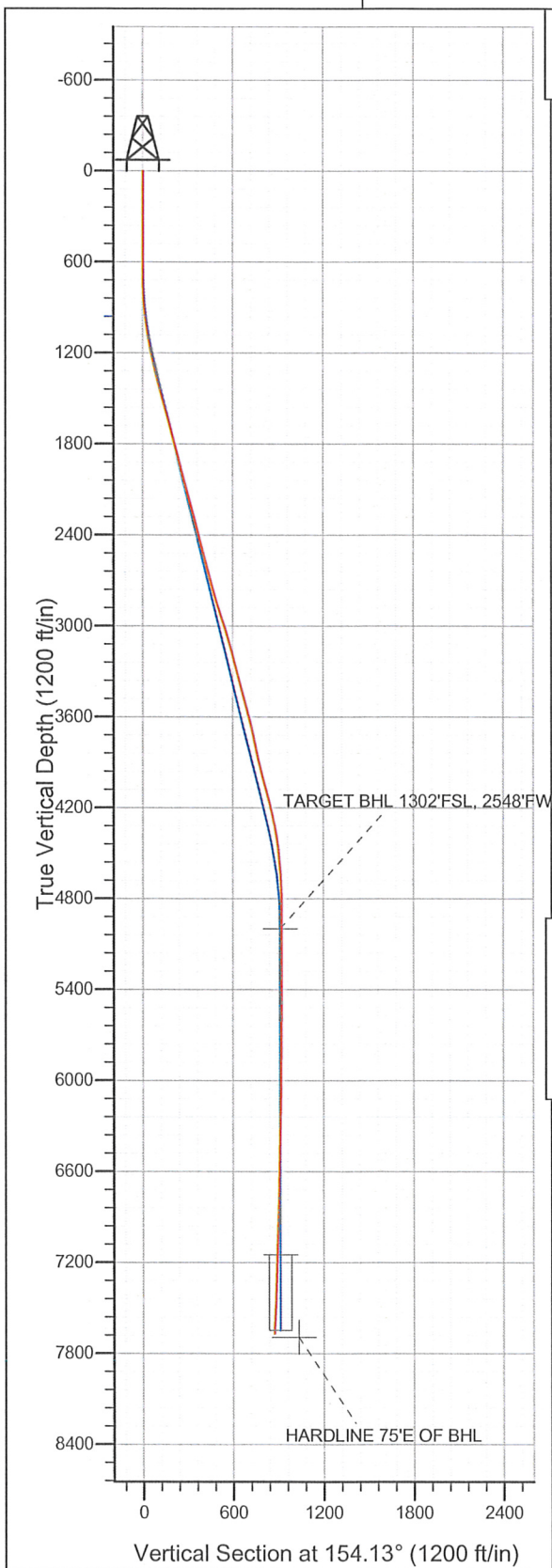
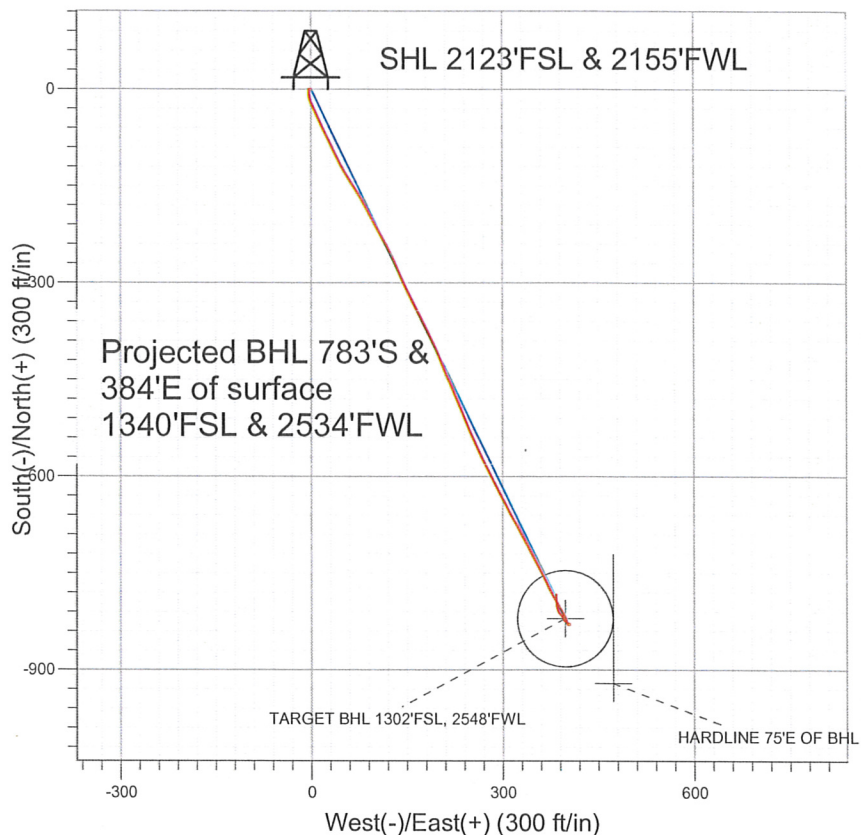


Well Name: **Phillips 24-3-23 (Dir)**
 Surface Location: Phillips 24-3-23 (Dir) Pad Sec.24-T5N-R67W
 North American Datum 1983 US State Plane 1983 Colorado Northern Zone
 Ground Elevation: 4996.0
 +N/-S +E/-W Northing Easting Latitude Longitude Slot
 0.0 0.0 1383285.36 3182965.23 40.383660 -104.843210
 Original Well Elev WELL @ 5009.0ft (Original Well Elev)



NOBLE ENERGY INC WELD COUNTY CO



LEGEND

- Phillips 24-3-23 (Dir), Wellbore #1, Noble Phillips 24-3-23 (Dir) Plan #2(09-17-10) V0
- Wellbore #1
- Survey #1

Final Survey Plot

Projected Final Survey -
 7781'MD & 7666'TVD @ 872'VS
 3.8 deg Inc 358.5 deg AZ

Project: SEC.24-T5N-R67W
 Site: Phillips 24-3-23 (Dir) Pad Sec.24-T5N-R67W
 Well: Phillips 24-3-23 (Dir)
 Plan: Wellbore #1



Directional

NOBLE ENERGY INC WELD COUNTY CO

SEC.24-T5N-R67W

Phillips 24-3-23 (Dir) Pad Sec.24-T5N-R67W

Phillips 24-3-23 (Dir)

Wellbore #1

Survey: Survey #1

Standard Survey Report

05 July, 2011



Company: NOBLE ENERGY INC WELD COUNTY CO
Project: SEC.24-T5N-R67W
Site: Phillips 24-3-23 (Dir) Pad Sec.24-T5N-R67W
Well: Phillips 24-3-23 (Dir)
Wellbore: Wellbore #1
Design: Wellbore #1

Local Co-ordinate Reference: Well Phillips 24-3-23 (Dir)
TVD Reference: WELL @ 5009.0ft (Original Well Elev)
MD Reference: WELL @ 5009.0ft (Original Well Elev)
North Reference: True
Survey Calculation Method: Minimum Curvature
Database: Landmark

Project	SEC.24-T5N-R67W, 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 Phillips 24-3-23 (Dir) Pad Sec.24-T5N-R67W

Site Position:		Northing:	1,383,285.38 ft	Latitude:	40.383660
From:	Lat/Long	Easting:	3,182,965.23 ft	Longitude:	-104.843210
Position Uncertainty:	0.0 ft	Slot Radius:	"	Grid Convergence:	0.42 °

Well	Phillips 24-3-23 (Dir)				
Well Position	+N/-S	0.0 ft	Northing:	1,383,285.36 ft	Latitude: 40.383660
	+E/-W	0.0 ft	Easting:	3,182,965.23 ft	Longitude: -104.843210
Position Uncertainty	0.0 ft		Wellhead Elevation:	ft	Ground Level: 4,996.0 ft

Wellbore Wellbore #1

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	6/13/2011	8.91	67.02	53,114

Design Wellbore #1

Audit Notes:

Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.0
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Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.0	0.0	0.0	154.13

Survey Program Date 7/5/2011

From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
639.0	7,781.0	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
639.0	0.40	273.30	639.0	0.1	-2.2	-1.1	0.06	0.06	0.00
768.0	2.50	187.70	768.0	-2.6	-3.1	1.0	1.94	1.63	-66.36
896.0	5.60	169.20	895.6	-11.5	-2.3	9.4	2.60	2.42	-14.45
1,024.0	7.90	154.80	1,022.7	-25.6	2.7	24.2	2.22	1.80	-11.25
1,153.0	10.70	156.80	1,150.0	-44.7	11.2	45.1	2.18	2.17	1.55
1,281.0	13.50	152.70	1,275.2	-68.9	22.7	71.9	2.29	2.19	-3.20
1,410.0	14.70	154.70	1,400.3	-97.0	36.6	103.3	1.00	0.93	1.55
1,538.0	16.20	149.30	1,523.7	-127.1	52.6	137.3	1.62	1.17	-4.22
1,666.0	14.50	146.60	1,647.1	-155.8	70.6	171.0	1.44	-1.33	-2.11
1,795.0	15.30	152.70	1,771.8	-184.4	87.3	204.0	1.36	0.62	4.73
1,923.0	15.00	150.60	1,895.3	-213.9	103.2	237.4	0.49	-0.23	-1.64
2,052.0	14.40	151.80	2,020.1	-242.5	118.9	270.1	0.52	-0.47	0.93

Company: NOBLE ENERGY INC WELD COUNTY CO
Project: SEC.24-T5N-R67W
Site: Phillips 24-3-23 (Dir) Pad Sec.24-T5N-R67W
Well: Phillips 24-3-23 (Dir)
Wellbore: Wellbore #1
Design: Wellbore #1

Local Co-ordinate Reference: Well Phillips 24-3-23 (Dir)
TVD Reference: WELL @ 5009.0ft (Original Well Elev)
MD Reference: WELL @ 5009.0ft (Original Well Elev)
North Reference: True
Survey Calculation Method: Minimum Curvature
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)
2,180.0	14.40	156.30	2,144.1	-271.2	132.9	301.9	0.87	0.00	3.52
2,308.0	15.40	155.90	2,267.8	-301.2	146.2	334.8	0.79	0.78	-0.31
2,437.0	15.00	151.90	2,392.3	-331.6	161.1	368.6	0.87	-0.31	-3.10
2,565.0	14.20	154.30	2,516.1	-360.4	175.7	400.9	0.78	-0.63	1.88
2,694.0	14.70	153.40	2,641.0	-389.3	189.9	433.1	0.42	0.39	-0.70
2,822.0	16.40	158.30	2,764.4	-420.6	203.8	467.3	1.68	1.33	3.83
2,950.0	18.40	156.70	2,886.5	-455.9	218.5	505.6	1.61	1.56	-1.25
3,079.0	16.40	157.30	3,009.6	-491.4	233.6	544.1	1.56	-1.55	0.47
3,207.0	16.30	156.80	3,132.4	-524.6	247.6	580.1	0.13	-0.08	-0.39
3,336.0	15.30	156.00	3,256.5	-556.8	261.7	615.2	0.79	-0.78	-0.62
3,464.0	15.10	152.10	3,380.1	-587.0	276.3	648.7	0.81	-0.16	-3.05
3,592.0	14.30	152.10	3,503.9	-615.7	291.5	681.2	0.63	-0.63	0.00
3,721.0	14.00	154.30	3,629.0	-643.8	305.8	712.7	0.48	-0.23	1.71
3,849.0	12.20	149.90	3,753.6	-669.5	319.3	741.7	1.61	-1.41	-3.44
3,978.0	11.60	153.10	3,879.9	-692.8	332.0	768.2	0.69	-0.47	2.48
4,106.0	15.20	151.70	4,004.3	-719.1	345.7	797.9	2.82	2.81	-1.09
4,234.0	15.70	152.90	4,127.7	-749.3	361.6	831.9	0.46	0.39	0.94
4,363.0	12.70	153.90	4,252.8	-777.5	375.8	863.6	2.33	-2.33	0.78
4,491.0	9.20	147.50	4,378.4	-798.8	387.5	887.8	2.89	-2.73	-5.00
4,620.0	6.00	149.80	4,506.3	-813.3	396.4	904.8	2.49	-2.48	1.78
4,748.0	3.60	168.50	4,633.8	-823.1	400.6	915.4	2.21	-1.88	14.61
4,876.0	0.80	156.80	4,761.7	-827.8	401.7	920.1	2.20	-2.19	-9.14
5,005.0	0.80	134.60	4,890.7	-829.3	402.7	921.9	0.24	0.00	-17.21
5,114.2	0.59	89.29	4,999.9	-829.8	403.8	922.9	0.52	-0.19	-41.49
TARGET BHL 1302'FSL, 2548'FWL									
5,133.0	0.60	79.90	5,018.7	-829.8	404.0	922.9	0.52	0.07	-49.96
5,262.0	0.40	78.80	5,147.7	-829.6	405.1	923.2	0.16	-0.16	-0.85
5,390.0	0.30	27.50	5,275.7	-829.2	405.7	923.1	0.25	-0.08	-40.08
5,518.0	0.40	307.20	5,403.7	-828.6	405.5	922.5	0.36	0.08	-62.73
5,647.0	0.50	291.90	5,532.7	-828.2	404.6	921.7	0.12	0.08	-11.86
5,775.0	0.50	273.30	5,660.7	-827.9	403.6	921.0	0.13	0.00	-14.53
5,904.0	0.60	311.10	5,789.7	-827.4	402.5	920.1	0.29	0.08	29.30
6,032.0	0.90	325.20	5,917.7	-826.2	401.4	918.5	0.27	0.23	11.02
6,160.0	0.90	290.30	6,045.6	-825.0	399.9	916.8	0.42	0.00	-27.27
6,289.0	1.00	307.80	6,174.6	-824.0	398.1	915.1	0.24	0.08	13.57
6,417.0	1.40	323.20	6,302.6	-822.0	396.2	912.5	0.40	0.31	12.03
6,546.0	0.60	346.80	6,431.6	-820.1	395.1	910.3	0.68	-0.62	18.29
6,674.0	0.60	346.80	6,559.6	-818.8	394.8	909.0	0.00	0.00	0.00
6,802.0	1.80	329.20	6,687.5	-816.4	393.6	906.4	0.97	0.94	-13.75
6,931.0	1.40	304.90	6,816.5	-813.8	391.3	903.0	0.60	-0.31	-18.84
7,059.0	1.20	322.20	6,944.5	-811.8	389.2	900.3	0.34	-0.16	13.52
7,188.0	1.50	340.50	7,073.4	-809.2	387.8	897.3	0.40	0.23	14.19
7,263.1	1.68	338.10	7,148.5	-807.2	387.1	895.2	0.25	0.23	-3.19
TARGET CIRCLE 1302'FSL, 2548'FWL									
7,316.0	1.80	336.70	7,201.4	-805.7	386.5	893.6	0.25	0.24	-2.66
7,444.0	2.50	353.70	7,329.3	-801.1	385.4	889.0	0.73	0.55	13.28
7,573.0	2.90	355.00	7,458.1	-795.1	384.8	883.3	0.31	0.31	1.01
7,701.0	3.40	358.30	7,585.9	-788.0	384.4	876.8	0.42	0.39	2.58
7,731.0	3.60	358.40	7,615.9	-786.2	384.3	875.1	0.67	0.67	0.33
7,781.0	3.80	358.50	7,665.8	-783.0	384.2	872.2	0.40	0.40	0.20
HARDLINE 75'E OF BHL									

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Checked By: _____	Approved By: _____	Date: _____
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