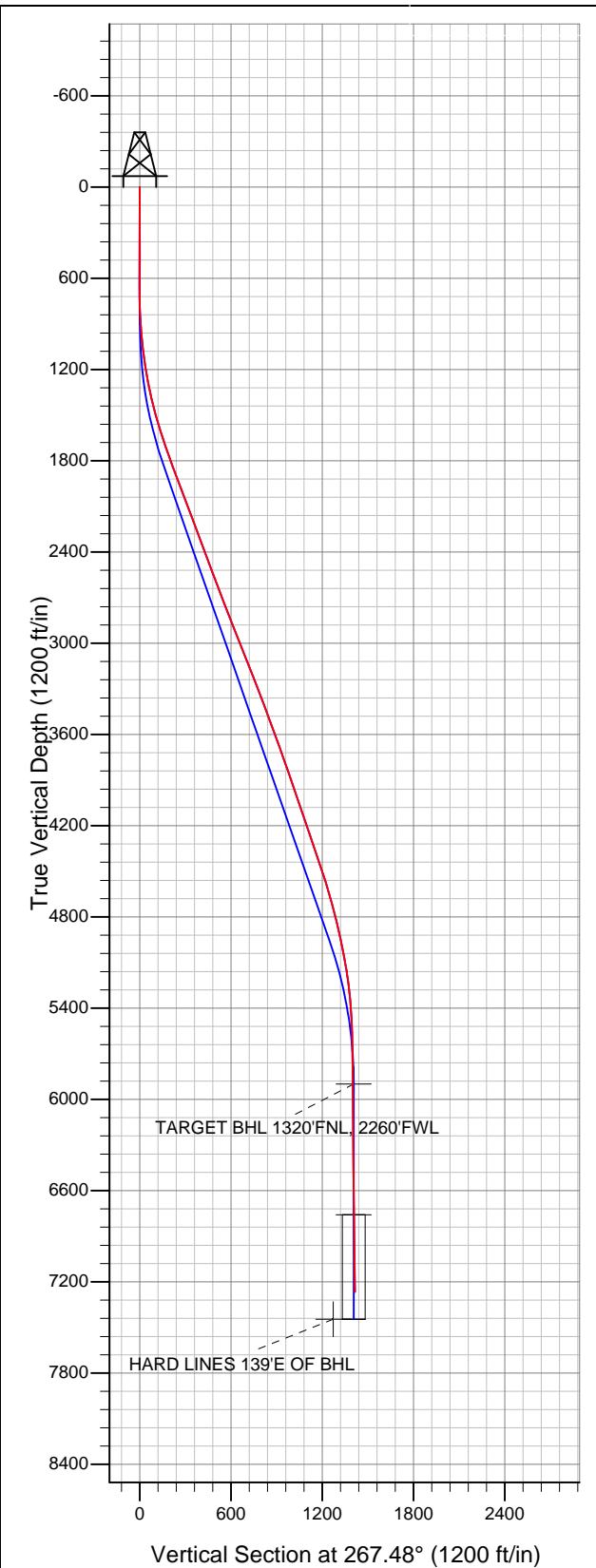


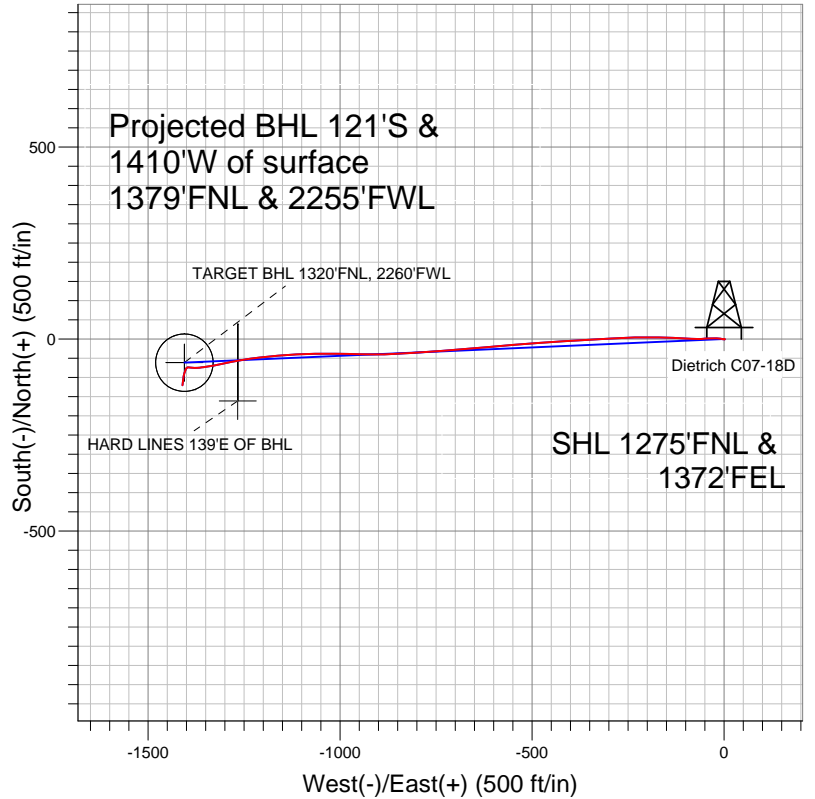


Well Name: Dietrich C07-18D

Surface Location: Dietrich C07-18 Pad Sec.7-T4N-R64W
North American Datum 1983 US State Plane 1983 Colorado Northern Zone
Ground Elevation: 4817.0
+N/-S +E/-W Northing Easting Latitude Longitude Slot
0.0 0.0 1364565.06 3254006.27 40.330550 -104.588900
Original Well Elev WELL @ 4830.0ft (Original Well Elev)



NOBLE ENERGY INC WELD COUNTY CO



LEGEND

- Dietrich C07-18D, Wellbore #1, Noble Dietrich C07-18D Plan #2 (10-17-11) V0
- Wellbore #1
- Survey #1

Final Survey Plot

Projected Final Survey -
7494'MD & 7267'TVD @ 1414'VS
4.1 deg Inc 187.2 deg AZ

Project: SEC.7-T4N-R64W
Site: Dietrich C07-18 Pad Sec.7-T4N-R64W
Well: Dietrich C07-18D
Plan: Wellbore #1



NOBLE ENERGY INC WELD COUNTY CO

SEC.7-T4N-R64W

Dietrich C07-18 Pad Sec.7-T4N-R64W

Dietrich C07-18D

Wellbore #1

Survey: Survey #1

Standard Survey Report

14 November, 2011



Company:	NOBLE ENERGY INC WELD COUNTY CO	Local Co-ordinate Reference:	Well Dietrich C07-18D
Project:	SEC.7-T4N-R64W	TVD Reference:	WELL @ 4830.0ft (Original Well Elev)
Site:	Dietrich C07-18 Pad Sec.7-T4N-R64W	MD Reference:	WELL @ 4830.0ft (Original Well Elev)
Well:	Dietrich C07-18D	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Landmark

Project	SEC.7-T4N-R64W, 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		Dietrich C07-18 Pad Sec.7-T4N-R64W			
Site Position:		Northing:	1,364,565.08 ft	Latitude:	40.330550
From:	Lat/Long	Easting:	3,254,006.27 ft	Longitude:	-104.588900
Position Uncertainty:	0.0 ft	Slot Radius:	"	Grid Convergence:	0.59 °

Well	Dietrich C07-18D					
Well Position	+N/-S	0.0 ft	Northing:	1,364,565.06 ft	Latitude:	40.330550
	+E/-W	0.0 ft	Easting:	3,254,006.27 ft	Longitude:	-104.588900
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,817.0 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	10/17/2011	8.72	67.01	53,078

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 (°)	
	5,900.0	0.0	0.0	267.48	

Survey Program	Date	11/14/2011			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
644.0	7,494.0	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	
644.0	0.40	110.50	644.0	-0.8	2.1	-2.1	0.06	0.06	0.00	
738.0	1.10	262.60	738.0	-1.0	1.5	-1.5	1.56	0.74	161.81	
832.0	2.70	278.10	831.9	-0.8	-1.6	1.6	1.77	1.70	16.49	
926.0	4.00	282.30	925.8	0.2	-7.0	6.9	1.41	1.38	4.47	
1,020.0	6.10	274.00	1,019.4	1.2	-15.2	15.1	2.36	2.23	-8.83	
1,114.0	7.70	268.40	1,112.7	1.4	-26.4	26.3	1.84	1.70	-5.96	
1,208.0	9.20	269.10	1,205.7	1.1	-40.2	40.1	1.60	1.60	0.74	
1,302.0	10.80	266.10	1,298.3	0.4	-56.5	56.5	1.79	1.70	-3.19	
1,396.0	13.50	271.20	1,390.2	0.0	-76.3	76.2	3.09	2.87	5.43	
1,490.0	15.60	274.20	1,481.1	1.2	-99.9	99.7	2.37	2.23	3.19	
1,584.0	17.20	271.00	1,571.3	2.4	-126.4	126.2	1.95	1.70	-3.40	
1,678.0	17.90	272.40	1,660.9	3.2	-154.7	154.4	0.87	0.74	1.49	

Company:	NOBLE ENERGY INC WELD COUNTY CO	Local Co-ordinate Reference:	Well Dietrich C07-18D
Project:	SEC.7-T4N-R64W	TVD Reference:	WELL @ 4830.0ft (Original Well Elev)
Site:	Dietrich C07-18 Pad Sec.7-T4N-R64W	MD Reference:	WELL @ 4830.0ft (Original Well Elev)
Well:	Dietrich C07-18D	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)	
1,772.0	19.30	270.10	1,750.0	3.8	-184.7	184.3	1.68	1.49	-2.45	
1,865.0	20.00	269.80	1,837.6	3.8	-216.0	215.6	0.76	0.75	-0.32	
1,959.0	20.80	268.00	1,925.7	3.2	-248.7	248.3	1.08	0.85	-1.91	
2,053.0	20.80	267.70	2,013.6	1.9	-282.1	281.7	0.11	0.00	-0.32	
2,147.0	20.70	265.90	2,101.5	0.1	-315.3	315.0	0.69	-0.11	-1.91	
2,241.0	20.70	267.00	2,189.4	-2.0	-348.5	348.2	0.41	0.00	1.17	
2,335.0	20.80	266.60	2,277.3	-3.9	-381.7	381.5	0.18	0.11	-0.43	
2,429.0	20.50	266.50	2,365.3	-5.9	-414.8	414.7	0.32	-0.32	-0.11	
2,523.0	20.40	266.30	2,453.4	-7.9	-447.6	447.5	0.13	-0.11	-0.21	
2,617.0	20.40	266.10	2,541.5	-10.1	-480.3	480.3	0.07	0.00	-0.21	
2,711.0	20.70	265.80	2,629.5	-12.4	-513.2	513.3	0.34	0.32	-0.32	
2,805.0	20.80	265.20	2,717.4	-15.0	-546.4	546.5	0.25	0.11	-0.64	
2,899.0	21.80	265.00	2,805.0	-18.0	-580.4	580.6	1.07	1.06	-0.21	
2,992.0	21.60	265.00	2,891.4	-21.0	-614.7	615.0	0.22	-0.22	0.00	
3,086.0	21.50	264.20	2,978.8	-24.2	-649.0	649.5	0.33	-0.11	-0.85	
3,180.0	21.30	265.20	3,066.3	-27.4	-683.2	683.7	0.44	-0.21	1.06	
3,274.0	22.00	266.50	3,153.7	-29.9	-717.8	718.4	0.90	0.74	1.38	
3,368.0	21.70	265.60	3,240.9	-32.3	-752.7	753.4	0.48	-0.32	-0.96	
3,462.0	21.00	266.80	3,328.5	-34.6	-786.8	787.6	0.88	-0.74	1.28	
3,556.0	20.30	266.10	3,416.5	-36.6	-819.9	820.7	0.79	-0.74	-0.74	
3,650.0	20.00	266.10	3,504.7	-38.8	-852.2	853.1	0.32	-0.32	0.00	
3,744.0	20.10	268.90	3,593.0	-40.2	-884.4	885.3	1.03	0.11	2.98	
3,838.0	19.90	271.00	3,681.3	-40.2	-916.6	917.4	0.79	-0.21	2.23	
3,932.0	19.20	271.00	3,769.9	-39.7	-948.0	948.8	0.74	-0.74	0.00	
4,026.0	19.30	271.20	3,858.7	-39.1	-979.0	979.8	0.13	0.11	0.21	
4,120.0	19.30	270.80	3,947.4	-38.6	-1,010.1	1,010.8	0.14	0.00	-0.43	
4,214.0	19.10	269.40	4,036.1	-38.5	-1,041.0	1,041.7	0.53	-0.21	-1.49	
4,308.0	18.50	269.10	4,125.1	-38.9	-1,071.3	1,071.9	0.65	-0.64	-0.32	
4,402.0	18.50	267.90	4,214.3	-39.7	-1,101.1	1,101.8	0.41	0.00	-1.28	
4,496.0	18.90	266.30	4,303.3	-41.2	-1,131.2	1,131.9	0.69	0.43	-1.70	
4,589.0	18.60	264.90	4,391.4	-43.5	-1,161.0	1,161.8	0.58	-0.32	-1.51	
4,683.0	18.70	264.00	4,480.4	-46.4	-1,190.9	1,191.8	0.32	0.11	-0.96	
4,777.0	17.60	262.60	4,569.8	-49.8	-1,220.0	1,221.0	1.26	-1.17	-1.49	
4,871.0	16.40	261.50	4,659.7	-53.6	-1,247.2	1,248.3	1.32	-1.28	-1.17	
4,965.0	14.80	260.00	4,750.2	-57.6	-1,272.1	1,273.4	1.76	-1.70	-1.60	
5,059.0	13.70	257.00	4,841.3	-62.2	-1,294.8	1,296.3	1.41	-1.17	-3.19	
5,153.0	11.90	258.70	4,933.0	-66.6	-1,315.2	1,316.8	1.96	-1.91	1.81	
5,247.0	11.20	261.40	5,025.1	-69.9	-1,333.7	1,335.5	0.94	-0.74	2.87	
5,341.0	10.00	260.10	5,117.4	-72.7	-1,350.8	1,352.6	1.30	-1.28	-1.38	
5,435.0	8.00	264.90	5,210.3	-74.7	-1,365.3	1,367.3	2.27	-2.13	5.11	
5,529.0	6.20	270.00	5,303.6	-75.2	-1,376.9	1,378.9	2.03	-1.91	5.43	
5,623.0	4.30	274.70	5,397.2	-74.9	-1,385.5	1,387.5	2.07	-2.02	5.00	
5,717.0	2.30	278.40	5,491.0	-74.4	-1,390.9	1,392.8	2.14	-2.13	3.94	
5,842.0	1.20	271.00	5,615.9	-74.0	-1,394.7	1,396.6	0.90	-0.88	-5.92	
5,967.0	0.90	249.40	5,740.9	-74.3	-1,396.9	1,398.8	0.39	-0.24	-17.28	
6,092.0	0.40	244.00	5,865.9	-74.9	-1,398.2	1,400.1	0.40	-0.40	-4.32	
6,126.1	0.45	240.86	5,900.0	-75.0	-1,398.4	1,400.4	0.17	0.16	-9.22	
TARGET BHL 1320'FNL, 2260'FWL										
6,218.0	0.60	235.20	5,991.9	-75.4	-1,399.1	1,401.1	0.17	0.16	-6.15	
6,343.0	0.50	234.50	6,116.9	-76.1	-1,400.1	1,402.1	0.08	-0.08	-0.56	
6,468.0	1.00	196.00	6,241.9	-77.5	-1,400.9	1,402.9	0.55	0.40	-30.80	
6,593.0	1.10	201.40	6,366.9	-79.6	-1,401.6	1,403.8	0.11	0.08	4.32	
6,719.0	1.40	201.40	6,492.8	-82.2	-1,402.6	1,404.9	0.24	0.24	0.00	
6,844.0	1.80	199.50	6,617.8	-85.5	-1,403.8	1,406.2	0.32	0.32	-1.52	

Company:	NOBLE ENERGY INC WELD COUNTY CO	Local Co-ordinate Reference:	Well Dietrich C07-18D
Project:	SEC.7-T4N-R64W	TVD Reference:	WELL @ 4830.0ft (Original Well Elev)
Site:	Dietrich C07-18 Pad Sec.7-T4N-R64W	MD Reference:	WELL @ 4830.0ft (Original Well Elev)
Well:	Dietrich C07-18D	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)	
6,969.0	1.90	199.30	6,742.7	-89.3	-1,405.2	1,407.7	0.08	0.08	-0.16	
6,985.2	2.00	197.95	6,758.9	-89.8	-1,405.3	1,407.9	0.68	0.62	-8.33	
TARGET CIRCLE 1320'FNL & 2260'FWL										
7,095.0	2.70	191.50	6,868.6	-94.2	-1,406.4	1,409.2	0.68	0.64	-5.87	
7,220.0	3.90	189.80	6,993.4	-101.2	-1,407.8	1,410.8	0.96	0.96	-1.36	
7,345.0	4.30	186.80	7,118.1	-110.1	-1,409.0	1,412.5	0.36	0.32	-2.40	
7,448.0	4.10	187.20	7,220.8	-117.6	-1,410.0	1,413.8	0.20	-0.19	0.39	
7,494.0	4.10	187.20	7,266.7	-120.8	-1,410.4	1,414.3	0.00	0.00	0.00	
HARD LINES 139'E OF BHL										

Checked By: _____	Approved By: _____	Date: _____
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