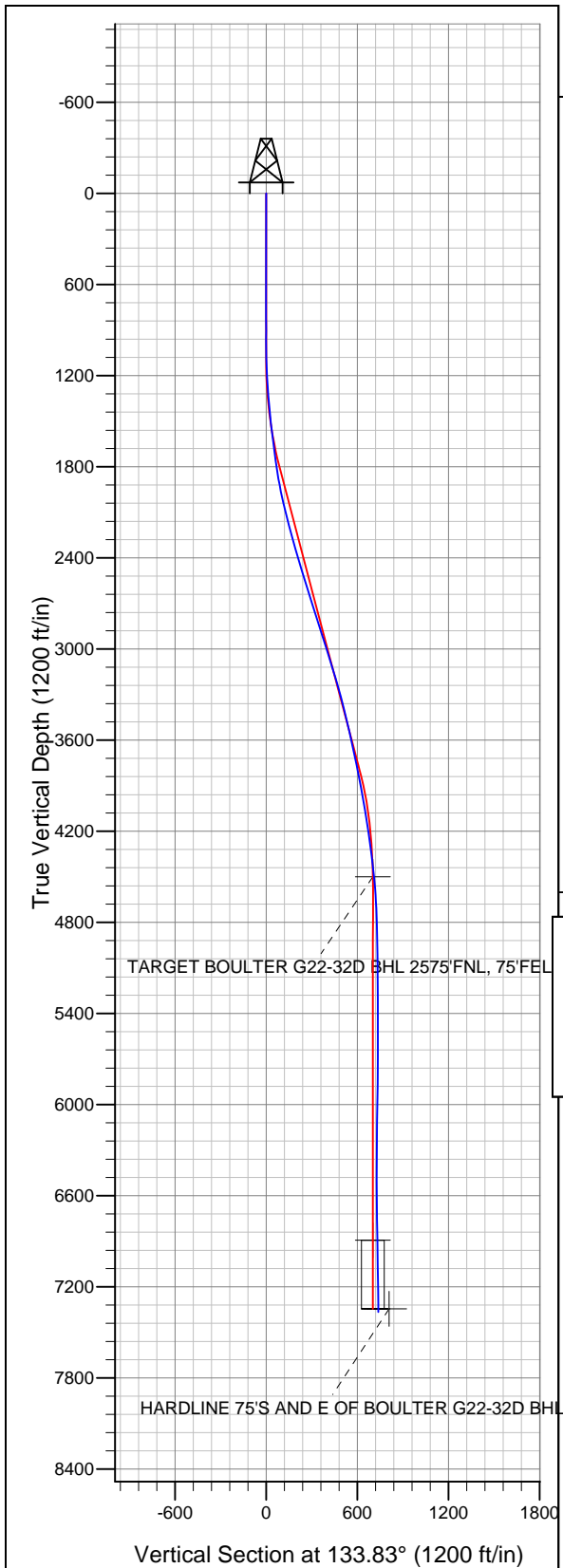
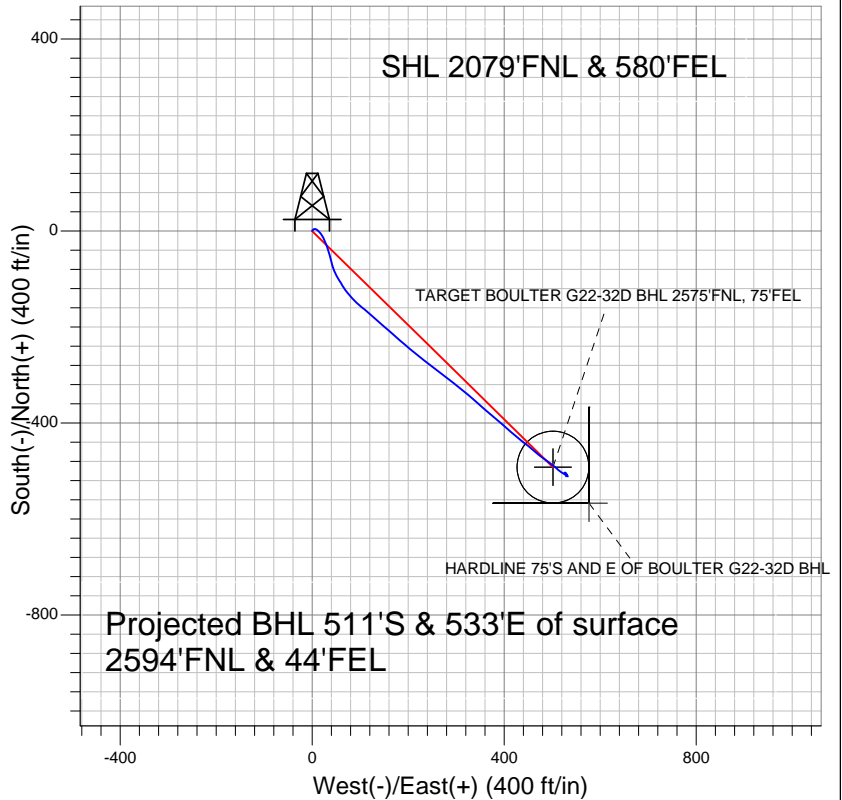


Well Name: **Boulder G22-32D**
 Surface Location: Boulder Pad Sec.21-T4N-R65W
 North American Datum 1983 , US State Plane 1983Colorado Northern Zone
 Ground Elevation: 4808.0
 +N/-S +E/-W Northing Easting Latitude Longitude Slot
 0.0 0.0 1353041.85 3234057.86 40° 17' 58.056 N 104° 39' 39.024 W
 Original Well EleWELL @ 4821.0ft (Original Well Elev)



NOBLE ENERGY INC WELD COUNTY CO



LEGEND

- ◇ Boulder G22-32D, Boulder G22-32D, Plan #3 (08-31-10) V0
- Boulder G22-32D

Final Survey Plot

Projected Final Survey -
 7453'MD & 7366'TVD @ 738' VS
 .50 deg Inc 132.5 deg AZ

Project: SEC.21-T4N-R65W
 Site: Boulder Pad Sec.21-T4N-R65W
 Well: Boulder G22-32D
 Plan: Boulder G22-32D



Directional

NOBLE ENERGY INC WELD COUNTY CO

SEC.21-T4N-R65W

Boulter Pad Sec.21-T4N-R65W

Boulter G22-32D

Boulter G22-32D

Design: Boulter G22-32D

Standard Survey Report

16 September, 2010



Company:	NOBLE ENERGY INC WELD COUNTY CO	Local Co-ordinate Reference:	Well Boulter G22-32D
Project:	SEC.21-T4N-R65W	TVD Reference:	WELL @ 4821.0ft (Original Well Elev)
Site:	Boulter Pad Sec.21-T4N-R65W	MD Reference:	WELL @ 4821.0ft (Original Well Elev)
Well:	Boulter G22-32D	North Reference:	True
Wellbore:	Boulter G22-32D	Survey Calculation Method:	Minimum Curvature
Design:	Boulter G22-32D	Database:	Landmark

Project	SEC.21-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 Pad Sec.21-T4N-R65W		
Site Position:		Northing:	1,353,041.86ft
From:	Lat/Long	Easting:	3,234,057.86ft
Position Uncertainty:	0.0 ft	Slot Radius:	"
		Latitude:	40° 17' 58.056 N
		Longitude:	104° 39' 39.024 W
		Grid Convergence:	0.54 °

Well	Boulter G22-32D		
Well Position	+N/-S	0.0 ft	Northing: 1,353,041.85 ft
	+E/-W	0.0 ft	Easting: 3,234,057.86 ft
Position Uncertainty	0.0 ft	Wellhead Elevation:	ft
		Latitude:	40° 17' 58.056 N
		Longitude:	104° 39' 39.024 W
		Ground Level:	4,808.0 ft

Wellbore	Boulter G22-32D				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	9/1/2010	8.91	67.01	53,173

Design	Boulter G22-32D			
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	133.83

Survey Program	Date	9/14/2010		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
731.0	7,453.0	Survey #1 (Boulter G22-32D)	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
731.0	0.40	27.10	731.0	2.3	1.2	-0.7	0.05	0.05	0.00
817.0	0.70	67.00	817.0	2.7	1.8	-0.6	0.55	0.35	46.40
902.0	0.80	49.50	902.0	3.3	2.7	-0.4	0.29	0.12	-20.59
988.0	0.70	65.90	988.0	3.9	3.6	-0.1	0.27	-0.12	19.07
1,073.0	1.20	98.70	1,073.0	4.0	5.0	0.8	0.85	0.59	38.59
1,159.0	2.50	104.60	1,158.9	3.4	7.7	3.2	1.53	1.51	6.86
1,244.0	3.60	130.20	1,243.8	1.2	11.5	7.5	2.03	1.29	30.12
1,330.0	4.80	140.10	1,329.6	-3.3	15.9	13.8	1.63	1.40	11.51
1,415.0	5.50	146.40	1,414.2	-9.4	20.4	21.3	1.06	0.82	7.41
1,501.0	6.50	157.50	1,499.8	-17.3	24.6	29.7	1.78	1.16	12.91
1,586.0	7.90	156.40	1,584.1	-27.1	28.8	39.5	1.65	1.65	-1.29
1,672.0	8.30	163.60	1,669.2	-38.5	32.9	50.4	1.27	0.47	8.37

Company:	NOBLE ENERGY INC WELD COUNTY CO	Local Co-ordinate Reference:	Well Boulter G22-32D
Project:	SEC.21-T4N-R65W	TVD Reference:	WELL @ 4821.0ft (Original Well Elev)
Site:	Boulter Pad Sec.21-T4N-R65W	MD Reference:	WELL @ 4821.0ft (Original Well Elev)
Well:	Boulter G22-32D	North Reference:	True
Wellbore:	Boulter G22-32D	Survey Calculation Method:	Minimum Curvature
Design:	Boulter G22-32D	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)	
1,757.0	9.40	163.90	1,753.2	-51.1	36.5	61.7	1.30	1.29	0.35	
1,843.0	10.40	166.60	1,837.9	-65.4	40.3	74.3	1.28	1.16	3.14	
1,928.0	11.50	157.80	1,921.4	-80.7	45.3	88.5	2.35	1.29	-10.35	
2,014.0	12.70	152.60	2,005.5	-97.0	52.9	105.3	1.88	1.40	-6.05	
2,099.0	14.30	145.90	2,088.1	-114.0	63.0	124.4	2.63	1.88	-7.88	
2,185.0	15.10	142.50	2,171.3	-131.7	75.8	145.9	1.37	0.93	-3.95	
2,270.0	15.70	131.30	2,253.3	-148.1	91.2	168.3	3.56	0.71	-13.18	
2,355.0	16.30	129.30	2,335.0	-163.2	109.1	191.7	0.96	0.71	-2.35	
2,441.0	16.20	132.60	2,417.6	-179.0	127.2	215.7	1.08	-0.12	3.84	
2,526.0	16.70	130.60	2,499.1	-194.9	145.2	239.8	0.89	0.59	-2.35	
2,612.0	16.70	130.80	2,581.5	-211.1	164.0	264.5	0.07	0.00	0.23	
2,698.0	17.50	132.50	2,663.7	-227.9	182.9	289.7	1.10	0.93	1.98	
2,784.0	18.40	129.10	2,745.5	-245.2	202.9	316.2	1.61	1.05	-3.95	
2,869.0	17.80	129.50	2,826.3	-261.9	223.4	342.5	0.72	-0.71	0.47	
2,955.0	18.30	127.00	2,908.0	-278.4	244.3	369.0	1.07	0.58	-2.91	
3,040.0	16.90	127.00	2,989.0	-293.8	264.8	394.5	1.65	-1.65	0.00	
3,126.0	17.10	128.00	3,071.3	-309.1	284.8	419.5	0.41	0.23	1.16	
3,211.0	17.50	129.30	3,152.4	-324.9	304.5	444.7	0.65	0.47	1.53	
3,297.0	15.90	129.00	3,234.8	-340.5	323.7	469.3	1.86	-1.86	-0.35	
3,382.0	15.10	131.70	3,316.7	-355.2	341.0	492.0	1.27	-0.94	3.18	
3,468.0	14.60	131.80	3,399.9	-369.9	357.4	514.0	0.58	-0.58	0.12	
3,553.0	13.40	129.40	3,482.3	-383.3	373.0	534.5	1.57	-1.41	-2.82	
3,639.0	12.70	131.80	3,566.1	-395.9	387.8	553.9	1.03	-0.81	2.79	
3,724.0	11.80	130.80	3,649.2	-407.8	401.3	571.9	1.09	-1.06	-1.18	
3,810.0	10.90	129.60	3,733.5	-418.8	414.2	588.8	1.08	-1.05	-1.40	
3,895.0	10.40	129.50	3,817.0	-428.8	426.4	604.5	0.59	-0.59	-0.12	
3,981.0	10.50	129.40	3,901.6	-438.7	438.4	620.1	0.12	0.12	-0.12	
4,066.0	10.70	129.00	3,985.1	-448.6	450.5	635.6	0.25	0.24	-0.47	
4,152.0	9.80	130.50	4,069.8	-458.3	462.3	650.9	1.09	-1.05	1.74	
4,238.0	9.00	126.60	4,154.6	-467.1	473.3	664.9	1.19	-0.93	-4.53	
4,323.0	8.70	127.60	4,238.6	-475.0	483.7	677.9	0.40	-0.35	1.18	
4,409.0	7.70	126.90	4,323.7	-482.4	493.4	690.1	1.17	-1.16	-0.81	
4,494.0	6.60	126.70	4,408.1	-488.8	501.9	700.6	1.29	-1.29	-0.24	
4,580.0	5.60	132.00	4,493.6	-494.5	509.0	709.7	1.33	-1.16	6.16	
4,585.8	5.52	131.76	4,499.3	-494.9	509.4	710.2	1.37	-1.31	-4.12	
TARGET BOULTER G22-32D BHL 2575'FNL, 75'FEL										
4,665.0	4.50	127.70	4,578.2	-499.3	514.7	717.1	1.37	-1.29	-5.13	
4,751.0	3.30	120.90	4,664.0	-502.7	519.5	722.9	1.49	-1.40	-7.91	
4,837.0	2.20	123.60	4,749.9	-504.8	523.0	726.9	1.29	-1.28	3.14	
4,923.0	1.30	123.30	4,835.9	-506.3	525.2	729.5	1.05	-1.05	-0.35	
5,008.0	1.10	128.40	4,920.9	-507.3	526.6	731.3	0.27	-0.24	6.00	
5,094.0	0.60	145.90	5,006.9	-508.2	527.5	732.5	0.65	-0.58	20.35	
5,265.0	0.60	156.60	5,177.9	-509.8	528.4	734.2	0.07	0.00	6.26	
5,436.0	0.30	128.20	5,348.9	-510.9	529.1	735.5	0.21	-0.18	-16.61	
5,607.0	0.20	32.20	5,519.9	-510.9	529.6	735.9	0.22	-0.06	-56.14	
5,778.0	0.40	12.70	5,690.9	-510.1	529.9	735.5	0.13	0.12	-11.40	
5,949.0	0.30	16.80	5,861.9	-509.1	530.2	735.0	0.06	-0.06	2.40	
6,120.0	1.90	331.20	6,032.8	-506.1	528.9	732.1	1.00	0.94	-26.67	
6,291.0	0.50	297.60	6,203.8	-503.3	526.9	728.7	0.88	-0.82	-19.65	
6,462.0	0.20	237.50	6,374.8	-503.1	526.0	727.9	0.26	-0.18	-35.15	
6,631.0	0.40	121.30	6,543.8	-503.6	526.3	728.4	0.31	0.12	-68.76	
6,802.0	0.80	137.40	6,714.8	-504.8	527.6	730.2	0.25	0.23	9.42	
6,973.0	0.90	133.00	6,885.7	-506.6	529.4	732.7	0.07	0.06	-2.57	
6,979.8	0.89	133.43	6,892.6	-506.7	529.4	732.8	0.16	-0.13	6.32	

Company:	NOBLE ENERGY INC WELD COUNTY CO	Local Co-ordinate Reference:	Well Boulter G22-32D
Project:	SEC.21-T4N-R65W	TVD Reference:	WELL @ 4821.0ft (Original Well Elev)
Site:	Boulter Pad Sec.21-T4N-R65W	MD Reference:	WELL @ 4821.0ft (Original Well Elev)
Well:	Boulter G22-32D	North Reference:	True
Wellbore:	Boulter G22-32D	Survey Calculation Method:	Minimum Curvature
Design:	Boulter G22-32D	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)
TARGET CIRCLE 2575'FNL, 75'FEL									
7,144.0	0.70	146.90	7,056.7	-508.4	530.9	735.1	0.16	-0.12	8.20
7,314.0	0.70	159.90	7,226.7	-510.2	531.8	737.0	0.09	0.00	7.65
7,400.0	0.50	132.50	7,312.7	-511.0	532.3	737.8	0.40	-0.23	-31.86
7,432.9	0.50	132.50	7,345.6	-511.2	532.5	738.1	0.00	0.00	0.00
HARDLINE 75'S AND E OF BOULTER G22-32D BHL									
7,453.0	0.50	132.50	7,365.7	-511.3	532.6	738.3	0.00	0.00	0.00

Checked By: _____ Approved By: _____ Date: _____