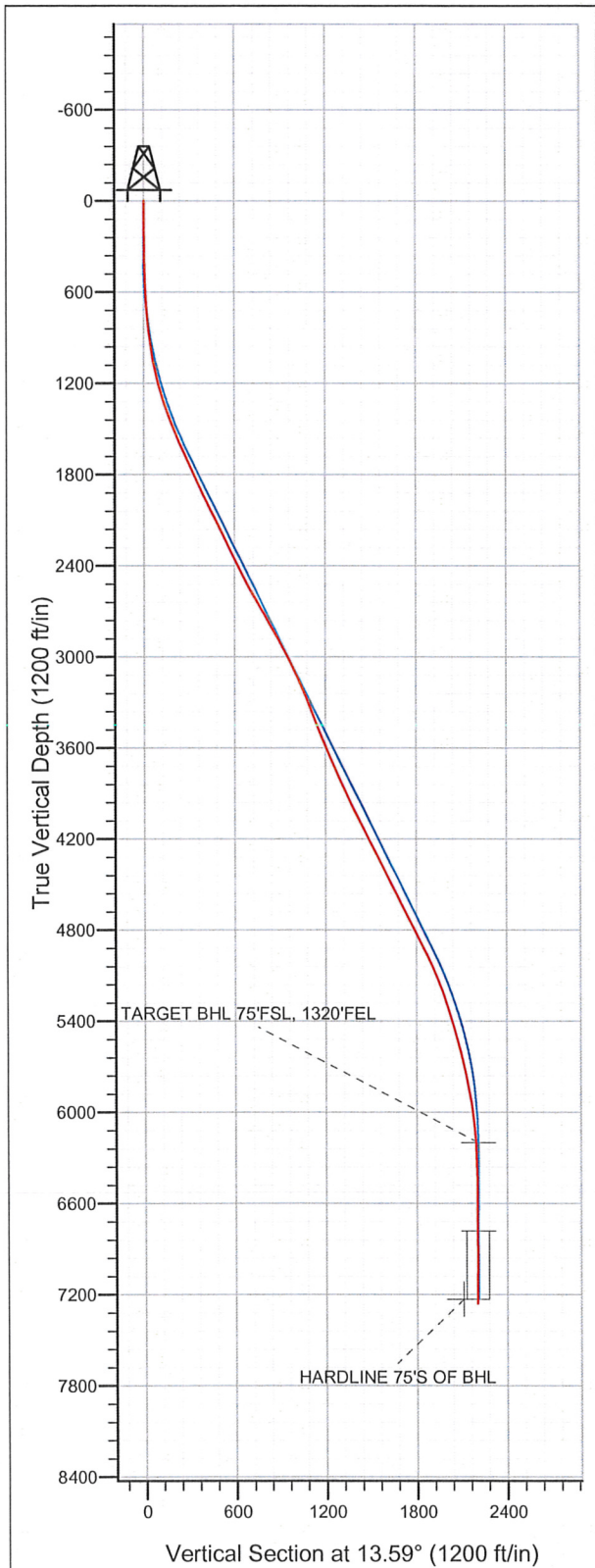


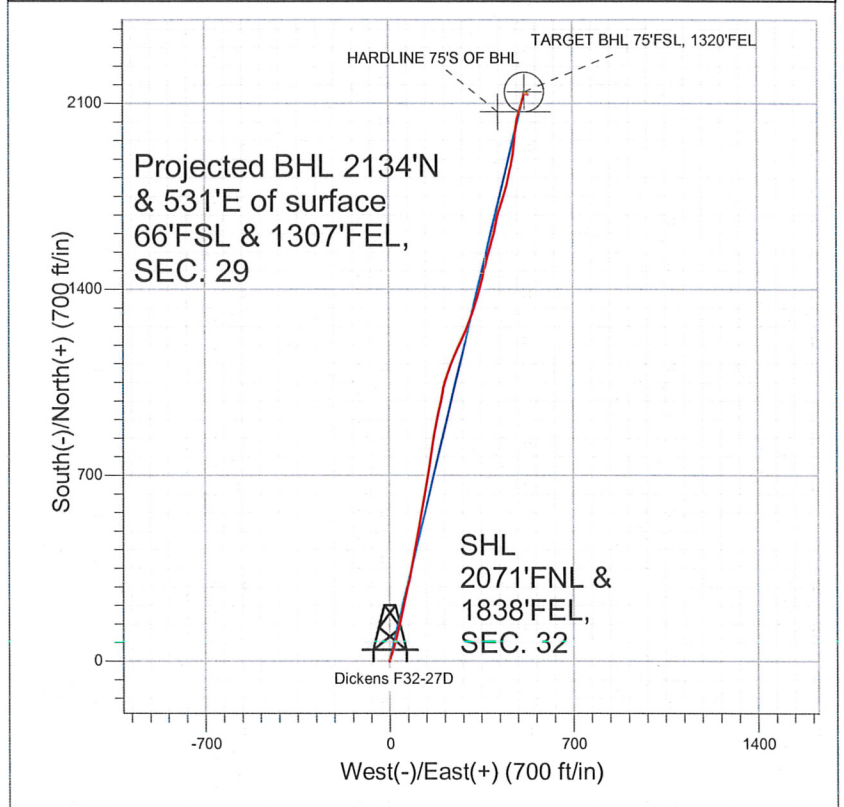
Well Name: Dickens F32-27D

Surface Location: Dickens F32-27D Pad Sec.32-T5N-R65W
North American Datum 1983 US State Plane 1983 Colorado Northern Zone
Ground Elevation: 4668.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1374082.92	3227278.68	40.357390	-104.684450	
		Original Well Elev	WELL @ 4681.0ft (Original Well Elev)			



NOBLE ENERGY INC WELD COUNTY CO



LEGEND

- Survey #1
- ✕ Dickens F32-27D, Wellbore #1, Noble Dickens F32-27D Plan #3 (2-22-12)R V0
- Wellbore #1

Final Survey Plot

Projected Final Survey -
7720'MD & 7259'TVD @ 2199'VS
0.50 deg Inc 134.90 deg AZ

Project: SEC.32-T5N-R65W
Site: Dickens F32-27D Pad Sec.32-T5N-R65W
Well: Dickens F32-27D
Plan: Wellbore #1



Directional

**NOBLE ENERGY INC WELD
COUNTY CO**

SEC.32-T5N-R65W

Dickens F32-27D Pad Sec.32-T5N-R65W

Dickens F32-27D

Wellbore #1

Survey: Survey #1

Standard Survey Report

24 February, 2012



Company: NOBLE ENERGY INC WELD COUNTY CO
 Project: SEC.32-T5N-R65W
 Site: Dickens F32-27D Pad Sec.32-T5N-R65W
 Well: Dickens F32-27D
 Wellbore: Wellbore #1
 Design: Wellbore #1

Local Co-ordinate Reference: Well Dickens F32-27D
 TVD Reference: WELL @ 4681.0ft (Original Well Elev)
 MD Reference: WELL @ 4681.0ft (Original Well Elev)
 North Reference: True
 Survey Calculation Method: Minimum Curvature
 Database: Landmark

Project	SEC.32-T5N-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	Dickens F32-27D Pad Sec.32-T5N-R65W				
Site Position:		Northing:	1,374,086.80 ft	Latitude:	40.357400
From:	Lat/Long	Easting:	3,227,303.73 ft	Longitude:	-104.684360
Position Uncertainty:	0.0 ft	Slot Radius:	"	Grid Convergence:	0.53 °

Well	Dickens F32-27D					
Well Position	+N/-S	0.0 ft	Northing:	1,374,082.92 ft	Latitude:	40.357390
	+E/-W	0.0 ft	Easting:	3,227,278.68 ft	Longitude:	-104.684450
Position Uncertainty	0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,668.0 ft	

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	2/22/2012	8.68	67.02	53,070

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 (°)	
	6,200.0	0.0	0.0	13.59	

Survey Program	Date 2/24/2012			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
138.0	7,720.0	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
138.0	0.40	314.90	138.0	0.3	-0.3	0.3	0.29	0.29	0.00
229.0	0.40	312.30	229.0	0.8	-0.8	0.6	0.02	0.00	-2.86
320.0	0.40	309.80	320.0	1.2	-1.3	0.9	0.02	0.00	-2.75
410.0	1.10	23.30	410.0	2.2	-1.2	1.9	1.18	0.78	81.67
502.0	2.70	22.20	501.9	5.0	0.0	4.9	1.74	1.74	-1.20
574.0	3.50	21.40	573.8	8.6	1.4	8.7	1.11	1.11	-1.11
688.0	3.40	18.20	687.6	15.1	3.8	15.5	0.19	-0.09	-2.81
781.0	5.50	17.50	780.3	21.9	6.0	22.7	2.26	2.26	-0.75
875.0	6.60	16.60	873.8	31.4	8.9	32.6	1.17	1.17	-0.96
968.0	9.10	18.00	965.9	43.5	12.7	45.3	2.70	2.69	1.51
1,062.0	11.30	16.80	1,058.4	59.4	17.6	61.9	2.35	2.34	-1.28
1,155.0	13.20	15.40	1,149.3	78.4	23.1	81.6	2.07	2.04	-1.51

Company: NOBLE ENERGY INC WELD COUNTY CO
Project: SEC.32-T5N-R65W
Site: Dickens F32-27D Pad Sec.32-T5N-R65W
Well: Dickens F32-27D
Wellbore: Wellbore #1
Design: Wellbore #1

Local Co-ordinate Reference: Well Dickens F32-27D
TVD Reference: WELL @ 4681.0ft (Original Well Elev)
MD Reference: WELL @ 4681.0ft (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)
1,249.0	16.10	14.10	1,240.3	101.4	29.1	105.4	3.10	3.09	-1.38
1,342.0	19.00	13.10	1,328.9	128.6	35.7	133.4	3.13	3.12	-1.08
1,436.0	20.80	13.10	1,417.3	159.8	42.9	165.4	1.91	1.91	0.00
1,529.0	21.50	11.00	1,504.0	192.6	49.9	198.9	1.11	0.75	-2.26
1,623.0	23.50	12.40	1,590.9	227.8	57.2	234.9	2.20	2.13	1.49
1,717.0	24.30	12.40	1,676.8	265.0	65.4	273.0	0.85	0.85	0.00
1,810.0	25.20	13.60	1,761.3	303.0	74.2	311.9	1.11	0.97	1.29
1,904.0	24.80	10.80	1,846.5	341.8	82.6	351.6	1.33	-0.43	-2.98
1,997.0	25.90	10.50	1,930.5	380.9	89.9	391.4	1.19	1.18	-0.32
2,091.0	26.40	10.10	2,014.9	421.7	97.3	432.7	0.56	0.53	-0.43
2,184.0	27.30	10.60	2,097.9	463.0	104.9	474.7	1.00	0.97	0.54
2,278.0	25.80	10.50	2,181.9	504.3	112.6	516.6	1.60	-1.60	-0.11
2,371.0	25.70	10.80	2,265.7	544.0	120.0	557.0	0.18	-0.11	0.32
2,465.0	25.80	9.10	2,350.4	584.2	127.1	597.7	0.79	0.11	-1.81
2,559.0	26.20	10.30	2,434.9	624.8	134.0	638.8	0.70	0.43	1.28
2,652.0	27.70	10.50	2,517.8	666.3	141.7	680.9	1.62	1.61	0.22
2,746.0	29.50	9.10	2,600.3	710.6	149.3	725.8	2.04	1.91	-1.49
2,839.0	30.60	7.80	2,680.8	756.7	156.1	772.2	1.37	1.18	-1.40
2,933.0	31.60	9.90	2,761.3	804.7	163.6	820.6	1.57	1.06	2.23
3,026.0	28.10	9.20	2,841.9	850.3	171.3	866.7	3.78	-3.76	-0.75
3,120.0	27.80	11.20	2,925.0	893.6	179.1	910.7	1.05	-0.32	2.13
3,214.0	27.70	12.90	3,008.2	936.4	188.2	954.5	0.85	-0.11	1.81
3,307.0	26.10	11.20	3,091.1	977.6	197.0	996.5	1.91	-1.72	-1.83
3,401.0	23.50	10.50	3,176.4	1,016.3	204.5	1,035.9	2.78	-2.77	-0.74
3,494.0	22.30	15.90	3,262.1	1,051.5	212.7	1,072.0	2.60	-1.29	5.81
3,588.0	21.10	19.10	3,349.4	1,084.7	223.1	1,106.7	1.79	-1.28	3.40
3,682.0	21.70	21.90	3,437.0	1,116.8	235.1	1,140.7	1.26	0.64	2.98
3,775.0	22.10	24.30	3,523.2	1,148.7	248.7	1,175.0	1.05	0.43	2.58
3,869.0	21.90	24.10	3,610.4	1,180.8	263.2	1,209.6	0.23	-0.21	-0.21
3,962.0	24.20	24.00	3,696.0	1,214.0	278.0	1,245.4	2.47	2.47	-0.11
4,056.0	24.80	24.00	3,781.5	1,249.6	293.9	1,283.7	0.64	0.64	0.00
4,150.0	25.80	21.20	3,866.5	1,286.7	309.3	1,323.4	1.66	1.06	-2.98
4,243.0	25.50	18.70	3,950.3	1,324.6	323.0	1,363.4	1.21	-0.32	-2.69
4,337.0	25.10	15.90	4,035.3	1,362.9	335.0	1,403.5	1.34	-0.43	-2.98
4,431.0	26.20	14.90	4,120.1	1,402.1	345.8	1,444.1	1.26	1.17	-1.06
4,524.0	27.30	14.50	4,203.1	1,442.6	356.4	1,486.0	1.20	1.18	-0.43
4,618.0	27.30	14.50	4,286.6	1,484.4	367.2	1,529.1	0.00	0.00	0.00
4,711.0	27.70	14.70	4,369.1	1,525.9	378.0	1,572.0	0.44	0.43	0.22
4,805.0	26.20	15.60	4,452.9	1,567.0	389.1	1,614.6	1.65	-1.60	0.96
4,899.0	26.50	13.40	4,537.1	1,607.4	399.6	1,656.3	1.09	0.32	-2.34
4,992.0	25.90	12.00	4,620.6	1,647.5	408.6	1,697.4	0.93	-0.65	-1.51
5,086.0	27.20	14.70	4,704.7	1,688.3	418.3	1,739.4	1.89	1.38	2.87
5,180.0	27.30	17.50	4,788.3	1,729.7	430.3	1,782.4	1.37	0.11	2.98
5,274.0	26.30	17.10	4,872.2	1,770.1	442.9	1,824.6	1.08	-1.06	-0.43
5,368.0	26.90	12.90	4,956.2	1,810.8	453.7	1,866.7	2.10	0.64	-4.47
5,461.0	24.60	12.70	5,040.0	1,850.2	462.7	1,907.1	2.47	-2.47	-0.22
5,555.0	21.50	11.20	5,126.5	1,886.2	470.3	1,943.9	3.36	-3.30	-1.60
5,649.0	19.00	7.10	5,214.6	1,918.3	475.6	1,976.3	3.06	-2.66	-4.36
5,743.0	18.30	5.20	5,303.7	1,948.1	478.8	2,006.1	0.99	-0.74	-2.02
5,836.0	17.20	4.00	5,392.3	1,976.4	481.1	2,034.1	1.25	-1.18	-1.29
5,930.0	15.70	7.30	5,482.4	2,002.9	483.7	2,060.5	1.88	-1.60	3.51
6,024.0	15.00	10.80	5,573.1	2,027.4	487.6	2,085.2	1.24	-0.74	3.72
6,118.0	13.10	15.20	5,664.3	2,049.7	492.6	2,108.0	2.32	-2.02	4.68
6,212.0	12.80	17.50	5,755.9	2,069.9	498.6	2,129.1	0.63	-0.32	2.45

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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)
6,305.0	10.60	14.50	5,846.9	2,088.0	503.8	2,147.9	2.45	-2.37	-3.23
6,399.0	8.50	14.00	5,939.6	2,103.1	507.7	2,163.5	2.24	-2.23	-0.53
6,493.0	7.20	15.60	6,032.8	2,115.5	510.9	2,176.3	1.40	-1.38	1.70
6,586.0	4.60	17.70	6,125.3	2,124.7	513.6	2,185.9	2.80	-2.80	2.26
6,661.9	3.47	18.30	6,200.9	2,129.8	515.3	2,191.2	1.49	-1.49	0.78
TARGET BHL 75°FSL, 1320°FEL									
6,680.0	3.20	18.50	6,219.0	2,130.8	515.6	2,192.3	1.49	-1.49	1.13
6,774.0	2.00	21.00	6,312.9	2,134.8	517.0	2,196.5	1.28	-1.28	2.66
6,867.0	1.10	23.50	6,405.9	2,137.1	518.0	2,199.0	0.97	-0.97	2.69
6,961.0	1.10	78.10	6,499.9	2,138.1	519.2	2,200.3	1.07	0.00	58.09
7,055.0	1.30	106.40	6,593.9	2,138.0	521.1	2,200.6	0.66	0.21	30.11
7,148.0	1.40	108.00	6,686.8	2,137.4	523.2	2,200.5	0.11	0.11	1.72
7,242.0	1.30	106.40	6,780.8	2,136.7	525.3	2,200.3	0.11	-0.11	-1.70
7,242.1	1.30	106.40	6,780.9	2,136.7	525.3	2,200.3	0.00	0.00	0.00
TARGET CIRCLE 75°SFL, 1320°FEL									
7,335.0	0.50	87.10	6,873.8	2,136.4	526.7	2,200.4	0.91	-0.86	-20.77
7,429.0	1.00	109.20	6,967.8	2,136.2	527.9	2,200.4	0.61	0.53	23.51
7,523.0	0.90	113.60	7,061.8	2,135.6	529.4	2,200.2	0.13	-0.11	4.68
7,672.0	0.50	134.90	7,210.8	2,134.7	530.9	2,199.7	0.32	-0.27	14.30
HARDLINE 75°S OF BHL									
7,720.0	0.50	134.90	7,258.8	2,134.4	531.2	2,199.5	0.00	0.00	0.00

Checked By: _____ Approved By: _____ Date: _____