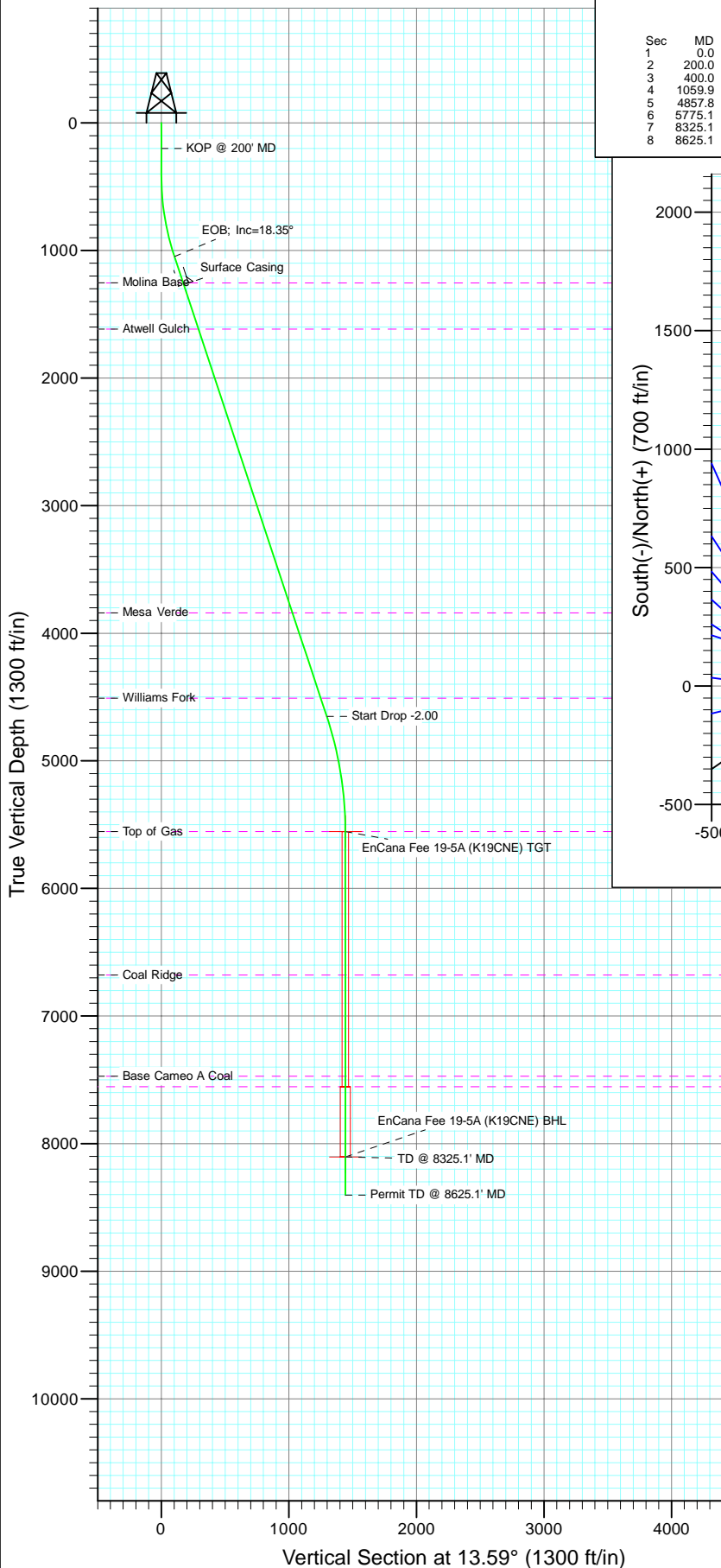
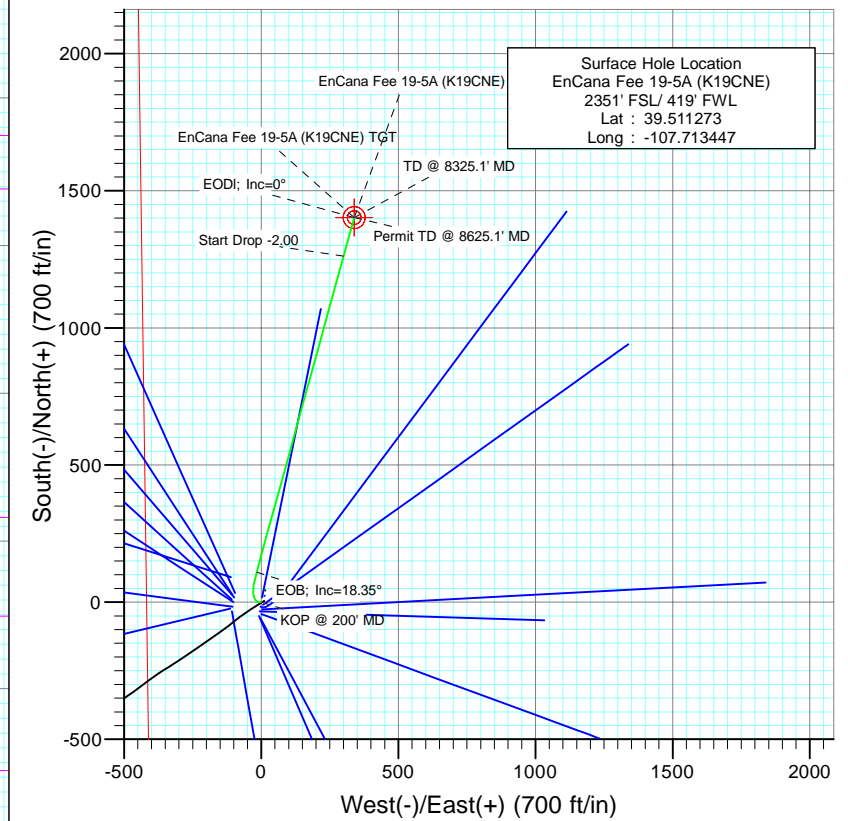




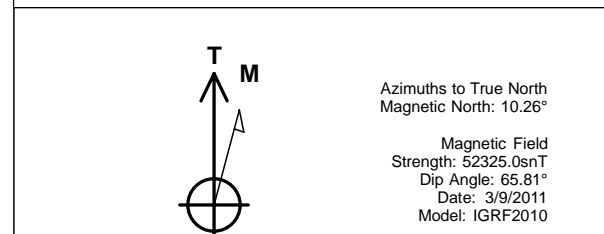
Project: Mamm Creek
Site: SW S19-T6S-R29W (K19CNE Pad)
Well: EnCana Fee 19-5A (K19CNE)
Wellbore: DD
Design: Plan #1



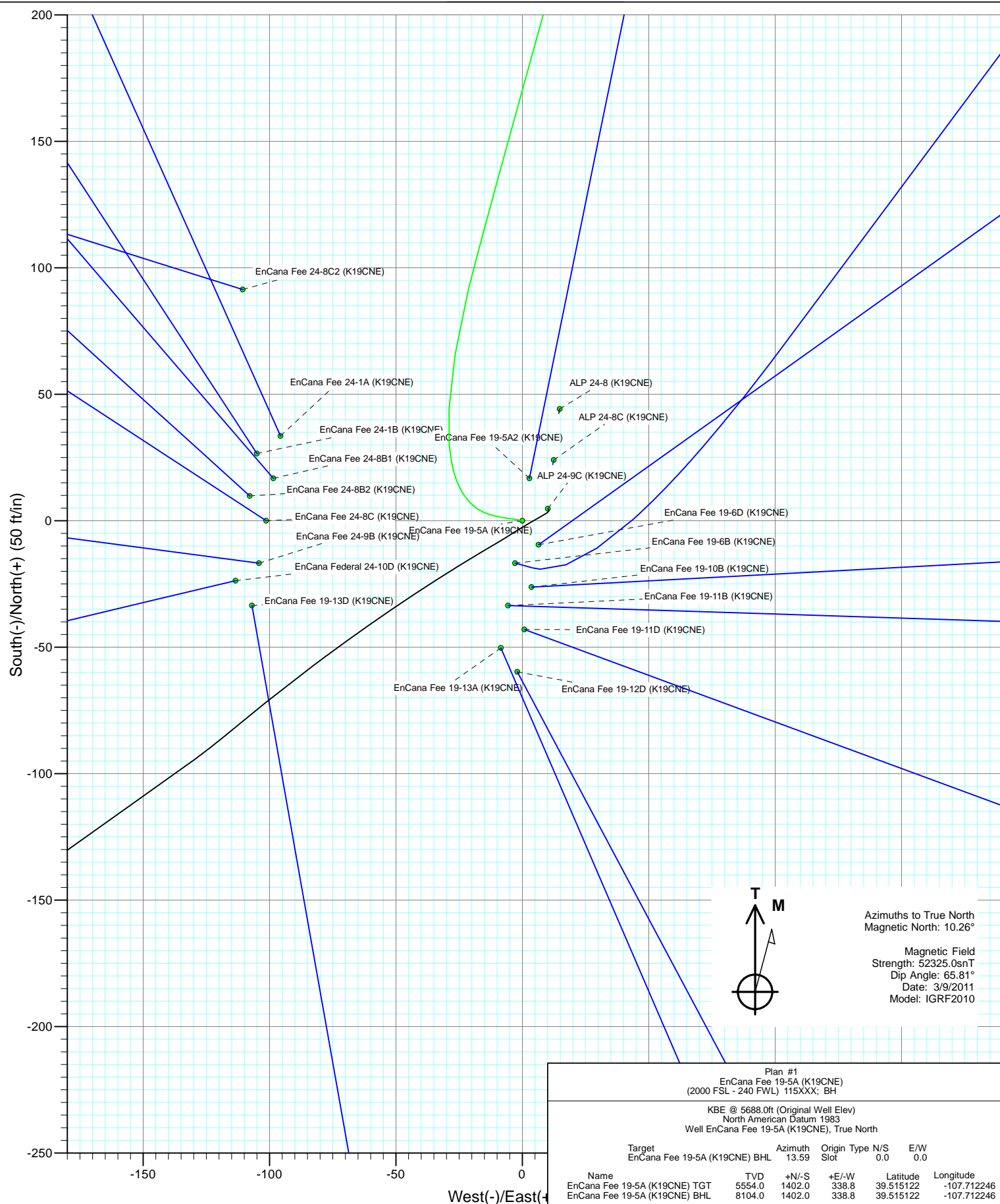
SECTION DETAILS										
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	200.0	0.00	0.00	200.0	0.0	0.0	0.00	0.00	0.0	
3	400.0	6.00	280.00	399.6	1.8	-10.3	3.00	280.00	-0.7	
4	1059.9	18.35	15.38	1047.5	109.0	-16.8	3.00	112.31	102.0	
5	4857.8	18.35	15.38	4652.3	1261.6	300.2	0.00	0.00	1296.8	EnCana Fee 19-5A (K19CNE) TGT
6	5775.1	0.00	0.00	5554.0	1402.0	338.8	2.00	180.00	1442.3	EnCana Fee 19-5A (K19CNE) BHL
7	8325.1	0.00	0.00	8104.0	1402.0	338.8	0.00	0.00	1442.3	
8	8625.1	0.00	0.00	8404.0	1402.0	338.8	0.00	0.00	1442.3	



FORMATION TOP DETAILS		
TVDPath	MDPath	Formation
1255.0	1278.6	Molina Base
1616.0	1658.9	Atwell Gulch
3840.0	4002.0	Mesa Verde
4508.0	4705.8	Williams Fork
5554.0	5775.1	Top of Gas
6678.0	6899.1	Coal Ridge
7471.0	7692.1	Base Cameo A Coal
7554.0	7775.1	Rollins

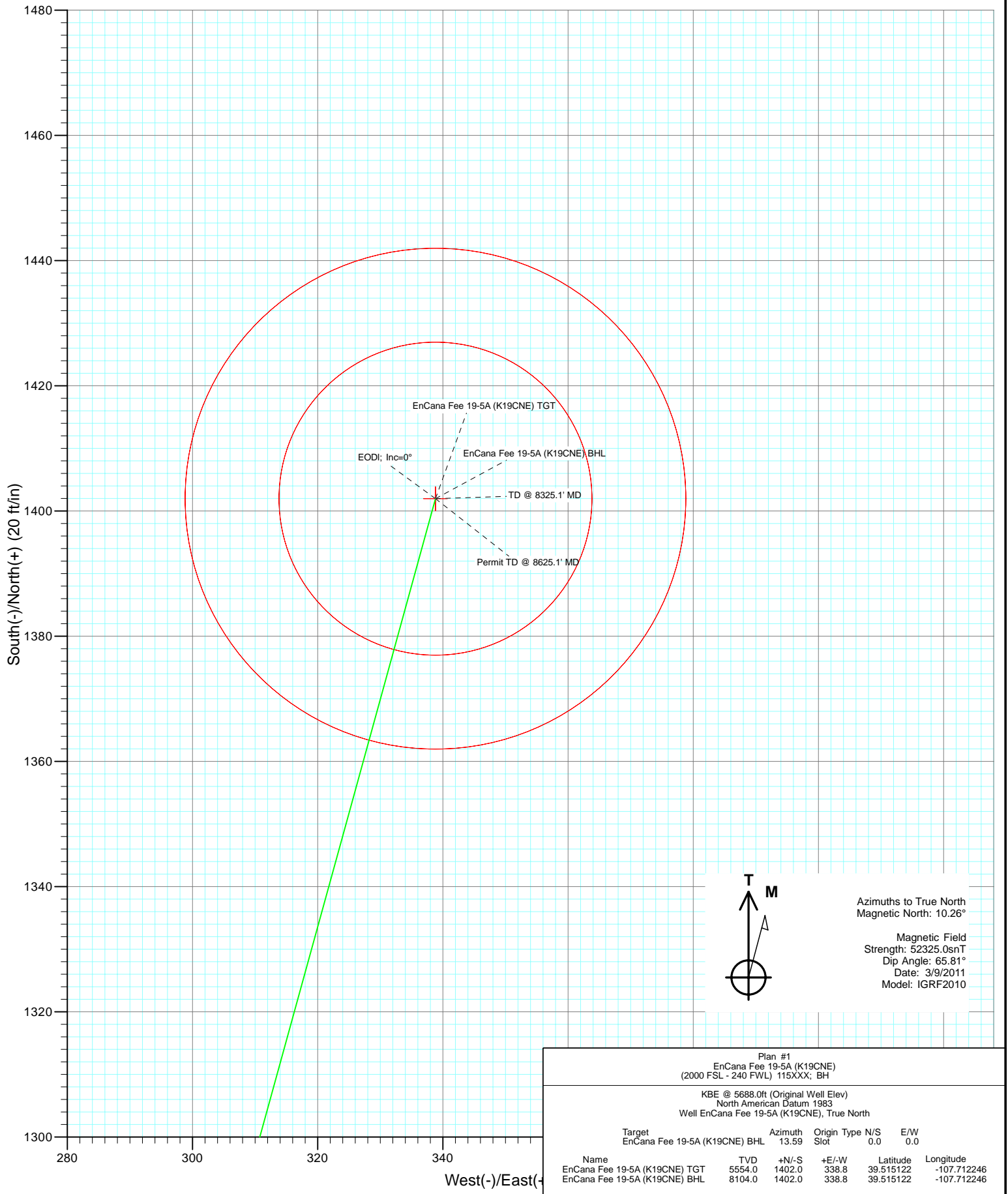


Plan #1 EnCana Fee 19-5A (K19CNE) (2000 FSL - 240 FWL) 115XXX; BH					
KBE @ 5688.0ft (Original Well Elev) North American Datum 1983 Well EnCana Fee 19-5A (K19CNE), True North					
Target	Azimuth	Origin	Type	N/S	E/W
EnCana Fee 19-5A (K19CNE) BHL	13.59	Slot	0.0	0.0	0.0
Name	TVD	+N/-S	+E/-W	Latitude	Longitude
EnCana Fee 19-5A (K19CNE) TGT	5554.0	1402.0	338.8	39.515122	-107.712246
EnCana Fee 19-5A (K19CNE) BHL	8104.0	1402.0	338.8	39.515122	-107.712246





Project: Mamm Creek
 Site: SW S19-T6S-R29W (K19CNE Pad)
 Well: EnCana Fee 19-5A (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 19-5A (K19CNE)
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	KBE @ 5688.0ft (Original Well Elev)
Project:	Mamm Creek	MD Reference:	KBE @ 5688.0ft (Original Well Elev)
Site:	SW S19-T6S-R29W (K19CNE Pad)	North Reference:	True
Well:	EnCana Fee 19-5A (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 19-5A (K19CNE)					
Well Position	+N/-S	0.0 ft	Northing:	1,618,720.63 ft	Latitude:	39.511273
	+E/-W	0.0 ft	Easting:	2,375,566.29 ft	Longitude:	-107.713447
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	5,666.0 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	13.59

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	
400.0	6.00	280.00	399.6	1.8	-10.3	3.00	3.00	0.00	280.00	
1,059.9	18.35	15.38	1,047.5	109.0	-16.8	3.00	1.87	14.45	112.31	
4,857.8	18.35	15.38	4,652.3	1,261.6	300.2	0.00	0.00	0.00	0.00	
5,775.1	0.00	0.00	5,554.0	1,402.0	338.8	2.00	-2.00	0.00	180.00	EnCana Fee 19-5A (K19CNE)
8,325.1	0.00	0.00	8,104.0	1,402.0	338.8	0.00	0.00	0.00	0.00	EnCana Fee 19-5A (K19CNE)
8,625.1	0.00	0.00	8,404.0	1,402.0	338.8	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 19-5A (K19CNE)
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	KBE @ 5688.0ft (Original Well Elev)
Project:	Mamm Creek	MD Reference:	KBE @ 5688.0ft (Original Well Elev)
Site:	SW S19-T6S-R29W (K19CNE Pad)	North Reference:	True
Well:	EnCana Fee 19-5A (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	KOP @ 200' MD
300.0	3.00	280.00	300.0	0.5	-2.6	-0.2	3.00	3.00	
400.0	6.00	280.00	399.6	1.8	-10.3	-0.7	3.00	3.00	
500.0	5.60	309.78	499.1	5.8	-19.2	1.2	3.00	-0.40	
600.0	6.68	336.30	598.6	14.3	-25.3	7.9	3.00	1.08	
700.0	8.70	353.02	697.7	27.1	-28.5	19.7	3.00	2.03	
800.0	11.18	2.96	796.2	44.3	-29.0	36.3	3.00	2.47	
900.0	13.86	9.22	893.8	65.8	-26.5	57.7	3.00	2.68	
1,000.0	16.64	13.45	990.3	91.6	-21.3	84.0	3.00	2.79	
1,059.9	18.34	15.38	1,047.4	109.0	-16.8	102.0	3.00	2.84	EOB; Inc=18.35°
1,100.0	18.35	15.38	1,085.5	121.2	-13.4	114.6	0.00	0.00	
1,200.0	18.35	15.38	1,180.4	151.5	-5.1	146.1	0.00	0.00	
1,278.6	18.35	15.38	1,255.0	175.4	1.5	170.8	0.00	0.00	Molina Base
1,291.9	18.35	15.38	1,267.6	179.4	2.6	175.0	0.00	0.00	Surface Casing
1,300.0	18.35	15.38	1,275.3	181.9	3.2	177.5	0.00	0.00	
1,400.0	18.35	15.38	1,370.2	212.2	11.6	209.0	0.00	0.00	
1,500.0	18.35	15.38	1,465.1	242.6	19.9	240.5	0.00	0.00	
1,600.0	18.35	15.38	1,560.1	272.9	28.3	271.9	0.00	0.00	
1,658.9	18.35	15.38	1,616.0	290.8	33.2	290.5	0.00	0.00	Atwell Gulch
1,700.0	18.35	15.38	1,655.0	303.3	36.6	303.4	0.00	0.00	
1,800.0	18.35	15.38	1,749.9	333.6	45.0	334.8	0.00	0.00	
1,900.0	18.35	15.38	1,844.8	364.0	53.3	366.3	0.00	0.00	
2,000.0	18.35	15.38	1,939.7	394.3	61.7	397.8	0.00	0.00	
2,100.0	18.35	15.38	2,034.7	424.6	70.0	429.2	0.00	0.00	
2,200.0	18.35	15.38	2,129.6	455.0	78.4	460.7	0.00	0.00	
2,300.0	18.35	15.38	2,224.5	485.3	86.7	492.1	0.00	0.00	
2,400.0	18.35	15.38	2,319.4	515.7	95.1	523.6	0.00	0.00	
2,500.0	18.35	15.38	2,414.3	546.0	103.4	555.1	0.00	0.00	
2,600.0	18.35	15.38	2,509.2	576.4	111.8	586.5	0.00	0.00	
2,700.0	18.35	15.38	2,604.2	606.7	120.1	618.0	0.00	0.00	
2,800.0	18.35	15.38	2,699.1	637.1	128.5	649.4	0.00	0.00	
2,900.0	18.35	15.38	2,794.0	667.4	136.8	680.9	0.00	0.00	
3,000.0	18.35	15.38	2,888.9	697.8	145.1	712.4	0.00	0.00	
3,100.0	18.35	15.38	2,983.8	728.1	153.5	743.8	0.00	0.00	
3,200.0	18.35	15.38	3,078.7	758.5	161.8	775.3	0.00	0.00	
3,300.0	18.35	15.38	3,173.7	788.8	170.2	806.7	0.00	0.00	
3,400.0	18.35	15.38	3,268.6	819.2	178.5	838.2	0.00	0.00	
3,500.0	18.35	15.38	3,363.5	849.5	186.9	869.6	0.00	0.00	
3,600.0	18.35	15.38	3,458.4	879.9	195.2	901.1	0.00	0.00	
3,700.0	18.35	15.38	3,553.3	910.2	203.6	932.6	0.00	0.00	
3,800.0	18.35	15.38	3,648.3	940.6	211.9	964.0	0.00	0.00	
3,900.0	18.35	15.38	3,743.2	970.9	220.3	995.5	0.00	0.00	
4,000.0	18.35	15.38	3,838.1	1,001.3	228.6	1,026.9	0.00	0.00	
4,002.0	18.35	15.38	3,840.0	1,001.9	228.8	1,027.6	0.00	0.00	Mesa Verde
4,100.0	18.35	15.38	3,933.0	1,031.6	237.0	1,058.4	0.00	0.00	
4,200.0	18.35	15.38	4,027.9	1,062.0	245.3	1,089.9	0.00	0.00	
4,300.0	18.35	15.38	4,122.8	1,092.3	253.7	1,121.3	0.00	0.00	
4,400.0	18.35	15.38	4,217.8	1,122.7	262.0	1,152.8	0.00	0.00	
4,500.0	18.35	15.38	4,312.7	1,153.0	270.4	1,184.2	0.00	0.00	
4,600.0	18.35	15.38	4,407.6	1,183.3	278.7	1,215.7	0.00	0.00	

Cathedral Energy Services

Planning Report

Database:	EDM 5000.1 US Multi Users DB	Local Co-ordinate Reference:	Well EnCana Fee 19-5A (K19CNE)
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	KBE @ 5688.0ft (Original Well Elev)
Project:	Mamm Creek	MD Reference:	KBE @ 5688.0ft (Original Well Elev)
Site:	SW S19-T6S-R29W (K19CNE Pad)	North Reference:	True
Well:	EnCana Fee 19-5A (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	18.35	15.38	4,502.5	1,213.7	287.0	1,247.2	0.00	0.00	
4,705.8	18.35	15.38	4,508.0	1,215.4	287.5	1,249.0	0.00	0.00	Williams Fork
4,800.0	18.35	15.38	4,597.4	1,244.0	295.4	1,278.6	0.00	0.00	
4,857.8	18.35	15.38	4,652.3	1,261.6	300.2	1,296.8	0.00	0.00	Start Drop -2.00
4,900.0	17.50	15.38	4,692.4	1,274.1	303.7	1,309.8	2.00	-2.00	
5,000.0	15.50	15.38	4,788.3	1,301.5	311.2	1,338.2	2.00	-2.00	
5,100.0	13.50	15.38	4,885.1	1,325.6	317.8	1,363.2	2.00	-2.00	
5,200.0	11.50	15.38	4,982.7	1,346.5	323.6	1,384.8	2.00	-2.00	
5,300.0	9.50	15.38	5,081.1	1,364.1	328.4	1,403.1	2.00	-2.00	
5,400.0	7.50	15.38	5,180.0	1,378.3	332.3	1,417.8	2.00	-2.00	
5,500.0	5.50	15.38	5,279.3	1,389.3	335.3	1,429.2	2.00	-2.00	
5,600.0	3.50	15.38	5,379.0	1,396.8	337.4	1,437.0	2.00	-2.00	
5,700.0	1.50	15.38	5,478.9	1,401.0	338.6	1,441.4	2.00	-2.00	
5,775.1	0.00	0.00	5,554.0	1,402.0	338.8	1,442.3	2.00	-2.00	EODI; Inc=0° - Top of Gas - EnCana Fee 19-5A
5,800.0	0.00	0.00	5,578.9	1,402.0	338.8	1,442.3	0.00	0.00	
5,900.0	0.00	0.00	5,678.9	1,402.0	338.8	1,442.3	0.00	0.00	
6,000.0	0.00	0.00	5,778.9	1,402.0	338.8	1,442.3	0.00	0.00	
6,100.0	0.00	0.00	5,878.9	1,402.0	338.8	1,442.3	0.00	0.00	
6,200.0	0.00	0.00	5,978.9	1,402.0	338.8	1,442.3	0.00	0.00	
6,300.0	0.00	0.00	6,078.9	1,402.0	338.8	1,442.3	0.00	0.00	
6,400.0	0.00	0.00	6,178.9	1,402.0	338.8	1,442.3	0.00	0.00	
6,500.0	0.00	0.00	6,278.9	1,402.0	338.8	1,442.3	0.00	0.00	
6,600.0	0.00	0.00	6,378.9	1,402.0	338.8	1,442.3	0.00	0.00	
6,700.0	0.00	0.00	6,478.9	1,402.0	338.8	1,442.3	0.00	0.00	
6,800.0	0.00	0.00	6,578.9	1,402.0	338.8	1,442.3	0.00	0.00	
6,899.1	0.00	0.00	6,678.0	1,402.0	338.8	1,442.3	0.00	0.00	Coal Ridge
6,900.0	0.00	0.00	6,678.9	1,402.0	338.8	1,442.3	0.00	0.00	
7,000.0	0.00	0.00	6,778.9	1,402.0	338.8	1,442.3	0.00	0.00	
7,100.0	0.00	0.00	6,878.9	1,402.0	338.8	1,442.3	0.00	0.00	
7,200.0	0.00	0.00	6,978.9	1,402.0	338.8	1,442.3	0.00	0.00	
7,300.0	0.00	0.00	7,078.9	1,402.0	338.8	1,442.3	0.00	0.00	
7,400.0	0.00	0.00	7,178.9	1,402.0	338.8	1,442.3	0.00	0.00	
7,500.0	0.00	0.00	7,278.9	1,402.0	338.8	1,442.3	0.00	0.00	
7,600.0	0.00	0.00	7,378.9	1,402.0	338.8	1,442.3	0.00	0.00	
7,692.1	0.00	0.00	7,471.0	1,402.0	338.8	1,442.3	0.00	0.00	Base Cameo A Coal
7,700.0	0.00	0.00	7,478.9	1,402.0	338.8	1,442.3	0.00	0.00	
7,775.1	0.00	0.00	7,554.0	1,402.0	338.8	1,442.3	0.00	0.00	Rollins
7,800.0	0.00	0.00	7,578.9	1,402.0	338.8	1,442.3	0.00	0.00	
7,900.0	0.00	0.00	7,678.9	1,402.0	338.8	1,442.3	0.00	0.00	
8,000.0	0.00	0.00	7,778.9	1,402.0	338.8	1,442.3	0.00	0.00	
8,100.0	0.00	0.00	7,878.9	1,402.0	338.8	1,442.3	0.00	0.00	
8,200.0	0.00	0.00	7,978.9	1,402.0	338.8	1,442.3	0.00	0.00	
8,300.0	0.00	0.00	8,078.9	1,402.0	338.8	1,442.3	0.00	0.00	
8,325.1	0.00	0.00	8,104.0	1,402.0	338.8	1,442.3	0.00	0.00	TD @ 8325.1' MD - EnCana Fee 19-5A (K19CNE)
8,400.0	0.00	0.00	8,178.9	1,402.0	338.8	1,442.3	0.00	0.00	
8,500.0	0.00	0.00	8,278.9	1,402.0	338.8	1,442.3	0.00	0.00	
8,600.0	0.00	0.00	8,378.9	1,402.0	338.8	1,442.3	0.00	0.00	
8,625.1	0.00	0.00	8,404.0	1,402.0	338.8	1,442.3	0.00	0.00	Permit TD @ 8625.1' MD

Cathedral Energy Services

Planning Report

Database:	EDM 5000.1 US Multi Users DB	Local Co-ordinate Reference:	Well EnCana Fee 19-5A (K19CNE)
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	KBE @ 5688.0ft (Original Well Elev)
Project:	Mamm Creek	MD Reference:	KBE @ 5688.0ft (Original Well Elev)
Site:	SW S19-T6S-R29W (K19CNE Pad)	North Reference:	True
Well:	EnCana Fee 19-5A (K19CNE)	Survey Calculation Method:	Minimum Curvature
Wellbore:	DD		
Design:	Plan #1		

Targets									
Target Name									
- hit/miss target	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- Shape	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(ft)		
EnCana Fee 19-5A (K19CNE) - plan hits target center - Circle (radius 40.0)	0.00	0.00	8,104.0	1,402.0	338.8	1,620,113.94	2,375,939.18	39.515122	-107.712246
EnCana Fee 19-5A (K19CNE) - plan hits target center - Circle (radius 25.0)	0.00	0.00	5,554.0	1,402.0	338.8	1,620,113.94	2,375,939.18	39.515122	-107.712246

Casing Points					
Measured Depth	Vertical Depth			Casing Diameter	Hole Diameter
(ft)	(ft)	Name		(in)	(in)
1,291.9	1,267.6	Surface Casing		0.000	0.000

Formations						
Measured Depth	Vertical Depth				Dip	Dip Direction
(ft)	(ft)	Name	Lithology		(°)	(°)
1,278.6	1,255.0	Molina Base			0.00	
1,658.9	1,616.0	Atwell Gulch			0.00	
4,002.0	3,840.0	Mesa Verde			0.00	
4,705.8	4,508.0	Williams Fork			0.00	
5,775.1	5,554.0	Top of Gas			0.00	
6,899.1	6,678.0	Coal Ridge			0.00	
7,692.1	7,471.0	Base Cameo A Coal			0.00	
7,775.1	7,554.0	Rollins			0.00	

Plan Annotations					
Measured Depth	Vertical Depth	Local Coordinates			
(ft)	(ft)	+N/-S	+E/-W	Comment	
(ft)	(ft)	(ft)	(ft)		
200.0	200.0	0.0	0.0	KOP @ 200' MD	
1,059.9	1,047.4	109.0	-16.8	EOB; Inc=18.35°	
4,857.8	4,652.3	1,261.6	300.2	Start Drop -2.00	
5,775.1	5,554.0	1,402.0	338.8	EODI; Inc=0°	
8,325.1	8,104.0	1,402.0	338.8	TD @ 8325.1' MD	
8,625.1	8,404.0	1,402.0	338.8	Permit TD @ 8625.1' MD	