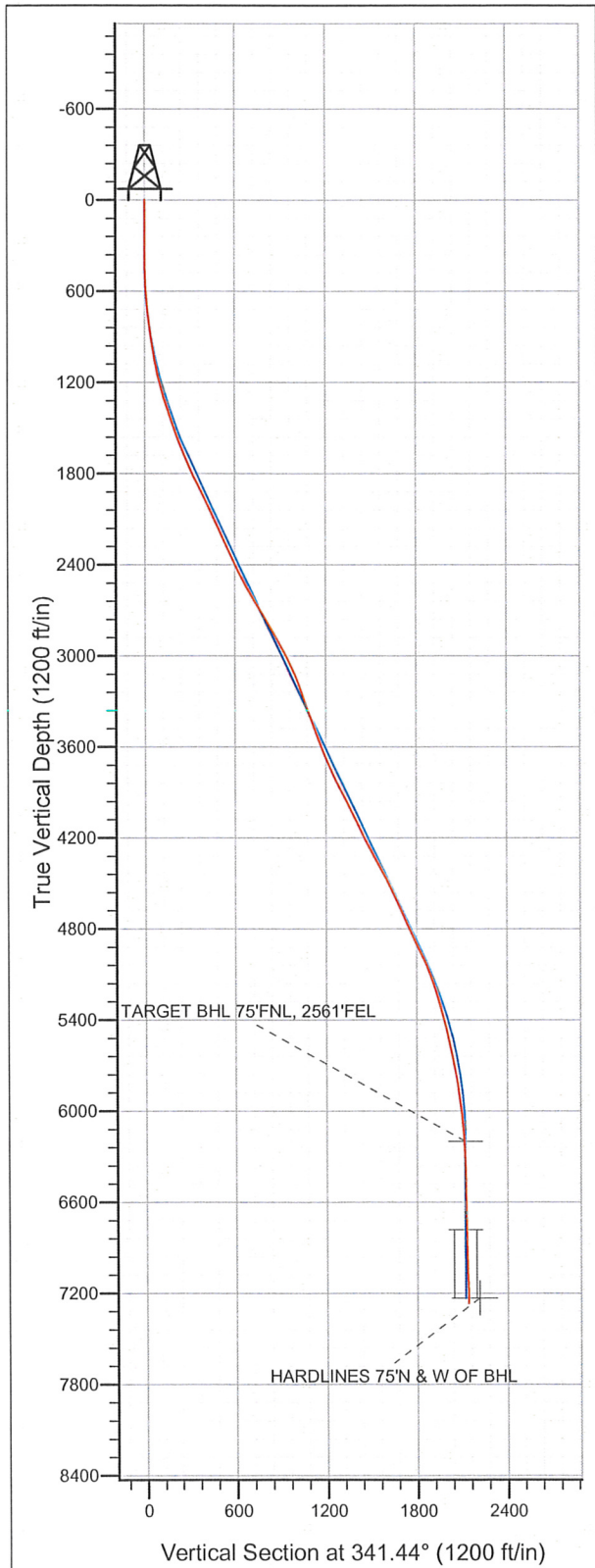




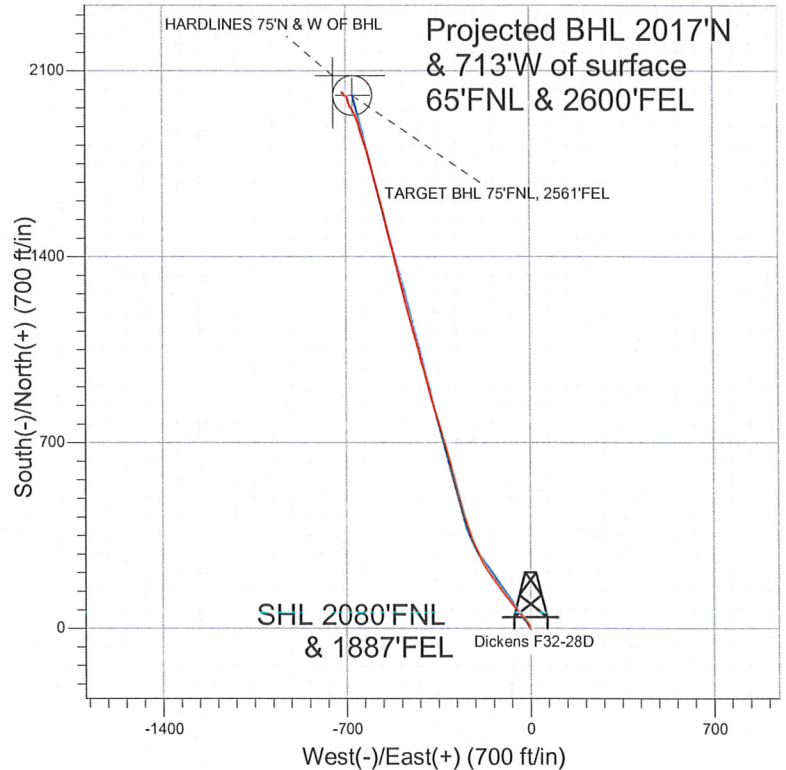
### Well Name: Dickens F32-28D

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	1374071.53	3227228.62	40.357360	-104.684630	
		Original Well Elev WELL @ 4681.0ft (Original Well Elev)				



### NOBLE ENERGY INC WELD COUNTY CO



#### LEGEND

- Survey #1
- Dickens F32-28D, Wellbore #1, Noble Dickens F32-28D Plan #1 (2-29-12) R V0
- Wellbore #1

## Final Survey Plot

Projected Final Survey -  
7704'MD & 7264'TVD @ 2139'VS  
1.60 deg Inc 287.30 deg AZ

Project: SEC.32-T5N-R65W  
Site: Dickens F32-27D Pad Sec.32-T5N-R65W  
Well: Dickens F32-28D  
Plan: Wellbore #1



**Directional**

**NOBLE ENERGY INC WELD  
COUNTY CO**

**SEC.32-T5N-R65W**

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

**Dickens F32-28D**

**Wellbore #1**

**Survey: Survey #1**

**Standard Survey Report**

**06 March, 2012**



Company: NOBLE ENERGY INC WELD COUNTY CO  
Project: SEC.32-T5N-R65W  
Site: Dickens F32-27D Pad Sec.32-T5N-R65W  
Well: Dickens F32-28D  
Wellbore: Wellbore #1  
Design: Wellbore #1

Local Co-ordinate Reference: Well Dickens F32-28D  
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 F32-28D					
Well Position	+N/-S	0.0 ft	Northing:	1,374,071.53 ft	Latitude:	40.357360
	+E/-W	0.0 ft	Easting:	3,227,228.62 ft	Longitude:	-104.684630
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	2/29/2012	8.68	67.01	53,068

Design	Wellbore #1				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction	
	(ft)	(ft)	(ft)	(°)	
	0.0	0.0	0.0	341.44	

Survey Program	Date 3/6/2012			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
132.0	7,704.0	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
132.0	0.40	224.00	132.0	-0.3	-0.3	-0.2	0.30	0.30	0.00
223.0	0.30	161.10	223.0	-0.8	-0.5	-0.6	0.41	-0.11	-69.12
315.0	0.50	125.40	315.0	-1.2	-0.1	-1.2	0.34	0.22	-38.80
406.0	0.90	4.10	406.0	-0.8	0.3	-0.8	1.36	0.44	-133.30
498.0	2.20	348.50	498.0	1.7	0.0	1.6	1.47	1.41	-16.96
563.0	3.40	336.40	562.9	4.7	-1.0	4.8	2.05	1.85	-18.62
683.0	6.10	335.10	682.5	13.7	-5.1	14.6	2.25	2.25	-1.08
776.0	6.80	327.70	774.9	22.9	-10.1	24.9	1.17	0.75	-7.96
871.0	8.00	319.30	869.1	32.6	-17.5	36.5	1.70	1.26	-8.84
965.0	10.10	316.80	961.9	43.6	-27.4	50.0	2.27	2.23	-2.66
1,059.0	12.00	317.90	1,054.2	56.9	-39.6	66.5	2.03	2.02	1.17
1,153.0	13.30	319.30	1,145.9	72.3	-53.2	85.5	1.42	1.38	1.49



**Company:** NOBLE ENERGY INC WELD COUNTY CO  
**Project:** SEC.32-T5N-R65W  
**Site:** Dickens F32-27D Pad Sec.32-T5N-R65W  
**Well:** Dickens F32-28D  
**Wellbore:** Wellbore #1  
**Design:** Wellbore #1

**Local Co-ordinate Reference:** Well Dickens F32-28D  
**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)
1,246.0	16.30	322.50	1,235.8	90.8	-68.1	107.7	3.34	3.23	3.44
1,339.0	19.00	323.20	1,324.4	113.3	-85.1	134.4	2.91	2.90	0.75
1,434.0	20.00	323.00	1,413.9	138.6	-104.1	164.5	1.05	1.05	-0.21
1,527.0	19.90	322.30	1,501.4	163.8	-123.4	194.6	0.28	-0.11	-0.75
1,620.0	22.00	326.20	1,588.2	190.8	-142.8	226.4	2.71	2.26	4.19
1,713.0	23.50	327.90	1,674.0	221.0	-162.3	261.2	1.76	1.61	1.83
1,807.0	24.80	331.30	1,759.8	254.2	-181.7	298.8	2.02	1.38	3.62
1,901.0	26.30	335.50	1,844.6	290.4	-199.8	338.9	2.50	1.60	4.47
1,995.0	25.90	337.40	1,929.0	328.3	-216.4	380.1	0.99	-0.43	2.02
2,085.0	25.80	341.10	2,010.0	365.0	-230.3	419.3	1.80	-0.11	4.11
2,179.0	26.30	342.90	2,094.4	404.3	-243.0	460.6	0.99	0.53	1.91
2,272.0	24.90	344.80	2,178.3	442.9	-254.2	500.7	1.74	-1.51	2.04
2,367.0	24.10	343.60	2,264.7	480.8	-264.9	540.1	0.99	-0.84	-1.26
2,461.0	25.10	345.30	2,350.2	518.5	-275.4	579.2	1.30	1.06	1.81
2,554.0	25.90	346.70	2,434.2	557.3	-285.1	619.1	1.08	0.86	1.51
2,648.0	27.80	345.30	2,518.0	598.5	-295.4	661.4	2.13	2.02	-1.49
2,741.0	30.60	343.90	2,599.2	642.2	-307.4	706.7	3.10	3.01	-1.51
2,835.0	31.80	343.70	2,679.6	689.0	-321.0	755.3	1.28	1.28	-0.21
2,928.0	31.00	343.60	2,759.0	735.5	-334.7	803.8	0.86	-0.86	-0.11
3,021.0	28.80	342.00	2,839.6	779.8	-348.4	850.1	2.52	-2.37	-1.72
3,114.0	29.30	343.60	2,920.9	822.9	-361.7	895.2	0.99	0.54	1.72
3,208.0	27.30	344.40	3,003.7	865.7	-374.0	939.8	2.17	-2.13	0.85
3,301.0	24.40	345.30	3,087.3	904.9	-384.6	980.2	3.15	-3.12	0.97
3,395.0	21.00	346.00	3,174.0	940.0	-393.6	1,016.4	3.63	-3.62	0.74
3,488.0	19.20	343.90	3,261.4	970.9	-401.9	1,048.3	2.08	-1.94	-2.26
3,581.0	20.20	344.80	3,348.9	1,001.1	-410.3	1,079.6	1.12	1.08	0.97
3,675.0	19.90	346.20	3,437.2	1,032.3	-418.4	1,111.7	0.60	-0.32	1.49
3,768.0	20.10	346.00	3,524.6	1,063.1	-426.0	1,143.4	0.23	0.22	-0.22
3,861.0	21.70	344.30	3,611.5	1,095.2	-434.6	1,176.6	1.84	1.72	-1.83
3,955.0	23.60	343.40	3,698.3	1,130.0	-444.6	1,212.7	2.05	2.02	-0.96
4,049.0	24.60	343.70	3,784.1	1,166.8	-455.5	1,251.1	1.07	1.06	0.32
4,143.0	26.60	345.00	3,868.8	1,205.9	-466.5	1,291.6	2.21	2.13	1.38
4,236.0	27.60	345.70	3,951.6	1,246.9	-477.2	1,333.9	1.13	1.08	0.75
4,330.0	25.80	346.70	4,035.6	1,287.9	-487.2	1,376.0	1.97	-1.91	1.06
4,424.0	25.80	346.90	4,120.2	1,327.7	-496.6	1,416.7	0.09	0.00	0.21
4,517.0	27.40	345.80	4,203.4	1,368.2	-506.4	1,458.2	1.80	1.72	-1.18
4,611.0	27.50	345.70	4,286.8	1,410.2	-517.1	1,501.4	0.12	0.11	-0.11
4,704.0	28.70	345.50	4,368.8	1,452.6	-528.0	1,545.1	1.29	1.29	-0.22
4,798.0	29.30	346.20	4,451.0	1,496.8	-539.1	1,590.5	0.73	0.64	0.74
4,891.0	25.40	346.40	4,533.6	1,538.3	-549.2	1,633.1	4.19	-4.19	0.22
4,988.0	24.30	344.10	4,621.7	1,577.7	-559.6	1,673.8	1.51	-1.13	-2.37
5,082.0	24.30	346.20	4,707.3	1,615.1	-569.5	1,712.4	0.92	0.00	2.23
5,176.0	23.80	344.30	4,793.2	1,652.1	-579.3	1,750.6	0.98	-0.53	-2.02
5,270.0	25.90	343.40	4,878.5	1,690.1	-590.3	1,790.0	2.27	2.23	-0.96
5,363.0	26.90	346.00	4,961.8	1,729.9	-601.2	1,831.3	1.64	1.08	2.80
5,457.0	21.70	347.30	5,047.4	1,767.6	-610.1	1,869.8	5.56	-5.53	1.38
5,550.0	19.70	342.20	5,134.4	1,799.3	-618.7	1,902.6	2.89	-2.15	-5.48
5,643.0	17.90	341.60	5,222.4	1,827.8	-628.0	1,932.6	1.95	-1.94	-0.65
5,748.0	15.80	342.00	5,322.9	1,856.7	-637.5	1,963.0	2.00	-2.00	0.38
5,832.0	14.40	344.30	5,404.0	1,877.6	-643.9	1,984.9	1.81	-1.67	2.74
5,925.0	12.30	344.10	5,494.5	1,898.3	-649.7	2,006.3	2.26	-2.26	-0.22
6,019.0	11.40	339.00	5,586.5	1,916.6	-655.8	2,025.6	1.47	-0.96	-5.43
6,112.0	11.30	333.70	5,677.7	1,933.3	-663.1	2,043.8	1.13	-0.11	-5.70
6,205.0	10.80	330.20	5,769.0	1,949.0	-671.5	2,061.4	0.90	-0.54	-3.76

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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)
6,298.0	9.10	332.50	5,860.6	1,963.1	-679.2	2,077.2	1.88	-1.83	2.47
6,389.0	6.90	329.30	5,950.7	1,974.2	-685.3	2,089.7	2.47	-2.42	-3.52
6,482.0	6.40	344.80	6,043.1	1,984.0	-689.5	2,100.3	2.00	-0.54	16.67
6,576.0	4.40	347.80	6,136.6	1,992.6	-691.7	2,109.1	2.15	-2.13	3.19
6,639.9	3.30	344.01	6,200.4	1,996.8	-692.7	2,113.4	1.77	-1.73	-5.93
TARGET BHL 75'FNL, 2561'FEL									
6,669.0	2.80	341.30	6,229.4	1,998.2	-693.2	2,114.9	1.77	-1.70	-9.31
6,763.0	2.00	330.60	6,323.4	2,001.8	-694.7	2,118.8	0.97	-0.85	-11.38
6,858.0	1.40	314.70	6,418.3	2,004.1	-696.3	2,121.5	0.80	-0.63	-16.74
6,951.0	1.30	291.20	6,511.3	2,005.3	-698.1	2,123.2	0.60	-0.11	-25.27
7,046.0	1.60	275.50	6,606.3	2,005.8	-700.5	2,124.4	0.52	0.32	-16.53
7,139.0	1.30	295.40	6,699.2	2,006.4	-702.7	2,125.7	0.63	-0.32	21.40
7,220.2	1.46	315.88	6,780.4	2,007.5	-704.3	2,127.3	0.64	0.20	25.21
TARGET CIRCLE 75'FNL, 2561'FEL									
7,232.0	1.50	318.40	6,792.2	2,007.7	-704.5	2,127.5	0.64	0.31	21.40
7,326.0	1.60	329.90	6,886.2	2,009.8	-705.9	2,130.0	0.35	0.11	12.23
7,419.0	1.70	336.50	6,979.1	2,012.2	-707.1	2,132.6	0.23	0.11	7.10
7,513.0	1.90	322.10	7,073.1	2,014.7	-708.7	2,135.5	0.52	0.21	-15.32
7,607.0	1.50	297.50	7,167.1	2,016.5	-710.7	2,137.8	0.88	-0.43	-26.17
7,650.0	1.60	287.30	7,210.0	2,016.9	-711.8	2,138.6	0.68	0.23	-23.72
HARDLINES 75'N & W OF BHL									
7,704.0	1.60	287.30	7,264.0	2,017.4	-713.2	2,139.5	0.00	0.00	0.00

Checked By: \_\_\_\_\_ Approved By: \_\_\_\_\_ Date: \_\_\_\_\_