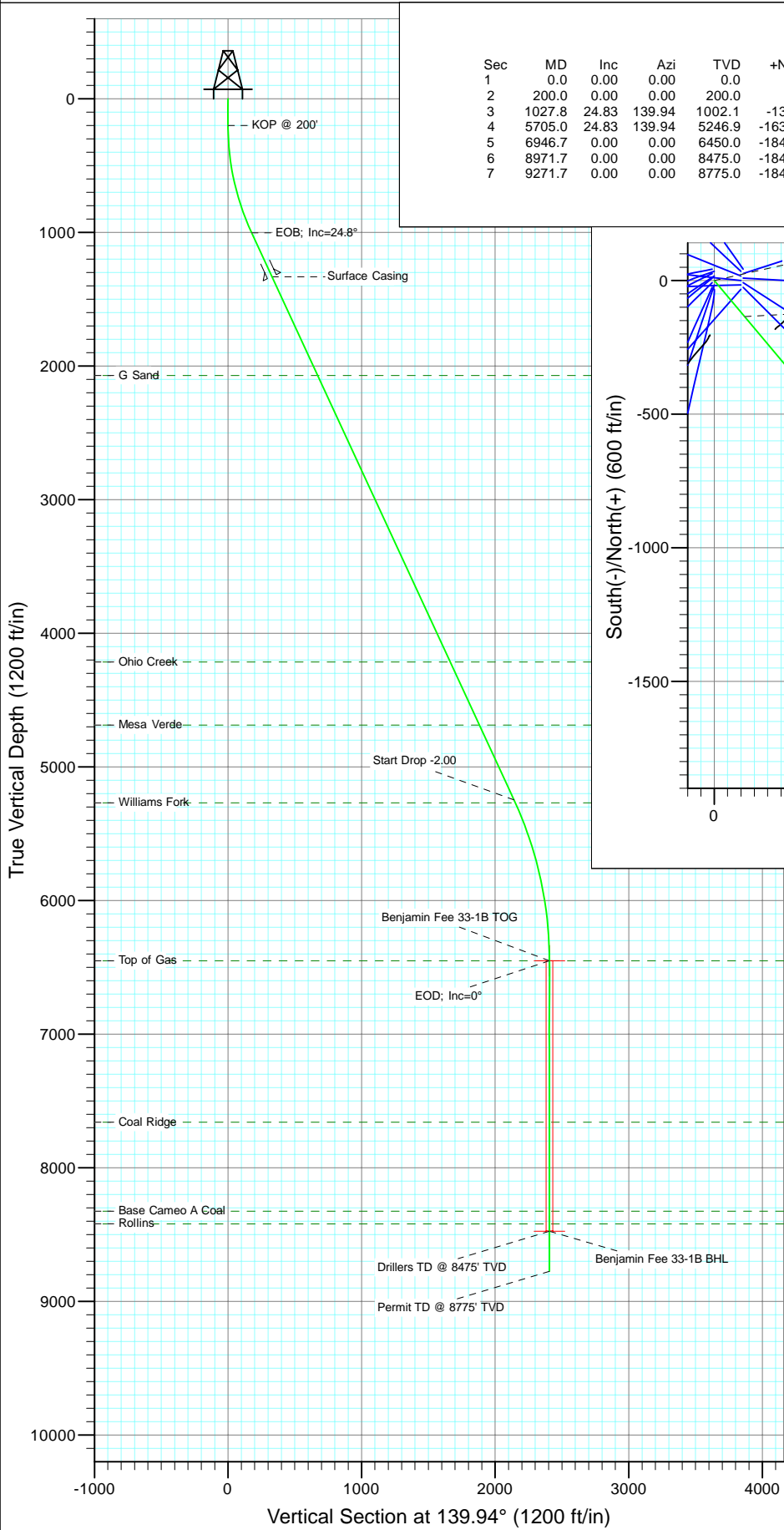
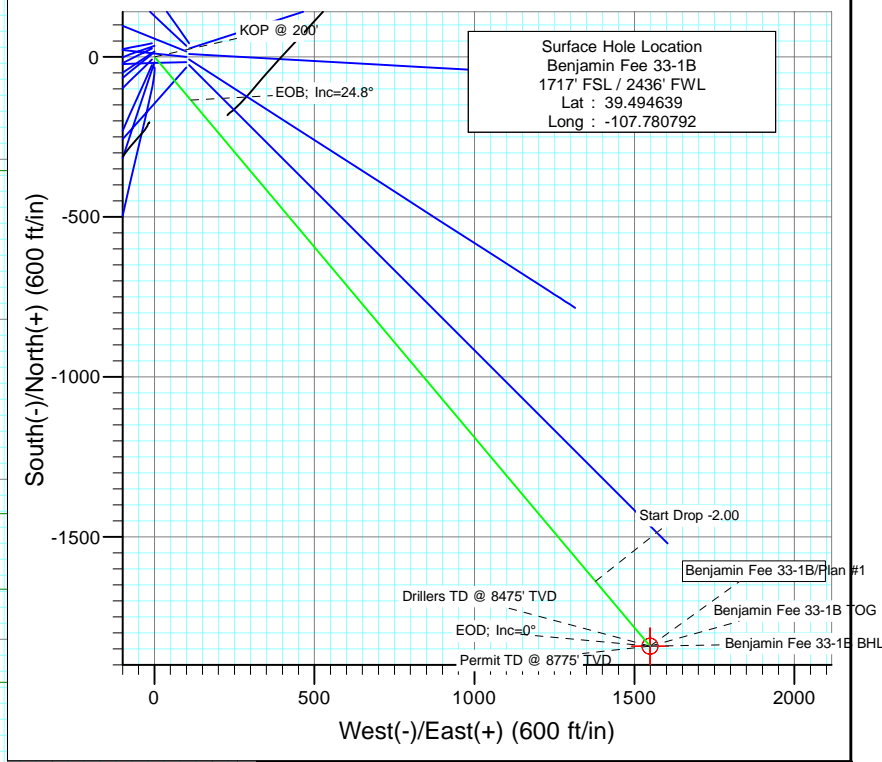




Project: Mamm Creek  
 Site: K28NW Pad  
 Well: Benjamin Fee 33-1B  
 Wellbore: DD  
 Design: Plan #1



SECTION DETAILS										
Sec	MD	Inc	Azi	TVD	+N-/S	+E-/W	Dleg	TFace	V Sect	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	1027.8	24.83	139.94	1002.1	-135.2	113.7	3.00	139.94	176.6	
4	5705.0	24.83	139.94	5246.9	-1638.6	1377.8	0.00	0.00	2140.9	
5	6946.7	0.00	0.00	6450.0	-1841.4	1548.3	2.00	180.00	2405.8	Benjamin Fee 33-1B TOG
6	8971.7	0.00	0.00	8475.0	-1841.4	1548.3	0.00	0.00	2405.8	Benjamin Fee 33-1B BHL
7	9271.7	0.00	0.00	8775.0	-1841.4	1548.3	0.00	0.00	2405.8	



FORMATION TOP DETAILS		
TVDPath	MDPath	Formation
2071.0	2205.6	G Sand
4215.0	4568.0	Ohio Creek
4687.0	5088.1	Mesa Verde
5269.0	5729.4	Williams Fork
6450.0	6946.7	Top of Gas
7659.0	8155.7	Coal Ridge
8325.0	8821.7	Base Cameo A Coal
8420.0	8916.7	Rollins

Azimuths to True North  
 Magnetic North: 10.36°

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

Plan #1 Benjamin Fee 33-1B (140 FNL - 1250 FEL) Job #10xxx: KR						
WELL @ 5965.0ft (Original Well Elev) North American Datum 1983 Well Benjamin Fee 33-1B, True North						
Type	Target	TVD	+N-/S	+E-/W	Latitude	Longitude
Target	Benjamin Fee 33-1B BHL	8475.0	-1841.4	1548.3	39.489583	-107.775306

# Cathedral Energy Services

## Planning Report

<b>Database:</b> EDM 5000.1 US Multi Users DB	<b>Local Co-ordinate Reference:</b> Well Benjamin Fee 33-1B
<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 Fee 33-1B	<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		

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

<b>Well</b> Benjamin Fee 33-1B						
<b>Well Position</b>	<b>+N/-S</b>	0.0 ft	<b>Northing:</b>	1,613,133.66 ft	<b>Latitude:</b>	39.494639
	<b>+E/-W</b>	0.0 ft	<b>Easting:</b>	2,356,419.40 ft	<b>Longitude:</b>	-107.780792
<b>Position Uncertainty</b>		0.0 ft	<b>Wellhead Elevation:</b>	ft	<b>Ground Level:</b>	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</b>
	IGRF200510	6/23/2010	(°)	(°)	(nT)
			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)</b>	<b>+N/-S</b>	<b>+E/-W</b>	<b>Direction</b>	
	(ft)	(ft)	(ft)	(°)	
	0.0	0.0	0.0	139.94	

<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	
1,027.8	24.83	139.94	1,002.1	-135.2	113.7	3.00	3.00	0.00	139.94	
5,705.0	24.83	139.94	5,246.9	-1,638.6	1,377.8	0.00	0.00	0.00	0.00	
6,946.7	0.00	0.00	6,450.0	-1,841.4	1,548.3	2.00	-2.00	0.00	180.00	Benjamin Fee 33-1B I
8,971.7	0.00	0.00	8,475.0	-1,841.4	1,548.3	0.00	0.00	0.00	0.00	Benjamin Fee 33-1B I
9,271.7	0.00	0.00	8,775.0	-1,841.4	1,548.3	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 Fee 33-1B
<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 Fee 33-1B	<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	139.94	300.0	-2.0	1.7	2.6	3.00	3.00	
400.0	6.00	139.94	399.6	-8.0	6.7	10.5	3.00	3.00	
500.0	9.00	139.94	498.8	-18.0	15.1	23.5	3.00	3.00	
600.0	12.00	139.94	597.1	-31.9	26.9	41.7	3.00	3.00	
700.0	15.00	139.94	694.3	-49.8	41.9	65.1	3.00	3.00	
800.0	18.00	139.94	790.2	-71.5	60.2	93.5	3.00	3.00	
900.0	21.00	139.94	884.4	-97.1	81.6	126.9	3.00	3.00	
1,000.0	24.00	139.94	976.8	-126.4	106.3	165.1	3.00	3.00	
1,027.8	24.83	139.94	1,002.1	-135.2	113.7	176.6	3.00	3.00	EOB; Inc=24.8°
1,100.0	24.83	139.94	1,067.6	-158.4	133.2	206.9	0.00	0.00	
1,200.0	24.83	139.94	1,158.4	-190.5	160.2	248.9	0.00	0.00	
1,300.0	24.83	139.94	1,249.2	-222.7	187.2	290.9	0.00	0.00	
1,390.0	24.83	139.94	1,330.8	-251.6	211.6	328.7	0.00	0.00	Surface Casing
1,400.0	24.83	139.94	1,339.9	-254.8	214.3	332.9	0.00	0.00	
1,500.0	24.83	139.94	1,430.7	-287.0	241.3	374.9	0.00	0.00	
1,600.0	24.83	139.94	1,521.4	-319.1	268.3	416.9	0.00	0.00	
1,700.0	24.83	139.94	1,612.2	-351.2	295.3	458.9	0.00	0.00	
1,800.0	24.83	139.94	1,702.9	-383.4	322.4	500.9	0.00	0.00	
1,900.0	24.83	139.94	1,793.7	-415.5	349.4	542.9	0.00	0.00	
2,000.0	24.83	139.94	1,884.4	-447.7	376.4	584.9	0.00	0.00	
2,100.0	24.83	139.94	1,975.2	-479.8	403.5	626.9	0.00	0.00	
2,200.0	24.83	139.94	2,065.9	-512.0	430.5	668.9	0.00	0.00	
2,205.6	24.83	139.94	2,071.0	-513.8	432.0	671.2	0.00	0.00	G Sand
2,300.0	24.83	139.94	2,156.7	-544.1	457.5	710.9	0.00	0.00	
2,400.0	24.83	139.94	2,247.4	-576.3	484.5	752.9	0.00	0.00	
2,500.0	24.83	139.94	2,338.2	-608.4	511.6	794.9	0.00	0.00	
2,600.0	24.83	139.94	2,428.9	-640.5	538.6	836.9	0.00	0.00	
2,700.0	24.83	139.94	2,519.7	-672.7	565.6	878.9	0.00	0.00	
2,800.0	24.83	139.94	2,610.5	-704.8	592.7	920.9	0.00	0.00	
2,900.0	24.83	139.94	2,701.2	-737.0	619.7	962.9	0.00	0.00	
3,000.0	24.83	139.94	2,792.0	-769.1	646.7	1,004.9	0.00	0.00	
3,100.0	24.83	139.94	2,882.7	-801.3	673.7	1,046.9	0.00	0.00	
3,200.0	24.83	139.94	2,973.5	-833.4	700.8	1,088.9	0.00	0.00	
3,300.0	24.83	139.94	3,064.2	-865.6	727.8	1,130.9	0.00	0.00	
3,400.0	24.83	139.94	3,155.0	-897.7	754.8	1,172.9	0.00	0.00	
3,500.0	24.83	139.94	3,245.7	-929.8	781.9	1,214.9	0.00	0.00	
3,600.0	24.83	139.94	3,336.5	-962.0	808.9	1,256.9	0.00	0.00	
3,700.0	24.83	139.94	3,427.2	-994.1	835.9	1,298.9	0.00	0.00	
3,800.0	24.83	139.94	3,518.0	-1,026.3	862.9	1,340.9	0.00	0.00	
3,900.0	24.83	139.94	3,608.7	-1,058.4	890.0	1,382.9	0.00	0.00	
4,000.0	24.83	139.94	3,699.5	-1,090.6	917.0	1,424.9	0.00	0.00	
4,100.0	24.83	139.94	3,790.3	-1,122.7	944.0	1,466.9	0.00	0.00	
4,200.0	24.83	139.94	3,881.0	-1,154.9	971.1	1,508.9	0.00	0.00	
4,300.0	24.83	139.94	3,971.8	-1,187.0	998.1	1,550.9	0.00	0.00	
4,400.0	24.83	139.94	4,062.5	-1,219.1	1,025.1	1,592.9	0.00	0.00	
4,500.0	24.83	139.94	4,153.3	-1,251.3	1,052.1	1,634.9	0.00	0.00	
4,568.0	24.83	139.94	4,215.0	-1,273.2	1,070.5	1,663.4	0.00	0.00	Ohio Creek
4,600.0	24.83	139.94	4,244.0	-1,283.4	1,079.2	1,676.9	0.00	0.00	
4,700.0	24.83	139.94	4,334.8	-1,315.6	1,106.2	1,718.8	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 Fee 33-1B
<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 Fee 33-1B	<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	24.83	139.94	4,425.5	-1,347.7	1,133.2	1,760.8	0.00	0.00	
4,900.0	24.83	139.94	4,516.3	-1,379.9	1,160.3	1,802.8	0.00	0.00	
5,000.0	24.83	139.94	4,607.0	-1,412.0	1,187.3	1,844.8	0.00	0.00	
5,088.1	24.83	139.94	4,687.0	-1,440.3	1,211.1	1,881.8	0.00	0.00	Mesa Verde
5,100.0	24.83	139.94	4,697.8	-1,444.2	1,214.3	1,886.8	0.00	0.00	
5,200.0	24.83	139.94	4,788.5	-1,476.3	1,241.4	1,928.8	0.00	0.00	
5,300.0	24.83	139.94	4,879.3	-1,508.4	1,268.4	1,970.8	0.00	0.00	
5,400.0	24.83	139.94	4,970.0	-1,540.6	1,295.4	2,012.8	0.00	0.00	
5,500.0	24.83	139.94	5,060.8	-1,572.7	1,322.4	2,054.8	0.00	0.00	
5,600.0	24.83	139.94	5,151.6	-1,604.9	1,349.5	2,096.8	0.00	0.00	
5,700.0	24.83	139.94	5,242.3	-1,637.0	1,376.5	2,138.8	0.00	0.00	
5,705.0	24.83	139.94	5,246.9	-1,638.6	1,377.8	2,140.9	0.00	0.00	Start Drop -2.00
5,729.4	24.35	139.94	5,269.0	-1,646.4	1,384.4	2,151.1	2.00	-2.00	Williams Fork
5,800.0	22.93	139.94	5,333.7	-1,668.1	1,402.6	2,179.4	2.00	-2.00	
5,900.0	20.93	139.94	5,426.5	-1,696.7	1,426.6	2,216.7	2.00	-2.00	
6,000.0	18.93	139.94	5,520.5	-1,722.7	1,448.6	2,250.8	2.00	-2.00	
6,100.0	16.93	139.94	5,615.6	-1,746.3	1,468.4	2,281.6	2.00	-2.00	
6,200.0	14.93	139.94	5,711.8	-1,767.3	1,486.1	2,309.1	2.00	-2.00	
6,300.0	12.93	139.94	5,808.8	-1,785.8	1,501.6	2,333.1	2.00	-2.00	
6,400.0	10.93	139.94	5,906.6	-1,801.6	1,514.9	2,353.8	2.00	-2.00	
6,500.0	8.93	139.94	6,005.1	-1,814.8	1,526.0	2,371.1	2.00	-2.00	
6,600.0	6.93	139.94	6,104.2	-1,825.3	1,534.8	2,384.9	2.00	-2.00	
6,700.0	4.93	139.94	6,203.6	-1,833.3	1,541.5	2,395.2	2.00	-2.00	
6,800.0	2.93	139.94	6,303.4	-1,838.5	1,545.9	2,402.1	2.00	-2.00	
6,900.0	0.93	139.94	6,403.3	-1,841.1	1,548.1	2,405.4	2.00	-2.00	
6,946.7	0.00	0.00	6,450.0	-1,841.4	1,548.3	2,405.8	2.00	-2.00	EOD; Inc=0° - Top of Gas - Benjamin Fee 33-1B
7,000.0	0.00	0.00	6,503.3	-1,841.4	1,548.3	2,405.8	0.00	0.00	
7,100.0	0.00	0.00	6,603.3	-1,841.4	1,548.3	2,405.8	0.00	0.00	
7,200.0	0.00	0.00	6,703.3	-1,841.4	1,548.3	2,405.8	0.00	0.00	
7,300.0	0.00	0.00	6,803.3	-1,841.4	1,548.3	2,405.8	0.00	0.00	
7,400.0	0.00	0.00	6,903.3	-1,841.4	1,548.3	2,405.8	0.00	0.00	
7,500.0	0.00	0.00	7,003.3	-1,841.4	1,548.3	2,405.8	0.00	0.00	
7,600.0	0.00	0.00	7,103.3	-1,841.4	1,548.3	2,405.8	0.00	0.00	
7,700.0	0.00	0.00	7,203.3	-1,841.4	1,548.3	2,405.8	0.00	0.00	
7,800.0	0.00	0.00	7,303.3	-1,841.4	1,548.3	2,405.8	0.00	0.00	
7,900.0	0.00	0.00	7,403.3	-1,841.4	1,548.3	2,405.8	0.00	0.00	
8,000.0	0.00	0.00	7,503.3	-1,841.4	1,548.3	2,405.8	0.00	0.00	
8,100.0	0.00	0.00	7,603.3	-1,841.4	1,548.3	2,405.8	0.00	0.00	
8,155.7	0.00	0.00	7,659.0	-1,841.4	1,548.3	2,405.8	0.00	0.00	Coal Ridge
8,200.0	0.00	0.00	7,703.3	-1,841.4	1,548.3	2,405.8	0.00	0.00	
8,300.0	0.00	0.00	7,803.3	-1,841.4	1,548.3	2,405.8	0.00	0.00	
8,400.0	0.00	0.00	7,903.3	-1,841.4	1,548.3	2,405.8	0.00	0.00	
8,500.0	0.00	0.00	8,003.3	-1,841.4	1,548.3	2,405.8	0.00	0.00	
8,600.0	0.00	0.00	8,103.3	-1,841.4	1,548.3	2,405.8	0.00	0.00	
8,700.0	0.00	0.00	8,203.3	-1,841.4	1,548.3	2,405.8	0.00	0.00	
8,800.0	0.00	0.00	8,303.3	-1,841.4	1,548.3	2,405.8	0.00	0.00	
8,821.7	0.00	0.00	8,325.0	-1,841.4	1,548.3	2,405.8	0.00	0.00	Base Cameo A Coal
8,900.0	0.00	0.00	8,403.3	-1,841.4	1,548.3	2,405.8	0.00	0.00	
8,916.7	0.00	0.00	8,420.0	-1,841.4	1,548.3	2,405.8	0.00	0.00	Rollins
8,971.7	0.00	0.00	8,475.0	-1,841.4	1,548.3	2,405.8	0.00	0.00	Drillers TD @ 8475' TVD - Benjamin Fee 33-1B
9,000.0	0.00	0.00	8,503.3	-1,841.4	1,548.3	2,405.8	0.00	0.00	
9,100.0	0.00	0.00	8,603.3	-1,841.4	1,548.3	2,405.8	0.00	0.00	

# Cathedral Energy Services

## Planning Report

**Database:** EDM 5000.1 US Multi Users DB  
**Company:** EnCana Oil & Gas (USA) Inc  
**Project:** Mamm Creek  
**Site:** K28NW Pad  
**Well:** Benjamin Fee 33-1B  
**Wellbore:** DD  
**Design:** Plan #1

**Local Co-ordinate Reference:** Well Benjamin Fee 33-1B  
**TVD Reference:** WELL @ 5965.0ft (Original Well Elev)  
**MD Reference:** WELL @ 5965.0ft (Original Well Elev)  
**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature

### 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	8,703.3	-1,841.4	1,548.3	2,405.8	0.00	0.00	
9,271.7	0.00	0.00	8,775.0	-1,841.4	1,548.3	2,405.8	0.00	0.00	Permit TD @ 8775' 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 Fee 33-1B BH - plan hits target center - Circle (radius 25.0)	0.00	0.00	8,475.0	-1,841.4	1,548.3	1,611,253.99	2,357,921.01	39.489583	-107.775306
Benjamin Fee 33-1B TO - plan hits target center - Point	0.00	0.00	6,450.0	-1,841.4	1,548.3	1,611,253.99	2,357,921.01	39.489583	-107.775306

### Casing Points

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)
1,390.0	1,330.8	Surface Casing	5.500	6.000

### Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
2,205.6	2,071.0	G Sand			
4,568.0	4,215.0	Ohio Creek			
5,088.1	4,687.0	Mesa Verde			
5,729.4	5,269.0	Williams Fork			
6,946.7	6,450.0	Top of Gas			
8,155.7	7,659.0	Coal Ridge			
8,821.7	8,325.0	Base Cameo A Coal			
8,916.7	8,420.0	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'
1,027.8	1,002.1	-135.2	113.7	EOB; Inc=24.8°
5,705.0	5,246.9	-1,638.6	1,377.8	Start Drop -2.00
6,946.7	6,450.0	-1,841.4	1,548.3	EOD; Inc=0°
8,971.7	8,475.0	-1,841.4	1,548.3	Drillers TD @ 8475' TVD
9,271.7	8,775.0	-1,841.4	1,548.3	Permit TD @ 8775' TVD