

Well Name: **Dietrich C07-22D**

Surface Location: Dietrich C07-18 Pad Sec.7-T4N-R64W
 North American Datum 1983 US State Plane 1983 Colorado Northern Zone

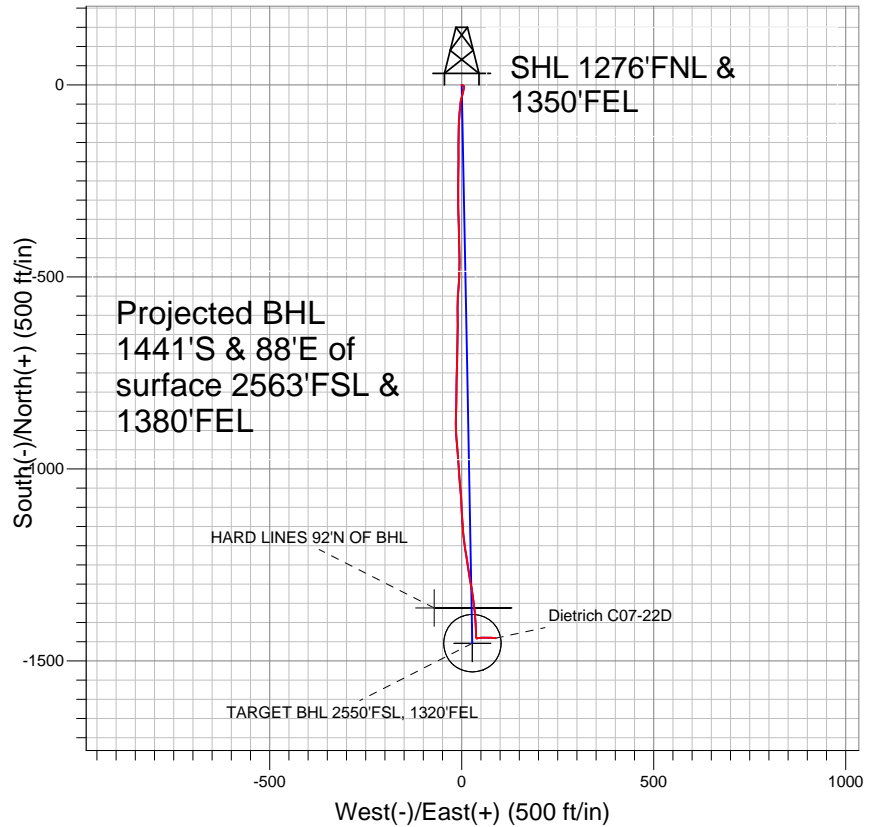
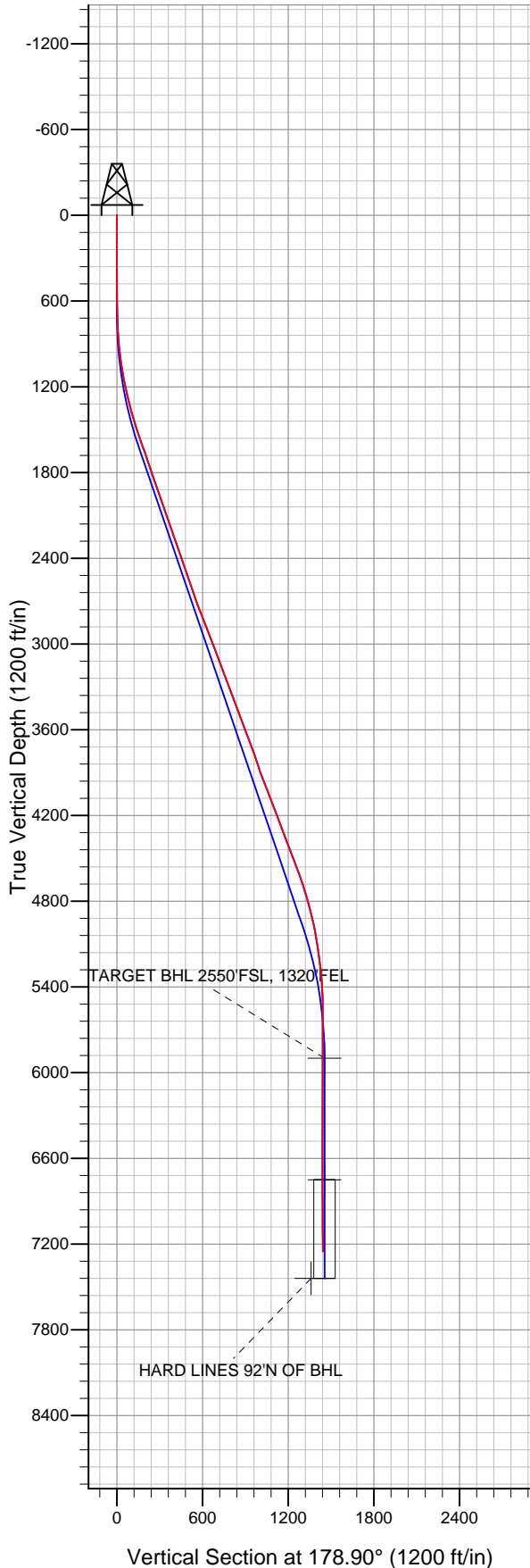
Ground Elevation: 4817.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.0	0.0	1364565.30	3254028.57	40.330550	-104.588820

Original Well Elev WELL @ 4830.0ft (Original Well Elev)

Slot

NOBLE ENERGY INC WELD COUNTY CO



LEGEND

- △ Dietrich C07-22D, Wellbore #1, Noble Dietrich C07-22D Plan #2 (10-17-11) VO
- Wellbore #1
- Survey #1

Final Survey Plot

Projected Final Survey -
 7490'MD & 7253'TVD @ 1442'VS
 2.6 deg Inc 96.0 deg AZ

Project: SEC.7-T4N-R64W
 Site: Dietrich C07-18 Pad Sec.7-T4N-R64W
 Well: Dietrich C07-22D
 Plan: Wellbore #1



Directional

NOBLE ENERGY INC WELD COUNTY CO

SEC.7-T4N-R64W

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

Dietrich C07-22D

Wellbore #1

Survey: Survey #1

Standard Survey Report

08 November, 2011



Company:	NOBLE ENERGY INC WELD COUNTY CO	Local Co-ordinate Reference:	Well Dietrich C07-22D
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 C07-22D	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
From:	Lat/Long	Easting:	3,254,006.27 ft
Position Uncertainty:	0.0 ft	Slot Radius:	"
		Latitude:	40.330550
		Longitude:	-104.588900
		Grid Convergence:	0.59 °

Well	Dietrich C07-22D		
Well Position	+N/-S	0.0 ft	Northing: 1,364,565.30 ft
	+E/-W	0.0 ft	Easting: 3,254,028.57 ft
Position Uncertainty	0.0 ft	Wellhead Elevation:	ft
		Latitude:	40.330550
		Longitude:	-104.588820
		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 (°)	
	0.0	0.0	0.0	178.90	

Survey Program	Date	11/8/2011			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
286.0	7,490.0	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	
286.0	0.20	110.20	286.0	-0.2	0.5	0.2	0.07	0.07	0.00	
605.0	1.00	110.20	605.0	-1.3	3.6	1.4	0.25	0.25	0.00	
743.0	1.50	155.90	742.9	-3.4	5.5	3.5	0.78	0.36	33.12	
837.0	4.20	187.50	836.8	-7.9	5.5	8.0	3.22	2.87	33.62	
931.0	5.90	192.60	930.5	-16.1	4.0	16.1	1.87	1.81	5.43	
1,025.0	8.30	195.60	1,023.7	-27.3	1.1	27.3	2.58	2.55	3.19	
1,119.0	10.70	190.20	1,116.4	-42.4	-2.2	42.4	2.72	2.55	-5.74	
1,213.0	12.50	184.40	1,208.5	-61.2	-4.6	61.1	2.28	1.91	-6.17	
1,305.0	13.50	184.50	1,298.2	-81.8	-6.2	81.7	1.09	1.09	0.11	
1,400.0	16.00	181.90	1,390.0	-105.9	-7.5	105.8	2.72	2.63	-2.74	
1,494.0	18.40	181.20	1,479.8	-133.7	-8.2	133.5	2.56	2.55	-0.74	
1,588.0	18.90	180.30	1,568.9	-163.8	-8.6	163.6	0.61	0.53	-0.96	

Company:	NOBLE ENERGY INC WELD COUNTY CO	Local Co-ordinate Reference:	Well Dietrich C07-22D
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Site:	Dietrich C07-18 Pad Sec.7-T4N-R64W	MD Reference:	WELL @ 4830.0ft (Original Well Elev)
Well:	Dietrich C07-22D	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)
1,682.0	18.60	179.40	1,657.9	-194.0	-8.5	193.8	0.44	-0.32	-0.96
1,776.0	19.00	181.40	1,746.9	-224.3	-8.7	224.1	0.81	0.43	2.13
1,870.0	18.90	180.00	1,835.8	-254.8	-9.1	254.6	0.50	-0.11	-1.49
1,964.0	19.30	180.50	1,924.6	-285.6	-9.2	285.3	0.46	0.43	0.53
2,058.0	19.30	179.10	2,013.3	-316.6	-9.1	316.4	0.49	0.00	-1.49
2,152.0	19.70	178.40	2,101.9	-348.0	-8.4	347.8	0.49	0.43	-0.74
2,246.0	19.50	178.00	2,190.5	-379.5	-7.5	379.3	0.26	-0.21	-0.43
2,340.0	19.00	178.20	2,279.2	-410.5	-6.4	410.3	0.54	-0.53	0.21
2,434.0	18.60	179.40	2,368.2	-440.8	-5.8	440.6	0.59	-0.43	1.28
2,528.0	18.90	180.70	2,457.2	-471.0	-5.8	470.8	0.55	0.32	1.38
2,622.0	19.30	183.30	2,546.1	-501.7	-6.9	501.5	1.00	0.43	2.77
2,716.0	18.80	183.70	2,634.9	-532.3	-8.8	532.1	0.55	-0.53	0.43
2,810.0	20.50	181.90	2,723.4	-563.9	-10.3	563.6	1.92	1.81	-1.91
2,903.0	21.70	179.30	2,810.2	-597.4	-10.6	597.1	1.64	1.29	-2.80
2,997.0	21.50	181.00	2,897.6	-632.0	-10.7	631.7	0.70	-0.21	1.81
3,091.0	21.40	179.80	2,985.1	-666.4	-11.0	666.0	0.48	-0.11	-1.28
3,185.0	20.00	182.40	3,073.0	-699.6	-11.6	699.2	1.78	-1.49	2.77
3,279.0	21.60	180.50	3,160.9	-732.9	-12.4	732.6	1.85	1.70	-2.02
3,373.0	20.60	182.30	3,248.6	-766.8	-13.2	766.4	1.27	-1.06	1.91
3,467.0	19.90	180.50	3,336.8	-799.3	-14.0	798.9	1.00	-0.74	-1.91
3,561.0	20.70	180.30	3,424.9	-831.9	-14.2	831.5	0.85	0.85	-0.21
3,655.0	20.60	181.90	3,512.9	-865.0	-14.9	864.6	0.61	-0.11	1.70
3,749.0	20.80	178.70	3,600.8	-898.2	-15.0	897.8	1.22	0.21	-3.40
3,843.0	21.00	173.60	3,688.7	-931.7	-12.8	931.3	1.95	0.21	-5.43
3,937.0	18.90	175.90	3,777.0	-963.6	-9.8	963.2	2.38	-2.23	2.45
4,031.0	18.50	177.50	3,866.0	-993.7	-8.1	993.3	0.69	-0.43	1.70
4,125.0	21.30	174.90	3,954.4	-1,025.6	-5.9	1,025.3	3.12	2.98	-2.77
4,219.0	21.90	174.70	4,041.8	-1,060.1	-2.8	1,059.8	0.64	0.64	-0.21
4,313.0	20.00	177.70	4,129.6	-1,093.6	-0.5	1,093.4	2.32	-2.02	3.19
4,407.0	21.40	178.20	4,217.5	-1,126.8	0.7	1,126.6	1.50	1.49	0.53
4,501.0	20.80	174.00	4,305.2	-1,160.5	3.0	1,160.4	1.73	-0.64	-4.47
4,594.0	20.60	172.20	4,392.2	-1,193.2	6.9	1,193.1	0.72	-0.22	-1.94
4,688.0	21.60	170.30	4,479.9	-1,226.6	12.1	1,226.6	1.29	1.06	-2.02
4,782.0	20.60	172.10	4,567.6	-1,260.0	17.2	1,260.1	1.27	-1.06	1.91
4,876.0	19.20	170.00	4,656.0	-1,291.6	22.2	1,291.8	1.67	-1.49	-2.23
4,970.0	17.10	171.00	4,745.3	-1,320.5	27.1	1,320.8	2.26	-2.23	1.06
5,064.0	15.00	172.40	4,835.7	-1,346.2	30.8	1,346.6	2.27	-2.23	1.49
5,158.0	12.70	174.50	4,926.9	-1,368.6	33.4	1,369.0	2.50	-2.45	2.23
5,252.0	10.70	175.40	5,019.0	-1,387.6	35.1	1,388.0	2.14	-2.13	0.96
5,346.0	9.10	176.10	5,111.6	-1,403.7	36.3	1,404.1	1.71	-1.70	0.74
5,440.0	7.50	178.20	5,204.6	-1,417.2	37.0	1,417.7	1.73	-1.70	2.23
5,534.0	5.40	180.70	5,298.0	-1,427.8	37.2	1,428.2	2.25	-2.23	2.66
5,628.0	4.00	177.50	5,391.7	-1,435.5	37.2	1,435.9	1.51	-1.49	-3.40
5,722.0	1.70	155.70	5,485.5	-1,440.0	38.0	1,440.5	2.66	-2.45	-23.19
5,816.0	1.00	93.70	5,579.5	-1,441.3	39.4	1,441.8	1.61	-0.74	-65.96
5,911.0	0.90	54.50	5,704.5	-1,440.8	41.2	1,441.4	0.52	-0.08	-31.36
6,066.0	0.60	72.20	5,829.5	-1,440.1	42.7	1,440.6	0.30	-0.24	14.16
6,136.3	0.92	88.08	5,899.7	-1,439.9	43.6	1,440.5	0.55	0.46	22.60
TARGET BHL 2550'FSL, 1320'FEL									
6,191.0	1.20	94.20	5,954.5	-1,440.0	44.6	1,440.6	0.55	0.51	11.18
6,316.0	1.40	93.30	6,079.4	-1,440.1	47.4	1,440.8	0.16	0.16	-0.72
6,442.0	1.00	73.60	6,205.4	-1,439.9	50.0	1,440.6	0.45	-0.32	-15.63
6,567.0	1.30	74.30	6,330.4	-1,439.2	52.4	1,440.0	0.24	0.24	0.56
6,692.0	1.60	94.90	6,455.4	-1,439.0	55.5	1,439.8	0.48	0.24	16.48

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Survey									
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6,817.0	1.90	89.40	6,580.3	-1,439.1	59.3	1,440.0	0.27	0.24	-4.40
6,943.0	2.00	90.00	6,706.2	-1,439.1	63.6	1,440.1	0.08	0.08	0.48
6,985.3	2.20	91.60	6,748.5	-1,439.1	65.2	1,440.1	0.50	0.48	3.78
TARGET CIRCLE 2550'FSL & 1320'FEL									
7,068.0	2.60	94.00	6,831.1	-1,439.3	68.6	1,440.4	0.50	0.48	2.91
7,193.0	2.70	87.30	6,956.0	-1,439.4	74.4	1,440.5	0.26	0.08	-5.36
7,319.0	2.70	97.90	7,081.8	-1,439.6	80.3	1,440.9	0.40	0.00	8.41
7,444.0	2.60	96.00	7,206.7	-1,440.3	86.0	1,441.7	0.11	-0.08	-1.52
7,490.0	2.60	96.00	7,252.7	-1,440.6	88.1	1,442.0	0.00	0.00	0.00
HARD LINES 92'N OF BHL									

Checked By: _____ Approved By: _____ Date: _____