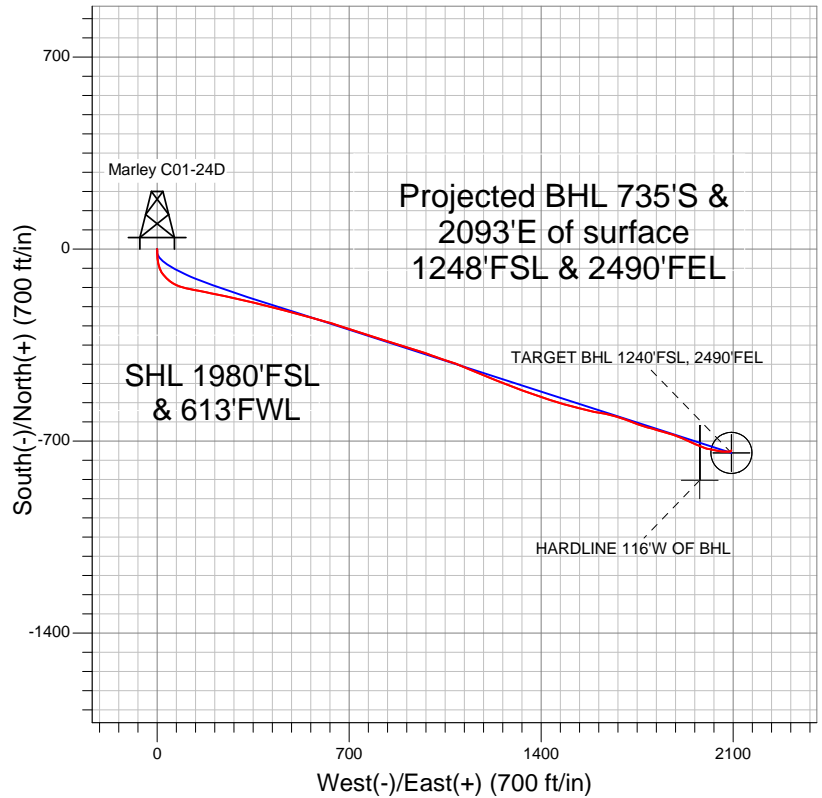


Well Name: Marley C01-24D

Surface Location: Marley C01-24D Pad Sec.1-T4N-R64W
North American Datum 1983 US State Plane 1983Colorado Northern Zone
Ground Elevation: 4611.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1368113.58	3277077.31	40.339610	-104.506010	
		Original Well Elev	WELL @ 4624.0ft (Original Well Elev)			

NOBLE ENERGY INC WELD COUNTY CO



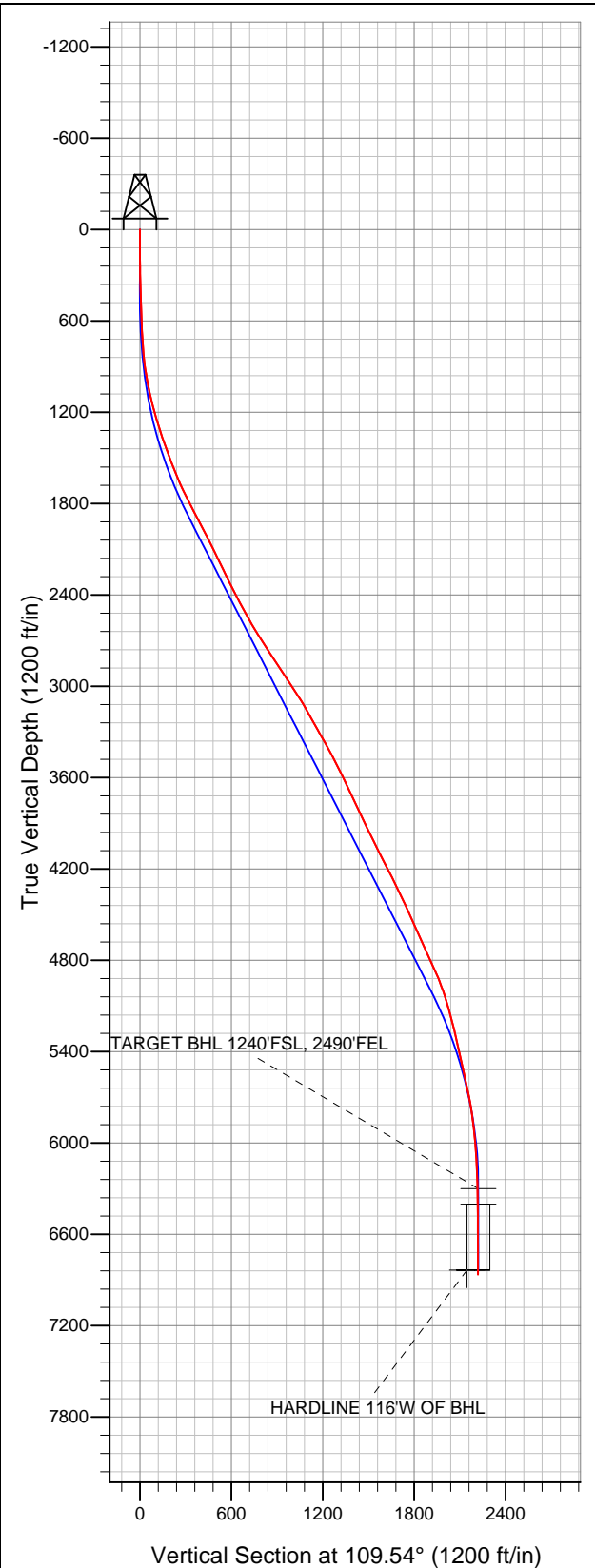
LEGEND

- Survey #1
- Marley C01-24D, Wellbore #1, Noble Marley C01-24D Plan #3 (12-8-11) V0
- Wellbore #1

Final Survey Plot

Projected Final Survey -
7360'MD & 6865'TVD @ 2218'VS
0.40 deg Inc 20.70 deg AZ

Project: SEC.1-T4N-R64W
Site: Marley C01-24D Pad Sec.1-T4N-R64W
Well: Marley C01-24D
Plan: Wellbore #1





NOBLE ENERGY INC WELD COUNTY CO

SEC.1-T4N-R64W

Marley C01-24D Pad Sec.1-T4N-R64W

Marley C01-24D

Wellbore #1

Survey: Survey #1

Standard Survey Report

09 January, 2012



Company:	NOBLE ENERGY INC WELD COUNTY CO	Local Co-ordinate Reference:	Well Marley C01-24D
Project:	SEC.1-T4N-R64W	TVD Reference:	WELL @ 4624.0ft (Original Well Elev)
Site:	Marley C01-24D Pad Sec.1-T4N-R64W	MD Reference:	WELL @ 4624.0ft (Original Well Elev)
Well:	Marley C01-24D	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 C01-24D Pad Sec.1-T4N-R64W		
Site Position:		Northing:	1,368,113.59 ft
From:	Lat/Long	Easting:	3,277,077.31 ft
Position Uncertainty:	0.0 ft	Slot Radius:	"
		Latitude:	40.339610
		Longitude:	-104.506010
		Grid Convergence:	0.64 °

Well	Marley C01-24D		
Well Position	+N/-S	0.0 ft	Northing: 1,368,113.58 ft
	+E/-W	0.0 ft	Easting: 3,277,077.31 ft
Position Uncertainty	0.0 ft	Wellhead Elevation:	ft
		Latitude:	40.339610
		Longitude:	-104.506010
		Ground Level:	4,611.0 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	12/8/2011	8.61	67.04	53,101

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	109.54	

Survey Program	Date	1/9/2012			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
106.0	7,360.0	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	
106.0	0.30	228.90	106.0	-0.2	-0.2	-0.1	0.28	0.28	0.00	
197.0	0.90	180.50	197.0	-1.1	-0.4	0.0	0.81	0.66	-53.19	
290.0	2.60	170.50	289.9	-3.9	-0.1	1.2	1.85	1.83	-10.75	
382.0	3.60	175.40	381.8	-8.8	0.5	3.4	1.12	1.09	5.33	
474.0	4.70	180.50	473.6	-15.5	0.7	5.8	1.26	1.20	5.54	
565.0	5.60	181.10	564.2	-23.6	0.6	8.5	0.99	0.99	0.66	
649.0	6.70	174.00	647.7	-32.6	1.0	11.9	1.59	1.31	-8.45	
700.0	6.90	170.00	698.4	-38.6	1.9	14.7	1.01	0.39	-7.84	
706.0	7.60	169.10	704.3	-39.3	2.0	15.1	11.82	11.67	-15.00	
788.0	8.80	171.60	785.5	-50.8	4.0	20.7	1.53	1.46	3.05	
869.0	10.60	162.20	865.3	-64.1	7.1	28.2	2.95	2.22	-11.60	
951.0	12.30	154.90	945.7	-79.2	13.2	38.9	2.72	2.07	-8.90	

Company:	NOBLE ENERGY INC WELD COUNTY CO	Local Co-ordinate Reference:	Well Marley C01-24D
Project:	SEC.1-T4N-R64W	TVD Reference:	WELL @ 4624.0ft (Original Well Elev)
Site:	Marley C01-24D Pad Sec.1-T4N-R64W	MD Reference:	WELL @ 4624.0ft (Original Well Elev)
Well:	Marley C01-24D	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)
1,033.0	13.10	140.40	1,025.7	-94.2	22.8	53.0	4.00	0.98	-17.68
1,115.0	15.10	132.20	1,105.2	-108.6	36.6	70.8	3.44	2.44	-10.00
1,196.0	16.00	125.20	1,183.3	-122.1	53.6	91.3	2.57	1.11	-8.64
1,278.0	16.50	112.00	1,262.0	-133.0	73.6	113.8	4.54	0.61	-16.10
1,360.0	17.90	103.00	1,340.4	-140.2	96.7	138.0	3.66	1.71	-10.98
1,442.0	19.80	103.70	1,418.0	-146.3	122.5	164.3	2.33	2.32	0.85
1,523.0	20.50	100.90	1,494.0	-152.2	149.7	192.0	1.47	0.86	-3.46
1,605.0	22.10	100.30	1,570.4	-157.7	179.0	221.4	1.97	1.95	-0.73
1,687.0	23.70	103.00	1,645.9	-164.2	210.2	253.0	2.33	1.95	3.29
1,768.0	25.70	102.30	1,719.5	-171.6	243.3	286.6	2.50	2.47	-0.86
1,850.0	27.40	102.70	1,792.9	-179.5	279.0	323.0	2.08	2.07	0.49
1,932.0	27.70	101.20	1,865.6	-187.4	316.1	360.6	0.92	0.37	-1.83
2,014.0	27.10	102.30	1,938.4	-195.0	353.1	398.0	0.96	-0.73	1.34
2,095.0	27.40	104.60	2,010.4	-203.7	389.1	434.9	1.35	0.37	2.84
2,177.0	27.30	104.80	2,083.2	-213.2	425.6	472.4	0.17	-0.12	0.24
2,259.0	26.00	105.80	2,156.5	-222.9	461.1	509.1	1.68	-1.59	1.22
2,341.0	25.50	106.00	2,230.4	-232.7	495.3	544.6	0.62	-0.61	0.24
2,422.0	25.80	103.90	2,303.4	-241.7	529.2	579.6	1.18	0.37	-2.59
2,504.0	27.30	106.20	2,376.7	-251.3	564.6	616.1	2.22	1.83	2.80
2,586.0	28.90	104.60	2,449.1	-261.5	601.8	654.6	2.16	1.95	-1.95
2,668.0	28.00	106.20	2,521.2	-271.9	639.5	693.6	1.44	-1.10	1.95
2,749.0	30.20	109.00	2,592.0	-283.8	677.0	732.9	3.19	2.72	3.46
2,831.0	31.80	107.80	2,662.2	-297.1	717.1	775.2	2.09	1.95	-1.46
2,913.0	33.60	108.30	2,731.2	-310.9	759.2	819.4	2.22	2.20	0.61
2,995.0	33.80	106.30	2,799.5	-324.4	802.6	864.9	1.38	0.24	-2.44
3,076.0	31.50	108.50	2,867.7	-337.4	844.3	908.6	3.19	-2.84	2.72
3,158.0	33.90	107.40	2,936.7	-351.1	886.5	952.8	3.02	2.93	-1.34
3,240.0	34.40	107.00	3,004.5	-364.7	930.4	998.8	0.67	0.61	-0.49
3,322.0	32.40	108.30	3,073.0	-378.3	973.5	1,043.9	2.59	-2.44	1.59
3,403.0	29.70	110.00	3,142.4	-392.0	1,012.9	1,085.7	3.50	-3.33	2.10
3,485.0	29.00	108.30	3,213.8	-405.2	1,050.9	1,125.9	1.33	-0.85	-2.07
3,567.0	29.00	109.70	3,285.6	-418.2	1,088.5	1,165.6	0.83	0.00	1.71
3,649.0	30.00	113.60	3,356.9	-433.1	1,126.0	1,206.0	2.64	1.22	4.76
3,730.0	28.70	112.30	3,427.5	-448.5	1,162.5	1,245.6	1.79	-1.60	-1.60
3,812.0	26.60	112.10	3,500.2	-462.9	1,197.8	1,283.6	2.56	-2.56	-0.24
3,894.0	26.10	112.70	3,573.6	-476.8	1,231.4	1,320.0	0.69	-0.61	0.73
3,975.0	26.70	112.00	3,646.2	-490.5	1,264.7	1,355.9	0.83	0.74	-0.86
4,057.0	25.70	111.10	3,719.8	-503.8	1,298.4	1,392.1	1.31	-1.22	-1.10
4,139.0	24.20	108.50	3,794.1	-515.5	1,330.9	1,426.7	2.27	-1.83	-3.17
4,221.0	24.50	109.20	3,868.8	-526.4	1,362.9	1,460.5	0.51	0.37	0.85
4,302.0	26.20	107.80	3,942.0	-537.4	1,395.8	1,495.2	2.23	2.10	-1.73
4,384.0	26.60	107.80	4,015.5	-548.6	1,430.5	1,531.6	0.49	0.49	0.00
4,466.0	26.70	108.50	4,088.8	-560.0	1,465.5	1,568.4	0.40	0.12	0.85
4,548.0	27.20	104.40	4,161.9	-570.6	1,501.1	1,605.5	2.35	0.61	-5.00
4,629.0	26.90	104.40	4,234.0	-579.7	1,536.8	1,642.2	0.37	-0.37	0.00
4,711.0	27.20	103.50	4,307.0	-588.7	1,573.0	1,679.3	0.62	0.37	-1.10
4,793.0	25.80	100.20	4,380.4	-596.2	1,608.7	1,715.5	2.48	-1.71	-4.02
4,875.0	24.90	101.90	4,454.5	-603.0	1,643.2	1,750.2	1.41	-1.10	2.07
4,956.0	23.90	107.00	4,528.3	-611.3	1,675.6	1,783.5	2.88	-1.23	6.30
5,038.0	24.00	109.70	4,603.2	-621.7	1,707.2	1,816.8	1.34	0.12	3.29
5,120.0	23.80	112.10	4,678.2	-633.6	1,738.2	1,850.0	1.21	-0.24	2.93
5,202.0	25.10	106.00	4,752.9	-644.6	1,770.3	1,883.9	3.46	1.59	-7.44
5,283.0	24.90	106.30	4,826.3	-654.1	1,803.1	1,918.1	0.29	-0.25	0.37
5,365.0	23.00	105.50	4,901.2	-663.3	1,835.1	1,951.3	2.35	-2.32	-0.98

Company:	NOBLE ENERGY INC WELD COUNTY CO	Local Co-ordinate Reference:	Well Marley C01-24D
Project:	SEC.1-T4N-R64W	TVD Reference:	WELL @ 4624.0ft (Original Well Elev)
Site:	Marley C01-24D Pad Sec.1-T4N-R64W	MD Reference:	WELL @ 4624.0ft (Original Well Elev)
Well:	Marley C01-24D	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)
5,447.0	19.80	107.20	4,977.6	-671.7	1,863.9	1,981.2	3.97	-3.90	2.07
5,529.0	16.40	108.30	5,055.5	-679.4	1,888.1	2,006.6	4.17	-4.15	1.34
5,610.0	16.40	114.60	5,133.2	-687.7	1,909.4	2,029.4	2.19	0.00	7.78
5,692.0	15.00	112.70	5,212.1	-696.7	1,929.7	2,051.6	1.82	-1.71	-2.32
5,774.0	12.90	114.10	5,291.7	-704.5	1,947.8	2,071.3	2.59	-2.56	1.71
5,855.0	11.90	117.10	5,370.8	-712.0	1,963.5	2,088.6	1.47	-1.23	3.70
5,937.0	12.20	111.60	5,451.0	-719.0	1,979.1	2,105.6	1.45	0.37	-6.71
6,019.0	13.10	108.10	5,531.0	-725.1	1,996.0	2,123.6	1.44	1.10	-4.27
6,101.0	12.60	100.70	5,611.0	-729.7	2,013.6	2,141.7	2.10	-0.61	-9.02
6,182.0	11.10	101.10	5,690.2	-732.8	2,030.0	2,158.1	1.85	-1.85	0.49
6,264.0	8.40	102.30	5,771.1	-735.6	2,043.6	2,171.9	3.30	-3.29	1.46
6,346.0	8.30	97.00	5,852.2	-737.6	2,055.3	2,183.6	0.95	-0.12	-6.46
6,428.0	6.80	88.90	5,933.5	-738.2	2,066.0	2,193.9	2.24	-1.83	-9.88
6,509.0	5.50	93.70	6,014.0	-738.4	2,074.7	2,202.2	1.72	-1.60	5.93
6,591.0	3.40	91.10	6,095.8	-738.7	2,081.0	2,208.2	2.57	-2.56	-3.17
6,673.0	2.10	90.30	6,177.7	-738.7	2,085.0	2,212.0	1.59	-1.59	-0.98
6,755.0	1.30	79.80	6,259.6	-738.6	2,087.4	2,214.2	1.04	-0.98	-12.80
6,795.5	1.20	76.00	6,300.1	-738.4	2,088.2	2,215.0	0.33	-0.25	-9.39
TARGET BHL 1240'FSL, 2490'FEL									
6,836.0	1.10	71.50	6,340.6	-738.2	2,089.0	2,215.6	0.33	-0.24	-11.10
6,897.4	0.95	64.90	6,402.0	-737.8	2,090.0	2,216.4	0.31	-0.25	-10.75
TARGET CIRCLE 1240'FSL, 2490'FEL									
6,918.0	0.90	62.20	6,422.6	-737.6	2,090.3	2,216.7	0.31	-0.23	-13.11
7,000.0	0.70	61.50	6,504.6	-737.1	2,091.4	2,217.4	0.24	-0.24	-0.85
7,082.0	0.60	34.80	6,586.6	-736.5	2,092.0	2,217.9	0.38	-0.12	-32.56
7,163.0	0.50	30.90	6,667.6	-735.8	2,092.5	2,218.1	0.13	-0.12	-4.81
7,245.0	0.40	26.70	6,749.6	-735.3	2,092.8	2,218.2	0.13	-0.12	-5.12
7,309.0	0.40	23.70	6,813.6	-734.9	2,093.0	2,218.2	0.03	0.00	-4.69
HARDLINE 116'W OF BHL									
7,360.0	0.40	20.70	6,864.6	-734.5	2,093.1	2,218.2	0.04	0.00	-5.88

Checked By: _____	Approved By: _____	Date: _____
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