ENSIGN Directional

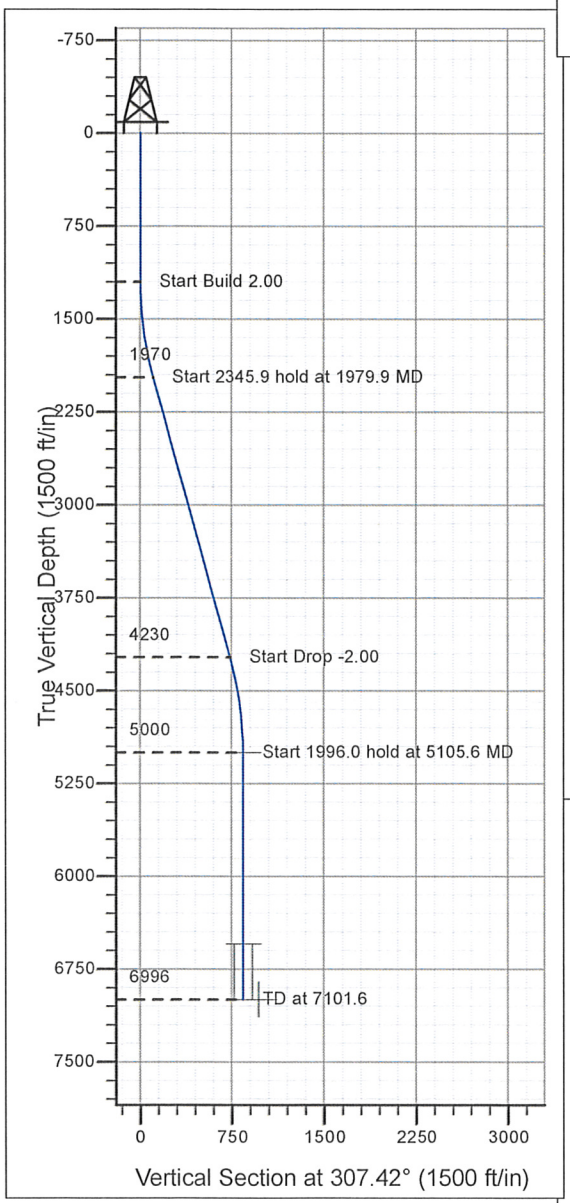
Well Name: Aloysius C34-27D

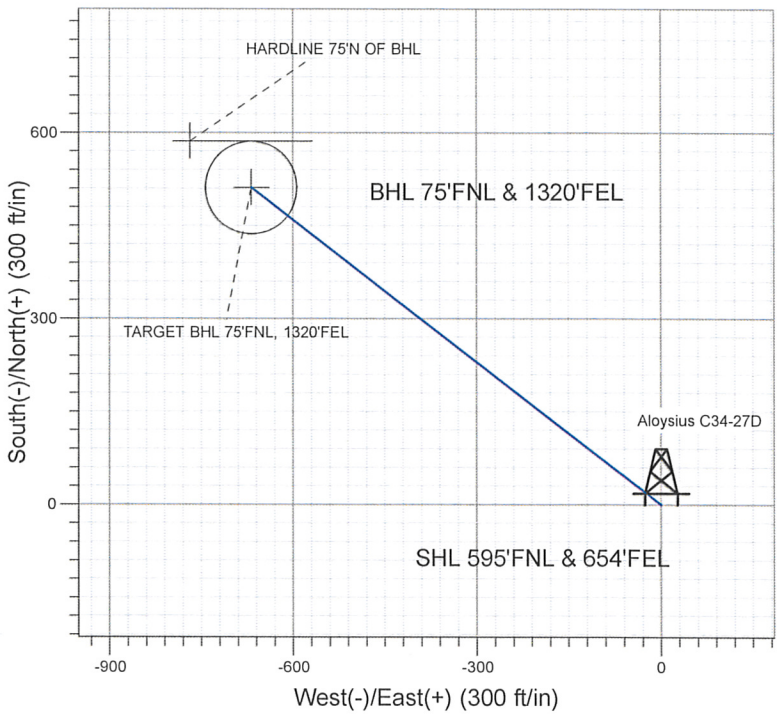
Surface Location: Aloysius C34-27D Pad Sec.34-T4N-R64W
North American Datum 1983 , US State Plane 1983 , Colorado Northern Zone
Ground Elevation: 4688.0

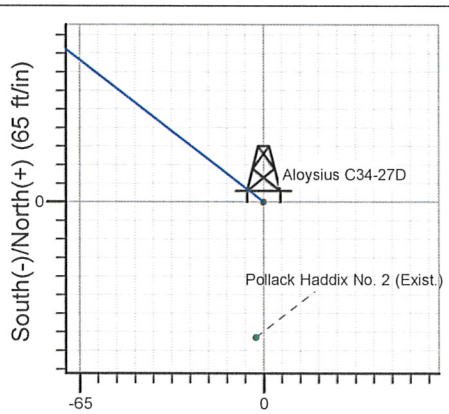
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1344362.34	3270671.64	40° 16' 28.596 N	104° 31' 47.712 W	

Original Well Elev WELL @ 4701.0ft (Original Well Elev)

NOBLE ENERGY INC WELD COUNTY CO







Aloysius C34-27D Pad Sec.34-T4N-R64W
Aloysius C34-27D
Noble Aloysius C34-27D Plan #1 (12-11-09)
14:48, December 14 2009

Azimuths to True North
Magnetic North: 8.89°

Magnetic Field
Strength: 53270.2snT
Dip Angle: 67.05°
Date: 12/11/2009
Model: IGRF200510

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
TARGET BHL 75'FNL, 1320'FEL	5000.0	511.4	-668.5	40° 16' 33.650 N	104° 31' 56.337 W	Point
TARGET CIRCLE 75'FNL, 1320'FEL	6546.0	511.4	-668.5	40° 16' 33.649 N	104° 31' 56.337 W	Circle (Radius: 75.0)
HARDLINE 75'N OF BHL	6996.0	586.4	-768.5	40° 16' 34.390 N	104° 31' 57.627 W	Polygon

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	1200.0	0.00	0.00	1200.0	0.0	0.0	0.00	0.00	0.0	
3	1979.9	15.60	307.42	1970.3	64.1	-83.8	2.00	307.42	105.5	
4	4325.7	15.60	307.42	4229.7	447.3	-584.7	0.00	0.00	736.2	
5	5105.6	0.00	0.00	5000.0	511.4	-668.5	2.00	180.00	841.7	TARGET BHL 75'FNL, 1320'FEL
6	7101.6	0.00	0.00	6996.0	511.4	-668.5	0.00	0.00	841.7	

ENSIGN
Directional

NOBLE ENERGY INC WELD COUNTY CO

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

Wellbore #1

Plan: Noble Aloysius C34-27D Plan #1 (12-11-09)

Standard Planning Report

14 December, 2009

noble energy

Database:	EDM den0-adp01 Server Data	**Local Co-ordinate Reference:**	Well Aloysius C34-27D
Company:	NOBLE ENERGY INC WELD COUNTY CO	**TVD Reference:**	WELL @ 4701.0ft (Original Well Elev)
Project:	SEC.34-T4N-R64W	**MD Reference:**	WELL @ 4701.0ft (Original Well Elev)
Site:	Aloysius C34-27D Pad Sec.34-T4N-R64W	**North Reference:**	True
Well:	Aloysius C34-27D	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Aloysius C34-27D Plan #1 (12-11-09)		

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:**	1,344,362.35 ft	**Latitude:**	40° 16' 28.596 N
From:	Lat/Long	**Easting:**	3,270,671.64 ft	**Longitude:**	104° 31' 47.712 W
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° 16' 28.596 N
	+E/-W	0.0 ft	**Easting:**	3,270,671.64 ft	**Longitude:**	104° 31' 47.712 W
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)
	IGRF200510	12/11/2009	8.89	67.05	53,270

Design Noble Aloysius C34-27D Plan #1 (12-11-09)

Audit Notes:

Version:		**Phase:**	PROTOTYPE	**Tie On Depth:**	0.0

Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.0	0.0	0.0	307.42

Plan Sections

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,979.9	15.60	307.42	1,970.3	64.1	-83.8	2.00	2.00	0.00	307.42	
4,325.7	15.60	307.42	4,229.7	447.3	-584.7	0.00	0.00	0.00	0.00	
5,105.6	0.00	0.00	5,000.0	511.4	-668.5	2.00	-2.00	0.00	180.00	TARGET BHL 75'FI
7,101.6	0.00	0.00	6,996.0	511.4	-668.5	0.00	0.00	0.00	0.00	

Database:	EDM den0-adp01 Server Data	**Local Co-ordinate Reference:**	Well Aloysius C34-27D
Company:	NOBLE ENERGY INC WELD COUNTY CO	**TVD Reference:**	WELL @ 4701.0ft (Original Well Elev)
Project:	SEC.34-T4N-R64W	**MD Reference:**	WELL @ 4701.0ft (Original Well Elev)
Site:	Aloysius C34-27D Pad Sec.34-T4N-R64W	**North Reference:**	True
Well:	Aloysius C34-27D	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Aloysius C34-27D Plan #1 (12-11-09)		

Planned 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
40.0	0.00	0.00	40.0	0.0	0.0	0.0	0.00	0.00	0.00
80.0	0.00	0.00	80.0	0.0	0.0	0.0	0.00	0.00	0.00
120.0	0.00	0.00	120.0	0.0	0.0	0.0	0.00	0.00	0.00
160.0	0.00	0.00	160.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
240.0	0.00	0.00	240.0	0.0	0.0	0.0	0.00	0.00	0.00
280.0	0.00	0.00	280.0	0.0	0.0	0.0	0.00	0.00	0.00
320.0	0.00	0.00	320.0	0.0	0.0	0.0	0.00	0.00	0.00
360.0	0.00	0.00	360.0	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00
440.0	0.00	0.00	440.0	0.0	0.0	0.0	0.00	0.00	0.00
480.0	0.00	0.00	480.0	0.0	0.0	0.0	0.00	0.00	0.00
520.0	0.00	0.00	520.0	0.0	0.0	0.0	0.00	0.00	0.00
560.0	0.00	0.00	560.0	0.0	0.0	0.0	0.00	0.00	0.00
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	0.00
640.0	0.00	0.00	640.0	0.0	0.0	0.0	0.00	0.00	0.00
680.0	0.00	0.00	680.0	0.0	0.0	0.0	0.00	0.00	0.00
720.0	0.00	0.00	720.0	0.0	0.0	0.0	0.00	0.00	0.00
760.0	0.00	0.00	760.0	0.0	0.0	0.0	0.00	0.00	0.00
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	0.00
840.0	0.00	0.00	840.0	0.0	0.0	0.0	0.00	0.00	0.00
880.0	0.00	0.00	880.0	0.0	0.0	0.0	0.00	0.00	0.00
920.0	0.00	0.00	920.0	0.0	0.0	0.0	0.00	0.00	0.00
960.0	0.00	0.00	960.0	0.0	0.0	0.0	0.00	0.00	0.00
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	0.00
1,040.0	0.00	0.00	1,040.0	0.0	0.0	0.0	0.00	0.00	0.00
1,080.0	0.00	0.00	1,080.0	0.0	0.0	0.0	0.00	0.00	0.00
1,120.0	0.00	0.00	1,120.0	0.0	0.0	0.0	0.00	0.00	0.00
1,160.0	0.00	0.00	1,160.0	0.0	0.0	0.0	0.00	0.00	0.00
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.0	0.00	0.00	0.00
1,240.0	0.80	307.42	1,240.0	0.2	-0.2	0.3	2.00	2.00	0.00
1,280.0	1.60	307.42	1,280.0	0.7	-0.9	1.1	2.00	2.00	0.00
1,320.0	2.40	307.42	1,320.0	1.5	-2.0	2.5	2.00	2.00	0.00
1,360.0	3.20	307.42	1,359.9	2.7	-3.5	4.5	2.00	2.00	0.00
1,400.0	4.00	307.42	1,399.8	4.2	-5.5	7.0	2.00	2.00	0.00
1,440.0	4.80	307.42	1,439.7	6.1	-8.0	10.0	2.00	2.00	0.00
1,480.0	5.60	307.42	1,479.6	8.3	-10.9	13.7	2.00	2.00	0.00
1,520.0	6.40	307.42	1,519.3	10.8	-14.2	17.9	2.00	2.00	0.00
1,560.0	7.20	307.42	1,559.1	13.7	-17.9	22.6	2.00	2.00	0.00
1,600.0	8.00	307.42	1,598.7	16.9	-22.1	27.9	2.00	2.00	0.00
1,640.0	8.80	307.42	1,638.3	20.5	-26.8	33.7	2.00	2.00	0.00
1,680.0	9.60	307.42	1,677.8	24.4	-31.9	40.1	2.00	2.00	0.00
1,720.0	10.40	307.42	1,717.1	28.6	-37.4	47.1	2.00	2.00	0.00
1,760.0	11.20	307.42	1,756.4	33.2	-43.3	54.6	2.00	2.00	0.00
1,800.0	12.00	307.42	1,795.6	38.0	-49.7	62.6	2.00	2.00	0.00
1,840.0	12.80	307.42	1,834.7	43.3	-56.5	71.2	2.00	2.00	0.00
1,880.0	13.60	307.42	1,873.6	48.8	-63.8	80.3	2.00	2.00	0.00
1,920.0	14.40	307.42	1,912.4	54.7	-71.5	90.0	2.00	2.00	0.00
1,960.0	15.20	307.42	1,951.1	60.9	-79.6	100.2	2.00	2.00	0.00
1,979.9	15.60	307.42	1,970.3	64.1	-83.8	105.5	2.00	2.00	0.00
2,000.0	15.60	307.42	1,989.7	67.4	-88.1	110.9	0.00	0.00	0.00
2,040.0	15.60	307.42	2,028.2	73.9	-96.6	121.7	0.00	0.00	0.00
2,080.0	15.60	307.42	2,066.7	80.5	-105.2	132.4	0.00	0.00	0.00

Database:	EDM den0-adp01 Server Data	**Local Co-ordinate Reference:**	Well Aloysius C34-27D
Company:	NOBLE ENERGY INC WELD COUNTY CO	**TVD Reference:**	WELL @ 4701.0ft (Original Well Elev)
Project:	SEC.34-T4N-R64W	**MD Reference:**	WELL @ 4701.0ft (Original Well Elev)
Site:	Aloysius C34-27D Pad Sec.34-T4N-R64W	**North Reference:**	True
Well:	Aloysius C34-27D	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Aloysius C34-27D Plan #1 (12-11-09)		

Planned 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)
2,120.0	15.60	307.42	2,105.2	87.0	-113.7	143.2	0.00	0.00	0.00
2,160.0	15.60	307.42	2,143.8	93.5	-122.3	153.9	0.00	0.00	0.00
2,200.0	15.60	307.42	2,182.3	100.1	-130.8	164.7	0.00	0.00	0.00
2,240.0	15.60	307.42	2,220.8	106.6	-139.3	175.4	0.00	0.00	0.00
2,280.0	15.60	307.42	2,259.4	113.1	-147.9	186.2	0.00	0.00	0.00
2,320.0	15.60	307.42	2,297.9	119.7	-156.4	196.9	0.00	0.00	0.00
2,360.0	15.60	307.42	2,336.4	126.2	-165.0	207.7	0.00	0.00	0.00
2,400.0	15.60	307.42	2,374.9	132.7	-173.5	218.5	0.00	0.00	0.00
2,440.0	15.60	307.42	2,413.5	139.3	-182.1	229.2	0.00	0.00	0.00
2,480.0	15.60	307.42	2,452.0	145.8	-190.6	240.0	0.00	0.00	0.00
2,520.0	15.60	307.42	2,490.5	152.3	-199.1	250.7	0.00	0.00	0.00
2,560.0	15.60	307.42	2,529.0	158.9	-207.7	261.5	0.00	0.00	0.00
2,600.0	15.60	307.42	2,567.6	165.4	-216.2	272.2	0.00	0.00	0.00
2,640.0	15.60	307.42	2,606.1	171.9	-224.8	283.0	0.00	0.00	0.00
2,680.0	15.60	307.42	2,644.6	178.5	-233.3	293.7	0.00	0.00	0.00
2,720.0	15.60	307.42	2,683.1	185.0	-241.8	304.5	0.00	0.00	0.00
2,760.0	15.60	307.42	2,721.7	191.5	-250.4	315.3	0.00	0.00	0.00
2,800.0	15.60	307.42	2,760.2	198.1	-258.9	326.0	0.00	0.00	0.00
2,840.0	15.60	307.42	2,798.7	204.6	-267.5	336.8	0.00	0.00	0.00
2,880.0	15.60	307.42	2,837.3	211.1	-276.0	347.5	0.00	0.00	0.00
2,920.0	15.60	307.42	2,875.8	217.7	-284.6	358.3	0.00	0.00	0.00
2,960.0	15.60	307.42	2,914.3	224.2	-293.1	369.0	0.00	0.00	0.00
3,000.0	15.60	307.42	2,952.8	230.8	-301.6	379.8	0.00	0.00	0.00
3,040.0	15.60	307.42	2,991.4	237.3	-310.2	390.5	0.00	0.00	0.00
3,080.0	15.60	307.42	3,029.9	243.8	-318.7	401.3	0.00	0.00	0.00
3,120.0	15.60	307.42	3,068.4	250.4	-327.3	412.0	0.00	0.00	0.00
3,160.0	15.60	307.42	3,106.9	256.9	-335.8	422.8	0.00	0.00	0.00
3,200.0	15.60	307.42	3,145.5	263.4	-344.3	433.6	0.00	0.00	0.00
3,240.0	15.60	307.42	3,184.0	270.0	-352.9	444.3	0.00	0.00	0.00
3,280.0	15.60	307.42	3,222.5	276.5	-361.4	455.1	0.00	0.00	0.00
3,320.0	15.60	307.42	3,261.1	283.0	-370.0	465.8	0.00	0.00	0.00
3,360.0	15.60	307.42	3,299.6	289.6	-378.5	476.6	0.00	0.00	0.00
3,400.0	15.60	307.42	3,338.1	296.1	-387.1	487.3	0.00	0.00	0.00
3,440.0	15.60	307.42	3,376.6	302.6	-395.6	498.1	0.00	0.00	0.00
3,480.0	15.60	307.42	3,415.2	309.2	-404.1	508.8	0.00	0.00	0.00
3,520.0	15.60	307.42	3,453.7	315.7	-412.7	519.6	0.00	0.00	0.00
3,560.0	15.60	307.42	3,492.2	322.2	-421.2	530.3	0.00	0.00	0.00
3,600.0	15.60	307.42	3,530.7	328.8	-429.8	541.1	0.00	0.00	0.00
3,640.0	15.60	307.42	3,569.3	335.3	-438.3	551.9	0.00	0.00	0.00
3,680.0	15.60	307.42	3,607.8	341.8	-446.9	562.6	0.00	0.00	0.00
3,720.0	15.60	307.42	3,646.3	348.4	-455.4	573.4	0.00	0.00	0.00
3,760.0	15.60	307.42	3,684.9	354.9	-463.9	584.1	0.00	0.00	0.00
3,800.0	15.60	307.42	3,723.4	361.4	-472.5	594.9	0.00	0.00	0.00
3,840.0	15.60	307.42	3,761.9	368.0	-481.0	605.6	0.00	0.00	0.00
3,880.0	15.60	307.42	3,800.4	374.5	-489.6	616.4	0.00	0.00	0.00
3,920.0	15.60	307.42	3,839.0	381.0	-498.1	627.1	0.00	0.00	0.00
3,960.0	15.60	307.42	3,877.5	387.6	-506.6	637.9	0.00	0.00	0.00
4,000.0	15.60	307.42	3,916.0	394.1	-515.2	648.7	0.00	0.00	0.00
4,040.0	15.60	307.42	3,954.5	400.7	-523.7	659.4	0.00	0.00	0.00
4,080.0	15.60	307.42	3,993.1	407.2	-532.3	670.2	0.00	0.00	0.00
4,120.0	15.60	307.42	4,031.6	413.7	-540.8	680.9	0.00	0.00	0.00
4,160.0	15.60	307.42	4,070.1	420.3	-549.4	691.7	0.00	0.00	0.00
4,200.0	15.60	307.42	4,108.6	426.8	-557.9	702.4	0.00	0.00	0.00
4,240.0	15.60	307.42	4,147.2	433.3	-566.4	713.2	0.00	0.00	0.00

Database:	EDM den0-adp01 Server Data	**Local Co-ordinate Reference:**	Well Aloysius C34-27D
Company:	NOBLE ENERGY INC WELD COUNTY CO	**TVD Reference:**	WELL @ 4701.0ft (Original Well Elev)
Project:	SEC.34-T4N-R64W	**MD Reference:**	WELL @ 4701.0ft (Original Well Elev)
Site:	Aloysius C34-27D Pad Sec.34-T4N-R64W	**North Reference:**	True
Well:	Aloysius C34-27D	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Aloysius C34-27D Plan #1 (12-11-09)		

Planned 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)
4,280.0	15.60	307.42	4,185.7	439.9	-575.0	723.9	0.00	0.00	0.00
4,320.0	15.60	307.42	4,224.2	446.4	-583.5	734.7	0.00	0.00	0.00
4,325.7	15.60	307.42	4,229.7	447.3	-584.7	736.2	0.00	0.00	0.00
4,360.0	14.91	307.42	4,262.8	452.8	-591.9	745.2	2.00	-2.00	0.00
4,400.0	14.11	307.42	4,301.5	458.9	-599.9	755.3	2.00	-2.00	0.00
4,440.0	13.31	307.42	4,340.4	464.7	-607.4	764.8	2.00	-2.00	0.00
4,480.0	12.51	307.42	4,379.4	470.1	-614.5	773.7	2.00	-2.00	0.00
4,520.0	11.71	307.42	4,418.5	475.2	-621.2	782.1	2.00	-2.00	0.00
4,560.0	10.91	307.42	4,457.7	480.0	-627.4	789.9	2.00	-2.00	0.00
4,600.0	10.11	307.42	4,497.0	484.4	-633.2	797.2	2.00	-2.00	0.00
4,640.0	9.31	307.42	4,536.5	488.5	-638.6	804.0	2.00	-2.00	0.00
4,680.0	8.51	307.42	4,576.0	492.3	-643.5	810.2	2.00	-2.00	0.00
4,720.0	7.71	307.42	4,615.6	495.7	-648.0	815.8	2.00	-2.00	0.00
4,760.0	6.91	307.42	4,655.3	498.8	-652.0	820.9	2.00	-2.00	0.00
4,800.0	6.11	307.42	4,695.0	501.5	-655.6	825.4	2.00	-2.00	0.00
4,840.0	5.31	307.42	4,734.8	504.0	-658.8	829.4	2.00	-2.00	0.00
4,880.0	4.51	307.42	4,774.7	506.0	-661.5	832.8	2.00	-2.00	0.00
4,920.0	3.71	307.42	4,814.6	507.8	-663.8	835.7	2.00	-2.00	0.00
4,960.0	2.91	307.42	4,854.5	509.2	-665.6	838.0	2.00	-2.00	0.00
5,000.0	2.11	307.42	4,894.4	510.2	-667.0	839.8	2.00	-2.00	0.00
5,040.0	1.31	307.42	4,934.4	511.0	-667.9	841.0	2.00	-2.00	0.00
5,080.0	0.51	307.42	4,974.4	511.4	-668.4	841.6	2.00	-2.00	0.00
5,105.6	0.00	0.00	5,000.0	511.4	-668.5	841.7	2.00	-2.00	0.00
TARGET BHL 75'FNL, 1320'FEL									
5,120.0	0.00	0.00	5,014.4	511.4	-668.5	841.7	0.00	0.00	0.00
5,160.0	0.00	0.00	5,054.4	511.4	-668.5	841.7	0.00	0.00	0.00
5,200.0	0.00	0.00	5,094.4	511.4	-668.5	841.7	0.00	0.00	0.00
5,240.0	0.00	0.00	5,134.4	511.4	-668.5	841.7	0.00	0.00	0.00
5,280.0	0.00	0.00	5,174.4	511.4	-668.5	841.7	0.00	0.00	0.00
5,320.0	0.00	0.00	5,214.4	511.4	-668.5	841.7	0.00	0.00	0.00
5,360.0	0.00	0.00	5,254.4	511.4	-668.5	841.7	0.00	0.00	0.00
5,400.0	0.00	0.00	5,294.4	511.4	-668.5	841.7	0.00	0.00	0.00
5,440.0	0.00	0.00	5,334.4	511.4	-668.5	841.7	0.00	0.00	0.00
5,480.0	0.00	0.00	5,374.4	511.4	-668.5	841.7	0.00	0.00	0.00
5,520.0	0.00	0.00	5,414.4	511.4	-668.5	841.7	0.00	0.00	0.00
5,560.0	0.00	0.00	5,454.4	511.4	-668.5	841.7	0.00	0.00	0.00
5,600.0	0.00	0.00	5,494.4	511.4	-668.5	841.7	0.00	0.00	0.00
5,640.0	0.00	0.00	5,534.4	511.4	-668.5	841.7	0.00	0.00	0.00
5,680.0	0.00	0.00	5,574.4	511.4	-668.5	841.7	0.00	0.00	0.00
5,720.0	0.00	0.00	5,614.4	511.4	-668.5	841.7	0.00	0.00	0.00
5,760.0	0.00	0.00	5,654.4	511.4	-668.5	841.7	0.00	0.00	0.00
5,800.0	0.00	0.00	5,694.4	511.4	-668.5	841.7	0.00	0.00	0.00
5,840.0	0.00	0.00	5,734.4	511.4	-668.5	841.7	0.00	0.00	0.00
5,880.0	0.00	0.00	5,774.4	511.4	-668.5	841.7	0.00	0.00	0.00
5,920.0	0.00	0.00	5,814.4	511.4	-668.5	841.7	0.00	0.00	0.00
5,960.0	0.00	0.00	5,854.4	511.4	-668.5	841.7	0.00	0.00	0.00
6,000.0	0.00	0.00	5,894.4	511.4	-668.5	841.7	0.00	0.00	0.00
6,040.0	0.00	0.00	5,934.4	511.4	-668.5	841.7	0.00	0.00	0.00
6,080.0	0.00	0.00	5,974.4	511.4	-668.5	841.7	0.00	0.00	0.00
6,120.0	0.00	0.00	6,014.4	511.4	-668.5	841.7	0.00	0.00	0.00
6,160.0	0.00	0.00	6,054.4	511.4	-668.5	841.7	0.00	0.00	0.00
6,200.0	0.00	0.00	6,094.4	511.4	-668.5	841.7	0.00	0.00	0.00
6,240.0	0.00	0.00	6,134.4	511.4	-668.5	841.7	0.00	0.00	0.00

Database:	EDM den0-adp01 Server Data	**Local Co-ordinate Reference:**	Well Aloysius C34-27D
Company:	NOBLE ENERGY INC WELD COUNTY CO	**TVD Reference:**	WELL @ 4701.0ft (Original Well Elev)
Project:	SEC.34-T4N-R64W	**MD Reference:**	WELL @ 4701.0ft (Original Well Elev)
Site:	Aloysius C34-27D Pad Sec.34-T4N-R64W	**North Reference:**	True
Well:	Aloysius C34-27D	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Aloysius C34-27D Plan #1 (12-11-09)		

Planned 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)
6,280.0	0.00	0.00	6,174.4	511.4	-668.5	841.7	0.00	0.00	0.00
6,320.0	0.00	0.00	6,214.4	511.4	-668.5	841.7	0.00	0.00	0.00
6,360.0	0.00	0.00	6,254.4	511.4	-668.5	841.7	0.00	0.00	0.00
6,400.0	0.00	0.00	6,294.4	511.4	-668.5	841.7	0.00	0.00	0.00
6,440.0	0.00	0.00	6,334.4	511.4	-668.5	841.7	0.00	0.00	0.00
6,480.0	0.00	0.00	6,374.4	511.4	-668.5	841.7	0.00	0.00	0.00
6,520.0	0.00	0.00	6,414.4	511.4	-668.5	841.7	0.00	0.00	0.00
6,560.0	0.00	0.00	6,454.4	511.4	-668.5	841.7	0.00	0.00	0.00
6,600.0	0.00	0.00	6,494.4	511.4	-668.5	841.7	0.00	0.00	0.00
6,640.0	0.00	0.00	6,534.4	511.4	-668.5	841.7	0.00	0.00	0.00
6,651.6	0.00	0.00	6,546.0	511.4	-668.5	841.7	0.00	0.00	0.00
TARGET CIRCLE 75'FNL, 1320'FEL									
6,680.0	0.00	0.00	6,574.4	511.4	-668.5	841.7	0.00	0.00	0.00
6,720.0	0.00	0.00	6,614.4	511.4	-668.5	841.7	0.00	0.00	0.00
6,760.0	0.00	0.00	6,654.4	511.4	-668.5	841.7	0.00	0.00	0.00
6,800.0	0.00	0.00	6,694.4	511.4	-668.5	841.7	0.00	0.00	0.00
6,840.0	0.00	0.00	6,734.4	511.4	-668.5	841.7	0.00	0.00	0.00
6,880.0	0.00	0.00	6,774.4	511.4	-668.5	841.7	0.00	0.00	0.00
6,920.0	0.00	0.00	6,814.4	511.4	-668.5	841.7	0.00	0.00	0.00
6,960.0	0.00	0.00	6,854.4	511.4	-668.5	841.7	0.00	0.00	0.00
7,000.0	0.00	0.00	6,894.4	511.4	-668.5	841.7	0.00	0.00	0.00
7,040.0	0.00	0.00	6,934.4	511.4	-668.5	841.7	0.00	0.00	0.00
7,080.0	0.00	0.00	6,974.4	511.4	-668.5	841.7	0.00	0.00	0.00
7,101.6	0.00	0.00	6,996.0	511.4	-668.5	841.7	0.00	0.00	0.00
HARDLINE 75'N OF BHL									

Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
TARGET BHL 75'FNL	0.00	0.00	5,000.0	511.4	-668.5	1,344,866.40	3,269,997.58	40° 16' 33.650 N	104° 31' 56.337 W
- plan hits target center									
- Point									
HARDLINE 75'N OF E	0.00	0.00	6,996.0	586.4	-768.5	1,344,940.27	3,269,896.81	40° 16' 34.390 N	104° 31' 57.627 W
- plan misses target center by 125.0ft at 7101.6ft MD (6996.0 TVD, 511.4 N, -668.5 E)									
- Polygon									
Point 1			6,996.0	0.0	0.0	1,344,940.27	3,269,896.81		
Point 2			6,996.0	0.0	200.0	1,344,942.46	3,270,096.78		
TARGET CIRCLE 75'	0.00	0.00	6,546.0	511.4	-668.5	1,344,866.37	3,269,997.62	40° 16' 33.649 N	104° 31' 56.337 W
- plan hits target center									
- Circle (radius 75.0)									