

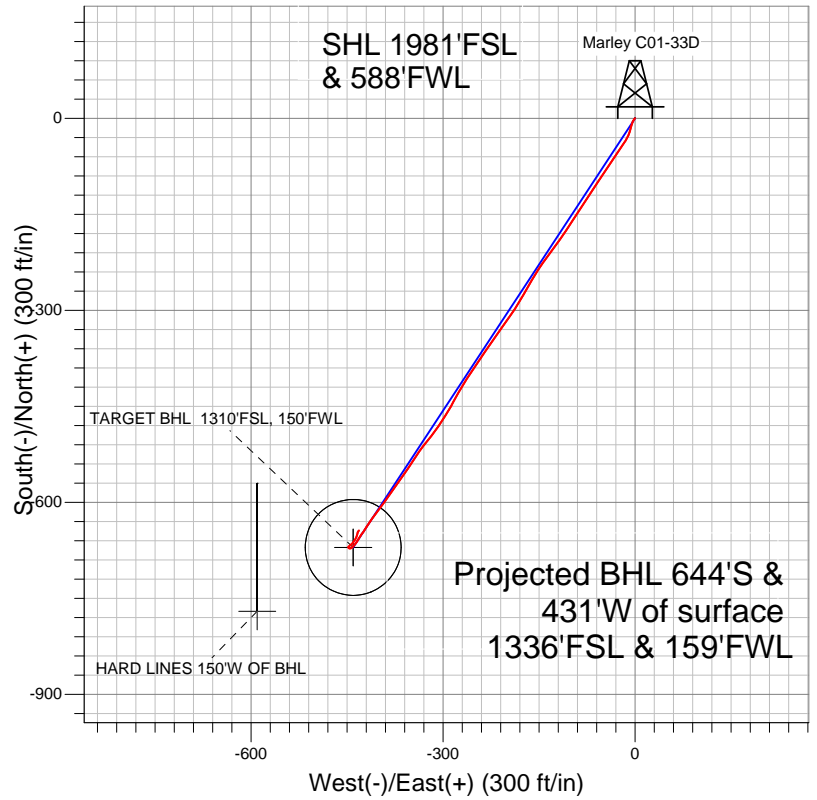


Well Name: Marley C01-33D

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	1368113.30	3277052.22	40.339610	-104.506100	
Original Well Elev WELL @ 4624.0ft (Original Well Elev)						

NOBLE ENERGY INC WELD COUNTY CO



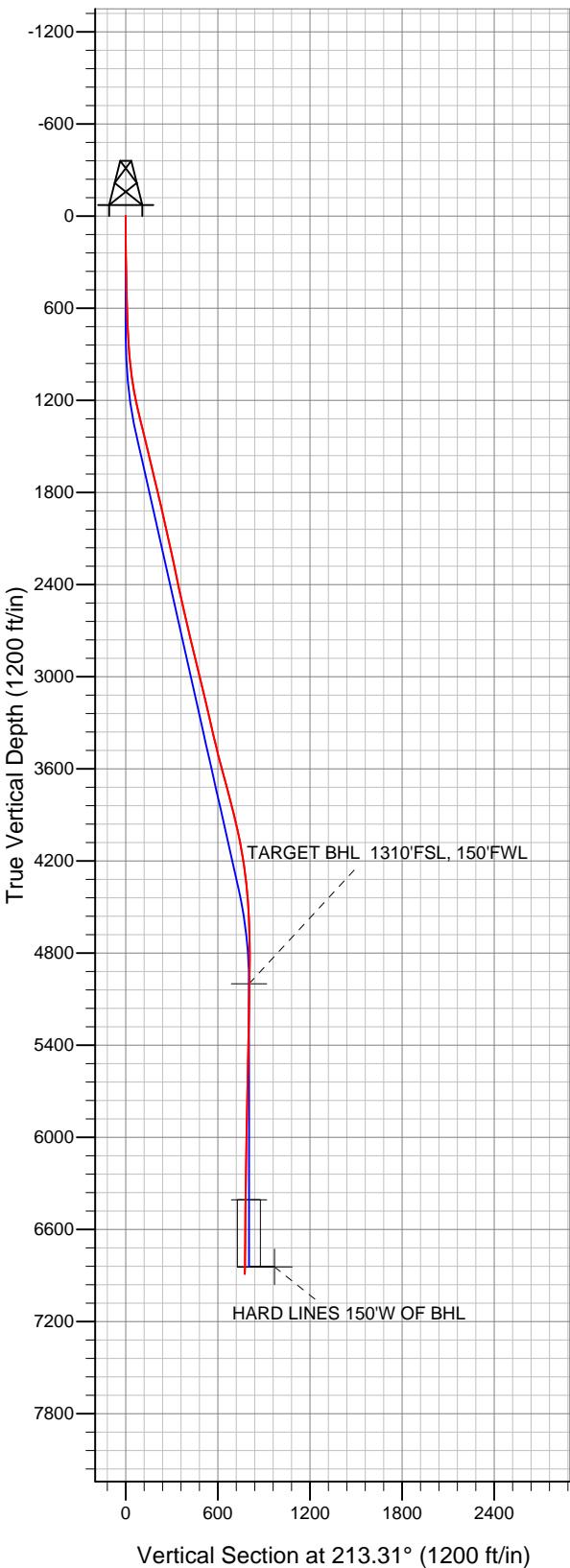
LEGEND

- Survey #1
- Marley C01-33D, Wellbore #1, Noble Marley C01-33D Plan #2 (6-20-11) V0
- Wellbore #1

Final Survey Plot

Projected Final Survey -
6978'MD & 6891'TVD @ 775'VS
0.70 deg Inc 43.10 deg AZ

Project: SEC.1-T4N-R64W
Site: Marley C01-24D Pad Sec.1-T4N-R64W
Well: Marley C01-33D
Plan: Wellbore #1





NOBLE ENERGY INC WELD COUNTY CO

SEC.1-T4N-R64W

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

Marley C01-33D

Wellbore #1

Survey: Survey #1

Standard Survey Report

12 January, 2012



Company:	NOBLE ENERGY INC WELD COUNTY CO	Local Co-ordinate Reference:	Well Marley C01-33D
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 C01-33D	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 C01-33D		
Well Position	+N/-S	0.0 ft	Northing: 1,368,113.30 ft
	+E/-W	0.0 ft	Easting: 3,277,052.22 ft
Position Uncertainty	0.0 ft	Wellhead Elevation:	ft
		Latitude:	40.339610
		Longitude:	-104.506100
		Ground Level:	4,611.0 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	6/20/2011	8.72	67.04	53,128

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	213.31	

Survey Program	Date	1/12/2012			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
74.0	6,978.0	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	
74.0	0.20	27.40	74.0	0.1	0.1	-0.1	0.27	0.27	0.00	
167.0	0.20	258.20	167.0	0.2	0.0	-0.2	0.39	0.00	-138.93	
259.0	0.70	221.00	259.0	-0.2	-0.6	0.5	0.60	0.54	-40.43	
351.0	1.20	216.60	351.0	-1.4	-1.5	2.0	0.55	0.54	-4.78	
443.0	1.20	208.50	443.0	-3.0	-2.5	3.9	0.18	0.00	-8.80	
535.0	1.30	206.70	534.9	-4.8	-3.5	5.9	0.12	0.11	-1.96	
606.0	1.90	200.90	605.9	-6.6	-4.2	7.9	0.87	0.85	-8.17	
644.0	2.30	199.30	643.9	-8.0	-4.7	9.2	1.06	1.05	-4.21	
747.0	2.50	194.90	746.8	-12.1	-6.0	13.4	0.26	0.19	-4.27	
828.0	3.50	192.10	827.7	-16.2	-6.9	17.4	1.25	1.23	-3.46	
910.0	5.20	200.60	909.4	-22.1	-8.8	23.3	2.21	2.07	10.37	
992.0	6.90	206.50	991.0	-30.0	-12.3	31.8	2.20	2.07	7.20	

Company:	NOBLE ENERGY INC WELD COUNTY CO	Local Co-ordinate Reference:	Well Marley C01-33D
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 C01-33D	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)
1,074.0	8.60	213.60	1,072.2	-39.5	-17.9	42.9	2.38	2.07	8.66
1,155.0	10.40	213.70	1,152.1	-50.7	-25.3	56.2	2.22	2.22	0.12
1,237.0	12.10	214.10	1,232.5	-63.9	-34.2	72.2	2.08	2.07	0.49
1,319.0	13.60	214.10	1,312.5	-79.0	-44.4	90.5	1.83	1.83	0.00
1,401.0	14.20	214.60	1,392.1	-95.3	-55.6	110.1	0.75	0.73	0.61
1,482.0	13.20	211.80	1,470.8	-111.3	-66.1	129.3	1.48	-1.23	-3.46
1,564.0	13.40	212.20	1,550.6	-127.3	-76.1	148.2	0.27	0.24	0.49
1,646.0	13.90	213.90	1,630.3	-143.5	-86.6	167.5	0.78	0.61	2.07
1,728.0	13.40	213.60	1,710.0	-159.6	-97.4	186.9	0.62	-0.61	-0.37
1,809.0	13.20	213.60	1,788.8	-175.2	-107.7	205.5	0.25	-0.25	0.00
1,891.0	13.00	216.20	1,868.6	-190.4	-118.3	224.1	0.76	-0.24	3.17
1,973.0	13.00	216.20	1,948.5	-205.3	-129.2	242.5	0.00	0.00	0.00
2,055.0	13.10	216.00	2,028.4	-220.2	-140.1	261.0	0.13	0.12	-0.24
2,136.0	12.40	212.00	2,107.4	-235.0	-150.1	278.9	1.39	-0.86	-4.94
2,218.0	12.20	213.60	2,187.5	-249.7	-159.6	296.3	0.48	-0.24	1.95
2,300.0	11.70	208.10	2,267.8	-264.3	-168.3	313.3	1.52	-0.61	-6.71
2,382.0	11.90	209.20	2,348.0	-279.0	-176.3	330.0	0.37	0.24	1.34
2,463.0	12.60	213.20	2,427.2	-293.7	-185.2	347.2	1.36	0.86	4.94
2,545.0	12.10	214.30	2,507.3	-308.3	-195.0	364.7	0.67	-0.61	1.34
2,627.0	12.90	215.70	2,587.4	-322.8	-205.2	382.4	1.04	0.98	1.71
2,709.0	13.00	214.30	2,667.3	-337.8	-215.7	400.8	0.40	0.12	-1.71
2,790.0	13.70	215.90	2,746.1	-353.1	-226.5	419.5	0.98	0.86	1.98
2,872.0	13.30	214.60	2,825.8	-368.8	-237.5	438.6	0.61	-0.49	-1.59
2,954.0	13.50	212.30	2,905.6	-384.6	-248.0	457.6	0.69	0.24	-2.80
3,035.0	14.20	215.00	2,984.2	-400.8	-258.7	477.0	1.18	0.86	3.33
3,117.0	13.30	211.30	3,063.9	-417.1	-269.4	496.5	1.53	-1.10	-4.51
3,199.0	13.50	206.70	3,143.6	-433.7	-278.6	515.4	1.32	0.24	-5.61
3,281.0	13.00	210.40	3,223.5	-450.2	-287.6	534.1	1.20	-0.61	4.51
3,362.0	13.30	212.70	3,302.3	-465.9	-297.2	552.6	0.74	0.37	2.84
3,444.0	12.90	214.40	3,382.2	-481.4	-307.5	571.1	0.68	-0.49	2.07
3,526.0	13.50	218.50	3,462.0	-496.4	-318.6	589.8	1.36	0.73	5.00
3,608.0	14.60	217.60	3,541.6	-512.1	-330.9	609.7	1.37	1.34	-1.10
3,689.0	15.60	213.90	3,619.8	-529.2	-343.2	630.7	1.71	1.23	-4.57
3,771.0	15.20	213.90	3,698.9	-547.3	-355.3	652.5	0.49	-0.49	0.00
3,853.0	14.10	213.40	3,778.2	-564.5	-366.8	673.2	1.35	-1.34	-0.61
3,935.0	14.20	215.20	3,857.7	-581.1	-378.1	693.3	0.55	0.12	2.20
4,016.0	14.30	217.50	3,936.2	-597.2	-389.9	713.2	0.71	0.12	2.84
4,098.0	12.50	216.60	4,016.0	-612.3	-401.4	732.2	2.21	-2.20	-1.10
4,180.0	9.80	215.20	4,096.4	-625.1	-410.7	748.0	3.31	-3.29	-1.71
4,262.0	9.00	212.20	4,177.3	-636.3	-418.1	761.4	1.14	-0.98	-3.66
4,343.0	8.30	214.10	4,257.4	-646.5	-424.8	773.6	0.93	-0.86	2.35
4,425.0	6.60	214.10	4,338.7	-655.3	-430.8	784.2	2.07	-2.07	0.00
4,507.0	4.70	213.00	4,420.3	-662.0	-435.2	792.3	2.32	-2.32	-1.34
4,589.0	3.50	218.50	4,502.1	-666.8	-438.6	798.1	1.54	-1.46	6.71
4,670.0	2.70	230.10	4,583.0	-669.9	-441.6	802.4	1.25	-0.99	14.32
4,752.0	1.40	253.10	4,664.9	-671.5	-444.1	805.0	1.85	-1.59	28.05
4,834.0	1.10	258.90	4,746.9	-671.9	-445.8	806.3	0.40	-0.37	7.07
4,915.0	0.90	306.00	4,827.9	-671.7	-447.1	806.9	1.01	-0.25	58.15
4,997.0	0.90	331.70	4,909.9	-670.7	-447.9	806.5	0.49	0.00	31.34
5,079.0	0.80	16.30	4,991.9	-669.6	-448.0	805.7	0.79	-0.12	54.39
5,087.2	0.82	19.54	5,000.1	-669.5	-448.0	805.6	0.62	0.26	39.59
TARGET BHL 1310'FSL, 150'FWL									
5,161.0	1.10	41.30	5,073.9	-668.5	-447.4	804.3	0.62	0.38	29.48
5,242.0	1.70	63.30	5,154.8	-667.4	-445.8	802.5	0.98	0.74	27.16

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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)	
5,324.0	1.20	52.20	5,236.8	-666.3	-444.0	800.7	0.70	-0.61	-13.54	
5,406.0	1.10	39.40	5,318.8	-665.2	-442.8	799.1	0.34	-0.12	-15.61	
5,488.0	1.00	47.60	5,400.8	-664.1	-441.8	797.6	0.22	-0.12	10.00	
5,569.0	1.10	39.20	5,481.8	-663.0	-440.8	796.1	0.23	0.12	-10.37	
5,651.0	0.90	20.00	5,563.7	-661.8	-440.1	794.7	0.47	-0.24	-23.41	
5,733.0	1.10	41.50	5,645.7	-660.6	-439.3	793.3	0.51	0.24	26.22	
5,815.0	1.10	38.50	5,727.7	-659.4	-438.3	791.8	0.07	0.00	-3.66	
5,896.0	1.10	28.30	5,808.7	-658.1	-437.5	790.2	0.24	0.00	-12.59	
5,978.0	1.10	21.80	5,890.7	-656.7	-436.8	788.7	0.15	0.00	-7.93	
6,060.0	1.10	27.20	5,972.7	-655.2	-436.2	787.1	0.13	0.00	6.59	
6,142.0	1.10	26.70	6,054.7	-653.8	-435.4	785.5	0.01	0.00	-0.61	
6,223.0	1.00	22.10	6,135.6	-652.5	-434.8	784.1	0.16	-0.12	-5.68	
6,305.0	1.10	14.90	6,217.6	-651.0	-434.4	782.6	0.20	0.12	-8.78	
6,387.0	0.80	14.20	6,299.6	-649.7	-434.0	781.3	0.37	-0.37	-0.85	
6,469.0	0.80	9.10	6,381.6	-648.6	-433.8	780.3	0.09	0.00	-6.22	
6,494.1	0.71	10.15	6,406.7	-648.3	-433.7	780.0	0.38	-0.37	4.19	
TARGET CIRCLE 1310'FSL & 150'FWL										
6,550.0	0.50	13.90	6,462.6	-647.7	-433.6	779.4	0.38	-0.37	6.71	
6,632.0	0.60	6.00	6,544.6	-646.9	-433.5	778.7	0.15	0.12	-9.63	
6,714.0	0.60	37.40	6,626.6	-646.2	-433.2	777.9	0.40	0.00	38.29	
6,795.0	0.60	32.90	6,707.6	-645.5	-432.7	777.0	0.06	0.00	-5.56	
6,877.0	0.60	40.10	6,789.6	-644.8	-432.2	776.2	0.09	0.00	8.78	
6,927.0	0.70	42.20	6,839.6	-644.4	-431.8	775.6	0.21	0.20	4.20	
HARD LINES 150'W OF BHL										
6,978.0	0.70	43.10	6,890.6	-643.9	-431.4	775.0	0.02	0.00	1.76	

Checked By: _____	Approved By: _____	Date: _____
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