3,923.2	231.2	-535.9	583.6	0.09	-0.08	0.23	
4,109.0	7.90	295.30	4,049.5	240.2	-554.8	604.5	2.34	-2.34	-0.23	
4,237.0	6.20	294.20	4,176.5	246.8	-569.0	620.2	1.33	-1.33	-0.86	
4,366.0	3.80	291.20	4,305.0	251.2	-579.4	631.4	1.87	-1.86	-2.33	
4,494.0	1.50	268.50	4,432.9	252.7	-585.0	637.2	1.94	-1.80	-17.73	
4,623.0	0.80	355.70	4,561.8	253.5	-586.8	639.2	1.29	-0.54	67.60	
4,751.0	1.20	54.40	4,689.8	255.2	-585.8	638.9	0.81	0.31	45.86	
4,861.0	1.34	86.25	4,799.8	255.9	-583.5	637.1	0.65	0.13	28.96	
TARGET BHL 1250'FNL, 1400'FWL										
4,879.0	1.40	90.50	4,817.8	255.9	-583.1	636.7	0.65	0.32	23.59	
5,008.0	0.80	138.10	4,946.8	255.3	-580.9	634.4	0.81	-0.47	36.90	
5,136.0	1.10	128.60	5,074.8	253.8	-579.4	632.4	0.26	0.23	-7.42	
5,265.0	1.20	118.20	5,203.7	252.4	-577.2	629.9	0.18	0.08	-8.06	
5,393.0	1.40	120.20	5,331.7	251.0	-574.7	627.0	0.16	0.16	1.56	
5,521.0	1.40	124.40	5,459.7	249.3	-572.0	623.9	0.08	0.00	3.28	
5,650.0	1.20	160.30	5,588.6	247.2	-570.3	621.5	0.64	-0.16	27.83	
5,778.0	1.00	188.90	5,716.6	244.8	-570.0	620.3	0.45	-0.16	22.34	
5,907.0	0.60	179.60	5,845.6	243.0	-570.2	619.8	0.33	-0.31	-7.21	
6,035.0	0.60	192.10	5,973.6	241.7	-570.3	619.4	0.10	0.00	9.77	
6,163.0	0.60	193.50	6,101.6	240.4	-570.6	619.2	0.01	0.00	1.09	
6,292.0	0.60	206.30	6,230.6	239.1	-571.1	619.1	0.10	0.00	9.92	
6,420.0	1.50	280.70	6,358.5	238.8	-573.0	620.8	1.14	0.70	58.13	
6,549.0	0.40	330.80	6,487.5	239.5	-574.9	622.8	0.99	-0.85	38.84	
6,677.0	0.90	73.40	6,615.5	240.2	-574.1	622.4	0.83	0.39	80.16	
6,782.1	1.31	83.14	6,720.6	240.6	-572.1	620.7	0.43	0.39	9.27	
LEGAL BOX 800' X 800' 1327'FNL & 1308'FWL										
6,784.1	1.32	83.27	6,722.6	240.6	-572.1	620.6	0.43	0.40	6.31	
TARGET CIRCLE 1250'FNL & 1400'FWL										
6,805.0	1.40	84.50	6,743.5	240.6	-571.6	620.2	0.43	0.40	5.89	
6,934.0	1.60	105.90	6,872.5	240.3	-568.3	617.0	0.46	0.16	16.59	
7,062.0	2.30	130.00	7,000.4	238.2	-564.6	612.8	0.83	0.55	18.83	
7,191.0	3.00	130.90	7,129.2	234.3	-560.1	607.1	0.54	0.54	0.70	
7,248.0	3.30	130.40	7,186.2	232.2	-557.7	604.1	0.53	0.53	-0.88	
7,295.0	3.30	130.40	7,233.1	230.5	-555.7	601.6	0.00	0.00	0.00	

Company:	NOBLE ENERGY INC WELD COUNTY CO	Local Co-ordinate Reference:	Site Boulter G14-19D Pad Sec.14-T4N-R65W
Project:	SEC.14-T4N-R65W	TVD Reference:	WELL @ 4713.0ft (Original Well Elev.)
Site:	Boulter G14-19D Pad Sec.14-T4N-R65W	MD Reference:	WELL @ 4713.0ft (Original Well Elev.)
Well:	Boulter G14-19D	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)

Checked By: _____	Approved By: _____	Date: _____
-------------------	--------------------	-------------