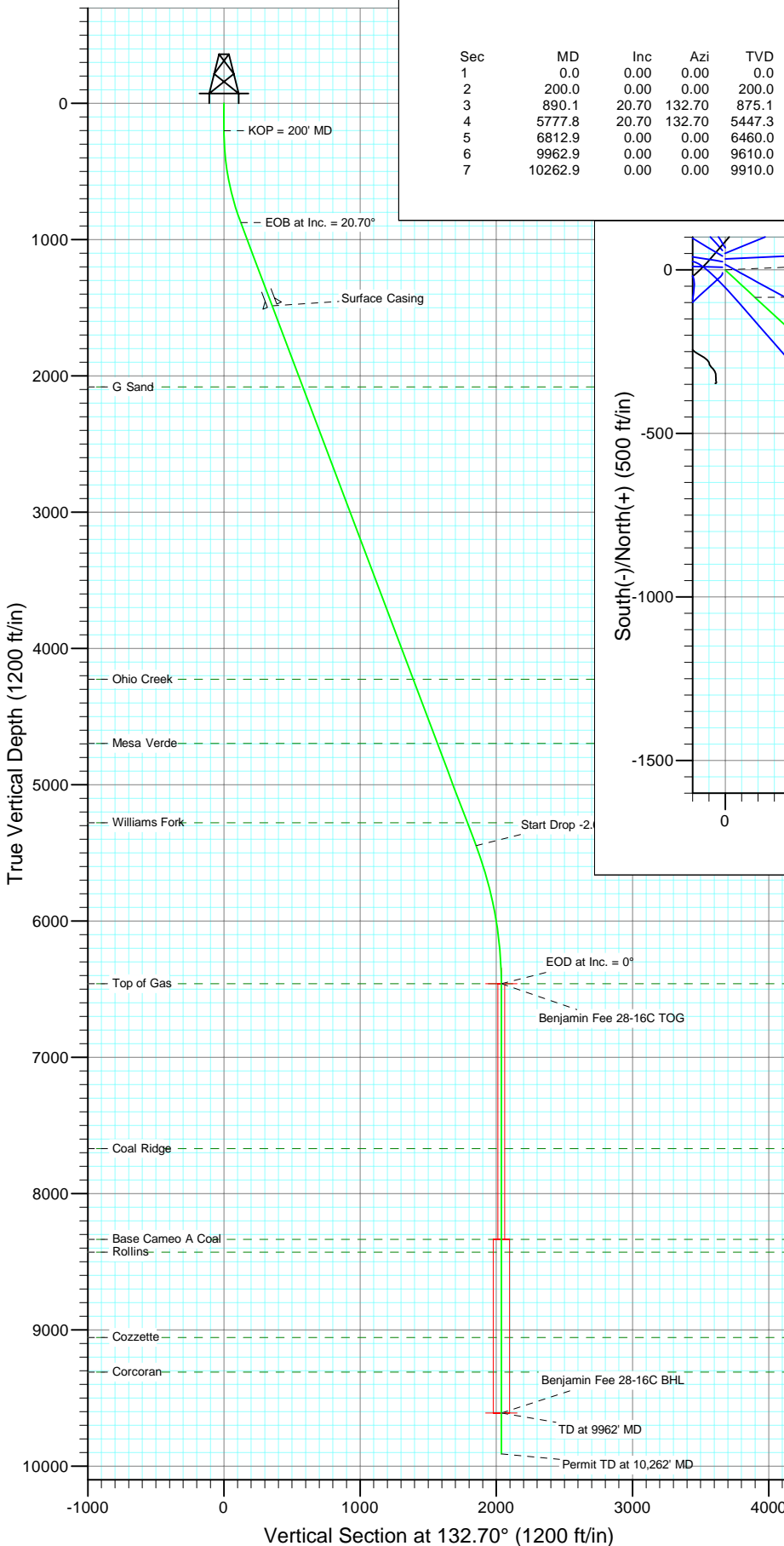


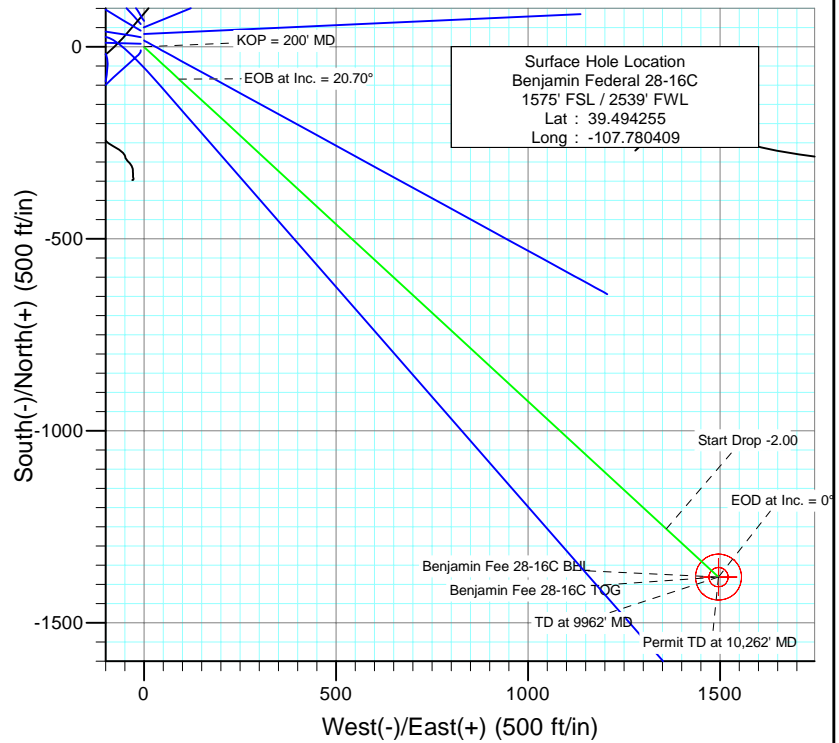


Project: Mamm Creek
Site: K28NW Pad
Well: Benjamin Federal 28-16C
Wellbore: DD
Design: Plan #2



SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	200.0	0.00	0.00	200.0	0.0	0.0	0.00	0.00	0.0	
3	890.1	20.70	132.70	875.1	-83.6	90.6	3.00	132.70	123.3	
4	5777.8	20.70	132.70	5447.3	-1255.4	1360.4	0.00	0.00	1851.1	
5	6812.9	0.00	0.00	6460.0	-1380.8	1496.3	2.00	180.00	2036.1	Benjamin Fee 28-16C TOG
6	9962.9	0.00	0.00	9610.0	-1380.8	1496.3	0.00	0.00	2036.1	Benjamin Fee 28-16C BHL
7	10262.9	0.00	0.00	9910.0	-1380.8	1496.3	0.00	0.00	2036.1	



FORMATION TOP DETAILS

TVDPath	MDPath	Formation
2081.0	2179.1	G Sand
4225.0	4471.1	Ohio Creek
4697.0	4975.7	Mesa Verde
5279.0	5597.9	Williams Fork
6460.0	6812.9	Top of Gas
7669.0	8021.9	Coal Ridge
8335.0	8687.9	Base Cameo A Coal
8430.0	8782.9	Rollins
9055.0	9407.9	Cozzette
9310.0	9662.9	Corcoran



Azimuths to True North
Magnetic North: 10.30°

Magnetic Field
Strength: 52364.6nT
Dip Angle: 65.81°
Date: 11/24/2010
Model: IGRF200510

Plan #2
Benjamin Federal 28-16C
BHL = (180 FSL - 1190 FEL) Job #10xxx: KR
WELL @ 5965.0ft (Original Well Elev)
North American Datum 1983
Well Benjamin Federal 28-16C, True North

Target	Azimuth	Origin Type	N/S	E/W	
Benjamin Fee 28-16C BHL	132.70	Slot	0.0	0.0	
Name	TVD	+N/-S	+E/-W	Latitude	Longitude
		-1380.8	1496.3	39.490464	-107.775107
Benjamin Fee 28-16C BHL	9610.0	-1380.8	1496.3	39.490464	-107.775107

Cathedral Energy Services

Planning Report

Database:	EDM 5000.1 US Multi Users DB	Local Co-ordinate Reference:	Well Benjamin Federal 28-16C
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	WELL @ 5965.0ft (Original Well Elev)
Project:	Mamm Creek	MD Reference:	WELL @ 5965.0ft (Original Well Elev)
Site:	K28NW Pad	North Reference:	True
Well:	Benjamin Federal 28-16C	Survey Calculation Method:	Minimum Curvature
Wellbore:	DD		
Design:	Plan #2		

Project	Mamm Creek		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Central Zone		

Site		K28NW Pad			
Site Position:		Northing:	1,613,160.16 ft	Latitude:	39.494711
From:	Lat/Long	Easting:	2,356,412.22 ft	Longitude:	-107.780819
Position Uncertainty:	0.0 ft	Slot Radius:	13.200 in	Grid Convergence:	-1.44 °

Well	Benjamin Federal 28-16C					
Well Position	+N/-S	0.0 ft	Northing:	1,612,991.16 ft	Latitude:	39.494255
	+E/-W	0.0 ft	Easting:	2,356,523.85 ft	Longitude:	-107.780409
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	5,943.0 ft

Wellbore	DD				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	11/24/2010	10.30	65.81	52,365

Design	Plan #2			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.0	0.0	0.0	132.70

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	
200.0	0.00	0.00	200.0	0.0	0.0	0.00	0.00	0.00	0.00	
890.1	20.70	132.70	875.1	-83.6	90.6	3.00	3.00	0.00	132.70	
5,777.8	20.70	132.70	5,447.3	-1,255.4	1,360.4	0.00	0.00	0.00	0.00	
6,812.9	0.00	0.00	6,460.0	-1,380.8	1,496.3	2.00	-2.00	0.00	180.00	Benjamin Fee 28-16C
9,962.9	0.00	0.00	9,610.0	-1,380.8	1,496.3	0.00	0.00	0.00	0.00	Benjamin Fee 28-16C
10,262.9	0.00	0.00	9,910.0	-1,380.8	1,496.3	0.00	0.00	0.00	0.00	

Cathedral Energy Services

Planning Report

Database:	EDM 5000.1 US Multi Users DB	Local Co-ordinate Reference:	Well Benjamin Federal 28-16C
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	WELL @ 5965.0ft (Original Well Elev)
Project:	Mamm Creek	MD Reference:	WELL @ 5965.0ft (Original Well Elev)
Site:	K28NW Pad	North Reference:	True
Well:	Benjamin Federal 28-16C	Survey Calculation Method:	Minimum Curvature
Wellbore:	DD		
Design:	Plan #2		

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)	Comments / Formations
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	KOP = 200' MD
300.0	3.00	132.70	300.0	-1.8	1.9	2.6	3.00	3.00	
400.0	6.00	132.70	399.6	-7.1	7.7	10.5	3.00	3.00	
500.0	9.00	132.70	498.8	-15.9	17.3	23.5	3.00	3.00	
600.0	12.00	132.70	597.1	-28.3	30.7	41.7	3.00	3.00	
700.0	15.00	132.70	694.3	-44.1	47.8	65.1	3.00	3.00	
800.0	18.00	132.70	790.2	-63.4	68.7	93.5	3.00	3.00	
890.1	20.70	132.70	875.1	-83.6	90.6	123.3	3.00	3.00	EOB at Inc. = 20.70°
900.0	20.70	132.70	884.4	-86.0	93.2	126.8	0.00	0.00	
1,000.0	20.70	132.70	978.0	-110.0	119.2	162.2	0.00	0.00	
1,100.0	20.70	132.70	1,071.5	-134.0	145.2	197.5	0.00	0.00	
1,200.0	20.70	132.70	1,165.1	-157.9	171.1	232.9	0.00	0.00	
1,300.0	20.70	132.70	1,258.6	-181.9	197.1	268.2	0.00	0.00	
1,400.0	20.70	132.70	1,352.2	-205.9	223.1	303.6	0.00	0.00	
1,500.0	20.70	132.70	1,445.7	-229.9	249.1	338.9	0.00	0.00	
1,543.0	20.70	132.70	1,485.9	-240.2	260.3	354.1	0.00	0.00	Surface Casing
1,600.0	20.70	132.70	1,539.2	-253.8	275.1	374.3	0.00	0.00	
1,700.0	20.70	132.70	1,632.8	-277.8	301.0	409.6	0.00	0.00	
1,800.0	20.70	132.70	1,726.3	-301.8	327.0	445.0	0.00	0.00	
1,900.0	20.70	132.70	1,819.9	-325.7	353.0	480.3	0.00	0.00	
2,000.0	20.70	132.70	1,913.4	-349.7	379.0	515.7	0.00	0.00	
2,100.0	20.70	132.70	2,007.0	-373.7	405.0	551.0	0.00	0.00	
2,179.1	20.70	132.70	2,081.0	-392.7	425.5	579.0	0.00	0.00	G Sand
2,200.0	20.70	132.70	2,100.5	-397.7	430.9	586.4	0.00	0.00	
2,300.0	20.70	132.70	2,194.0	-421.6	456.9	621.7	0.00	0.00	
2,400.0	20.70	132.70	2,287.6	-445.6	482.9	657.1	0.00	0.00	
2,500.0	20.70	132.70	2,381.1	-469.6	508.9	692.4	0.00	0.00	
2,600.0	20.70	132.70	2,474.7	-493.6	534.9	727.8	0.00	0.00	
2,700.0	20.70	132.70	2,568.2	-517.5	560.8	763.1	0.00	0.00	
2,800.0	20.70	132.70	2,661.8	-541.5	586.8	798.5	0.00	0.00	
2,900.0	20.70	132.70	2,755.3	-565.5	612.8	833.8	0.00	0.00	
3,000.0	20.70	132.70	2,848.9	-589.5	638.8	869.2	0.00	0.00	
3,100.0	20.70	132.70	2,942.4	-613.4	664.7	904.5	0.00	0.00	
3,200.0	20.70	132.70	3,035.9	-637.4	690.7	939.9	0.00	0.00	
3,300.0	20.70	132.70	3,129.5	-661.4	716.7	975.2	0.00	0.00	
3,400.0	20.70	132.70	3,223.0	-685.3	742.7	1,010.6	0.00	0.00	
3,500.0	20.70	132.70	3,316.6	-709.3	768.7	1,045.9	0.00	0.00	
3,600.0	20.70	132.70	3,410.1	-733.3	794.6	1,081.3	0.00	0.00	
3,700.0	20.70	132.70	3,503.7	-757.3	820.6	1,116.6	0.00	0.00	
3,800.0	20.70	132.70	3,597.2	-781.2	846.6	1,152.0	0.00	0.00	
3,900.0	20.70	132.70	3,690.7	-805.2	872.6	1,187.3	0.00	0.00	
4,000.0	20.70	132.70	3,784.3	-829.2	898.6	1,222.7	0.00	0.00	
4,100.0	20.70	132.70	3,877.8	-853.2	924.5	1,258.0	0.00	0.00	
4,200.0	20.70	132.70	3,971.4	-877.1	950.5	1,293.4	0.00	0.00	
4,300.0	20.70	132.70	4,064.9	-901.1	976.5	1,328.7	0.00	0.00	
4,400.0	20.70	132.70	4,158.5	-925.1	1,002.5	1,364.1	0.00	0.00	
4,471.1	20.70	132.70	4,225.0	-942.1	1,021.0	1,389.2	0.00	0.00	Ohio Creek
4,500.0	20.70	132.70	4,252.0	-949.1	1,028.5	1,399.4	0.00	0.00	
4,600.0	20.70	132.70	4,345.5	-973.0	1,054.4	1,434.8	0.00	0.00	
4,700.0	20.70	132.70	4,439.1	-997.0	1,080.4	1,470.1	0.00	0.00	

Cathedral Energy Services

Planning Report

Database:	EDM 5000.1 US Multi Users DB	Local Co-ordinate Reference:	Well Benjamin Federal 28-16C
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	WELL @ 5965.0ft (Original Well Elev)
Project:	Mamm Creek	MD Reference:	WELL @ 5965.0ft (Original Well Elev)
Site:	K28NW Pad	North Reference:	True
Well:	Benjamin Federal 28-16C	Survey Calculation Method:	Minimum Curvature
Wellbore:	DD		
Design:	Plan #2		

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)	Comments / Formations
4,800.0	20.70	132.70	4,532.6	-1,021.0	1,106.4	1,505.5	0.00	0.00	
4,900.0	20.70	132.70	4,626.2	-1,044.9	1,132.4	1,540.8	0.00	0.00	
4,975.7	20.70	132.70	4,697.0	-1,063.1	1,152.0	1,567.6	0.00	0.00	Mesa Verde
5,000.0	20.70	132.70	4,719.7	-1,068.9	1,158.3	1,576.2	0.00	0.00	
5,100.0	20.70	132.70	4,813.3	-1,092.9	1,184.3	1,611.5	0.00	0.00	
5,200.0	20.70	132.70	4,906.8	-1,116.9	1,210.3	1,646.9	0.00	0.00	
5,300.0	20.70	132.70	5,000.3	-1,140.8	1,236.3	1,682.2	0.00	0.00	
5,400.0	20.70	132.70	5,093.9	-1,164.8	1,262.3	1,717.6	0.00	0.00	
5,500.0	20.70	132.70	5,187.4	-1,188.8	1,288.2	1,752.9	0.00	0.00	
5,597.9	20.70	132.70	5,279.0	-1,212.3	1,313.7	1,787.5	0.00	0.00	Williams Fork
5,600.0	20.70	132.70	5,281.0	-1,212.8	1,314.2	1,788.3	0.00	0.00	
5,700.0	20.70	132.70	5,374.5	-1,236.7	1,340.2	1,823.6	0.00	0.00	
5,777.8	20.70	132.70	5,447.3	-1,255.4	1,360.4	1,851.1	0.00	0.00	Start Drop -2.00
5,800.0	20.26	132.70	5,468.1	-1,260.7	1,366.1	1,858.9	2.00	-2.00	
5,900.0	18.26	132.70	5,562.5	-1,283.0	1,390.4	1,891.9	2.00	-2.00	
6,000.0	16.26	132.70	5,658.0	-1,303.1	1,412.2	1,921.6	2.00	-2.00	
6,100.0	14.26	132.70	5,754.5	-1,321.0	1,431.5	1,947.9	2.00	-2.00	
6,200.0	12.26	132.70	5,851.8	-1,336.5	1,448.4	1,970.8	2.00	-2.00	
6,300.0	10.26	132.70	5,949.9	-1,349.8	1,462.7	1,990.3	2.00	-2.00	
6,400.0	8.26	132.70	6,048.6	-1,360.7	1,474.5	2,006.4	2.00	-2.00	
6,500.0	6.26	132.70	6,147.7	-1,369.3	1,483.8	2,019.0	2.00	-2.00	
6,600.0	4.26	132.70	6,247.3	-1,375.5	1,490.5	2,028.2	2.00	-2.00	
6,700.0	2.26	132.70	6,347.2	-1,379.3	1,494.7	2,033.9	2.00	-2.00	
6,800.0	0.26	132.70	6,447.1	-1,380.8	1,496.3	2,036.1	2.00	-2.00	
6,812.9	0.00	0.00	6,460.0	-1,380.8	1,496.3	2,036.1	2.00	-2.00	EOD at Inc. = 0° - Top of Gas - Benjamin Fee 2
6,900.0	0.00	0.00	6,547.1	-1,380.8	1,496.3	2,036.1	0.00	0.00	
7,000.0	0.00	0.00	6,647.1	-1,380.8	1,496.3	2,036.1	0.00	0.00	
7,100.0	0.00	0.00	6,747.1	-1,380.8	1,496.3	2,036.1	0.00	0.00	
7,200.0	0.00	0.00	6,847.1	-1,380.8	1,496.3	2,036.1	0.00	0.00	
7,300.0	0.00	0.00	6,947.1	-1,380.8	1,496.3	2,036.1	0.00	0.00	
7,400.0	0.00	0.00	7,047.1	-1,380.8	1,496.3	2,036.1	0.00	0.00	
7,500.0	0.00	0.00	7,147.1	-1,380.8	1,496.3	2,036.1	0.00	0.00	
7,600.0	0.00	0.00	7,247.1	-1,380.8	1,496.3	2,036.1	0.00	0.00	
7,700.0	0.00	0.00	7,347.1	-1,380.8	1,496.3	2,036.1	0.00	0.00	
7,800.0	0.00	0.00	7,447.1	-1,380.8	1,496.3	2,036.1	0.00	0.00	
7,900.0	0.00	0.00	7,547.1	-1,380.8	1,496.3	2,036.1	0.00	0.00	
8,000.0	0.00	0.00	7,647.1	-1,380.8	1,496.3	2,036.1	0.00	0.00	
8,021.9	0.00	0.00	7,669.0	-1,380.8	1,496.3	2,036.1	0.00	0.00	Coal Ridge
8,100.0	0.00	0.00	7,747.1	-1,380.8	1,496.3	2,036.1	0.00	0.00	
8,200.0	0.00	0.00	7,847.1	-1,380.8	1,496.3	2,036.1	0.00	0.00	
8,300.0	0.00	0.00	7,947.1	-1,380.8	1,496.3	2,036.1	0.00	0.00	
8,400.0	0.00	0.00	8,047.1	-1,380.8	1,496.3	2,036.1	0.00	0.00	
8,500.0	0.00	0.00	8,147.1	-1,380.8	1,496.3	2,036.1	0.00	0.00	
8,600.0	0.00	0.00	8,247.1	-1,380.8	1,496.3	2,036.1	0.00	0.00	
8,687.9	0.00	0.00	8,335.0	-1,380.8	1,496.3	2,036.1	0.00	0.00	Base Cameo A Coal
8,700.0	0.00	0.00	8,347.1	-1,380.8	1,496.3	2,036.1	0.00	0.00	
8,782.9	0.00	0.00	8,430.0	-1,380.8	1,496.3	2,036.1	0.00	0.00	Rollins
8,800.0	0.00	0.00	8,447.1	-1,380.8	1,496.3	2,036.1	0.00	0.00	
8,900.0	0.00	0.00	8,547.1	-1,380.8	1,496.3	2,036.1	0.00	0.00	
9,000.0	0.00	0.00	8,647.1	-1,380.8	1,496.3	2,036.1	0.00	0.00	
9,100.0	0.00	0.00	8,747.1	-1,380.8	1,496.3	2,036.1	0.00	0.00	
9,200.0	0.00	0.00	8,847.1	-1,380.8	1,496.3	2,036.1	0.00	0.00	

Cathedral Energy Services

Planning Report

Database:	EDM 5000.1 US Multi Users DB	Local Co-ordinate Reference:	Well Benjamin Federal 28-16C
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	WELL @ 5965.0ft (Original Well Elev)
Project:	Mamm Creek	MD Reference:	WELL @ 5965.0ft (Original Well Elev)
Site:	K28NW Pad	North Reference:	True
Well:	Benjamin Federal 28-16C	Survey Calculation Method:	Minimum Curvature
Wellbore:	DD		
Design:	Plan #2		

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)	Comments / Formations
9,300.0	0.00	0.00	8,947.1	-1,380.8	1,496.3	2,036.1	0.00	0.00	
9,400.0	0.00	0.00	9,047.1	-1,380.8	1,496.3	2,036.1	0.00	0.00	
9,407.9	0.00	0.00	9,055.0	-1,380.8	1,496.3	2,036.1	0.00	0.00	Cozzette
9,500.0	0.00	0.00	9,147.1	-1,380.8	1,496.3	2,036.1	0.00	0.00	
9,600.0	0.00	0.00	9,247.1	-1,380.8	1,496.3	2,036.1	0.00	0.00	
9,662.9	0.00	0.00	9,310.0	-1,380.8	1,496.3	2,036.1	0.00	0.00	Corcoran
9,700.0	0.00	0.00	9,347.1	-1,380.8	1,496.3	2,036.1	0.00	0.00	
9,800.0	0.00	0.00	9,447.1	-1,380.8	1,496.3	2,036.1	0.00	0.00	
9,900.0	0.00	0.00	9,547.1	-1,380.8	1,496.3	2,036.1	0.00	0.00	
9,962.9	0.00	0.00	9,610.0	-1,380.8	1,496.3	2,036.1	0.00	0.00	TD at 9962' MD - Benjamin Fee 28-16C BHL
10,000.0	0.00	0.00	9,647.1	-1,380.8	1,496.3	2,036.1	0.00	0.00	
10,100.0	0.00	0.00	9,747.1	-1,380.8	1,496.3	2,036.1	0.00	0.00	
10,200.0	0.00	0.00	9,847.1	-1,380.8	1,496.3	2,036.1	0.00	0.00	
10,262.9	0.00	0.00	9,910.0	-1,380.8	1,496.3	2,036.1	0.00	0.00	Permit TD at 10,262' MD

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									
Benjamin Fee 28-16C T1 - plan hits target center - Circle (radius 25.0)	0.00	0.00	6,460.0	-1,380.8	1,496.3	1,611,573.21	2,357,985.06	39.490464	-107.775107
Benjamin Fee 28-16C B - plan hits target center - Circle (radius 60.0)	0.00	0.00	9,610.0	-1,380.8	1,496.3	1,611,573.21	2,357,985.06	39.490464	-107.775107

Casing Points

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)
1,543.0	1,485.9	Surface Casing		

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
2,179.1	2,081.0	G Sand			
4,471.1	4,225.0	Ohio Creek			
4,975.7	4,697.0	Mesa Verde			
5,597.9	5,279.0	Williams Fork			
6,812.9	6,460.0	Top of Gas			
8,021.9	7,669.0	Coal Ridge			
8,687.9	8,335.0	Base Cameo A Coal			
8,782.9	8,430.0	Rollins			
9,407.9	9,055.0	Cozzette			
9,662.9	9,310.0	Corcoran			

Cathedral Energy Services

Planning Report

Database:	EDM 5000.1 US Multi Users DB	Local Co-ordinate Reference:	Well Benjamin Federal 28-16C
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	WELL @ 5965.0ft (Original Well Elev)
Project:	Mamm Creek	MD Reference:	WELL @ 5965.0ft (Original Well Elev)
Site:	K28NW Pad	North Reference:	True
Well:	Benjamin Federal 28-16C	Survey Calculation Method:	Minimum Curvature
Wellbore:	DD		
Design:	Plan #2		

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
200.0	200.0	0.0	0.0	KOP = 200' MD
890.1	875.1	-83.6	90.6	EOB at Inc. = 20.70°
5,777.8	5,447.3	-1,255.4	1,360.4	Start Drop -2.00
6,812.9	6,460.0	-1,380.8	1,496.3	EOD at Inc. = 0°
9,962.9	9,610.0	-1,380.8	1,496.3	TD at 9962' MD
10,262.9	9,910.0	-1,380.8	1,496.3	Permit TD at 10,262' MD

EnCana Oil & Gas (USA) Inc

Mamm Creek

K28NW Pad

Benjamin Federal 28-16C

DD

Plan #2

Anticollision Report

23 November, 2010

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Benjamin Federal 28-16C
Project:	Mamm Creek	TVD Reference:	WELL @ 5965.0ft (Original Well Elev)
Reference Site:	K28NW Pad	MD Reference:	WELL @ 5965.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Benjamin Federal 28-16C	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 5000.1 US Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Reference	Plan #2
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria
Interpolation Method:	Stations
Depth Range:	0.0 to 99,999.0ft
Results Limited by:	Maximum center-center distance of 828.6ft
Warning Levels Evaluated at:	2.00 Sigma
Error Model:	Systematic Ellipse
Scan Method:	Closest Approach 3D
Error Surface:	Elliptical Conic

Survey Tool Program	Date	11/23/2010
From (ft)	To (ft)	Survey (Wellbore)
0.0	10,262.8	Plan #2 (DD)
		Tool Name
		MWD
		Description
		Geolink MWD

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Benjamin Federal 28-16C
Project:	Mamm Creek	TVD Reference:	WELL @ 5965.0ft (Original Well Elev)
Reference Site:	K28NW Pad	MD Reference:	WELL @ 5965.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Benjamin Federal 28-16C	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 5000.1 US Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Summary

Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
K28NW Pad						
Benjamin 28-11 Existing - Existing - Existing	0.0	0.0	124.8			
Benjamin 28-11 Existing - Existing - Existing	100.0	99.4	125.0	124.7	460.055	ES
Benjamin 28-11 Existing - Existing - Existing	890.1	872.7	209.0	205.3	56.725	SF
Benjamin Federal 28-12B2 - DD - Plan #2	200.0	200.0	26.8	26.2	43.097	CC, ES
Benjamin Federal 28-12B2 - DD - Plan #2	300.0	299.1	30.4	29.5	31.204	SF
Benjamin Federal 28-12C1 - DD - Plan #2	200.0	200.0	11.7	11.1	18.849	CC, ES
Benjamin Federal 28-12C1 - DD - Plan #2	300.0	300.0	14.3	13.4	14.776	SF
Benjamin Federal 28-12C2 - DD - Plan #2	200.0	200.0	134.3	133.7	216.185	CC, ES
Benjamin Federal 28-12C2 - DD - Plan #2	700.0	650.7	244.7	242.2	99.007	SF
Benjamin Federal 28-13B1 - DD - Plan #2	200.0	200.0	123.3	122.7	198.472	CC, ES
Benjamin Federal 28-13B1 - DD - Plan #2	700.0	656.3	229.6	227.1	89.769	SF
Benjamin Federal 28-13B2 - DD - Plan #2	200.0	200.0	126.7	126.1	203.918	CC, ES
Benjamin Federal 28-13B2 - DD - Plan #2	800.0	739.7	273.6	270.5	87.040	SF
Benjamin Federal 28-13C1 - DD - Plan #2	200.0	200.0	116.0	115.3	186.634	CC, ES
Benjamin Federal 28-13C1 - DD - Plan #2	1,700.0	1,440.5	770.0	760.0	77.634	SF
Benjamin Federal 28-13C2 - DD - Plan #2	200.0	200.0	120.8	120.2	194.472	CC, ES
Benjamin Federal 28-13C2 - DD - Plan #2	1,800.0	1,519.8	820.1	808.7	71.906	SF
Benjamin Federal 28-14B1 - DD - Plan #2	200.0	200.0	12.0	11.4	19.273	CC, ES
Benjamin Federal 28-14B1 - DD - Plan #2	300.0	299.2	15.0	14.0	15.312	SF
Benjamin Federal 28-14B2 - DD - Plan #2	200.0	200.0	116.0	115.4	186.674	CC, ES
Benjamin Federal 28-14B2 - DD - Plan #2	2,600.0	2,469.6	828.2	812.8	54.034	SF
Benjamin Federal 28-14C - DD - Plan #2	200.0	200.0	108.3	107.7	174.327	CC, ES
Benjamin Federal 28-14C - DD - Plan #2	2,600.0	2,478.5	801.6	783.6	44.494	SF
Benjamin Federal 33-3B - DD - Plan #2	200.0	200.0	108.3	107.7	174.374	CC, ES
Benjamin Federal 33-3B - DD - Plan #2	2,600.0	2,466.8	800.7	778.3	35.732	SF
Benjamin Federal 33-4B - DD - Plan #2	200.0	200.0	117.2	116.6	188.611	CC, ES
Benjamin Federal 33-4B - DD - Plan #2	1,800.0	1,511.5	805.8	793.8	67.126	SF
Benjamin Fee 28-10D2 - DD - Plan #2	200.0	200.0	33.9	33.3	54.518	CC, ES
Benjamin Fee 28-10D2 - DD - Plan #2	700.0	695.9	81.6	78.3	24.726	SF
Benjamin Fee 28-11A - DD - Plan #2	200.0	200.0	43.0	42.4	69.265	CC, ES
Benjamin Fee 28-11A - DD - Plan #2	400.0	395.0	59.9	58.5	44.859	SF
Benjamin Fee 28-11B - DD - Plan #2	200.0	200.0	59.9	59.3	96.457	CC, ES
Benjamin Fee 28-11B - DD - Plan #2	400.0	392.9	77.4	76.0	58.250	SF
Benjamin Fee 28-15A - DD - Plan #2	200.0	200.0	16.8	16.1	26.966	CC, ES
Benjamin Fee 28-15A - DD - Plan #2	700.0	701.4	31.1	27.7	8.970	SF
Benjamin Fee 28-6C - DD - Plan #2	200.0	200.0	67.7	67.1	109.037	CC, ES
Benjamin Fee 28-6C - DD - Plan #2	500.0	484.6	106.7	105.0	62.804	SF
Benjamin Fee 28-9B - DD - Plan #2	200.0	200.0	51.0	50.4	82.071	CC, ES
Benjamin Fee 28-9B - DD - Plan #2	890.1	867.2	175.9	171.1	36.608	SF
Benjamin Fee 33-1B - DD - Plan #2	200.0	200.0	111.0	110.3	178.585	CC
Benjamin Fee 33-1B - DD - Plan #2	3,000.0	3,054.6	130.4	96.8	3.881	ES
Benjamin Fee 33-1B - DD - Plan #2	3,500.0	3,552.6	147.3	105.4	3.514	SF
GMR 28-7D Existing - DD - Schlumberger Surveys	438.7	448.1	101.8	100.2	64.095	CC, ES
GMR 28-7D Existing - DD - Schlumberger Surveys	700.0	705.1	125.4	122.6	43.921	SF
GMU 28-14D Existing - Schlumberger Surveys - Schlumb	207.2	207.4	141.2	140.6	215.258	CC, ES
GMU 28-14D Existing - Schlumberger Surveys - Schlumb	2,300.0	2,086.6	811.8	798.0	58.791	SF
SWSW S27-T6S-R93W (M27NW Pad)						
GMR 28-10D (M27NW) Existing - DD - DD						Out of range
GMR 28-16D (M27NW) Existing - DD - DD						Out of range

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Benjamin Federal 28-16C
Project:	Mamm Creek	TVD Reference:	WELL @ 5965.0ft (Original Well Elev)
Reference Site:	K28NW Pad	MD Reference:	WELL @ 5965.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Benjamin Federal 28-16C	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 5000.1 US Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design K28NW Pad - Benjamin 28-11 Existing - Existing - Existing													Offset Site Error:	0.0 ft
Survey Program: 100-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor		
0.0	0.0	0.0	0.0	0.0	0.0	-111.81	-46.3	-115.8	124.8					
100.0	100.0	99.4	99.4	0.1	0.1	-111.85	-46.5	-116.0	125.0	124.7	0.27	460.055 ES		
200.0	200.0	199.5	199.5	0.3	0.3	-112.01	-47.0	-116.3	125.4	124.8	0.62	201.971		
300.0	300.0	299.9	299.9	0.5	0.5	115.94	-47.9	-116.2	126.8	125.8	0.98	129.650		
400.0	399.6	400.0	400.0	0.7	0.7	118.24	-49.3	-115.4	130.2	128.8	1.37	95.344		
500.0	498.8	498.5	498.5	1.0	0.8	121.84	-51.6	-114.6	136.6	134.8	1.79	76.177		
600.0	597.1	595.9	595.8	1.4	1.0	126.39	-54.5	-114.5	147.5	145.2	2.26	65.322		
700.0	694.3	692.3	692.1	1.8	1.2	131.35	-57.8	-115.1	163.6	160.8	2.75	59.525		
800.0	790.2	788.1	787.8	2.4	1.4	136.21	-61.8	-116.3	185.0	181.7	3.24	57.016		
890.1	875.1	872.7	872.4	2.9	1.5	140.27	-65.4	-117.5	209.0	205.3	3.68	56.725 SF		
900.0	884.4	882.0	881.7	3.0	1.5	140.74	-65.8	-117.7	211.9	208.1	3.73	56.805		
1,000.0	978.0	974.8	974.3	3.6	1.7	144.83	-70.1	-119.6	242.1	237.9	4.18	57.936		
1,100.0	1,071.5	1,068.1	1,067.5	4.3	1.9	148.01	-74.4	-121.9	273.6	269.0	4.61	59.392		
1,200.0	1,165.1	1,161.1	1,160.4	4.9	2.1	150.54	-78.8	-124.4	306.0	300.9	5.02	60.936		
1,300.0	1,258.6	1,254.8	1,253.9	5.6	2.3	152.60	-83.0	-127.0	338.9	333.5	5.43	62.473		
1,400.0	1,352.2	1,348.3	1,347.3	6.2	2.5	154.27	-87.5	-129.7	372.2	366.4	5.83	63.895		
1,500.0	1,445.7	1,443.0	1,441.9	6.9	2.6	155.67	-92.0	-132.6	405.8	399.6	6.22	65.211		
1,600.0	1,539.2	1,540.2	1,538.9	7.5	2.8	156.88	-97.0	-134.9	439.0	432.3	6.62	66.301		
1,700.0	1,632.8	1,636.5	1,635.0	8.2	3.0	157.91	-102.1	-136.7	471.7	464.7	7.01	67.244		
1,800.0	1,726.3	1,732.3	1,730.7	8.9	3.2	158.83	-107.0	-138.0	504.2	496.8	7.40	68.122		
1,900.0	1,819.9	1,828.3	1,826.6	9.5	3.4	159.67	-111.9	-139.0	536.5	528.7	7.78	68.934		
2,000.0	1,913.4	1,923.9	1,922.1	10.2	3.6	160.41	-116.8	-139.7	568.7	560.5	8.16	69.681		
2,100.0	2,007.0	2,020.6	2,018.6	10.8	3.8	161.09	-121.7	-140.1	600.6	592.1	8.54	70.351		
2,200.0	2,100.5	2,116.6	2,114.5	11.5	4.0	161.72	-126.6	-140.2	632.3	623.4	8.91	70.984		
2,300.0	2,194.0	2,213.1	2,210.9	12.2	4.1	162.30	-131.5	-140.0	663.9	654.6	9.28	71.567		
2,400.0	2,287.6	2,310.1	2,307.7	12.8	4.3	162.85	-136.4	-139.5	695.2	685.6	9.64	72.124		
2,500.0	2,381.1	2,406.0	2,403.6	13.5	4.5	163.36	-141.1	-138.6	726.4	716.4	10.00	72.656		
2,600.0	2,474.7	2,500.9	2,498.3	14.1	4.7	163.85	-145.5	-137.6	757.5	747.2	10.35	73.207		
2,700.0	2,568.2	2,596.3	2,593.6	14.8	4.9	164.33	-149.7	-136.4	788.7	778.0	10.69	73.749		
2,800.0	2,661.8	2,692.0	2,689.2	15.4	5.0	164.77	-154.0	-135.1	819.8	808.7	11.04	74.252		

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Benjamin Federal 28-16C
Project:	Mamm Creek	TVD Reference:	WELL @ 5965.0ft (Original Well Elev)
Reference Site:	K28NW Pad	MD Reference:	WELL @ 5965.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Benjamin Federal 28-16C	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 5000.1 US Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design K28NW Pad - Benjamin Federal 28-12B2 - DD - Plan #2													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance					Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor		
0.0	0.0	0.0	0.0	0.0	0.0	-17.80	25.5	-8.2	26.8					
100.0	100.0	100.0	100.0	0.1	0.1	-17.80	25.5	-8.2	26.8	26.5	0.27	98.351		
200.0	200.0	200.0	200.0	0.3	0.3	-17.80	25.5	-8.2	26.8	26.2	0.62	43.097 CC, ES		
300.0	300.0	299.1	299.1	0.5	0.5	-157.21	25.9	-10.7	30.4	29.5	0.98	31.204 SF		
400.0	399.6	396.8	396.4	0.7	0.7	-169.72	27.1	-18.2	43.0	41.6	1.34	32.124		
500.0	498.8	491.6	490.5	1.0	1.0	-179.25	28.9	-30.1	65.8	64.1	1.69	38.850		
600.0	597.1	582.4	579.9	1.4	1.3	174.95	31.4	-45.9	98.6	96.6	2.04	48.229		
700.0	694.3	668.2	663.5	1.8	1.7	171.42	34.3	-64.6	140.5	138.1	2.39	58.740		
800.0	790.2	748.1	740.6	2.4	2.1	169.12	37.6	-85.4	190.7	188.0	2.74	69.667		
890.1	875.1	814.8	804.2	2.9	2.5	167.60	40.7	-105.1	242.5	239.4	3.05	79.577		
900.0	884.4	821.9	810.9	3.0	2.5	167.50	41.0	-107.3	248.5	245.4	3.09	80.547		
1,000.0	978.0	890.7	875.7	3.6	3.0	166.61	44.6	-130.2	310.7	307.3	3.47	89.609		
1,100.0	1,071.5	955.8	936.3	4.3	3.4	165.85	48.3	-154.0	375.6	371.7	3.86	97.413		
1,200.0	1,165.1	1,026.4	1,001.1	4.9	3.9	165.13	52.6	-181.5	442.2	438.0	4.26	103.744		
1,300.0	1,258.6	1,100.7	1,069.3	5.6	4.5	164.57	57.1	-210.5	509.1	504.4	4.68	108.704		
1,400.0	1,352.2	1,175.0	1,137.6	6.2	5.1	164.13	61.7	-239.5	575.9	570.8	5.11	112.772		
1,500.0	1,445.7	1,249.3	1,205.8	6.9	5.6	163.78	66.2	-268.6	642.8	637.2	5.53	116.177		
1,600.0	1,539.2	1,323.6	1,274.1	7.5	6.2	163.50	70.8	-297.6	709.7	703.7	5.96	119.064		
1,700.0	1,632.8	1,397.9	1,342.3	8.2	6.7	163.27	75.3	-326.6	776.5	770.2	6.39	121.540		

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Benjamin Federal 28-16C
Project:	Mamm Creek	TVD Reference:	WELL @ 5965.0ft (Original Well Elev)
Reference Site:	K28NW Pad	MD Reference:	WELL @ 5965.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Benjamin Federal 28-16C	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 5000.1 US Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design K28NW Pad - Benjamin Federal 28-12C1 - DD - Plan #2													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance					Separation Factor	Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis			
0.0	0.0	0.0	0.0	0.0	0.0	-44.33	8.4	-8.2	11.7					
100.0	100.0	100.0	100.0	0.1	0.1	-44.33	8.4	-8.2	11.7	11.4	0.27	43.014		
200.0	200.0	200.0	200.0	0.3	0.3	-44.33	8.4	-8.2	11.7	11.1	0.62	18.849 CC, ES		
300.0	300.0	300.0	300.0	0.5	0.5	-177.57	8.4	-8.2	14.3	13.4	0.97	14.776 SF		
400.0	399.6	399.6	399.6	0.7	0.7	-178.42	8.4	-8.2	22.2	20.9	1.32	16.856		
500.0	498.8	498.8	498.8	1.0	0.8	-179.00	8.4	-8.2	35.2	33.6	1.66	21.261		
600.0	597.1	597.1	597.1	1.4	1.0	-179.34	8.4	-8.2	53.4	51.4	1.99	26.827		
700.0	694.3	694.3	694.3	1.8	1.2	-179.53	8.4	-8.2	76.8	74.5	2.32	33.090		
800.0	790.2	788.6	788.6	2.4	1.3	-179.80	8.4	-8.6	105.5	102.8	2.64	39.995		
890.1	875.1	868.7	868.6	2.9	1.5	179.17	8.5	-11.9	137.9	135.0	2.91	47.390		
900.0	884.4	877.4	877.3	3.0	1.5	179.03	8.5	-12.4	141.9	139.0	2.94	48.212		
1,000.0	978.0	962.6	962.2	3.6	1.7	177.50	8.6	-20.0	183.6	180.3	3.28	56.018		
1,100.0	1,071.5	1,044.8	1,043.7	4.3	1.9	175.91	8.9	-30.9	228.4	224.8	3.62	63.073		
1,200.0	1,165.1	1,124.0	1,121.6	4.9	2.1	174.36	9.1	-44.7	276.4	272.4	3.98	69.433		
1,300.0	1,258.6	1,200.0	1,195.8	5.6	2.3	172.92	9.5	-60.9	327.4	323.0	4.36	75.162		
1,400.0	1,352.2	1,272.6	1,266.1	6.2	2.7	171.59	9.9	-79.2	381.2	376.5	4.75	80.219		
1,500.0	1,445.7	1,342.0	1,332.6	6.9	3.0	170.37	10.3	-99.2	437.9	432.7	5.16	84.803		
1,600.0	1,539.2	1,400.0	1,387.5	7.5	3.3	169.39	10.7	-117.7	497.2	491.7	5.56	89.502		
1,700.0	1,632.8	1,471.4	1,454.3	8.2	3.7	168.23	11.2	-142.8	558.9	552.8	6.02	92.826		
1,800.0	1,726.3	1,531.5	1,509.8	8.9	4.2	167.30	11.7	-165.8	622.9	616.4	6.46	96.367		
1,900.0	1,819.9	1,588.6	1,561.9	9.5	4.6	166.46	12.2	-189.3	689.1	682.2	6.91	99.700		
2,000.0	1,913.4	1,654.5	1,621.3	10.2	5.1	165.55	12.8	-217.9	756.9	749.5	7.40	102.283		
2,100.0	2,007.0	1,727.2	1,686.8	10.8	5.7	164.69	13.4	-249.5	825.1	817.1	7.92	104.216		

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Benjamin Federal 28-16C
Project:	Mamm Creek	TVD Reference:	WELL @ 5965.0ft (Original Well Elev)
Reference Site:	K28NW Pad	MD Reference:	WELL @ 5965.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Benjamin Federal 28-16C	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 5000.1 US Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design K28NW Pad - Benjamin Federal 28-12C2 - DD - Plan #2													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor		
0.0	0.0	0.0	0.0	0.0	0.0	-59.71	67.7	-116.0	134.3					
100.0	100.0	100.0	100.0	0.1	0.1	-59.71	67.7	-116.0	134.3	134.1	0.27	493.346		
200.0	200.0	200.0	200.0	0.3	0.3	-59.71	67.7	-116.0	134.3	133.7	0.62	216.185 CC, ES		
300.0	300.0	294.6	294.6	0.5	0.5	167.17	67.4	-118.3	138.8	137.9	0.96	144.046		
400.0	399.6	388.0	387.7	0.7	0.7	166.07	66.4	-125.1	152.3	151.0	1.32	115.716		
500.0	498.8	479.2	478.2	1.0	0.9	164.59	64.8	-136.1	174.6	172.9	1.68	103.720		
600.0	597.1	567.0	564.7	1.4	1.2	163.01	62.6	-150.8	205.5	203.4	2.07	99.375		
700.0	694.3	650.7	646.5	1.8	1.6	161.49	60.0	-168.4	244.7	242.2	2.47	99.007 SF		
800.0	790.2	729.6	722.9	2.4	2.0	160.09	57.1	-188.2	291.6	288.7	2.89	100.780		
890.1	875.1	800.0	790.2	2.9	2.4	158.87	54.1	-208.5	340.1	336.8	3.30	103.067		
900.0	884.4	800.0	790.2	3.0	2.4	158.87	54.1	-208.5	345.7	342.4	3.33	103.931		
1,000.0	978.0	872.7	858.9	3.6	2.8	158.26	50.6	-232.0	404.1	400.3	3.83	105.599		
1,100.0	1,071.5	940.2	921.8	4.3	3.3	157.62	47.1	-256.1	465.0	460.6	4.33	107.485		
1,200.0	1,165.1	1,018.6	994.5	4.9	3.8	156.95	42.8	-285.2	526.9	522.0	4.87	108.151		
1,300.0	1,258.6	1,097.1	1,067.2	5.6	4.4	156.43	38.5	-314.2	588.8	583.4	5.42	108.580		
1,400.0	1,352.2	1,175.5	1,140.0	6.2	4.9	156.01	34.2	-343.3	650.7	644.8	5.98	108.855		
1,500.0	1,445.7	1,253.9	1,212.7	6.9	5.5	155.66	29.9	-372.4	712.7	706.2	6.54	109.038		
1,600.0	1,539.2	1,332.3	1,285.4	7.5	6.1	155.36	25.6	-401.4	774.7	767.6	7.10	109.160		

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Benjamin Federal 28-16C
Project:	Mamm Creek	TVD Reference:	WELL @ 5965.0ft (Original Well Elev)
Reference Site:	K28NW Pad	MD Reference:	WELL @ 5965.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Benjamin Federal 28-16C	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 5000.1 US Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design K28NW Pad - Benjamin Federal 28-13B1 - DD - Plan #2													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Total Uncertainty Axis	Separation Factor	Warning			
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Between Centres (ft)	Between Ellipses (ft)						
0.0	0.0	0.0	0.0	0.0	0.0	-61.22	59.4	-108.1	123.3					
100.0	100.0	100.0	100.0	0.1	0.1	-61.22	59.4	-108.1	123.3	123.0	0.27	452.924		
200.0	200.0	200.0	200.0	0.3	0.3	-61.22	59.4	-108.1	123.3	122.7	0.62	198.472	CC, ES	
300.0	300.0	295.5	295.4	0.5	0.5	165.55	58.7	-110.4	127.6	126.6	0.97	132.063		
400.0	399.6	389.9	389.5	0.7	0.7	164.16	56.7	-117.1	140.5	139.2	1.33	105.972		
500.0	498.8	482.1	481.0	1.0	0.9	162.31	53.4	-128.0	161.9	160.2	1.71	94.795		
600.0	597.1	571.2	568.8	1.4	1.3	160.36	49.0	-142.5	191.8	189.6	2.12	90.525		
700.0	694.3	656.3	652.0	1.8	1.6	158.53	43.8	-160.0	229.6	227.1	2.56	89.769	SF	
800.0	790.2	736.9	729.9	2.4	2.0	156.85	37.8	-179.9	275.1	272.0	3.03	90.847		
890.1	875.1	800.0	790.2	2.9	2.4	155.50	32.5	-197.6	322.1	318.7	3.46	93.189		
900.0	884.4	812.4	802.0	3.0	2.5	155.39	31.3	-201.3	327.6	324.1	3.53	92.817		
1,000.0	978.0	884.0	869.4	3.6	2.9	154.66	24.5	-224.1	384.4	380.3	4.08	94.144		
1,100.0	1,071.5	952.4	933.1	4.3	3.4	153.88	17.3	-248.2	443.6	438.9	4.65	95.407		
1,200.0	1,165.1	1,030.2	1,004.8	4.9	4.0	153.05	8.6	-277.0	504.3	499.0	5.27	95.771		
1,300.0	1,258.6	1,109.4	1,077.9	5.6	4.5	152.38	-0.3	-306.5	565.0	559.1	5.89	95.892		
1,400.0	1,352.2	1,188.7	1,150.9	6.2	5.1	151.84	-9.1	-335.9	625.8	619.3	6.52	95.928		
1,500.0	1,445.7	1,268.0	1,224.0	6.9	5.7	151.39	-18.0	-365.3	686.7	679.5	7.16	95.920		
1,600.0	1,539.2	1,347.2	1,297.1	7.5	6.3	151.02	-26.8	-394.7	747.5	739.7	7.80	95.889		
1,700.0	1,632.8	1,426.5	1,370.2	8.2	6.8	150.70	-35.6	-424.1	808.4	799.9	8.43	95.845		

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Benjamin Federal 28-16C
Project:	Mamm Creek	TVD Reference:	WELL @ 5965.0ft (Original Well Elev)
Reference Site:	K28NW Pad	MD Reference:	WELL @ 5965.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Benjamin Federal 28-16C	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 5000.1 US Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design K28NW Pad - Benjamin Federal 28-13B2 - DD - Plan #2													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Total Uncertainty Axis	Separation Factor		
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)				
0.0	0.0	0.0	0.0	0.0	0.0	-66.27	51.0	-116.0	126.7					
100.0	100.0	100.0	100.0	0.1	0.1	-66.27	51.0	-116.0	126.7	126.4	0.27	465.352		
200.0	200.0	200.0	200.0	0.3	0.3	-66.27	51.0	-116.0	126.7	126.1	0.62	203.918	CC, ES	
300.0	300.0	295.5	295.5	0.5	0.5	160.57	50.0	-118.2	130.9	129.9	0.97	135.313		
400.0	399.6	390.0	389.7	0.7	0.7	159.35	47.2	-124.6	143.4	142.0	1.33	107.693		
500.0	498.8	482.5	481.5	1.0	0.9	157.70	42.6	-135.1	164.1	162.4	1.73	95.130		
600.0	597.1	572.1	569.8	1.4	1.3	155.94	36.4	-149.1	193.0	190.8	2.16	89.480		
700.0	694.3	658.0	653.7	1.8	1.6	154.23	28.9	-166.0	229.6	227.0	2.63	87.335		
800.0	790.2	739.7	732.5	2.4	2.0	152.64	20.4	-185.3	273.6	270.5	3.14	87.040	SF	
890.1	875.1	809.1	798.8	2.9	2.4	151.29	12.1	-204.1	319.2	315.5	3.64	87.698		
900.0	884.4	816.5	805.9	3.0	2.5	151.23	11.2	-206.3	324.5	320.8	3.70	87.710		
1,000.0	978.0	889.6	874.7	3.6	2.9	150.58	1.3	-228.7	379.6	375.2	4.31	88.098		
1,100.0	1,071.5	959.7	939.8	4.3	3.5	149.82	-9.2	-252.4	437.0	432.1	4.94	88.418		
1,200.0	1,165.1	1,033.6	1,007.6	4.9	4.0	148.98	-21.1	-279.5	496.6	491.0	5.61	88.538		
1,300.0	1,258.6	1,113.5	1,080.7	5.6	4.6	148.23	-34.1	-309.0	556.5	550.2	6.31	88.248		
1,400.0	1,352.2	1,193.4	1,153.8	6.2	5.2	147.63	-47.1	-338.5	616.4	609.4	7.01	87.966		
1,500.0	1,445.7	1,273.3	1,226.9	6.9	5.8	147.13	-60.1	-368.0	676.3	668.6	7.71	87.704		
1,600.0	1,539.2	1,353.2	1,300.0	7.5	6.4	146.72	-73.1	-397.5	736.3	727.9	8.42	87.468		
1,700.0	1,632.8	1,433.1	1,373.1	8.2	7.0	146.36	-86.1	-427.0	796.3	787.2	9.13	87.255		

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Benjamin Federal 28-16C
Project:	Mamm Creek	TVD Reference:	WELL @ 5965.0ft (Original Well Elev)
Reference Site:	K28NW Pad	MD Reference:	WELL @ 5965.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Benjamin Federal 28-16C	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 5000.1 US Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design K28NW Pad - Benjamin Federal 28-13C1 - DD - Plan #2												Offset Site Error:	0.0 ft
Survey Program: 0-MWD												Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft) +E/-W (ft)		Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	
0.0	0.0	0.0	0.0	0.0	0.0	-68.63	42.3	-108.0	116.0				
100.0	100.0	100.0	100.0	0.1	0.1	-68.63	42.3	-108.0	116.0	115.7	0.27	425.909	
200.0	200.0	200.0	200.0	0.3	0.3	-68.63	42.3	-108.0	116.0	115.3	0.62	186.634	CC, ES
300.0	300.0	296.3	296.2	0.5	0.5	158.14	41.0	-110.1	119.9	119.0	0.97	123.709	
400.0	399.6	391.6	391.3	0.7	0.7	156.74	37.3	-116.2	131.9	130.5	1.34	98.358	
500.0	498.8	485.1	484.0	1.0	1.0	154.86	31.2	-126.1	151.7	149.9	1.75	86.697	
600.0	597.1	575.8	573.4	1.4	1.3	152.87	23.1	-139.5	179.3	177.1	2.21	81.260	
700.0	694.3	663.2	658.6	1.8	1.6	150.98	13.2	-155.8	214.5	211.8	2.72	78.943	
800.0	790.2	746.5	739.1	2.4	2.1	149.23	1.9	-174.3	256.8	253.5	3.28	78.261	
890.1	875.1	817.7	807.0	2.9	2.5	147.77	-9.2	-192.6	300.7	296.9	3.83	78.468	
900.0	884.4	825.3	814.2	3.0	2.5	147.70	-10.4	-194.7	305.8	301.9	3.90	78.451	
1,000.0	978.0	900.0	884.4	3.6	3.0	146.97	-23.6	-216.4	358.9	354.4	4.57	78.621	
1,100.0	1,071.5	972.9	952.0	4.3	3.5	146.09	-37.9	-239.8	414.4	409.1	5.27	78.563	
1,200.0	1,165.1	1,042.3	1,015.3	4.9	4.1	145.17	-52.7	-264.2	472.2	466.3	5.99	78.832	
1,300.0	1,258.6	1,120.1	1,085.4	5.6	4.7	144.17	-70.1	-292.9	531.6	524.9	6.76	78.616	
1,400.0	1,352.2	1,200.2	1,157.6	6.2	5.4	143.35	-88.1	-322.5	591.1	583.6	7.55	78.316	
1,500.0	1,445.7	1,280.3	1,229.8	6.9	6.0	142.67	-106.1	-352.2	650.7	642.4	8.34	78.051	
1,600.0	1,539.2	1,360.4	1,302.1	7.5	6.7	142.11	-124.2	-381.8	710.3	701.2	9.13	77.827	
1,700.0	1,632.8	1,440.5	1,374.3	8.2	7.3	141.63	-142.2	-411.4	770.0	760.0	9.92	77.634	SF

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Benjamin Federal 28-16C
Project:	Mamm Creek	TVD Reference:	WELL @ 5965.0ft (Original Well Elev)
Reference Site:	K28NW Pad	MD Reference:	WELL @ 5965.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Benjamin Federal 28-16C	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 5000.1 US Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design K28NW Pad - Benjamin Federal 28-13C2 - DD - Plan #2													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance					Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor		
0.0	0.0	0.0	0.0	0.0	0.0	-73.72	33.9	-116.0	120.8					
100.0	100.0	100.0	100.0	0.1	0.1	-73.72	33.9	-116.0	120.8	120.6	0.27	443.795		
200.0	200.0	200.0	200.0	0.3	0.3	-73.72	33.9	-116.0	120.8	120.2	0.62	194.472 CC, ES		
300.0	300.0	296.2	296.2	0.5	0.5	153.15	32.4	-117.9	124.7	123.7	0.97	128.511		
400.0	399.6	391.6	391.3	0.7	0.7	151.98	28.1	-123.6	136.2	134.8	1.35	101.222		
500.0	498.8	485.2	484.2	1.0	1.0	150.39	21.0	-132.9	155.3	153.6	1.77	87.978		
600.0	597.1	576.4	573.9	1.4	1.3	148.67	11.5	-145.4	182.0	179.7	2.24	81.134		
700.0	694.3	664.3	659.8	1.8	1.7	146.98	-0.2	-160.7	215.9	213.1	2.78	77.552		
800.0	790.2	748.6	741.1	2.4	2.1	145.39	-13.5	-178.2	256.6	253.3	3.39	75.747		
890.1	875.1	820.9	810.0	2.9	2.5	144.03	-26.8	-195.6	299.0	295.0	3.98	75.060		
900.0	884.4	828.7	817.4	3.0	2.5	143.98	-28.3	-197.6	303.9	299.9	4.05	74.968		
1,000.0	978.0	900.0	884.4	3.6	3.0	143.38	-43.0	-216.9	355.2	350.5	4.75	74.807		
1,100.0	1,071.5	979.3	957.9	4.3	3.6	142.50	-61.2	-240.7	408.8	403.3	5.53	73.886		
1,200.0	1,165.1	1,050.5	1,022.6	4.9	4.2	141.57	-79.0	-264.1	464.7	458.4	6.31	73.595		
1,300.0	1,258.6	1,119.1	1,084.0	5.6	4.7	140.61	-97.6	-288.5	522.9	515.8	7.10	73.619		
1,400.0	1,352.2	1,199.2	1,155.1	6.2	5.4	139.58	-120.0	-318.0	582.2	574.2	7.96	73.123		
1,500.0	1,445.7	1,279.4	1,226.2	6.9	6.1	138.74	-142.4	-347.4	641.6	632.8	8.82	72.721		
1,600.0	1,539.2	1,359.5	1,297.3	7.5	6.8	138.04	-164.9	-376.9	701.0	691.4	9.68	72.397		
1,700.0	1,632.8	1,439.6	1,368.3	8.2	7.5	137.45	-187.3	-406.3	760.6	750.0	10.54	72.129		
1,800.0	1,726.3	1,519.8	1,439.4	8.9	8.2	136.95	-209.7	-435.7	820.1	808.7	11.41	71.906 SF		

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Benjamin Federal 28-16C
Project:	Mamm Creek	TVD Reference:	WELL @ 5965.0ft (Original Well Elev)
Reference Site:	K28NW Pad	MD Reference:	WELL @ 5965.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Benjamin Federal 28-16C	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 5000.1 US Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design K28NW Pad - Benjamin Federal 28-14B1 - DD - Plan #2													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance					Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis			
0.0	0.0	0.0	0.0	0.0	0.0	-136.89	-8.7	-8.2	12.0					
100.0	100.0	100.0	100.0	0.1	0.1	-136.89	-8.7	-8.2	12.0	11.7	0.27	43.981		
200.0	200.0	200.0	200.0	0.3	0.3	-136.89	-8.7	-8.2	12.0	11.4	0.62	19.273 CC, ES		
300.0	300.0	299.2	299.1	0.5	0.5	91.51	-12.5	-8.6	15.0	14.0	0.98	15.312 SF		
400.0	399.6	397.7	397.3	0.7	0.7	106.37	-19.1	-12.9	23.9	22.6	1.38	17.377		
500.0	498.8	495.4	494.3	1.0	0.9	120.05	-27.1	-21.3	40.4	38.6	1.82	22.153		
600.0	597.1	592.7	590.9	1.4	1.2	129.31	-35.2	-30.2	61.6	59.3	2.31	26.693		
700.0	694.3	688.9	686.3	1.8	1.5	135.98	-43.2	-39.1	87.3	84.5	2.81	31.008		
800.0	790.2	783.8	780.4	2.4	1.7	140.99	-51.1	-47.8	117.6	114.2	3.33	35.292		
890.1	875.1	867.7	863.7	2.9	1.9	144.51	-58.1	-55.5	148.8	145.0	3.80	39.204		
900.0	884.4	876.9	872.9	3.0	2.0	144.92	-58.8	-56.4	152.5	148.6	3.85	39.637		
1,000.0	978.0	969.3	964.6	3.6	2.2	148.12	-66.5	-64.9	189.6	185.2	4.36	43.519		
1,100.0	1,071.5	1,061.8	1,056.3	4.3	2.5	150.28	-74.2	-73.4	227.1	222.2	4.86	46.693		
1,200.0	1,165.1	1,154.2	1,148.0	4.9	2.7	151.83	-81.9	-81.9	264.7	259.4	5.37	49.323		
1,300.0	1,258.6	1,246.6	1,239.7	5.6	3.0	153.00	-89.6	-90.4	302.5	296.7	5.87	51.531		
1,400.0	1,352.2	1,339.1	1,331.4	6.2	3.2	153.90	-97.3	-98.9	340.4	334.0	6.37	53.408		
1,500.0	1,445.7	1,431.5	1,423.2	6.9	3.5	154.63	-105.0	-107.4	378.3	371.5	6.88	55.022		
1,600.0	1,539.2	1,523.9	1,514.9	7.5	3.8	155.22	-112.7	-115.9	416.3	408.9	7.38	56.424		
1,700.0	1,632.8	1,616.4	1,606.6	8.2	4.0	155.71	-120.4	-124.4	454.3	446.5	7.88	57.653		
1,800.0	1,726.3	1,708.8	1,698.3	8.9	4.3	156.13	-128.1	-132.9	492.4	484.0	8.38	58.738		
1,900.0	1,819.9	1,801.2	1,790.0	9.5	4.5	156.49	-135.8	-141.4	530.4	521.5	8.88	59.703		
2,000.0	1,913.4	1,893.6	1,881.7	10.2	4.8	156.80	-143.5	-149.9	568.5	559.1	9.39	60.567		
2,100.0	2,007.0	1,986.1	1,973.4	10.8	5.0	157.07	-151.2	-158.3	606.6	596.7	9.89	61.344		
2,200.0	2,100.5	2,078.5	2,065.2	11.5	5.3	157.31	-158.9	-166.8	644.7	634.3	10.39	62.048		
2,300.0	2,194.0	2,170.9	2,156.9	12.2	5.6	157.52	-166.6	-175.3	682.8	671.9	10.89	62.688		
2,400.0	2,287.6	2,263.4	2,248.6	12.8	5.8	157.71	-174.3	-183.8	720.9	709.5	11.39	63.272		
2,500.0	2,381.1	2,355.8	2,340.3	13.5	6.1	157.88	-182.0	-192.3	759.0	747.1	11.90	63.807		
2,600.0	2,474.7	2,448.2	2,432.0	14.1	6.3	158.04	-189.7	-200.8	797.1	784.7	12.40	64.300		

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Benjamin Federal 28-16C
Project:	Mamm Creek	TVD Reference:	WELL @ 5965.0ft (Original Well Elev)
Reference Site:	K28NW Pad	MD Reference:	WELL @ 5965.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Benjamin Federal 28-16C	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 5000.1 US Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design K28NW Pad - Benjamin Federal 28-14B2 - DD - Plan #2													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance					Separation Factor	Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis			
0.0	0.0	0.0	0.0	0.0	0.0	-90.00	0.0	-116.0	116.0					
100.0	100.0	100.0	100.0	0.1	0.1	-90.00	0.0	-116.0	116.0	115.7	0.27	425.999		
200.0	200.0	200.0	200.0	0.3	0.3	-90.00	0.0	-116.0	116.0	115.4	0.62	186.674 CC, ES		
300.0	300.0	297.2	297.2	0.5	0.5	137.00	-2.2	-117.1	119.1	118.1	0.98	122.026		
400.0	399.6	393.9	393.6	0.7	0.7	136.19	-8.8	-120.4	128.3	126.9	1.37	93.358		
500.0	498.8	489.5	488.4	1.0	1.0	135.04	-19.5	-125.9	143.6	141.7	1.85	77.733		
600.0	597.1	586.5	584.1	1.4	1.3	134.16	-33.5	-132.9	164.2	161.8	2.39	68.745		
700.0	694.3	683.5	679.8	1.8	1.6	134.42	-47.6	-140.1	188.5	185.5	2.99	63.106		
800.0	790.2	779.3	774.4	2.4	1.9	135.43	-61.5	-147.1	216.4	212.8	3.63	59.627		
890.1	875.1	864.5	858.4	2.9	2.2	136.70	-73.9	-153.4	244.8	240.5	4.23	57.808		
900.0	884.4	873.8	867.6	3.0	2.2	136.92	-75.3	-154.1	248.1	243.8	4.30	57.675		
1,000.0	978.0	967.7	960.2	3.6	2.5	138.85	-88.9	-161.0	281.5	276.5	4.97	56.601		
1,100.0	1,071.5	1,061.6	1,052.8	4.3	2.8	140.38	-102.5	-167.9	315.2	309.5	5.64	55.881		
1,200.0	1,165.1	1,155.4	1,145.4	4.9	3.1	141.61	-116.2	-174.8	349.0	342.7	6.30	55.384		
1,300.0	1,258.6	1,249.3	1,238.1	5.6	3.4	142.63	-129.8	-181.7	382.9	376.0	6.96	55.031		
1,400.0	1,352.2	1,343.2	1,330.7	6.2	3.7	143.48	-143.5	-188.6	416.9	409.3	7.61	54.776		
1,500.0	1,445.7	1,437.0	1,423.3	6.9	4.1	144.20	-157.1	-195.5	451.0	442.8	8.26	54.588		
1,600.0	1,539.2	1,530.9	1,515.9	7.5	4.4	144.82	-170.7	-202.4	485.2	476.3	8.91	54.447		
1,700.0	1,632.8	1,624.8	1,608.5	8.2	4.7	145.36	-184.4	-209.3	519.4	509.8	9.56	54.342		
1,800.0	1,726.3	1,718.6	1,701.1	8.9	5.0	145.83	-198.0	-216.2	553.6	543.4	10.20	54.261		
1,900.0	1,819.9	1,812.5	1,793.8	9.5	5.3	146.25	-211.6	-223.1	587.9	577.0	10.85	54.200		
2,000.0	1,913.4	1,906.4	1,886.4	10.2	5.6	146.62	-225.3	-230.0	622.1	610.6	11.49	54.153		
2,100.0	2,007.0	2,000.2	1,979.0	10.8	5.9	146.95	-238.9	-236.9	656.4	644.3	12.13	54.117		
2,200.0	2,100.5	2,094.1	2,071.6	11.5	6.2	147.25	-252.6	-243.8	690.8	678.0	12.77	54.089		
2,300.0	2,194.0	2,188.0	2,164.2	12.2	6.6	147.53	-266.2	-250.7	725.1	711.7	13.41	54.069		
2,400.0	2,287.6	2,281.8	2,256.8	12.8	6.9	147.77	-279.8	-257.6	759.4	745.4	14.05	54.053		
2,500.0	2,381.1	2,375.7	2,349.4	13.5	7.2	148.00	-293.5	-264.5	793.8	779.1	14.69	54.042		
2,600.0	2,474.7	2,469.6	2,442.1	14.1	7.5	148.21	-307.1	-271.4	828.2	812.8	15.33	54.034 SF		

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Benjamin Federal 28-16C
Project:	Mamm Creek	TVD Reference:	WELL @ 5965.0ft (Original Well Elev)
Reference Site:	K28NW Pad	MD Reference:	WELL @ 5965.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Benjamin Federal 28-16C	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 5000.1 US Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design K28NW Pad - Benjamin Federal 28-14C - DD - Plan #2													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor		
0.0	0.0	0.0	0.0	0.0	0.0	-85.56	8.4	-108.0	108.3					
100.0	100.0	100.0	100.0	0.1	0.1	-85.56	8.4	-108.0	108.3	108.0	0.27	397.823	CC, ES	
200.0	200.0	200.0	200.0	0.3	0.3	-85.56	8.4	-108.0	108.3	107.7	0.62	174.327		
300.0	300.0	298.4	298.4	0.5	0.5	141.25	6.0	-108.9	111.1	110.1	0.98	113.538		
400.0	399.6	396.3	396.0	0.7	0.7	139.91	-1.1	-111.5	119.3	118.0	1.38	86.358		
500.0	498.8	493.3	492.2	1.0	1.0	138.03	-12.7	-115.7	133.2	131.3	1.87	71.354		
600.0	597.1	588.9	586.2	1.4	1.3	135.92	-28.7	-121.5	152.6	150.1	2.46	62.153		
700.0	694.3	685.0	680.1	1.8	1.7	134.18	-48.0	-128.6	177.0	173.9	3.12	56.646		
800.0	790.2	781.0	773.8	2.4	2.1	133.67	-67.5	-135.7	205.1	201.2	3.86	53.174		
890.1	875.1	866.4	857.3	2.9	2.4	133.95	-84.8	-142.0	233.3	228.8	4.55	51.239		
900.0	884.4	875.8	866.4	3.0	2.5	134.08	-86.7	-142.7	236.6	232.0	4.63	51.084		
1,000.0	978.0	970.1	958.5	3.6	2.8	135.21	-105.8	-149.7	269.6	264.2	5.42	49.757		
1,100.0	1,071.5	1,064.4	1,050.5	4.3	3.2	136.10	-124.9	-156.7	302.7	296.5	6.21	48.765		
1,200.0	1,165.1	1,158.6	1,142.6	4.9	3.6	136.82	-144.0	-163.6	335.8	328.8	7.00	48.002		
1,300.0	1,258.6	1,252.9	1,234.6	5.6	4.0	137.41	-163.1	-170.6	369.0	361.2	7.78	47.399		
1,400.0	1,352.2	1,347.2	1,326.7	6.2	4.4	137.90	-182.2	-177.6	402.2	393.6	8.57	46.912		
1,500.0	1,445.7	1,441.5	1,418.7	6.9	4.8	138.31	-201.3	-184.6	435.4	426.1	9.36	46.511		
1,600.0	1,539.2	1,535.8	1,510.8	7.5	5.2	138.67	-220.4	-191.6	468.7	458.5	10.15	46.175		
1,700.0	1,632.8	1,630.0	1,602.9	8.2	5.6	138.98	-239.6	-198.5	501.9	491.0	10.94	45.891		
1,800.0	1,726.3	1,724.3	1,694.9	8.9	6.0	139.25	-258.7	-205.5	535.2	523.5	11.72	45.647		
1,900.0	1,819.9	1,818.6	1,787.0	9.5	6.3	139.49	-277.8	-212.5	568.5	556.0	12.51	45.435		
2,000.0	1,913.4	1,912.9	1,879.0	10.2	6.7	139.70	-296.9	-219.5	601.8	588.5	13.30	45.250		
2,100.0	2,007.0	2,007.1	1,971.1	10.8	7.1	139.89	-316.0	-226.5	635.1	621.0	14.09	45.086		
2,200.0	2,100.5	2,101.4	2,063.1	11.5	7.5	140.06	-335.1	-233.4	668.4	653.5	14.87	44.941		
2,300.0	2,194.0	2,195.7	2,155.2	12.2	7.9	140.22	-354.2	-240.4	701.7	686.0	15.66	44.812		
2,400.0	2,287.6	2,290.0	2,247.2	12.8	8.3	140.36	-373.3	-247.4	735.0	718.5	16.44	44.695		
2,500.0	2,381.1	2,384.2	2,339.3	13.5	8.7	140.49	-392.4	-254.4	768.3	751.0	17.23	44.590		
2,600.0	2,474.7	2,478.5	2,431.3	14.1	9.1	140.60	-411.5	-261.3	801.6	783.6	18.02	44.494 SF		

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Benjamin Federal 28-16C
Project:	Mamm Creek	TVD Reference:	WELL @ 5965.0ft (Original Well Elev)
Reference Site:	K28NW Pad	MD Reference:	WELL @ 5965.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Benjamin Federal 28-16C	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 5000.1 US Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design K28NW Pad - Benjamin Federal 33-3B - DD - Plan #2												Offset Site Error: 0.0 ft	
Survey Program: 0-MWD												Offset Well Error: 0.0 ft	
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Total Uncertainty Axis	Separation Factor	
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)			
0.0	0.0	0.0	0.0	0.0	0.0	-94.63	-8.7	-108.0	108.3				
100.0	100.0	100.0	100.0	0.1	0.1	-94.63	-8.7	-108.0	108.3	108.1	0.27	397.929	
200.0	200.0	200.0	200.0	0.3	0.3	-94.63	-8.7	-108.0	108.3	107.7	0.62	174.374	CC, ES
300.0	300.0	299.7	299.7	0.5	0.5	132.73	-10.5	-108.0	110.3	109.3	0.98	112.756	
400.0	399.6	399.2	399.0	0.7	0.7	132.88	-15.7	-108.0	116.0	114.6	1.37	84.630	
500.0	498.8	497.4	496.8	1.0	0.9	133.02	-24.3	-108.2	125.8	123.9	1.82	69.055	
600.0	597.1	593.7	592.3	1.4	1.2	132.71	-37.3	-109.7	140.7	138.4	2.37	59.323	
700.0	694.3	688.7	685.7	1.8	1.5	132.02	-54.5	-112.7	161.1	158.1	3.04	52.997	
800.0	790.2	782.1	776.5	2.4	1.9	131.09	-75.6	-117.1	186.7	182.9	3.83	48.741	
890.1	875.1	864.5	855.6	2.9	2.3	130.12	-97.8	-122.2	214.2	209.5	4.65	46.079	
900.0	884.4	873.5	864.2	3.0	2.4	130.09	-100.4	-122.8	217.5	212.7	4.74	45.866	
1,000.0	978.0	964.6	950.5	3.6	2.9	129.29	-128.8	-129.8	251.2	245.5	5.72	43.949	
1,100.0	1,071.5	1,058.4	1,039.1	4.3	3.5	128.45	-159.1	-137.3	285.4	278.7	6.73	42.389	
1,200.0	1,165.1	1,152.3	1,127.6	4.9	4.0	127.79	-189.3	-144.8	319.7	311.9	7.76	41.193	
1,300.0	1,258.6	1,246.2	1,216.2	5.6	4.6	127.27	-219.5	-152.3	354.0	345.2	8.79	40.249	
1,400.0	1,352.2	1,340.1	1,304.8	6.2	5.1	126.83	-249.8	-159.8	388.3	378.4	9.83	39.488	
1,500.0	1,445.7	1,434.0	1,393.4	6.9	5.7	126.46	-280.0	-167.3	422.6	411.7	10.87	38.863	
1,600.0	1,539.2	1,527.9	1,481.9	7.5	6.2	126.15	-310.2	-174.8	456.9	445.0	11.92	38.341	
1,700.0	1,632.8	1,621.8	1,570.5	8.2	6.8	125.89	-340.5	-182.2	491.3	478.3	12.96	37.899	
1,800.0	1,726.3	1,715.7	1,659.1	8.9	7.4	125.65	-370.7	-189.7	525.7	511.6	14.01	37.520	
1,900.0	1,819.9	1,809.6	1,747.7	9.5	7.9	125.45	-400.9	-197.2	560.0	545.0	15.06	37.192	
2,000.0	1,913.4	1,903.5	1,836.2	10.2	8.5	125.27	-431.2	-204.7	594.4	578.3	16.11	36.904	
2,100.0	2,007.0	1,997.4	1,924.8	10.8	9.1	125.11	-461.4	-212.2	628.8	611.6	17.16	36.651	
2,200.0	2,100.5	2,091.3	2,013.4	11.5	9.6	124.97	-491.6	-219.7	663.2	644.9	18.21	36.426	
2,300.0	2,194.0	2,185.1	2,102.0	12.2	10.2	124.84	-521.9	-227.2	697.5	678.3	19.26	36.225	
2,400.0	2,287.6	2,279.0	2,190.5	12.8	10.8	124.72	-552.1	-234.7	731.9	711.6	20.31	36.044	
2,500.0	2,381.1	2,372.9	2,279.1	13.5	11.3	124.61	-582.3	-242.2	766.3	745.0	21.36	35.881	
2,600.0	2,474.7	2,466.8	2,367.7	14.1	11.9	124.51	-612.6	-249.7	800.7	778.3	22.41	35.732	SF

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Benjamin Federal 28-16C
Project:	Mamm Creek	TVD Reference:	WELL @ 5965.0ft (Original Well Elev)
Reference Site:	K28NW Pad	MD Reference:	WELL @ 5965.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Benjamin Federal 28-16C	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 5000.1 US Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design K28NW Pad - Benjamin Federal 33-4B - DD - Plan #2													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance							
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning	
0.0	0.0	0.0	0.0	0.0	0.0	-81.78	16.8	-116.0	117.2					
100.0	100.0	100.0	100.0	0.1	0.1	-81.78	16.8	-116.0	117.2	116.9	0.27	430.421		
200.0	200.0	200.0	200.0	0.3	0.3	-81.78	16.8	-116.0	117.2	116.6	0.62	188.611	CC, ES	
300.0	300.0	296.1	296.1	0.5	0.5	145.24	15.1	-117.8	120.9	120.0	0.97	124.582		
400.0	399.6	391.5	391.1	0.7	0.7	144.49	10.3	-123.0	132.2	130.8	1.35	97.865		
500.0	498.8	485.2	484.1	1.0	1.0	143.45	2.4	-131.6	150.7	149.0	1.78	84.611		
600.0	597.1	576.6	574.2	1.4	1.3	142.29	-8.3	-143.2	176.5	174.3	2.28	77.468		
700.0	694.3	665.2	660.6	1.8	1.7	141.11	-21.4	-157.5	209.3	206.5	2.85	73.459		
800.0	790.2	750.2	742.6	2.4	2.1	139.95	-36.5	-173.9	248.7	245.2	3.49	71.194		
890.1	875.1	823.5	812.5	2.9	2.5	138.90	-51.5	-190.2	289.6	285.4	4.13	70.101		
900.0	884.4	831.4	820.0	3.0	2.6	138.89	-53.2	-192.1	294.4	290.1	4.21	69.983		
1,000.0	978.0	909.4	893.2	3.6	3.1	138.55	-71.4	-211.9	343.9	338.9	4.97	69.174		
1,100.0	1,071.5	984.8	962.9	4.3	3.6	137.92	-90.9	-233.0	395.8	390.1	5.77	68.546		
1,200.0	1,165.1	1,057.5	1,029.0	4.9	4.2	137.12	-111.4	-255.3	450.1	443.5	6.61	68.139		
1,300.0	1,258.6	1,127.4	1,091.4	5.6	4.8	136.24	-132.7	-278.5	506.6	499.1	7.45	67.998		
1,400.0	1,352.2	1,200.6	1,155.5	6.2	5.5	135.25	-156.6	-304.6	565.3	557.0	8.34	67.793		
1,500.0	1,445.7	1,272.8	1,218.0	6.9	6.1	134.33	-181.1	-331.2	625.2	616.0	9.23	67.772		
1,600.0	1,539.2	1,352.4	1,286.9	7.5	6.9	133.48	-208.0	-360.5	685.3	675.2	10.15	67.503		
1,700.0	1,632.8	1,431.9	1,355.7	8.2	7.6	132.76	-234.9	-389.8	745.5	734.4	11.08	67.293		
1,800.0	1,726.3	1,511.5	1,424.6	8.9	8.4	132.16	-261.9	-419.1	805.8	793.8	12.00	67.126	SF	

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Benjamin Federal 28-16C
Project:	Mamm Creek	TVD Reference:	WELL @ 5965.0ft (Original Well Elev)
Reference Site:	K28NW Pad	MD Reference:	WELL @ 5965.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Benjamin Federal 28-16C	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 5000.1 US Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design K28NW Pad - Benjamin Fee 28-10D2 - DD - Plan #2													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Total Uncertainty Axis	Separation Factor	Warning			
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)						
0.0	0.0	0.0	0.0	0.0	0.0	0.00	33.9	0.0	33.9					
100.0	100.0	100.0	100.0	0.1	0.1	0.00	33.9	0.0	33.9	33.6	0.27	124.414		
200.0	200.0	200.0	200.0	0.3	0.3	0.00	33.9	0.0	33.9	33.3	0.62	54.518 CC, ES		
300.0	300.0	299.9	299.8	0.5	0.5	-131.56	34.0	2.6	35.8	34.8	0.98	36.388		
400.0	399.6	399.5	399.2	0.7	0.7	-128.75	34.3	10.4	41.5	40.1	1.40	29.564		
500.0	498.8	498.7	497.5	1.0	1.0	-125.45	34.9	23.3	51.2	49.3	1.93	26.503		
600.0	597.1	597.4	594.6	1.4	1.3	-122.67	35.7	40.9	64.9	62.3	2.58	25.148		
700.0	694.3	695.9	691.3	1.8	1.7	-123.03	36.6	59.6	81.6	78.3	3.30	24.726 SF		
800.0	790.2	793.9	787.5	2.4	2.0	-125.56	37.4	78.2	101.3	97.2	4.07	24.908		
890.1	875.1	881.3	873.3	2.9	2.4	-128.63	38.2	94.8	121.9	117.1	4.77	25.551		
900.0	884.4	890.9	882.7	3.0	2.4	-129.04	38.2	96.6	124.3	119.5	4.85	25.655		
1,000.0	978.0	987.4	977.5	3.6	2.8	-132.39	39.1	114.9	149.1	143.5	5.60	26.626		
1,100.0	1,071.5	1,084.0	1,072.3	4.3	3.1	-134.79	39.9	133.2	174.3	167.9	6.35	27.463		
1,200.0	1,165.1	1,180.6	1,167.1	4.9	3.5	-136.58	40.7	151.6	199.6	192.5	7.08	28.181		
1,300.0	1,258.6	1,277.1	1,261.9	5.6	3.9	-137.96	41.5	169.9	225.1	217.3	7.82	28.796		
1,400.0	1,352.2	1,373.7	1,356.7	6.2	4.2	-139.07	42.4	188.2	250.7	242.2	8.55	29.327		
1,500.0	1,445.7	1,470.2	1,451.5	6.9	4.6	-139.97	43.2	206.5	276.4	267.1	9.28	29.789		
1,600.0	1,539.2	1,566.8	1,546.3	7.5	4.9	-140.72	44.0	224.9	302.1	292.1	10.01	30.193		
1,700.0	1,632.8	1,663.4	1,641.2	8.2	5.3	-141.35	44.9	243.2	327.9	317.2	10.73	30.550		
1,800.0	1,726.3	1,759.9	1,736.0	8.9	5.7	-141.89	45.7	261.5	353.7	342.2	11.46	30.866		
1,900.0	1,819.9	1,856.5	1,830.8	9.5	6.0	-142.35	46.5	279.8	379.5	367.4	12.18	31.148		
2,000.0	1,913.4	1,953.1	1,925.6	10.2	6.4	-142.76	47.3	298.2	405.4	392.5	12.91	31.402		
2,100.0	2,007.0	2,049.6	2,020.4	10.8	6.8	-143.12	48.2	316.5	431.2	417.6	13.63	31.631		
2,200.0	2,100.5	2,146.2	2,115.2	11.5	7.1	-143.43	49.0	334.8	457.1	442.8	14.36	31.839		
2,300.0	2,194.0	2,242.8	2,210.0	12.2	7.5	-143.72	49.8	353.1	483.0	467.9	15.08	32.028		
2,400.0	2,287.6	2,339.3	2,304.8	12.8	7.9	-143.97	50.6	371.5	508.9	493.1	15.80	32.201		
2,500.0	2,381.1	2,435.9	2,399.6	13.5	8.2	-144.20	51.5	389.8	534.8	518.3	16.53	32.359		
2,600.0	2,474.7	2,532.5	2,494.4	14.1	8.6	-144.41	52.3	408.1	560.7	543.5	17.25	32.506		
2,700.0	2,568.2	2,629.0	2,589.2	14.8	9.0	-144.60	53.1	426.4	586.7	568.7	17.97	32.641		
2,800.0	2,661.8	2,725.6	2,684.0	15.4	9.3	-144.77	54.0	444.8	612.6	593.9	18.70	32.766		
2,900.0	2,755.3	2,822.2	2,778.8	16.1	9.7	-144.93	54.8	463.1	638.5	619.1	19.42	32.882		
3,000.0	2,848.9	2,918.7	2,873.6	16.8	10.1	-145.08	55.6	481.4	664.4	644.3	20.14	32.990		
3,100.0	2,942.4	3,015.3	2,968.4	17.4	10.4	-145.21	56.4	499.7	690.4	669.5	20.86	33.092		
3,200.0	3,035.9	3,111.8	3,063.3	18.1	10.8	-145.34	57.3	518.1	716.3	694.7	21.59	33.186		
3,300.0	3,129.5	3,208.4	3,158.1	18.7	11.2	-145.46	58.1	536.4	742.3	720.0	22.31	33.275		
3,400.0	3,223.0	3,305.0	3,252.9	19.4	11.5	-145.57	58.9	554.7	768.2	745.2	23.03	33.359		
3,500.0	3,316.6	3,401.5	3,347.7	20.1	11.9	-145.67	59.8	573.0	794.2	770.4	23.75	33.437		
3,600.0	3,410.1	3,498.1	3,442.5	20.7	12.3	-145.77	60.6	591.4	820.1	795.7	24.47	33.511		

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Benjamin Federal 28-16C
Project:	Mamm Creek	TVD Reference:	WELL @ 5965.0ft (Original Well Elev)
Reference Site:	K28NW Pad	MD Reference:	WELL @ 5965.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Benjamin Federal 28-16C	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 5000.1 US Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design K28NW Pad - Benjamin Fee 28-11A - DD - Plan #2													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor		
0.0	0.0	0.0	0.0	0.0	0.0	-10.96	42.3	-8.2	43.0					
100.0	100.0	100.0	100.0	0.1	0.1	-10.96	42.3	-8.2	43.0	42.8	0.27	158.067		
200.0	200.0	200.0	200.0	0.3	0.3	-10.96	42.3	-8.2	43.0	42.4	0.62	69.265 CC, ES		
300.0	300.0	298.3	298.2	0.5	0.5	-147.77	43.5	-10.4	47.0	46.0	0.97	48.267		
400.0	399.6	395.0	394.6	0.7	0.7	-156.57	47.3	-16.7	59.9	58.5	1.33	44.859 SF		
500.0	498.8	491.5	490.6	1.0	0.9	-164.47	52.8	-26.0	81.6	79.9	1.68	48.547		
600.0	597.1	587.2	585.7	1.4	1.2	-169.54	58.3	-35.2	109.4	107.4	2.01	54.344		
700.0	694.3	681.3	679.1	1.8	1.4	-172.79	63.6	-44.3	142.6	140.3	2.33	61.172		
800.0	790.2	773.4	770.7	2.4	1.7	-174.95	68.9	-53.2	181.0	178.4	2.64	68.612		
890.1	875.1	854.6	851.3	2.9	1.9	-176.31	73.6	-61.1	219.8	216.9	2.90	75.688		
900.0	884.4	863.4	860.1	3.0	1.9	-176.44	74.1	-62.0	224.3	221.3	2.94	76.396		
1,000.0	978.0	952.5	948.6	3.6	2.1	-177.54	79.2	-70.6	269.5	266.3	3.26	82.753		
1,100.0	1,071.5	1,041.5	1,037.1	4.3	2.4	-178.32	84.3	-79.2	314.9	311.3	3.58	87.966		
1,200.0	1,165.1	1,130.6	1,125.6	4.9	2.6	-178.91	89.4	-87.8	360.2	356.3	3.90	92.313		
1,300.0	1,258.6	1,219.7	1,214.1	5.6	2.8	-179.36	94.5	-96.4	405.6	401.4	4.23	95.988		
1,400.0	1,352.2	1,308.7	1,302.6	6.2	3.1	-179.72	99.6	-105.0	451.0	446.5	4.55	99.135		
1,500.0	1,445.7	1,397.8	1,391.1	6.9	3.3	179.98	104.7	-113.6	496.4	491.5	4.87	101.858		
1,600.0	1,539.2	1,486.9	1,479.6	7.5	3.5	179.73	109.8	-122.2	541.8	536.6	5.20	104.237		
1,700.0	1,632.8	1,575.9	1,568.1	8.2	3.8	179.52	114.8	-130.9	587.3	581.7	5.52	106.332		
1,800.0	1,726.3	1,665.0	1,656.6	8.9	4.0	179.35	119.9	-139.5	632.7	626.9	5.85	108.192		
1,900.0	1,819.9	1,754.1	1,745.1	9.5	4.2	179.19	125.0	-148.1	678.1	672.0	6.17	109.853		
2,000.0	1,913.4	1,843.1	1,833.6	10.2	4.5	179.06	130.1	-156.7	723.6	717.1	6.50	111.345		
2,100.0	2,007.0	1,932.2	1,922.1	10.8	4.7	178.94	135.2	-165.3	769.0	762.2	6.82	112.693		
2,200.0	2,100.5	2,021.3	2,010.7	11.5	4.9	178.83	140.3	-173.9	814.5	807.3	7.15	113.917		

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Benjamin Federal 28-16C
Project:	Mamm Creek	TVD Reference:	WELL @ 5965.0ft (Original Well Elev)
Reference Site:	K28NW Pad	MD Reference:	WELL @ 5965.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Benjamin Federal 28-16C	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 5000.1 US Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design K28NW Pad - Benjamin Fee 28-11B - DD - Plan #2													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Total Uncertainty Axis	Separation Factor	Warning			
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)						
0.0	0.0	0.0	0.0	0.0	0.0	-7.85	59.4	-8.2	59.9					
100.0	100.0	100.0	100.0	0.1	0.1	-7.85	59.4	-8.2	59.9	59.7	0.27	220.120		
200.0	200.0	200.0	200.0	0.3	0.3	-7.85	59.4	-8.2	59.9	59.3	0.62	96.457 CC, ES		
300.0	300.0	297.2	297.2	0.5	0.5	-143.15	61.2	-9.8	64.1	63.2	0.97	66.104		
400.0	399.6	392.9	392.5	0.7	0.7	-149.13	66.6	-14.6	77.4	76.0	1.33	58.250 SF		
500.0	498.8	487.3	486.2	1.0	1.0	-155.47	75.5	-22.5	100.5	98.8	1.68	59.748		
600.0	597.1	580.0	577.9	1.4	1.2	-160.36	85.9	-31.7	131.5	129.5	2.02	65.081		
700.0	694.3	672.6	669.5	1.8	1.5	-163.86	96.3	-40.9	168.0	165.6	2.35	71.520		
800.0	790.2	763.2	759.0	2.4	1.8	-166.36	106.4	-49.9	209.5	206.8	2.66	78.651		
890.1	875.1	842.7	837.6	2.9	2.0	-168.04	115.3	-57.8	251.1	248.1	2.94	85.489		
900.0	884.4	851.4	846.2	3.0	2.1	-168.24	116.3	-58.7	255.9	252.9	2.97	86.192		
1,000.0	978.0	938.6	932.5	3.6	2.3	-169.83	126.1	-67.4	304.3	301.0	3.29	92.560		
1,100.0	1,071.5	1,025.8	1,018.7	4.3	2.6	-170.99	135.9	-76.1	352.9	349.3	3.61	97.864		
1,200.0	1,165.1	1,113.1	1,104.9	4.9	2.9	-171.87	145.6	-84.7	401.6	397.6	3.92	102.340		
1,300.0	1,258.6	1,200.3	1,191.1	5.6	3.1	-172.57	155.4	-93.4	450.3	446.0	4.24	106.164		
1,400.0	1,352.2	1,287.5	1,277.4	6.2	3.4	-173.12	165.2	-102.1	499.0	494.5	4.56	109.464		
1,500.0	1,445.7	1,374.7	1,363.6	6.9	3.7	-173.58	175.0	-110.8	547.8	542.9	4.88	112.341		
1,600.0	1,539.2	1,461.9	1,449.8	7.5	4.0	-173.96	184.8	-119.4	596.6	591.4	5.19	114.870		
1,700.0	1,632.8	1,549.1	1,536.1	8.2	4.2	-174.29	194.5	-128.1	645.5	639.9	5.51	117.110		
1,800.0	1,726.3	1,636.4	1,622.3	8.9	4.5	-174.56	204.3	-136.8	694.3	688.5	5.83	119.106		
1,900.0	1,819.9	1,723.6	1,708.5	9.5	4.8	-174.81	214.1	-145.4	743.1	737.0	6.15	120.897		
2,000.0	1,913.4	1,810.8	1,794.8	10.2	5.1	-175.02	223.9	-154.1	792.0	785.5	6.46	122.512		

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Benjamin Federal 28-16C
Project:	Mamm Creek	TVD Reference:	WELL @ 5965.0ft (Original Well Elev)
Reference Site:	K28NW Pad	MD Reference:	WELL @ 5965.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Benjamin Federal 28-16C	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 5000.1 US Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design K28NW Pad - Benjamin Fee 28-15A - DD - Plan #2													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Total Uncertainty Axis	Separation Factor	Warning			
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)						
0.0	0.0	0.0	0.0	0.0	0.0	0.00	16.8	0.0	16.8					
100.0	100.0	100.0	100.0	0.1	0.1	0.00	16.8	0.0	16.8	16.5	0.27	61.538		
200.0	200.0	200.0	200.0	0.3	0.3	0.00	16.8	0.0	16.8	16.1	0.62	26.966 CC, ES		
300.0	300.0	300.4	300.4	0.5	0.5	-131.42	15.5	2.3	17.3	16.3	0.98	17.579		
400.0	399.6	400.8	400.4	0.7	0.7	-128.00	11.7	9.3	18.9	17.5	1.40	13.466		
500.0	498.8	501.2	499.9	1.0	1.0	-123.44	5.4	20.8	21.6	19.7	1.94	11.179		
600.0	597.1	601.4	598.5	1.4	1.4	-118.75	-3.4	36.9	25.7	23.0	2.63	9.744		
700.0	694.3	701.4	695.8	1.8	1.8	-115.82	-14.3	56.8	31.1	27.7	3.47	8.970 SF		
800.0	790.2	801.1	792.8	2.4	2.2	-119.86	-25.5	77.2	38.9	34.6	4.30	9.040		
890.1	875.1	890.4	879.7	2.9	2.6	-126.67	-35.5	95.5	48.6	43.6	4.96	9.788		
900.0	884.4	900.3	889.2	3.0	2.7	-127.50	-36.6	97.5	49.8	44.8	5.02	9.913		
1,000.0	978.0	999.2	985.5	3.6	3.1	-133.93	-47.7	117.7	62.7	57.1	5.64	11.127		
1,100.0	1,071.5	1,098.2	1,081.7	4.3	3.5	-138.14	-58.8	138.0	76.2	69.9	6.24	12.214		
1,200.0	1,165.1	1,197.2	1,177.9	4.9	4.0	-141.08	-69.9	158.2	89.9	83.1	6.83	13.161		
1,300.0	1,258.6	1,296.1	1,274.2	5.6	4.4	-143.23	-81.0	178.5	103.8	96.4	7.43	13.979		
1,400.0	1,352.2	1,395.1	1,370.4	6.2	4.9	-144.88	-92.1	198.7	117.8	109.8	8.02	14.690		
1,500.0	1,445.7	1,494.1	1,466.6	6.9	5.3	-146.17	-103.1	219.0	131.9	123.3	8.62	15.309		
1,600.0	1,539.2	1,593.0	1,562.9	7.5	5.7	-147.22	-114.2	239.2	146.1	136.8	9.21	15.852		
1,700.0	1,632.8	1,692.0	1,659.1	8.2	6.2	-148.08	-125.3	259.5	160.2	150.4	9.81	16.332		
1,800.0	1,726.3	1,791.0	1,755.3	8.9	6.6	-148.80	-136.4	279.7	174.4	164.0	10.41	16.758		
1,900.0	1,819.9	1,889.9	1,851.6	9.5	7.1	-149.41	-147.5	300.0	188.7	177.7	11.01	17.139		
2,000.0	1,913.4	1,988.9	1,947.8	10.2	7.5	-149.94	-158.6	320.2	202.9	191.3	11.61	17.482		
2,100.0	2,007.0	2,087.8	2,044.0	10.8	8.0	-150.39	-169.7	340.4	217.2	205.0	12.21	17.791		
2,200.0	2,100.5	2,186.8	2,140.3	11.5	8.4	-150.79	-180.7	360.7	231.5	218.6	12.81	18.072		
2,300.0	2,194.0	2,285.8	2,236.5	12.2	8.9	-151.15	-191.8	380.9	245.7	232.3	13.41	18.328		
2,400.0	2,287.6	2,384.7	2,332.7	12.8	9.3	-151.46	-202.9	401.2	260.0	246.0	14.01	18.562		
2,500.0	2,381.1	2,483.7	2,429.0	13.5	9.7	-151.74	-214.0	421.4	274.3	259.7	14.61	18.777		
2,600.0	2,474.7	2,582.7	2,525.2	14.1	10.2	-152.00	-225.1	441.7	288.6	273.4	15.21	18.975		
2,700.0	2,568.2	2,681.6	2,621.4	14.8	10.6	-152.23	-236.2	461.9	303.0	287.1	15.81	19.158		
2,800.0	2,661.8	2,780.6	2,717.7	15.4	11.1	-152.44	-247.3	482.2	317.3	300.9	16.42	19.328		
2,900.0	2,755.3	2,879.6	2,813.9	16.1	11.5	-152.63	-258.3	502.4	331.6	314.6	17.02	19.485		
3,000.0	2,848.9	2,978.5	2,910.1	16.8	12.0	-152.81	-269.4	522.7	345.9	328.3	17.62	19.632		
3,100.0	2,942.4	3,077.5	3,006.4	17.4	12.4	-152.97	-280.5	542.9	360.2	342.0	18.22	19.770		
3,200.0	3,035.9	3,176.4	3,102.6	18.1	12.9	-153.12	-291.6	563.2	374.6	355.7	18.82	19.898		
3,300.0	3,129.5	3,275.4	3,198.8	18.7	13.3	-153.25	-302.7	583.4	388.9	369.5	19.43	20.019		
3,400.0	3,223.0	3,374.4	3,295.1	19.4	13.8	-153.38	-313.8	603.7	403.2	383.2	20.03	20.132		
3,500.0	3,316.6	3,473.3	3,391.3	20.1	14.2	-153.50	-324.9	623.9	417.6	396.9	20.63	20.239		
3,600.0	3,410.1	3,572.3	3,487.5	20.7	14.6	-153.61	-335.9	644.1	431.9	410.7	21.23	20.340		
3,700.0	3,503.7	3,671.3	3,583.8	21.4	15.1	-153.72	-347.0	664.4	446.2	424.4	21.84	20.435		
3,800.0	3,597.2	3,770.2	3,680.0	22.1	15.5	-153.82	-358.1	684.6	460.6	438.1	22.44	20.525		
3,900.0	3,690.7	3,869.2	3,776.3	22.7	16.0	-153.91	-369.2	704.9	474.9	451.9	23.04	20.610		
4,000.0	3,784.3	3,968.2	3,872.5	23.4	16.4	-154.00	-380.3	725.1	489.3	465.6	23.65	20.691		
4,100.0	3,877.8	4,067.1	3,968.7	24.0	16.9	-154.08	-391.4	745.4	503.6	479.3	24.25	20.768		
4,200.0	3,971.4	4,166.1	4,065.0	24.7	17.3	-154.15	-402.5	765.6	517.9	493.1	24.85	20.841		
4,300.0	4,064.9	4,265.0	4,161.2	25.4	17.8	-154.23	-413.5	785.9	532.3	506.8	25.45	20.911		
4,400.0	4,158.5	4,364.0	4,257.4	26.0	18.2	-154.30	-424.6	806.1	546.6	520.6	26.06	20.977		
4,500.0	4,252.0	4,463.0	4,353.7	26.7	18.7	-154.36	-435.7	826.4	561.0	534.3	26.66	21.041		
4,600.0	4,345.5	4,561.9	4,449.9	27.3	19.1	-154.43	-446.8	846.6	575.3	548.1	27.26	21.101		
4,700.0	4,439.1	4,660.9	4,546.1	28.0	19.5	-154.48	-457.9	866.9	589.7	561.8	27.87	21.159		
4,800.0	4,532.6	4,759.9	4,642.4	28.7	20.0	-154.54	-469.0	887.1	604.0	575.5	28.47	21.215		
4,900.0	4,626.2	4,858.8	4,738.6	29.3	20.4	-154.60	-480.1	907.4	618.4	589.3	29.07	21.268		
5,000.0	4,719.7	4,957.8	4,834.8	30.0	20.9	-154.65	-491.1	927.6	632.7	603.0	29.68	21.319		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Benjamin Federal 28-16C
Project:	Mamm Creek	TVD Reference:	WELL @ 5965.0ft (Original Well Elev)
Reference Site:	K28NW Pad	MD Reference:	WELL @ 5965.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Benjamin Federal 28-16C	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 5000.1 US Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design K28NW Pad - Benjamin Fee 28-15A - DD - Plan #2													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance				Total		Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Uncertainty Axis	Separation Factor		
5,100.0	4,813.3	5,056.8	4,931.1	30.6	21.3	-154.70	-502.2	947.8	647.1	616.8	30.28	21.369		
5,200.0	4,906.8	5,155.7	5,027.3	31.3	21.8	-154.74	-513.3	968.1	661.4	630.5	30.88	21.416		
5,300.0	5,000.3	5,254.7	5,123.5	32.0	22.2	-154.79	-524.4	988.3	675.8	644.3	31.49	21.461		
5,400.0	5,093.9	5,353.6	5,219.8	32.6	22.7	-154.83	-535.5	1,008.6	690.1	658.0	32.09	21.505		
5,500.0	5,187.4	5,452.6	5,316.0	33.3	23.1	-154.87	-546.6	1,028.8	704.5	671.8	32.69	21.547		
5,600.0	5,281.0	5,551.6	5,412.2	33.9	23.6	-154.91	-557.7	1,049.1	718.8	685.5	33.30	21.587		
5,700.0	5,374.5	5,650.5	5,508.5	34.6	24.0	-154.95	-568.7	1,069.3	733.2	699.3	33.90	21.626		
5,777.8	5,447.3	5,727.5	5,583.3	35.1	24.4	-154.98	-577.4	1,085.1	744.3	710.0	34.37	21.656		
5,800.0	5,468.1	5,749.5	5,604.7	35.3	24.5	-155.01	-579.8	1,089.6	747.4	712.9	34.50	21.663		
5,900.0	5,562.5	5,848.8	5,701.2	35.8	24.9	-155.07	-590.9	1,109.9	759.5	724.4	35.13	21.620		
6,000.0	5,658.0	5,948.3	5,798.1	36.4	25.3	-154.99	-602.1	1,130.3	768.5	732.6	35.82	21.453		
6,100.0	5,754.5	6,036.8	5,884.2	36.8	25.7	-154.84	-611.8	1,147.9	774.7	738.3	36.48	21.236		
6,200.0	5,851.8	6,119.2	5,964.9	37.3	26.0	-154.70	-619.7	1,162.4	780.0	742.9	37.06	21.048		
6,300.0	5,949.9	6,200.0	6,044.5	37.6	26.3	-154.59	-626.4	1,174.7	784.3	746.7	37.56	20.880		
6,400.0	6,048.6	6,284.1	6,127.7	37.9	26.5	-154.48	-632.3	1,185.3	787.7	749.7	38.01	20.723		
6,500.0	6,147.7	6,366.5	6,209.5	38.1	26.7	-154.39	-636.8	1,193.7	790.2	751.8	38.39	20.583		
6,600.0	6,247.3	6,448.9	6,291.7	38.3	26.9	-154.31	-640.3	1,200.0	791.7	753.0	38.71	20.455		
6,700.0	6,347.2	6,531.4	6,374.0	38.4	27.0	-154.24	-642.6	1,204.2	792.4	753.4	38.96	20.338		
6,800.0	6,447.1	6,613.8	6,456.4	38.5	27.0	-154.18	-643.8	1,206.4	792.1	752.9	39.15	20.230		
6,812.9	6,460.0	6,624.5	6,467.0	38.5	27.1	-21.47	-643.8	1,206.5	792.0	752.8	39.17	20.216		
6,866.6	6,513.7	6,671.2	6,513.7	38.5	27.1	-21.46	-643.9	1,206.7	791.8	752.5	39.29	20.155		
6,900.0	6,547.1	6,704.6	6,547.1	38.5	27.1	-21.46	-643.9	1,206.7	791.8	752.4	39.36	20.119		
7,000.0	6,647.1	6,804.6	6,647.1	38.6	27.2	-21.46	-643.9	1,206.7	791.8	752.2	39.57	20.011		
7,100.0	6,747.1	6,904.6	6,747.1	38.6	27.3	-21.46	-643.9	1,206.7	791.8	752.0	39.78	19.904		
7,200.0	6,847.1	7,004.6	6,847.1	38.7	27.3	-21.46	-643.9	1,206.7	791.8	751.8	39.99	19.798		
7,300.0	6,947.1	7,104.6	6,947.1	38.7	27.4	-21.46	-643.9	1,206.7	791.8	751.6	40.21	19.691		
7,400.0	7,047.1	7,204.6	7,047.1	38.8	27.5	-21.46	-643.9	1,206.7	791.8	751.4	40.43	19.584		
7,500.0	7,147.1	7,304.6	7,147.1	38.9	27.6	-21.46	-643.9	1,206.7	791.8	751.1	40.65	19.478		
7,600.0	7,247.1	7,404.6	7,247.1	38.9	27.7	-21.46	-643.9	1,206.7	791.8	750.9	40.87	19.372		
7,700.0	7,347.1	7,504.6	7,347.1	39.0	27.7	-21.46	-643.9	1,206.7	791.8	750.7	41.10	19.267		
7,800.0	7,447.1	7,604.6	7,447.1	39.0	27.8	-21.46	-643.9	1,206.7	791.8	750.5	41.32	19.162		
7,900.0	7,547.1	7,704.6	7,547.1	39.1	27.9	-21.46	-643.9	1,206.7	791.8	750.2	41.55	19.057		
8,000.0	7,647.1	7,804.6	7,647.1	39.2	28.0	-21.46	-643.9	1,206.7	791.8	750.0	41.78	18.952		
8,100.0	7,747.1	7,904.6	7,747.1	39.2	28.1	-21.46	-643.9	1,206.7	791.8	749.8	42.01	18.848		
8,200.0	7,847.1	8,004.6	7,847.1	39.3	28.2	-21.46	-643.9	1,206.7	791.8	749.5	42.24	18.745		
8,300.0	7,947.1	8,104.6	7,947.1	39.4	28.3	-21.46	-643.9	1,206.7	791.8	749.3	42.47	18.642		
8,400.0	8,047.1	8,204.6	8,047.1	39.4	28.3	-21.46	-643.9	1,206.7	791.8	749.1	42.71	18.539		
8,500.0	8,147.1	8,304.6	8,147.1	39.5	28.4	-21.46	-643.9	1,206.7	791.8	748.8	42.95	18.436		
8,600.0	8,247.1	8,404.6	8,247.1	39.6	28.5	-21.46	-643.9	1,206.7	791.8	748.6	43.19	18.335		
8,700.0	8,347.1	8,504.6	8,347.1	39.6	28.6	-21.46	-643.9	1,206.7	791.8	748.4	43.43	18.233		
8,800.0	8,447.1	8,604.6	8,447.1	39.7	28.7	-21.46	-643.9	1,206.7	791.8	748.1	43.67	18.132		
8,900.0	8,547.1	8,704.6	8,547.1	39.8	28.8	-21.46	-643.9	1,206.7	791.8	747.9	43.91	18.032		
9,000.0	8,647.1	8,804.6	8,647.1	39.8	28.9	-21.46	-643.9	1,206.7	791.8	747.6	44.15	17.932		
9,100.0	8,747.1	8,904.6	8,747.1	39.9	29.0	-21.46	-643.9	1,206.7	791.8	747.4	44.40	17.833		
9,157.2	8,804.3	8,961.8	8,804.3	39.9	29.0	-21.46	-643.9	1,206.7	791.8	747.2	44.54	17.777		
9,200.0	8,847.1	8,982.5	8,825.0	40.0	29.0	-21.46	-643.9	1,206.7	792.1	747.5	44.62	17.752		
9,300.0	8,947.1	8,982.5	8,825.0	40.0	29.0	-21.46	-643.9	1,206.7	801.1	756.4	44.74	17.905		
9,400.0	9,047.1	8,982.5	8,825.0	40.1	29.0	-21.46	-643.9	1,206.7	822.4	777.5	44.87	18.328		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Benjamin Federal 28-16C
Project:	Mamm Creek	TVD Reference:	WELL @ 5965.0ft (Original Well Elev)
Reference Site:	K28NW Pad	MD Reference:	WELL @ 5965.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Benjamin Federal 28-16C	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 5000.1 US Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design K28NW Pad - Benjamin Fee 28-6C - DD - Plan #2													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance					Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor		
0.0	0.0	0.0	0.0	0.0	0.0	0.00	67.7	0.0	67.7					
100.0	100.0	100.0	100.0	0.1	0.1	0.00	67.7	0.0	67.7	67.5	0.27	248.827		
200.0	200.0	200.0	200.0	0.3	0.3	0.00	67.7	0.0	67.7	67.1	0.62	109.037 CC, ES		
300.0	300.0	296.8	296.8	0.5	0.5	-135.14	69.8	-1.3	71.7	70.8	0.97	73.911		
400.0	399.6	392.2	391.8	0.7	0.7	-140.96	75.9	-5.1	84.4	83.0	1.33	63.257		
500.0	498.8	484.6	483.6	1.0	1.0	-147.33	85.7	-11.2	106.7	105.0	1.70	62.804 SF		
600.0	597.1	572.9	570.6	1.4	1.2	-152.58	98.5	-19.2	138.9	136.8	2.05	67.796		
700.0	694.3	663.6	659.5	1.8	1.6	-156.67	113.6	-28.6	178.7	176.3	2.39	74.697		
800.0	790.2	752.3	746.5	2.4	1.9	-159.59	128.3	-37.8	223.6	220.9	2.73	82.011		
890.1	875.1	830.0	822.7	2.9	2.2	-161.55	141.2	-45.8	268.2	265.2	3.02	88.787		
900.0	884.4	838.4	830.9	3.0	2.2	-161.79	142.6	-46.7	273.3	270.3	3.05	89.506		
1,000.0	978.0	923.5	914.4	3.6	2.5	-163.79	156.8	-55.5	325.1	321.8	3.38	96.063		
1,100.0	1,071.5	1,008.6	997.8	4.3	2.9	-165.25	170.9	-64.3	377.2	373.5	3.71	101.549		
1,200.0	1,165.1	1,093.6	1,081.2	4.9	3.2	-166.36	185.0	-73.1	429.3	425.3	4.04	106.192		
1,300.0	1,258.6	1,178.7	1,164.6	5.6	3.5	-167.22	199.1	-81.9	481.6	477.2	4.37	110.166		
1,400.0	1,352.2	1,263.8	1,248.0	6.2	3.8	-167.92	213.3	-90.8	533.9	529.2	4.70	113.603		
1,500.0	1,445.7	1,348.8	1,331.5	6.9	4.2	-168.50	227.4	-99.6	586.2	581.2	5.03	116.602		
1,600.0	1,539.2	1,433.9	1,414.9	7.5	4.5	-168.98	241.5	-108.4	638.6	633.3	5.36	119.240		
1,700.0	1,632.8	1,518.9	1,498.3	8.2	4.8	-169.38	255.6	-117.2	691.1	685.4	5.68	121.578		
1,800.0	1,726.3	1,604.0	1,581.7	8.9	5.1	-169.73	269.8	-126.0	743.5	737.5	6.01	123.663		
1,900.0	1,819.9	1,689.1	1,665.1	9.5	5.5	-170.04	283.9	-134.8	796.0	789.6	6.34	125.533		

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Benjamin Federal 28-16C
Project:	Mamm Creek	TVD Reference:	WELL @ 5965.0ft (Original Well Elev)
Reference Site:	K28NW Pad	MD Reference:	WELL @ 5965.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Benjamin Federal 28-16C	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 5000.1 US Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design K28NW Pad - Benjamin Fee 28-9B - DD - Plan #2													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor		
0.0	0.0	0.0	0.0	0.0	0.0	0.00	51.0	0.0	51.0					
100.0	100.0	100.0	100.0	0.1	0.1	0.00	51.0	0.0	51.0	50.7	0.27	187.290		
200.0	200.0	200.0	200.0	0.3	0.3	0.00	51.0	0.0	51.0	50.4	0.62	82.071 CC, ES		
300.0	300.0	298.9	298.9	0.5	0.5	-132.14	52.0	2.4	53.7	52.8	0.98	54.838		
400.0	399.6	397.4	397.0	0.7	0.7	-130.73	54.8	9.4	62.0	60.6	1.39	44.609		
500.0	498.8	495.0	493.8	1.0	1.0	-129.02	59.5	21.1	75.8	73.9	1.89	40.127		
600.0	597.1	591.2	588.5	1.4	1.3	-127.38	66.0	37.0	94.9	92.4	2.50	38.002		
700.0	694.3	685.9	680.7	1.8	1.7	-125.93	74.1	57.0	119.4	116.2	3.22	37.067		
800.0	790.2	781.8	773.6	2.4	2.2	-125.60	83.1	79.1	147.8	143.8	4.03	36.674		
890.1	875.1	867.2	856.3	2.9	2.6	-126.36	91.1	98.8	175.9	171.1	4.81	36.608 SF		
900.0	884.4	876.6	865.4	3.0	2.6	-126.56	92.0	100.9	179.2	174.3	4.89	36.623		
1,000.0	978.0	971.0	956.8	3.6	3.1	-128.22	100.8	122.7	211.9	206.1	5.77	36.737		
1,100.0	1,071.5	1,065.3	1,048.2	4.3	3.5	-129.43	109.6	144.4	244.7	238.1	6.65	36.823		
1,200.0	1,165.1	1,159.7	1,139.5	4.9	3.9	-130.36	118.5	166.2	277.6	270.1	7.53	36.892		
1,300.0	1,258.6	1,254.0	1,230.9	5.6	4.4	-131.09	127.3	187.9	310.6	302.2	8.41	36.950		
1,400.0	1,352.2	1,348.4	1,322.3	6.2	4.8	-131.68	136.1	209.7	343.6	334.3	9.29	36.998		
1,500.0	1,445.7	1,442.7	1,413.7	6.9	5.3	-132.16	145.0	231.4	376.6	366.4	10.17	37.040		
1,600.0	1,539.2	1,537.1	1,505.1	7.5	5.7	-132.57	153.8	253.2	409.6	398.6	11.05	37.076		
1,700.0	1,632.8	1,631.4	1,596.4	8.2	6.2	-132.92	162.6	274.9	442.7	430.8	11.93	37.108		
1,800.0	1,726.3	1,725.7	1,687.8	8.9	6.6	-133.22	171.5	296.7	475.8	462.9	12.81	37.136		
1,900.0	1,819.9	1,820.1	1,779.2	9.5	7.1	-133.48	180.3	318.4	508.8	495.1	13.69	37.161		
2,000.0	1,913.4	1,914.4	1,870.6	10.2	7.5	-133.71	189.1	340.2	541.9	527.3	14.57	37.183		
2,100.0	2,007.0	2,008.8	1,962.0	10.8	8.0	-133.91	197.9	361.9	575.0	559.6	15.46	37.204		
2,200.0	2,100.5	2,103.1	2,053.3	11.5	8.4	-134.09	206.8	383.7	608.1	591.8	16.34	37.222		
2,300.0	2,194.0	2,197.5	2,144.7	12.2	8.9	-134.25	215.6	405.4	641.2	624.0	17.22	37.239		
2,400.0	2,287.6	2,291.8	2,236.1	12.8	9.3	-134.40	224.4	427.2	674.3	656.2	18.10	37.254		
2,500.0	2,381.1	2,386.2	2,327.5	13.5	9.8	-134.53	233.3	448.9	707.4	688.5	18.98	37.268		
2,600.0	2,474.7	2,480.5	2,418.9	14.1	10.2	-134.65	242.1	470.7	740.6	720.7	19.86	37.281		
2,700.0	2,568.2	2,574.9	2,510.2	14.8	10.7	-134.76	250.9	492.4	773.7	752.9	20.75	37.293		
2,800.0	2,661.8	2,669.2	2,601.6	15.4	11.1	-134.86	259.8	514.1	806.8	785.2	21.63	37.304		

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Benjamin Federal 28-16C
Project:	Mamm Creek	TVD Reference:	WELL @ 5965.0ft (Original Well Elev)
Reference Site:	K28NW Pad	MD Reference:	WELL @ 5965.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Benjamin Federal 28-16C	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 5000.1 US Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design K28NW Pad - Benjamin Fee 33-1B - DD - Plan #2													Offset Site Error: 0.0 ft	
Survey Program: 0-MWD													Offset Well Error: 0.0 ft	
Reference		Offset		Semi Major Axis		Distance								Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft) +E/-W (ft)		Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor		
0.0	0.0	0.0	0.0	0.0	0.0	-76.71	25.5	-108.0	111.0					
100.0	100.0	100.0	100.0	0.1	0.1	-76.71	25.5	-108.0	111.0	110.7	0.27	407.540		
200.0	200.0	200.0	200.0	0.3	0.3	-76.71	25.5	-108.0	111.0	110.3	0.62	178.585 CC		
300.0	300.0	300.0	300.0	0.5	0.5	151.20	25.5	-108.0	113.2	112.3	0.97	116.545		
400.0	399.6	399.6	399.6	0.7	0.7	152.91	25.5	-108.0	120.2	118.9	1.33	90.531		
500.0	498.8	505.6	505.5	1.0	0.9	155.94	25.5	-105.1	129.4	127.7	1.70	76.083		
600.0	597.1	611.3	610.9	1.4	1.1	160.06	25.1	-96.6	138.7	136.6	2.07	66.904		
700.0	694.3	717.0	715.8	1.8	1.3	163.41	20.5	-84.5	148.8	146.4	2.44	61.081		
800.0	790.2	823.7	820.9	2.4	1.7	165.77	10.9	-69.3	159.7	156.9	2.80	57.073		
890.1	875.1	920.3	915.3	2.9	2.0	167.17	-2.2	-52.8	169.8	166.7	3.12	54.349		
900.0	884.4	931.1	925.7	3.0	2.1	167.29	-3.9	-50.9	170.9	167.7	3.16	54.020		
1,000.0	978.0	1,039.5	1,030.0	3.6	2.6	167.95	-23.9	-29.2	179.3	175.7	3.56	50.292		
1,100.0	1,071.5	1,148.6	1,133.1	4.3	3.2	167.65	-49.1	-4.4	182.6	178.6	4.01	45.597		
1,200.0	1,165.1	1,257.6	1,234.1	4.9	4.0	166.43	-79.4	23.4	181.0	176.5	4.53	39.983		
1,300.0	1,258.6	1,361.3	1,328.3	5.6	4.8	164.42	-112.1	52.2	175.3	170.1	5.16	33.986		
1,400.0	1,352.2	1,460.9	1,418.4	6.2	5.5	162.23	-144.1	80.1	169.3	163.4	5.89	28.738		
1,500.0	1,445.7	1,560.5	1,508.5	6.9	6.3	159.90	-176.0	108.0	163.5	156.7	6.74	24.242		
1,600.0	1,539.2	1,660.2	1,598.6	7.5	7.0	157.39	-208.0	136.0	158.0	150.3	7.73	20.434		
1,700.0	1,632.8	1,759.8	1,688.7	8.2	7.8	154.72	-240.0	163.9	152.9	144.0	8.87	17.242		
1,800.0	1,726.3	1,859.4	1,778.8	8.9	8.6	151.86	-271.9	191.8	148.1	137.9	10.15	14.589		
1,900.0	1,819.9	1,959.0	1,868.9	9.5	9.4	148.83	-303.9	219.7	143.7	132.1	11.59	12.399		
2,000.0	1,913.4	2,058.6	1,959.0	10.2	10.1	145.61	-335.8	247.6	139.7	126.6	13.18	10.602		
2,100.0	2,007.0	2,158.2	2,049.1	10.8	10.9	142.22	-367.8	275.5	136.2	121.3	14.92	9.132		
2,200.0	2,100.5	2,257.8	2,139.3	11.5	11.7	138.66	-399.7	303.5	133.2	116.5	16.79	7.935		
2,300.0	2,194.0	2,357.4	2,229.4	12.2	12.5	134.96	-431.7	331.4	130.8	112.0	18.78	6.964		
2,400.0	2,287.6	2,457.0	2,319.5	12.8	13.3	131.13	-463.7	359.3	128.9	108.0	20.87	6.178		
2,500.0	2,381.1	2,556.6	2,409.6	13.5	14.1	127.21	-495.6	387.2	127.6	104.6	23.01	5.545		
2,600.0	2,474.7	2,656.2	2,499.7	14.1	14.8	123.23	-527.6	415.1	126.9	101.7	25.20	5.038		
2,658.5	2,529.4	2,714.4	2,552.4	14.5	15.3	120.89	-546.3	431.5	126.8	100.4	26.47	4.791		
2,700.0	2,568.2	2,755.8	2,589.8	14.8	15.6	119.22	-559.5	443.1	126.9	99.5	27.38	4.635		
2,800.0	2,661.8	2,855.4	2,679.9	15.4	16.4	115.23	-591.5	471.0	127.5	97.9	29.52	4.317		
2,900.0	2,755.3	2,955.0	2,770.0	16.1	17.2	111.30	-623.5	498.9	128.6	97.0	31.61	4.070		
3,000.0	2,848.9	3,054.6	2,860.1	16.8	18.0	107.45	-655.4	526.8	130.4	96.8	33.61	3.881 ES		
3,100.0	2,942.4	3,154.2	2,950.3	17.4	18.8	103.73	-687.4	554.7	132.8	97.3	35.50	3.740		
3,200.0	3,035.9	3,253.8	3,040.4	18.1	19.6	100.14	-719.3	582.6	135.7	98.4	37.28	3.639		
3,300.0	3,129.5	3,353.4	3,130.5	18.7	20.3	96.72	-751.3	610.6	139.1	100.2	38.95	3.572		
3,400.0	3,223.0	3,453.0	3,220.6	19.4	21.1	93.48	-783.2	638.5	143.0	102.5	40.49	3.531		
3,500.0	3,316.6	3,552.6	3,310.7	20.1	21.9	90.41	-815.2	666.4	147.3	105.4	41.92	3.514 SF		
3,600.0	3,410.1	3,652.2	3,400.8	20.7	22.7	87.52	-847.2	694.3	152.0	108.8	43.25	3.516		
3,700.0	3,503.7	3,751.8	3,490.9	21.4	23.5	84.82	-879.1	722.2	157.1	112.7	44.48	3.533		
3,800.0	3,597.2	3,851.4	3,581.0	22.1	24.3	82.29	-911.1	750.2	162.5	116.9	45.62	3.563		
3,900.0	3,690.7	3,951.0	3,671.1	22.7	25.1	79.92	-943.0	778.1	168.3	121.6	46.69	3.604		
4,000.0	3,784.3	4,050.6	3,761.3	23.4	25.8	77.71	-975.0	806.0	174.2	126.5	47.69	3.654		
4,100.0	3,877.8	4,150.2	3,851.4	24.0	26.6	75.66	-1,007.0	833.9	180.5	131.8	48.63	3.711		
4,200.0	3,971.4	4,249.8	3,941.5	24.7	27.4	73.74	-1,038.9	861.8	186.9	137.4	49.53	3.774		
4,300.0	4,064.9	4,349.4	4,031.6	25.4	28.2	71.95	-1,070.9	889.7	193.5	143.2	50.38	3.841		
4,400.0	4,158.5	4,449.0	4,121.7	26.0	29.0	70.28	-1,102.8	917.7	200.3	149.1	51.20	3.913		
4,500.0	4,252.0	4,548.6	4,211.8	26.7	29.8	68.72	-1,134.8	945.6	207.3	155.3	51.99	3.987		
4,600.0	4,345.5	4,648.2	4,301.9	27.3	30.6	67.26	-1,166.7	973.5	214.4	161.7	52.76	4.064		
4,700.0	4,439.1	4,747.8	4,392.0	28.0	31.4	65.90	-1,198.7	1,001.4	221.7	168.2	53.50	4.143		
4,800.0	4,532.6	4,847.4	4,482.1	28.7	32.1	64.62	-1,230.7	1,029.3	229.0	174.8	54.23	4.223		
4,900.0	4,626.2	4,947.0	4,572.2	29.3	32.9	63.42	-1,262.6	1,057.3	236.5	181.5	54.95	4.304		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Benjamin Federal 28-16C
Project:	Mamm Creek	TVD Reference:	WELL @ 5965.0ft (Original Well Elev)
Reference Site:	K28NW Pad	MD Reference:	WELL @ 5965.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Benjamin Federal 28-16C	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 5000.1 US Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design K28NW Pad - Benjamin Fee 33-1B - DD - Plan #2													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis		Distance		Total		Separation		Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Uncertainty Axis			
5,000.0	4,719.7	5,046.6	4,662.4	30.0	33.7	62.30	-1,294.6	1,085.2	244.1	188.4	55.65	4.386		
5,100.0	4,813.3	5,146.2	4,752.5	30.6	34.5	61.24	-1,326.5	1,113.1	251.7	195.4	56.34	4.467		
5,200.0	4,906.8	5,245.8	4,842.6	31.3	35.3	60.25	-1,358.5	1,141.0	259.4	202.4	57.03	4.549		
5,300.0	5,000.3	5,345.5	4,932.7	32.0	36.1	59.31	-1,390.5	1,168.9	267.2	209.5	57.71	4.630		
5,400.0	5,093.9	5,445.1	5,022.8	32.6	36.9	58.43	-1,422.4	1,196.8	275.1	216.7	58.39	4.712		
5,500.0	5,187.4	5,544.7	5,112.9	33.3	37.7	57.60	-1,454.4	1,224.8	283.0	224.0	59.06	4.792		
5,600.0	5,281.0	5,644.3	5,203.0	33.9	38.4	56.81	-1,486.3	1,252.7	291.0	231.3	59.74	4.872		
5,700.0	5,374.5	5,748.9	5,298.1	34.6	39.2	56.18	-1,519.2	1,281.4	298.5	238.0	60.48	4.935		
5,777.8	5,447.3	5,832.1	5,374.8	35.1	39.8	56.07	-1,543.6	1,302.7	302.7	241.4	61.30	4.939		
5,800.0	5,468.1	5,855.9	5,396.9	35.3	40.0	56.11	-1,550.2	1,308.5	303.7	242.2	61.56	4.934		
5,900.0	5,562.5	5,963.1	5,497.3	35.8	40.6	56.27	-1,578.5	1,333.2	307.9	245.3	62.68	4.913		
6,000.0	5,658.0	6,070.4	5,599.1	36.4	41.2	56.42	-1,604.0	1,355.4	311.7	248.0	63.68	4.895		
6,100.0	5,754.5	6,177.8	5,702.3	36.8	41.8	56.55	-1,626.5	1,375.2	315.0	250.5	64.59	4.878		
6,200.0	5,851.8	6,285.3	5,806.5	37.3	42.2	56.68	-1,646.2	1,392.3	317.9	252.5	65.38	4.863		
6,300.0	5,949.9	6,392.9	5,911.8	37.6	42.6	56.79	-1,662.9	1,406.9	320.3	254.3	66.06	4.849		
6,400.0	6,048.6	6,500.5	6,017.8	37.9	42.9	56.89	-1,676.6	1,418.9	322.3	255.6	66.64	4.835		
6,500.0	6,147.7	6,608.2	6,124.5	38.1	43.2	56.98	-1,687.3	1,428.3	323.7	256.6	67.11	4.824		
6,600.0	6,247.3	6,715.8	6,231.7	38.3	43.4	57.06	-1,695.0	1,435.0	324.7	257.3	67.48	4.812		
6,700.0	6,347.2	6,823.5	6,339.2	38.4	43.5	57.12	-1,699.7	1,439.1	325.3	257.5	67.74	4.802		
6,800.0	6,447.1	6,931.2	6,446.9	38.5	43.6	57.18	-1,701.3	1,440.5	325.3	257.4	67.91	4.791		
6,812.9	6,460.0	6,944.3	6,460.0	38.5	43.6	-170.11	-1,701.3	1,440.5	325.3	257.4	67.92	4.789		
6,900.0	6,547.1	7,031.5	6,547.1	38.5	43.6	-170.11	-1,701.3	1,440.5	325.3	257.3	68.03	4.782		
7,000.0	6,647.1	7,131.5	6,647.1	38.6	43.7	-170.11	-1,701.3	1,440.5	325.3	257.2	68.16	4.773		
7,100.0	6,747.1	7,231.5	6,747.1	38.6	43.7	-170.11	-1,701.3	1,440.5	325.3	257.0	68.28	4.764		
7,200.0	6,847.1	7,331.5	6,847.1	38.7	43.8	-170.11	-1,701.3	1,440.5	325.3	256.9	68.41	4.755		
7,300.0	6,947.1	7,431.5	6,947.1	38.7	43.8	-170.11	-1,701.3	1,440.5	325.3	256.8	68.54	4.746		
7,400.0	7,047.1	7,531.5	7,047.1	38.8	43.9	-170.11	-1,701.3	1,440.5	325.3	256.6	68.67	4.737		
7,500.0	7,147.1	7,631.5	7,147.1	38.9	43.9	-170.11	-1,701.3	1,440.5	325.3	256.5	68.81	4.728		
7,600.0	7,247.1	7,731.5	7,247.1	38.9	44.0	-170.11	-1,701.3	1,440.5	325.3	256.4	68.94	4.719		
7,700.0	7,347.1	7,831.5	7,347.1	39.0	44.0	-170.11	-1,701.3	1,440.5	325.3	256.2	69.08	4.709		
7,800.0	7,447.1	7,931.5	7,447.1	39.0	44.1	-170.11	-1,701.3	1,440.5	325.3	256.1	69.21	4.700		
7,900.0	7,547.1	8,031.5	7,547.1	39.1	44.1	-170.11	-1,701.3	1,440.5	325.3	256.0	69.35	4.691		
8,000.0	7,647.1	8,131.5	7,647.1	39.2	44.2	-170.11	-1,701.3	1,440.5	325.3	255.8	69.49	4.681		
8,100.0	7,747.1	8,231.5	7,747.1	39.2	44.2	-170.11	-1,701.3	1,440.5	325.3	255.7	69.64	4.672		
8,200.0	7,847.1	8,331.5	7,847.1	39.3	44.3	-170.11	-1,701.3	1,440.5	325.3	255.5	69.78	4.662		
8,300.0	7,947.1	8,431.5	7,947.1	39.4	44.4	-170.11	-1,701.3	1,440.5	325.3	255.4	69.92	4.652		
8,400.0	8,047.1	8,531.5	8,047.1	39.4	44.4	-170.11	-1,701.3	1,440.5	325.3	255.2	70.07	4.643		
8,500.0	8,147.1	8,631.5	8,147.1	39.5	44.5	-170.11	-1,701.3	1,440.5	325.3	255.1	70.22	4.633		
8,600.0	8,247.1	8,731.5	8,247.1	39.6	44.5	-170.11	-1,701.3	1,440.5	325.3	254.9	70.37	4.623		
8,700.0	8,347.1	8,831.5	8,347.1	39.6	44.6	-170.11	-1,701.3	1,440.5	325.3	254.8	70.52	4.613		
8,800.0	8,447.1	8,931.5	8,447.1	39.7	44.7	-170.11	-1,701.3	1,440.5	325.3	254.6	70.67	4.603		
8,900.0	8,547.1	9,031.5	8,547.1	39.8	44.7	-170.11	-1,701.3	1,440.5	325.3	254.5	70.82	4.593		
9,000.0	8,647.1	9,131.5	8,647.1	39.8	44.8	-170.11	-1,701.3	1,440.5	325.3	254.3	70.98	4.583		
9,100.0	8,747.1	9,231.5	8,747.1	39.9	44.8	-170.11	-1,701.3	1,440.5	325.3	254.2	71.13	4.573		
9,200.0	8,847.1	9,259.3	8,775.0	40.0	44.9	-170.11	-1,701.3	1,440.5	333.2	262.0	71.23	4.678		
9,300.0	8,947.1	9,259.3	8,775.0	40.0	44.9	-170.11	-1,701.3	1,440.5	368.0	296.7	71.32	5.161		
9,400.0	9,047.1	9,259.3	8,775.0	40.1	44.9	-170.11	-1,701.3	1,440.5	424.1	352.7	71.40	5.940		
9,500.0	9,147.1	9,259.3	8,775.0	40.2	44.9	-170.11	-1,701.3	1,440.5	494.3	422.8	71.48	6.915		
9,600.0	9,247.1	9,259.3	8,775.0	40.2	44.9	-170.11	-1,701.3	1,440.5	573.4	501.8	71.56	8.012		
9,700.0	9,347.1	9,259.3	8,775.0	40.3	44.9	-170.11	-1,701.3	1,440.5	658.1	586.5	71.65	9.186		
9,800.0	9,447.1	9,259.3	8,775.0	40.4	44.9	-170.11	-1,701.3	1,440.5	746.7	675.0	71.73	10.410		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Benjamin Federal 28-16C
Project:	Mamm Creek	TVD Reference:	WELL @ 5965.0ft (Original Well Elev)
Reference Site:	K28NW Pad	MD Reference:	WELL @ 5965.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Benjamin Federal 28-16C	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 5000.1 US Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design K28NW Pad - GMR 28-7D Existing - DD - Schlumberger Surveys													Offset Site Error:	0.0 ft
Survey Program: 140-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis		Distance		Total		Separation		Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Uncertainty Axis	Factor		
0.0	0.0	0.0	0.0	0.0	0.0	-104.60	-28.1	-108.0	111.6					
100.0	100.0	101.5	101.5	0.1	0.2	-104.19	-27.2	-107.5	110.9	110.6	0.29	380.298		
200.0	200.0	203.5	203.5	0.3	0.3	-103.08	-24.6	-105.8	108.7	108.0	0.65	168.432		
300.0	300.0	307.5	307.3	0.5	0.6	127.07	-20.7	-101.5	105.4	104.4	1.01	104.460		
400.0	399.6	409.7	409.0	0.7	0.8	133.14	-14.9	-93.8	102.2	100.8	1.41	72.385		
438.7	438.1	448.1	447.2	0.8	0.9	136.21	-12.4	-90.4	101.8	100.2	1.59	64.095 CC, ES		
500.0	498.8	508.2	506.9	1.0	1.1	142.12	-7.5	-85.1	103.1	101.2	1.87	55.234		
600.0	597.1	608.6	606.2	1.4	1.4	153.59	2.7	-74.9	110.5	108.1	2.36	46.774		
700.0	694.3	705.1	701.3	1.8	1.7	164.78	14.2	-63.0	125.4	122.6	2.86	43.921 SF		
800.0	790.2	798.2	792.4	2.4	2.1	174.54	27.9	-50.3	150.0	146.6	3.35	44.800		
890.1	875.1	880.7	872.8	2.9	2.5	-178.20	42.0	-37.8	179.7	175.9	3.81	47.144		
900.0	884.4	889.5	881.3	3.0	2.5	-177.51	43.6	-36.4	183.3	179.5	3.87	47.372		
1,000.0	978.0	976.8	965.7	3.6	2.9	-171.61	60.7	-22.1	221.9	217.4	4.49	49.476		
1,100.0	1,071.5	1,066.5	1,051.7	4.3	3.4	-166.68	80.2	-5.8	262.8	257.6	5.21	50.429		
1,200.0	1,165.1	1,152.7	1,133.7	4.9	3.9	-162.67	100.6	11.8	305.3	299.3	5.99	50.957		
1,300.0	1,258.6	1,241.2	1,217.1	5.6	4.5	-159.18	122.6	31.2	349.2	342.4	6.87	50.843		
1,400.0	1,352.2	1,329.4	1,299.8	6.2	5.0	-156.19	145.1	52.1	394.0	386.2	7.77	50.698		
1,500.0	1,445.7	1,416.1	1,380.8	6.9	5.6	-153.74	167.6	73.1	439.5	430.8	8.64	50.842		
1,600.0	1,539.2	1,503.8	1,463.3	7.5	6.1	-151.91	189.9	93.0	485.6	476.1	9.52	51.005		
1,700.0	1,632.8	1,593.5	1,547.5	8.2	6.7	-150.28	212.8	114.1	531.9	521.4	10.44	50.956		
1,800.0	1,726.3	1,681.7	1,629.9	8.9	7.3	-148.84	235.3	135.7	578.2	566.9	11.33	51.010		
1,900.0	1,819.9	1,769.0	1,711.8	9.5	7.8	-147.71	257.3	156.3	624.8	612.6	12.21	51.172		
2,000.0	1,913.4	1,855.5	1,793.2	10.2	8.4	-146.81	279.1	175.9	671.7	658.6	13.07	51.408		
2,100.0	2,007.0	1,942.6	1,875.0	10.8	9.0	-146.00	301.3	195.9	718.8	704.9	13.96	51.494		
2,200.0	2,100.5	2,030.0	1,956.6	11.5	9.5	-145.14	324.0	217.6	766.1	751.3	14.87	51.533		
2,300.0	2,194.0	2,118.3	2,039.1	12.2	10.1	-144.37	346.8	239.4	813.5	797.8	15.77	51.582		

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Benjamin Federal 28-16C
Project:	Mamm Creek	TVD Reference:	WELL @ 5965.0ft (Original Well Elev)
Reference Site:	K28NW Pad	MD Reference:	WELL @ 5965.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Benjamin Federal 28-16C	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 5000.1 US Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design K28NW Pad - GMU 28-14D Existing - Schlumberger Surveys - Schlumberger Surveys													Offset Site Error:	0.0 ft
Survey Program: 270-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance					Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis			
0.0	0.0	0.0	0.0	0.0	0.0	-117.64	-65.6	-125.2	141.4					
100.0	100.0	100.1	100.1	0.1	0.2	-117.61	-65.5	-125.2	141.3	141.0	0.30	476.407		
200.0	200.0	200.2	200.2	0.3	0.3	-117.55	-65.3	-125.2	141.2	140.6	0.63	223.580		
207.2	207.2	207.4	207.4	0.3	0.3	109.76	-65.3	-125.2	141.2	140.6	0.66	215.258 CC, ES		
300.0	300.0	300.1	300.1	0.5	0.5	110.81	-65.1	-125.2	142.0	141.0	0.98	145.211		
400.0	399.6	398.4	398.4	0.7	0.7	113.45	-65.4	-125.2	145.2	143.8	1.36	106.543		
500.0	498.8	495.5	495.5	1.0	0.8	117.45	-66.6	-126.6	152.5	150.7	1.79	85.180		
600.0	597.1	593.1	593.1	1.4	1.0	122.21	-68.7	-128.3	164.1	161.8	2.27	72.428		
700.0	694.3	688.5	688.3	1.8	1.2	126.77	-72.8	-130.1	180.3	177.5	2.78	64.937		
800.0	790.2	782.0	781.5	2.4	1.4	130.90	-78.9	-133.1	202.5	199.2	3.32	61.040		
890.1	875.1	864.8	864.1	2.9	1.5	134.33	-84.9	-136.5	227.4	223.6	3.82	59.557		
900.0	884.4	873.7	873.0	3.0	1.6	134.75	-85.6	-137.0	230.5	226.6	3.87	59.527		
1,000.0	978.0	961.9	960.7	3.6	1.8	138.35	-92.4	-142.2	262.5	258.1	4.40	59.657		
1,100.0	1,071.5	1,048.0	1,046.1	4.3	2.0	140.70	-101.0	-149.4	297.5	292.6	4.94	60.191		
1,200.0	1,165.1	1,132.8	1,129.7	4.9	2.3	142.13	-111.5	-158.9	335.2	329.6	5.52	60.752		
1,300.0	1,258.6	1,218.3	1,213.4	5.6	2.6	142.90	-124.1	-170.5	374.9	368.8	6.14	61.111		
1,400.0	1,352.2	1,308.9	1,301.7	6.2	2.9	143.21	-139.7	-183.9	415.5	408.6	6.82	60.929		
1,500.0	1,445.7	1,398.2	1,388.1	6.9	3.3	143.08	-157.6	-197.7	456.2	448.6	7.56	60.332		
1,600.0	1,539.2	1,479.6	1,466.4	7.5	3.7	142.81	-175.2	-211.4	498.1	489.8	8.31	59.957		
1,700.0	1,632.8	1,561.6	1,544.9	8.2	4.1	142.50	-193.2	-226.8	541.8	532.7	9.06	59.797		
1,800.0	1,726.3	1,649.7	1,629.2	8.9	4.6	142.26	-212.0	-244.0	586.2	576.3	9.83	59.645		
1,900.0	1,819.9	1,737.5	1,713.4	9.5	5.0	142.14	-230.0	-261.3	630.8	620.2	10.59	59.564		
2,000.0	1,913.4	1,824.7	1,796.9	10.2	5.5	142.01	-248.0	-278.7	675.6	664.3	11.38	59.370		
2,100.0	2,007.0	1,911.6	1,879.9	10.8	5.9	141.82	-266.8	-296.5	720.8	708.6	12.18	59.197		
2,200.0	2,100.5	1,999.2	1,963.3	11.5	6.4	141.59	-286.4	-314.7	766.2	753.2	12.99	58.978		
2,300.0	2,194.0	2,086.6	2,046.5	12.2	6.9	141.37	-306.1	-333.0	811.8	798.0	13.81	58.791 SF		

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Benjamin Federal 28-16C
Project:	Mamm Creek	TVD Reference:	WELL @ 5965.0ft (Original Well Elev)
Reference Site:	K28NW Pad	MD Reference:	WELL @ 5965.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Benjamin Federal 28-16C	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 5000.1 US Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Reference Depths are relative to WELL @ 5965.0ft (Original Well Elev)
 Offset Depths are relative to Offset Datum
 Central Meridian is -105.500000 °

Coordinates are relative to: Benjamin Federal 28-16C
 Coordinate System is US State Plane 1983, Colorado Central Zone
 Grid Convergence at Surface is: -1.44°

