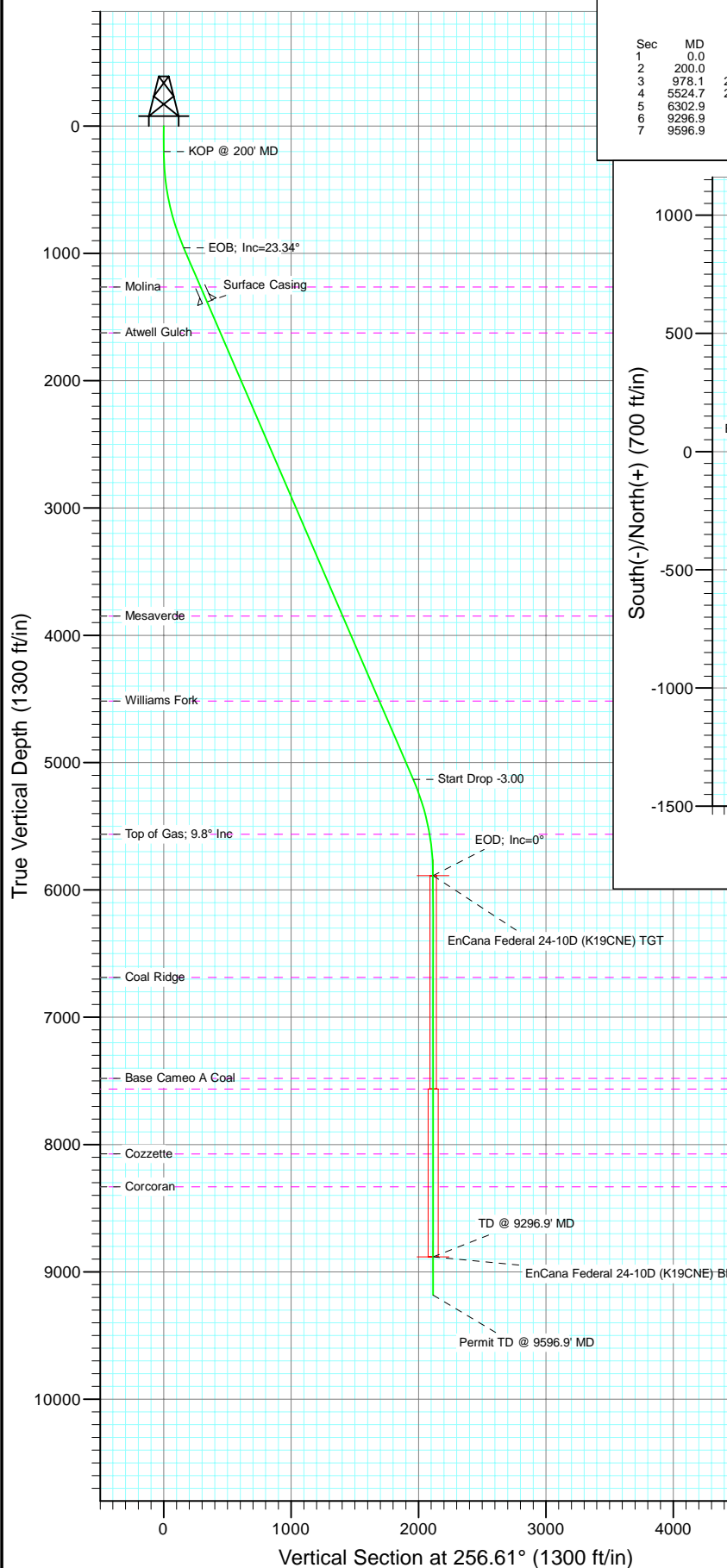
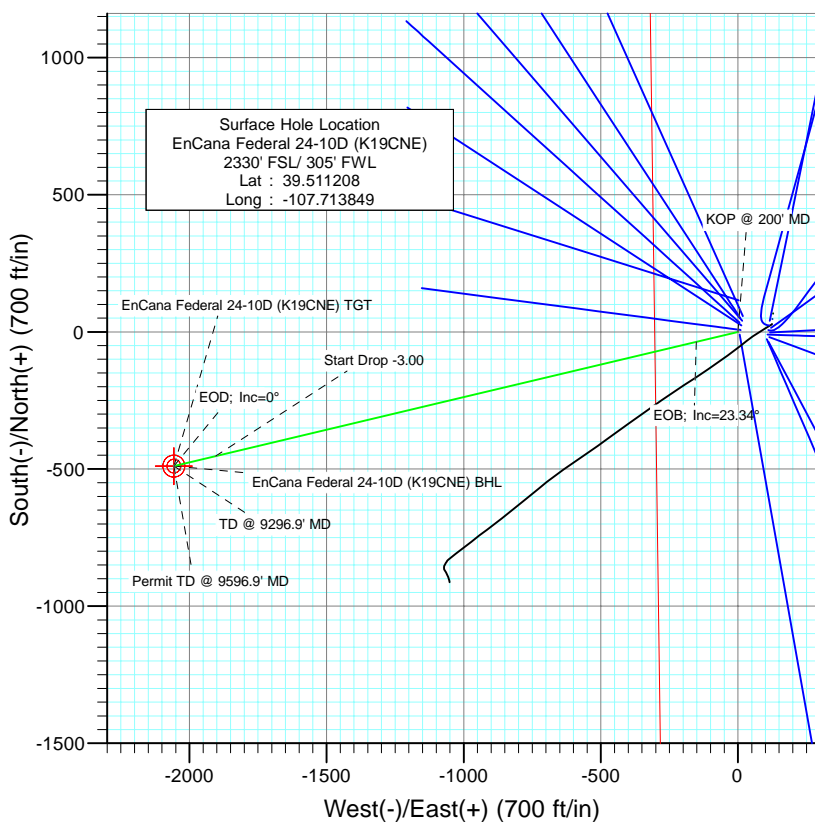




Project: Mamm Creek
Site: SW S19-T6S-R29W (K19CNE Pad)
Well: EnCana Federal 24-10D (K19CNE)
Wellbore: DD
Design: Plan #1



SECTION DETAILS										
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VFace	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	978.1	23.34	256.61	956.8	-36.2	-152.1	3.00	256.61	156.3	
4	5524.7	23.34	256.61	5131.2	-453.3	-1904.7	0.00	0.00	1957.9	
5	6302.9	0.00	0.00	5888.0	-489.4	-2056.8	3.00	180.00	2114.3	EnCana Federal 24-10D (K19CNE) TGT
6	9296.9	0.00	0.00	8882.0	-489.4	-2056.8	0.00	0.00	2114.3	EnCana Federal 24-10D (K19CNE) BHL
7	9596.9	0.00	0.00	9182.0	-489.4	-2056.8	0.00	0.00	2114.3	



FORMATION TOP DETAILS		
TVDPath	MDPath	Formation
1264.0	1312.7	Molina
1625.0	1705.9	Atwell Gulch
3849.0	4128.2	Mesaverde
4517.0	4855.8	Williams Fork
5563.0	5976.3	Top of Gas; 9.8° Inc
6687.0	7101.9	Coal Ridge
7480.0	7894.9	Base Cameo A Coal
7563.0	7977.9	Rollins
8075.0	8489.9	Cozzette
8332.0	8746.9	Corcoran



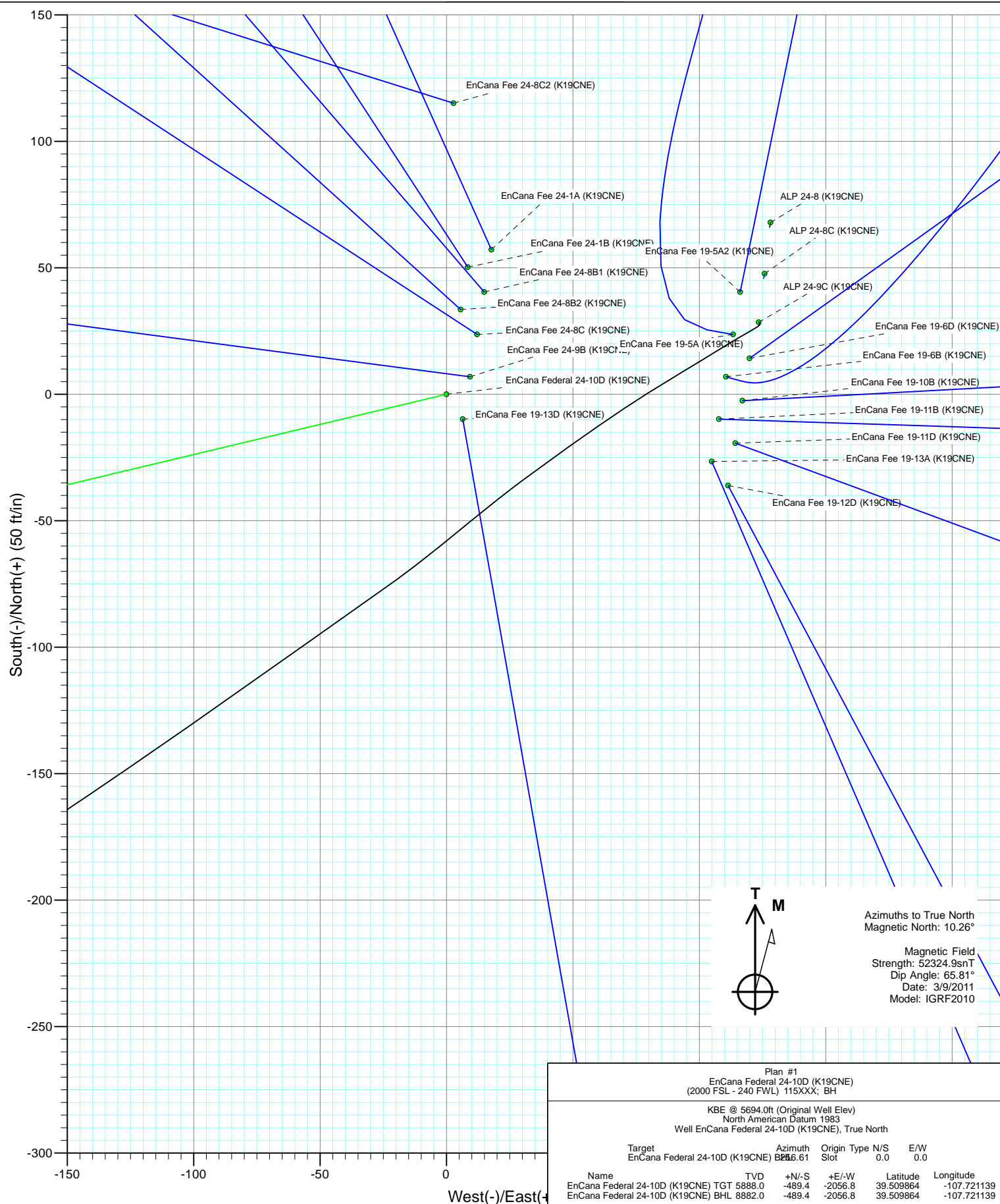
Azimuths to True North
Magnetic North: 10.26°

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

Plan #1
EnCana Federal 24-10D (K19CNE)
(2000 FSL - 240 FWL) 115XXX; BH

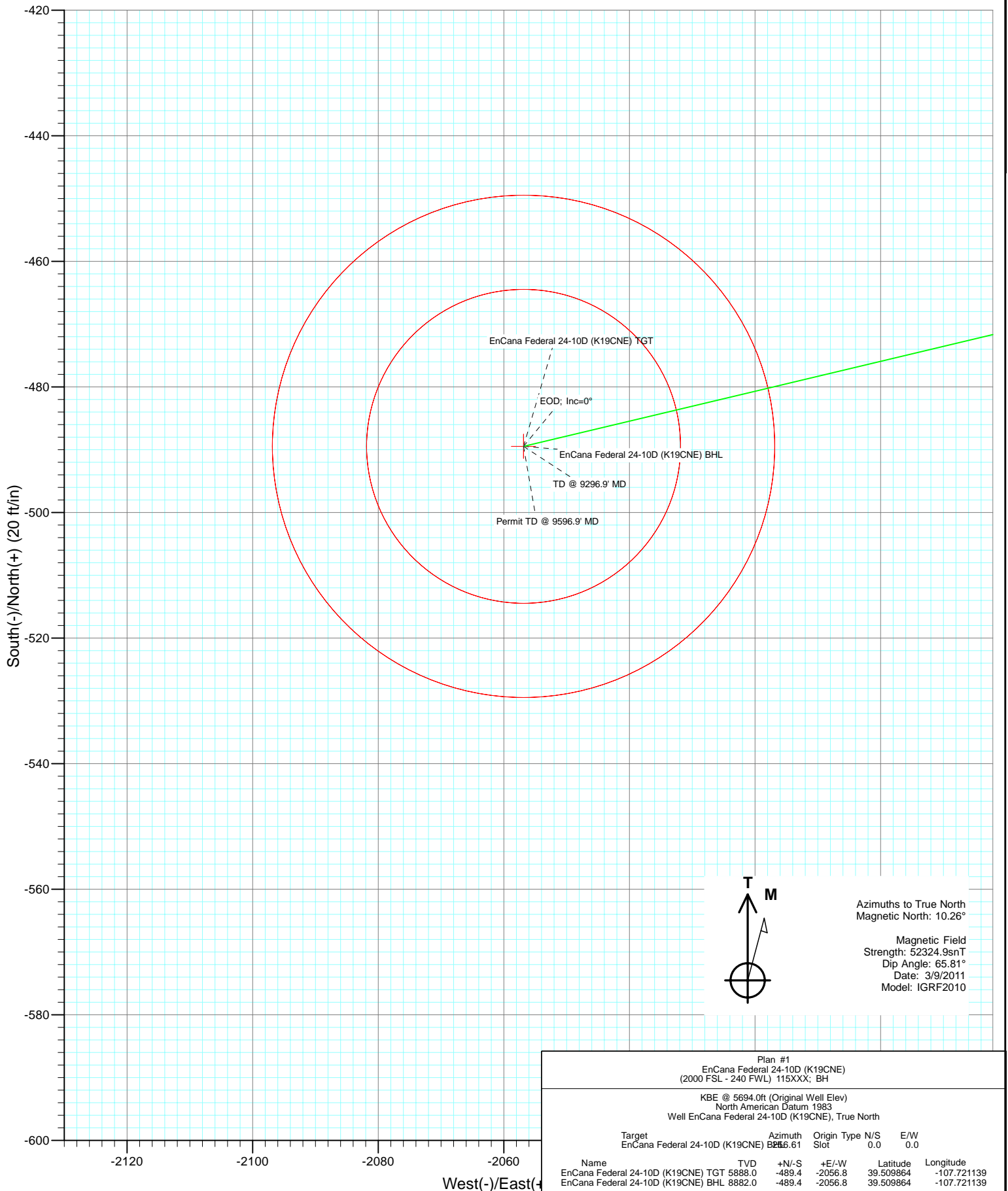
KBE @ 5694.0ft (Original Well Elev)
North American Datum 1983
Well EnCana Federal 24-10D (K19CNE), True North

Target	Azimuth	Origin	Type	N/S	E/W
EnCana Federal 24-10D (K19CNE) TGT	256.61	Slot	0.0	0.0	0.0
EnCana Federal 24-10D (K19CNE) BHL	256.61	Slot	0.0	0.0	0.0
Name	TVD	+N/-S	+E/-W	Latitude	Longitude
EnCana Federal 24-10D (K19CNE) TGT	5888.0	-489.4	-2056.8	39.509864	-107.721139
EnCana Federal 24-10D (K19CNE) BHL	8882.0	-489.4	-2056.8	39.509864	-107.721139





Project: Mamm Creek
 Site: SW S19-T6S-R29W (K19CNE Pad)
 Well: EnCana Federal 24-10D (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 Federal 24-10D (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 Federal 24-10D (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 Federal 24-10D (K19CNE)					
Well Position	+N/-S	0.0 ft	Northing:	1,618,699.73 ft	Latitude:	39.511208
	+E/-W	0.0 ft	Easting:	2,375,452.33 ft	Longitude:	-107.713849
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)	+N/-S	+E/-W	Direction
	(ft)	(ft)	(ft)	(°)
	0.0	0.0	0.0	256.61

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	
978.1	23.34	256.61	956.8	-36.2	-152.1	3.00	3.00	0.00	256.61	
5,524.7	23.34	256.61	5,131.2	-453.3	-1,904.7	0.00	0.00	0.00	0.00	
6,302.9	0.00	0.00	5,888.0	-489.4	-2,056.8	3.00	-3.00	0.00	180.00	EnCana Federal 24-1
9,296.9	0.00	0.00	8,882.0	-489.4	-2,056.8	0.00	0.00	0.00	0.00	EnCana Federal 24-1
9,596.9	0.00	0.00	9,182.0	-489.4	-2,056.8	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 Federal 24-10D (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 Federal 24-10D (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	256.61	300.0	-0.6	-2.5	2.6	3.00	3.00	
400.0	6.00	256.61	399.6	-2.4	-10.2	10.5	3.00	3.00	
500.0	9.00	256.61	498.8	-5.4	-22.9	23.5	3.00	3.00	
600.0	12.00	256.61	597.1	-9.7	-40.6	41.7	3.00	3.00	
700.0	15.00	256.61	694.3	-15.1	-63.3	65.1	3.00	3.00	
800.0	18.00	256.61	790.2	-21.6	-90.9	93.5	3.00	3.00	
900.0	21.00	256.61	884.4	-29.4	-123.4	126.9	3.00	3.00	
978.1	23.34	256.61	956.8	-36.2	-152.1	156.3	3.00	3.00	EOB; Inc=23.34°
1,000.0	23.34	256.61	976.9	-38.2	-160.5	165.0	0.00	0.00	
1,100.0	23.34	256.61	1,068.7	-47.4	-199.1	204.6	0.00	0.00	
1,200.0	23.34	256.61	1,160.5	-56.5	-237.6	244.3	0.00	0.00	
1,300.0	23.34	256.61	1,252.3	-65.7	-276.2	283.9	0.00	0.00	
1,312.7	23.34	256.61	1,264.0	-66.9	-281.1	288.9	0.00	0.00	Molina
1,400.0	23.34	256.61	1,344.1	-74.9	-314.7	323.5	0.00	0.00	
1,439.5	23.34	256.61	1,380.4	-78.5	-330.0	339.2	0.00	0.00	Surface Casing
1,500.0	23.34	256.61	1,435.9	-84.1	-353.3	363.1	0.00	0.00	
1,600.0	23.34	256.61	1,527.7	-93.2	-391.8	402.8	0.00	0.00	
1,700.0	23.34	256.61	1,619.6	-102.4	-430.4	442.4	0.00	0.00	
1,705.9	23.34	256.61	1,625.0	-103.0	-432.6	444.7	0.00	0.00	Atwell Gulch
1,800.0	23.34	256.61	1,711.4	-111.6	-468.9	482.0	0.00	0.00	
1,900.0	23.34	256.61	1,803.2	-120.8	-507.5	521.6	0.00	0.00	
2,000.0	23.34	256.61	1,895.0	-129.9	-546.0	561.3	0.00	0.00	
2,100.0	23.34	256.61	1,986.8	-139.1	-584.6	600.9	0.00	0.00	
2,200.0	23.34	256.61	2,078.6	-148.3	-623.1	640.5	0.00	0.00	
2,300.0	23.34	256.61	2,170.4	-157.4	-661.7	680.1	0.00	0.00	
2,400.0	23.34	256.61	2,262.3	-166.6	-700.2	719.8	0.00	0.00	
2,500.0	23.34	256.61	2,354.1	-175.8	-738.8	759.4	0.00	0.00	
2,600.0	23.34	256.61	2,445.9	-185.0	-777.3	799.0	0.00	0.00	
2,700.0	23.34	256.61	2,537.7	-194.1	-815.8	838.6	0.00	0.00	
2,800.0	23.34	256.61	2,629.5	-203.3	-854.4	878.3	0.00	0.00	
2,900.0	23.34	256.61	2,721.3	-212.5	-892.9	917.9	0.00	0.00	
3,000.0	23.34	256.61	2,813.1	-221.7	-931.5	957.5	0.00	0.00	
3,100.0	23.34	256.61	2,905.0	-230.8	-970.0	997.1	0.00	0.00	
3,200.0	23.34	256.61	2,996.8	-240.0	-1,008.6	1,036.8	0.00	0.00	
3,300.0	23.34	256.61	3,088.6	-249.2	-1,047.1	1,076.4	0.00	0.00	
3,400.0	23.34	256.61	3,180.4	-258.4	-1,085.7	1,116.0	0.00	0.00	
3,500.0	23.34	256.61	3,272.2	-267.5	-1,124.2	1,155.6	0.00	0.00	
3,600.0	23.34	256.61	3,364.0	-276.7	-1,162.8	1,195.3	0.00	0.00	
3,700.0	23.34	256.61	3,455.8	-285.9	-1,201.3	1,234.9	0.00	0.00	
3,800.0	23.34	256.61	3,547.7	-295.0	-1,239.9	1,274.5	0.00	0.00	
3,900.0	23.34	256.61	3,639.5	-304.2	-1,278.4	1,314.1	0.00	0.00	
4,000.0	23.34	256.61	3,731.3	-313.4	-1,317.0	1,353.8	0.00	0.00	
4,100.0	23.34	256.61	3,823.1	-322.6	-1,355.5	1,393.4	0.00	0.00	
4,128.2	23.34	256.61	3,849.0	-325.2	-1,366.4	1,404.6	0.00	0.00	Mesaverde
4,200.0	23.34	256.61	3,914.9	-331.7	-1,394.1	1,433.0	0.00	0.00	
4,300.0	23.34	256.61	4,006.7	-340.9	-1,432.6	1,472.6	0.00	0.00	
4,400.0	23.34	256.61	4,098.5	-350.1	-1,471.2	1,512.3	0.00	0.00	
4,500.0	23.34	256.61	4,190.4	-359.3	-1,509.7	1,551.9	0.00	0.00	
4,600.0	23.34	256.61	4,282.2	-368.4	-1,548.3	1,591.5	0.00	0.00	

Cathedral Energy Services

Planning Report

Database:	EDM 5000.1 US Multi Users DB	Local Co-ordinate Reference:	Well EnCana Federal 24-10D (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 Federal 24-10D (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	23.34	256.61	4,374.0	-377.6	-1,586.8	1,631.1	0.00	0.00	
4,800.0	23.34	256.61	4,465.8	-386.8	-1,625.4	1,670.8	0.00	0.00	
4,855.8	23.34	256.61	4,517.0	-391.9	-1,646.9	1,692.9	0.00	0.00	Williams Fork
4,900.0	23.34	256.61	4,557.6	-395.9	-1,663.9	1,710.4	0.00	0.00	
5,000.0	23.34	256.61	4,649.4	-405.1	-1,702.5	1,750.0	0.00	0.00	
5,100.0	23.34	256.61	4,741.2	-414.3	-1,741.0	1,789.6	0.00	0.00	
5,200.0	23.34	256.61	4,833.1	-423.5	-1,779.6	1,829.3	0.00	0.00	
5,300.0	23.34	256.61	4,924.9	-432.6	-1,818.1	1,868.9	0.00	0.00	
5,400.0	23.34	256.61	5,016.7	-441.8	-1,856.7	1,908.5	0.00	0.00	
5,500.0	23.34	256.61	5,108.5	-451.0	-1,895.2	1,948.1	0.00	0.00	
5,524.7	23.34	256.61	5,131.2	-453.3	-1,904.7	1,957.9	0.00	0.00	Start Drop -3.00
5,600.0	21.09	256.61	5,200.9	-459.8	-1,932.4	1,986.4	3.00	-3.00	
5,700.0	18.09	256.61	5,295.1	-467.6	-1,965.0	2,019.9	3.00	-3.00	
5,800.0	15.09	256.61	5,390.9	-474.2	-1,992.8	2,048.5	3.00	-3.00	
5,900.0	12.09	256.61	5,488.1	-479.6	-2,015.7	2,071.9	3.00	-3.00	
5,976.3	9.80	256.61	5,563.0	-483.0	-2,029.7	2,086.4	3.00	-3.00	Top of Gas; 9.8° Inc
6,000.0	9.09	256.61	5,586.4	-483.9	-2,033.5	2,090.3	3.00	-3.00	
6,100.0	6.09	256.61	5,685.5	-487.0	-2,046.4	2,103.5	3.00	-3.00	
6,200.0	3.09	256.61	5,785.2	-488.8	-2,054.1	2,111.5	3.00	-3.00	
6,300.0	0.09	256.61	5,885.1	-489.4	-2,056.8	2,114.3	3.00	-3.00	
6,302.9	0.00	0.00	5,888.0	-489.4	-2,056.8	2,114.3	3.00	-3.00	EOD; Inc=0° - EnCana Federal 24-10D (K19CNE)
6,400.0	0.00	0.00	5,985.1	-489.4	-2,056.8	2,114.3	0.00	0.00	
6,500.0	0.00	0.00	6,085.1	-489.4	-2,056.8	2,114.3	0.00	0.00	
6,600.0	0.00	0.00	6,185.1	-489.4	-2,056.8	2,114.3	0.00	0.00	
6,700.0	0.00	0.00	6,285.1	-489.4	-2,056.8	2,114.3	0.00	0.00	
6,800.0	0.00	0.00	6,385.1	-489.4	-2,056.8	2,114.3	0.00	0.00	
6,900.0	0.00	0.00	6,485.1	-489.4	-2,056.8	2,114.3	0.00	0.00	
7,000.0	0.00	0.00	6,585.1	-489.4	-2,056.8	2,114.3	0.00	0.00	
7,100.0	0.00	0.00	6,685.1	-489.4	-2,056.8	2,114.3	0.00	0.00	
7,101.9	0.00	0.00	6,687.0	-489.4	-2,056.8	2,114.3	0.00	0.00	Coal Ridge
7,200.0	0.00	0.00	6,785.1	-489.4	-2,056.8	2,114.3	0.00	0.00	
7,300.0	0.00	0.00	6,885.1	-489.4	-2,056.8	2,114.3	0.00	0.00	
7,400.0	0.00	0.00	6,985.1	-489.4	-2,056.8	2,114.3	0.00	0.00	
7,500.0	0.00	0.00	7,085.1	-489.4	-2,056.8	2,114.3	0.00	0.00	
7,600.0	0.00	0.00	7,185.1	-489.4	-2,056.8	2,114.3	0.00	0.00	
7,700.0	0.00	0.00	7,285.1	-489.4	-2,056.8	2,114.3	0.00	0.00	
7,800.0	0.00	0.00	7,385.1	-489.4	-2,056.8	2,114.3	0.00	0.00	
7,894.9	0.00	0.00	7,480.0	-489.4	-2,056.8	2,114.3	0.00	0.00	Base Cameo A Coal
7,900.0	0.00	0.00	7,485.1	-489.4	-2,056.8	2,114.3	0.00	0.00	
7,977.9	0.00	0.00	7,563.0	-489.4	-2,056.8	2,114.3	0.00	0.00	Rollins
8,000.0	0.00	0.00	7,585.1	-489.4	-2,056.8	2,114.3	0.00	0.00	
8,100.0	0.00	0.00	7,685.1	-489.4	-2,056.8	2,114.3	0.00	0.00	
8,200.0	0.00	0.00	7,785.1	-489.4	-2,056.8	2,114.3	0.00	0.00	
8,300.0	0.00	0.00	7,885.1	-489.4	-2,056.8	2,114.3	0.00	0.00	
8,400.0	0.00	0.00	7,985.1	-489.4	-2,056.8	2,114.3	0.00	0.00	
8,489.9	0.00	0.00	8,075.0	-489.4	-2,056.8	2,114.3	0.00	0.00	Cozzette
8,500.0	0.00	0.00	8,085.1	-489.4	-2,056.8	2,114.3	0.00	0.00	
8,600.0	0.00	0.00	8,185.1	-489.4	-2,056.8	2,114.3	0.00	0.00	
8,700.0	0.00	0.00	8,285.1	-489.4	-2,056.8	2,114.3	0.00	0.00	
8,746.9	0.00	0.00	8,332.0	-489.4	-2,056.8	2,114.3	0.00	0.00	Corcoran
8,800.0	0.00	0.00	8,385.1	-489.4	-2,056.8	2,114.3	0.00	0.00	
8,900.0	0.00	0.00	8,485.1	-489.4	-2,056.8	2,114.3	0.00	0.00	

Cathedral Energy Services

Planning Report

Database:	EDM 5000.1 US Multi Users DB	Local Co-ordinate Reference:	Well EnCana Federal 24-10D (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 Federal 24-10D (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
9,000.0	0.00	0.00	8,585.1	-489.4	-2,056.8	2,114.3	0.00	0.00	
9,100.0	0.00	0.00	8,685.1	-489.4	-2,056.8	2,114.3	0.00	0.00	
9,200.0	0.00	0.00	8,785.1	-489.4	-2,056.8	2,114.3	0.00	0.00	
9,296.9	0.00	0.00	8,882.0	-489.4	-2,056.8	2,114.3	0.00	0.00	TD @ 9296.9' MD - EnCana Federal 24-10D (K
9,300.0	0.00	0.00	8,885.1	-489.4	-2,056.8	2,114.3	0.00	0.00	
9,400.0	0.00	0.00	8,985.1	-489.4	-2,056.8	2,114.3	0.00	0.00	
9,500.0	0.00	0.00	9,085.1	-489.4	-2,056.8	2,114.3	0.00	0.00	
9,596.9	0.00	0.00	9,182.0	-489.4	-2,056.8	2,114.3	0.00	0.00	Permit TD @ 9596.9' MD

Targets									
Target Name	- hit/miss target	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	
- Shape									Latitude Longitude
EnCana Federal 24-10D	- plan hits target center	0.00	0.00	5,888.0	-489.4	-2,056.8	1,618,260.54	2,373,384.17	39.509864 -107.721139
- Circle (radius 25.0)									
EnCana Federal 24-10D	- plan hits target center	0.00	0.00	8,882.0	-489.4	-2,056.8	1,618,260.54	2,373,384.17	39.509864 -107.721139
- Circle (radius 40.0)									

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)	
1,439.5	1,380.4	Surface Casing	0.000	0.000	

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
1,312.7	1,264.0	Molina		0.00		
1,705.9	1,625.0	Atwell Gulch		0.00		
4,128.2	3,849.0	Mesaverde		0.00		
4,855.8	4,517.0	Williams Fork		0.00		
5,976.3	5,563.0	Top of Gas; 9.8° Inc		0.00		
7,101.9	6,687.0	Coal Ridge		0.00		
7,894.9	7,480.0	Base Cameo A Coal		0.00		
7,977.9	7,563.0	Rollins		0.00		
8,489.9	8,075.0	Cozzette		0.00		
8,746.9	8,332.0	Corcoran		0.00		

Cathedral Energy Services

Planning Report

Database:	EDM 5000.1 US Multi Users DB	Local Co-ordinate Reference:	Well EnCana Federal 24-10D (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 Federal 24-10D (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)	
200.0	200.0	0.0	0.0	KOP @ 200' MD
978.1	956.8	-36.2	-152.1	EOB; Inc=23.34°
5,524.7	5,131.2	-453.3	-1,904.7	Start Drop -3.00
6,302.9	5,888.0	-489.4	-2,056.8	EOD; Inc=0°
9,296.9	8,882.0	-489.4	-2,056.8	TD @ 9296.9' MD
9,596.9	9,182.0	-489.4	-2,056.8	Permit TD @ 9596.9' MD