

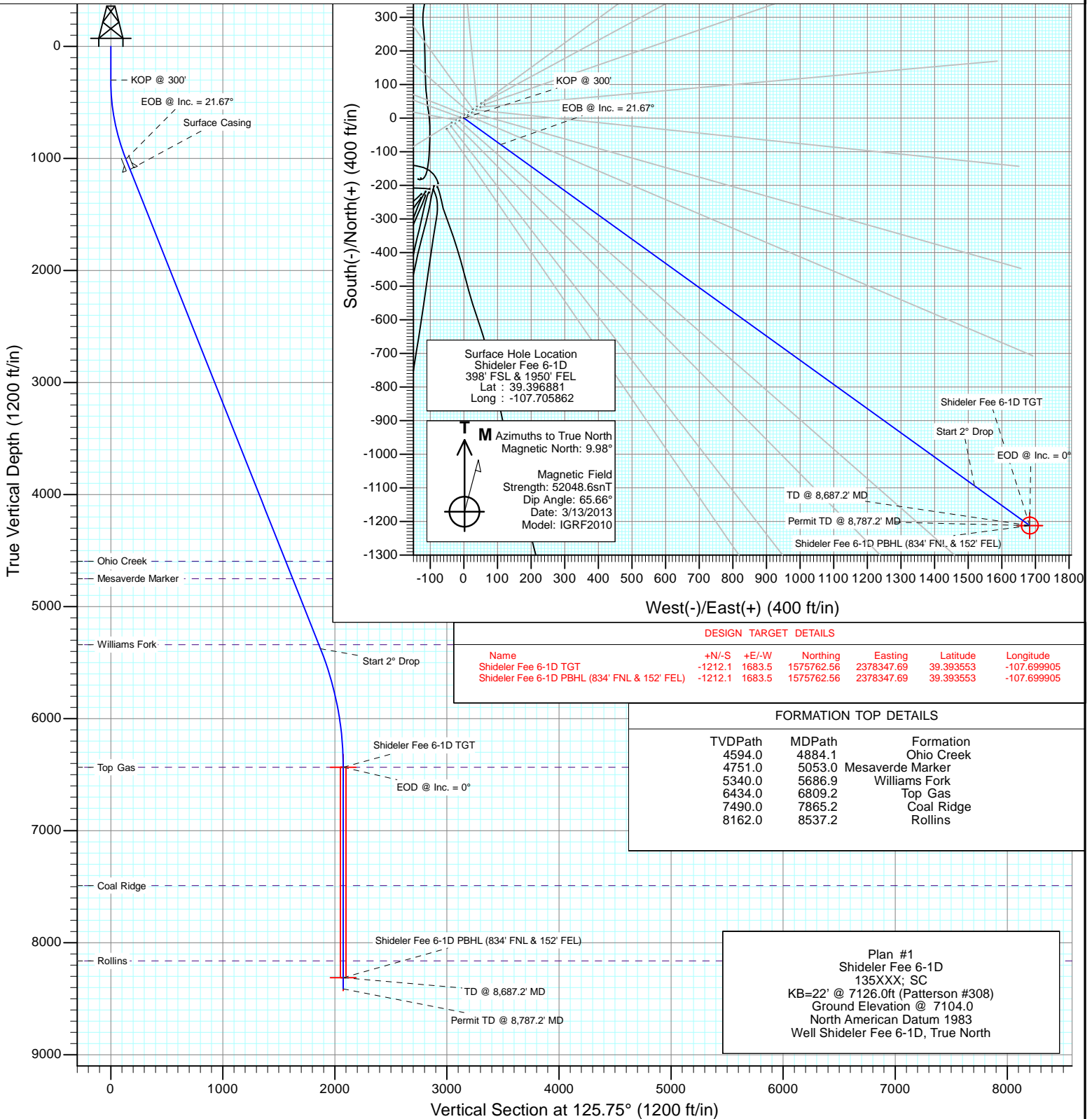


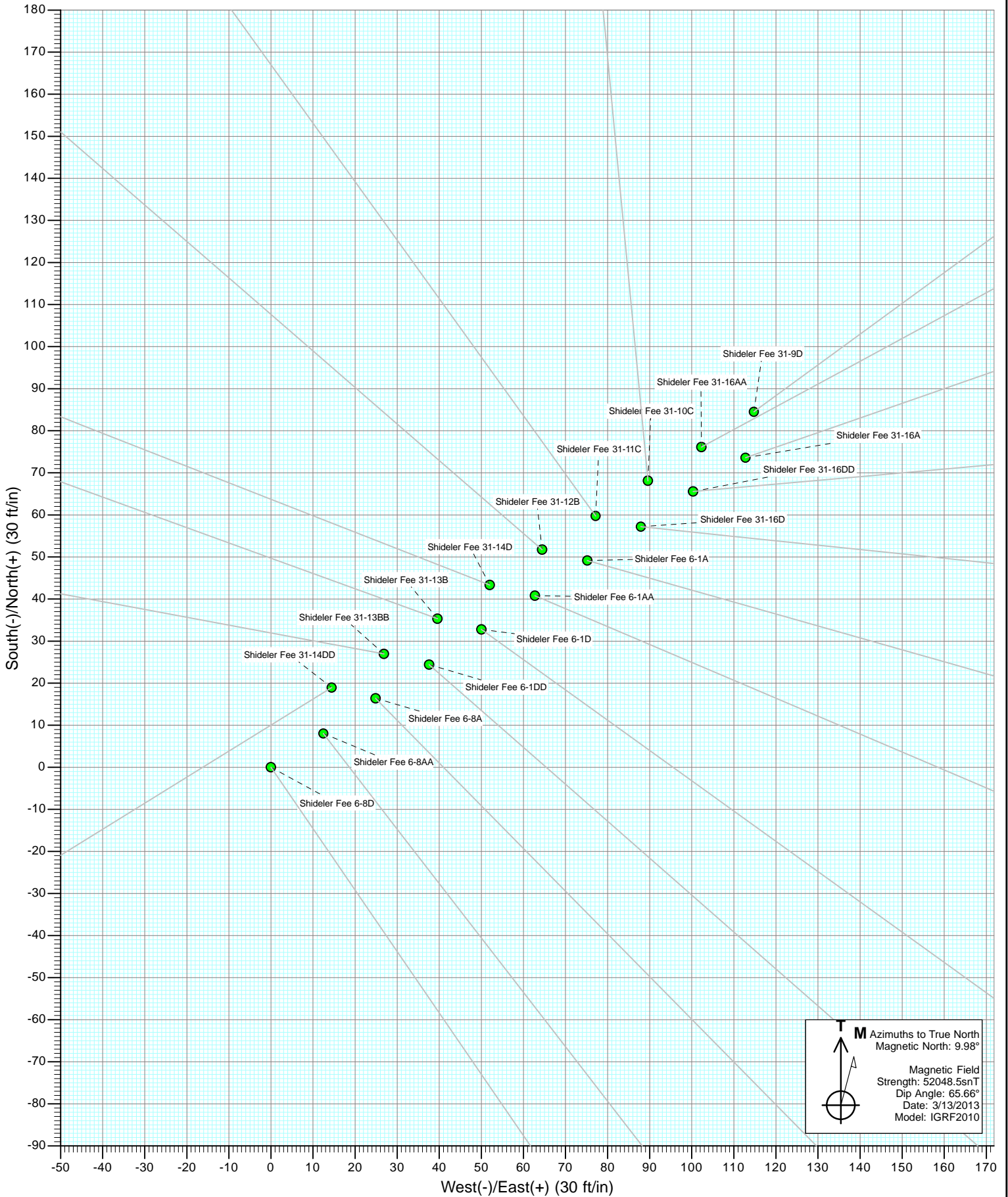
Project: Mamm Creek
 Site: O31E Pad (2nd Occupation)
 Well: Shideler Fee 6-1D
 Wellbore: OH
 Design: Plan #1

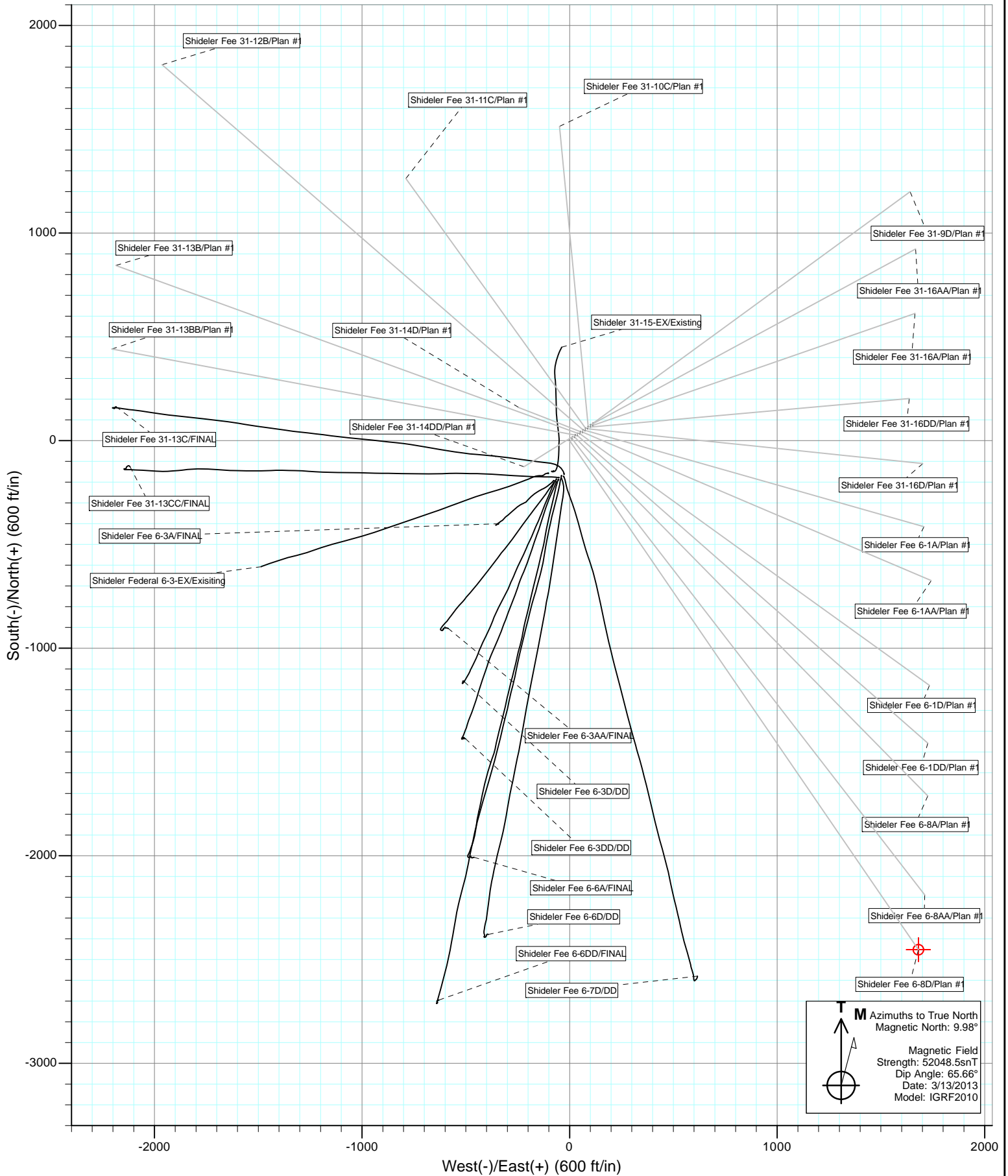


SECTION DETAILS

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	300.0	0.00	0.00	300.0	0.0	0.0	0.00	0.00	0.0	
3	1022.4	21.67	125.75	1005.3	-78.9	109.6	3.00	125.75	135.0	
4	5725.6	21.67	125.75	5376.0	-1093.8	1519.2	0.00	0.00	1871.9	
5	6809.2	0.00	0.00	6434.0	-1212.1	1683.5	2.00	180.00	2074.5	Shideler Fee 6-1D TGT
6	8687.2	0.00	0.00	8312.0	-1212.1	1683.5	0.00	0.00	2074.5	Shideler Fee 6-1D PBHL (834' FNL & 152' FEL)
7	8787.2	0.00	0.00	8412.0	-1212.1	1683.5	0.00	0.00	2074.5	

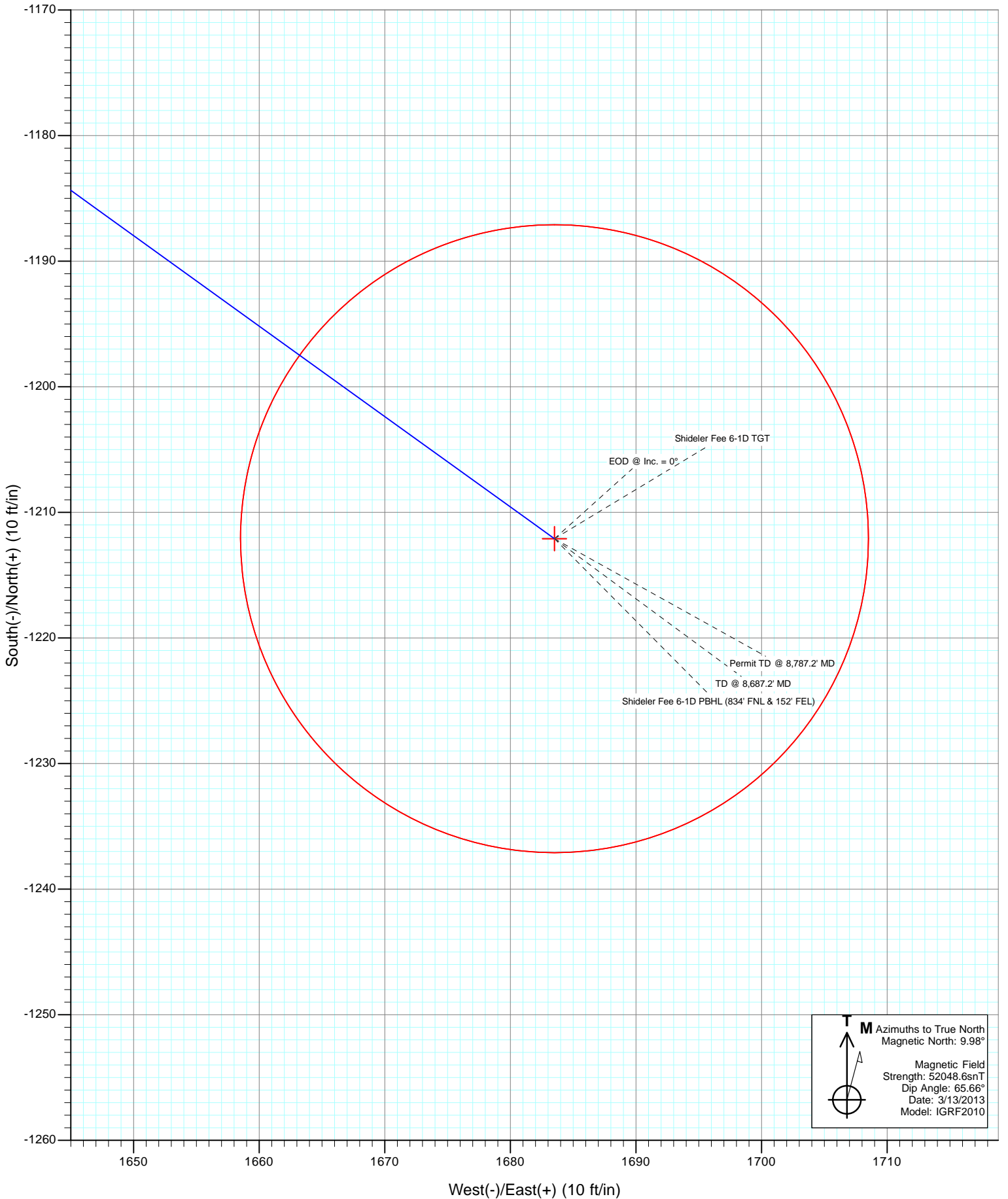








Project: Mamm Creek
Site: O31E Pad (2nd Occupation)
Well: Shideler Fee 6-1D
Wellbore: OH
Design: Plan #1



Cathedral Energy Services

Planning Report

Database: USA EDM 5000 Multi Users DB	Local Co-ordinate Reference: Well Shideler Fee 6-1D
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 6-1D	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 6-1D						
Well Position	+N/-S	0.0 ft	Northing:	1,577,015.17 ft	Latitude:	39.396881
	+E/-W	0.0 ft	Easting:	2,376,694.09 ft	Longitude:	-107.705862
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	125.75	

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
300.0	0.00	0.00	300.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,022.4	21.67	125.75	1,005.3	-78.9	109.6	3.00	3.00	0.00	125.75	
5,725.6	21.67	125.75	5,376.0	-1,093.8	1,519.2	0.00	0.00	0.00	0.00	
6,809.2	0.00	0.00	6,434.0	-1,212.1	1,683.5	2.00	-2.00	0.00	180.00	Shideler Fee 6-1D TC
8,687.2	0.00	0.00	8,312.0	-1,212.1	1,683.5	0.00	0.00	0.00	0.00	Shideler Fee 6-1D PB
8,787.2	0.00	0.00	8,412.0	-1,212.1	1,683.5	0.00	0.00	0.00	0.00	

Cathedral Energy Services

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well Shideler Fee 6-1D
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 6-1D	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	KOP @ 300'
400.0	3.00	125.75	400.0	-1.5	2.1	2.6	3.00	3.00	
500.0	6.00	125.75	499.6	-6.1	8.5	10.5	3.00	3.00	
600.0	9.00	125.75	598.8	-13.7	19.1	23.5	3.00	3.00	
700.0	12.00	125.75	697.1	-24.4	33.9	41.7	3.00	3.00	
800.0	15.00	125.75	794.3	-38.0	52.8	65.1	3.00	3.00	
900.0	18.00	125.75	890.2	-54.6	75.9	93.5	3.00	3.00	
1,000.0	21.00	125.75	984.4	-74.1	102.9	126.9	3.00	3.00	
1,022.4	21.67	125.75	1,005.3	-78.9	109.6	135.0	3.00	3.00	EOB @ Inc. = 21.67°
1,100.0	21.67	125.75	1,077.4	-95.6	132.8	163.7	0.00	0.00	
1,122.4	21.67	125.75	1,098.2	-100.5	139.5	171.9	0.00	0.00	Surface Casing
1,200.0	21.67	125.75	1,170.3	-117.2	162.8	200.6	0.00	0.00	
1,300.0	21.67	125.75	1,263.3	-138.8	192.8	237.5	0.00	0.00	
1,400.0	21.67	125.75	1,356.2	-160.4	222.7	274.5	0.00	0.00	
1,500.0	21.67	125.75	1,449.1	-181.9	252.7	311.4	0.00	0.00	
1,600.0	21.67	125.75	1,542.1	-203.5	282.7	348.3	0.00	0.00	
1,700.0	21.67	125.75	1,635.0	-225.1	312.6	385.2	0.00	0.00	
1,800.0	21.67	125.75	1,727.9	-246.7	342.6	422.2	0.00	0.00	
1,900.0	21.67	125.75	1,820.9	-268.3	372.6	459.1	0.00	0.00	
2,000.0	21.67	125.75	1,913.8	-289.8	402.6	496.0	0.00	0.00	
2,100.0	21.67	125.75	2,006.7	-311.4	432.5	533.0	0.00	0.00	
2,200.0	21.67	125.75	2,099.6	-333.0	462.5	569.9	0.00	0.00	
2,300.0	21.67	125.75	2,192.6	-354.6	492.5	606.8	0.00	0.00	
2,400.0	21.67	125.75	2,285.5	-376.1	522.4	643.8	0.00	0.00	
2,500.0	21.67	125.75	2,378.4	-397.7	552.4	680.7	0.00	0.00	
2,600.0	21.67	125.75	2,471.4	-419.3	582.4	717.6	0.00	0.00	
2,700.0	21.67	125.75	2,564.3	-440.9	612.4	754.6	0.00	0.00	
2,800.0	21.67	125.75	2,657.2	-462.5	642.3	791.5	0.00	0.00	
2,900.0	21.67	125.75	2,750.2	-484.0	672.3	828.4	0.00	0.00	
3,000.0	21.67	125.75	2,843.1	-505.6	702.3	865.4	0.00	0.00	
3,100.0	21.67	125.75	2,936.0	-527.2	732.2	902.3	0.00	0.00	
3,200.0	21.67	125.75	3,029.0	-548.8	762.2	939.2	0.00	0.00	
3,300.0	21.67	125.75	3,121.9	-570.4	792.2	976.1	0.00	0.00	
3,400.0	21.67	125.75	3,214.8	-591.9	822.2	1,013.1	0.00	0.00	
3,500.0	21.67	125.75	3,307.7	-613.5	852.1	1,050.0	0.00	0.00	
3,600.0	21.67	125.75	3,400.7	-635.1	882.1	1,086.9	0.00	0.00	
3,700.0	21.67	125.75	3,493.6	-656.7	912.1	1,123.9	0.00	0.00	
3,800.0	21.67	125.75	3,586.5	-678.2	942.0	1,160.8	0.00	0.00	
3,900.0	21.67	125.75	3,679.5	-699.8	972.0	1,197.7	0.00	0.00	
4,000.0	21.67	125.75	3,772.4	-721.4	1,002.0	1,234.7	0.00	0.00	
4,100.0	21.67	125.75	3,865.3	-743.0	1,032.0	1,271.6	0.00	0.00	
4,200.0	21.67	125.75	3,958.3	-764.6	1,061.9	1,308.5	0.00	0.00	
4,300.0	21.67	125.75	4,051.2	-786.1	1,091.9	1,345.5	0.00	0.00	
4,400.0	21.67	125.75	4,144.1	-807.7	1,121.9	1,382.4	0.00	0.00	
4,500.0	21.67	125.75	4,237.1	-829.3	1,151.8	1,419.3	0.00	0.00	
4,600.0	21.67	125.75	4,330.0	-850.9	1,181.8	1,456.2	0.00	0.00	
4,700.0	21.67	125.75	4,422.9	-872.5	1,211.8	1,493.2	0.00	0.00	
4,800.0	21.67	125.75	4,515.8	-894.0	1,241.8	1,530.1	0.00	0.00	
4,884.1	21.67	125.75	4,594.0	-912.2	1,267.0	1,561.2	0.00	0.00	Ohio Creek

Cathedral Energy Services

Planning Report

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

Local Co-ordinate Reference: Well Shideler Fee 6-1D
TVD Reference: KB=22' @ 7126.0ft (Patterson #308)
MD Reference: KB=22' @ 7126.0ft (Patterson #308)
North Reference: True
Survey Calculation Method: Minimum Curvature

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
4,900.0	21.67	125.75	4,608.8	-915.6	1,271.7	1,567.0	0.00	0.00	
5,000.0	21.67	125.75	4,701.7	-937.2	1,301.7	1,604.0	0.00	0.00	
5,053.0	21.67	125.75	4,751.0	-948.6	1,317.6	1,623.6	0.00	0.00	Mesaverde Marker
5,100.0	21.67	125.75	4,794.6	-958.8	1,331.7	1,640.9	0.00	0.00	
5,200.0	21.67	125.75	4,887.6	-980.3	1,361.6	1,677.8	0.00	0.00	
5,300.0	21.67	125.75	4,980.5	-1,001.9	1,391.6	1,714.8	0.00	0.00	
5,400.0	21.67	125.75	5,073.4	-1,023.5	1,421.6	1,751.7	0.00	0.00	
5,500.0	21.67	125.75	5,166.4	-1,045.1	1,451.5	1,788.6	0.00	0.00	
5,600.0	21.67	125.75	5,259.3	-1,066.7	1,481.5	1,825.6	0.00	0.00	
5,686.9	21.67	125.75	5,340.0	-1,085.4	1,507.6	1,857.6	0.00	0.00	Williams Fork
5,700.0	21.67	125.75	5,352.2	-1,088.2	1,511.5	1,862.5	0.00	0.00	
5,725.6	21.67	125.75	5,376.0	-1,093.8	1,519.2	1,871.9	0.00	0.00	Start 2° Drop
5,800.0	20.18	125.75	5,445.5	-1,109.3	1,540.7	1,898.5	2.00	-2.00	
5,900.0	18.18	125.75	5,539.9	-1,128.5	1,567.4	1,931.4	2.00	-2.00	
6,000.0	16.18	125.75	5,635.5	-1,145.8	1,591.4	1,960.9	2.00	-2.00	
6,100.0	14.18	125.75	5,732.0	-1,161.1	1,612.6	1,987.1	2.00	-2.00	
6,200.0	12.18	125.75	5,829.3	-1,174.4	1,631.1	2,009.9	2.00	-2.00	
6,300.0	10.18	125.75	5,927.4	-1,185.7	1,646.9	2,029.3	2.00	-2.00	
6,400.0	8.18	125.75	6,026.1	-1,195.0	1,659.8	2,045.3	2.00	-2.00	
6,500.0	6.18	125.75	6,125.4	-1,202.4	1,670.0	2,057.8	2.00	-2.00	
6,600.0	4.18	125.75	6,224.9	-1,207.6	1,677.3	2,066.8	2.00	-2.00	
6,700.0	2.18	125.75	6,324.8	-1,210.9	1,681.8	2,072.4	2.00	-2.00	
6,809.2	0.00	0.00	6,434.0	-1,212.1	1,683.5	2,074.5	2.00	-2.00	EOD @ Inc. = 0° - Top Gas
6,900.0	0.00	0.00	6,524.8	-1,212.1	1,683.5	2,074.5	0.00	0.00	
7,000.0	0.00	0.00	6,624.8	-1,212.1	1,683.5	2,074.5	0.00	0.00	
7,100.0	0.00	0.00	6,724.8	-1,212.1	1,683.5	2,074.5	0.00	0.00	
7,200.0	0.00	0.00	6,824.8	-1,212.1	1,683.5	2,074.5	0.00	0.00	
7,300.0	0.00	0.00	6,924.8	-1,212.1	1,683.5	2,074.5	0.00	0.00	
7,400.0	0.00	0.00	7,024.8	-1,212.1	1,683.5	2,074.5	0.00	0.00	
7,500.0	0.00	0.00	7,124.8	-1,212.1	1,683.5	2,074.5	0.00	0.00	
7,600.0	0.00	0.00	7,224.8	-1,212.1	1,683.5	2,074.5	0.00	0.00	
7,700.0	0.00	0.00	7,324.8	-1,212.1	1,683.5	2,074.5	0.00	0.00	
7,800.0	0.00	0.00	7,424.8	-1,212.1	1,683.5	2,074.5	0.00	0.00	
7,865.2	0.00	0.00	7,490.0	-1,212.1	1,683.5	2,074.5	0.00	0.00	Coal Ridge
7,900.0	0.00	0.00	7,524.8	-1,212.1	1,683.5	2,074.5	0.00	0.00	
8,000.0	0.00	0.00	7,624.8	-1,212.1	1,683.5	2,074.5	0.00	0.00	
8,100.0	0.00	0.00	7,724.8	-1,212.1	1,683.5	2,074.5	0.00	0.00	
8,200.0	0.00	0.00	7,824.8	-1,212.1	1,683.5	2,074.5	0.00	0.00	
8,300.0	0.00	0.00	7,924.8	-1,212.1	1,683.5	2,074.5	0.00	0.00	
8,400.0	0.00	0.00	8,024.8	-1,212.1	1,683.5	2,074.5	0.00	0.00	
8,500.0	0.00	0.00	8,124.8	-1,212.1	1,683.5	2,074.5	0.00	0.00	
8,537.2	0.00	0.00	8,162.0	-1,212.1	1,683.5	2,074.5	0.00	0.00	Rollins
8,600.0	0.00	0.00	8,224.8	-1,212.1	1,683.5	2,074.5	0.00	0.00	
8,687.2	0.00	0.00	8,312.0	-1,212.1	1,683.5	2,074.5	0.00	0.00	TD @ 8,687.2' MD
8,700.0	0.00	0.00	8,324.8	-1,212.1	1,683.5	2,074.5	0.00	0.00	
8,787.2	0.00	0.00	8,412.0	-1,212.1	1,683.5	2,074.5	0.00	0.00	Permit TD @ 8,787.2' MD

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 6-1D	Survey Calculation Method: Minimum Curvature
Wellbore: OH	
Design: Plan #1	

Targets									
Target Name	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- hit/miss target	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(ft)		
- Shape									
Shideler Fee 6-1D TGT - plan hits target center - Point	0.00	0.00	6,434.0	-1,212.1	1,683.5	1,575,762.56	2,378,347.69	39.393553	-107.699905
Shideler Fee 6-1D PBHL - plan hits target center - Circle (radius 25.0)	0.00	0.00	8,312.0	-1,212.1	1,683.5	1,575,762.56	2,378,347.69	39.393553	-107.699905

Casing Points				
Measured Depth	Vertical Depth	Name	Casing Diameter	Hole Diameter
(ft)	(ft)		(in)	(in)
1,122.4	1,098.2	Surface Casing		

Formations					
Measured Depth	Vertical Depth	Name	Lithology	Dip	Dip Direction
(ft)	(ft)			(°)	(°)
4,884.1	4,594.0	Ohio Creek			
5,053.0	4,751.0	Mesaverde Marker			
5,686.9	5,340.0	Williams Fork			
6,809.2	6,434.0	Top Gas			
7,865.2	7,490.0	Coal Ridge			
8,537.2	8,162.0	Rollins			

Plan Annotations					
Measured Depth	Vertical Depth	Local Coordinates		Comment	
(ft)	(ft)	+N/-S	+E/-W		
		(ft)	(ft)		
300.0	300.0	0.0	0.0	KOP @ 300'	
1,022.4	1,005.3	-78.9	109.6	EOB @ Inc. = 21.67°	
5,725.6	5,376.0	-1,093.8	1,519.2	Start 2° Drop	
6,809.2	6,434.0	-1,212.1	1,683.5	EOD @ Inc. = 0°	
8,687.2	8,312.0	-1,212.1	1,683.5	TD @ 8,687.2' MD	
8,787.2	8,412.0	-1,212.1	1,683.5	Permit TD @ 8,787.2' MD	

EnCana Oil & Gas (USA) Inc

Mamm Creek

O31E Pad (2nd Occupation)

Shideler Fee 6-1D

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 6-1D
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 6-1D	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	8,787.2	Plan #1 (OH)	MWD	Geolink MWD	

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Shideler Fee 6-1D
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 6-1D	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 Offset Well - Wellbore - Design	Reference	Offset	Distance		Separation Factor	Warning
	Measured Depth (ft)	Measured Depth (ft)	Between Centres (ft)	Between Ellipses (ft)		
O31E Pad						
Shideler 31-15-EX - Existing - Existing	641.3	622.7	223.9	222.1	122.135	CC, ES
Shideler 31-15-EX - Existing - Existing	1,200.0	1,149.7	296.3	291.7	63.738	SF
Shideler Federal 6-3-EX - Existing - Existing	288.3	266.3	243.0	242.3	348.542	CC
Shideler Federal 6-3-EX - Existing - Existing	300.0	277.7	243.0	242.3	334.013	ES
Shideler Federal 6-3-EX - Existing - Existing	1,300.0	1,232.5	367.9	362.8	71.868	SF
Shideler Fee 31-13C - OH - FINAL	673.9	679.7	187.6	184.9	69.026	CC, ES
Shideler Fee 31-13C - OH - FINAL	900.0	860.2	222.2	218.0	52.884	SF
Shideler Fee 31-13CC - OH - FINAL	0.0	3.0	233.7			
Shideler Fee 31-13CC - OH - FINAL	100.0	102.3	233.9	233.6	837.071	ES
Shideler Fee 31-13CC - OH - FINAL	1,000.0	903.2	351.3	346.5	73.190	SF
Shideler Fee 6-3A - DD - FINAL	0.0	3.0	258.5			
Shideler Fee 6-3A - DD - FINAL	100.0	102.2	258.6	258.4	926.452	ES
Shideler Fee 6-3A - DD - FINAL	1,500.0	1,431.0	439.6	432.0	57.537	SF
Shideler Fee 6-3AA - DD - FINAL	0.0	0.0	268.9			
Shideler Fee 6-3AA - DD - FINAL	1,400.0	1,304.2	495.2	487.4	63.565	SF
Shideler Fee 6-3D - DD - DD	0.0	3.0	246.2			
Shideler Fee 6-3D - DD - DD	200.0	202.0	246.6	246.0	394.698	ES
Shideler Fee 6-3D - DD - DD	1,500.0	1,404.7	484.4	475.5	54.131	SF
Shideler Fee 6-3DD - DD - DD	0.0	3.0	256.6			
Shideler Fee 6-3DD - DD - DD	100.0	102.2	256.7	256.4	918.960	ES
Shideler Fee 6-3DD - DD - DD	1,400.0	1,292.5	482.7	474.3	57.316	SF
Shideler Fee 6-6A - DD - FINAL	425.4	425.9	243.3	241.8	170.783	CC, ES
Shideler Fee 6-6A - DD - FINAL	1,500.0	1,368.2	473.4	464.0	50.386	SF
Shideler Fee 6-6D - DD - DD	132.5	135.6	230.8	230.4	590.157	CC, ES
Shideler Fee 6-6D - DD - DD	1,400.0	1,260.7	466.2	457.0	50.543	SF
Shideler Fee 6-6DD - DD - FINAL	153.1	156.1	220.5	220.1	476.258	CC
Shideler Fee 6-6DD - DD - FINAL	200.0	200.9	220.7	220.1	354.285	ES
Shideler Fee 6-6DD - DD - FINAL	1,300.0	1,132.4	463.8	456.0	59.681	SF
Shideler Fee 6-7D - DD - DD	139.7	139.7	219.2	218.8	526.955	CC, ES
Shideler Fee 6-7D - DD - DD	1,700.0	1,584.1	491.9	477.9	35.084	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 6-1D
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 6-1D	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	53.0	52.4	85.364	CC, ES
Shideler Fee 31-10C - OH - Plan #1	500.0	492.5	67.3	65.6	38.868	SF
Shideler Fee 31-11C - OH - Plan #1	236.3	236.3	38.2	37.5	51.113	CC
Shideler Fee 31-11C - OH - Plan #1	300.0	299.8	38.4	37.4	39.521	ES
Shideler Fee 31-11C - OH - Plan #1	500.0	496.2	47.1	45.3	26.974	SF
Shideler Fee 31-12B - OH - Plan #1	200.0	200.0	23.8	23.2	38.305	CC
Shideler Fee 31-12B - OH - Plan #1	300.0	299.8	24.1	23.1	24.741	ES
Shideler Fee 31-12B - OH - Plan #1	400.0	398.8	27.7	26.3	20.302	SF
Shideler Fee 31-13B - OH - Plan #1	200.0	200.0	10.8	10.1	17.322	CC, ES
Shideler Fee 31-13B - OH - Plan #1	300.0	299.4	13.4	12.4	13.706	SF
Shideler Fee 31-13BB - OH - Plan #1	300.0	300.0	23.9	22.9	24.623	CC, ES
Shideler Fee 31-13BB - OH - Plan #1	400.0	399.0	27.0	25.7	20.469	SF
Shideler Fee 31-14D - OH - Plan #1	300.0	300.0	10.7	9.8	11.074	CC, ES
Shideler Fee 31-14D - OH - Plan #1	400.0	400.0	12.1	10.8	9.140	SF
Shideler Fee 31-14DD - OH - Plan #1	300.0	300.0	38.2	37.2	39.368	CC, ES
Shideler Fee 31-14DD - OH - Plan #1	500.0	497.6	51.3	49.6	30.376	SF
Shideler Fee 31-16A - OH - Plan #1	447.7	445.9	73.5	72.0	48.872	CC, ES
Shideler Fee 31-16A - OH - Plan #1	1,500.0	1,441.9	299.8	289.5	29.089	SF
Shideler Fee 31-16AA - OH - Plan #1	300.0	300.0	67.9	66.9	69.982	CC, ES
Shideler Fee 31-16AA - OH - Plan #1	1,900.0	1,795.0	498.7	484.1	34.237	SF
Shideler Fee 31-16D - OH - Plan #1	347.1	346.7	44.9	43.8	39.552	CC, ES
Shideler Fee 31-16D - OH - Plan #1	1,500.0	1,477.1	183.9	172.5	16.149	SF
Shideler Fee 31-16DD - OH - Plan #1	300.0	300.0	60.0	59.1	61.872	CC, ES
Shideler Fee 31-16DD - OH - Plan #1	1,600.0	1,559.1	263.8	251.7	21.776	SF
Shideler Fee 31-9D - OH - Plan #1	200.0	200.0	82.8	82.2	133.336	CC, ES
Shideler Fee 31-9D - OH - Plan #1	1,700.0	1,577.9	498.2	485.9	40.539	SF
Shideler Fee 6-1A - OH - Plan #1	399.7	399.2	29.6	28.2	22.337	CC
Shideler Fee 6-1A - OH - Plan #1	400.0	399.5	29.6	28.2	22.320	ES
Shideler Fee 6-1A - OH - Plan #1	1,200.0	1,192.2	90.9	82.9	11.323	SF
Shideler Fee 6-1AA - OH - Plan #1	372.1	371.9	14.9	13.6	12.129	CC
Shideler Fee 6-1AA - OH - Plan #1	400.0	399.7	14.9	13.6	11.262	ES
Shideler Fee 6-1AA - OH - Plan #1	1,000.0	997.6	40.2	34.3	6.746	SF
Shideler Fee 6-1DD - OH - Plan #1	353.4	353.6	14.9	13.7	12.771	CC
Shideler Fee 6-1DD - OH - Plan #1	400.0	400.2	14.9	13.6	11.177	ES
Shideler Fee 6-1DD - OH - Plan #1	2,100.0	2,098.1	76.1	56.5	3.884	SF
Shideler Fee 6-8A - OH - Plan #1	342.8	343.0	29.8	28.7	26.390	CC
Shideler Fee 6-8A - OH - Plan #1	400.0	400.3	30.0	28.6	22.289	ES
Shideler Fee 6-8A - OH - Plan #1	1,700.0	1,694.3	110.9	96.0	7.428	SF
Shideler Fee 6-8AA - OH - Plan #1	309.2	309.3	44.9	43.9	44.563	CC, ES
Shideler Fee 6-8AA - OH - Plan #1	1,200.0	1,187.5	112.6	103.6	12.461	SF
Shideler Fee 6-8D - OH - Plan #1	268.4	268.4	59.8	58.9	69.332	CC
Shideler Fee 6-8D - OH - Plan #1	300.0	300.0	59.8	58.8	61.433	ES
Shideler Fee 6-8D - OH - Plan #1	1,300.0	1,277.0	162.6	152.3	15.675	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 6-1D
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 6-1D	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			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	-143.22	-181.3	-135.6	227.5						
100.0	100.0	78.3	78.3	0.1	0.1	-143.27	-181.4	-135.4	226.3	226.1	0.20	1,106.722			
200.0	200.0	178.7	178.7	0.3	0.2	-143.45	-181.7	-134.7	226.1	225.7	0.47	484.621			
300.0	300.0	278.6	278.6	0.5	0.2	-143.70	-182.0	-133.7	225.8	225.1	0.73	309.975			
400.0	400.0	379.2	379.2	0.7	0.3	90.78	-182.8	-132.0	225.5	224.5	1.00	225.574			
500.0	499.6	480.2	480.2	0.9	0.4	92.31	-183.3	-130.0	224.9	223.6	1.30	172.867			
600.0	598.8	581.8	581.7	1.1	0.5	95.53	-182.5	-128.3	224.1	222.4	1.66	135.184			
641.3	639.5	622.7	622.6	1.3	0.5	97.33	-181.6	-127.9	223.9	222.1	1.83	122.135 CC, ES			
700.0	697.1	679.4	679.3	1.5	0.6	100.25	-180.3	-127.6	224.4	222.4	2.08	107.799			
800.0	794.3	773.1	773.0	1.9	0.7	105.90	-178.4	-127.7	228.7	226.1	2.57	88.924			
900.0	890.2	867.9	867.8	2.5	0.8	112.07	-177.9	-128.2	238.4	235.3	3.11	76.578			
1,000.0	984.4	962.7	962.6	3.1	0.8	118.31	-178.3	-128.1	253.4	249.7	3.68	68.834			
1,100.0	1,077.4	1,056.6	1,056.5	3.8	0.9	124.52	-179.2	-127.5	273.4	269.2	4.20	65.146			
1,200.0	1,170.3	1,149.7	1,149.6	4.4	1.0	129.96	-180.2	-126.8	296.3	291.7	4.65	63.738 SF			
1,300.0	1,263.3	1,242.7	1,242.5	5.1	1.1	134.75	-180.6	-126.4	321.9	316.9	5.04	63.824			
1,400.0	1,356.2	1,336.9	1,336.8	5.8	1.2	138.89	-181.0	-125.8	349.2	343.8	5.39	64.751			
1,500.0	1,449.1	1,431.3	1,431.2	6.5	1.3	142.46	-181.4	-125.0	377.7	372.0	5.71	66.191			
1,600.0	1,542.1	1,526.1	1,526.0	7.2	1.3	145.60	-181.4	-123.8	407.1	401.1	5.99	67.970			
1,700.0	1,635.0	1,620.7	1,620.5	7.9	1.4	148.41	-180.9	-122.3	437.2	431.0	6.25	70.005			
1,800.0	1,727.9	1,717.6	1,717.4	8.5	1.5	151.06	-179.2	-120.0	467.7	461.2	6.47	72.289			
1,900.0	1,820.9	1,814.7	1,814.4	9.2	1.6	153.74	-174.8	-116.4	498.1	491.4	6.65	74.914			

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 6-1D
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 6-1D	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	-141.25	-190.4	-152.8	245.2						
100.0	100.0	79.2	79.2	0.1	0.1	-141.28	-190.4	-152.6	244.0	243.8	0.21	1,188.359			
200.0	200.0	179.5	179.5	0.3	0.2	-141.33	-190.0	-152.1	243.4	242.9	0.47	520.670			
288.3	288.3	266.3	266.3	0.5	0.2	-141.33	-189.8	-151.8	243.0	242.3	0.70	348.542 CC			
300.0	300.0	277.7	277.7	0.5	0.2	-141.33	-189.8	-151.9	243.0	242.3	0.73	334.013 ES			
400.0	400.0	376.9	376.9	0.7	0.3	93.62	-189.7	-152.4	243.5	242.5	0.99	244.760			
500.0	499.6	476.1	476.1	0.9	0.4	95.56	-189.7	-153.3	244.7	243.4	1.29	189.158			
600.0	598.8	574.6	574.6	1.1	0.5	98.64	-189.7	-154.3	247.1	245.4	1.65	149.964			
700.0	697.1	671.6	671.5	1.5	0.6	102.67	-189.9	-155.6	251.6	249.6	2.07	121.562			
800.0	794.3	766.8	766.7	1.9	0.7	107.46	-190.2	-157.5	259.7	257.1	2.56	101.459			
900.0	890.2	860.7	860.6	2.5	0.8	112.73	-190.8	-159.9	272.4	269.3	3.10	87.803			
1,000.0	984.4	953.1	953.0	3.1	0.8	118.14	-191.4	-162.7	290.6	286.9	3.68	79.008			
1,100.0	1,077.4	1,045.2	1,045.1	3.8	0.9	123.74	-192.2	-165.7	314.0	309.8	4.21	74.591			
1,200.0	1,170.3	1,138.6	1,138.3	4.4	1.0	128.72	-193.4	-168.4	340.0	335.3	4.69	72.559			
1,300.0	1,263.3	1,232.5	1,232.2	5.1	1.1	132.95	-195.1	-170.7	367.9	362.8	5.12	71.868 SF			
1,400.0	1,356.2	1,326.5	1,326.2	5.8	1.2	136.57	-196.9	-172.6	397.1	391.6	5.52	71.984			
1,500.0	1,449.1	1,418.7	1,418.3	6.5	1.3	139.68	-198.5	-174.3	427.5	421.6	5.88	72.664			
1,600.0	1,542.1	1,509.3	1,509.0	7.2	1.3	142.38	-199.8	-176.3	459.1	452.9	6.22	73.771			
1,700.0	1,635.0	1,597.2	1,596.8	7.9	1.4	144.70	-200.9	-178.9	492.4	485.8	6.55	75.201			

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 6-1D
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 6-1D	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								
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	3.0	3.0	0.0	0.0	-158.54	-194.1	-76.3	208.6						
100.0	100.0	102.4	102.4	0.1	0.1	-158.56	-194.3	-76.3	208.8	208.5	0.28	747.059			
200.0	200.0	203.2	203.2	0.3	0.3	-158.56	-194.5	-76.4	209.0	208.3	0.63	333.297			
300.0	300.0	305.8	305.8	0.5	0.5	-158.48	-193.9	-76.5	208.4	207.4	0.98	212.530			
400.0	400.0	413.2	413.1	0.7	0.7	77.32	-189.7	-77.4	204.5	203.2	1.35	151.417			
500.0	499.6	516.2	515.6	0.9	0.9	81.73	-181.2	-80.9	197.1	195.3	1.76	111.810			
600.0	598.8	612.4	611.2	1.1	1.1	88.63	-171.2	-86.8	189.9	187.7	2.27	83.847			
673.9	671.5	679.7	677.8	1.4	1.3	95.09	-163.4	-92.8	187.6	184.9	2.72	69.026	CC, ES		
700.0	697.1	701.8	699.6	1.5	1.4	97.48	-160.9	-95.4	188.0	185.1	2.88	65.247			
800.0	794.3	783.1	779.5	1.9	1.7	106.91	-152.3	-107.6	197.8	194.2	3.55	55.680			
900.0	890.2	860.2	854.7	2.5	1.9	115.48	-146.1	-123.0	222.2	218.0	4.20	52.884	SF		
1,000.0	984.4	937.0	929.3	3.1	2.3	122.73	-141.9	-140.9	259.7	254.9	4.80	54.062			
1,100.0	1,077.4	1,008.1	997.9	3.8	2.6	128.87	-139.3	-159.5	306.8	301.5	5.30	57.908			
1,200.0	1,170.3	1,078.5	1,065.2	4.4	2.9	133.81	-137.2	-179.8	359.8	354.1	5.73	62.841			
1,300.0	1,263.3	1,144.6	1,127.9	5.1	3.3	137.57	-134.7	-200.7	417.1	411.0	6.12	68.191			
1,400.0	1,356.2	1,213.0	1,191.9	5.8	3.8	140.75	-131.5	-224.6	478.5	472.0	6.48	73.890			

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Shideler Fee 6-1D
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 6-1D	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				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	-154.25	-210.6	-101.6	233.9	233.6	0.28	837.071 ES		
200.0	200.0	201.7	201.7	0.3	0.3	-154.25	-211.0	-101.8	234.3	233.7	0.62	375.232		
300.0	300.0	299.7	299.6	0.5	0.5	-153.68	-211.0	-104.3	235.4	234.4	0.97	242.698		
400.0	400.0	396.6	396.3	0.7	0.7	82.62	-209.9	-110.7	237.0	235.7	1.34	176.608		
500.0	499.6	487.6	486.7	0.9	0.9	86.37	-208.9	-120.7	240.9	239.2	1.76	137.060		
600.0	598.8	579.1	577.3	1.1	1.2	91.52	-208.4	-134.1	248.9	246.7	2.26	110.209		
700.0	697.1	667.7	664.4	1.5	1.5	97.51	-207.8	-150.2	262.3	259.4	2.83	92.523		
800.0	794.3	753.0	747.7	1.9	1.8	103.73	-207.3	-168.6	283.0	279.6	3.46	81.712		
900.0	890.2	829.2	821.5	2.5	2.2	109.20	-206.8	-187.6	312.6	308.5	4.12	75.861		
1,000.0	984.4	903.2	892.6	3.1	2.6	114.15	-206.4	-208.3	351.3	346.5	4.80	73.190 SF		
1,100.0	1,077.4	969.9	956.0	3.8	3.0	119.02	-206.0	-228.9	398.1	392.7	5.41	73.573		
1,200.0	1,170.3	1,029.0	1,011.4	4.4	3.4	123.08	-205.1	-249.4	451.5	445.6	5.96	75.751		

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Shideler Fee 6-1D
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 6-1D	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	-150.89	-225.8	-125.8	258.5						
100.0	100.0	102.2	102.2	0.1	0.1	-150.88	-226.0	-125.9	258.6	258.4	0.28	926.452	ES		
200.0	200.0	199.9	199.8	0.3	0.3	-150.78	-226.4	-126.6	259.4	258.8	0.62	417.603			
300.0	300.0	295.0	295.0	0.5	0.5	-150.60	-227.3	-128.1	261.0	260.1	0.96	271.241			
400.0	400.0	388.3	388.2	0.7	0.7	84.32	-230.0	-131.0	264.9	263.5	1.31	202.584			
500.0	499.6	486.1	485.8	0.9	0.9	86.12	-234.2	-135.3	270.2	268.5	1.69	159.747			
600.0	598.8	587.2	586.7	1.1	1.0	89.02	-238.3	-139.7	275.4	273.3	2.14	128.805			
700.0	697.1	684.5	683.9	1.5	1.2	92.70	-242.1	-143.7	281.4	278.8	2.65	106.009			
800.0	794.3	780.7	779.9	1.9	1.4	97.18	-245.6	-148.3	289.6	286.3	3.25	89.086			
900.0	890.2	875.8	874.8	2.5	1.6	102.19	-249.0	-153.0	300.9	296.9	3.92	76.815			
1,000.0	984.4	969.6	968.5	3.1	1.8	107.43	-252.5	-157.5	316.3	311.6	4.64	68.214			
1,100.0	1,077.4	1,061.8	1,060.5	3.8	2.0	113.02	-255.5	-162.1	336.1	330.7	5.33	63.065			
1,200.0	1,170.3	1,153.2	1,151.7	4.4	2.2	118.09	-258.4	-166.8	359.2	353.2	5.97	60.131			
1,300.0	1,263.3	1,248.7	1,247.1	5.1	2.4	122.77	-261.4	-171.3	384.6	378.1	6.57	58.516			
1,400.0	1,356.2	1,346.2	1,344.4	5.8	2.6	126.95	-264.0	-174.8	411.1	403.9	7.13	57.663			
1,500.0	1,449.1	1,431.0	1,429.2	6.5	2.7	130.27	-265.8	-178.3	439.6	432.0	7.64	57.537	SF		
1,600.0	1,542.1	1,522.0	1,520.1	7.2	2.9	133.50	-267.3	-182.7	470.4	462.3	8.11	57.970			

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Shideler Fee 6-1D
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 6-1D	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	-151.85	-237.1	-126.9	268.9						
100.0	100.0	97.1	97.1	0.1	0.1	-151.84	-237.6	-127.2	269.5	269.2	0.27	988.290			
200.0	200.0	188.2	188.2	0.3	0.3	-151.78	-239.4	-128.4	271.9	271.3	0.60	449.656			
300.0	300.0	275.9	275.6	0.5	0.5	-151.59	-243.9	-131.9	278.4	277.4	0.95	294.209			
400.0	400.0	364.6	363.8	0.7	0.7	83.14	-251.7	-138.0	289.0	287.7	1.27	228.080			
500.0	499.6	455.6	453.9	0.9	1.0	84.40	-261.8	-145.4	301.9	300.3	1.64	184.282			
600.0	598.8	546.8	543.9	1.1	1.3	86.35	-274.1	-154.2	317.5	315.4	2.07	153.678			
700.0	697.1	644.8	640.4	1.5	1.6	89.01	-288.2	-163.8	334.5	331.9	2.58	129.503			
800.0	794.3	745.9	740.1	1.9	1.9	92.45	-301.3	-173.5	351.4	348.2	3.19	110.009			
900.0	890.2	842.9	836.1	2.5	2.2	96.15	-313.1	-182.2	369.2	365.3	3.89	94.845			
1,000.0	984.4	937.0	929.2	3.1	2.5	99.98	-324.3	-190.2	389.4	384.7	4.67	83.305			
1,100.0	1,077.4	1,029.5	1,020.6	3.8	2.8	104.30	-335.0	-198.3	412.5	407.0	5.47	75.362			
1,200.0	1,170.3	1,120.3	1,110.5	4.4	3.1	108.25	-345.5	-206.1	437.9	431.7	6.26	69.957			
1,300.0	1,263.3	1,210.8	1,200.1	5.1	3.4	111.84	-355.8	-214.5	465.7	458.7	7.03	66.250			
1,400.0	1,356.2	1,304.2	1,292.5	5.8	3.7	115.12	-366.6	-222.9	495.2	487.4	7.79	63.565 SF			

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Shideler Fee 6-1D
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 6-1D	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	-152.59	-218.6	-113.3	246.2					
100.0	100.0	102.3	102.3	0.1	0.1	-152.58	-218.7	-113.4	246.3	246.1	0.28	882.125		
200.0	200.0	202.0	202.0	0.3	0.3	-152.59	-219.0	-113.5	246.6	246.0	0.62	394.698 ES		
300.0	300.0	296.5	296.5	0.5	0.5	-152.57	-220.0	-114.2	247.9	246.9	0.97	256.860		
400.0	400.0	387.0	386.9	0.7	0.6	82.25	-223.1	-116.6	251.9	250.6	1.30	193.307		
500.0	499.6	475.1	474.6	0.9	0.8	83.66	-229.5	-120.7	259.6	257.9	1.67	155.559		
600.0	598.8	564.5	563.3	1.1	1.1	85.73	-239.6	-126.0	271.2	269.1	2.09	129.448		
700.0	697.1	654.6	652.3	1.5	1.3	88.29	-252.3	-132.1	286.0	283.4	2.60	109.835		
800.0	794.3	749.3	745.5	1.9	1.6	91.29	-267.8	-138.3	303.3	300.1	3.22	94.283		
900.0	890.2	842.1	836.8	2.5	2.0	94.61	-283.7	-144.6	322.9	318.9	3.93	82.164		
1,000.0	984.4	935.4	928.4	3.1	2.3	98.32	-299.8	-151.5	345.1	340.4	4.74	72.804		
1,100.0	1,077.4	1,028.0	1,019.3	3.8	2.6	102.56	-315.7	-158.6	370.2	364.6	5.58	66.302		
1,200.0	1,170.3	1,120.9	1,110.5	4.4	3.0	106.38	-332.0	-165.3	397.1	390.7	6.43	61.719		
1,300.0	1,263.3	1,212.9	1,200.9	5.1	3.3	109.68	-348.4	-171.9	425.7	418.4	7.28	58.481		
1,400.0	1,356.2	1,312.9	1,299.0	5.8	3.7	112.81	-366.1	-178.8	455.2	447.0	8.13	55.962		
1,500.0	1,449.1	1,404.7	1,389.4	6.5	4.0	115.41	-381.3	-184.3	484.4	475.5	8.95	54.131 SF		

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Shideler Fee 6-1D
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 6-1D	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	-153.44	-229.5	-114.7	256.6					
100.0	100.0	102.2	102.2	0.1	0.1	-153.48	-229.7	-114.6	256.7	256.4	0.28	918.960 ES		
200.0	200.0	200.0	200.0	0.3	0.3	-153.63	-230.7	-114.4	257.5	256.9	0.62	413.624		
300.0	300.0	290.6	290.5	0.5	0.5	-153.75	-233.3	-115.0	260.4	259.4	0.96	271.117		
400.0	400.0	380.0	379.7	0.7	0.7	80.69	-238.9	-117.2	266.7	265.4	1.29	206.441		
500.0	499.6	468.1	467.3	0.9	0.9	81.64	-247.8	-120.6	276.3	274.6	1.66	166.533		
600.0	598.8	557.9	556.2	1.1	1.1	83.30	-259.9	-125.4	289.0	287.0	2.09	138.376		
700.0	697.1	642.3	639.2	1.5	1.4	85.39	-273.8	-131.3	305.3	302.7	2.59	117.801		
800.0	794.3	731.5	726.3	1.9	1.8	88.03	-291.4	-139.1	325.7	322.5	3.20	101.768		
900.0	890.2	828.3	820.6	2.5	2.2	91.28	-311.3	-147.8	348.1	344.1	3.93	88.459		
1,000.0	984.4	923.6	913.7	3.1	2.6	94.66	-330.7	-155.3	371.4	366.6	4.78	77.704		
1,100.0	1,077.4	1,016.8	1,004.6	3.8	3.0	98.47	-349.8	-162.1	396.7	391.0	5.67	69.912		
1,200.0	1,170.3	1,108.1	1,093.5	4.4	3.4	101.87	-369.1	-168.6	423.9	417.3	6.58	64.374		
1,300.0	1,263.3	1,200.2	1,183.2	5.1	3.7	104.84	-389.2	-175.2	452.7	445.2	7.50	60.346		
1,400.0	1,356.2	1,292.5	1,273.1	5.8	4.1	107.47	-409.4	-181.7	482.7	474.3	8.42	57.316 SF		

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Shideler Fee 6-1D
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 6-1D	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	-155.09	-221.5	-102.9	244.2						
100.0	100.0	103.1	103.1	0.1	0.1	-155.05	-221.4	-103.0	244.2	243.9	0.28	870.737			
200.0	200.0	203.4	203.3	0.3	0.3	-154.93	-221.1	-103.4	244.1	243.4	0.63	389.037			
300.0	300.0	304.1	304.1	0.5	0.5	-154.83	-220.5	-103.7	243.7	242.7	0.98	249.160			
400.0	400.0	401.4	401.4	0.7	0.7	80.18	-220.3	-104.3	243.3	242.0	1.33	183.100			
425.4	425.3	425.9	425.9	0.7	0.7	80.54	-220.4	-104.5	243.3	241.8	1.42	170.783	CC, ES		
500.0	499.6	495.2	495.2	0.9	0.8	81.92	-221.7	-105.3	243.9	242.2	1.70	143.118			
600.0	598.8	585.7	585.5	1.1	1.0	84.39	-225.7	-106.6	247.0	244.8	2.13	115.846			
700.0	697.1	675.0	674.6	1.5	1.2	87.45	-233.0	-108.9	254.1	251.5	2.64	96.337			
800.0	794.3	762.1	760.9	1.9	1.4	90.83	-243.6	-112.0	266.0	262.8	3.23	82.273			
900.0	890.2	844.0	841.6	2.5	1.6	94.03	-256.9	-115.6	283.3	279.4	3.92	72.242			
1,000.0	984.4	937.0	932.5	3.1	2.0	97.58	-276.1	-120.1	305.9	301.1	4.75	64.441			
1,100.0	1,077.4	1,016.8	1,009.8	3.8	2.3	100.73	-295.7	-124.4	333.4	327.8	5.60	59.548			
1,200.0	1,170.3	1,098.8	1,088.3	4.4	2.7	103.39	-318.9	-129.7	365.3	358.8	6.49	56.267			
1,300.0	1,263.3	1,185.5	1,170.4	5.1	3.2	105.54	-345.8	-136.1	400.2	392.8	7.43	53.890			
1,400.0	1,356.2	1,275.1	1,254.9	5.8	3.7	107.31	-374.8	-142.9	436.5	428.1	8.40	51.983			
1,500.0	1,449.1	1,368.2	1,342.5	6.5	4.3	108.82	-405.3	-150.0	473.4	464.0	9.40	50.386	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 6-1D
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 6-1D	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	-156.93	-212.4	-90.4	230.8						
100.0	100.0	103.1	103.1	0.1	0.1	-156.91	-212.3	-90.5	230.8	230.5	0.28	822.753			
132.5	132.5	135.6	135.6	0.2	0.2	-156.91	-212.3	-90.5	230.8	230.4	0.39	590.157 CC, ES			
200.0	200.0	199.1	199.1	0.3	0.3	-157.06	-212.9	-90.1	231.2	230.6	0.62	372.839			
300.0	300.0	290.7	290.6	0.5	0.5	-157.81	-216.7	-88.4	234.3	233.4	0.97	242.826			
400.0	400.0	384.1	383.6	0.7	0.7	75.40	-224.6	-85.2	240.3	239.0	1.32	181.586			
500.0	499.6	474.4	473.1	0.9	0.9	75.07	-235.6	-81.6	248.3	246.6	1.73	143.791			
600.0	598.8	564.8	562.3	1.1	1.2	75.62	-249.8	-79.0	258.7	256.5	2.19	118.146			
700.0	697.1	650.4	646.3	1.5	1.5	77.00	-266.4	-78.3	272.1	269.4	2.73	99.773			
800.0	794.3	733.9	727.5	1.9	1.9	78.98	-286.1	-79.6	289.8	286.4	3.36	86.213			
900.0	890.2	815.8	806.1	2.5	2.3	81.34	-308.7	-82.9	312.0	307.9	4.11	75.877			
1,000.0	984.4	898.2	884.2	3.1	2.8	83.81	-334.7	-87.3	338.8	333.8	5.01	67.634			
1,100.0	1,077.4	987.3	967.7	3.8	3.3	87.02	-365.3	-92.4	369.0	363.0	6.00	61.456			
1,200.0	1,170.3	1,081.2	1,055.7	4.4	3.9	90.05	-397.7	-97.3	400.2	393.2	7.06	56.700			
1,300.0	1,263.3	1,171.4	1,140.0	5.1	4.5	92.47	-429.4	-101.7	432.6	424.5	8.14	53.153			
1,400.0	1,356.2	1,260.7	1,223.1	5.8	5.1	94.44	-461.8	-105.9	466.2	457.0	9.22	50.543 SF			

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Shideler Fee 6-1D
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 6-1D	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	-156.37	-202.2	-88.5	220.7						
100.0	100.0	103.4	103.4	0.1	0.1	-156.40	-202.1	-88.3	220.6	220.3	0.28	785.339			
153.1	153.1	156.1	156.1	0.2	0.2	-156.42	-202.1	-88.2	220.5	220.1	0.46	476.258 CC			
200.0	200.0	200.9	200.9	0.3	0.3	-156.42	-202.2	-88.3	220.7	220.1	0.62	354.285 ES			
300.0	300.0	292.0	292.0	0.5	0.5	-156.42	-204.8	-89.4	223.7	222.8	0.96	233.185			
400.0	400.0	381.3	381.0	0.7	0.7	77.92	-211.2	-91.0	230.5	229.2	1.29	178.166			
500.0	499.6	469.1	468.1	0.9	0.9	78.79	-221.5	-93.5	240.8	239.1	1.66	145.056			
600.0	598.8	557.4	555.1	1.1	1.2	80.22	-236.2	-96.8	255.1	253.0	2.09	121.945			
700.0	697.1	642.7	638.4	1.5	1.5	81.87	-254.1	-100.1	273.0	270.4	2.61	104.641			
800.0	794.3	727.5	720.4	1.9	1.9	83.86	-275.6	-104.6	295.2	292.0	3.24	91.256			
900.0	890.2	811.3	800.4	2.5	2.4	85.99	-299.9	-110.0	321.4	317.4	3.98	80.839			
1,000.0	984.4	894.3	878.9	3.1	2.8	88.30	-326.1	-116.8	351.5	346.7	4.84	72.617			
1,100.0	1,077.4	975.8	955.0	3.8	3.4	91.13	-354.1	-124.1	385.4	379.6	5.78	66.638			
1,200.0	1,170.3	1,054.6	1,027.7	4.4	3.9	93.48	-383.6	-131.6	422.9	416.1	6.76	62.541			
1,300.0	1,263.3	1,132.4	1,098.2	5.1	4.5	95.18	-415.7	-139.2	463.8	456.0	7.77	59.681 SF			

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Shideler Fee 6-1D
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 6-1D	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	-159.04	-205.1	-78.6	219.6						
100.0	100.0	101.0	101.0	0.1	0.1	-159.04	-204.8	-78.5	219.4	219.1	0.28	776.685			
139.7	139.7	139.7	139.7	0.2	0.2	-159.04	-204.7	-78.4	219.2	218.8	0.42	526.955 CC, ES			
200.0	200.0	194.6	194.6	0.3	0.3	-159.23	-205.6	-78.0	219.9	219.3	0.62	355.974			
300.0	300.0	288.3	288.2	0.5	0.5	-160.12	-210.2	-76.0	223.9	222.9	0.97	230.800			
400.0	400.0	379.0	378.4	0.7	0.7	73.15	-218.5	-73.2	230.7	229.4	1.32	174.799			
500.0	499.6	468.1	466.6	0.9	0.9	72.90	-230.4	-70.3	240.0	238.3	1.71	139.997			
600.0	598.8	557.9	555.0	1.1	1.2	73.07	-246.3	-66.3	251.6	249.4	2.18	115.149			
700.0	697.1	651.5	646.2	1.5	1.6	73.92	-266.5	-62.0	265.3	262.5	2.79	95.028			
800.0	794.3	741.4	732.7	1.9	2.1	74.44	-289.4	-53.9	279.9	276.4	3.53	79.346			
900.0	890.2	829.8	816.6	2.5	2.6	75.10	-315.7	-44.3	296.7	292.3	4.40	67.357			
1,000.0	984.4	918.3	899.2	3.1	3.2	75.96	-345.5	-33.7	315.5	310.1	5.43	58.085			
1,100.0	1,077.4	1,005.9	979.9	3.8	3.8	77.35	-377.8	-22.8	336.7	330.1	6.54	51.449			
1,200.0	1,170.3	1,093.7	1,059.8	4.4	4.5	78.59	-412.5	-12.4	360.7	353.1	7.70	46.877			
1,300.0	1,263.3	1,183.6	1,141.0	5.1	5.2	79.61	-450.1	-2.1	387.1	378.2	8.88	43.575			
1,400.0	1,356.2	1,278.2	1,225.8	5.8	5.9	80.48	-490.6	8.5	414.7	404.6	10.11	41.005			
1,500.0	1,449.1	1,380.3	1,317.5	6.5	6.7	81.29	-533.7	20.5	441.6	430.2	11.41	38.701			
1,600.0	1,542.1	1,482.3	1,409.3	7.2	7.5	81.90	-576.1	33.9	467.3	454.6	12.72	36.732			
1,700.0	1,635.0	1,584.1	1,501.3	7.9	8.3	82.45	-617.5	47.8	491.9	477.9	14.02	35.084 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 6-1D
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 6-1D	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	48.24	35.3	39.6	53.0						
100.0	100.0	100.0	100.0	0.1	0.1	48.24	35.3	39.6	53.0	52.8	0.27	194.804			
200.0	200.0	200.0	200.0	0.3	0.3	48.24	35.3	39.6	53.0	52.4	0.62	85.364	CC, ES		
300.0	300.0	298.7	298.7	0.5	0.5	47.02	36.7	39.4	53.9	52.9	0.97	55.539			
400.0	400.0	396.5	396.3	0.7	0.7	-86.06	43.0	38.8	57.8	56.5	1.34	43.280			
500.0	499.6	492.5	491.6	0.9	0.9	-98.98	53.9	37.8	67.3	65.6	1.73	38.868	SF		
600.0	598.8	585.5	583.3	1.1	1.2	-112.20	69.1	36.3	86.0	83.9	2.14	40.182			
700.0	697.1	674.5	670.3	1.5	1.6	-122.38	87.7	34.6	115.3	112.7	2.55	45.130			
800.0	794.3	763.2	756.3	1.9	2.0	-129.64	109.4	32.5	153.6	150.6	2.99	51.408			
900.0	890.2	851.4	841.8	2.5	2.4	-134.80	131.1	30.4	197.3	193.8	3.45	57.185			
1,000.0	984.4	937.3	925.0	3.1	2.8	-138.54	152.3	28.4	245.7	241.7	3.94	62.385			
1,100.0	1,077.4	1,021.4	1,006.5	3.8	3.2	-142.06	173.0	26.4	297.5	293.1	4.42	67.255			
1,200.0	1,170.3	1,105.4	1,087.9	4.4	3.5	-144.75	193.7	24.5	350.2	345.3	4.91	71.279			
1,300.0	1,263.3	1,189.4	1,169.3	5.1	3.9	-146.75	214.4	22.5	403.2	397.8	5.40	74.622			
1,400.0	1,356.2	1,273.4	1,250.7	5.8	4.3	-148.29	235.1	20.5	456.6	450.7	5.90	77.437			

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Shideler Fee 6-1D
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 6-1D	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	45.19	27.0	27.1	38.2						
100.0	100.0	100.0	100.0	0.1	0.1	45.19	27.0	27.1	38.2	38.0	0.27	140.456			
200.0	200.0	200.0	200.0	0.3	0.3	45.19	27.0	27.1	38.2	37.6	0.62	61.548			
236.3	236.3	236.3	236.3	0.4	0.4	45.19	27.0	27.1	38.2	37.5	0.75	51.113 CC			
300.0	300.0	299.8	299.8	0.5	0.5	44.23	27.5	26.7	38.4	37.4	0.97	39.521 ES			
400.0	400.0	399.0	398.8	0.7	0.7	-92.60	31.7	23.7	39.6	38.3	1.34	29.564			
500.0	499.6	496.2	495.5	0.9	0.9	-113.60	39.8	17.9	47.1	45.3	1.74	26.974 SF			
600.0	598.8	590.0	588.2	1.1	1.2	-132.70	51.5	9.5	66.7	64.6	2.12	31.436			
700.0	697.1	679.3	675.7	1.5	1.5	-144.69	66.0	-0.9	99.1	96.7	2.46	40.292			
800.0	794.3	765.1	758.9	1.9	1.9	-151.70	82.8	-13.0	142.1	139.3	2.78	51.120			
900.0	890.2	851.1	842.2	2.5	2.3	-156.06	100.3	-25.6	191.4	188.3	3.10	61.740			
1,000.0	984.4	934.4	922.8	3.1	2.7	-158.86	117.3	-37.9	245.5	242.1	3.42	71.818			
1,100.0	1,077.4	1,015.7	1,001.5	3.8	3.1	-161.24	133.9	-49.8	302.9	299.2	3.74	80.978			
1,200.0	1,170.3	1,096.8	1,080.1	4.4	3.4	-162.99	150.4	-61.7	360.7	356.7	4.07	88.647			
1,300.0	1,263.3	1,178.0	1,158.6	5.1	3.8	-164.26	166.9	-73.5	418.7	414.3	4.40	95.156			
1,400.0	1,356.2	1,259.2	1,237.2	5.8	4.2	-165.22	183.5	-85.4	476.8	472.1	4.73	100.750			

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 6-1D
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 6-1D	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			
300.0	300.0	299.8	299.8	0.5	0.5	31.07	20.6	12.4	24.1	23.1	0.97	24.741 ES			
400.0	400.0	398.8	398.4	0.7	0.7	-116.23	25.7	6.6	27.7	26.3	1.36	20.302 SF			
500.0	499.6	495.4	494.2	0.9	1.0	-140.88	33.9	-2.8	41.9	40.2	1.73	24.269			
600.0	598.8	588.2	585.5	1.1	1.3	-155.20	44.7	-15.3	69.1	67.0	2.05	33.679			
700.0	697.1	676.0	671.1	1.5	1.7	-162.48	57.6	-30.2	107.2	104.9	2.36	45.517			
800.0	794.3	757.9	750.0	1.9	2.1	-166.40	72.0	-46.7	154.8	152.2	2.65	58.510			
900.0	890.2	833.3	821.8	2.5	2.6	-168.66	87.1	-64.2	210.7	207.7	2.92	72.166			
1,000.0	984.4	900.0	884.4	3.1	3.0	-169.99	102.1	-81.4	273.9	270.7	3.17	86.319			
1,100.0	1,077.4	964.2	944.0	3.8	3.5	-171.19	117.8	-99.5	342.6	339.1	3.44	99.457			
1,200.0	1,170.3	1,022.8	997.6	4.4	3.9	-172.05	133.3	-117.4	413.7	409.9	3.71	111.469			
1,300.0	1,263.3	1,080.2	1,049.4	5.1	4.4	-172.67	149.5	-136.1	486.9	482.9	3.97	122.483			

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 6-1D
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 6-1D	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	-76.30	2.5	-10.5	10.8					
100.0	100.0	100.0	100.0	0.1	0.1	-76.30	2.5	-10.5	10.8	10.5	0.27	39.529		
200.0	200.0	200.0	200.0	0.3	0.3	-76.30	2.5	-10.5	10.8	10.1	0.62	17.322 CC, ES		
300.0	300.0	299.4	299.3	0.5	0.5	-75.09	3.4	-12.9	13.4	12.4	0.97	13.706 SF		
400.0	400.0	397.9	397.5	0.7	0.7	162.97	6.0	-20.1	23.6	22.3	1.31	17.939		
500.0	499.6	494.1	492.9	0.9	1.0	166.13	10.3	-31.7	43.9	42.3	1.65	26.546		
600.0	598.8	586.6	583.9	1.1	1.3	167.81	15.9	-47.1	74.0	72.0	1.98	37.296		
700.0	697.1	674.2	669.3	1.5	1.7	168.70	22.5	-65.5	113.3	111.0	2.30	49.224		
800.0	794.3	756.1	748.2	1.9	2.1	169.16	30.0	-86.0	161.3	158.7	2.61	61.856		
900.0	890.2	831.6	820.1	2.5	2.6	169.36	37.9	-107.7	217.2	214.3	2.90	74.927		
1,000.0	984.4	900.0	884.4	3.1	3.0	169.39	45.9	-129.7	280.2	277.0	3.17	88.269		
1,100.0	1,077.4	964.7	944.4	3.8	3.5	169.66	54.1	-152.4	348.5	345.1	3.47	100.406		
1,200.0	1,170.3	1,034.5	1,008.7	4.4	4.0	169.91	63.4	-178.0	418.2	414.4	3.79	110.483		
1,300.0	1,263.3	1,106.2	1,074.7	5.1	4.5	170.10	73.0	-204.3	487.9	483.8	4.10	118.949		

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Shideler Fee 6-1D
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 6-1D	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	-104.12	-5.8	-23.2	23.9						
100.0	100.0	100.0	100.0	0.1	0.1	-104.12	-5.8	-23.2	23.9	23.6	0.27	87.760			
200.0	200.0	200.0	200.0	0.3	0.3	-104.12	-5.8	-23.2	23.9	23.3	0.62	38.457			
300.0	300.0	300.0	300.0	0.5	0.5	-104.12	-5.8	-23.2	23.9	22.9	0.97	24.623	CC, ES		
400.0	400.0	399.0	399.0	0.7	0.7	135.54	-5.6	-24.6	27.0	25.7	1.32	20.469	SF		
500.0	499.6	496.4	496.1	0.9	0.9	146.27	-4.4	-30.7	39.4	37.7	1.67	23.562			
600.0	598.8	591.0	590.1	1.1	1.1	154.00	-2.4	-41.4	62.1	60.1	2.02	30.772			
700.0	697.1	681.6	679.6	1.5	1.4	158.34	0.2	-55.8	94.6	92.3	2.35	40.190			
800.0	794.3	767.2	763.3	1.9	1.7	160.71	3.5	-73.3	136.3	133.6	2.69	50.756			
900.0	890.2	847.0	840.5	2.5	2.1	162.00	7.1	-92.9	186.4	183.4	3.01	61.884			
1,000.0	984.4	920.4	910.8	3.1	2.5	162.66	11.0	-113.7	244.1	240.8	3.33	73.200			
1,100.0	1,077.4	988.0	974.8	3.8	2.9	163.41	15.0	-135.2	307.6	303.9	3.67	83.773			
1,200.0	1,170.3	1,051.8	1,034.4	4.4	3.3	163.92	19.1	-157.5	373.7	369.7	4.01	93.129			
1,300.0	1,263.3	1,121.2	1,098.6	5.1	3.8	164.26	23.9	-183.4	441.7	437.3	4.37	101.157			

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Shideler Fee 6-1D
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 6-1D	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	10.61	10.6	2.0	10.7						
100.0	100.0	100.0	100.0	0.1	0.1	10.61	10.6	2.0	10.7	10.5	0.27	39.469			
200.0	200.0	200.0	200.0	0.3	0.3	10.61	10.6	2.0	10.7	10.1	0.62	17.295			
300.0	300.0	300.0	300.0	0.5	0.5	10.61	10.6	2.0	10.7	9.8	0.97	11.074	CC, ES		
400.0	400.0	400.0	400.0	0.7	0.7	-126.41	10.6	2.0	12.1	10.8	1.32	9.140	SF		
500.0	499.6	499.6	499.6	0.9	0.8	-146.94	10.6	2.0	17.9	16.2	1.68	10.671			
600.0	598.8	597.4	597.4	1.1	1.0	-163.05	11.5	-0.3	31.8	29.8	2.01	15.806			
700.0	697.1	694.6	694.4	1.5	1.2	-171.45	13.4	-5.2	54.4	52.0	2.34	23.236			
800.0	794.3	790.4	790.1	1.9	1.4	-175.22	15.2	-10.0	82.5	79.8	2.66	31.002			
900.0	890.2	884.7	884.2	2.5	1.5	-177.20	17.1	-14.7	115.7	112.7	2.97	38.950			
1,000.0	984.4	977.1	976.5	3.1	1.7	-178.35	18.9	-19.3	153.8	150.6	3.27	47.057			
1,100.0	1,077.4	1,068.0	1,067.3	3.8	1.9	-179.08	20.7	-23.9	195.4	191.8	3.59	54.432			
1,200.0	1,170.3	1,158.9	1,158.0	4.4	2.1	-179.57	22.5	-28.4	237.1	233.2	3.92	60.506			
1,300.0	1,263.3	1,249.7	1,248.8	5.1	2.3	-179.91	24.2	-33.0	278.8	274.6	4.25	65.641			
1,400.0	1,356.2	1,340.6	1,339.5	5.8	2.4	179.84	26.0	-37.5	320.5	316.0	4.58	70.039			
1,500.0	1,449.1	1,431.5	1,430.2	6.5	2.6	179.65	27.8	-42.1	362.3	357.4	4.91	73.848			
1,600.0	1,542.1	1,522.4	1,521.0	7.2	2.8	179.50	29.6	-46.6	404.0	398.8	5.23	77.179			
1,700.0	1,635.0	1,613.2	1,611.7	7.9	3.0	179.37	31.4	-51.1	445.7	440.2	5.56	80.116			
1,800.0	1,727.9	1,704.1	1,702.5	8.5	3.1	179.27	33.2	-55.7	487.4	481.6	5.89	82.726			

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 6-1D
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 6-1D	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	-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	140.311			
200.0	200.0	200.0	200.0	0.3	0.3	-111.24	-13.8	-35.6	38.2	37.6	0.62	61.485			
300.0	300.0	300.0	300.0	0.5	0.5	-111.24	-13.8	-35.6	38.2	37.2	0.97	39.368	CC, ES		
400.0	400.0	398.2	398.1	0.7	0.7	125.24	-15.1	-37.7	42.1	40.8	1.32	31.917			
500.0	499.6	497.6	497.5	0.9	0.8	131.09	-17.5	-41.5	51.3	49.6	1.69	30.376	SF		
600.0	598.8	596.4	596.2	1.1	1.0	138.28	-19.8	-45.2	64.6	62.6	2.07	31.193			
700.0	697.1	694.3	694.0	1.5	1.2	144.99	-22.1	-48.9	82.9	80.4	2.46	33.690			
800.0	794.3	791.1	790.6	1.9	1.4	150.55	-24.3	-52.6	106.3	103.5	2.84	37.414			
900.0	890.2	886.4	885.8	2.5	1.6	154.91	-26.6	-56.2	135.1	131.8	3.21	42.026			
1,000.0	984.4	980.0	979.3	3.1	1.8	158.27	-28.8	-59.7	169.0	165.4	3.57	47.287			
1,100.0	1,077.4	1,072.2	1,071.5	3.8	1.9	161.06	-30.9	-63.2	206.5	202.6	3.93	52.520			
1,200.0	1,170.3	1,164.4	1,163.6	4.4	2.1	163.07	-33.1	-66.7	244.5	240.2	4.29	56.960			
1,300.0	1,263.3	1,256.6	1,255.7	5.1	2.3	164.54	-35.2	-70.2	282.7	278.1	4.65	60.778			
1,400.0	1,356.2	1,348.8	1,347.9	5.8	2.5	165.66	-37.4	-73.7	321.0	316.0	5.01	64.088			
1,500.0	1,449.1	1,441.0	1,440.0	6.5	2.6	166.55	-39.6	-77.2	359.4	354.0	5.37	66.981			
1,600.0	1,542.1	1,533.3	1,532.1	7.2	2.8	167.26	-41.7	-80.7	397.9	392.1	5.72	69.531			
1,700.0	1,635.0	1,625.5	1,624.2	7.9	3.0	167.85	-43.9	-84.2	436.4	430.3	6.08	71.793			
1,800.0	1,727.9	1,717.7	1,716.3	8.5	3.2	168.34	-46.0	-87.6	474.9	468.5	6.43	73.813			

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Shideler Fee 6-1D
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 6-1D	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	56.97	40.8	62.7	74.8						
100.0	100.0	100.0	100.0	0.1	0.1	56.97	40.8	62.7	74.8	74.6	0.27	274.848			
200.0	200.0	200.0	200.0	0.3	0.3	56.97	40.8	62.7	74.8	74.2	0.62	120.439			
300.0	300.0	300.0	300.0	0.5	0.5	56.97	40.8	62.7	74.8	73.9	0.97	77.116			
400.0	400.0	400.0	400.0	0.7	0.7	-70.70	40.8	62.7	73.9	72.6	1.32	55.798			
447.7	447.6	445.9	445.9	0.8	0.7	-72.79	41.0	63.3	73.5	72.0	1.50	48.872	CC, ES		
500.0	499.6	496.2	496.2	0.9	0.8	-75.71	41.6	65.0	74.1	72.3	1.70	43.466			
600.0	598.8	592.1	591.8	1.1	1.0	-82.60	44.0	71.9	78.5	76.4	2.15	36.525			
700.0	697.1	687.5	686.4	1.5	1.3	-89.99	47.9	83.1	88.1	85.4	2.70	32.672			
800.0	794.3	782.0	779.4	1.9	1.6	-96.62	53.3	98.7	103.3	99.9	3.37	30.644			
900.0	890.2	875.3	870.4	2.5	2.0	-101.91	60.1	118.3	123.9	119.7	4.18	29.642			
1,000.0	984.4	967.2	958.9	3.1	2.4	-105.81	68.2	141.7	149.7	144.6	5.12	29.235			
1,100.0	1,077.4	1,061.8	1,049.2	3.8	2.9	-109.41	77.5	168.3	178.9	172.8	6.14	29.168			
1,200.0	1,170.3	1,156.8	1,139.9	4.4	3.4	-112.19	86.8	195.0	208.7	201.6	7.17	29.125			
1,300.0	1,263.3	1,251.9	1,230.7	5.1	3.9	-114.27	96.1	221.8	238.9	230.7	8.21	29.101			
1,400.0	1,356.2	1,346.9	1,321.4	5.8	4.4	-115.89	105.4	248.5	269.2	260.0	9.26	29.091			
1,500.0	1,449.1	1,441.9	1,412.1	6.5	5.0	-117.18	114.7	275.3	299.8	289.5	10.30	29.089	SF		
1,600.0	1,542.1	1,537.0	1,502.8	7.2	5.5	-118.23	124.0	302.0	330.4	319.0	11.36	29.092			
1,700.0	1,635.0	1,632.0	1,593.5	7.9	6.0	-119.10	133.3	328.8	361.1	348.7	12.41	29.099			
1,800.0	1,727.9	1,727.0	1,684.3	8.5	6.6	-119.84	142.5	355.5	391.9	378.4	13.46	29.107			
1,900.0	1,820.9	1,822.1	1,775.0	9.2	7.1	-120.47	151.8	382.2	422.7	408.2	14.52	29.117			
2,000.0	1,913.8	1,917.1	1,865.7	9.9	7.6	-121.01	161.1	409.0	453.6	438.0	15.57	29.127			
2,100.0	2,006.7	2,012.1	1,956.4	10.6	8.2	-121.49	170.4	435.7	484.5	467.8	16.63	29.138			

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 6-1D
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 6-1D	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	50.34	43.3	52.3	67.9						
100.0	100.0	100.0	100.0	0.1	0.1	50.34	43.3	52.3	67.9	67.6	0.27	249.424			
200.0	200.0	200.0	200.0	0.3	0.3	50.34	43.3	52.3	67.9	67.3	0.62	109.298			
300.0	300.0	300.0	300.0	0.5	0.5	50.34	43.3	52.3	67.9	66.9	0.97	69.982	CC, ES		
400.0	400.0	396.6	396.5	0.7	0.7	-76.98	44.5	54.4	69.8	68.4	1.32	52.857			
500.0	499.6	492.7	492.4	0.9	0.9	-81.17	48.0	60.8	75.6	73.9	1.70	44.401			
600.0	598.8	588.0	586.9	1.1	1.1	-86.75	53.7	71.3	86.1	84.0	2.16	39.918			
700.0	697.1	682.1	679.5	1.5	1.4	-92.42	61.5	85.8	101.9	99.1	2.72	37.474			
800.0	794.3	774.6	769.7	1.9	1.8	-97.36	71.3	103.9	123.1	119.7	3.41	36.127			
900.0	890.2	865.2	857.0	2.5	2.3	-101.27	82.9	125.3	149.8	145.6	4.23	35.396			
1,000.0	984.4	956.0	943.3	3.1	2.8	-104.38	96.3	150.1	181.5	176.4	5.18	35.038			
1,100.0	1,077.4	1,049.2	1,031.7	3.8	3.3	-107.93	110.4	176.2	215.5	209.3	6.20	34.746			
1,200.0	1,170.3	1,142.4	1,120.0	4.4	3.9	-110.72	124.6	202.3	250.1	242.8	7.24	34.551			
1,300.0	1,263.3	1,235.7	1,208.4	5.1	4.4	-112.83	138.7	228.3	285.1	276.8	8.28	34.427			
1,400.0	1,356.2	1,328.9	1,296.8	5.8	5.0	-114.49	152.8	254.4	320.3	311.0	9.33	34.349			
1,500.0	1,449.1	1,422.1	1,385.1	6.5	5.5	-115.81	166.9	280.5	355.8	345.4	10.37	34.300			
1,600.0	1,542.1	1,515.3	1,473.5	7.2	6.1	-116.90	181.1	306.6	391.4	380.0	11.42	34.269			
1,700.0	1,635.0	1,608.5	1,561.9	7.9	6.6	-117.81	195.2	332.7	427.1	414.6	12.47	34.251			
1,800.0	1,727.9	1,701.7	1,650.3	8.5	7.2	-118.58	209.3	358.8	462.8	449.3	13.52	34.241			
1,900.0	1,820.9	1,795.0	1,738.6	9.2	7.7	-119.23	223.4	384.9	498.7	484.1	14.57	34.237	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 6-1D
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 6-1D	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	57.20	24.4	37.9	45.1						
100.0	100.0	100.0	100.0	0.1	0.1	57.20	24.4	37.9	45.1	44.8	0.27	165.461			
200.0	200.0	200.0	200.0	0.3	0.3	57.20	24.4	37.9	45.1	44.4	0.62	72.505			
300.0	300.0	300.0	300.0	0.5	0.5	57.20	24.4	37.9	45.1	44.1	0.97	46.424			
347.1	347.1	346.7	346.7	0.6	0.6	-69.14	24.4	38.0	44.9	43.8	1.14	39.552 CC, ES			
400.0	400.0	398.6	398.6	0.7	0.7	-70.46	24.3	39.3	45.2	43.9	1.32	34.189			
500.0	499.6	496.8	496.6	0.9	0.9	-74.19	23.6	45.6	47.6	45.9	1.72	27.736			
600.0	598.8	594.9	594.0	1.1	1.1	-78.87	22.4	56.8	52.5	50.3	2.20	23.847			
700.0	697.1	692.7	690.4	1.5	1.4	-83.65	20.8	73.0	60.1	57.3	2.83	21.261			
800.0	794.3	790.2	785.6	1.9	1.8	-87.91	18.6	93.9	70.5	66.9	3.62	19.457			
900.0	890.2	887.4	879.3	2.5	2.3	-91.41	15.9	119.6	83.7	79.1	4.59	18.220			
1,000.0	984.4	986.0	973.7	3.1	2.8	-95.66	13.0	147.9	98.6	92.9	5.71	17.260			
1,100.0	1,077.4	1,084.2	1,067.8	3.8	3.3	-100.82	10.0	176.0	114.6	107.7	6.87	16.675			
1,200.0	1,170.3	1,182.4	1,161.8	4.4	3.8	-104.83	7.1	204.2	131.3	123.3	8.02	16.375			
1,300.0	1,263.3	1,280.6	1,255.9	5.1	4.4	-107.94	4.2	232.3	148.5	139.4	9.15	16.228			
1,400.0	1,356.2	1,378.9	1,349.9	5.8	4.9	-110.39	1.2	260.5	166.1	155.8	10.27	16.164			
1,500.0	1,449.1	1,477.1	1,444.0	6.5	5.4	-112.37	-1.7	288.6	183.9	172.5	11.39	16.149 SF			
1,600.0	1,542.1	1,575.3	1,538.0	7.2	6.0	-114.01	-4.6	316.8	201.8	189.4	12.49	16.160			
1,700.0	1,635.0	1,673.5	1,632.1	7.9	6.5	-115.37	-7.5	345.0	220.0	206.4	13.59	16.186			
1,800.0	1,727.9	1,771.8	1,726.2	8.5	7.0	-116.53	-10.5	373.1	238.2	223.5	14.68	16.221			
1,900.0	1,820.9	1,870.0	1,820.2	9.2	7.6	-117.53	-13.4	401.3	256.5	240.7	15.77	16.260			
2,000.0	1,913.8	1,968.2	1,914.3	9.9	8.1	-118.39	-16.3	429.4	274.8	258.0	16.86	16.301			
2,100.0	2,006.7	2,066.4	2,008.3	10.6	8.6	-119.14	-19.3	457.6	293.2	275.3	17.94	16.343			
2,200.0	2,099.6	2,164.6	2,102.4	11.3	9.2	-119.81	-22.2	485.7	311.7	292.7	19.02	16.384			
2,300.0	2,192.6	2,262.9	2,196.4	12.0	9.7	-120.40	-25.1	513.9	330.2	310.1	20.10	16.423			
2,400.0	2,285.5	2,361.1	2,290.5	12.7	10.3	-120.92	-28.0	542.0	348.7	327.5	21.18	16.462			
2,500.0	2,378.4	2,459.3	2,384.5	13.4	10.8	-121.40	-31.0	570.2	367.2	345.0	22.26	16.499			
2,600.0	2,471.4	2,557.5	2,478.6	14.1	11.3	-121.83	-33.9	598.3	385.8	362.5	23.33	16.534			
2,700.0	2,564.3	2,655.8	2,572.7	14.8	11.9	-122.22	-36.8	626.5	404.4	380.0	24.41	16.568			
2,800.0	2,657.2	2,754.0	2,666.7	15.5	12.4	-122.57	-39.8	654.6	423.0	397.5	25.48	16.600			
2,900.0	2,750.2	2,852.2	2,760.8	16.2	13.0	-122.90	-42.7	682.8	441.6	415.0	26.55	16.630			
3,000.0	2,843.1	2,950.4	2,854.8	16.9	13.5	-123.20	-45.6	710.9	460.2	432.6	27.63	16.659			
3,100.0	2,936.0	3,048.6	2,948.9	17.5	14.0	-123.47	-48.5	739.1	478.9	450.2	28.70	16.686			
3,200.0	3,029.0	3,146.9	3,042.9	18.2	14.6	-123.73	-51.5	767.2	497.5	467.7	29.77	16.712			

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 6-1D
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 6-1D	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	56.91	32.8	50.3	60.0						
100.0	100.0	100.0	100.0	0.1	0.1	56.91	32.8	50.3	60.0	59.8	0.27	220.519			
200.0	200.0	200.0	200.0	0.3	0.3	56.91	32.8	50.3	60.0	59.4	0.62	96.632			
300.0	300.0	300.0	300.0	0.5	0.5	56.91	32.8	50.3	60.0	59.1	0.97	61.872	CC, ES		
400.0	400.0	397.3	397.2	0.7	0.7	-69.94	33.0	52.8	61.4	60.0	1.32	46.425			
500.0	499.6	494.4	494.0	0.9	0.9	-72.94	33.7	60.1	65.4	63.7	1.71	38.243			
600.0	598.8	591.1	590.0	1.1	1.1	-77.13	34.7	72.4	72.6	70.4	2.18	33.228			
700.0	697.1	687.3	684.6	1.5	1.5	-81.69	36.3	89.3	83.1	80.3	2.79	29.808			
800.0	794.3	782.8	777.7	1.9	1.9	-85.98	38.2	110.8	97.2	93.6	3.55	27.347			
900.0	890.2	879.3	870.7	2.5	2.3	-90.02	40.5	136.5	114.4	109.9	4.48	25.559			
1,000.0	984.4	976.9	964.6	3.1	2.8	-94.94	42.8	162.9	132.9	127.4	5.55	23.947			
1,100.0	1,077.4	1,074.0	1,058.0	3.8	3.3	-100.29	45.2	189.2	152.9	146.2	6.67	22.918			
1,200.0	1,170.3	1,171.0	1,151.3	4.4	3.8	-104.53	47.5	215.6	174.0	166.2	7.79	22.348			
1,300.0	1,263.3	1,268.0	1,244.7	5.1	4.3	-107.85	49.9	241.9	195.8	186.9	8.89	22.038			
1,400.0	1,356.2	1,365.0	1,338.1	5.8	4.8	-110.50	52.2	268.2	218.1	208.2	9.97	21.875			
1,500.0	1,449.1	1,462.1	1,431.4	6.5	5.3	-112.67	54.6	294.5	240.8	229.8	11.05	21.800			
1,600.0	1,542.1	1,559.1	1,524.8	7.2	5.8	-114.46	56.9	320.8	263.8	251.7	12.11	21.776	SF		
1,700.0	1,635.0	1,656.1	1,618.1	7.9	6.3	-115.96	59.2	347.1	286.9	273.8	13.17	21.784			
1,800.0	1,727.9	1,753.1	1,711.5	8.5	6.8	-117.24	61.6	373.4	310.2	296.0	14.22	21.812			
1,900.0	1,820.9	1,850.2	1,804.9	9.2	7.3	-118.34	63.9	399.7	333.7	318.4	15.27	21.851			
2,000.0	1,913.8	1,947.2	1,898.2	9.9	7.8	-119.30	66.3	426.1	357.2	340.9	16.32	21.896			
2,100.0	2,006.7	2,044.2	1,991.6	10.6	8.3	-120.14	68.6	452.4	380.9	363.5	17.36	21.945			
2,200.0	2,099.6	2,141.2	2,084.9	11.3	8.8	-120.88	71.0	478.7	404.6	386.2	18.39	21.995			
2,300.0	2,192.6	2,238.3	2,178.3	12.0	9.3	-121.54	73.3	505.0	428.3	408.9	19.43	22.045			
2,400.0	2,285.5	2,335.3	2,271.7	12.7	9.8	-122.13	75.7	531.3	452.1	431.7	20.46	22.095			
2,500.0	2,378.4	2,432.3	2,365.0	13.4	10.3	-122.66	78.0	557.6	476.0	454.5	21.49	22.144			
2,600.0	2,471.4	2,529.4	2,458.4	14.1	10.8	-123.14	80.4	583.9	499.8	477.3	22.52	22.191			

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Shideler Fee 6-1D
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 6-1D	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 O31E Pad (2nd Occupation) - Shideler Fee 31-9D - OH - Plan #1														Offset Site Error:	0.0 ft	
Survey Program: 0-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	0.0	0.0	0.0	0.0	51.37	51.7	64.7	82.8							
100.0	100.0	100.0	100.0	0.1	0.1	51.37	51.7	64.7	82.8	82.6	0.27	304.278				
200.0	200.0	200.0	200.0	0.3	0.3	51.37	51.7	64.7	82.8	82.2	0.62	133.336 CC, ES				
300.0	300.0	295.8	295.7	0.5	0.5	51.44	53.1	66.7	85.4	84.4	0.97	88.170				
400.0	400.0	391.1	390.8	0.7	0.7	-75.43	57.4	72.4	92.2	90.9	1.31	70.325				
500.0	499.6	485.5	484.4	0.9	1.0	-78.73	64.3	81.9	102.9	101.2	1.69	60.887				
600.0	598.8	578.6	576.1	1.1	1.3	-83.17	73.8	94.9	118.0	115.9	2.13	55.290				
700.0	697.1	669.8	665.1	1.5	1.7	-87.82	85.6	111.1	138.2	135.5	2.68	51.575				
800.0	794.3	758.9	751.0	1.9	2.1	-92.09	99.6	130.3	163.8	160.4	3.35	48.927				
900.0	890.2	845.5	833.3	2.5	2.6	-95.69	115.5	152.0	194.8	190.7	4.14	47.083				
1,000.0	984.4	937.7	920.2	3.1	3.2	-99.22	133.5	176.7	229.6	224.5	5.08	45.212				
1,100.0	1,077.4	1,029.1	1,006.5	3.8	3.7	-103.18	151.5	201.3	266.1	260.0	6.09	43.709				
1,200.0	1,170.3	1,120.6	1,092.7	4.4	4.3	-106.41	169.4	225.9	303.6	296.5	7.12	42.657				
1,300.0	1,263.3	1,212.1	1,178.9	5.1	4.9	-108.95	187.4	250.5	341.8	333.7	8.15	41.929				
1,400.0	1,356.2	1,303.5	1,265.2	5.8	5.4	-110.98	205.3	275.0	380.5	371.3	9.19	41.411				
1,500.0	1,449.1	1,395.0	1,351.4	6.5	6.0	-112.64	223.3	299.6	419.5	409.3	10.22	41.034				
1,600.0	1,542.1	1,486.4	1,437.7	7.2	6.6	-114.02	241.2	324.2	458.7	447.5	11.26	40.752				
1,700.0	1,635.0	1,577.9	1,523.9	7.9	7.1	-115.18	259.2	348.8	498.2	485.9	12.29	40.539 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 6-1D
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 6-1D	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	56.92	16.4	25.2	30.0						
100.0	100.0	100.0	100.0	0.1	0.1	56.92	16.4	25.2	30.0	29.7	0.27	110.250			
200.0	200.0	200.0	200.0	0.3	0.3	56.92	16.4	25.2	30.0	29.4	0.62	48.312			
300.0	300.0	300.0	300.0	0.5	0.5	56.92	16.4	25.2	30.0	29.0	0.97	30.934			
399.7	399.7	399.2	399.2	0.7	0.7	-72.60	16.2	25.8	29.6	28.2	1.32	22.337 CC			
400.0	400.0	399.5	399.5	0.7	0.7	-72.61	16.2	25.8	29.6	28.2	1.32	22.320 ES			
500.0	499.6	498.6	498.4	0.9	0.8	-78.86	14.8	30.7	30.5	28.8	1.72	17.763			
600.0	598.8	597.7	597.0	1.1	1.1	-85.47	12.0	40.6	33.6	31.4	2.21	15.183			
700.0	697.1	696.8	694.9	1.5	1.4	-91.32	7.8	55.4	38.8	35.9	2.85	13.604			
800.0	794.3	795.9	791.8	1.9	1.7	-95.87	2.2	75.0	46.0	42.4	3.66	12.588			
900.0	890.2	894.9	887.5	2.5	2.2	-99.14	-4.7	99.4	55.3	50.6	4.64	11.904			
1,000.0	984.4	994.0	982.1	3.1	2.7	-102.06	-12.8	127.9	66.2	60.5	5.76	11.492			
1,100.0	1,077.4	1,093.1	1,076.6	3.8	3.3	-106.53	-21.0	156.8	78.4	71.5	6.90	11.355			
1,200.0	1,170.3	1,192.2	1,171.0	4.4	3.8	-109.93	-29.2	185.7	90.9	82.9	8.03	11.323 SF			
1,300.0	1,263.3	1,291.3	1,265.4	5.1	4.4	-112.51	-37.4	214.6	103.7	94.6	9.15	11.337			
1,400.0	1,356.2	1,390.4	1,359.8	5.8	5.0	-114.51	-45.6	243.5	116.7	106.4	10.26	11.373			
1,500.0	1,449.1	1,489.5	1,454.2	6.5	5.5	-116.11	-53.8	272.4	129.7	118.4	11.36	11.417			
1,600.0	1,542.1	1,588.5	1,548.7	7.2	6.1	-117.42	-62.0	301.3	142.8	130.4	12.46	11.465			
1,700.0	1,635.0	1,687.6	1,643.1	7.9	6.6	-118.51	-70.2	330.2	156.0	142.5	13.56	11.512			
1,800.0	1,727.9	1,786.7	1,737.5	8.5	7.2	-119.43	-78.5	359.1	169.3	154.6	14.65	11.557			
1,900.0	1,820.9	1,885.8	1,831.9	9.2	7.8	-120.22	-86.7	388.0	182.6	166.8	15.74	11.601			
2,000.0	1,913.8	1,984.9	1,926.3	9.9	8.4	-120.89	-94.9	416.9	195.9	179.1	16.83	11.642			
2,100.0	2,006.7	2,084.0	2,020.8	10.6	8.9	-121.49	-103.1	445.8	209.2	191.3	17.91	11.680			
2,200.0	2,099.6	2,183.0	2,115.2	11.3	9.5	-122.01	-111.3	474.7	222.6	203.6	19.00	11.715			
2,300.0	2,192.6	2,282.1	2,209.6	12.0	10.1	-122.47	-119.5	503.6	235.9	215.9	20.08	11.748			
2,400.0	2,285.5	2,381.2	2,304.0	12.7	10.6	-122.88	-127.7	532.5	249.3	228.2	21.17	11.779			
2,500.0	2,378.4	2,480.3	2,398.4	13.4	11.2	-123.25	-135.9	561.4	262.7	240.5	22.25	11.808			
2,600.0	2,471.4	2,579.4	2,492.9	14.1	11.8	-123.59	-144.1	590.3	276.1	252.8	23.33	11.834			
2,700.0	2,564.3	2,678.5	2,587.3	14.8	12.3	-123.89	-152.3	619.2	289.5	265.1	24.41	11.859			
2,800.0	2,657.2	2,777.6	2,681.7	15.5	12.9	-124.17	-160.5	648.1	303.0	277.5	25.50	11.883			
2,900.0	2,750.2	2,876.6	2,776.1	16.2	13.5	-124.42	-168.8	677.0	316.4	289.8	26.58	11.905			
3,000.0	2,843.1	2,975.7	2,870.5	16.9	14.1	-124.65	-177.0	705.9	329.8	302.2	27.66	11.925			
3,100.0	2,936.0	3,074.8	2,965.0	17.5	14.6	-124.87	-185.2	734.8	343.3	314.5	28.74	11.945			
3,200.0	3,029.0	3,173.9	3,059.4	18.2	15.2	-125.07	-193.4	763.7	356.7	326.9	29.82	11.963			
3,300.0	3,121.9	3,273.0	3,153.8	18.9	15.8	-125.25	-201.6	792.6	370.1	339.3	30.90	11.980			
3,400.0	3,214.8	3,372.1	3,248.2	19.6	16.3	-125.42	-209.8	821.5	383.6	351.6	31.98	11.996			
3,500.0	3,307.7	3,471.2	3,342.6	20.3	16.9	-125.58	-218.0	850.4	397.0	364.0	33.06	12.011			
3,600.0	3,400.7	3,570.2	3,437.1	21.0	17.5	-125.73	-226.2	879.3	410.5	376.4	34.13	12.026			
3,700.0	3,493.6	3,669.3	3,531.5	21.7	18.1	-125.87	-234.4	908.2	424.0	388.7	35.21	12.040			
3,800.0	3,586.5	3,768.4	3,625.9	22.4	18.6	-126.00	-242.6	937.1	437.4	401.1	36.29	12.053			
3,900.0	3,679.5	3,867.5	3,720.3	23.1	19.2	-126.12	-250.8	966.0	450.9	413.5	37.37	12.065			
4,000.0	3,772.4	3,966.6	3,814.8	23.8	19.8	-126.24	-259.0	994.9	464.3	425.9	38.45	12.077			
4,100.0	3,865.3	4,065.7	3,909.2	24.5	20.3	-126.35	-267.3	1,023.8	477.8	438.3	39.53	12.088			
4,200.0	3,958.3	4,164.8	4,003.6	25.2	20.9	-126.45	-275.5	1,052.7	491.3	450.7	40.61	12.099			

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 6-1D
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 6-1D	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													O31E Pad (2nd Occupation) - Shideler Fee 6-1AA - OH - Plan #1		Offset Site Error:	0.0 ft
Survey Program: 0-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	57.78	8.0	12.7	15.0							
100.0	100.0	100.0	100.0	0.1	0.1	57.78	8.0	12.7	15.0	14.8	0.27	55.206				
200.0	200.0	200.0	200.0	0.3	0.3	57.78	8.0	12.7	15.0	14.4	0.62	24.191				
300.0	300.0	300.0	300.0	0.5	0.5	57.78	8.0	12.7	15.0	14.1	0.97	15.489				
372.1	372.1	371.9	371.9	0.6	0.6	-70.99	7.8	13.2	14.9	13.6	1.23	12.129 CC				
400.0	400.0	399.7	399.7	0.7	0.7	-72.65	7.4	14.1	14.9	13.6	1.33	11.262 ES				
500.0	499.6	499.3	499.1	0.9	0.9	-79.26	4.9	20.0	16.0	14.2	1.73	9.216				
600.0	598.8	599.0	598.0	1.1	1.1	-85.73	0.3	30.8	18.3	16.1	2.25	8.142				
700.0	697.1	698.6	696.2	1.5	1.4	-90.97	-6.3	46.2	22.0	19.0	2.92	7.528				
800.0	794.3	798.3	793.4	1.9	1.8	-94.73	-14.8	66.4	26.9	23.1	3.76	7.149				
900.0	890.2	897.9	889.4	2.5	2.3	-97.24	-25.4	91.2	33.0	28.2	4.79	6.895				
1,000.0	984.4	997.6	983.9	3.1	2.9	-99.42	-37.8	120.2	40.2	34.3	5.97	6.746 SF				
1,100.0	1,077.4	1,097.2	1,078.1	3.8	3.5	-104.16	-50.5	150.0	48.3	41.2	7.15	6.756				
1,200.0	1,170.3	1,196.8	1,172.2	4.4	4.1	-107.70	-63.2	179.8	56.7	48.4	8.33	6.810				
1,300.0	1,263.3	1,296.4	1,266.4	5.1	4.7	-110.32	-75.9	209.7	65.2	55.7	9.49	6.876				
1,400.0	1,356.2	1,395.9	1,360.6	5.8	5.3	-112.33	-88.6	239.5	73.9	63.2	10.64	6.942				
1,500.0	1,449.1	1,495.5	1,454.8	6.5	5.9	-113.92	-101.3	269.3	82.6	70.8	11.78	7.005				
1,600.0	1,542.1	1,595.1	1,548.9	7.2	6.5	-115.21	-114.0	299.1	91.3	78.4	12.93	7.064				
1,700.0	1,635.0	1,694.7	1,643.1	7.9	7.1	-116.27	-126.7	329.0	100.1	86.0	14.07	7.117				
1,800.0	1,727.9	1,794.3	1,737.3	8.5	7.7	-117.15	-139.4	358.8	108.9	93.7	15.20	7.165				
1,900.0	1,820.9	1,893.9	1,831.4	9.2	8.3	-117.91	-152.1	388.6	117.8	101.4	16.34	7.208				
2,000.0	1,913.8	1,993.5	1,925.6	9.9	8.9	-118.56	-164.8	418.4	126.6	109.1	17.47	7.248				
2,100.0	2,006.7	2,093.1	2,019.8	10.6	9.6	-119.12	-177.5	448.3	135.5	116.9	18.60	7.284				
2,200.0	2,099.6	2,192.7	2,114.0	11.3	10.2	-119.62	-190.2	478.1	144.4	124.6	19.73	7.317				
2,300.0	2,192.6	2,292.3	2,208.1	12.0	10.8	-120.06	-202.9	507.9	153.3	132.4	20.86	7.346				
2,400.0	2,285.5	2,391.9	2,302.3	12.7	11.4	-120.45	-215.6	537.7	162.2	140.2	21.99	7.374				
2,500.0	2,378.4	2,491.5	2,396.5	13.4	12.0	-120.80	-228.3	567.6	171.1	147.9	23.12	7.399				
2,600.0	2,471.4	2,591.1	2,490.7	14.1	12.6	-121.11	-241.0	597.4	180.0	155.7	24.25	7.422				
2,700.0	2,564.3	2,690.7	2,584.8	14.8	13.2	-121.40	-253.7	627.2	188.9	163.5	25.38	7.444				
2,800.0	2,657.2	2,790.3	2,679.0	15.5	13.9	-121.66	-266.4	657.0	197.8	171.3	26.50	7.464				
2,900.0	2,750.2	2,889.9	2,773.2	16.2	14.5	-121.89	-279.1	686.9	206.7	179.1	27.63	7.482				
3,000.0	2,843.1	2,989.5	2,867.4	16.9	15.1	-122.11	-291.8	716.7	215.7	186.9	28.76	7.500				
3,100.0	2,936.0	3,089.1	2,961.5	17.5	15.7	-122.31	-304.5	746.5	224.6	194.7	29.88	7.516				
3,200.0	3,029.0	3,188.7	3,055.7	18.2	16.3	-122.50	-317.2	776.3	233.5	202.5	31.01	7.531				
3,300.0	3,121.9	3,288.3	3,149.9	18.9	16.9	-122.67	-329.9	806.2	242.5	210.3	32.14	7.545				
3,400.0	3,214.8	3,387.9	3,244.1	19.6	17.5	-122.83	-342.6	836.0	251.4	218.2	33.26	7.558				
3,500.0	3,307.7	3,487.5	3,338.2	20.3	18.2	-122.97	-355.3	865.8	260.4	226.0	34.39	7.571				
3,600.0	3,400.7	3,587.1	3,432.4	21.0	18.8	-123.11	-368.0	895.6	269.3	233.8	35.52	7.582				
3,700.0	3,493.6	3,686.7	3,526.6	21.7	19.4	-123.24	-380.7	925.5	278.2	241.6	36.64	7.594				
3,800.0	3,586.5	3,786.3	3,620.8	22.4	20.0	-123.36	-393.4	955.3	287.2	249.4	37.77	7.604				
3,900.0	3,679.5	3,885.9	3,714.9	23.1	20.6	-123.48	-406.1	985.1	296.1	257.2	38.89	7.614				
4,000.0	3,772.4	3,985.5	3,809.1	23.8	21.2	-123.58	-418.8	1,014.9	305.1	265.1	40.02	7.623				
4,100.0	3,865.3	4,085.1	3,903.3	24.5	21.8	-123.69	-431.5	1,044.8	314.0	272.9	41.14	7.632				
4,200.0	3,958.3	4,184.7	3,997.5	25.2	22.5	-123.78	-444.2	1,074.6	323.0	280.7	42.27	7.641				
4,300.0	4,051.2	4,284.3	4,091.6	25.9	23.1	-123.87	-456.9	1,104.4	331.9	288.5	43.40	7.649				
4,400.0	4,144.1	4,383.9	4,185.8	26.6	23.7	-123.96	-469.6	1,134.2	340.9	296.4	44.52	7.657				
4,500.0	4,237.1	4,483.5	4,280.0	27.3	24.3	-124.04	-482.3	1,164.1	349.8	304.2	45.65	7.664				
4,600.0	4,330.0	4,583.1	4,374.2	28.0	24.9	-124.12	-495.0	1,193.9	358.8	312.0	46.77	7.671				
4,700.0	4,422.9	4,682.7	4,468.3	28.7	25.5	-124.19	-507.7	1,223.7	367.7	319.8	47.90	7.678				
4,800.0	4,515.8	4,782.3	4,562.5	29.4	26.2	-124.26	-520.4	1,253.5	376.7	327.7	49.02	7.684				
4,900.0	4,608.8	4,881.9	4,656.7	30.0	26.8	-124.33	-533.1	1,283.4	385.6	335.5	50.15	7.690				
5,000.0	4,701.7	4,981.5	4,750.8	30.7	27.4	-124.39	-545.8	1,313.2	394.6	343.3	51.27	7.696				

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 6-1D
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 6-1D	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		
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	4,794.6	5,081.1	4,845.0	31.4	28.0	-124.45	-558.5	1,343.0	403.5	351.1	52.40	7.702			
5,200.0	4,887.6	5,180.7	4,939.2	32.1	28.6	-124.51	-571.2	1,372.8	412.5	359.0	53.52	7.707			
5,300.0	4,980.5	5,280.2	5,033.4	32.8	29.2	-124.56	-583.9	1,402.7	421.5	366.8	54.65	7.712			
5,400.0	5,073.4	5,379.8	5,127.5	33.5	29.8	-124.62	-596.6	1,432.5	430.4	374.6	55.77	7.717			
5,500.0	5,166.4	5,479.4	5,221.7	34.2	30.5	-124.67	-609.3	1,462.3	439.4	382.5	56.90	7.722			
5,600.0	5,259.3	5,579.0	5,315.9	34.9	31.1	-124.72	-622.0	1,492.1	448.3	390.3	58.02	7.727			
5,700.0	5,352.2	5,678.6	5,410.1	35.6	31.7	-124.77	-634.8	1,522.0	457.3	398.1	59.15	7.731			
5,800.0	5,445.5	5,777.7	5,503.7	36.3	32.3	-124.82	-647.4	1,551.6	465.7	405.4	60.27	7.726			
5,900.0	5,539.9	5,871.5	5,593.0	36.9	32.8	-124.78	-658.6	1,578.1	472.9	411.6	61.31	7.714			
6,000.0	5,635.5	5,965.2	5,683.1	37.4	33.3	-124.75	-668.8	1,601.8	479.5	417.2	62.24	7.703			
6,100.0	5,732.0	6,059.0	5,774.1	37.8	33.7	-124.73	-677.7	1,622.9	485.3	422.2	63.06	7.695			
6,200.0	5,829.3	6,152.8	5,865.8	38.3	34.0	-124.72	-685.5	1,641.2	490.3	426.5	63.78	7.688			
6,300.0	5,927.4	6,246.6	5,958.0	38.6	34.4	-124.71	-692.1	1,656.7	494.6	430.2	64.39	7.681			
6,400.0	6,026.1	6,340.4	6,050.8	38.9	34.6	-124.71	-697.5	1,669.4	498.2	433.3	64.90	7.676			

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Shideler Fee 6-1D
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 6-1D	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			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	0.0	0.0	0.0	0.0	-123.98	-8.4	-12.4	15.0						
100.0	100.0	100.0	100.0	0.1	0.1	-123.98	-8.4	-12.4	15.0	14.7	0.27	55.076			
200.0	200.0	200.0	200.0	0.3	0.3	-123.98	-8.4	-12.4	15.0	14.4	0.62	24.134			
300.0	300.0	300.0	300.0	0.5	0.5	-124.59	-8.5	-12.3	15.0	14.0	0.97	15.409			
353.4	353.4	353.6	353.5	0.6	0.6	106.95	-9.4	-11.2	14.9	13.7	1.16	12.771 CC			
400.0	400.0	400.2	400.1	0.7	0.7	104.47	-11.1	-9.4	14.9	13.6	1.34	11.177 ES			
500.0	499.6	500.3	499.7	0.9	0.9	99.06	-17.1	-2.5	15.5	13.8	1.77	8.762			
600.0	598.8	600.3	598.7	1.1	1.2	94.03	-26.6	8.3	16.8	14.4	2.33	7.181			
700.0	697.1	700.2	696.7	1.5	1.6	89.78	-39.5	23.0	18.6	15.5	3.05	6.094			
800.0	794.3	800.0	793.4	1.9	2.0	86.46	-55.7	41.5	21.0	17.1	3.94	5.333			
900.0	890.2	899.8	888.7	2.5	2.6	84.00	-75.2	63.7	23.9	18.9	5.00	4.789			
1,000.0	984.4	999.4	982.2	3.1	3.2	82.27	-97.9	89.6	27.4	21.1	6.24	4.389			
1,100.0	1,077.4	1,099.1	1,074.0	3.8	3.9	79.40	-123.5	118.7	31.4	23.9	7.52	4.174			
1,200.0	1,170.3	1,199.0	1,165.8	4.4	4.6	76.32	-149.6	148.4	35.7	26.9	8.78	4.065			
1,300.0	1,263.3	1,298.9	1,257.5	5.1	5.4	73.91	-175.6	178.1	40.0	30.0	10.02	3.998			
1,400.0	1,356.2	1,398.8	1,349.3	5.8	6.1	71.97	-201.7	207.8	44.5	33.2	11.24	3.955			
1,500.0	1,449.1	1,498.7	1,441.0	6.5	6.8	70.38	-227.7	237.5	48.9	36.5	12.45	3.928			
1,600.0	1,542.1	1,598.6	1,532.8	7.2	7.6	69.06	-253.8	267.2	53.4	39.7	13.66	3.910			
1,700.0	1,635.0	1,698.5	1,624.5	7.9	8.3	67.95	-279.8	296.9	57.9	43.1	14.86	3.898			
1,800.0	1,727.9	1,798.4	1,716.3	8.5	9.0	66.99	-305.9	326.6	62.5	46.4	16.05	3.891			
1,900.0	1,820.9	1,898.3	1,808.0	9.2	9.8	66.17	-332.0	356.3	67.0	49.8	17.24	3.887			
2,000.0	1,913.8	1,998.2	1,899.8	9.9	10.5	65.45	-358.0	386.0	71.6	53.1	18.42	3.885			
2,100.0	2,006.7	2,098.1	1,991.5	10.6	11.2	64.81	-384.1	415.7	76.1	56.5	19.60	3.884 SF			
2,200.0	2,099.6	2,198.0	2,083.3	11.3	12.0	64.25	-410.1	445.4	80.7	59.9	20.78	3.884			
2,300.0	2,192.6	2,297.9	2,175.0	12.0	12.7	63.75	-436.2	475.1	85.3	63.3	21.95	3.885			
2,400.0	2,285.5	2,397.7	2,266.8	12.7	13.5	63.30	-462.3	504.8	89.9	66.8	23.13	3.886			
2,500.0	2,378.4	2,497.6	2,358.5	13.4	14.2	62.89	-488.3	534.5	94.5	70.2	24.30	3.888			
2,600.0	2,471.4	2,597.5	2,450.3	14.1	14.9	62.53	-514.4	564.2	99.1	73.6	25.47	3.890			
2,700.0	2,564.3	2,697.4	2,542.0	14.8	15.7	62.19	-540.4	593.8	103.7	77.0	26.64	3.892			
2,800.0	2,657.2	2,797.3	2,633.8	15.5	16.4	61.88	-566.5	623.5	108.3	80.5	27.81	3.894			
2,900.0	2,750.2	2,897.2	2,725.5	16.2	17.1	61.60	-592.5	653.2	112.9	83.9	28.97	3.896			
3,000.0	2,843.1	2,997.1	2,817.3	16.9	17.9	61.34	-618.6	682.9	117.5	87.4	30.14	3.899			
3,100.0	2,936.0	3,097.0	2,909.0	17.5	18.6	61.10	-644.7	712.6	122.1	90.8	31.30	3.901			
3,200.0	3,029.0	3,196.9	3,000.8	18.2	19.4	60.88	-670.7	742.3	126.7	94.3	32.47	3.903			
3,300.0	3,121.9	3,296.8	3,092.5	18.9	20.1	60.67	-696.8	772.0	131.3	97.7	33.63	3.905			
3,400.0	3,214.8	3,396.7	3,184.3	19.6	20.8	60.47	-722.8	801.7	136.0	101.2	34.79	3.908			
3,500.0	3,307.7	3,496.6	3,276.0	20.3	21.6	60.29	-748.9	831.4	140.6	104.6	35.96	3.910			
3,600.0	3,400.7	3,596.5	3,367.8	21.0	22.3	60.13	-774.9	861.1	145.2	108.1	37.12	3.912			
3,700.0	3,493.6	3,696.3	3,459.5	21.7	23.1	59.97	-801.0	890.8	149.8	111.5	38.28	3.914			
3,800.0	3,586.5	3,796.2	3,551.3	22.4	23.8	59.82	-827.1	920.5	154.5	115.0	39.44	3.916			
3,900.0	3,679.5	3,896.1	3,643.0	23.1	24.5	59.68	-853.1	950.2	159.1	118.5	40.60	3.918			
4,000.0	3,772.4	3,996.0	3,734.7	23.8	25.3	59.54	-879.2	979.9	163.7	121.9	41.76	3.920			
4,100.0	3,865.3	4,095.9	3,826.5	24.5	26.0	59.42	-905.2	1,009.6	168.3	125.4	42.93	3.922			
4,200.0	3,958.3	4,195.8	3,918.2	25.2	26.8	59.30	-931.3	1,039.2	173.0	128.9	44.09	3.923			
4,300.0	4,051.2	4,295.7	4,010.0	25.9	27.5	59.19	-957.4	1,068.9	177.6	132.3	45.25	3.925			
4,400.0	4,144.1	4,395.6	4,101.7	26.6	28.2	59.08	-983.4	1,098.6	182.2	135.8	46.41	3.927			
4,500.0	4,237.1	4,495.5	4,193.5	27.3	29.0	58.98	-1,009.5	1,128.3	186.8	139.3	47.56	3.928			
4,600.0	4,330.0	4,595.4	4,285.2	28.0	29.7	58.88	-1,035.5	1,158.0	191.5	142.8	48.72	3.930			
4,700.0	4,422.9	4,695.3	4,377.0	28.7	30.5	58.79	-1,061.6	1,187.7	196.1	146.2	49.88	3.931			
4,800.0	4,515.8	4,795.2	4,468.7	29.4	31.2	58.70	-1,087.6	1,217.4	200.7	149.7	51.04	3.933			
4,900.0	4,608.8	4,895.1	4,560.5	30.0	31.9	58.62	-1,113.7	1,247.1	205.4	153.2	52.20	3.934			
5,000.0	4,701.7	4,994.9	4,652.2	30.7	32.7	58.54	-1,139.8	1,276.8	210.0	156.6	53.36	3.936			

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 6-1D
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 6-1D	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		
5,100.0	4,794.6	5,094.8	4,744.0	31.4	33.4	58.46	-1,165.8	1,306.5	214.6	160.1	54.52	3.937			
5,200.0	4,887.6	5,194.7	4,835.7	32.1	34.2	58.39	-1,191.9	1,336.2	219.3	163.6	55.68	3.938			
5,300.0	4,980.5	5,294.6	4,927.5	32.8	34.9	58.32	-1,217.9	1,365.9	223.9	167.1	56.84	3.939			
5,400.0	5,073.4	5,394.5	5,019.2	33.5	35.6	58.25	-1,244.0	1,395.6	228.5	170.5	57.99	3.941			
5,500.0	5,166.4	5,494.4	5,111.0	34.2	36.4	58.19	-1,270.0	1,425.3	233.2	174.0	59.15	3.942			
5,600.0	5,259.3	5,594.3	5,202.7	34.9	37.1	58.13	-1,296.1	1,455.0	237.8	177.5	60.31	3.943			
5,700.0	5,352.2	5,694.2	5,294.5	35.6	37.9	58.07	-1,322.2	1,484.6	242.4	181.0	61.47	3.944			
5,800.0	5,445.5	5,796.6	5,388.7	36.3	38.6	57.95	-1,348.6	1,514.8	247.3	184.8	62.54	3.955			
5,900.0	5,539.9	5,902.1	5,487.0	36.9	39.3	57.77	-1,373.8	1,543.5	252.1	188.7	63.46	3.973			
6,000.0	5,635.5	6,007.7	5,586.8	37.4	39.9	57.59	-1,396.7	1,569.6	256.5	192.3	64.27	3.992			
6,100.0	5,732.0	6,113.5	5,687.9	37.8	40.4	57.41	-1,417.1	1,592.8	260.6	195.6	64.96	4.011			
6,200.0	5,829.3	6,219.4	5,790.2	38.3	40.9	57.21	-1,435.1	1,613.3	264.2	198.7	65.55	4.031			
6,300.0	5,927.4	6,325.4	5,893.6	38.6	41.3	57.01	-1,450.5	1,630.9	267.5	201.4	66.02	4.051			
6,400.0	6,026.1	6,431.6	5,998.0	38.9	41.7	56.81	-1,463.5	1,645.7	270.3	203.9	66.39	4.071			
6,500.0	6,125.4	6,537.9	6,103.1	39.1	42.0	56.59	-1,473.9	1,657.6	272.8	206.1	66.65	4.092			
6,600.0	6,224.9	6,644.2	6,208.8	39.3	42.2	56.37	-1,481.8	1,666.5	274.8	208.0	66.81	4.114			
6,700.0	6,324.8	6,750.7	6,314.9	39.4	42.3	56.14	-1,487.0	1,672.5	276.5	209.6	66.86	4.135			
6,800.0	6,424.8	6,857.2	6,421.4	39.4	42.4	55.89	-1,489.7	1,675.5	277.7	210.9	66.81	4.157			
6,900.0	6,524.8	6,960.6	6,524.8	39.5	42.5	-178.43	-1,490.0	1,675.9	278.0	211.1	66.87	4.157			
7,000.0	6,624.8	7,060.6	6,624.8	39.6	42.5	-178.43	-1,490.0	1,675.9	278.0	211.0	67.00	4.149			
7,100.0	6,724.8	7,160.6	6,724.8	39.6	42.6	-178.43	-1,490.0	1,675.9	278.0	210.9	67.13	4.141			
7,200.0	6,824.8	7,260.6	6,824.8	39.7	42.6	-178.43	-1,490.0	1,675.9	278.0	210.8	67.26	4.133			
7,300.0	6,924.8	7,360.6	6,924.8	39.7	42.7	-178.43	-1,490.0	1,675.9	278.0	210.6	67.39	4.125			
7,400.0	7,024.8	7,460.6	7,024.8	39.8	42.7	-178.43	-1,490.0	1,675.9	278.0	210.5	67.52	4.117			
7,500.0	7,124.8	7,560.6	7,124.8	39.8	42.8	-178.43	-1,490.0	1,675.9	278.0	210.4	67.66	4.109			
7,600.0	7,224.8	7,660.6	7,224.8	39.9	42.8	-178.43	-1,490.0	1,675.9	278.0	210.2	67.79	4.101			
7,700.0	7,324.8	7,760.6	7,324.8	39.9	42.9	-178.43	-1,490.0	1,675.9	278.0	210.1	67.93	4.093			
7,800.0	7,424.8	7,860.6	7,424.8	40.0	42.9	-178.43	-1,490.0	1,675.9	278.0	209.9	68.07	4.084			
7,900.0	7,524.8	7,960.6	7,524.8	40.1	43.0	-178.43	-1,490.0	1,675.9	278.0	209.8	68.21	4.076			
8,000.0	7,624.8	8,060.6	7,624.8	40.1	43.1	-178.43	-1,490.0	1,675.9	278.0	209.7	68.35	4.067			
8,100.0	7,724.8	8,160.6	7,724.8	40.2	43.1	-178.43	-1,490.0	1,675.9	278.0	209.5	68.50	4.059			
8,200.0	7,824.8	8,260.6	7,824.8	40.2	43.2	-178.43	-1,490.0	1,675.9	278.0	209.4	68.64	4.050			
8,300.0	7,924.8	8,360.6	7,924.8	40.3	43.2	-178.43	-1,490.0	1,675.9	278.0	209.2	68.79	4.042			
8,400.0	8,024.8	8,460.6	8,024.8	40.4	43.3	-178.43	-1,490.0	1,675.9	278.0	209.1	68.94	4.033			
8,500.0	8,124.8	8,560.6	8,124.8	40.4	43.4	-178.43	-1,490.0	1,675.9	278.0	208.9	69.08	4.024			
8,600.0	8,224.8	8,660.6	8,224.8	40.5	43.4	-178.43	-1,490.0	1,675.9	278.0	208.8	69.24	4.015			
8,700.0	8,324.8	8,760.6	8,324.8	40.6	43.5	-178.43	-1,490.0	1,675.9	278.0	208.6	69.39	4.007			
8,787.2	8,412.0	8,847.9	8,412.0	40.6	43.5	-178.43	-1,490.0	1,675.9	278.0	208.5	69.52	3.999			

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Shideler Fee 6-1D
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 6-1D	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	-123.09	-16.4	-25.2	30.0						
100.0	100.0	100.0	100.0	0.1	0.1	-123.09	-16.4	-25.2	30.0	29.7	0.27	110.259			
200.0	200.0	200.0	200.0	0.3	0.3	-123.09	-16.4	-25.2	30.0	29.4	0.62	48.316			
300.0	300.0	300.1	300.1	0.5	0.5	-124.33	-16.9	-24.7	29.9	28.9	0.97	30.797			
342.8	342.8	343.0	343.0	0.6	0.6	107.75	-18.0	-23.6	29.8	28.7	1.13	26.390 CC			
400.0	400.0	400.3	400.2	0.7	0.7	104.73	-20.6	-21.0	30.0	28.6	1.35	22.289 ES			
500.0	499.6	500.3	499.6	0.9	0.9	99.45	-28.1	-13.7	31.2	29.4	1.80	17.340			
600.0	598.8	600.2	598.2	1.1	1.2	94.57	-39.2	-2.7	33.5	31.1	2.38	14.079			
700.0	697.1	700.0	695.8	1.5	1.6	90.44	-54.0	11.9	36.9	33.8	3.12	11.840			
800.0	794.3	799.4	791.8	1.9	2.1	87.18	-72.3	29.9	41.3	37.3	4.02	10.278			
900.0	890.2	898.7	886.3	2.5	2.7	84.72	-94.1	51.4	46.6	41.6	5.09	9.161			
1,000.0	984.4	997.8	978.8	3.1	3.4	82.95	-119.4	76.3	52.8	46.5	6.34	8.341			
1,100.0	1,077.4	1,096.7	1,069.3	3.8	4.1	80.42	-148.0	104.4	60.1	52.5	7.65	7.854			
1,200.0	1,170.3	1,196.3	1,159.4	4.4	4.9	76.87	-178.1	134.1	68.2	59.3	8.92	7.652			
1,300.0	1,263.3	1,295.9	1,249.6	5.1	5.7	74.08	-208.3	163.8	76.5	66.4	10.15	7.539			
1,400.0	1,356.2	1,395.5	1,339.7	5.8	6.4	71.84	-238.4	193.5	85.0	73.6	11.37	7.476			
1,500.0	1,449.1	1,495.1	1,429.9	6.5	7.2	70.01	-268.6	223.1	93.5	81.0	12.57	7.444			
1,600.0	1,542.1	1,594.7	1,520.0	7.2	8.0	68.48	-298.7	252.8	102.2	88.4	13.75	7.430			
1,700.0	1,635.0	1,694.3	1,610.2	7.9	8.8	67.20	-328.9	282.5	110.9	96.0	14.93	7.428 SF			
1,800.0	1,727.9	1,793.9	1,700.3	8.5	9.6	66.10	-359.1	312.2	119.6	103.5	16.10	7.432			
1,900.0	1,820.9	1,893.5	1,790.5	9.2	10.3	65.15	-389.2	341.9	128.4	111.2	17.26	7.441			
2,000.0	1,913.8	1,993.1	1,880.6	9.9	11.1	64.32	-419.4	371.6	137.2	118.8	18.42	7.453			
2,100.0	2,006.7	2,092.7	1,970.8	10.6	11.9	63.60	-449.5	401.3	146.1	126.5	19.57	7.466			
2,200.0	2,099.6	2,192.2	2,061.0	11.3	12.7	62.95	-479.7	431.0	155.0	134.2	20.72	7.480			
2,300.0	2,192.6	2,291.8	2,151.1	12.0	13.5	62.38	-509.8	460.7	163.8	142.0	21.86	7.494			
2,400.0	2,285.5	2,391.4	2,241.3	12.7	14.3	61.86	-540.0	490.4	172.7	149.7	23.00	7.509			
2,500.0	2,378.4	2,491.0	2,331.4	13.4	15.1	61.40	-570.2	520.1	181.6	157.5	24.14	7.523			
2,600.0	2,471.4	2,590.6	2,421.6	14.1	15.9	60.98	-600.3	549.8	190.6	165.3	25.28	7.538			
2,700.0	2,564.3	2,690.2	2,511.7	14.8	16.6	60.59	-630.5	579.5	199.5	173.1	26.42	7.551			
2,800.0	2,657.2	2,789.8	2,601.9	15.5	17.4	60.24	-660.6	609.1	208.4	180.9	27.55	7.565			
2,900.0	2,750.2	2,889.4	2,692.0	16.2	18.2	59.92	-690.8	638.8	217.4	188.7	28.69	7.577			
3,000.0	2,843.1	2,989.0	2,782.2	16.9	19.0	59.63	-721.0	668.5	226.3	196.5	29.82	7.590			
3,100.0	2,936.0	3,088.6	2,872.3	17.5	19.8	59.35	-751.1	698.2	235.3	204.3	30.95	7.602			
3,200.0	3,029.0	3,188.2	2,962.5	18.2	20.6	59.10	-781.3	727.9	244.2	212.2	32.08	7.613			
3,300.0	3,121.9	3,287.8	3,052.6	18.9	21.4	58.86	-811.4	757.6	253.2	220.0	33.21	7.624			
3,400.0	3,214.8	3,387.4	3,142.8	19.6	22.2	58.64	-841.6	787.3	262.2	227.8	34.34	7.635			
3,500.0	3,307.7	3,486.9	3,232.9	20.3	23.0	58.44	-871.7	817.0	271.1	235.7	35.47	7.645			
3,600.0	3,400.7	3,586.5	3,323.1	21.0	23.7	58.25	-901.9	846.7	280.1	243.5	36.60	7.654			
3,700.0	3,493.6	3,686.1	3,413.2	21.7	24.5	58.07	-932.1	876.4	289.1	251.4	37.72	7.664			
3,800.0	3,586.5	3,785.7	3,503.4	22.4	25.3	57.90	-962.2	906.1	298.1	259.2	38.85	7.673			
3,900.0	3,679.5	3,885.3	3,593.5	23.1	26.1	57.74	-992.4	935.8	307.1	267.1	39.98	7.681			
4,000.0	3,772.4	3,984.9	3,683.7	23.8	26.9	57.59	-1,022.5	965.4	316.0	274.9	41.10	7.689			
4,100.0	3,865.3	4,084.5	3,773.8	24.5	27.7	57.45	-1,052.7	995.1	325.0	282.8	42.23	7.697			
4,200.0	3,958.3	4,184.1	3,864.0	25.2	28.5	57.31	-1,082.8	1,024.8	334.0	290.7	43.35	7.705			
4,300.0	4,051.2	4,283.7	3,954.2	25.9	29.3	57.18	-1,113.0	1,054.5	343.0	298.5	44.48	7.712			
4,400.0	4,144.1	4,383.3	4,044.3	26.6	30.1	57.06	-1,143.2	1,084.2	352.0	306.4	45.60	7.719			
4,500.0	4,237.1	4,482.9	4,134.5	27.3	30.9	56.95	-1,173.3	1,113.9	361.0	314.3	46.72	7.726			
4,600.0	4,330.0	4,582.5	4,224.6	28.0	31.6	56.84	-1,203.5	1,143.6	370.0	322.1	47.85	7.733			
4,700.0	4,422.9	4,682.0	4,314.8	28.7	32.4	56.74	-1,233.6	1,173.3	379.0	330.0	48.97	7.739			
4,800.0	4,515.8	4,781.6	4,404.9	29.4	33.2	56.64	-1,263.8	1,203.0	388.0	337.9	50.10	7.745			
4,900.0	4,608.8	4,881.2	4,495.1	30.0	34.0	56.54	-1,294.0	1,232.7	397.0	345.8	51.22	7.751			
5,000.0	4,701.7	4,980.8	4,585.2	30.7	34.8	56.45	-1,324.1	1,262.4	406.0	353.6	52.34	7.756			

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 6-1D
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 6-1D	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		
5,100.0	4,794.6	5,080.4	4,675.4	31.4	35.6	56.37	-1,354.3	1,292.1	415.0	361.5	53.47	7.762			
5,200.0	4,887.6	5,180.0	4,765.5	32.1	36.4	56.28	-1,384.4	1,321.8	424.0	369.4	54.59	7.767			
5,300.0	4,980.5	5,279.6	4,855.7	32.8	37.2	56.20	-1,414.6	1,351.4	433.0	377.3	55.71	7.772			
5,400.0	5,073.4	5,379.2	4,945.8	33.5	38.0	56.13	-1,444.7	1,381.1	442.0	385.2	56.83	7.777			
5,500.0	5,166.4	5,478.8	5,036.0	34.2	38.8	56.05	-1,474.9	1,410.8	451.0	393.0	57.96	7.782			
5,600.0	5,259.3	5,578.4	5,126.1	34.9	39.5	55.98	-1,505.1	1,440.5	460.0	400.9	59.08	7.786			
5,700.0	5,352.2	5,678.0	5,216.3	35.6	40.3	55.92	-1,535.2	1,470.2	469.0	408.8	60.20	7.791			
5,800.0	5,445.5	5,783.9	5,312.4	36.3	41.1	55.90	-1,566.9	1,501.4	478.2	416.9	61.32	7.799			
5,900.0	5,539.9	5,896.5	5,416.1	36.9	41.9	55.88	-1,598.2	1,532.2	487.0	424.7	62.34	7.812			
6,000.0	5,635.5	6,009.4	5,521.8	37.4	42.6	55.84	-1,626.5	1,560.1	495.0	431.8	63.25	7.827			

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Shideler Fee 6-1D
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 6-1D	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	300.1	300.1	0.5	0.5	-125.26	-25.9	-36.7	44.9	44.0	0.97	46.248			
309.2	309.2	309.3	309.3	0.5	0.5	108.52	-26.2	-36.4	44.9	43.9	1.01	44.563 CC, ES			
400.0	400.0	400.0	399.8	0.7	0.7	103.86	-31.1	-32.7	45.7	44.3	1.36	33.629			
500.0	499.6	499.7	498.7	0.9	1.0	98.89	-40.4	-25.5	48.3	46.5	1.83	26.411			
600.0	598.8	599.1	596.7	1.1	1.3	94.53	-53.7	-15.3	52.7	50.3	2.42	21.735			
700.0	697.1	698.1	693.3	1.5	1.7	91.02	-70.9	-1.9	58.8	55.6	3.17	18.551			
800.0	794.3	796.9	788.4	1.9	2.2	88.37	-92.0	14.4	66.5	62.4	4.08	16.318			
900.0	890.2	895.3	881.6	2.5	2.8	86.47	-116.9	33.6	75.7	70.6	5.15	14.706			
1,000.0	984.4	993.3	972.7	3.1	3.5	85.15	-145.4	55.7	86.3	79.9	6.39	13.507			
1,100.0	1,077.4	1,090.9	1,061.5	3.8	4.2	83.67	-177.4	80.4	98.4	90.7	7.72	12.742			
1,200.0	1,170.3	1,187.5	1,147.3	4.4	5.1	80.30	-212.6	107.7	112.6	103.6	9.04	12.461 SF			
1,300.0	1,263.3	1,286.0	1,233.5	5.1	5.9	76.64	-250.3	136.7	128.2	118.0	10.29	12.469			
1,400.0	1,356.2	1,384.5	1,319.8	5.8	6.8	73.78	-287.9	165.8	144.3	132.8	11.50	12.547			
1,500.0	1,449.1	1,483.0	1,406.0	6.5	7.7	71.49	-325.5	194.9	160.6	148.0	12.69	12.656			
1,600.0	1,542.1	1,581.4	1,492.2	7.2	8.6	69.63	-363.1	224.0	177.2	163.3	13.87	12.777			
1,700.0	1,635.0	1,679.9	1,578.5	7.9	9.4	68.09	-400.7	253.1	193.9	178.9	15.03	12.900			
1,800.0	1,727.9	1,778.4	1,664.7	8.5	10.3	66.79	-438.4	282.2	210.7	194.5	16.18	13.022			
1,900.0	1,820.9	1,876.8	1,750.9	9.2	11.2	65.68	-476.0	311.3	227.6	210.3	17.32	13.138			
2,000.0	1,913.8	1,975.3	1,837.1	9.9	12.1	64.73	-513.6	340.3	244.6	226.1	18.46	13.247			
2,100.0	2,006.7	2,073.8	1,923.4	10.6	12.9	63.90	-551.2	369.4	261.6	242.0	19.59	13.351			
2,200.0	2,099.6	2,172.3	2,009.6	11.3	13.8	63.17	-588.8	398.5	278.7	258.0	20.72	13.448			
2,300.0	2,192.6	2,270.7	2,095.8	12.0	14.7	62.53	-626.5	427.6	295.8	273.9	21.85	13.539			
2,400.0	2,285.5	2,369.2	2,182.1	12.7	15.6	61.95	-664.1	456.7	312.9	290.0	22.97	13.623			
2,500.0	2,378.4	2,467.7	2,268.3	13.4	16.5	61.44	-701.7	485.8	330.1	306.0	24.09	13.703			
2,600.0	2,471.4	2,566.2	2,354.5	14.1	17.3	60.97	-739.3	514.9	347.3	322.1	25.21	13.777			
2,700.0	2,564.3	2,664.6	2,440.7	14.8	18.2	60.55	-777.0	544.0	364.5	338.2	26.33	13.847			
2,800.0	2,657.2	2,763.1	2,527.0	15.5	19.1	60.17	-814.6	573.0	381.8	354.3	27.44	13.912			
2,900.0	2,750.2	2,861.6	2,613.2	16.2	20.0	59.82	-852.2	602.1	399.0	370.5	28.56	13.973			
3,000.0	2,843.1	2,960.1	2,699.4	16.9	20.9	59.50	-889.8	631.2	416.3	386.6	29.67	14.030			
3,100.0	2,936.0	3,058.5	2,785.7	17.5	21.7	59.21	-927.4	660.3	433.6	402.8	30.78	14.085			
3,200.0	3,029.0	3,157.0	2,871.9	18.2	22.6	58.94	-965.1	689.4	450.8	419.0	31.89	14.136			
3,300.0	3,121.9	3,255.5	2,958.1	18.9	23.5	58.69	-1,002.7	718.5	468.1	435.1	33.00	14.184			
3,400.0	3,214.8	3,353.9	3,044.4	19.6	24.4	58.45	-1,040.3	747.6	485.4	451.3	34.12	14.230			

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

Cathedral Energy Services

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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	-123.24	-32.8	-50.0	59.8						
100.0	100.0	100.0	100.0	0.1	0.1	-123.24	-32.8	-50.0	59.8	59.5	0.27	219.650			
200.0	200.0	200.0	200.0	0.3	0.3	-123.24	-32.8	-50.0	59.8	59.2	0.62	96.251			
268.4	268.4	268.4	268.4	0.4	0.4	-124.41	-33.8	-49.3	59.8	58.9	0.86	69.332 CC			
300.0	300.0	300.0	300.0	0.5	0.5	-125.75	-34.9	-48.5	59.8	58.8	0.97	61.433 ES			
400.0	400.0	399.6	399.2	0.7	0.7	103.45	-41.4	-44.1	61.1	59.7	1.38	44.291			
500.0	499.6	498.9	497.7	0.9	1.0	98.64	-52.0	-36.8	64.5	62.7	1.87	34.583			
600.0	598.8	597.8	595.0	1.1	1.4	94.46	-66.8	-26.7	70.2	67.7	2.48	28.320			
700.0	697.1	696.4	690.8	1.5	1.8	91.09	-85.7	-13.8	77.9	74.7	3.24	24.067			
800.0	794.3	794.4	784.9	1.9	2.3	88.52	-108.5	1.8	87.5	83.3	4.15	21.082			
900.0	890.2	892.0	877.0	2.5	2.9	86.65	-135.1	20.1	98.8	93.6	5.22	18.921			
1,000.0	984.4	989.1	966.8	3.1	3.6	85.34	-165.4	40.8	111.8	105.3	6.46	17.307			
1,100.0	1,077.4	1,085.6	1,054.2	3.8	4.4	84.09	-199.1	64.0	126.5	118.7	7.79	16.244			
1,200.0	1,170.3	1,181.0	1,138.4	4.4	5.2	81.47	-236.1	89.3	143.4	134.3	9.11	15.734			
1,300.0	1,263.3	1,277.0	1,221.2	5.1	6.1	78.07	-276.3	116.8	162.6	152.3	10.38	15.675 SF			
1,400.0	1,356.2	1,374.6	1,305.0	5.8	7.0	75.18	-317.6	145.1	182.7	171.1	11.61	15.737			
1,500.0	1,449.1	1,472.2	1,388.8	6.5	7.9	72.87	-358.8	173.4	203.1	190.2	12.81	15.848			
1,600.0	1,542.1	1,569.8	1,472.6	7.2	8.9	70.97	-400.1	201.7	223.7	209.7	14.00	15.981			
1,700.0	1,635.0	1,667.4	1,556.3	7.9	9.8	69.40	-441.4	230.0	244.6	229.4	15.17	16.122			
1,800.0	1,727.9	1,765.0	1,640.1	8.5	10.7	68.08	-482.7	258.2	265.6	249.2	16.33	16.263			
1,900.0	1,820.9	1,862.6	1,723.9	9.2	11.6	66.94	-524.0	286.5	286.7	269.2	17.48	16.400			
2,000.0	1,913.8	1,960.2	1,807.7	9.9	12.5	65.97	-565.2	314.8	307.9	289.3	18.62	16.532			
2,100.0	2,006.7	2,057.8	1,891.5	10.6	13.5	65.12	-606.5	343.1	329.2	309.4	19.76	16.657			
2,200.0	2,099.6	2,155.4	1,975.3	11.3	14.4	64.37	-647.8	371.4	350.5	329.6	20.90	16.774			
2,300.0	2,192.6	2,253.0	2,059.1	12.0	15.3	63.71	-689.1	399.7	371.9	349.9	22.03	16.885			
2,400.0	2,285.5	2,350.6	2,142.9	12.7	16.2	63.12	-730.4	427.9	393.4	370.2	23.15	16.989			
2,500.0	2,378.4	2,448.2	2,226.7	13.4	17.1	62.59	-771.6	456.2	414.8	390.6	24.28	17.087			
2,600.0	2,471.4	2,545.8	2,310.5	14.1	18.1	62.11	-812.9	484.5	436.3	410.9	25.40	17.178			
2,700.0	2,564.3	2,643.4	2,394.3	14.8	19.0	61.68	-854.2	512.8	457.9	431.3	26.52	17.264			
2,800.0	2,657.2	2,741.0	2,478.1	15.5	19.9	61.29	-895.5	541.1	479.4	451.8	27.64	17.345			

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

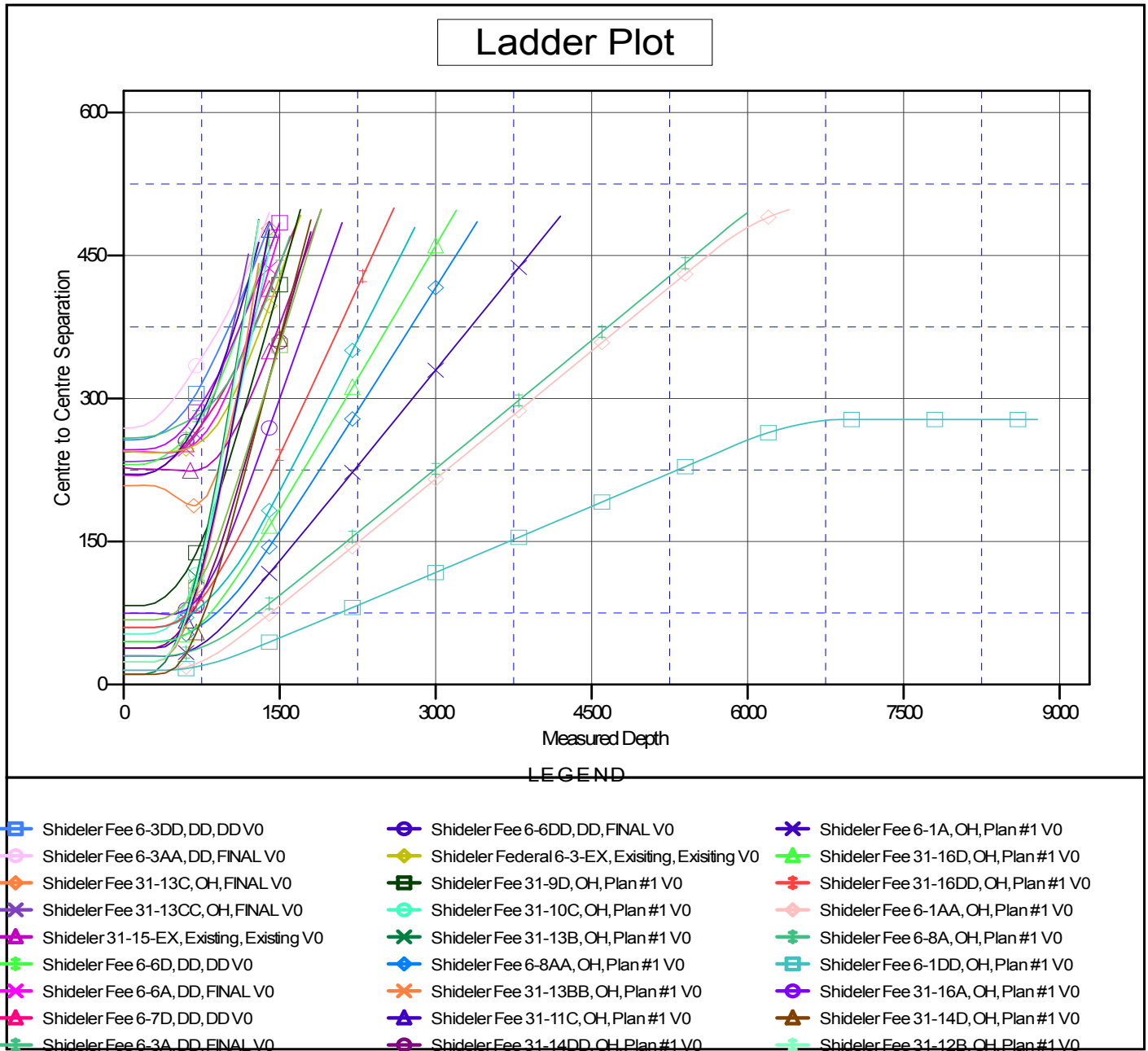
Cathedral Energy Services

Anticollision Report

Company: EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference: Well Shideler Fee 6-1D	
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 6-1D	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 6-1D
 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