

Well Name: **Marley C01-18D**

Surface Location: Marley C01-28D Pad Sec.1-T4N-R64W
North American Datum 1983 US State Plane 1983 Colorado Northern Zone

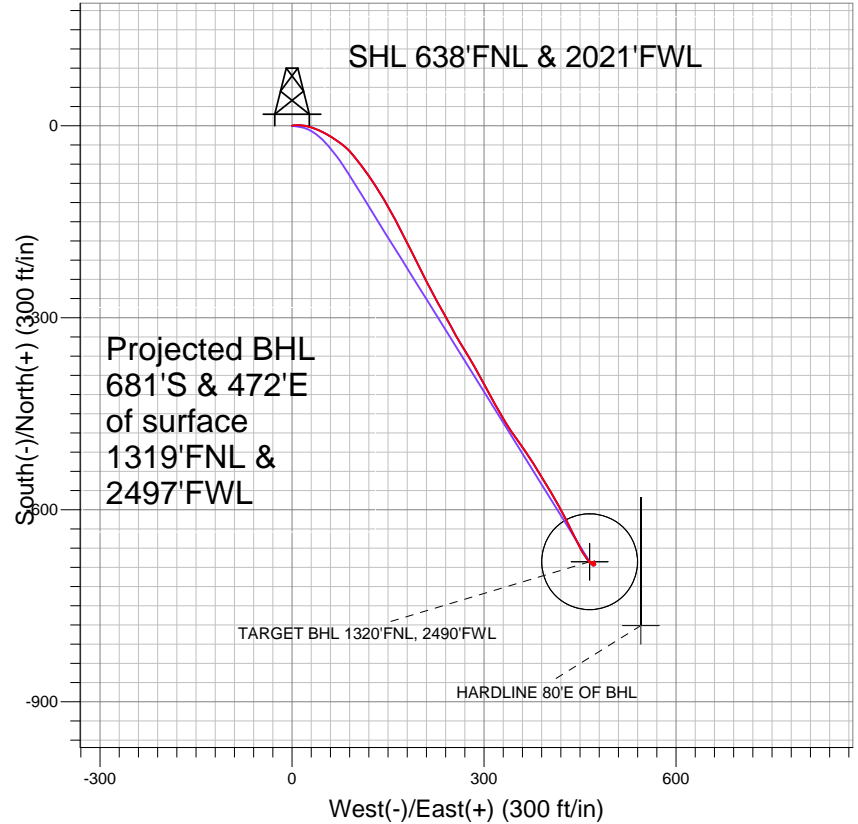
Ground Elevation: 4605.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.0	0.0	1370788.76	3278471.71	40.346910	-104.500900

Original Well Elev WELL @ 4618.0ft (Original Well Elev)

Slot

NOBLE ENERGY INC WELD COUNTY CO



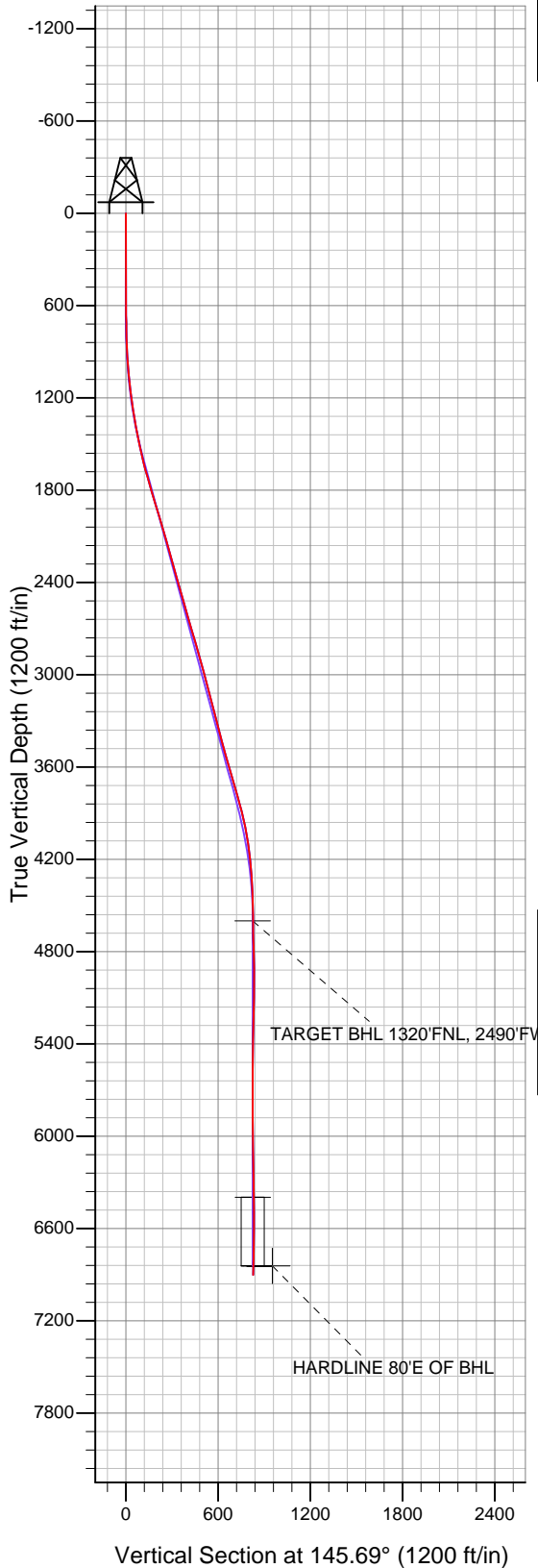
LEGEND

- ◆ Marley C01-18D, Wellbore #1, Noble Marley C01-18D Plan #3 (4-04-11) V0
- Wellbore #1
- Survey #1

Final Survey Plot

Projected Final Survey -
7007'MD & 6901'TVD @ 828'VS
0.7 deg Inc 350.9 deg AZ

Project: SEC.1-T4N-R64W
Site: Marley C01-28D Pad Sec.1-T4N-R64W
Well: Marley C01-18D
Plan: Wellbore #1





Directional

NOBLE ENERGY INC WELD COUNTY CO

SEC.1-T4N-R64W

Marley C01-28D Pad Sec.1-T4N-R64W

Marley C01-18D

Wellbore #1

Survey: Survey #1

Standard Survey Report

21 April, 2011



Company:	NOBLE ENERGY INC WELD COUNTY CO	Local Co-ordinate Reference:	Well Marley C01-18D
Project:	SEC.1-T4N-R64W	TVD Reference:	WELL @ 4618.0ft (Original Well Elev)
Site:	Marley C01-28D Pad Sec.1-T4N-R64W	MD Reference:	WELL @ 4618.0ft (Original Well Elev)
Well:	Marley C01-18D	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Landmark

Project	SEC.1-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	Marley C01-28D Pad Sec.1-T4N-R64W				
Site Position:		Northing:	1,370,788.77 ft	Latitude:	40.346910
From:	Lat/Long	Easting:	3,278,471.71 ft	Longitude:	-104.500900
Position Uncertainty:	0.0 ft	Slot Radius:	"	Grid Convergence:	0.65 °

Well	Marley C01-18D					
Well Position	+N/-S	0.0 ft	Northing:	1,370,788.76 ft	Latitude:	40.346910
	+E/-W	0.0 ft	Easting:	3,278,471.71 ft	Longitude:	-104.500900
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,605.0 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	4/4/2011	8.70	67.07	53,176

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 (°)	
	4,600.0	0.0	0.0	145.69	

Survey Program	Date	4/21/2011			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
664.0	7,007.0	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	
664.0	0.60	80.80	664.0	0.6	3.4	1.5	0.09	0.09	0.00	
757.0	1.80	92.80	757.0	0.6	5.4	2.6	1.31	1.29	12.90	
851.0	3.90	86.40	850.8	0.7	10.0	5.1	2.26	2.23	-6.81	
945.0	5.50	97.40	944.5	0.3	17.7	9.7	1.95	1.70	11.70	
1,039.0	6.60	106.00	1,038.0	-1.8	27.4	16.9	1.51	1.17	9.15	
1,133.0	8.20	113.10	1,131.2	-5.9	38.7	26.7	1.96	1.70	7.55	
1,227.0	10.10	117.80	1,224.0	-12.4	52.2	39.6	2.17	2.02	5.00	
1,321.0	9.80	123.60	1,316.6	-20.6	66.1	54.3	1.11	-0.32	6.17	
1,446.0	10.50	130.60	1,439.7	-33.9	83.6	75.2	1.13	0.56	5.60	
1,540.0	12.70	141.50	1,531.7	-47.6	96.6	93.7	3.29	2.34	11.60	
1,634.0	14.20	143.10	1,623.2	-64.9	109.9	115.6	1.64	1.60	1.70	
1,728.0	15.70	146.60	1,714.0	-84.7	123.9	139.8	1.86	1.60	3.72	

Company:	NOBLE ENERGY INC WELD COUNTY CO	Local Co-ordinate Reference:	Well Marley C01-18D
Project:	SEC.1-T4N-R64W	TVD Reference:	WELL @ 4618.0ft (Original Well Elev)
Site:	Marley C01-28D Pad Sec.1-T4N-R64W	MD Reference:	WELL @ 4618.0ft (Original Well Elev)
Well:	Marley C01-18D	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)	
1,822.0	16.30	147.30	1,804.3	-106.5	138.0	165.7	0.67	0.64	0.74	
1,916.0	16.80	150.80	1,894.4	-129.4	151.7	192.4	1.19	0.53	3.72	
2,010.0	17.60	152.00	1,984.2	-153.8	165.0	220.1	0.93	0.85	1.28	
2,104.0	16.60	153.40	2,074.1	-178.4	177.7	247.5	1.15	-1.06	1.49	
2,198.0	16.10	155.30	2,164.3	-202.2	189.2	273.7	0.78	-0.53	2.02	
2,292.0	15.70	152.40	2,254.7	-225.3	200.5	299.2	0.95	-0.43	-3.09	
2,386.0	15.50	152.10	2,345.2	-247.7	212.3	324.3	0.23	-0.21	-0.32	
2,480.0	15.70	151.40	2,435.8	-270.0	224.3	349.4	0.29	0.21	-0.74	
2,574.0	16.10	150.90	2,526.2	-292.5	236.7	375.0	0.45	0.43	-0.53	
2,667.0	16.20	151.90	2,615.5	-315.2	249.1	400.8	0.32	0.11	1.08	
2,761.0	17.00	149.40	2,705.6	-338.6	262.2	427.5	1.14	0.85	-2.66	
2,855.0	15.70	148.30	2,795.8	-361.3	275.9	453.9	1.42	-1.38	-1.17	
2,949.0	15.70	150.60	2,886.3	-383.2	288.8	479.3	0.66	0.00	2.45	
3,043.0	15.40	152.30	2,976.8	-405.3	300.9	504.4	0.58	-0.32	1.81	
3,137.0	14.80	151.80	3,067.6	-426.9	312.4	528.7	0.65	-0.64	-0.53	
3,231.0	14.80	148.80	3,158.5	-447.8	324.3	552.7	0.82	0.00	-3.19	
3,325.0	14.70	149.00	3,249.4	-468.3	336.6	576.5	0.12	-0.11	0.21	
3,419.0	14.30	143.70	3,340.4	-487.9	349.6	600.1	1.47	-0.43	-5.64	
3,513.0	14.90	145.40	3,431.3	-507.2	363.4	623.7	0.78	0.64	1.81	
3,607.0	15.60	148.20	3,522.0	-527.9	376.9	648.5	1.08	0.74	2.98	
3,700.0	16.00	148.10	3,611.5	-549.4	390.3	673.8	0.43	0.43	-0.11	
3,794.0	16.90	149.20	3,701.7	-572.1	404.1	700.3	1.01	0.96	1.17	
3,888.0	15.90	151.50	3,791.8	-595.2	417.2	726.8	1.27	-1.06	2.45	
3,982.0	14.20	153.30	3,882.6	-616.8	428.6	751.0	1.88	-1.81	1.91	
4,076.0	12.20	153.70	3,974.1	-636.0	438.1	772.3	2.13	-2.13	0.43	
4,170.0	9.80	152.70	4,066.4	-652.0	446.2	790.1	2.56	-2.55	-1.06	
4,264.0	6.20	151.40	4,159.5	-663.6	452.3	803.1	3.83	-3.83	-1.38	
4,358.0	5.10	144.30	4,253.0	-671.4	457.2	812.3	1.38	-1.17	-7.55	
4,452.0	3.10	148.70	4,346.8	-677.0	460.9	819.0	2.15	-2.13	4.68	
4,546.0	2.60	140.30	4,440.7	-680.8	463.6	823.7	0.69	-0.53	-8.94	
4,640.0	0.80	114.20	4,534.6	-682.7	465.6	826.4	2.04	-1.91	-27.77	
4,705.4	0.80	120.25	4,600.0	-683.1	466.4	827.2	0.13	0.00	9.26	
TARGET BHL 1320'FNL, 2490'FWL										
4,734.0	0.80	122.90	4,628.6	-683.3	466.7	827.5	0.13	0.01	9.25	
4,828.0	2.00	100.60	4,722.6	-684.0	468.9	829.3	1.38	1.28	-23.72	
4,922.0	0.70	136.70	4,816.5	-684.7	470.9	831.0	1.59	-1.38	38.40	
5,016.0	1.10	164.80	4,910.5	-686.0	471.5	832.4	0.62	0.43	29.89	
5,110.0	0.30	162.60	5,004.5	-687.1	471.8	833.5	0.85	-0.85	-2.34	
5,204.0	0.90	268.80	5,098.5	-687.4	471.2	833.3	1.09	0.64	112.98	
5,298.0	1.70	315.60	5,192.5	-686.4	469.5	831.6	1.35	0.85	49.79	
5,392.0	1.20	306.20	5,286.5	-684.8	467.7	829.3	0.59	-0.53	-10.00	
5,486.0	1.50	322.60	5,380.4	-683.2	466.2	827.1	0.52	0.32	17.45	
5,580.0	1.00	322.10	5,474.4	-681.6	464.9	825.1	0.53	-0.53	-0.53	
5,674.0	0.10	204.10	5,568.4	-681.0	464.4	824.3	1.12	-0.96	-125.53	
5,768.0	0.20	300.60	5,662.4	-681.0	464.2	824.2	0.25	0.11	102.66	
5,862.0	0.50	126.50	5,756.4	-681.2	464.4	824.4	0.74	0.32	-185.21	
5,956.0	0.30	90.00	5,850.4	-681.4	465.0	824.9	0.33	-0.21	-38.83	
6,049.0	0.80	99.10	5,943.4	-681.5	465.8	825.5	0.54	0.54	9.78	
6,143.0	0.70	76.90	6,037.4	-681.5	467.0	826.2	0.32	-0.11	-23.62	
6,237.0	0.70	97.00	6,131.4	-681.5	468.2	826.8	0.26	0.00	21.38	
6,331.0	1.50	118.10	6,225.4	-682.1	469.8	828.2	0.94	0.85	22.45	
6,426.0	1.80	135.90	6,320.3	-683.8	472.0	830.8	0.62	0.32	18.74	
6,502.5	1.13	135.46	6,396.8	-685.2	473.3	832.7	0.87	-0.87	-0.57	
TARGET CIRCLE 1320'FNL, 2490'FWL										

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Survey										
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6,518.0	1.00	135.30	6,412.3	-685.4	473.5	833.0	0.87	-0.87	-1.03	
6,612.0	0.40	290.90	6,506.3	-685.8	473.8	833.6	1.46	-0.64	165.53	
6,706.0	0.80	313.90	6,600.3	-685.3	473.0	832.7	0.49	0.43	24.47	
6,800.0	0.90	351.10	6,694.3	-684.1	472.4	831.3	0.59	0.11	39.57	
6,894.0	1.30	356.10	6,788.3	-682.3	472.3	829.8	0.44	0.43	5.32	
6,946.9	0.80	352.26	6,841.1	-681.3	472.2	828.9	0.96	-0.95	-7.26	
HARDLINE 80'E OF BHL										
6,957.0	0.70	350.90	6,851.3	-681.2	472.1	828.8	0.96	-0.95	-13.47	
7,007.0	0.70	350.90	6,901.3	-680.6	472.0	828.2	0.00	0.00	0.00	

Checked By: _____	Approved By: _____	Date: _____
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