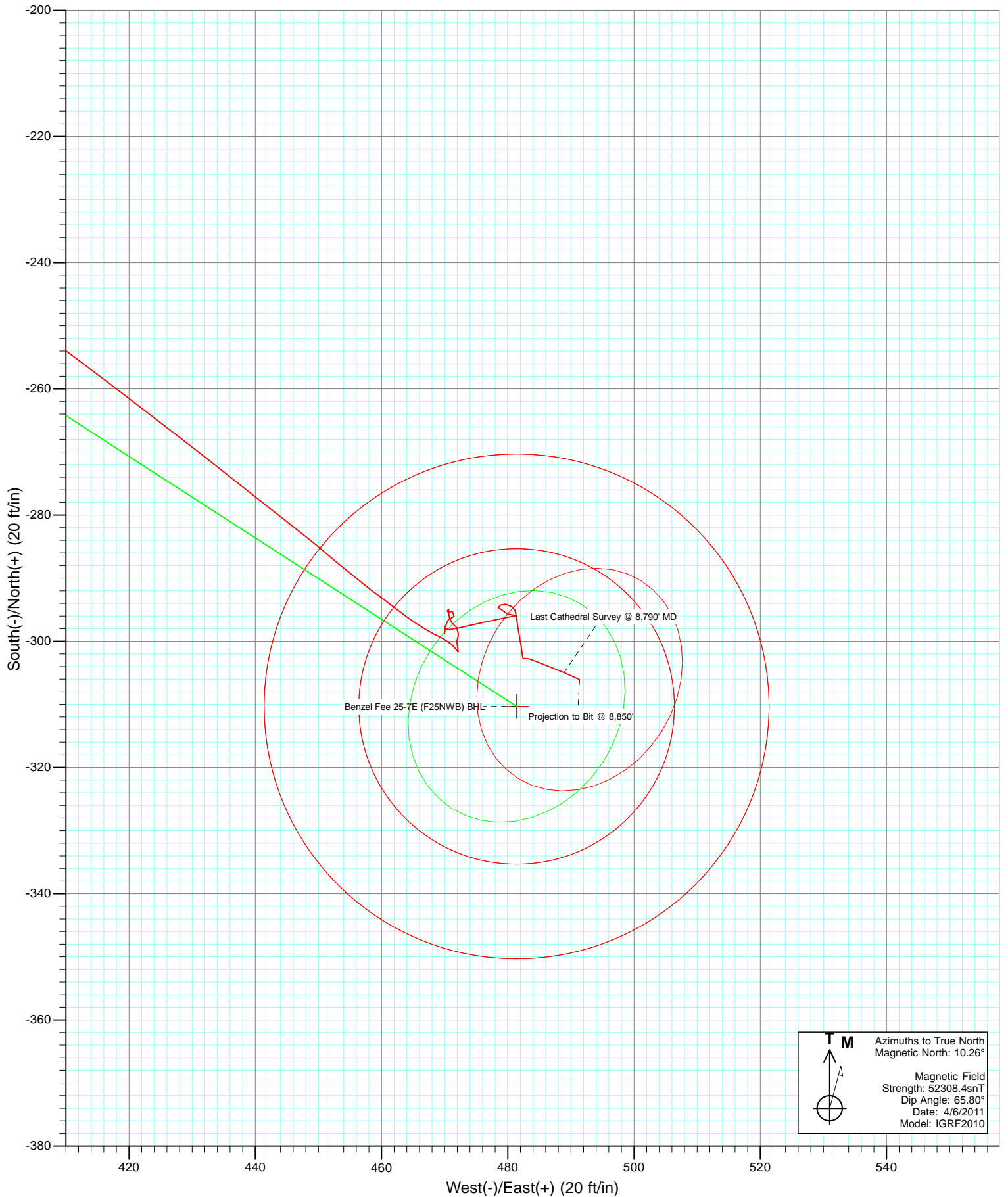


DD						
Benzel Fee 25-7E (F25NWB Pad) Directional Plan 4.6.2011 115464/117055 (SH):115498/122255 (MH): SC						
kbe @ 5860.0ft						
North American Datum 1983						
Well Benzel Fee 25-7E (F25NWB Pad) Directional Plan 4.6.2011, True North						
Target	Azimuth	Origin Type	N/S	E/W	From	TVD
Benzel Fee 25-7E (F25NWB) BHL	122.80	Slot	0.0	0.0		0.0
	TVD	+N/-S			Latitude	Longitude
Benzel Fee 25-7E (F25NWB) TGT	5309.0	-310.3	481.4	39.499697	-107.723909	
Benzel Fee 25-7E (F25NWB) BHL	9037.0	-310.3	481.4	39.499697	-107.723909	

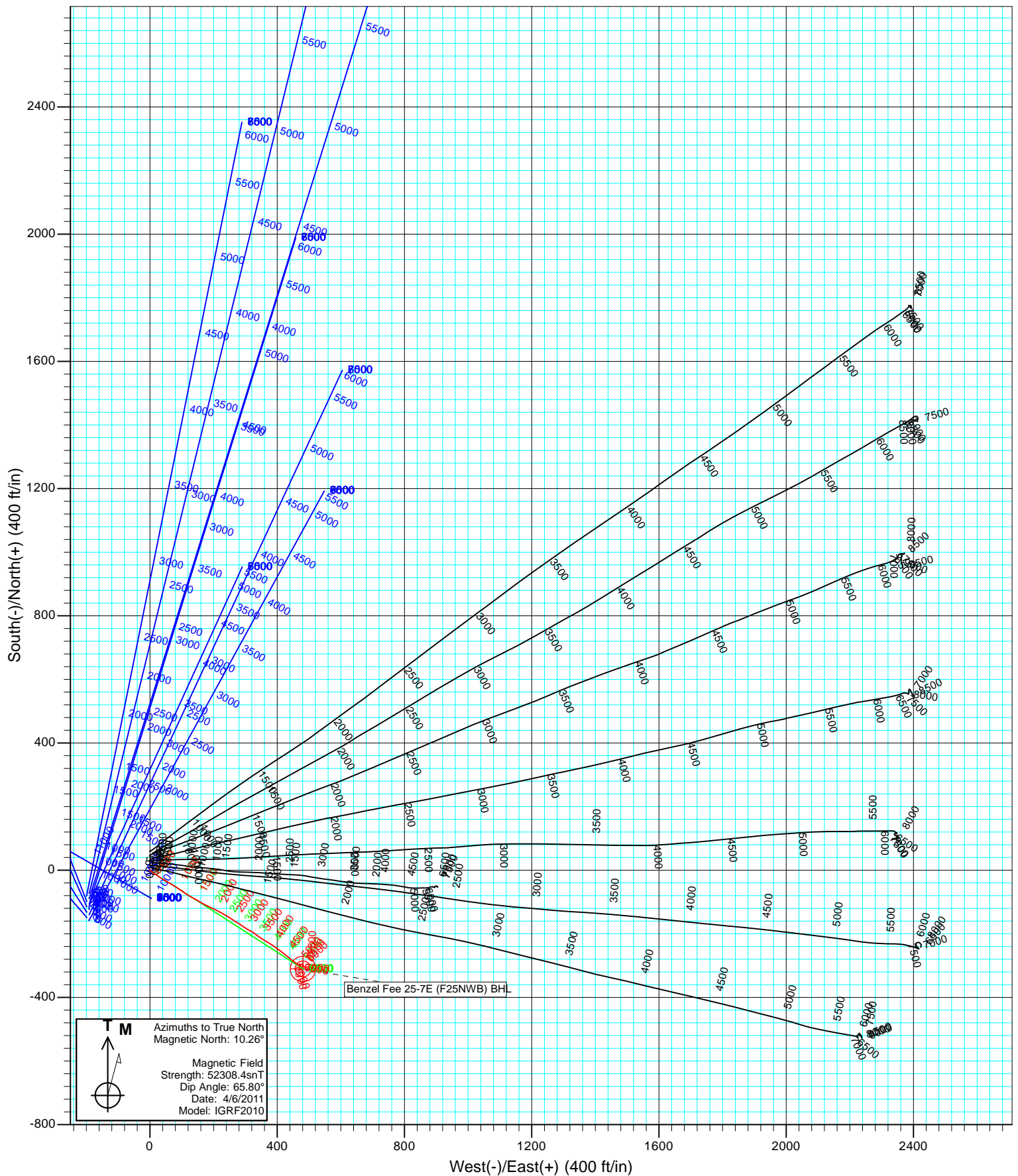


Project: Mamm Creek
Site: F25NWB Pad
Well: Benzel Fee 25-7E (F25NWB Pad) Directional Plan 4.6.2011
Wellbore: DD
Design: FINAL





Project: Mamm Creek
Site: F25NWB Pad
Well: Benzel Fee 25-7E (F25NWB Pad) Directional Plan 4.6.2011
Wellbore: DD
Design: FINAL



Cathedral Energy Services

Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Benzel Fee 25-7E (F25NWB Pad) Directiona
Project:	Mamm Creek	TVD Reference:	kbe @ 5860.0ft
Site:	F25NWB Pad	MD Reference:	kbe @ 5860.0ft
Well:	Benzel Fee 25-7E (F25NWB Pad) Directional	North Reference:	True
Wellbore:	Plan 4.6.2011	Survey Calculation Method:	Minimum Curvature
Design:	DD	Database:	USA EDM 5000 Multi Users DB

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 Fee 25-7E (F25NWB Pad) Directional Plan 4.6.2011					
Well Position	+N/-S	0.0 ft	Northing:	1,614,899.53 ft	Latitude:	39.500549
	+E/-W	0.0 ft	Easting:	2,372,038.56 ft	Longitude:	-107.725615
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	5,829.0 ft

Wellbore	DD				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	4/6/2011	10.26	65.80	52,308

Design	DD				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction	
	(ft)	(ft)	(ft)	(°)	
	0.0	0.0	0.0	122.80	

Survey Program	Date	1/3/2012			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
84.0	1,399.0	Survey #1 (DD)	MWD	Geolink MWD	
1,560.0	8,850.0	Survey #2 (DD)	MWD	Geolink MWD	

Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Formations / Comments	
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00		
84.0	0.30	319.50	84.0	0.2	-0.1	-0.2	0.36	0.36		
148.0	0.20	355.20	148.0	0.4	-0.3	-0.4	0.28	-0.16		
179.0	0.00	6.10	179.0	0.5	-0.3	-0.5	0.65	-0.65		
241.0	0.40	140.40	241.0	0.3	-0.1	-0.3	0.65	0.65		
302.0	1.00	128.40	302.0	-0.2	0.4	0.5	1.01	0.98		
333.0	1.60	124.80	333.0	-0.6	1.0	1.2	1.95	1.94		
425.0	5.30	126.60	424.8	-3.9	5.5	6.7	4.02	4.02		
517.0	8.00	125.50	516.2	-10.1	14.1	17.3	2.94	2.93		
609.0	9.40	124.70	607.1	-18.1	25.5	31.2	1.53	1.52		
704.0	8.40	121.90	701.0	-26.2	37.7	45.9	1.15	-1.05		
799.0	8.70	120.80	794.9	-33.6	49.8	60.0	0.36	0.32		

Cathedral Energy Services

Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Benzel Fee 25-7E (F25NWB Pad) Directiona
Project:	Mamm Creek	TVD Reference:	kbe @ 5860.0ft
Site:	F25NWB Pad	MD Reference:	kbe @ 5860.0ft
Well:	Benzel Fee 25-7E (F25NWB Pad) Directional	North Reference:	True
Wellbore:	Open 4.6.2011	Survey Calculation Method:	Minimum Curvature
Design:	DD	Database:	USA EDM 5000 Multi Users DB

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Formations / Comments
894.0	9.60	119.60	888.7	-41.2	62.9	75.1	0.97	0.95	
989.0	8.40	122.20	982.5	-48.8	75.6	90.0	1.33	-1.26	
1,084.0	8.70	123.50	1,076.5	-56.4	87.5	104.1	0.38	0.32	
1,178.0	7.50	125.00	1,169.5	-63.9	98.4	117.3	1.30	-1.28	
1,273.0	7.70	125.00	1,263.7	-71.1	108.7	129.9	0.21	0.21	
1,368.0	8.20	120.30	1,357.8	-78.1	119.8	143.0	0.86	0.53	
1,399.0	8.40	120.70	1,388.5	-80.4	123.7	147.5	0.67	0.65	Last Cathedral Survey @ 1,399' MD
1,560.0	9.30	119.10	1,547.5	-92.7	145.1	172.2	0.58	0.56	
1,654.0	9.50	121.30	1,640.3	-100.5	158.4	187.6	0.44	0.21	
1,749.0	8.80	115.50	1,734.1	-107.7	171.7	202.6	1.22	-0.74	
1,844.0	9.10	116.30	1,827.9	-114.1	184.9	217.3	0.34	0.32	
1,939.0	7.60	115.30	1,921.9	-120.1	197.4	231.0	1.59	-1.58	
2,034.0	7.60	115.40	2,016.1	-125.5	208.7	243.4	0.01	0.00	
2,128.0	6.10	120.30	2,109.4	-130.7	218.6	254.6	1.71	-1.60	
2,223.0	6.00	119.20	2,203.9	-135.7	227.3	264.6	0.16	-0.11	
2,318.0	5.70	119.30	2,298.4	-140.4	235.8	274.3	0.32	-0.32	
2,413.0	6.00	121.50	2,392.9	-145.3	244.1	283.9	0.39	0.32	
2,507.0	5.90	123.20	2,486.4	-150.5	252.4	293.7	0.22	-0.11	
2,602.0	6.00	123.90	2,580.9	-156.0	260.6	303.5	0.13	0.11	
2,697.0	6.10	122.30	2,675.3	-161.4	269.0	313.5	0.21	0.11	
2,792.0	6.30	120.10	2,769.8	-166.7	277.7	323.8	0.33	0.21	
2,886.0	5.80	125.60	2,863.3	-172.1	286.1	333.7	0.81	-0.53	
2,981.0	6.00	123.50	2,957.8	-177.6	294.1	343.4	0.31	0.21	
3,076.0	6.20	122.80	3,052.2	-183.2	302.6	353.5	0.22	0.21	
3,171.0	5.20	119.30	3,146.7	-188.0	310.6	363.0	1.11	-1.05	
3,265.0	5.40	114.20	3,240.3	-191.9	318.4	371.6	0.54	0.21	
3,360.0	5.50	128.50	3,334.9	-196.6	326.0	380.5	1.43	0.11	
3,455.0	5.50	127.10	3,429.5	-202.2	333.2	389.6	0.14	0.00	
3,550.0	5.40	125.80	3,524.0	-207.5	340.5	398.6	0.17	-0.11	
3,644.0	5.40	122.50	3,617.6	-212.5	347.8	407.4	0.33	0.00	
3,739.0	5.70	123.00	3,712.2	-217.5	355.5	416.6	0.32	0.32	
3,834.0	5.50	121.30	3,806.7	-222.4	363.4	425.9	0.27	-0.21	
3,929.0	5.60	120.80	3,901.3	-227.2	371.2	435.1	0.12	0.11	
4,024.0	5.50	121.20	3,995.8	-231.9	379.1	444.3	0.11	-0.11	
4,118.0	5.00	125.10	4,089.4	-236.6	386.3	452.9	0.65	-0.53	
4,213.0	5.80	127.40	4,184.0	-241.9	393.5	461.8	0.87	0.84	
4,308.0	5.50	125.70	4,278.6	-247.4	401.0	471.1	0.36	-0.32	
4,403.0	6.10	126.20	4,373.1	-253.1	408.8	480.7	0.63	0.63	
4,498.0	6.10	127.30	4,467.5	-259.1	416.9	490.8	0.12	0.00	
4,592.0	5.80	127.60	4,561.0	-265.0	424.6	500.5	0.32	-0.32	
4,686.0	5.50	128.10	4,654.6	-270.7	431.9	509.7	0.32	-0.32	
4,781.0	5.60	128.50	4,749.1	-276.4	439.1	518.9	0.11	0.11	
4,876.0	5.50	127.80	4,843.7	-282.1	446.4	528.0	0.13	-0.11	
4,971.0	4.50	131.40	4,938.3	-287.3	452.7	536.2	1.10	-1.05	
5,065.0	4.30	126.40	5,032.0	-291.9	458.4	543.4	0.46	-0.21	
5,160.0	3.30	127.50	5,126.8	-295.7	463.4	549.7	1.06	-1.05	
5,255.0	2.20	118.40	5,221.7	-298.2	467.2	554.2	1.24	-1.16	
5,350.0	0.40	117.70	5,316.7	-299.2	469.1	556.4	1.89	-1.89	
5,445.0	0.70	117.20	5,411.7	-299.6	469.9	557.3	0.32	0.32	
5,539.0	1.20	129.30	5,505.7	-300.5	471.1	558.8	0.57	0.53	
5,634.0	0.70	156.20	5,600.7	-301.7	472.1	560.3	0.69	-0.53	
5,729.0	1.00	343.10	5,695.7	-301.4	472.1	560.1	1.79	0.32	
5,824.0	0.70	2.40	5,790.7	-300.0	471.9	559.2	0.43	-0.32	

Cathedral Energy Services

Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Benzel Fee 25-7E (F25NWB Pad) Directiona
Project:	Mamm Creek	TVD Reference:	kbe @ 5860.0ft
Site:	F25NWB Pad	MD Reference:	kbe @ 5860.0ft
Well:	Benzel Fee 25-7E (F25NWB Pad) Directional	North Reference:	True
Wellbore:	Ben 4.6.2011	Survey Calculation Method:	Minimum Curvature
Design:	DD	Database:	USA EDM 5000 Multi Users DB

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Formations / Comments
5,918.0	0.80	23.90	5,884.6	-298.9	472.2	558.8	0.32	0.11	
6,013.0	0.90	307.80	5,979.6	-297.8	471.9	558.0	1.11	0.11	
6,108.0	0.30	335.00	6,074.6	-297.1	471.2	557.0	0.68	-0.63	
6,203.0	0.80	333.00	6,169.6	-296.3	470.8	556.2	0.53	0.53	
6,298.0	0.40	23.90	6,264.6	-295.4	470.6	555.6	0.66	-0.42	
6,392.0	0.30	333.60	6,358.6	-294.9	470.6	555.4	0.33	-0.11	
6,487.0	0.60	191.60	6,453.6	-295.2	470.4	555.3	0.90	0.32	
6,580.0	0.40	35.70	6,546.6	-295.4	470.5	555.5	1.05	-0.22	
6,674.0	0.70	108.50	6,640.6	-295.3	471.3	556.1	0.74	0.32	
6,769.0	0.80	208.70	6,735.6	-296.0	471.5	556.7	1.21	0.11	
6,864.0	0.70	275.80	6,830.6	-296.6	470.6	556.2	0.88	-0.11	
6,958.0	1.70	180.80	6,924.6	-297.9	470.0	556.5	2.01	1.06	
7,053.0	0.70	358.30	7,019.6	-298.7	470.0	556.9	2.53	-1.05	
7,147.0	0.30	38.20	7,113.6	-298.0	470.1	556.6	0.54	-0.43	
7,242.0	0.70	127.70	7,208.6	-298.1	470.7	557.2	0.80	0.42	
7,337.0	1.60	61.20	7,303.5	-297.8	472.3	558.4	1.55	0.95	
7,432.0	3.20	85.20	7,398.5	-297.0	476.1	561.1	1.95	1.68	
7,527.0	1.80	65.90	7,493.4	-296.2	480.1	564.0	1.70	-1.47	
7,621.0	0.50	201.50	7,587.4	-295.9	481.3	564.9	2.32	-1.38	
7,716.0	1.70	298.10	7,682.3	-295.7	480.0	563.6	1.92	1.26	
7,811.0	0.50	328.20	7,777.3	-294.6	478.5	561.8	1.36	-1.26	
7,905.0	0.70	85.90	7,871.3	-294.2	478.8	561.9	1.10	0.21	
8,000.0	0.30	68.30	7,966.3	-294.1	479.7	562.5	0.45	-0.42	
8,095.0	1.00	121.30	8,061.3	-294.5	480.6	563.5	0.90	0.74	
8,190.0	1.20	178.00	8,156.3	-295.9	481.3	564.9	1.12	0.21	
8,284.0	1.40	166.60	8,250.3	-298.0	481.6	566.3	0.35	0.21	
8,379.0	2.20	172.50	8,345.2	-300.9	482.1	568.3	0.86	0.84	
8,474.0	0.10	100.20	8,440.2	-302.7	482.5	569.5	2.29	-2.21	
8,569.0	0.50	87.90	8,535.2	-302.7	483.0	570.0	0.42	0.42	
8,663.0	1.50	112.00	8,629.2	-303.2	484.5	571.5	1.13	1.06	
8,758.0	2.50	111.60	8,724.1	-304.4	487.6	574.8	1.05	1.05	
8,790.0	2.60	113.80	8,756.1	-305.0	488.9	576.2	0.44	0.31	Last Cathedral Survey @ 8,790' MD Projection to Bit @ 8,850'
8,850.0	2.60	113.80	8,816.0	-306.1	491.4	578.8	0.00	0.00	

Cathedral Energy Services

Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Benzel Fee 25-7E (F25NWB Pad) Directiona
Project:	Mamm Creek	TVD Reference:	kbe @ 5860.0ft
Site:	F25NWB Pad	MD Reference:	kbe @ 5860.0ft
Well:	Benzel Fee 25-7E (F25NWB Pad) Directional	North Reference:	True
Wellbore:	Ben 4.6.2011	Survey Calculation Method:	Minimum Curvature
Design:	DD	Database:	USA EDM 5000 Multi Users DB

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)		
Benzel Fee 25-7E (F25NWB Pad)	0.00	0.00	5,309.0	-310.3	481.4	1,614,577.53	2,372,512.22	39.499697	-107.723909
- actual wellpath misses target center by 16.7ft at 5342.7ft MD (5309.4 TVD, -299.2 N, 469.0 E)									
- Circle (radius 25.0)									
Benzel Fee 25-7E (F25NWB Pad)	0.00	0.00	9,037.0	-310.3	481.4	1,614,577.53	2,372,512.22	39.499697	-107.723909
- actual wellpath misses target center by 221.2ft at 8850.0ft MD (8816.0 TVD, -306.1 N, 491.4 E)									
- Circle (radius 40.0)									

Design Annotations				
Measured Depth	Vertical Depth	Local Coordinates		Comment
(ft)	(ft)	+N/-S (ft)	+E/-W (ft)	
1,399.0	1,388.5	-80.4	123.7	Last Cathedral Survey @ 1,399' MD
8,790.0	8,756.1	-305.0	488.9	Last Cathedral Survey @ 8,790' MD
8,850.0	8,816.0	-306.1	491.4	Projection to Bit @ 8,850'

Checked By: _____ Approved By: _____ Date: _____