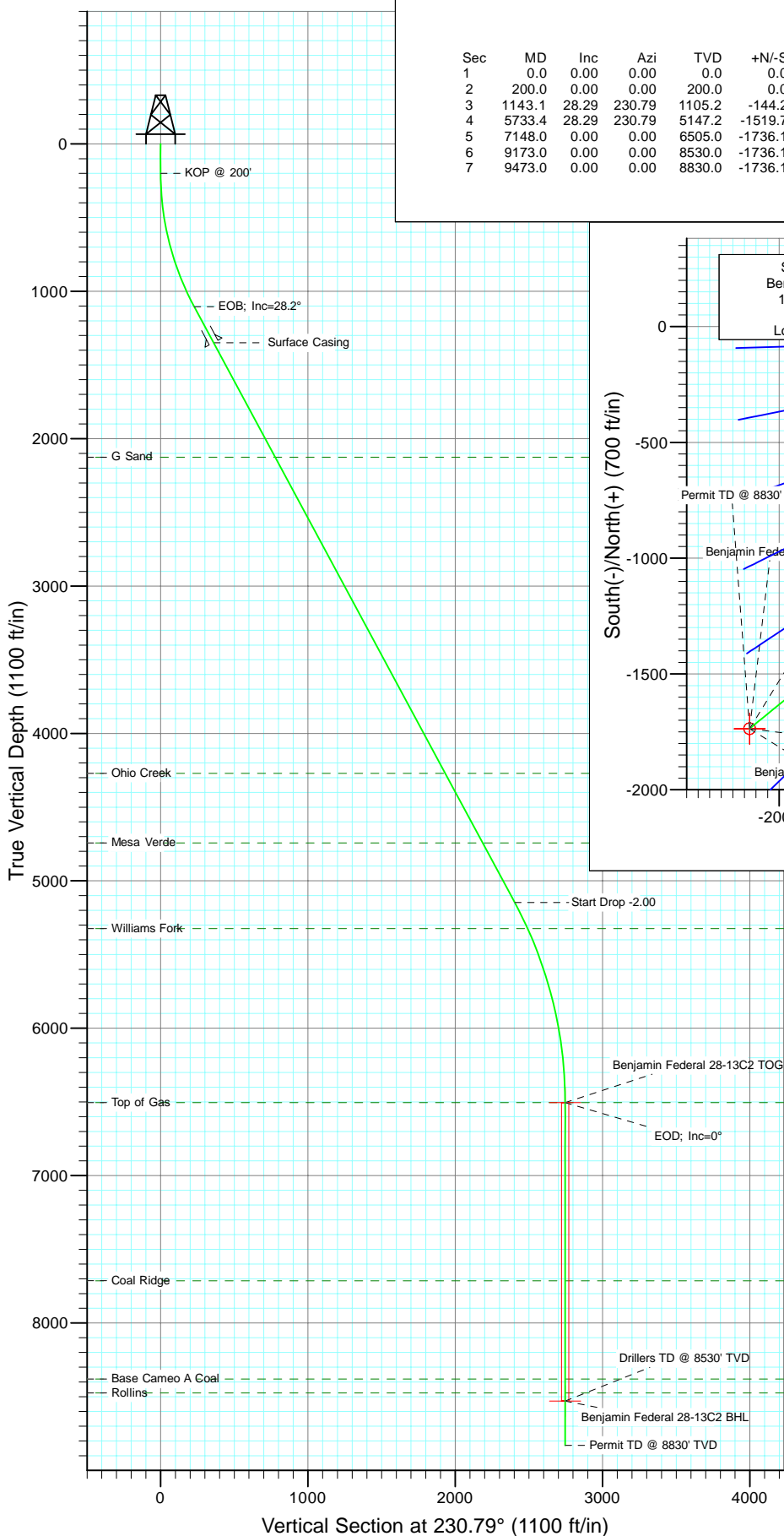


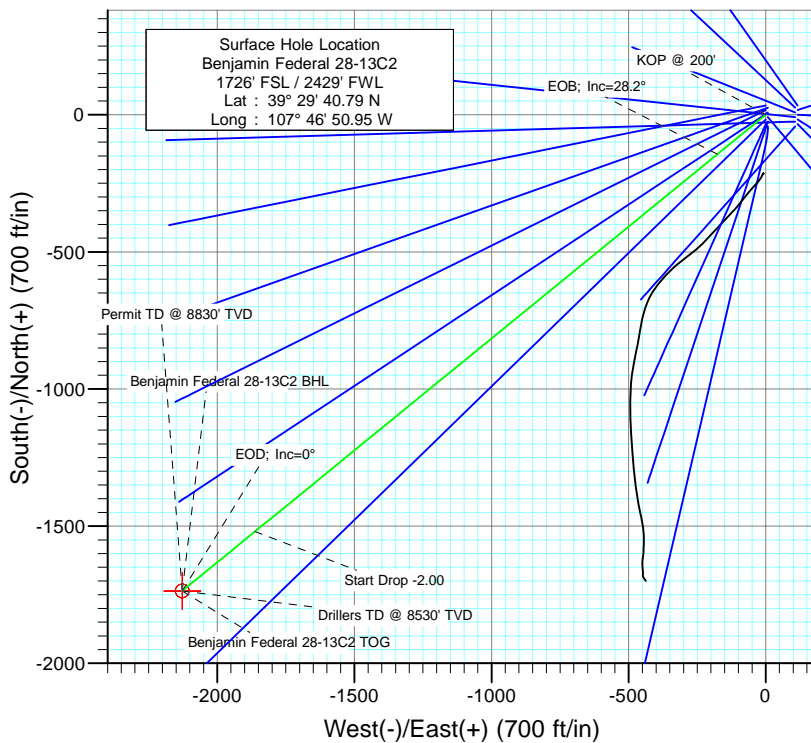


Project: Mamm Creek  
Site: K28NW Pad  
Well: Benjamin Federal 28-13C2  
Wellbore: DD  
Design: Plan #1



#### SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSec	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	200.0	0.00	0.00	200.0	0.0	0.0	0.00	0.00	0.0	
3	1143.1	28.29	230.79	1105.2	-144.2	-176.8	3.00	230.79	228.2	
4	5733.4	28.29	230.79	5147.2	-1519.7	-1862.5	0.00	0.00	2403.9	
5	7148.0	0.00	0.00	6505.0	-1736.1	-2127.7	2.00	180.00	2746.1	Benjamin Federal 28-13C2 TOG
6	9173.0	0.00	0.00	8530.0	-1736.1	-2127.7	0.00	0.00	2746.1	Benjamin Federal 28-13C2 BHL
7	9473.0	0.00	0.00	8830.0	-1736.1	-2127.7	0.00	0.00	2746.1	



#### FORMATION TOP DETAILS

TVDPath	MDPath	Formation
2126.0	2302.4	G Sand
4270.0	4737.2	Ohio Creek
4742.0	5273.3	Mesa Verde
5324.0	5930.7	Williams Fork
6505.0	7148.0	Top of Gas
7714.0	8357.0	Coal Ridge
8380.0	9023.0	Base Cameo A Coal
8475.0	9118.0	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 28-13C2  
BHL = (25 FSL - 240 FWL) Job #1

WELL @ 5965.0ft (Original Well Elev)  
North American Datum 1983  
Well Benjamin Federal 28-13C2, True North

Type	Target	Azimuth	Origin	Type	N/S	E/W	From	TVD
Target	Benjamin Federal 28-13C2 BHL	230.79	Slot	0.0	0.0	0.0	0.0	0.0
Name	TVD	+N/-S	+E/-W	Latitude	Longitude			
Benjamin Federal 28-13C2 BHL	8530.0	-1736.1	-2127.7	39° 29' 23.63 N	107° 47' 18.09 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 28-13C2
<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 28-13C2	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	DD		
<b>Design:</b>	Plan #1		

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 28-13C2					
Well Position	+N/-S	0.0 ft	Northing:	1,613,142.94 ft	Latitude:	39.494664
	+E/-W	0.0 ft	Easting:	2,356,411.79 ft	Longitude:	-107.780819
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	6/23/2010	10.36	65.82	52,406

Design	Plan #1			
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	230.79

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	
1,143.1	28.29	230.79	1,105.2	-144.2	-176.8	3.00	3.00	0.00	230.79	
5,733.4	28.29	230.79	5,147.2	-1,519.7	-1,862.5	0.00	0.00	0.00	0.00	
7,148.0	0.00	0.00	6,505.0	-1,736.1	-2,127.7	2.00	-2.00	0.00	180.00	Benjamin Federal 28-
9,173.0	0.00	0.00	8,530.0	-1,736.1	-2,127.7	0.00	0.00	0.00	0.00	Benjamin Federal 28-
9,473.0	0.00	0.00	8,830.0	-1,736.1	-2,127.7	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 28-13C2
<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 28-13C2	<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	230.79	300.0	-1.7	-2.0	2.6	3.00	3.00	
400.0	6.00	230.79	399.6	-6.6	-8.1	10.5	3.00	3.00	
500.0	9.00	230.79	498.8	-14.9	-18.2	23.5	3.00	3.00	
600.0	12.00	230.79	597.1	-26.4	-32.3	41.7	3.00	3.00	
700.0	15.00	230.79	694.3	-41.1	-50.4	65.1	3.00	3.00	
800.0	18.00	230.79	790.2	-59.1	-72.4	93.5	3.00	3.00	
900.0	21.00	230.79	884.4	-80.2	-98.3	126.9	3.00	3.00	
1,000.0	24.00	230.79	976.8	-104.4	-127.9	165.1	3.00	3.00	
1,100.0	27.00	230.79	1,067.1	-131.6	-161.3	208.2	3.00	3.00	
1,143.1	28.29	230.79	1,105.2	-144.2	-176.8	228.2	3.00	3.00	EOB; Inc=28.2°
1,200.0	28.29	230.79	1,155.3	-161.3	-197.7	255.1	0.00	0.00	
1,300.0	28.29	230.79	1,243.4	-191.3	-234.4	302.5	0.00	0.00	
1,400.0	28.29	230.79	1,331.4	-221.2	-271.1	349.9	0.00	0.00	
1,420.0	28.29	230.79	1,349.1	-227.2	-278.5	359.4	0.00	0.00	Surface Casing
1,500.0	28.29	230.79	1,419.5	-251.2	-307.8	397.3	0.00	0.00	
1,600.0	28.29	230.79	1,507.6	-281.2	-344.6	444.7	0.00	0.00	
1,700.0	28.29	230.79	1,595.6	-311.1	-381.3	492.1	0.00	0.00	
1,800.0	28.29	230.79	1,683.7	-341.1	-418.0	539.5	0.00	0.00	
1,900.0	28.29	230.79	1,771.7	-371.1	-454.7	586.9	0.00	0.00	
2,000.0	28.29	230.79	1,859.8	-401.0	-491.5	634.3	0.00	0.00	
2,100.0	28.29	230.79	1,947.8	-431.0	-528.2	681.7	0.00	0.00	
2,200.0	28.29	230.79	2,035.9	-460.9	-564.9	729.1	0.00	0.00	
2,300.0	28.29	230.79	2,123.9	-490.9	-601.6	776.5	0.00	0.00	
2,302.4	28.29	230.79	2,126.0	-491.6	-602.5	777.6	0.00	0.00	G Sand
2,400.0	28.29	230.79	2,212.0	-520.9	-638.4	823.9	0.00	0.00	
2,500.0	28.29	230.79	2,300.0	-550.8	-675.1	871.3	0.00	0.00	
2,600.0	28.29	230.79	2,388.1	-580.8	-711.8	918.7	0.00	0.00	
2,700.0	28.29	230.79	2,476.1	-610.8	-748.5	966.1	0.00	0.00	
2,800.0	28.29	230.79	2,564.2	-640.7	-785.3	1,013.5	0.00	0.00	
2,900.0	28.29	230.79	2,652.3	-670.7	-822.0	1,060.9	0.00	0.00	
3,000.0	28.29	230.79	2,740.3	-700.7	-858.7	1,108.3	0.00	0.00	
3,100.0	28.29	230.79	2,828.4	-730.6	-895.4	1,155.7	0.00	0.00	
3,200.0	28.29	230.79	2,916.4	-760.6	-932.1	1,203.1	0.00	0.00	
3,300.0	28.29	230.79	3,004.5	-790.6	-968.9	1,250.5	0.00	0.00	
3,400.0	28.29	230.79	3,092.5	-820.5	-1,005.6	1,297.9	0.00	0.00	
3,500.0	28.29	230.79	3,180.6	-850.5	-1,042.3	1,345.3	0.00	0.00	
3,600.0	28.29	230.79	3,268.6	-880.5	-1,079.0	1,392.7	0.00	0.00	
3,700.0	28.29	230.79	3,356.7	-910.4	-1,115.8	1,440.1	0.00	0.00	
3,800.0	28.29	230.79	3,444.7	-940.4	-1,152.5	1,487.5	0.00	0.00	
3,900.0	28.29	230.79	3,532.8	-970.4	-1,189.2	1,534.9	0.00	0.00	
4,000.0	28.29	230.79	3,620.8	-1,000.3	-1,225.9	1,582.3	0.00	0.00	
4,100.0	28.29	230.79	3,708.9	-1,030.3	-1,262.7	1,629.7	0.00	0.00	
4,200.0	28.29	230.79	3,796.9	-1,060.3	-1,299.4	1,677.1	0.00	0.00	
4,300.0	28.29	230.79	3,885.0	-1,090.2	-1,336.1	1,724.5	0.00	0.00	
4,400.0	28.29	230.79	3,973.1	-1,120.2	-1,372.8	1,771.9	0.00	0.00	
4,500.0	28.29	230.79	4,061.1	-1,150.1	-1,409.6	1,819.3	0.00	0.00	
4,600.0	28.29	230.79	4,149.2	-1,180.1	-1,446.3	1,866.7	0.00	0.00	
4,700.0	28.29	230.79	4,237.2	-1,210.1	-1,483.0	1,914.1	0.00	0.00	
4,737.2	28.29	230.79	4,270.0	-1,221.2	-1,496.7	1,931.7	0.00	0.00	Ohio Creek

# Cathedral Energy Services

## Planning Report

<b>Database:</b>	EDM 5000.1 US Multi Users DB	<b>Local Co-ordinate Reference:</b>	Well Benjamin Federal 28-13C2
<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 28-13C2	<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	28.29	230.79	4,325.3	-1,240.0	-1,519.7	1,961.4	0.00	0.00	
4,900.0	28.29	230.79	4,413.3	-1,270.0	-1,556.5	2,008.8	0.00	0.00	
5,000.0	28.29	230.79	4,501.4	-1,300.0	-1,593.2	2,056.2	0.00	0.00	
5,100.0	28.29	230.79	4,589.4	-1,329.9	-1,629.9	2,103.6	0.00	0.00	
5,200.0	28.29	230.79	4,677.5	-1,359.9	-1,666.6	2,151.0	0.00	0.00	
5,273.3	28.29	230.79	4,742.0	-1,381.9	-1,693.5	2,185.8	0.00	0.00	Mesa Verde
5,300.0	28.29	230.79	4,765.5	-1,389.9	-1,703.3	2,198.4	0.00	0.00	
5,400.0	28.29	230.79	4,853.6	-1,419.8	-1,740.1	2,245.8	0.00	0.00	
5,500.0	28.29	230.79	4,941.6	-1,449.8	-1,776.8	2,293.2	0.00	0.00	
5,600.0	28.29	230.79	5,029.7	-1,479.8	-1,813.5	2,340.6	0.00	0.00	
5,700.0	28.29	230.79	5,117.8	-1,509.7	-1,850.2	2,388.0	0.00	0.00	
5,733.4	28.29	230.79	5,147.2	-1,519.7	-1,862.5	2,403.9	0.00	0.00	Start Drop -2.00
5,800.0	26.96	230.79	5,206.2	-1,539.3	-1,886.4	2,434.7	2.00	-2.00	
5,900.0	24.96	230.79	5,296.1	-1,566.9	-1,920.3	2,478.5	2.00	-2.00	
5,930.7	24.35	230.79	5,324.0	-1,575.0	-1,930.3	2,491.3	2.00	-2.00	Williams Fork
6,000.0	22.96	230.79	5,387.5	-1,592.6	-1,951.8	2,519.1	2.00	-2.00	
6,100.0	20.96	230.79	5,480.2	-1,616.3	-1,980.8	2,556.5	2.00	-2.00	
6,200.0	18.96	230.79	5,574.2	-1,637.8	-2,007.2	2,590.7	2.00	-2.00	
6,300.0	16.96	230.79	5,669.3	-1,657.3	-2,031.1	2,621.5	2.00	-2.00	
6,400.0	14.96	230.79	5,765.4	-1,674.7	-2,052.4	2,649.0	2.00	-2.00	
6,500.0	12.96	230.79	5,862.5	-1,690.0	-2,071.1	2,673.1	2.00	-2.00	
6,600.0	10.96	230.79	5,960.3	-1,703.1	-2,087.2	2,693.8	2.00	-2.00	
6,700.0	8.96	230.79	6,058.8	-1,714.0	-2,100.6	2,711.1	2.00	-2.00	
6,800.0	6.96	230.79	6,157.8	-1,722.8	-2,111.3	2,725.0	2.00	-2.00	
6,900.0	4.96	230.79	6,257.3	-1,729.3	-2,119.4	2,735.4	2.00	-2.00	
7,000.0	2.96	230.79	6,357.0	-1,733.7	-2,124.7	2,742.3	2.00	-2.00	
7,100.0	0.96	230.79	6,457.0	-1,735.8	-2,127.4	2,745.7	2.00	-2.00	
7,148.0	0.00	0.00	6,505.0	-1,736.1	-2,127.7	2,746.1	2.00	-2.00	EOD; Inc=0° - Top of Gas - Benjamin Federal 2
7,200.0	0.00	0.00	6,557.0	-1,736.1	-2,127.7	2,746.1	0.00	0.00	
7,300.0	0.00	0.00	6,657.0	-1,736.1	-2,127.7	2,746.1	0.00	0.00	
7,400.0	0.00	0.00	6,757.0	-1,736.1	-2,127.7	2,746.1	0.00	0.00	
7,500.0	0.00	0.00	6,857.0	-1,736.1	-2,127.7	2,746.1	0.00	0.00	
7,600.0	0.00	0.00	6,957.0	-1,736.1	-2,127.7	2,746.1	0.00	0.00	
7,700.0	0.00	0.00	7,057.0	-1,736.1	-2,127.7	2,746.1	0.00	0.00	
7,800.0	0.00	0.00	7,157.0	-1,736.1	-2,127.7	2,746.1	0.00	0.00	
7,900.0	0.00	0.00	7,257.0	-1,736.1	-2,127.7	2,746.1	0.00	0.00	
8,000.0	0.00	0.00	7,357.0	-1,736.1	-2,127.7	2,746.1	0.00	0.00	
8,100.0	0.00	0.00	7,457.0	-1,736.1	-2,127.7	2,746.1	0.00	0.00	
8,200.0	0.00	0.00	7,557.0	-1,736.1	-2,127.7	2,746.1	0.00	0.00	
8,300.0	0.00	0.00	7,657.0	-1,736.1	-2,127.7	2,746.1	0.00	0.00	
8,357.0	0.00	0.00	7,714.0	-1,736.1	-2,127.7	2,746.1	0.00	0.00	Coal Ridge
8,400.0	0.00	0.00	7,757.0	-1,736.1	-2,127.7	2,746.1	0.00	0.00	
8,500.0	0.00	0.00	7,857.0	-1,736.1	-2,127.7	2,746.1	0.00	0.00	
8,600.0	0.00	0.00	7,957.0	-1,736.1	-2,127.7	2,746.1	0.00	0.00	
8,700.0	0.00	0.00	8,057.0	-1,736.1	-2,127.7	2,746.1	0.00	0.00	
8,800.0	0.00	0.00	8,157.0	-1,736.1	-2,127.7	2,746.1	0.00	0.00	
8,900.0	0.00	0.00	8,257.0	-1,736.1	-2,127.7	2,746.1	0.00	0.00	
9,000.0	0.00	0.00	8,357.0	-1,736.1	-2,127.7	2,746.1	0.00	0.00	
9,023.0	0.00	0.00	8,380.0	-1,736.1	-2,127.7	2,746.1	0.00	0.00	Base Cameo A Coal
9,100.0	0.00	0.00	8,457.0	-1,736.1	-2,127.7	2,746.1	0.00	0.00	
9,118.0	0.00	0.00	8,475.0	-1,736.1	-2,127.7	2,746.1	0.00	0.00	Rollins
9,173.0	0.00	0.00	8,530.0	-1,736.1	-2,127.7	2,746.1	0.00	0.00	Drillers TD @ 8530' 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 28-13C2
<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 28-13C2	<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	8,557.0	-1,736.1	-2,127.7	2,746.1	0.00	0.00	
9,300.0	0.00	0.00	8,657.0	-1,736.1	-2,127.7	2,746.1	0.00	0.00	
9,400.0	0.00	0.00	8,757.0	-1,736.1	-2,127.7	2,746.1	0.00	0.00	
9,473.0	0.00	0.00	8,830.0	-1,736.1	-2,127.7	2,746.1	0.00	0.00	Permit TD @ 8830' TVD

Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
- hit/miss target									
- Shape									
Benjamin Federal 28-13 - plan hits target center - Point	0.00	0.00	6,505.0	-1,736.1	-2,127.7	1,611,460.80	2,354,241.21	39.489897	-107.788358
Benjamin Federal 28-13 - plan hits target center - Circle (radius 25.0)	0.00	0.00	8,530.0	-1,736.1	-2,127.7	1,611,460.80	2,354,241.21	39.489897	-107.788358

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)	
1,420.0	1,349.1	Surface Casing	5.500	6.000	

Formations					
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
2,302.4	2,126.0	G Sand			
4,737.2	4,270.0	Ohio Creek			
5,273.3	4,742.0	Mesa Verde			
5,930.7	5,324.0	Williams Fork			
7,148.0	6,505.0	Top of Gas			
8,357.0	7,714.0	Coal Ridge			
9,023.0	8,380.0	Base Cameo A Coal			
9,118.0	8,475.0	Rollins			

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'
1,143.1	1,105.2	-144.2	-176.8	EOB; Inc=28.2°
5,733.4	5,147.2	-1,519.7	-1,862.5	Start Drop -2.00
7,148.0	6,505.0	-1,736.1	-2,127.7	EOD; Inc=0°
9,173.0	8,530.0	-1,736.1	-2,127.7	Drillers TD @ 8530' TVD
9,473.0	8,830.0	-1,736.1	-2,127.7	Permit TD @ 8830' TVD