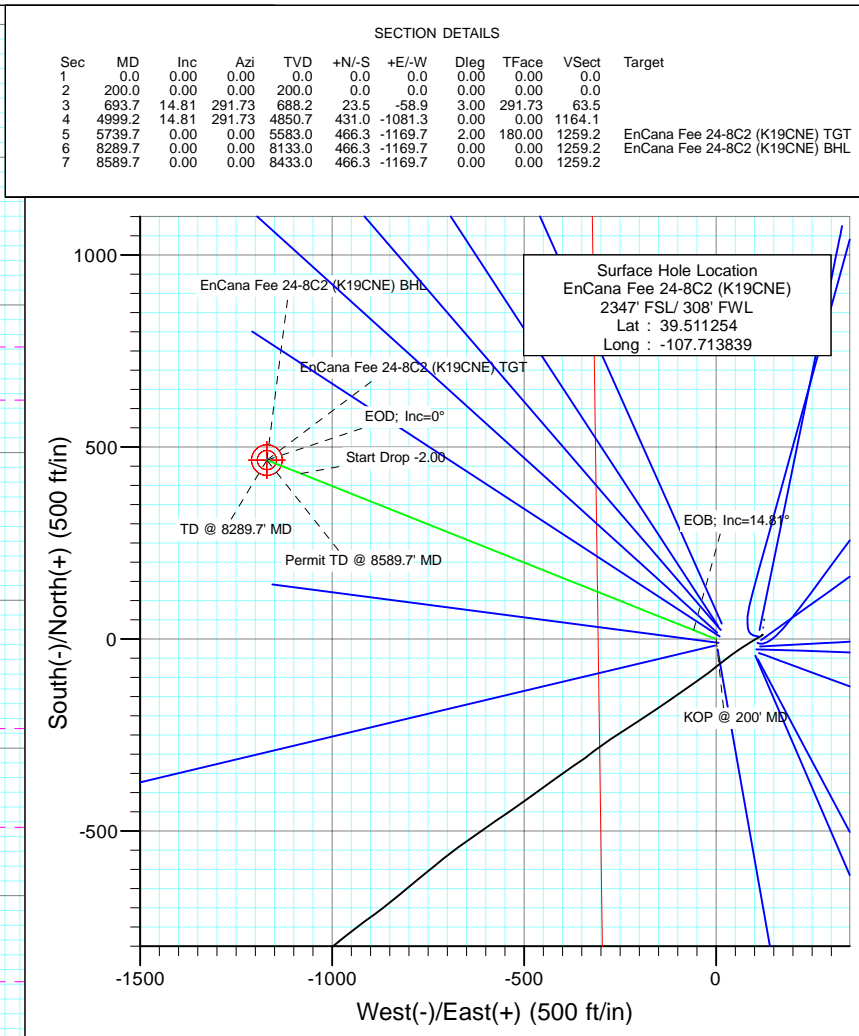
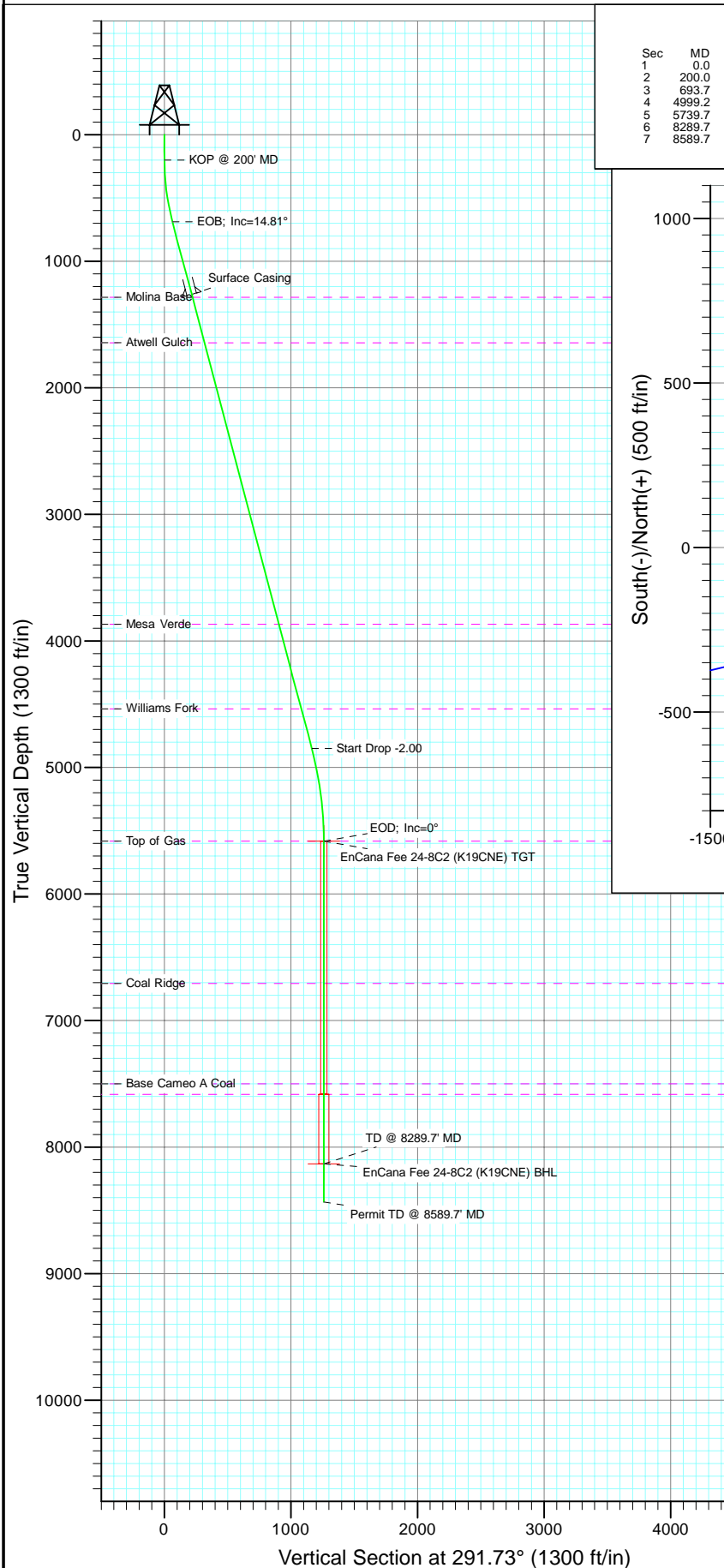




Project: Mamm Creek  
Site: SW S19-T6S-R29W (K19CNE Pad)  
Well: EnCana Fee 24-8C2 (K19CNE)  
Wellbore: DD  
Design: Plan #1



FORMATION TOP DETAILS		
TVDPath	MDPath	Formation
1284.0	1310.0	Molina Base
1645.0	1683.4	Atwell Gulch
3869.0	3983.8	Mesa Verde
4537.0	4674.7	Williams Fork
5583.0	5739.7	Top of Gas
6707.0	6863.7	Coal Ridge
7500.0	7656.7	Base Cameo A Coal
7583.0	7739.7	Rollins



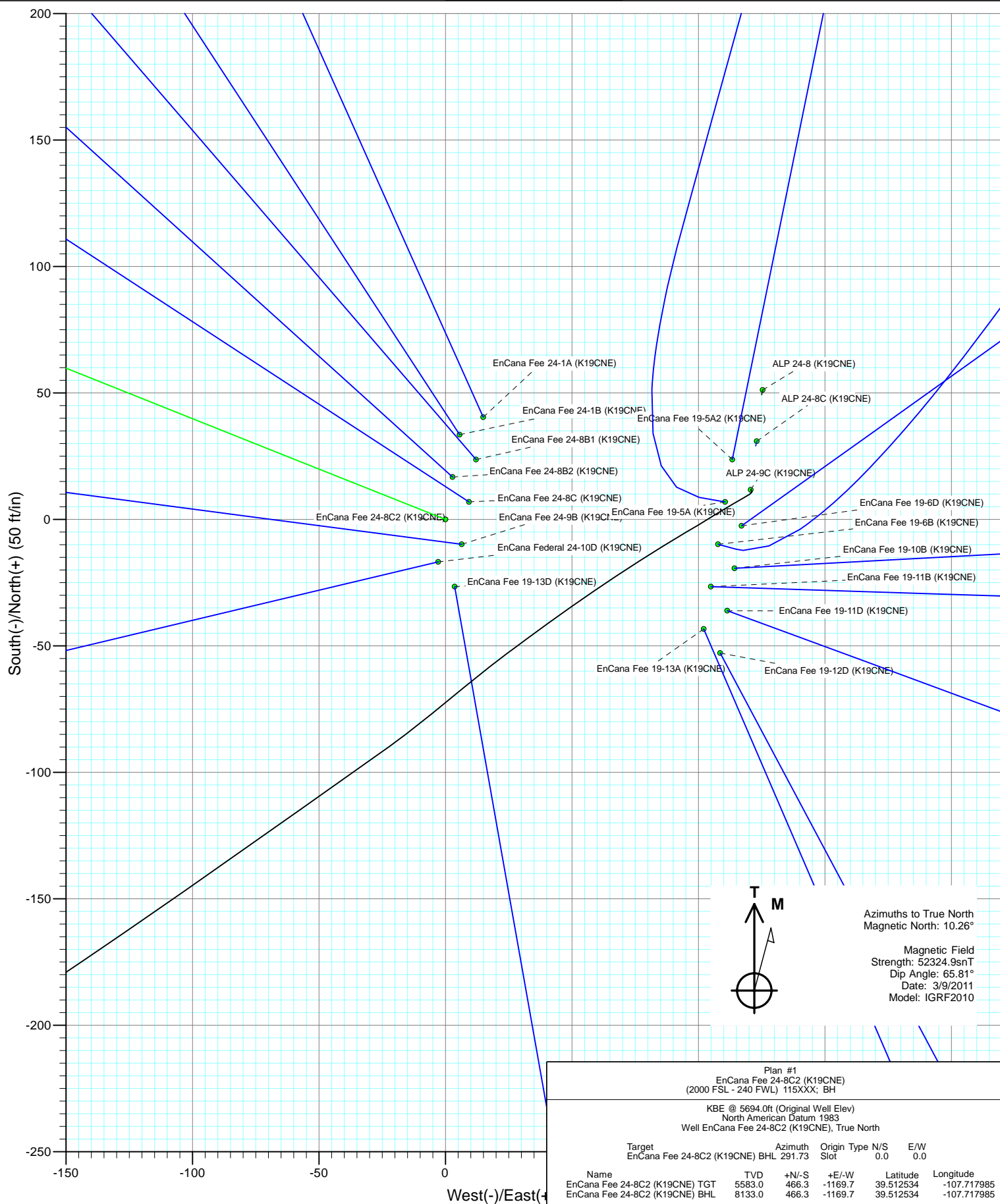
Azimuths to True North  
Magnetic North: 10.26°

Magnetic Field  
Strength: 52324.9nT  
Dip Angle: 65.81°  
Date: 3/9/2011  
Model: IGRF2010

Plan #1 EnCana Fee 24-8C2 (K19CNE) (2000 FSL - 240 FWL) 115XXX; BH				
KBE @ 5694.0ft (Original Well Elev) North American Datum 1983 Well EnCana Fee 24-8C2 (K19CNE), True North				
Target	Azimuth	Origin Type	N/S	E/W
EnCana Fee 24-8C2 (K19CNE) BHL	291.73	Slot	0.0	0.0
Name	TVD	+N/-S	+E/-W	Latitude
EnCana Fee 24-8C2 (K19CNE) TGT	5583.0	466.3	-1169.7	39.512534
EnCana Fee 24-8C2 (K19CNE) BHL	8133.0	466.3	-1169.7	39.512534
Longitude				
-107.717985				

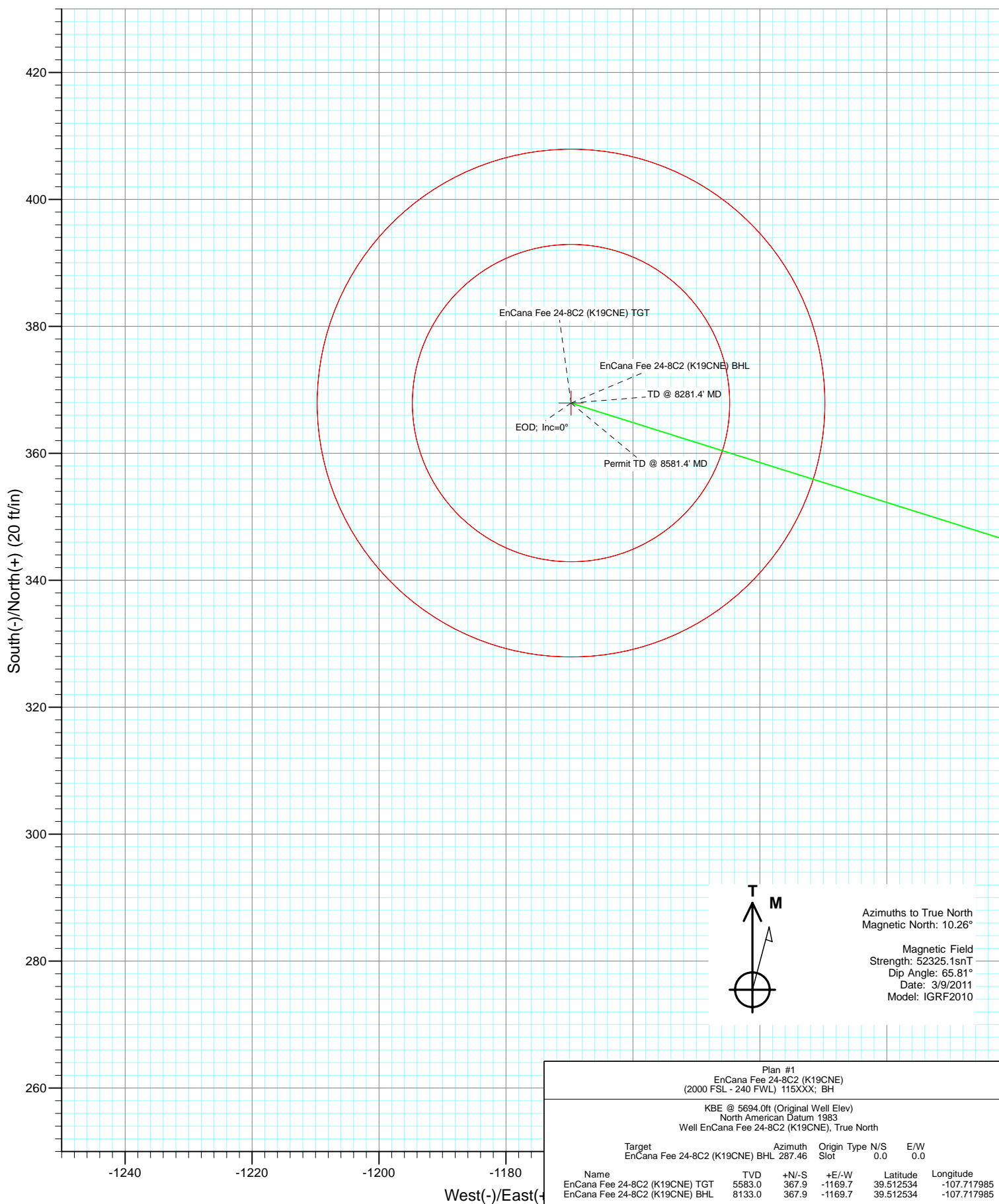


Project: Mamm Creek  
 Site: SW S19-T6S-R29W (K19CNE Pad)  
 Well: EnCana Fee 24-8C2 (K19CNE)  
 Wellbore: DD  
 Design: Plan #1





Project: Mamm Creek  
 Site: SW S19-T6S-R29W (K19CNE Pad)  
 Well: EnCana Fee 24-8C2 (K19CNE)  
 Wellbore: DD  
 Design: Plan #1



# Cathedral Energy Services

## Planning Report

<b>Database:</b>	EDM 5000.1 US Multi Users DB	<b>Local Co-ordinate Reference:</b>	Well EnCana Fee 24-8C2 (K19CNE)
<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>TVD Reference:</b>	KBE @ 5694.0ft (Original Well Elev)
<b>Project:</b>	Mamm Creek	<b>MD Reference:</b>	KBE @ 5694.0ft (Original Well Elev)
<b>Site:</b>	SW S19-T6S-R29W (K19CNE Pad)	<b>North Reference:</b>	True
<b>Well:</b>	EnCana Fee 24-8C2 (K19CNE)	<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		SW S19-T6S-R29W (K19CNE Pad)			
Site Position:		Northing:	1,618,725.17 ft	Latitude:	39.511286
From:	Lat/Long	Easting:	2,375,576.53 ft	Longitude:	-107.713411
Position Uncertainty:	0.0 ft	Slot Radius:	0.000 in	Grid Convergence:	-1.40 °

Well	EnCana Fee 24-8C2 (K19CNE)					
Well Position	+N/-S	0.0 ft	Northing:	1,618,716.41 ft	Latitude:	39.511254
	+E/-W	0.0 ft	Easting:	2,375,455.56 ft	Longitude:	-107.713839
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	5,672.0 ft

Wellbore	DD				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	3/9/2011	10.26	65.81	52,325

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	291.73

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	
693.7	14.81	291.73	688.2	23.5	-58.9	3.00	3.00	0.00	291.73	
4,999.2	14.81	291.73	4,850.7	431.0	-1,081.3	0.00	0.00	0.00	0.00	
5,739.7	0.00	0.00	5,583.0	466.3	-1,169.7	2.00	-2.00	0.00	180.00	EnCana Fee 24-8C2 (K19CNE)
8,289.7	0.00	0.00	8,133.0	466.3	-1,169.7	0.00	0.00	0.00	0.00	EnCana Fee 24-8C2 (K19CNE)
8,589.7	0.00	0.00	8,433.0	466.3	-1,169.7	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 EnCana Fee 24-8C2 (K19CNE)
<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>TVD Reference:</b>	KBE @ 5694.0ft (Original Well Elev)
<b>Project:</b>	Mamm Creek	<b>MD Reference:</b>	KBE @ 5694.0ft (Original Well Elev)
<b>Site:</b>	SW S19-T6S-R29W (K19CNE Pad)	<b>North Reference:</b>	True
<b>Well:</b>	EnCana Fee 24-8C2 (K19CNE)	<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' MD
300.0	3.00	291.73	300.0	1.0	-2.4	2.6	3.00	3.00	
400.0	6.00	291.73	399.6	3.9	-9.7	10.5	3.00	3.00	
500.0	9.00	291.73	498.8	8.7	-21.8	23.5	3.00	3.00	
600.0	12.00	291.73	597.1	15.5	-38.8	41.7	3.00	3.00	
693.7	14.81	291.73	688.2	23.5	-58.9	63.5	3.00	3.00	EOB; Inc=14.81°
700.0	14.81	291.73	694.3	24.1	-60.4	65.1	0.00	0.00	
800.0	14.81	291.73	791.0	33.6	-84.2	90.6	0.00	0.00	
900.0	14.81	291.73	887.7	43.0	-107.9	116.2	0.00	0.00	
1,000.0	14.81	291.73	984.3	52.5	-131.7	141.8	0.00	0.00	
1,100.0	14.81	291.73	1,081.0	62.0	-155.4	167.3	0.00	0.00	
1,200.0	14.81	291.73	1,177.7	71.4	-179.2	192.9	0.00	0.00	
1,287.1	14.81	291.73	1,261.9	79.7	-199.9	215.1	0.00	0.00	Surface Casing
1,300.0	14.81	291.73	1,274.4	80.9	-202.9	218.4	0.00	0.00	
1,310.0	14.81	291.73	1,284.0	81.8	-205.3	221.0	0.00	0.00	Molina Base
1,400.0	14.81	291.73	1,371.1	90.3	-226.7	244.0	0.00	0.00	
1,500.0	14.81	291.73	1,467.7	99.8	-250.4	269.6	0.00	0.00	
1,600.0	14.81	291.73	1,564.4	109.3	-274.2	295.1	0.00	0.00	
1,683.4	14.81	291.73	1,645.0	117.2	-293.9	316.4	0.00	0.00	Atwell Gulch
1,700.0	14.81	291.73	1,661.1	118.7	-297.9	320.7	0.00	0.00	
1,800.0	14.81	291.73	1,757.8	128.2	-321.6	346.3	0.00	0.00	
1,900.0	14.81	291.73	1,854.4	137.7	-345.4	371.8	0.00	0.00	
2,000.0	14.81	291.73	1,951.1	147.1	-369.1	397.4	0.00	0.00	
2,100.0	14.81	291.73	2,047.8	156.6	-392.9	422.9	0.00	0.00	
2,200.0	14.81	291.73	2,144.5	166.1	-416.6	448.5	0.00	0.00	
2,300.0	14.81	291.73	2,241.2	175.5	-440.4	474.1	0.00	0.00	
2,400.0	14.81	291.73	2,337.8	185.0	-464.1	499.6	0.00	0.00	
2,500.0	14.81	291.73	2,434.5	194.5	-487.9	525.2	0.00	0.00	
2,600.0	14.81	291.73	2,531.2	203.9	-511.6	550.8	0.00	0.00	
2,700.0	14.81	291.73	2,627.9	213.4	-535.4	576.3	0.00	0.00	
2,800.0	14.81	291.73	2,724.5	222.9	-559.1	601.9	0.00	0.00	
2,900.0	14.81	291.73	2,821.2	232.3	-582.8	627.4	0.00	0.00	
3,000.0	14.81	291.73	2,917.9	241.8	-606.6	653.0	0.00	0.00	
3,100.0	14.81	291.73	3,014.6	251.3	-630.3	678.6	0.00	0.00	
3,200.0	14.81	291.73	3,111.3	260.7	-654.1	704.1	0.00	0.00	
3,300.0	14.81	291.73	3,207.9	270.2	-677.8	729.7	0.00	0.00	
3,400.0	14.81	291.73	3,304.6	279.7	-701.6	755.3	0.00	0.00	
3,500.0	14.81	291.73	3,401.3	289.1	-725.3	780.8	0.00	0.00	
3,600.0	14.81	291.73	3,498.0	298.6	-749.1	806.4	0.00	0.00	
3,700.0	14.81	291.73	3,594.6	308.0	-772.8	831.9	0.00	0.00	
3,800.0	14.81	291.73	3,691.3	317.5	-796.6	857.5	0.00	0.00	
3,900.0	14.81	291.73	3,788.0	327.0	-820.3	883.1	0.00	0.00	
3,983.8	14.81	291.73	3,869.0	334.9	-840.2	904.5	0.00	0.00	Mesa Verde
4,000.0	14.81	291.73	3,884.7	336.4	-844.0	908.6	0.00	0.00	
4,100.0	14.81	291.73	3,981.3	345.9	-867.8	934.2	0.00	0.00	
4,200.0	14.81	291.73	4,078.0	355.4	-891.5	959.8	0.00	0.00	
4,300.0	14.81	291.73	4,174.7	364.8	-915.3	985.3	0.00	0.00	
4,400.0	14.81	291.73	4,271.4	374.3	-939.0	1,010.9	0.00	0.00	
4,500.0	14.81	291.73	4,368.1	383.8	-962.8	1,036.4	0.00	0.00	
4,600.0	14.81	291.73	4,464.7	393.2	-986.5	1,062.0	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 EnCana Fee 24-8C2 (K19CNE)
<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>TVD Reference:</b>	KBE @ 5694.0ft (Original Well Elev)
<b>Project:</b>	Mamm Creek	<b>MD Reference:</b>	KBE @ 5694.0ft (Original Well Elev)
<b>Site:</b>	SW S19-T6S-R29W (K19CNE Pad)	<b>North Reference:</b>	True
<b>Well:</b>	EnCana Fee 24-8C2 (K19CNE)	<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
4,674.7	14.81	291.73	4,537.0	400.3	-1,004.3	1,081.1	0.00	0.00	Williams Fork
4,700.0	14.81	291.73	4,561.4	402.7	-1,010.3	1,087.6	0.00	0.00	
4,800.0	14.81	291.73	4,658.1	412.2	-1,034.0	1,113.1	0.00	0.00	
4,900.0	14.81	291.73	4,754.8	421.6	-1,057.8	1,138.7	0.00	0.00	
4,999.2	14.81	291.73	4,850.7	431.0	-1,081.3	1,164.1	0.00	0.00	Start Drop -2.00
5,000.0	14.79	291.73	4,851.4	431.1	-1,081.5	1,164.3	2.00	-2.00	
5,100.0	12.79	291.73	4,948.6	439.9	-1,103.7	1,188.1	2.00	-2.00	
5,200.0	10.79	291.73	5,046.4	447.5	-1,122.6	1,208.5	2.00	-2.00	
5,300.0	8.79	291.73	5,145.0	453.8	-1,138.4	1,225.5	2.00	-2.00	
5,400.0	6.79	291.73	5,244.0	458.8	-1,151.0	1,239.1	2.00	-2.00	
5,500.0	4.79	291.73	5,343.5	462.5	-1,160.4	1,249.2	2.00	-2.00	
5,600.0	2.79	291.73	5,443.3	465.0	-1,166.6	1,255.8	2.00	-2.00	
5,700.0	0.79	291.73	5,543.3	466.2	-1,169.5	1,259.0	2.00	-2.00	
5,739.7	0.00	0.00	5,583.0	466.3	-1,169.7	1,259.2	2.00	-2.00	EOD; Inc=0° - Top of Gas - EnCana Fee 24-8C
5,800.0	0.00	0.00	5,643.3	466.3	-1,169.7	1,259.2	0.00	0.00	
5,900.0	0.00	0.00	5,743.3	466.3	-1,169.7	1,259.2	0.00	0.00	
6,000.0	0.00	0.00	5,843.3	466.3	-1,169.7	1,259.2	0.00	0.00	
6,100.0	0.00	0.00	5,943.3	466.3	-1,169.7	1,259.2	0.00	0.00	
6,200.0	0.00	0.00	6,043.3	466.3	-1,169.7	1,259.2	0.00	0.00	
6,300.0	0.00	0.00	6,143.3	466.3	-1,169.7	1,259.2	0.00	0.00	
6,400.0	0.00	0.00	6,243.3	466.3	-1,169.7	1,259.2	0.00	0.00	
6,500.0	0.00	0.00	6,343.3	466.3	-1,169.7	1,259.2	0.00	0.00	
6,600.0	0.00	0.00	6,443.3	466.3	-1,169.7	1,259.2	0.00	0.00	
6,700.0	0.00	0.00	6,543.3	466.3	-1,169.7	1,259.2	0.00	0.00	
6,800.0	0.00	0.00	6,643.3	466.3	-1,169.7	1,259.2	0.00	0.00	
6,863.7	0.00	0.00	6,707.0	466.3	-1,169.7	1,259.2	0.00	0.00	Coal Ridge
6,900.0	0.00	0.00	6,743.3	466.3	-1,169.7	1,259.2	0.00	0.00	
7,000.0	0.00	0.00	6,843.3	466.3	-1,169.7	1,259.2	0.00	0.00	
7,100.0	0.00	0.00	6,943.3	466.3	-1,169.7	1,259.2	0.00	0.00	
7,200.0	0.00	0.00	7,043.3	466.3	-1,169.7	1,259.2	0.00	0.00	
7,300.0	0.00	0.00	7,143.3	466.3	-1,169.7	1,259.2	0.00	0.00	
7,400.0	0.00	0.00	7,243.3	466.3	-1,169.7	1,259.2	0.00	0.00	
7,500.0	0.00	0.00	7,343.3	466.3	-1,169.7	1,259.2	0.00	0.00	
7,600.0	0.00	0.00	7,443.3	466.3	-1,169.7	1,259.2	0.00	0.00	
7,656.7	0.00	0.00	7,500.0	466.3	-1,169.7	1,259.2	0.00	0.00	Base Cameo A Coal
7,700.0	0.00	0.00	7,543.3	466.3	-1,169.7	1,259.2	0.00	0.00	
7,739.7	0.00	0.00	7,583.0	466.3	-1,169.7	1,259.2	0.00	0.00	Rollins
7,800.0	0.00	0.00	7,643.3	466.3	-1,169.7	1,259.2	0.00	0.00	
7,900.0	0.00	0.00	7,743.3	466.3	-1,169.7	1,259.2	0.00	0.00	
8,000.0	0.00	0.00	7,843.3	466.3	-1,169.7	1,259.2	0.00	0.00	
8,100.0	0.00	0.00	7,943.3	466.3	-1,169.7	1,259.2	0.00	0.00	
8,200.0	0.00	0.00	8,043.3	466.3	-1,169.7	1,259.2	0.00	0.00	
8,289.7	0.00	0.00	8,133.0	466.3	-1,169.7	1,259.2	0.00	0.00	TD @ 8289.7' MD - EnCana Fee 24-8C2 (K19C
8,300.0	0.00	0.00	8,143.3	466.3	-1,169.7	1,259.2	0.00	0.00	
8,400.0	0.00	0.00	8,243.3	466.3	-1,169.7	1,259.2	0.00	0.00	
8,500.0	0.00	0.00	8,343.3	466.3	-1,169.7	1,259.2	0.00	0.00	
8,589.7	0.00	0.00	8,433.0	466.3	-1,169.7	1,259.2	0.00	0.00	Permit TD @ 8589.7' MD

# Cathedral Energy Services

## Planning Report

<b>Database:</b>	EDM 5000.1 US Multi Users DB	<b>Local Co-ordinate Reference:</b>	Well EnCana Fee 24-8C2 (K19CNE)
<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>TVD Reference:</b>	KBE @ 5694.0ft (Original Well Elev)
<b>Project:</b>	Mamm Creek	<b>MD Reference:</b>	KBE @ 5694.0ft (Original Well Elev)
<b>Site:</b>	SW S19-T6S-R29W (K19CNE Pad)	<b>North Reference:</b>	True
<b>Well:</b>	EnCana Fee 24-8C2 (K19CNE)	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	DD		
<b>Design:</b>	Plan #1		

Targets									
Target Name	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- hit/miss target	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(ft)		
- Shape									
EnCana Fee 24-8C2 (K1 - plan hits target center - Circle (radius 40.0)	0.00	0.00	8,133.0	466.3	-1,169.7	1,619,211.04	2,374,297.54	39.512534	-107.717985
EnCana Fee 24-8C2 (K1 - plan hits target center - Circle (radius 25.0)	0.00	0.00	5,583.0	466.3	-1,169.7	1,619,211.04	2,374,297.54	39.512534	-107.717985

Casing Points					
Measured Depth	Vertical Depth	Name		Casing Diameter	Hole Diameter
(ft)	(ft)			(in)	(in)
1,287.1	1,261.9	Surface Casing		0.000	0.000

Formations						
Measured Depth	Vertical Depth	Name	Lithology	Dip	Dip Direction	
(ft)	(ft)			(°)	(°)	
1,310.0	1,284.0	Molina Base		0.00		
1,683.4	1,645.0	Atwell Gulch		0.00		
3,983.8	3,869.0	Mesa Verde		0.00		
4,674.7	4,537.0	Williams Fork		0.00		
5,739.7	5,583.0	Top of Gas		0.00		
6,863.7	6,707.0	Coal Ridge		0.00		
7,656.7	7,500.0	Base Cameo A Coal		0.00		
7,739.7	7,583.0	Rollins		0.00		

Plan Annotations					
Measured Depth	Vertical Depth	Local Coordinates		Comment	
(ft)	(ft)	+N/-S	+E/-W		
(ft)	(ft)	(ft)	(ft)		
200.0	200.0	0.0	0.0	KOP @ 200' MD	
693.7	688.2	23.5	-58.9	EOB; Inc=14.81°	
4,999.2	4,850.7	431.0	-1,081.3	Start Drop -2.00	
5,739.7	5,583.0	466.3	-1,169.7	EOD; Inc=0°	
8,289.7	8,133.0	466.3	-1,169.7	TD @ 8289.7' MD	
8,589.7	8,433.0	466.3	-1,169.7	Permit TD @ 8589.7' MD	