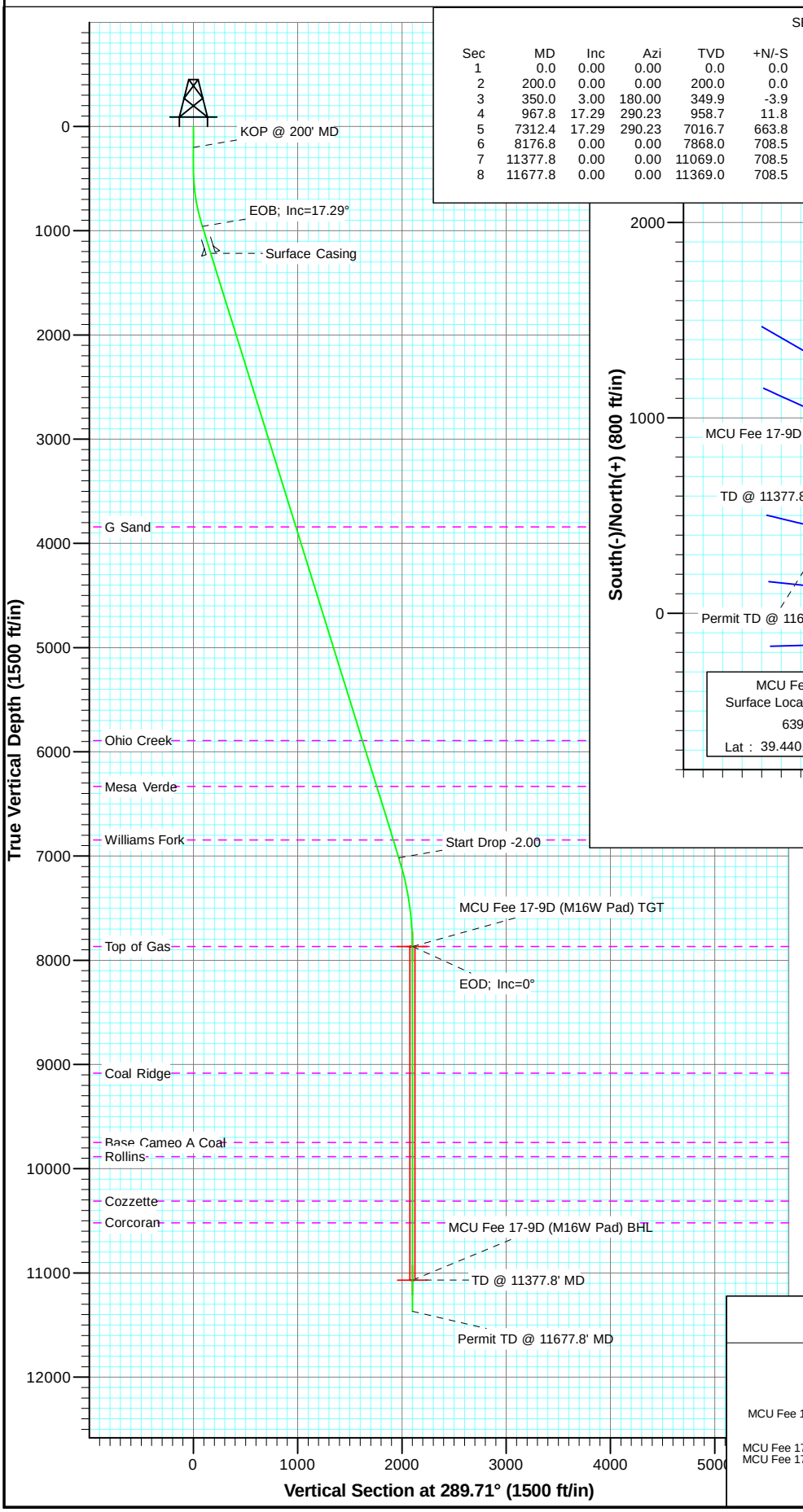
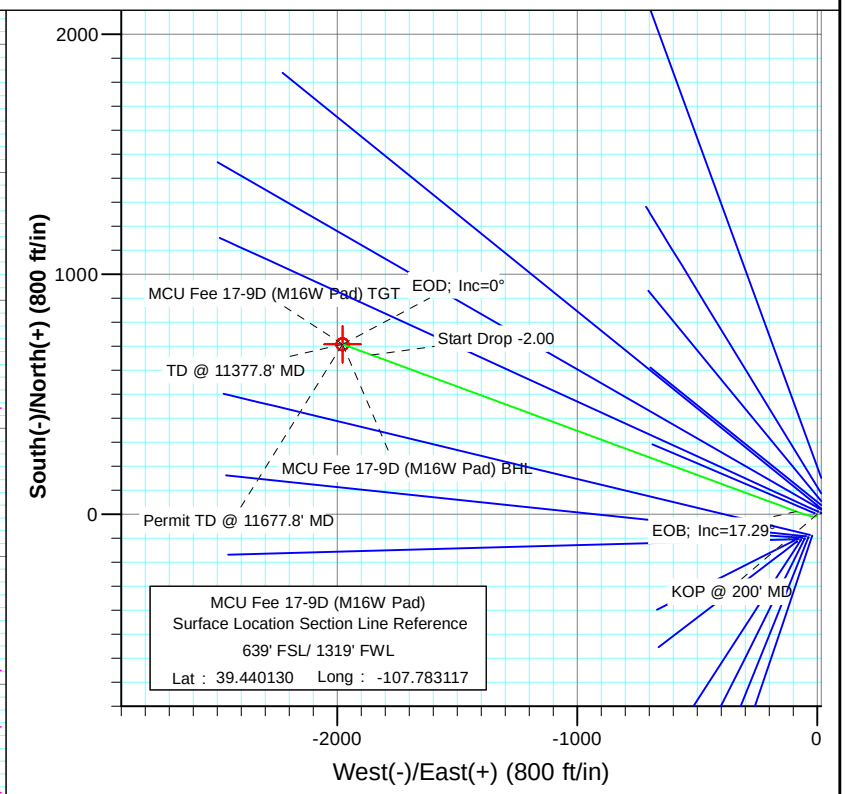
Project: Mamm Creek
Site: SWSW S16-T7S-R93W (M16W Pad)
Well: MCU Fee 17-9D (M16W Pad)
Wellbore: DD
Plan: Plan #1

SECTION DETAILS

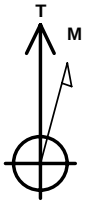
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	200.0	0.00	0.00	200.0	0.0	0.0	0.00	0.00	0.0	
3	350.0	3.00	180.00	349.9	-3.9	0.0	2.00	180.00	-1.3	
4	967.8	17.29	290.23	958.7	11.8	-86.9	3.00	118.69	85.8	
5	7312.4	17.29	290.23	7016.7	663.8	-1856.0	0.00	0.00	1971.2	
6	8176.8	0.00	0.00	7868.0	708.5	-1977.5	2.00	180.00	2100.6	MCU Fee 17-9D (M16W Pad) TGT
7	11377.8	0.00	0.00	11069.0	708.5	-1977.5	0.00	0.00	2100.6	MCU Fee 17-9D (M16W Pad) BHL
8	11677.8	0.00	0.00	11369.0	708.5	-1977.5	0.00	0.00	2100.6	





FORMATION TOP DETAILS

TVDPath	MDPath	Formation
3842.0	3987.6	G Sand
5892.0	6134.5	Ohio Creek
6333.0	6596.4	Mesa Verde
6845.0	7132.6	Williams Fork
7868.0	8176.8	Top of Gas
9084.0	9392.8	Coal Ridge
9748.0	10056.8	Base Cameo A Coal
9884.0	10192.8	Rollins
10310.0	10618.8	Cozzette
10519.0	10827.8	Corcoran



Azimuths to True North
Magnetic North: 10.30°

Magnetic Field
Strength: 52273.2snT
Dip Angle: 65.74°
Date: 1/18/2011
Model: IGRF2010

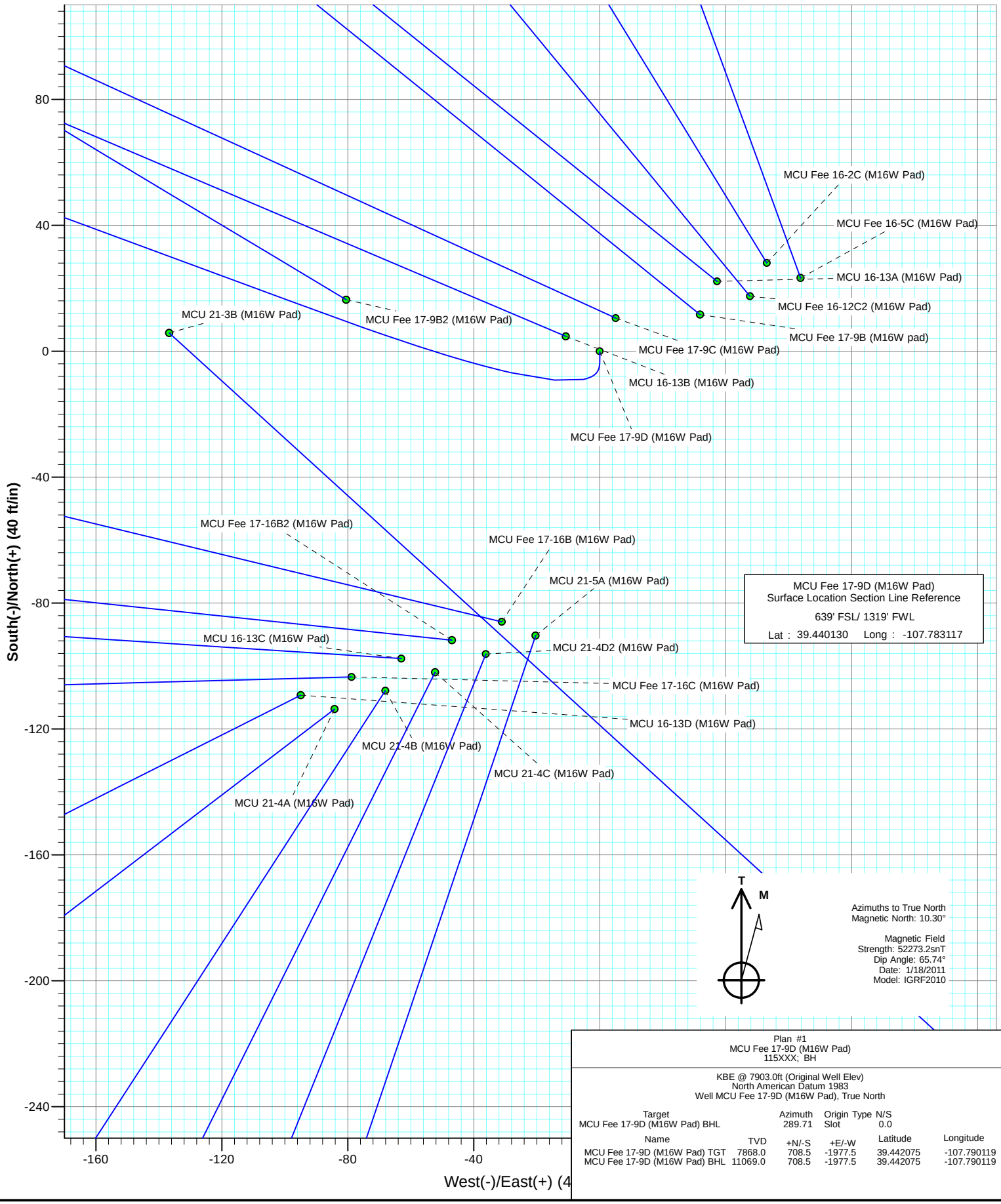
Plan #1
MCU Fee 17-9D (M16W Pad)
115XXX; BH

KBE @ 7903.0ft (Original Well Elev)
North American Datum 1983
Well MCU Fee 17-9D (M16W Pad), True North

Target	Azimuth	Origin Type	N/S
MCU Fee 17-9D (M16W Pad) BHL	289.71	Slot	0.0

Name	TVD	+N/-S	+E/-W	Latitude	Longitude
MCU Fee 17-9D (M16W Pad) TGT	7868.0	708.5	-1977.5	39.442075	-107.790119
MCU Fee 17-9D (M16W Pad) BHL	11069.0	708.5	-1977.5	39.442075	-107.790119

Project: Mamm Creek
Site: SWSW S16-T7S-R93W (M16W Pad)
Well: MCU Fee 17-9D (M16W Pad)
Wellbore: DD
Plan: Plan #1



MCU Fee 17-9D (M16W Pad)
Surface Location Section Line Reference
639' FSL/ 1319' FWL
Lat : 39.440130 Long : -107.783117

T M

Azimuths to True North
Magnetic North: 10.30°

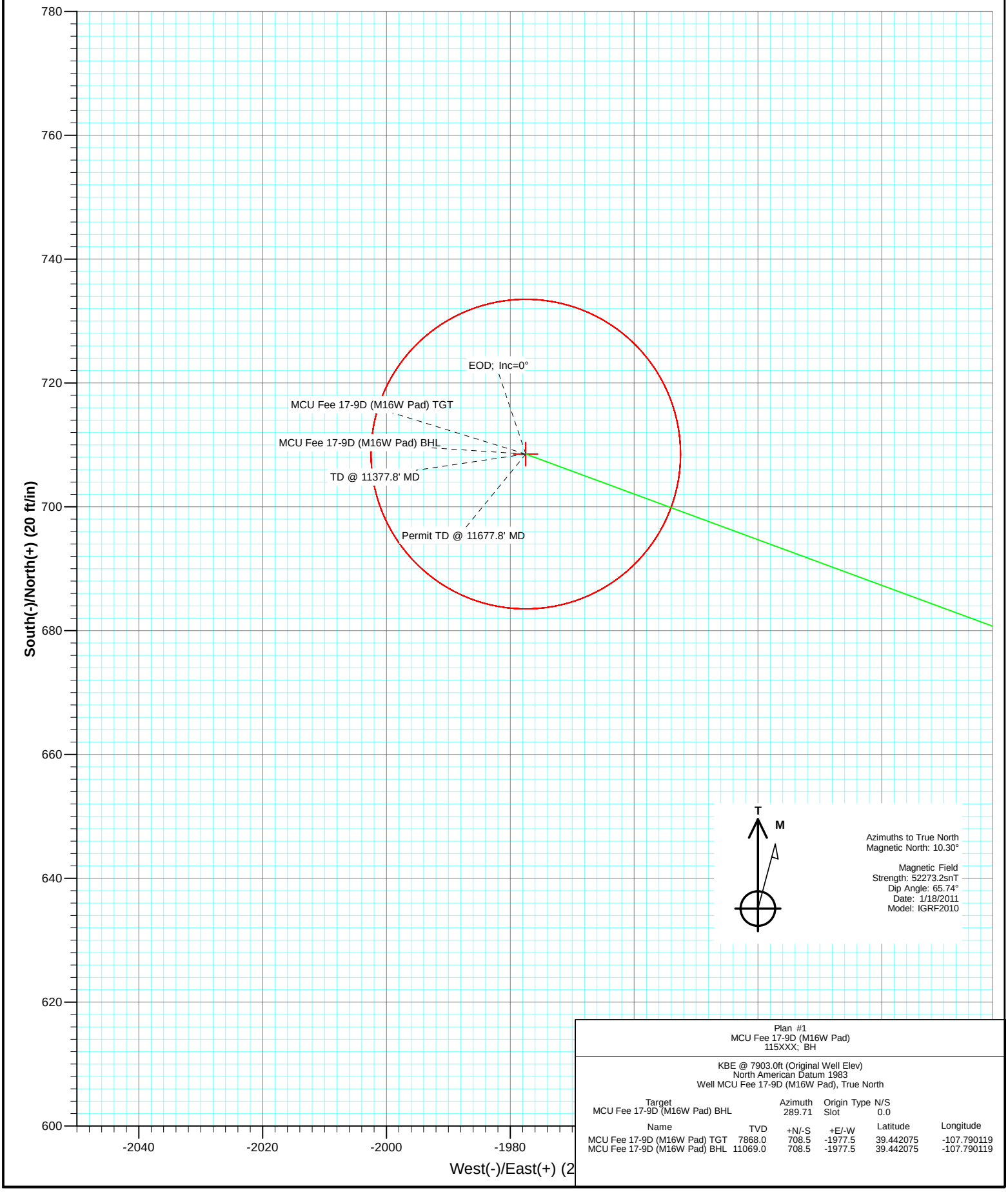
Magnetic Field
Strength: 52273.2snT
Dip Angle: 65.74°
Date: 1/18/2011
Model: IGRF2010

Plan #1
MCU Fee 17-9D (M16W Pad)
115XXX; BH

KBE @ 7903.0ft (Original Well Elev)
North American Datum 1983
Well MCU Fee 17-9D (M16W Pad), True North

Target		Azimuth	Origin Type	N/S		
MCU Fee 17-9D (M16W Pad) BHL		289.71	Slot	0.0		
Name	TVD	+N/-S	+E/-W	Latitude	Longitude	
MCU Fee 17-9D (M16W Pad) TGT	7868.0	708.5	-1977.5	39.442075	-107.790119	
MCU Fee 17-9D (M16W Pad) BHL	11069.0	708.5	-1977.5	39.442075	-107.790119	

Project: Mamm Creek
Site: SWSW S16-T7S-R93W (M16W Pad)
Well: MCU Fee 17-9D (M16W Pad)
Wellbore: DD
Plan: Plan #1



Plan #1
MCU Fee 17-9D (M16W Pad)
115XXX; BH

KBE @ 7903.0ft (Original Well Elev)
North American Datum 1983
Well MCU Fee 17-9D (M16W Pad), True North

Target		Azimuth	Origin Type	N/S	
MCU Fee 17-9D (M16W Pad) BHL		289.71	Slot	0.0	
Name	TVD	+N/-S	+E/-W	Latitude	Longitude
MCU Fee 17-9D (M16W Pad) TGT	7868.0	708.5	-1977.5	39.442075	-107.790119
MCU Fee 17-9D (M16W Pad) BHL	11069.0	708.5	-1977.5	39.442075	-107.790119

Cathedral Energy Services

Planning Report

Database:	EDM 5000.1 US Multi Users DB	**Local Co-ordinate Reference:**	Well MCU Fee 17-9D (M16W Pad)
Company:	EnCana Oil & Gas (USA) Inc	**TVD Reference:**	KBE @ 7903.0ft (Original Well Elev)
Project:	Mamm Creek	**MD Reference:**	KBE @ 7903.0ft (Original Well Elev)
Site:	SWSW S16-T7S-R93W (M16W Pad)	**North Reference:**	True
Well:	MCU Fee 17-9D (M16W Pad)	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	DD		
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 SWSW S16-T7S-R93W (M16W Pad)

Site Position:		**Northing:**	1,593,196.17 ft	**Latitude:**	39.439834
From:	Lat/Long	**Easting:**	2,355,193.71 ft	**Longitude:**	-107.783358
Position Uncertainty:	0.0 ft	**Slot Radius:**	13.200 in	**Grid Convergence:**	-1.44 °

Well MCU Fee 17-9D (M16W Pad)

Well Position	**+N/-S**	0.0 ft	**Northing:**	1,593,302.23 ft	**Latitude:**	39.440130
	+E/-W	0.0 ft	**Easting:**	2,355,264.47 ft	**Longitude:**	-107.783117
Position Uncertainty		0.0 ft	**Wellhead Elevation:**	ft	**Ground Level:**	7,881.0 ft

Wellbore DD

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	1/18/2011	10.30	65.74	52,273

Design Plan #1

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	289.71

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	
200.0	0.00	0.00	200.0	0.0	0.0	0.00	0.00	0.00	0.00	
350.0	3.00	180.00	349.9	-3.9	0.0	2.00	2.00	0.00	180.00	
967.8	17.29	290.23	958.7	11.8	-86.9	3.00	2.31	17.84	118.69	
7,312.4	17.29	290.23	7,016.7	663.8	-1,856.0	0.00	0.00	0.00	0.00	
8,176.8	0.00	0.00	7,868.0	708.5	-1,977.5	2.00	-2.00	0.00	180.00	MCU Fee 17-9D (M16
11,377.8	0.00	0.00	11,069.0	708.5	-1,977.5	0.00	0.00	0.00	0.00	MCU Fee 17-9D (M16
11,677.8	0.00	0.00	11,369.0	708.5	-1,977.5	0.00	0.00	0.00	0.00	

Database:	EDM 5000.1 US Multi Users DB	**Local Co-ordinate Reference:**	Well MCU Fee 17-9D (M16W Pad)
Company:	EnCana Oil & Gas (USA) Inc	**TVD Reference:**	KBE @ 7903.0ft (Original Well Elev)
Project:	Mamm Creek	**MD Reference:**	KBE @ 7903.0ft (Original Well Elev)
Site:	SWSW S16-T7S-R93W (M16W Pad)	**North Reference:**	True
Well:	MCU Fee 17-9D (M16W Pad)	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	DD		
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	KOP @ 200' MD
300.0	2.00	180.00	300.0	-1.7	0.0	-0.6	2.00	2.00	
350.0	3.00	180.00	349.9	-3.9	0.0	-1.3	2.00	2.00	
400.0	2.63	210.00	399.9	-6.2	-0.6	-1.6	3.00	-0.74	
500.0	4.03	258.05	499.7	-8.9	-5.2	1.8	3.00	1.40	
600.0	6.60	275.33	599.3	-9.1	-14.3	10.4	3.00	2.57	
700.0	9.43	282.66	698.3	-6.8	-28.1	24.1	3.00	2.83	
800.0	12.34	286.59	796.5	-2.0	-46.3	42.9	3.00	2.91	
900.0	15.28	289.04	893.6	5.4	-69.0	66.8	3.00	2.94	
967.8	17.29	290.23	958.7	11.8	-86.9	85.8	3.00	2.96	EOB; Inc=17.29°
1,000.0	17.29	290.23	989.4	15.1	-95.9	95.3	0.00	0.00	
1,100.0	17.29	290.23	1,084.9	25.4	-123.8	125.1	0.00	0.00	
1,200.0	17.29	290.23	1,180.4	35.6	-151.6	154.8	0.00	0.00	
1,239.4	17.29	290.23	1,218.0	39.7	-162.6	166.5	0.00	0.00	Surface Casing
1,300.0	17.29	290.23	1,275.9	45.9	-179.5	184.5	0.00	0.00	
1,400.0	17.29	290.23	1,371.3	56.2	-207.4	214.2	0.00	0.00	
1,500.0	17.29	290.23	1,466.8	66.5	-235.3	243.9	0.00	0.00	
1,600.0	17.29	290.23	1,562.3	76.8	-263.2	273.6	0.00	0.00	
1,700.0	17.29	290.23	1,657.8	87.0	-291.1	303.4	0.00	0.00	
1,800.0	17.29	290.23	1,753.3	97.3	-318.9	333.1	0.00	0.00	
1,900.0	17.29	290.23	1,848.8	107.6	-346.8	362.8	0.00	0.00	
2,000.0	17.29	290.23	1,944.2	117.9	-374.7	392.5	0.00	0.00	
2,100.0	17.29	290.23	2,039.7	128.1	-402.6	422.2	0.00	0.00	
2,200.0	17.29	290.23	2,135.2	138.4	-430.5	451.9	0.00	0.00	
2,300.0	17.29	290.23	2,230.7	148.7	-458.4	481.7	0.00	0.00	
2,400.0	17.29	290.23	2,326.2	159.0	-486.3	511.4	0.00	0.00	
2,500.0	17.29	290.23	2,421.6	169.2	-514.1	541.1	0.00	0.00	
2,600.0	17.29	290.23	2,517.1	179.5	-542.0	570.8	0.00	0.00	
2,700.0	17.29	290.23	2,612.6	189.8	-569.9	600.5	0.00	0.00	
2,800.0	17.29	290.23	2,708.1	200.1	-597.8	630.2	0.00	0.00	
2,900.0	17.29	290.23	2,803.6	210.3	-625.7	660.0	0.00	0.00	
3,000.0	17.29	290.23	2,899.1	220.6	-653.6	689.7	0.00	0.00	
3,100.0	17.29	290.23	2,994.5	230.9	-681.4	719.4	0.00	0.00	
3,200.0	17.29	290.23	3,090.0	241.2	-709.3	749.1	0.00	0.00	
3,300.0	17.29	290.23	3,185.5	251.4	-737.2	778.8	0.00	0.00	
3,400.0	17.29	290.23	3,281.0	261.7	-765.1	808.5	0.00	0.00	
3,500.0	17.29	290.23	3,376.5	272.0	-793.0	838.3	0.00	0.00	
3,600.0	17.29	290.23	3,472.0	282.3	-820.9	868.0	0.00	0.00	
3,700.0	17.29	290.23	3,567.4	292.6	-848.7	897.7	0.00	0.00	
3,800.0	17.29	290.23	3,662.9	302.8	-876.6	927.4	0.00	0.00	
3,900.0	17.29	290.23	3,758.4	313.1	-904.5	957.1	0.00	0.00	
3,987.6	17.29	290.23	3,842.0	322.1	-928.9	983.1	0.00	0.00	G Sand
4,000.0	17.29	290.23	3,853.9	323.4	-932.4	986.8	0.00	0.00	
4,100.0	17.29	290.23	3,949.4	333.7	-960.3	1,016.6	0.00	0.00	
4,200.0	17.29	290.23	4,044.8	343.9	-988.2	1,046.3	0.00	0.00	
4,300.0	17.29	290.23	4,140.3	354.2	-1,016.1	1,076.0	0.00	0.00	
4,400.0	17.29	290.23	4,235.8	364.5	-1,043.9	1,105.7	0.00	0.00	
4,500.0	17.29	290.23	4,331.3	374.8	-1,071.8	1,135.4	0.00	0.00	
4,600.0	17.29	290.23	4,426.8	385.0	-1,099.7	1,165.1	0.00	0.00	
4,700.0	17.29	290.23	4,522.3	395.3	-1,127.6	1,194.9	0.00	0.00	

Database:	EDM 5000.1 US Multi Users DB	**Local Co-ordinate Reference:**	Well MCU Fee 17-9D (M16W Pad)
Company:	EnCana Oil & Gas (USA) Inc	**TVD Reference:**	KBE @ 7903.0ft (Original Well Elev)
Project:	Mamm Creek	**MD Reference:**	KBE @ 7903.0ft (Original Well Elev)
Site:	SWSW S16-T7S-R93W (M16W Pad)	**North Reference:**	True
Well:	MCU Fee 17-9D (M16W Pad)	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	DD		
Design:	Plan #1		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Comments / Formations
4,800.0	17.29	290.23	4,617.7	405.6	-1,155.5	1,224.6	0.00	0.00	
4,900.0	17.29	290.23	4,713.2	415.9	-1,183.4	1,254.3	0.00	0.00	
5,000.0	17.29	290.23	4,808.7	426.1	-1,211.2	1,284.0	0.00	0.00	
5,100.0	17.29	290.23	4,904.2	436.4	-1,239.1	1,313.7	0.00	0.00	
5,200.0	17.29	290.23	4,999.7	446.7	-1,267.0	1,343.4	0.00	0.00	
5,300.0	17.29	290.23	5,095.2	457.0	-1,294.9	1,373.1	0.00	0.00	
5,400.0	17.29	290.23	5,190.6	467.2	-1,322.8	1,402.9	0.00	0.00	
5,500.0	17.29	290.23	5,286.1	477.5	-1,350.7	1,432.6	0.00	0.00	
5,600.0	17.29	290.23	5,381.6	487.8	-1,378.6	1,462.3	0.00	0.00	
5,700.0	17.29	290.23	5,477.1	498.1	-1,406.4	1,492.0	0.00	0.00	
5,800.0	17.29	290.23	5,572.6	508.4	-1,434.3	1,521.7	0.00	0.00	
5,900.0	17.29	290.23	5,668.0	518.6	-1,462.2	1,551.4	0.00	0.00	
6,000.0	17.29	290.23	5,763.5	528.9	-1,490.1	1,581.2	0.00	0.00	
6,100.0	17.29	290.23	5,859.0	539.2	-1,518.0	1,610.9	0.00	0.00	
6,134.5	17.29	290.23	5,892.0	542.7	-1,527.6	1,621.1	0.00	0.00	Ohio Creek
6,200.0	17.29	290.23	5,954.5	549.5	-1,545.9	1,640.6	0.00	0.00	
6,300.0	17.29	290.23	6,050.0	559.7	-1,573.7	1,670.3	0.00	0.00	
6,400.0	17.29	290.23	6,145.5	570.0	-1,601.6	1,700.0	0.00	0.00	
6,500.0	17.29	290.23	6,240.9	580.3	-1,629.5	1,729.7	0.00	0.00	
6,596.4	17.29	290.23	6,333.0	590.2	-1,656.4	1,758.4	0.00	0.00	Mesa Verde
6,600.0	17.29	290.23	6,336.4	590.6	-1,657.4	1,759.5	0.00	0.00	
6,700.0	17.29	290.23	6,431.9	600.8	-1,685.3	1,789.2	0.00	0.00	
6,800.0	17.29	290.23	6,527.4	611.1	-1,713.2	1,818.9	0.00	0.00	
6,900.0	17.29	290.23	6,622.9	621.4	-1,741.0	1,848.6	0.00	0.00	
7,000.0	17.29	290.23	6,718.4	631.7	-1,768.9	1,878.3	0.00	0.00	
7,100.0	17.29	290.23	6,813.8	641.9	-1,796.8	1,908.0	0.00	0.00	
7,132.6	17.29	290.23	6,845.0	645.3	-1,805.9	1,917.7	0.00	0.00	Williams Fork
7,200.0	17.29	290.23	6,909.3	652.2	-1,824.7	1,937.8	0.00	0.00	
7,300.0	17.29	290.23	7,004.8	662.5	-1,852.6	1,967.5	0.00	0.00	
7,312.4	17.29	290.23	7,016.6	663.8	-1,856.0	1,971.2	0.00	0.00	Start Drop -2.00
7,400.0	15.54	290.23	7,100.7	672.3	-1,879.3	1,995.9	2.00	-2.00	
7,500.0	13.54	290.23	7,197.5	681.0	-1,902.8	2,021.0	2.00	-2.00	
7,600.0	11.54	290.23	7,295.1	688.5	-1,923.2	2,042.7	2.00	-2.00	
7,700.0	9.54	290.23	7,393.4	694.8	-1,940.3	2,061.0	2.00	-2.00	
7,800.0	7.54	290.23	7,492.3	700.0	-1,954.3	2,075.8	2.00	-2.00	
7,900.0	5.54	290.23	7,591.6	703.9	-1,964.9	2,087.2	2.00	-2.00	
8,000.0	3.54	290.23	7,691.3	706.6	-1,972.4	2,095.1	2.00	-2.00	
8,100.0	1.54	290.23	7,791.2	708.2	-1,976.5	2,099.6	2.00	-2.00	
8,176.8	0.00	0.00	7,868.0	708.5	-1,977.5	2,100.6	2.00	-2.00	EOD; Inc=0° - Top of Gas - MCU Fee 17-9D (M
8,200.0	0.00	0.00	7,891.2	708.5	-1,977.5	2,100.6	0.00	0.00	
8,300.0	0.00	0.00	7,991.2	708.5	-1,977.5	2,100.6	0.00	0.00	
8,400.0	0.00	0.00	8,091.2	708.5	-1,977.5	2,100.6	0.00	0.00	
8,500.0	0.00	0.00	8,191.2	708.5	-1,977.5	2,100.6	0.00	0.00	
8,600.0	0.00	0.00	8,291.2	708.5	-1,977.5	2,100.6	0.00	0.00	
8,700.0	0.00	0.00	8,391.2	708.5	-1,977.5	2,100.6	0.00	0.00	
8,800.0	0.00	0.00	8,491.2	708.5	-1,977.5	2,100.6	0.00	0.00	
8,900.0	0.00	0.00	8,591.2	708.5	-1,977.5	2,100.6	0.00	0.00	
9,000.0	0.00	0.00	8,691.2	708.5	-1,977.5	2,100.6	0.00	0.00	
9,100.0	0.00	0.00	8,791.2	708.5	-1,977.5	2,100.6	0.00	0.00	
9,200.0	0.00	0.00	8,891.2	708.5	-1,977.5	2,100.6	0.00	0.00	
9,300.0	0.00	0.00	8,991.2	708.5	-1,977.5	2,100.6	0.00	0.00	
9,392.8	0.00	0.00	9,084.0	708.5	-1,977.5	2,100.6	0.00	0.00	Coal Ridge

Database:	EDM 5000.1 US Multi Users DB	**Local Co-ordinate Reference:**	Well MCU Fee 17-9D (M16W Pad)
Company:	EnCana Oil & Gas (USA) Inc	**TVD Reference:**	KBE @ 7903.0ft (Original Well Elev)
Project:	Mamm Creek	**MD Reference:**	KBE @ 7903.0ft (Original Well Elev)
Site:	SWSW S16-T7S-R93W (M16W Pad)	**North Reference:**	True
Well:	MCU Fee 17-9D (M16W Pad)	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	DD		
Design:	Plan #1		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Comments / Formations
9,400.0	0.00	0.00	9,091.2	708.5	-1,977.5	2,100.6	0.00	0.00	
9,500.0	0.00	0.00	9,191.2	708.5	-1,977.5	2,100.6	0.00	0.00	
9,600.0	0.00	0.00	9,291.2	708.5	-1,977.5	2,100.6	0.00	0.00	
9,700.0	0.00	0.00	9,391.2	708.5	-1,977.5	2,100.6	0.00	0.00	
9,800.0	0.00	0.00	9,491.2	708.5	-1,977.5	2,100.6	0.00	0.00	
9,900.0	0.00	0.00	9,591.2	708.5	-1,977.5	2,100.6	0.00	0.00	
10,000.0	0.00	0.00	9,691.2	708.5	-1,977.5	2,100.6	0.00	0.00	
10,056.8	0.00	0.00	9,748.0	708.5	-1,977.5	2,100.6	0.00	0.00	Base Cameo A Coal
10,100.0	0.00	0.00	9,791.2	708.5	-1,977.5	2,100.6	0.00	0.00	
10,192.8	0.00	0.00	9,884.0	708.5	-1,977.5	2,100.6	0.00	0.00	Rollins
10,200.0	0.00	0.00	9,891.2	708.5	-1,977.5	2,100.6	0.00	0.00	
10,300.0	0.00	0.00	9,991.2	708.5	-1,977.5	2,100.6	0.00	0.00	
10,400.0	0.00	0.00	10,091.2	708.5	-1,977.5	2,100.6	0.00	0.00	
10,500.0	0.00	0.00	10,191.2	708.5	-1,977.5	2,100.6	0.00	0.00	
10,600.0	0.00	0.00	10,291.2	708.5	-1,977.5	2,100.6	0.00	0.00	
10,618.8	0.00	0.00	10,310.0	708.5	-1,977.5	2,100.6	0.00	0.00	Cozzette
10,700.0	0.00	0.00	10,391.2	708.5	-1,977.5	2,100.6	0.00	0.00	
10,800.0	0.00	0.00	10,491.2	708.5	-1,977.5	2,100.6	0.00	0.00	
10,827.8	0.00	0.00	10,519.0	708.5	-1,977.5	2,100.6	0.00	0.00	Corcoran
10,900.0	0.00	0.00	10,591.2	708.5	-1,977.5	2,100.6	0.00	0.00	
11,000.0	0.00	0.00	10,691.2	708.5	-1,977.5	2,100.6	0.00	0.00	
11,100.0	0.00	0.00	10,791.2	708.5	-1,977.5	2,100.6	0.00	0.00	
11,200.0	0.00	0.00	10,891.2	708.5	-1,977.5	2,100.6	0.00	0.00	
11,300.0	0.00	0.00	10,991.2	708.5	-1,977.5	2,100.6	0.00	0.00	
11,377.8	0.00	0.00	11,069.0	708.5	-1,977.5	2,100.6	0.00	0.00	TD @ 11377.8' MD - MCU Fee 17-9D (M16W F
11,400.0	0.00	0.00	11,091.2	708.5	-1,977.5	2,100.6	0.00	0.00	
11,500.0	0.00	0.00	11,191.2	708.5	-1,977.5	2,100.6	0.00	0.00	
11,600.0	0.00	0.00	11,291.2	708.5	-1,977.5	2,100.6	0.00	0.00	
11,677.8	0.00	0.00	11,369.0	708.5	-1,977.5	2,100.6	0.00	0.00	Permit TD @ 11677.8' MD

Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
MCU Fee 17-9D (M16W - plan hits target center - Circle (radius 25.0)	0.00	0.00	11,069.0	708.5	-1,977.5	1,594,060.22	2,353,305.41	39.442075	-107.790119
MCU Fee 17-9D (M16W - plan hits target center - Circle (radius 25.0)	0.00	0.00	7,868.0	708.5	-1,977.5	1,594,060.22	2,353,305.41	39.442075	-107.790119

Casing Points

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)
1,239.4	1,218.0	Surface Casing	0.000	0.000

Database:	EDM 5000.1 US Multi Users DB	**Local Co-ordinate Reference:**	Well MCU Fee 17-9D (M16W Pad)
Company:	EnCana Oil & Gas (USA) Inc	**TVD Reference:**	KBE @ 7903.0ft (Original Well Elev)
Project:	Mamm Creek	**MD Reference:**	KBE @ 7903.0ft (Original Well Elev)
Site:	SWSW S16-T7S-R93W (M16W Pad)	**North Reference:**	True
Well:	MCU Fee 17-9D (M16W Pad)	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	DD		
Design:	Plan #1		

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
3,987.6	3,842.0	G Sand		0.00	
6,134.5	5,892.0	Ohio Creek		0.00	
6,596.4	6,333.0	Mesa Verde		0.00	
7,132.6	6,845.0	Williams Fork		0.00	
8,176.8	7,868.0	Top of Gas		0.00	
9,392.8	9,084.0	Coal Ridge		0.00	
10,056.8	9,748.0	Base Cameo A Coal		0.00	
10,192.8	9,884.0	Rollins		0.00	
10,618.8	10,310.0	Cozzette		0.00	
10,827.8	10,519.0	Corcoran		0.00	

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates +N/-S (ft)	Local Coordinates +E/-W (ft)	Comment
200.0	200.0	0.0	0.0	KOP @ 200' MD
967.8	958.7	-3.9	0.0	EOB; Inc=17.29°
7,312.4	7,016.7	11.8	-86.9	Start Drop -2.00
8,176.8	7,868.0	663.8	-1,856.0	EOD; Inc=0°
11,377.8	11,069.0	708.5	-1,977.5	TD @ 11377.8' MD
11,677.8	11,369.0	708.5	-1,977.5	Permit TD @ 11677.8' MD

EnCana Oil & Gas (USA) Inc

Mamm Creek
SWSW S16-T7S-R93W (M16W Pad)
MCU Fee 17-9D (M16W Pad)
DD
Plan #1

Anticollision Report

27 January, 2011

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well MCU Fee 17-9D (M16W Pad)
Project:	Mamm Creek	**TVD Reference:**	KBE @ 7903.0ft (Original Well Elev)
Reference Site:	SWSW S16-T7S-R93W (M16W Pad)	**MD Reference:**	KBE @ 7903.0ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	MCU Fee 17-9D (M16W Pad)	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	DD	**Database:**	EDM 5000.1 US Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Reference	Plan #1

Filter type:	GLOBAL FILTER APPLIED: All wellpaths within 200'+ 100/1000 of reference		
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** 1/27/2011

From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.0	11,677.8	Plan #1 (DD)	MWD	Geolink MWD

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well MCU Fee 17-9D (M16W Pad)
Project:	Mamm Creek	**TVD Reference:**	KBE @ 7903.0ft (Original Well Elev)
Reference Site:	SWSW S16-T7S-R93W (M16W Pad)	**MD Reference:**	KBE @ 7903.0ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	MCU Fee 17-9D (M16W Pad)	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	DD	**Database:**	EDM 5000.1 US Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Summary

Site Name Offset Well - Wellbore - Design	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
SWSW S16-T7S-R93W (M16W Pad)						
MCU 16-13A (M16W Pad) - DD - Plan #1	232.3	232.5	43.4	42.7	58.882	CC
MCU 16-13A (M16W Pad) - DD - Plan #1	300.0	300.6	43.6	42.6	44.352	ES
MCU 16-13A (M16W Pad) - DD - Plan #1	1,000.0	996.3	90.1	85.5	19.386	SF
MCU 16-13B (M16W Pad) - DD - Plan #1	200.0	200.0	11.7	11.1	18.879	CC, ES
MCU 16-13B (M16W Pad) - DD - Plan #1	917.8	913.4	22.6	18.5	5.499	SF
MCU 16-13C (M16W Pad) - DD - Plan #1	885.6	878.3	109.1	105.4	29.355	CC
MCU 16-13C (M16W Pad) - DD - Plan #1	900.0	892.5	109.2	105.3	28.559	ES
MCU 16-13C (M16W Pad) - DD - Plan #1	1,200.0	1,185.2	129.3	123.4	21.775	SF
MCU 16-13D (M16W Pad) - DD - Plan #1	200.0	200.0	144.7	144.1	232.924	CC, ES
MCU 16-13D (M16W Pad) - DD - Plan #1	1,400.0	1,369.5	209.5	202.2	28.690	SF
MCU 21-3B (M16W Pad) - DD - Plan #1	200.0	200.0	16.9	16.2	27.120	CC, ES
MCU 21-3B (M16W Pad) - DD - Plan #1	400.0	398.9	24.1	22.7	17.613	SF
MCU 21-4A (M16W Pad) - DD - Plan #1	200.0	200.0	141.4	140.8	227.595	CC, ES
MCU 21-4A (M16W Pad) - DD - Plan #1	1,500.0	1,462.2	256.5	248.6	32.420	SF
MCU 21-4B (M16W Pad) - DD - Plan #1	200.0	200.0	127.5	126.9	205.192	CC, ES
MCU 21-4B (M16W Pad) - DD - Plan #1	1,600.0	1,541.5	348.3	339.7	40.163	SF
MCU 21-4C (M16W Pad) - DD - Plan #1	200.0	200.0	114.6	114.0	184.426	CC, ES
MCU 21-4C (M16W Pad) - DD - Plan #1	1,700.0	1,623.8	419.9	410.5	44.468	SF
MCU 21-4D2 (M16W Pad) - DD - Plan #1	200.0	200.0	102.7	102.1	165.342	CC, ES
MCU 21-4D2 (M16W Pad) - DD - Plan #1	1,700.0	1,607.2	465.8	456.2	48.827	SF
MCU 21-5A (M16W Pad) - DD - Plan #1	200.0	200.0	92.6	92.0	149.018	CC, ES
MCU 21-5A (M16W Pad) - DD - Plan #1	1,600.0	1,496.7	469.3	460.4	52.925	SF
MCU Fee 16-12C2 (M16W Pad) - DD - Plan #1	289.7	290.3	50.7	49.8	53.660	CC
MCU Fee 16-12C2 (M16W Pad) - DD - Plan #1	300.0	300.7	50.7	49.7	51.607	ES
MCU Fee 16-12C2 (M16W Pad) - DD - Plan #1	1,200.0	1,191.6	142.6	136.3	22.435	SF
MCU Fee 16-2C (M16W Pad) - DD - Plan #1	200.0	200.0	60.0	59.4	96.643	CC, ES
MCU Fee 16-2C (M16W Pad) - DD - Plan #1	2,800.0	2,757.3	465.9	446.2	23.634	SF
MCU Fee 16-5C (M16W Pad) - DD - Plan #1	200.0	200.0	68.0	67.3	109.363	CC, ES
MCU Fee 16-5C (M16W Pad) - DD - Plan #1	2,200.0	2,132.6	497.7	480.3	28.553	SF
MCU Fee 17-16B (M16W Pad) - DD - Plan #1	484.1	480.6	86.4	84.7	49.784	CC
MCU Fee 17-16B (M16W Pad) - DD - Plan #1	500.0	496.2	86.5	84.7	47.923	ES
MCU Fee 17-16B (M16W Pad) - DD - Plan #1	7,300.0	7,275.2	464.6	405.6	7.880	SF
MCU Fee 17-16B2 (M16W Pad) - DD - Plan #1	400.0	395.4	101.6	100.3	74.980	CC, ES
MCU Fee 17-16B2 (M16W Pad) - DD - Plan #1	5,100.0	5,060.9	497.0	449.0	10.350	SF
MCU Fee 17-16C (M16W Pad) - DD - Plan #1	200.0	200.0	130.0	129.4	209.284	CC
MCU Fee 17-16C (M16W Pad) - DD - Plan #1	300.0	295.8	130.3	129.3	134.396	ES
MCU Fee 17-16C (M16W Pad) - DD - Plan #1	3,600.0	3,542.9	489.7	456.7	14.849	SF
MCU Fee 17-9B (M16W pad) - DD - Plan #1	324.9	325.7	33.4	32.3	30.889	CC, ES
MCU Fee 17-9B (M16W pad) - DD - Plan #1	3,900.0	3,861.8	488.0	453.0	13.964	SF
MCU Fee 17-9B2 (M16W Pad) - DD - Plan #1	200.0	200.0	26.8	26.2	43.092	CC
MCU Fee 17-9B2 (M16W Pad) - DD - Plan #1	219.0	219.1	26.8	26.1	38.856	ES
MCU Fee 17-9B2 (M16W Pad) - DD - Plan #1	5,200.0	5,167.8	493.7	455.1	12.807	SF
MCU Fee 17-9C (M16W Pad) - DD - Plan #1	200.0	200.0	11.7	11.1	18.847	CC, ES
MCU Fee 17-9C (M16W Pad) - DD - Plan #1	7,300.0	7,274.1	473.9	432.3	11.386	SF

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well MCU Fee 17-9D (M16W Pad)
Project:	Mamm Creek	**TVD Reference:**	KBE @ 7903.0ft (Original Well Elev)
Reference Site:	SWSW S16-T7S-R93W (M16W Pad)	**MD Reference:**	KBE @ 7903.0ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	MCU Fee 17-9D (M16W Pad)	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	DD	**Database:**	EDM 5000.1 US Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design SWSW S16-T7S-R93W (M16W Pad) - MCU 16-13A (M16W Pad) - DD - Plan #1

Offset Site Error: 0.0 ft

Survey Program: 0-MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	59.21	22.2	37.3	43.4				
100.0	100.0	100.0	100.0	0.1	0.1	59.21	22.2	37.3	43.4	43.1	0.27	159.395	
200.0	200.0	200.0	200.0	0.3	0.3	59.21	22.2	37.3	43.4	42.8	0.62	69.847	
232.3	232.3	232.5	232.5	0.4	0.4	-121.34	22.4	37.1	43.4	42.7	0.74	58.882	CC
300.0	300.0	300.6	300.6	0.5	0.5	-126.05	23.9	35.2	43.6	42.6	0.98	44.352	ES
400.0	399.9	400.4	400.0	0.7	0.7	-169.73	28.8	29.1	45.9	44.5	1.38	33.298	
500.0	499.7	499.7	498.6	0.9	1.0	130.51	36.4	19.7	51.7	49.9	1.80	28.723	
600.0	599.3	599.3	597.4	1.1	1.2	108.68	44.3	9.8	58.7	56.4	2.26	25.947	
700.0	698.3	699.1	696.4	1.3	1.5	102.32	52.2	0.0	65.4	62.6	2.79	23.456	
800.0	796.5	798.7	795.2	1.7	1.8	103.30	60.1	-9.8	72.0	68.6	3.39	21.276	
900.0	893.6	897.8	893.5	2.1	2.1	108.58	68.0	-19.6	79.7	75.7	4.03	19.788	
1,000.0	989.4	996.3	991.2	2.6	2.3	116.63	75.8	-29.3	90.1	85.5	4.65	19.386	SF
1,100.0	1,084.9	1,094.6	1,088.7	3.1	2.6	124.55	83.6	-39.0	102.9	97.7	5.19	19.824	
1,200.0	1,180.4	1,192.8	1,186.2	3.7	2.9	130.66	91.4	-48.7	117.2	111.5	5.68	20.621	
1,300.0	1,275.9	1,291.1	1,283.6	4.2	3.2	135.41	99.2	-58.4	132.6	126.4	6.15	21.567	
1,400.0	1,371.3	1,389.4	1,381.1	4.8	3.4	139.17	107.0	-68.1	148.6	142.0	6.59	22.555	
1,500.0	1,466.8	1,487.7	1,478.6	5.3	3.7	142.19	114.8	-77.8	165.2	158.2	7.02	23.531	
1,600.0	1,562.3	1,586.0	1,576.1	5.9	4.0	144.66	122.6	-87.5	182.1	174.7	7.44	24.467	
1,700.0	1,657.8	1,684.2	1,673.6	6.4	4.3	146.70	130.4	-97.2	199.3	191.4	7.86	25.353	
1,800.0	1,753.3	1,782.5	1,771.1	7.0	4.5	148.42	138.2	-106.9	216.7	208.4	8.28	26.183	
1,900.0	1,848.8	1,880.8	1,868.6	7.5	4.8	149.89	146.0	-116.6	234.3	225.6	8.69	26.958	
2,000.0	1,944.2	1,979.1	1,966.1	8.1	5.1	151.15	153.8	-126.3	252.0	242.9	9.10	27.681	
2,100.0	2,039.7	2,077.4	2,063.6	8.7	5.4	152.24	161.6	-136.0	269.8	260.3	9.52	28.353	
2,200.0	2,135.2	2,175.6	2,161.0	9.2	5.6	153.20	169.4	-145.7	287.7	277.8	9.93	28.980	
2,300.0	2,230.7	2,273.9	2,258.5	9.8	5.9	154.05	177.2	-155.3	305.6	295.3	10.34	29.563	
2,400.0	2,326.2	2,372.2	2,356.0	10.4	6.2	154.80	185.0	-165.0	323.7	312.9	10.75	30.108	
2,500.0	2,421.6	2,470.5	2,453.5	10.9	6.5	155.47	192.8	-174.7	341.7	330.6	11.16	30.617	
2,600.0	2,517.1	2,568.8	2,551.0	11.5	6.8	156.08	200.6	-184.4	359.8	348.2	11.57	31.094	
2,700.0	2,612.6	2,667.0	2,648.5	12.0	7.0	156.63	208.4	-194.1	378.0	366.0	11.98	31.540	
2,800.0	2,708.1	2,765.3	2,746.0	12.6	7.3	157.12	216.2	-203.8	396.1	383.7	12.39	31.959	
2,900.0	2,803.6	2,863.6	2,843.5	13.2	7.6	157.58	224.0	-213.5	414.3	401.5	12.81	32.353	
3,000.0	2,899.1	2,961.9	2,941.0	13.7	7.9	157.99	231.9	-223.2	432.5	419.3	13.22	32.724	
3,100.0	2,994.5	3,060.2	3,038.4	14.3	8.1	158.38	239.7	-232.9	450.8	437.1	13.63	33.074	
3,200.0	3,090.0	3,158.4	3,135.9	14.9	8.4	158.73	247.5	-242.6	469.0	455.0	14.04	33.404	
3,300.0	3,185.5	3,256.7	3,233.4	15.4	8.7	159.06	255.3	-252.3	487.3	472.9	14.45	33.716	

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well MCU Fee 17-9D (M16W Pad)
Project:	Mamm Creek	**TVD Reference:**	KBE @ 7903.0ft (Original Well Elev)
Reference Site:	SWSW S16-T7S-R93W (M16W Pad)	**MD Reference:**	KBE @ 7903.0ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	MCU Fee 17-9D (M16W Pad)	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	DD	**Database:**	EDM 5000.1 US Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design SWSW S16-T7S-R93W (M16W Pad) - MCU 16-13B (M16W Pad) - DD - Plan #1

Offset Site Error: 0.0 ft

Survey Program: 0-MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	-66.19	4.7	-10.7	11.7				
100.0	100.0	100.0	100.0	0.1	0.1	-66.19	4.7	-10.7	11.7	11.5	0.27	43.083	
200.0	200.0	200.0	200.0	0.3	0.3	-66.19	4.7	-10.7	11.7	11.1	0.62	18.879	CC, ES
300.0	300.0	299.2	299.2	0.5	0.5	119.64	5.7	-13.1	15.1	14.1	0.97	15.549	
400.0	399.9	397.9	397.5	0.7	0.7	97.14	8.7	-20.1	24.7	23.4	1.33	18.592	
500.0	499.7	497.5	496.7	0.9	0.9	53.58	12.6	-29.2	32.4	30.7	1.70	18.997	
600.0	599.3	597.4	596.1	1.1	1.2	41.41	16.4	-38.2	35.1	33.0	2.10	16.722	
700.0	698.3	697.3	695.5	1.3	1.4	41.86	20.2	-47.2	33.3	30.7	2.55	13.060	
800.0	796.5	796.9	794.6	1.7	1.7	52.46	24.1	-56.2	27.9	24.8	3.14	8.888	
900.0	893.6	895.8	893.1	2.1	1.9	80.54	27.9	-65.2	22.8	18.8	3.98	5.733	
917.8	910.8	913.4	910.6	2.2	1.9	87.89	28.5	-66.8	22.6	18.5	4.11	5.499	SF
1,000.0	989.4	994.0	990.8	2.6	2.1	122.10	31.6	-74.1	27.4	23.1	4.28	6.394	
1,100.0	1,084.9	1,091.9	1,088.2	3.1	2.4	145.51	35.4	-82.9	42.2	37.9	4.24	9.942	
1,200.0	1,180.4	1,189.9	1,185.7	3.7	2.6	156.06	39.2	-91.8	60.2	55.8	4.39	13.709	
1,300.0	1,275.9	1,287.8	1,283.1	4.2	2.8	161.67	42.9	-100.7	79.3	74.6	4.64	17.083	
1,400.0	1,371.3	1,385.7	1,380.6	4.8	3.1	165.09	46.7	-109.5	98.8	93.8	4.93	20.027	
1,500.0	1,466.8	1,483.7	1,478.1	5.3	3.3	167.37	50.5	-118.4	118.5	113.3	5.25	22.596	
1,600.0	1,562.3	1,581.6	1,575.5	5.9	3.6	169.01	54.2	-127.2	138.4	132.8	5.57	24.848	
1,700.0	1,657.8	1,679.6	1,673.0	6.4	3.8	170.23	58.0	-136.1	158.4	152.5	5.90	26.837	
1,800.0	1,753.3	1,777.5	1,770.5	7.0	4.0	171.18	61.7	-145.0	178.4	172.2	6.24	28.605	
1,900.0	1,848.8	1,875.4	1,867.9	7.5	4.3	171.94	65.5	-153.8	198.5	191.9	6.57	30.186	
2,000.0	1,944.2	1,973.4	1,965.4	8.1	4.5	172.56	69.3	-162.7	218.5	211.6	6.91	31.608	
2,100.0	2,039.7	2,071.3	2,062.9	8.7	4.8	173.07	73.0	-171.6	238.6	231.4	7.26	32.893	
2,200.0	2,135.2	2,169.3	2,160.3	9.2	5.0	173.51	76.8	-180.4	258.8	251.2	7.60	34.061	
2,300.0	2,230.7	2,267.2	2,257.8	9.8	5.2	173.88	80.6	-189.3	278.9	271.0	7.94	35.127	
2,400.0	2,326.2	2,365.1	2,355.2	10.4	5.5	174.20	84.3	-198.1	299.0	290.8	8.28	36.104	
2,500.0	2,421.6	2,463.1	2,452.7	10.9	5.7	174.48	88.1	-207.0	319.2	310.6	8.63	37.001	
2,600.0	2,517.1	2,561.0	2,550.2	11.5	6.0	174.73	91.9	-215.9	339.3	330.4	8.97	37.830	
2,700.0	2,612.6	2,658.9	2,647.6	12.0	6.2	174.95	95.6	-224.7	359.5	350.2	9.31	38.596	
2,800.0	2,708.1	2,756.9	2,745.1	12.6	6.4	175.15	99.4	-233.6	379.7	370.0	9.66	39.307	
2,900.0	2,803.6	2,854.8	2,842.6	13.2	6.7	175.32	103.2	-242.5	399.8	389.8	10.00	39.969	
3,000.0	2,899.1	2,952.8	2,940.0	13.7	6.9	175.48	106.9	-251.3	420.0	409.7	10.35	40.587	
3,100.0	2,994.5	3,050.7	3,037.5	14.3	7.2	175.63	110.7	-260.2	440.2	429.5	10.69	41.164	
3,200.0	3,090.0	3,148.6	3,135.0	14.9	7.4	175.76	114.4	-269.0	460.4	449.3	11.04	41.705	
3,300.0	3,185.5	3,246.6	3,232.4	15.4	7.6	175.88	118.2	-277.9	480.5	469.2	11.38	42.214	

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well MCU Fee 17-9D (M16W Pad)
Project:	Mamm Creek	**TVD Reference:**	KBE @ 7903.0ft (Original Well Elev)
Reference Site:	SWSW S16-T7S-R93W (M16W Pad)	**MD Reference:**	KBE @ 7903.0ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	MCU Fee 17-9D (M16W Pad)	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	DD	**Database:**	EDM 5000.1 US Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design SWSW S16-T7S-R93W (M16W Pad) - MCU 16-13C (M16W Pad) - DD - Plan #1

Offset Site Error: 0.0 ft

Survey Program: 0-MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	-147.17	-97.6	-63.0	116.2				
100.0	100.0	100.0	100.0	0.1	0.1	-147.17	-97.6	-63.0	116.2	115.9	0.27	426.666	
200.0	200.0	200.0	200.0	0.3	0.3	-147.17	-97.6	-63.0	116.2	115.5	0.62	186.966	
300.0	300.0	297.0	297.0	0.5	0.5	34.35	-97.5	-65.4	116.0	115.0	0.97	119.282	
355.0	354.9	350.2	350.0	0.6	0.6	17.65	-97.2	-68.9	116.0	114.8	1.17	98.911	
400.0	399.9	394.8	394.5	0.7	0.7	8.38	-97.0	-72.5	115.9	114.6	1.34	86.513	
500.0	499.7	494.6	494.0	0.9	0.9	-37.22	-96.5	-80.7	115.7	114.0	1.71	67.683	
600.0	599.3	594.6	593.6	1.1	1.1	-54.60	-95.9	-88.9	114.5	112.4	2.10	54.501	
700.0	698.3	694.4	693.1	1.3	1.3	-64.67	-95.4	-97.0	112.4	109.8	2.56	43.980	
800.0	796.5	793.8	792.2	1.7	1.6	-74.12	-94.9	-105.1	110.1	107.0	3.12	35.279	
885.6	879.7	878.3	876.4	2.0	1.8	-83.22	-94.4	-112.1	109.1	105.4	3.72	29.355	CC
900.0	893.6	892.5	890.5	2.1	1.8	-84.87	-94.4	-113.2	109.2	105.3	3.82	28.559	ES
1,000.0	989.4	990.2	987.9	2.6	2.0	-96.59	-93.8	-121.2	111.9	107.3	4.60	24.312	
1,100.0	1,084.9	1,087.7	1,085.1	3.1	2.2	-106.88	-93.3	-129.2	118.8	113.5	5.32	22.338	
1,200.0	1,180.4	1,185.2	1,182.3	3.7	2.4	-115.83	-92.8	-137.2	129.3	123.4	5.94	21.775	SF
1,300.0	1,275.9	1,282.7	1,279.4	4.2	2.7	-123.34	-92.3	-145.1	142.5	136.0	6.46	22.052	
1,400.0	1,371.3	1,380.2	1,376.6	4.8	2.9	-129.52	-91.8	-153.1	157.7	150.8	6.91	22.815	
1,500.0	1,466.8	1,477.7	1,473.8	5.3	3.1	-134.59	-91.3	-161.1	174.5	167.1	7.32	23.846	
1,600.0	1,562.3	1,575.2	1,570.9	5.9	3.3	-138.76	-90.7	-169.1	192.3	184.6	7.69	25.015	
1,700.0	1,657.8	1,672.7	1,668.1	6.4	3.5	-142.22	-90.2	-177.0	211.0	203.0	8.04	26.242	
1,800.0	1,753.3	1,770.2	1,765.3	7.0	3.8	-145.12	-89.7	-185.0	230.3	222.0	8.38	27.478	
1,900.0	1,848.8	1,867.7	1,862.4	7.5	4.0	-147.57	-89.2	-193.0	250.2	241.4	8.72	28.694	
2,000.0	1,944.2	1,965.2	1,959.6	8.1	4.2	-149.65	-88.7	-201.0	270.3	261.3	9.05	29.872	
2,100.0	2,039.7	2,062.7	2,056.8	8.7	4.4	-151.45	-88.2	-208.9	290.8	281.4	9.38	31.004	
2,200.0	2,135.2	2,160.2	2,153.9	9.2	4.6	-153.01	-87.7	-216.9	311.5	301.8	9.71	32.084	
2,300.0	2,230.7	2,257.7	2,251.1	9.8	4.9	-154.38	-87.1	-224.9	332.5	322.4	10.04	33.111	
2,400.0	2,326.2	2,355.2	2,348.3	10.4	5.1	-155.59	-86.6	-232.9	353.6	343.2	10.37	34.085	
2,500.0	2,421.6	2,452.7	2,445.4	10.9	5.3	-156.66	-86.1	-240.9	374.8	364.1	10.71	35.007	
2,600.0	2,517.1	2,550.2	2,542.6	11.5	5.5	-157.61	-85.6	-248.8	396.1	385.1	11.04	35.880	
2,700.0	2,612.6	2,647.7	2,639.8	12.0	5.7	-158.47	-85.1	-256.8	417.5	406.1	11.37	36.706	
2,800.0	2,708.1	2,745.2	2,736.9	12.6	6.0	-159.25	-84.6	-264.8	439.0	427.3	11.71	37.488	
2,900.0	2,803.6	2,842.7	2,834.1	13.2	6.2	-159.95	-84.0	-272.8	460.6	448.5	12.05	38.228	
3,000.0	2,899.1	2,940.1	2,931.3	13.7	6.4	-160.59	-83.5	-280.7	482.2	469.8	12.39	38.928	

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

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well MCU Fee 17-9D (M16W Pad)
Project:	Mamm Creek	**TVD Reference:**	KBE @ 7903.0ft (Original Well Elev)
Reference Site:	SWSW S16-T7S-R93W (M16W Pad)	**MD Reference:**	KBE @ 7903.0ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	MCU Fee 17-9D (M16W Pad)	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	DD	**Database:**	EDM 5000.1 US Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design SWSW S16-T7S-R93W (M16W Pad) - MCU 16-13D (M16W Pad) - DD - Plan #1

Offset Site Error: 0.0 ft

Survey Program: 0-MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	-139.03	-109.3	-94.9	144.7				
100.0	100.0	100.0	100.0	0.1	0.1	-139.03	-109.3	-94.9	144.7	144.5	0.27	531.543	
200.0	200.0	200.0	200.0	0.3	0.3	-139.03	-109.3	-94.9	144.7	144.1	0.62	232.924	CC, ES
300.0	300.0	293.4	293.4	0.5	0.5	41.72	-110.3	-96.9	145.7	144.7	0.96	151.494	
400.0	399.9	388.2	387.9	0.7	0.7	13.68	-113.4	-103.0	148.7	147.4	1.31	113.684	
500.0	499.7	488.1	487.5	0.9	0.9	-33.68	-117.2	-110.7	151.7	150.0	1.66	91.543	
600.0	599.3	588.0	587.0	1.1	1.1	-52.20	-121.0	-118.3	153.2	151.2	2.02	75.721	
700.0	698.3	687.6	686.2	1.3	1.3	-62.66	-124.9	-125.9	153.8	151.4	2.45	62.797	
800.0	796.5	786.7	784.9	1.7	1.6	-71.58	-128.7	-133.5	154.3	151.3	2.98	51.754	
900.0	893.6	884.9	882.8	2.1	1.8	-80.72	-132.5	-141.0	155.9	152.2	3.65	42.718	
1,000.0	989.4	982.0	979.5	2.6	2.0	-89.99	-136.2	-148.4	160.5	156.0	4.43	36.243	
1,100.0	1,084.9	1,078.9	1,076.1	3.1	2.2	-97.96	-139.9	-155.8	168.6	163.4	5.21	32.350	
1,200.0	1,180.4	1,175.7	1,172.6	3.7	2.5	-105.12	-143.7	-163.2	179.8	173.9	5.96	30.173	
1,300.0	1,275.9	1,272.6	1,269.1	4.2	2.7	-111.38	-147.4	-170.6	193.6	187.0	6.66	29.086	
1,400.0	1,371.3	1,369.5	1,365.6	4.8	2.9	-116.79	-151.1	-178.0	209.5	202.2	7.30	28.690	SF
1,500.0	1,466.8	1,466.4	1,462.1	5.3	3.1	-121.43	-154.8	-185.4	226.9	219.0	7.90	28.731	
1,600.0	1,562.3	1,563.2	1,558.6	5.9	3.3	-125.41	-158.6	-192.8	245.6	237.2	8.46	29.048	
1,700.0	1,657.8	1,660.1	1,655.1	6.4	3.6	-128.82	-162.3	-200.2	265.4	256.4	8.98	29.537	
1,800.0	1,753.3	1,757.0	1,751.6	7.0	3.8	-131.76	-166.0	-207.6	285.9	276.4	9.49	30.130	
1,900.0	1,848.8	1,853.8	1,848.2	7.5	4.0	-134.31	-169.7	-215.0	307.1	297.1	9.98	30.782	
2,000.0	1,944.2	1,950.7	1,944.7	8.1	4.2	-136.53	-173.5	-222.4	328.7	318.3	10.45	31.465	
2,100.0	2,039.7	2,047.6	2,041.2	8.7	4.5	-138.48	-177.2	-229.8	350.8	339.9	10.91	32.158	
2,200.0	2,135.2	2,144.4	2,137.7	9.2	4.7	-140.19	-180.9	-237.2	373.3	361.9	11.36	32.848	
2,300.0	2,230.7	2,241.3	2,234.2	9.8	4.9	-141.72	-184.6	-244.6	396.0	384.2	11.81	33.527	
2,400.0	2,326.2	2,338.2	2,330.7	10.4	5.1	-143.08	-188.4	-252.0	419.0	406.7	12.25	34.190	
2,500.0	2,421.6	2,435.0	2,427.2	10.9	5.3	-144.30	-192.1	-259.4	442.1	429.4	12.69	34.833	
2,600.0	2,517.1	2,531.9	2,523.7	11.5	5.6	-145.39	-195.8	-266.8	465.5	452.3	13.13	35.453	
2,700.0	2,612.6	2,628.8	2,620.3	12.0	5.8	-146.39	-199.5	-274.2	488.9	475.4	13.56	36.051	

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well MCU Fee 17-9D (M16W Pad)
Project:	Mamm Creek	**TVD Reference:**	KBE @ 7903.0ft (Original Well Elev)
Reference Site:	SWSW S16-T7S-R93W (M16W Pad)	**MD Reference:**	KBE @ 7903.0ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	MCU Fee 17-9D (M16W Pad)	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	DD	**Database:**	EDM 5000.1 US Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design SWSW S16-T7S-R93W (M16W Pad) - MCU 21-3B (M16W Pad) - DD - Plan #1

Offset Site Error: 0.0 ft

Survey Program: 0-MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	69.81	5.8	15.8	16.9				
100.0	100.0	100.0	100.0	0.1	0.1	69.81	5.8	15.8	16.9	16.6	0.27	61.889	
200.0	200.0	200.0	200.0	0.3	0.3	69.81	5.8	15.8	16.9	16.2	0.62	27.120	CC, ES
300.0	300.0	299.6	299.5	0.5	0.5	-107.87	4.0	17.6	18.5	17.6	0.98	18.914	
400.0	399.9	398.9	398.5	0.7	0.7	-130.99	-1.6	23.0	24.1	22.7	1.37	17.613	SF
500.0	499.7	496.7	495.5	0.9	1.0	-165.29	-10.6	31.9	37.3	35.6	1.75	21.272	
600.0	599.3	591.6	588.8	1.1	1.3	-171.89	-22.8	43.8	60.6	58.5	2.12	28.562	
700.0	698.3	682.9	677.8	1.3	1.7	-172.66	-37.6	58.2	93.9	91.4	2.47	38.037	
800.0	796.5	774.2	766.4	1.7	2.1	-172.87	-53.4	73.7	134.0	131.2	2.81	47.746	
900.0	893.6	863.3	852.8	2.1	2.5	-173.18	-68.8	88.8	179.1	175.9	3.13	57.162	
1,000.0	989.4	950.0	936.9	2.6	2.9	-173.02	-83.9	103.4	228.6	225.2	3.46	66.060	
1,100.0	1,084.9	1,036.2	1,020.5	3.1	3.3	-172.14	-98.8	118.0	279.3	275.5	3.82	73.189	
1,200.0	1,180.4	1,122.3	1,104.1	3.7	3.7	-171.53	-113.7	132.6	330.1	325.9	4.17	79.061	
1,300.0	1,275.9	1,208.4	1,187.6	4.2	4.1	-171.09	-128.7	147.2	380.8	376.3	4.53	83.975	
1,400.0	1,371.3	1,294.6	1,271.2	4.8	4.5	-170.74	-143.6	161.8	431.6	426.7	4.90	88.146	
1,500.0	1,466.8	1,380.7	1,354.8	5.3	4.9	-170.47	-158.5	176.4	482.3	477.1	5.26	91.727	

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well MCU Fee 17-9D (M16W Pad)
Project:	Mamm Creek	**TVD Reference:**	KBE @ 7903.0ft (Original Well Elev)
Reference Site:	SWSW S16-T7S-R93W (M16W Pad)	**MD Reference:**	KBE @ 7903.0ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	MCU Fee 17-9D (M16W Pad)	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	DD	**Database:**	EDM 5000.1 US Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design SWSW S16-T7S-R93W (M16W Pad) - MCU 21-4A (M16W Pad) - DD - Plan #1

Offset Site Error: 0.0 ft

Survey Program: 0-MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	-143.48	-113.6	-84.2	141.4				
100.0	100.0	100.0	100.0	0.1	0.1	-143.48	-113.6	-84.2	141.4	141.1	0.27	519.383	
200.0	200.0	200.0	200.0	0.3	0.3	-143.48	-113.6	-84.2	141.4	140.8	0.62	227.595	CC, ES
300.0	300.0	293.3	293.3	0.5	0.5	37.16	-115.0	-86.0	142.4	141.4	0.96	148.191	
400.0	399.9	386.5	386.2	0.7	0.7	8.77	-119.2	-91.4	145.6	144.3	1.30	111.788	
500.0	499.7	486.4	485.6	0.9	0.9	-38.91	-125.0	-99.1	150.0	148.3	1.65	90.878	
600.0	599.3	586.2	584.9	1.1	1.1	-57.77	-130.9	-106.8	153.6	151.5	2.02	75.963	
700.0	698.3	685.6	683.9	1.3	1.4	-68.49	-136.8	-114.4	156.7	154.2	2.46	63.789	
800.0	796.5	784.5	782.3	1.7	1.6	-77.48	-142.6	-122.1	160.3	157.4	3.00	53.487	
900.0	893.6	882.4	879.8	2.1	1.8	-86.35	-148.3	-129.6	165.8	162.1	3.67	45.204	
1,000.0	989.4	979.3	976.2	2.6	2.1	-94.96	-154.0	-137.1	174.6	170.1	4.43	39.388	
1,100.0	1,084.9	1,075.9	1,072.4	3.1	2.3	-102.10	-159.7	-144.5	186.7	181.5	5.20	35.908	
1,200.0	1,180.4	1,172.5	1,168.5	3.7	2.5	-108.34	-165.4	-152.0	201.4	195.5	5.93	33.936	
1,300.0	1,275.9	1,269.1	1,264.6	4.2	2.8	-113.70	-171.1	-159.4	218.2	211.6	6.63	32.909	
1,400.0	1,371.3	1,365.6	1,360.7	4.8	3.0	-118.29	-176.7	-166.8	236.7	229.4	7.29	32.476	
1,500.0	1,466.8	1,462.2	1,456.8	5.3	3.3	-122.22	-182.4	-174.3	256.5	248.6	7.91	32.420	SF
1,600.0	1,562.3	1,558.8	1,553.0	5.9	3.5	-125.58	-188.1	-181.7	277.3	268.8	8.50	32.601	
1,700.0	1,657.8	1,655.4	1,649.1	6.4	3.7	-128.48	-193.8	-189.2	298.9	289.8	9.07	32.932	
1,800.0	1,753.3	1,751.9	1,745.2	7.0	4.0	-130.99	-199.5	-196.6	321.1	311.5	9.63	33.356	
1,900.0	1,848.8	1,848.5	1,841.3	7.5	4.2	-133.17	-205.1	-204.0	343.9	333.7	10.16	33.834	
2,000.0	1,944.2	1,945.1	1,937.5	8.1	4.4	-135.09	-210.8	-211.5	367.0	356.4	10.69	34.342	
2,100.0	2,039.7	2,041.7	2,033.6	8.7	4.7	-136.78	-216.5	-218.9	390.6	379.4	11.20	34.863	
2,200.0	2,135.2	2,138.2	2,129.7	9.2	4.9	-138.28	-222.2	-226.4	414.4	402.7	11.71	35.386	
2,300.0	2,230.7	2,234.8	2,225.8	9.8	5.1	-139.61	-227.9	-233.8	438.5	426.2	12.21	35.903	
2,400.0	2,326.2	2,331.4	2,321.9	10.4	5.4	-140.81	-233.5	-241.3	462.7	450.0	12.71	36.410	
2,500.0	2,421.6	2,428.0	2,418.1	10.9	5.6	-141.89	-239.2	-248.7	487.1	473.9	13.20	36.903	

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well MCU Fee 17-9D (M16W Pad)
Project:	Mamm Creek	**TVD Reference:**	KBE @ 7903.0ft (Original Well Elev)
Reference Site:	SWSW S16-T7S-R93W (M16W Pad)	**MD Reference:**	KBE @ 7903.0ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	MCU Fee 17-9D (M16W Pad)	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	DD	**Database:**	EDM 5000.1 US Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design SWSW S16-T7S-R93W (M16W Pad) - MCU 21-4B (M16W Pad) - DD - Plan #1

Offset Site Error: 0.0 ft

Survey Program: 0-MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	-147.73	-107.8	-68.1	127.5				
100.0	100.0	100.0	100.0	0.1	0.1	-147.73	-107.8	-68.1	127.5	127.2	0.27	468.259	
200.0	200.0	200.0	200.0	0.3	0.3	-147.73	-107.8	-68.1	127.5	126.9	0.62	205.192	CC, ES
300.0	300.0	293.7	293.7	0.5	0.5	32.66	-109.7	-69.3	128.5	127.5	0.96	133.757	
400.0	399.9	387.3	387.0	0.7	0.7	3.54	-115.5	-73.0	131.8	130.5	1.30	101.318	
500.0	499.7	480.4	479.4	0.9	0.9	-45.17	-125.1	-79.2	139.2	137.6	1.63	85.148	
600.0	599.3	579.6	577.5	1.1	1.2	-64.99	-137.2	-87.1	148.9	146.9	2.01	74.179	
700.0	698.3	678.4	675.2	1.3	1.5	-76.35	-149.4	-94.9	159.1	156.7	2.45	65.061	
800.0	796.5	776.4	772.2	1.7	1.8	-85.42	-161.4	-102.7	170.9	167.9	2.99	57.204	
900.0	893.6	873.3	868.1	2.1	2.1	-93.68	-173.3	-110.4	185.2	181.6	3.64	50.827	
1,000.0	989.4	969.1	962.8	2.6	2.4	-101.10	-185.1	-118.0	203.1	198.7	4.38	46.332	
1,100.0	1,084.9	1,064.5	1,057.2	3.1	2.7	-106.89	-196.8	-125.6	223.9	218.7	5.14	43.574	
1,200.0	1,180.4	1,159.9	1,151.6	3.7	3.0	-111.69	-208.5	-133.2	246.5	240.7	5.88	41.930	
1,300.0	1,275.9	1,255.3	1,245.9	4.2	3.3	-115.70	-220.2	-140.7	270.6	264.0	6.60	40.979	
1,400.0	1,371.3	1,350.7	1,340.3	4.8	3.6	-119.06	-231.9	-148.3	295.8	288.4	7.31	40.463	
1,500.0	1,466.8	1,446.1	1,434.7	5.3	3.9	-121.89	-243.6	-155.9	321.7	313.7	8.00	40.224	
1,600.0	1,562.3	1,541.5	1,529.1	5.9	4.2	-124.31	-255.4	-163.5	348.3	339.7	8.67	40.163	SF
1,700.0	1,657.8	1,636.9	1,623.5	6.4	4.4	-126.39	-267.1	-171.0	375.5	366.1	9.34	40.216	
1,800.0	1,753.3	1,732.3	1,717.9	7.0	4.7	-128.18	-278.8	-178.6	403.0	393.0	9.99	40.344	
1,900.0	1,848.8	1,827.7	1,812.2	7.5	5.0	-129.76	-290.5	-186.2	430.8	420.2	10.63	40.518	
2,000.0	1,944.2	1,923.1	1,906.6	8.1	5.3	-131.14	-302.2	-193.8	458.9	447.7	11.27	40.722	
2,100.0	2,039.7	2,018.5	2,001.0	8.7	5.6	-132.36	-313.9	-201.3	487.3	475.4	11.90	40.943	

CC - Min centre to center distance or covergent 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 MCU Fee 17-9D (M16W Pad)
Project:	Mamm Creek	**TVD Reference:**	KBE @ 7903.0ft (Original Well Elev)
Reference Site:	SWSW S16-T7S-R93W (M16W Pad)	**MD Reference:**	KBE @ 7903.0ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	MCU Fee 17-9D (M16W Pad)	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	DD	**Database:**	EDM 5000.1 US Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design SWSW S16-T7S-R93W (M16W Pad) - MCU 21-4C (M16W Pad) - DD - Plan #1

Offset Site Error: 0.0 ft

Survey Program: 0-MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	-152.87	-102.0	-52.2	114.6				
100.0	100.0	100.0	100.0	0.1	0.1	-152.87	-102.0	-52.2	114.6	114.3	0.27	420.869	
200.0	200.0	200.0	200.0	0.3	0.3	-152.87	-102.0	-52.2	114.6	114.0	0.62	184.426	CC, ES
300.0	300.0	294.3	294.3	0.5	0.5	27.48	-104.1	-53.3	115.5	114.5	0.96	120.172	
400.0	399.9	388.5	388.2	0.7	0.7	-1.79	-110.3	-56.4	118.7	117.4	1.30	91.188	
500.0	499.7	482.1	481.1	0.9	0.9	-50.87	-120.6	-61.5	126.5	124.8	1.64	77.108	
600.0	599.3	576.2	573.8	1.1	1.3	-70.92	-134.9	-68.7	139.3	137.3	2.01	69.383	
700.0	698.3	674.3	670.3	1.3	1.6	-82.38	-150.9	-76.7	154.7	152.2	2.45	63.044	
800.0	796.5	771.6	765.9	1.7	1.9	-91.21	-166.9	-84.6	172.0	169.0	3.00	57.401	
900.0	893.6	867.7	860.4	2.1	2.3	-98.89	-182.6	-92.5	192.3	188.7	3.65	52.719	
1,000.0	989.4	962.5	953.6	2.6	2.6	-105.49	-198.1	-100.2	216.2	211.8	4.38	49.395	
1,100.0	1,084.9	1,057.0	1,046.5	3.1	2.9	-110.48	-213.5	-107.9	242.5	237.4	5.13	47.314	
1,200.0	1,180.4	1,151.4	1,139.3	3.7	3.3	-114.49	-229.0	-115.6	270.2	264.4	5.87	46.045	
1,300.0	1,275.9	1,245.9	1,232.2	4.2	3.6	-117.77	-244.5	-123.3	299.0	292.4	6.60	45.282	
1,400.0	1,371.3	1,340.4	1,325.1	4.8	4.0	-120.48	-259.9	-131.0	328.5	321.1	7.33	44.838	
1,500.0	1,466.8	1,434.8	1,418.0	5.3	4.3	-122.75	-275.4	-138.7	358.6	350.5	8.04	44.598	
1,600.0	1,562.3	1,529.3	1,510.8	5.9	4.7	-124.67	-290.8	-146.5	389.1	380.3	8.75	44.490	
1,700.0	1,657.8	1,623.8	1,603.7	6.4	5.0	-126.31	-306.3	-154.2	419.9	410.5	9.44	44.468	SF
1,800.0	1,753.3	1,718.2	1,696.6	7.0	5.3	-127.73	-321.7	-161.9	451.1	440.9	10.14	44.503	
1,900.0	1,848.8	1,812.7	1,789.5	7.5	5.7	-128.97	-337.2	-169.6	482.4	471.6	10.82	44.576	

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well MCU Fee 17-9D (M16W Pad)
Project:	Mamm Creek	**TVD Reference:**	KBE @ 7903.0ft (Original Well Elev)
Reference Site:	SWSW S16-T7S-R93W (M16W Pad)	**MD Reference:**	KBE @ 7903.0ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	MCU Fee 17-9D (M16W Pad)	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	DD	**Database:**	EDM 5000.1 US Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design SWSW S16-T7S-R93W (M16W Pad) - MCU 21-4D2 (M16W Pad) - DD - Plan #1

Offset Site Error: 0.0 ft

Survey Program: 0-MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	-159.40	-96.2	-36.2	102.7				
100.0	100.0	100.0	100.0	0.1	0.1	-159.40	-96.2	-36.2	102.7	102.5	0.27	377.318	
200.0	200.0	200.0	200.0	0.3	0.3	-159.40	-96.2	-36.2	102.7	102.1	0.62	165.342	CC, ES
300.0	300.0	294.9	294.8	0.5	0.5	20.95	-98.3	-37.0	103.6	102.6	0.96	107.700	
400.0	399.9	389.6	389.3	0.7	0.7	-8.37	-104.9	-39.7	106.6	105.3	1.30	81.891	
500.0	499.7	483.8	482.7	0.9	1.0	-57.63	-115.7	-44.0	114.9	113.2	1.64	69.839	
600.0	599.3	576.6	574.1	1.1	1.3	-77.78	-130.5	-49.9	129.0	126.9	2.02	63.882	
700.0	698.3	669.9	665.3	1.3	1.6	-88.86	-149.2	-57.4	149.1	146.7	2.46	60.547	
800.0	796.5	766.1	759.0	1.7	2.0	-97.12	-169.3	-65.5	172.6	169.6	3.01	57.353	
900.0	893.6	861.1	851.5	2.1	2.4	-103.96	-189.1	-73.4	199.1	195.4	3.65	54.482	
1,000.0	989.4	954.7	942.7	2.6	2.8	-109.63	-208.7	-81.3	229.1	224.7	4.37	52.373	
1,100.0	1,084.9	1,047.9	1,033.6	3.1	3.2	-113.78	-228.2	-89.1	261.0	255.9	5.12	50.981	
1,200.0	1,180.4	1,141.1	1,124.4	3.7	3.6	-117.03	-247.6	-96.9	293.9	288.0	5.87	50.104	
1,300.0	1,275.9	1,234.3	1,215.2	4.2	4.0	-119.64	-267.1	-104.7	327.5	320.9	6.61	49.554	
1,400.0	1,371.3	1,327.6	1,306.1	4.8	4.4	-121.77	-286.5	-112.5	361.6	354.2	7.35	49.211	
1,500.0	1,466.8	1,420.8	1,396.9	5.3	4.8	-123.53	-306.0	-120.3	396.1	388.0	8.08	49.004	
1,600.0	1,562.3	1,514.0	1,487.7	5.9	5.2	-125.01	-325.5	-128.1	430.8	422.0	8.81	48.886	
1,700.0	1,657.8	1,607.2	1,578.6	6.4	5.6	-126.28	-344.9	-135.9	465.8	456.2	9.54	48.827	SF

CC - Min centre to center distance or covergent 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 MCU Fee 17-9D (M16W Pad)
Project:	Mamm Creek	**TVD Reference:**	KBE @ 7903.0ft (Original Well Elev)
Reference Site:	SWSW S16-T7S-R93W (M16W Pad)	**MD Reference:**	KBE @ 7903.0ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	MCU Fee 17-9D (M16W Pad)	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	DD	**Database:**	EDM 5000.1 US Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design SWSW S16-T7S-R93W (M16W Pad) - MCU 21-5A (M16W Pad) - DD - Plan #1

Offset Site Error: 0.0 ft

Survey Program: 0-MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	-167.31	-90.3	-20.3	92.6				
100.0	100.0	100.0	100.0	0.1	0.1	-167.31	-90.3	-20.3	92.6	92.3	0.27	340.067	
200.0	200.0	200.0	200.0	0.3	0.3	-167.31	-90.3	-20.3	92.6	92.0	0.62	149.018	CC, ES
300.0	300.0	295.4	295.3	0.5	0.5	13.06	-92.6	-21.1	93.4	92.4	0.96	97.023	
400.0	399.9	390.6	390.3	0.7	0.7	-16.19	-99.3	-23.4	96.3	95.0	1.30	73.898	
500.0	499.7	485.2	484.2	0.9	1.0	-65.36	-110.5	-27.1	105.0	103.4	1.65	63.610	
600.0	599.3	578.4	575.9	1.1	1.3	-85.32	-125.7	-32.2	120.3	118.2	2.04	59.089	
700.0	698.3	669.4	664.7	1.3	1.7	-95.89	-144.7	-38.6	142.4	139.9	2.49	57.250	
800.0	796.5	760.6	752.7	1.7	2.1	-103.09	-167.4	-46.2	171.1	168.1	3.03	56.529	
900.0	893.6	854.2	842.9	2.1	2.5	-108.88	-191.2	-54.3	203.6	199.9	3.67	55.532	
1,000.0	989.4	946.3	931.6	2.6	3.0	-113.55	-214.7	-62.2	239.4	235.0	4.38	54.682	
1,100.0	1,084.9	1,038.1	1,020.0	3.1	3.4	-116.87	-238.1	-70.0	276.6	271.5	5.12	54.019	
1,200.0	1,180.4	1,129.8	1,108.3	3.7	3.9	-119.41	-261.5	-77.9	314.5	308.6	5.87	53.584	
1,300.0	1,275.9	1,221.5	1,196.7	4.2	4.4	-121.41	-284.9	-85.7	352.8	346.2	6.62	53.300	
1,400.0	1,371.3	1,313.3	1,285.0	4.8	4.8	-123.02	-308.2	-93.6	391.4	384.1	7.37	53.116	
1,500.0	1,466.8	1,405.0	1,373.4	5.3	5.3	-124.34	-331.6	-101.5	430.3	422.2	8.12	52.998	
1,600.0	1,562.3	1,496.7	1,461.7	5.9	5.7	-125.44	-355.0	-109.3	469.3	460.4	8.87	52.925	SF

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

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well MCU Fee 17-9D (M16W Pad)
Project:	Mamm Creek	**TVD Reference:**	KBE @ 7903.0ft (Original Well Elev)
Reference Site:	SWSW S16-T7S-R93W (M16W Pad)	**MD Reference:**	KBE @ 7903.0ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	MCU Fee 17-9D (M16W Pad)	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	DD	**Database:**	EDM 5000.1 US Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design SWSW S16-T7S-R93W (M16W Pad) - MCU Fee 16-12C2 (M16W Pad) - DD - Plan #1

Offset Site Error: 0.0 ft

Survey Program: 0-MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	69.88	17.5	47.7	50.8				
100.0	100.0	100.0	100.0	0.1	0.1	69.88	17.5	47.7	50.8	50.6	0.27	186.693	
200.0	200.0	200.0	200.0	0.3	0.3	69.88	17.5	47.7	50.8	50.2	0.62	81.809	
289.7	289.6	290.3	290.3	0.5	0.5	-113.89	19.1	46.4	50.7	49.8	0.95	53.660	CC
300.0	300.0	300.7	300.7	0.5	0.5	-114.81	19.5	46.0	50.7	49.7	0.98	51.607	ES
400.0	399.9	400.4	400.1	0.7	0.7	-157.39	25.6	41.1	52.4	51.0	1.38	37.914	
500.0	499.7	499.3	498.1	0.9	1.0	142.32	35.6	32.9	58.6	56.7	1.83	32.031	
600.0	599.3	598.5	596.0	1.1	1.3	117.31	47.8	22.8	68.1	65.8	2.31	29.496	
700.0	698.3	697.9	694.1	1.3	1.6	107.93	60.1	12.7	78.5	75.6	2.86	27.485	
800.0	796.5	797.3	792.2	1.7	1.9	105.74	72.5	2.5	89.1	85.6	3.49	25.551	
900.0	893.6	896.3	890.0	2.1	2.3	107.58	84.7	-7.5	100.4	96.2	4.20	23.903	
1,000.0	989.4	994.9	987.2	2.6	2.6	112.24	96.9	-17.6	113.3	108.3	4.95	22.899	
1,100.0	1,084.9	1,093.2	1,084.3	3.1	2.9	117.55	109.1	-27.6	127.5	121.9	5.66	22.511	
1,200.0	1,180.4	1,191.6	1,181.4	3.7	3.2	121.77	121.3	-37.6	142.6	136.3	6.36	22.435	SF
1,300.0	1,275.9	1,289.9	1,278.5	4.2	3.6	125.18	133.5	-47.6	158.3	151.3	7.03	22.530	
1,400.0	1,371.3	1,388.3	1,375.6	4.8	3.9	127.96	145.7	-57.6	174.5	166.8	7.68	22.717	
1,500.0	1,466.8	1,486.6	1,472.7	5.3	4.2	130.28	157.8	-67.6	191.0	182.7	8.32	22.951	
1,600.0	1,562.3	1,585.0	1,569.7	5.9	4.5	132.22	170.0	-77.7	207.8	198.8	8.95	23.207	
1,700.0	1,657.8	1,683.4	1,666.8	6.4	4.8	133.87	182.2	-87.7	224.7	215.2	9.58	23.470	
1,800.0	1,753.3	1,781.7	1,763.9	7.0	5.2	135.29	194.4	-97.7	241.9	231.7	10.19	23.731	
1,900.0	1,848.8	1,880.1	1,861.0	7.5	5.5	136.53	206.6	-107.7	259.1	248.3	10.80	23.985	
2,000.0	1,944.2	1,978.4	1,958.1	8.1	5.8	137.61	218.8	-117.7	276.4	265.0	11.41	24.229	
2,100.0	2,039.7	2,076.8	2,055.2	8.7	6.1	138.56	230.9	-127.7	293.9	281.9	12.01	24.462	
2,200.0	2,135.2	2,175.2	2,152.3	9.2	6.5	139.40	243.1	-137.8	311.4	298.8	12.61	24.683	
2,300.0	2,230.7	2,273.5	2,249.3	9.8	6.8	140.16	255.3	-147.8	328.9	315.7	13.21	24.894	
2,400.0	2,326.2	2,371.9	2,346.4	10.4	7.1	140.84	267.5	-157.8	346.5	332.7	13.81	25.093	
2,500.0	2,421.6	2,470.2	2,443.5	10.9	7.4	141.45	279.7	-167.8	364.2	349.8	14.41	25.281	
2,600.0	2,517.1	2,568.6	2,540.6	11.5	7.8	142.01	291.9	-177.8	381.9	366.9	15.00	25.459	
2,700.0	2,612.6	2,667.0	2,637.7	12.0	8.1	142.51	304.0	-187.8	399.6	384.0	15.59	25.628	
2,800.0	2,708.1	2,765.3	2,734.8	12.6	8.4	142.98	316.2	-197.8	417.3	401.1	16.18	25.787	
2,900.0	2,803.6	2,863.7	2,831.9	13.2	8.7	143.40	328.4	-207.9	435.1	418.3	16.77	25.938	
3,000.0	2,899.1	2,962.0	2,928.9	13.7	9.1	143.80	340.6	-217.9	452.9	435.5	17.36	26.081	
3,100.0	2,994.5	3,060.4	3,026.0	14.3	9.4	144.16	352.8	-227.9	470.7	452.8	17.95	26.217	
3,200.0	3,090.0	3,158.7	3,123.1	14.9	9.7	144.50	365.0	-237.9	488.5	470.0	18.54	26.346	

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well MCU Fee 17-9D (M16W Pad)
Project:	Mamm Creek	**TVD Reference:**	KBE @ 7903.0ft (Original Well Elev)
Reference Site:	SWSW S16-T7S-R93W (M16W Pad)	**MD Reference:**	KBE @ 7903.0ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	MCU Fee 17-9D (M16W Pad)	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	DD	**Database:**	EDM 5000.1 US Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design SWSW S16-T7S-R93W (M16W Pad) - MCU Fee 16-2C (M16W Pad) - DD - Plan #1

Offset Site Error: 0.0 ft

Survey Program: 0-MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	62.16	28.0	53.1	60.0				
100.0	100.0	100.0	100.0	0.1	0.1	62.16	28.0	53.1	60.0	59.8	0.27	220.544	
200.0	200.0	200.0	200.0	0.3	0.3	62.16	28.0	53.1	60.0	59.4	0.62	96.643	CC, ES
300.0	300.0	300.0	300.0	0.5	0.5	-121.74	30.3	51.7	60.8	59.9	0.98	61.982	
400.0	399.9	399.0	398.7	0.7	0.7	-161.74	36.9	47.7	64.7	63.4	1.38	47.048	
500.0	499.7	497.1	495.9	0.9	1.0	140.95	47.7	41.1	73.2	71.4	1.81	40.564	
600.0	599.3	594.5	591.7	1.1	1.3	116.79	62.7	31.9	85.8	83.5	2.30	37.286	
700.0	698.3	693.3	688.5	1.3	1.7	106.14	79.6	21.6	100.1	97.2	2.87	34.919	
800.0	796.5	792.3	785.5	1.7	2.1	102.27	96.5	11.3	114.6	111.0	3.53	32.461	
900.0	893.6	891.0	882.2	2.1	2.4	102.13	113.3	1.0	129.1	124.9	4.30	30.051	
1,000.0	989.4	989.4	978.6	2.6	2.8	104.77	130.2	-9.3	144.4	139.3	5.14	28.080	
1,100.0	1,084.9	1,087.6	1,074.8	3.1	3.2	108.50	146.9	-19.6	160.4	154.4	5.99	26.762	
1,200.0	1,180.4	1,185.8	1,171.0	3.7	3.6	111.54	163.7	-29.8	177.0	170.2	6.84	25.869	
1,300.0	1,275.9	1,284.0	1,267.2	4.2	4.0	114.07	180.5	-40.1	194.0	186.3	7.68	25.250	
1,400.0	1,371.3	1,382.2	1,363.5	4.8	4.4	116.18	197.3	-50.3	211.3	202.8	8.52	24.811	
1,500.0	1,466.8	1,480.4	1,459.7	5.3	4.7	117.98	214.1	-60.6	228.8	219.5	9.34	24.495	
1,600.0	1,562.3	1,578.7	1,555.9	5.9	5.1	119.52	230.9	-70.8	246.5	236.4	10.16	24.265	
1,700.0	1,657.8	1,676.9	1,652.2	6.4	5.5	120.85	247.7	-81.1	264.4	253.4	10.97	24.094	
1,800.0	1,753.3	1,775.1	1,748.4	7.0	5.9	122.02	264.4	-91.4	282.4	270.6	11.78	23.967	
1,900.0	1,848.8	1,873.3	1,844.6	7.5	6.3	123.04	281.2	-101.6	300.5	287.9	12.59	23.873	
2,000.0	1,944.2	1,971.5	1,940.8	8.1	6.7	123.95	298.0	-111.9	318.7	305.3	13.39	23.802	
2,100.0	2,039.7	2,069.7	2,037.1	8.7	7.0	124.76	314.8	-122.1	336.9	322.7	14.19	23.750	
2,200.0	2,135.2	2,168.0	2,133.3	9.2	7.4	125.49	331.6	-132.4	355.2	340.2	14.98	23.711	
2,300.0	2,230.7	2,266.2	2,229.5	9.8	7.8	126.14	348.4	-142.6	373.6	357.8	15.77	23.683	
2,400.0	2,326.2	2,364.4	2,325.7	10.4	8.2	126.74	365.2	-152.9	392.0	375.4	16.56	23.663	
2,500.0	2,421.6	2,462.6	2,422.0	10.9	8.6	127.28	381.9	-163.2	410.4	393.0	17.35	23.649	
2,600.0	2,517.1	2,560.8	2,518.2	11.5	9.0	127.77	398.7	-173.4	428.9	410.7	18.14	23.640	
2,700.0	2,612.6	2,659.0	2,614.4	12.0	9.3	128.23	415.5	-183.7	447.4	428.4	18.93	23.636	
2,800.0	2,708.1	2,757.3	2,710.6	12.6	9.7	128.65	432.3	-193.9	465.9	446.2	19.71	23.634	SF
2,900.0	2,803.6	2,855.5	2,806.9	13.2	10.1	129.03	449.1	-204.2	484.4	463.9	20.50	23.635	

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well MCU Fee 17-9D (M16W Pad)
Project:	Mamm Creek	**TVD Reference:**	KBE @ 7903.0ft (Original Well Elev)
Reference Site:	SWSW S16-T7S-R93W (M16W Pad)	**MD Reference:**	KBE @ 7903.0ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	MCU Fee 17-9D (M16W Pad)	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	DD	**Database:**	EDM 5000.1 US Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design SWSW S16-T7S-R93W (M16W Pad) - MCU Fee 16-5C (M16W Pad) - DD - Plan #1

Offset Site Error: 0.0 ft

Survey Program: 0-MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	69.94	23.3	63.8	68.0				
100.0	100.0	100.0	100.0	0.1	0.1	69.94	23.3	63.8	68.0	67.7	0.27	249.573	
200.0	200.0	200.0	200.0	0.3	0.3	69.94	23.3	63.8	68.0	67.3	0.62	109.363	CC, ES
300.0	300.0	299.8	299.8	0.5	0.5	-113.59	25.8	62.9	68.7	67.7	0.98	69.965	
400.0	399.9	398.6	398.2	0.7	0.7	-152.75	33.0	60.3	72.4	71.1	1.38	52.625	
500.0	499.7	496.3	495.1	0.9	1.0	150.42	44.9	56.0	81.6	79.8	1.80	45.324	
600.0	599.3	592.9	590.1	1.1	1.3	126.46	61.1	50.0	95.7	93.5	2.28	41.951	
700.0	698.3	688.2	682.9	1.3	1.8	114.48	81.6	42.6	114.2	111.3	2.86	39.934	
800.0	796.5	782.2	773.2	1.7	2.2	107.47	106.0	33.7	136.4	132.8	3.56	38.306	
900.0	893.6	877.0	863.1	2.1	2.8	103.19	134.3	23.4	161.5	157.1	4.38	36.862	
1,000.0	989.4	973.6	954.6	2.6	3.3	102.10	163.5	12.7	187.2	181.9	5.31	35.234	
1,100.0	1,084.9	1,070.2	1,046.0	3.1	3.9	102.88	192.8	2.0	213.0	206.7	6.28	33.889	
1,200.0	1,180.4	1,166.8	1,137.5	3.7	4.5	103.49	222.0	-8.6	238.8	231.5	7.27	32.832	
1,300.0	1,275.9	1,263.4	1,228.9	4.2	5.0	103.98	251.3	-19.3	264.6	256.4	8.27	31.991	
1,400.0	1,371.3	1,359.9	1,320.3	4.8	5.6	104.39	280.5	-30.0	290.5	281.2	9.28	31.309	
1,500.0	1,466.8	1,456.5	1,411.7	5.3	6.2	104.73	309.7	-40.6	316.4	306.1	10.29	30.747	
1,600.0	1,562.3	1,553.1	1,503.1	5.9	6.7	105.02	339.0	-51.3	342.3	331.0	11.30	30.277	
1,700.0	1,657.8	1,649.7	1,594.6	6.4	7.3	105.26	368.2	-62.0	368.2	355.9	12.32	29.879	
1,800.0	1,753.3	1,746.3	1,686.0	7.0	7.9	105.48	397.5	-72.6	394.1	380.7	13.34	29.538	
1,900.0	1,848.8	1,842.8	1,777.4	7.5	8.4	105.67	426.7	-83.3	420.0	405.6	14.36	29.242	
2,000.0	1,944.2	1,939.4	1,868.8	8.1	9.0	105.83	456.0	-94.0	445.9	430.5	15.38	28.983	
2,100.0	2,039.7	2,036.0	1,960.3	8.7	9.6	105.98	485.2	-104.6	471.8	455.4	16.41	28.755	
2,200.0	2,135.2	2,132.6	2,051.7	9.2	10.1	106.11	514.4	-115.3	497.7	480.3	17.43	28.553	SF

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

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well MCU Fee 17-9D (M16W Pad)
Project:	Mamm Creek	**TVD Reference:**	KBE @ 7903.0ft (Original Well Elev)
Reference Site:	SWSW S16-T7S-R93W (M16W Pad)	**MD Reference:**	KBE @ 7903.0ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	MCU Fee 17-9D (M16W Pad)	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	DD	**Database:**	EDM 5000.1 US Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design SWSW S16-T7S-R93W (M16W Pad) - MCU Fee 17-16B (M16W Pad) - DD - Plan #1

Offset Site Error: 0.0 ft

Survey Program: 0-MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	-160.13	-86.0	-31.1	91.4				
100.0	100.0	100.0	100.0	0.1	0.1	-160.13	-86.0	-31.1	91.4	91.1	0.27	335.698	
200.0	200.0	200.0	200.0	0.3	0.3	-160.13	-86.0	-31.1	91.4	90.8	0.62	147.104	
300.0	300.0	299.3	299.3	0.5	0.5	21.89	-85.4	-33.6	90.1	89.1	0.98	92.148	
400.0	399.9	398.0	397.7	0.7	0.7	-2.38	-83.6	-41.0	87.3	85.9	1.37	63.819	
484.1	483.9	480.6	479.6	0.8	0.9	-40.21	-81.1	-51.1	86.4	84.7	1.74	49.784	CC
500.0	499.7	496.2	495.0	0.9	1.0	-44.05	-80.6	-53.4	86.5	84.7	1.80	47.923	ES
600.0	599.3	594.0	591.2	1.1	1.3	-55.21	-76.5	-70.4	88.0	85.7	2.30	38.216	
700.0	698.3	691.3	685.9	1.3	1.8	-57.07	-71.2	-92.2	91.7	88.9	2.87	31.925	
800.0	796.5	788.1	778.9	1.7	2.3	-56.42	-64.9	-118.4	97.3	93.8	3.52	27.631	
900.0	893.6	885.5	870.9	2.1	2.9	-55.28	-57.5	-149.2	104.4	100.2	4.25	24.586	
1,000.0	989.4	985.2	964.8	2.6	3.5	-55.13	-49.6	-182.0	110.5	105.4	5.08	21.731	
1,100.0	1,084.9	1,085.1	1,058.8	3.1	4.1	-54.59	-41.7	-214.7	116.0	110.0	5.96	19.458	
1,200.0	1,180.4	1,184.9	1,152.8	3.7	4.8	-54.11	-33.8	-247.5	121.6	114.7	6.85	17.748	
1,300.0	1,275.9	1,284.8	1,246.8	4.2	5.4	-53.67	-25.9	-280.3	127.1	119.4	7.74	16.425	
1,400.0	1,371.3	1,384.6	1,340.7	4.8	6.1	-53.27	-18.0	-313.1	132.7	124.1	8.63	15.376	
1,500.0	1,466.8	1,484.4	1,434.7	5.3	6.7	-52.90	-10.1	-345.8	138.3	128.8	9.52	14.525	
1,600.0	1,562.3	1,584.3	1,528.7	5.9	7.3	-52.55	-2.2	-378.6	143.9	133.5	10.41	13.823	
1,700.0	1,657.8	1,684.1	1,622.7	6.4	8.0	-52.24	5.7	-411.4	149.4	138.2	11.29	13.234	
1,800.0	1,753.3	1,784.0	1,716.6	7.0	8.6	-51.94	13.6	-444.2	155.0	142.9	12.18	12.734	
1,900.0	1,848.8	1,883.8	1,810.6	7.5	9.2	-51.67	21.4	-476.9	160.6	147.6	13.06	12.304	
2,000.0	1,944.2	1,983.6	1,904.6	8.1	9.9	-51.42	29.3	-509.7	166.2	152.3	13.93	11.930	
2,100.0	2,039.7	2,083.5	1,998.6	8.7	10.5	-51.18	37.2	-542.5	171.8	157.0	14.81	11.603	
2,200.0	2,135.2	2,183.3	2,092.5	9.2	11.2	-50.95	45.1	-575.3	177.4	161.8	15.68	11.315	
2,300.0	2,230.7	2,283.2	2,186.5	9.8	11.8	-50.74	53.0	-608.1	183.0	166.5	16.55	11.058	
2,400.0	2,326.2	2,383.0	2,280.5	10.4	12.5	-50.55	60.9	-640.8	188.7	171.2	17.42	10.828	
2,500.0	2,421.6	2,482.9	2,374.5	10.9	13.1	-50.36	68.8	-673.6	194.3	176.0	18.29	10.621	
2,600.0	2,517.1	2,582.7	2,468.4	11.5	13.7	-50.19	76.7	-706.4	199.9	180.7	19.16	10.434	
2,700.0	2,612.6	2,682.5	2,562.4	12.0	14.4	-50.02	84.6	-739.2	205.5	185.5	20.02	10.264	
2,800.0	2,708.1	2,782.4	2,656.4	12.6	15.0	-49.86	92.5	-771.9	211.1	190.2	20.88	10.109	
2,900.0	2,803.6	2,882.2	2,750.4	13.2	15.7	-49.71	100.4	-804.7	216.7	195.0	21.74	9.967	
3,000.0	2,899.1	2,982.1	2,844.3	13.7	16.3	-49.57	108.3	-837.5	222.3	199.7	22.60	9.837	
3,100.0	2,994.5	3,081.9	2,938.3	14.3	17.0	-49.44	116.2	-870.3	228.0	204.5	23.46	9.717	
3,200.0	3,090.0	3,181.7	3,032.3	14.9	17.6	-49.31	124.1	-903.0	233.6	209.3	24.32	9.605	
3,300.0	3,185.5	3,281.6	3,126.3	15.4	18.2	-49.19	132.0	-935.8	239.2	214.0	25.18	9.502	
3,400.0	3,281.0	3,381.4	3,220.3	16.0	18.9	-49.07	139.9	-968.6	244.8	218.8	26.03	9.406	
3,500.0	3,376.5	3,481.3	3,314.2	16.6	19.5	-48.96	147.8	-1,001.4	250.5	223.6	26.88	9.316	
3,600.0	3,472.0	3,581.1	3,408.2	17.1	20.2	-48.86	155.7	-1,034.1	256.1	228.4	27.74	9.232	
3,700.0	3,567.4	3,680.9	3,502.2	17.7	20.8	-48.75	163.6	-1,066.9	261.7	233.1	28.59	9.154	
3,800.0	3,662.9	3,780.8	3,596.2	18.3	21.5	-48.66	171.5	-1,099.7	267.3	237.9	29.44	9.080	
3,900.0	3,758.4	3,880.6	3,690.1	18.8	22.1	-48.56	179.4	-1,132.5	273.0	242.7	30.29	9.011	
4,000.0	3,853.9	3,980.5	3,784.1	19.4	22.7	-48.47	187.3	-1,165.3	278.6	247.5	31.14	8.946	
4,100.0	3,949.4	4,080.3	3,878.1	20.0	23.4	-48.39	195.2	-1,198.0	284.2	252.2	31.99	8.884	
4,200.0	4,044.8	4,180.1	3,972.1	20.5	24.0	-48.31	203.0	-1,230.8	289.9	257.0	32.84	8.826	
4,300.0	4,140.3	4,280.0	4,066.0	21.1	24.7	-48.23	210.9	-1,263.6	295.5	261.8	33.69	8.771	
4,400.0	4,235.8	4,379.8	4,160.0	21.6	25.3	-48.15	218.8	-1,296.4	301.1	266.6	34.54	8.719	
4,500.0	4,331.3	4,479.7	4,254.0	22.2	26.0	-48.08	226.7	-1,329.1	306.8	271.4	35.38	8.669	
4,600.0	4,426.8	4,579.5	4,348.0	22.8	26.6	-48.00	234.6	-1,361.9	312.4	276.2	36.23	8.622	
4,700.0	4,522.3	4,679.3	4,441.9	23.3	27.2	-47.94	242.5	-1,394.7	318.0	280.9	37.08	8.577	
4,800.0	4,617.7	4,779.2	4,535.9	23.9	27.9	-47.87	250.4	-1,427.5	323.7	285.7	37.92	8.535	
4,900.0	4,713.2	4,879.0	4,629.9	24.5	28.5	-47.81	258.3	-1,460.2	329.3	290.5	38.77	8.494	
5,000.0	4,808.7	4,978.9	4,723.9	25.0	29.2	-47.74	266.2	-1,493.0	334.9	295.3	39.61	8.455	

CC - Min centre to center distance or covergent 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 MCU Fee 17-9D (M16W Pad)
Project:	Mamm Creek	**TVD Reference:**	KBE @ 7903.0ft (Original Well Elev)
Reference Site:	SWSW S16-T7S-R93W (M16W Pad)	**MD Reference:**	KBE @ 7903.0ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	MCU Fee 17-9D (M16W Pad)	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	DD	**Database:**	EDM 5000.1 US Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design SWSW S16-T7S-R93W (M16W Pad) - MCU Fee 17-16B (M16W Pad) - DD - Plan #1

Offset Site Error: 0.0 ft

Survey Program: 0-MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
5,100.0	4,904.2	5,078.7	4,817.8	25.6	29.8	-47.68	274.1	-1,525.8	340.6	300.1	40.46	8.418	
5,200.0	4,999.7	5,178.5	4,911.8	26.2	30.5	-47.63	282.0	-1,558.6	346.2	304.9	41.30	8.382	
5,300.0	5,095.2	5,278.4	5,005.8	26.7	31.1	-47.57	289.9	-1,591.4	351.8	309.7	42.14	8.348	
5,400.0	5,190.6	5,378.2	5,099.8	27.3	31.7	-47.52	297.8	-1,624.1	357.5	314.5	42.99	8.316	
5,500.0	5,286.1	5,478.1	5,193.7	27.9	32.4	-47.46	305.7	-1,656.9	363.1	319.3	43.83	8.284	
5,600.0	5,381.6	5,577.9	5,287.7	28.4	33.0	-47.41	313.6	-1,689.7	368.7	324.1	44.67	8.254	
5,700.0	5,477.1	5,677.7	5,381.7	29.0	33.7	-47.36	321.5	-1,722.5	374.4	328.9	45.51	8.225	
5,800.0	5,572.6	5,777.6	5,475.7	29.6	34.3	-47.32	329.4	-1,755.2	380.0	333.7	46.36	8.198	
5,900.0	5,668.0	5,877.4	5,569.6	30.1	35.0	-47.27	337.3	-1,788.0	385.7	338.5	47.20	8.171	
6,000.0	5,763.5	5,977.3	5,663.6	30.7	35.6	-47.22	345.2	-1,820.8	391.3	343.2	48.04	8.145	
6,100.0	5,859.0	6,077.1	5,757.6	31.3	36.2	-47.18	353.1	-1,853.6	396.9	348.0	48.88	8.120	
6,200.0	5,954.5	6,177.0	5,851.6	31.8	36.9	-47.14	361.0	-1,886.3	402.6	352.8	49.72	8.096	
6,300.0	6,050.0	6,276.8	5,945.6	32.4	37.5	-47.10	368.9	-1,919.1	408.2	357.6	50.56	8.073	
6,400.0	6,145.5	6,376.6	6,039.5	33.0	38.2	-47.06	376.7	-1,951.9	413.8	362.4	51.40	8.051	
6,500.0	6,240.9	6,476.5	6,133.5	33.5	38.8	-47.02	384.6	-1,984.7	419.5	367.2	52.24	8.030	
6,600.0	6,336.4	6,576.3	6,227.5	34.1	39.5	-46.98	392.5	-2,017.5	425.1	372.0	53.08	8.009	
6,700.0	6,431.9	6,676.2	6,321.5	34.7	40.1	-46.94	400.4	-2,050.2	430.8	376.8	53.92	7.989	
6,800.0	6,527.4	6,776.0	6,415.4	35.2	40.7	-46.91	408.3	-2,083.0	436.4	381.6	54.76	7.969	
6,900.0	6,622.9	6,875.8	6,509.4	35.8	41.4	-46.87	416.2	-2,115.8	442.0	386.4	55.60	7.950	
7,000.0	6,718.4	6,975.7	6,603.4	36.4	42.0	-46.84	424.1	-2,148.6	447.7	391.2	56.44	7.932	
7,100.0	6,813.8	7,075.5	6,697.4	36.9	42.7	-46.80	432.0	-2,181.3	453.3	396.0	57.28	7.914	
7,200.0	6,909.3	7,175.4	6,791.3	37.5	43.3	-46.77	439.9	-2,214.1	459.0	400.8	58.12	7.897	
7,300.0	7,004.8	7,275.2	6,885.3	38.0	44.0	-46.74	447.8	-2,246.9	464.6	405.6	58.95	7.880	SF
7,400.0	7,100.7	7,375.0	6,979.2	38.6	44.6	-46.67	455.7	-2,279.6	471.1	411.4	59.70	7.892	
7,500.0	7,197.5	7,474.5	7,072.9	39.0	45.2	-46.36	463.6	-2,312.3	480.1	419.9	60.16	7.981	
7,600.0	7,295.1	7,573.7	7,166.2	39.4	45.9	-45.80	471.4	-2,344.9	491.5	431.1	60.33	8.146	

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well MCU Fee 17-9D (M16W Pad)
Project:	Mamm Creek	**TVD Reference:**	KBE @ 7903.0ft (Original Well Elev)
Reference Site:	SWSW S16-T7S-R93W (M16W Pad)	**MD Reference:**	KBE @ 7903.0ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	MCU Fee 17-9D (M16W Pad)	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	DD	**Database:**	EDM 5000.1 US Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design SWSW S16-T7S-R93W (M16W Pad) - MCU Fee 17-16B2 (M16W Pad) - DD - Plan #1

Offset Site Error: 0.0 ft

Survey Program: 0-MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	-152.94	-91.8	-46.9	103.1				
100.0	100.0	100.0	100.0	0.1	0.1	-152.94	-91.8	-46.9	103.1	102.8	0.27	378.546	
200.0	200.0	200.0	200.0	0.3	0.3	-152.94	-91.8	-46.9	103.1	102.4	0.62	165.880	
300.0	300.0	298.0	297.9	0.5	0.5	28.81	-91.5	-49.4	102.5	101.5	0.97	105.152	
395.1	395.0	390.7	390.4	0.7	0.7	3.98	-90.8	-56.3	101.9	100.6	1.34	76.232	
400.0	399.9	395.4	395.0	0.7	0.7	3.63	-90.7	-56.8	101.6	100.3	1.36	74.980	CC, ES
500.0	499.7	492.3	491.2	0.9	1.0	-39.46	-89.5	-69.1	103.2	101.4	1.77	58.323	
600.0	599.3	588.9	586.2	1.1	1.3	-52.44	-87.7	-86.1	107.2	105.0	2.23	47.981	
700.0	698.3	685.0	679.8	1.3	1.8	-56.29	-85.4	-107.8	113.5	110.7	2.77	40.932	
800.0	796.5	780.7	771.8	1.7	2.3	-57.63	-82.6	-134.0	121.7	118.3	3.41	35.744	
900.0	893.6	877.0	862.9	2.1	2.8	-58.32	-79.4	-164.8	131.6	127.4	4.14	31.764	
1,000.0	989.4	976.5	956.8	2.6	3.5	-59.51	-75.9	-197.9	140.6	135.6	5.02	28.007	
1,100.0	1,084.9	1,076.2	1,050.7	3.1	4.1	-60.14	-72.5	-231.1	149.2	143.2	5.96	25.030	
1,200.0	1,180.4	1,175.8	1,144.5	3.7	4.7	-60.70	-69.0	-264.2	157.8	150.9	6.93	22.776	
1,300.0	1,275.9	1,275.4	1,238.4	4.2	5.3	-61.20	-65.5	-297.3	166.4	158.5	7.91	21.026	
1,400.0	1,371.3	1,375.0	1,332.3	4.8	6.0	-61.65	-62.0	-330.5	175.0	166.1	8.92	19.634	
1,500.0	1,466.8	1,474.6	1,426.2	5.3	6.6	-62.06	-58.5	-363.6	183.7	173.8	9.93	18.504	
1,600.0	1,562.3	1,574.2	1,520.1	5.9	7.2	-62.43	-55.1	-396.7	192.3	181.4	10.95	17.570	
1,700.0	1,657.8	1,673.9	1,613.9	6.4	7.9	-62.77	-51.6	-429.9	201.0	189.0	11.97	16.787	
1,800.0	1,753.3	1,773.5	1,707.8	7.0	8.5	-63.09	-48.1	-463.0	209.7	196.7	13.01	16.121	
1,900.0	1,848.8	1,873.1	1,801.7	7.5	9.1	-63.38	-44.6	-496.1	218.3	204.3	14.04	15.548	
2,000.0	1,944.2	1,972.7	1,895.6	8.1	9.8	-63.64	-41.2	-529.3	227.0	211.9	15.08	15.050	
2,100.0	2,039.7	2,072.3	1,989.5	8.7	10.4	-63.89	-37.7	-562.4	235.7	219.6	16.13	14.614	
2,200.0	2,135.2	2,171.9	2,083.4	9.2	11.0	-64.12	-34.2	-595.5	244.4	227.2	17.17	14.229	
2,300.0	2,230.7	2,271.6	2,177.2	9.8	11.7	-64.33	-30.7	-628.7	253.1	234.8	18.22	13.887	
2,400.0	2,326.2	2,371.2	2,271.1	10.4	12.3	-64.53	-27.2	-661.8	261.8	242.5	19.27	13.580	
2,500.0	2,421.6	2,470.8	2,365.0	10.9	12.9	-64.71	-23.8	-694.9	270.4	250.1	20.33	13.304	
2,600.0	2,517.1	2,570.4	2,458.9	11.5	13.6	-64.89	-20.3	-728.1	279.1	257.8	21.38	13.054	
2,700.0	2,612.6	2,670.0	2,552.8	12.0	14.2	-65.05	-16.8	-761.2	287.8	265.4	22.44	12.827	
2,800.0	2,708.1	2,769.7	2,646.6	12.6	14.9	-65.21	-13.3	-794.3	296.5	273.0	23.50	12.620	
2,900.0	2,803.6	2,869.3	2,740.5	13.2	15.5	-65.35	-9.8	-827.5	305.2	280.7	24.56	12.430	
3,000.0	2,899.1	2,968.9	2,834.4	13.7	16.1	-65.49	-6.4	-860.6	314.0	288.3	25.62	12.256	
3,100.0	2,994.5	3,068.5	2,928.3	14.3	16.8	-65.62	-2.9	-893.7	322.7	296.0	26.68	12.094	
3,200.0	3,090.0	3,168.1	3,022.2	14.9	17.4	-65.74	0.6	-926.9	331.4	303.6	27.74	11.945	
3,300.0	3,185.5	3,267.7	3,116.0	15.4	18.0	-65.86	4.1	-960.0	340.1	311.3	28.80	11.807	
3,400.0	3,281.0	3,367.4	3,209.9	16.0	18.7	-65.97	7.5	-993.1	348.8	318.9	29.87	11.678	
3,500.0	3,376.5	3,467.0	3,303.8	16.6	19.3	-66.08	11.0	-1,026.3	357.5	326.6	30.93	11.558	
3,600.0	3,472.0	3,566.6	3,397.7	17.1	19.9	-66.18	14.5	-1,059.4	366.2	334.2	32.00	11.446	
3,700.0	3,567.4	3,666.2	3,491.6	17.7	20.6	-66.27	18.0	-1,092.5	374.9	341.9	33.06	11.340	
3,800.0	3,662.9	3,765.8	3,585.5	18.3	21.2	-66.36	21.5	-1,125.7	383.6	349.5	34.13	11.241	
3,900.0	3,758.4	3,865.4	3,679.3	18.8	21.9	-66.45	24.9	-1,158.8	392.4	357.2	35.19	11.148	
4,000.0	3,853.9	3,965.1	3,773.2	19.4	22.5	-66.54	28.4	-1,191.9	401.1	364.8	36.26	11.061	
4,100.0	3,949.4	4,064.7	3,867.1	20.0	23.1	-66.62	31.9	-1,225.1	409.8	372.5	37.33	10.978	
4,200.0	4,044.8	4,164.3	3,961.0	20.5	23.8	-66.69	35.4	-1,258.2	418.5	380.1	38.40	10.900	
4,300.0	4,140.3	4,263.9	4,054.9	21.1	24.4	-66.77	38.8	-1,291.3	427.2	387.8	39.46	10.826	
4,400.0	4,235.8	4,363.5	4,148.7	21.6	25.0	-66.84	42.3	-1,324.5	436.0	395.4	40.53	10.756	
4,500.0	4,331.3	4,463.2	4,242.6	22.2	25.7	-66.91	45.8	-1,357.6	444.7	403.1	41.60	10.689	
4,600.0	4,426.8	4,562.8	4,336.5	22.8	26.3	-66.97	49.3	-1,390.7	453.4	410.7	42.67	10.625	
4,700.0	4,522.3	4,662.4	4,430.4	23.3	26.9	-67.03	52.8	-1,423.9	462.1	418.4	43.74	10.565	
4,800.0	4,617.7	4,762.0	4,524.3	23.9	27.6	-67.09	56.2	-1,457.0	470.8	426.0	44.81	10.508	
4,900.0	4,713.2	4,861.6	4,618.2	24.5	28.2	-67.15	59.7	-1,490.1	479.6	433.7	45.88	10.453	
5,000.0	4,808.7	4,961.2	4,712.0	25.0	28.9	-67.21	63.2	-1,523.3	488.3	441.3	46.95	10.400	

CC - Min centre to center distance or covergent 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 MCU Fee 17-9D (M16W Pad)
Project:	Mamm Creek	**TVD Reference:**	KBE @ 7903.0ft (Original Well Elev)
Reference Site:	SWSW S16-T7S-R93W (M16W Pad)	**MD Reference:**	KBE @ 7903.0ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	MCU Fee 17-9D (M16W Pad)	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	DD	**Database:**	EDM 5000.1 US Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design SWSW S16-T7S-R93W (M16W Pad) - MCU Fee 17-16B2 (M16W Pad) - DD - Plan #1

Offset Site Error: 0.0 ft

Survey Program: 0-MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
5,100.0	4,904.2	5,060.9	4,805.9	25.6	29.5	-67.26	66.7	-1,556.4	497.0	449.0	48.02	10.350 SF	

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well MCU Fee 17-9D (M16W Pad)
Project:	Mamm Creek	**TVD Reference:**	KBE @ 7903.0ft (Original Well Elev)
Reference Site:	SWSW S16-T7S-R93W (M16W Pad)	**MD Reference:**	KBE @ 7903.0ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	MCU Fee 17-9D (M16W Pad)	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	DD	**Database:**	EDM 5000.1 US Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design SWSW S16-T7S-R93W (M16W Pad) - MCU Fee 17-16C (M16W Pad) - DD - Plan #1

Offset Site Error: 0.0 ft

Survey Program: 0-MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	-142.70	-103.4	-78.8	130.0				
100.0	100.0	100.0	100.0	0.1	0.1	-142.70	-103.4	-78.8	130.0	129.8	0.27	477.596	
200.0	200.0	200.0	200.0	0.3	0.3	-142.70	-103.4	-78.8	130.0	129.4	0.62	209.284	CC
300.0	300.0	295.8	295.8	0.5	0.5	38.56	-103.5	-81.2	130.3	129.3	0.97	134.396	ES
400.0	399.9	391.1	390.8	0.7	0.7	11.97	-103.7	-88.3	131.5	130.1	1.34	98.450	
500.0	499.7	486.1	485.0	0.9	1.0	-32.90	-104.0	-100.2	135.2	133.5	1.72	78.718	
600.0	599.3	580.6	578.1	1.1	1.3	-47.77	-104.5	-116.6	141.4	139.3	2.14	66.096	
700.0	698.3	674.7	669.9	1.3	1.7	-53.48	-105.0	-137.5	149.8	147.1	2.63	56.981	
800.0	796.5	768.3	759.9	1.7	2.2	-56.49	-105.7	-162.7	160.2	156.9	3.22	49.793	
900.0	893.6	863.0	849.8	2.1	2.7	-58.67	-106.5	-192.5	172.3	168.4	3.92	43.910	
1,000.0	989.4	962.2	943.6	2.6	3.3	-60.91	-107.4	-225.0	183.8	179.0	4.79	38.365	
1,100.0	1,084.9	1,061.5	1,037.4	3.1	4.0	-62.40	-108.3	-257.4	194.9	189.2	5.73	34.011	
1,200.0	1,180.4	1,160.7	1,131.2	3.7	4.6	-63.74	-109.2	-289.9	206.2	199.5	6.71	30.718	
1,300.0	1,275.9	1,260.0	1,225.0	4.2	5.2	-64.94	-110.1	-322.3	217.5	209.8	7.72	28.174	
1,400.0	1,371.3	1,359.3	1,318.8	4.8	5.8	-66.01	-111.0	-354.8	229.0	220.2	8.75	26.163	
1,500.0	1,466.8	1,458.5	1,412.6	5.3	6.4	-66.99	-111.8	-387.2	240.5	230.7	9.80	24.542	
1,600.0	1,562.3	1,557.8	1,506.4	5.9	7.0	-67.88	-112.7	-419.7	252.1	241.2	10.86	23.212	
1,700.0	1,657.8	1,657.0	1,600.2	6.4	7.6	-68.68	-113.6	-452.1	263.7	251.8	11.93	22.105	
1,800.0	1,753.3	1,756.3	1,694.0	7.0	8.3	-69.42	-114.5	-484.6	275.4	262.3	13.01	21.170	
1,900.0	1,848.8	1,855.5	1,787.8	7.5	8.9	-70.10	-115.4	-517.1	287.1	273.0	14.09	20.371	
2,000.0	1,944.2	1,954.8	1,881.5	8.1	9.5	-70.73	-116.3	-549.5	298.8	283.6	15.18	19.681	
2,100.0	2,039.7	2,054.0	1,975.3	8.7	10.1	-71.31	-117.2	-582.0	310.6	294.3	16.28	19.081	
2,200.0	2,135.2	2,153.3	2,069.1	9.2	10.7	-71.85	-118.0	-614.4	322.4	305.1	17.38	18.553	
2,300.0	2,230.7	2,252.6	2,162.9	9.8	11.4	-72.34	-118.9	-646.9	334.3	315.8	18.48	18.087	
2,400.0	2,326.2	2,351.8	2,256.7	10.4	12.0	-72.81	-119.8	-679.3	346.1	326.6	19.59	17.672	
2,500.0	2,421.6	2,451.1	2,350.5	10.9	12.6	-73.24	-120.7	-711.8	358.0	337.3	20.70	17.300	
2,600.0	2,517.1	2,550.3	2,444.3	11.5	13.2	-73.65	-121.6	-744.3	369.9	348.1	21.81	16.965	
2,700.0	2,612.6	2,649.6	2,538.1	12.0	13.8	-74.03	-122.5	-776.7	381.9	358.9	22.92	16.662	
2,800.0	2,708.1	2,748.8	2,631.9	12.6	14.5	-74.39	-123.3	-809.2	393.8	369.8	24.03	16.386	
2,900.0	2,803.6	2,848.1	2,725.7	13.2	15.1	-74.72	-124.2	-841.6	405.7	380.6	25.15	16.135	
3,000.0	2,899.1	2,947.3	2,819.5	13.7	15.7	-75.04	-125.1	-874.1	417.7	391.5	26.26	15.905	
3,100.0	2,994.5	3,046.6	2,913.3	14.3	16.3	-75.34	-126.0	-906.5	429.7	402.3	27.38	15.693	
3,200.0	3,090.0	3,145.9	3,007.1	14.9	16.9	-75.62	-126.9	-939.0	441.7	413.2	28.50	15.498	
3,300.0	3,185.5	3,245.1	3,100.9	15.4	17.6	-75.89	-127.8	-971.4	453.7	424.1	29.62	15.317	
3,400.0	3,281.0	3,344.4	3,194.7	16.0	18.2	-76.14	-128.6	-1,003.9	465.7	434.9	30.74	15.150	
3,500.0	3,376.5	3,443.6	3,288.5	16.6	18.8	-76.39	-129.5	-1,036.4	477.7	445.8	31.86	14.994	
3,600.0	3,472.0	3,542.9	3,382.3	17.1	19.4	-76.62	-130.4	-1,068.8	489.7	456.7	32.98	14.849	SF

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

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well MCU Fee 17-9D (M16W Pad)
Project:	Mamm Creek	**TVD Reference:**	KBE @ 7903.0ft (Original Well Elev)
Reference Site:	SWSW S16-T7S-R93W (M16W Pad)	**MD Reference:**	KBE @ 7903.0ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	MCU Fee 17-9D (M16W Pad)	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	DD	**Database:**	EDM 5000.1 US Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design SWSW S16-T7S-R93W (M16W Pad) - MCU Fee 17-9B (M16W pad) - DD - Plan #1

Offset Site Error: 0.0 ft

Survey Program: 0-MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	69.94	11.7	31.9	34.0				
100.0	100.0	100.0	100.0	0.1	0.1	69.94	11.7	31.9	34.0	33.7	0.27	124.781	
200.0	200.0	200.0	200.0	0.3	0.3	69.94	11.7	31.9	34.0	33.4	0.62	54.679	
300.0	300.0	300.8	300.7	0.5	0.5	-116.81	13.3	29.8	33.4	32.5	0.98	34.055	
324.9	324.8	325.7	325.6	0.5	0.5	-129.41	14.3	28.7	33.4	32.3	1.08	30.889	CC, ES
400.0	399.9	400.6	400.2	0.7	0.7	-165.23	18.3	23.7	34.5	33.1	1.38	25.006	
500.0	499.7	499.7	498.5	0.9	1.0	129.82	26.4	13.7	40.1	38.3	1.83	21.938	
600.0	599.3	598.3	595.4	1.1	1.4	100.82	37.7	-0.3	49.0	46.7	2.36	20.799	
700.0	698.3	696.1	690.6	1.3	1.8	85.97	52.0	-17.9	60.1	57.1	2.99	20.112	
800.0	796.5	793.4	783.9	1.7	2.3	77.26	69.2	-39.2	72.6	68.9	3.73	19.447	
900.0	893.6	890.1	875.1	2.1	2.9	71.77	89.2	-64.0	86.0	81.4	4.59	18.713	
1,000.0	989.4	988.0	966.2	2.6	3.6	68.99	111.9	-92.0	99.6	94.1	5.55	17.951	
1,100.0	1,084.9	1,087.1	1,058.2	3.1	4.3	68.29	135.1	-120.7	113.0	106.4	6.55	17.259	
1,200.0	1,180.4	1,186.2	1,150.2	3.7	4.9	67.74	158.3	-149.4	126.3	118.8	7.55	16.733	
1,300.0	1,275.9	1,285.3	1,242.2	4.2	5.6	67.30	181.5	-178.0	139.7	131.1	8.56	16.323	
1,400.0	1,371.3	1,384.4	1,334.1	4.8	6.3	66.93	204.7	-206.7	153.1	143.5	9.57	15.996	
1,500.0	1,466.8	1,483.5	1,426.1	5.3	7.0	66.63	227.9	-235.4	166.5	155.9	10.58	15.730	
1,600.0	1,562.3	1,582.6	1,518.1	5.9	7.7	66.37	251.1	-264.0	179.8	168.2	11.60	15.509	
1,700.0	1,657.8	1,681.7	1,610.1	6.4	8.4	66.14	274.3	-292.7	193.2	180.6	12.61	15.323	
1,800.0	1,753.3	1,780.8	1,702.1	7.0	9.1	65.95	297.4	-321.4	206.6	193.0	13.62	15.164	
1,900.0	1,848.8	1,879.9	1,794.0	7.5	9.7	65.77	320.6	-350.0	220.0	205.4	14.64	15.028	
2,000.0	1,944.2	1,979.0	1,886.0	8.1	10.4	65.62	343.8	-378.7	233.4	217.7	15.65	14.909	
2,100.0	2,039.7	2,078.1	1,978.0	8.7	11.1	65.49	367.0	-407.4	246.8	230.1	16.67	14.804	
2,200.0	2,135.2	2,177.2	2,070.0	9.2	11.8	65.36	390.2	-436.0	260.2	242.5	17.68	14.712	
2,300.0	2,230.7	2,276.3	2,162.0	9.8	12.5	65.25	413.4	-464.7	273.6	254.9	18.70	14.629	
2,400.0	2,326.2	2,375.4	2,254.0	10.4	13.2	65.15	436.6	-493.4	287.0	267.2	19.72	14.555	
2,500.0	2,421.6	2,474.5	2,345.9	10.9	13.9	65.06	459.8	-522.0	300.4	279.6	20.73	14.488	
2,600.0	2,517.1	2,573.6	2,437.9	11.5	14.6	64.98	483.0	-550.7	313.8	292.0	21.75	14.428	
2,700.0	2,612.6	2,672.7	2,529.9	12.0	15.3	64.90	506.2	-579.4	327.2	304.4	22.76	14.373	
2,800.0	2,708.1	2,771.8	2,621.9	12.6	16.0	64.83	529.4	-608.0	340.6	316.8	23.78	14.323	
2,900.0	2,803.6	2,870.9	2,713.9	13.2	16.7	64.77	552.6	-636.7	354.0	329.2	24.79	14.277	
3,000.0	2,899.1	2,970.0	2,805.8	13.7	17.3	64.71	575.8	-665.4	367.4	341.5	25.81	14.234	
3,100.0	2,994.5	3,069.1	2,897.8	14.3	18.0	64.65	598.9	-694.0	380.8	353.9	26.82	14.195	
3,200.0	3,090.0	3,168.2	2,989.8	14.9	18.7	64.60	622.1	-722.7	394.2	366.3	27.84	14.159	
3,300.0	3,185.5	3,267.3	3,081.8	15.4	19.4	64.55	645.3	-751.4	407.6	378.7	28.85	14.125	
3,400.0	3,281.0	3,366.4	3,173.8	16.0	20.1	64.51	668.5	-780.0	421.0	391.1	29.87	14.093	
3,500.0	3,376.5	3,465.5	3,265.8	16.6	20.8	64.46	691.7	-808.7	434.4	403.5	30.88	14.064	
3,600.0	3,472.0	3,564.6	3,357.7	17.1	21.5	64.42	714.9	-837.4	447.8	415.9	31.90	14.036	
3,700.0	3,567.4	3,663.7	3,449.7	17.7	22.2	64.39	738.1	-866.0	461.2	428.2	32.91	14.011	
3,800.0	3,662.9	3,762.7	3,541.7	18.3	22.9	64.35	761.3	-894.7	474.6	440.6	33.93	13.986	
3,900.0	3,758.4	3,861.8	3,633.7	18.8	23.6	64.32	784.5	-923.4	488.0	453.0	34.95	13.964	SF

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

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well MCU Fee 17-9D (M16W Pad)
Project:	Mamm Creek	**TVD Reference:**	KBE @ 7903.0ft (Original Well Elev)
Reference Site:	SWSW S16-T7S-R93W (M16W Pad)	**MD Reference:**	KBE @ 7903.0ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	MCU Fee 17-9D (M16W Pad)	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	DD	**Database:**	EDM 5000.1 US Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design SWSW S16-T7S-R93W (M16W Pad) - MCU Fee 17-9B2 (M16W Pad) - DD - Plan #1

Offset Site Error: 0.0 ft

Survey Program: 0-MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	52.29	16.4	21.2	26.8				
100.0	100.0	100.0	100.0	0.1	0.1	52.29	16.4	21.2	26.8	26.5	0.27	98.338	
200.0	200.0	200.0	200.0	0.3	0.3	52.29	16.4	21.2	26.8	26.2	0.62	43.092	CC
219.0	219.0	219.1	219.1	0.3	0.3	-128.01	16.4	21.1	26.8	26.1	0.69	38.856	ES
300.0	300.0	300.4	300.3	0.5	0.5	-135.81	17.7	18.9	27.1	26.1	0.98	27.639	
400.0	399.9	400.0	399.6	0.7	0.7	174.50	21.6	12.1	30.6	29.2	1.37	22.254	
500.0	499.7	498.9	497.6	0.9	1.0	111.09	28.0	1.0	37.5	35.7	1.82	20.641	
600.0	599.3	597.3	594.4	1.1	1.4	83.81	36.9	-14.5	46.3	44.0	2.34	19.816	
700.0	698.3	695.1	689.6	1.3	1.8	69.90	48.2	-34.1	56.0	53.1	2.94	19.093	
800.0	796.5	792.5	783.1	1.7	2.3	61.46	61.9	-57.8	66.2	62.6	3.61	18.340	
900.0	893.6	889.4	874.6	2.1	2.9	55.81	77.8	-85.5	76.7	72.3	4.37	17.550	
1,000.0	989.4	987.8	966.0	2.6	3.6	52.57	95.9	-116.9	86.7	81.5	5.18	16.726	
1,100.0	1,084.9	1,087.3	1,058.3	3.1	4.3	51.32	114.4	-149.0	96.2	90.2	6.02	15.976	
1,200.0	1,180.4	1,186.8	1,150.7	3.7	5.0	50.30	132.8	-181.1	105.8	98.9	6.86	15.428	
1,300.0	1,275.9	1,286.3	1,243.1	4.2	5.7	49.45	151.3	-213.2	115.4	107.7	7.68	15.014	
1,400.0	1,371.3	1,385.9	1,335.5	4.8	6.4	48.72	169.8	-245.3	125.0	116.5	8.51	14.692	
1,500.0	1,466.8	1,485.4	1,427.9	5.3	7.1	48.11	188.3	-277.3	134.6	125.3	9.32	14.437	
1,600.0	1,562.3	1,584.9	1,520.2	5.9	7.8	47.57	206.8	-309.4	144.3	134.1	10.14	14.229	
1,700.0	1,657.8	1,684.4	1,612.6	6.4	8.4	47.10	225.2	-341.5	153.9	143.0	10.95	14.059	
1,800.0	1,753.3	1,784.0	1,705.0	7.0	9.1	46.69	243.7	-373.6	163.6	151.8	11.75	13.916	
1,900.0	1,848.8	1,883.5	1,797.4	7.5	9.8	46.32	262.2	-405.7	173.2	160.7	12.56	13.796	
2,000.0	1,944.2	1,983.0	1,889.7	8.1	10.5	45.99	280.7	-437.8	182.9	169.6	13.36	13.692	
2,100.0	2,039.7	2,082.5	1,982.1	8.7	11.2	45.70	299.2	-469.9	192.6	178.4	14.16	13.603	
2,200.0	2,135.2	2,182.1	2,074.5	9.2	11.9	45.43	317.6	-502.0	202.3	187.3	14.96	13.525	
2,300.0	2,230.7	2,281.6	2,166.9	9.8	12.6	45.19	336.1	-534.1	212.0	196.2	15.75	13.457	
2,400.0	2,326.2	2,381.1	2,259.3	10.4	13.3	44.97	354.6	-566.2	221.7	205.1	16.55	13.397	
2,500.0	2,421.6	2,480.6	2,351.6	10.9	14.0	44.77	373.1	-598.3	231.4	214.0	17.34	13.343	
2,600.0	2,517.1	2,580.2	2,444.0	11.5	14.7	44.58	391.6	-630.4	241.1	222.9	18.13	13.295	
2,700.0	2,612.6	2,679.7	2,536.4	12.0	15.4	44.41	410.0	-662.5	250.8	231.9	18.92	13.252	
2,800.0	2,708.1	2,779.2	2,628.8	12.6	16.1	44.25	428.5	-694.6	260.5	240.8	19.71	13.213	
2,900.0	2,803.6	2,878.7	2,721.1	13.2	16.8	44.10	447.0	-726.7	270.2	249.7	20.50	13.177	
3,000.0	2,899.1	2,978.3	2,813.5	13.7	17.5	43.96	465.5	-758.8	279.9	258.6	21.29	13.145	
3,100.0	2,994.5	3,077.8	2,905.9	14.3	18.2	43.83	484.0	-790.9	289.6	267.5	22.08	13.116	
3,200.0	3,090.0	3,177.3	2,998.3	14.9	18.9	43.71	502.4	-822.9	299.3	276.4	22.87	13.089	
3,300.0	3,185.5	3,276.8	3,090.7	15.4	19.6	43.60	520.9	-855.0	309.0	285.4	23.66	13.064	
3,400.0	3,281.0	3,376.4	3,183.0	16.0	20.3	43.50	539.4	-887.1	318.7	294.3	24.44	13.041	
3,500.0	3,376.5	3,475.9	3,275.4	16.6	21.0	43.40	557.9	-919.2	328.4	303.2	25.23	13.019	
3,600.0	3,472.0	3,575.4	3,367.8	17.1	21.7	43.30	576.4	-951.3	338.2	312.1	26.01	12.999	
3,700.0	3,567.4	3,674.9	3,460.2	17.7	22.4	43.21	594.8	-983.4	347.9	321.1	26.80	12.981	
3,800.0	3,662.9	3,774.5	3,552.6	18.3	23.1	43.13	613.3	-1,015.5	357.6	330.0	27.58	12.964	
3,900.0	3,758.4	3,874.0	3,644.9	18.8	23.8	43.05	631.8	-1,047.6	367.3	338.9	28.37	12.948	
4,000.0	3,853.9	3,973.5	3,737.3	19.4	24.5	42.98	650.3	-1,079.7	377.0	347.9	29.15	12.933	
4,100.0	3,949.4	4,073.0	3,829.7	20.0	25.2	42.90	668.8	-1,111.8	386.7	356.8	29.94	12.919	
4,200.0	4,044.8	4,172.6	3,922.1	20.5	25.9	42.84	687.2	-1,143.9	396.5	365.7	30.72	12.905	
4,300.0	4,140.3	4,272.1	4,014.4	21.1	26.6	42.77	705.7	-1,176.0	406.2	374.7	31.50	12.893	
4,400.0	4,235.8	4,371.6	4,106.8	21.6	27.3	42.71	724.2	-1,208.1	415.9	383.6	32.29	12.881	
4,500.0	4,331.3	4,471.1	4,199.2	22.2	28.0	42.65	742.7	-1,240.2	425.6	392.6	33.07	12.870	
4,600.0	4,426.8	4,570.7	4,291.6	22.8	28.7	42.60	761.2	-1,272.3	435.3	401.5	33.85	12.860	
4,700.0	4,522.3	4,670.2	4,384.0	23.3	29.4	42.54	779.6	-1,304.4	445.1	410.4	34.64	12.850	
4,800.0	4,617.7	4,769.7	4,476.3	23.9	30.1	42.49	798.1	-1,336.5	454.8	419.4	35.42	12.840	
4,900.0	4,713.2	4,869.2	4,568.7	24.5	30.8	42.44	816.6	-1,368.5	464.5	428.3	36.20	12.831	
5,000.0	4,808.7	4,968.8	4,661.1	25.0	31.5	42.39	835.1	-1,400.6	474.2	437.2	36.98	12.823	

CC - Min centre to center distance or covergent 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 MCU Fee 17-9D (M16W Pad)
Project:	Mamm Creek	**TVD Reference:**	KBE @ 7903.0ft (Original Well Elev)
Reference Site:	SWSW S16-T7S-R93W (M16W Pad)	**MD Reference:**	KBE @ 7903.0ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	MCU Fee 17-9D (M16W Pad)	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	DD	**Database:**	EDM 5000.1 US Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design SWSW S16-T7S-R93W (M16W Pad) - MCU Fee 17-9B2 (M16W Pad) - DD - Plan #1

Survey Program: 0-MWD

Offset Site Error: 0.0 ft

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
5,100.0	4,904.2	5,068.3	4,753.5	25.6	32.2	42.35	853.6	-1,432.7	484.0	446.2	37.77	12.814	
5,200.0	4,999.7	5,167.8	4,845.9	26.2	32.9	42.31	872.0	-1,464.8	493.7	455.1	38.55	12.807	SF

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well MCU Fee 17-9D (M16W Pad)
Project:	Mamm Creek	**TVD Reference:**	KBE @ 7903.0ft (Original Well Elev)
Reference Site:	SWSW S16-T7S-R93W (M16W Pad)	**MD Reference:**	KBE @ 7903.0ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	MCU Fee 17-9D (M16W Pad)	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	DD	**Database:**	EDM 5000.1 US Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design SWSW S16-T7S-R93W (M16W Pad) - MCU Fee 17-9C (M16W Pad) - DD - Plan #1

Offset Site Error: 0.0 ft

Survey Program: 0-MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	25.73	10.5	5.1	11.7				
100.0	100.0	100.0	100.0	0.1	0.1	25.73	10.5	5.1	11.7	11.4	0.27	43.010	
200.0	200.0	200.0	200.0	0.3	0.3	25.73	10.5	5.1	11.7	11.1	0.62	18.847	CC, ES
300.0	300.0	299.9	299.8	0.5	0.5	-168.54	11.6	2.7	13.7	12.7	0.98	13.960	
400.0	399.9	399.0	398.6	0.7	0.7	139.76	14.9	-4.3	21.5	20.1	1.36	15.826	
500.0	499.7	497.5	496.3	0.9	1.0	81.21	20.2	-15.9	31.2	29.5	1.77	17.652	
600.0	599.3	595.5	592.7	1.1	1.3	58.17	27.5	-32.0	41.2	39.0	2.23	18.534	
700.0	698.3	693.1	687.6	1.3	1.8	47.05	36.9	-52.5	51.2	48.5	2.72	18.807	
800.0	796.5	790.2	780.9	1.7	2.3	40.31	48.2	-77.2	60.9	57.7	3.25	18.727	
900.0	893.6	887.1	872.4	2.1	2.9	35.61	61.4	-106.1	70.5	66.7	3.81	18.475	
1,000.0	989.4	986.6	965.5	2.6	3.6	33.27	76.0	-138.0	77.8	73.4	4.42	17.600	
1,100.0	1,084.9	1,086.4	1,058.9	3.1	4.2	32.66	90.6	-169.9	84.0	79.0	5.05	16.640	
1,200.0	1,180.4	1,186.2	1,152.3	3.7	4.9	32.13	105.2	-201.9	90.3	84.6	5.68	15.903	
1,300.0	1,275.9	1,286.0	1,245.7	4.2	5.5	31.68	119.8	-233.8	96.5	90.2	6.30	15.323	
1,400.0	1,371.3	1,385.8	1,339.1	4.8	6.2	31.28	134.5	-265.8	102.8	95.9	6.92	14.855	
1,500.0	1,466.8	1,485.6	1,432.6	5.3	6.8	30.92	149.1	-297.7	109.0	101.5	7.54	14.472	
1,600.0	1,562.3	1,585.4	1,526.0	5.9	7.5	30.60	163.7	-329.6	115.3	107.2	8.15	14.153	
1,700.0	1,657.8	1,685.2	1,619.4	6.4	8.2	30.32	178.3	-361.6	121.6	112.8	8.76	13.884	
1,800.0	1,753.3	1,785.0	1,712.8	7.0	8.8	30.06	192.9	-393.5	127.9	118.5	9.36	13.653	
1,900.0	1,848.8	1,884.8	1,806.2	7.5	9.5	29.83	207.5	-425.5	134.1	124.2	9.97	13.454	
2,000.0	1,944.2	1,984.6	1,899.6	8.1	10.2	29.62	222.2	-457.4	140.4	129.8	10.57	13.281	
2,100.0	2,039.7	2,084.4	1,993.0	8.7	10.8	29.43	236.8	-489.4	146.7	135.5	11.17	13.129	
2,200.0	2,135.2	2,184.2	2,086.4	9.2	11.5	29.25	251.4	-521.3	153.0	141.2	11.77	12.994	
2,300.0	2,230.7	2,284.0	2,179.9	9.8	12.2	29.09	266.0	-553.3	159.3	146.9	12.37	12.874	
2,400.0	2,326.2	2,383.8	2,273.3	10.4	12.8	28.94	280.6	-585.2	165.5	152.6	12.97	12.766	
2,500.0	2,421.6	2,483.6	2,366.7	10.9	13.5	28.80	295.3	-617.2	171.8	158.3	13.56	12.670	
2,600.0	2,517.1	2,583.4	2,460.1	11.5	14.2	28.67	309.9	-649.1	178.1	163.9	14.16	12.582	
2,700.0	2,612.6	2,683.2	2,553.5	12.0	14.8	28.55	324.5	-681.1	184.4	169.6	14.75	12.502	
2,800.0	2,708.1	2,783.0	2,646.9	12.6	15.5	28.43	339.1	-713.0	190.7	175.3	15.34	12.429	
2,900.0	2,803.6	2,882.8	2,740.3	13.2	16.2	28.33	353.7	-745.0	197.0	181.0	15.93	12.363	
3,000.0	2,899.1	2,982.6	2,833.7	13.7	16.8	28.23	368.3	-776.9	203.3	186.7	16.52	12.301	
3,100.0	2,994.5	3,082.4	2,927.2	14.3	17.5	28.13	383.0	-808.9	209.5	192.4	17.11	12.245	
3,200.0	3,090.0	3,182.2	3,020.6	14.9	18.2	28.05	397.6	-840.8	215.8	198.1	17.70	12.193	
3,300.0	3,185.5	3,282.0	3,114.0	15.4	18.8	27.96	412.2	-872.8	222.1	203.8	18.29	12.144	
3,400.0	3,281.0	3,381.8	3,207.4	16.0	19.5	27.88	426.8	-904.7	228.4	209.5	18.88	12.099	
3,500.0	3,376.5	3,481.6	3,300.8	16.6	20.2	27.81	441.4	-936.7	234.7	215.2	19.47	12.057	
3,600.0	3,472.0	3,581.4	3,394.2	17.1	20.8	27.74	456.0	-968.6	241.0	220.9	20.05	12.018	
3,700.0	3,567.4	3,681.2	3,487.6	17.7	21.5	27.67	470.7	-1,000.6	247.3	226.6	20.64	11.981	
3,800.0	3,662.9	3,781.0	3,581.0	18.3	22.2	27.61	485.3	-1,032.5	253.6	232.3	21.23	11.946	
3,900.0	3,758.4	3,880.8	3,674.5	18.8	22.8	27.55	499.9	-1,064.5	259.9	238.1	21.81	11.914	
4,000.0	3,853.9	3,980.6	3,767.9	19.4	23.5	27.49	514.5	-1,096.4	266.2	243.8	22.40	11.883	
4,100.0	3,949.4	4,080.4	3,861.3	20.0	24.2	27.44	529.1	-1,128.4	272.4	249.5	22.98	11.854	
4,200.0	4,044.8	4,180.2	3,954.7	20.5	24.8	27.38	543.7	-1,160.3	278.7	255.2	23.57	11.827	
4,300.0	4,140.3	4,280.0	4,048.1	21.1	25.5	27.33	558.4	-1,192.3	285.0	260.9	24.15	11.801	
4,400.0	4,235.8	4,379.8	4,141.5	21.6	26.2	27.29	573.0	-1,224.2	291.3	266.6	24.74	11.777	
4,500.0	4,331.3	4,479.6	4,234.9	22.2	26.8	27.24	587.6	-1,256.2	297.6	272.3	25.32	11.754	
4,600.0	4,426.8	4,579.4	4,328.3	22.8	27.5	27.20	602.2	-1,288.1	303.9	278.0	25.91	11.732	
4,700.0	4,522.3	4,679.2	4,421.8	23.3	28.2	27.15	616.8	-1,320.1	310.2	283.7	26.49	11.711	
4,800.0	4,617.7	4,779.0	4,515.2	23.9	28.8	27.11	631.5	-1,352.0	316.5	289.4	27.07	11.691	
4,900.0	4,713.2	4,878.8	4,608.6	24.5	29.5	27.07	646.1	-1,384.0	322.8	295.1	27.66	11.672	
5,000.0	4,808.7	4,978.7	4,702.0	25.0	30.2	27.04	660.7	-1,415.9	329.1	300.8	28.24	11.654	
5,100.0	4,904.2	5,078.5	4,795.4	25.6	30.8	27.00	675.3	-1,447.9	335.4	306.6	28.82	11.636	

CC - Min centre to center distance or covergent 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 MCU Fee 17-9D (M16W Pad)
Project:	Mamm Creek	**TVD Reference:**	KBE @ 7903.0ft (Original Well Elev)
Reference Site:	SWSW S16-T7S-R93W (M16W Pad)	**MD Reference:**	KBE @ 7903.0ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	MCU Fee 17-9D (M16W Pad)	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	DD	**Database:**	EDM 5000.1 US Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design SWSW S16-T7S-R93W (M16W Pad) - MCU Fee 17-9C (M16W Pad) - DD - Plan #1

Offset Site Error: 0.0 ft

Survey Program: 0-MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
5,200.0	4,999.7	5,178.3	4,888.8	26.2	31.5	26.97	689.9	-1,479.8	341.7	312.3	29.40	11.620	
5,300.0	5,095.2	5,278.1	4,982.2	26.7	32.2	26.93	704.5	-1,511.8	348.0	318.0	29.99	11.604	
5,400.0	5,190.6	5,377.9	5,075.6	27.3	32.8	26.90	719.2	-1,543.7	354.3	323.7	30.57	11.589	
5,500.0	5,286.1	5,477.7	5,169.1	27.9	33.5	26.87	733.8	-1,575.7	360.6	329.4	31.15	11.574	
5,600.0	5,381.6	5,577.5	5,262.5	28.4	34.2	26.84	748.4	-1,607.6	366.9	335.1	31.73	11.560	
5,700.0	5,477.1	5,677.3	5,355.9	29.0	34.8	26.81	763.0	-1,639.6	373.1	340.8	32.32	11.547	
5,800.0	5,572.6	5,777.1	5,449.3	29.6	35.5	26.78	777.6	-1,671.5	379.4	346.5	32.90	11.534	
5,900.0	5,668.0	5,876.9	5,542.7	30.1	36.2	26.75	792.2	-1,703.5	385.7	352.3	33.48	11.521	
6,000.0	5,763.5	5,976.7	5,636.1	30.7	36.8	26.73	806.9	-1,735.4	392.0	358.0	34.06	11.509	
6,100.0	5,859.0	6,076.5	5,729.5	31.3	37.5	26.70	821.5	-1,767.4	398.3	363.7	34.64	11.498	
6,200.0	5,954.5	6,176.3	5,822.9	31.8	38.2	26.68	836.1	-1,799.3	404.6	369.4	35.23	11.486	
6,300.0	6,050.0	6,276.1	5,916.4	32.4	38.8	26.65	850.7	-1,831.3	410.9	375.1	35.81	11.476	
6,400.0	6,145.5	6,375.9	6,009.8	33.0	39.5	26.63	865.3	-1,863.2	417.2	380.8	36.39	11.465	
6,500.0	6,240.9	6,475.7	6,103.2	33.5	40.2	26.61	879.9	-1,895.2	423.5	386.5	36.97	11.455	
6,600.0	6,336.4	6,575.5	6,196.6	34.1	40.8	26.59	894.6	-1,927.1	429.8	392.3	37.55	11.446	
6,700.0	6,431.9	6,675.3	6,290.0	34.7	41.5	26.57	909.2	-1,959.1	436.1	398.0	38.13	11.436	
6,800.0	6,527.4	6,775.1	6,383.4	35.2	42.2	26.54	923.8	-1,991.0	442.4	403.7	38.71	11.427	
6,900.0	6,622.9	6,874.9	6,476.8	35.8	42.8	26.52	938.4	-2,023.0	448.7	409.4	39.29	11.419	
7,000.0	6,718.4	6,974.7	6,570.2	36.4	43.5	26.51	953.0	-2,054.9	455.0	415.1	39.88	11.410	
7,100.0	6,813.8	7,074.5	6,663.7	36.9	44.2	26.49	967.7	-2,086.9	461.3	420.8	40.46	11.402	
7,200.0	6,909.3	7,174.3	6,757.1	37.5	44.8	26.47	982.3	-2,118.8	467.6	426.5	41.04	11.394	
7,300.0	7,004.8	7,274.1	6,850.5	38.0	45.5	26.45	996.9	-2,150.8	473.9	432.3	41.62	11.386	SF
7,400.0	7,100.7	7,373.8	6,943.8	38.6	46.2	26.42	1,011.5	-2,182.7	481.4	439.2	42.15	11.422	
7,500.0	7,197.5	7,473.2	7,036.9	39.0	46.8	26.25	1,026.1	-2,214.5	492.0	449.5	42.49	11.579	

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well MCU Fee 17-9D (M16W Pad)
Project:	Mamm Creek	**TVD Reference:**	KBE @ 7903.0ft (Original Well Elev)
Reference Site:	SWSW S16-T7S-R93W (M16W Pad)	**MD Reference:**	KBE @ 7903.0ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	MCU Fee 17-9D (M16W Pad)	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	DD	**Database:**	EDM 5000.1 US Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Reference Depths are relative to KBE @ 7903.0ft (Original Well Elev)
Offset Depths are relative to Offset Datum
Central Meridian is -105.500000 °
Coordinates are relative to: MCU Fee 17-9D (M16W Pad)
Coordinate System is US State Plane 1983, Colorado Central Zone
Grid Convergence at Surface is: -1.44°