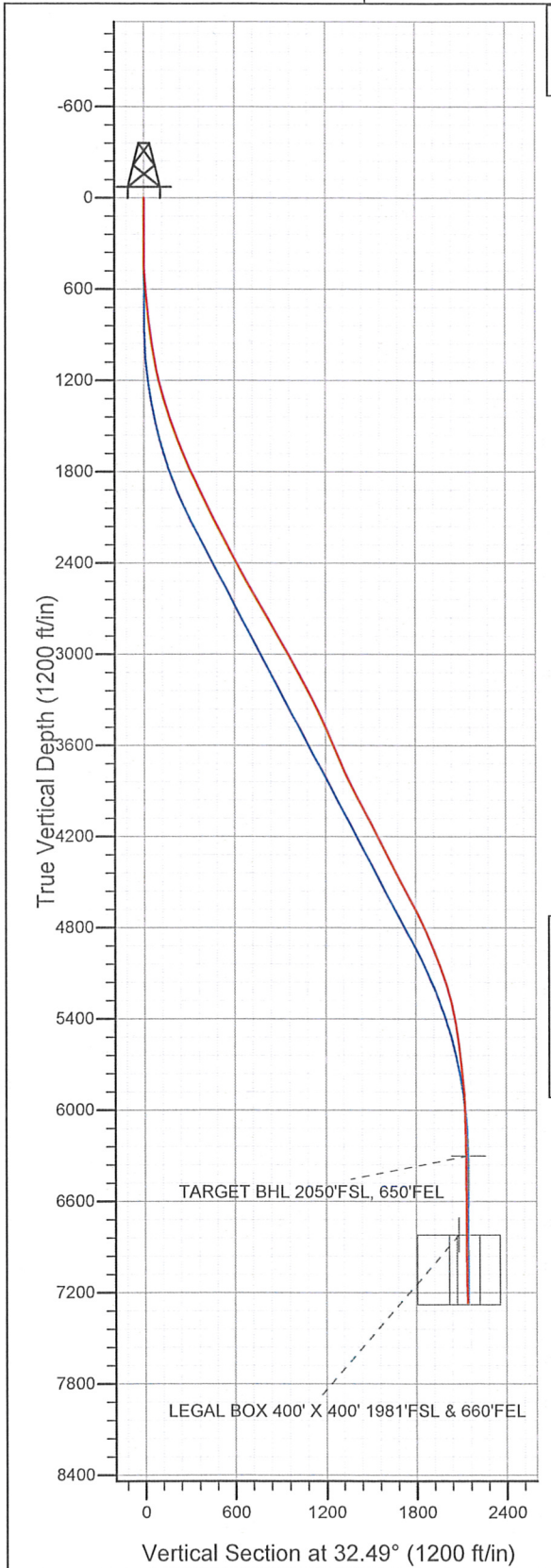


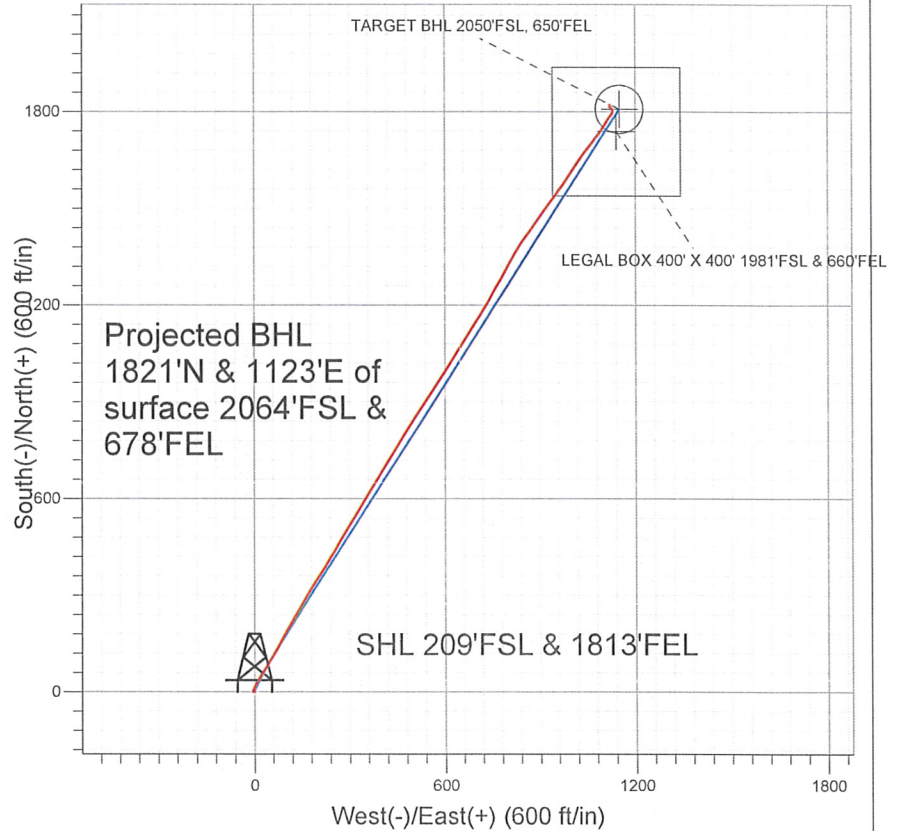
Well Name: **Johnson PC EE33-09D**
 Surface Location: Johnson PC EE33-09D Pad Sec.33-T7N-R65W
 North American Datum 1983 US State Plane 1983 Colorado Northern Zone
 Ground Elevation: 4781.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1434880.72	3232054.55	40.524150	-104.665260	

 Original Well Elev WELL @ 4794.0ft (Original Well Elev)



NOBLE ENERGY INC WELD COUNTY CO



LEGEND

- Johnson PC EE33-09D, Wellbore #1, Noble Johnson PC EE33-09D Plan #4 (5-1-11) V0
- Wellbore #1
- Survey #1

Final Survey Plot

Projected Final Survey -
 7738'MD & 7276'TVD @ 2139'VS
 1.1 deg Inc 24.6 deg AZ

Project: SEC.33-T7N-R65W
 Site: Johnson PC EE33-09D Pad Sec.33-T7N-R65W
 Well: Johnson PC EE33-09D
 Plan: Wellbore #1



Directional

NOBLE ENERGY INC WELD COUNTY CO

SEC.33-T7N-R65W

Johnson PC EE33-09D Pad Sec.33-T7N-R65W

Johnson PC EE33-09D

Wellbore #1

Survey: Survey #1

Standard Survey Report

06 June, 2011



Company: NOBLE ENERGY INC WELD COUNTY CO
Project: SEC.33-T7N-R65W
Site: Johnson PC EE33-09D Pad Sec.33-T7N-R65W
Well: Johnson PC EE33-09D
Wellbore: Wellbore #1
Design: Wellbore #1

Local Co-ordinate Reference: Well Johnson PC EE33-09D
TVD Reference: WELL @ 4794.0ft (Original Well Elev)
MD Reference: WELL @ 4794.0ft (Original Well Elev)
North Reference: True
Survey Calculation Method: Minimum Curvature
Database: Landmark

Project	SEC.33-T7N-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 Johnson PC EE33-09D Pad Sec.33-T7N-R65W

Site Position:		Northing:	1,434,880.73ft	Latitude:	40.524150
From:	Lat/Long	Easting:	3,232,054.55ft	Longitude:	-104.665260
Position Uncertainty:	0.0 ft	Slot Radius:	"	Grid Convergence:	0.54 °

Well	Johnson PC EE33-09D				
Well Position	+N/-S	0.0 ft	Northing:	1,434,880.72 ft	Latitude: 40.524150
	+E/-W	0.0 ft	Easting:	3,232,054.55 ft	Longitude: -104.665260
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level: 4,781.0 ft

Wellbore Wellbore #1

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	3/10/2011	8.86	67.18	53,236

Design Wellbore #1

Audit Notes:

Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.0
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Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.0	0.0	0.0	32.49

Survey Program Date 6/6/2011

From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
320.0	7,738.0	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
320.0	1.10	263.30	320.0	-0.4	-3.1	-1.9	0.34	0.34	0.00
415.0	1.70	353.60	415.0	0.9	-4.1	-1.4	2.14	0.63	95.05
506.0	4.00	13.00	505.8	5.4	-3.5	2.6	2.71	2.53	21.32
598.0	5.10	25.80	597.6	12.2	-1.0	9.7	1.62	1.20	13.91
690.0	6.20	30.90	689.1	20.1	3.3	18.7	1.31	1.20	5.54
778.0	6.30	30.80	776.6	28.3	8.2	28.3	0.11	0.11	-0.11
848.0	6.60	31.10	846.1	35.1	12.2	36.2	0.43	0.43	0.43
931.0	7.90	30.90	928.5	44.1	17.6	46.6	1.57	1.57	-0.24
1,012.0	9.40	33.20	1,008.6	54.4	24.1	58.8	1.90	1.85	2.84
1,094.0	11.10	33.00	1,089.2	66.6	32.1	73.4	2.07	2.07	-0.24
1,176.0	12.90	30.80	1,169.4	81.1	41.1	90.5	2.26	2.20	-2.68
1,258.0	15.00	31.20	1,249.0	98.0	51.3	110.2	2.56	2.56	0.49

Company: NOBLE ENERGY INC WELD COUNTY CO
Project: SEC.33-T7N-R65W
Site: Johnson PC EE33-09D Pad Sec.33-T7N-R65W
Well: Johnson PC EE33-09D
Wellbore: Wellbore #1
Design: Wellbore #1

Local Co-ordinate Reference: Well Johnson PC EE33-09D
TVD Reference: WELL @ 4794.0ft (Original Well Elev)
MD Reference: WELL @ 4794.0ft (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)
1,339.0	16.00	33.10	1,327.1	116.3	62.8	131.9	1.38	1.23	2.35
1,421.0	17.80	28.50	1,405.5	136.8	74.9	155.7	2.73	2.20	-5.61
1,503.0	19.50	28.60	1,483.2	159.9	87.5	181.8	2.07	2.07	0.12
1,585.0	21.10	29.00	1,560.1	184.8	101.2	210.2	1.96	1.95	0.49
1,666.0	22.20	29.30	1,635.4	210.9	115.7	240.0	1.36	1.36	0.37
1,748.0	23.70	30.10	1,710.9	238.7	131.6	272.0	1.87	1.83	0.98
1,830.0	25.20	30.20	1,785.6	268.0	148.6	305.9	1.83	1.83	0.12
1,912.0	24.60	32.60	1,859.9	297.5	166.6	340.4	1.43	-0.73	2.93
1,993.0	26.20	32.70	1,933.1	326.7	185.3	375.1	1.98	1.98	0.12
2,075.0	26.20	32.60	2,006.7	357.2	204.9	411.4	0.05	0.00	-0.12
2,157.0	25.60	31.40	2,080.5	387.6	223.9	447.2	0.97	-0.73	-1.46
2,238.0	26.30	31.00	2,153.3	417.9	242.2	482.6	0.89	0.86	-0.49
2,320.0	26.90	29.20	2,226.6	449.7	260.6	519.3	1.23	0.73	-2.20
2,402.0	28.70	31.20	2,299.1	482.7	279.9	557.5	2.47	2.20	2.44
2,484.0	29.20	31.90	2,370.9	516.5	300.6	597.2	0.74	0.61	0.85
2,565.0	29.50	32.00	2,441.5	550.2	321.7	636.9	0.38	0.37	0.12
2,647.0	28.60	30.40	2,513.2	584.3	342.3	676.7	1.45	-1.10	-1.95
2,722.0	29.20	31.30	2,578.8	615.4	360.9	712.9	0.99	0.80	1.20
2,804.0	30.20	31.80	2,650.1	650.0	382.1	753.5	1.26	1.22	0.61
2,885.0	30.10	30.90	2,720.1	684.7	403.3	794.2	0.57	-0.12	-1.11
2,967.0	30.00	30.80	2,791.1	720.0	424.4	835.2	0.14	-0.12	-0.12
3,049.0	29.50	32.60	2,862.3	754.6	445.7	875.9	1.25	-0.61	2.20
3,130.0	30.10	31.40	2,932.6	788.7	467.1	916.2	1.04	0.74	-1.48
3,212.0	29.30	32.10	3,003.8	823.3	488.4	956.8	1.06	-0.98	0.85
3,294.0	28.70	32.60	3,075.5	856.9	509.7	996.6	0.79	-0.73	0.61
3,375.0	28.00	34.00	3,146.8	889.0	530.8	1,035.0	1.19	-0.86	1.73
3,457.0	28.00	33.20	3,219.2	921.1	552.1	1,073.5	0.46	0.00	-0.98
3,539.0	27.60	33.90	3,291.7	953.0	573.3	1,111.7	0.63	-0.49	0.85
3,621.0	25.80	34.70	3,365.0	983.4	594.0	1,148.6	2.24	-2.20	0.98
3,702.0	23.10	30.80	3,438.7	1,011.6	612.2	1,182.1	3.88	-3.33	-4.81
3,784.0	23.50	31.30	3,514.0	1,039.3	628.9	1,214.5	0.54	0.49	0.61
3,865.0	24.00	34.00	3,588.2	1,066.8	646.5	1,247.1	1.48	0.62	3.33
3,947.0	23.30	33.80	3,663.3	1,094.1	664.9	1,280.0	0.86	-0.85	-0.24
4,029.0	23.90	32.20	3,738.4	1,121.6	682.7	1,312.8	1.07	0.73	-1.95
4,110.0	25.10	32.30	3,812.1	1,150.0	700.7	1,346.4	1.48	1.48	0.12
4,192.0	26.30	30.90	3,886.0	1,180.3	719.3	1,382.0	1.64	1.46	-1.71
4,273.0	27.60	30.20	3,958.2	1,211.9	737.9	1,418.6	1.65	1.60	-0.86
4,355.0	28.70	29.50	4,030.5	1,245.5	757.2	1,457.3	1.40	1.34	-0.85
4,437.0	28.40	29.70	4,102.6	1,279.6	776.6	1,496.4	0.38	-0.37	0.24
4,519.0	27.90	28.00	4,174.9	1,313.5	795.2	1,535.0	1.15	-0.61	-2.07
4,600.0	26.60	30.00	4,246.9	1,345.9	813.2	1,572.0	1.96	-1.60	2.47
4,682.0	26.80	32.20	4,320.1	1,377.4	832.2	1,608.9	1.23	0.24	2.68
4,764.0	27.00	36.20	4,393.3	1,408.1	853.1	1,645.9	2.22	0.24	4.88
4,845.0	26.90	36.40	4,465.5	1,437.7	874.8	1,682.6	0.17	-0.12	0.25
4,927.0	28.70	35.50	4,538.0	1,468.7	897.2	1,720.7	2.25	2.20	-1.10
5,009.0	28.90	35.10	4,609.9	1,500.9	920.1	1,760.2	0.34	0.24	-0.49
5,090.0	27.90	37.70	4,681.1	1,531.9	942.9	1,798.6	1.96	-1.23	3.21
5,172.0	25.90	36.70	4,754.2	1,561.4	965.3	1,835.6	2.50	-2.44	-1.22
5,254.0	23.90	34.90	4,828.6	1,589.4	985.6	1,870.1	2.61	-2.44	-2.20
5,336.0	22.10	31.50	4,904.1	1,616.2	1,003.1	1,902.1	2.73	-2.20	-4.15
5,417.0	21.60	32.80	4,979.3	1,641.7	1,019.2	1,932.2	0.86	-0.62	1.60
5,499.0	20.50	38.20	5,055.8	1,665.7	1,036.2	1,961.6	2.72	-1.34	6.59
5,581.0	19.40	38.40	5,132.9	1,687.7	1,053.6	1,989.4	1.34	-1.34	0.24
5,662.0	16.40	36.90	5,210.0	1,707.4	1,068.8	2,014.2	3.75	-3.70	-1.85

Company: NOBLE ENERGY INC WELD COUNTY CO
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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)
5,744.0	14.60	38.10	5,289.0	1,724.7	1,082.1	2,036.1	2.23	-2.20	1.46
5,826.0	10.80	38.20	5,369.0	1,738.9	1,093.2	2,054.0	4.63	-4.63	0.12
5,907.0	9.10	30.00	5,448.7	1,750.4	1,101.1	2,067.9	2.73	-2.10	-10.12
5,989.0	7.70	24.80	5,529.9	1,761.0	1,106.7	2,079.9	1.94	-1.71	-6.34
6,071.0	7.80	35.00	5,611.1	1,770.6	1,112.2	2,090.9	1.68	0.12	12.44
6,152.0	7.30	39.30	5,691.4	1,779.1	1,118.6	2,101.5	0.93	-0.62	5.31
6,234.0	5.40	32.00	5,772.9	1,786.4	1,123.9	2,110.5	2.51	-2.32	-8.90
6,316.0	4.80	31.60	5,854.6	1,792.6	1,127.8	2,117.8	0.73	-0.73	-0.49
6,398.0	3.20	22.90	5,936.4	1,797.6	1,130.5	2,123.5	2.08	-1.95	-10.61
6,479.0	2.00	355.50	6,017.3	1,801.1	1,131.2	2,126.8	2.09	-1.48	-33.83
6,561.0	2.20	333.10	6,099.2	1,803.9	1,130.4	2,128.8	1.02	0.24	-27.32
6,643.0	1.00	347.20	6,181.2	1,806.0	1,129.5	2,130.1	1.53	-1.46	17.20
6,725.0	1.80	335.10	6,263.2	1,807.9	1,128.8	2,131.3	1.03	0.98	-14.76
6,761.5	1.37	328.23	6,299.7	1,808.8	1,128.4	2,131.8	1.29	-1.18	-18.80
TARGET BHL 2050'FSL, 650'FEL									
6,806.0	0.90	311.30	6,344.2	1,809.5	1,127.8	2,132.1	1.29	-1.06	-38.07
6,888.0	0.80	319.30	6,426.2	1,810.3	1,127.0	2,132.3	0.19	-0.12	9.76
6,970.0	1.10	311.10	6,508.1	1,811.3	1,126.0	2,132.6	0.40	0.37	-10.00
7,051.0	0.80	284.60	6,589.1	1,811.9	1,124.9	2,132.6	0.65	-0.37	-32.72
7,133.0	0.70	308.70	6,671.1	1,812.4	1,123.9	2,132.4	0.40	-0.12	29.39
7,214.0	1.20	341.10	6,752.1	1,813.5	1,123.3	2,133.0	0.88	0.62	40.00
7,279.8	0.62	324.71	6,817.9	1,814.4	1,122.8	2,133.6	0.95	-0.88	-24.92
LEGAL BOX 400' X 400' 1981'FSL & 660'FEL									
7,280.7	0.62	324.29	6,818.8	1,814.4	1,122.8	2,133.6	0.95	-0.80	-47.87
TARGET CIRCLE 2050'FSL & 650'FEL									
7,296.0	0.50	315.10	6,834.1	1,814.6	1,122.7	2,133.6	0.95	-0.76	-59.92
7,378.0	0.90	343.60	6,916.1	1,815.4	1,122.3	2,134.1	0.63	0.49	34.76
7,460.0	1.10	334.60	6,998.1	1,816.8	1,121.8	2,135.0	0.31	0.24	-10.98
7,542.0	0.80	21.70	7,080.1	1,818.0	1,121.7	2,136.0	0.98	-0.37	57.44
7,623.0	0.60	2.10	7,161.1	1,819.0	1,121.9	2,136.9	0.38	-0.25	-24.20
7,688.0	1.10	24.60	7,226.1	1,819.9	1,122.2	2,137.8	0.91	0.77	34.62
7,738.0	1.10	24.60	7,276.1	1,820.7	1,122.6	2,138.7	0.00	0.00	0.00

Checked By: _____ Approved By: _____ Date: _____