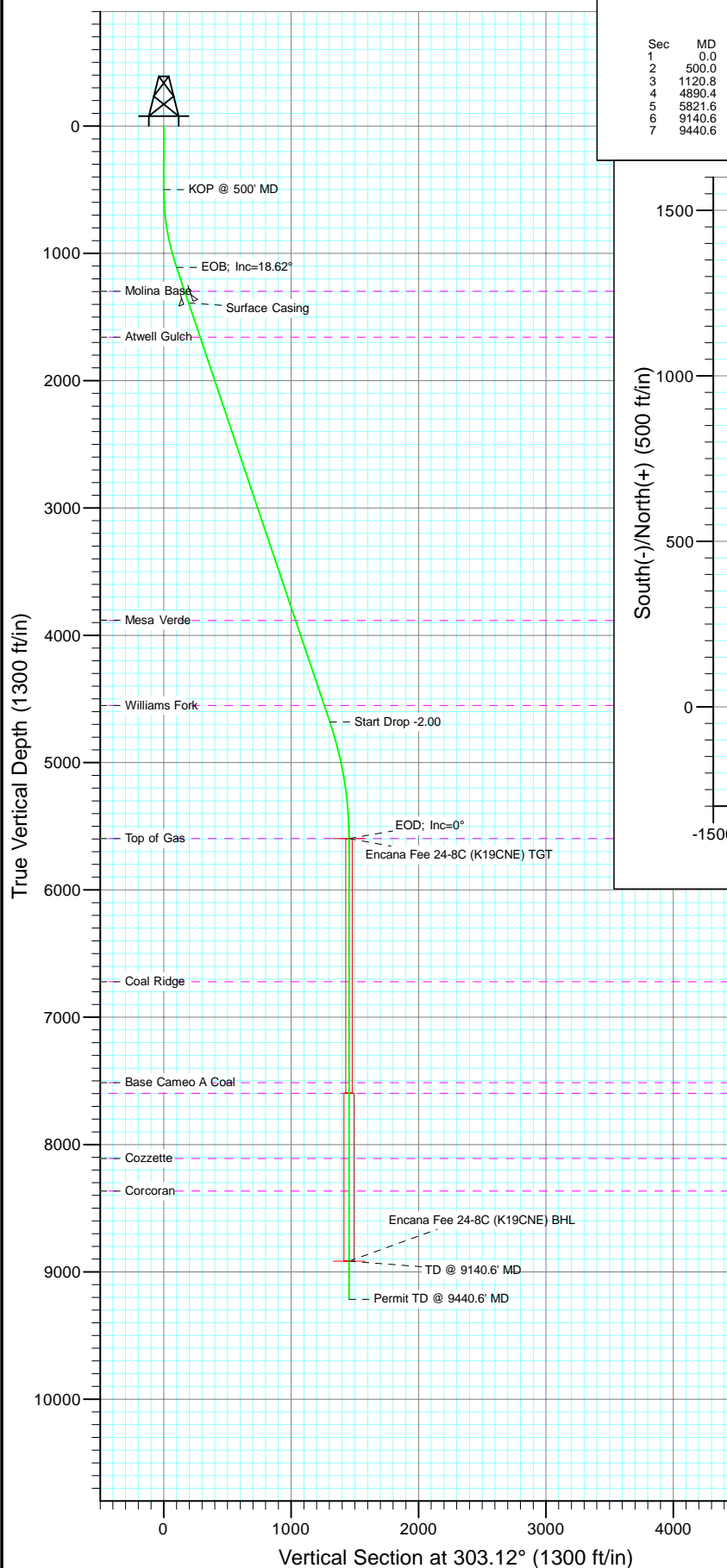
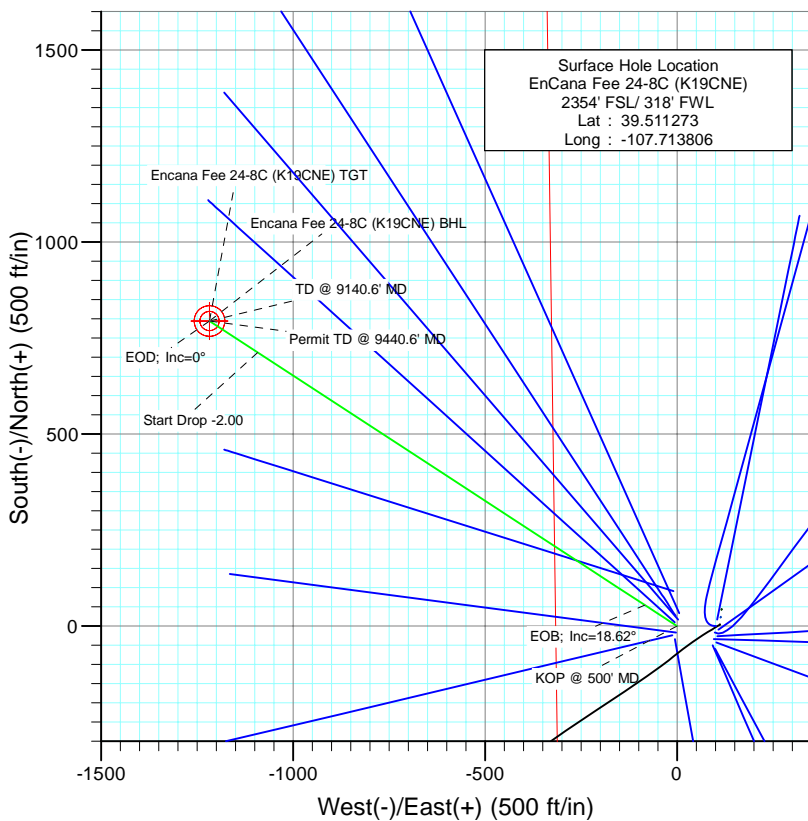




Project: Mamm Creek
Site: SW S19-T6S-R29W (K19CNE Pad)
Well: EnCana Fee 24-8C (K19CNE)
Wellbore: DD
Design: Plan #1



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	500.0	0.00	0.00	500.0	0.0	0.0	0.00	0.00	0.0	
3	1120.8	18.62	303.12	1110.0	54.7	-83.8	3.00	303.12	100.0	
4	4890.4	18.62	303.12	4682.1	712.5	-1092.0	0.00	0.00	1303.9	
5	5821.6	0.00	0.00	5597.0	794.4	-1217.7	2.00	180.00	1453.9	Encana Fee 24-8C (K19CNE) TGT
6	9140.6	0.00	0.00	8916.0	794.4	-1217.7	0.00	0.00	1453.9	Encana Fee 24-8C (K19CNE) BHL
7	9440.6	0.00	0.00	9216.0	794.4	-1217.7	0.00	0.00	1453.9	



FORMATION TOP DETAILS		
TVDPath	MDPath	Formation
1298.0	1319.3	Molina Base
1659.0	1700.2	Atwell Gulch
3883.0	4047.1	Mesa Verde
4551.0	4752.0	Williams Fork
5597.0	5821.6	Top of Gas
6721.0	6945.6	Coal Ridge
7514.0	7738.6	Base Cameo A Coal
7597.0	7821.6	Rollins
8109.0	8333.6	Cozzette
8366.0	8590.6	Corcoran



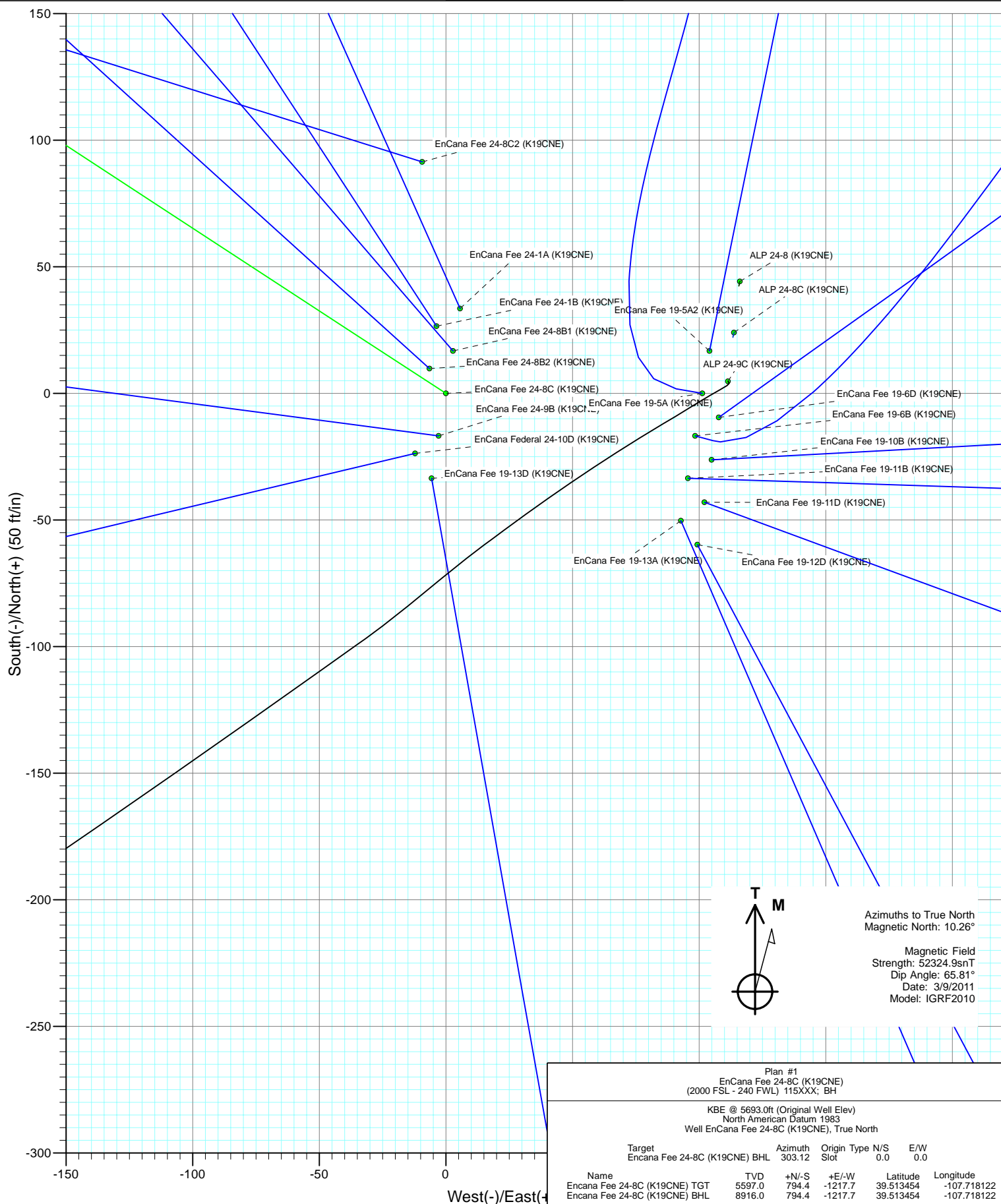
Azimuths to True North
Magnetic North: 10.26°

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

Plan #1 EnCana Fee 24-8C (K19CNE) (2000 FSL - 240 FWL) 115XXX; BH					
KBE @ 5693.0ft (Original Well Elev) North American Datum 1983 Well EnCana Fee 24-8C (K19CNE), True North					
Target	Azimuth	Origin	Type	N/S	E/W
Encana Fee 24-8C (K19CNE) BHL	303.12	Slot		0.0	0.0
Name	TVD	+N/-S	+E/-W	Latitude	Longitude
Encana Fee 24-8C (K19CNE) TGT	5597.0	794.4	-1217.7	39.513454	-107.718122
Encana Fee 24-8C (K19CNE) BHL	8916.0	794.4	-1217.7	39.513454	-107.718122



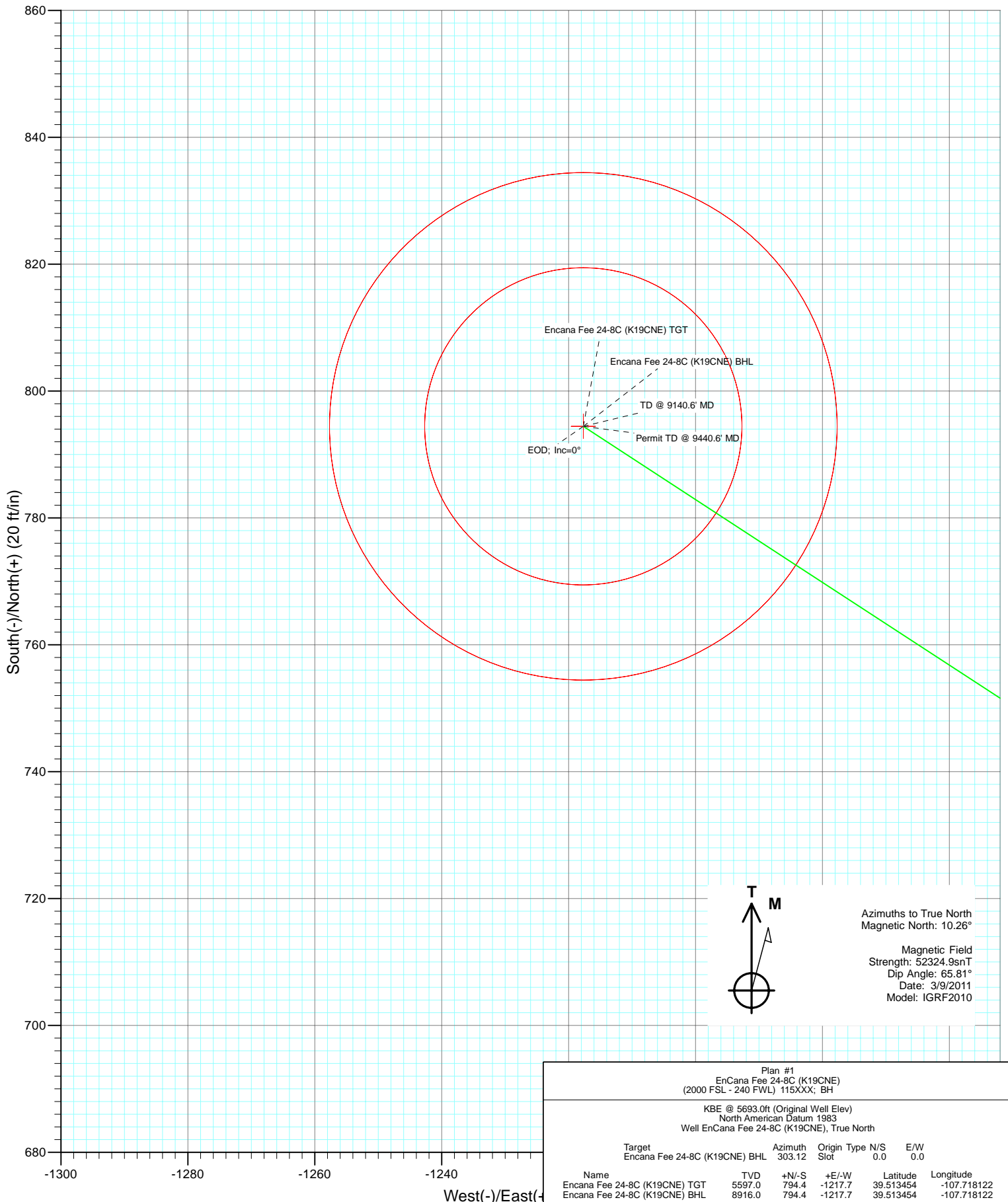
Project: Mamm Creek
 Site: SW S19-T6S-R29W (K19CNE Pad)
 Well: EnCana Fee 24-8C (K19CNE)
 Wellbore: DD
 Design: Plan #1



Plan #1 EnCana Fee 24-8C (K19CNE) (2000 FSL - 240 FWL) 115XXX; BH					
KBE @ 5693.0ft (Original Well Elev) North American Datum 1983 Well EnCana Fee 24-8C (K19CNE), True North					
Target		Azimuth	Origin	Type	N/S
EnCana Fee 24-8C (K19CNE) BHL		303.12	Slot		0.0
Name	TVD	+N/-S	+E/-W	Latitude	Longitude
EnCana Fee 24-8C (K19CNE) TGT	5597.0	794.4	-1217.7	39.513454	-107.718122
EnCana Fee 24-8C (K19CNE) BHL	8916.0	794.4	-1217.7	39.513454	-107.718122



Project: Mamm Creek
 Site: SW S19-T6S-R29W (K19CNE Pad)
 Well: EnCana Fee 24-8C (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 24-8C (K19CNE)
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	KBE @ 5693.0ft (Original Well Elev)
Project:	Mamm Creek	MD Reference:	KBE @ 5693.0ft (Original Well Elev)
Site:	SW S19-T6S-R29W (K19CNE Pad)	North Reference:	True
Well:	EnCana Fee 24-8C (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 24-8C (K19CNE)					
Well Position	+N/-S	0.0 ft	Northing:	1,618,723.10 ft	Latitude:	39.511273
	+E/-W	0.0 ft	Easting:	2,375,465.04 ft	Longitude:	-107.713806
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	5,671.0 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)	+N/-S	+E/-W	Direction
	(ft)	(ft)	(ft)	(°)
	0.0	0.0	0.0	303.12

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	
500.0	0.00	0.00	500.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,120.8	18.62	303.12	1,110.0	54.7	-83.8	3.00	3.00	0.00	303.12	
4,890.4	18.62	303.12	4,682.1	712.5	-1,092.0	0.00	0.00	0.00	0.00	
5,821.6	0.00	0.00	5,597.0	794.4	-1,217.7	2.00	-2.00	0.00	180.00	Encana Fee 24-8C (K
9,140.6	0.00	0.00	8,916.0	794.4	-1,217.7	0.00	0.00	0.00	0.00	Encana Fee 24-8C (K
9,440.6	0.00	0.00	9,216.0	794.4	-1,217.7	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 24-8C (K19CNE)
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	KBE @ 5693.0ft (Original Well Elev)
Project:	Mamm Creek	MD Reference:	KBE @ 5693.0ft (Original Well Elev)
Site:	SW S19-T6S-R29W (K19CNE Pad)	North Reference:	True
Well:	EnCana Fee 24-8C (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	
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	KOP @ 500' MD
600.0	3.00	303.12	600.0	1.4	-2.2	2.6	3.00	3.00	
700.0	6.00	303.12	699.6	5.7	-8.8	10.5	3.00	3.00	
800.0	9.00	303.12	798.8	12.8	-19.7	23.5	3.00	3.00	
900.0	12.00	303.12	897.1	22.8	-35.0	41.7	3.00	3.00	
1,000.0	15.00	303.12	994.3	35.6	-54.5	65.1	3.00	3.00	
1,100.0	18.00	303.12	1,090.2	51.1	-78.3	93.5	3.00	3.00	
1,120.8	18.62	303.12	1,110.0	54.7	-83.8	100.0	3.00	3.00	EOB; Inc=18.62°
1,200.0	18.62	303.12	1,185.0	68.5	-104.9	125.3	0.00	0.00	
1,300.0	18.62	303.12	1,279.7	85.9	-131.7	157.2	0.00	0.00	
1,319.3	18.62	303.12	1,298.0	89.3	-136.8	163.4	0.00	0.00	Molina Base
1,400.0	18.62	303.12	1,374.5	103.4	-158.4	189.2	0.00	0.00	
1,414.6	18.62	303.12	1,388.3	105.9	-162.3	193.8	0.00	0.00	Surface Casing
1,500.0	18.62	303.12	1,469.3	120.8	-185.2	221.1	0.00	0.00	
1,600.0	18.62	303.12	1,564.0	138.3	-211.9	253.1	0.00	0.00	
1,700.0	18.62	303.12	1,658.8	155.7	-238.7	285.0	0.00	0.00	
1,700.2	18.62	303.12	1,659.0	155.8	-238.7	285.1	0.00	0.00	Atwell Gulch
1,800.0	18.62	303.12	1,753.6	173.2	-265.4	316.9	0.00	0.00	
1,900.0	18.62	303.12	1,848.3	190.6	-292.2	348.9	0.00	0.00	
2,000.0	18.62	303.12	1,943.1	208.1	-318.9	380.8	0.00	0.00	
2,100.0	18.62	303.12	2,037.8	225.5	-345.7	412.7	0.00	0.00	
2,200.0	18.62	303.12	2,132.6	243.0	-372.4	444.7	0.00	0.00	
2,300.0	18.62	303.12	2,227.4	260.4	-399.2	476.6	0.00	0.00	
2,400.0	18.62	303.12	2,322.1	277.9	-425.9	508.5	0.00	0.00	
2,500.0	18.62	303.12	2,416.9	295.3	-452.7	540.5	0.00	0.00	
2,600.0	18.62	303.12	2,511.7	312.8	-479.4	572.4	0.00	0.00	
2,700.0	18.62	303.12	2,606.4	330.2	-506.2	604.4	0.00	0.00	
2,800.0	18.62	303.12	2,701.2	347.7	-532.9	636.3	0.00	0.00	
2,900.0	18.62	303.12	2,795.9	365.1	-559.7	668.2	0.00	0.00	
3,000.0	18.62	303.12	2,890.7	382.6	-586.4	700.2	0.00	0.00	
3,100.0	18.62	303.12	2,985.5	400.0	-613.1	732.1	0.00	0.00	
3,200.0	18.62	303.12	3,080.2	417.5	-639.9	764.0	0.00	0.00	
3,300.0	18.62	303.12	3,175.0	434.9	-666.6	796.0	0.00	0.00	
3,400.0	18.62	303.12	3,269.8	452.4	-693.4	827.9	0.00	0.00	
3,500.0	18.62	303.12	3,364.5	469.8	-720.1	859.9	0.00	0.00	
3,600.0	18.62	303.12	3,459.3	487.3	-746.9	891.8	0.00	0.00	
3,700.0	18.62	303.12	3,554.1	504.7	-773.6	923.7	0.00	0.00	
3,800.0	18.62	303.12	3,648.8	522.2	-800.4	955.7	0.00	0.00	
3,900.0	18.62	303.12	3,743.6	539.6	-827.1	987.6	0.00	0.00	
4,000.0	18.62	303.12	3,838.3	557.1	-853.9	1,019.5	0.00	0.00	
4,047.1	18.62	303.12	3,883.0	565.3	-866.5	1,034.6	0.00	0.00	Mesa Verde
4,100.0	18.62	303.12	3,933.1	574.5	-880.6	1,051.5	0.00	0.00	
4,200.0	18.62	303.12	4,027.9	592.0	-907.4	1,083.4	0.00	0.00	
4,300.0	18.62	303.12	4,122.6	609.4	-934.1	1,115.4	0.00	0.00	
4,400.0	18.62	303.12	4,217.4	626.9	-960.9	1,147.3	0.00	0.00	
4,500.0	18.62	303.12	4,312.2	644.4	-987.6	1,179.2	0.00	0.00	
4,600.0	18.62	303.12	4,406.9	661.8	-1,014.4	1,211.2	0.00	0.00	

Cathedral Energy Services

Planning Report

Database:	EDM 5000.1 US Multi Users DB	Local Co-ordinate Reference:	Well EnCana Fee 24-8C (K19CNE)
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	KBE @ 5693.0ft (Original Well Elev)
Project:	Mamm Creek	MD Reference:	KBE @ 5693.0ft (Original Well Elev)
Site:	SW S19-T6S-R29W (K19CNE Pad)	North Reference:	True
Well:	EnCana Fee 24-8C (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	18.62	303.12	4,501.7	679.3	-1,041.1	1,243.1	0.00	0.00	
4,752.0	18.62	303.12	4,551.0	688.3	-1,055.0	1,259.7	0.00	0.00	Williams Fork
4,800.0	18.62	303.12	4,596.4	696.7	-1,067.9	1,275.0	0.00	0.00	
4,890.4	18.62	303.12	4,682.1	712.5	-1,092.0	1,303.9	0.00	0.00	Start Drop -2.00
4,900.0	18.43	303.12	4,691.2	714.1	-1,094.6	1,307.0	2.00	-2.00	
5,000.0	16.43	303.12	4,786.6	730.5	-1,119.7	1,336.9	2.00	-2.00	
5,100.0	14.43	303.12	4,883.0	745.1	-1,142.0	1,363.5	2.00	-2.00	
5,200.0	12.43	303.12	4,980.3	757.7	-1,161.4	1,386.7	2.00	-2.00	
5,300.0	10.43	303.12	5,078.3	768.6	-1,178.0	1,406.6	2.00	-2.00	
5,400.0	8.43	303.12	5,176.9	777.5	-1,191.7	1,423.0	2.00	-2.00	
5,500.0	6.43	303.12	5,276.1	784.6	-1,202.6	1,435.9	2.00	-2.00	
5,600.0	4.43	303.12	5,375.6	789.8	-1,210.5	1,445.4	2.00	-2.00	
5,700.0	2.43	303.12	5,475.4	793.0	-1,215.5	1,451.3	2.00	-2.00	
5,800.0	0.43	303.12	5,575.4	794.4	-1,217.6	1,453.8	2.00	-2.00	
5,821.6	0.00	0.00	5,597.0	794.4	-1,217.7	1,453.9	2.00	-2.00	EOD; Inc=0° - Top of Gas - Encana Fee 24-8C
5,900.0	0.00	0.00	5,675.4	794.4	-1,217.7	1,453.9	0.00	0.00	
6,000.0	0.00	0.00	5,775.4	794.4	-1,217.7	1,453.9	0.00	0.00	
6,100.0	0.00	0.00	5,875.4	794.4	-1,217.7	1,453.9	0.00	0.00	
6,200.0	0.00	0.00	5,975.4	794.4	-1,217.7	1,453.9	0.00	0.00	
6,300.0	0.00	0.00	6,075.4	794.4	-1,217.7	1,453.9	0.00	0.00	
6,400.0	0.00	0.00	6,175.4	794.4	-1,217.7	1,453.9	0.00	0.00	
6,500.0	0.00	0.00	6,275.4	794.4	-1,217.7	1,453.9	0.00	0.00	
6,600.0	0.00	0.00	6,375.4	794.4	-1,217.7	1,453.9	0.00	0.00	
6,700.0	0.00	0.00	6,475.4	794.4	-1,217.7	1,453.9	0.00	0.00	
6,800.0	0.00	0.00	6,575.4	794.4	-1,217.7	1,453.9	0.00	0.00	
6,900.0	0.00	0.00	6,675.4	794.4	-1,217.7	1,453.9	0.00	0.00	
6,945.6	0.00	0.00	6,721.0	794.4	-1,217.7	1,453.9	0.00	0.00	Coal Ridge
7,000.0	0.00	0.00	6,775.4	794.4	-1,217.7	1,453.9	0.00	0.00	
7,100.0	0.00	0.00	6,875.4	794.4	-1,217.7	1,453.9	0.00	0.00	
7,200.0	0.00	0.00	6,975.4	794.4	-1,217.7	1,453.9	0.00	0.00	
7,300.0	0.00	0.00	7,075.4	794.4	-1,217.7	1,453.9	0.00	0.00	
7,400.0	0.00	0.00	7,175.4	794.4	-1,217.7	1,453.9	0.00	0.00	
7,500.0	0.00	0.00	7,275.4	794.4	-1,217.7	1,453.9	0.00	0.00	
7,600.0	0.00	0.00	7,375.4	794.4	-1,217.7	1,453.9	0.00	0.00	
7,700.0	0.00	0.00	7,475.4	794.4	-1,217.7	1,453.9	0.00	0.00	
7,738.6	0.00	0.00	7,514.0	794.4	-1,217.7	1,453.9	0.00	0.00	Base Cameo A Coal
7,800.0	0.00	0.00	7,575.4	794.4	-1,217.7	1,453.9	0.00	0.00	
7,821.6	0.00	0.00	7,597.0	794.4	-1,217.7	1,453.9	0.00	0.00	Rollins
7,900.0	0.00	0.00	7,675.4	794.4	-1,217.7	1,453.9	0.00	0.00	
8,000.0	0.00	0.00	7,775.4	794.4	-1,217.7	1,453.9	0.00	0.00	
8,100.0	0.00	0.00	7,875.4	794.4	-1,217.7	1,453.9	0.00	0.00	
8,200.0	0.00	0.00	7,975.4	794.4	-1,217.7	1,453.9	0.00	0.00	
8,300.0	0.00	0.00	8,075.4	794.4	-1,217.7	1,453.9	0.00	0.00	
8,333.6	0.00	0.00	8,109.0	794.4	-1,217.7	1,453.9	0.00	0.00	Cozzette
8,400.0	0.00	0.00	8,175.4	794.4	-1,217.7	1,453.9	0.00	0.00	
8,500.0	0.00	0.00	8,275.4	794.4	-1,217.7	1,453.9	0.00	0.00	
8,590.6	0.00	0.00	8,366.0	794.4	-1,217.7	1,453.9	0.00	0.00	Corcoran
8,600.0	0.00	0.00	8,375.4	794.4	-1,217.7	1,453.9	0.00	0.00	
8,700.0	0.00	0.00	8,475.4	794.4	-1,217.7	1,453.9	0.00	0.00	
8,800.0	0.00	0.00	8,575.4	794.4	-1,217.7	1,453.9	0.00	0.00	
8,900.0	0.00	0.00	8,675.4	794.4	-1,217.7	1,453.9	0.00	0.00	
9,000.0	0.00	0.00	8,775.4	794.4	-1,217.7	1,453.9	0.00	0.00	

Cathedral Energy Services

Planning Report

Database:	EDM 5000.1 US Multi Users DB	Local Co-ordinate Reference:	Well EnCana Fee 24-8C (K19CNE)
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	KBE @ 5693.0ft (Original Well Elev)
Project:	Mamm Creek	MD Reference:	KBE @ 5693.0ft (Original Well Elev)
Site:	SW S19-T6S-R29W (K19CNE Pad)	North Reference:	True
Well:	EnCana Fee 24-8C (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
9,100.0	0.00	0.00	8,875.4	794.4	-1,217.7	1,453.9	0.00	0.00	
9,140.6	0.00	0.00	8,916.0	794.4	-1,217.7	1,453.9	0.00	0.00	TD @ 9140.6' MD - Encana Fee 24-8C (K19CN
9,200.0	0.00	0.00	8,975.4	794.4	-1,217.7	1,453.9	0.00	0.00	
9,300.0	0.00	0.00	9,075.4	794.4	-1,217.7	1,453.9	0.00	0.00	
9,400.0	0.00	0.00	9,175.4	794.4	-1,217.7	1,453.9	0.00	0.00	
9,440.6	0.00	0.00	9,216.0	794.4	-1,217.7	1,453.9	0.00	0.00	Permit TD @ 9440.6' MD

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
Encana Fee 24-8C (K19 - plan hits target center - Circle (radius 25.0)	0.00	0.00	5,597.0	794.4	-1,217.7	1,619,546.99	2,374,267.08	39.513454	-107.718122
Encana Fee 24-8C (K19 - plan hits target center - Circle (radius 40.0)	0.00	0.00	8,916.0	794.4	-1,217.7	1,619,546.99	2,374,267.08	39.513454	-107.718122

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)	
1,414.6	1,388.3	Surface Casing	0.000	0.000	

Formations					
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,319.3	1,298.0	Molina Base		0.00	
1,700.2	1,659.0	Atwell Gulch		0.00	
4,047.1	3,883.0	Mesa Verde		0.00	
4,752.0	4,551.0	Williams Fork		0.00	
5,821.6	5,597.0	Top of Gas		0.00	
6,945.6	6,721.0	Coal Ridge		0.00	
7,738.6	7,514.0	Base Cameo A Coal		0.00	
7,821.6	7,597.0	Rollins		0.00	
8,333.6	8,109.0	Cozzette		0.00	
8,590.6	8,366.0	Corcoran		0.00	

Cathedral Energy Services

Planning Report

Database:	EDM 5000.1 US Multi Users DB	Local Co-ordinate Reference:	Well EnCana Fee 24-8C (K19CNE)
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	KBE @ 5693.0ft (Original Well Elev)
Project:	Mamm Creek	MD Reference:	KBE @ 5693.0ft (Original Well Elev)
Site:	SW S19-T6S-R29W (K19CNE Pad)	North Reference:	True
Well:	EnCana Fee 24-8C (K19CNE)	Survey Calculation Method:	Minimum Curvature
Wellbore:	DD		
Design:	Plan #1		

Plan Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
500.0	500.0	0.0	0.0	KOP @ 500' MD
1,120.8	1,110.0	54.7	-83.8	EOB; Inc=18.62°
4,890.4	4,682.1	712.5	-1,092.0	Start Drop -2.00
5,821.6	5,597.0	794.4	-1,217.7	EOD; Inc=0°
9,140.6	8,916.0	794.4	-1,217.7	TD @ 9140.6' MD
9,440.6	9,216.0	794.4	-1,217.7	Permit TD @ 9440.6' MD