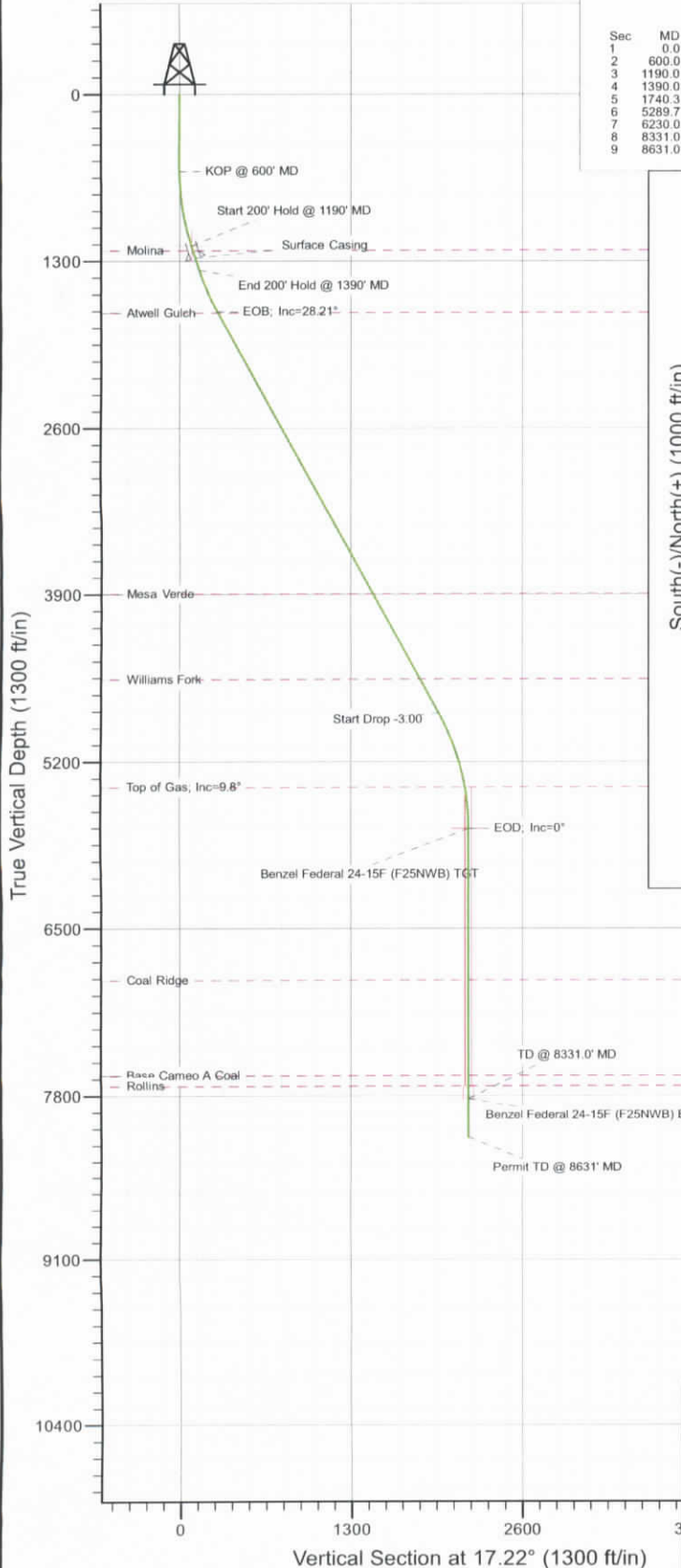
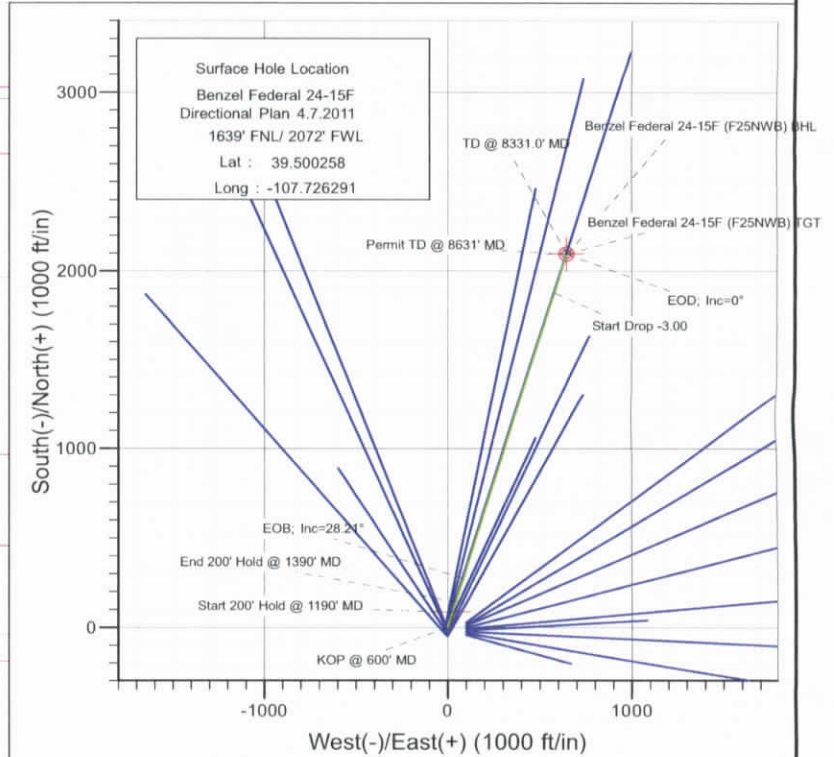




Project: Mamm Creek
Site: F25NWB Pad
Well: Benzel Federal 24-15F (F25NWB Pad) Directional Plan 4.7.2011
Wellbore: DD
Design: Plan #1



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	600.0	0.00	0.00	600.0	0.0	0.0	0.00	0.00	0.0		
3	1190.0	17.70	17.22	1180.7	86.4	26.8	3.00	17.22	90.4	Interp @ 1180.7 (Benzel Federal 24-15F (F25NWB) Pad	
4	1390.0	17.70	17.22	1371.2	144.4	44.8	0.00	0.00	151.2		
5	1740.3	28.21	17.22	1693.3	274.8	85.2	3.00	0.00	287.7		
6	5289.7	28.21	17.22	4821.1	1877.4	581.6	0.00	0.00	1965.4		
7	6230.0	0.00	0.00	5723.9	2094.0	649.0	3.00	180.00	2192.3	Benzel Federal 24-15F (F25NWB) TGT	
8	8331.0	0.00	0.00	7824.9	2094.0	649.0	0.00	0.00	2192.3	Benzel Federal 24-15F (F25NWB) BHL	
9	8631.0	0.00	0.00	8124.9	2094.0	649.0	0.00	0.00	2192.3		



FORMATION TOP DETAILS		
TVDPath	MDPath	Formation
1216.9	1228.0	Molina
1702.9	1751.2	Atwell Gulch
3897.9	4242.1	Mesa Verde
4561.9	4995.5	Williams Fork
5398.9	5903.4	Top of Gas; Inc=9.8°
6901.9	7408.0	Coal Ridge
7642.9	8149.0	Base Cameo A Coal
7724.9	8231.0	Rollins



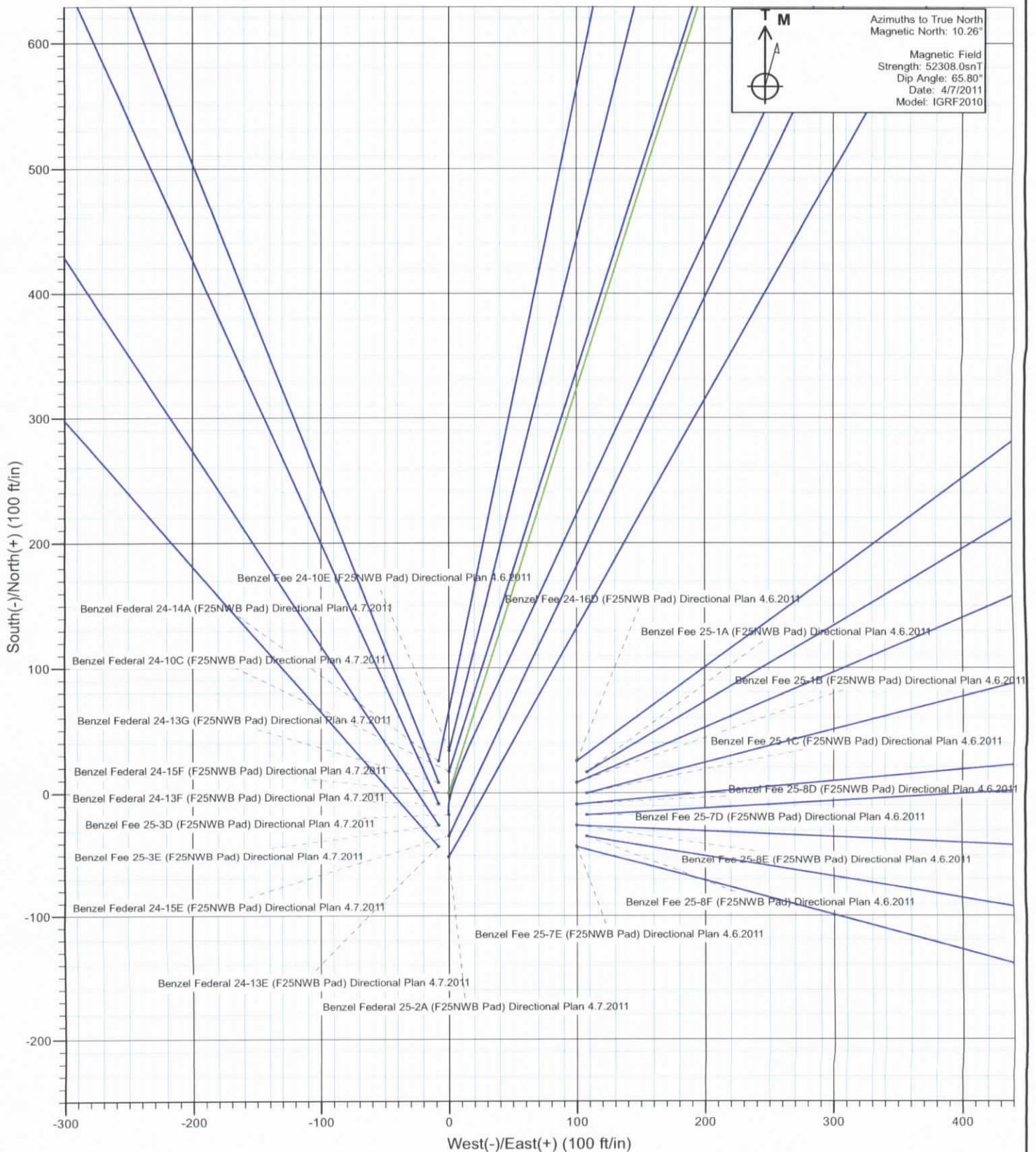
Azimuths to True North
Magnetic North: 10.26°

Magnetic Field
Strength: 52308.0snT
Dip Angle: 65.80°
Date: 4/7/2011
Model: IGRF2010

Plan #1 Benzel Federal 24-15F (F25NWB Pad) Directional Plan 4.7.2011 115XXX; BH					
KBE @ 5849.9ft (Original Well Elev) North American Datum 1983 Well Benzel Federal 24-15F (F25NWB Pad) Directional Plan 4.7.2011, True North					
Type	Target	Azimuth	Origin Type	N/S	E/W From TVD
Target	Benzel Federal 24-15F (F25NWB) BHL	17.22	Slot	0.0	0.0
Name					
TVD	+N/-S	+E/-W	Latitude	Longitude	
Benzel Federal 24-15F (F25NWB) TGT	5723.9	2094.0	649.0	39.506007	-107.723991
Benzel Federal 24-15F (F25NWB) BHL	7824.9	2094.0	649.0	39.506007	-107.723991

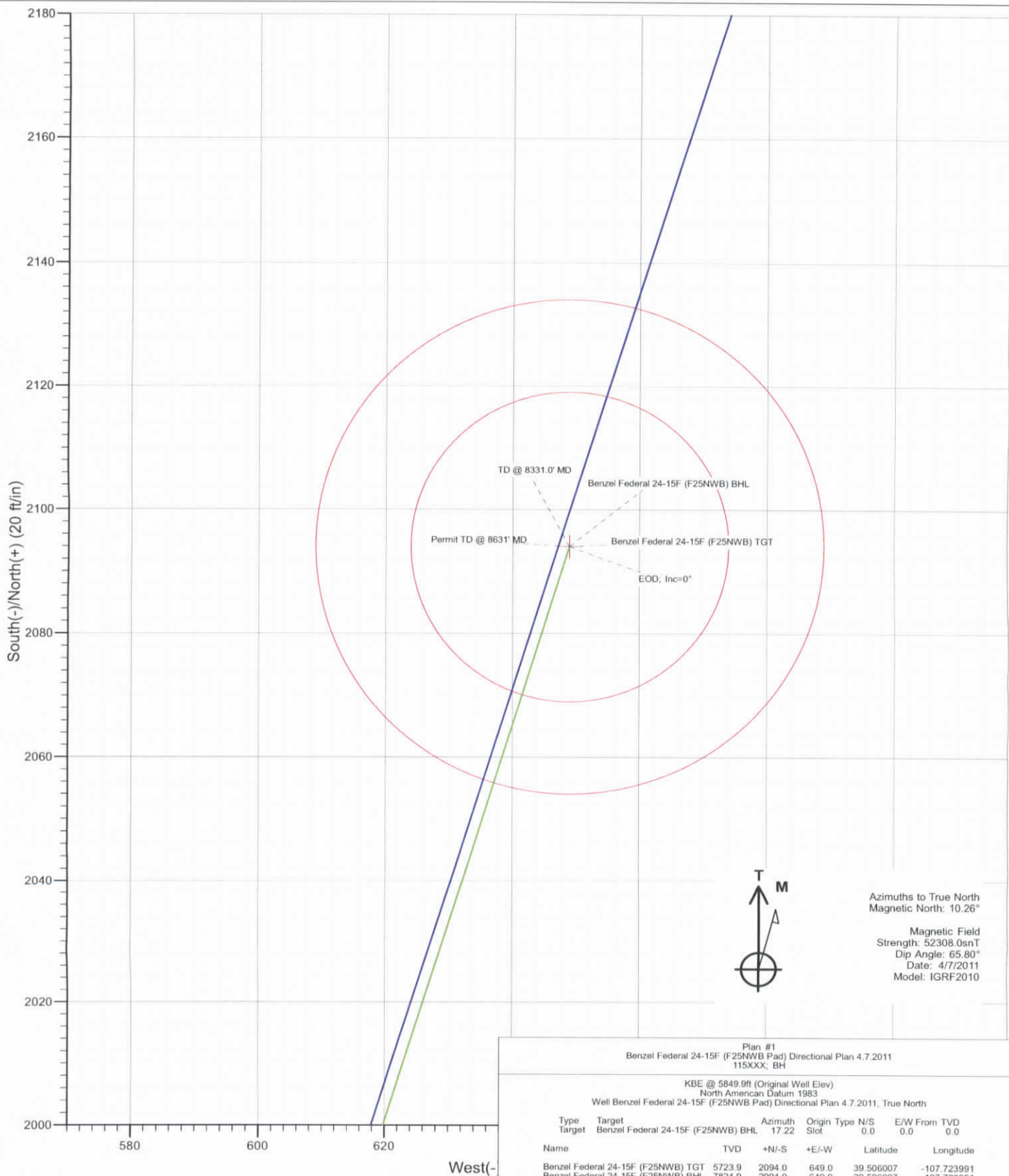


Project: Mamm Creek
Site: F25NWB Pad
Well: Benzel Federal 24-15F (F25NWB Pad) Directional Plan 4.7.2011
Wellbore: DD
Design: Plan #1





Project: Mamm Creek
 Site: F25NWB Pad
 Well: Benzel Federal 24-15F (F25NWB Pad) Directional Plan 4.7.2011
 Wellbore: DD
 Design: Plan #1



Cathedral Energy Services

Planning Report

Database:	EDM 5000.1 US Multi Users DB	Local Co-ordinate Reference:	Well Benzel Federal 24-15F (F25NWB Pad) Dire
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	KBE @ 5849.9ft (Original Well Elev)
Project:	Mamm Creek	MD Reference:	KBE @ 5849.9ft (Original Well Elev)
Site:	F25NWB Pad	North Reference:	True
Well:	Benzel Federal 24-15F (F25NWB Pad) Directional Plan	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	F25NWB Pad		
Site Position:		Northing:	1,614,821.30 ft
From:	Lat/Long	Easting:	2,371,946.03 ft
Position Uncertainty:	0.0 ft	Slot Radius:	13.200 in
		Latitude:	39.500328
		Longitude:	-107.725936
		Grid Convergence:	-1.40 °

Well	Benzel Federal 24-15F (F25NWB Pad) Directional Plan 4.7.2011					
Well Position	+N/-S	0.0 ft	Northing:	1,614,798.26 ft	Latitude:	39.500258
	+E/-W	0.0 ft	Easting:	2,371,845.26 ft	Longitude:	-107.726291
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	5,827.9 ft

Wellbore	DD				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	4/7/2011	10.26	65.80	52,308

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	17.22

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	
600.0	0.00	0.00	600.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,190.0	17.70	17.22	1,180.7	86.4	26.8	3.00	3.00	2.92	17.22	Interp @ 1180.7 (Ben
1,390.0	17.70	17.22	1,371.2	144.4	44.8	0.00	0.00	0.00	0.00	
1,740.3	28.21	17.22	1,693.3	274.8	85.2	3.00	3.00	0.00	0.00	
5,289.7	28.21	17.22	4,821.1	1,877.4	581.8	0.00	0.00	0.00	0.00	
6,230.0	0.00	0.00	5,723.9	2,094.0	649.0	3.00	-3.00	0.00	180.00	Benzel Federal 24-15
8,331.0	0.00	0.00	7,824.9	2,094.0	649.0	0.00	0.00	0.00	0.00	Benzel Federal 24-15
8,631.0	0.00	0.00	8,124.9	2,094.0	649.0	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 Benzel Federal 24-15F (F25NWB Pad) Dire
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	KBE @ 5849.9ft (Original Well Elev)
Project:	Mamm Creek	MD Reference:	KBE @ 5849.9ft (Original Well Elev)
Site:	F25NWB Pad	North Reference:	True
Well:	Benzel Federal 24-15F (F25NWB Pad) Directional Plan	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	
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	KOP @ 600' MD
700.0	3.00	17.22	700.0	2.5	0.8	2.6	3.00	3.00	
800.0	6.00	17.22	799.6	10.0	3.1	10.5	3.00	3.00	
900.0	9.00	17.22	898.8	22.5	7.0	23.5	3.00	3.00	
1,000.0	12.00	17.22	997.1	39.9	12.4	41.7	3.00	3.00	
1,100.0	15.00	17.22	1,094.3	62.2	19.3	65.1	3.00	3.00	
1,190.0	17.70	17.22	1,180.7	86.4	26.8	90.4	3.00	3.00	Start 200' Hold @ 1190' MD - Interp @ 1180.7 (
1,200.0	17.70	17.22	1,190.2	89.3	27.7	93.5	0.00	0.00	
1,228.0	17.70	17.22	1,216.9	97.4	30.2	102.0	0.00	0.00	Molina
1,290.0	17.70	17.22	1,275.9	115.4	35.8	120.8	0.00	0.00	Surface Casing
1,300.0	17.70	17.22	1,285.5	118.3	36.7	123.9	0.00	0.00	
1,390.0	17.70	17.22	1,371.2	144.4	44.8	151.2	0.00	0.00	End 200' Hold @ 1390' MD
1,400.0	18.00	17.22	1,380.7	147.4	45.7	154.3	3.00	3.00	
1,500.0	21.00	17.22	1,475.0	179.2	55.6	187.7	3.00	3.00	
1,600.0	24.00	17.22	1,567.3	215.8	66.9	225.9	3.00	3.00	
1,700.0	27.00	17.22	1,657.6	256.9	79.6	269.0	3.00	3.00	
1,740.3	28.21	17.22	1,693.3	274.8	85.2	287.7	3.00	3.00	EOB; Inc=28.21°
1,751.2	28.21	17.22	1,702.9	279.7	86.7	292.8	0.00	0.00	Atwell Gulch
1,800.0	28.21	17.22	1,745.9	301.7	93.5	315.9	0.00	0.00	
1,900.0	28.21	17.22	1,834.0	346.9	107.5	363.1	0.00	0.00	
2,000.0	28.21	17.22	1,922.2	392.0	121.5	410.4	0.00	0.00	
2,100.0	28.21	17.22	2,010.3	437.2	135.5	457.7	0.00	0.00	
2,200.0	28.21	17.22	2,098.4	482.3	149.5	504.9	0.00	0.00	
2,300.0	28.21	17.22	2,186.5	527.5	163.5	552.2	0.00	0.00	
2,400.0	28.21	17.22	2,274.6	572.6	177.5	599.5	0.00	0.00	
2,500.0	28.21	17.22	2,362.8	617.8	191.5	646.8	0.00	0.00	
2,600.0	28.21	17.22	2,450.9	662.9	205.4	694.0	0.00	0.00	
2,700.0	28.21	17.22	2,539.0	708.1	219.4	741.3	0.00	0.00	
2,800.0	28.21	17.22	2,627.1	753.2	233.4	788.6	0.00	0.00	
2,900.0	28.21	17.22	2,715.3	798.4	247.4	835.8	0.00	0.00	
3,000.0	28.21	17.22	2,803.4	843.5	261.4	883.1	0.00	0.00	
3,100.0	28.21	17.22	2,891.5	888.7	275.4	930.4	0.00	0.00	
3,200.0	28.21	17.22	2,979.6	933.8	289.4	977.6	0.00	0.00	
3,300.0	28.21	17.22	3,067.7	979.0	303.4	1,024.9	0.00	0.00	
3,400.0	28.21	17.22	3,155.9	1,024.1	317.4	1,072.2	0.00	0.00	
3,500.0	28.21	17.22	3,244.0	1,069.3	331.4	1,119.5	0.00	0.00	
3,600.0	28.21	17.22	3,332.1	1,114.4	345.4	1,166.7	0.00	0.00	
3,700.0	28.21	17.22	3,420.2	1,159.6	359.4	1,214.0	0.00	0.00	
3,800.0	28.21	17.22	3,508.4	1,204.7	373.4	1,261.3	0.00	0.00	
3,900.0	28.21	17.22	3,596.5	1,249.9	387.4	1,308.5	0.00	0.00	
4,000.0	28.21	17.22	3,684.6	1,295.0	401.4	1,355.8	0.00	0.00	
4,100.0	28.21	17.22	3,772.7	1,340.2	415.3	1,403.1	0.00	0.00	
4,200.0	28.21	17.22	3,860.8	1,385.3	429.3	1,450.3	0.00	0.00	
4,242.1	28.21	17.22	3,897.9	1,404.3	435.2	1,470.2	0.00	0.00	Mesa Verde
4,300.0	28.21	17.22	3,949.0	1,430.5	443.3	1,497.6	0.00	0.00	
4,400.0	28.21	17.22	4,037.1	1,475.6	457.3	1,544.9	0.00	0.00	

Cathedral Energy Services

Planning Report

Database:	EDM 5000.1 US Multi Users DB	Local Co-ordinate Reference:	Well Benzel Federal 24-15F (F25NWB Pad) Dire
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	KBE @ 5849.9ft (Original Well Elev)
Project:	Mamm Creek	MD Reference:	KBE @ 5849.9ft (Original Well Elev)
Site:	F25NWB Pad	North Reference:	True
Well:	Benzel Federal 24-15F (F25NWB Pad) Directional Plan	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
4,500.0	28.21	17.22	4,125.2	1,520.8	471.3	1,592.2	0.00	0.00	
4,600.0	28.21	17.22	4,213.3	1,566.0	485.3	1,639.4	0.00	0.00	
4,700.0	28.21	17.22	4,301.5	1,611.1	499.3	1,686.7	0.00	0.00	
4,800.0	28.21	17.22	4,389.6	1,656.3	513.3	1,734.0	0.00	0.00	
4,900.0	28.21	17.22	4,477.7	1,701.4	527.3	1,781.2	0.00	0.00	
4,995.5	28.21	17.22	4,561.9	1,744.5	540.7	1,826.4	0.00	0.00	Williams Fork
5,000.0	28.21	17.22	4,565.8	1,746.6	541.3	1,828.5	0.00	0.00	
5,100.0	28.21	17.22	4,653.9	1,791.7	555.3	1,875.8	0.00	0.00	
5,200.0	28.21	17.22	4,742.1	1,836.9	569.3	1,923.1	0.00	0.00	
5,289.7	28.21	17.22	4,821.1	1,877.4	581.8	1,965.4	0.00	0.00	Start Drop -3.00
5,300.0	27.90	17.22	4,830.2	1,882.0	583.3	1,970.3	3.00	-3.00	
5,400.0	24.90	17.22	4,919.8	1,924.5	596.4	2,014.8	3.00	-3.00	
5,500.0	21.90	17.22	5,011.5	1,962.4	608.2	2,054.5	3.00	-3.00	
5,600.0	18.90	17.22	5,105.2	1,995.7	618.5	2,089.3	3.00	-3.00	
5,700.0	15.90	17.22	5,200.7	2,024.2	627.3	2,119.2	3.00	-3.00	
5,800.0	12.90	17.22	5,297.5	2,048.0	634.7	2,144.1	3.00	-3.00	
5,900.0	9.90	17.22	5,395.5	2,066.9	640.6	2,163.9	3.00	-3.00	
5,903.4	9.80	17.22	5,398.9	2,067.4	640.7	2,164.4	3.00	-3.00	Top of Gas; Inc=9.8°
6,000.0	6.90	17.22	5,494.4	2,080.8	644.9	2,178.5	3.00	-3.00	
6,100.0	3.90	17.22	5,594.0	2,089.8	647.7	2,187.9	3.00	-3.00	
6,200.0	0.90	17.22	5,693.9	2,093.8	648.9	2,192.1	3.00	-3.00	
6,230.0	0.00	0.00	5,723.9	2,094.0	649.0	2,192.3	3.00	-3.00	EOD; Inc=0° - Benzel Federal 24-15F (F25NWE)
6,300.0	0.00	0.00	5,793.9	2,094.0	649.0	2,192.3	0.00	0.00	
6,400.0	0.00	0.00	5,893.9	2,094.0	649.0	2,192.3	0.00	0.00	
6,500.0	0.00	0.00	5,993.9	2,094.0	649.0	2,192.3	0.00	0.00	
6,600.0	0.00	0.00	6,093.9	2,094.0	649.0	2,192.3	0.00	0.00	
6,700.0	0.00	0.00	6,193.9	2,094.0	649.0	2,192.3	0.00	0.00	
6,800.0	0.00	0.00	6,293.9	2,094.0	649.0	2,192.3	0.00	0.00	
6,900.0	0.00	0.00	6,393.9	2,094.0	649.0	2,192.3	0.00	0.00	
7,000.0	0.00	0.00	6,493.9	2,094.0	649.0	2,192.3	0.00	0.00	
7,100.0	0.00	0.00	6,593.9	2,094.0	649.0	2,192.3	0.00	0.00	
7,200.0	0.00	0.00	6,693.9	2,094.0	649.0	2,192.3	0.00	0.00	
7,300.0	0.00	0.00	6,793.9	2,094.0	649.0	2,192.3	0.00	0.00	
7,400.0	0.00	0.00	6,893.9	2,094.0	649.0	2,192.3	0.00	0.00	
7,408.0	0.00	0.00	6,901.9	2,094.0	649.0	2,192.3	0.00	0.00	Coal Ridge
7,500.0	0.00	0.00	6,993.9	2,094.0	649.0	2,192.3	0.00	0.00	
7,600.0	0.00	0.00	7,093.9	2,094.0	649.0	2,192.3	0.00	0.00	
7,700.0	0.00	0.00	7,193.9	2,094.0	649.0	2,192.3	0.00	0.00	
7,800.0	0.00	0.00	7,293.9	2,094.0	649.0	2,192.3	0.00	0.00	
7,900.0	0.00	0.00	7,393.9	2,094.0	649.0	2,192.3	0.00	0.00	
8,000.0	0.00	0.00	7,493.9	2,094.0	649.0	2,192.3	0.00	0.00	
8,100.0	0.00	0.00	7,593.9	2,094.0	649.0	2,192.3	0.00	0.00	
8,149.0	0.00	0.00	7,642.9	2,094.0	649.0	2,192.3	0.00	0.00	Base Cameo A Coal
8,200.0	0.00	0.00	7,693.9	2,094.0	649.0	2,192.3	0.00	0.00	
8,231.0	0.00	0.00	7,724.9	2,094.0	649.0	2,192.3	0.00	0.00	Rollins
8,300.0	0.00	0.00	7,793.9	2,094.0	649.0	2,192.3	0.00	0.00	
8,331.0	0.00	0.00	7,824.9	2,094.0	649.0	2,192.3	0.00	0.00	TD @ 8331.0' MD - Benzel Federal 24-15F (F25NWB)
8,400.0	0.00	0.00	7,893.9	2,094.0	649.0	2,192.3	0.00	0.00	
8,500.0	0.00	0.00	7,993.9	2,094.0	649.0	2,192.3	0.00	0.00	
8,600.0	0.00	0.00	8,093.9	2,094.0	649.0	2,192.3	0.00	0.00	
8,631.0	0.00	0.00	8,124.9	2,094.0	649.0	2,192.3	0.00	0.00	Permit TD @ 8631' MD

Cathedral Energy Services

Planning Report

Database:	EDM 5000.1 US Multi Users DB	Local Co-ordinate Reference:	Well Benzel Federal 24-15F (F25NWB Pad) Dire
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	KBE @ 5849.9ft (Original Well Elev)
Project:	Mamm Creek	MD Reference:	KBE @ 5849.9ft (Original Well Elev)
Site:	F25NWB Pad	North Reference:	True
Well:	Benzel Federal 24-15F (F25NWB Pad) Directional Plar	Survey Calculation Method:	Minimum Curvature
Wellbore:	DD		
Design:	Plan #1		

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
Interp @ 1180.7 (Benzel - plan hits target center - Point	0.00	0.00	1,180.7	86.4	26.8	1,614,883.94	2,371,874.13	39.500495	-107.726196
Benzel Federal 24-15F (- plan hits target center - Circle (radius 25.0)	0.00	0.00	5,723.9	2,094.0	649.0	1,616,875.77	2,372,545.35	39.506007	-107.723991
Benzel Federal 24-15F (- plan hits target center - Circle (radius 40.0)	0.00	0.00	7,824.9	2,094.0	649.0	1,616,875.77	2,372,545.35	39.506007	-107.723991

Casing Points

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)
1,290.0	1,275.9	Surface Casing	0.000	0.000

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,228.0	1,216.9	Molina		0.00	
1,751.2	1,702.9	Atwell Gulch		0.00	
4,242.1	3,897.9	Mesa Verde		0.00	
4,995.5	4,561.9	Williams Fork		0.00	
5,903.4	5,398.9	Top of Gas; Inc=9.8°		0.00	
7,408.0	6,901.9	Coal Ridge		0.00	
8,149.0	7,642.9	Base Cameo A Coal		0.00	
8,231.0	7,724.9	Rollins		0.00	

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
600.0	600.0	0.0	0.0	KOP @ 600' MD
1,190.0	1,180.7	86.4	26.8	Start 200' Hold @ 1190' MD
1,390.0	1,371.2	144.4	44.8	End 200' Hold @ 1390' MD
1,740.3	1,693.3	274.8	85.2	EOB; Inc=28.21°
5,289.7	4,821.1	1,877.4	581.8	Start Drop -3.00
6,230.0	5,723.9	2,094.0	649.0	EOD; Inc=0°
8,331.0	7,824.9	2,094.0	649.0	TD @ 8331.0' MD
8,631.0	8,124.9	2,094.0	649.0	Permit TD @ 8631' MD