

ENSIGN

Directional

Well Name: Calvary USX EE29-04D

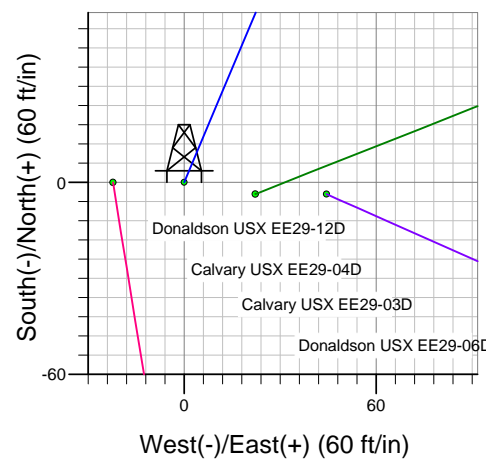
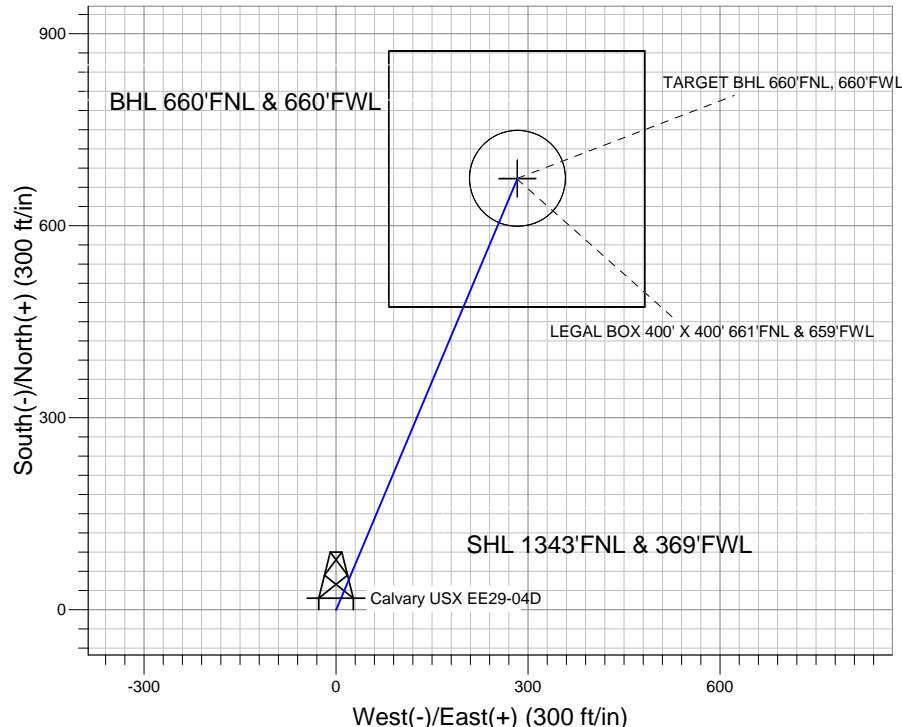
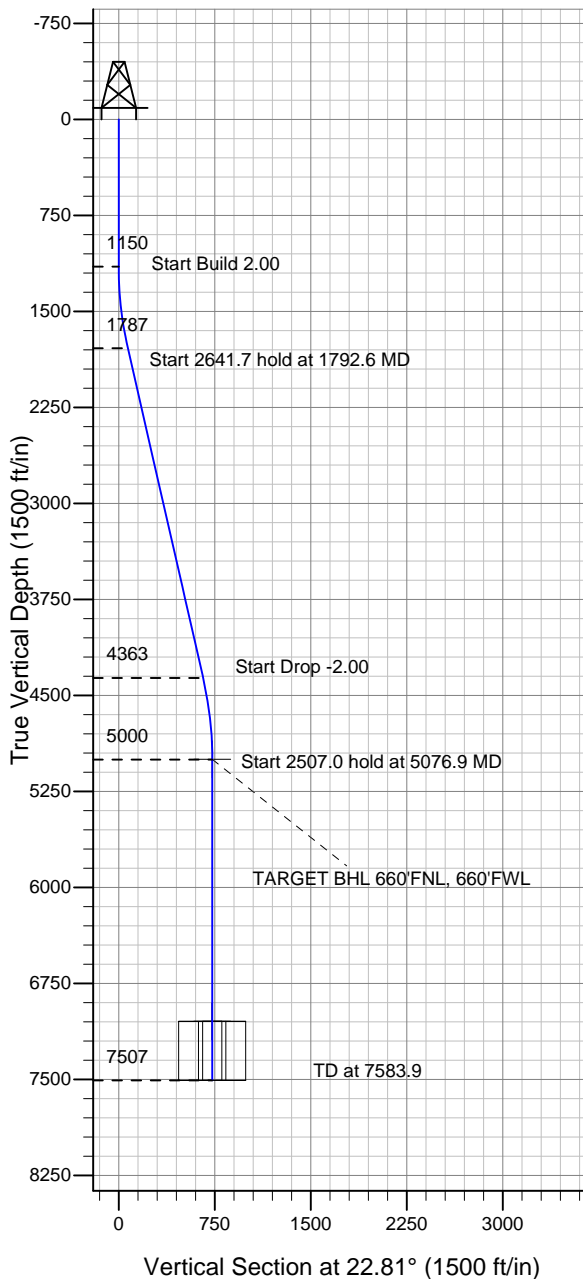
Surface Location: Donaldson USX EE29-12D Pad Sec.29-T7N-R65W
North American Datum 1983 US State Plane 1983 Colorado Northern Zone

Ground Elevation: 4924.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1444056.73	3223636.48	40.549550	-104.695240	

Original Well Elev WELL @ 4937.0ft (Original Well Elev)

NOBLE ENERGY INC WELD COUNTY CO



Donaldson USX EE29-12D Pad Sec.29-T7N-R65W
Calvary USX EE29-04D
Noble Calvary USX EE29-04D Plan #1 (5-04-11)
9:24, May 09 2011



Azimuths to True North
Magnetic North: 8.85°

Magnetic Field
Strength: 53227.1nT
Dip Angle: 67.19°
Date: 5/9/2011
Model: IGRF2010

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
TARGET BHL 660'FNL, 660'FWL	5000.0	674.0	283.5	40.551400	-104.694220	Point
LEGAL BOX 400' X 400' 661'FNL & 659'FWL	7047.0	673.0	282.5	40.551397	-104.694223	Rectangle (Sides: L400.0 W400.0)
TARGET CIRCLE 660'FNL & 660'FWL	7047.0	674.0	283.5	40.551400	-104.694220	Circle (Radius: 75.0)

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	1150.0	0.00	0.00	1150.0	0.0	0.0	0.00	0.00	0.0	
3	1792.6	12.85	22.81	1787.3	66.2	27.8	2.00	22.81	71.8	
4	4434.3	12.85	22.81	4362.7	607.8	255.6	0.00	0.00	659.4	
5	5076.9	0.00	0.00	5000.0	674.0	283.5	2.00	180.00	731.2	TARGET BHL 660'FNL, 660'FWL
6	7583.9	0.00	0.00	7507.0	674.0	283.5	0.00	0.00	731.2	



Directional

NOBLE ENERGY INC WELD COUNTY CO

SEC.29-T7N-R65W

Donaldson USX EE29-12D Pad Sec.29-T7N-R65W

Calvary USX EE29-04D

Wellbore #1

Plan: Noble Calvary USX EE29-04D Plan #1 (5-04-11)

Standard Planning Report

09 May, 2011



Database:	Landmark	Local Co-ordinate Reference:	Well Calvary USX EE29-04D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4937.0ft (Original Well Elev)
Project:	SEC.29-T7N-R65W	MD Reference:	WELL @ 4937.0ft (Original Well Elev)
Site:	Donaldson USX EE29-12D Pad Sec.29-T7N-R65W	North Reference:	True
Well:	Calvary USX EE29-04D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Calvary USX EE29-04D Plan #1 (5-04-1)		

Project	SEC.29-T7N-R65W, 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						Donaldson USX EE29-12D Pad Sec.29-T7N-R65W											
Site Position:						Northing:			1,444,056.55 ft			Latitude:			40.549550		
From:			Lat/Long			Easting:			3,223,614.25 ft			Longitude:			-104.695320		
Position Uncertainty:			0.0 ft			Slot Radius:			"			Grid Convergence:			0.52 °		

Well	Calvary USX EE29-04D					
Well Position	+N/-S	0.0 ft	Northing:	1,444,056.73 ft	Latitude:	40.549550
	+E/-W	22.2 ft	Easting:	3,223,636.48 ft	Longitude:	-104.695240
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,924.0 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	5/9/2011	8.85	67.19	53,227

Design	Noble Calvary USX EE29-04D Plan #1 (5-04-11)			
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	22.81

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	
1,150.0	0.00	0.00	1,150.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,792.6	12.85	22.81	1,787.3	66.2	27.8	2.00	2.00	0.00	22.81	
4,434.3	12.85	22.81	4,362.7	607.8	255.6	0.00	0.00	0.00	0.00	
5,076.9	0.00	0.00	5,000.0	674.0	283.5	2.00	-2.00	0.00	180.00	TARGET BHL 660'I
7,583.9	0.00	0.00	7,507.0	674.0	283.5	0.00	0.00	0.00	0.00	

Database:	Landmark	Local Co-ordinate Reference:	Well Calvary USX EE29-04D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4937.0ft (Original Well Elev)
Project:	SEC.29-T7N-R65W	MD Reference:	WELL @ 4937.0ft (Original Well Elev)
Site:	Donaldson USX EE29-12D Pad Sec.29-T7N-R65W	North Reference:	True
Well:	Calvary USX EE29-04D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Calvary USX EE29-04D Plan #1 (5-04-1)		

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
650.0	0.00	0.00	650.0	0.0	0.0	0.0	0.00	0.00	0.00
8 5/8"									
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
1,150.0	0.00	0.00	1,150.0	0.0	0.0	0.0	0.00	0.00	0.00
1,160.0	0.20	22.81	1,160.0	0.0	0.0	0.0	2.00	2.00	0.00
1,200.0	1.00	22.81	1,200.0	0.4	0.2	0.4	2.00	2.00	0.00
1,240.0	1.80	22.81	1,240.0	1.3	0.5	1.4	2.00	2.00	0.00
1,280.0	2.60	22.81	1,280.0	2.7	1.1	2.9	2.00	2.00	0.00
1,320.0	3.40	22.81	1,319.9	4.6	2.0	5.0	2.00	2.00	0.00
1,360.0	4.20	22.81	1,359.8	7.1	3.0	7.7	2.00	2.00	0.00
1,400.0	5.00	22.81	1,399.7	10.0	4.2	10.9	2.00	2.00	0.00
1,440.0	5.80	22.81	1,439.5	13.5	5.7	14.7	2.00	2.00	0.00
1,480.0	6.60	22.81	1,479.3	17.5	7.4	19.0	2.00	2.00	0.00
1,520.0	7.40	22.81	1,519.0	22.0	9.2	23.9	2.00	2.00	0.00
1,560.0	8.20	22.81	1,558.6	27.0	11.4	29.3	2.00	2.00	0.00
1,600.0	9.00	22.81	1,598.2	32.5	13.7	35.3	2.00	2.00	0.00
1,640.0	9.80	22.81	1,637.6	38.5	16.2	41.8	2.00	2.00	0.00
1,680.0	10.60	22.81	1,677.0	45.1	19.0	48.9	2.00	2.00	0.00
1,720.0	11.40	22.81	1,716.2	52.1	21.9	56.5	2.00	2.00	0.00
1,760.0	12.20	22.81	1,755.4	59.6	25.1	64.7	2.00	2.00	0.00
1,792.6	12.85	22.81	1,787.3	66.2	27.8	71.8	2.00	2.00	0.00
1,800.0	12.85	22.81	1,794.4	67.7	28.5	73.4	0.00	0.00	0.00
1,840.0	12.85	22.81	1,833.4	75.9	31.9	82.3	0.00	0.00	0.00
1,880.0	12.85	22.81	1,872.4	84.1	35.4	91.2	0.00	0.00	0.00
1,920.0	12.85	22.81	1,911.4	92.3	38.8	100.1	0.00	0.00	0.00

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Project:	SEC.29-T7N-R65W	MD Reference:	WELL @ 4937.0ft (Original Well Elev)
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Well:	Calvary USX EE29-04D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Calvary USX EE29-04D Plan #1 (5-04-1)		

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)
1,960.0	12.85	22.81	1,950.4	100.5	42.3	109.0	0.00	0.00	0.00
2,000.0	12.85	22.81	1,989.4	108.7	45.7	117.9	0.00	0.00	0.00
2,040.0	12.85	22.81	2,028.4	116.9	49.2	126.8	0.00	0.00	0.00
2,080.0	12.85	22.81	2,067.4	125.1	52.6	135.7	0.00	0.00	0.00
2,120.0	12.85	22.81	2,106.4	133.3	56.1	144.6	0.00	0.00	0.00
2,160.0	12.85	22.81	2,145.4	141.5	59.5	153.5	0.00	0.00	0.00
2,200.0	12.85	22.81	2,184.4	149.7	63.0	162.4	0.00	0.00	0.00
2,240.0	12.85	22.81	2,223.4	157.9	66.4	171.3	0.00	0.00	0.00
2,280.0	12.85	22.81	2,262.4	166.1	69.9	180.2	0.00	0.00	0.00
2,320.0	12.85	22.81	2,301.4	174.3	73.3	189.1	0.00	0.00	0.00
2,360.0	12.85	22.81	2,340.4	182.5	76.8	198.0	0.00	0.00	0.00
2,400.0	12.85	22.81	2,379.4	190.7	80.2	206.9	0.00	0.00	0.00
2,440.0	12.85	22.81	2,418.4	198.9	83.7	215.8	0.00	0.00	0.00
2,480.0	12.85	22.81	2,457.4	207.1	87.1	224.7	0.00	0.00	0.00
2,520.0	12.85	22.81	2,496.4	215.3	90.5	233.6	0.00	0.00	0.00
2,560.0	12.85	22.81	2,535.4	223.5	94.0	242.5	0.00	0.00	0.00
2,600.0	12.85	22.81	2,574.4	231.7	97.4	251.4	0.00	0.00	0.00
2,640.0	12.85	22.81	2,613.4	239.9	100.9	260.3	0.00	0.00	0.00
2,680.0	12.85	22.81	2,652.4	248.1	104.3	269.2	0.00	0.00	0.00
2,720.0	12.85	22.81	2,691.4	256.3	107.8	278.1	0.00	0.00	0.00
2,760.0	12.85	22.81	2,730.4	264.5	111.2	287.0	0.00	0.00	0.00
2,800.0	12.85	22.81	2,769.4	272.7	114.7	295.9	0.00	0.00	0.00
2,840.0	12.85	22.81	2,808.4	280.9	118.1	304.8	0.00	0.00	0.00
2,880.0	12.85	22.81	2,847.4	289.1	121.6	313.7	0.00	0.00	0.00
2,920.0	12.85	22.81	2,886.4	297.3	125.0	322.6	0.00	0.00	0.00
2,960.0	12.85	22.81	2,925.4	305.5	128.5	331.5	0.00	0.00	0.00
3,000.0	12.85	22.81	2,964.4	313.7	131.9	340.4	0.00	0.00	0.00
3,040.0	12.85	22.81	3,003.4	321.9	135.4	349.3	0.00	0.00	0.00
3,080.0	12.85	22.81	3,042.4	330.1	138.8	358.1	0.00	0.00	0.00
3,120.0	12.85	22.81	3,081.4	338.3	142.3	367.0	0.00	0.00	0.00
3,160.0	12.85	22.81	3,120.4	346.5	145.7	375.9	0.00	0.00	0.00
3,200.0	12.85	22.81	3,159.4	354.7	149.2	384.8	0.00	0.00	0.00
3,240.0	12.85	22.81	3,198.4	362.9	152.6	393.7	0.00	0.00	0.00
3,280.0	12.85	22.81	3,237.4	371.2	156.1	402.6	0.00	0.00	0.00
3,320.0	12.85	22.81	3,276.4	379.4	159.5	411.5	0.00	0.00	0.00
3,360.0	12.85	22.81	3,315.4	387.6	163.0	420.4	0.00	0.00	0.00
3,400.0	12.85	22.81	3,354.4	395.8	166.4	429.3	0.00	0.00	0.00
3,440.0	12.85	22.81	3,393.3	404.0	169.9	438.2	0.00	0.00	0.00
3,480.0	12.85	22.81	3,432.3	412.2	173.3	447.1	0.00	0.00	0.00
3,520.0	12.85	22.81	3,471.3	420.4	176.8	456.0	0.00	0.00	0.00
3,560.0	12.85	22.81	3,510.3	428.6	180.2	464.9	0.00	0.00	0.00
3,600.0	12.85	22.81	3,549.3	436.8	183.7	473.8	0.00	0.00	0.00
3,640.0	12.85	22.81	3,588.3	445.0	187.1	482.7	0.00	0.00	0.00
3,680.0	12.85	22.81	3,627.3	453.2	190.6	491.6	0.00	0.00	0.00
3,720.0	12.85	22.81	3,666.3	461.4	194.0	500.5	0.00	0.00	0.00
3,760.0	12.85	22.81	3,705.3	469.6	197.5	509.4	0.00	0.00	0.00
3,800.0	12.85	22.81	3,744.3	477.8	200.9	518.3	0.00	0.00	0.00
3,840.0	12.85	22.81	3,783.3	486.0	204.4	527.2	0.00	0.00	0.00
3,880.0	12.85	22.81	3,822.3	494.2	207.8	536.1	0.00	0.00	0.00
3,920.0	12.85	22.81	3,861.3	502.4	211.3	545.0	0.00	0.00	0.00
3,960.0	12.85	22.81	3,900.3	510.6	214.7	553.9	0.00	0.00	0.00
4,000.0	12.85	22.81	3,939.3	518.8	218.2	562.8	0.00	0.00	0.00
4,040.0	12.85	22.81	3,978.3	527.0	221.6	571.7	0.00	0.00	0.00

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Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4937.0ft (Original Well Elev)
Project:	SEC.29-T7N-R65W	MD Reference:	WELL @ 4937.0ft (Original Well Elev)
Site:	Donaldson USX EE29-12D Pad	North Reference:	True
	Sec.29-T7N-R65W		
Well:	Calvary USX EE29-04D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Calvary USX EE29-04D Plan #1 (5-04-1)		

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)
4,080.0	12.85	22.81	4,017.3	535.2	225.1	580.6	0.00	0.00	0.00
4,120.0	12.85	22.81	4,056.3	543.4	228.5	589.5	0.00	0.00	0.00
4,160.0	12.85	22.81	4,095.3	551.6	232.0	598.4	0.00	0.00	0.00
4,200.0	12.85	22.81	4,134.3	559.8	235.4	607.3	0.00	0.00	0.00
4,240.0	12.85	22.81	4,173.3	568.0	238.9	616.2	0.00	0.00	0.00
4,280.0	12.85	22.81	4,212.3	576.2	242.3	625.1	0.00	0.00	0.00
4,320.0	12.85	22.81	4,251.3	584.4	245.8	634.0	0.00	0.00	0.00
4,360.0	12.85	22.81	4,290.3	592.6	249.2	642.9	0.00	0.00	0.00
4,400.0	12.85	22.81	4,329.3	600.8	252.7	651.8	0.00	0.00	0.00
4,434.3	12.85	22.81	4,362.7	607.8	255.6	659.4	0.00	0.00	0.00
4,440.0	12.74	22.81	4,368.3	609.0	256.1	660.7	2.00	-2.00	0.00
4,480.0	11.94	22.81	4,407.4	616.9	259.4	669.2	2.00	-2.00	0.00
4,520.0	11.14	22.81	4,446.6	624.3	262.5	677.2	2.00	-2.00	0.00
4,560.0	10.34	22.81	4,485.9	631.1	265.4	684.7	2.00	-2.00	0.00
4,600.0	9.54	22.81	4,525.3	637.5	268.1	691.6	2.00	-2.00	0.00
4,640.0	8.74	22.81	4,564.8	643.4	270.6	697.9	2.00	-2.00	0.00
4,680.0	7.94	22.81	4,604.3	648.7	272.8	703.7	2.00	-2.00	0.00
4,720.0	7.14	22.81	4,644.0	653.5	274.8	709.0	2.00	-2.00	0.00
4,760.0	6.34	22.81	4,683.7	657.9	276.7	713.7	2.00	-2.00	0.00
4,800.0	5.54	22.81	4,723.5	661.7	278.3	717.8	2.00	-2.00	0.00
4,840.0	4.74	22.81	4,763.3	665.0	279.7	721.4	2.00	-2.00	0.00
4,880.0	3.94	22.81	4,803.2	667.8	280.8	724.4	2.00	-2.00	0.00
4,920.0	3.14	22.81	4,843.1	670.0	281.8	726.9	2.00	-2.00	0.00
4,960.0	2.34	22.81	4,883.1	671.8	282.5	728.8	2.00	-2.00	0.00
5,000.0	1.54	22.81	4,923.1	673.1	283.1	730.2	2.00	-2.00	0.00
5,040.0	0.74	22.81	4,963.1	673.8	283.4	730.9	2.00	-2.00	0.00
5,076.9	0.00	0.00	5,000.0	674.0	283.5	731.2	2.00	-2.00	0.00
TARGET BHL 660'FNL, 660'FWL									
5,080.0	0.00	0.00	5,003.1	674.0	283.5	731.2	0.00	0.00	0.00
5,120.0	0.00	0.00	5,043.1	674.0	283.5	731.2	0.00	0.00	0.00
5,160.0	0.00	0.00	5,083.1	674.0	283.5	731.2	0.00	0.00	0.00
5,200.0	0.00	0.00	5,123.1	674.0	283.5	731.2	0.00	0.00	0.00
5,240.0	0.00	0.00	5,163.1	674.0	283.5	731.2	0.00	0.00	0.00
5,280.0	0.00	0.00	5,203.1	674.0	283.5	731.2	0.00	0.00	0.00
5,320.0	0.00	0.00	5,243.1	674.0	283.5	731.2	0.00	0.00	0.00
5,360.0	0.00	0.00	5,283.1	674.0	283.5	731.2	0.00	0.00	0.00
5,400.0	0.00	0.00	5,323.1	674.0	283.5	731.2	0.00	0.00	0.00
5,440.0	0.00	0.00	5,363.1	674.0	283.5	731.2	0.00	0.00	0.00
5,480.0	0.00	0.00	5,403.1	674.0	283.5	731.2	0.00	0.00	0.00
5,520.0	0.00	0.00	5,443.1	674.0	283.5	731.2	0.00	0.00	0.00
5,560.0	0.00	0.00	5,483.1	674.0	283.5	731.2	0.00	0.00	0.00
5,600.0	0.00	0.00	5,523.1	674.0	283.5	731.2	0.00	0.00	0.00
5,640.0	0.00	0.00	5,563.1	674.0	283.5	731.2	0.00	0.00	0.00
5,680.0	0.00	0.00	5,603.1	674.0	283.5	731.2	0.00	0.00	0.00
5,720.0	0.00	0.00	5,643.1	674.0	283.5	731.2	0.00	0.00	0.00
5,760.0	0.00	0.00	5,683.1	674.0	283.5	731.2	0.00	0.00	0.00
5,800.0	0.00	0.00	5,723.1	674.0	283.5	731.2	0.00	0.00	0.00
5,840.0	0.00	0.00	5,763.1	674.0	283.5	731.2	0.00	0.00	0.00
5,880.0	0.00	0.00	5,803.1	674.0	283.5	731.2	0.00	0.00	0.00
5,920.0	0.00	0.00	5,843.1	674.0	283.5	731.2	0.00	0.00	0.00
5,960.0	0.00	0.00	5,883.1	674.0	283.5	731.2	0.00	0.00	0.00
6,000.0	0.00	0.00	5,923.1	674.0	283.5	731.2	0.00	0.00	0.00
6,040.0	0.00	0.00	5,963.1	674.0	283.5	731.2	0.00	0.00	0.00

Database:	Landmark	Local Co-ordinate Reference:	Well Calvary USX EE29-04D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4937.0ft (Original Well Elev)
Project:	SEC.29-T7N-R65W	MD Reference:	WELL @ 4937.0ft (Original Well Elev)
Site:	Donaldson USX EE29-12D Pad Sec.29-T7N-R65W	North Reference:	True
Well:	Calvary USX EE29-04D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Calvary USX EE29-04D Plan #1 (5-04-1)		

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)
6,080.0	0.00	0.00	6,003.1	674.0	283.5	731.2	0.00	0.00	0.00
6,120.0	0.00	0.00	6,043.1	674.0	283.5	731.2	0.00	0.00	0.00
6,160.0	0.00	0.00	6,083.1	674.0	283.5	731.2	0.00	0.00	0.00
6,200.0	0.00	0.00	6,123.1	674.0	283.5	731.2	0.00	0.00	0.00
6,240.0	0.00	0.00	6,163.1	674.0	283.5	731.2	0.00	0.00	0.00
6,280.0	0.00	0.00	6,203.1	674.0	283.5	731.2	0.00	0.00	0.00
6,320.0	0.00	0.00	6,243.1	674.0	283.5	731.2	0.00	0.00	0.00
6,360.0	0.00	0.00	6,283.1	674.0	283.5	731.2	0.00	0.00	0.00
6,400.0	0.00	0.00	6,323.1	674.0	283.5	731.2	0.00	0.00	0.00
6,440.0	0.00	0.00	6,363.1	674.0	283.5	731.2	0.00	0.00	0.00
6,480.0	0.00	0.00	6,403.1	674.0	283.5	731.2	0.00	0.00	0.00
6,520.0	0.00	0.00	6,443.1	674.0	283.5	731.2	0.00	0.00	0.00
6,560.0	0.00	0.00	6,483.1	674.0	283.5	731.2	0.00	0.00	0.00
6,600.0	0.00	0.00	6,523.1	674.0	283.5	731.2	0.00	0.00	0.00
6,640.0	0.00	0.00	6,563.1	674.0	283.5	731.2	0.00	0.00	0.00
6,680.0	0.00	0.00	6,603.1	674.0	283.5	731.2	0.00	0.00	0.00
6,720.0	0.00	0.00	6,643.1	674.0	283.5	731.2	0.00	0.00	0.00
6,760.0	0.00	0.00	6,683.1	674.0	283.5	731.2	0.00	0.00	0.00
6,800.0	0.00	0.00	6,723.1	674.0	283.5	731.2	0.00	0.00	0.00
6,840.0	0.00	0.00	6,763.1	674.0	283.5	731.2	0.00	0.00	0.00
6,880.0	0.00	0.00	6,803.1	674.0	283.5	731.2	0.00	0.00	0.00
6,920.0	0.00	0.00	6,843.1	674.0	283.5	731.2	0.00	0.00	0.00
6,960.0	0.00	0.00	6,883.1	674.0	283.5	731.2	0.00	0.00	0.00
7,000.0	0.00	0.00	6,923.1	674.0	283.5	731.2	0.00	0.00	0.00
7,040.0	0.00	0.00	6,963.1	674.0	283.5	731.2	0.00	0.00	0.00
7,080.0	0.00	0.00	7,003.1	674.0	283.5	731.2	0.00	0.00	0.00
7,120.0	0.00	0.00	7,043.1	674.0	283.5	731.2	0.00	0.00	0.00
7,123.9	0.00	0.00	7,047.0	674.0	283.5	731.2	0.00	0.00	0.00
NIORARA - LEGAL BOX 400' X 400' 661'FNL & 659'FWL - TARGET CIRCLE 660'FNL & 660'FWL									
7,160.0	0.00	0.00	7,083.1	674.0	283.5	731.2	0.00	0.00	0.00
7,200.0	0.00	0.00	7,123.1	674.0	283.5	731.2	0.00	0.00	0.00
7,240.0	0.00	0.00	7,163.1	674.0	283.5	731.2	0.00	0.00	0.00
7,280.0	0.00	0.00	7,203.1	674.0	283.5	731.2	0.00	0.00	0.00
7,320.0	0.00	0.00	7,243.1	674.0	283.5	731.2	0.00	0.00	0.00
7,360.0	0.00	0.00	7,283.1	674.0	283.5	731.2	0.00	0.00	0.00
7,400.0	0.00	0.00	7,323.1	674.0	283.5	731.2	0.00	0.00	0.00
7,433.9	0.00	0.00	7,357.0	674.0	283.5	731.2	0.00	0.00	0.00
CODELL									
7,440.0	0.00	0.00	7,363.1	674.0	283.5	731.2	0.00	0.00	0.00
7,480.0	0.00	0.00	7,403.1	674.0	283.5	731.2	0.00	0.00	0.00
7,520.0	0.00	0.00	7,443.1	674.0	283.5	731.2	0.00	0.00	0.00
7,560.0	0.00	0.00	7,483.1	674.0	283.5	731.2	0.00	0.00	0.00
7,583.9	0.00	0.00	7,507.0	674.0	283.5	731.2	0.00	0.00	0.00

Database:	Landmark	Local Co-ordinate Reference:	Well Calvary USX EE29-04D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4937.0ft (Original Well Elev)
Project:	SEC.29-T7N-R65W	MD Reference:	WELL @ 4937.0ft (Original Well Elev)
Site:	Donaldson USX EE29-12D Pad Sec.29-T7N-R65W	North Reference:	True
Well:	Calvary USX EE29-04D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Calvary USX EE29-04D Plan #1 (5-04-1		

Targets

Target Name

- hit/miss target	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
- Shape									
LEGAL BOX 400' X 400'	0.00	0.00	7,047.0	673.0	282.5	1,444,732.25	3,223,912.85	40.551397	-104.694223
- plan misses target center by 1.4ft at 7123.9ft MD (7047.0 TVD, 674.0 N, 283.5 E)									
- Rectangle (sides W400.0 H400.0 D460.0)									
TARGET CIRCLE 660'	0.00	0.00	7,047.0	674.0	283.5	1,444,733.27	3,223,913.80	40.551400	-104.694220
- plan hits target center									
- Circle (radius 75.0)									
TARGET BHL 660'FN	0.00	0.00	5,000.0	674.0	283.5	1,444,733.27	3,223,913.80	40.551400	-104.694220
- plan hits target center									
- Point									

Casing Points

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")
650.0	650.0	8 5/8"	8-5/8	12-1/4

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
7,123.9	7,047.0	NIOBRARA		0.00	
7,433.9	7,357.0	CODELL		0.00	