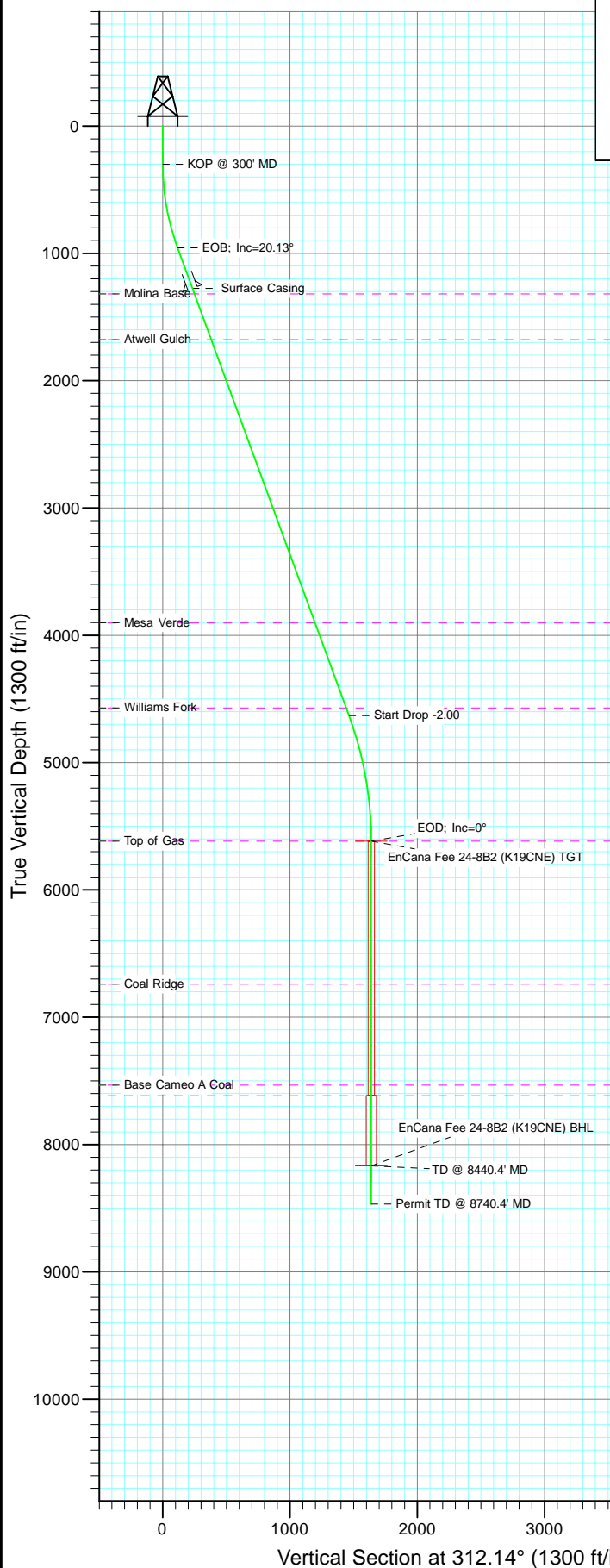
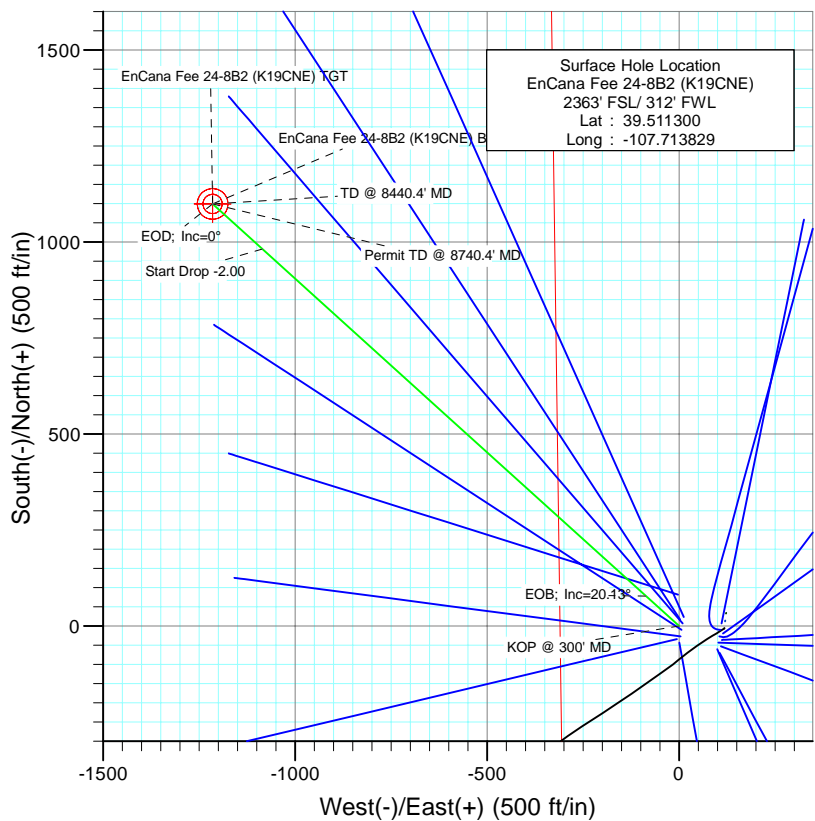




Project: Mamm Creek
Site: SW S19-T6S-R29W (K19CNE Pad)
Well: EnCana Fee 24-8B2 (K19CNE)
Wellbore: DD
Design: Plan #1



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	300.0	0.00	0.00	300.0	0.0	0.0	0.00	0.00	0.0	
3	971.1	20.13	312.14	957.3	78.3	-86.5	3.00	312.14	116.7	
4	4883.8	20.13	312.14	4631.0	981.9	-1085.1	0.00	0.00	1463.4	
5	5890.4	0.00	0.00	5617.0	1099.3	-1214.8	2.00	180.00	1638.4	EnCana Fee 24-8B2 (K19CNE) TGT
6	8440.4	0.00	0.00	8167.0	1099.3	-1214.8	0.00	0.00	1638.4	EnCana Fee 24-8B2 (K19CNE) BHL
7	8740.4	0.00	0.00	8467.0	1099.3	-1214.8	0.00	0.00	1638.4	



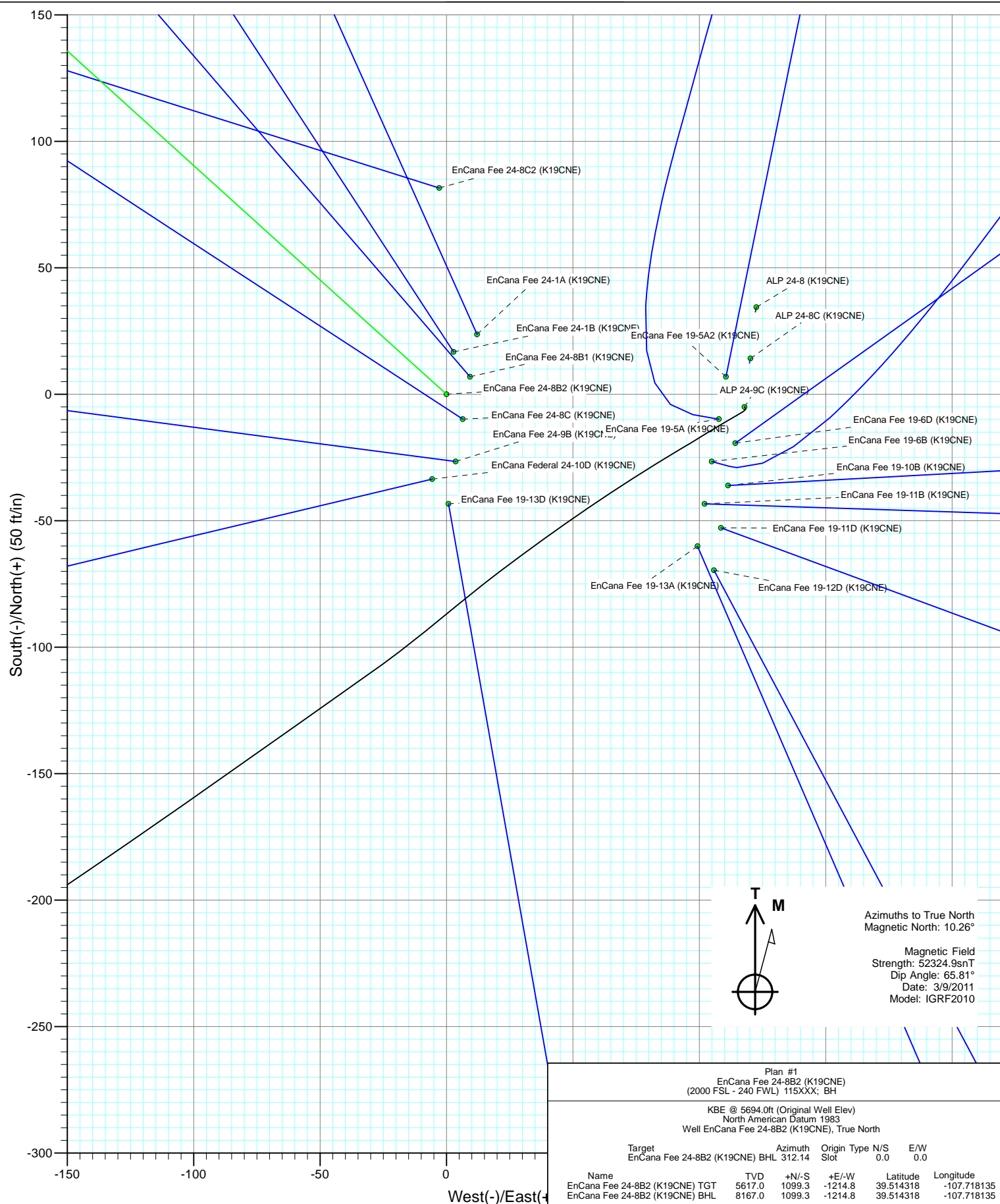
FORMATION TOP DETAILS		
TVDPath	MDPath	Formation
1318.0	1355.2	Molina Base
1679.0	1739.7	Atwell Gulch
3903.0	4108.4	Mesa Verde
4571.0	4819.9	Williams Fork
5617.0	5890.4	Top of Gas
6741.0	7014.4	Coal Ridge
7534.0	7807.4	Base Cameo A Coal
7617.0	7890.4	Rollins



Azimuths to True North
Magnetic North: 10.26°

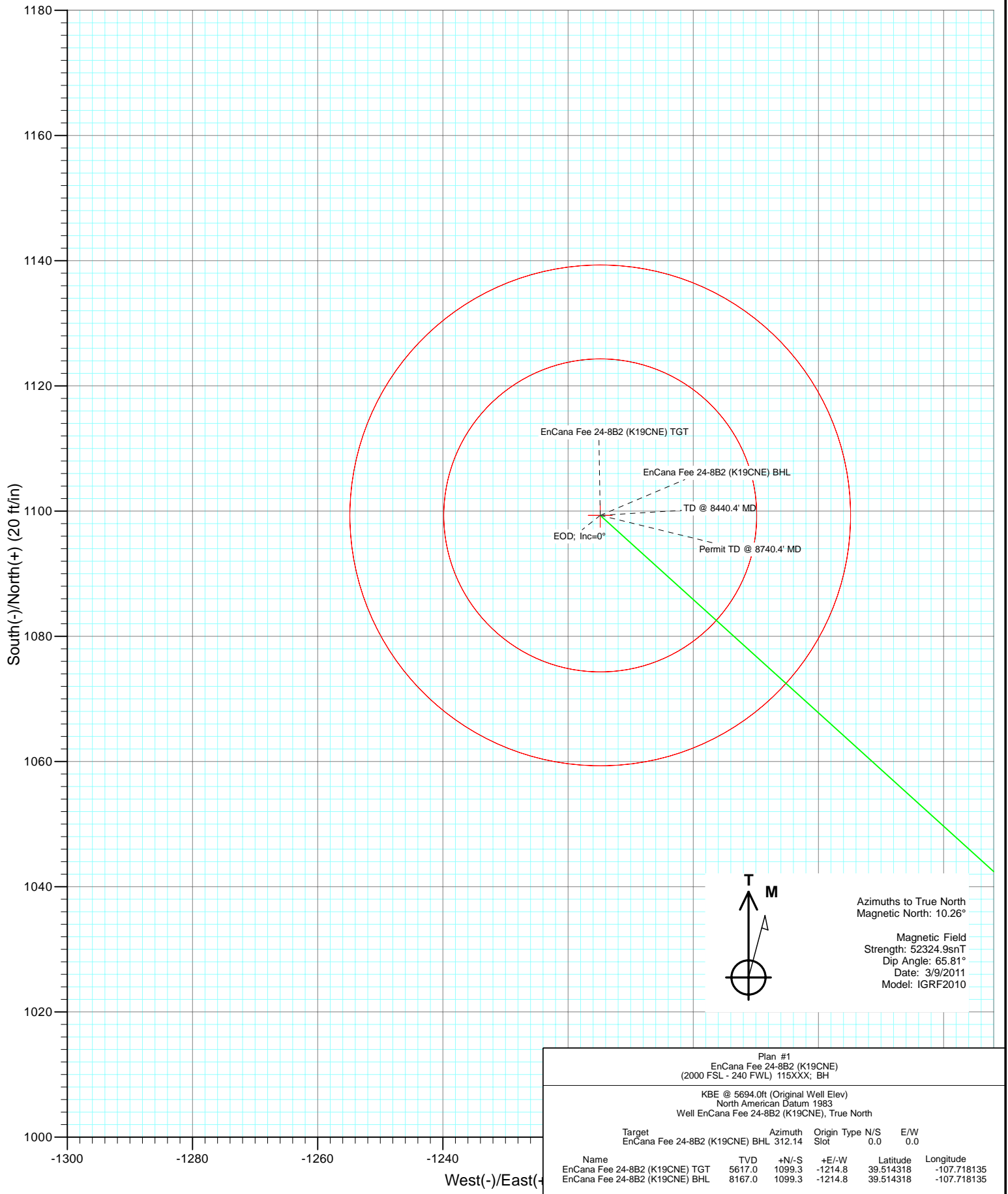
Magnetic Field
Strength: 52324.9nT
Dip Angle: 65.81°
Date: 3/9/2011
Model: IGRF2010

Plan #1 EnCana Fee 24-8B2 (K19CNE) (2000 FSL - 240 FWL) 115XXX; BH				
KBE @ 5694.0ft (Original Well Elev) North American Datum 1983 Well EnCana Fee 24-8B2 (K19CNE), True North				
Target	Azimuth	Origin Type	N/S	E/W
EnCana Fee 24-8B2 (K19CNE) BHL	312.14	Slot	0.0	0.0
Name	TVD	+N/-S	+E/-W	Latitude
EnCana Fee 24-8B2 (K19CNE) TGT	5617.0	1099.3	-1214.8	39.514318
EnCana Fee 24-8B2 (K19CNE) BHL	8167.0	1099.3	-1214.8	39.514318





Project: Mamm Creek
 Site: SW S19-T6S-R29W (K19CNE Pad)
 Well: EnCana Fee 24-8B2 (K19CNE)
 Wellbore: DD
 Design: Plan #1



Cathedral Energy Services

Planning Report

Database:	EDM 5000.1 US Multi Users DB	Local Co-ordinate Reference:	Well EnCana Fee 24-8B2 (K19CNE)
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	KBE @ 5694.0ft (Original Well Elev)
Project:	Mamm Creek	MD Reference:	KBE @ 5694.0ft (Original Well Elev)
Site:	SW S19-T6S-R29W (K19CNE Pad)	North Reference:	True
Well:	EnCana Fee 24-8B2 (K19CNE)	Survey Calculation Method:	Minimum Curvature
Wellbore:	DD		
Design:	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 24-8B2 (K19CNE)					
Well Position	+N/-S	0.0 ft	Northing:	1,618,733.09 ft	Latitude:	39.511300
	+E/-W	0.0 ft	Easting:	2,375,458.79 ft	Longitude:	-107.713829
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	312.14

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	
300.0	0.00	0.00	300.0	0.0	0.0	0.00	0.00	0.00	0.00	
971.1	20.13	312.14	957.3	78.3	-86.5	3.00	3.00	0.00	312.14	
4,883.8	20.13	312.14	4,631.0	981.9	-1,085.1	0.00	0.00	0.00	0.00	
5,890.4	0.00	0.00	5,617.0	1,099.3	-1,214.8	2.00	-2.00	0.00	180.00	EnCana Fee 24-8B2 (
8,440.4	0.00	0.00	8,167.0	1,099.3	-1,214.8	0.00	0.00	0.00	0.00	EnCana Fee 24-8B2 (
8,740.4	0.00	0.00	8,467.0	1,099.3	-1,214.8	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 EnCana Fee 24-8B2 (K19CNE)
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	KBE @ 5694.0ft (Original Well Elev)
Project:	Mamm Creek	MD Reference:	KBE @ 5694.0ft (Original Well Elev)
Site:	SW S19-T6S-R29W (K19CNE Pad)	North Reference:	True
Well:	EnCana Fee 24-8B2 (K19CNE)	Survey Calculation Method:	Minimum Curvature
Wellbore:	DD		
Design:	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	
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	KOP @ 300' MD
400.0	3.00	312.14	400.0	1.8	-1.9	2.6	3.00	3.00	
500.0	6.00	312.14	499.6	7.0	-7.8	10.5	3.00	3.00	
600.0	9.00	312.14	598.8	15.8	-17.4	23.5	3.00	3.00	
700.0	12.00	312.14	697.1	28.0	-30.9	41.7	3.00	3.00	
800.0	15.00	312.14	794.3	43.7	-48.3	65.1	3.00	3.00	
900.0	18.00	312.14	890.2	62.7	-69.3	93.5	3.00	3.00	
971.1	20.13	312.14	957.3	78.3	-86.5	116.7	3.00	3.00	EOB; Inc=20.13°
1,000.0	20.13	312.14	984.5	85.0	-93.9	126.6	0.00	0.00	
1,100.0	20.13	312.14	1,078.4	108.1	-119.4	161.1	0.00	0.00	
1,200.0	20.13	312.14	1,172.3	131.2	-144.9	195.5	0.00	0.00	
1,300.0	20.13	312.14	1,266.2	154.3	-170.5	229.9	0.00	0.00	
1,310.2	20.13	312.14	1,275.7	156.6	-173.1	233.4	0.00	0.00	Surface Casing
1,355.2	20.13	312.14	1,318.0	167.0	-184.6	248.9	0.00	0.00	Molina Base
1,400.0	20.13	312.14	1,360.1	177.4	-196.0	264.3	0.00	0.00	
1,500.0	20.13	312.14	1,454.0	200.4	-221.5	298.7	0.00	0.00	
1,600.0	20.13	312.14	1,547.9	223.5	-247.0	333.2	0.00	0.00	
1,700.0	20.13	312.14	1,641.7	246.6	-272.5	367.6	0.00	0.00	
1,739.7	20.13	312.14	1,679.0	255.8	-282.7	381.2	0.00	0.00	Atwell Gulch
1,800.0	20.13	312.14	1,735.6	269.7	-298.1	402.0	0.00	0.00	
1,900.0	20.13	312.14	1,829.5	292.8	-323.6	436.4	0.00	0.00	
2,000.0	20.13	312.14	1,923.4	315.9	-349.1	470.8	0.00	0.00	
2,100.0	20.13	312.14	2,017.3	339.0	-374.6	505.2	0.00	0.00	
2,200.0	20.13	312.14	2,111.2	362.1	-400.2	539.7	0.00	0.00	
2,300.0	20.13	312.14	2,205.1	385.2	-425.7	574.1	0.00	0.00	
2,400.0	20.13	312.14	2,299.0	408.3	-451.2	608.5	0.00	0.00	
2,500.0	20.13	312.14	2,392.9	431.4	-476.7	642.9	0.00	0.00	
2,600.0	20.13	312.14	2,486.8	454.5	-502.2	677.3	0.00	0.00	
2,700.0	20.13	312.14	2,580.6	477.6	-527.8	711.8	0.00	0.00	
2,800.0	20.13	312.14	2,674.5	500.7	-553.3	746.2	0.00	0.00	
2,900.0	20.13	312.14	2,768.4	523.8	-578.8	780.6	0.00	0.00	
3,000.0	20.13	312.14	2,862.3	546.8	-604.3	815.0	0.00	0.00	
3,100.0	20.13	312.14	2,956.2	569.9	-629.8	849.4	0.00	0.00	
3,200.0	20.13	312.14	3,050.1	593.0	-655.4	883.8	0.00	0.00	
3,300.0	20.13	312.14	3,144.0	616.1	-680.9	918.3	0.00	0.00	
3,400.0	20.13	312.14	3,237.9	639.2	-706.4	952.7	0.00	0.00	
3,500.0	20.13	312.14	3,331.8	662.3	-731.9	987.1	0.00	0.00	
3,600.0	20.13	312.14	3,425.7	685.4	-757.4	1,021.5	0.00	0.00	
3,700.0	20.13	312.14	3,519.5	708.5	-783.0	1,055.9	0.00	0.00	
3,800.0	20.13	312.14	3,613.4	731.6	-808.5	1,090.4	0.00	0.00	
3,900.0	20.13	312.14	3,707.3	754.7	-834.0	1,124.8	0.00	0.00	
4,000.0	20.13	312.14	3,801.2	777.8	-859.5	1,159.2	0.00	0.00	
4,100.0	20.13	312.14	3,895.1	800.9	-885.0	1,193.6	0.00	0.00	
4,108.4	20.13	312.14	3,903.0	802.8	-887.2	1,196.5	0.00	0.00	Mesa Verde
4,200.0	20.13	312.14	3,989.0	824.0	-910.6	1,228.0	0.00	0.00	
4,300.0	20.13	312.14	4,082.9	847.1	-936.1	1,262.4	0.00	0.00	
4,400.0	20.13	312.14	4,176.8	870.2	-961.6	1,296.9	0.00	0.00	
4,500.0	20.13	312.14	4,270.7	893.3	-987.1	1,331.3	0.00	0.00	
4,600.0	20.13	312.14	4,364.6	916.3	-1,012.6	1,365.7	0.00	0.00	

Cathedral Energy Services

Planning Report

Database:	EDM 5000.1 US Multi Users DB	Local Co-ordinate Reference:	Well EnCana Fee 24-8B2 (K19CNE)
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	KBE @ 5694.0ft (Original Well Elev)
Project:	Mamm Creek	MD Reference:	KBE @ 5694.0ft (Original Well Elev)
Site:	SW S19-T6S-R29W (K19CNE Pad)	North Reference:	True
Well:	EnCana Fee 24-8B2 (K19CNE)	Survey Calculation Method:	Minimum Curvature
Wellbore:	DD		
Design:	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
4,700.0	20.13	312.14	4,458.5	939.4	-1,038.2	1,400.1	0.00	0.00	
4,800.0	20.13	312.14	4,552.3	962.5	-1,063.7	1,434.5	0.00	0.00	
4,819.9	20.13	312.14	4,571.0	967.1	-1,068.8	1,441.4	0.00	0.00	Williams Fork
4,883.8	20.13	312.14	4,631.0	981.9	-1,085.1	1,463.4	0.00	0.00	Start Drop -2.00
4,900.0	19.81	312.14	4,646.2	985.6	-1,089.2	1,468.9	2.00	-2.00	
5,000.0	17.81	312.14	4,740.9	1,007.2	-1,113.1	1,501.1	2.00	-2.00	
5,100.0	15.81	312.14	4,836.6	1,026.6	-1,134.5	1,530.1	2.00	-2.00	
5,200.0	13.81	312.14	4,933.3	1,043.8	-1,153.5	1,555.6	2.00	-2.00	
5,300.0	11.81	312.14	5,030.8	1,058.6	-1,169.9	1,577.8	2.00	-2.00	
5,400.0	9.81	312.14	5,129.0	1,071.2	-1,183.8	1,596.5	2.00	-2.00	
5,500.0	7.81	312.14	5,227.8	1,081.5	-1,195.2	1,611.8	2.00	-2.00	
5,600.0	5.81	312.14	5,327.1	1,089.5	-1,203.9	1,623.7	2.00	-2.00	
5,700.0	3.81	312.14	5,426.8	1,095.1	-1,210.2	1,632.1	2.00	-2.00	
5,800.0	1.81	312.14	5,526.7	1,098.4	-1,213.8	1,637.0	2.00	-2.00	
5,890.4	0.00	0.00	5,617.0	1,099.3	-1,214.8	1,638.4	2.00	-2.00	EOD; Inc=0° - Top of Gas - EnCana Fee 24-8B:
5,900.0	0.00	0.00	5,626.6	1,099.3	-1,214.8	1,638.4	0.00	0.00	
6,000.0	0.00	0.00	5,726.6	1,099.3	-1,214.8	1,638.4	0.00	0.00	
6,100.0	0.00	0.00	5,826.6	1,099.3	-1,214.8	1,638.4	0.00	0.00	
6,200.0	0.00	0.00	5,926.6	1,099.3	-1,214.8	1,638.4	0.00	0.00	
6,300.0	0.00	0.00	6,026.6	1,099.3	-1,214.8	1,638.4	0.00	0.00	
6,400.0	0.00	0.00	6,126.6	1,099.3	-1,214.8	1,638.4	0.00	0.00	
6,500.0	0.00	0.00	6,226.6	1,099.3	-1,214.8	1,638.4	0.00	0.00	
6,600.0	0.00	0.00	6,326.6	1,099.3	-1,214.8	1,638.4	0.00	0.00	
6,700.0	0.00	0.00	6,426.6	1,099.3	-1,214.8	1,638.4	0.00	0.00	
6,800.0	0.00	0.00	6,526.6	1,099.3	-1,214.8	1,638.4	0.00	0.00	
6,900.0	0.00	0.00	6,626.6	1,099.3	-1,214.8	1,638.4	0.00	0.00	
7,000.0	0.00	0.00	6,726.6	1,099.3	-1,214.8	1,638.4	0.00	0.00	
7,014.4	0.00	0.00	6,741.0	1,099.3	-1,214.8	1,638.4	0.00	0.00	Coal Ridge
7,100.0	0.00	0.00	6,826.6	1,099.3	-1,214.8	1,638.4	0.00	0.00	
7,200.0	0.00	0.00	6,926.6	1,099.3	-1,214.8	1,638.4	0.00	0.00	
7,300.0	0.00	0.00	7,026.6	1,099.3	-1,214.8	1,638.4	0.00	0.00	
7,400.0	0.00	0.00	7,126.6	1,099.3	-1,214.8	1,638.4	0.00	0.00	
7,500.0	0.00	0.00	7,226.6	1,099.3	-1,214.8	1,638.4	0.00	0.00	
7,600.0	0.00	0.00	7,326.6	1,099.3	-1,214.8	1,638.4	0.00	0.00	
7,700.0	0.00	0.00	7,426.6	1,099.3	-1,214.8	1,638.4	0.00	0.00	
7,800.0	0.00	0.00	7,526.6	1,099.3	-1,214.8	1,638.4	0.00	0.00	
7,807.4	0.00	0.00	7,534.0	1,099.3	-1,214.8	1,638.4	0.00	0.00	Base Cameo A Coal
7,890.4	0.00	0.00	7,617.0	1,099.3	-1,214.8	1,638.4	0.00	0.00	Rollins
7,900.0	0.00	0.00	7,626.6	1,099.3	-1,214.8	1,638.4	0.00	0.00	
8,000.0	0.00	0.00	7,726.6	1,099.3	-1,214.8	1,638.4	0.00	0.00	
8,100.0	0.00	0.00	7,826.6	1,099.3	-1,214.8	1,638.4	0.00	0.00	
8,200.0	0.00	0.00	7,926.6	1,099.3	-1,214.8	1,638.4	0.00	0.00	
8,300.0	0.00	0.00	8,026.6	1,099.3	-1,214.8	1,638.4	0.00	0.00	
8,400.0	0.00	0.00	8,126.6	1,099.3	-1,214.8	1,638.4	0.00	0.00	
8,440.4	0.00	0.00	8,167.0	1,099.3	-1,214.8	1,638.4	0.00	0.00	TD @ 8440.4' MD - EnCana Fee 24-8B2 (K19C
8,500.0	0.00	0.00	8,226.6	1,099.3	-1,214.8	1,638.4	0.00	0.00	
8,600.0	0.00	0.00	8,326.6	1,099.3	-1,214.8	1,638.4	0.00	0.00	
8,700.0	0.00	0.00	8,426.6	1,099.3	-1,214.8	1,638.4	0.00	0.00	
8,740.4	0.00	0.00	8,467.0	1,099.3	-1,214.8	1,638.4	0.00	0.00	Permit TD @ 8740.4' MD

Cathedral Energy Services

Planning Report

Database:	EDM 5000.1 US Multi Users DB	Local Co-ordinate Reference:	Well EnCana Fee 24-8B2 (K19CNE)
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	KBE @ 5694.0ft (Original Well Elev)
Project:	Mamm Creek	MD Reference:	KBE @ 5694.0ft (Original Well Elev)
Site:	SW S19-T6S-R29W (K19CNE Pad)	North Reference:	True
Well:	EnCana Fee 24-8B2 (K19CNE)	Survey Calculation Method:	Minimum Curvature
Wellbore:	DD		
Design:	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 24-8B2 (K1 - plan hits target center - Circle (radius 25.0)	0.00	0.00	5,617.0	1,099.3	-1,214.8	1,619,861.69	2,374,271.09	39.514318	-107.718135
EnCana Fee 24-8B2 (K1 - plan hits target center - Circle (radius 40.0)	0.00	0.00	8,167.0	1,099.3	-1,214.8	1,619,861.69	2,374,271.09	39.514318	-107.718135

Casing Points					
Measured Depth	Vertical Depth	Name		Casing Diameter	Hole Diameter
(ft)	(ft)			(in)	(in)
1,310.2	1,275.7	Surface Casing		0.000	0.000

Formations						
Measured Depth	Vertical Depth	Name		Lithology	Dip	Dip Direction
(ft)	(ft)				(°)	(°)
1,355.2	1,318.0	Molina Base			0.00	
1,739.7	1,679.0	Atwell Gulch			0.00	
4,108.4	3,903.0	Mesa Verde			0.00	
4,819.9	4,571.0	Williams Fork			0.00	
5,890.4	5,617.0	Top of Gas			0.00	
7,014.4	6,741.0	Coal Ridge			0.00	
7,807.4	7,534.0	Base Cameo A Coal			0.00	
7,890.4	7,617.0	Rollins			0.00	

Plan Annotations					
Measured Depth	Vertical Depth	Local Coordinates		Comment	
(ft)	(ft)	+N/-S	+E/-W		
(ft)	(ft)	(ft)	(ft)		
300.0	300.0	0.0	0.0	KOP @ 300' MD	
971.1	957.3	78.3	-86.5	EOB; Inc=20.13°	
4,883.8	4,631.0	981.9	-1,085.1	Start Drop -2.00	
5,890.4	5,617.0	1,099.3	-1,214.8	EOD; Inc=0°	
8,440.4	8,167.0	1,099.3	-1,214.8	TD @ 8440.4' MD	
8,740.4	8,467.0	1,099.3	-1,214.8	Permit TD @ 8740.4' MD	