

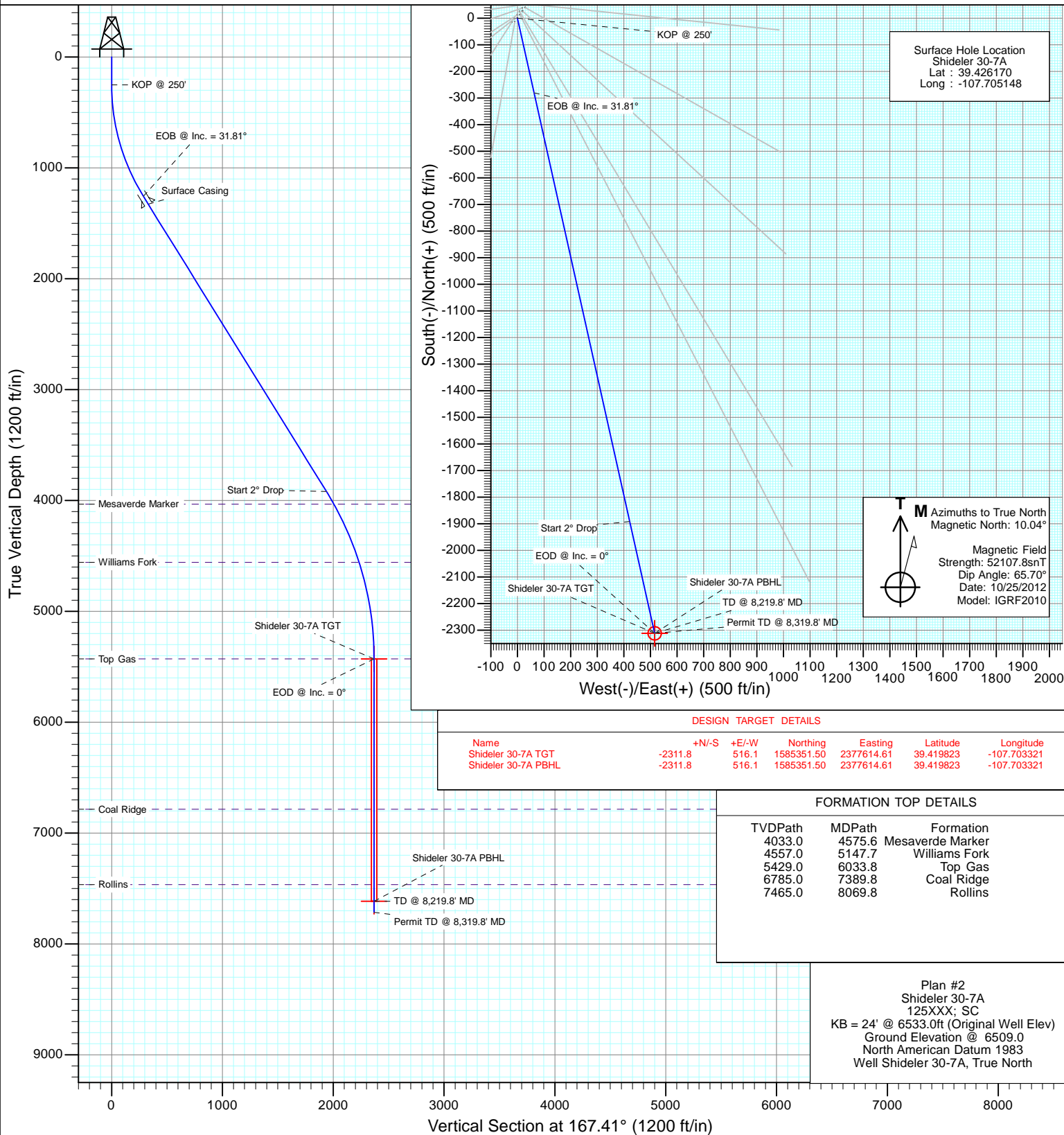


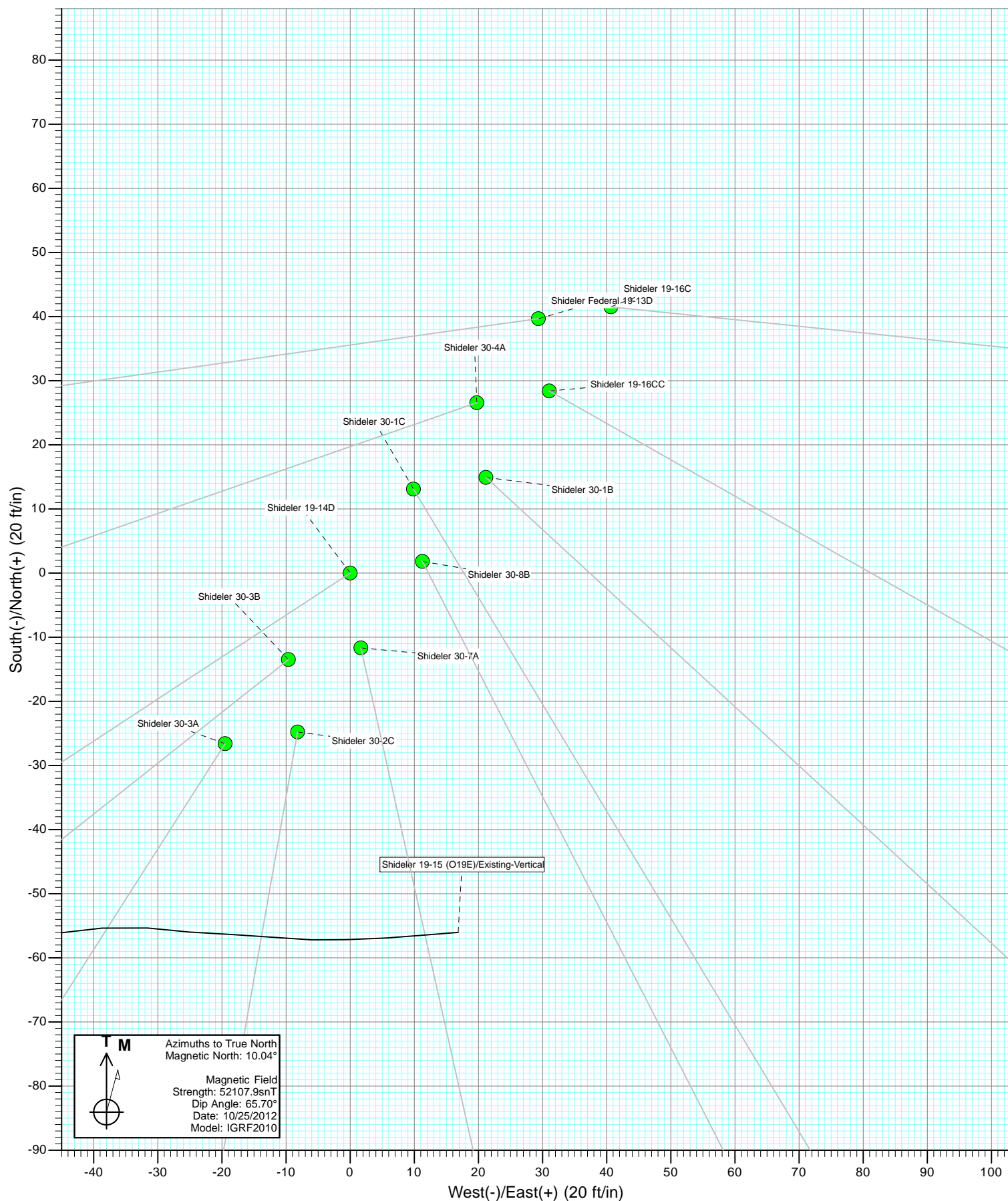
Project: Mamm Creek
Site: O19EB Pad
Well: Shideler 30-7A
Wellbore: OH
Design: Plan #2

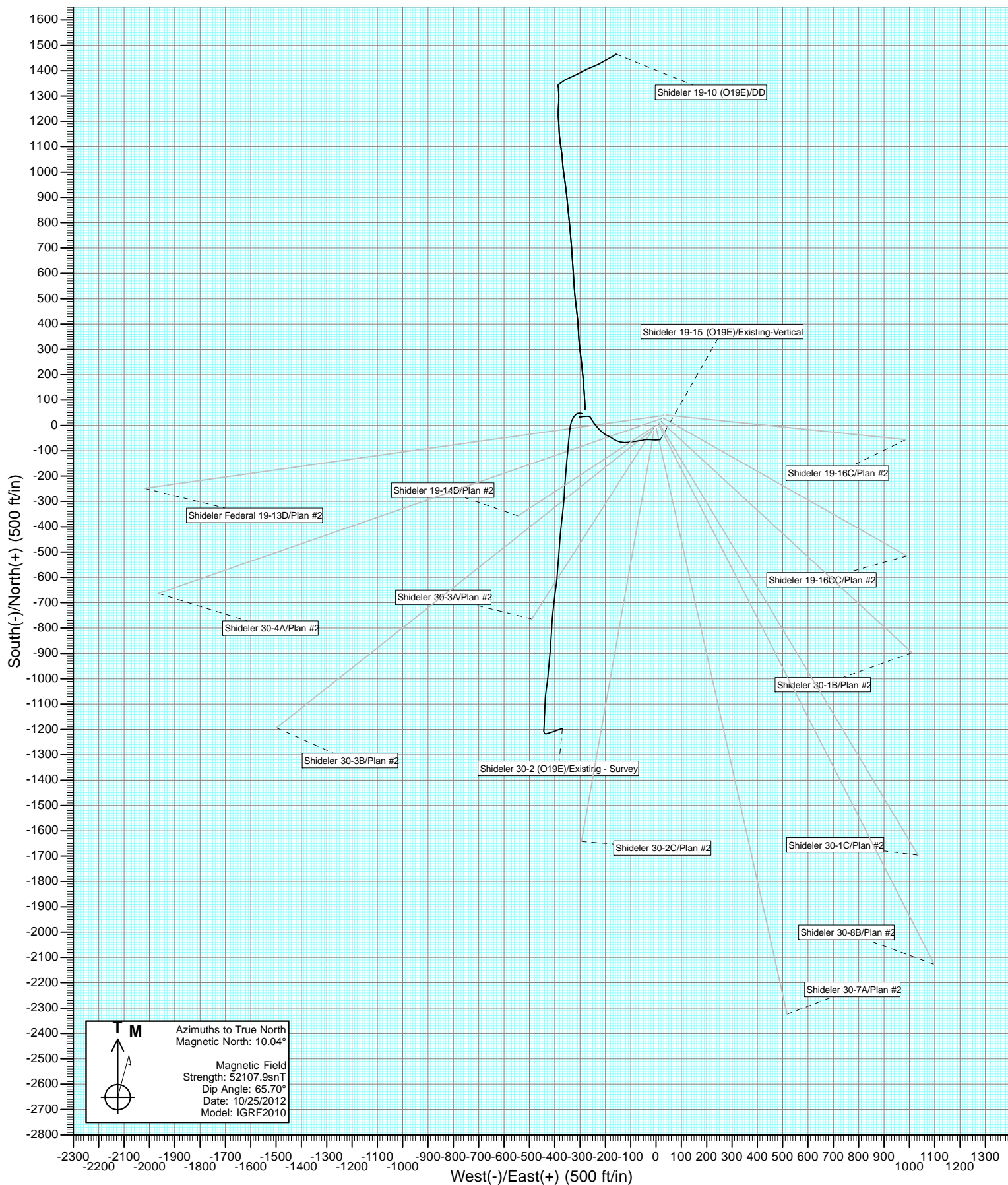


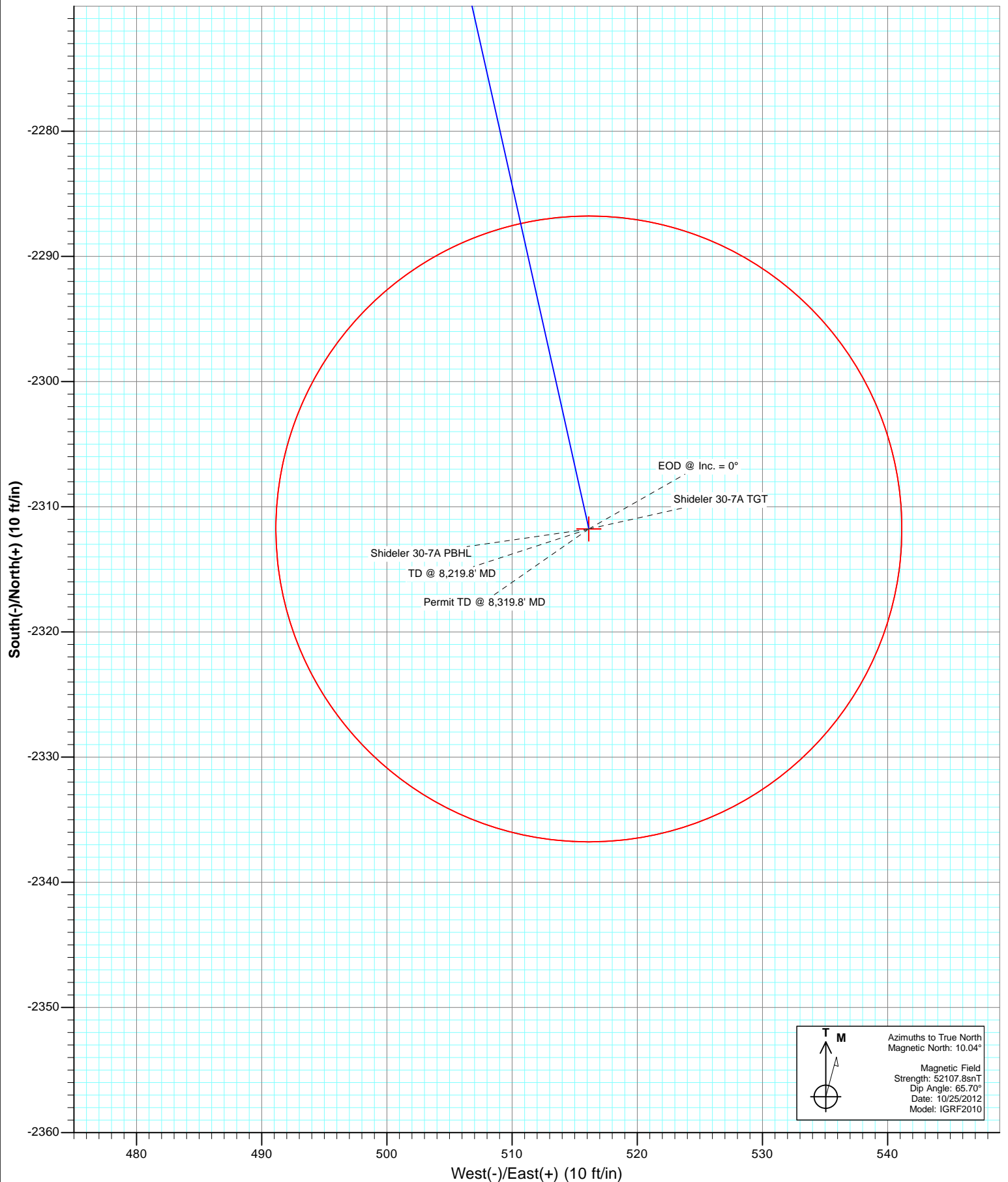
SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	250.0	0.00	0.00	250.0	0.0	0.0	0.00	0.00	0.0	
3	1310.4	31.81	167.41	1256.8	-280.0	62.5	3.00	167.41	286.9	
4	4443.1	31.81	167.41	3918.8	-1891.7	422.4	0.00	0.00	1938.3	
5	6033.8	0.00	0.00	5429.0	-2311.8	516.1	2.00	180.00	2368.7	Shideler 30-7A TGT
6	8219.8	0.00	0.00	7615.0	-2311.8	516.1	0.00	0.00	2368.7	Shideler 30-7A PBHL
7	8319.8	0.00	0.00	7715.0	-2311.8	516.1	0.00	0.00	2368.7	









Cathedral Energy Services

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well Shideler 30-7A
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	KB = 24' @ 6533.0ft (Original Well Elev)
Project:	Mamm Creek	MD Reference:	KB = 24' @ 6533.0ft (Original Well Elev)
Site:	O19EB Pad	North Reference:	True
Well:	Shideler 30-7A	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #2		

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			
Site Position:		Northing:	1,587,688.01 ft	Latitude:	39.426206
From:	Lat/Long	Easting:	2,377,164.37 ft	Longitude:	-107.705115
Position Uncertainty:	0.0 ft	Slot Radius:	13.200 in	Grid Convergence:	-1.39 °

Well	Shideler 30-7A					
Well Position	+N/-S	0.0 ft	Northing:	1,587,675.12 ft	Latitude:	39.426170
	+E/-W	0.0 ft	Easting:	2,377,154.73 ft	Longitude:	-107.705148
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	10/25/2012	10.04	65.70	52,108

Design	Plan #2			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.0	0.0	0.0	167.41

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	
250.0	0.00	0.00	250.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,310.4	31.81	167.41	1,256.8	-280.0	62.5	3.00	3.00	0.00	167.41	
4,443.1	31.81	167.41	3,918.8	-1,891.7	422.4	0.00	0.00	0.00	0.00	
6,033.8	0.00	0.00	5,429.0	-2,311.8	516.1	2.00	-2.00	0.00	180.00	Shideler 30-7A TGT
8,219.8	0.00	0.00	7,615.0	-2,311.8	516.1	0.00	0.00	0.00	0.00	Shideler 30-7A PBHL
8,319.8	0.00	0.00	7,715.0	-2,311.8	516.1	0.00	0.00	0.00	0.00	

Cathedral Energy Services

Planning Report

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Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	KB = 24' @ 6533.0ft (Original Well Elev)
Project:	Mamm Creek	MD Reference:	KB = 24' @ 6533.0ft (Original Well Elev)
Site:	O19EB Pad	North Reference:	True
Well:	Shideler 30-7A	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #2		

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	
250.0	0.00	0.00	250.0	0.0	0.0	0.0	0.00	0.00	KOP @ 250'
300.0	1.50	167.41	300.0	-0.6	0.1	0.7	3.00	3.00	
400.0	4.50	167.41	399.8	-5.7	1.3	5.9	3.00	3.00	
500.0	7.50	167.41	499.3	-15.9	3.6	16.3	3.00	3.00	
600.0	10.50	167.41	598.0	-31.2	7.0	32.0	3.00	3.00	
700.0	13.50	167.41	695.8	-51.5	11.5	52.8	3.00	3.00	
800.0	16.50	167.41	792.4	-76.8	17.1	78.6	3.00	3.00	
900.0	19.50	167.41	887.5	-106.9	23.9	109.5	3.00	3.00	
1,000.0	22.50	167.41	980.9	-141.9	31.7	145.4	3.00	3.00	
1,100.0	25.50	167.41	1,072.2	-181.6	40.5	186.0	3.00	3.00	
1,200.0	28.50	167.41	1,161.3	-225.9	50.4	231.4	3.00	3.00	
1,300.0	31.50	167.41	1,247.9	-274.7	61.3	281.4	3.00	3.00	
1,310.4	31.81	167.41	1,256.8	-280.0	62.5	286.9	3.00	3.00	EOB @ Inc. = 31.81°
1,393.7	31.81	167.41	1,327.5	-322.9	72.1	330.8	0.00	0.00	Surface Casing
1,400.0	31.81	167.41	1,332.9	-326.1	72.8	334.1	0.00	0.00	
1,500.0	31.81	167.41	1,417.9	-377.5	84.3	386.8	0.00	0.00	
1,600.0	31.81	167.41	1,502.8	-429.0	95.8	439.6	0.00	0.00	
1,700.0	31.81	167.41	1,587.8	-480.4	107.3	492.3	0.00	0.00	
1,800.0	31.81	167.41	1,672.8	-531.9	118.8	545.0	0.00	0.00	
1,900.0	31.81	167.41	1,757.8	-583.3	130.2	597.7	0.00	0.00	
2,000.0	31.81	167.41	1,842.8	-634.8	141.7	650.4	0.00	0.00	
2,100.0	31.81	167.41	1,927.7	-686.2	153.2	703.1	0.00	0.00	
2,200.0	31.81	167.41	2,012.7	-737.7	164.7	755.9	0.00	0.00	
2,300.0	31.81	167.41	2,097.7	-789.1	176.2	808.6	0.00	0.00	
2,400.0	31.81	167.41	2,182.7	-840.6	187.7	861.3	0.00	0.00	
2,500.0	31.81	167.41	2,267.6	-892.0	199.2	914.0	0.00	0.00	
2,600.0	31.81	167.41	2,352.6	-943.5	210.6	966.7	0.00	0.00	
2,700.0	31.81	167.41	2,437.6	-994.9	222.1	1,019.4	0.00	0.00	
2,800.0	31.81	167.41	2,522.6	-1,046.4	233.6	1,072.1	0.00	0.00	
2,900.0	31.81	167.41	2,607.5	-1,097.8	245.1	1,124.9	0.00	0.00	
3,000.0	31.81	167.41	2,692.5	-1,149.3	256.6	1,177.6	0.00	0.00	
3,100.0	31.81	167.41	2,777.5	-1,200.7	268.1	1,230.3	0.00	0.00	
3,200.0	31.81	167.41	2,862.5	-1,252.2	279.6	1,283.0	0.00	0.00	
3,300.0	31.81	167.41	2,947.5	-1,303.6	291.1	1,335.7	0.00	0.00	
3,400.0	31.81	167.41	3,032.4	-1,355.1	302.5	1,388.4	0.00	0.00	
3,500.0	31.81	167.41	3,117.4	-1,406.5	314.0	1,441.2	0.00	0.00	
3,600.0	31.81	167.41	3,202.4	-1,458.0	325.5	1,493.9	0.00	0.00	
3,700.0	31.81	167.41	3,287.4	-1,509.4	337.0	1,546.6	0.00	0.00	
3,800.0	31.81	167.41	3,372.3	-1,560.9	348.5	1,599.3	0.00	0.00	
3,900.0	31.81	167.41	3,457.3	-1,612.3	360.0	1,652.0	0.00	0.00	
4,000.0	31.81	167.41	3,542.3	-1,663.8	371.5	1,704.7	0.00	0.00	
4,100.0	31.81	167.41	3,627.3	-1,715.2	382.9	1,757.4	0.00	0.00	
4,200.0	31.81	167.41	3,712.2	-1,766.7	394.4	1,810.2	0.00	0.00	
4,300.0	31.81	167.41	3,797.2	-1,818.1	405.9	1,862.9	0.00	0.00	
4,400.0	31.81	167.41	3,882.2	-1,869.6	417.4	1,915.6	0.00	0.00	
4,443.1	31.81	167.41	3,918.8	-1,891.7	422.4	1,938.3	0.00	0.00	Start 2° Drop
4,500.0	30.68	167.41	3,967.5	-1,920.5	428.8	1,967.8	2.00	-2.00	
4,575.6	29.16	167.41	4,033.0	-1,957.3	437.0	2,005.5	2.00	-2.00	Mesaverde Marker
4,600.0	28.68	167.41	4,054.3	-1,968.9	439.6	2,017.3	2.00	-2.00	

Cathedral Energy Services

Planning Report

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Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	KB = 24' @ 6533.0ft (Original Well Elev)
Project:	Mamm Creek	MD Reference:	KB = 24' @ 6533.0ft (Original Well Elev)
Site:	O19EB Pad	North Reference:	True
Well:	Shideler 30-7A	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #2		

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	26.68	167.41	4,142.9	-2,014.2	449.7	2,063.8	2.00	-2.00	
4,800.0	24.68	167.41	4,233.0	-2,056.5	459.1	2,107.1	2.00	-2.00	
4,900.0	22.68	167.41	4,324.6	-2,095.7	467.9	2,147.3	2.00	-2.00	
5,000.0	20.68	167.41	4,417.5	-2,131.7	475.9	2,184.2	2.00	-2.00	
5,100.0	18.68	167.41	4,511.7	-2,164.6	483.3	2,217.9	2.00	-2.00	
5,147.7	17.72	167.41	4,557.0	-2,179.1	486.5	2,232.8	2.00	-2.00	Williams Fork
5,200.0	16.68	167.41	4,607.0	-2,194.2	489.9	2,248.2	2.00	-2.00	
5,300.0	14.68	167.41	4,703.2	-2,220.6	495.8	2,275.2	2.00	-2.00	
5,400.0	12.68	167.41	4,800.4	-2,243.6	500.9	2,298.9	2.00	-2.00	
5,500.0	10.68	167.41	4,898.3	-2,263.4	505.3	2,319.1	2.00	-2.00	
5,600.0	8.68	167.41	4,996.9	-2,279.8	509.0	2,335.9	2.00	-2.00	
5,700.0	6.68	167.41	5,096.0	-2,292.8	511.9	2,349.3	2.00	-2.00	
5,800.0	4.68	167.41	5,195.5	-2,302.5	514.1	2,359.2	2.00	-2.00	
5,900.0	2.68	167.41	5,295.3	-2,308.7	515.5	2,365.6	2.00	-2.00	
6,000.0	0.68	167.41	5,395.2	-2,311.6	516.1	2,368.5	2.00	-2.00	
6,033.8	0.00	0.00	5,429.0	-2,311.8	516.1	2,368.7	2.00	-2.00	EOD @ Inc. = 0° - Top Gas
6,100.0	0.00	0.00	5,495.2	-2,311.8	516.1	2,368.7	0.00	0.00	
6,200.0	0.00	0.00	5,595.2	-2,311.8	516.1	2,368.7	0.00	0.00	
6,300.0	0.00	0.00	5,695.2	-2,311.8	516.1	2,368.7	0.00	0.00	
6,400.0	0.00	0.00	5,795.2	-2,311.8	516.1	2,368.7	0.00	0.00	
6,500.0	0.00	0.00	5,895.2	-2,311.8	516.1	2,368.7	0.00	0.00	
6,600.0	0.00	0.00	5,995.2	-2,311.8	516.1	2,368.7	0.00	0.00	
6,700.0	0.00	0.00	6,095.2	-2,311.8	516.1	2,368.7	0.00	0.00	
6,800.0	0.00	0.00	6,195.2	-2,311.8	516.1	2,368.7	0.00	0.00	
6,900.0	0.00	0.00	6,295.2	-2,311.8	516.1	2,368.7	0.00	0.00	
7,000.0	0.00	0.00	6,395.2	-2,311.8	516.1	2,368.7	0.00	0.00	
7,100.0	0.00	0.00	6,495.2	-2,311.8	516.1	2,368.7	0.00	0.00	
7,200.0	0.00	0.00	6,595.2	-2,311.8	516.1	2,368.7	0.00	0.00	
7,300.0	0.00	0.00	6,695.2	-2,311.8	516.1	2,368.7	0.00	0.00	
7,389.8	0.00	0.00	6,785.0	-2,311.8	516.1	2,368.7	0.00	0.00	Coal Ridge
7,400.0	0.00	0.00	6,795.2	-2,311.8	516.1	2,368.7	0.00	0.00	
7,500.0	0.00	0.00	6,895.2	-2,311.8	516.1	2,368.7	0.00	0.00	
7,600.0	0.00	0.00	6,995.2	-2,311.8	516.1	2,368.7	0.00	0.00	
7,700.0	0.00	0.00	7,095.2	-2,311.8	516.1	2,368.7	0.00	0.00	
7,800.0	0.00	0.00	7,195.2	-2,311.8	516.1	2,368.7	0.00	0.00	
7,900.0	0.00	0.00	7,295.2	-2,311.8	516.1	2,368.7	0.00	0.00	
8,000.0	0.00	0.00	7,395.2	-2,311.8	516.1	2,368.7	0.00	0.00	
8,069.8	0.00	0.00	7,465.0	-2,311.8	516.1	2,368.7	0.00	0.00	Rollins
8,100.0	0.00	0.00	7,495.2	-2,311.8	516.1	2,368.7	0.00	0.00	
8,200.0	0.00	0.00	7,595.2	-2,311.8	516.1	2,368.7	0.00	0.00	
8,219.8	0.00	0.00	7,615.0	-2,311.8	516.1	2,368.7	0.00	0.00	TD @ 8,219.8' MD
8,300.0	0.00	0.00	7,695.2	-2,311.8	516.1	2,368.7	0.00	0.00	
8,319.8	0.00	0.00	7,715.0	-2,311.8	516.1	2,368.7	0.00	0.00	Permit TD @ 8,319.8' MD

Cathedral Energy Services

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well Shideler 30-7A
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	KB = 24' @ 6533.0ft (Original Well Elev)
Project:	Mamm Creek	MD Reference:	KB = 24' @ 6533.0ft (Original Well Elev)
Site:	O19EB Pad	North Reference:	True
Well:	Shideler 30-7A	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #2		

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 30-7A TGT	0.00	0.00	5,429.0	-2,311.8	516.1	1,585,351.50	2,377,614.61	39.419823	-107.703321
- plan hits target center									
- Point									
Shideler 30-7A PBHL	0.00	0.00	7,615.0	-2,311.8	516.1	1,585,351.50	2,377,614.61	39.419823	-107.703321
- plan hits target center									
- Circle (radius 25.0)									

Casing Points				
Measured Depth	Vertical Depth	Name	Casing Diameter	Hole Diameter
(ft)	(ft)		(in)	(in)
1,393.7	1,327.5	Surface Casing		

Formations					
Measured Depth	Vertical Depth	Name	Lithology	Dip	Dip Direction
(ft)	(ft)			(°)	(°)
4,575.6	4,033.0	Mesaverde Marker			
5,147.7	4,557.0	Williams Fork			
6,033.8	5,429.0	Top Gas			
7,389.8	6,785.0	Coal Ridge			
8,069.8	7,465.0	Rollins			

Plan Annotations				
Measured Depth	Vertical Depth	Local Coordinates		Comment
(ft)	(ft)	+N/-S	+E/-W	
(ft)	(ft)	(ft)	(ft)	
250.0	250.0	0.0	0.0	KOP @ 250'
1,310.4	1,256.8	-280.0	62.5	EOB @ Inc. = 31.81°
4,443.1	3,918.8	-1,891.7	422.4	Start 2° Drop
6,033.8	5,429.0	-2,311.8	516.1	EOD @ Inc. = 0°
8,219.8	7,615.0	-2,311.8	516.1	TD @ 8,219.8' MD
8,319.8	7,715.0	-2,311.8	516.1	Permit TD @ 8,319.8' MD

EnCana Oil & Gas (USA) Inc

Mamm Creek

O19EB Pad

Shideler 30-7A

OH

Plan #2

Anticollision Report

13 November, 2012

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Shideler 30-7A
Project:	Mamm Creek	TVD Reference:	KB = 24' @ 6533.0ft (Original Well Elev)
Reference Site:	O19EB Pad	MD Reference:	KB = 24' @ 6533.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Shideler 30-7A	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 #2	Offset TVD Reference:	Offset Datum

Reference	Plan #2		
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	11/13/2012		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
0.0	8,319.8	Plan #2 (OH)	MWD	Geolink MWD	

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						
O19EB Pad						
(Existing Offset) Shideler 19-6D - Existing - Existing						Out of range
Shideler 19-14D - OH - Plan #2	200.0	200.0	11.8	11.2	19.171	CC, ES
Shideler 19-14D - OH - Plan #2	400.0	400.1	16.2	14.9	12.193	SF
Shideler 19-16C - OH - Plan #2	200.0	200.0	65.9	65.3	107.325	CC
Shideler 19-16C - OH - Plan #2	227.8	227.8	66.0	65.3	92.777	ES
Shideler 19-16C - OH - Plan #2	900.0	876.8	184.1	179.8	42.787	SF
Shideler 19-16CC - OH - Plan #2	200.0	200.0	49.7	49.1	80.869	CC
Shideler 19-16CC - OH - Plan #2	228.1	228.1	49.8	49.0	69.808	ES
Shideler 19-16CC - OH - Plan #2	900.0	890.9	132.2	127.7	28.928	SF
Shideler 30-1B - OH - Plan #2	200.0	200.0	33.0	32.3	53.657	CC
Shideler 30-1B - OH - Plan #2	228.3	228.3	33.0	32.3	46.312	ES
Shideler 30-1B - OH - Plan #2	1,000.0	996.6	115.9	110.3	20.540	SF
Shideler 30-1C - OH - Plan #2	364.3	365.6	24.6	23.4	20.173	CC
Shideler 30-1C - OH - Plan #2	400.0	401.5	24.8	23.4	18.118	ES
Shideler 30-1C - OH - Plan #2	1,300.0	1,295.6	109.4	97.7	9.321	SF
Shideler 30-2C - OH - Plan #2	200.0	200.0	16.4	15.8	26.731	CC, ES
Shideler 30-2C - OH - Plan #2	1,200.0	1,184.9	100.0	90.6	10.686	SF
Shideler 30-3A - OH - Plan #2	200.0	200.0	25.9	25.3	42.191	CC, ES
Shideler 30-3A - OH - Plan #2	800.0	790.9	76.3	72.5	19.945	SF
Shideler 30-3B - OH - Plan #2	200.0	200.0	11.4	10.8	18.629	CC, ES
Shideler 30-3B - OH - Plan #2	300.0	299.4	13.8	12.8	14.273	SF
Shideler 30-4A - OH - Plan #2	335.1	336.7	41.7	40.6	37.929	CC, ES
Shideler 30-4A - OH - Plan #2	500.0	501.9	47.8	46.1	26.947	SF
Shideler 30-8B - OH - Plan #2	321.1	321.5	15.8	14.8	15.003	CC, ES
Shideler 30-8B - OH - Plan #2	4,200.0	4,163.5	488.3	422.2	7.385	SF
Shideler Federal 19-13D - OH - Plan #2	338.4	340.6	57.1	56.0	50.831	CC, ES
Shideler Federal 19-13D - OH - Plan #2	600.0	598.9	79.5	77.1	34.029	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 30-7A
Project:	Mamm Creek	TVD Reference:	KB = 24' @ 6533.0ft (Original Well Elev)
Reference Site:	O19EB Pad	MD Reference:	KB = 24' @ 6533.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Shideler 30-7A	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 #2	Offset TVD Reference:	Offset Datum

Offset Design O19EB Pad - Shideler 19-14D - OH - Plan #2													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	-8.27	11.7	-1.7	11.8					
100.0	100.0	100.0	100.0	0.1	0.1	-8.27	11.7	-1.7	11.8	11.5	0.27	44.397		
200.0	200.0	200.0	200.0	0.3	0.3	-8.27	11.7	-1.7	11.8	11.2	0.61	19.171 CC, ES		
230.4	230.4	230.4	230.4	0.4	0.4	-175.73	11.7	-1.7	11.9	11.2	0.72	16.517		
300.0	300.0	300.1	300.1	0.5	0.5	-178.73	11.3	-2.2	12.2	11.2	0.96	12.627		
400.0	399.8	400.1	399.9	0.7	0.7	163.38	8.4	-6.6	16.2	14.9	1.33	12.193 SF		
500.0	499.3	499.3	498.6	0.9	0.9	147.04	2.8	-15.3	26.6	24.8	1.76	15.060		
600.0	598.0	597.9	596.3	1.2	1.2	140.84	-4.4	-26.2	42.7	40.4	2.25	19.002		
700.0	695.8	695.8	693.4	1.6	1.4	141.01	-11.5	-37.0	63.0	60.2	2.77	22.760		
800.0	792.4	792.7	789.4	2.1	1.7	143.04	-18.5	-47.7	87.3	84.0	3.31	26.397		
900.0	887.5	888.4	884.3	2.7	2.0	145.49	-25.4	-58.3	115.8	111.9	3.85	30.065		
1,000.0	980.9	982.6	977.7	3.3	2.3	147.86	-32.2	-68.7	148.7	144.3	4.39	33.843		
1,100.0	1,072.2	1,075.1	1,069.3	4.1	2.5	149.97	-38.9	-78.9	186.1	181.2	4.93	37.761		
1,200.0	1,161.3	1,165.5	1,158.9	4.9	2.8	151.80	-45.4	-88.9	228.0	222.6	5.45	41.821		
1,300.0	1,247.9	1,253.6	1,246.3	5.8	3.0	153.35	-51.8	-98.7	274.4	268.4	5.96	46.009		
1,400.0	1,332.9	1,340.3	1,332.3	6.7	3.3	155.15	-58.1	-108.3	323.5	317.0	6.47	49.968		
1,500.0	1,417.9	1,427.0	1,418.2	7.7	3.5	156.54	-64.3	-117.8	372.8	365.8	6.98	53.368		
1,600.0	1,502.8	1,513.7	1,504.1	8.6	3.8	157.61	-70.6	-127.4	422.2	414.7	7.50	56.322		
1,700.0	1,587.8	1,600.4	1,590.0	9.5	4.0	158.45	-76.9	-137.0	471.7	463.7	8.01	58.910		

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Shideler 30-7A
Project:	Mamm Creek	TVD Reference:	KB = 24' @ 6533.0ft (Original Well Elev)
Reference Site:	O19EB Pad	MD Reference:	KB = 24' @ 6533.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Shideler 30-7A	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 #2	Offset TVD Reference:	Offset Datum

Offset Design O19EB Pad - Shideler 19-16C - OH - Plan #2													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	36.24	53.2	39.0	65.9					
100.0	100.0	100.0	100.0	0.1	0.1	36.24	53.2	39.0	65.9	65.7	0.27	248.542		
200.0	200.0	200.0	200.0	0.3	0.3	36.24	53.2	39.0	65.9	65.3	0.61	107.325 CC		
227.8	227.8	227.8	227.8	0.4	0.4	-131.24	53.2	39.0	66.0	65.3	0.71	92.777 ES		
300.0	300.0	299.1	299.1	0.5	0.5	-131.10	53.1	39.6	66.7	65.7	0.96	69.289		
400.0	399.8	397.1	397.0	0.7	0.7	-130.59	52.6	44.6	72.7	71.4	1.33	54.634		
500.0	499.3	494.3	493.7	0.9	0.9	-129.75	51.6	54.5	84.8	83.0	1.76	48.167		
600.0	598.0	590.2	588.4	1.2	1.2	-128.80	50.1	69.0	102.7	100.5	2.28	45.093		
700.0	695.8	685.5	681.8	1.6	1.5	-127.97	48.1	87.9	126.3	123.4	2.89	43.759		
800.0	792.4	781.7	775.9	2.1	1.9	-128.40	46.1	107.8	153.6	150.0	3.57	43.031		
900.0	887.5	876.8	868.9	2.7	2.3	-129.74	44.1	127.5	184.1	179.8	4.30	42.787 SF		
1,000.0	980.9	970.4	960.5	3.3	2.7	-131.49	42.1	146.9	218.0	212.9	5.07	42.996		
1,100.0	1,072.2	1,062.4	1,050.5	4.1	3.0	-133.37	40.1	165.9	255.6	249.8	5.86	43.621		
1,200.0	1,161.3	1,152.6	1,138.6	4.9	3.4	-135.23	38.2	184.6	297.1	290.4	6.66	44.610		
1,300.0	1,247.9	1,240.6	1,224.7	5.8	3.7	-136.95	36.3	202.8	342.5	335.0	7.46	45.907		
1,400.0	1,332.9	1,327.2	1,309.4	6.7	4.1	-139.30	34.5	220.8	390.5	382.2	8.24	47.381		
1,500.0	1,417.9	1,413.8	1,394.1	7.7	4.5	-141.24	32.6	238.7	438.9	429.9	9.01	48.724		
1,600.0	1,502.8	1,500.4	1,478.8	8.6	4.8	-142.80	30.8	256.7	487.7	477.9	9.77	49.941		

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Shideler 30-7A
Project:	Mamm Creek	TVD Reference:	KB = 24' @ 6533.0ft (Original Well Elev)
Reference Site:	O19EB Pad	MD Reference:	KB = 24' @ 6533.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Shideler 30-7A	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 #2	Offset TVD Reference:	Offset Datum

Offset Design O19EB Pad - Shideler 19-16CC - OH - Plan #2													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	36.25	40.1	29.4	49.7					
100.0	100.0	100.0	100.0	0.1	0.1	36.25	40.1	29.4	49.7	49.4	0.27	187.275		
200.0	200.0	200.0	200.0	0.3	0.3	36.25	40.1	29.4	49.7	49.1	0.61	80.869 CC		
228.1	228.1	228.1	228.1	0.4	0.4	-131.25	40.1	29.4	49.8	49.0	0.71	69.808 ES		
300.0	300.0	300.0	300.0	0.5	0.5	-131.72	40.1	29.4	50.1	49.2	0.96	52.007		
400.0	399.8	399.7	399.6	0.7	0.7	-133.03	38.8	31.6	53.9	52.6	1.33	40.602		
500.0	499.3	499.1	498.7	0.9	0.9	-132.73	35.0	38.4	61.7	59.9	1.75	35.307		
600.0	598.0	598.1	596.8	1.2	1.1	-131.35	28.6	49.6	73.5	71.2	2.27	32.419		
700.0	695.8	696.3	693.4	1.6	1.5	-129.48	19.9	65.0	89.3	86.3	2.92	30.593		
800.0	792.4	793.7	788.2	2.1	1.9	-127.51	8.8	84.6	109.0	105.3	3.71	29.420		
900.0	887.5	890.9	882.4	2.7	2.3	-126.96	-3.1	105.6	132.2	127.7	4.57	28.928 SF		
1,000.0	980.9	987.3	975.8	3.3	2.8	-127.88	-14.9	126.4	158.6	153.1	5.48	28.947		
1,100.0	1,072.2	1,082.6	1,068.0	4.1	3.2	-129.57	-26.5	147.1	188.2	181.8	6.40	29.382		
1,200.0	1,161.3	1,176.4	1,158.9	4.9	3.6	-131.59	-38.0	167.4	221.3	214.0	7.33	30.181		
1,300.0	1,247.9	1,268.6	1,248.2	5.8	4.1	-133.68	-49.3	187.3	258.2	249.9	8.25	31.298		
1,400.0	1,332.9	1,359.7	1,336.5	6.7	4.5	-136.26	-60.5	207.0	297.6	288.5	9.13	32.612		
1,500.0	1,417.9	1,450.8	1,424.7	7.7	4.9	-138.31	-71.6	226.7	337.5	327.5	9.99	33.783		
1,600.0	1,502.8	1,541.9	1,513.0	8.6	5.4	-139.94	-82.8	246.4	377.7	366.9	10.85	34.822		
1,700.0	1,587.8	1,633.0	1,601.2	9.5	5.8	-141.25	-93.9	266.2	418.1	406.4	11.70	35.744		
1,800.0	1,672.8	1,724.1	1,689.4	10.5	6.2	-142.34	-105.1	285.9	458.7	446.1	12.54	36.565		
1,900.0	1,757.8	1,815.2	1,777.7	11.4	6.6	-143.25	-116.2	305.6	499.3	485.9	13.39	37.299		

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Shideler 30-7A
Project:	Mamm Creek	TVD Reference:	KB = 24' @ 6533.0ft (Original Well Elev)
Reference Site:	O19EB Pad	MD Reference:	KB = 24' @ 6533.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Shideler 30-7A	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 #2	Offset TVD Reference:	Offset Datum

Offset Design O19EB Pad - Shideler 30-1B - OH - Plan #2													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			
0.0	0.0	0.0	0.0	0.0	0.0	36.25	26.6	19.5	33.0					
100.0	100.0	100.0	100.0	0.1	0.1	36.25	26.6	19.5	33.0	32.7	0.27	124.258		
200.0	200.0	200.0	200.0	0.3	0.3	36.25	26.6	19.5	33.0	32.3	0.61	53.657 CC		
228.3	228.3	228.3	228.3	0.4	0.4	-131.30	26.6	19.5	33.0	32.3	0.71	46.312 ES		
300.0	300.0	300.0	300.0	0.5	0.5	-132.00	26.6	19.5	33.4	32.4	0.96	34.660		
400.0	399.8	400.1	400.1	0.7	0.7	-135.72	25.6	20.6	36.8	35.5	1.32	27.813		
500.0	499.3	500.4	500.1	0.9	0.9	-136.76	21.1	25.4	43.0	41.3	1.73	24.949		
600.0	598.0	600.5	599.5	1.2	1.1	-135.71	13.1	34.1	52.0	49.8	2.22	23.471		
700.0	695.8	700.3	697.9	1.6	1.4	-133.56	1.7	46.5	63.7	60.9	2.84	22.447		
800.0	792.4	799.7	794.9	2.1	1.8	-131.00	-13.2	62.7	78.2	74.6	3.62	21.590		
900.0	887.5	898.6	890.1	2.7	2.3	-128.42	-31.3	82.4	95.6	91.0	4.58	20.852		
1,000.0	980.9	996.6	983.3	3.3	2.9	-126.76	-51.6	104.4	115.9	110.3	5.64	20.540 SF		
1,100.0	1,072.2	1,093.8	1,075.9	4.1	3.4	-127.10	-71.8	126.3	139.3	132.6	6.72	20.721		
1,200.0	1,161.3	1,190.0	1,167.5	4.9	3.9	-128.57	-91.8	148.0	165.9	158.1	7.80	21.269		
1,300.0	1,247.9	1,285.1	1,257.9	5.8	4.5	-130.60	-111.5	169.4	196.0	187.1	8.86	22.128		
1,400.0	1,332.9	1,379.2	1,347.5	6.7	5.0	-133.14	-131.1	190.7	228.3	218.5	9.85	23.168		
1,500.0	1,417.9	1,473.4	1,437.2	7.7	5.5	-135.12	-150.7	211.9	261.0	250.2	10.84	24.068		
1,600.0	1,502.8	1,567.5	1,526.8	8.6	6.1	-136.66	-170.2	233.1	293.9	282.1	11.83	24.847		
1,700.0	1,587.8	1,661.7	1,616.4	9.5	6.6	-137.89	-189.8	254.4	327.0	314.2	12.81	25.524		
1,800.0	1,672.8	1,755.9	1,706.0	10.5	7.1	-138.89	-209.4	275.6	360.2	346.4	13.79	26.116		
1,900.0	1,757.8	1,850.0	1,795.7	11.4	7.7	-139.73	-228.9	296.8	393.5	378.7	14.77	26.638		
2,000.0	1,842.8	1,944.2	1,885.3	12.3	8.2	-140.43	-248.5	318.1	426.8	411.0	15.75	27.100		
2,100.0	1,927.7	2,038.4	1,974.9	13.3	8.8	-141.04	-268.0	339.3	460.2	443.4	16.73	27.513		
2,200.0	2,012.7	2,132.5	2,064.5	14.2	9.3	-141.56	-287.6	360.5	493.6	475.9	17.70	27.883		

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Shideler 30-7A
Project:	Mamm Creek	TVD Reference:	KB = 24' @ 6533.0ft (Original Well Elev)
Reference Site:	O19EB Pad	MD Reference:	KB = 24' @ 6533.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Shideler 30-7A	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 #2	Offset TVD Reference:	Offset Datum

Offset Design O19EB Pad - Shideler 30-1C - OH - Plan #2													Offset Site Error:	0.0 ft
Survey Program: O-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance				Total	Separation	Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Uncertainty Axis	Factor		
0.0	0.0	0.0	0.0	0.0	0.0	18.30	24.8	8.2	26.1					
100.0	100.0	100.0	100.0	0.1	0.1	18.30	24.8	8.2	26.1	25.8	0.27	98.335		
200.0	200.0	200.0	200.0	0.3	0.3	18.30	24.8	8.2	26.1	25.5	0.61	42.463		
300.0	300.0	300.8	300.8	0.5	0.5	-145.27	22.5	9.6	25.0	24.0	0.97	25.736		
364.3	364.3	365.6	365.4	0.6	0.6	-140.57	18.6	11.9	24.6	23.4	1.22	20.173 CC		
400.0	399.8	401.5	401.1	0.7	0.7	-137.46	15.7	13.7	24.8	23.4	1.37	18.118 ES		
500.0	499.3	501.9	500.7	0.9	1.0	-127.73	4.3	20.4	26.4	24.6	1.87	14.148		
600.0	598.0	602.1	599.2	1.2	1.4	-118.19	-11.4	29.9	30.3	27.8	2.54	11.951		
700.0	695.8	702.0	696.3	1.6	1.8	-110.36	-31.5	41.9	36.4	33.0	3.39	10.756		
800.0	792.4	801.6	791.7	2.1	2.4	-104.55	-55.8	56.5	44.6	40.2	4.41	10.120		
900.0	887.5	900.8	885.2	2.7	3.0	-100.43	-84.3	73.6	54.7	49.1	5.59	9.778		
1,000.0	980.9	999.6	976.4	3.3	3.7	-97.55	-116.7	93.0	66.5	59.5	6.93	9.585		
1,100.0	1,072.2	1,098.0	1,065.3	4.1	4.5	-95.52	-153.0	114.8	79.9	71.4	8.44	9.466		
1,200.0	1,161.3	1,196.9	1,153.3	4.9	5.3	-95.45	-191.6	137.9	94.3	84.3	10.04	9.393		
1,300.0	1,247.9	1,295.6	1,241.2	5.8	6.1	-98.02	-230.1	161.0	109.4	97.7	11.74	9.321 SF		
1,400.0	1,332.9	1,394.0	1,328.9	6.7	6.9	-101.67	-268.5	184.1	125.4	111.9	13.42	9.340		
1,500.0	1,417.9	1,492.5	1,416.5	7.7	7.7	-104.55	-306.9	207.1	141.7	126.6	15.07	9.403		
1,600.0	1,502.8	1,590.9	1,504.2	8.6	8.5	-106.83	-345.4	230.2	158.3	141.6	16.69	9.483		
1,700.0	1,587.8	1,689.3	1,591.8	9.5	9.4	-108.67	-383.8	253.2	175.1	156.8	18.30	9.570		
1,800.0	1,672.8	1,787.8	1,679.5	10.5	10.2	-110.19	-422.2	276.3	192.0	172.2	19.89	9.656		
1,900.0	1,757.8	1,886.2	1,767.1	11.4	11.0	-111.46	-460.6	299.3	209.1	187.6	21.47	9.739		
2,000.0	1,842.8	1,984.7	1,854.8	12.3	11.8	-112.55	-499.1	322.3	226.3	203.2	23.05	9.817		
2,100.0	1,927.7	2,083.1	1,942.4	13.3	12.6	-113.48	-537.5	345.4	243.5	218.9	24.62	9.891		
2,200.0	2,012.7	2,181.5	2,030.1	14.2	13.4	-114.28	-575.9	368.4	260.7	234.6	26.18	9.959		
2,300.0	2,097.7	2,280.0	2,117.7	15.2	14.3	-114.99	-614.3	391.5	278.0	250.3	27.74	10.023		
2,400.0	2,182.7	2,378.4	2,205.4	16.1	15.1	-115.61	-652.7	414.5	295.4	266.1	29.30	10.082		
2,500.0	2,267.6	2,476.8	2,293.0	17.0	15.9	-116.17	-691.2	437.6	312.8	281.9	30.86	10.136		
2,600.0	2,352.6	2,575.3	2,380.7	18.0	16.7	-116.66	-729.6	460.6	330.2	297.8	32.41	10.187		
2,700.0	2,437.6	2,673.7	2,468.3	18.9	17.5	-117.11	-768.0	483.6	347.6	313.6	33.96	10.235		
2,800.0	2,522.6	2,772.1	2,556.0	19.9	18.4	-117.51	-806.4	506.7	365.0	329.5	35.51	10.279		
2,900.0	2,607.5	2,870.6	2,643.6	20.8	19.2	-117.88	-844.9	529.7	382.5	345.4	37.06	10.320		
3,000.0	2,692.5	2,969.0	2,731.3	21.7	20.0	-118.21	-883.3	552.8	400.0	361.4	38.61	10.359		
3,100.0	2,777.5	3,067.4	2,818.9	22.7	20.8	-118.52	-921.7	575.8	417.5	377.3	40.16	10.395		
3,200.0	2,862.5	3,165.9	2,906.6	23.6	21.6	-118.80	-960.1	598.9	435.0	393.2	41.71	10.429		
3,300.0	2,947.5	3,264.3	2,994.2	24.6	22.5	-119.06	-998.6	621.9	452.5	409.2	43.25	10.461		
3,400.0	3,032.4	3,362.8	3,081.9	25.5	23.3	-119.30	-1,037.0	644.9	470.0	425.2	44.80	10.491		
3,500.0	3,117.4	3,461.2	3,169.5	26.4	24.1	-119.53	-1,075.4	668.0	487.5	441.2	46.34	10.519		

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Shideler 30-7A
Project:	Mamm Creek	TVD Reference:	KB = 24' @ 6533.0ft (Original Well Elev)
Reference Site:	O19EB Pad	MD Reference:	KB = 24' @ 6533.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Shideler 30-7A	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 #2	Offset TVD Reference:	Offset Datum

Offset Design O19EB Pad - Shideler 30-2C - OH - Plan #2													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	-142.98	-13.1	-9.9	16.4					
100.0	100.0	100.0	100.0	0.1	0.1	-142.98	-13.1	-9.9	16.4	16.2	0.27	61.902		
200.0	200.0	200.0	200.0	0.3	0.3	-142.98	-13.1	-9.9	16.4	15.8	0.61	26.731 CC, ES		
300.0	300.0	299.2	299.1	0.5	0.5	47.46	-15.6	-10.3	18.3	17.4	0.96	19.014		
400.0	399.8	398.2	397.8	0.7	0.7	48.90	-23.2	-11.7	21.9	20.5	1.33	16.422		
500.0	499.3	496.9	495.7	0.9	1.0	53.34	-35.8	-13.9	26.7	24.9	1.76	15.182		
600.0	598.0	595.4	592.6	1.2	1.3	58.85	-53.3	-17.0	33.0	30.7	2.30	14.343		
700.0	695.8	693.6	688.1	1.6	1.8	64.26	-75.6	-20.9	41.1	38.1	3.02	13.619		
800.0	792.4	791.3	781.9	2.1	2.3	69.03	-102.5	-25.7	51.1	47.1	3.93	12.999		
900.0	887.5	889.1	874.3	2.7	2.9	73.14	-134.1	-31.3	62.9	57.8	5.02	12.520		
1,000.0	980.9	988.1	967.4	3.3	3.5	78.83	-167.4	-37.1	74.6	68.3	6.33	11.796		
1,100.0	1,072.2	1,086.8	1,060.1	4.1	4.1	86.25	-200.7	-43.0	86.6	78.8	7.81	11.080		
1,200.0	1,161.3	1,184.9	1,152.2	4.9	4.7	94.62	-233.7	-48.8	100.0	90.6	9.36	10.686 SF		
1,300.0	1,247.9	1,282.0	1,243.5	5.8	5.3	103.20	-266.4	-54.6	116.3	105.5	10.83	10.745		
1,400.0	1,332.9	1,378.5	1,334.2	6.7	5.9	111.11	-298.9	-60.4	135.9	123.8	12.09	11.244		
1,500.0	1,417.9	1,475.0	1,424.9	7.7	6.5	117.04	-331.4	-66.1	157.5	144.3	13.21	11.924		
1,600.0	1,502.8	1,571.5	1,515.6	8.6	7.1	121.54	-363.9	-71.8	180.3	166.0	14.24	12.655		
1,700.0	1,587.8	1,668.0	1,606.2	9.5	7.7	125.03	-396.4	-77.6	203.9	188.6	15.24	13.379		
1,800.0	1,672.8	1,764.5	1,696.9	10.5	8.2	127.79	-428.9	-83.3	228.1	211.9	16.21	14.070		
1,900.0	1,757.8	1,861.0	1,787.6	11.4	8.8	130.02	-461.4	-89.1	252.7	235.5	17.17	14.719		
2,000.0	1,842.8	1,957.5	1,878.3	12.3	9.4	131.86	-493.9	-94.8	277.6	259.5	18.12	15.321		
2,100.0	1,927.7	2,054.0	1,968.9	13.3	10.0	133.40	-526.4	-100.5	302.7	283.6	19.06	15.879		
2,200.0	2,012.7	2,150.5	2,059.6	14.2	10.6	134.70	-558.9	-106.3	328.0	308.0	20.01	16.394		
2,300.0	2,097.7	2,247.0	2,150.3	15.2	11.2	135.82	-591.4	-112.0	353.4	332.5	20.95	16.869		
2,400.0	2,182.7	2,343.5	2,241.0	16.1	11.8	136.78	-623.9	-117.8	379.0	357.1	21.90	17.309		
2,500.0	2,267.6	2,440.0	2,331.7	17.0	12.4	137.63	-656.4	-123.5	404.6	381.8	22.84	17.716		
2,600.0	2,352.6	2,536.5	2,422.3	18.0	13.0	138.37	-688.9	-129.2	430.3	406.5	23.78	18.093		
2,700.0	2,437.6	2,633.0	2,513.0	18.9	13.6	139.03	-721.4	-135.0	456.1	431.4	24.73	18.444		
2,800.0	2,522.6	2,729.5	2,603.7	19.9	14.2	139.62	-753.9	-140.7	481.9	456.2	25.67	18.770		

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Shideler 30-7A
Project:	Mamm Creek	TVD Reference:	KB = 24' @ 6533.0ft (Original Well Elev)
Reference Site:	O19EB Pad	MD Reference:	KB = 24' @ 6533.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Shideler 30-7A	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 #2	Offset TVD Reference:	Offset Datum

Offset Design O19EB Pad - Shideler 30-3A - OH - Plan #2													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	-125.18	-14.9	-21.2	25.9					
100.0	100.0	100.0	100.0	0.1	0.1	-125.18	-14.9	-21.2	25.9	25.7	0.27	97.705		
200.0	200.0	200.0	200.0	0.3	0.3	-125.18	-14.9	-21.2	25.9	25.3	0.61	42.191 CC, ES		
300.0	300.0	299.0	299.0	0.5	0.5	67.49	-16.1	-22.0	27.0	26.1	0.96	28.064		
400.0	399.8	397.6	397.3	0.7	0.7	71.72	-21.5	-25.4	31.1	29.7	1.33	23.322		
500.0	499.3	495.7	494.8	0.9	0.9	78.47	-31.1	-31.5	38.4	36.7	1.77	21.671		
600.0	598.0	593.7	591.5	1.2	1.2	85.35	-44.6	-40.2	49.4	47.1	2.33	21.180		
700.0	695.8	692.6	688.8	1.6	1.6	93.62	-59.3	-49.5	61.9	58.9	3.03	20.441		
800.0	792.4	790.9	785.5	2.1	1.9	102.72	-73.9	-58.8	76.3	72.5	3.83	19.945 SF		
900.0	887.5	888.3	881.5	2.7	2.2	111.60	-88.4	-68.1	94.0	89.3	4.66	20.152		
1,000.0	980.9	984.7	976.3	3.3	2.6	119.61	-102.7	-77.2	115.8	110.4	5.48	21.135		
1,100.0	1,072.2	1,079.6	1,069.8	4.1	2.9	126.46	-116.8	-86.2	142.4	136.2	6.24	22.802		
1,200.0	1,161.3	1,173.0	1,161.7	4.9	3.2	132.15	-130.6	-95.1	173.9	167.0	6.95	25.025		
1,300.0	1,247.9	1,264.4	1,251.7	5.8	3.6	136.79	-144.2	-103.7	210.4	202.8	7.60	27.681		
1,400.0	1,332.9	1,354.6	1,340.5	6.7	3.9	141.05	-157.6	-112.3	250.4	242.2	8.19	30.572		
1,500.0	1,417.9	1,444.8	1,429.3	7.7	4.2	144.22	-171.0	-120.8	291.4	282.6	8.77	33.229		
1,600.0	1,502.8	1,535.0	1,518.0	8.6	4.5	146.62	-184.3	-129.4	332.8	323.5	9.34	35.634		
1,700.0	1,587.8	1,625.2	1,606.8	9.5	4.8	148.49	-197.7	-137.9	374.7	364.8	9.91	37.802		
1,800.0	1,672.8	1,715.4	1,695.6	10.5	5.1	149.99	-211.1	-146.5	416.9	406.4	10.48	39.759		
1,900.0	1,757.8	1,805.6	1,784.4	11.4	5.5	151.21	-224.5	-155.0	459.2	448.1	11.06	41.526		

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Shideler 30-7A
Project:	Mamm Creek	TVD Reference:	KB = 24' @ 6533.0ft (Original Well Elev)
Reference Site:	O19EB Pad	MD Reference:	KB = 24' @ 6533.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Shideler 30-7A	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 #2	Offset TVD Reference:	Offset Datum

Offset Design O19EB Pad - Shideler 30-3B - OH - Plan #2												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	-99.16	-1.8	-11.3	11.4				
100.0	100.0	100.0	100.0	0.1	0.1	-99.16	-1.8	-11.3	11.4	11.2	0.27	43.142	
200.0	200.0	200.0	200.0	0.3	0.3	-99.16	-1.8	-11.3	11.4	10.8	0.61	18.629 CC, ES	
300.0	300.0	299.4	299.4	0.5	0.5	90.82	-3.4	-13.3	13.8	12.8	0.96	14.273 SF	
400.0	399.8	398.4	398.0	0.7	0.7	95.35	-8.2	-19.4	20.9	19.5	1.34	15.537	
500.0	499.3	496.4	495.2	0.9	1.0	101.34	-16.1	-29.3	33.1	31.3	1.80	18.394	
600.0	598.0	593.2	590.4	1.2	1.3	105.75	-26.9	-42.9	50.6	48.3	2.37	21.405	
700.0	695.8	688.3	683.0	1.6	1.8	108.63	-40.4	-60.0	73.4	70.4	3.06	24.034	
800.0	792.4	781.4	772.5	2.1	2.3	110.44	-56.4	-80.1	101.4	97.5	3.87	26.186	
900.0	887.5	872.2	858.4	2.7	2.8	111.55	-74.5	-103.0	134.2	129.4	4.80	27.927	
1,000.0	980.9	960.9	940.9	3.3	3.4	112.16	-94.7	-128.5	171.7	165.8	5.83	29.424	
1,100.0	1,072.2	1,052.0	1,025.1	4.1	4.1	113.11	-116.4	-155.9	212.2	205.3	6.97	30.465	
1,200.0	1,161.3	1,141.9	1,108.1	4.9	4.7	114.45	-137.8	-182.9	255.0	246.8	8.16	31.248	
1,300.0	1,247.9	1,230.2	1,189.7	5.8	5.3	115.94	-158.9	-209.4	300.2	290.8	9.40	31.937	
1,400.0	1,332.9	1,317.5	1,270.3	6.7	5.9	118.41	-179.7	-235.7	347.1	336.5	10.66	32.552	
1,500.0	1,417.9	1,404.8	1,350.9	7.7	6.6	120.41	-200.5	-261.9	394.6	382.6	11.92	33.097	
1,600.0	1,502.8	1,492.1	1,431.5	8.6	7.2	121.99	-221.3	-288.1	442.3	429.1	13.17	33.585	
1,700.0	1,587.8	1,579.4	1,512.1	9.5	7.8	123.27	-242.0	-314.3	490.2	475.8	14.41	34.018	

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Shideler 30-7A
Project:	Mamm Creek	TVD Reference:	KB = 24' @ 6533.0ft (Original Well Elev)
Reference Site:	O19EB Pad	MD Reference:	KB = 24' @ 6533.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Shideler 30-7A	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 #2	Offset TVD Reference:	Offset Datum

Offset Design O19EB Pad - Shideler 30-4A - OH - Plan #2													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	25.30	38.2	18.1	42.3					
100.0	100.0	100.0	100.0	0.1	0.1	25.30	38.2	18.1	42.3	42.0	0.27	159.457		
200.0	200.0	200.0	200.0	0.3	0.3	25.30	38.2	18.1	42.3	41.7	0.61	68.856		
300.0	300.0	301.1	301.1	0.5	0.5	-144.16	37.7	16.6	41.8	40.8	0.97	43.215		
335.1	335.1	336.7	336.6	0.5	0.6	-146.95	37.2	15.0	41.7	40.6	1.10	37.929	CC, ES	
400.0	399.8	402.2	401.9	0.7	0.7	-155.09	35.6	10.3	42.3	41.0	1.34	31.496		
500.0	499.3	501.9	501.0	0.9	1.0	-172.68	31.7	-0.9	47.8	46.1	1.78	26.947	SF	
600.0	598.0	599.8	597.4	1.2	1.3	170.14	26.2	-16.5	62.1	59.8	2.28	27.224		
700.0	695.8	695.1	690.3	1.6	1.7	157.70	19.4	-36.3	85.6	82.8	2.87	29.814		
800.0	792.4	787.3	779.2	2.1	2.2	149.54	11.3	-59.6	117.5	113.9	3.56	32.980		
900.0	887.5	876.0	863.5	2.7	2.7	144.08	2.2	-85.7	156.5	152.1	4.35	36.009		
1,000.0	980.9	960.9	942.8	3.3	3.3	140.20	-7.7	-114.2	201.8	196.6	5.21	38.715		
1,100.0	1,072.2	1,041.7	1,017.0	4.1	3.9	137.22	-18.2	-144.4	252.8	246.7	6.14	41.170		
1,200.0	1,161.3	1,123.3	1,090.9	4.9	4.6	134.88	-29.5	-176.9	308.6	301.4	7.14	43.210		
1,300.0	1,247.9	1,204.1	1,164.2	5.8	5.2	133.34	-40.8	-209.3	367.4	359.2	8.18	44.926		
1,400.0	1,332.9	1,283.6	1,236.2	6.7	5.8	133.57	-51.8	-241.2	428.0	418.7	9.26	46.200		
1,500.0	1,417.9	1,363.2	1,308.2	7.7	6.5	133.87	-62.9	-273.0	488.6	478.2	10.36	47.155		

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Shideler 30-7A
Project:	Mamm Creek	TVD Reference:	KB = 24' @ 6533.0ft (Original Well Elev)
Reference Site:	O19EB Pad	MD Reference:	KB = 24' @ 6533.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Shideler 30-7A	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 #2	Offset TVD Reference:	Offset Datum

Offset Design O19EB Pad - Shideler 30-8B - OH - Plan #2														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	35.48	13.5	9.6	16.5						
100.0	100.0	100.0	100.0	0.1	0.1	35.48	13.5	9.6	16.5	16.3	0.27	62.380			
200.0	200.0	200.0	200.0	0.3	0.3	35.48	13.5	9.6	16.5	15.9	0.61	26.937			
300.0	300.0	300.3	300.3	0.5	0.5	-125.26	11.1	10.8	15.9	14.9	0.97	16.340			
321.1	321.1	321.5	321.4	0.5	0.5	-123.09	10.0	11.4	15.8	14.8	1.06	15.003 CC, ES			
400.0	399.8	400.5	400.1	0.7	0.7	-114.37	4.1	14.4	16.4	15.0	1.38	11.860			
500.0	499.3	500.5	499.3	0.9	1.0	-103.92	-7.5	20.3	18.8	16.9	1.91	9.833			
600.0	598.0	600.3	597.4	1.2	1.4	-96.03	-23.7	28.6	22.9	20.3	2.58	8.886			
700.0	695.8	700.0	694.3	1.6	1.8	-90.87	-44.5	39.2	28.6	25.2	3.40	8.421			
800.0	792.4	799.2	789.4	2.1	2.3	-87.76	-69.5	52.0	35.7	31.4	4.38	8.165			
900.0	887.5	898.2	882.7	2.7	3.0	-85.95	-98.9	67.0	44.1	38.6	5.52	7.998			
1,000.0	980.9	996.9	974.0	3.3	3.7	-84.96	-132.5	84.1	53.7	46.9	6.82	7.874			
1,100.0	1,072.2	1,095.4	1,063.0	4.1	4.4	-84.46	-170.1	103.3	64.5	56.2	8.30	7.774			
1,200.0	1,161.3	1,193.5	1,149.3	4.9	5.3	-84.25	-211.5	124.5	76.4	66.5	9.94	7.689			
1,300.0	1,247.9	1,291.4	1,232.9	5.8	6.3	-84.21	-256.8	147.6	89.4	77.6	11.74	7.613			
1,400.0	1,332.9	1,390.1	1,315.5	6.7	7.2	-84.36	-305.0	172.2	103.1	89.5	13.59	7.590			
1,500.0	1,417.9	1,489.2	1,398.3	7.7	8.2	-84.48	-353.4	197.0	116.9	101.4	15.44	7.569			
1,600.0	1,502.8	1,588.2	1,481.1	8.6	9.2	-84.57	-401.8	221.7	130.6	113.3	17.30	7.550			
1,700.0	1,587.8	1,687.3	1,563.9	9.5	10.2	-84.65	-450.3	246.4	144.4	125.2	19.17	7.533			
1,800.0	1,672.8	1,786.3	1,646.7	10.5	11.2	-84.71	-498.7	271.2	158.1	137.1	21.04	7.518			
1,900.0	1,757.8	1,885.4	1,729.5	11.4	12.2	-84.77	-547.1	295.9	171.9	149.0	22.91	7.504			
2,000.0	1,842.8	1,984.4	1,812.3	12.3	13.2	-84.81	-595.5	320.6	185.7	160.9	24.78	7.492			
2,100.0	1,927.7	2,083.5	1,895.1	13.3	14.1	-84.85	-644.0	345.3	199.4	172.8	26.65	7.482			
2,200.0	2,012.7	2,182.5	1,977.9	14.2	15.1	-84.89	-692.4	370.1	213.2	184.6	28.53	7.472			
2,300.0	2,097.7	2,281.6	2,060.6	15.2	16.1	-84.92	-740.8	394.8	226.9	196.5	30.41	7.463			
2,400.0	2,182.7	2,380.6	2,143.4	16.1	17.1	-84.94	-789.2	419.5	240.7	208.4	32.28	7.456			
2,500.0	2,267.6	2,479.7	2,226.2	17.0	18.1	-84.97	-837.7	444.3	254.4	220.3	34.16	7.449			
2,600.0	2,352.6	2,578.7	2,309.0	18.0	19.1	-84.99	-886.1	469.0	268.2	232.2	36.04	7.442			
2,700.0	2,437.6	2,677.8	2,391.8	18.9	20.1	-85.01	-934.5	493.7	282.0	244.0	37.92	7.436			
2,800.0	2,522.6	2,776.8	2,474.6	19.9	21.1	-85.02	-982.9	518.4	295.7	255.9	39.80	7.431			
2,900.0	2,607.5	2,875.9	2,557.4	20.8	22.1	-85.04	-1,031.4	543.2	309.5	267.8	41.67	7.426			
3,000.0	2,692.5	2,974.9	2,640.2	21.7	23.1	-85.05	-1,079.8	567.9	323.2	279.7	43.55	7.421			
3,100.0	2,777.5	3,074.0	2,723.0	22.7	24.1	-85.07	-1,128.2	592.6	337.0	291.6	45.43	7.417			
3,200.0	2,862.5	3,173.0	2,805.8	23.6	25.0	-85.08	-1,176.6	617.4	350.8	303.4	47.31	7.413			
3,300.0	2,947.5	3,272.1	2,888.5	24.6	26.0	-85.09	-1,225.1	642.1	364.5	315.3	49.19	7.410			
3,400.0	3,032.4	3,371.1	2,971.3	25.5	27.0	-85.10	-1,273.5	666.8	378.3	327.2	51.07	7.406			
3,500.0	3,117.4	3,470.2	3,054.1	26.4	28.0	-85.11	-1,321.9	691.6	392.0	339.1	52.96	7.403			
3,600.0	3,202.4	3,569.2	3,136.9	27.4	29.0	-85.12	-1,370.3	716.3	405.8	351.0	54.84	7.400			
3,700.0	3,287.4	3,668.3	3,219.7	28.3	30.0	-85.13	-1,418.8	741.0	419.5	362.8	56.72	7.397			
3,800.0	3,372.3	3,767.3	3,302.5	29.3	31.0	-85.14	-1,467.2	765.7	433.3	374.7	58.60	7.395			
3,900.0	3,457.3	3,866.4	3,385.3	30.2	32.0	-85.14	-1,515.6	790.5	447.1	386.6	60.48	7.392			
4,000.0	3,542.3	3,965.4	3,468.1	31.2	33.0	-85.15	-1,564.0	815.2	460.8	398.5	62.36	7.390			
4,100.0	3,627.3	4,064.5	3,550.9	32.1	34.0	-85.16	-1,612.5	839.9	474.6	410.3	64.24	7.387			
4,200.0	3,712.2	4,163.5	3,633.7	33.0	35.0	-85.16	-1,660.9	864.7	488.3	422.2	66.12	7.385 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 30-7A
Project:	Mamm Creek	TVD Reference:	KB = 24' @ 6533.0ft (Original Well Elev)
Reference Site:	O19EB Pad	MD Reference:	KB = 24' @ 6533.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Shideler 30-7A	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 #2	Offset TVD Reference:	Offset Datum

Offset Design O19EB Pad - Shideler Federal 19-13D - OH - Plan #2													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	28.33	51.4	27.7	58.3					
100.0	100.0	100.0	100.0	0.1	0.1	28.33	51.4	27.7	58.3	58.1	0.27	219.906		
200.0	200.0	200.0	200.0	0.3	0.3	28.33	51.4	27.7	58.3	57.7	0.61	94.959		
300.0	300.0	301.7	301.7	0.5	0.5	-141.72	51.0	25.0	57.3	56.3	0.97	58.896		
338.4	338.3	340.6	340.5	0.6	0.6	-144.65	50.6	22.6	57.1	56.0	1.12	50.831 CC, ES		
400.0	399.8	402.7	402.3	0.7	0.7	-151.61	49.9	17.0	57.8	56.5	1.37	42.255		
500.0	499.3	502.0	500.8	0.9	1.0	-166.88	48.0	4.1	64.0	62.2	1.83	35.018		
600.0	598.0	598.9	596.0	1.2	1.4	177.66	45.6	-13.4	79.5	77.1	2.34	34.029 SF		
700.0	695.8	692.6	687.2	1.6	1.8	165.69	42.6	-34.9	105.2	102.4	2.89	36.405		
800.0	792.4	782.6	773.6	2.1	2.3	157.36	39.1	-59.6	140.2	136.7	3.51	39.969		
900.0	887.5	868.3	854.7	2.7	2.8	151.59	35.3	-86.9	183.2	179.0	4.20	43.655		
1,000.0	980.9	949.4	930.3	3.3	3.4	147.39	31.2	-116.0	233.1	228.1	4.95	47.099		
1,100.0	1,072.2	1,025.7	1,000.2	4.1	4.0	144.13	26.9	-146.3	289.1	283.4	5.75	50.306		
1,200.0	1,161.3	1,103.7	1,070.8	4.9	4.6	141.50	22.3	-179.1	350.0	343.4	6.61	52.926		
1,300.0	1,247.9	1,180.4	1,140.3	5.8	5.2	139.60	17.8	-211.4	414.1	406.6	7.51	55.134		
1,400.0	1,332.9	1,255.5	1,208.3	6.7	5.8	139.51	13.4	-243.0	480.1	471.6	8.47	56.668		

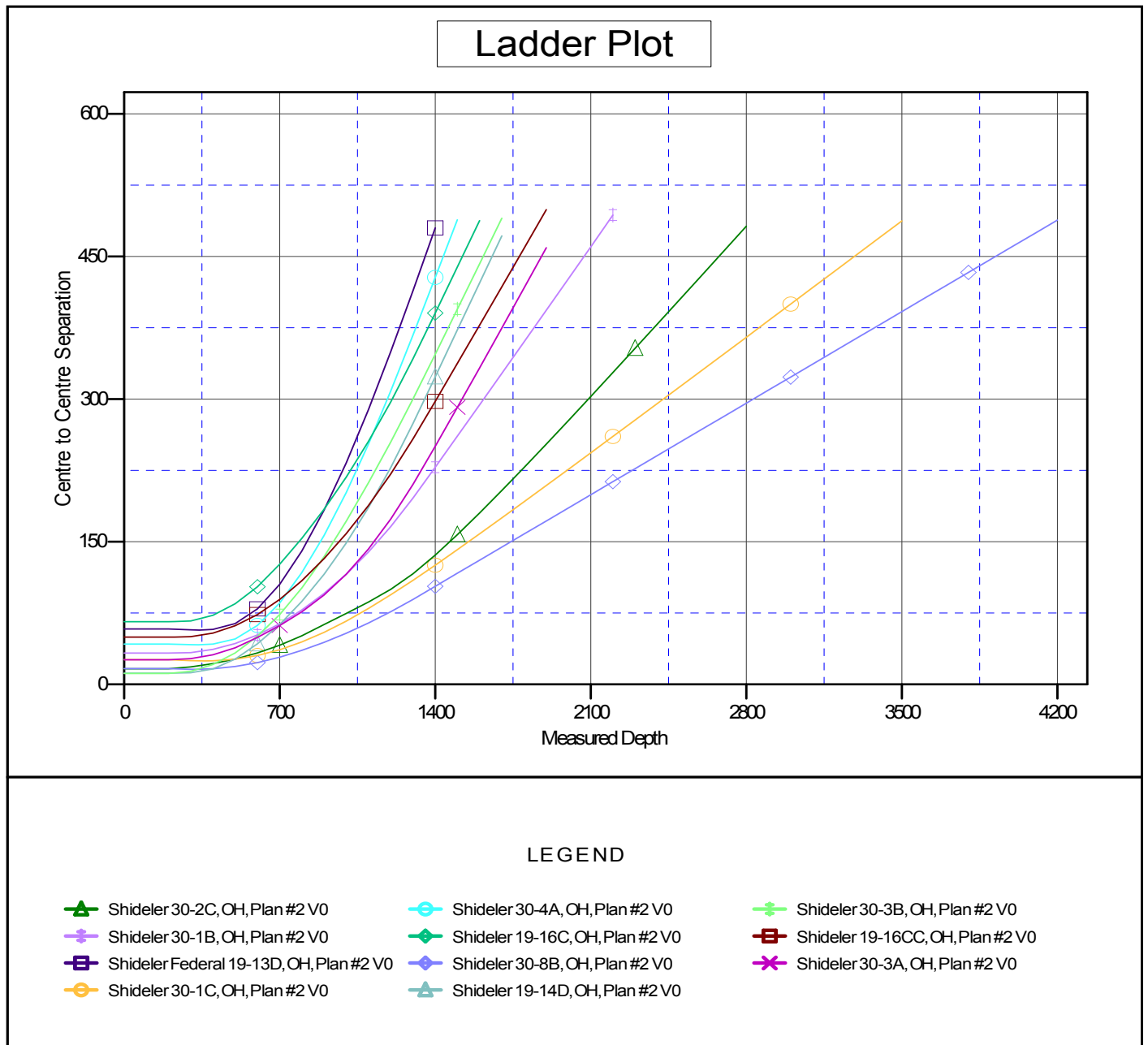
Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Shideler 30-7A
Project:	Mamm Creek	TVD Reference:	KB = 24' @ 6533.0ft (Original Well Elev)
Reference Site:	O19EB Pad	MD Reference:	KB = 24' @ 6533.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Shideler 30-7A	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 #2	Offset TVD Reference:	Offset Datum

Reference Depths are relative to KB = 24' @ 6533.0ft (Original Well Ele)
Offset Depths are relative to Offset Datum
Central Meridian is -105.500000 °

Coordinates are relative to: Shideler 30-7A
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