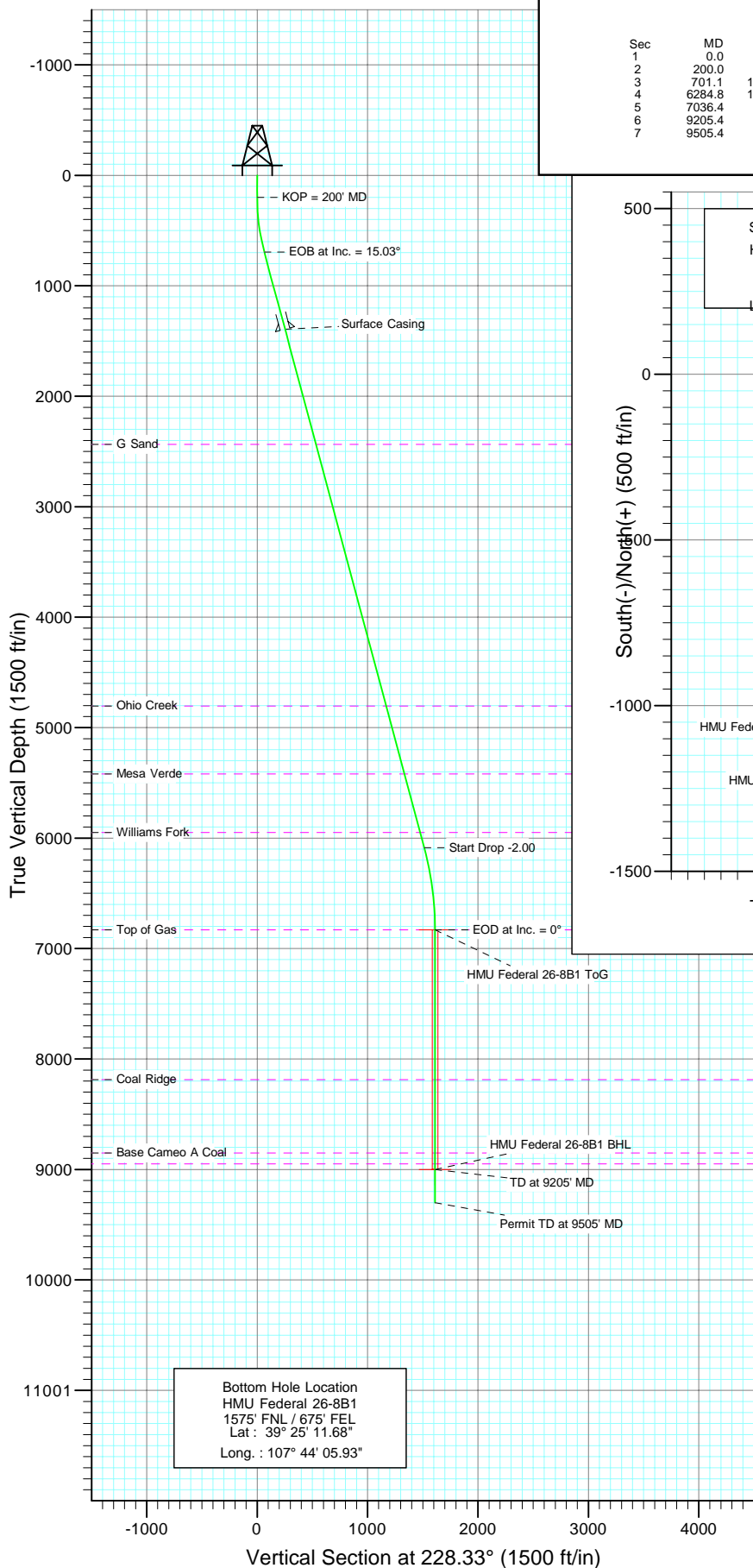
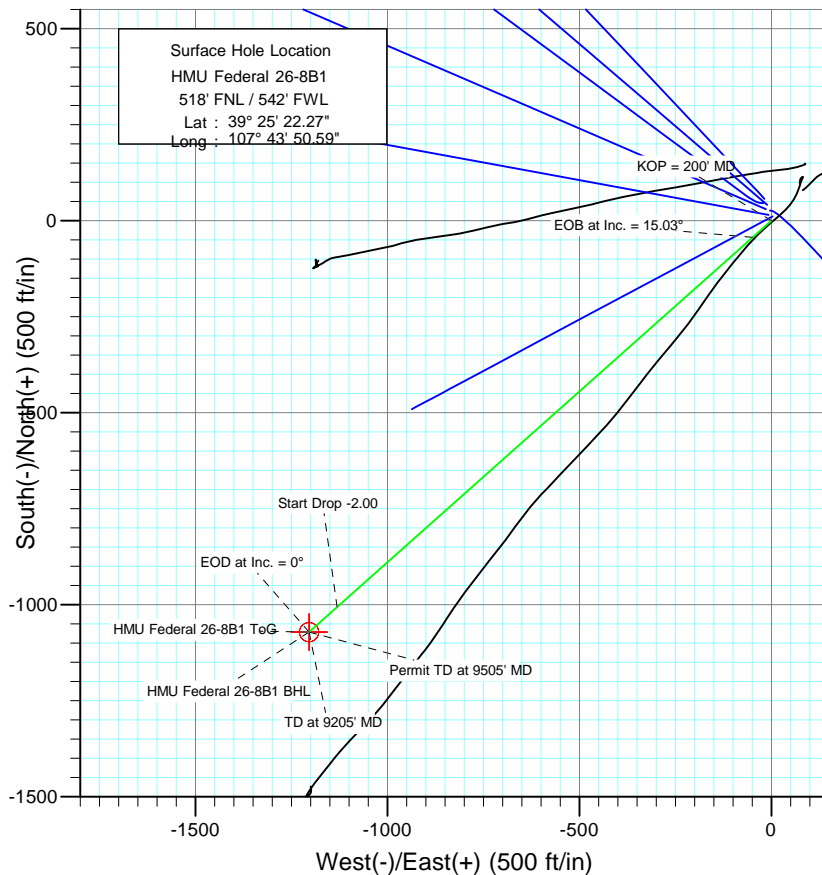




Project: Mamm Creek
Site: (D25W)
Well: HMU Federal 26-8B1
Wellbore: DD
Design: Plan #2



SECTION DETAILS										
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	V Sect	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	701.1	15.03	228.33	695.3	-43.4	-48.8	3.00	228.33	65.4	
4	6284.8	15.03	228.33	6088.0	-1006.2	-1130.6	0.00	0.00	1513.5	
5	7036.4	0.00	0.00	6831.0	-1071.4	-1203.8	2.00	180.00	1611.5	HMU Federal 26-8B1 ToG
6	9205.4	0.00	0.00	9000.0	-1071.4	-1203.8	0.00	0.00	1611.5	HMU Federal 26-8B1 BHL
7	9505.4	0.00	0.00	9300.0	-1071.4	-1203.8	0.00	0.00	1611.5	



Azimuths to True North
Magnetic North: 10.30°

Magnetic Field
Strength: 52346.1snT
Dip Angle: 65.76°
Date: 8/25/2010
Model: IGRF200510

FORMATION TOP DETAILS

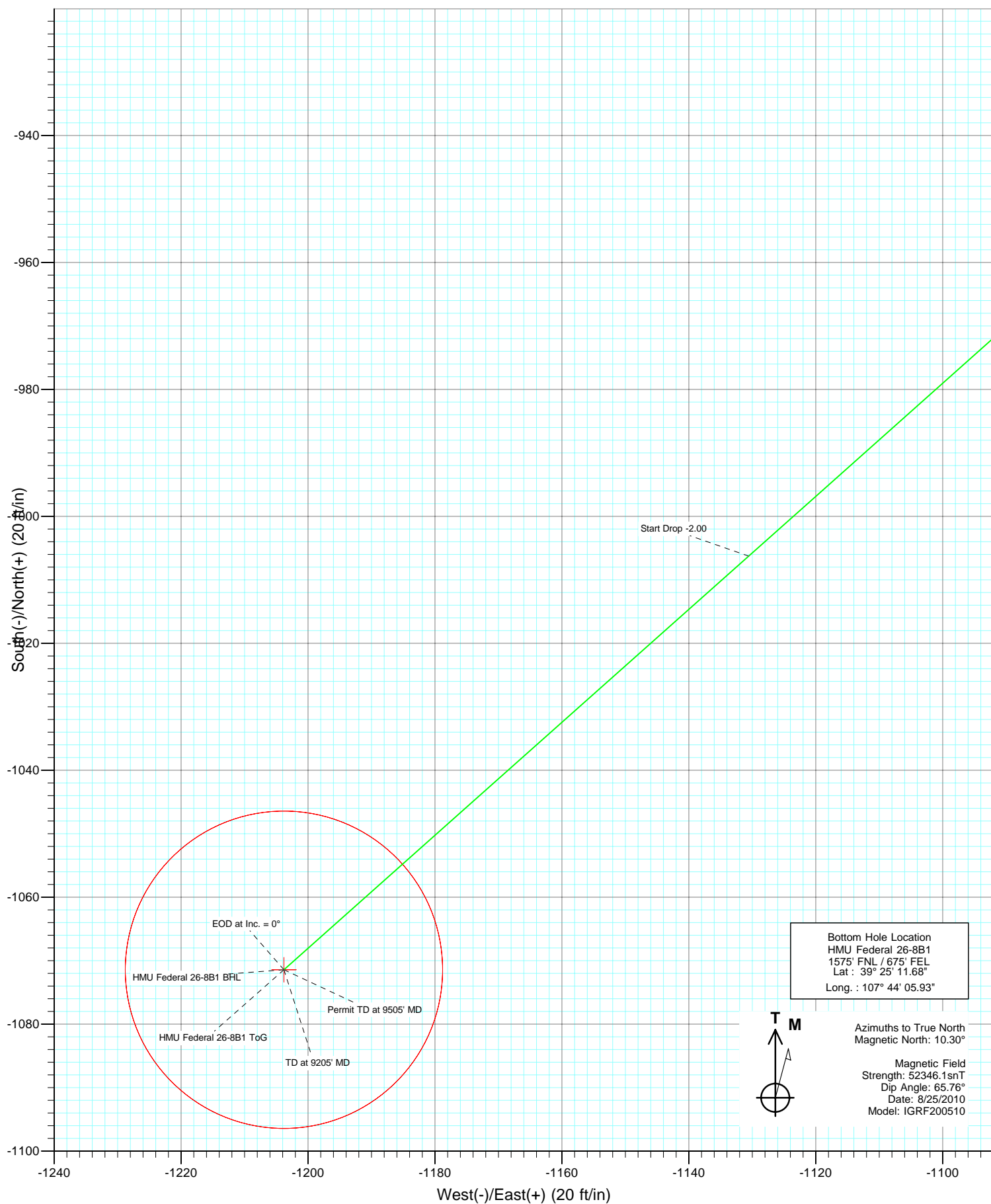
TVDPPath	MDPath	Formation
2436.0	2503.4	G Sand
4805.0	4956.3	Ohio Creek
5420.0	5593.1	Mesa Verde
5949.0	6140.9	Williams Fork
6831.0	7036.4	Top of Gas
8187.0	8392.4	Coal Ridge
8850.0	9055.4	Base Cameo A Coal
8949.0	9154.4	Rollins

DESIGN DETAILS: Plan #2

Job #10xxx: KR

WELL @ 7250.0ft (Original Well Elev)

Target	Azimuth	Origin	N/S	E/W	From TVD
HMU Federal 26-8B1 BHL	228.33	Slot	0.0	0.0	0.0



Cathedral Energy Services

Planning Report

Database:	EDM 5000.1 US Multi Users DB	Local Co-ordinate Reference:	Well HMU Federal 26-8B1
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	WELL @ 7250.0ft (Original Well Elev)
Project:	Mamm Creek	MD Reference:	WELL @ 7250.0ft (Original Well Elev)
Site:	(D25W)	North Reference:	True
Well:	HMU Federal 26-8B1	Survey Calculation Method:	Minimum Curvature
Wellbore:	DD		
Design:	Plan #2		

Project	Mamm Creek		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Central Zone		

Site		(D25W)			
Site Position:		Northing:	1,586,700.90 ft	Latitude:	39.423009
From:	Lat/Long	Easting:	2,369,887.50 ft	Longitude:	-107.730782
Position Uncertainty:	0.0 ft	Slot Radius:	13.200 in	Grid Convergence:	-1.41 °

Well	HMU Federal 26-8B1					
Well Position	+N/-S	0.0 ft	Northing:	1,586,643.58 ft	Latitude:	39.422853
	+E/-W	0.0 ft	Easting:	2,369,903.77 ft	Longitude:	-107.730719
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	7,228.0 ft

Wellbore	DD				
Magnetics	Model Name	Sample Date	Declination	Dip Angle	Field Strength
			(°)	(°)	(nT)
	IGRF200510	8/25/2010	10.30	65.76	52,346

Design	Plan #2			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.0	0.0	0.0	228.33

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	
701.1	15.03	228.33	695.3	-43.4	-48.8	3.00	3.00	0.00	228.33	
6,284.8	15.03	228.33	6,088.0	-1,006.2	-1,130.6	0.00	0.00	0.00	0.00	
7,036.4	0.00	0.00	6,831.0	-1,071.4	-1,203.8	2.00	-2.00	0.00	180.00	HMU Federal 26-8B1
9,205.4	0.00	0.00	9,000.0	-1,071.4	-1,203.8	0.00	0.00	0.00	0.00	HMU Federal 26-8B1
9,505.4	0.00	0.00	9,300.0	-1,071.4	-1,203.8	0.00	0.00	0.00	0.00	

Cathedral Energy Services

Planning Report

Database:	EDM 5000.1 US Multi Users DB	Local Co-ordinate Reference:	Well HMU Federal 26-8B1
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	WELL @ 7250.0ft (Original Well Elev)
Project:	Mamm Creek	MD Reference:	WELL @ 7250.0ft (Original Well Elev)
Site:	(D25W)	North Reference:	True
Well:	HMU Federal 26-8B1	Survey Calculation Method:	Minimum Curvature
Wellbore:	DD		
Design:	Plan #2		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Comments / Formations
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	KOP = 200' MD
300.0	3.00	228.33	300.0	-1.7	-2.0	2.6	3.00	3.00	
400.0	6.00	228.33	399.6	-7.0	-7.8	10.5	3.00	3.00	
500.0	9.00	228.33	498.8	-15.6	-17.6	23.5	3.00	3.00	
600.0	12.00	228.33	597.1	-27.7	-31.2	41.7	3.00	3.00	
700.0	15.00	228.33	694.3	-43.3	-48.6	65.1	3.00	3.00	
701.1	15.03	228.33	695.3	-43.4	-48.8	65.4	3.00	3.00	EOB at Inc. = 15.03°
800.0	15.03	228.33	790.9	-60.5	-68.0	91.0	0.00	0.00	
900.0	15.03	228.33	887.5	-77.8	-87.4	116.9	0.00	0.00	
1,000.0	15.03	228.33	984.0	-95.0	-106.7	142.9	0.00	0.00	
1,100.0	15.03	228.33	1,080.6	-112.2	-126.1	168.8	0.00	0.00	
1,200.0	15.03	228.33	1,177.2	-129.5	-145.5	194.8	0.00	0.00	
1,300.0	15.03	228.33	1,273.8	-146.7	-164.9	220.7	0.00	0.00	
1,400.0	15.03	228.33	1,370.4	-164.0	-184.2	246.6	0.00	0.00	
1,425.0	15.03	228.33	1,394.5	-168.3	-189.1	253.1	0.00	0.00	Surface Casing
1,500.0	15.03	228.33	1,466.9	-181.2	-203.6	272.6	0.00	0.00	
1,600.0	15.03	228.33	1,563.5	-198.5	-223.0	298.5	0.00	0.00	
1,700.0	15.03	228.33	1,660.1	-215.7	-242.3	324.4	0.00	0.00	
1,800.0	15.03	228.33	1,756.7	-232.9	-261.7	350.4	0.00	0.00	
1,900.0	15.03	228.33	1,853.2	-250.2	-281.1	376.3	0.00	0.00	
2,000.0	15.03	228.33	1,949.8	-267.4	-300.5	402.2	0.00	0.00	
2,100.0	15.03	228.33	2,046.4	-284.7	-319.8	428.2	0.00	0.00	
2,200.0	15.03	228.33	2,143.0	-301.9	-339.2	454.1	0.00	0.00	
2,300.0	15.03	228.33	2,239.6	-319.2	-358.6	480.0	0.00	0.00	
2,400.0	15.03	228.33	2,336.1	-336.4	-378.0	506.0	0.00	0.00	
2,500.0	15.03	228.33	2,432.7	-353.6	-397.3	531.9	0.00	0.00	
2,503.4	15.03	228.33	2,436.0	-354.2	-398.0	532.8	0.00	0.00	G Sand
2,600.0	15.03	228.33	2,529.3	-370.9	-416.7	557.8	0.00	0.00	
2,700.0	15.03	228.33	2,625.9	-388.1	-436.1	583.8	0.00	0.00	
2,800.0	15.03	228.33	2,722.5	-405.4	-455.4	609.7	0.00	0.00	
2,900.0	15.03	228.33	2,819.0	-422.6	-474.8	635.7	0.00	0.00	
3,000.0	15.03	228.33	2,915.6	-439.9	-494.2	661.6	0.00	0.00	
3,100.0	15.03	228.33	3,012.2	-457.1	-513.6	687.5	0.00	0.00	
3,200.0	15.03	228.33	3,108.8	-474.3	-532.9	713.5	0.00	0.00	
3,300.0	15.03	228.33	3,205.3	-491.6	-552.3	739.4	0.00	0.00	
3,400.0	15.03	228.33	3,301.9	-508.8	-571.7	765.3	0.00	0.00	
3,500.0	15.03	228.33	3,398.5	-526.1	-591.1	791.3	0.00	0.00	
3,600.0	15.03	228.33	3,495.1	-543.3	-610.4	817.2	0.00	0.00	
3,700.0	15.03	228.33	3,591.7	-560.6	-629.8	843.1	0.00	0.00	
3,800.0	15.03	228.33	3,688.2	-577.8	-649.2	869.1	0.00	0.00	
3,900.0	15.03	228.33	3,784.8	-595.0	-668.6	895.0	0.00	0.00	
4,000.0	15.03	228.33	3,881.4	-612.3	-687.9	920.9	0.00	0.00	
4,100.0	15.03	228.33	3,978.0	-629.5	-707.3	946.9	0.00	0.00	
4,200.0	15.03	228.33	4,074.5	-646.8	-726.7	972.8	0.00	0.00	
4,300.0	15.03	228.33	4,171.1	-664.0	-746.0	998.7	0.00	0.00	
4,400.0	15.03	228.33	4,267.7	-681.3	-765.4	1,024.7	0.00	0.00	
4,500.0	15.03	228.33	4,364.3	-698.5	-784.8	1,050.6	0.00	0.00	
4,600.0	15.03	228.33	4,460.9	-715.7	-804.2	1,076.6	0.00	0.00	
4,700.0	15.03	228.33	4,557.4	-733.0	-823.5	1,102.5	0.00	0.00	
4,800.0	15.03	228.33	4,654.0	-750.2	-842.9	1,128.4	0.00	0.00	

Cathedral Energy Services

Planning Report

Database:	EDM 5000.1 US Multi Users DB	Local Co-ordinate Reference:	Well HMU Federal 26-8B1
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	WELL @ 7250.0ft (Original Well Elev)
Project:	Mamm Creek	MD Reference:	WELL @ 7250.0ft (Original Well Elev)
Site:	(D25W)	North Reference:	True
Well:	HMU Federal 26-8B1	Survey Calculation Method:	Minimum Curvature
Wellbore:	DD		
Design:	Plan #2		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Comments / Formations
4,900.0	15.03	228.33	4,750.6	-767.5	-862.3	1,154.4	0.00	0.00	
4,956.3	15.03	228.33	4,805.0	-777.2	-873.2	1,169.0	0.00	0.00	Ohio Creek
5,000.0	15.03	228.33	4,847.2	-784.7	-881.7	1,180.3	0.00	0.00	
5,100.0	15.03	228.33	4,943.8	-802.0	-901.0	1,206.2	0.00	0.00	
5,200.0	15.03	228.33	5,040.3	-819.2	-920.4	1,232.2	0.00	0.00	
5,300.0	15.03	228.33	5,136.9	-836.4	-939.8	1,258.1	0.00	0.00	
5,400.0	15.03	228.33	5,233.5	-853.7	-959.2	1,284.0	0.00	0.00	
5,500.0	15.03	228.33	5,330.1	-870.9	-978.5	1,310.0	0.00	0.00	
5,593.1	15.03	228.33	5,420.0	-887.0	-996.6	1,334.1	0.00	0.00	Mesa Verde
5,600.0	15.03	228.33	5,426.6	-888.2	-997.9	1,335.9	0.00	0.00	
5,700.0	15.03	228.33	5,523.2	-905.4	-1,017.3	1,361.8	0.00	0.00	
5,800.0	15.03	228.33	5,619.8	-922.7	-1,036.6	1,387.8	0.00	0.00	
5,900.0	15.03	228.33	5,716.4	-939.9	-1,056.0	1,413.7	0.00	0.00	
6,000.0	15.03	228.33	5,813.0	-957.1	-1,075.4	1,439.6	0.00	0.00	
6,100.0	15.03	228.33	5,909.5	-974.4	-1,094.8	1,465.6	0.00	0.00	
6,140.9	15.03	228.33	5,949.0	-981.4	-1,102.7	1,476.2	0.00	0.00	Williams Fork
6,200.0	15.03	228.33	6,006.1	-991.6	-1,114.1	1,491.5	0.00	0.00	
6,284.8	15.03	228.33	6,088.0	-1,006.2	-1,130.6	1,513.5	0.00	0.00	Start Drop -2.00
6,300.0	14.73	228.33	6,102.7	-1,008.8	-1,133.5	1,517.4	2.00	-2.00	
6,400.0	12.73	228.33	6,199.8	-1,024.6	-1,151.2	1,541.1	2.00	-2.00	
6,500.0	10.73	228.33	6,297.7	-1,038.1	-1,166.4	1,561.5	2.00	-2.00	
6,600.0	8.73	228.33	6,396.3	-1,049.4	-1,179.0	1,578.4	2.00	-2.00	
6,700.0	6.73	228.33	6,495.4	-1,058.3	-1,189.1	1,591.8	2.00	-2.00	
6,800.0	4.73	228.33	6,594.9	-1,064.9	-1,196.5	1,601.8	2.00	-2.00	
6,900.0	2.73	228.33	6,694.7	-1,069.3	-1,201.4	1,608.3	2.00	-2.00	
7,000.0	0.73	228.33	6,794.6	-1,071.3	-1,203.6	1,611.3	2.00	-2.00	
7,036.4	0.00	0.00	6,831.0	-1,071.4	-1,203.8	1,611.5	2.00	-2.00	EOD at Inc. = 0° - Top of Gas - HMU Federal 26-8B1
7,100.0	0.00	0.00	6,894.6	-1,071.4	-1,203.8	1,611.5	0.00	0.00	
7,200.0	0.00	0.00	6,994.6	-1,071.4	-1,203.8	1,611.5	0.00	0.00	
7,300.0	0.00	0.00	7,094.6	-1,071.4	-1,203.8	1,611.5	0.00	0.00	
7,400.0	0.00	0.00	7,194.6	-1,071.4	-1,203.8	1,611.5	0.00	0.00	
7,500.0	0.00	0.00	7,294.6	-1,071.4	-1,203.8	1,611.5	0.00	0.00	
7,600.0	0.00	0.00	7,394.6	-1,071.4	-1,203.8	1,611.5	0.00	0.00	
7,700.0	0.00	0.00	7,494.6	-1,071.4	-1,203.8	1,611.5	0.00	0.00	
7,800.0	0.00	0.00	7,594.6	-1,071.4	-1,203.8	1,611.5	0.00	0.00	
7,900.0	0.00	0.00	7,694.6	-1,071.4	-1,203.8	1,611.5	0.00	0.00	
8,000.0	0.00	0.00	7,794.6	-1,071.4	-1,203.8	1,611.5	0.00	0.00	
8,100.0	0.00	0.00	7,894.6	-1,071.4	-1,203.8	1,611.5	0.00	0.00	
8,200.0	0.00	0.00	7,994.6	-1,071.4	-1,203.8	1,611.5	0.00	0.00	
8,300.0	0.00	0.00	8,094.6	-1,071.4	-1,203.8	1,611.5	0.00	0.00	
8,392.4	0.00	0.00	8,187.0	-1,071.4	-1,203.8	1,611.5	0.00	0.00	Coal Ridge
8,400.0	0.00	0.00	8,194.6	-1,071.4	-1,203.8	1,611.5	0.00	0.00	
8,500.0	0.00	0.00	8,294.6	-1,071.4	-1,203.8	1,611.5	0.00	0.00	
8,600.0	0.00	0.00	8,394.6	-1,071.4	-1,203.8	1,611.5	0.00	0.00	
8,700.0	0.00	0.00	8,494.6	-1,071.4	-1,203.8	1,611.5	0.00	0.00	
8,800.0	0.00	0.00	8,594.6	-1,071.4	-1,203.8	1,611.5	0.00	0.00	
8,900.0	0.00	0.00	8,694.6	-1,071.4	-1,203.8	1,611.5	0.00	0.00	
9,000.0	0.00	0.00	8,794.6	-1,071.4	-1,203.8	1,611.5	0.00	0.00	
9,055.4	0.00	0.00	8,850.0	-1,071.4	-1,203.8	1,611.5	0.00	0.00	Base Cameo A Coal
9,100.0	0.00	0.00	8,894.6	-1,071.4	-1,203.8	1,611.5	0.00	0.00	
9,154.4	0.00	0.00	8,949.0	-1,071.4	-1,203.8	1,611.5	0.00	0.00	Rollins
9,200.0	0.00	0.00	8,994.6	-1,071.4	-1,203.8	1,611.5	0.00	0.00	

Cathedral Energy Services

Planning Report

Database:	EDM 5000.1 US Multi Users DB	Local Co-ordinate Reference:	Well HMU Federal 26-8B1
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	WELL @ 7250.0ft (Original Well Elev)
Project:	Mamm Creek	MD Reference:	WELL @ 7250.0ft (Original Well Elev)
Site:	(D25W)	North Reference:	True
Well:	HMU Federal 26-8B1	Survey Calculation Method:	Minimum Curvature
Wellbore:	DD		
Design:	Plan #2		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Comments / Formations
9,205.4	0.00	0.00	9,000.0	-1,071.4	-1,203.8	1,611.5	0.00	0.00	TD at 9205' MD - HMU Federal 26-8B1 BHL
9,300.0	0.00	0.00	9,094.6	-1,071.4	-1,203.8	1,611.5	0.00	0.00	
9,400.0	0.00	0.00	9,194.6	-1,071.4	-1,203.8	1,611.5	0.00	0.00	
9,500.0	0.00	0.00	9,294.6	-1,071.4	-1,203.8	1,611.5	0.00	0.00	
9,505.4	0.00	0.00	9,300.0	-1,071.4	-1,203.8	1,611.5	0.00	0.00	Permit TD at 9505' 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
HMU Federal 26-8B1 Tc - plan hits target center - Point	0.00	0.00	6,831.0	-1,071.4	-1,203.8	1,585,602.04	2,368,674.04	39.419911	-107.734981
HMU Federal 26-8B1 Bt - plan hits target center - Circle (radius 25.0)	0.00	0.00	9,000.0	-1,071.4	-1,203.8	1,585,602.04	2,368,674.04	39.419911	-107.734981

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)	
1,425.0	1,394.5	Surface Casing	5.500	6.000	

Formations					
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
2,503.4	2,436.0	G Sand			
4,956.3	4,805.0	Ohio Creek			
5,593.1	5,420.0	Mesa Verde			
6,140.9	5,949.0	Williams Fork			
7,036.4	6,831.0	Top of Gas			
8,392.4	8,187.0	Coal Ridge			
9,055.4	8,850.0	Base Cameo A Coal			
9,154.4	8,949.0	Rollins			

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
200.0	200.0	0.0	0.0	KOP = 200' MD	
701.1	695.3	-43.4	-48.8	EOB at Inc. = 15.03°	
6,284.8	6,088.0	-1,006.2	-1,130.6	Start Drop -2.00	
7,036.4	6,831.0	-1,071.4	-1,203.8	EOD at Inc. = 0°	
9,205.4	9,000.0	-1,071.4	-1,203.8	TD at 9205' MD	
9,505.4	9,300.0	-1,071.4	-1,203.8	Permit TD at 9505' MD	

EnCana Oil & Gas (USA) Inc

Mamm Creek

(D25W)

HMU Federal 26-8B1

DD

Plan #2

Anticollision Report

09 September, 2010

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well HMU Federal 26-8B1
Project:	Mamm Creek	TVD Reference:	WELL @ 7250.0ft (Original Well Elev)
Reference Site:	(D25W)	MD Reference:	WELL @ 7250.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	HMU Federal 26-8B1	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 #2	Offset TVD Reference:	Offset Datum

Reference	Plan #2
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria
Interpolation Method:	Stations
Depth Range:	0.0 to 999,999.0ft
Results Limited by:	Maximum center-center distance of 500.0ft
Warning Levels Evaluated at:	2.00 Sigma
Error Model:	Systematic Ellipse
Scan Method:	Closest Approach 3D
Error Surface:	Elliptical Conic

Survey Tool Program		Date	9/9/2010		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
0.0	9,505.4	Plan #2 (DD)	MWD	Geolink MWD	

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well HMU Federal 26-8B1
Project:	Mamm Creek	TVD Reference:	WELL @ 7250.0ft (Original Well Elev)
Reference Site:	(D25W)	MD Reference:	WELL @ 7250.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	HMU Federal 26-8B1	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 #2	Offset TVD Reference:	Offset Datum

Summary

Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
(D25W)						
HMU 25-3D (Existing) - Excel Drilling - Surveys	0.0	0.0	114.2			
HMU 25-3D (Existing) - Excel Drilling - Surveys	100.0	99.4	114.5	114.2	387.978	ES
HMU 25-3D (Existing) - Excel Drilling - Surveys	600.0	588.7	168.8	166.8	85.344	SF
HMU 26-1C (Existing) - Baker Hughes (Inteq) - Surveys	202.1	202.3	172.2	171.5	272.966	CC, ES
HMU 26-1C (Existing) - Baker Hughes (Inteq) - Surveys	2,900.0	2,909.7	488.3	469.6	26.138	SF
HMU Federal 24-13A1 - DD - Plan #2	200.0	200.0	261.0	260.4	420.113	CC, ES
HMU Federal 24-13A1 - DD - Plan #2	1,000.0	912.5	491.7	488.1	138.546	SF
HMU Federal 24-13D1 - DD - Plan #2	200.0	200.0	265.4	264.7	427.093	CC, ES
HMU Federal 24-13D1 - DD - Plan #2	1,000.0	935.6	476.7	473.3	137.020	SF
HMU Federal 24-13D2 - DD - Plan #2	200.0	200.0	254.8	254.2	410.112	CC, ES
HMU Federal 24-13D2 - DD - Plan #2	1,300.0	1,273.8	475.5	471.1	108.814	SF
HMU Federal 24-14A1 - DD - Plan #2	200.0	200.0	260.2	259.6	418.819	CC, ES
HMU Federal 24-14A1 - DD - Plan #2	800.0	688.4	427.0	424.5	172.562	SF
HMU Federal 24-14A2 - DD - Plan #2	200.0	200.0	250.0	249.4	402.408	CC, ES
HMU Federal 24-14A2 - DD - Plan #2	900.0	822.1	399.6	396.7	138.376	SF
HMU Federal 24-14A3 - DD - Plan #2	200.0	200.0	255.5	254.9	411.173	CC, ES
HMU Federal 24-14A3 - DD - Plan #2	800.0	689.3	422.4	419.9	170.506	SF
HMU Federal 25-3C - DD - Plan #2	200.0	200.0	252.4	251.8	406.269	CC, ES
HMU Federal 25-3C - DD - Plan #2	1,200.0	1,160.4	483.5	478.8	103.422	SF
HMU Federal 26-1B - DD - Plan #2	200.0	200.0	16.7	16.1	26.941	CC, ES
HMU Federal 26-1B - DD - Plan #2	400.0	398.6	25.8	24.4	18.377	SF
HMU Federal 26-1D - DD - Plan #2	200.0	200.0	11.6	10.9	18.611	CC, ES
HMU Federal 26-1D - DD - Plan #2	600.0	601.1	19.9	17.4	7.922	SF
HMU Fee 23-16B1 - DD - Plan #1	200.0	200.0	59.6	59.0	95.900	CC, ES
HMU Fee 23-16B1 - DD - Plan #1	600.0	581.3	114.4	112.1	48.814	SF
HMU Fee 23-16B2 - DD - Plan #1	200.0	200.0	42.9	42.3	69.064	CC, ES
HMU Fee 23-16B2 - DD - Plan #1	500.0	498.8	57.5	55.8	33.068	SF
HMU Fee 23-16C1 - DD - Plan #1	200.0	200.0	33.5	32.9	53.881	CC, ES
HMU Fee 23-16C1 - DD - Plan #1	500.0	494.1	57.9	56.0	30.678	SF
HMU Fee 23-16D - DD - Plan #1	200.0	200.0	50.2	49.6	80.822	CC, ES
HMU Fee 23-16D - DD - Plan #1	600.0	586.8	89.9	87.5	36.679	SF
HMU Fee 25-6B - DD - Plan #1	100.0	100.0	245.7	245.4	902.399	CC
HMU Fee 25-6B - DD - Plan #1	200.0	200.0	245.7	245.1	395.434	ES
HMU Fee 25-6B - DD - Plan #1	1,200.0	1,129.0	484.7	478.9	82.807	SF
HMU Fee 25-6D - DD - Plan #1	200.0	200.0	26.6	26.0	42.806	CC, ES
HMU Fee 25-6D - DD - Plan #1	400.0	400.1	33.9	32.5	24.708	SF
MCU 26-8C (Existing) - Excel Drilling - Surveys	0.0	0.0	122.8			
MCU 26-8C (Existing) - Excel Drilling - Surveys	100.0	99.5	123.0	122.7	416.128	ES
MCU 26-8C (Existing) - Excel Drilling - Surveys	5,200.0	5,284.5	187.1	137.7	3.793	SF
NWSW Sec25-T7S-R93W (L25W Pad)						
Shideler 26-8C1 (L25W) - DD - DD						Out of range

Cathedral Energy Services

Anticollision Report

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Project:	Mamm Creek	TVD Reference:	WELL @ 7250.0ft (Original Well Elev)
Reference Site:	(D25W)	MD Reference:	WELL @ 7250.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	HMU Federal 26-8B1	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 #2	Offset TVD Reference:	Offset Datum

Offset Design (D25W) - HMU 25-3D (Existing) - Excel Drilling - Surveys													Offset Site Error: 0.0 ft	
Survey Program: 238-MWD													Offset Well Error: 0.0 ft	
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor		
0.0	0.0	0.0	0.0	0.0	0.0	45.60	79.9	81.6	114.2					
100.0	100.0	99.4	99.4	0.1	0.2	45.67	80.0	81.9	114.5	114.2	0.30	387.978 ES		
200.0	200.0	198.8	198.8	0.3	0.3	45.88	80.2	82.7	115.2	114.6	0.63	183.358		
300.0	300.0	297.7	297.7	0.5	0.5	177.89	80.7	84.1	119.2	118.3	0.97	123.207		
400.0	399.6	395.8	395.8	0.7	0.7	178.18	82.1	86.1	129.5	128.2	1.31	98.823		
500.0	498.8	492.9	492.8	1.0	0.9	178.38	84.4	88.7	146.1	144.4	1.65	88.685		
600.0	597.1	588.7	588.5	1.4	1.1	178.50	87.5	91.9	168.8	166.8	1.98	85.344 SF		
701.1	695.3	683.8	683.4	1.8	1.3	178.61	91.2	95.6	197.8	195.5	2.30	85.863		
800.0	790.9	775.6	775.0	2.3	1.5	178.70	95.4	99.8	229.6	226.9	2.63	87.165		
900.0	887.5	867.8	867.0	2.8	1.7	178.77	100.2	104.6	262.5	259.6	2.96	88.544		
1,000.0	984.0	958.2	957.1	3.2	1.9	178.81	105.5	109.9	296.4	293.1	3.29	90.009		
1,100.0	1,080.6	1,047.0	1,045.5	3.7	2.1	178.83	111.8	116.1	331.8	328.2	3.62	91.682		
1,200.0	1,177.2	1,136.1	1,134.0	4.2	2.3	179.05	117.9	123.9	368.3	364.3	3.94	93.376		
1,300.0	1,273.8	1,224.0	1,221.1	4.7	2.6	179.52	123.6	134.1	406.4	402.1	4.27	95.242		
1,400.0	1,370.4	1,304.6	1,300.7	5.2	2.8	-179.81	128.1	146.0	446.3	441.7	4.58	97.408		
1,500.0	1,466.9	1,397.8	1,392.4	5.7	3.1	-178.70	131.1	162.5	487.0	482.1	4.93	98.781		

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well HMU Federal 26-8B1
Project:	Mamm Creek	TVD Reference:	WELL @ 7250.0ft (Original Well Elev)
Reference Site:	(D25W)	MD Reference:	WELL @ 7250.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	HMU Federal 26-8B1	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 #2	Offset TVD Reference:	Offset Datum

Offset Design (D25W) - HMU 26-1C (Existing) - Baker Hughes (Inteq) - Surveys													Offset Site Error:	0.0 ft
Survey Program: 170-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance				Total		Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Uncertainty Axis	Separation Factor		
0.0	0.0	0.0	0.0	0.0	0.0	30.36	148.7	87.1	172.4					
100.0	100.0	100.2	100.2	0.1	0.2	30.44	148.6	87.3	172.3	172.0	0.29	597.207		
200.0	200.0	200.2	200.2	0.3	0.3	30.69	148.0	87.9	172.2	171.5	0.62	276.702		
202.1	202.1	202.3	202.3	0.3	0.3	162.37	148.0	87.9	172.2	171.5	0.63	272.966 CC, ES		
300.0	300.0	301.7	301.7	0.5	0.5	163.00	147.3	88.8	174.5	173.5	0.98	178.769		
400.0	399.6	408.8	408.7	0.7	0.7	163.22	145.2	85.6	178.8	177.4	1.34	133.638		
500.0	498.8	511.8	511.4	1.0	0.9	163.04	142.1	78.7	185.2	183.5	1.70	108.799		
600.0	597.1	612.8	612.0	1.4	1.1	162.62	139.2	69.3	195.4	193.4	2.09	93.599		
701.1	695.3	715.6	713.9	1.8	1.4	161.75	137.2	56.5	209.9	207.4	2.52	83.249		
800.0	790.9	816.6	813.6	2.3	1.7	160.59	135.2	40.6	225.0	222.0	3.01	74.709		
900.0	887.5	920.5	915.8	2.8	2.1	158.97	132.8	21.4	238.7	235.1	3.58	66.747		
1,000.0	984.0	1,020.2	1,013.3	3.2	2.4	157.30	129.9	1.3	251.2	247.0	4.18	60.143		
1,100.0	1,080.6	1,119.9	1,110.8	3.7	2.8	155.71	126.9	-19.3	263.7	258.9	4.82	54.751		
1,200.0	1,177.2	1,220.8	1,209.3	4.2	3.2	154.11	123.6	-40.9	275.7	270.2	5.50	50.113		
1,300.0	1,273.8	1,318.4	1,304.7	4.7	3.6	152.75	120.4	-61.5	288.1	281.9	6.18	46.575		
1,400.0	1,370.4	1,419.1	1,403.1	5.2	4.0	151.46	117.0	-82.9	300.5	293.6	6.91	43.508		
1,500.0	1,466.9	1,519.5	1,501.0	5.7	4.5	150.26	113.0	-104.5	312.4	304.7	7.65	40.854		
1,600.0	1,563.5	1,618.0	1,597.0	6.2	4.9	149.13	109.2	-125.8	324.4	316.0	8.39	38.654		
1,700.0	1,660.1	1,715.7	1,692.4	6.7	5.3	148.15	105.5	-146.6	336.8	327.6	9.14	36.850		
1,800.0	1,756.7	1,817.1	1,791.5	7.2	5.7	147.22	101.7	-168.0	349.3	339.4	9.91	35.261		
1,900.0	1,853.2	1,913.7	1,885.9	7.6	6.1	146.48	97.8	-188.1	361.6	351.0	10.64	33.978		
2,000.0	1,949.8	2,014.0	1,983.9	8.1	6.5	145.74	94.0	-208.9	374.4	363.0	11.42	32.798		
2,100.0	2,046.4	2,112.0	2,079.7	8.6	6.9	145.04	90.3	-229.4	387.2	375.0	12.18	31.783		
2,200.0	2,143.0	2,212.4	2,177.8	9.1	7.3	144.38	86.5	-250.4	399.9	387.0	12.97	30.840		
2,300.0	2,239.6	2,311.4	2,274.4	9.6	7.8	143.66	82.7	-271.8	412.6	398.8	13.78	29.946		
2,400.0	2,336.1	2,408.3	2,369.0	10.1	8.2	143.04	79.3	-292.4	425.6	411.1	14.56	29.229		
2,500.0	2,432.7	2,509.7	2,468.0	10.6	8.6	142.43	75.6	-314.1	438.7	423.3	15.39	28.511		
2,600.0	2,529.3	2,609.9	2,565.6	11.1	9.0	141.72	71.7	-336.6	451.3	435.0	16.24	27.784		
2,700.0	2,625.9	2,709.9	2,662.9	11.6	9.5	141.05	67.9	-359.0	463.9	446.9	17.09	27.149		
2,800.0	2,722.5	2,810.9	2,761.5	12.1	9.9	140.54	63.2	-380.8	476.0	458.1	17.91	26.587		
2,900.0	2,819.0	2,909.7	2,858.1	12.6	10.3	140.21	58.4	-400.8	488.3	469.6	18.68	26.138 SF		

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well HMU Federal 26-8B1
Project:	Mamm Creek	TVD Reference:	WELL @ 7250.0ft (Original Well Elev)
Reference Site:	(D25W)	MD Reference:	WELL @ 7250.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	HMU Federal 26-8B1	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 #2	Offset TVD Reference:	Offset Datum

Offset Design (D25W) - HMU Federal 24-13A1 - DD - Plan #2													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Total Uncertainty Axis	Separation Factor		
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)				
0.0	0.0	0.0	0.0	0.0	0.0	43.11	190.6	178.4	261.0					
100.0	100.0	100.0	100.0	0.1	0.1	43.11	190.6	178.4	261.0	260.8	0.27	958.719		
200.0	200.0	200.0	200.0	0.3	0.3	43.11	190.6	178.4	261.0	260.4	0.62	420.113	CC, ES	
300.0	300.0	290.7	290.7	0.5	0.5	174.49	192.7	178.4	265.4	264.4	0.96	277.269		
400.0	399.6	380.2	379.9	0.7	0.7	173.70	199.1	178.4	278.4	277.1	1.30	214.493		
500.0	498.8	466.2	465.3	1.0	0.9	172.63	209.0	178.9	300.3	298.7	1.65	182.356		
600.0	597.1	549.0	547.1	1.4	1.1	171.45	222.2	180.3	331.2	329.2	1.99	166.027		
701.1	695.3	639.8	636.3	1.8	1.5	170.21	239.1	182.3	369.7	367.4	2.37	156.270		
800.0	790.9	730.1	724.9	2.3	1.8	169.43	256.0	184.3	410.1	407.3	2.75	148.889		
900.0	887.5	821.3	814.5	2.8	2.1	168.78	273.0	186.3	450.8	447.7	3.15	143.123		
1,000.0	984.0	912.5	904.1	3.2	2.4	168.24	290.1	188.3	491.7	488.1	3.55	138.546	SF	

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well HMU Federal 26-8B1
Project:	Mamm Creek	TVD Reference:	WELL @ 7250.0ft (Original Well Elev)
Reference Site:	(D25W)	MD Reference:	WELL @ 7250.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	HMU Federal 26-8B1	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 #2	Offset TVD Reference:	Offset Datum

Offset Design (D25W) - HMU Federal 24-13D1 - DD - Plan #2													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Total Uncertainty Axis	Separation Factor		
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)				
0.0	0.0	0.0	0.0	0.0	0.0	45.45	186.2	189.1	265.4					
100.0	100.0	100.0	100.0	0.1	0.1	45.45	186.2	189.1	265.4	265.1	0.27	974.648		
200.0	200.0	200.0	200.0	0.3	0.3	45.45	186.2	189.1	265.4	264.7	0.62	427.093	CC, ES	
300.0	300.0	290.0	289.9	0.5	0.5	176.86	188.3	189.4	269.8	268.9	0.96	282.526		
400.0	399.6	378.8	378.5	0.7	0.7	176.13	194.5	190.2	283.2	281.9	1.30	218.635		
500.0	498.8	466.7	465.8	1.0	0.9	175.03	204.6	191.5	305.4	303.8	1.64	186.261		
600.0	597.1	562.3	560.6	1.4	1.1	173.87	217.2	193.1	334.1	332.1	2.00	166.978		
701.1	695.3	657.3	654.7	1.8	1.4	172.93	229.8	194.7	368.2	365.9	2.36	156.083		
800.0	790.9	749.4	746.0	2.3	1.7	172.32	242.0	196.2	404.1	401.4	2.73	148.139		
900.0	887.5	842.5	838.3	2.8	1.9	171.81	254.3	197.8	440.4	437.3	3.10	141.943		
1,000.0	984.0	935.6	930.6	3.2	2.2	171.37	266.6	199.3	476.7	473.3	3.48	137.020	SF	

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well HMU Federal 26-8B1
Project:	Mamm Creek	TVD Reference:	WELL @ 7250.0ft (Original Well Elev)
Reference Site:	(D25W)	MD Reference:	WELL @ 7250.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	HMU Federal 26-8B1	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 #2	Offset TVD Reference:	Offset Datum

Offset Design (D25W) - HMU Federal 24-13D2 - DD - Plan #2													Offset Site Error:	0.0 ft
Survey Program:		0-MWD											Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor		
0.0	0.0	0.0	0.0	0.0	0.0	46.61	175.0	185.2	254.8					
100.0	100.0	100.0	100.0	0.1	0.1	46.61	175.0	185.2	254.8	254.5	0.27	935.897	410.112 CC, ES	
200.0	200.0	200.0	200.0	0.3	0.3	46.61	175.0	185.2	254.8	254.2	0.62	265.520		
300.0	300.0	300.0	300.0	0.5	0.5	178.30	175.0	185.2	257.4	256.5	0.97	201.719		
400.0	399.6	399.6	399.6	0.7	0.7	178.34	175.0	185.2	265.3	264.0	1.32	168.026		
500.0	498.8	498.8	498.8	1.0	0.8	178.41	175.0	185.2	278.3	276.7	1.66			
600.0	597.1	597.1	597.1	1.4	1.0	178.49	175.0	185.2	296.5	294.5	1.99	148.858		
701.1	695.3	695.3	695.3	1.8	1.2	178.59	175.0	185.2	320.1	317.8	2.32	137.754		
800.0	790.9	790.9	790.9	2.3	1.3	178.69	175.0	185.2	345.8	343.1	2.66	129.881		
900.0	887.5	887.5	887.5	2.8	1.5	178.78	175.0	185.2	371.7	368.7	3.00	123.738		
1,000.0	984.0	984.0	984.0	3.2	1.7	178.86	175.0	185.2	397.7	394.3	3.35	118.858		
1,100.0	1,080.6	1,080.6	1,080.6	3.7	1.8	178.93	175.0	185.2	423.6	419.9	3.69	114.887		
1,200.0	1,177.2	1,177.2	1,177.2	4.2	2.0	178.99	175.0	185.2	449.5	445.5	4.03	111.592		
1,300.0	1,273.8	1,273.8	1,273.8	4.7	2.2	179.05	175.0	185.2	475.5	471.1	4.37	108.814 SF		

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well HMU Federal 26-8B1
Project:	Mamm Creek	TVD Reference:	WELL @ 7250.0ft (Original Well Elev)
Reference Site:	(D25W)	MD Reference:	WELL @ 7250.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	HMU Federal 26-8B1	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 #2	Offset TVD Reference:	Offset Datum

Offset Design (D25W) - HMU Federal 24-14A1 - DD - Plan #2													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor		
0.0	0.0	0.0	0.0	0.0	0.0	48.93	171.0	196.2	260.2					
100.0	100.0	100.0	100.0	0.1	0.1	48.93	171.0	196.2	260.2	260.0	0.27	955.766		
200.0	200.0	200.0	200.0	0.3	0.3	48.93	171.0	196.2	260.2	259.6	0.62	418.819 CC, ES		
300.0	300.0	287.8	287.8	0.5	0.5	-179.45	172.4	197.6	265.1	264.2	0.95	279.461		
400.0	399.6	374.4	374.2	0.7	0.7	-179.56	176.7	201.7	279.8	278.5	1.27	219.935		
500.0	498.8	458.7	457.9	1.0	0.9	-179.73	183.6	208.3	303.9	302.3	1.59	191.475		
600.0	597.1	539.4	537.6	1.4	1.1	-179.93	192.7	217.0	337.2	335.3	1.89	178.378		
701.1	695.3	616.7	613.4	1.8	1.4	179.86	203.6	227.6	379.7	377.5	2.18	174.051		
800.0	790.9	688.4	683.1	2.3	1.8	179.67	215.8	239.2	427.0	424.5	2.47	172.562 SF		
900.0	887.5	758.0	750.1	2.8	2.1	179.50	229.3	252.3	478.0	475.3	2.77	172.775		

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well HMU Federal 26-8B1
Project:	Mamm Creek	TVD Reference:	WELL @ 7250.0ft (Original Well Elev)
Reference Site:	(D25W)	MD Reference:	WELL @ 7250.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	HMU Federal 26-8B1	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 #2	Offset TVD Reference:	Offset Datum

Offset Design (D25W) - HMU Federal 24-14A2 - DD - Plan #2													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance							
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Total Uncertainty	Separation	Warning	
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	Axis	Factor		
0.0	0.0	0.0	0.0	0.0	0.0	50.26	159.9	192.3	250.0					
100.0	100.0	100.0	100.0	0.1	0.1	50.26	159.9	192.3	250.0	249.8	0.27	918.314		
200.0	200.0	200.0	200.0	0.3	0.3	50.26	159.9	192.3	250.0	249.4	0.62	402.408	CC, ES	
300.0	300.0	300.0	300.0	0.5	0.5	-178.09	159.9	192.3	252.6	251.7	0.97	260.581		
400.0	399.6	399.6	399.6	0.7	0.7	-178.14	159.9	192.3	260.5	259.2	1.32	198.076		
500.0	498.8	498.8	498.8	1.0	0.8	-178.22	159.9	192.3	273.5	271.9	1.66	165.130		
600.0	597.1	584.2	584.1	1.4	1.0	-178.30	161.1	193.7	293.9	291.9	1.97	149.184		
701.1	695.3	666.7	666.5	1.8	1.1	-178.38	164.5	197.8	323.9	321.6	2.27	142.457		
800.0	790.9	745.5	744.9	2.3	1.3	-178.51	170.1	204.2	359.7	357.1	2.58	139.233		
900.0	887.5	822.1	820.6	2.8	1.5	-178.67	177.8	212.5	399.6	396.7	2.89	138.376	SF	
1,000.0	984.0	900.0	897.1	3.2	1.8	-178.86	187.9	223.0	443.1	439.9	3.19	138.847		
1,100.0	1,080.6	967.1	962.4	3.7	2.0	-179.04	198.5	233.8	489.9	486.5	3.48	140.742		

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well HMU Federal 26-8B1
Project:	Mamm Creek	TVD Reference:	WELL @ 7250.0ft (Original Well Elev)
Reference Site:	(D25W)	MD Reference:	WELL @ 7250.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	HMU Federal 26-8B1	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 #2	Offset TVD Reference:	Offset Datum

Offset Design (D25W) - HMU Federal 24-14A3 - DD - Plan #2													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance				Total Uncertainty Axis	Separation Factor	Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)				
0.0	0.0	0.0	0.0	0.0	0.0	52.70	154.8	203.2	255.5					
100.0	100.0	100.0	100.0	0.1	0.1	52.70	154.8	203.2	255.5	255.2	0.27	938.317		
200.0	200.0	200.0	200.0	0.3	0.3	52.70	154.8	203.2	255.5	254.9	0.62	411.173 CC, ES		
300.0	300.0	288.0	288.0	0.5	0.5	-175.68	156.1	204.8	260.4	259.4	0.95	274.370		
400.0	399.6	374.8	374.5	0.7	0.7	-175.83	160.0	209.3	275.0	273.8	1.27	216.098		
500.0	498.8	459.1	458.3	1.0	0.9	-176.03	166.2	216.6	299.2	297.6	1.59	188.362		
600.0	597.1	540.0	538.2	1.4	1.1	-176.27	174.4	226.2	332.5	330.6	1.89	175.722		
701.1	695.3	617.4	614.1	1.8	1.4	-176.49	184.4	237.7	375.0	372.8	2.18	171.697		
800.0	790.9	689.3	683.9	2.3	1.8	-176.77	195.4	250.6	422.4	419.9	2.48	170.506 SF		
900.0	887.5	759.5	751.5	2.8	2.1	-177.01	207.7	265.0	473.5	470.7	2.77	171.078		

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well HMU Federal 26-8B1
Project:	Mamm Creek	TVD Reference:	WELL @ 7250.0ft (Original Well Elev)
Reference Site:	(D25W)	MD Reference:	WELL @ 7250.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	HMU Federal 26-8B1	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 #2	Offset TVD Reference:	Offset Datum

Offset Design (D25W) - HMU Federal 25-3C - DD - Plan #2														Offset Site Error:	0.0 ft
Survey Program: 0-MWD														Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis		Distance									
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning		
0.0	0.0	0.0	0.0	0.0	0.0	56.42	139.6	210.3	252.4						
100.0	100.0	100.0	100.0	0.1	0.1	56.42	139.6	210.3	252.4	252.2	0.27	927.125			
200.0	200.0	200.0	200.0	0.3	0.3	56.42	139.6	210.3	252.4	251.8	0.62	406.269	CC, ES		
300.0	300.0	289.9	289.9	0.5	0.5	-171.70	139.6	212.4	257.0	256.0	0.95	269.239			
400.0	399.6	381.2	381.0	0.7	0.7	-171.10	139.6	218.8	270.5	269.2	1.29	208.926			
500.0	498.8	488.0	487.2	1.0	0.9	-169.79	135.8	228.1	288.8	287.1	1.69	170.553			
600.0	597.1	586.5	585.2	1.4	1.1	-168.32	128.8	236.5	310.4	308.3	2.09	148.397			
701.1	695.3	683.8	681.8	1.8	1.4	-167.16	122.0	244.8	337.3	334.8	2.50	135.090			
800.0	790.9	778.3	775.7	2.3	1.6	-166.45	115.3	252.9	366.2	363.3	2.92	125.505			
900.0	887.5	873.8	870.7	2.8	1.9	-165.83	108.5	261.1	395.5	392.1	3.35	118.047			
1,000.0	984.0	969.4	965.6	3.2	2.1	-165.30	101.7	269.3	424.8	421.0	3.79	112.147			
1,100.0	1,080.6	1,064.9	1,060.6	3.7	2.4	-164.84	95.0	277.5	454.1	449.9	4.23	107.368			
1,200.0	1,177.2	1,160.4	1,155.5	4.2	2.6	-164.43	88.2	285.7	483.5	478.8	4.67	103.422	SF		

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well HMU Federal 26-8B1
Project:	Mamm Creek	TVD Reference:	WELL @ 7250.0ft (Original Well Elev)
Reference Site:	(D25W)	MD Reference:	WELL @ 7250.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	HMU Federal 26-8B1	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 #2	Offset TVD Reference:	Offset Datum

Offset Design (D25W) - HMU Federal 26-1B - DD - Plan #2													Offset Site Error: 0.0 ft	
Survey Program: 0-MWD													Offset Well Error: 0.0 ft	
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre		Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor		
							+N/-S (ft)	+E/-W (ft)						
0.0	0.0	0.0	0.0	0.0	0.0	-24.96	15.2	-7.1	16.7					
100.0	100.0	100.0	100.0	0.1	0.1	-24.96	15.2	-7.1	16.7	16.5	0.27	61.480		
200.0	200.0	200.0	200.0	0.3	0.3	-24.96	15.2	-7.1	16.7	16.1	0.62	26.941	CC, ES	
300.0	300.0	299.4	299.4	0.5	0.5	107.80	15.6	-9.6	19.0	18.0	0.98	19.332		
400.0	399.6	398.6	398.2	0.7	0.7	109.88	17.0	-17.2	25.8	24.4	1.40	18.377	SF	
500.0	498.8	497.1	495.9	1.0	1.0	111.57	19.3	-29.7	37.1	35.2	1.93	19.269		
600.0	597.1	594.9	592.1	1.4	1.3	112.67	22.5	-47.0	52.9	50.4	2.57	20.593		
701.1	695.3	694.1	689.3	1.8	1.7	115.64	26.0	-66.3	71.9	68.6	3.31	21.713		
800.0	790.9	790.9	784.2	2.3	2.1	119.12	29.5	-85.0	91.8	87.8	4.05	22.676		
900.0	887.5	888.7	880.1	2.8	2.4	121.37	33.0	-104.0	112.2	107.4	4.80	23.371		
1,000.0	984.0	986.5	976.0	3.2	2.8	122.93	36.5	-123.0	132.7	127.2	5.55	23.889		
1,100.0	1,080.6	1,084.4	1,071.9	3.7	3.2	124.07	40.0	-142.0	153.3	147.0	6.31	24.290		
1,200.0	1,177.2	1,182.2	1,167.8	4.2	3.6	124.94	43.4	-161.0	173.9	166.8	7.07	24.607		
1,300.0	1,273.8	1,280.0	1,263.8	4.7	4.0	125.62	46.9	-179.9	194.5	186.7	7.82	24.865		
1,400.0	1,370.4	1,377.8	1,359.7	5.2	4.3	126.18	50.4	-198.9	215.1	206.6	8.58	25.079		
1,500.0	1,466.9	1,475.7	1,455.6	5.7	4.7	126.64	53.9	-217.9	235.8	226.5	9.34	25.259		
1,600.0	1,563.5	1,573.5	1,551.5	6.2	5.1	127.02	57.4	-236.9	256.5	246.4	10.09	25.412		
1,700.0	1,660.1	1,671.3	1,647.4	6.7	5.5	127.35	60.9	-255.9	277.2	266.3	10.85	25.544		
1,800.0	1,756.7	1,769.1	1,743.3	7.2	5.9	127.63	64.4	-274.9	297.9	286.3	11.61	25.659		
1,900.0	1,853.2	1,867.0	1,839.2	7.6	6.2	127.87	67.8	-293.8	318.6	306.2	12.37	25.761		
2,000.0	1,949.8	1,964.8	1,935.1	8.1	6.6	128.09	71.3	-312.8	339.3	326.2	13.13	25.850		
2,100.0	2,046.4	2,062.6	2,031.0	8.6	7.0	128.28	74.8	-331.8	360.0	346.1	13.88	25.930		
2,200.0	2,143.0	2,160.4	2,126.9	9.1	7.4	128.45	78.3	-350.8	380.7	366.1	14.64	26.002		
2,300.0	2,239.6	2,258.3	2,222.8	9.6	7.8	128.60	81.8	-369.8	401.4	386.0	15.40	26.067		
2,400.0	2,336.1	2,356.1	2,318.7	10.1	8.2	128.74	85.3	-388.7	422.2	406.0	16.16	26.126		
2,500.0	2,432.7	2,453.9	2,414.6	10.6	8.5	128.86	88.7	-407.7	442.9	426.0	16.92	26.179		
2,600.0	2,529.3	2,551.7	2,510.5	11.1	8.9	128.97	92.2	-426.7	463.6	445.9	17.68	26.228		
2,700.0	2,625.9	2,649.6	2,606.4	11.6	9.3	129.08	95.7	-445.7	484.3	465.9	18.43	26.273		

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well HMU Federal 26-8B1
Project:	Mamm Creek	TVD Reference:	WELL @ 7250.0ft (Original Well Elev)
Reference Site:	(D25W)	MD Reference:	WELL @ 7250.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	HMU Federal 26-8B1	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 #2	Offset TVD Reference:	Offset Datum

Offset Design (D25W) - HMU Federal 26-1D - DD - Plan #2														Offset Site Error:	0.0 ft
Survey Program: O-MWD														Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis		Distance									
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning		
0.0	0.0	0.0	0.0	0.0	0.0	15.75	11.1	3.1	11.6						
100.0	100.0	100.0	100.0	0.1	0.1	15.75	11.1	3.1	11.6	11.3	0.27	42.470			
200.0	200.0	200.0	200.0	0.3	0.3	15.75	11.1	3.1	11.6	10.9	0.62	18.611 CC, ES			
300.0	300.0	300.4	300.4	0.5	0.5	145.08	9.9	0.8	12.0	11.0	0.98	12.222			
400.0	399.6	400.8	400.4	0.7	0.7	138.93	6.2	-6.2	13.2	11.9	1.38	9.590			
500.0	498.8	501.2	499.9	1.0	1.0	131.10	0.0	-17.8	15.6	13.7	1.90	8.242			
600.0	597.1	601.1	598.5	1.4	1.3	127.69	-7.9	-32.6	19.9	17.4	2.51	7.922 SF			
701.1	695.3	701.9	697.7	1.8	1.7	134.10	-16.0	-47.6	27.6	24.5	3.08	8.959			
800.0	790.9	800.3	794.7	2.3	2.0	140.44	-23.8	-62.3	37.3	33.7	3.56	10.472			
900.0	887.5	899.7	892.7	2.8	2.3	144.17	-31.8	-77.2	47.4	43.3	4.05	11.705			
1,000.0	984.0	999.2	990.7	3.2	2.7	146.59	-39.7	-92.1	57.6	53.0	4.53	12.700			
1,100.0	1,080.6	1,098.6	1,088.8	3.7	3.0	148.28	-47.7	-106.9	67.8	62.8	5.02	13.513			
1,200.0	1,177.2	1,198.1	1,186.8	4.2	3.3	149.52	-55.6	-121.8	78.2	72.6	5.51	14.187			
1,300.0	1,273.8	1,297.5	1,284.8	4.7	3.7	150.47	-63.6	-136.7	88.5	82.5	6.00	14.755			
1,400.0	1,370.4	1,397.0	1,382.8	5.2	4.0	151.23	-71.5	-151.5	98.9	92.4	6.49	15.238			
1,500.0	1,466.9	1,496.4	1,480.8	5.7	4.4	151.84	-79.4	-166.4	109.2	102.3	6.98	15.655			
1,600.0	1,563.5	1,595.9	1,578.8	6.2	4.7	152.34	-87.4	-181.3	119.6	112.2	7.47	16.017			
1,700.0	1,660.1	1,695.3	1,676.9	6.7	5.1	152.76	-95.3	-196.1	130.0	122.1	7.96	16.335			
1,800.0	1,756.7	1,794.8	1,774.9	7.2	5.4	153.12	-103.3	-211.0	140.4	132.0	8.45	16.616			
1,900.0	1,853.2	1,894.3	1,872.9	7.6	5.7	153.44	-111.2	-225.9	150.8	141.9	8.94	16.867			
2,000.0	1,949.8	1,993.7	1,970.9	8.1	6.1	153.71	-119.1	-240.7	161.2	151.8	9.43	17.091			
2,100.0	2,046.4	2,093.2	2,068.9	8.6	6.4	153.94	-127.1	-255.6	171.7	161.7	9.93	17.294			
2,200.0	2,143.0	2,192.6	2,166.9	9.1	6.8	154.16	-135.0	-270.4	182.1	171.7	10.42	17.477			
2,300.0	2,239.6	2,292.1	2,264.9	9.6	7.1	154.34	-143.0	-285.3	192.5	181.6	10.91	17.644			
2,400.0	2,336.1	2,391.5	2,363.0	10.1	7.5	154.51	-150.9	-300.2	202.9	191.5	11.40	17.797			
2,500.0	2,432.7	2,491.0	2,461.0	10.6	7.8	154.66	-158.9	-315.0	213.3	201.4	11.89	17.937			
2,600.0	2,529.3	2,590.4	2,559.0	11.1	8.1	154.80	-166.8	-329.9	223.8	211.4	12.39	18.065			
2,700.0	2,625.9	2,689.9	2,657.0	11.6	8.5	154.93	-174.7	-344.8	234.2	221.3	12.88	18.184			
2,800.0	2,722.5	2,789.3	2,755.0	12.1	8.8	155.04	-182.7	-359.6	244.6	231.2	13.37	18.295			
2,900.0	2,819.0	2,888.8	2,853.0	12.6	9.2	155.15	-190.6	-374.5	255.0	241.2	13.86	18.397			
3,000.0	2,915.6	2,988.2	2,951.1	13.1	9.5	155.25	-198.6	-389.4	265.5	251.1	14.35	18.492			
3,100.0	3,012.2	3,087.7	3,049.1	13.6	9.9	155.34	-206.5	-404.2	275.9	261.0	14.85	18.581			
3,200.0	3,108.8	3,187.2	3,147.1	14.0	10.2	155.42	-214.4	-419.1	286.3	271.0	15.34	18.665			
3,300.0	3,205.3	3,286.6	3,245.1	14.5	10.6	155.50	-222.4	-434.0	296.7	280.9	15.83	18.745			
3,400.0	3,301.9	3,386.1	3,343.1	15.0	10.9	155.57	-230.3	-448.8	307.2	290.8	16.32	18.816			
3,500.0	3,398.5	3,485.5	3,441.1	15.5	11.2	155.64	-238.3	-463.7	317.6	300.8	16.82	18.885			
3,600.0	3,495.1	3,585.0	3,539.1	16.0	11.6	155.70	-246.2	-478.6	328.0	310.7	17.31	18.951			
3,700.0	3,591.7	3,684.4	3,637.2	16.5	11.9	155.76	-254.1	-493.4	338.5	320.7	17.80	19.012			
3,800.0	3,688.2	3,783.9	3,735.2	17.0	12.3	155.81	-262.1	-508.3	348.9	330.6	18.29	19.071			
3,900.0	3,784.8	3,883.3	3,833.2	17.5	12.6	155.87	-270.0	-523.2	359.3	340.5	18.79	19.126			
4,000.0	3,881.4	3,982.8	3,931.2	18.0	13.0	155.92	-278.0	-538.0	369.8	350.5	19.28	19.178			
4,100.0	3,978.0	4,082.2	4,029.2	18.5	13.3	155.96	-285.9	-552.9	380.2	360.4	19.77	19.228			
4,200.0	4,074.5	4,181.7	4,127.2	19.0	13.7	156.01	-293.9	-567.7	390.6	370.3	20.26	19.275			
4,300.0	4,171.1	4,281.1	4,225.3	19.5	14.0	156.05	-301.8	-582.6	401.0	380.3	20.76	19.321			
4,400.0	4,267.7	4,380.6	4,323.3	20.0	14.3	156.09	-309.7	-597.5	411.5	390.2	21.25	19.364			
4,500.0	4,364.3	4,480.1	4,421.3	20.4	14.7	156.13	-317.7	-612.3	421.9	400.2	21.74	19.405			
4,600.0	4,460.9	4,579.5	4,519.3	20.9	15.0	156.16	-325.6	-627.2	432.3	410.1	22.24	19.444			
4,700.0	4,557.4	4,679.0	4,617.3	21.4	15.4	156.20	-333.6	-642.1	442.8	420.0	22.73	19.481			
4,800.0	4,654.0	4,778.4	4,715.3	21.9	15.7	156.23	-341.5	-656.9	453.2	430.0	23.22	19.517			
4,900.0	4,750.6	4,877.9	4,813.4	22.4	16.1	156.26	-349.4	-671.8	463.6	439.9	23.71	19.552			
5,000.0	4,847.2	4,977.3	4,911.4	22.9	16.4	156.29	-357.4	-686.7	474.1	449.9	24.21	19.585			
5,100.0	4,943.8	5,076.8	5,009.4	23.4	16.7	156.32	-365.3	-701.5	484.5	459.8	24.70	19.617			

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

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well HMU Federal 26-8B1
Project:	Mamm Creek	TVD Reference:	WELL @ 7250.0ft (Original Well Elev)
Reference Site:	(D25W)	MD Reference:	WELL @ 7250.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	HMU Federal 26-8B1	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 #2	Offset TVD Reference:	Offset Datum

Offset Design (D25W) - HMU Federal 26-1D - DD - Plan #2													Offset Site Error: 0.0 ft
Survey Program: 0-MWD													Offset Well Error: 0.0 ft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre +N/-S	+E/-W	Between Centres	Between Ellipses	Total Uncertainty Axis	Separation Factor	
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	(ft)	(ft)	(ft)	(ft)			
5,200.0	5,040.3	5,176.2	5,107.4	23.9	17.1	156.35	-373.3	-716.4	494.9	469.7	25.19	19.647	

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well HMU Federal 26-8B1
Project:	Mamm Creek	TVD Reference:	WELL @ 7250.0ft (Original Well Elev)
Reference Site:	(D25W)	MD Reference:	WELL @ 7250.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	HMU Federal 26-8B1	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 #2	Offset TVD Reference:	Offset Datum

Offset Design (D25W) - HMU Fee 23-16B1 - DD - Plan #1													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Total Uncertainty Axis	Separation Factor		
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)				
0.0	0.0	0.0	0.0	0.0	0.0	-17.25	56.9	-17.7	59.6					
100.0	100.0	100.0	100.0	0.1	0.1	-17.25	56.9	-17.7	59.6	59.3	0.27	218.849		
200.0	200.0	200.0	200.0	0.3	0.3	-17.25	56.9	-17.7	59.6	59.0	0.62	95.900	CC, ES	
300.0	300.0	297.1	297.1	0.5	0.5	115.45	58.7	-19.4	63.0	62.0	0.97	64.646		
400.0	399.6	393.6	393.2	0.7	0.7	117.93	64.0	-24.4	73.2	71.8	1.36	53.686		
500.0	498.8	488.5	487.4	1.0	1.0	120.73	72.7	-32.6	90.4	88.5	1.81	49.798		
600.0	597.1	581.3	578.8	1.4	1.3	123.09	84.5	-43.7	114.4	112.1	2.34	48.814	SF	
701.1	695.3	672.4	667.6	1.8	1.7	124.81	99.2	-57.5	145.6	142.6	2.97	49.060		
800.0	790.9	759.0	751.0	2.3	2.1	126.21	116.0	-73.4	181.1	177.4	3.63	49.929		
900.0	887.5	844.2	832.1	2.8	2.6	126.43	135.3	-91.5	220.1	215.8	4.32	50.952		
1,000.0	984.0	933.8	916.4	3.2	3.2	126.17	157.3	-112.3	261.3	256.3	5.05	51.710		
1,100.0	1,080.6	1,024.9	1,002.1	3.7	3.7	125.97	179.9	-133.4	302.6	296.8	5.80	52.172		
1,200.0	1,177.2	1,116.0	1,087.8	4.2	4.3	125.81	202.4	-154.6	343.8	337.2	6.55	52.485		
1,300.0	1,273.8	1,207.1	1,173.5	4.7	4.9	125.69	224.9	-175.8	385.0	377.7	7.31	52.707		
1,400.0	1,370.4	1,298.2	1,259.2	5.2	5.4	125.60	247.4	-197.0	426.3	418.2	8.06	52.870		
1,500.0	1,466.9	1,389.3	1,344.8	5.7	6.0	125.52	269.9	-218.2	467.5	458.7	8.82	52.992		

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well HMU Federal 26-8B1
Project:	Mamm Creek	TVD Reference:	WELL @ 7250.0ft (Original Well Elev)
Reference Site:	(D25W)	MD Reference:	WELL @ 7250.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	HMU Federal 26-8B1	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 #2	Offset TVD Reference:	Offset Datum

Offset Design (D25W) - HMU Fee 23-16B2 - DD - Plan #1													Offset Site Error:	0.0 ft
Survey Program:		0-MWD											Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor		
0.0	0.0	0.0	0.0	0.0	0.0	-14.83	41.5	-11.0	42.9					
100.0	100.0	100.0	100.0	0.1	0.1	-14.83	41.5	-11.0	42.9	42.6	0.27	157.608		
200.0	200.0	200.0	200.0	0.3	0.3	-14.83	41.5	-11.0	42.9	42.3	0.62	69.064	CC, ES	
300.0	300.0	300.0	300.0	0.5	0.5	119.83	41.5	-11.0	44.2	43.2	0.98	45.215		
400.0	399.6	399.6	399.6	0.7	0.7	127.77	41.5	-11.0	48.5	47.2	1.35	35.899		
500.0	498.8	498.8	498.8	1.0	0.8	137.89	41.5	-11.0	57.5	55.8	1.74	33.068	SF	
600.0	597.1	595.5	595.5	1.4	1.0	145.49	43.0	-12.8	73.1	71.0	2.12	34.426		
701.1	695.3	692.0	691.7	1.8	1.2	149.00	47.8	-18.3	96.2	93.7	2.55	37.766		
800.0	790.9	785.3	784.2	2.3	1.4	149.83	55.3	-27.1	123.0	120.0	3.02	40.689		
900.0	887.5	878.5	876.0	2.8	1.7	148.69	65.8	-39.4	151.8	148.2	3.59	42.336		
1,000.0	984.0	970.2	965.5	3.2	2.1	146.56	79.0	-54.7	182.5	178.3	4.24	43.079		
1,100.0	1,080.6	1,060.2	1,052.2	3.7	2.5	143.97	94.6	-72.9	215.4	210.5	4.97	43.353		
1,200.0	1,177.2	1,149.3	1,136.9	4.2	3.0	141.20	112.5	-93.9	250.7	245.0	5.75	43.577		
1,300.0	1,273.8	1,241.9	1,224.6	4.7	3.5	138.79	131.9	-116.5	287.1	280.5	6.57	43.679		
1,400.0	1,370.4	1,334.4	1,312.2	5.2	4.0	136.93	151.4	-139.1	323.8	316.4	7.39	43.819		
1,500.0	1,466.9	1,427.0	1,399.8	5.7	4.5	135.44	170.8	-161.8	360.7	352.5	8.20	43.970		
1,600.0	1,563.5	1,519.5	1,487.4	6.2	5.1	134.23	190.2	-184.4	397.9	388.8	9.02	44.124		
1,700.0	1,660.1	1,612.1	1,575.1	6.7	5.6	133.22	209.6	-207.0	435.1	425.3	9.83	44.274		
1,800.0	1,756.7	1,704.7	1,662.7	7.2	6.2	132.37	229.0	-229.7	472.4	461.8	10.64	44.417		

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well HMU Federal 26-8B1
Project:	Mamm Creek	TVD Reference:	WELL @ 7250.0ft (Original Well Elev)
Reference Site:	(D25W)	MD Reference:	WELL @ 7250.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	HMU Federal 26-8B1	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 #2	Offset TVD Reference:	Offset Datum

Offset Design (D25W) - HMU Fee 23-16C1 - DD - Plan #1													Offset Site Error: 0.0 ft			
Survey Program: 0-MWD															Offset Well Error: 0.0 ft	
Reference		Offset		Semi Major Axis			Distance									
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning			
0.0	0.0	0.0	0.0	0.0	0.0	-24.95	30.4	-14.1	33.5							
100.0	100.0	100.0	100.0	0.1	0.1	-24.95	30.4	-14.1	33.5	33.2	0.27	122.959				
200.0	200.0	200.0	200.0	0.3	0.3	-24.95	30.4	-14.1	33.5	32.9	0.62	53.881	CC, ES			
300.0	300.0	298.6	298.6	0.5	0.5	107.87	31.4	-16.5	36.2	35.2	0.98	36.920				
400.0	399.6	396.8	396.5	0.7	0.7	110.47	34.4	-23.4	44.3	42.9	1.39	31.882				
500.0	498.8	494.1	492.9	1.0	1.0	113.08	39.3	-34.9	57.9	56.0	1.89	30.678	SF			
600.0	597.1	590.0	587.3	1.4	1.3	115.06	46.1	-50.6	77.0	74.5	2.50	30.763				
701.1	695.3	687.7	682.8	1.8	1.7	117.21	54.3	-69.5	100.6	97.4	3.21	31.313				
800.0	790.9	783.4	776.3	2.3	2.1	119.96	62.3	-88.1	125.3	121.3	3.94	31.812				
900.0	887.5	880.1	870.9	2.8	2.5	121.82	70.4	-106.9	150.4	145.7	4.68	32.141				
1,000.0	984.0	976.8	965.4	3.2	2.9	123.16	78.5	-125.7	175.5	170.1	5.42	32.373				
1,100.0	1,080.6	1,073.5	1,059.9	3.7	3.3	124.15	86.6	-144.5	200.8	194.6	6.17	32.546				
1,200.0	1,177.2	1,170.2	1,154.4	4.2	3.7	124.93	94.8	-163.3	226.1	219.2	6.92	32.679				
1,300.0	1,273.8	1,267.0	1,248.9	4.7	4.1	125.55	102.9	-182.1	251.4	243.7	7.67	32.786				
1,400.0	1,370.4	1,363.7	1,343.4	5.2	4.5	126.05	111.0	-200.9	276.8	268.3	8.42	32.873				
1,500.0	1,466.9	1,460.4	1,437.9	5.7	4.9	126.47	119.1	-219.7	302.1	293.0	9.17	32.945				
1,600.0	1,563.5	1,557.1	1,532.5	6.2	5.3	126.83	127.2	-238.5	327.5	317.6	9.92	33.007				
1,700.0	1,660.1	1,653.8	1,627.0	6.7	5.7	127.13	135.3	-257.3	352.9	342.2	10.67	33.059				
1,800.0	1,756.7	1,750.5	1,721.5	7.2	6.1	127.39	143.5	-276.1	378.3	366.9	11.43	33.105				
1,900.0	1,853.2	1,847.2	1,816.0	7.6	6.5	127.62	151.6	-294.9	403.7	391.5	12.18	33.145				
2,000.0	1,949.8	1,943.9	1,910.5	8.1	6.9	127.83	159.7	-313.7	429.1	416.2	12.93	33.180				
2,100.0	2,046.4	2,040.6	2,005.0	8.6	7.3	128.01	167.8	-332.5	454.5	440.8	13.69	33.211				
2,200.0	2,143.0	2,137.3	2,099.6	9.1	7.7	128.17	175.9	-351.3	479.9	465.5	14.44	33.239				

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well HMU Federal 26-8B1
Project:	Mamm Creek	TVD Reference:	WELL @ 7250.0ft (Original Well Elev)
Reference Site:	(D25W)	MD Reference:	WELL @ 7250.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	HMU Federal 26-8B1	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 #2	Offset TVD Reference:	Offset Datum

Offset Design (D25W) - HMU Fee 23-16D - DD - Plan #1													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis		Distance		Total		Separation		Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Uncertainty Axis	Factor		
0.0	0.0	0.0	0.0	0.0	0.0	-24.95	45.5	-21.2	50.2					
100.0	100.0	100.0	100.0	0.1	0.1	-24.95	45.5	-21.2	50.2	49.9	0.27	184.439		
200.0	200.0	200.0	200.0	0.3	0.3	-24.95	45.5	-21.2	50.2	49.6	0.62	80.822 CC, ES		
300.0	300.0	298.7	298.6	0.5	0.5	106.95	45.8	-23.7	52.3	51.3	0.98	53.208		
400.0	399.6	396.6	396.3	0.7	0.7	107.69	46.6	-31.2	58.5	57.1	1.40	41.902		
500.0	498.8	492.7	491.6	1.0	0.9	110.46	50.5	-41.8	70.8	68.9	1.88	37.597		
600.0	597.1	586.8	584.6	1.4	1.3	114.18	58.1	-54.9	89.9	87.5	2.45	36.679 SF		
701.1	695.3	681.1	676.8	1.8	1.6	117.75	69.2	-70.5	116.2	113.1	3.11	37.371		
800.0	790.9	775.5	769.1	2.3	2.0	121.23	81.3	-86.8	144.7	140.9	3.78	38.232		
900.0	887.5	871.0	862.4	2.8	2.4	123.58	93.4	-103.3	173.7	169.2	4.47	38.842		
1,000.0	984.0	966.5	955.6	3.2	2.7	125.26	105.5	-119.7	203.0	197.8	5.17	39.287		
1,100.0	1,080.6	1,062.0	1,048.9	3.7	3.1	126.52	117.7	-136.2	232.3	226.5	5.86	39.626		
1,200.0	1,177.2	1,157.5	1,142.2	4.2	3.5	127.50	129.8	-152.6	261.8	255.2	6.56	39.892		
1,300.0	1,273.8	1,253.0	1,235.4	4.7	3.9	128.28	142.0	-169.1	291.3	284.0	7.26	40.106		
1,400.0	1,370.4	1,348.4	1,328.7	5.2	4.3	128.92	154.1	-185.5	320.8	312.8	7.96	40.282		
1,500.0	1,466.9	1,443.9	1,422.0	5.7	4.7	129.44	166.3	-202.0	350.4	341.7	8.67	40.430		
1,600.0	1,563.5	1,539.4	1,515.3	6.2	5.1	129.89	178.4	-218.4	380.0	370.6	9.37	40.555		
1,700.0	1,660.1	1,634.9	1,608.5	6.7	5.5	130.27	190.5	-234.8	409.6	399.5	10.07	40.663		
1,800.0	1,756.7	1,730.4	1,701.8	7.2	5.9	130.60	202.7	-251.3	439.2	428.4	10.78	40.757		
1,900.0	1,853.2	1,825.8	1,795.1	7.6	6.3	130.89	214.8	-267.7	468.8	457.3	11.48	40.839		
2,000.0	1,949.8	1,921.3	1,888.3	8.1	6.7	131.15	227.0	-284.2	498.5	486.3	12.18	40.911		

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well HMU Federal 26-8B1
Project:	Mamm Creek	TVD Reference:	WELL @ 7250.0ft (Original Well Elev)
Reference Site:	(D25W)	MD Reference:	WELL @ 7250.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	HMU Federal 26-8B1	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 #2	Offset TVD Reference:	Offset Datum

Offset Design (D25W) - HMU Fee 25-6B - DD - Plan #1													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor		
0.0	0.0	0.0	0.0	0.0	0.0	54.22	143.7	199.3	245.7					
100.0	100.0	100.0	100.0	0.1	0.1	54.22	143.7	199.3	245.7	245.4	0.27	902.399 CC		
200.0	200.0	200.0	200.0	0.3	0.3	54.22	143.7	199.3	245.7	245.1	0.62	395.434 ES		
300.0	300.0	308.1	308.0	0.5	0.5	-173.60	140.6	199.3	246.7	245.7	0.99	248.813		
400.0	399.6	409.2	408.8	0.7	0.7	-172.21	132.5	199.7	250.2	248.9	1.37	182.409		
500.0	498.8	500.0	499.0	1.0	1.0	-170.28	122.9	203.6	261.0	259.2	1.77	147.079		
600.0	597.1	591.5	589.5	1.4	1.2	-167.87	111.6	211.4	279.9	277.6	2.23	125.271		
701.1	695.3	679.6	675.9	1.8	1.6	-165.29	99.0	222.7	307.3	304.5	2.74	112.069		
800.0	790.9	762.8	756.8	2.3	1.9	-162.98	85.8	236.8	339.8	336.5	3.30	103.031		
900.0	887.5	852.2	843.1	2.8	2.3	-160.55	70.4	254.5	375.2	371.3	3.91	95.914		
1,000.0	984.0	944.5	932.1	3.2	2.8	-158.45	54.5	273.0	411.4	406.8	4.55	90.373		
1,100.0	1,080.6	1,036.8	1,021.1	3.7	3.2	-156.69	38.6	291.4	447.9	442.7	5.20	86.134		
1,200.0	1,177.2	1,129.0	1,110.1	4.2	3.7	-155.19	22.7	309.8	484.7	478.9	5.85	82.807 SF		

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well HMU Federal 26-8B1
Project:	Mamm Creek	TVD Reference:	WELL @ 7250.0ft (Original Well Elev)
Reference Site:	(D25W)	MD Reference:	WELL @ 7250.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	HMU Federal 26-8B1	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 #2	Offset TVD Reference:	Offset Datum

Offset Design (D25W) - HMU Fee 25-6D - DD - Plan #1													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor		
0.0	0.0	0.0	0.0	0.0	0.0	-8.48	26.3	-3.9	26.6					
100.0	100.0	100.0	100.0	0.1	0.1	-8.48	26.3	-3.9	26.6	26.3	0.27	97.684		
200.0	200.0	200.0	200.0	0.3	0.3	-8.48	26.3	-3.9	26.6	26.0	0.62	42.806 CC, ES		
300.0	300.0	300.0	299.9	0.5	0.5	132.95	26.3	-1.3	28.1	27.1	0.98	28.535		
400.0	399.6	400.1	399.8	0.7	0.7	154.71	24.2	5.5	33.9	32.5	1.37	24.708 SF		
500.0	498.8	498.8	497.8	1.0	1.0	175.89	18.0	15.3	47.0	45.3	1.78	26.488		
600.0	597.1	595.3	592.9	1.4	1.3	-169.27	8.1	27.7	69.1	66.8	2.23	31.020		
701.1	695.3	689.9	685.4	1.8	1.7	-159.72	-5.4	42.7	99.6	96.8	2.77	36.003		
800.0	790.9	780.0	772.4	2.3	2.1	-153.54	-21.7	59.5	134.5	131.1	3.40	39.561		
900.0	887.5	868.9	857.0	2.8	2.6	-148.55	-41.0	78.4	172.5	168.4	4.11	41.982		
1,000.0	984.0	955.1	937.9	3.2	3.2	-144.36	-62.7	98.9	213.2	208.4	4.85	43.972		
1,100.0	1,080.6	1,044.4	1,020.9	3.7	3.8	-140.92	-86.9	121.4	255.9	250.3	5.62	45.511		
1,200.0	1,177.2	1,133.9	1,104.1	4.2	4.4	-138.43	-111.2	144.0	299.1	292.7	6.39	46.779		
1,300.0	1,273.8	1,223.4	1,187.2	4.7	5.0	-136.58	-135.4	166.5	342.7	335.5	7.16	47.833		
1,400.0	1,370.4	1,313.0	1,270.4	5.2	5.6	-135.13	-159.7	189.1	386.5	378.5	7.93	48.718		
1,500.0	1,466.9	1,402.5	1,353.5	5.7	6.2	-133.98	-183.9	211.6	430.4	421.7	8.70	49.471		
1,600.0	1,563.5	1,492.0	1,436.7	6.2	6.8	-133.05	-208.2	234.2	474.5	465.0	9.47	50.116		

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well HMU Federal 26-8B1
Project:	Mamm Creek	TVD Reference:	WELL @ 7250.0ft (Original Well Elev)
Reference Site:	(D25W)	MD Reference:	WELL @ 7250.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	HMU Federal 26-8B1	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 #2	Offset TVD Reference:	Offset Datum

Offset Design (D25W) - MCU 26-8C (Existing) - Excel Drilling - Surveys													Offset Site Error:	0.0 ft
Survey Program: 264-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis		Distance		Total		Separation		Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Uncertainty Axis			
0.0	0.0	0.0	0.0	0.0	0.0	36.93	98.1	73.8	122.8					
100.0	100.0	99.5	99.5	0.1	0.2	36.89	98.4	73.8	123.0	122.7	0.30	416.128 ES		
200.0	200.0	198.9	198.9	0.3	0.3	36.79	99.0	74.0	123.6	123.0	0.63	196.407		
300.0	300.0	298.4	298.3	0.5	0.5	168.49	100.1	74.4	127.3	126.3	0.97	131.491		
400.0	399.6	397.5	397.5	0.7	0.7	168.73	101.7	74.5	136.4	135.1	1.32	103.662		
500.0	498.8	494.8	494.7	1.0	0.8	169.11	104.0	74.6	151.1	149.4	1.66	91.038		
600.0	597.1	591.2	591.0	1.4	1.0	169.65	107.5	75.6	172.4	170.4	2.00	86.219		
701.1	695.3	689.2	689.0	1.8	1.2	170.49	110.6	76.9	198.9	196.6	2.34	85.054		
800.0	790.9	783.3	783.1	2.3	1.4	171.59	112.9	78.9	227.4	224.7	2.68	84.947		
900.0	887.5	883.0	882.7	2.8	1.5	172.69	114.3	81.4	255.7	252.7	3.02	84.615		
1,000.0	984.0	988.3	988.1	3.2	1.7	173.74	113.4	82.6	281.5	278.1	3.38	83.393		
1,100.0	1,080.6	1,087.7	1,087.4	3.7	1.9	174.45	111.4	82.0	305.5	301.8	3.72	82.103		
1,200.0	1,177.2	1,192.0	1,191.6	4.2	2.1	175.09	108.4	80.5	328.4	324.4	4.07	80.611		
1,300.0	1,273.8	1,300.5	1,299.9	4.7	2.2	175.90	102.0	77.8	348.5	344.1	4.43	78.614		
1,400.0	1,370.4	1,410.8	1,409.6	5.2	2.4	176.99	91.5	74.2	365.5	360.7	4.79	76.228		
1,500.0	1,466.9	1,526.0	1,523.7	5.7	2.7	178.25	76.3	68.5	378.9	373.7	5.17	73.227		
1,600.0	1,563.5	1,647.4	1,642.8	6.2	3.0	179.68	55.1	58.6	387.1	381.5	5.58	69.413		
1,700.0	1,660.1	1,765.3	1,757.4	6.7	3.4	-179.57	33.5	42.0	390.4	384.4	5.97	65.393		
1,800.0	1,756.7	1,888.1	1,875.4	7.2	3.9	-179.44	10.2	17.3	388.7	382.3	6.36	61.108		
1,900.0	1,853.2	2,008.3	1,988.8	7.6	4.5	-179.49	-16.0	-12.9	381.0	374.2	6.75	56.405		
2,000.0	1,949.8	2,116.5	2,089.3	8.1	5.1	-179.25	-43.6	-41.8	369.3	362.2	7.13	51.775		
2,100.0	2,046.4	2,216.6	2,181.9	8.6	5.7	-178.61	-71.8	-67.7	356.7	349.2	7.51	47.477		
2,200.0	2,143.0	2,315.5	2,273.2	9.1	6.3	-177.67	-100.7	-92.3	344.1	336.2	7.91	43.485		
2,300.0	2,239.6	2,412.8	2,363.0	9.6	7.0	-176.47	-130.0	-115.6	331.7	323.4	8.34	39.776		
2,400.0	2,336.1	2,508.7	2,451.8	10.1	7.6	-175.16	-158.6	-137.8	320.4	311.6	8.80	36.396		
2,500.0	2,432.7	2,605.8	2,541.9	10.6	8.2	-173.58	-187.8	-159.1	310.1	300.8	9.33	33.242		
2,600.0	2,529.3	2,702.9	2,632.1	11.1	8.8	-171.81	-217.1	-179.8	300.6	290.7	9.93	30.269		
2,700.0	2,625.9	2,800.4	2,723.0	11.6	9.5	-169.89	-246.2	-199.8	292.2	281.6	10.61	27.545		
2,800.0	2,722.5	2,900.5	2,816.6	12.1	10.1	-168.22	-274.5	-221.4	284.2	272.9	11.32	25.119		
2,900.0	2,819.0	2,999.0	2,908.7	12.6	10.7	-166.58	-301.9	-243.0	276.3	264.2	12.06	22.910		
3,000.0	2,915.6	3,102.0	3,005.1	13.1	11.4	-165.01	-329.6	-266.3	268.5	255.6	12.86	20.874		
3,100.0	3,012.2	3,202.1	3,098.2	13.6	12.1	-163.20	-357.9	-289.7	259.6	245.8	13.77	18.850		
3,200.0	3,108.8	3,299.4	3,188.9	14.0	12.7	-161.24	-385.5	-311.9	251.3	236.6	14.78	17.011		
3,300.0	3,205.3	3,398.3	3,281.1	14.5	13.3	-159.04	-413.7	-333.8	244.0	228.1	15.93	15.320		
3,400.0	3,301.9	3,498.9	3,374.7	15.0	14.0	-156.52	-443.0	-356.1	236.9	219.6	17.26	13.722		
3,500.0	3,398.5	3,599.6	3,468.2	15.5	14.7	-153.86	-472.4	-379.1	229.5	210.8	18.72	12.264		
3,600.0	3,495.1	3,696.4	3,558.3	16.0	15.3	-151.30	-500.1	-401.1	222.9	202.7	20.19	11.037		
3,700.0	3,591.7	3,796.1	3,651.6	16.5	16.0	-148.95	-526.9	-423.8	217.2	195.5	21.65	10.030		
3,800.0	3,688.2	3,895.3	3,744.8	17.0	16.6	-146.94	-552.0	-446.7	211.9	188.8	23.03	9.199		
3,900.0	3,784.8	3,997.3	3,840.6	17.5	17.2	-144.93	-577.4	-470.9	206.1	181.7	24.47	8.422		
4,000.0	3,881.4	4,097.6	3,934.5	18.0	17.9	-142.59	-603.2	-495.2	200.1	174.0	26.09	7.672		
4,100.0	3,978.0	4,198.9	4,028.7	18.5	18.6	-139.76	-630.3	-520.6	193.5	165.6	27.93	6.928		
4,200.0	4,074.5	4,297.3	4,120.3	19.0	19.2	-136.96	-656.2	-545.4	187.2	157.4	29.78	6.287		
4,300.0	4,171.1	4,396.0	4,212.5	19.5	19.9	-134.09	-681.9	-569.6	182.1	150.4	31.68	5.748		
4,400.0	4,267.7	4,495.6	4,305.2	20.0	20.6	-130.79	-708.5	-594.2	177.4	143.6	33.76	5.255		
4,500.0	4,364.3	4,593.6	4,396.6	20.4	21.2	-127.42	-734.6	-618.1	173.6	137.7	35.85	4.842		
4,600.0	4,460.9	4,689.8	4,486.2	20.9	21.9	-123.63	-761.6	-640.6	171.8	133.7	38.05	4.514		
4,612.9	4,473.3	4,702.1	4,497.7	21.0	21.9	-123.12	-765.1	-643.4	171.7	133.4	38.33	4.480		
4,700.0	4,557.4	4,786.8	4,576.6	21.4	22.5	-119.63	-789.7	-661.6	172.7	132.5	40.24	4.292		
4,800.0	4,654.0	4,886.4	4,669.5	21.9	23.2	-115.60	-818.8	-682.7	174.9	132.6	42.37	4.129		
4,900.0	4,750.6	4,987.2	4,763.3	22.4	23.8	-111.44	-848.4	-704.9	177.5	133.1	44.40	3.997		
5,000.0	4,847.2	5,086.9	4,856.4	22.9	24.5	-107.80	-876.4	-727.1	179.9	133.7	46.19	3.895		

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

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well HMU Federal 26-8B1
Project:	Mamm Creek	TVD Reference:	WELL @ 7250.0ft (Original Well Elev)
Reference Site:	(D25W)	MD Reference:	WELL @ 7250.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	HMU Federal 26-8B1	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 #2	Offset TVD Reference:	Offset Datum

Offset Design (D25W) - MCU 26-8C (Existing) - Excel Drilling - Surveys													Offset Site Error:	0.0 ft
Survey Program: 264-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance				Total Uncertainty Axis	Separation Factor	Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)				
5,100.0	4,943.8	5,186.8	4,949.4	23.4	25.2	-104.06	-905.0	-749.7	183.2	135.3	47.86	3.828		
5,200.0	5,040.3	5,284.5	5,040.6	23.9	25.8	-100.71	-932.5	-771.5	187.1	137.7	49.32	3.793 SF		
5,300.0	5,136.9	5,383.8	5,133.4	24.4	26.5	-97.60	-960.6	-792.8	192.4	141.8	50.64	3.800		
5,400.0	5,233.5	5,479.2	5,222.6	24.9	27.1	-94.82	-987.8	-812.8	198.8	147.0	51.82	3.837		
5,500.0	5,330.1	5,576.8	5,313.6	25.4	27.7	-92.02	-1,017.3	-832.3	207.6	154.7	52.89	3.925		
5,600.0	5,426.6	5,678.9	5,409.4	25.9	28.4	-89.74	-1,046.9	-851.8	216.4	162.5	53.87	4.017		
5,700.0	5,523.2	5,778.3	5,503.4	26.4	28.9	-88.31	-1,073.5	-869.7	224.5	169.7	54.81	4.097		
5,800.0	5,619.8	5,878.9	5,598.0	26.9	29.6	-86.55	-1,101.4	-889.1	232.8	177.0	55.75	4.175		
5,900.0	5,716.4	5,981.4	5,693.6	27.3	30.3	-84.13	-1,130.7	-911.9	240.2	183.6	56.57	4.246		
6,000.0	5,813.0	6,078.3	5,783.9	27.8	30.9	-81.98	-1,158.5	-933.5	248.0	190.7	57.29	4.329		
6,100.0	5,909.5	6,176.9	5,876.0	28.3	31.6	-80.08	-1,186.9	-954.6	256.8	198.8	57.98	4.429		
6,200.0	6,006.1	6,280.5	5,972.9	28.8	32.2	-78.32	-1,215.7	-976.9	264.9	206.2	58.65	4.516		
6,284.8	6,088.0	6,364.9	6,052.4	29.2	32.8	-77.22	-1,238.2	-994.3	271.3	212.1	59.23	4.581		
6,300.0	6,102.7	6,380.5	6,067.1	29.3	32.8	-77.08	-1,242.2	-997.4	272.5	213.2	59.34	4.592		
6,400.0	6,199.8	6,486.7	6,168.0	29.7	33.4	-76.00	-1,268.4	-1,017.4	279.9	219.9	59.98	4.666		
6,500.0	6,297.7	6,592.3	6,269.3	30.1	34.0	-74.55	-1,290.5	-1,037.8	284.7	224.3	60.38	4.715		
6,600.0	6,396.3	6,692.1	6,365.1	30.4	34.5	-72.62	-1,311.3	-1,056.8	290.7	230.2	60.49	4.806		
6,700.0	6,495.4	6,789.4	6,458.2	30.7	35.1	-70.05	-1,331.4	-1,076.5	297.7	237.5	60.22	4.943		
6,800.0	6,594.9	6,881.1	6,545.3	30.9	35.6	-66.93	-1,352.3	-1,096.2	308.4	248.9	59.52	5.181		
6,900.0	6,694.7	6,972.0	6,630.9	31.0	36.2	-63.39	-1,375.0	-1,116.4	323.7	265.3	58.39	5.544		
7,000.0	6,794.6	7,064.5	6,717.8	31.1	36.8	-59.67	-1,399.4	-1,137.0	343.6	286.7	56.89	6.039		
7,036.4	6,831.0	7,099.0	6,750.2	31.1	37.0	170.02	-1,408.5	-1,144.4	351.7	295.4	56.28	6.249		
7,100.0	6,894.6	7,162.2	6,809.7	31.2	37.4	172.58	-1,424.9	-1,157.7	366.4	311.4	55.04	6.657		
7,200.0	6,994.6	7,264.9	6,907.3	31.2	37.9	176.09	-1,450.0	-1,177.9	389.3	336.1	53.23	7.314		
7,300.0	7,094.6	7,378.6	7,016.8	31.3	38.5	178.90	-1,474.3	-1,196.1	410.4	358.7	51.72	7.935		
7,400.0	7,194.6	7,485.3	7,121.1	31.4	38.9	-179.37	-1,493.3	-1,208.5	428.3	377.4	50.82	8.426		
7,500.0	7,294.6	7,624.5	7,258.7	31.5	39.2	-178.13	-1,511.2	-1,218.2	441.5	391.3	50.23	8.790		
7,600.0	7,394.6	7,767.5	7,401.5	31.5	39.3	-177.84	-1,515.4	-1,220.5	444.3	394.1	50.25	8.843		
7,700.0	7,494.6	7,872.5	7,506.5	31.6	39.3	-178.00	-1,513.1	-1,219.2	442.1	391.5	50.53	8.749		
7,800.0	7,594.6	7,972.7	7,606.7	31.7	39.3	-178.23	-1,510.4	-1,217.3	439.4	388.5	50.86	8.639		
7,900.0	7,694.6	8,073.1	7,707.0	31.8	39.3	-178.53	-1,507.7	-1,215.0	436.6	385.3	51.23	8.522		
8,000.0	7,794.6	8,172.6	7,806.4	31.8	39.3	-178.84	-1,505.0	-1,212.6	433.8	382.2	51.61	8.406		
8,100.0	7,894.6	8,273.5	7,907.3	31.9	39.3	-179.21	-1,502.1	-1,209.8	430.9	378.9	52.01	8.285		
8,200.0	7,994.6	8,373.1	8,006.8	32.0	39.3	-179.58	-1,499.3	-1,206.9	428.0	375.6	52.43	8.164		
8,300.0	8,094.6	8,472.4	8,106.0	32.1	39.3	-179.90	-1,496.6	-1,204.6	425.3	372.5	52.81	8.053		
8,400.0	8,194.6	8,572.8	8,206.3	32.1	39.3	179.80	-1,493.9	-1,202.3	422.6	369.4	53.19	7.946		
8,500.0	8,294.6	8,673.0	8,306.4	32.2	39.3	179.53	-1,491.0	-1,200.4	419.8	366.2	53.54	7.840		
8,600.0	8,394.6	8,769.7	8,403.1	32.3	39.4	179.33	-1,488.5	-1,198.9	417.2	363.3	53.86	7.746		
8,700.0	8,494.6	8,866.8	8,500.3	32.4	39.4	179.22	-1,487.0	-1,198.2	415.7	361.6	54.12	7.682		
8,800.0	8,594.6	8,970.4	8,603.8	32.5	39.5	179.23	-1,485.3	-1,198.2	414.0	359.7	54.32	7.623		
8,900.0	8,694.6	9,074.3	8,707.7	32.6	39.5	179.28	-1,482.4	-1,198.6	411.3	356.8	54.49	7.547		
9,000.0	8,794.6	9,178.5	8,811.9	32.6	39.5	179.37	-1,478.6	-1,199.3	407.6	353.0	54.65	7.459		
9,100.0	8,894.6	9,280.0	8,913.2	32.7	39.5	179.39	-1,474.0	-1,199.5	403.0	348.2	54.84	7.349		
9,118.6	8,913.2	9,280.0	8,913.2	32.7	39.5	179.39	-1,474.0	-1,199.5	402.6	347.7	54.86	7.339		
9,205.4	9,000.0	9,280.0	8,913.2	32.8	39.5	179.39	-1,474.0	-1,199.5	411.8	356.9	54.95	7.495		
9,300.0	9,094.6	9,280.0	8,913.2	32.9	39.5	179.39	-1,474.0	-1,199.5	441.6	386.5	55.05	8.022		
9,400.0	9,194.6	9,280.0	8,913.2	33.0	39.5	179.39	-1,474.0	-1,199.5	491.2	436.0	55.15	8.906		

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

Cathedral Energy Services

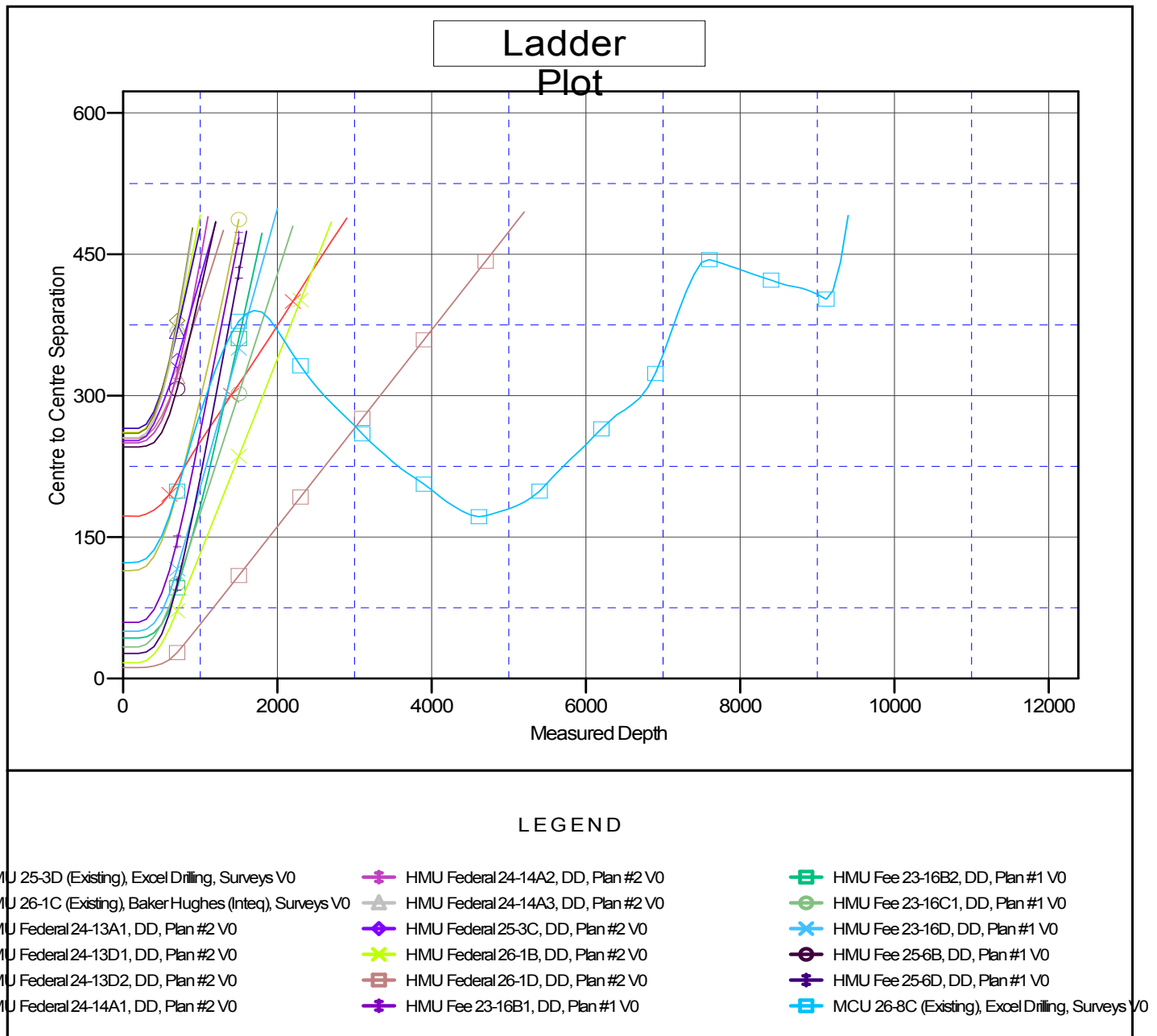
Anticollision Report

Company: EnCana Oil & Gas (USA) Inc
Project: Mamm Creek
Reference Site: (D25W)
Site Error: 0.0ft
Reference Well: HMU Federal 26-8B1
Well Error: 0.0ft
Reference Wellbore: DD
Reference Design: Plan #2

Local Co-ordinate Reference: Well HMU Federal 26-8B1
TVD Reference: WELL @ 7250.0ft (Original Well Elev)
MD Reference: WELL @ 7250.0ft (Original Well Elev)
North Reference: True
Survey Calculation Method: Minimum Curvature
Output errors are at 2.00 sigma
Database: EDM 5000.1 US Multi Users DB
Offset TVD Reference: Offset Datum

Reference Depths are relative to WELL @ 7250.0ft (Original Well Elev)
 Offset Depths are relative to Offset Datum
 Central Meridian is -105.500000 °

Coordinates are relative to: HMU Federal 26-8B1
 Coordinate System is US State Plane 1983, Colorado Central Zone
 Grid Convergence at Surface is: -1.41°



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