

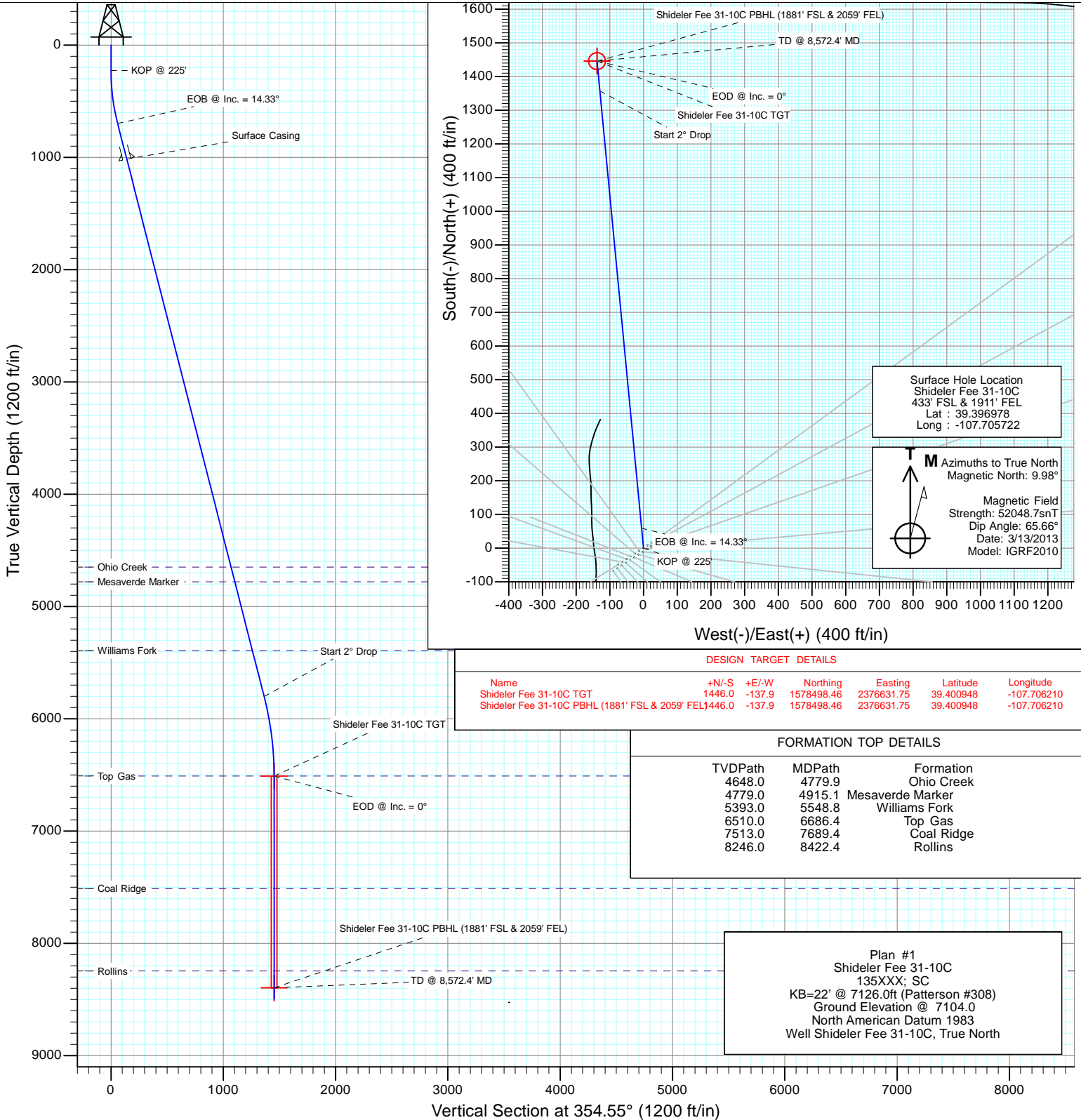


Project: Mamm Creek
 Site: O31E Pad (2nd Occupation)
 Well: Shideler Fee 31-10C
 Wellbore: OH
 Design: Plan #1



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	225.0	0.00	0.00	225.0	0.0	0.0	0.00	0.00	0.0	
3	702.8	14.33	354.55	697.8	59.2	-5.6	3.00	354.55	59.5	
4	5969.7	14.33	354.55	5800.8	1357.2	-129.4	0.00	0.00	1363.4	
5	6686.4	0.00	0.00	6510.0	1446.0	-137.9	2.00	180.00	1452.6	Shideler Fee 31-10C TGT
6	8572.4	0.00	0.00	8396.0	1446.0	-137.9	0.00	0.00	1452.6	Shideler Fee 31-10C PBHL (1881' FSL & 2059' FEL)
7	8672.4	0.00	0.00	8496.0	1446.0	-137.9	0.00	0.00	1452.6	



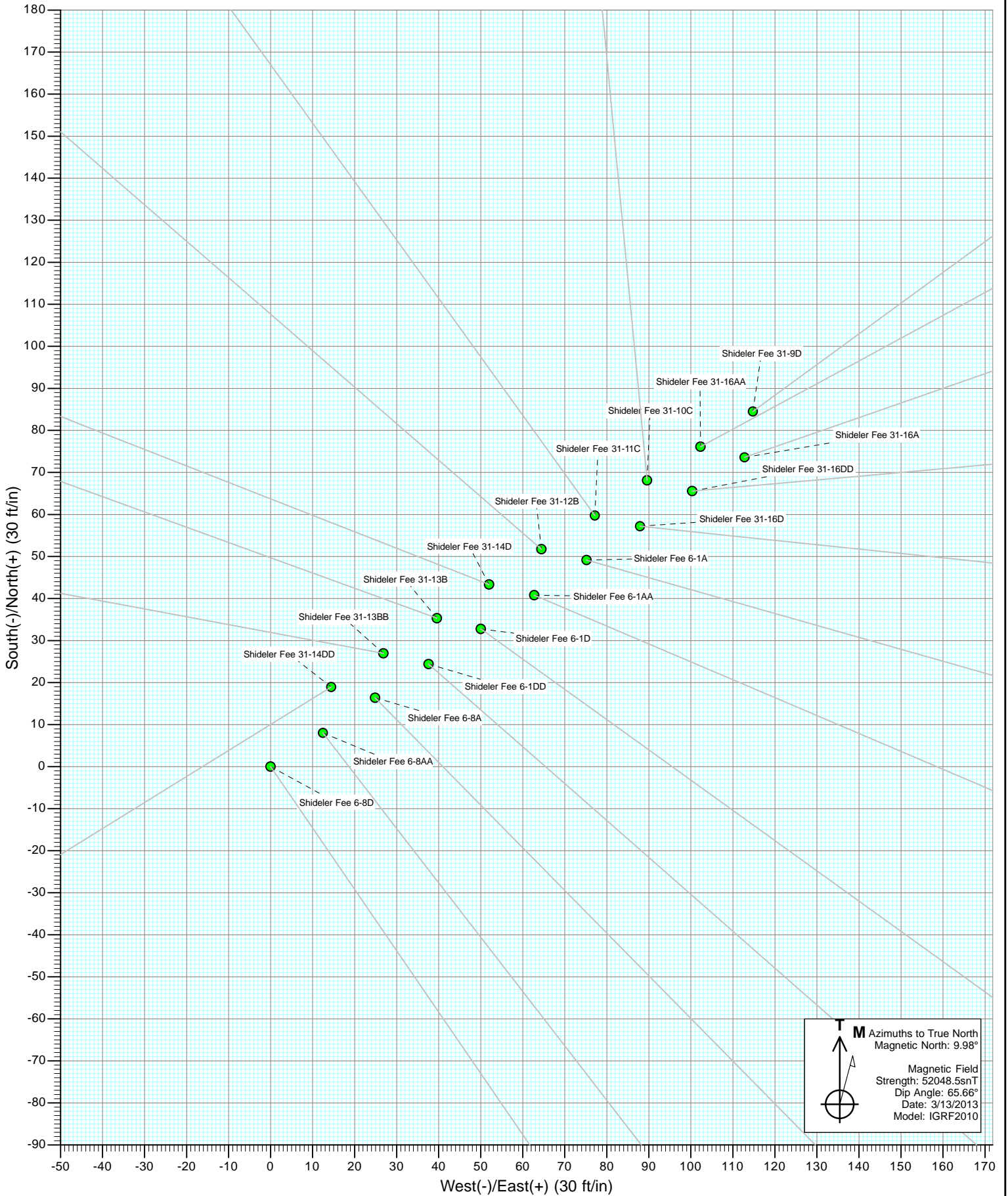
DESIGN TARGET DETAILS						
Name	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
Shideler Fee 31-10C TGT	1446.0	-137.9	1578498.46	2376631.75	39.400948	-107.706210
Shideler Fee 31-10C PBHL (1881' FSL & 2059' FEL)	1446.0	-137.9	1578498.46	2376631.75	39.400948	-107.706210

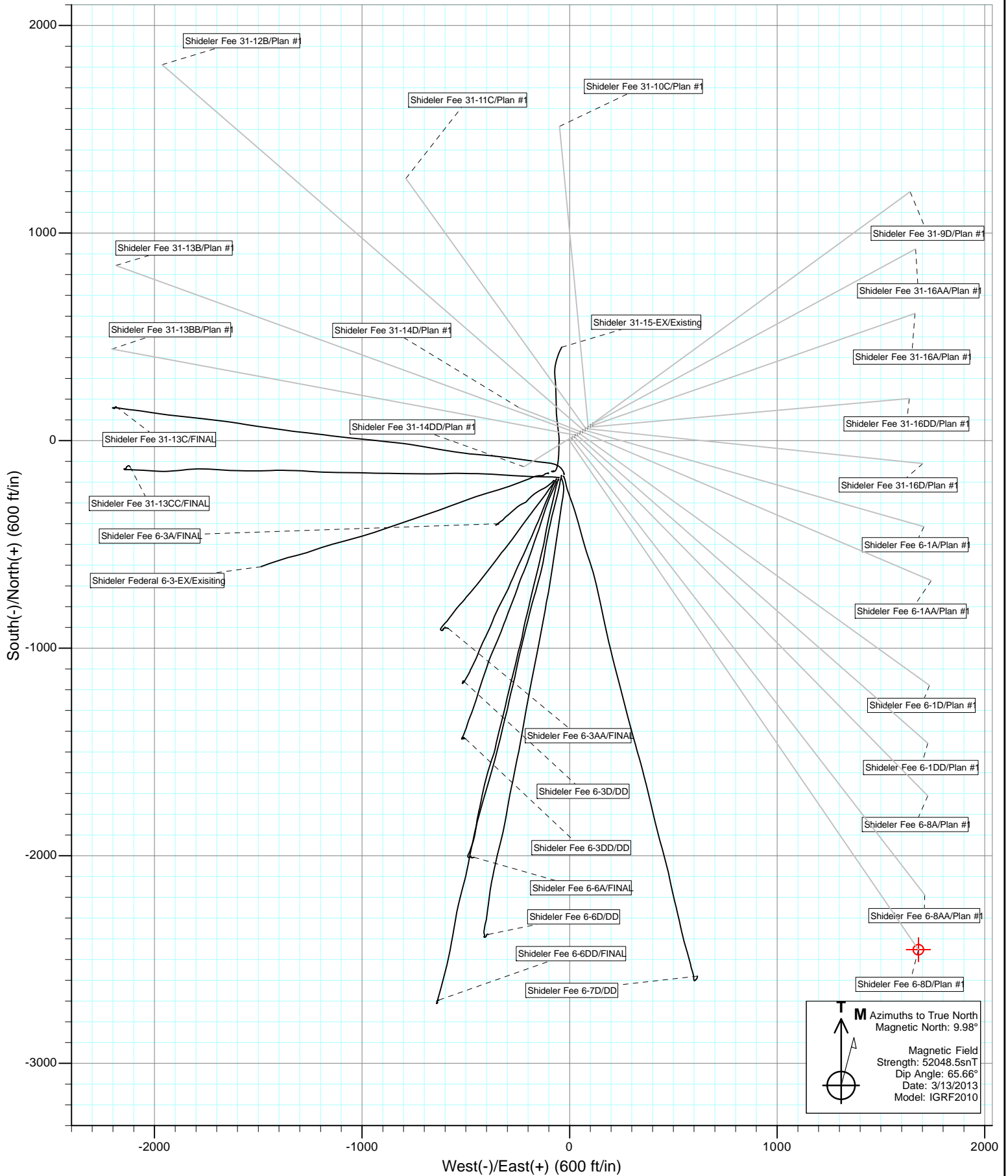
FORMATION TOP DETAILS			
TVDPPath	MDPath	Formation	
4648.0	4779.9	Ohio Creek	
4779.0	4915.1	Mesaverde Marker	
5393.0	5548.8	Williams Fork	
6510.0	6686.4	Top Gas	
7513.0	7689.4	Coal Ridge	
8246.0	8422.4	Rollins	

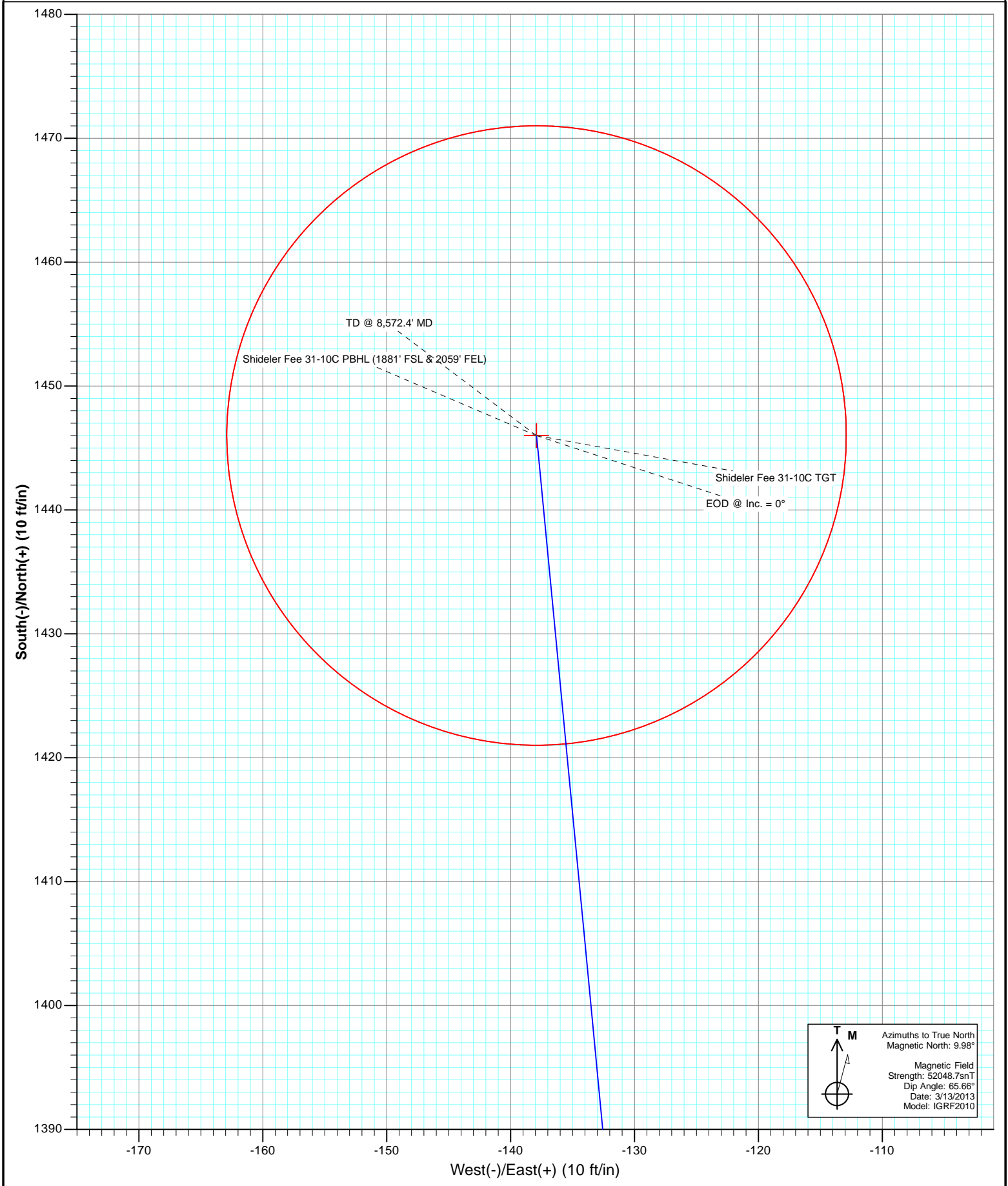

Plan #1
 Shideler Fee 31-10C
 135XXX; SC
 KB=22' @ 7126.0ft (Patterson #308)
 Ground Elevation @ 7104.0
 North American Datum 1983
 Well Shideler Fee 31-10C, True North

Surface Hole Location
 Shideler Fee 31-10C
 433' FSL & 1911' FEL
 Lat : 39.396978
 Long : -107.705722

M Azimuths to True North
 Magnetic North: 9.98°
 Magnetic Field
 Strength: 52048.7snT
 Dip Angle: 65.66°
 Date: 3/13/2013
 Model: IGRF2010





Azimuths to True North
 Magnetic North: 9.98°
 Magnetic Field
 Strength: 52048.7snT
 Dip Angle: 65.66°
 Date: 3/13/2013
 Model: IGRF2010

Cathedral Energy Services

Planning Report

Database: USA EDM 5000 Multi Users DB	Local Co-ordinate Reference: Well Shideler Fee 31-10C
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 31-10C	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 31-10C						
Well Position	+N/-S	0.0 ft	Northing:	1,577,049.53 ft	Latitude:	39.396978
	+E/-W	0.0 ft	Easting:	2,376,734.50 ft	Longitude:	-107.705722
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	354.55	

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	
225.0	0.00	0.00	225.0	0.0	0.0	0.00	0.00	0.00	0.00	
702.8	14.33	354.55	697.8	59.2	-5.6	3.00	3.00	0.00	354.55	
5,969.7	14.33	354.55	5,800.8	1,357.2	-129.4	0.00	0.00	0.00	0.00	
6,686.4	0.00	0.00	6,510.0	1,446.0	-137.9	2.00	-2.00	0.00	180.00	Shideler Fee 31-10C
8,572.4	0.00	0.00	8,396.0	1,446.0	-137.9	0.00	0.00	0.00	0.00	Shideler Fee 31-10C
8,672.4	0.00	0.00	8,496.0	1,446.0	-137.9	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 31-10C
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 31-10C	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	
225.0	0.00	0.00	225.0	0.0	0.0	0.0	0.00	0.00	KOP @ 225'
300.0	2.25	354.55	300.0	1.5	-0.1	1.5	3.00	3.00	
400.0	5.25	354.55	399.8	8.0	-0.8	8.0	3.00	3.00	
500.0	8.25	354.55	499.1	19.7	-1.9	19.8	3.00	3.00	
600.0	11.25	354.55	597.6	36.5	-3.5	36.7	3.00	3.00	
702.8	14.33	354.55	697.8	59.2	-5.6	59.5	3.00	3.00	EOB @ Inc. = 14.33°
800.0	14.33	354.55	792.0	83.1	-7.9	83.5	0.00	0.00	
900.0	14.33	354.55	888.9	107.8	-10.3	108.3	0.00	0.00	
1,000.0	14.33	354.55	985.8	132.4	-12.6	133.0	0.00	0.00	
1,030.2	14.33	354.55	1,015.0	139.9	-13.3	140.5	0.00	0.00	Surface Casing
1,100.0	14.33	354.55	1,082.7	157.1	-15.0	157.8	0.00	0.00	
1,200.0	14.33	354.55	1,179.6	181.7	-17.3	182.5	0.00	0.00	
1,300.0	14.33	354.55	1,276.4	206.4	-19.7	207.3	0.00	0.00	
1,400.0	14.33	354.55	1,373.3	231.0	-22.0	232.1	0.00	0.00	
1,500.0	14.33	354.55	1,470.2	255.7	-24.4	256.8	0.00	0.00	
1,600.0	14.33	354.55	1,567.1	280.3	-26.7	281.6	0.00	0.00	
1,700.0	14.33	354.55	1,664.0	305.0	-29.1	306.3	0.00	0.00	
1,800.0	14.33	354.55	1,760.9	329.6	-31.4	331.1	0.00	0.00	
1,900.0	14.33	354.55	1,857.8	354.2	-33.8	355.8	0.00	0.00	
2,000.0	14.33	354.55	1,954.6	378.9	-36.1	380.6	0.00	0.00	
2,100.0	14.33	354.55	2,051.5	403.5	-38.5	405.4	0.00	0.00	
2,200.0	14.33	354.55	2,148.4	428.2	-40.8	430.1	0.00	0.00	
2,300.0	14.33	354.55	2,245.3	452.8	-43.2	454.9	0.00	0.00	
2,400.0	14.33	354.55	2,342.2	477.5	-45.5	479.6	0.00	0.00	
2,500.0	14.33	354.55	2,439.1	502.1	-47.9	504.4	0.00	0.00	
2,600.0	14.33	354.55	2,536.0	526.8	-50.2	529.1	0.00	0.00	
2,700.0	14.33	354.55	2,632.9	551.4	-52.6	553.9	0.00	0.00	
2,800.0	14.33	354.55	2,729.7	576.0	-54.9	578.7	0.00	0.00	
2,900.0	14.33	354.55	2,826.6	600.7	-57.3	603.4	0.00	0.00	
3,000.0	14.33	354.55	2,923.5	625.3	-59.6	628.2	0.00	0.00	
3,100.0	14.33	354.55	3,020.4	650.0	-62.0	652.9	0.00	0.00	
3,200.0	14.33	354.55	3,117.3	674.6	-64.3	677.7	0.00	0.00	
3,300.0	14.33	354.55	3,214.2	699.3	-66.7	702.4	0.00	0.00	
3,400.0	14.33	354.55	3,311.1	723.9	-69.0	727.2	0.00	0.00	
3,500.0	14.33	354.55	3,408.0	748.6	-71.4	752.0	0.00	0.00	
3,600.0	14.33	354.55	3,504.8	773.2	-73.7	776.7	0.00	0.00	
3,700.0	14.33	354.55	3,601.7	797.9	-76.1	801.5	0.00	0.00	
3,800.0	14.33	354.55	3,698.6	822.5	-78.4	826.2	0.00	0.00	
3,900.0	14.33	354.55	3,795.5	847.1	-80.8	851.0	0.00	0.00	
4,000.0	14.33	354.55	3,892.4	871.8	-83.1	875.7	0.00	0.00	
4,100.0	14.33	354.55	3,989.3	896.4	-85.5	900.5	0.00	0.00	
4,200.0	14.33	354.55	4,086.2	921.1	-87.8	925.3	0.00	0.00	
4,300.0	14.33	354.55	4,183.0	945.7	-90.2	950.0	0.00	0.00	
4,400.0	14.33	354.55	4,279.9	970.4	-92.5	974.8	0.00	0.00	
4,500.0	14.33	354.55	4,376.8	995.0	-94.9	999.5	0.00	0.00	
4,600.0	14.33	354.55	4,473.7	1,019.7	-97.2	1,024.3	0.00	0.00	
4,700.0	14.33	354.55	4,570.6	1,044.3	-99.6	1,049.0	0.00	0.00	
4,779.9	14.33	354.55	4,648.0	1,064.0	-101.5	1,068.8	0.00	0.00	Ohio Creek
4,800.0	14.33	354.55	4,667.5	1,069.0	-101.9	1,073.8	0.00	0.00	

Cathedral Energy Services

Planning Report

Database: USA EDM 5000 Multi Users DB
Company: EnCana Oil & Gas (USA) Inc
Project: Mamm Creek
Site: O31E Pad (2nd Occupation)
Well: Shideler Fee 31-10C
Wellbore: OH
Design: Plan #1

Local Co-ordinate Reference: Well Shideler Fee 31-10C
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	14.33	354.55	4,764.4	1,093.6	-104.3	1,098.6	0.00	0.00	
4,915.1	14.33	354.55	4,779.0	1,097.3	-104.6	1,102.3	0.00	0.00	Mesaverde Marker
5,000.0	14.33	354.55	4,861.3	1,118.2	-106.6	1,123.3	0.00	0.00	
5,100.0	14.33	354.55	4,958.1	1,142.9	-109.0	1,148.1	0.00	0.00	
5,200.0	14.33	354.55	5,055.0	1,167.5	-111.3	1,172.8	0.00	0.00	
5,300.0	14.33	354.55	5,151.9	1,192.2	-113.7	1,197.6	0.00	0.00	
5,400.0	14.33	354.55	5,248.8	1,216.8	-116.0	1,222.3	0.00	0.00	
5,500.0	14.33	354.55	5,345.7	1,241.5	-118.4	1,247.1	0.00	0.00	
5,548.8	14.33	354.55	5,393.0	1,253.5	-119.5	1,259.2	0.00	0.00	Williams Fork
5,600.0	14.33	354.55	5,442.6	1,266.1	-120.7	1,271.9	0.00	0.00	
5,700.0	14.33	354.55	5,539.5	1,290.8	-123.1	1,296.6	0.00	0.00	
5,800.0	14.33	354.55	5,636.4	1,315.4	-125.4	1,321.4	0.00	0.00	
5,900.0	14.33	354.55	5,733.2	1,340.1	-127.8	1,346.1	0.00	0.00	
5,969.7	14.33	354.55	5,800.8	1,357.2	-129.4	1,363.4	0.00	0.00	Start 2° Drop
6,000.0	13.73	354.55	5,830.2	1,364.5	-130.1	1,370.7	2.00	-2.00	
6,100.0	11.73	354.55	5,927.7	1,386.5	-132.2	1,392.8	2.00	-2.00	
6,200.0	9.73	354.55	6,026.0	1,405.0	-134.0	1,411.4	2.00	-2.00	
6,300.0	7.73	354.55	6,124.8	1,420.1	-135.4	1,426.6	2.00	-2.00	
6,400.0	5.73	354.55	6,224.1	1,431.8	-136.5	1,438.3	2.00	-2.00	
6,500.0	3.73	354.55	6,323.8	1,440.0	-137.3	1,446.5	2.00	-2.00	
6,600.0	1.73	354.55	6,423.6	1,444.7	-137.8	1,451.3	2.00	-2.00	
6,686.4	0.00	0.00	6,510.0	1,446.0	-137.9	1,452.6	2.00	-2.00	EOD @ Inc. = 0° - Top Gas
6,700.0	0.00	0.00	6,523.6	1,446.0	-137.9	1,452.6	0.00	0.00	
6,800.0	0.00	0.00	6,623.6	1,446.0	-137.9	1,452.6	0.00	0.00	
6,900.0	0.00	0.00	6,723.6	1,446.0	-137.9	1,452.6	0.00	0.00	
7,000.0	0.00	0.00	6,823.6	1,446.0	-137.9	1,452.6	0.00	0.00	
7,100.0	0.00	0.00	6,923.6	1,446.0	-137.9	1,452.6	0.00	0.00	
7,200.0	0.00	0.00	7,023.6	1,446.0	-137.9	1,452.6	0.00	0.00	
7,300.0	0.00	0.00	7,123.6	1,446.0	-137.9	1,452.6	0.00	0.00	
7,400.0	0.00	0.00	7,223.6	1,446.0	-137.9	1,452.6	0.00	0.00	
7,500.0	0.00	0.00	7,323.6	1,446.0	-137.9	1,452.6	0.00	0.00	
7,600.0	0.00	0.00	7,423.6	1,446.0	-137.9	1,452.6	0.00	0.00	
7,689.4	0.00	0.00	7,513.0	1,446.0	-137.9	1,452.6	0.00	0.00	Coal Ridge
7,700.0	0.00	0.00	7,523.6	1,446.0	-137.9	1,452.6	0.00	0.00	
7,800.0	0.00	0.00	7,623.6	1,446.0	-137.9	1,452.6	0.00	0.00	
7,900.0	0.00	0.00	7,723.6	1,446.0	-137.9	1,452.6	0.00	0.00	
8,000.0	0.00	0.00	7,823.6	1,446.0	-137.9	1,452.6	0.00	0.00	
8,100.0	0.00	0.00	7,923.6	1,446.0	-137.9	1,452.6	0.00	0.00	
8,200.0	0.00	0.00	8,023.6	1,446.0	-137.9	1,452.6	0.00	0.00	
8,300.0	0.00	0.00	8,123.6	1,446.0	-137.9	1,452.6	0.00	0.00	
8,400.0	0.00	0.00	8,223.6	1,446.0	-137.9	1,452.6	0.00	0.00	
8,422.4	0.00	0.00	8,246.0	1,446.0	-137.9	1,452.6	0.00	0.00	Rollins
8,500.0	0.00	0.00	8,323.6	1,446.0	-137.9	1,452.6	0.00	0.00	
8,572.4	0.00	0.00	8,396.0	1,446.0	-137.9	1,452.6	0.00	0.00	TD @ 8,572.4' MD
8,600.0	0.00	0.00	8,423.6	1,446.0	-137.9	1,452.6	0.00	0.00	
8,672.4	0.00	0.00	8,496.0	1,446.0	-137.9	1,452.6	0.00	0.00	Permit TD @ 8,672.4' MD

Cathedral Energy Services

Planning Report

Database: USA EDM 5000 Multi Users DB	Local Co-ordinate Reference: Well Shideler Fee 31-10C
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 31-10C	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 31-10C TG - plan hits target center - Point	0.00	0.00	6,510.0	1,446.0	-137.9	1,578,498.46	2,376,631.75	39.400948	-107.706210
Shideler Fee 31-10C PB - plan hits target center - Circle (radius 25.0)	0.00	0.00	8,396.0	1,446.0	-137.9	1,578,498.46	2,376,631.75	39.400948	-107.706210

Casing Points				
Measured Depth	Vertical Depth	Name	Casing Diameter	Hole Diameter
(ft)	(ft)		(in)	(in)
1,030.2	1,015.0	Surface Casing		

Formations					
Measured Depth	Vertical Depth	Name	Lithology	Dip	Dip Direction
(ft)	(ft)			(°)	(°)
4,779.9	4,648.0	Ohio Creek			
4,915.1	4,779.0	Mesaverde Marker			
5,548.8	5,393.0	Williams Fork			
6,686.4	6,510.0	Top Gas			
7,689.4	7,513.0	Coal Ridge			
8,422.4	8,246.0	Rollins			

Plan Annotations					
Measured Depth	Vertical Depth	Local Coordinates		Comment	
(ft)	(ft)	+N/-S	+E/-W		
		(ft)	(ft)		
225.0	225.0	0.0	0.0	KOP @ 225'	
702.8	697.8	59.2	-5.6	EOB @ Inc. = 14.33°	
5,969.7	5,800.8	1,357.2	-129.4	Start 2° Drop	
6,686.4	6,510.0	1,446.0	-137.9	EOD @ Inc. = 0°	
8,572.4	8,396.0	1,446.0	-137.9	TD @ 8,572.4' MD	
8,672.4	8,496.0	1,446.0	-137.9	Permit TD @ 8,672.4' MD	

EnCana Oil & Gas (USA) Inc

Mamm Creek

O31E Pad (2nd Occupation)

Shideler Fee 31-10C

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 31-10C
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 31-10C	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	8,671.6	Plan #1 (OH)	MWD	Geolink MWD	

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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 31-10C	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
K31E Pad						
Shideler 31-11D (K31E) (Existing) - Existing - Existing						Out of range
Shideler Fee 31-11A - DD - DD	8,649.9	8,300.0	469.5	434.8	13.501	CC, ES, SF
Shideler Fee 31-5BB - DD - FINAL						Out of range
Shideler Fee 31-5C - DD - DD						Out of range
Shideler Fee 31-5CC - DD - DD						Out of range
Shideler Fee 31-6D - DD - DD						Out of range
Shideler Fee 31-6DD - DD - FINAL						Out of range
Shideler Fee 31-8B - DD - FINAL						Out of range
Shideler Fee 31-8C - DD - FINAL						Out of range
Shideler Fee 31-9B - DD - DD						Out of range
Shideler Fee 31-9BB - DD - DD						Out of range
O31E Pad						
Shideler 31-15-EX - Existing - Existing	221.5	200.5	278.3	277.8	531.137	CC, ES
Shideler 31-15-EX - Existing - Existing	1,500.0	1,449.2	492.7	488.3	111.276	SF
Shideler Federal 6-3-EX - Existing - Existing	228.8	208.5	295.8	295.2	544.328	CC, ES
Shideler Federal 6-3-EX - Existing - Existing	1,300.0	1,242.3	477.0	472.9	118.047	SF
Shideler Fee 31-13C - OH - FINAL	0.0	3.0	257.1			
Shideler Fee 31-13C - OH - FINAL	205.1	208.4	257.4	256.8	399.121	ES
Shideler Fee 31-13C - OH - FINAL	1,400.0	1,310.0	490.9	482.9	61.655	SF
Shideler Fee 31-13CC - OH - FINAL	0.0	3.0	283.4			
Shideler Fee 31-13CC - OH - FINAL	100.0	102.2	283.6	283.3	1,015.958	ES
Shideler Fee 31-13CC - OH - FINAL	1,100.0	1,008.1	488.0	482.5	88.498	SF
Shideler Fee 6-3A - DD - FINAL	0.0	3.0	309.1			
Shideler Fee 6-3A - DD - FINAL	100.0	102.0	309.3	309.0	1,108.779	ES
Shideler Fee 6-3A - DD - FINAL	1,100.0	1,063.6	485.9	481.7	115.999	SF
Shideler Fee 6-3AA - DD - FINAL	0.0	0.0	319.3			
Shideler Fee 6-3AA - DD - FINAL	800.0	725.0	469.7	466.8	165.557	SF
Shideler Fee 6-3D - DD - DD	0.0	3.0	296.4			
Shideler Fee 6-3D - DD - DD	200.0	201.8	296.8	296.2	475.267	ES
Shideler Fee 6-3D - DD - DD	900.0	811.1	463.1	459.9	145.281	SF
Shideler Fee 6-3DD - DD - DD	0.0	3.0	306.5			
Shideler Fee 6-3DD - DD - DD	100.0	102.1	306.6	306.3	1,098.164	ES
Shideler Fee 6-3DD - DD - DD	900.0	789.0	491.3	488.2	156.704	SF
Shideler Fee 6-6A - DD - FINAL	200.0	203.4	293.6	292.9	467.841	CC
Shideler Fee 6-6A - DD - FINAL	213.9	217.3	293.6	292.9	434.237	ES
Shideler Fee 6-6A - DD - FINAL	1,000.0	893.1	468.5	464.9	133.172	SF
Shideler Fee 6-6D - DD - DD	134.2	137.3	279.7	279.3	704.313	CC, ES
Shideler Fee 6-6D - DD - DD	900.0	770.2	470.6	467.5	152.178	SF
Shideler Fee 6-6DD - DD - FINAL	153.3	156.3	269.6	269.2	581.741	CC
Shideler Fee 6-6DD - DD - FINAL	200.0	200.4	269.8	269.2	433.678	ES
Shideler Fee 6-6DD - DD - FINAL	900.0	762.7	470.3	467.3	154.325	SF
Shideler Fee 6-7D - DD - DD	140.2	140.2	267.5	267.1	640.017	CC, ES
Shideler Fee 6-7D - DD - DD	900.0	772.6	466.0	462.8	145.245	SF

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

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Site Error:	0.0ft	North Reference:	True
Reference Well:	Shideler Fee 31-10C	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 31-11C - OH - Plan #1	200.0	200.0	15.0	14.4	24.126	CC, ES
Shideler Fee 31-11C - OH - Plan #1	500.0	499.8	25.0	23.1	13.552	SF
Shideler Fee 31-12B - OH - Plan #1	200.0	200.0	30.0	29.4	48.312	CC, ES
Shideler Fee 31-12B - OH - Plan #1	800.0	789.2	95.2	91.0	22.534	SF
Shideler Fee 31-13B - OH - Plan #1	200.0	200.0	59.8	59.2	96.247	CC, ES
Shideler Fee 31-13B - OH - Plan #1	900.0	864.6	182.8	178.1	38.417	SF
Shideler Fee 31-13BB - OH - Plan #1	200.0	200.0	75.0	74.4	120.756	CC, ES
Shideler Fee 31-13BB - OH - Plan #1	1,400.0	1,316.8	369.3	360.9	44.109	SF
Shideler Fee 31-14D - OH - Plan #1	200.0	200.0	45.0	44.4	72.440	CC, ES
Shideler Fee 31-14D - OH - Plan #1	500.0	499.1	57.0	55.3	33.084	SF
Shideler Fee 31-14DD - OH - Plan #1	200.0	200.0	89.8	89.2	144.563	CC, ES
Shideler Fee 31-14DD - OH - Plan #1	700.0	689.6	142.4	139.8	54.879	SF
Shideler Fee 31-16A - OH - Plan #1	336.3	336.3	23.6	22.5	21.236	CC, ES
Shideler Fee 31-16A - OH - Plan #1	500.0	498.0	30.5	28.8	17.406	SF
Shideler Fee 31-16AA - OH - Plan #1	329.9	329.6	14.2	13.1	13.087	CC, ES
Shideler Fee 31-16AA - OH - Plan #1	400.0	399.1	15.8	14.5	11.691	SF
Shideler Fee 31-16D - OH - Plan #1	200.0	200.0	11.1	10.4	17.790	CC, ES
Shideler Fee 31-16D - OH - Plan #1	300.0	300.0	12.5	11.5	12.871	SF
Shideler Fee 31-16DD - OH - Plan #1	200.0	200.0	11.0	10.4	17.762	CC
Shideler Fee 31-16DD - OH - Plan #1	200.0	200.0	11.0	10.4	17.761	ES
Shideler Fee 31-16DD - OH - Plan #1	300.0	300.0	11.6	10.6	11.922	SF
Shideler Fee 31-9D - OH - Plan #1	200.0	200.0	30.0	29.4	48.324	CC, ES
Shideler Fee 31-9D - OH - Plan #1	600.0	589.8	61.6	59.3	25.905	SF
Shideler Fee 6-1A - OH - Plan #1	200.0	200.0	23.8	23.2	38.305	CC, ES
Shideler Fee 6-1A - OH - Plan #1	400.0	399.9	30.1	28.7	22.663	SF
Shideler Fee 6-1AA - OH - Plan #1	200.0	200.0	38.3	37.7	61.638	CC, ES
Shideler Fee 6-1AA - OH - Plan #1	500.0	499.0	53.1	51.4	31.099	SF
Shideler Fee 6-1D - OH - Plan #1	200.0	200.0	53.0	52.4	85.364	CC, ES
Shideler Fee 6-1D - OH - Plan #1	500.0	498.2	67.7	66.0	39.031	SF
Shideler Fee 6-1DD - OH - Plan #1	200.0	200.0	67.9	67.3	109.325	CC, ES
Shideler Fee 6-1DD - OH - Plan #1	600.0	591.9	102.0	99.8	46.956	SF
Shideler Fee 6-8A - OH - Plan #1	200.0	200.0	82.8	82.2	133.327	CC, ES
Shideler Fee 6-8A - OH - Plan #1	600.0	590.4	117.2	115.0	52.812	SF
Shideler Fee 6-8AA - OH - Plan #1	200.0	200.0	97.8	97.2	157.389	CC, ES
Shideler Fee 6-8AA - OH - Plan #1	600.0	587.2	135.1	132.8	59.788	SF
Shideler Fee 6-8D - OH - Plan #1	200.0	200.0	112.5	111.9	181.115	CC, ES
Shideler Fee 6-8D - OH - Plan #1	600.0	584.6	151.7	149.4	65.626	SF

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Site Error:	0.0ft	North Reference:	True
Reference Well:	Shideler Fee 31-10C	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: 110-MWD, 1620-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 Tooface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)					
6,300.0	6,124.8	5,953.9	5,922.6	27.3	14.4	-21.05	1,867.8	-356.7	499.4	471.1	28.31	17.637			
6,400.0	6,224.1	6,051.4	6,020.0	27.5	14.6	-21.32	1,868.0	-355.6	488.1	459.4	28.71	17.001			
6,500.0	6,323.8	6,152.6	6,121.3	27.7	14.7	-21.51	1,868.2	-354.6	480.2	451.1	29.07	16.518			
6,600.0	6,423.6	6,251.2	6,219.8	27.8	14.9	-21.52	1,868.2	-353.2	475.1	445.8	29.35	16.188			
6,691.8	6,515.4	6,340.7	6,309.4	27.9	15.0	-21.52	1,868.5	-352.8	473.8	444.3	29.58	16.022			
6,700.0	6,523.6	6,349.0	6,317.6	27.9	15.0	-26.95	1,868.6	-352.8	474.0	444.5	29.59	16.019			
6,800.0	6,623.6	6,450.0	6,418.6	28.0	15.1	-26.87	1,869.0	-352.2	474.2	444.3	29.86	15.883			
6,900.0	6,723.6	6,551.4	6,520.0	28.1	15.3	-26.68	1,869.6	-350.7	474.0	443.9	30.11	15.744			
7,000.0	6,823.6	6,653.2	6,621.8	28.1	15.4	-26.48	1,869.9	-349.0	473.6	443.2	30.35	15.604			
7,038.6	6,862.2	6,688.5	6,657.2	28.2	15.5	-26.46	1,869.8	-348.9	473.4	443.0	30.44	15.551			
7,100.0	6,923.6	6,744.3	6,712.9	28.2	15.5	-26.50	1,870.0	-349.3	473.8	443.2	30.60	15.481			
7,200.0	7,023.6	6,844.5	6,813.1	28.3	15.7	-26.63	1,870.6	-350.8	475.0	444.1	30.90	15.375			
7,300.0	7,123.6	6,949.1	6,917.7	28.4	15.8	-26.76	1,870.7	-352.0	475.6	444.4	31.20	15.246			
7,400.0	7,223.6	7,049.6	7,018.2	28.4	15.9	-26.79	1,870.7	-352.3	475.7	444.2	31.49	15.109			
7,500.0	7,323.6	7,149.1	7,117.7	28.5	16.1	-26.67	1,871.3	-351.5	475.9	444.2	31.76	14.986			
7,600.0	7,423.6	7,249.3	7,217.9	28.6	16.2	-26.46	1,872.2	-350.0	476.1	444.0	32.01	14.873			
7,700.0	7,523.6	7,349.4	7,318.0	28.7	16.4	-26.36	1,872.7	-349.4	476.2	444.0	32.28	14.753			
7,800.0	7,623.6	7,450.8	7,419.3	28.8	16.5	-26.22	1,873.2	-348.3	476.2	443.7	32.55	14.631			
7,900.0	7,723.6	7,552.4	7,521.0	28.8	16.7	-26.05	1,873.6	-346.9	475.9	443.1	32.82	14.501			
8,000.0	7,823.6	7,651.7	7,620.3	28.9	16.8	-25.87	1,873.8	-345.4	475.5	442.4	33.08	14.372			
8,100.0	7,923.6	7,751.7	7,720.2	29.0	17.0	-25.74	1,874.0	-344.2	475.1	441.8	33.36	14.244			
8,200.0	8,023.6	7,853.1	7,821.7	29.1	17.1	-25.54	1,874.3	-342.6	474.7	441.0	33.63	14.114			
8,300.0	8,123.6	7,956.5	7,925.0	29.2	17.3	-25.22	1,874.4	-339.7	473.6	439.7	33.89	13.972			
8,400.0	8,223.6	8,056.1	8,024.5	29.3	17.5	-24.89	1,874.4	-336.7	472.3	438.2	34.15	13.830			
8,500.0	8,323.6	8,155.6	8,124.0	29.4	17.7	-24.52	1,874.5	-333.4	471.0	436.6	34.41	13.688			
8,600.0	8,423.6	8,255.7	8,224.0	29.5	17.8	-24.05	1,875.2	-329.5	470.1	435.4	34.66	13.562			
8,649.9	8,473.5	8,300.0	8,268.3	29.5	17.9	-23.82	1,875.6	-327.5	469.5	434.8	34.78	13.501	CC, ES, SF		
8,672.4	8,496.0	8,300.0	8,268.3	29.5	17.9	-23.82	1,875.6	-327.5	470.1	435.3	34.81	13.503			

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Reference Well:	Shideler Fee 31-10C	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	-141.05	-216.6	-175.1	279.4						
100.0	100.0	78.4	78.4	0.1	0.1	-141.10	-216.7	-174.9	278.5	278.3	0.20	1,360.262			
200.0	200.0	178.9	178.9	0.3	0.2	-141.24	-217.0	-174.2	278.3	277.8	0.47	595.711			
221.5	221.5	200.5	200.5	0.3	0.2	-135.84	-217.0	-174.1	278.3	277.8	0.52	531.137	CC, ES		
300.0	300.0	278.9	278.9	0.5	0.2	-136.19	-217.3	-173.2	279.0	278.3	0.73	381.713			
400.0	399.8	379.4	379.3	0.7	0.3	-137.37	-218.1	-171.6	283.4	282.3	1.01	281.019			
500.0	499.1	480.2	480.1	1.0	0.4	-139.19	-218.6	-169.5	291.4	290.1	1.31	222.615			
600.0	597.6	582.4	582.4	1.3	0.5	-141.28	-217.8	-167.9	302.9	301.3	1.64	185.100			
700.0	695.1	680.3	680.2	1.7	0.6	-143.37	-215.6	-167.1	318.2	316.2	1.99	160.107			
800.0	792.0	772.8	772.7	2.1	0.7	-145.55	-213.7	-167.3	336.9	334.6	2.33	144.697			
900.0	888.9	866.7	866.5	2.6	0.8	-147.59	-213.2	-167.8	357.6	354.9	2.66	134.410			
1,000.0	985.8	961.9	961.8	3.1	0.8	-149.60	-213.6	-167.6	379.2	376.2	2.98	127.310			
1,100.0	1,082.7	1,057.9	1,057.8	3.5	0.9	-151.50	-214.6	-167.0	401.6	398.3	3.28	122.265			
1,200.0	1,179.6	1,155.9	1,155.8	4.0	1.0	-153.25	-215.6	-166.3	424.3	420.7	3.58	118.503			
1,300.0	1,276.4	1,253.5	1,253.4	4.4	1.1	-154.75	-215.9	-165.9	446.9	443.0	3.87	115.465			
1,400.0	1,373.3	1,350.4	1,350.3	4.9	1.2	-156.12	-216.4	-165.3	469.8	465.7	4.15	113.142			
1,500.0	1,470.2	1,449.2	1,449.1	5.4	1.3	-157.42	-216.8	-164.4	492.7	488.3	4.43	111.276	SF		

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Reference Site:	O31E Pad (2nd Occupation)	MD Reference:	KB=22' @ 7126.0ft (Patterson #308)
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Reference Well:	Shideler Fee 31-10C	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft	
Survey Program: 100-Gyro													Offset Well Error:		0.0 ft
Reference															
Offset				Semi Major Axis			Distance								
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning		
0.0	0.0	0.0	0.0	0.0	0.0	-139.56	-225.8	-192.4	297.4						
100.0	100.0	79.5	79.5	0.1	0.1	-139.58	-225.7	-192.2	296.4	296.2	0.21	1,442.190			
200.0	200.0	179.9	179.9	0.3	0.2	-139.62	-225.4	-191.6	295.8	295.3	0.47	632.549			
228.8	228.8	208.5	208.5	0.4	0.2	-134.21	-225.2	-191.5	295.8	295.2	0.54	544.328	CC, ES		
300.0	300.0	277.6	277.6	0.5	0.2	-134.35	-225.1	-191.4	296.5	295.8	0.73	406.836			
400.0	399.8	376.5	376.5	0.7	0.3	-135.04	-225.1	-192.0	301.5	300.5	1.00	300.068			
500.0	499.1	475.3	475.3	1.0	0.4	-136.26	-225.0	-192.8	310.4	309.1	1.31	237.400			
600.0	597.6	573.1	573.1	1.3	0.5	-137.89	-225.0	-193.9	323.5	321.9	1.64	196.954			
700.0	695.1	669.3	669.3	1.7	0.6	-139.82	-225.2	-195.2	341.2	339.2	2.01	169.772			
800.0	792.0	764.3	764.2	2.1	0.7	-142.05	-225.5	-197.0	362.0	359.7	2.37	152.751			
900.0	888.9	859.5	859.4	2.6	0.8	-143.99	-226.1	-199.5	383.8	381.1	2.72	140.991			
1,000.0	985.8	955.0	954.9	3.1	0.8	-145.69	-226.7	-202.4	406.3	403.2	3.07	132.514			
1,100.0	1,082.7	1,050.8	1,050.6	3.5	0.9	-147.21	-227.6	-205.5	429.4	426.0	3.40	126.238			
1,200.0	1,179.6	1,146.3	1,146.1	4.0	1.0	-148.63	-228.9	-208.2	452.9	449.2	3.73	121.552			
1,300.0	1,276.4	1,242.3	1,242.0	4.4	1.1	-150.00	-230.6	-210.5	477.0	472.9	4.04	118.047	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 31-10C
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 31-10C	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	-153.21	-229.5	-115.9	257.1						
100.0	100.0	102.2	102.2	0.1	0.1	-153.22	-229.6	-115.9	257.2	256.9	0.28	921.238			
200.0	200.0	203.2	203.2	0.3	0.3	-153.23	-229.8	-115.9	257.4	256.8	0.63	410.654			
205.1	205.1	208.4	208.4	0.3	0.3	-147.78	-229.8	-116.0	257.4	256.8	0.64	399.121 ES			
300.0	300.0	306.3	306.3	0.5	0.5	-147.87	-229.2	-116.0	258.1	257.2	0.98	262.900			
400.0	399.8	415.2	415.1	0.7	0.7	-148.05	-224.9	-117.0	260.6	259.2	1.36	192.080			
500.0	499.1	520.2	519.7	1.0	0.9	-147.84	-216.2	-120.7	264.7	262.9	1.76	150.567			
600.0	597.6	619.4	618.1	1.3	1.2	-147.45	-205.7	-126.9	272.4	270.2	2.21	123.380			
700.0	695.1	712.0	709.6	1.7	1.4	-146.79	-195.1	-136.2	285.5	282.8	2.73	104.622			
800.0	792.0	796.9	793.0	2.1	1.7	-145.92	-186.3	-149.7	304.5	301.2	3.31	92.067			
900.0	888.9	879.4	873.4	2.6	2.0	-144.71	-180.2	-166.8	328.3	324.4	3.93	83.466			
1,000.0	985.8	963.0	954.4	3.1	2.4	-143.40	-176.2	-187.0	356.1	351.5	4.61	77.286			
1,100.0	1,082.7	1,048.5	1,036.6	3.5	2.8	-141.94	-173.4	-210.5	387.1	381.8	5.34	72.450			
1,200.0	1,179.6	1,137.5	1,121.2	4.0	3.3	-140.24	-170.3	-237.9	420.0	413.8	6.16	68.136			
1,300.0	1,276.4	1,223.1	1,201.3	4.4	3.8	-138.32	-166.3	-267.9	454.5	447.5	7.04	64.565			
1,400.0	1,373.3	1,310.0	1,281.5	4.9	4.4	-136.29	-161.6	-301.0	490.9	482.9	7.96	61.655 SF			

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Shideler Fee 31-10C
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 31-10C	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	-150.16	-245.9	-141.0	283.4						
100.0	100.0	102.2	102.2	0.1	0.1	-150.15	-246.0	-141.2	283.6	283.3	0.28	1,015.958	ES		
200.0	200.0	201.4	201.4	0.3	0.3	-150.16	-246.4	-141.3	284.0	283.4	0.62	455.408			
300.0	300.0	298.1	298.1	0.5	0.5	-144.40	-246.3	-143.8	286.5	285.5	0.97	295.176			
400.0	399.8	394.1	393.8	0.7	0.7	-143.82	-245.2	-150.1	294.1	292.7	1.34	219.621			
500.0	499.1	483.7	482.9	1.0	0.9	-143.07	-244.2	-159.7	308.1	306.3	1.74	176.837			
600.0	597.6	575.8	574.0	1.3	1.2	-142.28	-243.8	-173.1	328.7	326.5	2.22	148.118			
700.0	695.1	666.8	663.5	1.7	1.5	-141.43	-243.2	-189.5	355.0	352.2	2.77	128.033			
800.0	792.0	753.0	747.7	2.1	1.8	-140.97	-242.6	-208.1	385.2	381.9	3.37	114.154			
900.0	888.9	844.0	835.7	2.6	2.3	-140.15	-242.0	-231.1	417.5	413.4	4.05	102.965			
1,000.0	985.8	925.7	914.0	3.1	2.7	-139.18	-241.6	-254.6	451.7	446.9	4.74	95.200			
1,100.0	1,082.7	1,008.1	991.9	3.5	3.3	-137.95	-240.8	-281.5	488.0	482.5	5.51	88.498	SF		

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Shideler Fee 31-10C
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 31-10C	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	-147.67	-261.2	-165.3	309.1						
100.0	100.0	102.0	102.0	0.1	0.1	-147.66	-261.3	-165.4	309.3	309.0	0.28	1,108.779 ES			
200.0	200.0	199.1	199.1	0.3	0.3	-147.59	-261.7	-166.2	310.1	309.4	0.62	500.154			
300.0	300.0	295.0	295.0	0.5	0.5	-142.11	-262.6	-167.6	312.8	311.9	0.96	324.899			
400.0	399.8	387.0	386.9	0.7	0.7	-142.42	-265.3	-170.6	322.1	320.8	1.31	246.153			
500.0	499.1	481.3	481.0	1.0	0.8	-143.09	-269.3	-174.6	337.4	335.7	1.68	201.175			
600.0	597.6	582.1	581.6	1.3	1.0	-144.15	-273.4	-179.0	356.7	354.7	2.08	171.436			
700.0	695.1	678.0	677.4	1.7	1.2	-145.41	-277.2	-183.0	380.2	377.7	2.50	151.998			
800.0	792.0	773.9	773.1	2.1	1.4	-147.03	-280.7	-187.6	406.3	403.4	2.93	138.717			
900.0	888.9	869.6	868.6	2.6	1.6	-148.44	-284.1	-192.3	432.7	429.4	3.35	129.081			
1,000.0	985.8	966.1	965.0	3.1	1.8	-149.71	-287.7	-196.9	459.4	455.6	3.77	121.817			
1,100.0	1,082.7	1,063.6	1,062.2	3.5	2.0	-150.81	-290.8	-201.8	485.9	481.7	4.19	115.999 SF			

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Shideler Fee 31-10C
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 31-10C	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft	
Survey Program: 111-MWD													Offset Well Error:		0.0 ft
Reference		Offset		Semi Major Axis			Distance						Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor			
0.0	0.0	0.0	0.0	0.0	0.0	-148.58	-272.4	-166.5	319.3						
100.0	100.0	96.6	96.6	0.1	0.1	-148.58	-272.9	-166.7	319.8	319.5	0.27	1,178.628			
200.0	200.0	186.2	186.2	0.3	0.3	-148.55	-274.6	-167.9	322.2	321.6	0.60	539.368			
300.0	300.0	271.9	271.7	0.5	0.5	-143.02	-279.0	-171.3	329.7	328.8	0.92	357.550			
400.0	399.8	357.7	357.0	0.7	0.7	-143.12	-286.3	-177.0	345.7	344.5	1.26	275.154			
500.0	499.1	446.1	444.5	1.0	0.9	-143.54	-296.0	-184.1	368.6	367.0	1.61	228.637			
600.0	597.6	532.3	529.6	1.3	1.2	-144.11	-307.4	-192.3	398.2	396.2	1.99	200.275			
700.0	695.1	624.8	620.7	1.7	1.5	-144.98	-320.7	-201.4	433.2	430.8	2.40	180.380			
800.0	792.0	725.0	719.5	2.1	1.9	-146.52	-334.0	-211.1	469.7	466.8	2.84	165.557 SF			

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Shideler Fee 31-10C
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 31-10C	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	-148.94	-253.9	-152.9	296.4							
100.0	100.0	102.1	102.1	0.1	0.1	-148.93	-254.0	-153.0	296.5	296.2		0.28	1,062.792			
200.0	200.0	201.8	201.8	0.3	0.3	-148.95	-254.3	-153.1	296.8	296.2		0.62	475.267 ES			
300.0	300.0	295.0	295.0	0.5	0.5	-143.61	-255.3	-153.7	299.3	298.3		0.96	310.975			
400.0	399.8	383.9	383.8	0.7	0.6	-144.00	-258.3	-156.1	308.8	307.5		1.30	237.434			
500.0	499.1	468.2	467.8	1.0	0.8	-144.68	-264.2	-159.9	326.7	325.1		1.65	198.262			
600.0	597.6	552.6	551.6	1.3	1.0	-145.64	-273.4	-164.8	352.8	350.8		2.02	175.020			
700.0	695.1	636.4	634.3	1.7	1.3	-146.78	-284.8	-170.5	386.2	383.7		2.41	160.483			
800.0	792.0	722.8	719.5	2.1	1.6	-148.63	-298.7	-176.2	424.1	421.3		2.80	151.497			
900.0	888.9	811.1	806.3	2.6	1.9	-150.28	-313.7	-181.9	463.1	459.9		3.19	145.281 SF			

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Shideler Fee 31-10C
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 31-10C	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft	
Survey Program: 111-MWD													Offset Well Error:		0.0 ft
Reference		Offset		Semi Major Axis			Distance						Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor			
0.0	0.0	3.0	3.0	0.0	0.0	-149.77	-264.8	-154.3	306.5						
100.0	100.0	102.1	102.1	0.1	0.1	-149.81	-265.0	-154.2	306.6	306.3	0.28	1,098.164	ES		
200.0	200.0	199.6	199.6	0.3	0.3	-149.94	-266.0	-153.9	307.3	306.7	0.62	494.642			
300.0	300.0	288.5	288.5	0.5	0.5	-144.70	-268.5	-154.6	311.4	310.4	0.95	327.026			
400.0	399.8	375.6	375.4	0.7	0.6	-145.24	-273.9	-156.6	323.3	322.0	1.29	251.181			
500.0	499.1	460.1	459.4	1.0	0.9	-146.08	-282.2	-159.8	343.3	341.7	1.63	210.173			
600.0	597.6	544.7	543.2	1.3	1.1	-147.12	-293.3	-164.2	371.4	369.4	2.00	185.815			
700.0	695.1	622.9	620.1	1.7	1.4	-148.07	-305.7	-169.4	406.8	404.5	2.37	171.356			
800.0	792.0	701.4	696.9	2.1	1.7	-149.55	-320.7	-176.0	448.3	445.5	2.75	162.951			
900.0	888.9	789.0	782.3	2.6	2.0	-150.94	-338.6	-184.0	491.3	488.2	3.14	156.704	SF		

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Shideler Fee 31-10C
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 31-10C	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	-150.98	-256.8	-142.4	293.6						
100.0	100.0	103.0	103.0	0.1	0.1	-150.95	-256.7	-142.6	293.6	293.4	0.28	1,047.238			
200.0	200.0	203.4	203.4	0.3	0.3	-150.85	-256.4	-143.0	293.6	292.9	0.63	467.841 CC			
213.9	213.9	217.3	217.3	0.3	0.3	-145.40	-256.4	-143.0	293.6	292.9	0.68	434.237 ES			
300.0	300.0	304.2	304.2	0.5	0.5	-145.46	-255.9	-143.2	294.4	293.5	0.98	300.795			
400.0	399.8	400.8	400.8	0.7	0.7	-145.93	-255.7	-143.9	300.0	298.6	1.33	225.508			
500.0	499.1	492.8	492.7	1.0	0.8	-146.82	-257.0	-144.8	311.5	309.8	1.69	184.552			
600.0	597.6	579.5	579.4	1.3	1.0	-148.05	-260.6	-146.0	330.3	328.2	2.05	160.774			
700.0	695.1	662.0	661.6	1.7	1.1	-149.40	-267.1	-148.0	357.3	354.8	2.43	146.963			
800.0	792.0	742.4	741.5	2.1	1.3	-151.16	-276.2	-150.8	390.4	387.6	2.81	139.138			
900.0	888.9	818.4	816.4	2.6	1.6	-152.67	-287.7	-154.0	427.5	424.4	3.17	134.987			
1,000.0	985.8	893.1	889.7	3.1	1.8	-154.05	-301.9	-157.5	468.5	464.9	3.52	133.172 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 31-10C
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 31-10C	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft	
Survey Program: 111-MWD													Offset Well Error:		0.0 ft
Reference				Offset				Semi Major Axis		Distance				Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor			
0.0	0.0	3.0	3.0	0.0	0.0	-152.31	-247.7	-130.0	279.7						
100.0	100.0	103.1	103.1	0.1	0.1	-152.29	-247.6	-130.1	279.7	279.4	0.28	997.151			
134.2	134.2	137.3	137.3	0.2	0.2	-152.29	-247.6	-130.1	279.7	279.3	0.40	704.313 CC, ES			
200.0	200.0	198.7	198.7	0.3	0.3	-152.42	-248.3	-129.7	280.1	279.5	0.62	452.191			
300.0	300.0	289.4	289.3	0.5	0.5	-147.70	-251.9	-128.0	284.1	283.2	0.96	296.306			
400.0	399.8	381.1	380.6	0.7	0.7	-149.37	-259.6	-124.8	295.8	294.5	1.32	223.983			
500.0	499.1	467.2	466.0	1.0	0.9	-151.41	-269.9	-121.5	315.4	313.7	1.70	186.020			
600.0	597.6	551.0	548.8	1.3	1.2	-153.48	-282.8	-118.9	343.5	341.4	2.07	166.063			
700.0	695.1	628.0	624.4	1.7	1.5	-155.17	-297.0	-117.9	380.1	377.6	2.43	156.504			
800.0	792.0	700.4	695.0	2.1	1.8	-156.98	-313.1	-118.4	423.4	420.6	2.77	152.919			
900.0	888.9	770.2	762.4	2.6	2.1	-158.33	-331.0	-120.5	470.6	467.5	3.09	152.178 SF			

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Shideler Fee 31-10C
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 31-10C	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)	Offset Wellbore Centre +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	-151.67	-237.5	-128.0	269.8						
100.0	100.0	103.6	103.6	0.1	0.1	-151.70	-237.5	-127.9	269.7	269.4	0.28	959.357			
153.3	153.3	156.3	156.3	0.2	0.2	-151.71	-237.4	-127.8	269.6	269.2	0.46	581.741	CC		
200.0	200.0	200.4	200.4	0.3	0.3	-151.71	-237.6	-127.8	269.8	269.2	0.62	433.678	ES		
300.0	300.0	289.8	289.7	0.5	0.5	-146.40	-240.0	-128.9	274.0	273.0	0.95	287.455			
400.0	399.8	376.6	376.3	0.7	0.6	-147.15	-246.1	-130.4	286.5	285.2	1.29	222.588			
500.0	499.1	460.4	459.5	1.0	0.8	-148.26	-255.6	-132.7	307.8	306.1	1.63	188.902			
600.0	597.6	541.7	539.7	1.3	1.1	-149.58	-268.6	-135.8	338.1	336.1	1.98	170.348			
700.0	695.1	618.5	614.9	1.7	1.4	-151.02	-284.0	-138.5	376.7	374.3	2.35	160.341			
800.0	792.0	691.1	685.3	2.1	1.7	-152.82	-301.3	-142.1	421.7	419.0	2.70	155.985			
900.0	888.9	762.7	754.1	2.6	2.1	-154.37	-320.9	-146.2	470.3	467.3	3.05	154.325	SF		

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Shideler Fee 31-10C
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 31-10C	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft	
Survey Program: 111-MWD													Offset Well Error:		0.0 ft
Reference		Offset		Semi Major Axis			Distance						Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor			
0.0	0.0	0.0	0.0	0.0	0.0	-153.83	-240.4	-118.1	267.9						
100.0	100.0	101.3	101.3	0.1	0.1	-153.83	-240.2	-118.0	267.6	267.3	0.28	946.850			
140.2	140.2	140.2	140.2	0.2	0.2	-153.83	-240.1	-118.0	267.5	267.1	0.42	640.017	CC, ES		
200.0	200.0	194.0	194.0	0.3	0.3	-153.99	-240.9	-117.5	268.1	267.5	0.62	434.713			
300.0	300.0	287.2	287.0	0.5	0.5	-149.41	-245.5	-115.6	272.9	271.9	0.96	283.438			
400.0	399.8	375.4	374.8	0.7	0.7	-151.01	-253.5	-112.9	285.6	284.2	1.32	216.944			
500.0	499.1	459.5	458.2	1.0	0.9	-152.94	-264.4	-110.2	306.7	305.0	1.68	182.680			
600.0	597.6	544.0	541.3	1.3	1.2	-155.26	-278.9	-106.4	336.6	334.5	2.06	163.364			
700.0	695.1	624.1	619.6	1.7	1.5	-157.35	-295.5	-103.4	375.0	372.5	2.45	152.950			
800.0	792.0	701.3	694.3	2.1	1.9	-160.13	-314.0	-97.3	418.7	415.8	2.84	147.319			
900.0	888.9	772.6	762.5	2.6	2.3	-162.58	-333.6	-90.2	466.0	462.8	3.21	145.245	SF		

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Shideler Fee 31-10C
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 31-10C	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft	
Survey Program: O-MWD													Offset Well Error:		0.0 ft
Reference															
Offset				Semi Major Axis			Distance								
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning		
0.0	0.0	0.0	0.0	0.0	0.0	-123.96	-8.4	-12.4	15.0						
100.0	100.0	100.0	100.0	0.1	0.1	-123.96	-8.4	-12.4	15.0	14.7	0.27	55.057			
200.0	200.0	200.0	200.0	0.3	0.3	-123.96	-8.4	-12.4	15.0	14.4	0.62	24.126 CC, ES			
300.0	300.0	300.0	300.0	0.5	0.5	-120.82	-7.8	-12.8	15.7	14.8	0.97	16.166			
400.0	399.8	400.0	399.8	0.7	0.7	-121.90	-3.6	-15.9	19.0	17.7	1.36	13.978			
500.0	499.1	499.8	499.1	1.0	0.9	-120.70	4.9	-22.0	25.0	23.1	1.84	13.552 SF			
600.0	597.6	599.4	597.5	1.3	1.2	-118.67	17.5	-31.0	33.5	31.0	2.46	13.642			
700.0	695.1	698.7	694.6	1.7	1.6	-116.60	34.2	-43.1	44.7	41.4	3.23	13.831			
800.0	792.0	797.8	790.6	2.1	2.1	-113.92	54.2	-57.4	57.4	53.3	4.08	14.056			
900.0	888.9	897.0	886.6	2.6	2.5	-111.95	74.3	-71.9	70.2	65.2	4.96	14.159			
1,000.0	985.8	996.1	982.6	3.1	3.0	-110.59	94.5	-86.5	83.0	77.2	5.84	14.216			
1,100.0	1,082.7	1,095.3	1,078.6	3.5	3.4	-109.59	114.7	-101.0	95.9	89.2	6.73	14.249			
1,200.0	1,179.6	1,194.4	1,174.5	4.0	3.9	-108.83	134.9	-115.5	108.9	101.2	7.63	14.270			
1,300.0	1,276.4	1,293.6	1,270.5	4.4	4.4	-108.23	155.1	-130.0	121.8	113.3	8.53	14.284			
1,400.0	1,373.3	1,392.7	1,366.5	4.9	4.8	-107.75	175.3	-144.6	134.8	125.3	9.43	14.294			
1,500.0	1,470.2	1,491.9	1,462.5	5.4	5.3	-107.35	195.5	-159.1	147.7	137.4	10.33	14.301			
1,600.0	1,567.1	1,591.0	1,558.5	5.8	5.8	-107.01	215.7	-173.6	160.7	149.5	11.23	14.306			
1,700.0	1,664.0	1,690.2	1,654.4	6.3	6.2	-106.73	235.9	-188.2	173.7	161.5	12.14	14.310			
1,800.0	1,760.9	1,789.3	1,750.4	6.7	6.7	-106.48	256.1	-202.7	186.6	173.6	13.04	14.313			
1,900.0	1,857.8	1,888.5	1,846.4	7.2	7.2	-106.27	276.3	-217.2	199.6	185.7	13.94	14.315			
2,000.0	1,954.6	1,987.6	1,942.4	7.7	7.6	-106.08	296.5	-231.7	212.6	197.7	14.85	14.317			
2,100.0	2,051.5	2,086.8	2,038.4	8.1	8.1	-105.92	316.7	-246.3	225.6	209.8	15.75	14.318			
2,200.0	2,148.4	2,186.0	2,134.3	8.6	8.6	-105.77	336.9	-260.8	238.6	221.9	16.66	14.319			
2,300.0	2,245.3	2,285.1	2,230.3	9.1	9.0	-105.64	357.1	-275.3	251.5	234.0	17.57	14.320			
2,400.0	2,342.2	2,384.3	2,326.3	9.5	9.5	-105.52	377.3	-289.9	264.5	246.1	18.47	14.320			
2,500.0	2,439.1	2,483.4	2,422.3	10.0	10.0	-105.41	397.5	-304.4	277.5	258.1	19.38	14.321			
2,600.0	2,536.0	2,582.6	2,518.2	10.5	10.5	-105.31	417.7	-318.9	290.5	270.2	20.28	14.321			
2,700.0	2,632.9	2,681.7	2,614.2	10.9	10.9	-105.22	437.9	-333.4	303.5	282.3	21.19	14.322			
2,800.0	2,729.7	2,780.9	2,710.2	11.4	11.4	-105.14	458.1	-348.0	316.5	294.4	22.10	14.322			
2,900.0	2,826.6	2,880.0	2,806.2	11.9	11.9	-105.06	478.3	-362.5	329.5	306.5	23.00	14.322			
3,000.0	2,923.5	2,979.2	2,902.2	12.3	12.3	-104.99	498.5	-377.0	342.4	318.5	23.91	14.323			
3,100.0	3,020.4	3,078.3	2,998.1	12.8	12.8	-104.93	518.7	-391.5	355.4	330.6	24.82	14.323			
3,200.0	3,117.3	3,177.5	3,094.1	13.3	13.3	-104.87	538.9	-406.1	368.4	342.7	25.72	14.323			
3,300.0	3,214.2	3,276.6	3,190.1	13.7	13.8	-104.81	559.1	-420.6	381.4	354.8	26.63	14.323			
3,400.0	3,311.1	3,375.8	3,286.1	14.2	14.2	-104.76	579.3	-435.1	394.4	366.9	27.54	14.323			
3,500.0	3,408.0	3,474.9	3,382.1	14.7	14.7	-104.71	599.5	-449.7	407.4	379.0	28.44	14.323			
3,600.0	3,504.8	3,574.1	3,478.0	15.1	15.2	-104.66	619.7	-464.2	420.4	391.0	29.35	14.323			
3,700.0	3,601.7	3,673.2	3,574.0	15.6	15.6	-104.62	639.9	-478.7	433.4	403.1	30.26	14.323			
3,800.0	3,698.6	3,772.4	3,670.0	16.0	16.1	-104.58	660.1	-493.2	446.4	415.2	31.16	14.323			
3,900.0	3,795.5	3,871.5	3,766.0	16.5	16.6	-104.54	680.3	-507.8	459.4	427.3	32.07	14.323			
4,000.0	3,892.4	3,970.7	3,862.0	17.0	17.1	-104.50	700.5	-522.3	472.4	439.4	32.98	14.323			
4,100.0	3,989.3	4,069.8	3,957.9	17.4	17.5	-104.47	720.7	-536.8	485.4	451.5	33.89	14.323			
4,200.0	4,086.2	4,169.0	4,053.9	17.9	18.0	-104.43	740.9	-551.4	498.3	463.6	34.79	14.323			

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 31-10C
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 31-10C	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	-123.08	-16.4	-25.2	30.0						
100.0	100.0	100.0	100.0	0.1	0.1	-123.08	-16.4	-25.2	30.0	29.7	0.27	110.250			
200.0	200.0	200.0	200.0	0.3	0.3	-123.08	-16.4	-25.2	30.0	29.4	0.62	48.312 CC, ES			
300.0	300.0	299.5	299.5	0.5	0.5	-115.42	-14.7	-27.1	31.4	30.5	0.98	32.104			
400.0	399.8	398.8	398.4	0.7	0.7	-112.94	-9.6	-33.0	36.7	35.3	1.39	26.366			
500.0	499.1	497.6	496.4	1.0	1.0	-111.05	-1.2	-42.6	45.9	44.0	1.91	24.061			
600.0	597.6	595.7	592.9	1.3	1.3	-109.80	10.4	-56.0	58.9	56.3	2.55	23.066			
700.0	695.1	692.9	687.5	1.7	1.8	-108.99	25.1	-72.9	75.6	72.2	3.34	22.602			
800.0	792.0	789.2	779.9	2.1	2.3	-107.59	42.7	-93.3	95.2	91.0	4.22	22.534 SF			
900.0	888.9	884.3	869.7	2.6	2.9	-104.53	63.1	-116.8	117.0	111.9	5.16	22.667			
1,000.0	985.8	977.7	956.4	3.1	3.6	-100.77	86.0	-143.1	141.6	135.4	6.13	23.098			
1,100.0	1,082.7	1,069.1	1,039.4	3.5	4.3	-96.85	111.0	-171.9	169.2	162.1	7.08	23.887			
1,200.0	1,179.6	1,163.3	1,123.8	4.0	5.1	-93.27	138.4	-203.6	199.2	191.1	8.02	24.837			
1,300.0	1,276.4	1,258.1	1,208.7	4.4	5.8	-90.59	166.1	-235.4	229.7	220.7	8.94	25.701			
1,400.0	1,373.3	1,352.8	1,293.5	4.9	6.6	-88.54	193.7	-267.2	260.5	250.7	9.84	26.472			
1,500.0	1,470.2	1,447.6	1,378.4	5.4	7.4	-86.93	221.3	-299.0	291.6	280.9	10.74	27.155			
1,600.0	1,567.1	1,542.3	1,463.3	5.8	8.2	-85.62	248.9	-330.9	322.9	311.3	11.63	27.760			
1,700.0	1,664.0	1,637.1	1,548.1	6.3	9.0	-84.55	276.5	-362.7	354.3	341.8	12.52	28.297			
1,800.0	1,760.9	1,731.8	1,633.0	6.7	9.8	-83.65	304.2	-394.5	385.8	372.4	13.41	28.776			
1,900.0	1,857.8	1,826.6	1,717.9	7.2	10.5	-82.88	331.8	-426.3	417.3	403.0	14.29	29.205			
2,000.0	1,954.6	1,921.3	1,802.7	7.7	11.3	-82.22	359.4	-458.2	449.0	433.8	15.17	29.591			
2,100.0	2,051.5	2,016.1	1,887.6	8.1	12.1	-81.65	387.0	-490.0	480.6	464.6	16.05	29.940			

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 31-10C
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 31-10C	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	-123.24	-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	219.641		
200.0	200.0	200.0	200.0	0.3	0.3	-123.24	-32.8	-50.0	59.8	59.2	0.62	96.247	CC, ES	
300.0	300.0	298.1	298.0	0.5	0.5	-117.05	-31.9	-52.4	62.0	61.1	0.97	63.663		
400.0	399.8	395.7	395.4	0.7	0.7	-116.62	-29.4	-59.4	69.7	68.3	1.37	50.833		
500.0	499.1	492.5	491.4	1.0	1.0	-116.57	-25.1	-71.0	82.8	80.9	1.85	44.762		
600.0	597.6	588.0	585.4	1.3	1.3	-116.68	-19.4	-86.9	101.2	98.8	2.43	41.563		
700.0	695.1	681.9	676.8	1.7	1.7	-116.80	-12.1	-106.9	124.8	121.7	3.14	39.737		
800.0	792.0	774.1	765.5	2.1	2.2	-116.79	-3.5	-130.5	152.5	148.5	3.92	38.865		
900.0	888.9	864.6	851.2	2.6	2.8	-115.64	6.3	-157.6	182.8	178.1	4.76	38.417	SF	
1,000.0	985.8	953.0	933.7	3.1	3.4	-113.89	17.3	-187.7	216.0	210.4	5.62	38.427		
1,100.0	1,082.7	1,045.6	1,018.9	3.5	4.1	-112.04	29.6	-221.6	251.1	244.5	6.51	38.547		
1,200.0	1,179.6	1,138.9	1,104.9	4.0	4.7	-110.62	42.0	-255.8	286.3	278.9	7.41	38.656		
1,300.0	1,276.4	1,232.3	1,190.8	4.4	5.4	-109.52	54.4	-290.0	321.7	313.4	8.30	38.763		
1,400.0	1,373.3	1,325.6	1,276.8	4.9	6.1	-108.63	66.8	-324.2	357.2	348.0	9.19	38.864		
1,500.0	1,470.2	1,419.0	1,362.8	5.4	6.8	-107.90	79.3	-358.4	392.7	382.7	10.08	38.958		
1,600.0	1,567.1	1,512.4	1,448.8	5.8	7.5	-107.29	91.7	-392.6	428.3	417.4	10.97	39.043		
1,700.0	1,664.0	1,605.7	1,534.8	6.3	8.2	-106.78	104.1	-426.9	464.0	452.1	11.86	39.121		
1,800.0	1,760.9	1,699.1	1,620.7	6.7	8.9	-106.34	116.5	-461.1	499.6	486.9	12.75	39.193		

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 31-10C
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 31-10C	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft	
Survey Program: 0-MWD													Offset Well Error:		0.0 ft
Reference															
Offset				Semi Major Axis			Distance								
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning		
0.0	0.0	0.0	0.0	0.0	0.0	-123.26	-41.2	-62.7	75.0						
100.0	100.0	100.0	100.0	0.1	0.1	-123.26	-41.2	-62.7	75.0	74.8	0.27	275.571			
200.0	200.0	200.0	200.0	0.3	0.3	-123.26	-41.2	-62.7	75.0	74.4	0.62	120.756 CC, ES			
300.0	300.0	300.0	300.0	0.5	0.5	-118.78	-41.2	-62.7	75.7	74.8	0.97	77.882			
400.0	399.8	397.7	397.7	0.7	0.7	-121.99	-40.9	-64.1	80.0	78.7	1.34	59.742			
500.0	499.1	494.3	494.1	1.0	0.8	-124.97	-39.8	-70.1	90.6	88.9	1.75	51.733			
600.0	597.6	589.7	588.9	1.3	1.1	-127.18	-37.8	-80.7	107.6	105.3	2.24	48.087			
700.0	695.1	683.6	681.5	1.7	1.4	-128.55	-35.0	-95.7	130.6	127.8	2.82	46.385			
800.0	792.0	775.9	771.8	2.1	1.7	-129.21	-31.5	-114.8	158.0	154.6	3.46	45.613			
900.0	888.9	866.8	859.5	2.6	2.2	-128.51	-27.2	-137.8	188.0	183.8	4.18	44.930			
1,000.0	985.8	955.8	944.4	3.1	2.7	-127.06	-22.3	-164.2	220.5	215.6	4.96	44.422			
1,100.0	1,082.7	1,042.6	1,025.9	3.5	3.3	-125.21	-16.8	-193.7	255.8	250.0	5.78	44.221			
1,200.0	1,179.6	1,132.4	1,109.0	4.0	3.9	-123.21	-10.6	-227.2	293.3	286.6	6.64	44.160			
1,300.0	1,276.4	1,224.6	1,194.2	4.4	4.5	-121.59	-4.2	-261.7	331.2	323.7	7.51	44.111			
1,400.0	1,373.3	1,316.8	1,279.4	4.9	5.2	-120.30	2.2	-296.3	369.3	360.9	8.37	44.109 SF			
1,500.0	1,470.2	1,409.0	1,364.6	5.4	5.8	-119.25	8.6	-330.8	407.5	398.3	9.23	44.133			
1,600.0	1,567.1	1,501.1	1,449.9	5.8	6.5	-118.37	15.1	-365.3	445.8	435.7	10.09	44.172			
1,700.0	1,664.0	1,593.3	1,535.1	6.3	7.2	-117.64	21.5	-399.9	484.2	473.3	10.95	44.219			

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Shideler Fee 31-10C
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 31-10C	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	165.312			
200.0	200.0	200.0	200.0	0.3	0.3	-123.38	-24.8	-37.6	45.0	44.4	0.62	72.440 CC, ES			
300.0	300.0	300.0	300.0	0.5	0.5	-119.54	-24.8	-37.6	45.7	44.7	0.97	47.020			
400.0	399.8	399.8	399.8	0.7	0.7	-126.08	-24.8	-37.6	49.3	47.9	1.34	36.779			
500.0	499.1	499.1	499.1	1.0	0.8	-135.47	-24.8	-37.6	57.0	55.3	1.72	33.084 SF			
600.0	597.6	597.0	597.0	1.3	1.0	-142.89	-23.9	-39.9	70.5	68.4	2.12	33.341			
700.0	695.1	694.9	694.7	1.7	1.2	-147.74	-21.9	-44.8	89.5	87.0	2.52	35.523			
800.0	792.0	792.3	791.9	2.1	1.4	-151.79	-20.0	-49.6	111.3	108.4	2.91	38.189			
900.0	888.9	889.6	889.1	2.6	1.6	-154.51	-18.1	-54.5	133.5	130.2	3.31	40.372			
1,000.0	985.8	987.0	986.4	3.1	1.7	-156.46	-16.2	-59.4	155.8	152.1	3.70	42.172			
1,100.0	1,082.7	1,084.3	1,083.6	3.5	1.9	-157.92	-14.3	-64.2	178.3	174.3	4.08	43.675			
1,200.0	1,179.6	1,181.7	1,180.8	4.0	2.1	-159.05	-12.4	-69.1	200.9	196.5	4.47	44.944			
1,300.0	1,276.4	1,279.0	1,278.0	4.4	2.3	-159.95	-10.5	-74.0	223.6	218.7	4.86	46.027			
1,400.0	1,373.3	1,376.3	1,375.2	4.9	2.5	-160.69	-8.6	-78.9	246.3	241.0	5.24	46.962			
1,500.0	1,470.2	1,473.7	1,472.4	5.4	2.7	-161.30	-6.7	-83.7	269.0	263.4	5.63	47.777			
1,600.0	1,567.1	1,571.0	1,569.6	5.8	2.9	-161.82	-4.8	-88.6	291.7	285.7	6.02	48.492			
1,700.0	1,664.0	1,668.4	1,666.8	6.3	3.1	-162.26	-2.9	-93.5	314.5	308.1	6.40	49.126			
1,800.0	1,760.9	1,765.7	1,764.0	6.7	3.3	-162.64	-1.0	-98.3	337.3	330.5	6.79	49.690			
1,900.0	1,857.8	1,863.1	1,861.2	7.2	3.5	-162.97	0.9	-103.2	360.1	352.9	7.17	50.195			
2,000.0	1,954.6	1,960.4	1,958.4	7.7	3.7	-163.27	2.9	-108.1	382.9	375.3	7.56	50.651			
2,100.0	2,051.5	2,057.8	2,055.6	8.1	3.8	-163.53	4.8	-112.9	405.7	397.7	7.94	51.064			
2,200.0	2,148.4	2,155.1	2,152.8	8.6	4.0	-163.76	6.7	-117.8	428.5	420.2	8.33	51.439			
2,300.0	2,245.3	2,252.5	2,250.0	9.1	4.2	-163.97	8.6	-122.7	451.3	442.6	8.72	51.783			
2,400.0	2,342.2	2,349.8	2,347.3	9.5	4.4	-164.16	10.5	-127.6	474.2	465.1	9.10	52.098			
2,500.0	2,439.1	2,447.2	2,444.5	10.0	4.6	-164.33	12.4	-132.4	497.0	487.5	9.49	52.387			

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 31-10C
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 31-10C	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	-123.19	-49.2	-75.2	89.8						
100.0	100.0	100.0	100.0	0.1	0.1	-123.19	-49.2	-75.2	89.8	89.6	0.27	329.900			
200.0	200.0	200.0	200.0	0.3	0.3	-123.19	-49.2	-75.2	89.8	89.2	0.62	144.563 CC, ES			
300.0	300.0	300.0	300.0	0.5	0.5	-118.55	-49.2	-75.2	90.5	89.5	0.97	93.090			
400.0	399.8	395.5	395.5	0.7	0.7	-121.63	-50.4	-77.2	96.3	94.9	1.33	72.113			
500.0	499.1	494.5	494.4	1.0	0.8	-126.46	-52.7	-80.9	107.3	105.6	1.73	61.853			
600.0	597.6	592.6	592.4	1.3	1.0	-132.09	-55.0	-84.6	122.5	120.3	2.16	56.704			
700.0	695.1	689.6	689.3	1.7	1.2	-137.72	-57.3	-88.3	142.4	139.8	2.60	54.879 SF			
800.0	792.0	785.9	785.5	2.1	1.4	-142.85	-59.5	-92.0	165.7	162.7	3.01	55.095			
900.0	888.9	882.2	881.7	2.6	1.6	-146.72	-61.8	-95.6	190.0	186.6	3.40	55.799			
1,000.0	985.8	978.5	977.9	3.1	1.8	-149.72	-64.1	-99.2	214.9	211.1	3.79	56.689			
1,100.0	1,082.7	1,074.8	1,074.1	3.5	1.9	-152.09	-66.3	-102.9	240.2	236.0	4.17	57.622			
1,200.0	1,179.6	1,171.1	1,170.3	4.0	2.1	-154.01	-68.6	-106.5	265.9	261.3	4.54	58.534			
1,300.0	1,276.4	1,267.4	1,266.5	4.4	2.3	-155.60	-70.8	-110.2	291.8	286.8	4.91	59.397			
1,400.0	1,373.3	1,363.7	1,362.7	4.9	2.5	-156.92	-73.1	-113.8	317.8	312.5	5.28	60.200			
1,500.0	1,470.2	1,460.0	1,458.9	5.4	2.7	-158.05	-75.3	-117.5	344.0	338.4	5.65	60.941			
1,600.0	1,567.1	1,556.3	1,555.1	5.8	2.9	-159.02	-77.6	-121.1	370.3	364.3	6.01	61.623			
1,700.0	1,664.0	1,652.6	1,651.3	6.3	3.0	-159.86	-79.8	-124.8	396.7	390.3	6.37	62.249			
1,800.0	1,760.9	1,748.9	1,747.6	6.7	3.2	-160.59	-82.1	-128.4	423.2	416.4	6.74	62.824			
1,900.0	1,857.8	1,845.2	1,843.8	7.2	3.4	-161.24	-84.3	-132.0	449.7	442.6	7.10	63.353			
2,000.0	1,954.6	1,941.5	1,940.0	7.7	3.6	-161.81	-86.6	-135.7	476.2	468.8	7.46	63.840			

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 31-10C
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 31-10C	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft	
Survey Program: 0-MWD													Offset Well Error:		0.0 ft
Reference															
Offset				Semi Major Axis			Distance								
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning		
0.0	0.0	0.0	0.0	0.0	0.0	76.72	5.5	23.2	23.8						
100.0	100.0	100.0	100.0	0.1	0.1	76.72	5.5	23.2	23.8	23.5	0.27	87.447			
200.0	200.0	200.0	200.0	0.3	0.3	76.72	5.5	23.2	23.8	23.2	0.62	38.320			
300.0	300.0	300.0	300.0	0.5	0.5	85.71	5.5	23.2	23.7	22.7	0.97	24.309			
336.3	336.3	336.3	336.3	0.6	0.5	90.00	5.5	23.2	23.6	22.5	1.11	21.236 CC, ES			
400.0	399.8	399.8	399.8	0.7	0.7	101.38	5.5	23.2	24.1	22.7	1.35	17.817			
500.0	499.1	498.0	497.9	1.0	0.8	120.94	6.3	25.5	30.5	28.8	1.75	17.406 SF			
600.0	597.6	595.4	595.0	1.3	1.0	132.02	8.7	32.6	45.6	43.4	2.19	20.856			
700.0	695.1	691.3	690.2	1.7	1.3	136.47	12.7	44.1	67.7	65.0	2.69	25.175			
800.0	792.0	785.9	783.3	2.1	1.6	137.40	18.2	59.9	94.3	91.0	3.27	28.813			
900.0	888.9	879.1	874.1	2.6	2.0	135.93	25.1	79.6	123.1	119.1	3.94	31.198			
1,000.0	985.8	970.6	962.1	3.1	2.4	133.52	33.2	103.1	154.2	149.5	4.68	32.921			
1,100.0	1,082.7	1,064.5	1,051.8	3.5	2.9	131.16	42.4	129.5	187.0	181.5	5.47	34.216			
1,200.0	1,179.6	1,158.8	1,141.8	4.0	3.4	129.50	51.6	156.0	220.0	213.8	6.25	35.199			
1,300.0	1,276.4	1,253.0	1,231.7	4.4	3.9	128.26	60.9	182.5	253.1	246.1	7.04	35.971			
1,400.0	1,373.3	1,347.2	1,321.7	4.9	4.4	127.32	70.1	209.1	286.3	278.5	7.82	36.592			
1,500.0	1,470.2	1,441.5	1,411.7	5.4	5.0	126.56	79.3	235.6	319.6	310.9	8.61	37.102			
1,600.0	1,567.1	1,535.7	1,501.6	5.8	5.5	125.95	88.5	262.1	352.8	343.4	9.40	37.528			
1,700.0	1,664.0	1,630.0	1,591.6	6.3	6.0	125.45	97.7	288.6	386.2	376.0	10.19	37.889			
1,800.0	1,760.9	1,724.2	1,681.5	6.7	6.5	125.03	106.9	315.1	419.5	408.5	10.98	38.199			
1,900.0	1,857.8	1,818.4	1,771.5	7.2	7.1	124.66	116.2	341.6	452.8	441.1	11.77	38.468			
2,000.0	1,954.6	1,912.7	1,861.5	7.7	7.6	124.35	125.4	368.2	486.2	473.7	12.56	38.703			

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 31-10C
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 31-10C	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	57.77	8.0	12.7	15.0					
100.0	100.0	100.0	100.0	0.1	0.1	57.77	8.0	12.7	15.0	14.8	0.27	55.214		
200.0	200.0	200.0	200.0	0.3	0.3	57.77	8.0	12.7	15.0	14.4	0.62	24.195		
300.0	300.0	300.0	300.0	0.5	0.5	68.46	8.0	12.7	14.4	13.5	0.97	14.835		
329.9	329.9	329.6	329.6	0.5	0.5	73.69	8.1	12.9	14.2	13.1	1.09	13.087 CC, ES		
400.0	399.8	399.1	399.0	0.7	0.7	90.60	9.2	15.0	15.8	14.5	1.35	11.691 SF		
500.0	499.1	497.6	497.2	1.0	0.9	110.76	12.9	21.7	24.6	22.8	1.79	13.753		
600.0	597.6	595.1	593.9	1.3	1.1	120.10	18.9	32.7	40.5	38.2	2.31	17.547		
700.0	695.1	691.2	688.5	1.7	1.5	123.84	27.0	47.8	62.3	59.4	2.93	21.268		
800.0	792.0	785.8	780.6	2.1	1.9	124.59	37.3	66.8	88.4	84.7	3.64	24.284		
900.0	888.9	879.0	870.2	2.6	2.4	122.99	49.5	89.3	116.9	112.5	4.43	26.410		
1,000.0	985.8	972.6	959.1	3.1	2.9	120.69	63.5	115.2	147.6	142.4	5.25	28.134		
1,100.0	1,082.7	1,067.6	1,049.1	3.5	3.4	119.05	77.9	141.7	178.8	172.7	6.08	29.392		
1,200.0	1,179.6	1,162.5	1,139.0	4.0	4.0	117.89	92.3	168.3	210.0	203.1	6.92	30.348		
1,300.0	1,276.4	1,257.4	1,229.0	4.4	4.5	117.04	106.7	194.9	241.3	233.5	7.76	31.096		
1,400.0	1,373.3	1,352.3	1,319.0	4.9	5.1	116.38	121.0	221.4	272.6	264.0	8.60	31.697		
1,500.0	1,470.2	1,447.3	1,409.0	5.4	5.7	115.85	135.4	248.0	304.0	294.5	9.44	32.189		
1,600.0	1,567.1	1,542.2	1,499.0	5.8	6.2	115.43	149.8	274.6	335.3	325.1	10.29	32.599		
1,700.0	1,664.0	1,637.1	1,589.0	6.3	6.8	115.08	164.2	301.1	366.7	355.6	11.13	32.946		
1,800.0	1,760.9	1,732.0	1,679.0	6.7	7.4	114.78	178.6	327.7	398.1	386.1	11.98	33.243		
1,900.0	1,857.8	1,827.0	1,769.0	7.2	7.9	114.52	193.0	354.3	429.5	416.7	12.82	33.501		
2,000.0	1,954.6	1,921.9	1,859.0	7.7	8.5	114.30	207.4	380.8	460.9	447.3	13.67	33.726		
2,100.0	2,051.5	2,016.8	1,949.0	8.1	9.1	114.11	221.7	407.4	492.3	477.8	14.51	33.925		

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 31-10C
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 31-10C	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	-171.18	-10.9	-1.7	11.1						
100.0	100.0	100.0	100.0	0.1	0.1	-171.18	-10.9	-1.7	11.1	10.8	0.27	40.597			
200.0	200.0	200.0	200.0	0.3	0.3	-171.18	-10.9	-1.7	11.1	10.4	0.62	17.790 CC, ES			
300.0	300.0	300.0	300.0	0.5	0.5	-167.38	-10.9	-1.7	12.5	11.5	0.97	12.871 SF			
400.0	399.8	399.7	399.7	0.7	0.7	-176.09	-11.1	-0.2	19.1	17.7	1.32	14.459			
500.0	499.1	498.3	498.0	1.0	0.9	171.04	-11.7	6.1	32.4	30.7	1.68	19.275			
600.0	597.6	594.8	593.9	1.3	1.1	162.15	-12.9	17.2	53.7	51.6	2.09	25.663			
700.0	695.1	688.5	686.3	1.7	1.4	156.58	-14.5	32.6	82.8	80.3	2.57	32.268			
800.0	792.0	779.4	775.1	2.1	1.8	152.82	-16.5	51.8	117.4	114.3	3.11	37.691			
900.0	888.9	867.7	860.4	2.6	2.2	149.51	-18.8	74.5	155.0	151.3	3.71	41.793			
1,000.0	985.8	958.3	947.2	3.1	2.6	146.76	-21.5	100.4	194.9	190.5	4.34	44.933			
1,100.0	1,082.7	1,049.6	1,034.7	3.5	3.1	144.91	-24.3	126.6	235.0	230.0	4.97	47.270			
1,200.0	1,179.6	1,141.0	1,122.1	4.0	3.6	143.59	-27.0	152.8	275.3	269.7	5.61	49.074			
1,300.0	1,276.4	1,232.4	1,209.6	4.4	4.1	142.62	-29.7	178.9	315.7	309.4	6.25	50.505			
1,400.0	1,373.3	1,323.7	1,297.1	4.9	4.6	141.86	-32.4	205.1	356.1	349.2	6.89	51.667			
1,500.0	1,470.2	1,415.1	1,384.6	5.4	5.1	141.26	-35.2	231.3	396.6	389.1	7.54	52.628			
1,600.0	1,567.1	1,506.5	1,472.1	5.8	5.6	140.77	-37.9	257.5	437.1	428.9	8.18	53.436			
1,700.0	1,664.0	1,597.8	1,559.6	6.3	6.1	140.36	-40.6	283.7	477.6	468.8	8.82	54.123			

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 31-10C
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 31-10C	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	103.33	-2.5	10.7	11.0						
100.0	100.0	100.0	100.0	0.1	0.1	103.33	-2.5	10.7	11.0	10.8	0.27	40.534			
200.0	200.0	200.0	200.0	0.3	0.3	103.33	-2.5	10.7	11.0	10.4	0.62	17.762	CC		
200.0	200.0	200.0	200.0	0.3	0.3	103.33	-2.5	10.7	11.0	10.4	0.62	17.761	ES		
300.0	300.0	300.0	300.0	0.5	0.5	115.67	-2.5	10.7	11.6	10.6	0.97	11.922	SF		
400.0	399.8	399.1	399.1	0.7	0.7	131.38	-2.3	13.3	17.4	16.1	1.34	13.033			
500.0	499.1	497.2	496.9	1.0	0.9	137.90	-1.6	20.9	31.3	29.5	1.74	17.989			
600.0	597.6	593.6	592.4	1.3	1.1	139.50	-0.5	33.2	52.4	50.2	2.20	23.846			
700.0	695.1	687.5	684.8	1.7	1.5	139.50	0.9	49.8	80.5	77.8	2.74	29.427			
800.0	792.0	778.9	773.9	2.1	1.8	138.83	2.8	70.2	113.6	110.2	3.34	33.981			
900.0	888.9	870.3	862.0	2.6	2.3	137.24	4.9	94.4	149.2	145.2	3.99	37.404			
1,000.0	985.8	963.4	951.6	3.1	2.7	136.10	7.2	119.7	185.4	180.7	4.66	39.782			
1,100.0	1,082.7	1,056.6	1,041.3	3.5	3.2	135.33	9.4	145.0	221.6	216.2	5.34	41.515			
1,200.0	1,179.6	1,149.8	1,131.0	4.0	3.7	134.77	11.7	170.2	257.8	251.8	6.02	42.826			
1,300.0	1,276.4	1,243.0	1,220.6	4.4	4.2	134.35	13.9	195.5	294.0	287.3	6.71	43.849			
1,400.0	1,373.3	1,336.2	1,310.3	4.9	4.6	134.03	16.2	220.8	330.3	322.9	7.39	44.669			
1,500.0	1,470.2	1,429.4	1,400.0	5.4	5.1	133.76	18.4	246.1	366.5	358.5	8.08	45.340			
1,600.0	1,567.1	1,522.6	1,489.6	5.8	5.6	133.55	20.7	271.3	402.8	394.0	8.78	45.898			
1,700.0	1,664.0	1,615.7	1,579.3	6.3	6.1	133.37	22.9	296.6	439.1	429.6	9.47	46.369			
1,800.0	1,760.9	1,708.9	1,668.9	6.7	6.6	133.22	25.2	321.9	475.3	465.2	10.16	46.773			

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 31-10C
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 31-10C	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				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	56.89	16.4	25.2	30.0					
100.0	100.0	100.0	100.0	0.1	0.1	56.89	16.4	25.2	30.0	29.8	0.27	110.277		
200.0	200.0	200.0	200.0	0.3	0.3	56.89	16.4	25.2	30.0	29.4	0.62	48.324 CC, ES		
300.0	300.0	298.4	298.3	0.5	0.5	64.36	17.9	27.2	31.9	31.0	0.97	32.928		
400.0	399.8	396.4	396.0	0.7	0.7	72.13	22.3	33.3	37.2	35.8	1.35	27.602		
500.0	499.1	493.6	492.5	1.0	1.0	81.88	29.7	43.3	46.8	45.0	1.80	25.987		
600.0	597.6	589.8	587.1	1.3	1.3	90.40	39.8	57.2	61.6	59.3	2.38	25.905 SF		
700.0	695.1	684.5	679.3	1.7	1.7	96.71	52.4	74.5	81.9	78.8	3.10	26.381		
800.0	792.0	777.7	768.9	2.1	2.2	100.54	67.5	95.2	106.8	102.9	3.90	27.407		
900.0	888.9	870.4	856.8	2.6	2.8	101.56	85.0	119.1	135.2	130.5	4.72	28.667		
1,000.0	985.8	966.0	946.9	3.1	3.4	101.92	103.8	144.8	164.7	159.1	5.57	29.581		
1,100.0	1,082.7	1,061.5	1,037.0	3.5	3.9	102.16	122.5	170.5	194.1	187.6	6.42	30.210		
1,200.0	1,179.6	1,157.1	1,127.1	4.0	4.5	102.34	141.3	196.1	223.5	216.2	7.29	30.664		
1,300.0	1,276.4	1,252.7	1,217.3	4.4	5.1	102.48	160.0	221.8	252.9	244.8	8.16	31.005		
1,400.0	1,373.3	1,348.3	1,307.4	4.9	5.7	102.59	178.8	247.5	282.3	273.3	9.03	31.270		
1,500.0	1,470.2	1,443.8	1,397.5	5.4	6.3	102.68	197.6	273.2	311.8	301.9	9.90	31.482		
1,600.0	1,567.1	1,539.4	1,487.6	5.8	6.9	102.75	216.3	298.9	341.2	330.4	10.78	31.654		
1,700.0	1,664.0	1,635.0	1,577.8	6.3	7.5	102.82	235.1	324.5	370.6	359.0	11.66	31.796		
1,800.0	1,760.9	1,730.5	1,667.9	6.7	8.1	102.87	253.8	350.2	400.1	387.5	12.53	31.916		
1,900.0	1,857.8	1,826.1	1,758.0	7.2	8.7	102.91	272.6	375.9	429.5	416.1	13.41	32.019		
2,000.0	1,954.6	1,921.7	1,848.1	7.7	9.3	102.95	291.4	401.6	458.9	444.6	14.29	32.107		
2,100.0	2,051.5	2,017.3	1,938.3	8.1	9.9	102.99	310.1	427.3	488.3	473.2	15.17	32.184		

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 31-10C
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 31-10C	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	-142.73	-18.9	-14.4	23.8						
100.0	100.0	100.0	100.0	0.1	0.1	-142.73	-18.9	-14.4	23.8	23.5	0.27	87.413			
200.0	200.0	200.0	200.0	0.3	0.3	-142.73	-18.9	-14.4	23.8	23.2	0.62	38.305 CC, ES			
300.0	300.0	300.0	300.0	0.5	0.5	-139.56	-18.9	-14.4	24.9	23.9	0.97	25.639			
400.0	399.8	399.9	399.9	0.7	0.7	-148.78	-19.1	-13.8	30.1	28.7	1.33	22.663 SF			
500.0	499.1	498.9	498.7	1.0	0.8	-164.56	-20.5	-8.8	40.8	39.1	1.68	24.254			
600.0	597.6	595.6	595.0	1.3	1.1	-178.57	-23.2	0.8	60.0	57.9	2.05	29.245			
700.0	695.1	689.2	687.5	1.7	1.3	171.84	-27.1	14.5	88.3	85.8	2.46	35.883			
800.0	792.0	779.7	776.0	2.1	1.7	165.49	-32.1	31.9	123.0	120.0	2.94	41.779			
900.0	888.9	867.3	861.0	2.6	2.1	160.74	-38.0	52.6	161.2	157.7	3.48	46.351			
1,000.0	985.8	953.1	943.1	3.1	2.5	156.92	-44.7	76.4	202.8	198.8	4.04	50.233			
1,100.0	1,082.7	1,042.7	1,028.5	3.5	3.0	154.01	-52.1	102.5	246.0	241.4	4.63	53.140			
1,200.0	1,179.6	1,132.3	1,113.9	4.0	3.5	151.97	-59.6	128.6	289.6	284.3	5.22	55.444			
1,300.0	1,276.4	1,221.9	1,199.3	4.4	4.0	150.45	-67.0	154.8	333.3	327.5	5.82	57.299			
1,400.0	1,373.3	1,311.5	1,284.7	4.9	4.5	149.29	-74.4	180.9	377.3	370.9	6.41	58.825			
1,500.0	1,470.2	1,401.1	1,370.0	5.4	5.0	148.37	-81.8	207.0	421.3	414.3	7.01	60.101			
1,600.0	1,567.1	1,490.7	1,455.4	5.8	5.5	147.62	-89.3	233.2	465.4	457.8	7.61	61.181			

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 31-10C
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 31-10C	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	-135.49	-27.3	-26.8	38.3						
100.0	100.0	100.0	100.0	0.1	0.1	-135.49	-27.3	-26.8	38.3	38.0	0.27	140.661			
200.0	200.0	200.0	200.0	0.3	0.3	-135.49	-27.3	-26.8	38.3	37.7	0.62	61.638	CC, ES		
300.0	300.0	300.0	300.0	0.5	0.5	-131.67	-27.3	-26.8	39.3	38.3	0.97	40.406			
400.0	399.8	400.1	400.1	0.7	0.7	-139.88	-27.9	-25.5	43.6	42.2	1.33	32.665			
500.0	499.1	499.0	498.7	1.0	0.9	-154.86	-30.4	-19.6	53.1	51.4	1.71	31.099	SF		
600.0	597.6	595.3	594.4	1.3	1.1	-169.62	-34.8	-9.3	71.6	69.5	2.09	34.313			
700.0	695.1	688.0	685.8	1.7	1.4	179.45	-40.8	4.8	100.3	97.8	2.48	40.382			
800.0	792.0	777.1	772.9	2.1	1.8	172.02	-48.2	22.2	136.1	133.1	2.94	46.359			
900.0	888.9	863.3	856.2	2.6	2.2	166.66	-56.8	42.5	175.9	172.5	3.43	51.279			
1,000.0	985.8	946.2	935.3	3.1	2.6	162.54	-66.6	65.3	219.6	215.6	3.95	55.611			
1,100.0	1,082.7	1,033.0	1,017.4	3.5	3.1	159.22	-77.6	91.2	265.7	261.2	4.50	59.039			
1,200.0	1,179.6	1,120.7	1,100.4	4.0	3.6	156.83	-88.8	117.5	312.5	307.4	5.06	61.752			
1,300.0	1,276.4	1,208.5	1,183.3	4.4	4.2	155.06	-100.0	143.8	359.5	353.9	5.62	63.960			
1,400.0	1,373.3	1,296.3	1,266.3	4.9	4.7	153.70	-111.2	170.1	406.8	400.6	6.18	65.789			
1,500.0	1,470.2	1,384.0	1,349.3	5.4	5.2	152.62	-122.4	196.4	454.2	447.4	6.75	67.327			

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 31-10C
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 31-10C	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	-131.76	-35.3	-39.6	53.0						
100.0	100.0	100.0	100.0	0.1	0.1	-131.76	-35.3	-39.6	53.0	52.8	0.27	194.804			
200.0	200.0	200.0	200.0	0.3	0.3	-131.76	-35.3	-39.6	53.0	52.4	0.62	85.364	CC, ES		
300.0	300.0	300.0	300.0	0.5	0.5	-127.55	-35.3	-39.6	53.9	53.0	0.97	55.483			
400.0	399.8	400.0	399.9	0.7	0.7	-135.15	-36.9	-37.4	57.9	56.6	1.34	43.201			
500.0	499.1	498.2	497.8	1.0	0.9	-148.52	-41.3	-31.2	67.7	66.0	1.73	39.031	SF		
600.0	597.6	593.3	592.1	1.3	1.1	-162.16	-48.5	-21.3	87.0	84.9	2.13	40.877			
700.0	695.1	684.3	681.7	1.7	1.4	-172.79	-57.8	-8.3	117.1	114.6	2.51	46.697			
800.0	792.0	771.2	766.5	2.1	1.8	179.68	-69.1	7.4	155.1	152.2	2.91	53.286			
900.0	888.9	854.8	847.1	2.6	2.2	174.33	-82.1	25.4	197.7	194.3	3.34	59.233			
1,000.0	985.8	935.0	923.4	3.1	2.7	170.31	-96.4	45.3	244.2	240.4	3.78	64.589			
1,100.0	1,082.7	1,011.6	995.3	3.5	3.2	167.17	-111.9	66.8	294.4	290.2	4.23	69.559			
1,200.0	1,179.6	1,094.3	1,072.1	4.0	3.7	164.48	-129.7	91.5	347.0	342.3	4.72	73.587			
1,300.0	1,276.4	1,178.3	1,150.2	4.4	4.3	162.44	-147.9	116.7	400.0	394.8	5.21	76.841			
1,400.0	1,373.3	1,262.3	1,228.3	4.9	4.9	160.88	-166.0	141.9	453.3	447.6	5.70	79.572			

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 31-10C
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 31-10C	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	-130.05	-43.7	-52.0	67.9						
100.0	100.0	100.0	100.0	0.1	0.1	-130.05	-43.7	-52.0	67.9	67.7	0.27	249.485			
200.0	200.0	200.0	200.0	0.3	0.3	-130.05	-43.7	-52.0	67.9	67.3	0.62	109.325 CC, ES			
300.0	300.0	300.1	300.1	0.5	0.5	-125.73	-43.8	-51.9	68.8	67.8	0.97	70.715			
400.0	399.8	399.9	399.8	0.7	0.7	-132.90	-46.4	-48.9	72.6	71.3	1.35	53.949			
500.0	499.1	497.6	497.1	1.0	0.9	-144.84	-52.3	-42.3	82.5	80.8	1.76	46.966			
600.0	597.6	591.9	590.4	1.3	1.2	-157.41	-61.0	-32.3	102.0	99.8	2.17	46.956 SF			
700.0	695.1	681.8	678.7	1.7	1.5	-167.71	-72.2	-19.6	132.4	129.9	2.56	51.741			
800.0	792.0	767.5	762.0	2.1	1.9	-175.36	-85.4	-4.5	171.2	168.2	2.95	58.040			
900.0	888.9	849.6	841.0	2.6	2.3	179.13	-100.3	12.5	214.7	211.4	3.35	64.135			
1,000.0	985.8	928.2	915.6	3.1	2.8	174.98	-116.7	31.2	262.5	258.7	3.76	69.858			
1,100.0	1,082.7	1,003.2	985.7	3.5	3.3	171.75	-134.2	51.1	314.0	309.8	4.17	75.240			
1,200.0	1,179.6	1,078.5	1,055.1	4.0	3.8	169.06	-153.5	73.1	368.8	364.2	4.61	80.081			
1,300.0	1,276.4	1,160.4	1,130.3	4.4	4.4	166.79	-174.8	97.4	424.7	419.6	5.06	83.911			
1,400.0	1,373.3	1,242.2	1,205.5	4.9	5.0	165.04	-196.2	121.7	481.0	475.4	5.52	87.154			

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Shideler Fee 31-10C
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 31-10C	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	-128.63	-51.7	-64.7	82.8						
100.0	100.0	100.0	100.0	0.1	0.1	-128.63	-51.7	-64.7	82.8	82.6	0.27	304.258			
200.0	200.0	200.0	200.0	0.3	0.3	-128.63	-51.7	-64.7	82.8	82.2	0.62	133.327	CC, ES		
300.0	300.0	300.2	300.2	0.5	0.5	-124.46	-52.2	-64.3	83.6	82.6	0.97	85.925			
400.0	399.8	399.6	399.5	0.7	0.7	-131.28	-55.9	-60.6	87.5	86.2	1.36	64.579			
500.0	499.1	496.8	496.1	1.0	0.9	-142.13	-63.1	-53.5	97.6	95.8	1.78	54.726			
600.0	597.6	590.4	588.6	1.3	1.2	-153.71	-73.3	-43.5	117.2	115.0	2.22	52.812	SF		
700.0	695.1	679.3	675.7	1.7	1.5	-163.56	-85.9	-31.0	148.0	145.3	2.62	56.410			
800.0	792.0	763.7	757.6	2.1	1.9	-171.20	-100.7	-16.5	187.2	184.2	3.01	62.209			
900.0	888.9	844.6	835.1	2.6	2.4	-176.81	-117.1	-0.3	231.5	228.1	3.39	68.248			
1,000.0	985.8	921.9	908.1	3.1	2.8	178.95	-135.1	17.3	280.2	276.4	3.78	74.170			
1,100.0	1,082.7	1,000.0	980.9	3.5	3.4	175.45	-155.3	37.3	332.7	328.5	4.18	79.595			
1,200.0	1,179.6	1,065.5	1,041.0	4.0	3.9	172.98	-173.9	55.6	388.6	384.0	4.57	85.106			
1,300.0	1,276.4	1,141.1	1,109.4	4.4	4.5	170.60	-196.7	78.0	447.1	442.1	4.98	89.758			

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Shideler Fee 31-10C
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 31-10C	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	-127.92	-60.1	-77.1	97.8						
100.0	100.0	100.0	100.0	0.1	0.1	-127.92	-60.1	-77.1	97.8	97.5	0.27	359.170			
200.0	200.0	200.0	200.0	0.3	0.3	-127.92	-60.1	-77.1	97.8	97.2	0.62	157.389	CC, ES		
300.0	300.0	299.9	299.9	0.5	0.5	-124.02	-61.3	-76.3	98.6	97.7	0.97	101.193			
400.0	399.8	398.6	398.4	0.7	0.7	-130.46	-66.3	-72.3	103.2	101.8	1.37	75.483			
500.0	499.1	494.8	493.9	1.0	0.9	-140.16	-75.1	-65.5	114.3	112.5	1.81	63.192			
600.0	597.6	587.2	585.0	1.3	1.2	-150.48	-87.2	-56.2	135.1	132.8	2.26	59.788	SF		
700.0	695.1	674.6	670.5	1.7	1.6	-159.43	-101.8	-44.9	166.9	164.2	2.67	62.438			
800.0	792.0	757.5	750.6	2.1	2.0	-166.66	-118.4	-32.0	207.2	204.1	3.05	67.894			
900.0	888.9	836.6	826.2	2.6	2.4	-172.05	-136.9	-17.8	252.7	249.3	3.41	74.027			
1,000.0	985.8	912.1	897.3	3.1	2.9	-176.18	-156.8	-2.4	302.6	298.9	3.77	80.331			
1,100.0	1,082.7	983.9	964.1	3.5	3.4	-179.40	-177.8	13.9	356.4	352.3	4.12	86.441			
1,200.0	1,179.6	1,052.1	1,026.5	4.0	3.9	178.01	-199.6	30.7	413.7	409.2	4.48	92.318			
1,300.0	1,276.4	1,116.9	1,084.8	4.4	4.5	175.90	-221.9	47.9	474.0	469.2	4.83	98.095			

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Shideler Fee 31-10C
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 31-10C	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

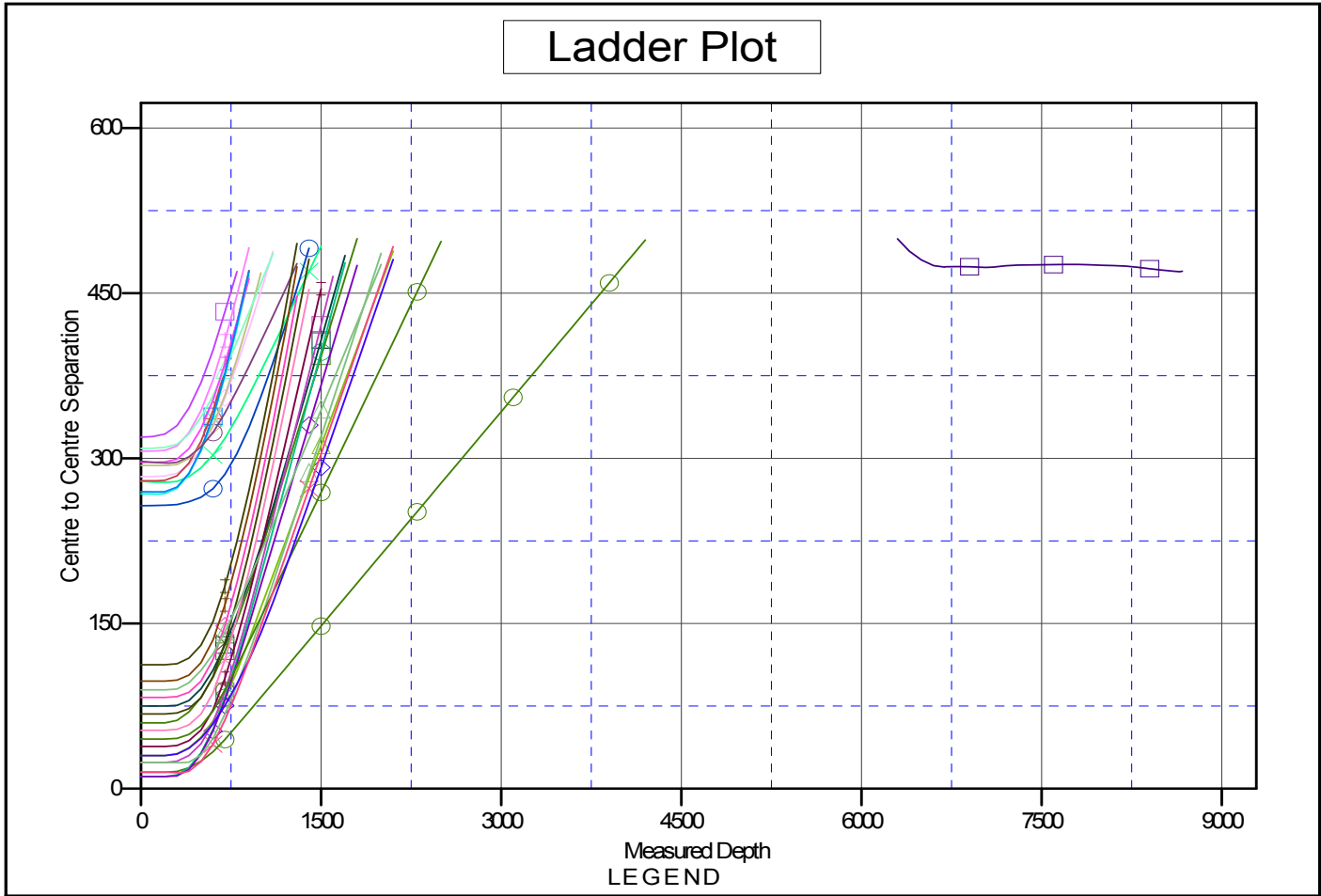
Offset Design													Offset Site Error:	0.0 ft	
Survey Program: 0-MWD													Offset Well Error:		0.0 ft
Reference															
Offset				Semi Major Axis			Distance								
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	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	-127.24	-68.1	-89.6	112.5						
100.0	100.0	100.0	100.0	0.1	0.1	-127.24	-68.1	-89.6	112.5	112.3	0.27	413.313			
200.0	200.0	200.0	200.0	0.3	0.3	-127.24	-68.1	-89.6	112.5	111.9	0.62	181.115 CC, ES			
300.0	300.0	299.5	299.5	0.5	0.5	-123.71	-70.2	-88.1	113.5	112.5	0.98	115.850			
400.0	399.8	397.7	397.4	0.7	0.7	-129.86	-76.5	-83.8	118.5	117.1	1.39	85.542			
500.0	499.1	493.2	492.0	1.0	1.0	-138.76	-86.6	-76.9	130.3	128.5	1.84	70.665			
600.0	597.6	584.6	582.0	1.3	1.3	-148.23	-99.9	-67.8	151.7	149.4	2.31	65.626 SF			
700.0	695.1	671.0	666.2	1.7	1.7	-156.60	-115.8	-56.9	184.0	181.2	2.74	67.136			
800.0	792.0	752.6	745.0	2.1	2.1	-163.58	-133.6	-44.7	224.8	221.7	3.12	71.949			
900.0	888.9	830.6	819.2	2.6	2.5	-168.89	-153.2	-31.3	271.0	267.5	3.48	77.795			
1,000.0	985.8	900.0	884.4	3.1	3.0	-172.75	-172.8	-17.9	321.6	317.8	3.81	84.328			
1,100.0	1,082.7	975.3	954.2	3.5	3.5	-176.23	-196.2	-1.8	376.1	371.9	4.17	90.215			
1,200.0	1,179.6	1,042.3	1,015.3	4.0	4.0	-178.83	-218.9	13.7	434.1	429.6	4.51	96.321			
1,300.0	1,276.4	1,100.0	1,067.1	4.4	4.5	179.23	-239.8	28.1	495.2	490.4	4.82	102.721			

Cathedral Energy Services

Anticollision Report

Company: EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference: Well Shideler Fee 31-10C	
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 31-10C	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) Coordinates are relative to: Shideler Fee 31-10C
 Offset Depths are relative to Offset Datum Coordinate System is US State Plane 1983, Colorado Central Zone
 Central Meridian is -105.500000 ° Grid Convergence at Surface is: -1.39°



- | | | |
|--|--|--------------------------------------|
| Shideler Fee 6-3DD, DD, DD V0 | Shideler Federal 6-3-EX, Existing, Existing V0 | Shideler Fee 31-16DD, OH, Plan #1 V0 |
| Shideler Fee 6-3AA, DD, FINAL V0 | Shideler Fee 31-11A, DD, DD V0 | Shideler Fee 6-1D, OH, Plan #1 V0 |
| Shideler Fee 31-13C, OH, FINAL V0 | Shideler Fee 31-9D, OH, Plan #1 V0 | Shideler Fee 6-1AA, OH, Plan #1 V0 |
| Shideler Fee 31-13CC, OH, FINAL V0 | Shideler Fee 31-13B, OH, Plan #1 V0 | Shideler Fee 6-1DD, OH, Plan #1 V0 |
| Shideler 31-15-EX, Existing, Existing V0 | Shideler Fee 6-8AA, OH, Plan #1 V0 | Shideler Fee 31-16A, OH, Plan #1 V0 |
| Shideler Fee 6-6D, DD, DD V0 | Shideler Fee 31-13BB, OH, Plan #1 V0 | Shideler Fee 31-14D, OH, Plan #1 V0 |
| Shideler Fee 6-6A, DD, FINAL V0 | Shideler Fee 31-11C, OH, Plan #1 V0 | Shideler Fee 31-12B, OH, Plan #1 V0 |
| Shideler Fee 6-7D, DD, DD V0 | Shideler Fee 6-8A, OH, Plan #1 V0 | Shideler Fee 31-16AA, OH, Plan #1 V0 |
| Shideler Fee 6-3A, DD, FINAL V0 | Shideler Fee 6-8D, OH, Plan #1 V0 | Shideler Fee 31-14DD, OH, Plan #1 V0 |
| Shideler Fee 6-3D, DD, DD V0 | Shideler Fee 6-1A, OH, Plan #1 V0 | |

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