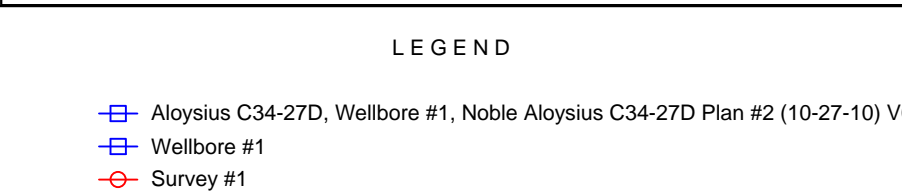
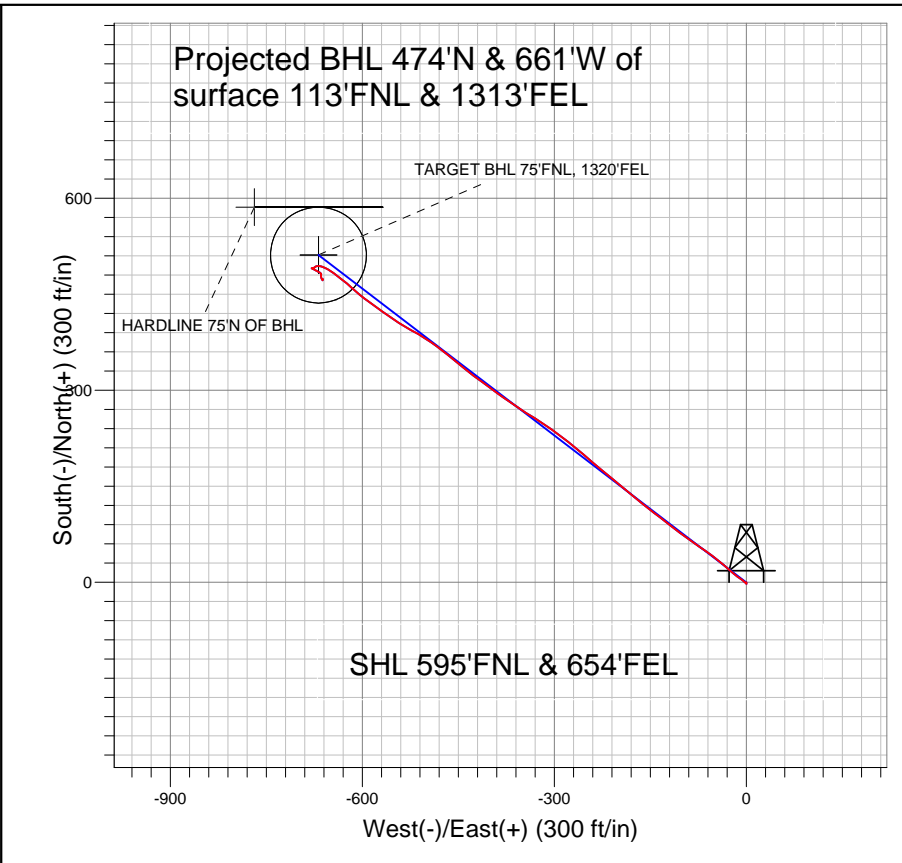


NOBLE ENERGY INC WELD COUNTY CO



Final Survey Plot

Projected Final Survey -
 7163'MD & 7067'TVD @ 813' VS
 0.4 deg Inc 4.3 deg AZ

Project: SEC.34-T4N-R64W
 Site: Aloysius C34-27D Pad Sec.34-T4N-R64W
 Well: Aloysius C34-27D
 Plan: Wellbore #1



Directional

NOBLE ENERGY INC WELD COUNTY CO

SEC.34-T4N-R64W

Aloysius C34-27D Pad Sec.34-T4N-R64W

Aloysius C34-27D

Wellbore #1

Survey: Survey #1

Standard Survey Report

01 February, 2011



Company:	NOBLE ENERGY INC WELD COUNTY CO	Local Co-ordinate Reference:	Site Aloysius C34-27D Pad Sec.34-T4N-R64W
Project:	SEC.34-T4N-R64W	TVD Reference:	WELL @ 4701.0ft (Original Well Elev)
Site:	Aloysius C34-27D Pad Sec.34-T4N-R64W	MD Reference:	WELL @ 4701.0ft (Original Well Elev)
Well:	Aloysius C34-27D	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Landmark

Project	SEC.34-T4N-R64W, Weld County, Colorado		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Northern Zone		Using geodetic scale factor

Site	Aloysius C34-27D Pad Sec.34-T4N-R64W				
Site Position:		Northing:	1,344,362.35ft	Latitude:	40.274610
From:	Lat/Long	Easting:	3,270,671.64ft	Longitude:	-104.529920
Position Uncertainty:	0.0 ft	Slot Radius:	"	Grid Convergence:	0.63 °

Well	Aloysius C34-27D					
Well Position	+N/-S	0.0 ft	Northing:	1,344,362.34 ft	Latitude:	40.274610
	+E/-W	0.0 ft	Easting:	3,270,671.64 ft	Longitude:	-104.529920
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,688.0 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	10/27/2010	8.81	67.01	53,159

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	305.60	

Survey Program	Date	2/1/2011			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
686.0	7,163.0	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	
686.0	0.40	176.40	686.0	-2.4	0.2	-1.5	0.06	0.06	0.00	
771.0	0.80	325.80	771.0	-2.2	-0.2	-1.1	1.37	0.47	175.77	
857.0	2.20	316.10	857.0	-0.5	-1.6	1.0	1.65	1.63	-11.28	
942.0	3.20	309.70	941.9	2.2	-4.6	5.0	1.23	1.18	-7.53	
1,028.0	4.60	306.00	1,027.7	5.7	-9.2	10.9	1.65	1.63	-4.30	
1,113.0	5.70	304.70	1,112.3	10.1	-15.5	18.5	1.30	1.29	-1.53	
1,199.0	8.10	312.60	1,197.7	16.7	-23.4	28.8	2.99	2.79	9.19	
1,284.0	9.50	310.60	1,281.7	25.3	-33.2	41.7	1.69	1.65	-2.35	
1,370.0	10.50	309.20	1,366.4	34.9	-44.6	56.6	1.20	1.16	-1.63	
1,455.0	11.60	304.80	1,449.8	44.6	-57.7	72.9	1.63	1.29	-5.18	
1,541.0	12.70	305.40	1,533.9	55.0	-72.5	91.0	1.29	1.28	0.70	
1,626.0	13.40	305.50	1,616.7	66.2	-88.1	110.2	0.82	0.82	0.12	

Company:	NOBLE ENERGY INC WELD COUNTY CO	Local Co-ordinate Reference:	Site Aloysius C34-27D Pad Sec.34-T4N-R64W
Project:	SEC.34-T4N-R64W	TVD Reference:	WELL @ 4701.0ft (Original Well Elev)
Site:	Aloysius C34-27D Pad Sec.34-T4N-R64W	MD Reference:	WELL @ 4701.0ft (Original Well Elev)
Well:	Aloysius C34-27D	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)
1,712.0	13.10	306.90	1,700.4	77.8	-104.0	129.9	0.51	-0.35	1.63
1,797.0	13.00	307.40	1,783.2	89.4	-119.3	149.1	0.18	-0.12	0.59
1,883.0	13.30	307.70	1,866.9	101.3	-134.8	168.6	0.36	0.35	0.35
1,968.0	12.50	307.00	1,949.8	112.8	-149.9	187.6	0.96	-0.94	-0.82
2,053.0	13.50	310.20	2,032.6	124.8	-164.8	206.7	1.45	1.18	3.76
2,139.0	13.80	309.50	2,116.2	137.8	-180.4	226.9	0.40	0.35	-0.81
2,224.0	13.10	309.50	2,198.9	150.4	-195.7	246.6	0.82	-0.82	0.00
2,310.0	13.00	310.10	2,282.6	162.8	-210.6	266.0	0.20	-0.12	0.70
2,395.0	13.80	309.00	2,365.3	175.3	-225.8	285.6	0.99	0.94	-1.29
2,481.0	13.60	310.20	2,448.9	188.3	-241.5	306.0	0.40	-0.23	1.40
2,566.0	14.30	310.80	2,531.4	201.6	-257.0	326.4	0.84	0.82	0.71
2,652.0	14.50	309.30	2,614.7	215.4	-273.4	347.7	0.49	0.23	-1.74
2,737.0	14.20	307.70	2,697.0	228.5	-289.9	368.7	0.58	-0.35	-1.88
2,823.0	14.40	303.60	2,780.4	240.9	-307.2	390.0	1.20	0.23	-4.77
2,909.0	15.10	301.80	2,863.5	252.7	-325.6	411.8	0.97	0.81	-2.09
2,994.0	14.90	304.30	2,945.6	264.7	-344.0	433.8	0.80	-0.24	2.94
3,080.0	14.70	303.70	3,028.8	277.0	-362.2	455.8	0.29	-0.23	-0.70
3,164.0	14.20	304.90	3,110.1	288.8	-379.5	476.7	0.69	-0.60	1.43
3,250.0	13.00	306.10	3,193.7	300.5	-396.0	496.9	1.43	-1.40	1.40
3,336.0	12.70	307.10	3,277.5	311.9	-411.4	516.1	0.43	-0.35	1.16
3,421.0	13.10	306.30	3,360.4	323.3	-426.6	535.0	0.52	0.47	-0.94
3,507.0	13.90	309.90	3,444.0	335.6	-442.4	555.1	1.35	0.93	4.19
3,593.0	14.20	309.70	3,527.5	349.0	-458.4	575.9	0.35	0.35	-0.23
3,678.0	14.20	307.00	3,609.9	361.9	-474.8	596.7	0.78	0.00	-3.18
3,764.0	15.70	304.70	3,692.9	374.9	-492.7	618.9	1.88	1.74	-2.67
3,849.0	16.50	301.70	3,774.6	387.8	-512.5	642.4	1.36	0.94	-3.53
3,935.0	15.80	298.10	3,857.2	399.7	-533.2	666.2	1.42	-0.81	-4.19
4,020.0	15.70	304.60	3,939.0	411.7	-552.9	689.2	2.08	-0.12	7.65
4,105.0	15.20	307.40	4,021.0	425.0	-571.2	711.9	1.06	-0.59	3.29
4,191.0	13.80	304.20	4,104.2	437.6	-588.6	733.4	1.88	-1.63	-3.72
4,277.0	12.60	311.20	4,188.0	449.6	-604.2	753.0	2.32	-1.40	8.14
4,362.0	11.60	310.80	4,271.1	461.3	-617.6	770.7	1.18	-1.18	-0.47
4,448.0	10.70	308.50	4,355.4	471.9	-630.4	787.3	1.17	-1.05	-2.67
4,532.0	9.50	308.10	4,438.1	481.0	-642.0	802.0	1.43	-1.43	-0.48
4,618.0	8.40	299.60	4,523.1	488.5	-653.0	815.3	2.00	-1.28	-9.88
4,704.0	5.30	289.50	4,608.5	492.9	-662.2	825.4	3.85	-3.60	-11.74
4,789.0	3.90	269.50	4,693.2	494.2	-668.8	831.5	2.48	-1.65	-23.53
4,875.0	2.50	234.60	4,779.1	493.1	-673.3	834.5	2.72	-1.63	-40.58
4,961.0	2.00	230.80	4,865.0	491.1	-676.0	835.5	0.61	-0.58	-4.42
5,046.0	1.50	285.70	4,950.0	490.4	-678.2	836.9	1.97	-0.59	64.59
5,096.0	0.57	285.09	4,999.9	490.7	-679.0	837.8	1.86	-1.86	-1.22
TARGET BHL 75°FNL, 1320°FEL									
5,132.0	0.10	111.70	5,036.0	490.7	-679.2	837.9	1.86	-1.31	-481.37
5,303.0	0.90	112.90	5,207.0	490.1	-677.8	836.5	0.47	0.47	0.70
5,473.0	1.40	121.40	5,376.9	488.5	-674.8	833.1	0.31	0.29	5.00
5,644.0	1.70	118.40	5,547.9	486.2	-670.8	828.5	0.18	0.18	-1.75
5,816.0	1.90	119.80	5,719.8	483.6	-666.1	823.1	0.12	0.12	0.81
5,987.0	1.00	210.60	5,890.7	480.9	-664.4	820.2	1.26	-0.53	53.10
6,243.0	1.00	156.80	6,146.7	476.9	-664.6	818.1	0.35	0.00	-21.02
6,414.0	0.70	148.10	6,317.7	474.7	-663.5	815.8	0.19	-0.18	-5.09
6,582.0	0.70	160.00	6,485.7	472.8	-662.6	814.0	0.09	0.00	7.08
6,642.1	0.48	156.41	6,545.8	472.3	-662.4	813.5	0.38	-0.37	-5.98
TARGET CIRCLE 75°FNL, 1320°FEL									
6,756.0	0.10	100.10	6,659.7	471.8	-662.1	813.0	0.38	-0.33	-49.43

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Survey										
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6,928.0	0.30	24.40	6,831.7	472.2	-661.8	813.0	0.17	0.12	-44.01	
7,092.9	0.39	6.11	6,996.5	473.2	-661.5	813.3	0.08	0.05	-11.09	
HARDLINE 75'N OF BHL										
7,115.0	0.40	4.30	7,018.7	473.3	-661.5	813.4	0.08	0.06	-8.18	
7,163.0	0.40	4.30	7,066.7	473.6	-661.5	813.6	0.00	0.00	0.00	

Checked By: _____ Approved By: _____ Date: _____