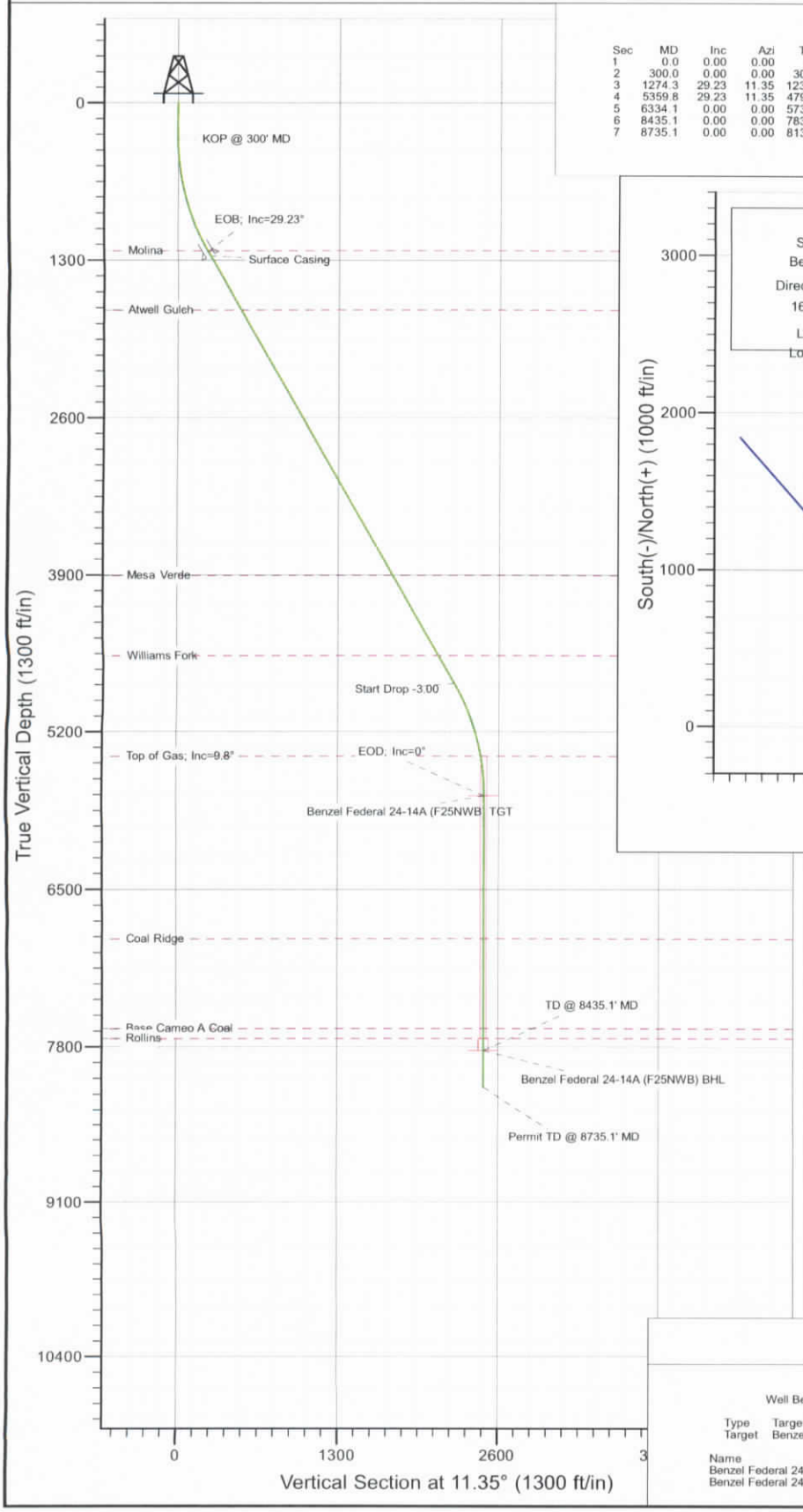
ENCANA

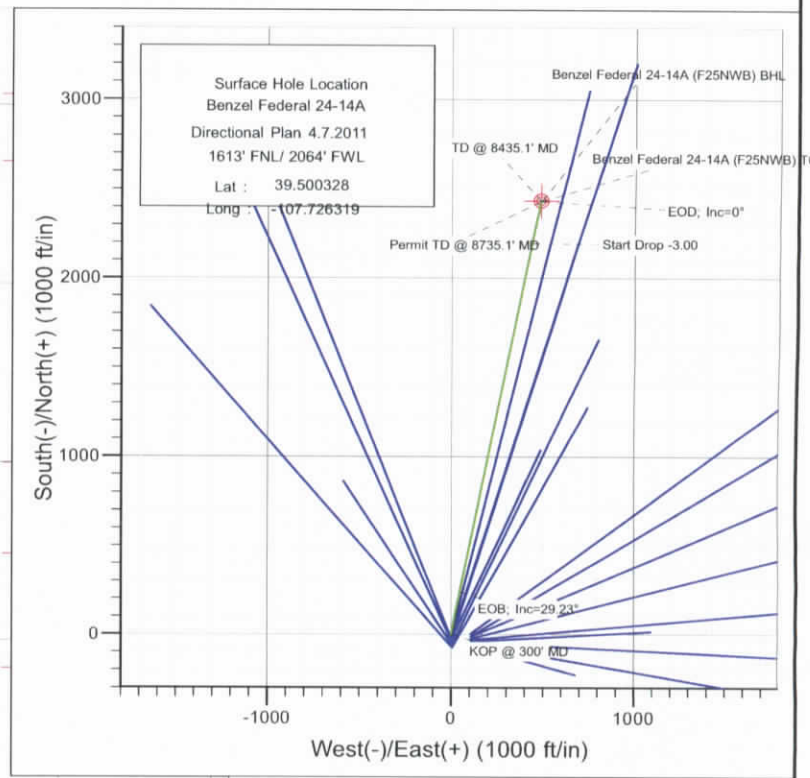
Project: Mamm Creek
Site: F25NWB Pad
Well: Benzel Federal 24-14A (F25NWB Pad) Directional Plan 4.7.2011
Wellbore: DD
Design: Plan #1

CATHEDRAL

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	1274.3	29.23	11.35	1232.6	238.4	47.8	3.00	11.35	243.2	
4	5359.8	29.23	11.35	4797.9	2194.4	440.3	0.00	0.00	2238.1	
5	6334.1	0.00	0.00	5730.5	2432.8	488.1	3.00	180.00	2481.3	Benzel Federal 24-14A (F25NWB) TGT
6	8435.1	0.00	0.00	7831.5	2432.8	488.1	0.00	0.00	2481.3	Benzel Federal 24-14A (F25NWB) BHL
7	8735.1	0.00	0.00	8131.5	2432.8	488.1	0.00	0.00	2481.3	





FORMATION TOP DETAILS

TVDPath	MDPath	Formation
1223.5	1263.9	Molina
1709.5	1820.8	Atwell Gulch
3904.5	4336.0	Mesa Verde
4568.5	5096.9	Williams Fork
5405.5	6007.5	Top of Gas; Inc=9.8°
6908.5	7512.1	Coal Ridge
7649.5	8253.1	Base Cameo A Coal
7731.5	8335.1	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 24-14A (F25NWB Pad) Directional Plan 4.7.2011
115XXX: BH

KBE @ 5851.5ft (Original Well Elev)
North American Datum 1983
Well Benzel Federal 24-14A (F25NWB Pad) Directional Plan 4.7.2011, True North

Type	Target	Azimuth	Origin Type	N/S	E/W From	TVD
Target	Benzel Federal 24-14A (F25NWB) BHL	11.35	Slot	0.0	0.0	0.0

Name	TVD	+N/-S	+E/-W	Latitude	Longitude
Benzel Federal 24-14A (F25NWB) TGT	5730.5	2432.8	488.1	39.507007	-107.724589
Benzel Federal 24-14A (F25NWB) BHL	7831.5	2432.8	488.1	39.507007	-107.724589

ENCANA

Project: Mamm Creek
Site: F25NWB Pad
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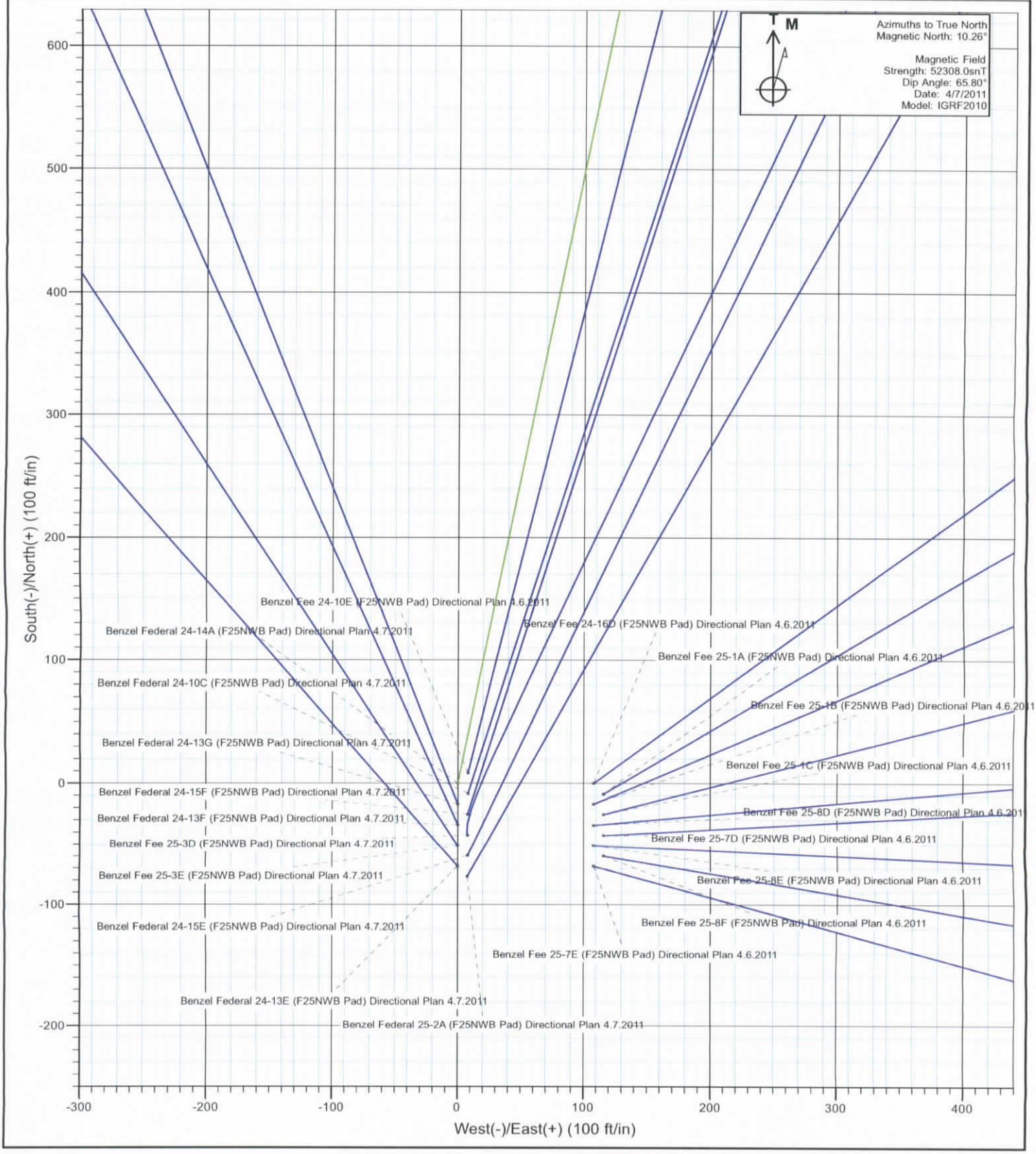
Wellbore: DD
Design: Plan #1

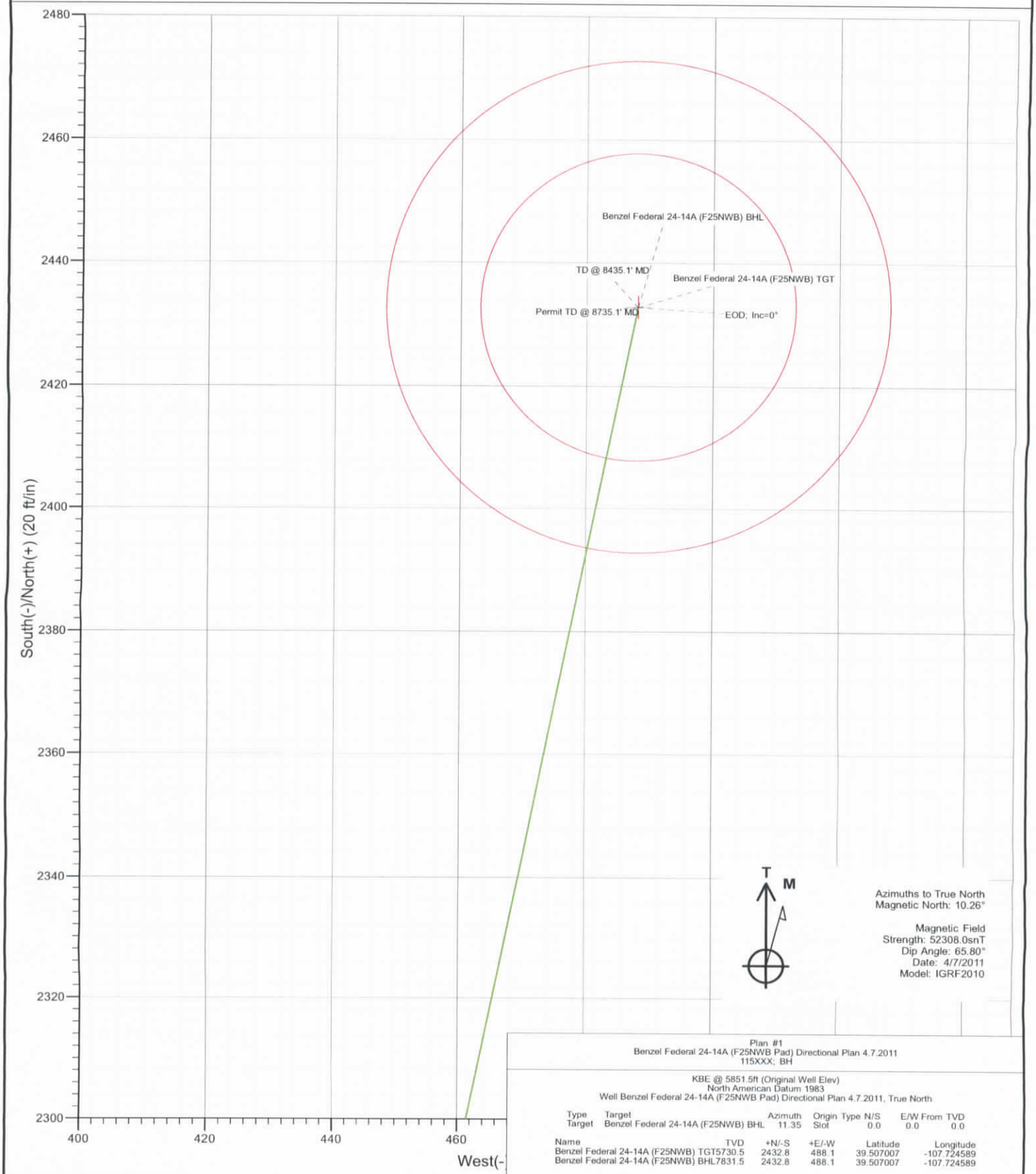
CATHEDRAL



ENCANA

Project: Mamm Creek
Site: F25NWB Pad
Well: Benzel Federal 24-14A (F25NWB Pad) Directional Plan 4.7.2011
Wellbore: DD
Design: Plan #1

CATHEDRAL



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 24-14A (F25NWB Pad) Directional Plan 4.7.2011
115XXX; BH

KBE @ 5851.5ft (Original Well Elev)
North American Datum 1983
Well Benzel Federal 24-14A (F25NWB Pad) Directional Plan 4.7.2011, True North

Type	Target	Azimuth	Origin Type	N/S	E/W From TVD
Target	Benzel Federal 24-14A (F25NWB) BHL	11.35	Slot	0.0	0.0 0.0

Name	TVD	+N/-S	+E/-W	Latitude	Longitude
Benzel Federal 24-14A (F25NWB) TGT	5730.5	2432.8	488.1	39.507007	-107.724589
Benzel Federal 24-14A (F25NWB) BHL	7831.5	2432.8	488.1	39.507007	-107.724589

Cathedral Energy Services

Planning Report

Database:	EDM 5000.1 US Multi Users DB	**Local Co-ordinate Reference:**	Well Benzel Federal 24-14A (F25NWB Pad) Dire
Company:	EnCana Oil & Gas (USA) Inc	**TVD Reference:**	KBE @ 5851.5ft (Original Well Elev)
Project:	Mamm Creek	**MD Reference:**	KBE @ 5851.5ft (Original Well Elev)
Site:	F25NWB Pad	**North Reference:**	True
Well:	Benzel Federal 24-14A (F25NWB Pad) Directional Plar	**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	**Latitude:**	39.500328
From:	Lat/Long	**Easting:**	2,371,946.03 ft	**Longitude:**	-107.725936
Position Uncertainty:	0.0 ft	**Slot Radius:**	13.200 in	**Grid Convergence:**	-1.40 °

Well	Benzel Federal 24-14A (F25NWB Pad) Directional Plan 4.7.2011					
Well Position	**+N/-S**	0.0 ft	**Northing:**	1,614,823.94 ft	**Latitude:**	39.500328
	+E/-W	0.0 ft	**Easting:**	2,371,837.99 ft	**Longitude:**	-107.726319
Position Uncertainty		0.0 ft	**Wellhead Elevation:**	ft	**Ground Level:**	5,829.5 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	11.35	

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	
1,274.3	29.23	11.35	1,232.6	238.4	47.8	3.00	3.00	0.00	11.35	
5,359.8	29.23	11.35	4,797.9	2,194.4	440.3	0.00	0.00	0.00	0.00	
6,334.1	0.00	0.00	5,730.5	2,432.8	488.1	3.00	-3.00	0.00	180.00	Benzel Federal 24-14
8,435.1	0.00	0.00	7,831.5	2,432.8	488.1	0.00	0.00	0.00	0.00	Benzel Federal 24-14
8,735.1	0.00	0.00	8,131.5	2,432.8	488.1	0.00	0.00	0.00	0.00	

Database:	EDM 5000.1 US Multi Users DB	**Local Co-ordinate Reference:**	Well Benzel Federal 24-14A (F25NWB Pad) Dire
Company:	EnCana Oil & Gas (USA) Inc	**TVD Reference:**	KBE @ 5851.5ft (Original Well Elev)
Project:	Mamm Creek	**MD Reference:**	KBE @ 5851.5ft (Original Well Elev)
Site:	F25NWB Pad	**North Reference:**	True
Well:	Benzel Federal 24-14A (F25NWB Pad) Directional Plar	**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	11.35	400.0	2.6	0.5	2.6	3.00	3.00	
500.0	6.00	11.35	499.6	10.3	2.1	10.5	3.00	3.00	
600.0	9.00	11.35	598.8	23.1	4.6	23.5	3.00	3.00	
700.0	12.00	11.35	697.1	40.9	8.2	41.7	3.00	3.00	
800.0	15.00	11.35	794.3	63.8	12.8	65.1	3.00	3.00	
900.0	18.00	11.35	890.2	91.6	18.4	93.5	3.00	3.00	
1,000.0	21.00	11.35	984.4	124.4	25.0	126.9	3.00	3.00	
1,100.0	24.00	11.35	1,076.8	161.9	32.5	165.1	3.00	3.00	
1,200.0	27.00	11.35	1,167.1	204.1	41.0	208.2	3.00	3.00	
1,263.9	28.92	11.35	1,223.5	233.5	46.8	238.1	3.00	3.00	Molina
1,274.3	29.23	11.35	1,232.6	238.4	47.8	243.2	3.00	3.00	EOB; Inc=29.23°
1,300.0	29.23	11.35	1,255.0	250.7	50.3	255.7	0.00	0.00	
1,310.0	29.23	11.35	1,263.7	255.5	51.3	260.6	0.00	0.00	Surface Casing
1,400.0	29.23	11.35	1,342.3	298.6	59.9	304.6	0.00	0.00	
1,500.0	29.23	11.35	1,429.6	346.5	69.5	353.4	0.00	0.00	
1,600.0	29.23	11.35	1,516.8	394.4	79.1	402.2	0.00	0.00	
1,700.0	29.23	11.35	1,604.1	442.2	88.7	451.0	0.00	0.00	
1,800.0	29.23	11.35	1,691.4	490.1	98.3	499.9	0.00	0.00	
1,820.8	29.23	11.35	1,709.5	500.1	100.3	510.0	0.00	0.00	Atwell Gulch
1,900.0	29.23	11.35	1,778.6	538.0	107.9	548.7	0.00	0.00	
2,000.0	29.23	11.35	1,865.9	585.9	117.5	597.5	0.00	0.00	
2,100.0	29.23	11.35	1,953.2	633.7	127.2	646.4	0.00	0.00	
2,200.0	29.23	11.35	2,040.4	681.6	136.8	695.2	0.00	0.00	
2,300.0	29.23	11.35	2,127.7	729.5	146.4	744.0	0.00	0.00	
2,400.0	29.23	11.35	2,215.0	777.4	156.0	792.8	0.00	0.00	
2,500.0	29.23	11.35	2,302.2	825.2	165.6	841.7	0.00	0.00	
2,600.0	29.23	11.35	2,389.5	873.1	175.2	890.5	0.00	0.00	
2,700.0	29.23	11.35	2,476.8	921.0	184.8	939.3	0.00	0.00	
2,800.0	29.23	11.35	2,564.0	968.9	194.4	988.2	0.00	0.00	
2,900.0	29.23	11.35	2,651.3	1,016.7	204.0	1,037.0	0.00	0.00	
3,000.0	29.23	11.35	2,738.6	1,064.6	213.6	1,085.8	0.00	0.00	
3,100.0	29.23	11.35	2,825.8	1,112.5	223.2	1,134.7	0.00	0.00	
3,200.0	29.23	11.35	2,913.1	1,160.4	232.8	1,183.5	0.00	0.00	
3,300.0	29.23	11.35	3,000.4	1,208.2	242.4	1,232.3	0.00	0.00	
3,400.0	29.23	11.35	3,087.6	1,256.1	252.0	1,281.1	0.00	0.00	
3,500.0	29.23	11.35	3,174.9	1,304.0	261.6	1,330.0	0.00	0.00	
3,600.0	29.23	11.35	3,262.2	1,351.9	271.2	1,378.8	0.00	0.00	
3,700.0	29.23	11.35	3,349.4	1,399.7	280.9	1,427.6	0.00	0.00	
3,800.0	29.23	11.35	3,436.7	1,447.6	290.5	1,476.5	0.00	0.00	
3,900.0	29.23	11.35	3,524.0	1,495.5	300.1	1,525.3	0.00	0.00	
4,000.0	29.23	11.35	3,611.2	1,543.4	309.7	1,574.1	0.00	0.00	
4,100.0	29.23	11.35	3,698.5	1,591.2	319.3	1,622.9	0.00	0.00	
4,200.0	29.23	11.35	3,785.8	1,639.1	328.9	1,671.8	0.00	0.00	
4,300.0	29.23	11.35	3,873.1	1,687.0	338.5	1,720.6	0.00	0.00	
4,336.0	29.23	11.35	3,904.5	1,704.2	342.0	1,738.2	0.00	0.00	Mesa Verde
4,400.0	29.23	11.35	3,960.3	1,734.9	348.1	1,769.4	0.00	0.00	
4,500.0	29.23	11.35	4,047.6	1,782.7	357.7	1,818.3	0.00	0.00	
4,600.0	29.23	11.35	4,134.9	1,830.6	367.3	1,867.1	0.00	0.00	

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Project:	Mamm Creek	**MD Reference:**	KBE @ 5851.5ft (Original Well Elev)
Site:	F25NWB Pad	**North Reference:**	True
Well:	Benzel Federal 24-14A (F25NWB Pad) Directional Plar	**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	29.23	11.35	4,222.1	1,878.5	376.9	1,915.9	0.00	0.00	
4,800.0	29.23	11.35	4,309.4	1,926.4	386.5	1,964.8	0.00	0.00	
4,900.0	29.23	11.35	4,396.7	1,974.2	396.1	2,013.6	0.00	0.00	
5,000.0	29.23	11.35	4,483.9	2,022.1	405.7	2,062.4	0.00	0.00	
5,096.9	29.23	11.35	4,568.5	2,068.5	415.0	2,109.7	0.00	0.00	Williams Fork
5,100.0	29.23	11.35	4,571.2	2,070.0	415.3	2,111.2	0.00	0.00	
5,200.0	29.23	11.35	4,658.5	2,117.9	424.9	2,160.1	0.00	0.00	
5,300.0	29.23	11.35	4,745.7	2,165.7	434.5	2,208.9	0.00	0.00	
5,359.8	29.23	11.35	4,797.9	2,194.4	440.3	2,238.1	0.00	0.00	Start Drop -3.00
5,400.0	28.02	11.35	4,833.2	2,213.2	444.1	2,257.4	3.00	-3.00	
5,500.0	25.02	11.35	4,922.7	2,257.0	452.9	2,302.0	3.00	-3.00	
5,600.0	22.02	11.35	5,014.3	2,296.2	460.7	2,341.9	3.00	-3.00	
5,700.0	19.02	11.35	5,108.0	2,330.5	467.6	2,377.0	3.00	-3.00	
5,800.0	16.02	11.35	5,203.3	2,360.0	473.5	2,407.1	3.00	-3.00	
5,900.0	13.02	11.35	5,300.1	2,384.6	478.5	2,432.2	3.00	-3.00	
6,000.0	10.02	11.35	5,398.1	2,404.2	482.4	2,452.1	3.00	-3.00	
6,007.5	9.80	11.35	5,405.5	2,405.5	482.7	2,453.4	3.00	-3.00	Top of Gas; Inc=9.8°
6,100.0	7.02	11.35	5,497.0	2,418.7	485.3	2,466.9	3.00	-3.00	
6,200.0	4.02	11.35	5,596.5	2,428.2	487.2	2,476.6	3.00	-3.00	
6,300.0	1.02	11.35	5,696.4	2,432.5	488.1	2,481.0	3.00	-3.00	
6,334.1	0.00	0.00	5,730.5	2,432.8	488.1	2,481.3	3.00	-3.00	EOD; Inc=0° - Benzel Federal 24-14A (F25NWI
6,400.0	0.00	0.00	5,796.4	2,432.8	488.1	2,481.3	0.00	0.00	
6,500.0	0.00	0.00	5,896.4	2,432.8	488.1	2,481.3	0.00	0.00	
6,600.0	0.00	0.00	5,996.4	2,432.8	488.1	2,481.3	0.00	0.00	
6,700.0	0.00	0.00	6,096.4	2,432.8	488.1	2,481.3	0.00	0.00	
6,800.0	0.00	0.00	6,196.4	2,432.8	488.1	2,481.3	0.00	0.00	
6,900.0	0.00	0.00	6,296.4	2,432.8	488.1	2,481.3	0.00	0.00	
7,000.0	0.00	0.00	6,396.4	2,432.8	488.1	2,481.3	0.00	0.00	
7,100.0	0.00	0.00	6,496.4	2,432.8	488.1	2,481.3	0.00	0.00	
7,200.0	0.00	0.00	6,596.4	2,432.8	488.1	2,481.3	0.00	0.00	
7,300.0	0.00	0.00	6,696.4	2,432.8	488.1	2,481.3	0.00	0.00	
7,400.0	0.00	0.00	6,796.4	2,432.8	488.1	2,481.3	0.00	0.00	
7,500.0	0.00	0.00	6,896.4	2,432.8	488.1	2,481.3	0.00	0.00	
7,512.1	0.00	0.00	6,908.5	2,432.8	488.1	2,481.3	0.00	0.00	Coal Ridge
7,600.0	0.00	0.00	6,996.4	2,432.8	488.1	2,481.3	0.00	0.00	
7,700.0	0.00	0.00	7,096.4	2,432.8	488.1	2,481.3	0.00	0.00	
7,800.0	0.00	0.00	7,196.4	2,432.8	488.1	2,481.3	0.00	0.00	
7,900.0	0.00	0.00	7,296.4	2,432.8	488.1	2,481.3	0.00	0.00	
8,000.0	0.00	0.00	7,396.4	2,432.8	488.1	2,481.3	0.00	0.00	
8,100.0	0.00	0.00	7,496.4	2,432.8	488.1	2,481.3	0.00	0.00	
8,200.0	0.00	0.00	7,596.4	2,432.8	488.1	2,481.3	0.00	0.00	
8,253.1	0.00	0.00	7,649.5	2,432.8	488.1	2,481.3	0.00	0.00	Base Cameo A Coal
8,300.0	0.00	0.00	7,696.4	2,432.8	488.1	2,481.3	0.00	0.00	
8,335.1	0.00	0.00	7,731.5	2,432.8	488.1	2,481.3	0.00	0.00	Rollins
8,400.0	0.00	0.00	7,796.4	2,432.8	488.1	2,481.3	0.00	0.00	
8,435.1	0.00	0.00	7,831.5	2,432.8	488.1	2,481.3	0.00	0.00	TD @ 8435.1' MD - Benzel Federal 24-14A (F2
8,500.0	0.00	0.00	7,896.4	2,432.8	488.1	2,481.3	0.00	0.00	
8,600.0	0.00	0.00	7,996.4	2,432.8	488.1	2,481.3	0.00	0.00	
8,700.0	0.00	0.00	8,096.4	2,432.8	488.1	2,481.3	0.00	0.00	
8,735.1	0.00	0.00	8,131.5	2,432.8	488.1	2,481.3	0.00	0.00	Permit TD @ 8735.1' MD

Database:	EDM 5000.1 US Multi Users DB	**Local Co-ordinate Reference:**	Well Benzel Federal 24-14A (F25NWB Pad) Dire
Company:	EnCana Oil & Gas (USA) Inc	**TVD Reference:**	KBE @ 5851.5ft (Original Well Elev)
Project:	Mamm Creek	**MD Reference:**	KBE @ 5851.5ft (Original Well Elev)
Site:	F25NWB Pad	**North Reference:**	True
Well:	Benzel Federal 24-14A (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
Benzel Federal 24-14A (- plan hits target center - Circle (radius 25.0)	0.00	0.00	5,730.5	2,432.8	488.1	1,617,244.03	2,372,385.58	39.507007	-107.724589
Benzel Federal 24-14A (- plan hits target center - Circle (radius 40.0)	0.00	0.00	7,831.5	2,432.8	488.1	1,617,244.03	2,372,385.58	39.507007	-107.724589

Casing Points

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)
1,310.0	1,263.7	Surface Casing	0.000	0.000

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,263.9	1,223.5	Molina		0.00	
1,820.8	1,709.5	Atwell Gulch		0.00	
4,336.0	3,904.5	Mesa Verde		0.00	
5,096.9	4,568.5	Williams Fork		0.00	
6,007.5	5,405.5	Top of Gas; Inc=9.8°		0.00	
7,512.1	6,908.5	Coal Ridge		0.00	
8,253.1	7,649.5	Base Cameo A Coal		0.00	
8,335.1	7,731.5	Rollins		0.00	

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates +N/-S (ft)	Local Coordinates +E/-W (ft)	Comment
300.0	300.0	0.0	0.0	KOP @ 300' MD
1,274.3	1,232.6	238.4	47.8	EOB; Inc=29.23°
5,359.8	4,797.9	2,194.4	440.3	Start Drop -3.00
6,334.1	5,730.5	2,432.8	488.1	EOD; Inc=0°
8,435.1	7,831.5	2,432.8	488.1	TD @ 8435.1' MD
8,735.1	8,131.5	2,432.8	488.1	Permit TD @ 8735.1' MD