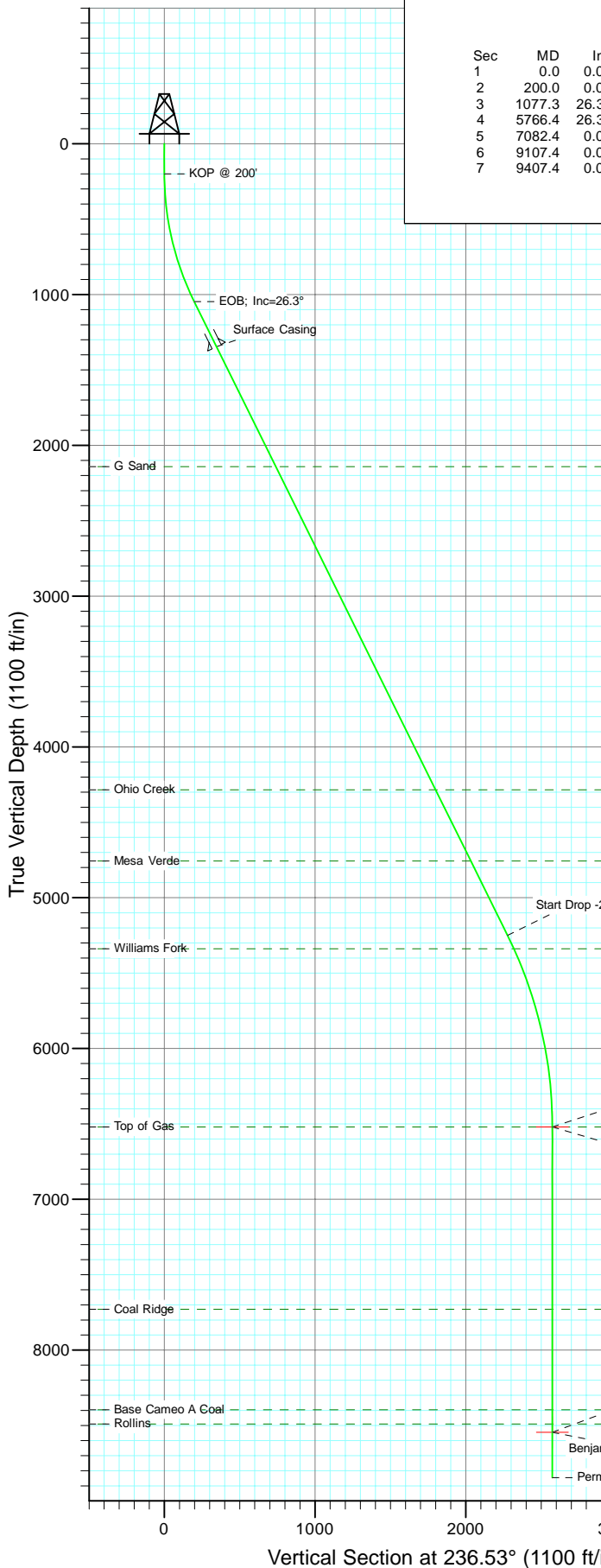


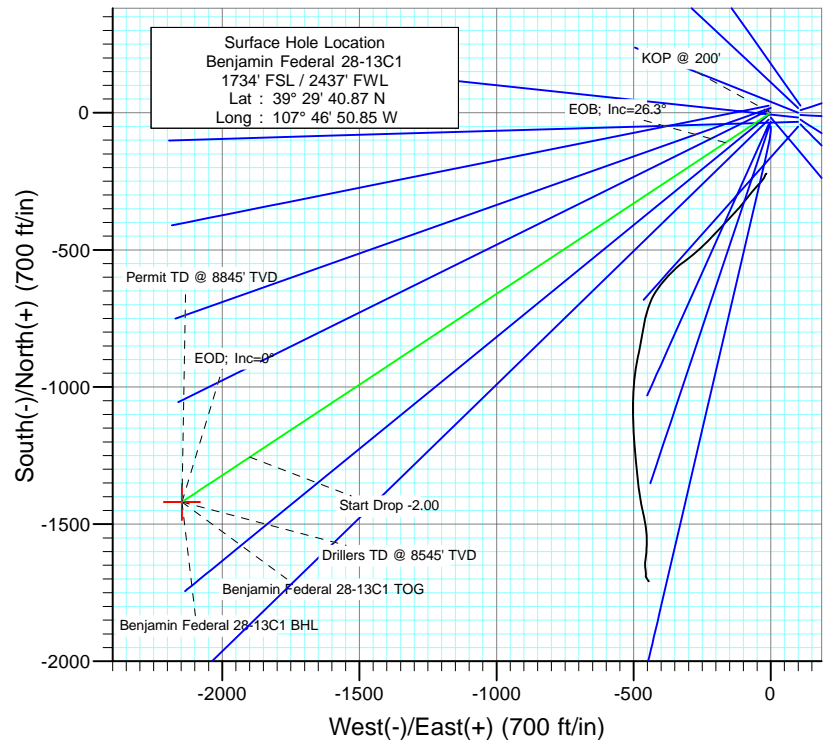


Project: Mamm Creek  
Site: K28NW Pad  
Well: Benjamin Federal 28-13C1  
Wellbore: DD  
Design: Plan #1



#### 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	1077.3	26.32	236.53	1046.8	-109.2	-165.2	3.00	236.53	198.0	
4	5766.4	26.32	236.53	5249.8	-1255.7	-1899.5	0.00	0.00	2277.0	
5	7082.4	0.00	0.00	6520.0	-1419.4	-2147.2	2.00	180.00	2574.0	Benjamin Federal 28-13C1 TOG
6	9107.4	0.00	0.00	8545.0	-1419.4	-2147.2	0.00	0.00	2574.0	Benjamin Federal 28-13C1 BHL
7	9407.4	0.00	0.00	8845.0	-1419.4	-2147.2	0.00	0.00	2574.0	



#### FORMATION TOP DETAILS

TVDPath	MDPath	Formation
2141.0	2298.1	G Sand
4285.0	4690.0	Ohio Creek
4757.0	5216.6	Mesa Verde
5339.0	5865.1	Williams Fork
6520.0	7082.4	Top of Gas
7729.0	8291.4	Coal Ridge
8395.0	8957.4	Base Cameo A Coal
8490.0	9052.4	Rollins



Azimuths to True North  
Magnetic North: 10.36°

Magnetic Field  
Strength: 52406.0nT  
Dip Angle: 65.82°  
Date: 6/23/2010  
Model: IGRF200510

Plan #1  
Benjamin Federal 28-13C1  
BHL = (350 FSL - 240 FWL) Job #10xxx: KR  
WELL @ 5965.0ft (Original Well Elev)  
North American Datum 1983  
Well Benjamin Federal 28-13C1, True North

Type	Target	Azimuth	Origin	Type	N/S	E/W	From	TVD
Target	Benjamin Federal 28-13C1 BHL	236.53	Slot		0.0	0.0	0.0	0.0
Name	TVD	+N/-S	+E/-W	Latitude	Longitude			
Benjamin Federal 28-13C1 BHL	8545.0	-1419.4	-2147.239	29° 26.84 N	107° 47' 18.24 W			

# Cathedral Energy Services

## Planning Report

<b>Database:</b>	EDM 5000.1 US Multi Users DB	<b>Local Co-ordinate Reference:</b>	Well Benjamin Federal 28-13C1
<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>TVD Reference:</b>	WELL @ 5965.0ft (Original Well Elev)
<b>Project:</b>	Mamm Creek	<b>MD Reference:</b>	WELL @ 5965.0ft (Original Well Elev)
<b>Site:</b>	K28NW Pad	<b>North Reference:</b>	True
<b>Well:</b>	Benjamin Federal 28-13C1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	DD		
<b>Design:</b>	Plan #1		

<b>Project</b>	Mamm Creek		
<b>Map System:</b>	US State Plane 1983	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	North American Datum 1983		
<b>Map Zone:</b>	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 28-13C1					
Well Position	+N/-S	0.0 ft	Northing:	1,613,150.85 ft	Latitude:	39.494686
	+E/-W	0.0 ft	Easting:	2,356,419.83 ft	Longitude:	-107.780792
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	5,943.0 ft

<b>Wellbore</b>	DD				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF200510	6/23/2010	10.36	65.82	52,406

<b>Design</b>	Plan #1			
<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b>	PLAN	<b>Tie On Depth:</b>	0.0
<b>Vertical Section:</b>	<b>Depth From (TVD) (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>
	0.0	0.0	0.0	236.53

<b>Plan Sections</b>										
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	
1,077.3	26.32	236.53	1,046.8	-109.2	-165.2	3.00	3.00	0.00	236.53	
5,766.4	26.32	236.53	5,249.8	-1,255.7	-1,899.5	0.00	0.00	0.00	0.00	
7,082.4	0.00	0.00	6,520.0	-1,419.4	-2,147.2	2.00	-2.00	0.00	180.00	Benjamin Federal 28-
9,107.4	0.00	0.00	8,545.0	-1,419.4	-2,147.2	0.00	0.00	0.00	0.00	Benjamin Federal 28-
9,407.4	0.00	0.00	8,845.0	-1,419.4	-2,147.2	0.00	0.00	0.00	0.00	

# Cathedral Energy Services

## Planning Report

<b>Database:</b>	EDM 5000.1 US Multi Users DB	<b>Local Co-ordinate Reference:</b>	Well Benjamin Federal 28-13C1
<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>TVD Reference:</b>	WELL @ 5965.0ft (Original Well Elev)
<b>Project:</b>	Mamm Creek	<b>MD Reference:</b>	WELL @ 5965.0ft (Original Well Elev)
<b>Site:</b>	K28NW Pad	<b>North Reference:</b>	True
<b>Well:</b>	Benjamin Federal 28-13C1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	DD		
<b>Design:</b>	Plan #1		

### Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	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'
300.0	3.00	236.53	300.0	-1.4	-2.2	2.6	3.00	3.00	
400.0	6.00	236.53	399.6	-5.8	-8.7	10.5	3.00	3.00	
500.0	9.00	236.53	498.8	-13.0	-19.6	23.5	3.00	3.00	
600.0	12.00	236.53	597.1	-23.0	-34.8	41.7	3.00	3.00	
700.0	15.00	236.53	694.3	-35.9	-54.3	65.1	3.00	3.00	
800.0	18.00	236.53	790.2	-51.5	-78.0	93.5	3.00	3.00	
900.0	21.00	236.53	884.4	-70.0	-105.8	126.9	3.00	3.00	
1,000.0	24.00	236.53	976.8	-91.1	-137.7	165.1	3.00	3.00	
1,077.3	26.32	236.53	1,046.8	-109.2	-165.2	198.0	3.00	3.00	EOB; Inc=26.3°
1,100.0	26.32	236.53	1,067.1	-114.7	-173.5	208.0	0.00	0.00	
1,200.0	26.32	236.53	1,156.8	-139.2	-210.5	252.4	0.00	0.00	
1,300.0	26.32	236.53	1,246.4	-163.6	-247.5	296.7	0.00	0.00	
1,400.0	26.32	236.53	1,336.0	-188.1	-284.5	341.1	0.00	0.00	
1,411.0	26.32	236.53	1,345.9	-190.8	-288.6	345.9	0.00	0.00	Surface Casing
1,500.0	26.32	236.53	1,425.7	-212.5	-321.5	385.4	0.00	0.00	
1,600.0	26.32	236.53	1,515.3	-237.0	-358.5	429.7	0.00	0.00	
1,700.0	26.32	236.53	1,604.9	-261.4	-395.5	474.1	0.00	0.00	
1,800.0	26.32	236.53	1,694.6	-285.9	-432.5	518.4	0.00	0.00	
1,900.0	26.32	236.53	1,784.2	-310.3	-469.4	562.7	0.00	0.00	
2,000.0	26.32	236.53	1,873.8	-334.8	-506.4	607.1	0.00	0.00	
2,100.0	26.32	236.53	1,963.5	-359.2	-543.4	651.4	0.00	0.00	
2,200.0	26.32	236.53	2,053.1	-383.7	-580.4	695.8	0.00	0.00	
2,298.1	26.32	236.53	2,141.0	-407.7	-616.7	739.2	0.00	0.00	G Sand
2,300.0	26.32	236.53	2,142.7	-408.1	-617.4	740.1	0.00	0.00	
2,400.0	26.32	236.53	2,232.4	-432.6	-654.4	784.4	0.00	0.00	
2,500.0	26.32	236.53	2,322.0	-457.0	-691.4	828.8	0.00	0.00	
2,600.0	26.32	236.53	2,411.6	-481.5	-728.3	873.1	0.00	0.00	
2,700.0	26.32	236.53	2,501.3	-505.9	-765.3	917.4	0.00	0.00	
2,800.0	26.32	236.53	2,590.9	-530.4	-802.3	961.8	0.00	0.00	
2,900.0	26.32	236.53	2,680.5	-554.8	-839.3	1,006.1	0.00	0.00	
3,000.0	26.32	236.53	2,770.2	-579.3	-876.3	1,050.4	0.00	0.00	
3,100.0	26.32	236.53	2,859.8	-603.7	-913.3	1,094.8	0.00	0.00	
3,200.0	26.32	236.53	2,949.4	-628.2	-950.3	1,139.1	0.00	0.00	
3,300.0	26.32	236.53	3,039.1	-652.6	-987.3	1,183.5	0.00	0.00	
3,400.0	26.32	236.53	3,128.7	-677.1	-1,024.2	1,227.8	0.00	0.00	
3,500.0	26.32	236.53	3,218.3	-701.5	-1,061.2	1,272.1	0.00	0.00	
3,600.0	26.32	236.53	3,308.0	-726.0	-1,098.2	1,316.5	0.00	0.00	
3,700.0	26.32	236.53	3,397.6	-750.4	-1,135.2	1,360.8	0.00	0.00	
3,800.0	26.32	236.53	3,487.2	-774.9	-1,172.2	1,405.1	0.00	0.00	
3,900.0	26.32	236.53	3,576.9	-799.3	-1,209.2	1,449.5	0.00	0.00	
4,000.0	26.32	236.53	3,666.5	-823.8	-1,246.2	1,493.8	0.00	0.00	
4,100.0	26.32	236.53	3,756.1	-848.2	-1,283.1	1,538.2	0.00	0.00	
4,200.0	26.32	236.53	3,845.8	-872.7	-1,320.1	1,582.5	0.00	0.00	
4,300.0	26.32	236.53	3,935.4	-897.1	-1,357.1	1,626.8	0.00	0.00	
4,400.0	26.32	236.53	4,025.0	-921.6	-1,394.1	1,671.2	0.00	0.00	
4,500.0	26.32	236.53	4,114.7	-946.0	-1,431.1	1,715.5	0.00	0.00	
4,600.0	26.32	236.53	4,204.3	-970.5	-1,468.1	1,759.8	0.00	0.00	
4,690.0	26.32	236.53	4,285.0	-992.5	-1,501.4	1,799.8	0.00	0.00	Ohio Creek
4,700.0	26.32	236.53	4,293.9	-994.9	-1,505.1	1,804.2	0.00	0.00	

# Cathedral Energy Services

## Planning Report

<b>Database:</b>	EDM 5000.1 US Multi Users DB	<b>Local Co-ordinate Reference:</b>	Well Benjamin Federal 28-13C1
<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>TVD Reference:</b>	WELL @ 5965.0ft (Original Well Elev)
<b>Project:</b>	Mamm Creek	<b>MD Reference:</b>	WELL @ 5965.0ft (Original Well Elev)
<b>Site:</b>	K28NW Pad	<b>North Reference:</b>	True
<b>Well:</b>	Benjamin Federal 28-13C1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	DD		
<b>Design:</b>	Plan #1		

### Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Comments / Formations
4,800.0	26.32	236.53	4,383.6	-1,019.4	-1,542.0	1,848.5	0.00	0.00	
4,900.0	26.32	236.53	4,473.2	-1,043.8	-1,579.0	1,892.9	0.00	0.00	
5,000.0	26.32	236.53	4,562.8	-1,068.3	-1,616.0	1,937.2	0.00	0.00	
5,100.0	26.32	236.53	4,652.5	-1,092.7	-1,653.0	1,981.5	0.00	0.00	
5,200.0	26.32	236.53	4,742.1	-1,117.2	-1,690.0	2,025.9	0.00	0.00	
5,216.6	26.32	236.53	4,757.0	-1,121.2	-1,696.1	2,033.2	0.00	0.00	Mesa Verde
5,300.0	26.32	236.53	4,831.7	-1,141.6	-1,727.0	2,070.2	0.00	0.00	
5,400.0	26.32	236.53	4,921.4	-1,166.1	-1,764.0	2,114.5	0.00	0.00	
5,500.0	26.32	236.53	5,011.0	-1,190.5	-1,801.0	2,158.9	0.00	0.00	
5,600.0	26.32	236.53	5,100.6	-1,215.0	-1,837.9	2,203.2	0.00	0.00	
5,700.0	26.32	236.53	5,190.3	-1,239.4	-1,874.9	2,247.6	0.00	0.00	
5,766.4	26.32	236.53	5,249.8	-1,255.7	-1,899.5	2,277.0	0.00	0.00	Start Drop -2.00
5,800.0	25.65	236.53	5,280.0	-1,263.8	-1,911.8	2,291.7	2.00	-2.00	
5,865.1	24.35	236.53	5,339.0	-1,278.9	-1,934.7	2,319.2	2.00	-2.00	Williams Fork
5,900.0	23.65	236.53	5,370.9	-1,286.8	-1,946.6	2,333.4	2.00	-2.00	
6,000.0	21.65	236.53	5,463.2	-1,308.0	-1,978.7	2,371.9	2.00	-2.00	
6,100.0	19.65	236.53	5,556.7	-1,327.4	-2,008.1	2,407.2	2.00	-2.00	
6,200.0	17.65	236.53	5,651.5	-1,345.1	-2,034.8	2,439.2	2.00	-2.00	
6,300.0	15.65	236.53	5,747.3	-1,360.9	-2,058.7	2,467.8	2.00	-2.00	
6,400.0	13.65	236.53	5,844.0	-1,374.8	-2,079.8	2,493.1	2.00	-2.00	
6,500.0	11.65	236.53	5,941.6	-1,386.9	-2,098.0	2,515.0	2.00	-2.00	
6,600.0	9.65	236.53	6,039.9	-1,397.1	-2,113.4	2,533.5	2.00	-2.00	
6,700.0	7.65	236.53	6,138.7	-1,405.4	-2,126.0	2,548.5	2.00	-2.00	
6,800.0	5.65	236.53	6,238.0	-1,411.8	-2,135.6	2,560.1	2.00	-2.00	
6,900.0	3.65	236.53	6,337.7	-1,416.2	-2,142.4	2,568.2	2.00	-2.00	
7,000.0	1.65	236.53	6,437.6	-1,418.8	-2,146.2	2,572.8	2.00	-2.00	
7,082.4	0.00	0.00	6,520.0	-1,419.4	-2,147.2	2,574.0	2.00	-2.00	EOD; Inc=0° - Top of Gas - Benjamin Federal 2
7,100.0	0.00	0.00	6,537.6	-1,419.4	-2,147.2	2,574.0	0.00	0.00	
7,200.0	0.00	0.00	6,637.6	-1,419.4	-2,147.2	2,574.0	0.00	0.00	
7,300.0	0.00	0.00	6,737.6	-1,419.4	-2,147.2	2,574.0	0.00	0.00	
7,400.0	0.00	0.00	6,837.6	-1,419.4	-2,147.2	2,574.0	0.00	0.00	
7,500.0	0.00	0.00	6,937.6	-1,419.4	-2,147.2	2,574.0	0.00	0.00	
7,600.0	0.00	0.00	7,037.6	-1,419.4	-2,147.2	2,574.0	0.00	0.00	
7,700.0	0.00	0.00	7,137.6	-1,419.4	-2,147.2	2,574.0	0.00	0.00	
7,800.0	0.00	0.00	7,237.6	-1,419.4	-2,147.2	2,574.0	0.00	0.00	
7,900.0	0.00	0.00	7,337.6	-1,419.4	-2,147.2	2,574.0	0.00	0.00	
8,000.0	0.00	0.00	7,437.6	-1,419.4	-2,147.2	2,574.0	0.00	0.00	
8,100.0	0.00	0.00	7,537.6	-1,419.4	-2,147.2	2,574.0	0.00	0.00	
8,200.0	0.00	0.00	7,637.6	-1,419.4	-2,147.2	2,574.0	0.00	0.00	
8,291.4	0.00	0.00	7,729.0	-1,419.4	-2,147.2	2,574.0	0.00	0.00	Coal Ridge
8,300.0	0.00	0.00	7,737.6	-1,419.4	-2,147.2	2,574.0	0.00	0.00	
8,400.0	0.00	0.00	7,837.6	-1,419.4	-2,147.2	2,574.0	0.00	0.00	
8,500.0	0.00	0.00	7,937.6	-1,419.4	-2,147.2	2,574.0	0.00	0.00	
8,600.0	0.00	0.00	8,037.6	-1,419.4	-2,147.2	2,574.0	0.00	0.00	
8,700.0	0.00	0.00	8,137.6	-1,419.4	-2,147.2	2,574.0	0.00	0.00	
8,800.0	0.00	0.00	8,237.6	-1,419.4	-2,147.2	2,574.0	0.00	0.00	
8,900.0	0.00	0.00	8,337.6	-1,419.4	-2,147.2	2,574.0	0.00	0.00	
8,957.4	0.00	0.00	8,395.0	-1,419.4	-2,147.2	2,574.0	0.00	0.00	Base Cameo A Coal
9,000.0	0.00	0.00	8,437.6	-1,419.4	-2,147.2	2,574.0	0.00	0.00	
9,052.4	0.00	0.00	8,490.0	-1,419.4	-2,147.2	2,574.0	0.00	0.00	Rollins
9,100.0	0.00	0.00	8,537.6	-1,419.4	-2,147.2	2,574.0	0.00	0.00	
9,107.4	0.00	0.00	8,545.0	-1,419.4	-2,147.2	2,574.0	0.00	0.00	Drillers TD @ 8545' TVD - Benjamin Federal 28

# Cathedral Energy Services

## Planning Report

<b>Database:</b>	EDM 5000.1 US Multi Users DB	<b>Local Co-ordinate Reference:</b>	Well Benjamin Federal 28-13C1
<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>TVD Reference:</b>	WELL @ 5965.0ft (Original Well Elev)
<b>Project:</b>	Mamm Creek	<b>MD Reference:</b>	WELL @ 5965.0ft (Original Well Elev)
<b>Site:</b>	K28NW Pad	<b>North Reference:</b>	True
<b>Well:</b>	Benjamin Federal 28-13C1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	DD		
<b>Design:</b>	Plan #1		

### Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Comments / Formations
9,200.0	0.00	0.00	8,637.6	-1,419.4	-2,147.2	2,574.0	0.00	0.00	
9,300.0	0.00	0.00	8,737.6	-1,419.4	-2,147.2	2,574.0	0.00	0.00	
9,400.0	0.00	0.00	8,837.6	-1,419.4	-2,147.2	2,574.0	0.00	0.00	
9,407.4	0.00	0.00	8,845.0	-1,419.4	-2,147.2	2,574.0	0.00	0.00	Permit TD @ 8845' TVD

### Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
Benjamin Federal 28-13 - plan hits target center - Point	0.00	0.00	6,520.0	-1,419.4	-2,147.2	1,611,785.77	2,354,237.64	39.490789	-107.788400
Benjamin Federal 28-13 - plan hits target center - Circle (radius 0.0)	0.00	0.00	8,545.0	-1,419.4	-2,147.2	1,611,785.77	2,354,237.64	39.490789	-107.788400

### Casing Points

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)
1,411.0	1,345.9	Surface Casing	5.500	6.000

### Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
2,298.1	2,141.0	G Sand			
4,690.0	4,285.0	Ohio Creek			
5,216.6	4,757.0	Mesa Verde			
5,865.1	5,339.0	Williams Fork			
7,082.4	6,520.0	Top of Gas			
8,291.4	7,729.0	Coal Ridge			
8,957.4	8,395.0	Base Cameo A Coal			
9,052.4	8,490.0	Rollins			

### Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Comment
200.0	200.0	0.0	0.0	KOP @ 200'
1,077.3	1,046.8	-109.2	-165.2	EOB; Inc=26.3°
5,766.4	5,249.8	-1,255.7	-1,899.5	Start Drop -2.00
7,082.4	6,520.0	-1,419.4	-2,147.2	EOD; Inc=0°
9,107.4	8,545.0	-1,419.4	-2,147.2	Drillers TD @ 8545' TVD
9,407.4	8,845.0	-1,419.4	-2,147.2	Permit TD @ 8845' TVD