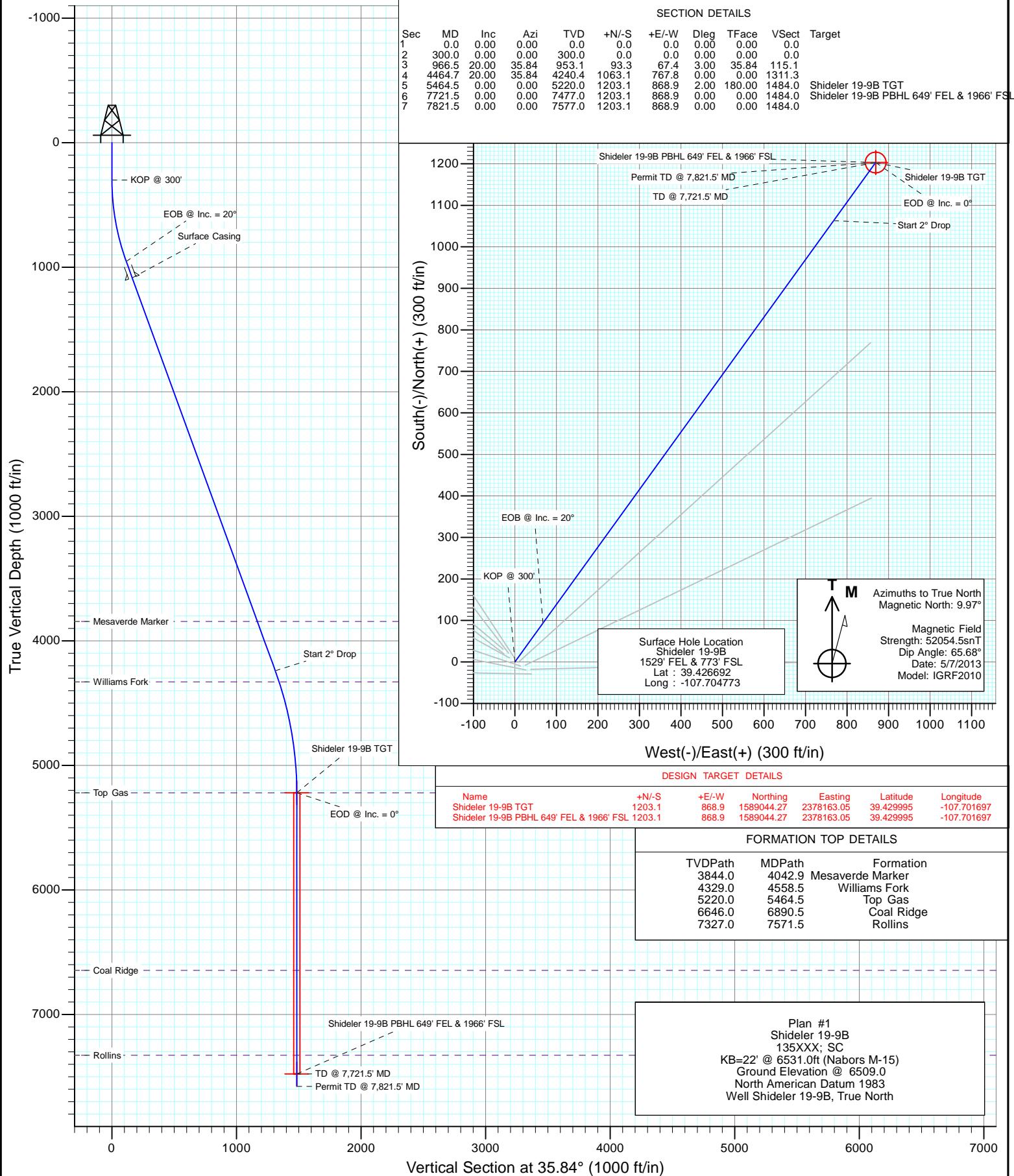
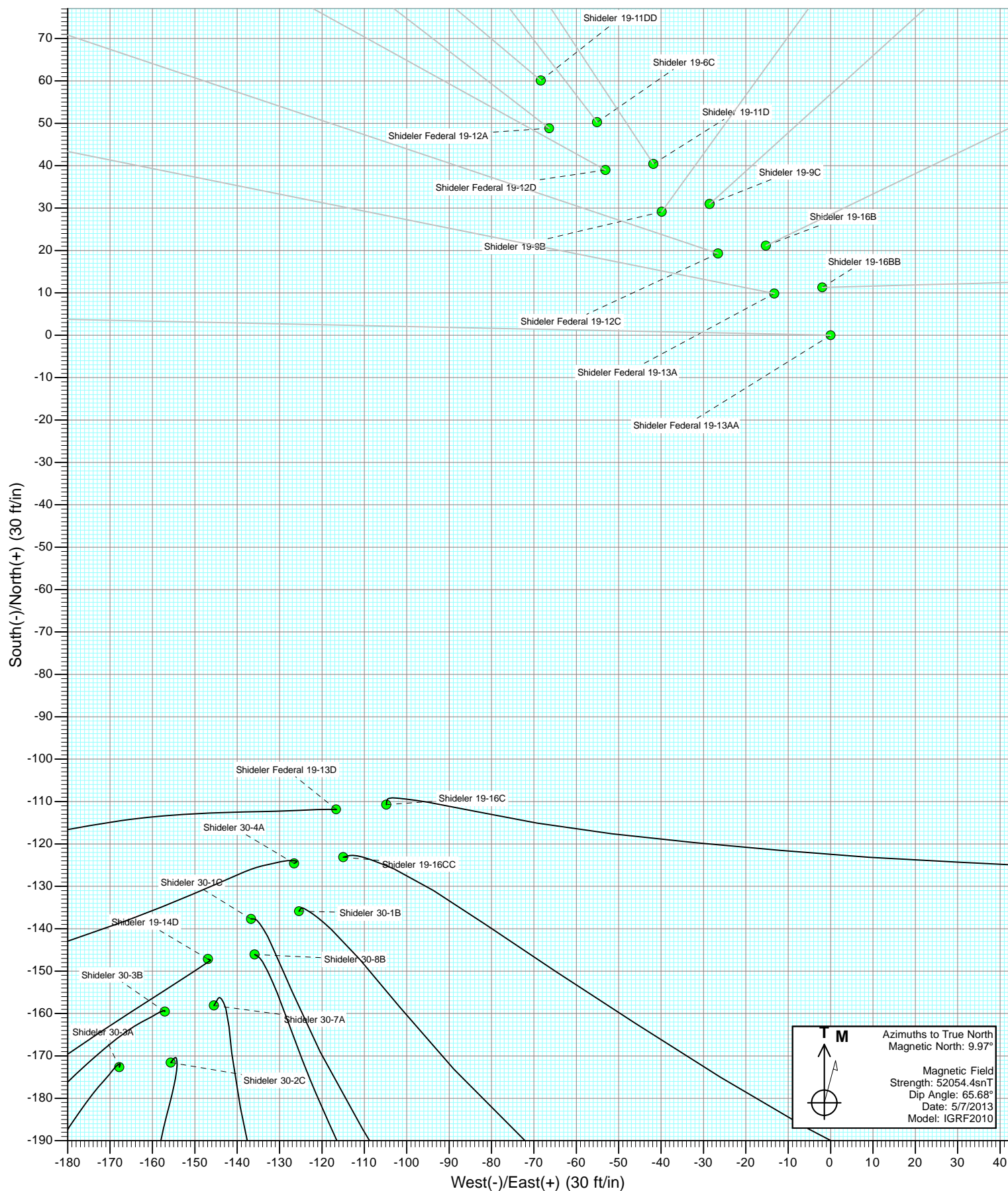
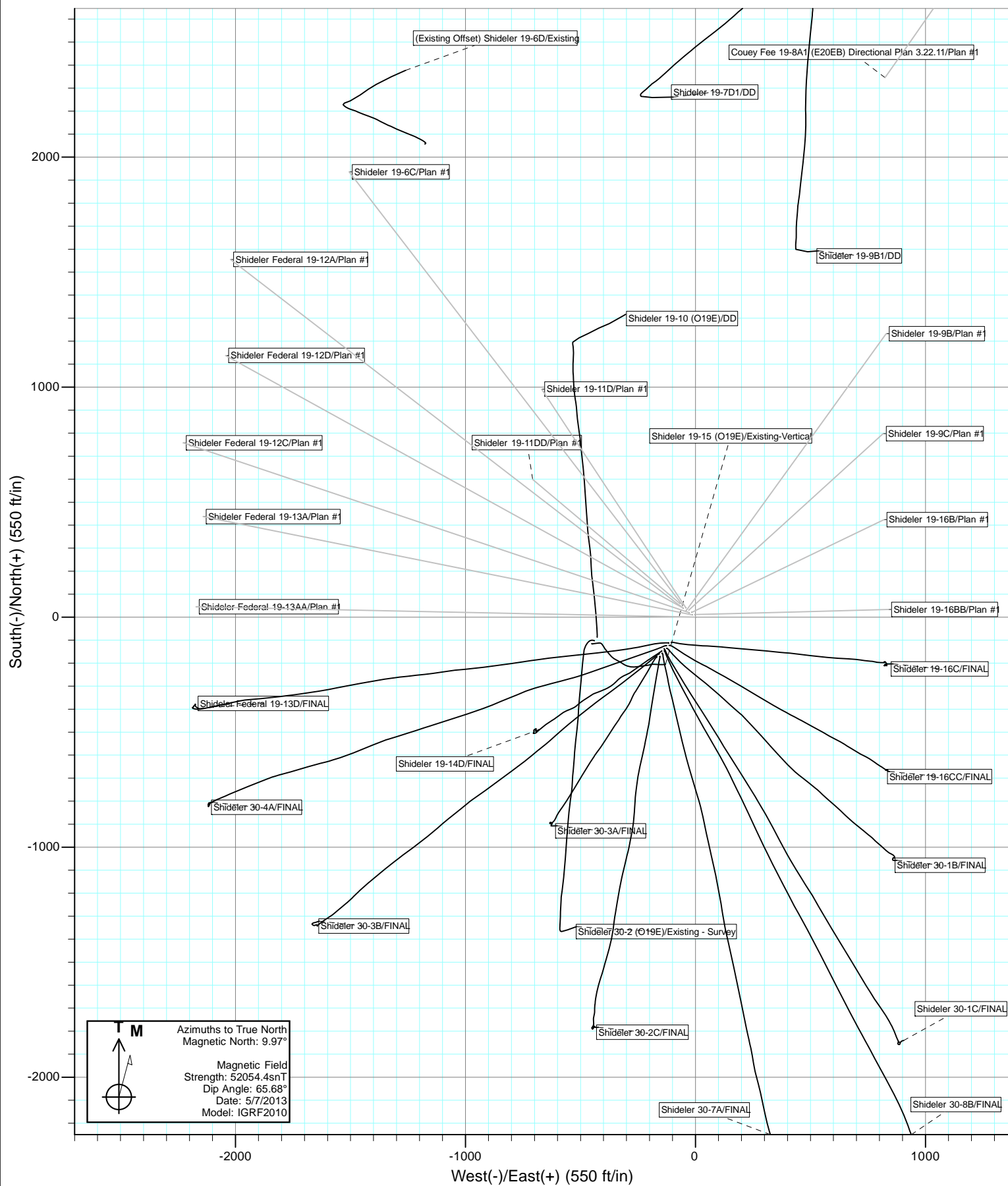




Project: Mamm Creek
Site: O19EB Pad (2nd Occupation)
Well: Shideler 19-9B
Wellbore: OH
Design: Plan #1

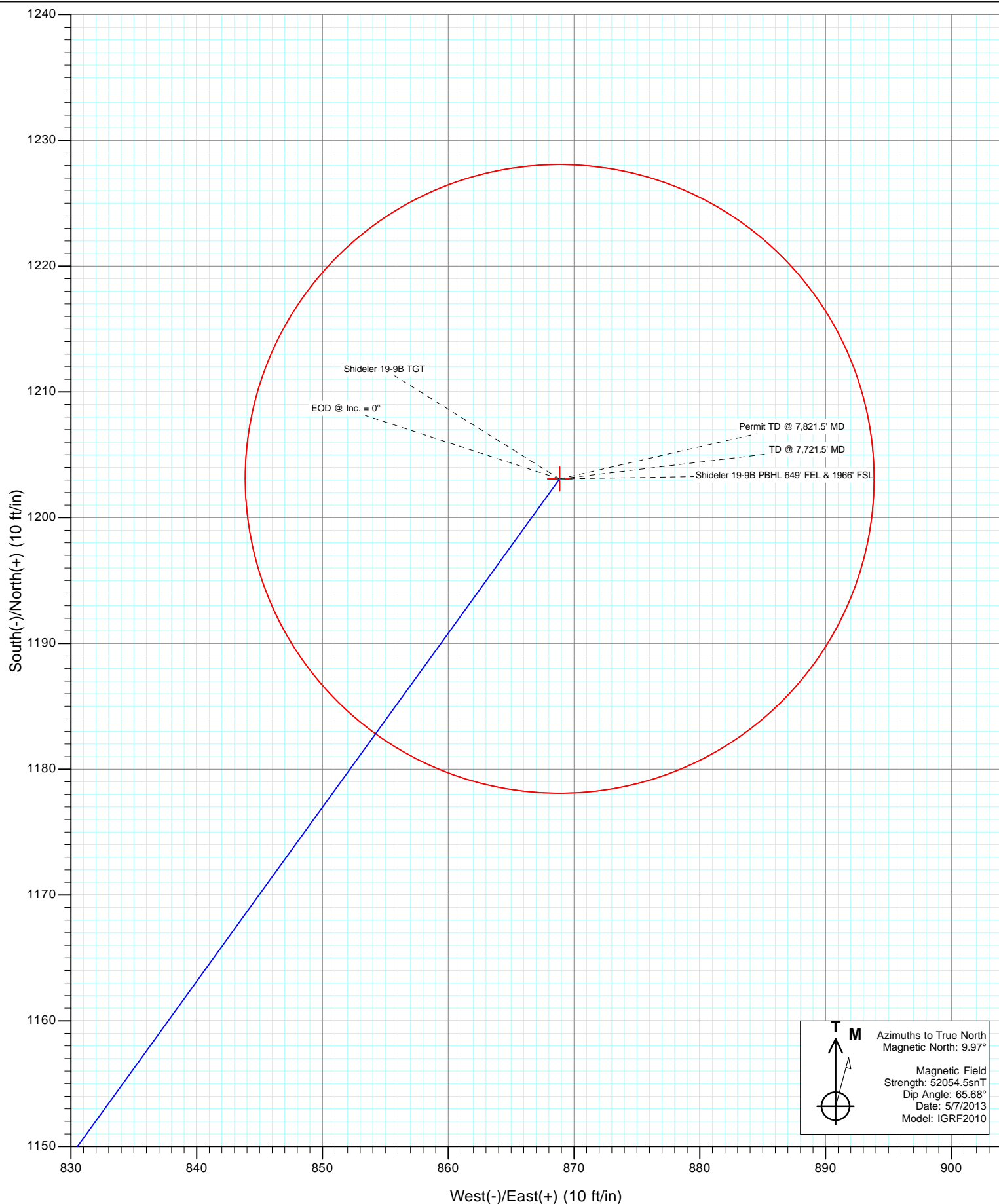








Project: Mamm Creek
Site: O19EB Pad (2nd Occupation)
Well: Shideler 19-9B
Wellbore: OH
Design: Plan #1



Cathedral Energy Services

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well Shideler 19-9B
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	KB=22' @ 6531.0ft (Nabors M-15)
Project:	Mamm Creek	MD Reference:	KB=22' @ 6531.0ft (Nabors M-15)
Site:	O19EB Pad (2nd Occupation)	North Reference:	True
Well:	Shideler 19-9B	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		O19EB Pad (2nd Occupation)			
Site Position:		Northing:	1,587,894.27 ft	Latitude:	39.426777
From:	Lat/Long	Easting:	2,377,237.48 ft	Longitude:	-107.704874
Position Uncertainty:	0.0 ft	Slot Radius:	13.200 in	Grid Convergence:	-1.39 °

Well	Shideler 19-9B					
Well Position	+N/-S	0.0 ft	Northing:	1,587,862.62 ft	Latitude:	39.426692
	+E/-W	0.0 ft	Easting:	2,377,265.25 ft	Longitude:	-107.704773
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	6,509.0 ft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	5/7/2013	9.97	65.68	52,054

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	35.84

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
300.0	0.00	0.00	300.0	0.0	0.0	0.00	0.00	0.00	0.00	
966.5	20.00	35.84	953.1	93.3	67.4	3.00	3.00	0.00	35.84	
4,464.7	20.00	35.84	4,240.4	1,063.1	767.8	0.00	0.00	0.00	0.00	
5,464.5	0.00	0.00	5,220.0	1,203.1	868.9	2.00	-2.00	0.00	180.00	Shideler 19-9B TGT
7,721.5	0.00	0.00	7,477.0	1,203.1	868.9	0.00	0.00	0.00	0.00	Shideler 19-9B PBHL
7,821.5	0.00	0.00	7,577.0	1,203.1	868.9	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 19-9B
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	KB=22' @ 6531.0ft (Nabors M-15)
Project:	Mamm Creek	MD Reference:	KB=22' @ 6531.0ft (Nabors M-15)
Site:	O19EB Pad (2nd Occupation)	North Reference:	True
Well:	Shideler 19-9B	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Comments / Formations
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	KOP @ 300'
400.0	3.00	35.84	400.0	2.1	1.5	2.6	3.00	3.00	
500.0	6.00	35.84	499.6	8.5	6.1	10.5	3.00	3.00	
600.0	9.00	35.84	598.8	19.1	13.8	23.5	3.00	3.00	
700.0	12.00	35.84	697.1	33.8	24.4	41.7	3.00	3.00	
800.0	15.00	35.84	794.3	52.8	38.1	65.1	3.00	3.00	
900.0	18.00	35.84	890.2	75.8	54.7	93.5	3.00	3.00	
966.5	20.00	35.84	953.1	93.3	67.4	115.1	3.00	3.00	EOB @ Inc. = 20°
1,000.0	20.00	35.84	984.5	102.6	74.1	126.6	0.00	0.00	
1,100.0	20.00	35.84	1,078.5	130.3	94.1	160.8	0.00	0.00	
1,106.9	20.00	35.84	1,085.0	132.3	95.5	163.1	0.00	0.00	Surface Casing
1,200.0	20.00	35.84	1,172.5	158.1	114.1	195.0	0.00	0.00	
1,300.0	20.00	35.84	1,266.4	185.8	134.2	229.2	0.00	0.00	
1,400.0	20.00	35.84	1,360.4	213.5	154.2	263.4	0.00	0.00	
1,500.0	20.00	35.84	1,454.4	241.2	174.2	297.6	0.00	0.00	
1,600.0	20.00	35.84	1,548.4	268.9	194.2	331.7	0.00	0.00	
1,700.0	20.00	35.84	1,642.3	296.7	214.3	365.9	0.00	0.00	
1,800.0	20.00	35.84	1,736.3	324.4	234.3	400.1	0.00	0.00	
1,900.0	20.00	35.84	1,830.3	352.1	254.3	434.3	0.00	0.00	
2,000.0	20.00	35.84	1,924.3	379.8	274.3	468.5	0.00	0.00	
2,100.0	20.00	35.84	2,018.2	407.6	294.3	502.7	0.00	0.00	
2,200.0	20.00	35.84	2,112.2	435.3	314.4	536.9	0.00	0.00	
2,300.0	20.00	35.84	2,206.2	463.0	334.4	571.1	0.00	0.00	
2,400.0	20.00	35.84	2,300.1	490.7	354.4	605.3	0.00	0.00	
2,500.0	20.00	35.84	2,394.1	518.4	374.4	639.5	0.00	0.00	
2,600.0	20.00	35.84	2,488.1	546.2	394.4	673.7	0.00	0.00	
2,700.0	20.00	35.84	2,582.1	573.9	414.5	707.9	0.00	0.00	
2,800.0	20.00	35.84	2,676.0	601.6	434.5	742.1	0.00	0.00	
2,900.0	20.00	35.84	2,770.0	629.3	454.5	776.3	0.00	0.00	
3,000.0	20.00	35.84	2,864.0	657.0	474.5	810.5	0.00	0.00	
3,100.0	20.00	35.84	2,957.9	684.8	494.5	844.7	0.00	0.00	
3,200.0	20.00	35.84	3,051.9	712.5	514.6	878.9	0.00	0.00	
3,300.0	20.00	35.84	3,145.9	740.2	534.6	913.1	0.00	0.00	
3,400.0	20.00	35.84	3,239.9	767.9	554.6	947.3	0.00	0.00	
3,500.0	20.00	35.84	3,333.8	795.7	574.6	981.5	0.00	0.00	
3,600.0	20.00	35.84	3,427.8	823.4	594.6	1,015.6	0.00	0.00	
3,700.0	20.00	35.84	3,521.8	851.1	614.7	1,049.8	0.00	0.00	
3,800.0	20.00	35.84	3,615.7	878.8	634.7	1,084.0	0.00	0.00	
3,900.0	20.00	35.84	3,709.7	906.5	654.7	1,118.2	0.00	0.00	
4,000.0	20.00	35.84	3,803.7	934.3	674.7	1,152.4	0.00	0.00	
4,042.9	20.00	35.84	3,844.0	946.2	683.3	1,167.1	0.00	0.00	Mesaverde Marker
4,100.0	20.00	35.84	3,897.7	962.0	694.7	1,186.6	0.00	0.00	
4,200.0	20.00	35.84	3,991.6	989.7	714.8	1,220.8	0.00	0.00	
4,300.0	20.00	35.84	4,085.6	1,017.4	734.8	1,255.0	0.00	0.00	
4,400.0	20.00	35.84	4,179.6	1,045.1	754.8	1,289.2	0.00	0.00	
4,464.7	20.00	35.84	4,240.4	1,063.1	767.8	1,311.3	0.00	0.00	Start 2° Drop
4,500.0	19.29	35.84	4,273.6	1,072.7	774.7	1,323.2	2.00	-2.00	
4,558.5	18.12	35.84	4,329.0	1,087.9	785.7	1,341.9	2.00	-2.00	Williams Fork
4,600.0	17.29	35.84	4,368.6	1,098.1	793.1	1,354.6	2.00	-2.00	

Cathedral Energy Services

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well Shideler 19-9B
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	KB=22' @ 6531.0ft (Nabors M-15)
Project:	Mamm Creek	MD Reference:	KB=22' @ 6531.0ft (Nabors M-15)
Site:	O19EB Pad (2nd Occupation)	North Reference:	True
Well:	Shideler 19-9B	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Comments / Formations
4,700.0	15.29	35.84	4,464.5	1,120.9	809.5	1,382.6	2.00	-2.00	
4,800.0	13.29	35.84	4,561.4	1,140.9	823.9	1,407.3	2.00	-2.00	
4,900.0	11.29	35.84	4,659.1	1,158.1	836.4	1,428.6	2.00	-2.00	
5,000.0	9.29	35.84	4,757.5	1,172.6	846.9	1,446.5	2.00	-2.00	
5,100.0	7.29	35.84	4,856.5	1,184.3	855.3	1,460.9	2.00	-2.00	
5,200.0	5.29	35.84	4,955.9	1,193.2	861.7	1,471.8	2.00	-2.00	
5,300.0	3.29	35.84	5,055.6	1,199.3	866.1	1,479.3	2.00	-2.00	
5,400.0	1.29	35.84	5,155.5	1,202.5	868.4	1,483.3	2.00	-2.00	
5,464.5	0.00	0.00	5,220.0	1,203.1	868.9	1,484.0	2.00	-2.00	EOD @ Inc. = 0° - Top Gas
5,500.0	0.00	0.00	5,255.5	1,203.1	868.9	1,484.0	0.00	0.00	
5,600.0	0.00	0.00	5,355.5	1,203.1	868.9	1,484.0	0.00	0.00	
5,700.0	0.00	0.00	5,455.5	1,203.1	868.9	1,484.0	0.00	0.00	
5,800.0	0.00	0.00	5,555.5	1,203.1	868.9	1,484.0	0.00	0.00	
5,900.0	0.00	0.00	5,655.5	1,203.1	868.9	1,484.0	0.00	0.00	
6,000.0	0.00	0.00	5,755.5	1,203.1	868.9	1,484.0	0.00	0.00	
6,100.0	0.00	0.00	5,855.5	1,203.1	868.9	1,484.0	0.00	0.00	
6,200.0	0.00	0.00	5,955.5	1,203.1	868.9	1,484.0	0.00	0.00	
6,300.0	0.00	0.00	6,055.5	1,203.1	868.9	1,484.0	0.00	0.00	
6,400.0	0.00	0.00	6,155.5	1,203.1	868.9	1,484.0	0.00	0.00	
6,500.0	0.00	0.00	6,255.5	1,203.1	868.9	1,484.0	0.00	0.00	
6,600.0	0.00	0.00	6,355.5	1,203.1	868.9	1,484.0	0.00	0.00	
6,700.0	0.00	0.00	6,455.5	1,203.1	868.9	1,484.0	0.00	0.00	
6,800.0	0.00	0.00	6,555.5	1,203.1	868.9	1,484.0	0.00	0.00	
6,890.5	0.00	0.00	6,646.0	1,203.1	868.9	1,484.0	0.00	0.00	Coal Ridge
6,900.0	0.00	0.00	6,655.5	1,203.1	868.9	1,484.0	0.00	0.00	
7,000.0	0.00	0.00	6,755.5	1,203.1	868.9	1,484.0	0.00	0.00	
7,100.0	0.00	0.00	6,855.5	1,203.1	868.9	1,484.0	0.00	0.00	
7,200.0	0.00	0.00	6,955.5	1,203.1	868.9	1,484.0	0.00	0.00	
7,300.0	0.00	0.00	7,055.5	1,203.1	868.9	1,484.0	0.00	0.00	
7,400.0	0.00	0.00	7,155.5	1,203.1	868.9	1,484.0	0.00	0.00	
7,500.0	0.00	0.00	7,255.5	1,203.1	868.9	1,484.0	0.00	0.00	
7,571.5	0.00	0.00	7,327.0	1,203.1	868.9	1,484.0	0.00	0.00	Rollins
7,600.0	0.00	0.00	7,355.5	1,203.1	868.9	1,484.0	0.00	0.00	
7,700.0	0.00	0.00	7,455.5	1,203.1	868.9	1,484.0	0.00	0.00	
7,721.5	0.00	0.00	7,477.0	1,203.1	868.9	1,484.0	0.00	0.00	TD @ 7,721.5' MD
7,800.0	0.00	0.00	7,555.5	1,203.1	868.9	1,484.0	0.00	0.00	
7,821.5	0.00	0.00	7,577.0	1,203.1	868.9	1,484.0	0.00	0.00	Permit TD @ 7,821.5' MD

Targets									
Target Name									
- hit/miss target	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
- Shape									
Shideler 19-9B PBHL 64 - plan hits target center - Circle (radius 25.0)	0.00	0.00	7,477.0	1,203.1	868.9	1,589,044.27	2,378,163.05	39.429995	-107.701697
Shideler 19-9B TGT - plan hits target center - Point	0.00	0.00	5,220.0	1,203.1	868.9	1,589,044.27	2,378,163.05	39.429995	-107.701697

Cathedral Energy Services

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well Shideler 19-9B
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	KB=22' @ 6531.0ft (Nabors M-15)
Project:	Mamm Creek	MD Reference:	KB=22' @ 6531.0ft (Nabors M-15)
Site:	O19EB Pad (2nd Occupation)	North Reference:	True
Well:	Shideler 19-9B	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

Casing Points				
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)
1,106.9	1,085.0	Surface Casing		

Formations				
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip Direction (°)
4,042.9	3,844.0	Mesaverde Marker		
4,558.5	4,329.0	Williams Fork		
5,464.5	5,220.0	Top Gas		
6,890.5	6,646.0	Coal Ridge		
7,571.5	7,327.0	Rollins		

Plan Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
300.0	300.0	0.0	0.0	KOP @ 300'
966.5	953.1	93.3	67.4	EOB @ Inc. = 20°
4,464.7	4,240.4	1,063.1	767.8	Start 2° Drop
5,464.5	5,220.0	1,203.1	868.9	EOD @ Inc. = 0°
7,721.5	7,477.0	1,203.1	868.9	TD @ 7,721.5' MD
7,821.5	7,577.0	1,203.1	868.9	Permit TD @ 7,821.5' MD

EnCana Oil & Gas (USA) Inc

Mamm Creek

O19EB Pad (2nd Occupation)

Shideler 19-9B

OH

Plan #1

Anticollision Report

09 May, 2013

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Shideler 19-9B
Project:	Mamm Creek	TVD Reference:	KB=22' @ 6531.0ft (Nabors M-15)
Reference Site:	O19EB Pad (2nd Occupation)	MD Reference:	KB=22' @ 6531.0ft (Nabors M-15)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Shideler 19-9B	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	5/8/2013		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.0	7,821.5	Plan #1 (OH)	MWD	Geolink MWD

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Shideler 19-9B
Project:	Mamm Creek	TVD Reference:	KB=22' @ 6531.0ft (Nabors M-15)
Reference Site:	O19EB Pad (2nd Occupation)	MD Reference:	KB=22' @ 6531.0ft (Nabors M-15)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Shideler 19-9B	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						
H9 Pad SE NE 19-7S-92W						
Existing Well - VH - VH						Out of range
HMU 19-1B1 - DD - DD						Out of range
HMU 19-2D1 - DD - DD						Out of range
HMU 19-3D1 - DD - DD						Out of range
Shideler 19-7D1 - DD - DD						Out of range
Shideler 19-9B1 - DD - DD	7,173.5	7,180.0	465.2	418.8	10.026	CC, ES, SF
O19EB Pad (1st Occupation)						
(Existing Offset) Shideler 19-6D - Existing - Existing						Out of range
Shideler 19-14D - OH - FINAL	206.0	206.0	206.1	205.5	320.871	CC, ES
Shideler 19-14D - OH - FINAL	800.0	757.0	318.0	315.4	121.393	SF
Shideler 19-16C - OH - FINAL	336.1	339.0	151.8	150.7	137.387	CC, ES
Shideler 19-16C - OH - FINAL	1,800.0	1,757.2	489.9	478.7	43.676	SF
Shideler 19-16CC - OH - FINAL	319.7	321.4	168.3	167.3	160.938	CC, ES
Shideler 19-16CC - OH - FINAL	1,400.0	1,331.6	473.3	465.7	62.550	SF
Shideler 30-1B - OH - FINAL	304.9	305.3	184.8	183.8	186.917	CC, ES
Shideler 30-1B - OH - FINAL	1,300.0	1,209.0	492.3	485.9	76.319	SF
Shideler 30-1C - OH - FINAL	241.3	241.3	192.5	191.7	251.132	CC, ES
Shideler 30-1C - OH - FINAL	1,100.0	960.6	467.4	462.8	99.864	SF
Shideler 30-2C - OH - FINAL	238.3	238.3	230.1	229.4	304.219	CC, ES
Shideler 30-2C - OH - FINAL	700.0	635.0	316.7	314.4	139.997	SF
Shideler 30-3A - OH - FINAL	220.4	220.5	238.2	237.5	343.803	CC, ES
Shideler 30-3A - OH - FINAL	800.0	729.7	366.6	364.0	144.520	SF
Shideler 30-3B - OH - FINAL	211.7	211.7	221.9	221.3	335.067	CC, ES
Shideler 30-3B - OH - FINAL	700.0	635.8	310.9	308.7	138.128	SF
Shideler 30-4A - OH - FINAL	203.6	203.6	175.7	175.1	277.041	CC, ES
Shideler 30-4A - OH - FINAL	700.0	652.2	261.9	259.5	110.446	SF
Shideler 30-7A - OH - FINAL	263.0	263.0	212.7	211.8	252.252	CC, ES
Shideler 30-7A - OH - FINAL	800.0	728.6	332.5	329.7	120.800	SF
Shideler 30-8B - OH - FINAL	0.0	0.0	199.8			
Shideler 30-8B - OH - FINAL	200.0	199.3	199.9	199.2	321.910	ES
Shideler 30-8B - OH - FINAL	1,100.0	949.9	486.5	482.0	107.987	SF
Shideler Federal 19-13D - OH - FINAL	0.0	0.0	160.5			
Shideler Federal 19-13D - OH - FINAL	200.0	199.6	160.6	160.0	258.731	ES
Shideler Federal 19-13D - OH - FINAL	700.0	655.5	242.7	240.2	96.830	SF

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Shideler 19-9B
Project:	Mamm Creek	TVD Reference:	KB=22' @ 6531.0ft (Nabors M-15)
Reference Site:	O19EB Pad (2nd Occupation)	MD Reference:	KB=22' @ 6531.0ft (Nabors M-15)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Shideler 19-9B	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Summary

Site Name	Reference	Offset	Distance		Separation	Warning
	Measured	Measured	Between	Between		
Offset Well - Wellbore - Design	Depth	Depth	Centres	Ellipses	Factor	
O19EB Pad (2nd Occupation)						
Shideler 19-11D - OH - Plan #1	444.0	443.6	9.1	7.6	6.104	CC, ES, SF
Shideler 19-11DD - OH - Plan #1	200.0	200.0	42.1	41.5	67.753	CC, ES
Shideler 19-11DD - OH - Plan #1	500.0	492.1	60.4	58.7	35.555	SF
Shideler 19-16B - OH - Plan #1	300.0	300.0	25.8	24.9	26.637	CC, ES
Shideler 19-16B - OH - Plan #1	900.0	893.5	64.9	60.3	14.163	SF
Shideler 19-16BB - OH - Plan #1	414.3	413.9	41.4	40.0	30.007	CC, ES
Shideler 19-16BB - OH - Plan #1	700.0	692.9	62.6	59.9	23.071	SF
Shideler 19-6C - OH - Plan #1	368.9	368.7	25.8	24.6	21.239	CC, ES
Shideler 19-6C - OH - Plan #1	500.0	497.6	30.3	28.6	17.714	SF
Shideler 19-9C - OH - Plan #1	200.0	200.0	11.4	10.8	18.419	CC, ES
Shideler 19-9C - OH - Plan #1	1,200.0	1,192.0	47.1	38.8	5.669	SF
Shideler Federal 19-12A - OH - Plan #1	200.0	200.0	33.0	32.4	53.182	CC, ES
Shideler Federal 19-12A - OH - Plan #1	400.0	395.9	43.3	42.0	32.857	SF
Shideler Federal 19-12C - OH - Plan #1	455.6	456.1	15.6	14.1	10.136	CC, ES
Shideler Federal 19-12C - OH - Plan #1	500.0	500.3	16.5	14.8	9.726	SF
Shideler Federal 19-12D - OH - Plan #1	300.0	300.0	16.5	15.6	17.026	CC, ES
Shideler Federal 19-12D - OH - Plan #1	400.0	399.3	18.2	16.8	13.708	SF
Shideler Federal 19-13A - OH - Plan #1	483.8	485.6	24.7	23.0	14.556	CC, ES
Shideler Federal 19-13A - OH - Plan #1	500.0	501.5	24.9	23.1	14.084	SF
Shideler Federal 19-13AA - OH - Plan #1	484.6	487.5	38.3	36.5	21.522	CC, ES
Shideler Federal 19-13AA - OH - Plan #1	500.0	502.6	38.4	36.6	20.709	SF

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Shideler 19-9B
Project:	Mamm Creek	TVD Reference:	KB=22' @ 6531.0ft (Nabors M-15)
Reference Site:	O19EB Pad (2nd Occupation)	MD Reference:	KB=22' @ 6531.0ft (Nabors M-15)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Shideler 19-9B	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												H9 Pad SE NE 19-7S-92W - Shideler 19-9B1 - DD - DD		Offset Site Error:		0.0 ft
Survey Program:												979-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				
6,400.0	6,155.5	6,426.0	6,176.9	28.6	24.6	-44.21	1,559.0	522.6	497.1	449.9	47.12	10.548				
6,500.0	6,255.5	6,526.3	6,277.0	28.7	24.7	-43.59	1,559.6	529.5	492.7	445.7	47.05	10.471				
6,600.0	6,355.5	6,626.1	6,376.5	28.7	24.8	-42.95	1,560.2	536.4	488.4	441.4	46.99	10.394				
6,700.0	6,455.5	6,725.9	6,476.0	28.8	24.9	-42.30	1,560.8	543.3	484.1	437.2	46.91	10.321				
6,800.0	6,555.5	6,825.6	6,575.5	28.9	24.9	-41.64	1,561.4	550.3	479.9	433.1	46.81	10.251				
6,900.0	6,655.5	6,925.4	6,675.0	29.0	25.0	-40.97	1,562.0	557.2	475.8	429.1	46.71	10.186				
7,000.0	6,755.5	7,025.1	6,774.5	29.0	25.1	-40.28	1,562.6	564.1	471.7	425.1	46.59	10.125				
7,100.0	6,855.5	7,124.9	6,874.1	29.1	25.2	-39.59	1,563.2	571.0	467.7	421.2	46.46	10.067				
7,173.5	6,929.0	7,180.0	6,929.0	29.2	25.2	-39.20	1,563.6	574.9	465.2	418.8	46.40	10.026 CC, ES, SF				
7,200.0	6,955.5	7,180.0	6,929.0	29.2	25.2	-39.20	1,563.6	574.9	465.9	419.5	46.42	10.038				
7,300.0	7,055.5	7,180.0	6,929.0	29.3	25.2	-39.20	1,563.6	574.9	482.1	435.6	46.49	10.368				

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Shideler 19-9B
Project:	Mamm Creek	TVD Reference:	KB=22' @ 6531.0ft (Nabors M-15)
Reference Site:	O19EB Pad (2nd Occupation)	MD Reference:	KB=22' @ 6531.0ft (Nabors M-15)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Shideler 19-9B	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												O19EB Pad (1st Occupation) - Shideler 19-14D - OH - FINAL		Offset Site Error:		0.0 ft	
Survey Program:												172-MWD, 1613-MWD		Offset Well Error:		0.0 ft	
Reference		Offset		Semi Major Axis				Distance						Warning			
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre	Between Centres	Between Ellipses	Total Uncertainty Axis	Separation Factor						
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)							
0.0	0.0	0.0	0.0	0.0	0.0	-148.73	-176.3	-107.1	206.3								
100.0	100.0	100.1	100.1	0.1	0.2	-148.77	-176.3	-106.9	206.2	205.9	0.29	714.280					
200.0	200.0	200.1	200.1	0.3	0.3	-148.89	-176.5	-106.5	206.1	205.5	0.62	331.501					
206.0	206.0	206.0	206.0	0.3	0.3	-148.89	-176.5	-106.5	206.1	205.5	0.64	320.871	CC, ES				
300.0	300.0	296.4	296.4	0.5	0.5	-148.83	-177.0	-107.0	206.9	205.9	0.96	214.552					
400.0	400.0	386.0	385.9	0.7	0.6	175.77	-178.9	-110.0	213.1	211.8	1.29	164.673					
500.0	499.6	478.0	477.6	0.9	0.8	176.74	-183.2	-116.6	228.7	227.1	1.63	140.316					
600.0	598.8	569.5	568.4	1.1	1.1	177.96	-189.3	-126.1	252.8	250.8	1.96	128.721					
700.0	697.1	664.5	662.6	1.5	1.3	179.09	-196.2	-136.4	282.8	280.5	2.30	123.059					
800.0	794.3	757.0	754.2	1.9	1.6	179.99	-203.0	-146.6	318.0	315.4	2.62	121.393	SF				
900.0	890.2	849.0	845.5	2.5	1.8	-179.26	-209.9	-156.7	358.2	355.3	2.93	122.161					
1,000.0	984.5	937.2	932.8	3.0	2.1	-178.68	-216.5	-166.5	403.0	399.7	3.24	124.294					
1,100.0	1,078.5	1,025.0	1,019.8	3.7	2.3	-178.22	-223.2	-176.4	449.0	445.5	3.57	125.663					
1,200.0	1,172.5	1,112.1	1,106.0	4.3	2.6	-177.86	-230.1	-186.4	495.4	491.5	3.90	126.903					

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Shideler 19-9B
Project:	Mamm Creek	TVD Reference:	KB=22' @ 6531.0ft (Nabors M-15)
Reference Site:	O19EB Pad (2nd Occupation)	MD Reference:	KB=22' @ 6531.0ft (Nabors M-15)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Shideler 19-9B	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 O19EB Pad (1st Occupation) - Shideler 19-16C - OH - FINAL												Offset Site Error:	0.0 ft	
Survey Program: 173-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	-155.09	-139.9	-65.0	154.2					
100.0	100.0	100.7	100.7	0.1	0.2	-155.06	-139.6	-64.9	154.0	153.7	0.29	531.581		
200.0	200.0	201.3	201.3	0.3	0.3	-154.98	-138.9	-64.8	153.3	152.7	0.62	245.732		
300.0	300.0	302.1	302.1	0.5	0.5	-155.41	-138.3	-63.3	152.1	151.1	0.98	155.763		
336.1	336.1	339.0	338.9	0.5	0.6	168.16	-138.4	-61.5	151.8	150.7	1.11	137.387	CC, ES	
400.0	400.0	403.7	403.4	0.7	0.7	166.49	-139.1	-56.5	152.7	151.3	1.34	113.622		
500.0	499.6	503.4	502.4	0.9	0.9	162.83	-141.3	-44.6	158.2	156.4	1.77	89.387		
600.0	598.8	603.8	601.5	1.1	1.3	158.50	-144.4	-28.6	168.8	166.6	2.27	74.508		
700.0	697.1	704.1	699.8	1.5	1.6	154.29	-147.0	-9.2	184.0	181.1	2.84	64.669		
800.0	794.3	802.5	795.9	1.9	2.0	150.83	-149.2	11.7	203.7	200.2	3.48	58.540		
900.0	890.2	899.9	891.0	2.5	2.4	148.35	-151.1	33.2	227.9	223.7	4.17	54.607		
1,000.0	984.5	996.8	985.2	3.0	2.8	146.76	-152.7	55.5	256.0	251.1	4.92	52.018		
1,100.0	1,078.5	1,093.5	1,079.4	3.7	3.3	145.92	-153.7	77.5	284.5	278.8	5.70	49.963		
1,200.0	1,172.5	1,187.8	1,171.4	4.3	3.7	145.42	-154.9	98.1	313.4	307.0	6.46	48.534		
1,300.0	1,266.4	1,283.2	1,264.5	4.9	4.1	145.01	-156.4	118.8	342.5	335.2	7.24	47.311		
1,400.0	1,360.4	1,378.4	1,357.3	5.5	4.5	144.58	-157.9	140.0	371.7	363.6	8.03	46.270		
1,500.0	1,454.4	1,473.7	1,450.2	6.1	4.9	144.26	-159.5	161.0	401.0	392.2	8.83	45.436		
1,600.0	1,548.4	1,568.6	1,542.7	6.8	5.3	143.97	-161.2	182.0	430.4	420.8	9.63	44.694		
1,700.0	1,642.3	1,663.0	1,634.8	7.4	5.7	143.68	-163.2	203.1	460.0	449.6	10.43	44.105		
1,800.0	1,736.3	1,757.2	1,726.8	8.0	6.1	143.52	-165.3	223.3	489.9	478.7	11.22	43.676	SF	

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Shideler 19-9B
Project:	Mamm Creek	TVD Reference:	KB=22' @ 6531.0ft (Nabors M-15)
Reference Site:	O19EB Pad (2nd Occupation)	MD Reference:	KB=22' @ 6531.0ft (Nabors M-15)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Shideler 19-9B	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 O19EB Pad (1st Occupation) - Shideler 19-16CC - OH - FINAL												Offset Site Error:	0.0 ft
Survey Program: 202-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	-153.73	-152.3	-75.1	169.8				
100.0	100.0	100.5	100.5	0.1	0.2	-153.79	-152.2	-74.9	169.6	169.4	0.29	578.991	
200.0	200.0	201.0	201.0	0.3	0.3	-153.96	-152.0	-74.3	169.2	168.6	0.62	271.010	
300.0	300.0	301.6	301.6	0.5	0.5	-154.38	-151.8	-72.8	168.4	167.4	0.98	172.423	
319.7	319.7	321.4	321.4	0.5	0.5	169.61	-151.9	-72.2	168.3	167.3	1.05	160.938 CC, ES	
400.0	400.0	400.9	400.8	0.7	0.7	168.54	-152.8	-68.7	170.1	168.8	1.33	127.612	
500.0	499.6	498.7	498.3	0.9	0.9	166.39	-155.9	-61.3	177.7	176.0	1.72	103.576	
600.0	598.8	593.5	592.2	1.1	1.1	163.53	-162.0	-50.9	192.4	190.2	2.14	89.769	
700.0	697.1	686.9	684.2	1.5	1.5	160.27	-171.1	-37.2	214.4	211.7	2.63	81.428	
800.0	794.3	779.5	774.5	1.9	1.8	156.89	-182.4	-20.1	243.1	239.9	3.19	76.148	
900.0	890.2	871.9	864.0	2.5	2.2	153.89	-194.9	-0.8	277.6	273.7	3.81	72.763	
1,000.0	984.5	964.4	953.2	3.0	2.7	151.68	-207.8	19.8	316.7	312.2	4.50	70.417	
1,100.0	1,078.5	1,060.9	1,046.4	3.7	3.1	150.23	-220.3	41.9	355.9	350.7	5.25	67.803	
1,200.0	1,172.5	1,152.8	1,135.0	4.3	3.6	149.03	-231.5	63.6	394.6	388.6	6.02	65.558	
1,300.0	1,266.4	1,243.5	1,222.2	4.9	4.1	147.95	-242.9	85.7	433.7	426.9	6.80	63.737	
1,400.0	1,360.4	1,331.6	1,306.9	5.5	4.5	147.10	-254.4	106.9	473.3	465.7	7.57	62.550 SF	

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Shideler 19-9B
Project:	Mamm Creek	TVD Reference:	KB=22' @ 6531.0ft (Nabors M-15)
Reference Site:	O19EB Pad (2nd Occupation)	MD Reference:	KB=22' @ 6531.0ft (Nabors M-15)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Shideler 19-9B	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 O19EB Pad (1st Occupation) - Shideler 30-1B - OH - FINAL												Offset Site Error:	0.0 ft
Survey Program: 202-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	-152.58	-165.0	-85.6	185.9				
100.0	100.0	100.5	100.5	0.1	0.2	-152.59	-164.9	-85.5	185.8	185.5	0.29	635.039	
200.0	200.0	201.0	201.0	0.3	0.3	-152.61	-164.6	-85.3	185.4	184.7	0.62	297.345	
300.0	300.0	300.6	300.6	0.5	0.5	-152.72	-164.2	-84.7	184.8	183.8	0.97	190.077	
304.9	304.9	305.3	305.3	0.5	0.5	171.42	-164.3	-84.6	184.8	183.8	0.99	186.917	CC, ES
400.0	400.0	398.6	398.6	0.7	0.7	170.60	-165.9	-82.0	187.6	186.3	1.32	142.065	
500.0	499.6	494.0	493.7	0.9	0.9	169.01	-170.2	-77.0	197.2	195.5	1.68	117.289	
600.0	598.8	586.0	585.0	1.1	1.1	166.83	-178.1	-69.8	214.6	212.5	2.07	103.699	
700.0	697.1	676.5	674.3	1.5	1.4	164.22	-189.7	-60.0	240.1	237.6	2.50	95.905	
800.0	794.3	765.9	761.5	1.9	1.7	161.33	-204.4	-47.1	272.9	269.9	3.00	91.023	
900.0	890.2	856.6	849.0	2.5	2.1	158.24	-221.2	-30.0	311.6	308.0	3.58	87.109	
1,000.0	984.5	944.6	933.1	3.0	2.6	155.65	-238.5	-10.9	355.3	351.1	4.21	84.308	
1,100.0	1,078.5	1,032.0	1,016.2	3.7	3.1	153.74	-256.3	9.5	400.6	395.7	4.92	81.391	
1,200.0	1,172.5	1,120.5	1,100.0	4.3	3.6	152.00	-274.6	31.4	446.4	440.7	5.68	78.654	
1,300.0	1,266.4	1,209.0	1,183.6	4.9	4.1	150.50	-292.8	54.0	492.3	485.9	6.45	76.319	SF

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Shideler 19-9B
Project:	Mamm Creek	TVD Reference:	KB=22' @ 6531.0ft (Nabors M-15)
Reference Site:	O19EB Pad (2nd Occupation)	MD Reference:	KB=22' @ 6531.0ft (Nabors M-15)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Shideler 19-9B	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												O19EB Pad (1st Occupation) - Shideler 30-1C - OH - FINAL		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 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	-149.85	-166.8	-96.9	192.9								
100.0	100.0	100.2	100.2	0.1	0.1	-149.87	-166.8	-96.8	192.9	192.6	0.28	697.855					
200.0	200.0	200.9	200.9	0.3	0.3	-150.03	-166.8	-96.2	192.6	192.0	0.62	309.033					
241.3	241.3	241.3	241.3	0.4	0.4	-150.17	-167.0	-95.8	192.5	191.7	0.77	251.132 CC, ES					
300.0	300.0	296.7	296.6	0.5	0.5	-150.57	-168.0	-94.8	193.0	192.0	0.97	199.702					
400.0	400.0	388.1	387.9	0.7	0.7	172.12	-173.5	-91.8	199.3	197.9	1.32	151.439					
500.0	499.6	478.0	477.1	0.9	0.9	169.95	-183.6	-87.4	214.8	213.2	1.68	127.698					
600.0	598.8	569.0	566.6	1.1	1.2	167.22	-198.1	-80.6	239.0	236.9	2.10	113.958					
700.0	697.1	661.0	656.2	1.5	1.6	164.11	-216.5	-70.5	270.8	268.3	2.56	105.704					
800.0	794.3	742.1	734.3	1.9	2.0	161.28	-235.4	-59.2	310.0	306.9	3.04	102.085					
900.0	890.2	820.0	808.2	2.5	2.4	158.62	-256.2	-46.5	356.6	353.1	3.54	100.690					
1,000.0	984.5	892.3	875.8	3.0	2.9	156.44	-278.1	-33.1	410.2	406.1	4.08	100.419					
1,100.0	1,078.5	960.6	938.6	3.7	3.4	154.89	-301.1	-19.1	467.4	462.8	4.68	99.864 SF					

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Shideler 19-9B
Project:	Mamm Creek	TVD Reference:	KB=22' @ 6531.0ft (Nabors M-15)
Reference Site:	O19EB Pad (2nd Occupation)	MD Reference:	KB=22' @ 6531.0ft (Nabors M-15)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Shideler 19-9B	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												O19EB Pad (1st Occupation) - Shideler 30-2C - OH - FINAL		Offset Site Error:		0.0 ft
Survey Program:		172-MWD, 1616-MWD										Offset Well Error:		0.0 ft		
Reference		Offset		Semi Major Axis			Distance									
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Total Uncertainty Axis	Separation Factor	Warning			
Depth (ft)	Depth (ft)	Depth (ft)	Depth (ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)						
0.0	0.0	0.0	0.0	0.0	0.0	-150.01	-200.7	-115.8	231.7							
100.0	100.0	101.7	101.7	0.1	0.2	-150.02	-200.4	-115.6	231.4	231.1	0.29	793.913				
200.0	200.0	202.0	202.0	0.3	0.3	-150.07	-199.6	-114.9	230.3	229.7	0.63	367.924				
238.3	238.3	238.3	238.3	0.4	0.4	-150.12	-199.5	-114.6	230.1	229.4	0.76	304.219	CC, ES			
300.0	300.0	294.0	294.0	0.5	0.5	-150.27	-200.3	-114.4	230.8	229.8	0.96	240.104				
400.0	400.0	386.0	385.9	0.7	0.6	173.51	-204.5	-114.8	237.5	236.2	1.30	183.228				
500.0	499.6	470.1	469.6	0.9	0.8	173.10	-212.3	-116.6	254.3	252.7	1.62	157.212				
600.0	598.8	555.3	553.9	1.1	1.1	172.50	-224.4	-119.1	281.0	279.1	1.94	144.528				
700.0	697.1	635.0	632.0	1.5	1.4	171.70	-239.6	-121.4	316.7	314.4	2.26	139.997	SF			
800.0	794.3	709.4	704.4	1.9	1.7	170.94	-257.1	-124.4	361.3	358.7	2.57	140.534				
900.0	890.2	778.6	770.7	2.5	2.0	170.17	-276.3	-127.7	414.1	411.3	2.87	144.293				
1,000.0	984.5	846.0	834.5	3.0	2.4	169.52	-297.6	-131.3	474.2	471.1	3.18	149.157				

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Shideler 19-9B
Project:	Mamm Creek	TVD Reference:	KB=22' @ 6531.0ft (Nabors M-15)
Reference Site:	O19EB Pad (2nd Occupation)	MD Reference:	KB=22' @ 6531.0ft (Nabors M-15)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Shideler 19-9B	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 O19EB Pad (1st Occupation) - Shideler 30-3A - OH - FINAL													Offset Site Error:	0.0 ft
Survey Program: 172-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	-147.62	-201.8	-128.0	238.9					
100.0	100.0	100.9	100.9	0.1	0.2	-147.61	-201.6	-127.9	238.7	238.5	0.29	823.703		
200.0	200.0	200.8	200.8	0.3	0.3	-147.56	-201.1	-127.8	238.2	237.6	0.62	382.497		
220.4	220.4	220.5	220.5	0.3	0.3	-147.55	-201.0	-127.8	238.2	237.5	0.69	343.803 CC, ES		
300.0	300.0	294.0	294.0	0.5	0.5	-147.44	-201.5	-128.7	239.2	238.2	0.96	249.083		
400.0	400.0	382.6	382.5	0.7	0.6	176.88	-204.9	-131.6	246.8	245.5	1.29	191.522		
500.0	499.6	467.8	467.3	0.9	0.8	177.12	-211.4	-136.7	264.2	262.6	1.61	164.333		
600.0	598.8	553.6	552.2	1.1	1.1	177.18	-221.6	-143.3	291.2	289.2	1.92	151.546		
700.0	697.1	642.0	639.2	1.5	1.3	177.13	-234.7	-150.8	325.9	323.6	2.23	145.925		
800.0	794.3	729.7	725.5	1.9	1.6	177.11	-248.5	-159.0	366.6	364.0	2.54	144.520 SF		
900.0	890.2	815.6	809.8	2.5	2.0	177.05	-262.9	-167.1	412.8	409.9	2.83	145.884		
1,000.0	984.5	902.0	894.5	3.0	2.3	177.01	-277.8	-175.1	463.7	460.5	3.13	148.273		

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Shideler 19-9B
Project:	Mamm Creek	TVD Reference:	KB=22' @ 6531.0ft (Nabors M-15)
Reference Site:	O19EB Pad (2nd Occupation)	MD Reference:	KB=22' @ 6531.0ft (Nabors M-15)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Shideler 19-9B	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 O19EB Pad (1st Occupation) - Shideler 30-3B - OH - FINAL													Offset Site Error:	0.0 ft
Survey Program: 160-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	-148.15	-188.7	-117.2	222.1					
100.0	100.0	100.2	100.2	0.1	0.2	-148.14	-188.6	-117.2	222.1	221.8	0.29	773.925		
200.0	200.0	200.6	200.6	0.3	0.3	-148.12	-188.4	-117.2	221.9	221.3	0.62	356.569		
211.7	211.7	211.7	211.7	0.3	0.3	-148.11	-188.4	-117.2	221.9	221.3	0.66	335.067	CC, ES	
300.0	300.0	294.0	294.0	0.5	0.5	-147.90	-188.8	-118.5	223.0	222.0	0.96	232.083		
400.0	400.0	384.5	384.3	0.7	0.6	176.88	-191.1	-122.7	230.3	229.0	1.29	177.848		
500.0	499.6	470.8	470.2	0.9	0.8	177.74	-196.1	-129.8	247.4	245.7	1.62	152.555		
600.0	598.8	554.1	552.6	1.1	1.1	178.50	-204.2	-139.1	274.5	272.6	1.94	141.647		
700.0	697.1	635.8	632.7	1.5	1.4	179.29	-214.8	-150.8	310.9	308.7	2.25	138.128	SF	
800.0	794.3	711.9	706.7	1.9	1.7	-179.79	-226.0	-164.6	355.7	353.1	2.55	139.551		
900.0	890.2	781.0	773.2	2.5	2.1	-178.96	-237.9	-179.4	408.5	405.7	2.83	144.552		
1,000.0	984.5	846.0	834.8	3.0	2.5	-178.17	-250.7	-195.5	468.9	465.8	3.10	151.285		

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Shideler 19-9B
Project:	Mamm Creek	TVD Reference:	KB=22' @ 6531.0ft (Nabors M-15)
Reference Site:	O19EB Pad (2nd Occupation)	MD Reference:	KB=22' @ 6531.0ft (Nabors M-15)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Shideler 19-9B	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 O19EB Pad (1st Occupation) - Shideler 30-4A - OH - FINAL													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	-150.57	-153.7	-86.7	176.5					
100.0	100.0	100.9	100.9	0.1	0.1	-150.63	-153.6	-86.4	176.2	176.0	0.28	634.719		
200.0	200.0	200.1	200.1	0.3	0.3	-150.67	-153.2	-86.1	175.7	175.1	0.62	282.621		
203.6	203.6	203.6	203.6	0.3	0.3	-150.67	-153.2	-86.1	175.7	175.1	0.63	277.041	CC, ES	
300.0	300.0	295.4	295.3	0.5	0.5	-150.02	-153.1	-88.3	176.8	175.8	0.96	183.422		
400.0	400.0	388.6	388.3	0.7	0.7	175.69	-154.4	-94.5	184.0	182.7	1.31	140.418		
500.0	499.6	478.0	477.2	0.9	0.9	177.58	-158.1	-104.0	200.9	199.3	1.66	121.361		
600.0	598.8	569.0	567.0	1.1	1.1	179.82	-163.8	-117.4	227.3	225.3	2.02	112.740		
700.0	697.1	652.2	648.4	1.5	1.5	-177.95	-169.6	-133.1	261.9	259.5	2.37	110.446	SF	
800.0	794.3	731.5	725.4	1.9	1.8	-175.80	-175.8	-151.2	304.7	302.0	2.72	112.026		
900.0	890.2	804.0	794.9	2.5	2.2	-173.93	-182.6	-170.6	355.8	352.7	3.06	116.453		
1,000.0	984.5	870.8	858.2	3.0	2.6	-172.32	-189.7	-191.1	414.4	411.0	3.39	122.199		
1,100.0	1,078.5	938.0	920.8	3.7	3.1	-171.01	-197.6	-214.0	476.8	473.0	3.77	126.563		

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Shideler 19-9B
Project:	Mamm Creek	TVD Reference:	KB=22' @ 6531.0ft (Nabors M-15)
Reference Site:	O19EB Pad (2nd Occupation)	MD Reference:	KB=22' @ 6531.0ft (Nabors M-15)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Shideler 19-9B	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												O19EB Pad (1st Occupation) - Shideler 30-7A - OH - FINAL		Offset Site Error:		0.0 ft
Survey Program: 172-MWD														Offset Well Error:		0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning		
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Total Uncertainty Axis	Separation Factor				
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)						
0.0	0.0	0.0	0.0	0.0	0.0	-150.56	-187.2	-105.6	215.0							
100.0	100.0	102.0	102.0	0.1	0.2	-150.57	-186.8	-105.4	214.5	214.2	0.29	734.293				
200.0	200.0	203.0	202.9	0.3	0.3	-150.58	-185.7	-104.7	213.2	212.6	0.63	339.523				
263.0	263.0	263.0	263.0	0.4	0.4	-150.66	-185.4	-104.2	212.7	211.8	0.84	252.252 CC, ES				
300.0	300.0	297.5	297.5	0.5	0.5	-150.83	-185.9	-103.8	212.9	211.9	0.97	219.867				
400.0	400.0	387.6	387.5	0.7	0.6	172.54	-190.0	-102.4	218.8	217.5	1.30	167.934				
500.0	499.6	478.0	477.4	0.9	0.8	171.49	-198.5	-101.4	234.3	232.7	1.65	142.439				
600.0	598.8	569.0	567.5	1.1	1.1	170.03	-211.3	-99.4	258.5	256.5	2.01	128.718				
700.0	697.1	649.6	646.6	1.5	1.4	168.40	-226.3	-96.3	291.2	288.9	2.37	122.841				
800.0	794.3	728.6	723.4	1.9	1.7	166.64	-244.7	-92.3	332.5	329.7	2.75	120.800 SF				
900.0	890.2	801.9	793.7	2.5	2.1	164.95	-265.0	-87.8	381.7	378.6	3.13	121.821				
1,000.0	984.5	870.2	858.3	3.0	2.5	163.61	-286.4	-83.5	438.3	434.8	3.53	124.145				
1,100.0	1,078.5	938.0	921.7	3.7	2.9	162.69	-310.0	-78.9	498.4	494.4	3.97	125.460				

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Shideler 19-9B
Project:	Mamm Creek	TVD Reference:	KB=22' @ 6531.0ft (Nabors M-15)
Reference Site:	O19EB Pad (2nd Occupation)	MD Reference:	KB=22' @ 6531.0ft (Nabors M-15)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Shideler 19-9B	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												O19EB Pad (1st Occupation) - Shideler 30-8B - OH - FINAL		Offset Site Error:		0.0 ft	
Survey Program:												142-MWD		Offset Well Error:		0.0 ft	
Reference		Offset		Semi Major Axis			Distance							Warning			
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Total Uncertainty Axis	Separation Factor					
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)							
0.0	0.0	0.0	0.0	0.0	0.0	-151.27	-175.2	-96.0	199.8								
100.0	100.0	99.9	99.9	0.1	0.1	-151.34	-175.3	-95.8	199.8	199.5	0.28	704.251					
164.1	164.1	164.2	164.2	0.2	0.2	-151.46	-175.6	-95.5	199.8	199.3	0.50	402.410					
200.0	200.0	199.3	199.3	0.3	0.3	-151.59	-175.8	-95.1	199.9	199.2	0.62	321.910 ES					
300.0	300.0	294.0	293.9	0.5	0.5	-152.35	-178.3	-93.4	201.4	200.4	0.96	209.329					
400.0	400.0	386.0	385.7	0.7	0.7	170.45	-184.3	-90.7	208.5	207.2	1.32	158.206					
500.0	499.6	478.0	477.0	0.9	0.9	168.55	-194.8	-86.8	224.6	223.0	1.69	133.176					
600.0	598.8	566.8	564.5	1.1	1.2	166.31	-208.9	-81.2	249.3	247.2	2.08	120.130					
700.0	697.1	651.5	647.1	1.5	1.5	163.88	-226.1	-73.5	282.3	279.8	2.49	113.312					
800.0	794.3	732.0	724.5	1.9	1.9	161.43	-245.9	-64.2	323.4	320.4	2.94	109.935					
900.0	890.2	807.0	795.6	2.5	2.4	159.12	-267.4	-53.9	372.2	368.8	3.41	109.124					
1,000.0	984.5	879.0	862.8	3.0	2.9	157.16	-290.7	-42.6	427.9	424.0	3.93	109.021					
1,100.0	1,078.5	949.9	927.9	3.7	3.4	155.72	-315.4	-29.6	486.5	482.0	4.51	107.987 SF					

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Shideler 19-9B
Project:	Mamm Creek	TVD Reference:	KB=22' @ 6531.0ft (Nabors M-15)
Reference Site:	O19EB Pad (2nd Occupation)	MD Reference:	KB=22' @ 6531.0ft (Nabors M-15)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Shideler 19-9B	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 O19EB Pad (1st Occupation) - Shideler Federal 19-13D - OH - FINAL													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	-151.41	-141.0	-76.8	160.5				
100.0	100.0	100.0	100.0	0.1	0.1	-151.43	-141.0	-76.8	160.5	160.3	0.28	581.552	
153.2	153.2	153.2	153.2	0.2	0.2	-151.45	-141.0	-76.7	160.6	160.1	0.46	350.602	
200.0	200.0	199.6	199.6	0.3	0.3	-151.42	-141.0	-76.8	160.6	160.0	0.62	258.731 ES	
300.0	300.0	296.3	296.3	0.5	0.5	-150.67	-141.0	-79.2	161.7	160.8	0.97	167.245	
400.0	400.0	390.6	390.3	0.7	0.7	175.59	-141.2	-86.1	168.3	167.0	1.32	127.266	
500.0	499.6	482.9	481.7	0.9	0.9	179.03	-141.6	-98.5	183.8	182.1	1.71	107.223	
600.0	598.8	569.0	566.4	1.1	1.2	-177.29	-142.3	-114.3	208.5	206.4	2.11	98.825	
700.0	697.1	655.5	650.7	1.5	1.6	-173.94	-144.6	-133.5	242.7	240.2	2.51	96.830 SF	
800.0	794.3	734.6	727.0	1.9	2.0	-171.34	-148.4	-153.9	286.1	283.2	2.89	99.128	
900.0	890.2	807.6	796.5	2.5	2.4	-169.17	-153.0	-175.5	337.8	334.6	3.26	103.760	
1,000.0	984.5	875.7	860.5	3.0	2.9	-167.39	-157.9	-198.5	396.9	393.3	3.64	109.015	
1,100.0	1,078.5	938.0	918.1	3.7	3.3	-166.07	-162.2	-221.7	459.4	455.3	4.06	113.113	

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Shideler 19-9B
Project:	Mamm Creek	TVD Reference:	KB=22' @ 6531.0ft (Nabors M-15)
Reference Site:	O19EB Pad (2nd Occupation)	MD Reference:	KB=22' @ 6531.0ft (Nabors M-15)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Shideler 19-9B	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 O19EB Pad (2nd Occupation) - Shideler 19-11D - OH - Plan #1													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor		
0.0	0.0	0.0	0.0	0.0	0.0	-9.93	11.3	-2.0	11.5					
100.0	100.0	100.0	100.0	0.1	0.1	-9.93	11.3	-2.0	11.5	11.2	0.27	42.102		
200.0	200.0	200.0	200.0	0.3	0.3	-9.93	11.3	-2.0	11.5	10.8	0.62	18.449		
300.0	300.0	300.0	300.0	0.5	0.5	-9.93	11.3	-2.0	11.5	10.5	0.97	11.813		
400.0	400.0	400.0	400.0	0.7	0.7	-56.82	11.3	-2.0	9.8	8.5	1.32	7.418		
444.0	443.8	443.6	443.6	0.8	0.7	-72.37	11.7	-2.3	9.1	7.6	1.49	6.104 CC, ES, SF		
500.0	499.6	499.2	499.1	0.9	0.8	-98.01	13.4	-3.4	10.7	9.0	1.71	6.280		
600.0	598.8	597.8	597.5	1.1	1.0	-122.98	19.8	-7.6	21.4	19.3	2.13	10.050		
700.0	697.1	695.4	694.2	1.5	1.3	-129.68	30.3	-14.5	39.2	36.6	2.63	14.929		
800.0	794.3	791.3	788.6	1.9	1.6	-131.26	44.6	-24.0	62.9	59.6	3.23	19.470		
900.0	890.2	885.3	880.1	2.5	2.0	-131.26	62.5	-35.8	92.0	88.1	3.94	23.341		
1,000.0	984.5	979.6	971.3	3.0	2.4	-131.84	82.3	-48.8	125.3	120.6	4.72	26.551		
1,100.0	1,078.5	1,073.6	1,062.3	3.7	2.8	-132.80	102.1	-61.9	159.4	153.8	5.52	28.874		
1,200.0	1,172.5	1,167.6	1,153.2	4.3	3.2	-133.43	121.9	-74.9	193.5	187.1	6.33	30.542		
1,300.0	1,266.4	1,261.5	1,244.2	4.9	3.7	-133.87	141.6	-88.0	227.6	220.4	7.16	31.789		
1,400.0	1,360.4	1,355.5	1,335.2	5.5	4.1	-134.19	161.4	-101.0	261.7	253.7	7.99	32.753		
1,500.0	1,454.4	1,449.5	1,426.1	6.1	4.5	-134.44	181.2	-114.0	295.8	287.0	8.82	33.518		
1,600.0	1,548.4	1,543.5	1,517.1	6.8	5.0	-134.64	200.9	-127.1	329.9	320.2	9.66	34.139		
1,700.0	1,642.3	1,637.5	1,608.0	7.4	5.4	-134.80	220.7	-140.1	364.0	353.5	10.51	34.652		
1,800.0	1,736.3	1,731.5	1,699.0	8.0	5.9	-134.93	240.5	-153.2	398.2	386.8	11.35	35.083		
1,900.0	1,830.3	1,825.5	1,790.0	8.6	6.3	-135.04	260.2	-166.2	432.3	420.1	12.19	35.449		
2,000.0	1,924.3	1,919.5	1,880.9	9.3	6.8	-135.14	280.0	-179.2	466.4	453.4	13.04	35.765		

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Shideler 19-9B
Project:	Mamm Creek	TVD Reference:	KB=22' @ 6531.0ft (Nabors M-15)
Reference Site:	O19EB Pad (2nd Occupation)	MD Reference:	KB=22' @ 6531.0ft (Nabors M-15)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Shideler 19-9B	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 O19EB Pad (2nd Occupation) - Shideler 19-11DD - OH - Plan #1													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance					Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor		
0.0	0.0	0.0	0.0	0.0	0.0	-42.67	31.0	-28.5	42.1					
100.0	100.0	100.0	100.0	0.1	0.1	-42.67	31.0	-28.5	42.1	41.8	0.27	154.617		
200.0	200.0	200.0	200.0	0.3	0.3	-42.67	31.0	-28.5	42.1	41.5	0.62	67.753 CC, ES		
300.0	300.0	298.4	298.3	0.5	0.5	-42.90	31.9	-29.6	43.5	42.6	0.97	44.958		
400.0	400.0	395.8	395.5	0.7	0.7	-82.35	35.9	-34.4	49.5	48.1	1.32	37.513		
500.0	499.6	492.1	491.2	0.9	0.9	-89.81	43.0	-42.8	60.4	58.7	1.70	35.555 SF		
600.0	598.8	587.9	585.7	1.1	1.2	-97.86	52.9	-54.6	77.4	75.3	2.14	36.116		
700.0	697.1	684.9	681.3	1.5	1.5	-105.56	63.8	-67.5	97.9	95.3	2.68	36.591		
800.0	794.3	781.0	776.0	1.9	1.9	-112.57	74.5	-80.2	121.7	118.4	3.29	36.994		
900.0	890.2	875.8	869.3	2.5	2.2	-118.74	85.0	-92.7	149.2	145.3	3.96	37.684		
1,000.0	984.5	969.1	961.3	3.0	2.5	-124.26	95.4	-105.1	180.9	176.2	4.65	38.876		
1,100.0	1,078.5	1,062.1	1,052.9	3.7	2.8	-128.79	105.8	-117.4	214.5	209.2	5.33	40.225		
1,200.0	1,172.5	1,155.1	1,144.4	4.3	3.2	-132.10	116.2	-129.7	249.0	243.0	6.00	41.511		
1,300.0	1,266.4	1,248.1	1,236.0	4.9	3.5	-134.61	126.5	-142.0	284.1	277.5	6.66	42.687		
1,400.0	1,360.4	1,341.1	1,327.6	5.5	3.8	-136.57	136.9	-154.3	319.6	312.3	7.31	43.746		
1,500.0	1,454.4	1,434.1	1,419.2	6.1	4.1	-138.15	147.3	-166.6	355.3	347.4	7.95	44.693		
1,600.0	1,548.4	1,527.1	1,510.8	6.8	4.5	-139.43	157.6	-179.0	391.2	382.6	8.59	45.540		
1,700.0	1,642.3	1,620.1	1,602.4	7.4	4.8	-140.50	168.0	-191.3	427.3	418.1	9.23	46.298		
1,800.0	1,736.3	1,713.1	1,694.0	8.0	5.1	-141.41	178.4	-203.6	463.5	453.6	9.87	46.980		
1,900.0	1,830.3	1,806.1	1,785.6	8.6	5.4	-142.18	188.7	-215.9	499.8	489.3	10.50	47.596		

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Shideler 19-9B
Project:	Mamm Creek	TVD Reference:	KB=22' @ 6531.0ft (Nabors M-15)
Reference Site:	O19EB Pad (2nd Occupation)	MD Reference:	KB=22' @ 6531.0ft (Nabors M-15)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Shideler 19-9B	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 O19EB Pad (2nd Occupation) - Shideler 19-16B - 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		Separation		Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Uncertainty Axis	Factor		
0.0	0.0	0.0	0.0	0.0	0.0	108.06	-8.0	24.6	25.8					
100.0	100.0	100.0	100.0	0.1	0.1	108.06	-8.0	24.6	25.8	25.6	0.27	94.938		
200.0	200.0	200.0	200.0	0.3	0.3	108.06	-8.0	24.6	25.8	25.2	0.62	41.602		
300.0	300.0	300.0	300.0	0.5	0.5	108.06	-8.0	24.6	25.8	24.9	0.97	26.637 CC, ES		
400.0	400.0	399.0	399.0	0.7	0.7	73.66	-6.9	26.9	26.9	25.6	1.33	20.298		
500.0	499.6	497.9	497.6	0.9	0.9	77.34	-3.6	33.8	30.3	28.5	1.73	17.472		
600.0	598.8	596.7	595.5	1.1	1.1	81.89	2.0	45.3	36.0	33.8	2.24	16.077		
700.0	697.1	695.2	692.3	1.5	1.5	86.19	9.7	61.3	44.3	41.4	2.89	15.312		
800.0	794.3	794.5	789.6	1.9	1.8	92.27	18.5	79.6	54.0	50.3	3.68	14.646		
900.0	890.2	893.5	886.5	2.5	2.2	100.92	27.3	97.8	64.9	60.3	4.58	14.163 SF		
1,000.0	984.5	991.8	982.7	3.0	2.6	110.36	36.1	115.9	78.6	73.1	5.48	14.344		
1,100.0	1,078.5	1,089.9	1,078.8	3.7	3.0	117.71	44.8	134.0	94.4	88.1	6.30	14.984		
1,200.0	1,172.5	1,188.1	1,174.8	4.3	3.4	122.91	53.6	152.1	111.2	104.1	7.07	15.735		
1,300.0	1,266.4	1,286.2	1,270.9	4.9	3.8	126.74	62.3	170.2	128.7	120.9	7.81	16.480		
1,400.0	1,360.4	1,384.4	1,367.0	5.5	4.1	129.64	71.0	188.3	146.6	138.1	8.54	17.178		
1,500.0	1,454.4	1,482.5	1,463.0	6.1	4.5	131.91	79.8	206.4	164.9	155.6	9.25	17.816		
1,600.0	1,548.4	1,580.6	1,559.1	6.8	4.9	133.72	88.5	224.5	183.3	173.3	9.96	18.394		
1,700.0	1,642.3	1,678.8	1,655.1	7.4	5.3	135.21	97.2	242.6	201.8	191.2	10.67	18.916		
1,800.0	1,736.3	1,776.9	1,751.2	8.0	5.7	136.44	106.0	260.7	220.5	209.1	11.37	19.387		
1,900.0	1,830.3	1,875.1	1,847.3	8.6	6.1	137.48	114.7	278.7	239.3	227.2	12.08	19.813		
2,000.0	1,924.3	1,973.2	1,943.3	9.3	6.5	138.37	123.4	296.8	258.1	245.3	12.78	20.199		
2,100.0	2,018.2	2,071.3	2,039.4	9.9	6.9	139.14	132.2	314.9	277.0	263.5	13.48	20.551		
2,200.0	2,112.2	2,169.5	2,135.4	10.5	7.3	139.81	140.9	333.0	295.9	281.7	14.18	20.872		
2,300.0	2,206.2	2,267.6	2,231.5	11.2	7.7	140.40	149.6	351.1	314.8	300.0	14.87	21.166		
2,400.0	2,300.1	2,365.8	2,327.6	11.8	8.1	140.93	158.4	369.2	333.8	318.2	15.57	21.436		
2,500.0	2,394.1	2,463.9	2,423.6	12.4	8.5	141.39	167.1	387.3	352.8	336.5	16.27	21.684		
2,600.0	2,488.1	2,562.0	2,519.7	13.1	8.9	141.81	175.8	405.4	371.8	354.9	16.97	21.914		
2,700.0	2,582.1	2,660.2	2,615.8	13.7	9.3	142.19	184.6	423.5	390.9	373.2	17.67	22.126		
2,800.0	2,676.0	2,758.3	2,711.8	14.3	9.7	142.53	193.3	441.5	409.9	391.6	18.36	22.324		
2,900.0	2,770.0	2,856.4	2,807.9	15.0	10.0	142.85	202.0	459.6	429.0	409.9	19.06	22.508		
3,000.0	2,864.0	2,954.6	2,903.9	15.6	10.4	143.13	210.8	477.7	448.1	428.3	19.76	22.680		
3,100.0	2,957.9	3,052.7	3,000.0	16.2	10.8	143.40	219.5	495.8	467.2	446.7	20.45	22.840		
3,200.0	3,051.9	3,150.9	3,096.1	16.9	11.2	143.64	228.2	513.9	486.3	465.1	21.15	22.990		

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Shideler 19-9B
Project:	Mamm Creek	TVD Reference:	KB=22' @ 6531.0ft (Nabors M-15)
Reference Site:	O19EB Pad (2nd Occupation)	MD Reference:	KB=22' @ 6531.0ft (Nabors M-15)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Shideler 19-9B	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 O19EB Pad (2nd Occupation) - Shideler 19-16BB - 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		Separation		Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Uncertainty Axis	Factor		
0.0	0.0	0.0	0.0	0.0	0.0	115.24	-17.8	37.9	41.8					
100.0	100.0	100.0	100.0	0.1	0.1	115.24	-17.8	37.9	41.8	41.6	0.27	153.702		
200.0	200.0	200.0	200.0	0.3	0.3	115.24	-17.8	37.9	41.8	41.2	0.62	67.353		
300.0	300.0	300.0	300.0	0.5	0.5	115.24	-17.8	37.9	41.8	40.9	0.97	43.125		
400.0	400.0	400.0	400.0	0.7	0.7	82.98	-17.8	37.9	41.4	40.1	1.33	31.268		
414.3	414.2	413.9	413.9	0.7	0.7	84.02	-17.8	37.9	41.4	40.0	1.38	30.007 CC, ES		
500.0	499.6	498.0	497.9	0.9	0.8	91.41	-17.8	40.4	43.2	41.5	1.71	25.243		
600.0	598.8	595.7	595.4	1.1	1.0	100.49	-17.6	47.9	50.2	48.0	2.16	23.186		
700.0	697.1	692.9	691.8	1.5	1.3	107.77	-17.3	60.3	62.6	59.9	2.71	23.071 SF		
800.0	794.3	789.8	787.1	1.9	1.6	112.78	-16.8	77.3	80.2	76.8	3.37	23.771		
900.0	890.2	887.2	882.7	2.5	1.9	117.75	-16.3	95.7	101.1	97.0	4.11	24.600		
1,000.0	984.5	983.6	977.4	3.0	2.3	122.93	-15.9	114.0	125.2	120.4	4.87	25.721		
1,100.0	1,078.5	1,079.8	1,071.9	3.7	2.6	127.07	-15.4	132.2	150.8	145.2	5.62	26.848		
1,200.0	1,172.5	1,176.0	1,166.3	4.3	2.9	130.01	-14.9	150.5	176.9	170.5	6.36	27.818		
1,300.0	1,266.4	1,272.2	1,260.8	4.9	3.3	132.19	-14.4	168.7	203.3	196.2	7.10	28.645		
1,400.0	1,360.4	1,368.4	1,355.3	5.5	3.7	133.87	-14.0	186.9	229.9	222.0	7.83	29.352		
1,500.0	1,454.4	1,464.6	1,449.7	6.1	4.0	135.21	-13.5	205.1	256.6	248.1	8.57	29.960		
1,600.0	1,548.4	1,560.8	1,544.2	6.8	4.4	136.29	-13.0	223.3	283.5	274.2	9.30	30.487		
1,700.0	1,642.3	1,657.0	1,638.6	7.4	4.7	137.18	-12.6	241.6	310.4	300.4	10.03	30.947		
1,800.0	1,736.3	1,753.2	1,733.1	8.0	5.1	137.93	-12.1	259.8	337.4	326.7	10.76	31.351		
1,900.0	1,830.3	1,849.4	1,827.5	8.6	5.4	138.57	-11.6	278.0	364.5	353.0	11.49	31.709		
2,000.0	1,924.3	1,945.6	1,922.0	9.3	5.8	139.13	-11.1	296.2	391.6	379.4	12.23	32.028		
2,100.0	2,018.2	2,041.8	2,016.4	9.9	6.2	139.61	-10.7	314.4	418.7	405.7	12.96	32.314		
2,200.0	2,112.2	2,138.0	2,110.9	10.5	6.5	140.03	-10.2	332.7	445.8	432.1	13.69	32.571		
2,300.0	2,206.2	2,234.2	2,205.4	11.2	6.9	140.40	-9.7	350.9	473.0	458.6	14.42	32.805		

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Shideler 19-9B
Project:	Mamm Creek	TVD Reference:	KB=22' @ 6531.0ft (Nabors M-15)
Reference Site:	O19EB Pad (2nd Occupation)	MD Reference:	KB=22' @ 6531.0ft (Nabors M-15)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Shideler 19-9B	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 O19EB Pad (2nd Occupation) - Shideler 19-6C - 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	-35.83	21.1	-15.3	26.1				
100.0	100.0	100.0	100.0	0.1	0.1	-35.83	21.1	-15.3	26.1	25.8	0.27	95.702	
200.0	200.0	200.0	200.0	0.3	0.3	-35.83	21.1	-15.3	26.1	25.4	0.62	41.937	
300.0	300.0	300.0	300.0	0.5	0.5	-35.83	21.1	-15.3	26.1	25.1	0.97	26.852	
368.9	368.9	368.7	368.7	0.6	0.6	-74.29	21.2	-15.3	25.8	24.6	1.21	21.239 CC, ES	
400.0	400.0	399.3	399.3	0.7	0.7	-77.14	21.6	-15.6	26.0	24.7	1.32	19.634	
500.0	499.6	497.6	497.4	0.9	0.8	-90.77	25.6	-18.7	30.3	28.6	1.71	17.714 SF	
600.0	598.8	594.9	594.3	1.1	1.1	-104.11	33.6	-24.8	41.5	39.3	2.16	19.216	
700.0	697.1	690.9	689.1	1.5	1.4	-112.84	45.2	-33.8	59.8	57.1	2.69	22.234	
800.0	794.3	784.9	781.2	1.9	1.7	-117.79	60.2	-45.3	84.8	81.4	3.32	25.496	
900.0	890.2	876.6	870.0	2.5	2.1	-120.48	78.3	-59.2	115.8	111.7	4.07	28.460	
1,000.0	984.5	965.7	955.1	3.0	2.6	-122.14	99.1	-75.2	152.3	147.4	4.90	31.048	
1,100.0	1,078.5	1,052.6	1,036.9	3.7	3.1	-122.79	122.4	-93.2	192.0	186.2	5.81	33.072	
1,200.0	1,172.5	1,137.5	1,115.4	4.3	3.7	-122.39	148.0	-112.9	234.3	227.5	6.76	34.663	
1,300.0	1,266.4	1,220.1	1,190.3	4.9	4.4	-121.45	175.5	-134.0	279.0	271.2	7.75	36.005	
1,400.0	1,360.4	1,300.0	1,261.3	5.5	5.1	-120.25	204.6	-156.4	326.1	317.3	8.76	37.226	
1,500.0	1,454.4	1,377.4	1,328.6	6.1	5.8	-118.92	235.0	-179.7	375.7	365.9	9.80	38.336	
1,600.0	1,548.4	1,452.0	1,391.8	6.8	6.5	-117.56	266.2	-203.8	427.7	416.8	10.83	39.479	
1,700.0	1,642.3	1,532.4	1,458.8	7.4	7.3	-116.14	301.5	-230.9	481.5	469.6	11.90	40.449	

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Shideler 19-9B
Project:	Mamm Creek	TVD Reference:	KB=22' @ 6531.0ft (Nabors M-15)
Reference Site:	O19EB Pad (2nd Occupation)	MD Reference:	KB=22' @ 6531.0ft (Nabors M-15)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Shideler 19-9B	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 O19EB Pad (2nd Occupation) - Shideler 19-9C - OH - Plan #1													Offset Site Error:	0.0 ft
Survey Program: O-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	80.87	1.8	11.3	11.4	11.2	0.27	42.033		
100.0	100.0	100.0	100.0	0.1	0.1	80.87	1.8	11.3	11.4	10.8	0.62	18.419 CC, ES		
200.0	200.0	200.0	200.0	0.3	0.3	80.87	1.8	11.3	11.4	12.7	0.97	14.128		
300.0	300.0	299.4	299.4	0.5	0.5	74.94	3.6	13.2	13.7	17.4	1.33	14.107		
400.0	400.0	398.5	398.1	0.7	0.7	33.20	8.7	18.9	18.7	22.5	1.70	14.286		
500.0	499.6	497.3	496.1	0.9	1.0	32.15	17.3	28.4	24.2	2.10	2.58	14.149		
600.0	598.8	595.8	593.0	1.1	1.3	33.33	29.3	41.6	30.2	3.21	4.15	9.989		
700.0	697.1	694.2	688.7	1.5	1.8	35.62	44.5	58.4	36.5	34.0	5.43	7.582		
800.0	794.3	794.1	785.4	1.9	2.2	40.49	61.3	76.9	40.7	37.5	5.54	7.381		
900.0	890.2	893.8	882.0	2.5	2.7	49.53	78.1	95.3	41.5	37.3	7.03	6.063		
994.4	979.4	987.7	972.9	3.0	3.1	62.26	93.9	112.7	41.2	35.7	8.31	5.669 SF		
1,000.0	984.5	993.3	978.3	3.0	3.2	63.86	94.8	113.8	40.9	35.4	9.33	5.750		
1,100.0	1,078.5	1,092.7	1,074.5	3.7	3.6	79.21	111.5	132.2	42.6	35.6	10.17	6.060		
1,200.0	1,172.5	1,192.0	1,170.7	4.3	4.1	92.52	128.2	150.6	47.1	38.8	10.90	6.472		
1,300.0	1,266.4	1,291.4	1,266.9	4.9	4.6	103.07	144.9	169.0	53.7	44.3	11.57	6.921		
1,400.0	1,360.4	1,390.7	1,363.1	5.5	5.0	111.14	161.6	187.4	61.6	51.5	12.21	7.373		
1,500.0	1,454.4	1,490.1	1,459.3	6.1	5.5	117.28	178.4	205.8	70.5	59.6	12.83	7.811		
1,600.0	1,548.4	1,589.4	1,555.5	6.8	6.0	122.01	195.1	224.2	80.0	68.5	13.45	8.229		
1,700.0	1,642.3	1,688.8	1,651.7	7.4	6.4	125.72	211.8	242.6	90.0	77.8	14.07	8.621		
1,800.0	1,736.3	1,788.1	1,747.9	8.0	6.9	128.68	228.5	261.0	100.2	87.4	14.69	8.989		
1,900.0	1,830.3	1,887.5	1,844.0	8.6	7.4	131.09	245.2	279.4	110.7	97.3	15.31	9.332		
2,000.0	1,924.3	1,986.8	1,940.2	9.3	7.9	133.08	261.9	297.8	121.3	107.3	15.94	9.653		
2,100.0	2,018.2	2,086.2	2,036.4	9.9	8.3	134.74	278.6	316.2	132.1	117.4	16.56	9.951		
2,200.0	2,112.2	2,185.5	2,132.6	10.5	8.8	136.16	295.3	334.6	142.9	127.6	17.19	10.229		
2,300.0	2,206.2	2,284.9	2,228.8	11.2	9.3	137.38	312.0	353.0	153.8	137.9	17.82	10.489		
2,400.0	2,300.1	2,384.2	2,325.0	11.8	9.8	138.43	328.7	371.4	164.8	148.2	18.45	10.732		
2,500.0	2,394.1	2,483.6	2,421.2	12.4	10.2	139.36	345.4	389.8	175.8	158.6	19.08	10.960		
2,600.0	2,488.1	2,583.0	2,517.4	13.1	10.7	140.17	362.1	408.3	186.9	169.1	19.71	11.173		
2,700.0	2,582.1	2,682.3	2,613.6	13.7	11.2	140.89	378.8	426.7	198.0	179.5	20.35	11.373		
2,800.0	2,676.0	2,781.7	2,709.8	14.3	11.6	141.54	395.5	445.1	209.1	190.0	20.98	11.561		
2,900.0	2,770.0	2,881.0	2,806.0	15.0	12.1	142.12	412.2	463.5	220.2	200.5	21.62	11.738		
3,000.0	2,864.0	2,980.4	2,902.2	15.6	12.6	142.65	428.9	481.9	231.4	211.1	22.26	11.905		
3,100.0	2,957.9	3,079.7	2,998.4	16.2	13.1	143.12	445.6	500.3	242.6	221.6	22.90	12.063		
3,200.0	3,051.9	3,179.1	3,094.6	16.9	13.5	143.56	462.3	518.7	253.8	232.2	23.54	12.212		
3,300.0	3,145.9	3,278.4	3,190.8	17.5	14.0	143.96	479.1	537.1	265.0	242.7	24.18	12.354		
3,400.0	3,239.9	3,377.8	3,287.0	18.1	14.5	144.32	495.8	555.5	276.2	253.3	24.82	12.488		
3,500.0	3,333.8	3,477.1	3,383.1	18.7	15.0	144.66	512.5	573.9	287.5	263.9	25.46	12.615		
3,600.0	3,427.8	3,576.5	3,479.3	19.4	15.4	144.97	529.2	592.3	298.7	274.5	26.10	12.736		
3,700.0	3,521.8	3,675.8	3,575.5	20.0	15.9	145.26	545.9	610.7	309.9	285.1	26.75	12.851		
3,800.0	3,615.7	3,775.2	3,671.7	20.6	16.4	145.53	562.6	629.1	321.2	295.7	27.39	12.960		
3,900.0	3,709.7	3,874.5	3,767.9	21.3	16.9	145.78	579.3	647.5	332.5	306.4	28.04	13.065		
4,000.0	3,803.7	3,973.9	3,864.1	21.9	17.3	146.01	596.0	665.9	343.7	317.0	28.68	13.165		
4,100.0	3,897.7	4,073.3	3,960.3	22.5	17.8	146.23	612.7	684.3	355.0	327.6	29.33	13.260		
4,200.0	3,991.6	4,172.6	4,056.5	23.2	18.3	146.44	629.4	702.7	366.3	338.3	29.97	13.345		
4,300.0	4,085.6	4,272.0	4,152.7	23.8	18.7	146.63	646.1	721.1	377.6	348.9	30.69	13.322		
4,400.0	4,179.6	4,371.3	4,248.9	24.4	19.2	146.81	662.8	739.6	388.9	359.5	31.48	13.176		
4,500.0	4,273.6	4,470.7	4,345.1	25.1	19.7	147.01	679.5	758.0	400.0	370.0	32.19	13.034		
4,600.0	4,368.6	4,570.3	4,441.5	25.6	20.2	147.04	696.3	776.4	408.8	378.1	32.82	12.910		
4,700.0	4,464.5	4,667.1	4,535.3	26.1	20.6	146.81	712.5	794.2	414.8	383.3	33.37	12.803		
4,800.0	4,561.4	4,757.6	4,623.5	26.6	21.0	146.57	726.1	809.3	419.6	387.4				
4,900.0	4,659.1	4,848.2	4,712.3	26.9	21.3	146.36	738.0	822.3	423.8	390.9				
5,000.0	4,757.5	4,938.7	4,801.6	27.3	21.6	146.18	747.9	833.3	427.2	393.9				

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 19-9B
Project:	Mamm Creek	TVD Reference:	KB=22' @ 6531.0ft (Nabors M-15)
Reference Site:	O19EB Pad (2nd Occupation)	MD Reference:	KB=22' @ 6531.0ft (Nabors M-15)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Shideler 19-9B	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 O19EB Pad (2nd Occupation) - Shideler 19-9C - 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		Separation		Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Uncertainty Axis		
5,100.0	4,856.5	5,029.2	4,891.3	27.5	21.8	146.04	755.9	842.1	430.0	396.2	33.83	12.710	
5,200.0	4,955.9	5,119.6	4,981.3	27.7	22.0	145.94	762.0	848.8	432.1	397.9	34.21	12.630	
5,300.0	5,055.6	5,210.1	5,071.6	27.9	22.1	145.86	766.2	853.4	433.5	399.0	34.51	12.563	
5,400.0	5,155.5	5,300.0	5,161.4	28.0	22.2	145.82	768.5	855.9	434.3	399.5	34.72	12.506	
5,500.0	5,255.5	5,394.1	5,255.5	28.0	22.3	-178.36	768.9	856.5	434.3	399.5	34.89	12.448	
5,600.0	5,355.5	5,494.1	5,355.5	28.1	22.4	-178.36	768.9	856.5	434.3	399.3	35.08	12.380	
5,700.0	5,455.5	5,594.1	5,455.5	28.2	22.5	-178.36	768.9	856.5	434.3	399.1	35.28	12.312	
5,800.0	5,555.5	5,694.1	5,555.5	28.2	22.5	-178.36	768.9	856.5	434.3	398.9	35.47	12.245	
5,900.0	5,655.5	5,794.1	5,655.5	28.3	22.6	-178.36	768.9	856.5	434.3	398.7	35.67	12.177	
6,000.0	5,755.5	5,894.1	5,755.5	28.3	22.7	-178.36	768.9	856.5	434.3	398.5	35.87	12.109	
6,100.0	5,855.5	5,994.1	5,855.5	28.4	22.8	-178.36	768.9	856.5	434.3	398.3	36.07	12.041	
6,200.0	5,955.5	6,094.1	5,955.5	28.5	22.8	-178.36	768.9	856.5	434.3	398.1	36.28	11.973	
6,300.0	6,055.5	6,194.1	6,055.5	28.5	22.9	-178.36	768.9	856.5	434.3	397.9	36.48	11.905	
6,400.0	6,155.5	6,294.1	6,155.5	28.6	23.0	-178.36	768.9	856.5	434.3	397.7	36.69	11.837	
6,500.0	6,255.5	6,394.1	6,255.5	28.7	23.1	-178.36	768.9	856.5	434.3	397.4	36.90	11.770	
6,600.0	6,355.5	6,494.1	6,355.5	28.7	23.2	-178.36	768.9	856.5	434.3	397.2	37.12	11.702	
6,700.0	6,455.5	6,594.1	6,455.5	28.8	23.3	-178.36	768.9	856.5	434.3	397.0	37.33	11.634	
6,800.0	6,555.5	6,694.1	6,555.5	28.9	23.3	-178.36	768.9	856.5	434.3	396.8	37.55	11.567	
6,900.0	6,655.5	6,794.1	6,655.5	29.0	23.4	-178.36	768.9	856.5	434.3	396.6	37.77	11.500	
7,000.0	6,755.5	6,894.1	6,755.5	29.0	23.5	-178.36	768.9	856.5	434.3	396.4	37.99	11.433	
7,100.0	6,855.5	6,994.1	6,855.5	29.1	23.6	-178.36	768.9	856.5	434.3	396.1	38.21	11.366	
7,200.0	6,955.5	7,094.1	6,955.5	29.2	23.7	-178.36	768.9	856.5	434.3	395.9	38.44	11.300	
7,300.0	7,055.5	7,194.1	7,055.5	29.3	23.8	-178.36	768.9	856.5	434.3	395.7	38.66	11.234	
7,400.0	7,155.5	7,294.1	7,155.5	29.3	23.9	-178.36	768.9	856.5	434.3	395.5	38.89	11.168	
7,500.0	7,255.5	7,394.1	7,255.5	29.4	24.0	-178.36	768.9	856.5	434.3	395.2	39.12	11.102	
7,600.0	7,355.5	7,494.1	7,355.5	29.5	24.1	-178.36	768.9	856.5	434.3	395.0	39.36	11.036	
7,700.0	7,455.5	7,594.1	7,455.5	29.6	24.2	-178.36	768.9	856.5	434.3	394.8	39.59	10.971	
7,800.0	7,555.5	7,694.1	7,555.5	29.6	24.3	-178.36	768.9	856.5	434.3	394.5	39.83	10.906	
7,821.5	7,577.0	7,715.6	7,577.0	29.7	24.3	-178.36	768.9	856.5	434.3	394.5	39.88	10.892	

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Shideler 19-9B
Project:	Mamm Creek	TVD Reference:	KB=22' @ 6531.0ft (Nabors M-15)
Reference Site:	O19EB Pad (2nd Occupation)	MD Reference:	KB=22' @ 6531.0ft (Nabors M-15)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Shideler 19-9B	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 O19EB Pad (2nd Occupation) - Shideler Federal 19-12A - OH - Plan #1													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor		
0.0	0.0	0.0	0.0	0.0	0.0	-53.47	19.7	-26.6	33.0					
100.0	100.0	100.0	100.0	0.1	0.1	-53.47	19.7	-26.6	33.0	32.8	0.27	121.365		
200.0	200.0	200.0	200.0	0.3	0.3	-53.47	19.7	-26.6	33.0	32.4	0.62	53.182 CC, ES		
300.0	300.0	298.2	298.2	0.5	0.5	-53.39	21.2	-28.6	35.6	34.6	0.97	36.704		
400.0	400.0	395.9	395.5	0.7	0.7	-92.23	25.8	-34.5	43.3	42.0	1.32	32.857 SF		
500.0	499.6	492.3	491.1	0.9	1.0	-98.66	33.3	-44.2	56.8	55.1	1.70	33.329		
600.0	598.8	586.8	584.1	1.1	1.3	-105.03	43.5	-57.5	76.7	74.6	2.15	35.614		
700.0	697.1	678.7	673.7	1.5	1.7	-110.01	56.1	-73.8	103.4	100.7	2.69	38.408		
800.0	794.3	767.5	759.2	1.9	2.2	-113.56	70.7	-92.9	136.8	133.4	3.33	41.117		
900.0	890.2	852.8	840.1	2.5	2.7	-115.95	87.1	-114.1	176.4	172.4	4.05	43.554		
1,000.0	984.5	934.3	916.3	3.0	3.3	-117.88	104.8	-137.0	221.9	217.0	4.85	45.771		
1,100.0	1,078.5	1,012.9	988.5	3.7	3.8	-119.49	123.7	-161.5	271.1	265.4	5.68	47.689		
1,200.0	1,172.5	1,088.7	1,057.0	4.3	4.5	-120.21	143.6	-187.4	323.3	316.7	6.54	49.400		
1,300.0	1,266.4	1,161.7	1,121.6	4.9	5.1	-120.42	164.3	-214.3	378.0	370.6	7.42	50.955		
1,400.0	1,360.4	1,231.8	1,182.3	5.5	5.8	-120.32	185.7	-242.0	435.3	427.0	8.30	52.465		
1,500.0	1,454.4	1,302.5	1,242.3	6.1	6.5	-120.01	208.5	-271.6	494.8	485.6	9.19	53.848		

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Shideler 19-9B
Project:	Mamm Creek	TVD Reference:	KB=22' @ 6531.0ft (Nabors M-15)
Reference Site:	O19EB Pad (2nd Occupation)	MD Reference:	KB=22' @ 6531.0ft (Nabors M-15)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Shideler 19-9B	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 O19EB Pad (2nd Occupation) - Shideler Federal 19-12C - OH - Plan #1													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre	Between Centres	Between Ellipses	Total Uncertainty Axis	Separation Factor			
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)				
0.0	0.0	0.0	0.0	0.0	0.0	126.54	-9.8	13.3	16.5					
100.0	100.0	100.0	100.0	0.1	0.1	126.54	-9.8	13.3	16.5	16.3	0.27	60.692		
200.0	200.0	200.0	200.0	0.3	0.3	126.54	-9.8	13.3	16.5	15.9	0.62	26.595		
300.0	300.0	300.0	300.0	0.5	0.5	126.54	-9.8	13.3	16.5	15.6	0.97	17.029		
400.0	400.0	400.3	400.3	0.7	0.7	100.81	-9.6	12.6	16.2	14.9	1.33	12.199		
455.6	455.4	456.1	456.0	0.8	0.8	118.48	-8.9	10.5	15.6	14.1	1.54	10.136 CC, ES		
500.0	499.6	500.3	500.2	0.9	0.9	138.76	-8.0	7.7	16.5	14.8	1.70	9.726 SF		
600.0	598.8	598.5	597.8	1.1	1.1	177.73	-4.7	-2.0	28.6	26.5	2.07	13.809		
700.0	697.1	693.9	692.1	1.5	1.4	-165.17	0.0	-16.0	53.0	50.5	2.49	21.305		
800.0	794.3	785.7	782.0	1.9	1.7	-157.47	5.9	-33.6	86.6	83.6	2.97	29.194		
900.0	890.2	873.3	866.8	2.5	2.1	-153.21	12.8	-54.3	128.0	124.5	3.50	36.549		
1,000.0	984.5	956.1	946.0	3.0	2.6	-150.66	20.5	-77.1	176.4	172.3	4.10	43.027		
1,100.0	1,078.5	1,035.4	1,020.8	3.7	3.1	-148.95	28.9	-102.1	228.3	223.6	4.75	48.038		
1,200.0	1,172.5	1,111.6	1,091.6	4.3	3.6	-147.36	37.8	-128.8	282.9	277.4	5.44	52.040		
1,300.0	1,266.4	1,184.5	1,158.2	4.9	4.2	-145.90	47.2	-156.8	340.0	333.8	6.15	55.319		
1,400.0	1,360.4	1,254.2	1,220.8	5.5	4.8	-144.56	57.0	-185.9	399.6	392.7	6.87	58.117		
1,500.0	1,454.4	1,320.7	1,279.4	6.1	5.4	-143.33	67.0	-215.6	461.4	453.8	7.61	60.664		

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Shideler 19-9B
Project:	Mamm Creek	TVD Reference:	KB=22' @ 6531.0ft (Nabors M-15)
Reference Site:	O19EB Pad (2nd Occupation)	MD Reference:	KB=22' @ 6531.0ft (Nabors M-15)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Shideler 19-9B	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 O19EB Pad (2nd Occupation) - Shideler Federal 19-12D - 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	-53.47	9.8	-13.3	16.5				
100.0	100.0	100.0	100.0	0.1	0.1	-53.47	9.8	-13.3	16.5	16.2	0.27	60.682	
200.0	200.0	200.0	200.0	0.3	0.3	-53.47	9.8	-13.3	16.5	15.9	0.62	26.591	
300.0	300.0	300.0	300.0	0.5	0.5	-53.47	9.8	-13.3	16.5	15.6	0.97	17.026 CC, ES	
400.0	400.0	399.3	399.2	0.7	0.7	-98.09	10.5	-14.5	18.2	16.8	1.32	13.708 SF	
500.0	499.6	497.6	497.3	0.9	0.9	-114.20	13.6	-20.1	26.8	25.1	1.70	15.754	
600.0	598.8	594.2	593.4	1.1	1.1	-124.67	19.0	-29.9	44.0	41.8	2.12	20.743	
700.0	697.1	688.5	686.3	1.5	1.4	-129.91	26.5	-43.5	69.1	66.5	2.60	26.644	
800.0	794.3	779.6	775.4	1.9	1.8	-132.46	35.9	-60.4	101.7	98.6	3.14	32.396	
900.0	890.2	867.1	859.8	2.5	2.2	-133.64	46.8	-80.2	141.3	137.5	3.76	37.575	
1,000.0	984.5	950.4	939.3	3.0	2.7	-134.39	58.9	-102.1	187.1	182.7	4.44	42.117	
1,100.0	1,078.5	1,030.7	1,014.7	3.7	3.2	-134.85	72.1	-126.1	236.6	231.4	5.17	45.719	
1,200.0	1,172.5	1,108.1	1,086.3	4.3	3.7	-134.65	86.3	-151.9	288.7	282.7	5.94	48.627	
1,300.0	1,266.4	1,182.5	1,154.0	4.9	4.3	-134.11	101.3	-179.0	343.3	336.6	6.73	51.020	
1,400.0	1,360.4	1,254.0	1,217.8	5.5	4.9	-133.41	116.9	-207.2	400.4	392.8	7.54	53.098	
1,500.0	1,454.4	1,322.5	1,277.7	6.1	5.6	-132.64	132.9	-236.2	459.7	451.4	8.35	55.051	

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Shideler 19-9B
Project:	Mamm Creek	TVD Reference:	KB=22' @ 6531.0ft (Nabors M-15)
Reference Site:	O19EB Pad (2nd Occupation)	MD Reference:	KB=22' @ 6531.0ft (Nabors M-15)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Shideler 19-9B	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 O19EB Pad (2nd Occupation) - Shideler Federal 19-13A - OH - Plan #1													Offset Site Error:	0.0 ft
Survey Program:		0-MWD											Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor		
0.0	0.0	0.0	0.0	0.0	0.0	126.02	-19.3	26.6	32.8					
100.0	100.0	100.0	100.0	0.1	0.1	126.02	-19.3	26.6	32.8	32.6	0.27	120.573		
200.0	200.0	200.0	200.0	0.3	0.3	126.02	-19.3	26.6	32.8	32.2	0.62	52.835		
300.0	300.0	300.8	300.8	0.5	0.5	126.52	-19.2	25.9	32.2	31.3	0.97	33.161		
400.0	400.0	401.9	401.8	0.7	0.7	101.00	-18.1	20.6	27.9	26.5	1.34	20.873		
483.8	483.5	485.6	485.0	0.8	0.9	127.44	-16.4	12.3	24.7	23.0	1.70	14.556 CC, ES		
500.0	499.6	501.5	500.8	0.9	0.9	134.47	-16.0	10.3	24.9	23.1	1.77	14.084 SF		
600.0	598.8	598.6	596.6	1.1	1.2	173.71	-13.1	-4.5	37.0	34.8	2.20	16.805		
700.0	697.1	692.0	688.0	1.5	1.6	-167.25	-9.3	-23.4	65.0	62.4	2.62	24.803		
800.0	794.3	781.0	774.2	1.9	2.0	-158.72	-4.9	-45.4	103.4	100.3	3.08	33.526		
900.0	890.2	865.0	854.5	2.5	2.5	-154.15	0.0	-69.7	150.0	146.4	3.60	41.719		
1,000.0	984.5	943.7	928.6	3.0	3.0	-151.50	5.2	-95.6	203.5	199.4	4.16	48.952		
1,100.0	1,078.5	1,018.5	997.9	3.7	3.6	-149.92	10.7	-123.0	260.7	255.9	4.77	54.609		
1,200.0	1,172.5	1,089.8	1,063.0	4.3	4.1	-148.54	16.5	-151.6	320.4	315.0	5.41	59.219		
1,300.0	1,266.4	1,157.8	1,124.0	4.9	4.7	-147.32	22.4	-181.0	382.5	376.5	6.06	63.150		
1,400.0	1,360.4	1,233.0	1,190.7	5.5	5.4	-146.15	29.2	-215.1	446.2	439.5	6.75	66.144		

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Shideler 19-9B
Project:	Mamm Creek	TVD Reference:	KB=22' @ 6531.0ft (Nabors M-15)
Reference Site:	O19EB Pad (2nd Occupation)	MD Reference:	KB=22' @ 6531.0ft (Nabors M-15)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Shideler 19-9B	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 O19EB Pad (2nd Occupation) - Shideler Federal 19-13AA - OH - Plan #1													Offset Site Error: 0.0 ft			
Survey Program: 0-MWD															Offset Well Error: 0.0 ft	
Reference		Offset		Semi Major Axis			Distance							Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor				
0.0	0.0	0.0	0.0	0.0	0.0	126.19	-29.1	39.8	49.4							
100.0	100.0	100.0	100.0	0.1	0.1	126.19	-29.1	39.8	49.4	49.1	0.27	181.254				
200.0	200.0	200.0	200.0	0.3	0.3	126.19	-29.1	39.8	49.4	48.7	0.62	79.426				
300.0	300.0	302.1	302.0	0.5	0.5	128.09	-29.1	37.1	47.2	46.2	0.97	48.444				
400.0	400.0	403.3	403.0	0.7	0.7	102.83	-28.9	29.0	41.6	40.2	1.36	30.478				
484.6	484.4	487.5	486.4	0.8	1.0	124.38	-28.7	18.2	38.3	36.5	1.78	21.522 CC, ES				
500.0	499.6	502.6	501.3	0.9	1.0	129.44	-28.6	15.9	38.4	36.6	1.86	20.709 SF				
600.0	598.8	598.6	595.7	1.1	1.4	161.77	-28.3	-1.6	49.9	47.5	2.34	21.293				
700.0	697.1	690.4	685.0	1.5	1.8	-178.32	-27.8	-22.8	78.6	75.9	2.73	28.783				
800.0	794.3	777.1	768.4	1.9	2.2	-168.14	-27.3	-46.7	119.5	116.4	3.12	38.243				
900.0	890.2	858.2	845.3	2.5	2.8	-162.44	-26.8	-72.5	169.5	165.9	3.55	47.742				
1,000.0	984.5	933.5	915.6	3.0	3.3	-159.05	-26.3	-99.3	226.8	222.7	4.02	56.427				
1,100.0	1,078.5	1,000.0	976.8	3.7	3.8	-157.11	-25.7	-125.3	287.8	283.3	4.53	63.567				
1,200.0	1,172.5	1,071.8	1,041.9	4.3	4.4	-155.38	-25.1	-155.7	351.3	346.2	5.09	68.971				
1,300.0	1,266.4	1,143.2	1,105.6	4.9	5.0	-153.96	-24.4	-187.8	416.8	411.1	5.67	73.547				
1,400.0	1,360.4	1,218.3	1,172.6	5.5	5.6	-152.84	-23.7	-221.7	482.6	476.3	6.26	77.065				

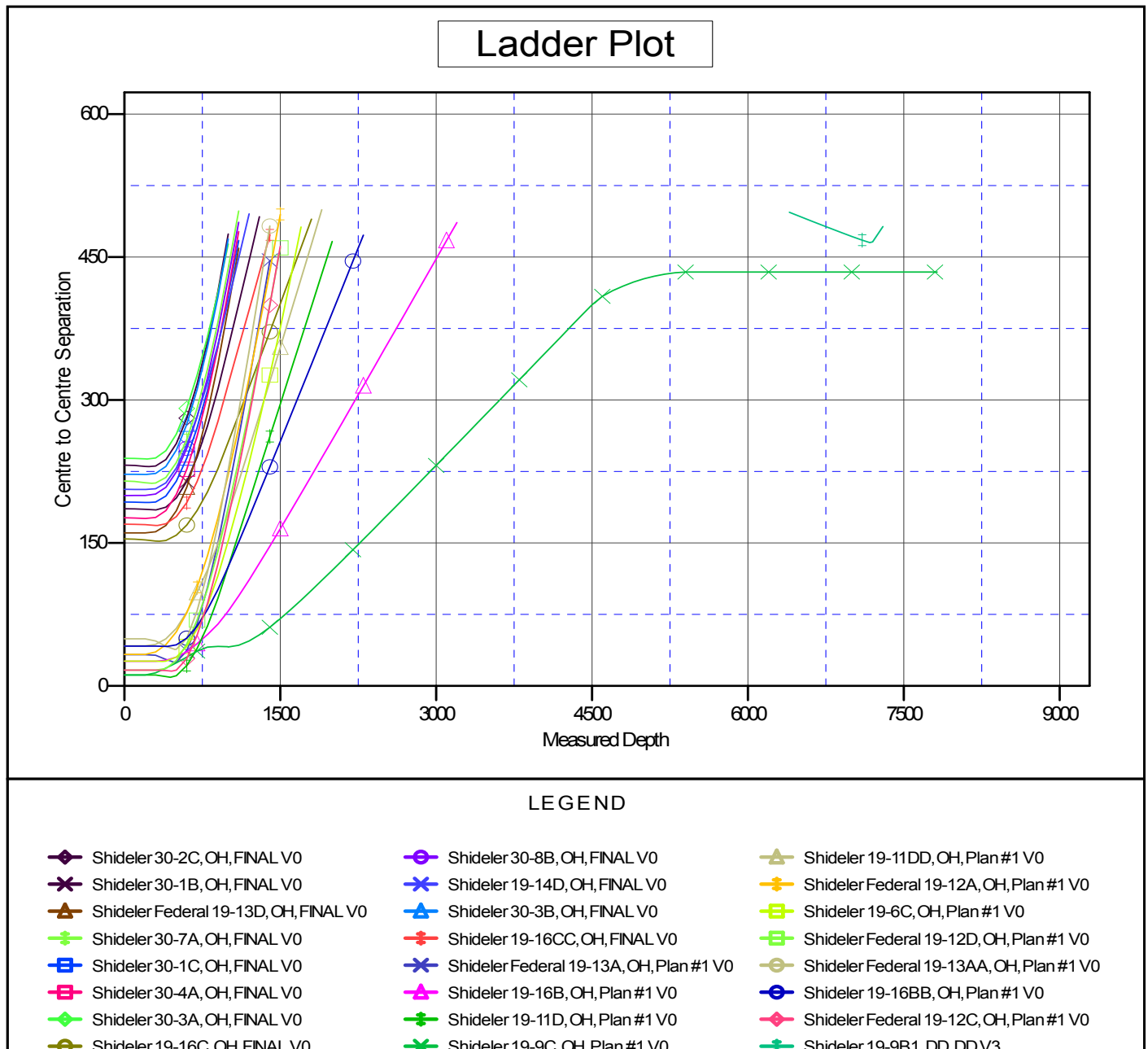
Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Shideler 19-9B
Project:	Mamm Creek	TVD Reference:	KB=22' @ 6531.0ft (Nabors M-15)
Reference Site:	O19EB Pad (2nd Occupation)	MD Reference:	KB=22' @ 6531.0ft (Nabors M-15)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Shideler 19-9B	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' @ 6531.0ft (Nabors M-15)
 Offset Depths are relative to Offset Datum
 Central Meridian is -105.500000 °

Coordinates are relative to: Shideler 19-9B
 Coordinate System is US State Plane 1983, Colorado Central Zone
 Grid Convergence at Surface is: -1.39°



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