

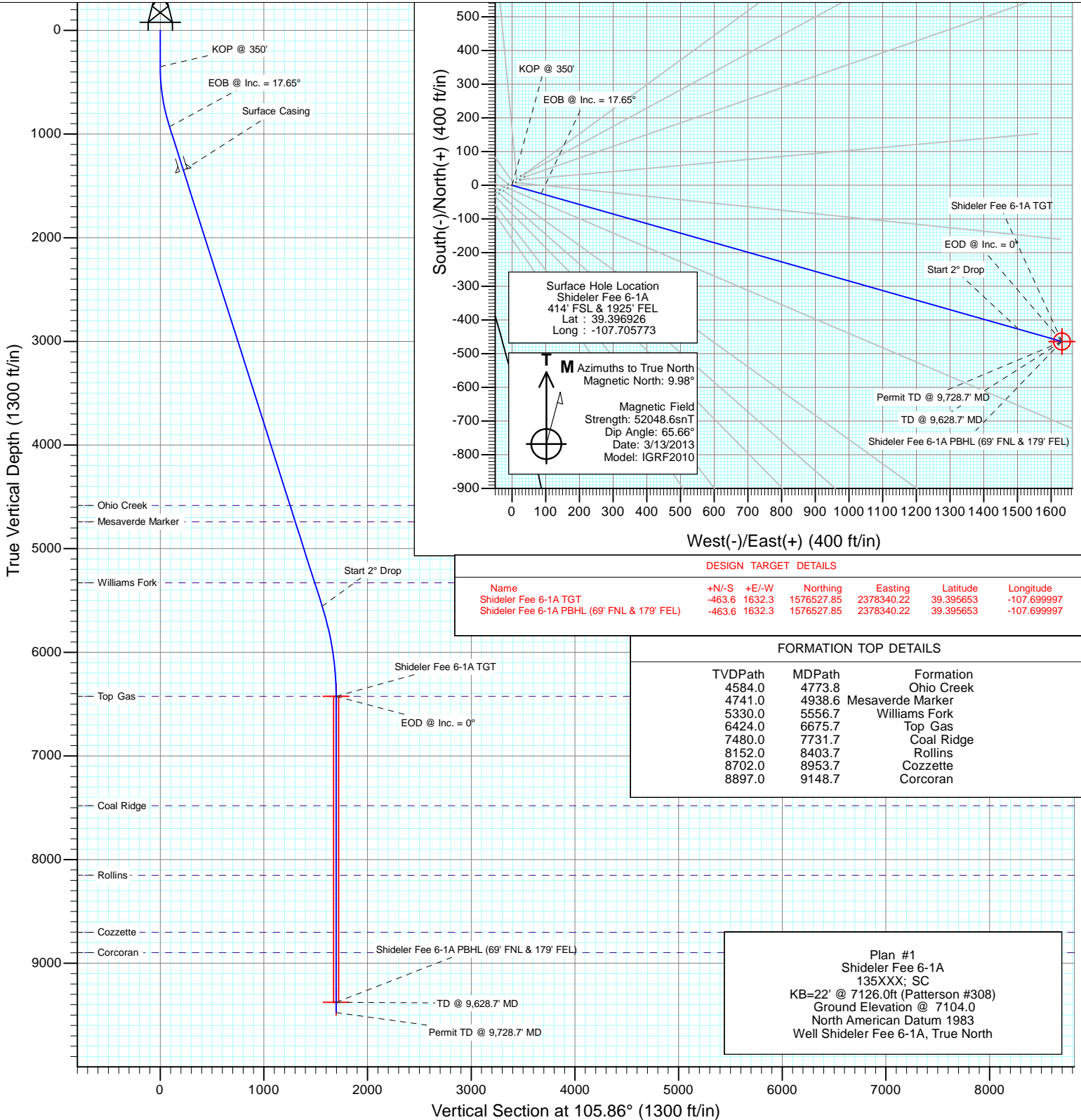


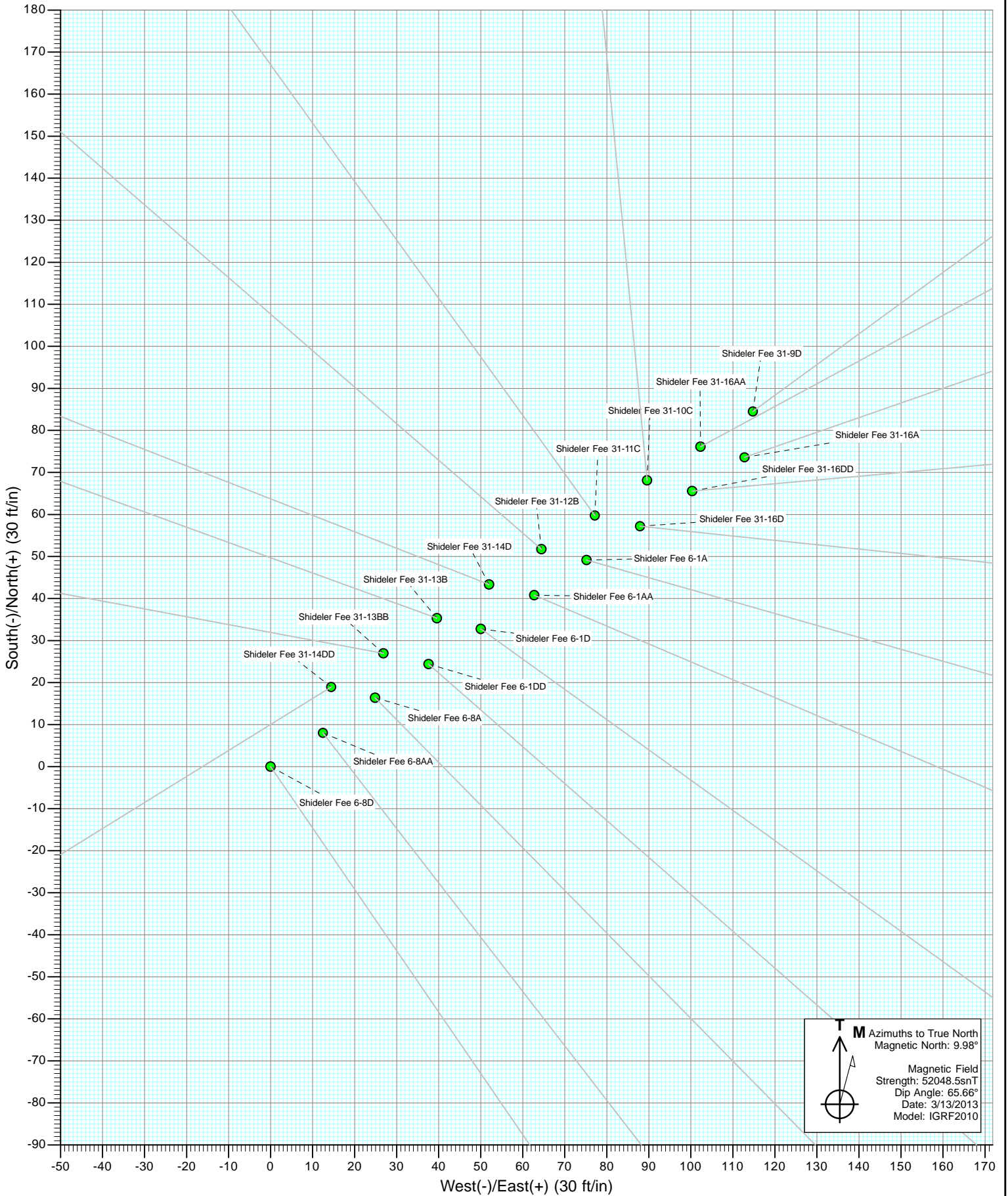
Project: Mamm Creek
 Site: O31E Pad (2nd Occupation)
 Well: Shideler Fee 6-1A
 Wellbore: OH
 Design: Plan #1

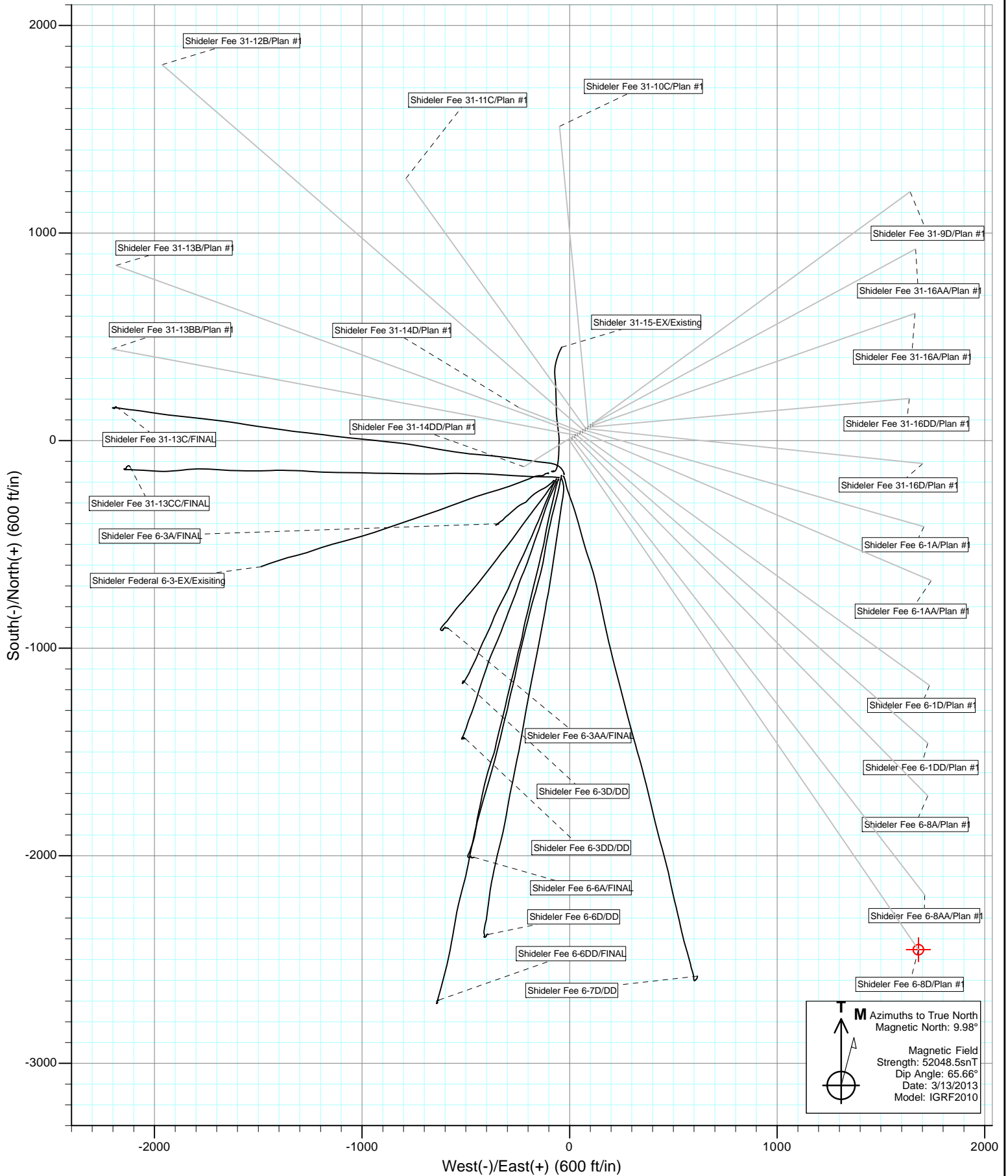


SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSec	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	350.0	0.00	0.00	350.0	0.0	0.0	0.00	0.00	0.0	
3	938.4	17.65	105.86	929.1	-24.6	86.5	3.00	105.86	89.9	
4	5793.2	17.65	105.86	5555.3	-426.8	1502.6	0.00	0.00	1562.0	
5	6675.7	0.00	0.00	6424.0	-463.6	1632.3	2.00	180.00	1696.9	Shideler Fee 6-1A TGT
6	9628.7	0.00	0.00	9377.0	-463.6	1632.3	0.00	0.00	1696.9	Shideler Fee 6-1A PBHL (69' FNL & 179' FEL)
7	9728.7	0.00	0.00	9477.0	-463.6	1632.3	0.00	0.00	1696.9	

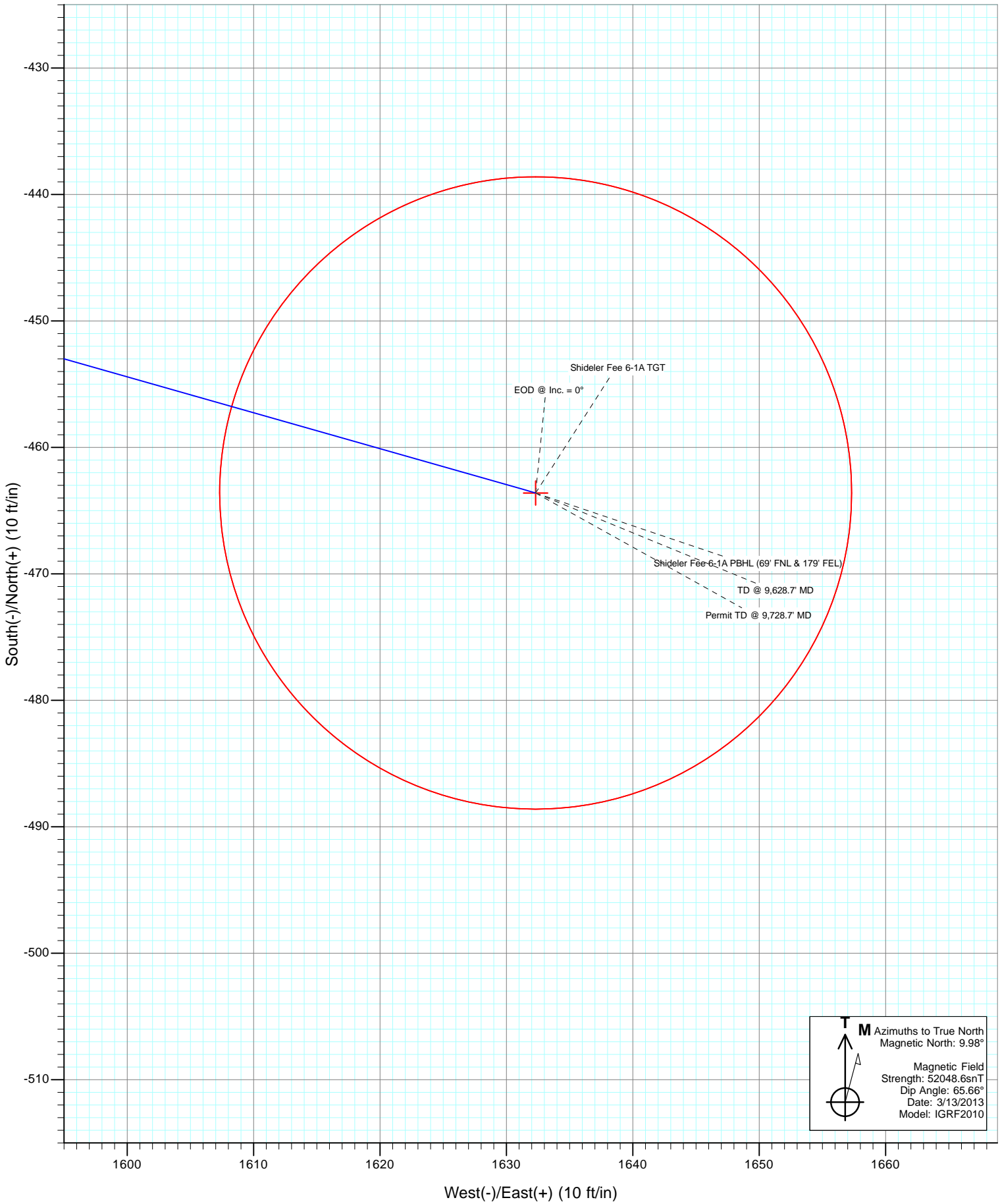








Project: Mamm Creek
Site: O31E Pad (2nd Occupation)
Well: Shideler Fee 6-1A
Wellbore: OH
Design: Plan #1



Cathedral Energy Services

Planning Report

Database: USA EDM 5000 Multi Users DB	Local Co-ordinate Reference: Well Shideler Fee 6-1A
Company: EnCana Oil & Gas (USA) Inc	TVD Reference: KB=22' @ 7126.0ft (Patterson #308)
Project: Mamm Creek	MD Reference: KB=22' @ 7126.0ft (Patterson #308)
Site: O31E Pad (2nd Occupation)	North Reference: True
Well: Shideler Fee 6-1A	Survey Calculation Method: Minimum Curvature
Wellbore: OH	
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 O31E Pad (2nd Occupation)					
Site Position:		Northing:	1,577,065.31 ft	Latitude:	39.397023
From:	Lat/Long	Easting:	2,376,760.05 ft	Longitude:	-107.705633
Position Uncertainty:	0.0 ft	Slot Radius:	13.200 in	Grid Convergence:	-1.39 °

Well Shideler Fee 6-1A						
Well Position	+N/-S	0.0 ft	Northing:	1,577,030.94 ft	Latitude:	39.396926
	+E/-W	0.0 ft	Easting:	2,376,719.64 ft	Longitude:	-107.705773
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	7,104.0 ft

Wellbore OH					
Magnetics	Model Name	Sample Date	Declination	Dip Angle	Field Strength
	IGRF2010	3/13/2013	(°)	(°)	(nT)
			9.98	65.66	52,049

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	105.86	

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	
350.0	0.00	0.00	350.0	0.0	0.0	0.00	0.00	0.00	0.00	
938.4	17.65	105.86	929.1	-24.6	86.5	3.00	3.00	0.00	105.86	
5,793.2	17.65	105.86	5,555.3	-426.8	1,502.6	0.00	0.00	0.00	0.00	
6,675.7	0.00	0.00	6,424.0	-463.6	1,632.3	2.00	-2.00	0.00	180.00	Shideler Fee 6-1A TG
9,628.7	0.00	0.00	9,377.0	-463.6	1,632.3	0.00	0.00	0.00	0.00	Shideler Fee 6-1A PB
9,728.7	0.00	0.00	9,477.0	-463.6	1,632.3	0.00	0.00	0.00	0.00	

Cathedral Energy Services

Planning Report

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Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	KB=22' @ 7126.0ft (Patterson #308)
Project:	Mamm Creek	MD Reference:	KB=22' @ 7126.0ft (Patterson #308)
Site:	O31E Pad (2nd Occupation)	North Reference:	True
Well:	Shideler Fee 6-1A	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
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	
350.0	0.00	0.00	350.0	0.0	0.0	0.0	0.00	0.00	KOP @ 350'
400.0	1.50	105.86	400.0	-0.2	0.6	0.7	3.00	3.00	
500.0	4.50	105.86	499.8	-1.6	5.7	5.9	3.00	3.00	
600.0	7.50	105.86	599.3	-4.5	15.7	16.3	3.00	3.00	
700.0	10.50	105.86	698.0	-8.7	30.8	32.0	3.00	3.00	
800.0	13.50	105.86	795.8	-14.4	50.8	52.8	3.00	3.00	
900.0	16.50	105.86	892.4	-21.5	75.7	78.6	3.00	3.00	
938.4	17.65	105.86	929.1	-24.6	86.5	89.9	3.00	3.00	EOB @ Inc. = 17.65°
1,000.0	17.65	105.86	987.8	-29.7	104.5	108.6	0.00	0.00	
1,100.0	17.65	105.86	1,083.1	-38.0	133.6	138.9	0.00	0.00	
1,200.0	17.65	105.86	1,178.4	-46.2	162.8	169.2	0.00	0.00	
1,300.0	17.65	105.86	1,273.7	-54.5	192.0	199.6	0.00	0.00	
1,380.1	17.65	105.86	1,350.0	-61.2	215.3	223.8	0.00	0.00	Surface Casing
1,400.0	17.65	105.86	1,369.0	-62.8	221.1	229.9	0.00	0.00	
1,500.0	17.65	105.86	1,464.3	-71.1	250.3	260.2	0.00	0.00	
1,600.0	17.65	105.86	1,559.6	-79.4	279.5	290.5	0.00	0.00	
1,700.0	17.65	105.86	1,654.9	-87.7	308.7	320.9	0.00	0.00	
1,800.0	17.65	105.86	1,750.2	-95.9	337.8	351.2	0.00	0.00	
1,900.0	17.65	105.86	1,845.5	-104.2	367.0	381.5	0.00	0.00	
2,000.0	17.65	105.86	1,940.8	-112.5	396.2	411.8	0.00	0.00	
2,100.0	17.65	105.86	2,036.0	-120.8	425.3	442.1	0.00	0.00	
2,200.0	17.65	105.86	2,131.3	-129.1	454.5	472.5	0.00	0.00	
2,300.0	17.65	105.86	2,226.6	-137.4	483.7	502.8	0.00	0.00	
2,400.0	17.65	105.86	2,321.9	-145.7	512.8	533.1	0.00	0.00	
2,500.0	17.65	105.86	2,417.2	-153.9	542.0	563.4	0.00	0.00	
2,600.0	17.65	105.86	2,512.5	-162.2	571.2	593.8	0.00	0.00	
2,700.0	17.65	105.86	2,607.8	-170.5	600.3	624.1	0.00	0.00	
2,800.0	17.65	105.86	2,703.1	-178.8	629.5	654.4	0.00	0.00	
2,900.0	17.65	105.86	2,798.4	-187.1	658.7	684.7	0.00	0.00	
3,000.0	17.65	105.86	2,893.7	-195.4	687.8	715.0	0.00	0.00	
3,100.0	17.65	105.86	2,989.0	-203.6	717.0	745.4	0.00	0.00	
3,200.0	17.65	105.86	3,084.3	-211.9	746.2	775.7	0.00	0.00	
3,300.0	17.65	105.86	3,179.6	-220.2	775.4	806.0	0.00	0.00	
3,400.0	17.65	105.86	3,274.8	-228.5	804.5	836.3	0.00	0.00	
3,500.0	17.65	105.86	3,370.1	-236.8	833.7	866.7	0.00	0.00	
3,600.0	17.65	105.86	3,465.4	-245.1	862.9	897.0	0.00	0.00	
3,700.0	17.65	105.86	3,560.7	-253.3	892.0	927.3	0.00	0.00	
3,800.0	17.65	105.86	3,656.0	-261.6	921.2	957.6	0.00	0.00	
3,900.0	17.65	105.86	3,751.3	-269.9	950.4	987.9	0.00	0.00	
4,000.0	17.65	105.86	3,846.6	-278.2	979.5	1,018.3	0.00	0.00	
4,100.0	17.65	105.86	3,941.9	-286.5	1,008.7	1,048.6	0.00	0.00	
4,200.0	17.65	105.86	4,037.2	-294.8	1,037.9	1,078.9	0.00	0.00	
4,300.0	17.65	105.86	4,132.5	-303.1	1,067.0	1,109.2	0.00	0.00	
4,400.0	17.65	105.86	4,227.8	-311.3	1,096.2	1,139.6	0.00	0.00	
4,500.0	17.65	105.86	4,323.1	-319.6	1,125.4	1,169.9	0.00	0.00	
4,600.0	17.65	105.86	4,418.3	-327.9	1,154.5	1,200.2	0.00	0.00	
4,700.0	17.65	105.86	4,513.6	-336.2	1,183.7	1,230.5	0.00	0.00	
4,773.8	17.65	105.86	4,584.0	-342.3	1,205.3	1,252.9	0.00	0.00	Ohio Creek

Cathedral Energy Services

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well Shideler Fee 6-1A
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	KB=22' @ 7126.0ft (Patterson #308)
Project:	Mamm Creek	MD Reference:	KB=22' @ 7126.0ft (Patterson #308)
Site:	O31E Pad (2nd Occupation)	North Reference:	True
Well:	Shideler Fee 6-1A	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
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
4,800.0	17.65	105.86	4,608.9	-344.5	1,212.9	1,260.9	0.00	0.00	
4,900.0	17.65	105.86	4,704.2	-352.8	1,242.1	1,291.2	0.00	0.00	
4,938.6	17.65	105.86	4,741.0	-356.0	1,253.3	1,302.9	0.00	0.00	Mesaverde Marker
5,000.0	17.65	105.86	4,799.5	-361.0	1,271.2	1,321.5	0.00	0.00	
5,100.0	17.65	105.86	4,894.8	-369.3	1,300.4	1,351.8	0.00	0.00	
5,200.0	17.65	105.86	4,990.1	-377.6	1,329.6	1,382.1	0.00	0.00	
5,300.0	17.65	105.86	5,085.4	-385.9	1,358.7	1,412.5	0.00	0.00	
5,400.0	17.65	105.86	5,180.7	-394.2	1,387.9	1,442.8	0.00	0.00	
5,500.0	17.65	105.86	5,276.0	-402.5	1,417.1	1,473.1	0.00	0.00	
5,556.7	17.65	105.86	5,330.0	-407.2	1,433.6	1,490.3	0.00	0.00	Williams Fork
5,600.0	17.65	105.86	5,371.3	-410.7	1,446.2	1,503.4	0.00	0.00	
5,700.0	17.65	105.86	5,466.6	-419.0	1,475.4	1,533.8	0.00	0.00	
5,793.2	17.65	105.86	5,555.3	-426.8	1,502.6	1,562.0	0.00	0.00	Start 2° Drop
5,800.0	17.51	105.86	5,561.9	-427.3	1,504.6	1,564.1	2.00	-2.00	
5,900.0	15.51	105.86	5,657.7	-435.1	1,531.9	1,592.5	2.00	-2.00	
6,000.0	13.51	105.86	5,754.5	-441.9	1,556.0	1,617.6	2.00	-2.00	
6,100.0	11.51	105.86	5,852.1	-447.8	1,576.9	1,639.2	2.00	-2.00	
6,200.0	9.51	105.86	5,950.5	-452.8	1,594.4	1,657.5	2.00	-2.00	
6,300.0	7.51	105.86	6,049.4	-456.9	1,608.6	1,672.3	2.00	-2.00	
6,400.0	5.51	105.86	6,148.7	-460.0	1,619.6	1,683.6	2.00	-2.00	
6,500.0	3.51	105.86	6,248.4	-462.1	1,627.1	1,691.5	2.00	-2.00	
6,600.0	1.51	105.86	6,348.3	-463.3	1,631.4	1,695.9	2.00	-2.00	
6,675.7	0.00	0.00	6,424.0	-463.6	1,632.3	1,696.9	2.00	-2.00	EOD @ Inc. = 0° - Top Gas
6,700.0	0.00	0.00	6,448.3	-463.6	1,632.3	1,696.9	0.00	0.00	
6,800.0	0.00	0.00	6,548.3	-463.6	1,632.3	1,696.9	0.00	0.00	
6,900.0	0.00	0.00	6,648.3	-463.6	1,632.3	1,696.9	0.00	0.00	
7,000.0	0.00	0.00	6,748.3	-463.6	1,632.3	1,696.9	0.00	0.00	
7,100.0	0.00	0.00	6,848.3	-463.6	1,632.3	1,696.9	0.00	0.00	
7,200.0	0.00	0.00	6,948.3	-463.6	1,632.3	1,696.9	0.00	0.00	
7,300.0	0.00	0.00	7,048.3	-463.6	1,632.3	1,696.9	0.00	0.00	
7,400.0	0.00	0.00	7,148.3	-463.6	1,632.3	1,696.9	0.00	0.00	
7,500.0	0.00	0.00	7,248.3	-463.6	1,632.3	1,696.9	0.00	0.00	
7,600.0	0.00	0.00	7,348.3	-463.6	1,632.3	1,696.9	0.00	0.00	
7,700.0	0.00	0.00	7,448.3	-463.6	1,632.3	1,696.9	0.00	0.00	
7,731.7	0.00	0.00	7,480.0	-463.6	1,632.3	1,696.9	0.00	0.00	Coal Ridge
7,800.0	0.00	0.00	7,548.3	-463.6	1,632.3	1,696.9	0.00	0.00	
7,900.0	0.00	0.00	7,648.3	-463.6	1,632.3	1,696.9	0.00	0.00	
8,000.0	0.00	0.00	7,748.3	-463.6	1,632.3	1,696.9	0.00	0.00	
8,100.0	0.00	0.00	7,848.3	-463.6	1,632.3	1,696.9	0.00	0.00	
8,200.0	0.00	0.00	7,948.3	-463.6	1,632.3	1,696.9	0.00	0.00	
8,300.0	0.00	0.00	8,048.3	-463.6	1,632.3	1,696.9	0.00	0.00	
8,400.0	0.00	0.00	8,148.3	-463.6	1,632.3	1,696.9	0.00	0.00	
8,403.7	0.00	0.00	8,152.0	-463.6	1,632.3	1,696.9	0.00	0.00	Rollins
8,500.0	0.00	0.00	8,248.3	-463.6	1,632.3	1,696.9	0.00	0.00	
8,600.0	0.00	0.00	8,348.3	-463.6	1,632.3	1,696.9	0.00	0.00	
8,700.0	0.00	0.00	8,448.3	-463.6	1,632.3	1,696.9	0.00	0.00	
8,800.0	0.00	0.00	8,548.3	-463.6	1,632.3	1,696.9	0.00	0.00	
8,900.0	0.00	0.00	8,648.3	-463.6	1,632.3	1,696.9	0.00	0.00	
8,953.7	0.00	0.00	8,702.0	-463.6	1,632.3	1,696.9	0.00	0.00	Cozzette
9,000.0	0.00	0.00	8,748.3	-463.6	1,632.3	1,696.9	0.00	0.00	
9,100.0	0.00	0.00	8,848.3	-463.6	1,632.3	1,696.9	0.00	0.00	
9,148.7	0.00	0.00	8,897.0	-463.6	1,632.3	1,696.9	0.00	0.00	Corcoran

Cathedral Energy Services

Planning Report

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Company: EnCana Oil & Gas (USA) Inc	TVD Reference: KB=22' @ 7126.0ft (Patterson #308)
Project: Mamm Creek	MD Reference: KB=22' @ 7126.0ft (Patterson #308)
Site: O31E Pad (2nd Occupation)	North Reference: True
Well: Shideler Fee 6-1A	Survey Calculation Method: Minimum Curvature
Wellbore: OH	
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
9,200.0	0.00	0.00	8,948.3	-463.6	1,632.3	1,696.9	0.00	0.00	
9,300.0	0.00	0.00	9,048.3	-463.6	1,632.3	1,696.9	0.00	0.00	
9,400.0	0.00	0.00	9,148.3	-463.6	1,632.3	1,696.9	0.00	0.00	
9,500.0	0.00	0.00	9,248.3	-463.6	1,632.3	1,696.9	0.00	0.00	
9,600.0	0.00	0.00	9,348.3	-463.6	1,632.3	1,696.9	0.00	0.00	
9,628.7	0.00	0.00	9,377.0	-463.6	1,632.3	1,696.9	0.00	0.00	TD @ 9,628.7' MD
9,700.0	0.00	0.00	9,448.3	-463.6	1,632.3	1,696.9	0.00	0.00	
9,728.7	0.00	0.00	9,477.0	-463.6	1,632.3	1,696.9	0.00	0.00	Permit TD @ 9,728.7' MD

Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
Shideler Fee 6-1A TGT - hit/miss target - Shape - plan hits target center - Point	0.00	0.00	6,424.0	-463.6	1,632.3	1,576,527.85	2,378,340.22	39.395653	-107.699997
Shideler Fee 6-1A PBHL - plan hits target center - Circle (radius 25.0)	0.00	0.00	9,377.0	-463.6	1,632.3	1,576,527.85	2,378,340.22	39.395653	-107.699997

Casing Points				
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)
1,380.1	1,350.0	Surface Casing		

Formations					
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
4,773.8	4,584.0	Ohio Creek			
4,938.6	4,741.0	Mesaverde Marker			
5,556.7	5,330.0	Williams Fork			
6,675.7	6,424.0	Top Gas			
7,731.7	7,480.0	Coal Ridge			
8,403.7	8,152.0	Rollins			
8,953.7	8,702.0	Cozzette			
9,148.7	8,897.0	Corcoran			

Cathedral Energy Services

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well Shideler Fee 6-1A
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	KB=22' @ 7126.0ft (Patterson #308)
Project:	Mamm Creek	MD Reference:	KB=22' @ 7126.0ft (Patterson #308)
Site:	O31E Pad (2nd Occupation)	North Reference:	True
Well:	Shideler Fee 6-1A	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

Plan Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
350.0	350.0	0.0	0.0	KOP @ 350'
938.4	929.1	-24.6	86.5	EOB @ Inc. = 17.65°
5,793.2	5,555.3	-426.8	1,502.6	Start 2° Drop
6,675.7	6,424.0	-463.6	1,632.3	EOD @ Inc. = 0°
9,628.7	9,377.0	-463.6	1,632.3	TD @ 9,628.7' MD
9,728.7	9,477.0	-463.6	1,632.3	Permit TD @ 9,728.7' MD

EnCana Oil & Gas (USA) Inc

Mamm Creek

O31E Pad (2nd Occupation)

Shideler Fee 6-1A

OH

Plan #1

Anticollision Report

21 March, 2013

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Shideler Fee 6-1A
Project:	Mamm Creek	TVD Reference:	KB=22' @ 7126.0ft (Patterson #308)
Reference Site:	O31E Pad (2nd Occupation)	MD Reference:	KB=22' @ 7126.0ft (Patterson #308)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Shideler Fee 6-1A	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Reference	Plan #1		
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	MD Interval 100.0ft	Error Model:	Systematic Ellipse
Depth Range:	Unlimited	Scan Method:	Closest Approach 3D
Results Limited by:	Maximum center-center distance of 500.0ft	Error Surface:	Elliptical Conic
Warning Levels Evaluated at:	2.00 Sigma		

Survey Tool Program		Date	3/14/2013		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
0.0	9,728.7	Plan #1 (OH)	MWD	Geolink MWD	

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Shideler Fee 6-1A
Project:	Mamm Creek	TVD Reference:	KB=22' @ 7126.0ft (Patterson #308)
Reference Site:	O31E Pad (2nd Occupation)	MD Reference:	KB=22' @ 7126.0ft (Patterson #308)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Shideler Fee 6-1A	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Summary

Site Name	Reference	Offset	Distance		Separation Factor	Warning
	Measured Depth (ft)	Measured Depth (ft)	Between Centres (ft)	Between Ellipses (ft)		
Offset Well - Wellbore - Design						
O31E Pad						
Shideler 31-15-EX - Existing - Existing	400.0	379.6	254.0	253.0	255.514	CC, ES
Shideler 31-15-EX - Existing - Existing	1,600.0	1,544.7	444.2	438.9	82.383	SF
Shideler Federal 6-3-EX - Existing - Existing	287.5	265.5	271.7	271.0	390.797	CC
Shideler Federal 6-3-EX - Existing - Existing	300.0	277.7	271.7	271.0	373.413	ES
Shideler Federal 6-3-EX - Existing - Existing	1,500.0	1,431.2	472.7	467.6	92.652	SF
Shideler Fee 31-13C - OH - FINAL	607.8	621.5	223.3	221.1	99.864	CC, ES
Shideler Fee 31-13C - OH - FINAL	900.0	860.2	267.6	263.7	68.791	SF
Shideler Fee 31-13CC - OH - FINAL	0.0	3.0	259.9			
Shideler Fee 31-13CC - OH - FINAL	100.0	102.2	260.0	259.7	931.009	ES
Shideler Fee 31-13CC - OH - FINAL	1,000.0	899.5	401.4	397.1	92.274	SF
Shideler Fee 6-3A - DD - FINAL	0.0	3.0	285.4			
Shideler Fee 6-3A - DD - FINAL	100.0	102.1	285.5	285.3	1,023.154	ES
Shideler Fee 6-3A - DD - FINAL	1,400.0	1,354.7	474.7	468.5	76.465	SF
Shideler Fee 6-3AA - DD - FINAL	0.0	0.0	295.6			
Shideler Fee 6-3AA - DD - FINAL	1,100.0	1,024.3	479.2	474.4	100.364	SF
Shideler Fee 6-3D - DD - DD	0.0	3.0	272.7			
Shideler Fee 6-3D - DD - DD	200.0	201.9	273.2	272.5	437.194	ES
Shideler Fee 6-3D - DD - DD	1,200.0	1,111.7	470.1	464.6	85.025	SF
Shideler Fee 6-3DD - DD - DD	0.0	3.0	282.9			
Shideler Fee 6-3DD - DD - DD	100.0	102.2	283.0	282.7	1,013.438	ES
Shideler Fee 6-3DD - DD - DD	1,200.0	1,095.7	499.8	494.2	88.427	SF
Shideler Fee 6-6A - DD - FINAL	330.2	333.6	269.6	268.5	249.065	CC, ES
Shideler Fee 6-6A - DD - FINAL	1,300.0	1,162.9	479.8	473.5	76.150	SF
Shideler Fee 6-6D - DD - DD	133.8	137.0	256.2	255.9	647.338	CC, ES
Shideler Fee 6-6D - DD - DD	1,200.0	1,057.3	481.6	475.5	78.320	SF
Shideler Fee 6-6DD - DD - FINAL	153.2	156.2	246.2	245.7	531.199	CC
Shideler Fee 6-6DD - DD - FINAL	200.0	200.6	246.3	245.7	395.709	ES
Shideler Fee 6-6DD - DD - FINAL	1,100.0	955.7	455.3	450.2	89.729	SF
Shideler Fee 6-7D - DD - DD	140.3	140.3	244.2	243.8	583.784	CC, ES
Shideler Fee 6-7D - DD - DD	1,300.0	1,155.2	484.3	476.3	61.175	SF

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Shideler Fee 6-1A
Project:	Mamm Creek	TVD Reference:	KB=22' @ 7126.0ft (Patterson #308)
Reference Site:	O31E Pad (2nd Occupation)	MD Reference:	KB=22' @ 7126.0ft (Patterson #308)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Shideler Fee 6-1A	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Summary

Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
O31E Pad (2nd Occupation)						
Shideler Fee 31-10C - OH - Plan #1	200.0	200.0	23.8	23.2	38.305	CC, ES
Shideler Fee 31-10C - OH - Plan #1	400.0	397.9	30.0	28.7	22.630	SF
Shideler Fee 31-11C - OH - Plan #1	234.7	234.7	10.8	10.0	14.483	CC, ES
Shideler Fee 31-11C - OH - Plan #1	300.0	299.8	11.2	10.2	11.552	SF
Shideler Fee 31-12B - OH - Plan #1	200.0	200.0	11.0	10.4	17.765	CC, ES
Shideler Fee 31-12B - OH - Plan #1	300.0	299.4	13.4	12.4	13.749	SF
Shideler Fee 31-13B - OH - Plan #1	200.0	200.0	38.2	37.6	61.482	CC, ES
Shideler Fee 31-13B - OH - Plan #1	400.0	396.3	47.0	45.7	35.386	SF
Shideler Fee 31-13BB - OH - Plan #1	300.0	300.0	53.2	52.2	54.808	CC
Shideler Fee 31-13BB - OH - Plan #1	300.0	300.0	53.2	52.2	54.806	ES
Shideler Fee 31-13BB - OH - Plan #1	500.0	495.0	64.6	62.9	38.712	SF
Shideler Fee 31-14D - OH - Plan #1	300.0	300.0	23.9	22.9	24.622	CC
Shideler Fee 31-14D - OH - Plan #1	328.0	328.0	24.0	22.9	22.450	ES
Shideler Fee 31-14D - OH - Plan #1	500.0	499.8	29.1	27.5	17.468	SF
Shideler Fee 31-14DD - OH - Plan #1	300.0	300.0	67.9	66.9	69.932	CC, ES
Shideler Fee 31-14DD - OH - Plan #1	600.0	595.5	91.8	89.8	45.222	SF
Shideler Fee 31-16A - OH - Plan #1	490.5	488.5	43.6	41.9	26.572	CC
Shideler Fee 31-16A - OH - Plan #1	500.0	497.8	43.6	41.9	26.038	ES
Shideler Fee 31-16A - OH - Plan #1	3,300.0	3,245.8	497.3	467.6	16.743	SF
Shideler Fee 31-16AA - OH - Plan #1	300.0	300.0	38.2	37.3	39.412	CC, ES
Shideler Fee 31-16AA - OH - Plan #1	2,600.0	2,531.8	486.8	464.7	21.952	SF
Shideler Fee 31-16D - OH - Plan #1	300.0	300.0	15.0	14.1	15.492	CC, ES
Shideler Fee 31-16D - OH - Plan #1	8,630.0	8,607.0	303.8	238.1	4.621	SF
Shideler Fee 31-16DD - OH - Plan #1	300.0	300.0	30.0	29.1	30.939	CC, ES
Shideler Fee 31-16DD - OH - Plan #1	2,600.0	2,579.3	227.5	204.9	10.089	SF
Shideler Fee 31-9D - OH - Plan #1	200.0	200.0	53.0	52.4	85.378	CC, ES
Shideler Fee 31-9D - OH - Plan #1	2,200.0	2,112.9	488.0	470.5	27.817	SF
Shideler Fee 6-1AA - OH - Plan #1	456.4	456.9	14.5	13.0	9.462	CC
Shideler Fee 6-1AA - OH - Plan #1	500.0	500.6	14.6	12.9	8.567	ES
Shideler Fee 6-1AA - OH - Plan #1	8,641.1	8,680.2	262.4	198.2	4.089	SF
Shideler Fee 6-1D - OH - Plan #1	400.0	400.5	29.6	28.2	22.288	CC, ES
Shideler Fee 6-1D - OH - Plan #1	1,200.0	1,196.2	91.2	83.1	11.320	SF
Shideler Fee 6-1DD - OH - Plan #1	400.0	400.6	44.5	43.2	33.412	CC, ES
Shideler Fee 6-1DD - OH - Plan #1	1,400.0	1,387.9	160.8	150.4	15.478	SF
Shideler Fee 6-8A - OH - Plan #1	400.0	400.7	59.5	58.2	44.422	CC, ES
Shideler Fee 6-8A - OH - Plan #1	1,400.0	1,379.6	200.7	190.2	19.133	SF
Shideler Fee 6-8AA - OH - Plan #1	300.0	300.2	74.9	74.0	77.177	CC
Shideler Fee 6-8AA - OH - Plan #1	341.7	341.9	75.0	73.8	66.330	ES
Shideler Fee 6-8AA - OH - Plan #1	1,200.0	1,169.6	201.2	193.0	24.548	SF
Shideler Fee 6-8D - OH - Plan #1	285.5	285.5	89.8	88.9	97.529	CC
Shideler Fee 6-8D - OH - Plan #1	300.0	300.0	89.8	88.8	92.476	ES
Shideler Fee 6-8D - OH - Plan #1	1,300.0	1,250.5	262.4	253.0	28.071	SF

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Shideler Fee 6-1A
Project:	Mamm Creek	TVD Reference:	KB=22' @ 7126.0ft (Patterson #308)
Reference Site:	O31E Pad (2nd Occupation)	MD Reference:	KB=22' @ 7126.0ft (Patterson #308)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Shideler Fee 6-1A	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft	
Survey Program: 100-Gyro													Offset Well Error:		0.0 ft
Reference															
Offset				Semi Major Axis			Distance								
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning		
0.0	0.0	0.0	0.0	0.0	0.0	-140.89	-197.7	-160.7	255.7						
100.0	100.0	78.4	78.4	0.1	0.1	-140.94	-197.8	-160.5	254.7	254.5	0.20	1,245.201			
200.0	200.0	178.8	178.8	0.3	0.2	-141.10	-198.1	-159.8	254.5	254.0	0.47	545.274			
300.0	300.0	278.9	278.9	0.5	0.2	-141.32	-198.4	-158.8	254.1	253.4	0.73	348.820			
377.4	377.4	356.8	356.8	0.6	0.3	112.70	-199.0	-157.6	254.1	253.2	0.93	272.050			
400.0	400.0	379.6	379.5	0.7	0.3	112.57	-199.1	-157.2	254.0	253.0	0.99	255.514	CC, ES		
500.0	499.8	480.9	480.8	0.8	0.4	113.20	-199.7	-155.1	255.1	253.9	1.27	200.856			
600.0	599.3	583.1	583.0	1.1	0.5	115.15	-198.8	-153.5	257.7	256.2	1.58	163.168			
700.0	698.0	681.2	681.1	1.4	0.6	118.24	-196.6	-152.7	262.6	260.7	1.93	135.797			
800.0	795.8	774.9	774.8	1.8	0.7	121.94	-194.7	-152.9	272.0	269.7	2.34	116.405			
900.0	892.4	870.1	870.0	2.2	0.8	125.95	-194.3	-153.4	286.9	284.1	2.79	102.999			
1,000.0	987.8	965.8	965.7	2.8	0.8	130.13	-194.7	-153.2	306.0	302.8	3.23	94.642			
1,100.0	1,083.1	1,061.7	1,061.6	3.3	0.9	133.93	-195.7	-152.6	326.8	323.2	3.65	89.426			
1,200.0	1,178.4	1,157.2	1,157.1	3.9	1.0	137.25	-196.6	-151.9	348.8	344.7	4.05	86.136			
1,300.0	1,273.7	1,252.9	1,252.8	4.4	1.1	140.30	-197.0	-151.5	371.9	367.5	4.42	84.225			
1,400.0	1,369.0	1,349.4	1,349.3	5.0	1.2	142.99	-197.5	-150.9	395.7	390.9	4.76	83.122			
1,500.0	1,464.3	1,446.8	1,446.6	5.6	1.3	145.40	-197.8	-150.0	419.9	414.8	5.09	82.569			
1,600.0	1,559.6	1,544.7	1,544.5	6.1	1.4	147.60	-197.8	-148.6	444.2	438.9	5.39	82.383	SF		
1,700.0	1,654.9	1,643.8	1,643.6	6.7	1.4	149.67	-197.0	-147.0	468.7	463.0	5.68	82.506			
1,800.0	1,750.2	1,749.0	1,748.8	7.3	1.5	151.80	-194.5	-144.2	492.4	486.5	5.94	82.860			

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Shideler Fee 6-1A
Project:	Mamm Creek	TVD Reference:	KB=22' @ 7126.0ft (Patterson #308)
Reference Site:	O31E Pad (2nd Occupation)	MD Reference:	KB=22' @ 7126.0ft (Patterson #308)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Shideler Fee 6-1A	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft	
Survey Program: 100-Gyro													Offset Well Error:		0.0 ft
Reference															
Offset				Semi Major Axis			Distance								
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning		
0.0	0.0	0.0	0.0	0.0	0.0	-139.29	-206.8	-178.0	273.7						
100.0	100.0	79.3	79.3	0.1	0.1	-139.31	-206.7	-177.8	272.7	272.5	0.21	1,326.750			
200.0	200.0	179.7	179.7	0.3	0.2	-139.35	-206.4	-177.2	272.1	271.6	0.47	581.636			
287.5	287.5	265.5	265.5	0.5	0.2	-139.35	-206.2	-177.0	271.7	271.0	0.70	390.797 CC			
300.0	300.0	277.7	277.7	0.5	0.2	-139.35	-206.1	-177.0	271.7	271.0	0.73	373.413 ES			
400.0	400.0	376.8	376.8	0.7	0.3	115.00	-206.1	-177.6	272.3	271.4	0.99	275.397			
500.0	499.8	476.1	476.1	0.8	0.4	116.04	-206.1	-178.4	275.1	273.9	1.26	217.993			
600.0	599.3	574.8	574.8	1.1	0.5	117.96	-206.1	-179.5	280.6	279.1	1.57	179.051			
700.0	698.0	672.1	672.0	1.4	0.6	120.56	-206.3	-180.8	289.5	287.6	1.92	150.844			
800.0	795.8	767.6	767.5	1.8	0.7	123.70	-206.6	-182.7	302.4	300.1	2.32	130.336			
900.0	892.4	861.9	861.8	2.2	0.8	127.17	-207.2	-185.1	320.2	317.5	2.77	115.762			
1,000.0	987.8	955.2	955.1	2.8	0.8	131.00	-207.8	-188.0	342.6	339.4	3.21	106.691			
1,100.0	1,083.1	1,049.4	1,049.2	3.3	0.9	134.62	-208.7	-191.0	367.0	363.4	3.63	101.117			
1,200.0	1,178.4	1,144.7	1,144.5	3.9	1.0	137.75	-209.9	-193.8	392.5	388.5	4.02	97.523			
1,300.0	1,273.7	1,240.6	1,240.3	4.4	1.1	140.45	-211.6	-196.1	418.8	414.4	4.40	95.163			
1,400.0	1,369.0	1,336.7	1,336.4	5.0	1.2	142.80	-213.5	-197.9	445.5	440.7	4.76	93.593			
1,500.0	1,464.3	1,431.2	1,430.8	5.6	1.3	144.87	-215.1	-199.7	472.7	467.6	5.10	92.652 SF			

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Shideler Fee 6-1A
Project:	Mamm Creek	TVD Reference:	KB=22' @ 7126.0ft (Patterson #308)
Reference Site:	O31E Pad (2nd Occupation)	MD Reference:	KB=22' @ 7126.0ft (Patterson #308)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Shideler Fee 6-1A	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft	
Survey Program: 111-MWD													Offset Well Error:		0.0 ft
Reference		Offset		Semi Major Axis			Distance				Total Uncertainty Axis	Separation Factor	Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)					
0.0	0.0	3.0	3.0	0.0	0.0	-154.27	-210.5	-101.5	233.7						
100.0	100.0	102.3	102.3	0.1	0.1	-154.28	-210.7	-101.5	233.9	233.6	0.28	837.088			
200.0	200.0	203.2	203.2	0.3	0.3	-154.29	-210.9	-101.5	234.1	233.4	0.63	373.343			
300.0	300.0	306.0	306.0	0.5	0.5	-154.21	-210.2	-101.6	233.5	232.6	0.98	238.058			
400.0	400.0	413.9	413.8	0.7	0.7	100.84	-206.0	-102.6	230.5	229.2	1.35	171.129			
500.0	499.8	517.3	516.8	0.8	0.9	104.08	-197.5	-106.1	226.0	224.2	1.74	130.021			
600.0	599.3	614.1	612.9	1.1	1.1	109.27	-187.4	-112.1	223.4	221.2	2.20	101.753			
607.8	607.0	621.5	620.2	1.1	1.2	109.74	-186.5	-112.6	223.3	221.1	2.24	99.864	CC, ES		
700.0	698.0	703.4	701.2	1.4	1.4	115.75	-177.1	-120.7	226.5	223.8	2.73	82.838			
800.0	795.8	784.2	780.5	1.8	1.7	122.54	-168.6	-133.0	240.5	237.2	3.31	72.561			
900.0	892.4	860.2	854.7	2.2	1.9	128.75	-162.5	-148.1	267.6	263.7	3.89	68.791	SF		
1,000.0	987.8	937.0	929.3	2.8	2.3	134.73	-158.3	-166.0	305.8	301.4	4.41	69.376			
1,100.0	1,083.1	1,008.7	998.5	3.3	2.6	139.52	-155.7	-184.8	350.6	345.8	4.85	72.242			
1,200.0	1,178.4	1,081.1	1,067.7	3.9	3.0	143.50	-153.5	-205.8	400.3	395.1	5.26	76.153			
1,300.0	1,273.7	1,149.4	1,132.4	4.4	3.4	146.70	-150.9	-227.4	453.9	448.3	5.63	80.682			

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Shideler Fee 6-1A
Project:	Mamm Creek	TVD Reference:	KB=22' @ 7126.0ft (Patterson #308)
Reference Site:	O31E Pad (2nd Occupation)	MD Reference:	KB=22' @ 7126.0ft (Patterson #308)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Shideler Fee 6-1A	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft	
Survey Program: 111-MWD, 1242-MWD													Offset Well Error:		0.0 ft
Reference		Offset		Semi Major Axis			Distance						Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor			
0.0	0.0	3.0	3.0	0.0	0.0	-150.84	-226.9	-126.6	259.9						
100.0	100.0	102.2	102.2	0.1	0.1	-150.83	-227.0	-126.7	260.0	259.7	0.28	931.009	ES		
200.0	200.0	201.5	201.5	0.3	0.3	-150.83	-227.4	-126.9	260.5	259.8	0.62	417.277			
300.0	300.0	298.6	298.6	0.5	0.5	-150.34	-227.4	-129.5	261.7	260.7	0.97	270.182			
400.0	400.0	395.0	394.7	0.7	0.7	105.19	-226.3	-135.7	264.2	262.8	1.33	198.348			
500.0	499.8	485.1	484.3	0.8	0.9	107.85	-225.3	-145.5	270.6	268.9	1.72	157.404			
600.0	599.3	576.3	574.5	1.1	1.2	111.66	-224.8	-158.8	282.5	280.3	2.17	130.091			
700.0	698.0	662.0	658.8	1.4	1.5	115.97	-224.3	-174.2	300.4	297.7	2.67	112.358			
800.0	795.8	747.4	742.3	1.8	1.8	120.65	-223.7	-192.4	325.8	322.5	3.23	100.877			
900.0	892.4	825.6	818.0	2.2	2.2	124.92	-223.2	-211.8	359.6	355.8	3.81	94.436			
1,000.0	987.8	899.5	889.0	2.8	2.6	129.33	-222.8	-232.4	401.4	397.1	4.35	92.274	SF		
1,100.0	1,083.1	968.0	954.2	3.3	3.0	133.29	-222.4	-253.4	448.6	443.7	4.84	92.618			

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Shideler Fee 6-1A
Project:	Mamm Creek	TVD Reference:	KB=22' @ 7126.0ft (Patterson #308)
Reference Site:	O31E Pad (2nd Occupation)	MD Reference:	KB=22' @ 7126.0ft (Patterson #308)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Shideler Fee 6-1A	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft	
Survey Program: 111-MWD													Offset Well Error:		0.0 ft
Reference		Offset		Semi Major Axis			Distance				Total		Separation		Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Uncertainty Axis	Factor			
0.0	0.0	3.0	3.0	0.0	0.0	-148.08	-242.2	-150.9	285.4						
100.0	100.0	102.1	102.1	0.1	0.1	-148.07	-242.3	-151.0	285.5	285.3	0.28	1,023.154	ES		
200.0	200.0	199.4	199.4	0.3	0.3	-147.99	-242.8	-151.8	286.4	285.7	0.62	461.214			
300.0	300.0	295.0	295.0	0.5	0.5	-147.84	-243.7	-153.2	288.0	287.0	0.96	298.851			
400.0	400.0	387.0	386.9	0.7	0.7	106.55	-246.3	-156.1	292.3	291.0	1.30	225.069			
500.0	499.8	484.3	484.0	0.8	0.8	107.53	-250.5	-160.4	299.8	298.1	1.66	180.932			
600.0	599.3	585.8	585.3	1.1	1.0	109.41	-254.6	-164.8	308.9	306.9	2.06	150.060			
700.0	698.0	683.3	682.7	1.4	1.2	111.88	-258.4	-168.8	320.2	317.7	2.51	127.677			
800.0	795.8	779.7	778.9	1.8	1.4	114.95	-261.9	-173.4	334.6	331.5	3.02	110.931			
900.0	892.4	875.0	874.1	2.2	1.6	118.37	-265.4	-178.1	352.6	349.0	3.58	98.555			
1,000.0	987.8	969.6	968.4	2.8	1.8	122.18	-268.9	-182.7	374.4	370.3	4.15	90.260			
1,100.0	1,083.1	1,063.9	1,062.6	3.3	2.0	125.88	-271.9	-187.4	397.9	393.2	4.70	84.740			
1,200.0	1,178.4	1,157.1	1,155.6	3.9	2.2	129.16	-274.9	-192.2	423.0	417.8	5.22	81.055			
1,300.0	1,273.7	1,255.5	1,253.9	4.4	2.4	132.21	-277.9	-196.8	449.0	443.2	5.72	78.444			
1,400.0	1,369.0	1,354.7	1,353.0	5.0	2.6	134.92	-280.6	-200.2	474.7	468.5	6.21	76.465	SF		

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Shideler Fee 6-1A
Project:	Mamm Creek	TVD Reference:	KB=22' @ 7126.0ft (Patterson #308)
Reference Site:	O31E Pad (2nd Occupation)	MD Reference:	KB=22' @ 7126.0ft (Patterson #308)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Shideler Fee 6-1A	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft	
Survey Program: 111-MWD													Offset Well Error:		0.0 ft
Reference		Offset		Semi Major Axis			Distance				Total Uncertainty Axis	Separation Factor	Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)					
0.0	0.0	0.0	0.0	0.0	0.0	-149.05	-253.5	-152.0	295.6						
100.0	100.0	96.8	96.8	0.1	0.1	-149.05	-253.9	-152.3	296.1	295.9	0.27	1,086.392			
200.0	200.0	187.1	187.1	0.3	0.3	-149.02	-255.7	-153.6	298.6	297.9	0.60	493.482			
300.0	300.0	273.7	273.5	0.5	0.5	-148.89	-260.1	-157.0	305.0	304.0	0.95	319.969			
400.0	400.0	361.3	360.6	0.7	0.7	105.39	-267.8	-162.9	316.1	314.8	1.25	252.000			
500.0	499.8	451.7	450.1	0.8	1.0	105.93	-277.7	-170.2	331.1	329.5	1.60	207.016			
600.0	599.3	541.6	538.8	1.1	1.3	107.04	-289.7	-178.9	350.6	348.6	1.98	176.987			
700.0	698.0	638.8	634.5	1.4	1.6	108.71	-303.8	-188.3	372.9	370.5	2.43	153.377			
800.0	795.8	740.0	734.3	1.8	1.9	111.03	-317.0	-198.1	396.6	393.6	2.96	134.084			
900.0	892.4	837.0	830.2	2.2	2.2	113.54	-328.7	-206.8	422.0	418.4	3.55	118.921			
1,000.0	987.8	930.9	923.1	2.8	2.5	116.50	-340.0	-214.9	449.9	445.8	4.16	108.083			
1,100.0	1,083.1	1,024.3	1,015.5	3.3	2.8	119.46	-350.7	-223.0	479.2	474.4	4.77	100.364 SF			

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Shideler Fee 6-1A
Project:	Mamm Creek	TVD Reference:	KB=22' @ 7126.0ft (Patterson #308)
Reference Site:	O31E Pad (2nd Occupation)	MD Reference:	KB=22' @ 7126.0ft (Patterson #308)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Shideler Fee 6-1A	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft	
Survey Program: 111-MWD													Offset Well Error:		0.0 ft
Reference		Offset		Semi Major Axis			Distance				Total Uncertainty Axis	Separation Factor	Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)					
0.0	0.0	3.0	3.0	0.0	0.0	-149.48	-234.9	-138.5	272.7						
100.0	100.0	102.2	102.2	0.1	0.1	-149.47	-235.1	-138.6	272.9	272.6	0.28	977.462			
200.0	200.0	201.9	201.9	0.3	0.3	-149.49	-235.3	-138.7	273.2	272.5	0.62	437.194 ES			
300.0	300.0	295.0	295.0	0.5	0.5	-149.49	-236.3	-139.3	274.4	273.5	0.96	285.003			
400.0	400.0	387.0	386.9	0.7	0.6	104.80	-239.5	-141.8	278.9	277.7	1.30	215.046			
500.0	499.8	472.5	472.0	0.8	0.8	105.43	-245.7	-145.7	288.8	287.2	1.63	176.749			
600.0	599.3	560.7	559.6	1.1	1.0	106.57	-255.5	-150.9	304.3	302.3	2.01	151.093			
700.0	698.0	649.5	647.3	1.4	1.3	108.08	-267.9	-156.9	324.5	322.0	2.46	132.085			
800.0	795.8	742.7	739.1	1.8	1.6	109.89	-283.1	-163.0	348.5	345.6	2.98	116.870			
900.0	892.4	834.3	829.1	2.2	1.9	111.93	-298.7	-169.2	375.8	372.2	3.59	104.805			
1,000.0	987.8	926.4	919.5	2.8	2.3	114.69	-314.6	-175.9	406.1	401.8	4.23	96.079			
1,100.0	1,083.1	1,018.6	1,010.1	3.3	2.6	117.45	-330.5	-183.0	437.7	432.9	4.87	89.806			
1,200.0	1,178.4	1,111.7	1,101.5	3.9	2.9	119.80	-346.8	-189.8	470.1	464.6	5.53	85.025 SF			

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Shideler Fee 6-1A
Project:	Mamm Creek	TVD Reference:	KB=22' @ 7126.0ft (Patterson #308)
Reference Site:	O31E Pad (2nd Occupation)	MD Reference:	KB=22' @ 7126.0ft (Patterson #308)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Shideler Fee 6-1A	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft	
Survey Program: 111-MWD													Offset Well Error:		0.0 ft
Reference		Offset		Semi Major Axis			Distance						Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor			
0.0	0.0	3.0	3.0	0.0	0.0	-150.36	-245.9	-139.9	282.9						
100.0	100.0	102.2	102.2	0.1	0.1	-150.40	-246.1	-139.8	283.0	282.7	0.28	1,013.438 ES			
200.0	200.0	199.8	199.8	0.3	0.3	-150.54	-247.0	-139.5	283.7	283.1	0.62	456.241			
300.0	300.0	289.6	289.5	0.5	0.5	-150.69	-249.6	-140.2	286.6	285.6	0.96	298.862			
400.0	400.0	378.1	377.8	0.7	0.7	103.29	-255.2	-142.3	293.4	292.1	1.28	228.612			
500.0	499.8	465.2	464.4	0.8	0.9	103.53	-263.8	-145.6	305.2	303.6	1.63	187.715			
600.0	599.3	553.8	552.1	1.1	1.1	104.35	-275.7	-150.3	321.9	319.9	2.01	160.090			
700.0	698.0	636.6	633.6	1.4	1.4	105.51	-289.2	-156.0	343.6	341.2	2.45	140.271			
800.0	795.8	723.2	718.2	1.8	1.8	107.07	-306.1	-163.5	370.8	367.9	2.97	124.764			
900.0	892.4	817.9	810.4	2.2	2.1	109.10	-325.5	-172.1	401.3	397.7	3.60	111.618			
1,000.0	987.8	912.3	902.7	2.8	2.5	111.72	-344.7	-179.6	433.3	429.0	4.27	101.522			
1,100.0	1,083.1	1,005.5	993.5	3.3	2.9	114.24	-363.9	-186.5	466.1	461.2	4.96	94.049			
1,200.0	1,178.4	1,095.7	1,081.5	3.9	3.3	116.31	-382.9	-192.9	499.8	494.2	5.65	88.427 SF			

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Shideler Fee 6-1A
Project:	Mamm Creek	TVD Reference:	KB=22' @ 7126.0ft (Patterson #308)
Reference Site:	O31E Pad (2nd Occupation)	MD Reference:	KB=22' @ 7126.0ft (Patterson #308)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Shideler Fee 6-1A	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft	
Survey Program: 111-MWD													Offset Well Error:		0.0 ft
Reference		Offset		Semi Major Axis			Distance				Total Uncertainty Axis	Separation Factor	Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)					
0.0	0.0	3.0	3.0	0.0	0.0	-151.71	-237.9	-128.0	270.1						
100.0	100.0	103.0	103.0	0.1	0.1	-151.67	-237.8	-128.2	270.1	269.8	0.28	963.533			
200.0	200.0	203.3	203.3	0.3	0.3	-151.57	-237.5	-128.6	270.0	269.4	0.63	430.518			
300.0	300.0	304.2	304.1	0.5	0.5	-151.47	-236.9	-128.8	269.7	268.7	0.98	275.782			
330.2	330.2	333.6	333.6	0.5	0.5	102.74	-236.8	-128.9	269.6	268.5	1.08	249.065 CC, ES			
400.0	400.0	401.2	401.2	0.7	0.7	102.94	-236.7	-129.4	270.0	268.6	1.32	204.074			
500.0	499.8	494.6	494.6	0.8	0.8	103.89	-238.1	-130.4	272.9	271.3	1.67	163.046			
600.0	599.3	584.2	584.1	1.1	1.0	105.37	-242.0	-131.7	280.2	278.1	2.06	136.171			
700.0	698.0	672.4	672.0	1.4	1.2	107.27	-249.2	-133.9	292.9	290.4	2.50	117.218			
800.0	795.8	753.0	751.9	1.8	1.4	109.19	-258.7	-136.8	311.5	308.5	3.00	103.814			
900.0	892.4	844.0	841.6	2.2	1.6	111.45	-273.3	-140.8	336.4	332.8	3.61	93.288			
1,000.0	987.8	923.6	919.5	2.8	1.9	113.62	-289.5	-144.6	366.9	362.7	4.24	86.477			
1,100.0	1,083.1	1,003.5	996.9	3.3	2.3	115.56	-308.6	-148.8	401.2	396.3	4.91	81.791			
1,200.0	1,178.4	1,081.7	1,071.9	3.9	2.6	116.96	-330.2	-153.6	439.0	433.4	5.59	78.558			
1,300.0	1,273.7	1,162.9	1,149.0	4.4	3.1	118.05	-355.1	-159.5	479.8	473.5	6.30	76.150 SF			

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Shideler Fee 6-1A
Project:	Mamm Creek	TVD Reference:	KB=22' @ 7126.0ft (Patterson #308)
Reference Site:	O31E Pad (2nd Occupation)	MD Reference:	KB=22' @ 7126.0ft (Patterson #308)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Shideler Fee 6-1A	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 111-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance				Total Uncertainty Axis	Separation Factor	Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)				
0.0	0.0	3.0	3.0	0.0	0.0	-153.19	-228.7	-115.6	256.3					
100.0	100.0	103.1	103.1	0.1	0.1	-153.18	-228.7	-115.6	256.3	256.0	0.28	913.662		
133.8	133.8	137.0	137.0	0.2	0.2	-153.17	-228.7	-115.6	256.2	255.9	0.40	647.338 CC, ES		
200.0	200.0	199.0	199.0	0.3	0.3	-153.31	-229.3	-115.3	256.7	256.1	0.62	414.092		
300.0	300.0	290.3	290.2	0.5	0.5	-154.02	-233.0	-113.5	259.5	258.6	0.96	270.054		
400.0	400.0	383.3	382.8	0.7	0.7	98.78	-240.9	-110.3	265.8	264.5	1.32	201.493		
500.0	499.8	472.7	471.4	0.8	0.9	97.83	-251.7	-106.9	276.1	274.4	1.70	162.075		
600.0	599.3	561.6	559.2	1.1	1.2	97.62	-265.7	-104.2	290.7	288.5	2.13	136.461		
700.0	698.0	645.3	641.4	1.4	1.5	98.13	-281.7	-103.4	310.0	307.4	2.61	118.559		
800.0	795.8	726.1	719.9	1.8	1.9	99.10	-300.5	-104.6	335.0	331.8	3.18	105.490		
900.0	892.4	804.4	795.2	2.2	2.3	100.35	-321.7	-107.6	365.7	361.9	3.83	95.539		
1,000.0	987.8	882.1	869.0	2.8	2.7	102.25	-345.8	-111.6	401.8	397.3	4.55	88.222		
1,100.0	1,083.1	965.0	946.8	3.3	3.2	104.24	-374.0	-116.3	441.4	436.0	5.33	82.797		
1,200.0	1,178.4	1,057.3	1,033.3	3.9	3.8	106.05	-405.9	-121.2	481.6	475.5	6.15	78.320 SF		

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Shideler Fee 6-1A
Project:	Mamm Creek	TVD Reference:	KB=22' @ 7126.0ft (Patterson #308)
Reference Site:	O31E Pad (2nd Occupation)	MD Reference:	KB=22' @ 7126.0ft (Patterson #308)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Shideler Fee 6-1A	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft	
Survey Program: 111-MWD													Offset Well Error:		0.0 ft
Reference		Offset		Semi Major Axis			Distance				Total Uncertainty Axis	Separation Factor	Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)					
0.0	0.0	3.0	3.0	0.0	0.0	-152.53	-218.5	-113.6	246.3						
100.0	100.0	103.5	103.5	0.1	0.1	-152.56	-218.5	-113.4	246.2	245.9	0.28	876.176			
153.2	153.2	156.2	156.2	0.2	0.2	-152.58	-218.5	-113.4	246.2	245.7	0.46	531.199 CC			
200.0	200.0	200.6	200.6	0.3	0.3	-152.58	-218.6	-113.4	246.3	245.7	0.62	395.709 ES			
300.0	300.0	290.9	290.8	0.5	0.5	-152.62	-221.1	-114.5	249.3	248.3	0.96	260.144			
400.0	400.0	379.3	379.0	0.7	0.7	101.18	-227.4	-116.1	256.6	255.3	1.28	199.677			
500.0	499.8	466.0	465.1	0.8	0.9	101.26	-237.5	-118.5	269.2	267.6	1.63	165.392			
600.0	599.3	552.8	550.6	1.1	1.1	101.78	-251.7	-121.8	287.6	285.5	2.02	142.532			
700.0	698.0	636.2	632.2	1.4	1.5	102.47	-269.0	-124.9	311.0	308.5	2.47	125.689			
800.0	795.8	718.2	711.4	1.8	1.9	103.42	-289.5	-129.2	340.1	337.1	3.02	112.700			
900.0	892.4	798.6	788.3	2.2	2.3	104.45	-312.4	-134.2	374.4	370.7	3.65	102.457			
1,000.0	987.8	877.4	862.9	2.8	2.7	106.26	-337.0	-140.5	413.3	408.9	4.35	95.040			
1,100.0	1,083.1	955.7	936.3	3.3	3.2	108.10	-363.4	-147.4	455.3	450.2	5.07	89.729 SF			

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Shideler Fee 6-1A
Project:	Mamm Creek	TVD Reference:	KB=22' @ 7126.0ft (Patterson #308)
Reference Site:	O31E Pad (2nd Occupation)	MD Reference:	KB=22' @ 7126.0ft (Patterson #308)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Shideler Fee 6-1A	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft	
Survey Program: 111-MWD													Offset Well Error:		0.0 ft
Reference		Offset		Semi Major Axis			Distance				Total Uncertainty Axis	Separation Factor	Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)					
0.0	0.0	0.0	0.0	0.0	0.0	-154.91	-221.5	-103.7	244.5						
100.0	100.0	101.2	101.2	0.1	0.1	-154.90	-221.2	-103.6	244.3	244.0	0.28	864.291			
140.3	140.3	140.3	140.3	0.2	0.2	-154.90	-221.1	-103.6	244.2	243.8	0.42	583.784	CC, ES		
200.0	200.0	194.4	194.4	0.3	0.3	-155.08	-221.9	-103.1	244.8	244.2	0.62	396.653			
300.0	300.0	288.1	287.9	0.5	0.5	-155.94	-226.6	-101.2	248.4	247.5	0.97	257.448			
400.0	400.0	378.0	377.4	0.7	0.7	96.90	-234.8	-98.4	255.7	254.3	1.32	194.232			
500.0	499.8	465.9	464.5	0.8	0.9	95.99	-246.4	-95.5	267.3	265.6	1.69	157.980			
600.0	599.3	554.8	551.9	1.1	1.2	95.43	-262.1	-91.6	283.0	280.9	2.13	132.803			
700.0	698.0	646.7	641.6	1.4	1.6	95.48	-281.7	-87.6	302.9	300.2	2.69	112.520			
800.0	795.8	734.9	726.6	1.8	2.1	95.26	-304.0	-79.7	325.1	321.7	3.37	96.432			
900.0	892.4	820.3	807.7	2.2	2.6	95.14	-329.1	-70.6	351.0	346.8	4.17	84.091			
1,000.0	987.8	904.9	886.8	2.8	3.1	95.61	-357.2	-60.5	380.4	375.3	5.07	75.012			
1,100.0	1,083.1	988.4	963.9	3.3	3.7	96.10	-387.5	-50.1	412.5	406.5	6.00	68.736			
1,200.0	1,178.4	1,071.1	1,039.4	3.9	4.3	96.42	-419.8	-40.2	447.3	440.4	6.95	64.371			
1,300.0	1,273.7	1,155.2	1,115.4	4.4	4.9	96.63	-454.5	-30.5	484.3	476.3	7.92	61.175	SF		

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Shideler Fee 6-1A
Project:	Mamm Creek	TVD Reference:	KB=22' @ 7126.0ft (Patterson #308)
Reference Site:	O31E Pad (2nd Occupation)	MD Reference:	KB=22' @ 7126.0ft (Patterson #308)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Shideler Fee 6-1A	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft	
Survey Program: 0-MWD													Offset Well Error:		0.0 ft
Reference															
Offset				Semi Major Axis			Distance								
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning		
0.0	0.0	0.0	0.0	0.0	0.0	37.27	18.9	14.4	23.8						
100.0	100.0	100.0	100.0	0.1	0.1	37.27	18.9	14.4	23.8	23.5	0.27	87.413			
200.0	200.0	200.0	200.0	0.3	0.3	37.27	18.9	14.4	23.8	23.2	0.62	38.305 CC, ES			
300.0	300.0	299.3	299.3	0.5	0.5	35.01	20.4	14.3	24.9	23.9	0.97	25.625			
400.0	400.0	397.9	397.7	0.7	0.7	-79.89	26.7	13.7	30.0	28.7	1.33	22.630 SF			
500.0	499.8	495.2	494.3	0.8	0.9	-95.27	37.9	12.6	40.5	38.8	1.68	24.060			
600.0	599.3	590.2	588.0	1.1	1.3	-108.86	53.6	11.1	59.3	57.3	2.06	28.747			
700.0	698.0	682.0	677.7	1.4	1.6	-117.93	73.1	9.2	87.1	84.6	2.49	34.970			
800.0	795.8	774.0	766.8	1.8	2.0	-123.97	95.7	7.1	121.9	119.0	2.98	40.954			
900.0	892.4	865.2	855.2	2.2	2.4	-128.42	118.2	5.0	160.9	157.4	3.52	45.662			
1,000.0	987.8	955.0	942.1	2.8	2.8	-132.31	140.3	2.8	203.2	199.1	4.10	49.563			
1,100.0	1,083.1	1,044.6	1,029.0	3.3	3.3	-135.21	162.4	0.7	246.4	241.7	4.69	52.543			
1,200.0	1,178.4	1,134.2	1,115.8	3.9	3.7	-137.25	184.4	-1.4	290.0	284.7	5.28	54.890			
1,300.0	1,273.7	1,223.8	1,202.6	4.4	4.1	-138.76	206.5	-3.5	333.8	327.9	5.88	56.780			
1,400.0	1,369.0	1,313.4	1,289.4	5.0	4.5	-139.92	228.6	-5.6	377.7	371.2	6.47	58.334			
1,500.0	1,464.3	1,403.0	1,376.2	5.6	4.9	-140.84	250.7	-7.7	421.7	414.7	7.07	59.633			
1,600.0	1,559.6	1,492.5	1,463.0	6.1	5.3	-141.59	272.8	-9.8	465.8	458.2	7.67	60.734			

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Shideler Fee 6-1A
Project:	Mamm Creek	TVD Reference:	KB=22' @ 7126.0ft (Patterson #308)
Reference Site:	O31E Pad (2nd Occupation)	MD Reference:	KB=22' @ 7126.0ft (Patterson #308)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Shideler Fee 6-1A	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft	
Survey Program: 0-MWD													Offset Well Error:		0.0 ft
Reference															
Offset				Semi Major Axis			Distance								
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning		
0.0	0.0	0.0	0.0	0.0	0.0	10.60	10.6	2.0	10.8						
100.0	100.0	100.0	100.0	0.1	0.1	10.60	10.6	2.0	10.8	10.5	0.27	39.485			
200.0	200.0	200.0	200.0	0.3	0.3	10.60	10.6	2.0	10.8	10.1	0.62	17.302			
234.7	234.7	234.7	234.7	0.4	0.4	10.60	10.6	2.0	10.8	10.0	0.74	14.483	CC, ES		
300.0	300.0	299.8	299.8	0.5	0.5	8.20	11.1	1.6	11.2	10.2	0.97	11.552	SF		
400.0	400.0	399.1	398.9	0.7	0.7	-113.29	15.3	-1.4	15.6	14.3	1.32	11.825			
500.0	499.8	496.9	496.2	0.8	0.9	-132.69	23.5	-7.3	28.5	26.8	1.67	17.054			
600.0	599.3	591.9	590.1	1.1	1.2	-143.21	35.3	-15.8	51.6	49.6	2.02	25.539			
700.0	698.0	683.0	679.3	1.4	1.6	-148.35	50.2	-26.6	84.4	82.0	2.38	35.460			
800.0	795.8	771.3	765.0	1.8	1.9	-151.12	67.7	-39.1	125.6	122.8	2.75	45.731			
900.0	892.4	859.7	850.5	2.2	2.3	-153.02	85.7	-52.1	171.9	168.8	3.13	54.918			
1,000.0	987.8	946.2	934.2	2.8	2.7	-154.78	103.3	-64.7	221.8	218.3	3.53	62.819			
1,100.0	1,083.1	1,032.5	1,017.8	3.3	3.1	-156.12	120.9	-77.4	272.1	268.1	3.94	68.992			
1,200.0	1,178.4	1,118.8	1,101.3	3.9	3.5	-157.05	138.5	-90.0	322.5	318.1	4.36	73.954			
1,300.0	1,273.7	1,205.0	1,184.8	4.4	3.9	-157.72	156.0	-102.7	372.9	368.1	4.78	78.020			
1,400.0	1,369.0	1,291.3	1,268.3	5.0	4.3	-158.24	173.6	-115.3	423.4	418.2	5.20	81.407			
1,500.0	1,464.3	1,377.6	1,351.8	5.6	4.7	-158.64	191.2	-127.9	473.8	468.2	5.62	84.269			

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Shideler Fee 6-1A
Project:	Mamm Creek	TVD Reference:	KB=22' @ 7126.0ft (Patterson #308)
Reference Site:	O31E Pad (2nd Occupation)	MD Reference:	KB=22' @ 7126.0ft (Patterson #308)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Shideler Fee 6-1A	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft	
Survey Program: 0-MWD													Offset Well Error:		0.0 ft
Reference															
Offset				Semi Major Axis			Distance								
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning		
0.0	0.0	0.0	0.0	0.0	0.0	-76.62	2.6	-10.7	11.0						
100.0	100.0	100.0	100.0	0.1	0.1	-76.62	2.6	-10.7	11.0	10.8	0.27	40.541			
200.0	200.0	200.0	200.0	0.3	0.3	-76.62	2.6	-10.7	11.0	10.4	0.62	17.765 CC, ES			
300.0	300.0	299.4	299.4	0.5	0.5	-71.49	4.2	-12.7	13.4	12.4	0.97	13.749 SF			
400.0	400.0	398.2	397.8	0.7	0.7	-169.49	9.3	-18.5	21.5	20.1	1.32	16.257			
500.0	499.8	495.1	493.9	0.8	1.0	-166.05	17.5	-27.9	39.1	37.4	1.66	23.495			
600.0	599.3	588.8	586.1	1.1	1.3	-165.04	28.4	-40.5	66.5	64.5	2.00	33.205			
700.0	698.0	677.9	672.9	1.4	1.7	-164.73	41.5	-55.7	103.1	100.8	2.33	44.178			
800.0	795.8	761.6	753.6	1.8	2.1	-164.58	56.3	-72.7	148.4	145.7	2.66	55.822			
900.0	892.4	839.3	827.4	2.2	2.6	-164.42	72.0	-90.8	201.7	198.7	2.97	67.796			
1,000.0	987.8	910.9	894.6	2.8	3.1	-164.52	88.3	-109.5	261.5	258.2	3.30	79.212			
1,100.0	1,083.1	978.4	957.0	3.3	3.6	-164.63	105.1	-128.9	324.5	320.8	3.64	89.132			
1,200.0	1,178.4	1,042.2	1,015.2	3.9	4.1	-164.62	122.3	-148.7	390.0	386.0	3.98	98.097			
1,300.0	1,273.7	1,107.8	1,074.1	4.4	4.6	-164.54	141.2	-170.5	457.8	453.5	4.32	106.054			

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Shideler Fee 6-1A
Project:	Mamm Creek	TVD Reference:	KB=22' @ 7126.0ft (Patterson #308)
Reference Site:	O31E Pad (2nd Occupation)	MD Reference:	KB=22' @ 7126.0ft (Patterson #308)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Shideler Fee 6-1A	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft	
Survey Program: 0-MWD													Offset Well Error:		0.0 ft
Reference															
Offset				Semi Major Axis			Distance								
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning		
0.0	0.0	0.0	0.0	0.0	0.0	-111.24	-13.8	-35.6	38.2						
100.0	100.0	100.0	100.0	0.1	0.1	-111.24	-13.8	-35.6	38.2	37.9	0.27	140.305			
200.0	200.0	200.0	200.0	0.3	0.3	-111.24	-13.8	-35.6	38.2	37.6	0.62	61.482 CC, ES			
300.0	300.0	298.4	298.4	0.5	0.5	-108.85	-13.0	-38.0	40.2	39.2	0.97	41.396			
400.0	400.0	396.3	395.9	0.7	0.7	151.47	-10.4	-45.1	47.0	45.7	1.33	35.386 SF			
500.0	499.8	492.2	491.1	0.8	1.0	159.63	-6.2	-56.6	63.0	61.3	1.68	37.477			
600.0	599.3	584.8	582.2	1.1	1.3	166.18	-0.6	-71.9	89.4	87.4	2.02	44.297			
700.0	698.0	672.8	668.0	1.4	1.7	170.53	6.0	-90.3	125.6	123.3	2.33	53.857			
800.0	795.8	755.3	747.5	1.8	2.1	173.31	13.5	-111.0	171.1	168.5	2.63	65.102			
900.0	892.4	831.6	820.1	2.2	2.6	175.12	21.5	-132.9	224.9	221.9	2.90	77.484			
1,000.0	987.8	900.0	884.4	2.8	3.0	176.40	29.5	-154.8	285.4	282.2	3.17	89.939			
1,100.0	1,083.1	968.3	947.8	3.3	3.5	177.39	38.2	-178.9	349.0	345.6	3.45	101.036			
1,200.0	1,178.4	1,044.3	1,017.7	3.9	4.1	178.18	48.3	-206.7	413.9	410.2	3.75	110.468			
1,300.0	1,273.7	1,120.3	1,087.7	4.4	4.6	178.76	58.4	-234.6	478.9	474.8	4.04	118.570			

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Shideler Fee 6-1A
Project:	Mamm Creek	TVD Reference:	KB=22' @ 7126.0ft (Patterson #308)
Reference Site:	O31E Pad (2nd Occupation)	MD Reference:	KB=22' @ 7126.0ft (Patterson #308)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Shideler Fee 6-1A	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft	
Survey Program: 0-MWD													Offset Well Error:		0.0 ft
Reference															
Offset				Semi Major Axis			Distance								
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning		
0.0	0.0	0.0	0.0	0.0	0.0	-114.69	-22.2	-48.3	53.2						
100.0	100.0	100.0	100.0	0.1	0.1	-114.69	-22.2	-48.3	53.2	52.9	0.27	195.339			
200.0	200.0	200.0	200.0	0.3	0.3	-114.69	-22.2	-48.3	53.2	52.6	0.62	85.598			
300.0	300.0	300.0	300.0	0.5	0.5	-114.69	-22.2	-48.3	53.2	52.2	0.97	54.808 CC			
300.0	300.0	300.0	300.0	0.5	0.5	-114.69	-22.2	-48.3	53.2	52.2	0.97	54.806 ES			
400.0	400.0	398.3	398.2	0.7	0.7	140.71	-22.0	-49.7	54.9	53.6	1.32	41.664			
500.0	499.8	495.0	494.8	0.8	0.9	146.49	-20.8	-55.8	64.6	62.9	1.67	38.712 SF			
600.0	599.3	589.3	588.4	1.1	1.1	153.54	-18.9	-66.3	84.0	81.9	2.02	41.622			
700.0	698.0	679.8	677.7	1.4	1.4	159.31	-16.2	-80.6	113.5	111.1	2.35	48.251			
800.0	795.8	765.3	761.5	1.8	1.7	163.38	-13.0	-98.0	152.7	150.0	2.67	57.260			
900.0	892.4	845.2	838.8	2.2	2.1	166.10	-9.4	-117.5	200.9	197.9	2.96	67.811			
1,000.0	987.8	919.2	909.6	2.8	2.5	168.14	-5.5	-138.5	256.4	253.1	3.25	78.811			
1,100.0	1,083.1	989.1	975.8	3.3	2.9	169.62	-1.3	-160.7	315.4	311.9	3.54	89.034			
1,200.0	1,178.4	1,055.3	1,037.7	3.9	3.3	170.66	3.0	-184.0	377.5	373.6	3.83	98.666			
1,300.0	1,273.7	1,128.7	1,105.5	4.4	3.9	171.52	8.1	-211.4	441.5	437.4	4.12	107.253			

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Shideler Fee 6-1A
Project:	Mamm Creek	TVD Reference:	KB=22' @ 7126.0ft (Patterson #308)
Reference Site:	O31E Pad (2nd Occupation)	MD Reference:	KB=22' @ 7126.0ft (Patterson #308)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Shideler Fee 6-1A	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft	
Survey Program: 0-MWD													Offset Well Error:		0.0 ft
Reference															
Offset				Semi Major Axis			Distance								
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning		
0.0	0.0	0.0	0.0	0.0	0.0	-104.11	-5.8	-23.2	23.9						
100.0	100.0	100.0	100.0	0.1	0.1	-104.11	-5.8	-23.2	23.9	23.6	0.27	87.756			
200.0	200.0	200.0	200.0	0.3	0.3	-104.11	-5.8	-23.2	23.9	23.3	0.62	38.455			
300.0	300.0	300.0	300.0	0.5	0.5	-104.11	-5.8	-23.2	23.9	22.9	0.97	24.622 CC			
328.0	328.0	328.0	328.0	0.5	0.5	150.16	-5.8	-23.2	24.0	22.9	1.07	22.450 ES			
400.0	400.0	400.0	400.0	0.7	0.7	150.80	-5.8	-23.2	24.5	23.1	1.32	18.542			
500.0	499.8	499.8	499.8	0.8	0.8	155.76	-5.8	-23.2	29.1	27.5	1.67	17.468 SF			
600.0	599.3	597.4	597.3	1.1	1.0	163.28	-4.9	-25.5	41.3	39.2	2.01	20.512			
700.0	698.0	695.1	694.9	1.4	1.2	169.22	-3.0	-30.4	61.5	59.1	2.35	26.210			
800.0	795.8	791.6	791.3	1.8	1.4	172.65	-1.1	-35.2	87.1	84.4	2.67	32.616			
900.0	892.4	886.7	886.2	2.2	1.6	174.74	0.7	-39.9	117.9	114.9	2.98	39.494			
1,000.0	987.8	980.3	979.7	2.8	1.7	176.11	2.6	-44.6	152.8	149.5	3.31	46.179			
1,100.0	1,083.1	1,073.9	1,073.1	3.3	1.9	176.99	4.4	-49.3	188.1	184.4	3.64	51.643			
1,200.0	1,178.4	1,167.4	1,166.5	3.9	2.1	177.60	6.2	-54.0	223.4	219.4	3.97	56.199			
1,300.0	1,273.7	1,260.9	1,259.9	4.4	2.3	178.05	8.1	-58.7	258.7	254.4	4.31	60.054			
1,400.0	1,369.0	1,354.5	1,353.3	5.0	2.5	178.38	9.9	-63.4	294.1	289.4	4.64	63.359			
1,500.0	1,464.3	1,448.0	1,446.7	5.6	2.6	178.65	11.7	-68.0	329.4	324.4	4.97	66.222			
1,600.0	1,559.6	1,541.5	1,540.1	6.1	2.8	178.86	13.6	-72.7	364.8	359.5	5.31	68.727			
1,700.0	1,654.9	1,635.1	1,633.5	6.7	3.0	179.03	15.4	-77.4	400.1	394.5	5.64	70.936			
1,800.0	1,750.2	1,728.6	1,726.9	7.3	3.2	179.18	17.2	-82.1	435.5	429.5	5.97	72.900			
1,900.0	1,845.5	1,822.1	1,820.3	7.9	3.4	179.30	19.1	-86.7	470.9	464.6	6.31	74.657			

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Shideler Fee 6-1A
Project:	Mamm Creek	TVD Reference:	KB=22' @ 7126.0ft (Patterson #308)
Reference Site:	O31E Pad (2nd Occupation)	MD Reference:	KB=22' @ 7126.0ft (Patterson #308)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Shideler Fee 6-1A	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft	
Survey Program: 0-MWD													Offset Well Error:		0.0 ft
Reference															
Offset				Semi Major Axis			Distance								
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning		
0.0	0.0	0.0	0.0	0.0	0.0	-116.45	-30.2	-60.8	67.9						
100.0	100.0	100.0	100.0	0.1	0.1	-116.45	-30.2	-60.8	67.9	67.6	0.27	249.244			
200.0	200.0	200.0	200.0	0.3	0.3	-116.45	-30.2	-60.8	67.9	67.2	0.62	109.219			
300.0	300.0	300.0	300.0	0.5	0.5	-116.45	-30.2	-60.8	67.9	66.9	0.97	69.932	CC, ES		
400.0	400.0	396.9	396.9	0.7	0.7	137.82	-31.5	-62.8	70.8	69.5	1.31	53.898			
500.0	499.8	496.5	496.4	0.8	0.8	139.89	-33.8	-66.6	79.2	77.5	1.67	47.507			
600.0	599.3	595.5	595.3	1.1	1.0	143.50	-36.2	-70.3	91.8	89.8	2.03	45.222	SF		
700.0	698.0	693.7	693.4	1.4	1.2	147.64	-38.4	-74.0	109.0	106.6	2.40	45.414			
800.0	795.8	790.8	790.4	1.8	1.4	151.64	-40.7	-77.7	131.3	128.5	2.77	47.312			
900.0	892.4	886.5	886.0	2.2	1.6	155.17	-43.0	-81.3	158.6	155.5	3.14	50.458			
1,000.0	987.8	980.9	980.3	2.8	1.8	158.28	-45.2	-84.9	190.2	186.7	3.51	54.203			
1,100.0	1,083.1	1,075.2	1,074.5	3.3	1.9	160.64	-47.4	-88.5	222.5	218.6	3.87	57.440			
1,200.0	1,178.4	1,169.5	1,168.7	3.9	2.1	162.41	-49.6	-92.1	255.1	250.8	4.23	60.243			
1,300.0	1,273.7	1,263.8	1,262.9	4.4	2.3	163.78	-51.8	-95.6	287.8	283.2	4.59	62.683			
1,400.0	1,369.0	1,358.1	1,357.1	5.0	2.5	164.87	-54.0	-99.2	320.7	315.7	4.95	64.821			
1,500.0	1,464.3	1,452.4	1,451.3	5.6	2.7	165.76	-56.2	-102.8	353.6	348.3	5.30	66.706			
1,600.0	1,559.6	1,546.6	1,545.5	6.1	2.8	166.49	-58.4	-106.3	386.6	381.0	5.65	68.378			
1,700.0	1,654.9	1,640.9	1,639.7	6.7	3.0	167.11	-60.6	-109.9	419.7	413.7	6.01	69.870			
1,800.0	1,750.2	1,735.2	1,733.9	7.3	3.2	167.64	-62.8	-113.5	452.8	446.4	6.36	71.209			
1,900.0	1,845.5	1,829.5	1,828.0	7.9	3.4	168.10	-65.0	-117.0	485.9	479.2	6.71	72.417			

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Shideler Fee 6-1A
Project:	Mamm Creek	TVD Reference:	KB=22' @ 7126.0ft (Patterson #308)
Reference Site:	O31E Pad (2nd Occupation)	MD Reference:	KB=22' @ 7126.0ft (Patterson #308)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Shideler Fee 6-1A	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft	
Survey Program: 0-MWD													Offset Well Error:		0.0 ft
Reference															
Offset				Semi Major Axis			Distance								
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning		
0.0	0.0	0.0	0.0	0.0	0.0	57.00	24.4	37.6	44.8						
100.0	100.0	100.0	100.0	0.1	0.1	57.00	24.4	37.6	44.8	44.5	0.27	164.598			
200.0	200.0	200.0	200.0	0.3	0.3	57.00	24.4	37.6	44.8	44.2	0.62	72.127			
300.0	300.0	300.0	300.0	0.5	0.5	57.00	24.4	37.6	44.8	43.8	0.97	46.182			
400.0	400.0	400.0	400.0	0.7	0.7	-49.50	24.4	37.6	44.4	43.1	1.32	33.638			
490.5	490.3	488.5	488.4	0.8	0.8	-53.26	25.1	39.5	43.6	41.9	1.64	26.572 CC			
500.0	499.8	497.8	497.7	0.8	0.8	-53.82	25.2	39.9	43.6	41.9	1.67	26.038 ES			
600.0	599.3	595.5	595.2	1.1	1.0	-61.22	27.7	47.0	45.1	43.0	2.07	21.756			
700.0	698.0	693.0	691.9	1.4	1.3	-70.25	31.8	58.8	49.6	47.1	2.57	19.310			
800.0	795.8	790.3	787.6	1.8	1.6	-79.05	37.5	75.1	57.9	54.7	3.23	17.927			
900.0	892.4	887.0	881.8	2.2	2.0	-86.37	44.7	95.9	70.0	65.9	4.08	17.183			
1,000.0	987.8	983.4	974.4	2.8	2.5	-91.57	53.4	121.1	85.8	80.8	5.04	17.009			
1,100.0	1,083.1	1,081.8	1,068.3	3.3	3.0	-94.47	63.1	148.8	103.2	97.1	6.06	17.023			
1,200.0	1,178.4	1,180.2	1,162.2	3.9	3.5	-96.53	72.7	176.5	120.8	113.7	7.10	17.008			
1,300.0	1,273.7	1,278.5	1,256.1	4.4	4.1	-98.07	82.3	204.1	138.5	130.3	8.15	16.983			
1,400.0	1,369.0	1,376.9	1,350.0	5.0	4.6	-99.26	91.9	231.8	156.2	147.0	9.21	16.956			
1,500.0	1,464.3	1,475.3	1,443.9	5.6	5.2	-100.21	101.5	259.5	174.1	163.8	10.28	16.931			
1,600.0	1,559.6	1,573.6	1,537.8	6.1	5.7	-100.97	111.2	287.2	191.9	180.6	11.35	16.909			
1,700.0	1,654.9	1,672.0	1,631.7	6.7	6.3	-101.61	120.8	314.8	209.8	197.4	12.42	16.888			
1,800.0	1,750.2	1,770.4	1,725.6	7.3	6.8	-102.15	130.4	342.5	227.7	214.2	13.50	16.871			
1,900.0	1,845.5	1,868.7	1,819.5	7.9	7.4	-102.61	140.0	370.2	245.6	231.1	14.57	16.855			
2,000.0	1,940.8	1,967.1	1,913.4	8.4	7.9	-103.01	149.6	397.9	263.6	247.9	15.65	16.840			
2,100.0	2,036.0	2,065.4	2,007.3	9.0	8.5	-103.36	159.3	425.6	281.5	264.8	16.73	16.828			
2,200.0	2,131.3	2,163.8	2,101.2	9.6	9.0	-103.66	168.9	453.2	299.5	281.7	17.81	16.817			
2,300.0	2,226.6	2,262.2	2,195.1	10.2	9.6	-103.93	178.5	480.9	317.4	298.6	18.89	16.806			
2,400.0	2,321.9	2,360.5	2,289.0	10.7	10.1	-104.17	188.1	508.6	335.4	315.4	19.97	16.797			
2,500.0	2,417.2	2,458.9	2,382.9	11.3	10.7	-104.39	197.7	536.3	353.4	332.3	21.05	16.789			
2,600.0	2,512.5	2,557.3	2,476.8	11.9	11.2	-104.59	207.4	563.9	371.4	349.2	22.13	16.781			
2,700.0	2,607.8	2,655.6	2,570.7	12.5	11.8	-104.76	217.0	591.6	389.3	366.1	23.21	16.774			
2,800.0	2,703.1	2,754.0	2,664.6	13.0	12.3	-104.93	226.6	619.3	407.3	383.0	24.29	16.768			
2,900.0	2,798.4	2,852.3	2,758.5	13.6	12.9	-105.08	236.2	647.0	425.3	399.9	25.37	16.762			
3,000.0	2,893.7	2,950.7	2,852.4	14.2	13.5	-105.21	245.8	674.7	443.3	416.9	26.46	16.757			
3,100.0	2,989.0	3,049.1	2,946.3	14.8	14.0	-105.34	255.4	702.3	461.3	433.8	27.54	16.752			
3,200.0	3,084.3	3,147.4	3,040.2	15.4	14.6	-105.45	265.1	730.0	479.3	450.7	28.62	16.747			
3,300.0	3,179.6	3,245.8	3,134.1	15.9	15.1	-105.56	274.7	757.7	497.3	467.6	29.70	16.743 SF			

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Shideler Fee 6-1A
Project:	Mamm Creek	TVD Reference:	KB=22' @ 7126.0ft (Patterson #308)
Reference Site:	O31E Pad (2nd Occupation)	MD Reference:	KB=22' @ 7126.0ft (Patterson #308)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Shideler Fee 6-1A	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft	
Survey Program: 0-MWD													Offset Well Error:		0.0 ft
Reference															
Offset				Semi Major Axis			Distance								
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning		
0.0	0.0	0.0	0.0	0.0	0.0	45.18	27.0	27.1	38.2						
100.0	100.0	100.0	100.0	0.1	0.1	45.18	27.0	27.1	38.2	38.0	0.27	140.468			
200.0	200.0	200.0	200.0	0.3	0.3	45.18	27.0	27.1	38.2	37.6	0.62	61.553			
300.0	300.0	300.0	300.0	0.5	0.5	45.18	27.0	27.1	38.2	37.3	0.97	39.412	CC, ES		
400.0	400.0	398.0	398.0	0.7	0.7	-60.42	28.2	29.3	40.4	39.1	1.32	30.670			
500.0	499.8	495.8	495.5	0.8	0.9	-63.29	31.7	35.9	45.3	43.6	1.68	26.970			
600.0	599.3	593.1	591.9	1.1	1.1	-68.55	37.6	46.9	52.9	50.8	2.09	25.271			
700.0	698.0	689.7	687.0	1.4	1.5	-74.54	45.8	62.0	63.8	61.2	2.62	24.385			
800.0	795.8	785.4	780.2	1.8	1.9	-80.13	56.2	81.1	78.4	75.1	3.30	23.776			
900.0	892.4	880.1	871.2	2.2	2.4	-84.81	68.6	104.0	96.8	92.6	4.16	23.288			
1,000.0	987.8	975.9	962.2	2.8	2.9	-88.85	82.9	130.5	118.4	113.3	5.13	23.064			
1,100.0	1,083.1	1,073.1	1,054.3	3.3	3.5	-91.89	97.7	157.7	140.7	134.6	6.16	22.850			
1,200.0	1,178.4	1,170.4	1,146.5	3.9	4.0	-94.09	112.4	184.9	163.3	156.1	7.20	22.678			
1,300.0	1,273.7	1,267.6	1,238.7	4.4	4.6	-95.76	127.1	212.1	186.1	177.8	8.26	22.542			
1,400.0	1,369.0	1,364.9	1,330.9	5.0	5.2	-97.07	141.9	239.4	209.0	199.7	9.32	22.434			
1,500.0	1,464.3	1,462.1	1,423.1	5.6	5.8	-98.12	156.6	266.6	232.0	221.6	10.38	22.347			
1,600.0	1,559.6	1,559.4	1,515.3	6.1	6.3	-98.98	171.4	293.8	255.0	243.6	11.45	22.276			
1,700.0	1,654.9	1,656.6	1,607.5	6.7	6.9	-99.69	186.1	321.0	278.1	265.6	12.52	22.217			
1,800.0	1,750.2	1,753.9	1,699.7	7.3	7.5	-100.30	200.8	348.2	301.2	287.6	13.59	22.168			
1,900.0	1,845.5	1,851.1	1,791.8	7.9	8.1	-100.82	215.6	375.4	324.4	309.7	14.66	22.126			
2,000.0	1,940.8	1,948.3	1,884.0	8.4	8.7	-101.27	230.3	402.7	347.5	331.8	15.73	22.090			
2,100.0	2,036.0	2,045.6	1,976.2	9.0	9.2	-101.67	245.0	429.9	370.7	353.9	16.81	22.059			
2,200.0	2,131.3	2,142.8	2,068.4	9.6	9.8	-102.02	259.8	457.1	393.9	376.0	17.88	22.032			
2,300.0	2,226.6	2,240.1	2,160.6	10.2	10.4	-102.33	274.5	484.3	417.1	398.2	18.95	22.008			
2,400.0	2,321.9	2,337.3	2,252.8	10.7	11.0	-102.60	289.3	511.5	440.4	420.3	20.03	21.987			
2,500.0	2,417.2	2,434.6	2,345.0	11.3	11.6	-102.85	304.0	538.7	463.6	442.5	21.10	21.969			
2,600.0	2,512.5	2,531.8	2,437.2	11.9	12.2	-103.08	318.7	566.0	486.8	464.7	22.18	21.952	SF		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Shideler Fee 6-1A
Project:	Mamm Creek	TVD Reference:	KB=22' @ 7126.0ft (Patterson #308)
Reference Site:	O31E Pad (2nd Occupation)	MD Reference:	KB=22' @ 7126.0ft (Patterson #308)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Shideler Fee 6-1A	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft								
Survey Program: O-MWD													Offset Well Error:		0.0 ft							
Reference													Offset		Semi Major Axis		Distance				Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning									
0.0	0.0	0.0	0.0	0.0	0.0	57.77	8.0	12.7	15.0													
100.0	100.0	100.0	100.0	0.1	0.1	57.77	8.0	12.7	15.0	14.8	0.27	55.214										
200.0	200.0	200.0	200.0	0.3	0.3	57.77	8.0	12.7	15.0	14.4	0.62	24.195										
300.0	300.0	300.0	300.0	0.5	0.5	57.77	8.0	12.7	15.0	14.1	0.97	15.492	CC, ES									
400.0	400.0	399.5	399.5	0.7	0.7	-46.56	7.9	14.2	15.8	14.4	1.32	11.939										
500.0	499.8	498.8	498.6	0.8	0.9	-46.27	7.2	20.6	17.4	15.7	1.68	10.322										
600.0	599.3	598.0	597.1	1.1	1.1	-48.05	6.0	32.1	19.6	17.5	2.09	9.351										
700.0	698.0	697.1	694.8	1.4	1.4	-51.14	4.3	48.7	22.4	19.8	2.59	8.623										
800.0	795.8	796.2	791.4	1.8	1.8	-54.87	2.0	70.2	25.9	22.6	3.25	7.969										
900.0	892.4	895.2	886.8	2.2	2.3	-58.79	-0.7	96.7	30.1	26.0	4.09	7.362										
1,000.0	987.8	995.1	982.4	2.8	2.8	-65.45	-3.7	125.3	33.8	28.6	5.15	6.550										
1,100.0	1,083.1	1,094.9	1,078.0	3.3	3.4	-71.35	-6.7	154.0	37.6	31.4	6.30	5.979										
1,200.0	1,178.4	1,194.8	1,173.6	3.9	3.9	-76.10	-9.7	182.6	41.9	34.4	7.46	5.609										
1,300.0	1,273.7	1,294.6	1,269.3	4.4	4.4	-79.96	-12.6	211.2	46.3	37.7	8.63	5.365										
1,400.0	1,369.0	1,394.5	1,364.9	5.0	5.0	-83.13	-15.6	239.8	50.9	41.1	9.80	5.199										
1,500.0	1,464.3	1,494.3	1,460.5	5.6	5.5	-85.77	-18.6	268.4	55.7	44.7	10.95	5.083										
1,600.0	1,559.6	1,594.2	1,556.1	6.1	6.1	-88.00	-21.6	297.1	60.5	48.4	12.10	5.002										
1,700.0	1,654.9	1,694.1	1,651.7	6.7	6.6	-89.89	-24.5	325.7	65.5	52.2	13.24	4.943										
1,800.0	1,750.2	1,793.9	1,747.4	7.3	7.2	-91.51	-27.5	354.3	70.4	56.1	14.38	4.900										
1,900.0	1,845.5	1,893.8	1,843.0	7.9	7.7	-92.92	-30.5	382.9	75.5	60.0	15.50	4.868										
2,000.0	1,940.8	1,993.6	1,938.6	8.4	8.2	-94.15	-33.5	411.5	80.6	63.9	16.63	4.845										
2,100.0	2,036.0	2,093.5	2,034.2	9.0	8.8	-95.23	-36.5	440.2	85.7	67.9	17.74	4.828										
2,200.0	2,131.3	2,193.3	2,129.9	9.6	9.3	-96.20	-39.4	468.8	90.8	71.9	18.86	4.815										
2,300.0	2,226.6	2,293.2	2,225.5	10.2	9.9	-97.06	-42.4	497.4	96.0	76.0	19.97	4.806										
2,400.0	2,321.9	2,393.1	2,321.1	10.7	10.4	-97.83	-45.4	526.0	101.1	80.1	21.07	4.799										
2,500.0	2,417.2	2,492.9	2,416.7	11.3	11.0	-98.52	-48.4	554.7	106.3	84.1	22.18	4.794										
2,600.0	2,512.5	2,592.8	2,512.3	11.9	11.5	-99.15	-51.3	583.3	111.5	88.3	23.28	4.791										
2,700.0	2,607.8	2,692.6	2,608.0	12.5	12.1	-99.73	-54.3	611.9	116.8	92.4	24.38	4.789										
2,800.0	2,703.1	2,792.5	2,703.6	13.0	12.6	-100.25	-57.3	640.5	122.0	96.5	25.48	4.788										
2,900.0	2,798.4	2,892.3	2,799.2	13.6	13.2	-100.74	-60.3	669.1	127.2	100.7	26.58	4.787										
3,000.0	2,893.7	2,992.2	2,894.8	14.2	13.7	-101.18	-63.3	697.8	132.5	104.8	27.67	4.787										
3,100.0	2,989.0	3,092.1	2,990.4	14.8	14.3	-101.59	-66.2	726.4	137.7	109.0	28.77	4.788										
3,200.0	3,084.3	3,191.9	3,086.1	15.4	14.8	-101.97	-69.2	755.0	143.0	113.1	29.86	4.789										
3,300.0	3,179.6	3,291.8	3,181.7	15.9	15.4	-102.32	-72.2	783.6	148.3	117.3	30.95	4.790										
3,400.0	3,274.8	3,391.6	3,277.3	16.5	15.9	-102.65	-75.2	812.2	153.5	121.5	32.05	4.791										
3,500.0	3,370.1	3,491.5	3,372.9	17.1	16.5	-102.96	-78.1	840.9	158.8	125.7	33.14	4.793										
3,600.0	3,465.4	3,591.3	3,468.5	17.7	17.0	-103.25	-81.1	869.5	164.1	129.9	34.23	4.795										
3,700.0	3,560.7	3,691.2	3,564.2	18.2	17.6	-103.52	-84.1	898.1	169.4	134.1	35.32	4.797										
3,800.0	3,656.0	3,791.1	3,659.8	18.8	18.1	-103.77	-87.1	926.7	174.7	138.3	36.41	4.798										
3,900.0	3,751.3	3,890.9	3,755.4	19.4	18.7	-104.01	-90.1	955.3	180.0	142.5	37.49	4.800										
4,000.0	3,846.6	3,990.8	3,851.0	20.0	19.2	-104.23	-93.0	984.0	185.3	146.7	38.58	4.802										
4,100.0	3,941.9	4,090.6	3,946.7	20.5	19.8	-104.44	-96.0	1,012.6	190.6	150.9	39.67	4.804										
4,200.0	4,037.2	4,190.5	4,042.3	21.1	20.3	-104.64	-99.0	1,041.2	195.9	155.1	40.76	4.806										
4,300.0	4,132.5	4,290.3	4,137.9	21.7	20.9	-104.83	-102.0	1,069.8	201.2	159.3	41.84	4.808										
4,400.0	4,227.8	4,390.2	4,233.5	22.3	21.4	-105.02	-104.9	1,098.5	206.5	163.6	42.93	4.810										
4,500.0	4,323.1	4,490.1	4,329.1	22.9	22.0	-105.19	-107.9	1,127.1	211.8	167.8	44.01	4.812										
4,600.0	4,418.3	4,589.9	4,424.8	23.4	22.5	-105.35	-110.9	1,155.7	217.1	172.0	45.10	4.814										
4,700.0	4,513.6	4,689.8	4,520.4	24.0	23.1	-105.50	-113.9	1,184.3	222.4	176.2	46.18	4.816										
4,800.0	4,608.9	4,789.6	4,616.0	24.6	23.6	-105.65	-116.9	1,212.9	227.7	180.5	47.27	4.818										
4,900.0	4,704.2	4,889.5	4,711.6	25.2	24.2	-105.79	-119.8	1,241.6	233.0	184.7	48.35	4.820										
5,000.0	4,799.5	4,989.3	4,807.2	25.7	24.7	-105.93	-122.8	1,270.2	238.4	188.9	49.44	4.821										
5,100.0	4,894.8	5,089.2	4,902.9	26.3	25.3	-106.06	-125.8	1,298.8	243.7	193.2	50.52	4.823										

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Shideler Fee 6-1A
Project:	Mamm Creek	TVD Reference:	KB=22' @ 7126.0ft (Patterson #308)
Reference Site:	O31E Pad (2nd Occupation)	MD Reference:	KB=22' @ 7126.0ft (Patterson #308)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Shideler Fee 6-1A	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft	
Survey Program: 0-MWD													Offset Well Error:		0.0 ft
Reference															
Offset				Semi Major Axis			Distance								
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning		
5,200.0	4,990.1	5,189.1	4,998.5	26.9	25.8	-106.18	-128.8	1,327.4	249.0	197.4	51.61	4.825			
5,300.0	5,085.4	5,288.9	5,094.1	27.5	26.4	-106.30	-131.7	1,356.0	254.3	201.6	52.69	4.827			
5,400.0	5,180.7	5,388.8	5,189.7	28.1	26.9	-106.41	-134.7	1,384.7	259.6	205.9	53.77	4.828			
5,500.0	5,276.0	5,488.6	5,285.3	28.6	27.5	-106.52	-137.7	1,413.3	265.0	210.1	54.86	4.830			
5,600.0	5,371.3	5,588.5	5,381.0	29.2	28.0	-106.63	-140.7	1,441.9	270.3	214.3	55.94	4.832			
5,700.0	5,466.6	5,688.3	5,476.6	29.8	28.6	-106.73	-143.6	1,470.5	275.6	218.6	57.02	4.833			
5,800.0	5,561.9	5,788.2	5,572.2	30.4	29.1	-106.83	-146.6	1,499.1	280.9	222.8	58.11	4.835			
5,900.0	5,657.7	5,887.1	5,667.2	30.9	29.6	-106.85	-149.5	1,526.5	285.8	226.7	59.11	4.835			
6,000.0	5,754.5	5,985.8	5,762.8	31.3	30.1	-106.86	-152.0	1,550.6	290.1	230.1	59.99	4.836			
6,100.0	5,852.1	6,084.4	5,859.3	31.7	30.5	-106.87	-154.1	1,571.4	293.8	233.1	60.75	4.837			
6,200.0	5,950.5	6,183.1	5,956.4	32.1	30.8	-106.89	-156.0	1,588.8	297.0	235.6	61.39	4.837			
6,300.0	6,049.4	6,281.8	6,054.0	32.3	31.0	-106.91	-157.4	1,603.0	299.5	237.6	61.92	4.837			
6,400.0	6,148.7	6,380.5	6,152.1	32.5	31.2	-106.94	-158.6	1,613.8	301.5	239.2	62.34	4.836			
6,500.0	6,248.4	6,479.2	6,250.6	32.7	31.4	-106.97	-159.3	1,621.2	302.9	240.2	62.65	4.835			
6,600.0	6,348.3	6,577.9	6,349.2	32.8	31.5	-107.00	-159.7	1,625.3	303.6	240.8	62.84	4.832			
6,700.0	6,448.3	6,677.0	6,448.3	32.9	31.6	-1.18	-159.8	1,626.1	303.8	240.9	62.97	4.825			
6,800.0	6,548.3	6,777.0	6,548.3	32.9	31.6	-1.18	-159.8	1,626.1	303.8	240.7	63.10	4.815			
6,900.0	6,648.3	6,877.0	6,648.3	33.0	31.7	-1.18	-159.8	1,626.1	303.8	240.6	63.23	4.805			
7,000.0	6,748.3	6,977.0	6,748.3	33.1	31.8	-1.18	-159.8	1,626.1	303.8	240.5	63.36	4.795			
7,100.0	6,848.3	7,077.0	6,848.3	33.1	31.8	-1.18	-159.8	1,626.1	303.8	240.3	63.50	4.785			
7,200.0	6,948.3	7,177.0	6,948.3	33.2	31.9	-1.18	-159.8	1,626.1	303.8	240.2	63.63	4.775			
7,300.0	7,048.3	7,277.0	7,048.3	33.3	32.0	-1.18	-159.8	1,626.1	303.8	240.1	63.77	4.764			
7,400.0	7,148.3	7,377.0	7,148.3	33.3	32.0	-1.18	-159.8	1,626.1	303.8	239.9	63.91	4.754			
7,500.0	7,248.3	7,477.0	7,248.3	33.4	32.1	-1.18	-159.8	1,626.1	303.8	239.8	64.05	4.744			
7,600.0	7,348.3	7,577.0	7,348.3	33.5	32.2	-1.18	-159.8	1,626.1	303.8	239.6	64.19	4.733			
7,700.0	7,448.3	7,677.0	7,448.3	33.5	32.3	-1.18	-159.8	1,626.1	303.8	239.5	64.34	4.722			
7,800.0	7,548.3	7,777.0	7,548.3	33.6	32.3	-1.18	-159.8	1,626.1	303.8	239.3	64.48	4.712			
7,900.0	7,648.3	7,877.0	7,648.3	33.7	32.4	-1.18	-159.8	1,626.1	303.8	239.2	64.63	4.701			
8,000.0	7,748.3	7,977.0	7,748.3	33.7	32.5	-1.18	-159.8	1,626.1	303.8	239.1	64.78	4.690			
8,100.0	7,848.3	8,077.0	7,848.3	33.8	32.5	-1.18	-159.8	1,626.1	303.8	238.9	64.93	4.679			
8,200.0	7,948.3	8,177.0	7,948.3	33.9	32.6	-1.18	-159.8	1,626.1	303.8	238.7	65.08	4.668			
8,300.0	8,048.3	8,277.0	8,048.3	34.0	32.7	-1.18	-159.8	1,626.1	303.8	238.6	65.24	4.657			
8,400.0	8,148.3	8,377.0	8,148.3	34.0	32.8	-1.18	-159.8	1,626.1	303.8	238.4	65.39	4.646			
8,500.0	8,248.3	8,477.0	8,248.3	34.1	32.9	-1.18	-159.8	1,626.1	303.8	238.3	65.55	4.635			
8,600.0	8,348.3	8,577.0	8,348.3	34.2	32.9	-1.18	-159.8	1,626.1	303.8	238.1	65.71	4.624			
8,630.0	8,378.2	8,607.0	8,378.2	34.2	33.0	-1.18	-159.8	1,626.1	303.8	238.1	65.75	4.621 SF			
8,700.0	8,448.3	8,624.8	8,396.0	34.3	33.0	-1.18	-159.8	1,626.1	308.3	242.5	65.82	4.684			
8,800.0	8,548.3	8,624.8	8,396.0	34.3	33.0	-1.18	-159.8	1,626.1	339.9	274.0	65.90	5.157			
8,900.0	8,648.3	8,624.8	8,396.0	34.4	33.0	-1.18	-159.8	1,626.1	394.9	328.9	65.99	5.985			
9,000.0	8,748.3	8,624.8	8,396.0	34.5	33.0	-1.18	-159.8	1,626.1	465.2	399.1	66.07	7.041			

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Shideler Fee 6-1A
Project:	Mamm Creek	TVD Reference:	KB=22' @ 7126.0ft (Patterson #308)
Reference Site:	O31E Pad (2nd Occupation)	MD Reference:	KB=22' @ 7126.0ft (Patterson #308)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Shideler Fee 6-1A	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft	
Survey Program: O-MWD													Offset Well Error:		0.0 ft
Reference															
Offset				Semi Major Axis			Distance								
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning		
0.0	0.0	0.0	0.0	0.0	0.0	56.90	16.4	25.2	30.0						
100.0	100.0	100.0	100.0	0.1	0.1	56.90	16.4	25.2	30.0	29.8	0.27	110.268			
200.0	200.0	200.0	200.0	0.3	0.3	56.90	16.4	25.2	30.0	29.4	0.62	48.320			
300.0	300.0	300.0	300.0	0.5	0.5	56.90	16.4	25.2	30.0	29.1	0.97	30.939	CC, ES		
400.0	400.0	398.6	398.5	0.7	0.7	-47.65	16.6	27.7	31.9	30.6	1.32	24.182			
500.0	499.8	497.0	496.6	0.8	0.9	-48.20	17.3	35.3	35.3	33.6	1.68	20.990			
600.0	599.3	595.2	594.0	1.1	1.1	-50.79	18.4	47.8	39.8	37.7	2.09	19.061			
700.0	698.0	693.1	690.3	1.4	1.5	-54.57	20.0	65.3	45.6	43.0	2.59	17.607			
800.0	795.8	790.7	785.4	1.8	1.9	-58.84	22.0	87.6	52.8	49.6	3.24	16.295			
900.0	892.4	889.5	880.5	2.2	2.4	-63.82	24.3	114.1	61.0	56.9	4.09	14.912			
1,000.0	987.8	988.9	976.1	2.8	2.9	-70.80	26.7	141.0	68.2	63.1	5.14	13.284			
1,100.0	1,083.1	1,088.3	1,071.8	3.3	3.4	-76.71	29.1	168.0	76.2	70.0	6.25	12.203			
1,200.0	1,178.4	1,187.7	1,167.4	3.9	3.9	-81.47	31.5	194.9	84.9	77.5	7.37	11.512			
1,300.0	1,273.7	1,287.1	1,263.1	4.4	4.4	-85.33	33.9	221.9	94.0	85.5	8.50	11.060			
1,400.0	1,369.0	1,386.5	1,358.7	5.0	4.9	-88.49	36.3	248.9	103.5	93.8	9.62	10.757			
1,500.0	1,464.3	1,485.9	1,454.3	5.6	5.4	-91.12	38.7	275.8	113.2	102.5	10.73	10.551			
1,600.0	1,559.6	1,585.3	1,550.0	6.1	5.9	-93.34	41.1	302.8	123.1	111.3	11.83	10.407			
1,700.0	1,654.9	1,684.7	1,645.6	6.7	6.4	-95.21	43.6	329.7	133.2	120.3	12.93	10.307			
1,800.0	1,750.2	1,784.1	1,741.3	7.3	6.9	-96.83	46.0	356.7	143.4	129.4	14.01	10.236			
1,900.0	1,845.5	1,883.5	1,836.9	7.9	7.5	-98.23	48.4	383.6	153.7	138.6	15.09	10.185			
2,000.0	1,940.8	1,982.9	1,932.6	8.4	8.0	-99.45	50.8	410.6	164.1	148.0	16.17	10.150			
2,100.0	2,036.0	2,082.3	2,028.2	9.0	8.5	-100.52	53.2	437.6	174.6	157.3	17.24	10.126			
2,200.0	2,131.3	2,181.7	2,123.9	9.6	9.0	-101.48	55.6	464.5	185.1	166.8	18.31	10.109			
2,300.0	2,226.6	2,281.1	2,219.5	10.2	9.5	-102.33	58.0	491.5	195.6	176.3	19.37	10.098			
2,400.0	2,321.9	2,380.5	2,315.2	10.7	10.0	-103.10	60.4	518.4	206.2	185.8	20.43	10.092			
2,500.0	2,417.2	2,479.9	2,410.8	11.3	10.6	-103.79	62.8	545.4	216.8	195.3	21.49	10.089			
2,600.0	2,512.5	2,579.3	2,506.5	11.9	11.1	-104.41	65.2	572.3	227.5	204.9	22.55	10.089	SF		
2,700.0	2,607.8	2,678.7	2,602.1	12.5	11.6	-104.98	67.6	599.3	238.2	214.6	23.60	10.090			
2,800.0	2,703.1	2,778.1	2,697.8	13.0	12.1	-105.50	70.0	626.3	248.9	224.2	24.66	10.093			
2,900.0	2,798.4	2,877.5	2,793.4	13.6	12.6	-105.98	72.4	653.2	259.6	233.9	25.71	10.097			
3,000.0	2,893.7	2,976.9	2,889.0	14.2	13.2	-106.42	74.8	680.2	270.3	243.6	26.76	10.102			
3,100.0	2,989.0	3,076.3	2,984.7	14.8	13.7	-106.83	77.2	707.1	281.1	253.2	27.81	10.107			
3,200.0	3,084.3	3,175.7	3,080.3	15.4	14.2	-107.20	79.6	734.1	291.8	263.0	28.85	10.113			
3,300.0	3,179.6	3,275.1	3,176.0	15.9	14.7	-107.55	82.0	761.0	302.6	272.7	29.90	10.119			
3,400.0	3,274.8	3,374.5	3,271.6	16.5	15.2	-107.88	84.4	788.0	313.4	282.4	30.95	10.126			
3,500.0	3,370.1	3,473.9	3,367.3	17.1	15.7	-108.18	86.8	815.0	324.2	292.2	31.99	10.132			
3,600.0	3,465.4	3,573.3	3,462.9	17.7	16.3	-108.46	89.2	841.9	335.0	301.9	33.04	10.138			
3,700.0	3,560.7	3,672.7	3,558.6	18.2	16.8	-108.73	91.6	868.9	345.8	311.7	34.08	10.145			
3,800.0	3,656.0	3,772.2	3,654.2	18.8	17.3	-108.98	94.0	895.8	356.6	321.4	35.13	10.151			
3,900.0	3,751.3	3,871.6	3,749.9	19.4	17.8	-109.22	96.4	922.8	367.4	331.2	36.17	10.158			
4,000.0	3,846.6	3,971.0	3,845.5	20.0	18.3	-109.44	98.8	949.7	378.2	341.0	37.21	10.164			
4,100.0	3,941.9	4,070.4	3,941.2	20.5	18.9	-109.65	101.2	976.7	389.0	350.8	38.25	10.170			
4,200.0	4,037.2	4,169.8	4,036.8	21.1	19.4	-109.85	103.6	1,003.7	399.9	360.6	39.29	10.177			
4,300.0	4,132.5	4,269.2	4,132.5	21.7	19.9	-110.04	106.1	1,030.6	410.7	370.4	40.34	10.183			
4,400.0	4,227.8	4,368.6	4,228.1	22.3	20.4	-110.21	108.5	1,057.6	421.6	380.2	41.38	10.188			
4,500.0	4,323.1	4,468.0	4,323.7	22.9	20.9	-110.38	110.9	1,084.5	432.4	390.0	42.42	10.194			
4,600.0	4,418.3	4,567.4	4,419.4	23.4	21.5	-110.54	113.3	1,111.5	443.3	399.8	43.46	10.200			
4,700.0	4,513.6	4,666.8	4,515.0	24.0	22.0	-110.70	115.7	1,138.5	454.1	409.6	44.50	10.205			
4,800.0	4,608.9	4,766.2	4,610.7	24.6	22.5	-110.84	118.1	1,165.4	465.0	419.4	45.54	10.211			
4,900.0	4,704.2	4,865.6	4,706.3	25.2	23.0	-110.98	120.5	1,192.4	475.8	429.3	46.58	10.216			
5,000.0	4,799.5	4,965.0	4,802.0	25.7	23.5	-111.12	122.9	1,219.3	486.7	439.1	47.62	10.221			
5,100.0	4,894.8	5,064.4	4,897.6	26.3	24.0	-111.24	125.3	1,246.3	497.6	448.9	48.66	10.226			

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Shideler Fee 6-1A
Project:	Mamm Creek	TVD Reference:	KB=22' @ 7126.0ft (Patterson #308)
Reference Site:	O31E Pad (2nd Occupation)	MD Reference:	KB=22' @ 7126.0ft (Patterson #308)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Shideler Fee 6-1A	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Cathedral Energy Services

Anticollision Report

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Site Error:	0.0ft	North Reference:	True
Reference Well:	Shideler Fee 6-1A	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft	
Survey Program: 0-MWD													Offset Well Error:		0.0 ft
Reference															
Offset				Semi Major Axis			Distance								
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning		
0.0	0.0	0.0	0.0	0.0	0.0	48.23	35.3	39.6	53.0						
100.0	100.0	100.0	100.0	0.1	0.1	48.23	35.3	39.6	53.0	52.8	0.27	194.837			
200.0	200.0	200.0	200.0	0.3	0.3	48.23	35.3	39.6	53.0	52.4	0.62	85.378 CC, ES			
300.0	300.0	297.2	297.2	0.5	0.5	48.48	36.8	41.6	55.6	54.6	0.97	57.141			
400.0	400.0	394.0	393.7	0.7	0.7	-57.13	41.1	47.5	62.8	61.5	1.31	47.947			
500.0	499.8	490.1	489.0	0.8	1.0	-59.36	48.3	57.3	72.7	71.0	1.67	43.604			
600.0	599.3	585.2	582.6	1.1	1.3	-63.37	58.2	70.8	85.1	83.0	2.07	41.167			
700.0	698.0	679.2	674.2	1.4	1.7	-68.06	70.6	87.9	100.6	98.1	2.56	39.304			
800.0	795.8	771.9	763.3	1.8	2.2	-72.72	85.5	108.2	119.7	116.5	3.19	37.483			
900.0	892.4	863.9	850.6	2.2	2.7	-77.01	102.7	131.8	142.5	138.5	3.99	35.712			
1,000.0	987.8	960.0	941.2	2.8	3.3	-81.66	121.5	157.6	166.9	162.0	4.94	33.755			
1,100.0	1,083.1	1,056.0	1,031.8	3.3	3.9	-85.45	140.4	183.4	192.1	186.2	5.95	32.276			
1,200.0	1,178.4	1,152.1	1,122.4	3.9	4.5	-88.36	159.3	209.2	218.0	211.0	6.98	31.207			
1,300.0	1,273.7	1,248.2	1,213.0	4.4	5.1	-90.66	178.1	235.0	244.2	236.2	8.03	30.417			
1,400.0	1,369.0	1,344.3	1,303.6	5.0	5.7	-92.51	197.0	260.8	270.8	261.7	9.08	29.820			
1,500.0	1,464.3	1,440.3	1,394.2	5.6	6.3	-94.03	215.8	286.7	297.6	287.4	10.14	29.357			
1,600.0	1,559.6	1,536.4	1,484.8	6.1	6.9	-95.30	234.7	312.5	324.5	313.3	11.19	28.992			
1,700.0	1,654.9	1,632.5	1,575.4	6.7	7.5	-96.37	253.5	338.3	351.6	339.3	12.25	28.697			
1,800.0	1,750.2	1,728.6	1,666.0	7.3	8.1	-97.30	272.4	364.1	378.7	365.4	13.31	28.455			
1,900.0	1,845.5	1,824.6	1,756.6	7.9	8.7	-98.10	291.2	389.9	406.0	391.6	14.37	28.254			
2,000.0	1,940.8	1,920.7	1,847.2	8.4	9.3	-98.79	310.1	415.7	433.3	417.9	15.43	28.085			
2,100.0	2,036.0	2,016.8	1,937.8	9.0	9.9	-99.41	329.0	441.5	460.6	444.2	16.49	27.941			
2,200.0	2,131.3	2,112.9	2,028.4	9.6	10.5	-99.96	347.8	467.4	488.0	470.5	17.55	27.817 SF			

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Shideler Fee 6-1A
Project:	Mamm Creek	TVD Reference:	KB=22' @ 7126.0ft (Patterson #308)
Reference Site:	O31E Pad (2nd Occupation)	MD Reference:	KB=22' @ 7126.0ft (Patterson #308)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Shideler Fee 6-1A	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft	
Survey Program: O-MWD													Offset Well Error:		0.0 ft
Reference															
Offset				Semi Major Axis			Distance								
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning		
0.0	0.0	0.0	0.0	0.0	0.0	-123.96	-8.4	-12.4	15.0						
100.0	100.0	100.0	100.0	0.1	0.1	-123.96	-8.4	-12.4	15.0	14.7	0.27	55.057			
200.0	200.0	200.0	200.0	0.3	0.3	-123.96	-8.4	-12.4	15.0	14.4	0.62	24.126			
300.0	300.0	300.0	300.0	0.5	0.5	-123.96	-8.4	-12.4	15.0	14.0	0.97	15.448			
400.0	400.0	400.3	400.3	0.7	0.7	127.28	-9.0	-11.1	14.6	13.3	1.32	11.067			
456.4	456.3	456.9	456.8	0.8	0.8	124.08	-10.2	-8.2	14.5	13.0	1.53	9.462 CC			
500.0	499.8	500.6	500.4	0.8	0.9	121.28	-11.5	-5.0	14.6	12.9	1.70	8.567 ES			
600.0	599.3	600.9	599.9	1.1	1.1	114.33	-16.2	5.9	15.3	13.1	2.17	7.046			
700.0	698.0	701.1	698.6	1.4	1.4	107.48	-22.8	21.5	16.9	14.1	2.79	6.038			
800.0	795.8	801.1	796.2	1.8	1.9	101.52	-31.5	41.9	19.3	15.7	3.60	5.353			
900.0	892.4	901.1	892.4	2.2	2.4	96.79	-42.2	66.9	22.5	17.9	4.59	4.888			
1,000.0	987.8	1,001.0	987.1	2.8	2.9	92.18	-54.6	96.1	26.3	20.6	5.70	4.616			
1,100.0	1,083.1	1,100.9	1,081.6	3.3	3.5	87.93	-67.3	126.0	30.4	23.6	6.81	4.463			
1,200.0	1,178.4	1,200.8	1,176.0	3.9	4.1	84.70	-80.1	155.9	34.6	26.7	7.91	4.374			
1,300.0	1,273.7	1,300.7	1,270.5	4.4	4.7	82.17	-92.8	185.8	38.9	29.9	9.01	4.320			
1,400.0	1,369.0	1,400.6	1,365.0	5.0	5.3	80.16	-105.5	215.7	43.3	33.2	10.09	4.287			
1,500.0	1,464.3	1,500.5	1,459.4	5.6	5.9	78.51	-118.3	245.6	47.7	36.5	11.17	4.267			
1,600.0	1,559.6	1,600.4	1,553.9	6.1	6.5	77.14	-131.0	275.6	52.1	39.9	12.25	4.255			
1,700.0	1,654.9	1,700.3	1,648.3	6.7	7.2	75.99	-143.8	305.5	56.6	43.3	13.32	4.249			
1,800.0	1,750.2	1,800.2	1,742.8	7.3	7.8	75.01	-156.5	335.4	61.1	46.7	14.38	4.245			
1,900.0	1,845.5	1,900.1	1,837.2	7.9	8.4	74.16	-169.2	365.3	65.6	50.1	15.44	4.245			
2,000.0	1,940.8	1,999.9	1,931.7	8.4	9.0	73.42	-182.0	395.2	70.1	53.6	16.50	4.245			
2,100.0	2,036.0	2,099.8	2,026.1	9.0	9.6	72.77	-194.7	425.1	74.6	57.0	17.56	4.247			
2,200.0	2,131.3	2,199.7	2,120.6	9.6	10.2	72.20	-207.5	455.0	79.1	60.5	18.62	4.249			
2,300.0	2,226.6	2,299.6	2,215.0	10.2	10.8	71.68	-220.2	485.0	83.7	64.0	19.67	4.252			
2,400.0	2,321.9	2,399.5	2,309.5	10.7	11.4	71.22	-232.9	514.9	88.2	67.5	20.73	4.255			
2,500.0	2,417.2	2,499.4	2,404.0	11.3	12.1	70.81	-245.7	544.8	92.7	71.0	21.78	4.258			
2,600.0	2,512.5	2,599.3	2,498.4	11.9	12.7	70.43	-258.4	574.7	97.3	74.5	22.83	4.262			
2,700.0	2,607.8	2,699.2	2,592.9	12.5	13.3	70.09	-271.2	604.6	101.8	78.0	23.88	4.265			
2,800.0	2,703.1	2,799.1	2,687.3	13.0	13.9	69.78	-283.9	634.5	106.4	81.5	24.93	4.268			
2,900.0	2,798.4	2,899.0	2,781.8	13.6	14.5	69.49	-296.6	664.4	111.0	85.0	25.98	4.272			
3,000.0	2,893.7	2,998.9	2,876.2	14.2	15.1	69.22	-309.4	694.4	115.5	88.5	27.03	4.275			
3,100.0	2,989.0	3,098.8	2,970.7	14.8	15.8	68.98	-322.1	724.3	120.1	92.0	28.07	4.278			
3,200.0	3,084.3	3,198.7	3,065.1	15.4	16.4	68.75	-334.9	754.2	124.7	95.5	29.12	4.281			
3,300.0	3,179.6	3,298.6	3,159.6	15.9	17.0	68.54	-347.6	784.1	129.2	99.1	30.17	4.284			
3,400.0	3,274.8	3,398.5	3,254.1	16.5	17.6	68.35	-360.3	814.0	133.8	102.6	31.21	4.287			
3,500.0	3,370.1	3,498.4	3,348.5	17.1	18.2	68.16	-373.1	843.9	138.4	106.1	32.26	4.290			
3,600.0	3,465.4	3,598.3	3,443.0	17.7	18.8	67.99	-385.8	873.8	143.0	109.7	33.31	4.292			
3,700.0	3,560.7	3,698.2	3,537.4	18.2	19.5	67.83	-398.6	903.7	147.5	113.2	34.35	4.295			
3,800.0	3,656.0	3,798.0	3,631.9	18.8	20.1	67.68	-411.3	933.7	152.1	116.7	35.40	4.297			
3,900.0	3,751.3	3,897.9	3,726.3	19.4	20.7	67.54	-424.0	963.6	156.7	120.3	36.44	4.300			
4,000.0	3,846.6	3,997.8	3,820.8	20.0	21.3	67.40	-436.8	993.5	161.3	123.8	37.49	4.302			
4,100.0	3,941.9	4,097.7	3,915.2	20.5	21.9	67.27	-449.5	1,023.4	165.9	127.3	38.53	4.304			
4,200.0	4,037.2	4,197.6	4,009.7	21.1	22.5	67.15	-462.3	1,053.3	170.4	130.9	39.58	4.306			
4,300.0	4,132.5	4,297.5	4,104.1	21.7	23.2	67.04	-475.0	1,083.2	175.0	134.4	40.62	4.308			
4,400.0	4,227.8	4,397.4	4,198.6	22.3	23.8	66.93	-487.7	1,113.1	179.6	137.9	41.67	4.310			
4,500.0	4,323.1	4,497.3	4,293.1	22.9	24.4	66.83	-500.5	1,143.1	184.2	141.5	42.71	4.312			
4,600.0	4,418.3	4,597.2	4,387.5	23.4	25.0	66.73	-513.2	1,173.0	188.8	145.0	43.75	4.314			
4,700.0	4,513.6	4,697.1	4,482.0	24.0	25.6	66.64	-526.0	1,202.9	193.3	148.5	44.80	4.316			
4,800.0	4,608.9	4,797.0	4,576.4	24.6	26.2	66.55	-538.7	1,232.8	197.9	152.1	45.84	4.318			
4,900.0	4,704.2	4,896.9	4,670.9	25.2	26.9	66.47	-551.4	1,262.7	202.5	155.6	46.88	4.319			
5,000.0	4,799.5	4,996.8	4,765.3	25.7	27.5	66.39	-564.2	1,292.6	207.1	159.2	47.93	4.321			

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Shideler Fee 6-1A
Project:	Mamm Creek	TVD Reference:	KB=22' @ 7126.0ft (Patterson #308)
Reference Site:	O31E Pad (2nd Occupation)	MD Reference:	KB=22' @ 7126.0ft (Patterson #308)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Shideler Fee 6-1A	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft		
Survey Program: 0-MWD													Offset Well Error:		0.0 ft	
Reference													Warning			
Offset				Semi Major Axis			Distance				Total		Separation		Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Uncertainty Axis	Factor				
5,100.0	4,894.8	5,096.7	4,859.8	26.3	28.1	66.31	-576.9	1,322.5	211.7	162.7	48.97	4.323				
5,200.0	4,990.1	5,196.6	4,954.2	26.9	28.7	66.23	-589.7	1,352.5	216.3	166.3	50.01	4.324				
5,300.0	5,085.4	5,296.5	5,048.7	27.5	29.3	66.16	-602.4	1,382.4	220.9	169.8	51.06	4.326				
5,400.0	5,180.7	5,396.4	5,143.2	28.1	29.9	66.09	-615.1	1,412.3	225.4	173.3	52.10	4.327				
5,500.0	5,276.0	5,496.3	5,237.6	28.6	30.6	66.03	-627.9	1,442.2	230.0	176.9	53.14	4.329				
5,600.0	5,371.3	5,596.1	5,332.1	29.2	31.2	65.97	-640.6	1,472.1	234.6	180.4	54.19	4.330				
5,700.0	5,466.6	5,696.0	5,426.5	29.8	31.8	65.91	-653.4	1,502.0	239.2	184.0	55.23	4.331				
5,800.0	5,561.9	5,797.2	5,522.2	30.4	32.4	65.88	-666.2	1,532.2	243.7	187.4	56.29	4.330				
5,900.0	5,657.7	5,901.7	5,622.0	30.9	33.0	66.04	-678.4	1,560.9	247.7	190.4	57.31	4.321				
6,000.0	5,754.5	6,006.4	5,722.9	31.3	33.5	66.18	-689.2	1,586.2	251.1	192.9	58.21	4.314				
6,100.0	5,852.1	6,111.0	5,824.8	31.7	33.9	66.30	-698.6	1,608.2	254.2	195.2	58.99	4.308				
6,200.0	5,950.5	6,215.8	5,927.6	32.1	34.3	66.39	-706.5	1,626.7	256.7	197.1	59.65	4.303				
6,300.0	6,049.4	6,320.6	6,031.1	32.3	34.6	66.46	-712.9	1,641.8	258.8	198.6	60.20	4.299				
6,400.0	6,148.7	6,425.4	6,135.2	32.5	34.8	66.51	-717.8	1,653.4	260.4	199.8	60.63	4.295				
6,500.0	6,248.4	6,530.3	6,239.7	32.7	35.0	66.53	-721.3	1,661.5	261.5	200.6	60.95	4.291				
6,600.0	6,348.3	6,635.2	6,344.4	32.8	35.1	66.54	-723.2	1,666.0	262.2	201.0	61.15	4.288				
6,700.0	6,448.3	6,739.0	6,448.3	32.9	35.1	172.38	-723.7	1,667.1	262.4	201.1	61.28	4.282				
6,800.0	6,548.3	6,839.0	6,548.3	32.9	35.2	172.38	-723.7	1,667.1	262.4	201.0	61.41	4.272				
6,900.0	6,648.3	6,939.0	6,648.3	33.0	35.3	172.38	-723.7	1,667.1	262.4	200.8	61.55	4.263				
7,000.0	6,748.3	7,039.0	6,748.3	33.1	35.3	172.38	-723.7	1,667.1	262.4	200.7	61.69	4.253				
7,100.0	6,848.3	7,139.0	6,848.3	33.1	35.4	172.38	-723.7	1,667.1	262.4	200.5	61.83	4.244				
7,200.0	6,948.3	7,239.0	6,948.3	33.2	35.4	172.38	-723.7	1,667.1	262.4	200.4	61.97	4.234				
7,300.0	7,048.3	7,339.0	7,048.3	33.3	35.5	172.38	-723.7	1,667.1	262.4	200.3	62.11	4.224				
7,400.0	7,148.3	7,439.0	7,148.3	33.3	35.6	172.38	-723.7	1,667.1	262.4	200.1	62.25	4.215				
7,500.0	7,248.3	7,539.0	7,248.3	33.4	35.6	172.38	-723.7	1,667.1	262.4	200.0	62.40	4.205				
7,600.0	7,348.3	7,639.0	7,348.3	33.5	35.7	172.38	-723.7	1,667.1	262.4	199.8	62.55	4.195				
7,700.0	7,448.3	7,739.0	7,448.3	33.5	35.8	172.38	-723.7	1,667.1	262.4	199.7	62.70	4.185				
7,800.0	7,548.3	7,839.0	7,548.3	33.6	35.8	172.38	-723.7	1,667.1	262.4	199.5	62.85	4.175				
7,900.0	7,648.3	7,939.0	7,648.3	33.7	35.9	172.38	-723.7	1,667.1	262.4	199.4	63.00	4.165				
8,000.0	7,748.3	8,039.0	7,748.3	33.7	36.0	172.38	-723.7	1,667.1	262.4	199.2	63.15	4.155				
8,100.0	7,848.3	8,139.0	7,848.3	33.8	36.0	172.38	-723.7	1,667.1	262.4	199.1	63.31	4.145				
8,200.0	7,948.3	8,239.0	7,948.3	33.9	36.1	172.38	-723.7	1,667.1	262.4	198.9	63.46	4.134				
8,300.0	8,048.3	8,339.0	8,048.3	34.0	36.2	172.38	-723.7	1,667.1	262.4	198.8	63.62	4.124				
8,400.0	8,148.3	8,439.0	8,148.3	34.0	36.2	172.38	-723.7	1,667.1	262.4	198.6	63.78	4.114				
8,500.0	8,248.3	8,539.0	8,248.3	34.1	36.3	172.38	-723.7	1,667.1	262.4	198.4	63.94	4.103				
8,600.0	8,348.3	8,639.0	8,348.3	34.2	36.4	172.38	-723.7	1,667.1	262.4	198.3	64.10	4.093				
8,641.1	8,389.4	8,680.2	8,389.4	34.2	36.4	172.38	-723.7	1,667.1	262.4	198.2	64.17	4.089 SF				
8,700.0	8,448.3	8,695.7	8,405.0	34.3	36.4	172.38	-723.7	1,667.1	265.9	201.7	64.23	4.140				
8,800.0	8,548.3	8,695.7	8,405.0	34.3	36.4	172.38	-723.7	1,667.1	298.9	234.6	64.32	4.648				
8,900.0	8,648.3	8,695.7	8,405.0	34.4	36.4	172.38	-723.7	1,667.1	357.8	293.4	64.40	5.556				
9,000.0	8,748.3	8,695.7	8,405.0	34.5	36.4	172.38	-723.7	1,667.1	432.1	367.6	64.48	6.700				

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Shideler Fee 6-1A
Project:	Mamm Creek	TVD Reference:	KB=22' @ 7126.0ft (Patterson #308)
Reference Site:	O31E Pad (2nd Occupation)	MD Reference:	KB=22' @ 7126.0ft (Patterson #308)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Shideler Fee 6-1A	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft	
Survey Program: O-MWD													Offset Well Error:		0.0 ft
Reference															
Offset				Semi Major Axis			Distance								
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning		
0.0	0.0	0.0	0.0	0.0	0.0	-123.08	-16.4	-25.2	30.0						
100.0	100.0	100.0	100.0	0.1	0.1	-123.08	-16.4	-25.2	30.0	29.7	0.27	110.250			
200.0	200.0	200.0	200.0	0.3	0.3	-123.08	-16.4	-25.2	30.0	29.4	0.62	48.312			
300.0	300.0	300.0	300.0	0.5	0.5	-123.08	-16.4	-25.2	30.0	29.0	0.97	30.934			
399.5	399.5	400.0	399.9	0.7	0.7	128.27	-17.9	-23.0	30.0	28.6	1.32	22.625			
400.0	400.0	400.5	400.5	0.7	0.7	127.24	-17.9	-23.0	29.6	28.2	1.33	22.288	CC, ES		
500.0	499.8	500.8	500.5	0.8	0.9	120.88	-22.5	-16.6	30.6	28.8	1.72	17.732			
600.0	599.3	600.9	599.7	1.1	1.2	114.13	-30.2	-6.0	33.7	31.4	2.22	15.165			
700.0	698.0	700.8	697.8	1.4	1.5	108.10	-40.9	8.8	38.9	36.0	2.86	13.595			
800.0	795.8	800.3	794.6	1.8	1.9	103.33	-54.5	27.7	46.2	42.5	3.67	12.585			
900.0	892.4	899.5	889.7	2.2	2.5	99.81	-70.9	50.6	55.5	50.8	4.66	11.902			
1,000.0	987.8	998.2	982.8	2.8	3.1	96.65	-90.1	77.3	66.5	60.7	5.79	11.491			
1,100.0	1,083.1	1,097.1	1,074.7	3.3	3.7	92.16	-111.4	106.8	78.6	71.7	6.93	11.354			
1,200.0	1,178.4	1,196.2	1,166.8	3.9	4.4	88.78	-132.8	136.5	91.2	83.1	8.05	11.320	SF		
1,300.0	1,273.7	1,295.3	1,258.9	4.4	5.1	86.22	-154.2	166.2	104.0	94.8	9.17	11.334			
1,400.0	1,369.0	1,394.4	1,351.0	5.0	5.8	84.22	-175.5	195.9	116.9	106.6	10.28	11.369			
1,500.0	1,464.3	1,493.5	1,443.1	5.6	6.4	82.63	-196.9	225.6	130.0	118.6	11.39	11.414			
1,600.0	1,559.6	1,592.5	1,535.1	6.1	7.1	81.32	-218.3	255.3	143.1	130.6	12.49	11.461			
1,700.0	1,654.9	1,691.6	1,627.2	6.7	7.8	80.24	-239.7	285.0	156.3	142.7	13.58	11.508			
1,800.0	1,750.2	1,790.7	1,719.3	7.3	8.5	79.32	-261.1	314.7	169.6	154.9	14.68	11.554			
1,900.0	1,845.5	1,889.8	1,811.4	7.9	9.2	78.54	-282.4	344.4	182.8	167.1	15.77	11.597			
2,000.0	1,940.8	1,988.9	1,903.5	8.4	9.8	77.86	-303.8	374.1	196.2	179.3	16.85	11.638			
2,100.0	2,036.0	2,088.0	1,995.5	9.0	10.5	77.27	-325.2	403.8	209.5	191.5	17.94	11.676			
2,200.0	2,131.3	2,187.1	2,087.6	9.6	11.2	76.75	-346.6	433.5	222.8	203.8	19.03	11.712			
2,300.0	2,226.6	2,286.1	2,179.7	10.2	11.9	76.29	-368.0	463.2	236.2	216.1	20.11	11.745			
2,400.0	2,321.9	2,385.2	2,271.8	10.7	12.6	75.88	-389.3	492.9	249.6	228.4	21.20	11.776			
2,500.0	2,417.2	2,484.3	2,363.9	11.3	13.3	75.51	-410.7	522.6	263.0	240.7	22.28	11.805			
2,600.0	2,512.5	2,583.4	2,455.9	11.9	14.0	75.18	-432.1	552.3	276.4	253.0	23.36	11.832			
2,700.0	2,607.8	2,682.5	2,548.0	12.5	14.6	74.87	-453.5	582.0	289.8	265.4	24.44	11.857			
2,800.0	2,703.1	2,781.6	2,640.1	13.0	15.3	74.60	-474.9	611.7	303.2	277.7	25.52	11.880			
2,900.0	2,798.4	2,880.7	2,732.2	13.6	16.0	74.34	-496.3	641.3	316.7	290.1	26.60	11.902			
3,000.0	2,893.7	2,979.7	2,824.3	14.2	16.7	74.11	-517.6	671.0	330.1	302.4	27.69	11.923			
3,100.0	2,989.0	3,078.8	2,916.3	14.8	17.4	73.90	-539.0	700.7	343.5	314.8	28.77	11.942			
3,200.0	3,084.3	3,177.9	3,008.4	15.4	18.1	73.70	-560.4	730.4	357.0	327.1	29.85	11.961			
3,300.0	3,179.6	3,277.0	3,100.5	15.9	18.8	73.52	-581.8	760.1	370.4	339.5	30.93	11.978			
3,400.0	3,274.8	3,376.1	3,192.6	16.5	19.5	73.34	-603.2	789.8	383.9	351.9	32.00	11.994			
3,500.0	3,370.1	3,475.2	3,284.7	17.1	20.2	73.19	-624.5	819.5	397.3	364.2	33.08	12.009			
3,600.0	3,465.4	3,574.2	3,376.7	17.7	20.8	73.04	-645.9	849.2	410.8	376.6	34.16	12.024			
3,700.0	3,560.7	3,673.3	3,468.8	18.2	21.5	72.90	-667.3	878.9	424.2	389.0	35.24	12.038			
3,800.0	3,656.0	3,772.4	3,560.9	18.8	22.2	72.77	-688.7	908.6	437.7	401.4	36.32	12.051			
3,900.0	3,751.3	3,871.5	3,653.0	19.4	22.9	72.64	-710.1	938.3	451.2	413.8	37.40	12.063			
4,000.0	3,846.6	3,970.6	3,745.1	20.0	23.6	72.53	-731.4	968.0	464.6	426.1	38.48	12.075			
4,100.0	3,941.9	4,069.7	3,837.1	20.5	24.3	72.42	-752.8	997.7	478.1	438.5	39.56	12.086			
4,200.0	4,037.2	4,168.8	3,929.2	21.1	25.0	72.32	-774.2	1,027.4	491.6	450.9	40.63	12.097			

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Shideler Fee 6-1A
Project:	Mamm Creek	TVD Reference:	KB=22' @ 7126.0ft (Patterson #308)
Reference Site:	O31E Pad (2nd Occupation)	MD Reference:	KB=22' @ 7126.0ft (Patterson #308)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Shideler Fee 6-1A	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft	
Survey Program: 0-MWD													Offset Well Error:		0.0 ft
Reference															
Offset				Semi Major Axis			Distance								
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning		
0.0	0.0	0.0	0.0	0.0	0.0	-123.38	-24.8	-37.6	45.0						
100.0	100.0	100.0	100.0	0.1	0.1	-123.38	-24.8	-37.6	45.0	44.7	0.27	165.322			
200.0	200.0	200.0	200.0	0.3	0.3	-123.38	-24.8	-37.6	45.0	44.4	0.62	72.444			
300.0	300.0	300.2	300.2	0.5	0.5	-123.59	-24.9	-37.5	45.0	44.0	0.97	46.327			
390.3	390.3	390.9	390.8	0.6	0.7	127.47	-27.1	-34.9	44.9	43.6	1.30	34.615			
400.0	400.0	400.6	400.5	0.7	0.7	126.27	-27.5	-34.5	44.5	43.2	1.33	33.412	CC, ES		
500.0	499.8	500.8	500.3	0.8	0.9	120.22	-33.6	-27.6	46.1	44.4	1.74	26.457			
600.0	599.3	600.7	599.1	1.1	1.2	114.03	-43.0	-16.8	50.4	48.2	2.26	22.352			
700.0	698.0	700.0	696.5	1.4	1.6	108.56	-55.8	-2.2	57.5	54.6	2.91	19.744			
800.0	795.8	799.1	792.5	1.8	2.0	104.17	-71.9	16.1	67.2	63.5	3.73	17.998			
900.0	892.4	897.4	886.5	2.2	2.6	100.87	-91.1	38.0	79.4	74.6	4.73	16.793			
1,000.0	987.8	995.2	978.3	2.8	3.2	98.13	-113.3	63.3	93.7	87.9	5.85	16.029			
1,100.0	1,083.1	1,092.8	1,068.2	3.3	3.9	94.14	-138.2	91.7	109.7	102.7	7.00	15.680			
1,200.0	1,178.4	1,191.2	1,158.6	3.9	4.6	90.79	-163.9	120.9	126.4	118.3	8.14	15.537			
1,300.0	1,273.7	1,289.5	1,248.9	4.4	5.3	88.23	-189.5	150.2	143.5	134.2	9.27	15.484			
1,400.0	1,369.0	1,387.9	1,339.2	5.0	6.0	86.21	-215.2	179.4	160.8	150.4	10.39	15.478	SF		
1,500.0	1,464.3	1,486.2	1,429.6	5.6	6.7	84.59	-240.9	208.7	178.2	166.7	11.50	15.497			
1,600.0	1,559.6	1,584.6	1,519.9	6.1	7.5	83.26	-266.5	237.9	195.8	183.2	12.61	15.529			
1,700.0	1,654.9	1,682.9	1,610.2	6.7	8.2	82.14	-292.2	267.1	213.4	199.7	13.71	15.567			
1,800.0	1,750.2	1,781.3	1,700.6	7.3	8.9	81.20	-317.8	296.4	231.1	216.3	14.81	15.608			
1,900.0	1,845.5	1,879.6	1,790.9	7.9	9.6	80.39	-343.5	325.6	248.9	233.0	15.90	15.649			
2,000.0	1,940.8	1,978.0	1,881.2	8.4	10.4	79.69	-369.1	354.8	266.7	249.7	17.00	15.690			
2,100.0	2,036.0	2,076.3	1,971.6	9.0	11.1	79.07	-394.8	384.1	284.5	266.4	18.09	15.729			
2,200.0	2,131.3	2,174.7	2,061.9	9.6	11.8	78.53	-420.5	413.3	302.3	283.2	19.18	15.767			
2,300.0	2,226.6	2,273.1	2,152.3	10.2	12.5	78.05	-446.1	442.5	320.2	300.0	20.26	15.803			
2,400.0	2,321.9	2,371.4	2,242.6	10.7	13.3	77.62	-471.8	471.8	338.1	316.8	21.35	15.837			
2,500.0	2,417.2	2,469.8	2,332.9	11.3	14.0	77.23	-497.4	501.0	356.0	333.6	22.44	15.869			
2,600.0	2,512.5	2,568.1	2,423.3	11.9	14.7	76.88	-523.1	530.3	374.0	350.5	23.52	15.900			
2,700.0	2,607.8	2,666.5	2,513.6	12.5	15.4	76.56	-548.7	559.5	391.9	367.3	24.61	15.928			
2,800.0	2,703.1	2,764.8	2,603.9	13.0	16.2	76.27	-574.4	588.7	409.9	384.2	25.69	15.956			
2,900.0	2,798.4	2,863.2	2,694.3	13.6	16.9	76.01	-600.1	618.0	427.8	401.1	26.77	15.981			
3,000.0	2,893.7	2,961.5	2,784.6	14.2	17.6	75.76	-625.7	647.2	445.8	418.0	27.85	16.005			
3,100.0	2,989.0	3,059.9	2,874.9	14.8	18.3	75.54	-651.4	676.4	463.8	434.9	28.94	16.028			
3,200.0	3,084.3	3,158.2	2,965.3	15.4	19.1	75.33	-677.0	705.7	481.8	451.8	30.02	16.050			
3,300.0	3,179.6	3,256.6	3,055.6	15.9	19.8	75.14	-702.7	734.9	499.8	468.7	31.10	16.070			

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Shideler Fee 6-1A
Project:	Mamm Creek	TVD Reference:	KB=22' @ 7126.0ft (Patterson #308)
Reference Site:	O31E Pad (2nd Occupation)	MD Reference:	KB=22' @ 7126.0ft (Patterson #308)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Shideler Fee 6-1A	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft	
Survey Program: 0-MWD													Offset Well Error:		0.0 ft
Reference															
Offset				Semi Major Axis			Distance								
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning		
0.0	0.0	0.0	0.0	0.0	0.0	-123.09	-32.8	-50.3	60.0						
100.0	100.0	100.0	100.0	0.1	0.1	-123.09	-32.8	-50.3	60.0	59.8	0.27	220.510			
200.0	200.0	200.0	200.0	0.3	0.3	-123.09	-32.8	-50.3	60.0	59.4	0.62	96.628			
300.0	300.0	300.3	300.3	0.5	0.5	-123.71	-33.2	-49.8	59.9	58.9	0.97	61.703			
380.6	380.5	381.2	381.1	0.6	0.6	127.44	-36.0	-47.1	59.8	58.6	1.27	47.197			
400.0	400.0	400.7	400.5	0.7	0.7	125.92	-37.0	-46.1	59.5	58.2	1.34	44.422	CC, ES		
500.0	499.8	500.6	499.9	0.8	0.9	120.10	-44.5	-38.8	61.8	60.0	1.77	34.943			
600.0	599.3	600.2	598.2	1.1	1.2	114.28	-55.6	-27.8	67.2	64.9	2.30	29.216			
700.0	698.0	699.1	695.0	1.4	1.6	109.14	-70.2	-13.4	75.8	72.8	2.97	25.510			
800.0	795.8	797.4	789.9	1.8	2.1	104.97	-88.3	4.4	87.4	83.6	3.80	23.010			
900.0	892.4	894.9	882.8	2.2	2.7	101.77	-109.6	25.4	101.9	97.2	4.79	21.264			
1,000.0	987.8	991.7	973.2	2.8	3.3	99.24	-134.1	49.5	118.9	113.0	5.91	20.127			
1,100.0	1,083.1	1,088.2	1,061.6	3.3	4.0	95.70	-161.8	76.7	138.0	130.9	7.08	19.491			
1,200.0	1,178.4	1,184.7	1,148.9	3.9	4.8	92.20	-191.0	105.5	158.5	150.2	8.23	19.263			
1,300.0	1,273.7	1,282.2	1,237.1	4.4	5.5	89.47	-220.5	134.5	179.4	170.0	9.36	19.160			
1,400.0	1,369.0	1,379.6	1,325.3	5.0	6.3	87.31	-250.0	163.6	200.7	190.2	10.49	19.133	SF		
1,500.0	1,464.3	1,477.1	1,413.6	5.6	7.1	85.57	-279.5	192.6	222.1	210.5	11.60	19.147			
1,600.0	1,559.6	1,574.5	1,501.8	6.1	7.8	84.13	-309.0	221.7	243.8	231.1	12.71	19.184			
1,700.0	1,654.9	1,672.0	1,590.0	6.7	8.6	82.93	-338.5	250.7	265.5	251.7	13.81	19.231			
1,800.0	1,750.2	1,769.5	1,678.3	7.3	9.4	81.91	-368.1	279.8	287.4	272.5	14.90	19.285			
1,900.0	1,845.5	1,866.9	1,766.5	7.9	10.1	81.03	-397.6	308.9	309.3	293.3	15.99	19.341			
2,000.0	1,940.8	1,964.4	1,854.7	8.4	10.9	80.27	-427.1	337.9	331.3	314.2	17.08	19.397			
2,100.0	2,036.0	2,061.9	1,942.9	9.0	11.7	79.61	-456.6	367.0	353.3	335.2	18.16	19.451			
2,200.0	2,131.3	2,159.3	2,031.2	9.6	12.4	79.02	-486.1	396.0	375.4	356.2	19.25	19.504			
2,300.0	2,226.6	2,256.8	2,119.4	10.2	13.2	78.50	-515.6	425.1	397.5	377.2	20.33	19.555			
2,400.0	2,321.9	2,354.3	2,207.6	10.7	14.0	78.03	-545.1	454.1	419.6	398.2	21.41	19.603			
2,500.0	2,417.2	2,451.7	2,295.8	11.3	14.8	77.61	-574.7	483.2	441.8	419.3	22.49	19.649			
2,600.0	2,512.5	2,549.2	2,384.1	11.9	15.5	77.23	-604.2	512.3	464.0	440.4	23.56	19.692			
2,700.0	2,607.8	2,646.7	2,472.3	12.5	16.3	76.88	-633.7	541.3	486.2	461.5	24.64	19.733			

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Shideler Fee 6-1A
Project:	Mamm Creek	TVD Reference:	KB=22' @ 7126.0ft (Patterson #308)
Reference Site:	O31E Pad (2nd Occupation)	MD Reference:	KB=22' @ 7126.0ft (Patterson #308)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Shideler Fee 6-1A	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft	
Survey Program: 0-MWD													Offset Well Error:		0.0 ft
Reference															
Offset				Semi Major Axis			Distance								
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning		
0.0	0.0	0.0	0.0	0.0	0.0	-123.26	-41.2	-62.7	75.0						
100.0	100.0	100.0	100.0	0.1	0.1	-123.26	-41.2	-62.7	75.0	74.8	0.27	275.571			
200.0	200.0	200.0	200.0	0.3	0.3	-123.26	-41.2	-62.7	75.0	74.4	0.62	120.756			
300.0	300.0	300.2	300.2	0.5	0.5	-124.39	-42.3	-61.8	74.9	74.0	0.97	77.177 CC			
341.7	341.7	341.9	341.8	0.6	0.6	128.29	-44.0	-60.5	75.0	73.8	1.13	66.330 ES			
400.0	400.0	400.1	399.8	0.7	0.7	125.15	-47.5	-57.8	75.2	73.9	1.35	55.595			
500.0	499.8	499.5	498.5	0.8	1.0	119.64	-56.7	-50.7	78.8	77.0	1.80	43.904			
600.0	599.3	598.2	595.8	1.1	1.3	114.35	-69.9	-40.5	86.3	84.0	2.34	36.894			
700.0	698.0	696.2	691.4	1.4	1.7	109.79	-86.9	-27.4	97.6	94.6	3.02	32.383			
800.0	795.8	793.3	784.9	1.8	2.2	106.15	-107.5	-11.4	112.5	108.7	3.84	29.328			
900.0	892.4	889.3	876.0	2.2	2.8	103.36	-131.6	7.2	130.7	125.9	4.81	27.169			
1,000.0	987.8	984.3	964.4	2.8	3.4	101.29	-159.0	28.4	151.9	146.0	5.90	25.736			
1,100.0	1,083.1	1,077.8	1,049.8	3.3	4.1	98.63	-189.3	51.8	175.3	168.2	7.04	24.881			
1,200.0	1,178.4	1,169.6	1,131.6	3.9	4.9	95.46	-222.2	77.3	201.2	193.0	8.20	24.548 SF			
1,300.0	1,273.7	1,263.9	1,214.2	4.4	5.7	92.24	-258.2	105.1	229.3	220.0	9.34	24.558			
1,400.0	1,369.0	1,359.1	1,297.6	5.0	6.6	89.68	-294.6	133.2	258.0	247.5	10.46	24.660			
1,500.0	1,464.3	1,454.3	1,380.9	5.6	7.4	87.63	-331.0	161.3	287.0	275.5	11.57	24.808			
1,600.0	1,559.6	1,549.6	1,464.3	6.1	8.3	85.96	-367.3	189.4	316.4	303.7	12.67	24.976			
1,700.0	1,654.9	1,644.8	1,547.7	6.7	9.1	84.57	-403.7	217.6	345.9	332.2	13.76	25.149			
1,800.0	1,750.2	1,740.0	1,631.1	7.3	10.0	83.39	-440.1	245.7	375.6	360.8	14.84	25.318			
1,900.0	1,845.5	1,835.2	1,714.5	7.9	10.8	82.39	-476.5	273.8	405.5	389.6	15.91	25.482			
2,000.0	1,940.8	1,930.5	1,797.9	8.4	11.7	81.53	-512.9	301.9	435.4	418.4	16.98	25.637			
2,100.0	2,036.0	2,025.7	1,881.3	9.0	12.5	80.77	-549.2	330.1	465.4	447.3	18.05	25.783			
2,200.0	2,131.3	2,120.9	1,964.6	9.6	13.4	80.11	-585.6	358.2	495.5	476.3	19.12	25.920			

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Shideler Fee 6-1A
Project:	Mamm Creek	TVD Reference:	KB=22' @ 7126.0ft (Patterson #308)
Reference Site:	O31E Pad (2nd Occupation)	MD Reference:	KB=22' @ 7126.0ft (Patterson #308)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Shideler Fee 6-1A	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft	
Survey Program: 0-MWD													Offset Well Error:		0.0 ft
Reference													Warning		
Offset				Semi Major Axis			Distance				Total Uncertainty Axis	Separation Factor	Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)					
0.0	0.0	0.0	0.0	0.0	0.0	-123.19	-49.2	-75.2	89.8						
100.0	100.0	100.0	100.0	0.1	0.1	-123.19	-49.2	-75.2	89.8	89.6	0.27	329.900			
200.0	200.0	200.0	200.0	0.3	0.3	-123.19	-49.2	-75.2	89.8	89.2	0.62	144.563			
285.5	285.5	285.5	285.5	0.5	0.5	-124.41	-50.7	-74.1	89.8	88.9	0.92	97.529 CC			
300.0	300.0	300.0	300.0	0.5	0.5	-124.86	-51.3	-73.7	89.8	88.8	0.97	92.476 ES			
400.0	400.0	399.5	399.2	0.7	0.7	124.65	-57.8	-69.3	90.6	89.2	1.37	65.979			
500.0	499.8	498.4	497.2	0.8	1.0	119.36	-68.4	-62.0	95.1	93.3	1.83	51.866			
600.0	599.3	596.5	593.7	1.1	1.3	114.35	-83.0	-52.0	103.8	101.5	2.39	43.395			
700.0	698.0	693.8	688.3	1.4	1.8	110.05	-101.5	-39.3	116.7	113.6	3.08	37.930			
800.0	795.8	789.9	780.6	1.8	2.3	106.58	-123.7	-24.1	133.4	129.5	3.90	34.204			
900.0	892.4	884.9	870.3	2.2	2.9	103.89	-149.4	-6.5	153.6	148.7	4.87	31.554			
1,000.0	987.8	978.5	957.2	2.8	3.5	101.97	-178.3	13.3	177.0	171.1	5.95	29.763			
1,100.0	1,083.1	1,070.7	1,040.8	3.3	4.3	99.65	-210.1	35.1	202.8	195.7	7.08	28.657			
1,200.0	1,178.4	1,160.9	1,120.9	3.9	5.1	96.89	-244.4	58.6	231.2	223.0	8.22	28.118			
1,300.0	1,273.7	1,250.5	1,198.4	4.4	5.9	93.94	-281.4	84.0	262.4	253.0	9.35	28.071 SF			
1,400.0	1,369.0	1,344.3	1,278.9	5.0	6.7	91.29	-321.1	111.2	294.9	284.4	10.47	28.152			
1,500.0	1,464.3	1,438.0	1,359.4	5.6	7.6	89.15	-360.8	138.3	327.8	316.2	11.58	28.302			
1,600.0	1,559.6	1,531.8	1,439.9	6.1	8.5	87.41	-400.4	165.5	361.1	348.4	12.68	28.483			
1,700.0	1,654.9	1,625.6	1,520.4	6.7	9.4	85.95	-440.1	192.7	394.6	380.9	13.76	28.676			
1,800.0	1,750.2	1,719.3	1,600.9	7.3	10.3	84.73	-479.7	219.8	428.4	413.5	14.84	28.869			
1,900.0	1,845.5	1,813.1	1,681.4	7.9	11.1	83.68	-519.4	247.0	462.2	446.3	15.91	29.057			
2,000.0	1,940.8	1,906.9	1,761.9	8.4	12.0	82.77	-559.1	274.2	496.2	479.3	16.97	29.238			

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

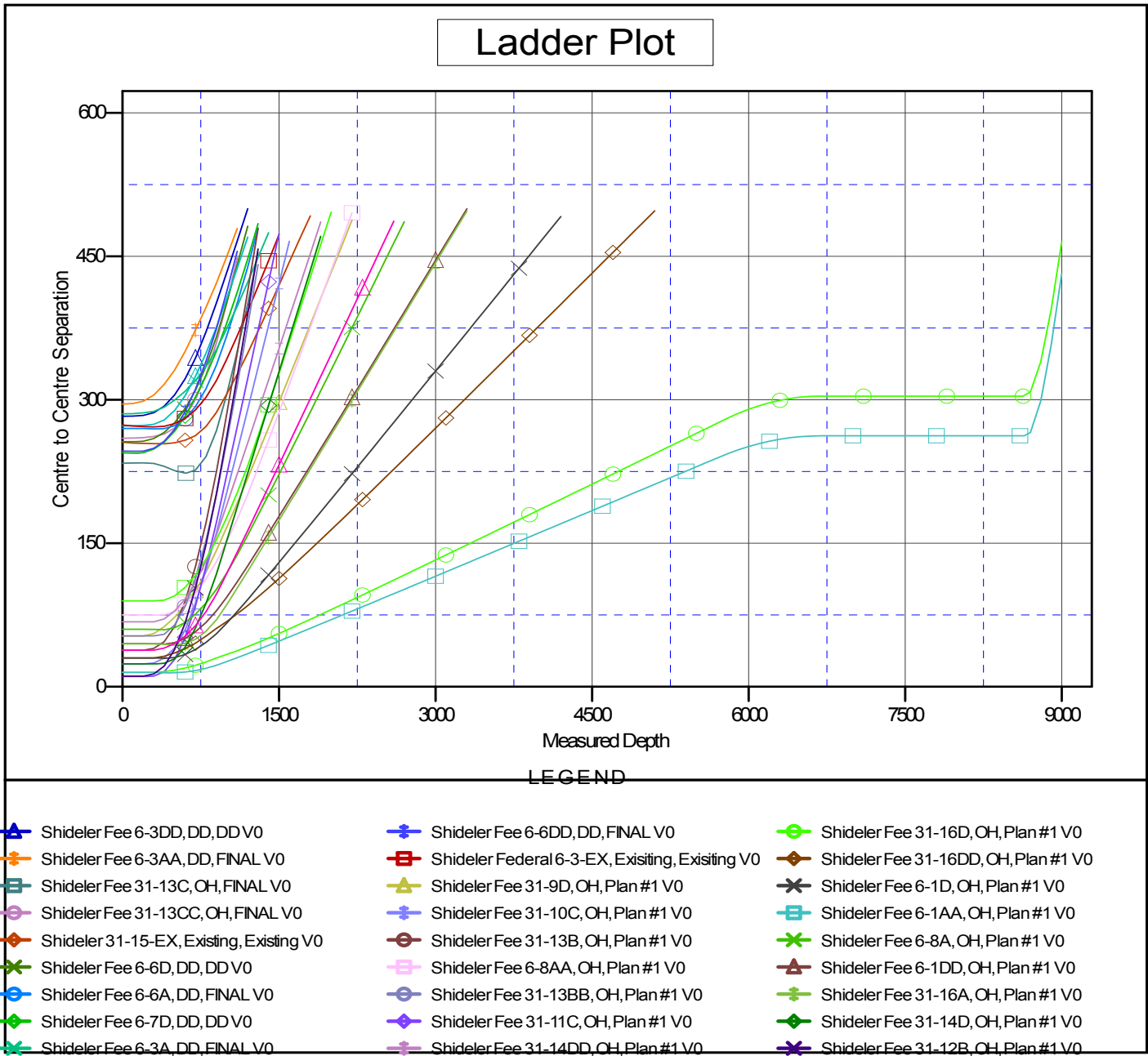
Cathedral Energy Services

Anticollision Report

Company: EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference: Well Shideler Fee 6-1A	
Project: Mamm Creek	TVD Reference: KB=22' @ 7126.0ft (Patterson #308)	
Reference Site: O31E Pad (2nd Occupation)	MD Reference: KB=22' @ 7126.0ft (Patterson #308)	
Site Error: 0.0ft	North Reference: True	
Reference Well: Shideler Fee 6-1A	Survey Calculation Method: Minimum Curvature	
Well Error: 0.0ft	Output errors are at 2.00 sigma	
Reference Wellbore OH	Database: USA EDM 5000 Multi Users DB	
Reference Design: Plan #1	Offset TVD Reference: Offset Datum	

Reference Depths are relative to KB=22' @ 7126.0ft (Patterson #308)
 Offset Depths are relative to Offset Datum
 Central Meridian is -105.500000 °

Coordinates are relative to: Shideler Fee 6-1A
 Coordinate System is US State Plane 1983, Colorado Central Zone
 Grid Convergence at Surface is: -1.39°



CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation