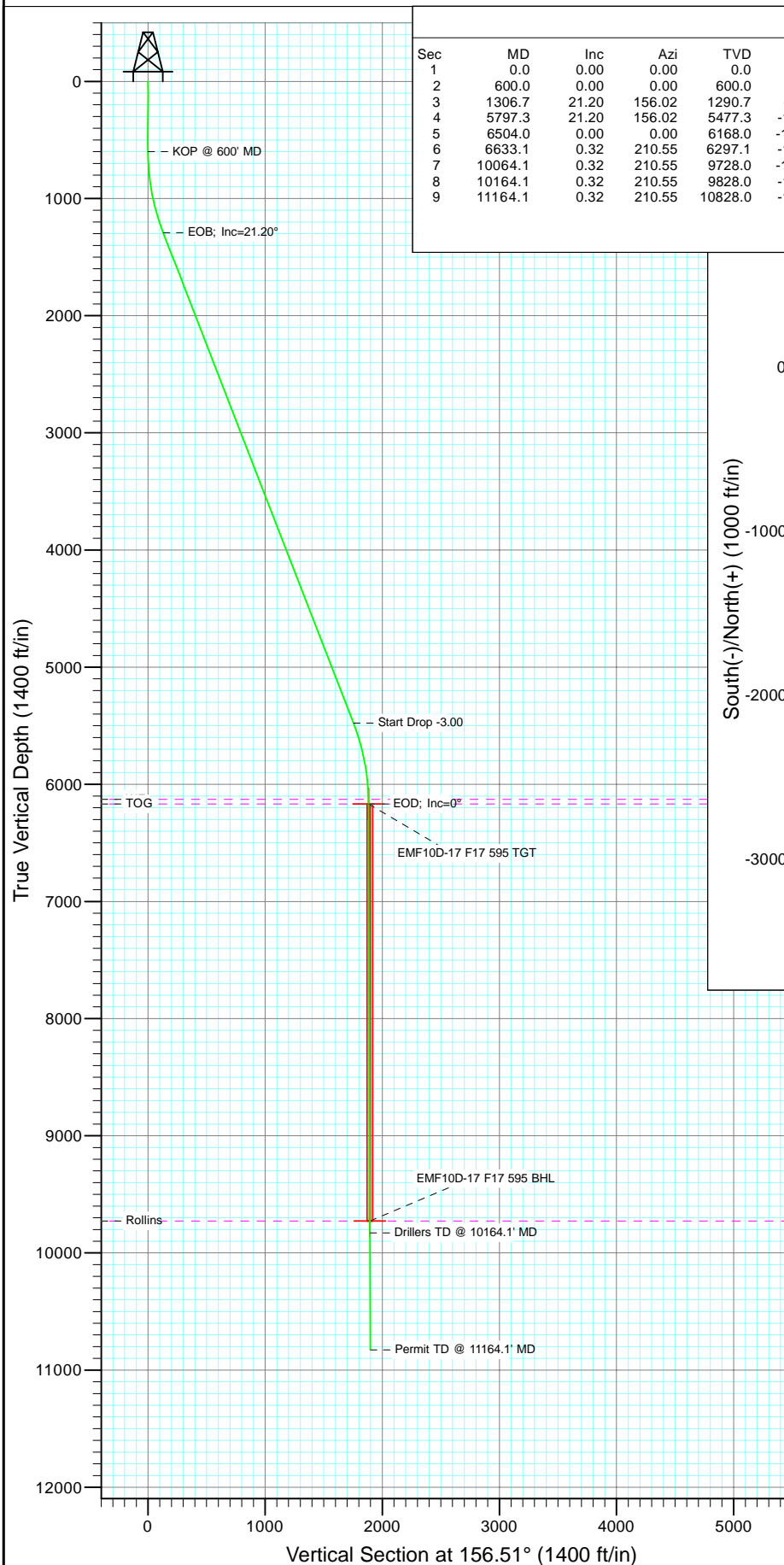


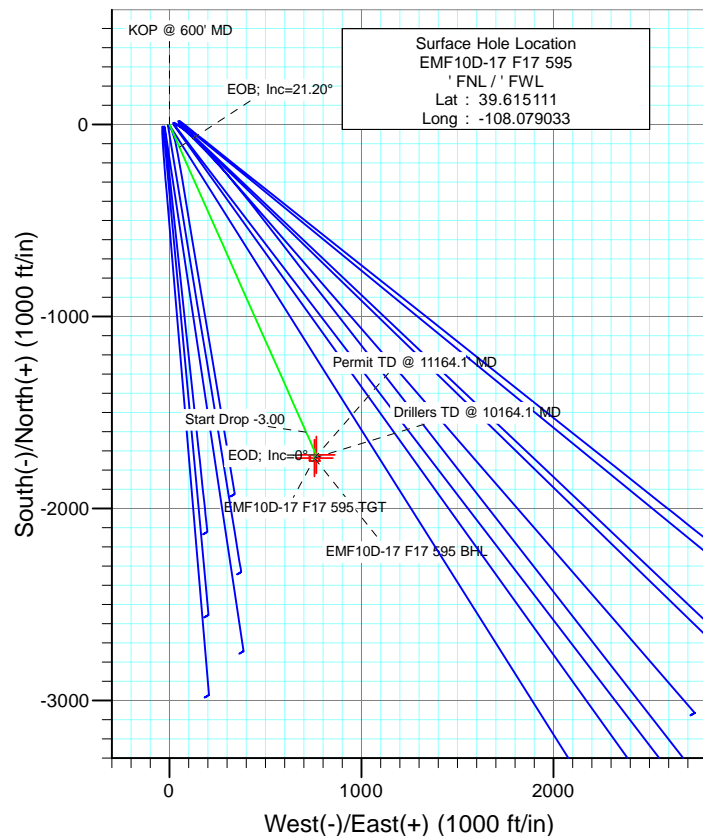


Project: North Piceance
Site: F17 595 Pad
Well: EMF10D-17 F17 595
Wellbore: DD
Design: Plan #5



SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSec	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	600.0	0.00	0.00	600.0	0.0	0.0	0.00	0.00	0.0	
3	1306.7	21.20	156.02	1290.7	-118.1	52.5	3.00	156.02	129.3	
4	5797.3	21.20	156.02	5477.3	-1602.0	712.5	0.00	0.00	1753.3	
5	6504.0	0.00	0.00	6168.0	-1720.1	765.1	3.00	180.00	1882.6	EMF10D-17 F17 595 TGT
6	6633.1	0.32	210.55	6297.1	-1720.5	764.9	0.25	210.55	1882.8	
7	10064.1	0.32	210.55	9728.0	-1737.1	755.1	0.00	0.00	1894.1	EMF10D-17 F17 595 BHL
8	10164.1	0.32	210.55	9828.0	-1737.6	754.8	0.00	0.00	1894.4	
9	11164.1	0.32	210.55	10828.0	-1742.4	751.9	0.00	0.00	1897.8	



FORMATION TOP DETAILS

TVDPath	MDPath	Formation
6128.0	6464.0	WF
6168.0	6504.0	TOG
9728.0	10064.1	Rollins



Azimuths to True North
Magnetic North: 10.48°

Magnetic Field
Strength: 52411.0nT
Dip Angle: 65.85°
Date: 9/2/2010
Model: IGRF200510

Plan #5
EMF10D-17 F17 595
105XXX; LR

KBE 3 @ 6327.0ft
North American Datum 1983
Well EMF10D-17 F17 595, True North

Type	Target	Azimuth	Origin	Type	N/S	E/W	From	TVD
Target	EMF10D-17 F17 595 BHL	156.51	Slot	0.0	0.0	0.0		0.0
Name	TVD	+N/-S	+E/-W	Latitude	Longitude			
EMF10D-17 F17 595 BHL	6168.0	-1720.1	765.1	39.610389	-108.076317			
	9728.0	-1737.1	755.1	39.610342	-108.076353			

Cathedral Energy Services

Planning Report

Database:	EDM 5000.1 US Multi Users DB	Local Co-ordinate Reference:	Well EMF10D-17 F17 595
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	KBE 3 @ 6327.0ft
Project:	North Piceance	MD Reference:	KBE 3 @ 6327.0ft
Site:	F17 595 Pad	North Reference:	True
Well:	EMF10D-17 F17 595	Survey Calculation Method:	Minimum Curvature
Wellbore:	DD		
Design:	Plan #5		

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

Site		F17 595 Pad			
Site Position:		Northing:	1,659,259.22 ft	Latitude:	39.615145
From:	Lat/Long	Easting:	2,273,585.37 ft	Longitude:	-108.078836
Position Uncertainty:	0.0 ft	Slot Radius:	13.200 in	Grid Convergence:	-1.63 °

Well	EMF10D-17 F17 595					
Well Position	+N/-S	0.0 ft	Northing:	1,659,248.53 ft	Latitude:	39.615111
	+E/-W	0.0 ft	Easting:	2,273,529.49 ft	Longitude:	-108.079033
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	6,305.0 ft

Wellbore	DD				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	9/2/2010	10.48	65.85	52,411

Design	Plan #5			
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	156.51

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	
600.0	0.00	0.00	600.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,306.7	21.20	156.02	1,290.7	-118.1	52.5	3.00	3.00	0.00	156.02	
5,797.3	21.20	156.02	5,477.3	-1,602.0	712.5	0.00	0.00	0.00	0.00	
6,504.0	0.00	0.00	6,168.0	-1,720.1	765.1	3.00	-3.00	0.00	180.00	EMF10D-17 F17 595
6,633.1	0.32	210.55	6,297.1	-1,720.5	764.9	0.25	0.25	-115.73	210.55	
10,064.1	0.32	210.55	9,728.0	-1,737.1	755.1	0.00	0.00	0.00	0.00	EMF10D-17 F17 595
10,164.1	0.32	210.55	9,828.0	-1,737.6	754.8	0.00	0.00	0.00	0.00	
11,164.1	0.32	210.55	10,828.0	-1,742.4	751.9	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 EMF10D-17 F17 595
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	KBE 3 @ 6327.0ft
Project:	North Piceance	MD Reference:	KBE 3 @ 6327.0ft
Site:	F17 595 Pad	North Reference:	True
Well:	EMF10D-17 F17 595	Survey Calculation Method:	Minimum Curvature
Wellbore:	DD		
Design:	Plan #5		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Comments / Formations
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	KOP @ 600' MD
700.0	3.00	156.02	700.0	-2.4	1.1	2.6	3.00	3.00	
800.0	6.00	156.02	799.6	-9.6	4.3	10.5	3.00	3.00	
900.0	9.00	156.02	898.8	-21.5	9.6	23.5	3.00	3.00	
1,000.0	12.00	156.02	997.1	-38.1	17.0	41.7	3.00	3.00	
1,100.0	15.00	156.02	1,094.3	-59.5	26.4	65.1	3.00	3.00	
1,200.0	18.00	156.02	1,190.2	-85.4	38.0	93.5	3.00	3.00	
1,300.0	21.00	156.02	1,284.4	-115.9	51.6	126.8	3.00	3.00	
1,306.8	21.20	156.02	1,290.8	-118.1	52.5	129.3	2.98	2.98	EOB; Inc=21.20°
1,400.0	21.20	156.02	1,377.7	-148.9	66.2	163.0	0.00	0.00	
1,500.0	21.20	156.02	1,470.9	-182.0	80.9	199.2	0.00	0.00	
1,600.0	21.20	156.02	1,564.1	-215.0	95.6	235.3	0.00	0.00	
1,700.0	21.20	156.02	1,657.4	-248.1	110.3	271.5	0.00	0.00	
1,800.0	21.20	156.02	1,750.6	-281.1	125.0	307.7	0.00	0.00	
1,900.0	21.20	156.02	1,843.8	-314.2	139.7	343.8	0.00	0.00	
2,000.0	21.20	156.02	1,937.1	-347.2	154.4	380.0	0.00	0.00	
2,100.0	21.20	156.02	2,030.3	-380.3	169.1	416.2	0.00	0.00	
2,200.0	21.20	156.02	2,123.5	-413.3	183.8	452.3	0.00	0.00	
2,300.0	21.20	156.02	2,216.7	-446.3	198.5	488.5	0.00	0.00	
2,400.0	21.20	156.02	2,310.0	-479.4	213.2	524.7	0.00	0.00	
2,500.0	21.20	156.02	2,403.2	-512.4	227.9	560.8	0.00	0.00	
2,600.0	21.20	156.02	2,496.4	-545.5	242.6	597.0	0.00	0.00	
2,700.0	21.20	156.02	2,589.7	-578.5	257.3	633.1	0.00	0.00	
2,800.0	21.20	156.02	2,682.9	-611.6	272.0	669.3	0.00	0.00	
2,900.0	21.20	156.02	2,776.1	-644.6	286.7	705.5	0.00	0.00	
3,000.0	21.20	156.02	2,869.4	-677.7	301.4	741.6	0.00	0.00	
3,100.0	21.20	156.02	2,962.6	-710.7	316.1	777.8	0.00	0.00	
3,200.0	21.20	156.02	3,055.8	-743.8	330.8	814.0	0.00	0.00	
3,300.0	21.20	156.02	3,149.1	-776.8	345.5	850.1	0.00	0.00	
3,400.0	21.20	156.02	3,242.3	-809.8	360.2	886.3	0.00	0.00	
3,500.0	21.20	156.02	3,335.5	-842.9	374.9	922.5	0.00	0.00	
3,600.0	21.20	156.02	3,428.7	-875.9	389.6	958.6	0.00	0.00	
3,700.0	21.20	156.02	3,522.0	-909.0	404.3	994.8	0.00	0.00	
3,800.0	21.20	156.02	3,615.2	-942.0	419.0	1,031.0	0.00	0.00	
3,900.0	21.20	156.02	3,708.4	-975.1	433.7	1,067.1	0.00	0.00	
4,000.0	21.20	156.02	3,801.7	-1,008.1	448.4	1,103.3	0.00	0.00	
4,100.0	21.20	156.02	3,894.9	-1,041.2	463.1	1,139.5	0.00	0.00	
4,200.0	21.20	156.02	3,988.1	-1,074.2	477.8	1,175.6	0.00	0.00	
4,300.0	21.20	156.02	4,081.4	-1,107.2	492.5	1,211.8	0.00	0.00	
4,400.0	21.20	156.02	4,174.6	-1,140.3	507.2	1,248.0	0.00	0.00	
4,500.0	21.20	156.02	4,267.8	-1,173.3	521.9	1,284.1	0.00	0.00	
4,600.0	21.20	156.02	4,361.1	-1,206.4	536.6	1,320.3	0.00	0.00	
4,700.0	21.20	156.02	4,454.3	-1,239.4	551.3	1,356.4	0.00	0.00	
4,800.0	21.20	156.02	4,547.5	-1,272.5	566.0	1,392.6	0.00	0.00	
4,900.0	21.20	156.02	4,640.7	-1,305.5	580.7	1,428.8	0.00	0.00	
5,000.0	21.20	156.02	4,734.0	-1,338.6	595.4	1,464.9	0.00	0.00	

Cathedral Energy Services

Planning Report

Database:	EDM 5000.1 US Multi Users DB	Local Co-ordinate Reference:	Well EMF10D-17 F17 595
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	KBE 3 @ 6327.0ft
Project:	North Piceance	MD Reference:	KBE 3 @ 6327.0ft
Site:	F17 595 Pad	North Reference:	True
Well:	EMF10D-17 F17 595	Survey Calculation Method:	Minimum Curvature
Wellbore:	DD		
Design:	Plan #5		

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
5,100.0	21.20	156.02	4,827.2	-1,371.6	610.1	1,501.1	0.00	0.00	
5,200.0	21.20	156.02	4,920.4	-1,404.7	624.8	1,537.3	0.00	0.00	
5,300.0	21.20	156.02	5,013.7	-1,437.7	639.5	1,573.4	0.00	0.00	
5,400.0	21.20	156.02	5,106.9	-1,470.7	654.2	1,609.6	0.00	0.00	
5,500.0	21.20	156.02	5,200.1	-1,503.8	668.9	1,645.8	0.00	0.00	
5,600.0	21.20	156.02	5,293.4	-1,536.8	683.5	1,681.9	0.00	0.00	
5,700.0	21.20	156.02	5,386.6	-1,569.9	698.2	1,718.1	0.00	0.00	
5,797.3	21.20	156.02	5,477.3	-1,602.0	712.5	1,753.3	0.00	0.00	Start Drop -3.00
5,800.0	21.12	156.02	5,479.8	-1,602.9	712.9	1,754.3	3.00	-3.00	
5,900.0	18.12	156.02	5,574.0	-1,633.6	726.6	1,787.8	3.00	-3.00	
6,000.0	15.12	156.02	5,669.8	-1,659.7	738.2	1,816.4	3.00	-3.00	
6,100.0	12.12	156.02	5,767.0	-1,681.2	747.8	1,840.0	3.00	-3.00	
6,200.0	9.12	156.02	5,865.3	-1,698.1	755.3	1,858.4	3.00	-3.00	
6,300.0	6.12	156.02	5,964.4	-1,710.2	760.7	1,871.7	3.00	-3.00	
6,400.0	3.12	156.02	6,064.0	-1,717.6	763.9	1,879.7	3.00	-3.00	
6,464.0	1.20	156.02	6,128.0	-1,719.8	764.9	1,882.1	3.00	-3.00	WF
6,500.0	0.12	156.02	6,164.0	-1,720.1	765.1	1,882.5	3.00	-3.00	
6,504.0	0.00	0.00	6,168.0	-1,720.1	765.1	1,882.6	3.00	-3.00	EOD; Inc=0° - TOG - EMF10D-17 F17 595 TGT
6,600.0	0.24	210.55	6,264.0	-1,720.3	765.0	1,882.7	0.25	0.25	
6,633.1	0.32	210.55	6,297.1	-1,720.5	764.9	1,882.8	0.25	0.25	
6,700.0	0.32	210.55	6,364.0	-1,720.8	764.7	1,883.0	0.00	0.00	
6,800.0	0.32	210.55	6,464.0	-1,721.3	764.4	1,883.3	0.00	0.00	
6,900.0	0.32	210.55	6,564.0	-1,721.8	764.1	1,883.6	0.00	0.00	
7,000.0	0.32	210.55	6,664.0	-1,722.2	763.8	1,884.0	0.00	0.00	
7,100.0	0.32	210.55	6,764.0	-1,722.7	763.6	1,884.3	0.00	0.00	
7,200.0	0.32	210.55	6,864.0	-1,723.2	763.3	1,884.6	0.00	0.00	
7,300.0	0.32	210.55	6,964.0	-1,723.7	763.0	1,885.0	0.00	0.00	
7,400.0	0.32	210.55	7,064.0	-1,724.2	762.7	1,885.3	0.00	0.00	
7,500.0	0.32	210.55	7,164.0	-1,724.7	762.4	1,885.6	0.00	0.00	
7,600.0	0.32	210.55	7,264.0	-1,725.2	762.1	1,886.0	0.00	0.00	
7,700.0	0.32	210.55	7,364.0	-1,725.6	761.8	1,886.3	0.00	0.00	
7,800.0	0.32	210.55	7,464.0	-1,726.1	761.6	1,886.6	0.00	0.00	
7,900.0	0.32	210.55	7,564.0	-1,726.6	761.3	1,887.0	0.00	0.00	
8,000.0	0.32	210.55	7,664.0	-1,727.1	761.0	1,887.3	0.00	0.00	
8,100.0	0.32	210.55	7,764.0	-1,727.6	760.7	1,887.6	0.00	0.00	
8,200.0	0.32	210.55	7,864.0	-1,728.1	760.4	1,887.9	0.00	0.00	
8,300.0	0.32	210.55	7,964.0	-1,728.5	760.1	1,888.3	0.00	0.00	
8,400.0	0.32	210.55	8,064.0	-1,729.0	759.8	1,888.6	0.00	0.00	
8,500.0	0.32	210.55	8,164.0	-1,729.5	759.5	1,888.9	0.00	0.00	
8,600.0	0.32	210.55	8,264.0	-1,730.0	759.3	1,889.3	0.00	0.00	
8,700.0	0.32	210.55	8,364.0	-1,730.5	759.0	1,889.6	0.00	0.00	
8,800.0	0.32	210.55	8,464.0	-1,731.0	758.7	1,889.9	0.00	0.00	
8,900.0	0.32	210.55	8,564.0	-1,731.5	758.4	1,890.3	0.00	0.00	
9,000.0	0.32	210.55	8,664.0	-1,731.9	758.1	1,890.6	0.00	0.00	
9,100.0	0.32	210.55	8,764.0	-1,732.4	757.8	1,890.9	0.00	0.00	
9,200.0	0.32	210.55	8,863.9	-1,732.9	757.5	1,891.3	0.00	0.00	
9,300.0	0.32	210.55	8,963.9	-1,733.4	757.3	1,891.6	0.00	0.00	
9,400.0	0.32	210.55	9,063.9	-1,733.9	757.0	1,891.9	0.00	0.00	
9,500.0	0.32	210.55	9,163.9	-1,734.4	756.7	1,892.2	0.00	0.00	
9,600.0	0.32	210.55	9,263.9	-1,734.9	756.4	1,892.6	0.00	0.00	
9,700.0	0.32	210.55	9,363.9	-1,735.3	756.1	1,892.9	0.00	0.00	
9,800.0	0.32	210.55	9,463.9	-1,735.8	755.8	1,893.2	0.00	0.00	

Cathedral Energy Services

Planning Report

Database:	EDM 5000.1 US Multi Users DB	Local Co-ordinate Reference:	Well EMF10D-17 F17 595
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	KBE 3 @ 6327.0ft
Project:	North Piceance	MD Reference:	KBE 3 @ 6327.0ft
Site:	F17 595 Pad	North Reference:	True
Well:	EMF10D-17 F17 595	Survey Calculation Method:	Minimum Curvature
Wellbore:	DD		
Design:	Plan #5		

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
9,900.0	0.32	210.55	9,563.9	-1,736.3	755.5	1,893.6	0.00	0.00	
10,000.0	0.32	210.55	9,663.9	-1,736.8	755.3	1,893.9	0.00	0.00	
10,064.1	0.32	210.55	9,728.0	-1,737.1	755.1	1,894.1	0.00	0.00	Rollins - EMF10D-17 F17 595 BHL
10,100.0	0.32	210.55	9,763.9	-1,737.3	755.0	1,894.2	0.00	0.00	
10,164.1	0.32	210.55	9,828.0	-1,737.6	754.8	1,894.4	0.00	0.00	Drillers TD @ 10164.1' MD
10,200.0	0.32	210.55	9,863.9	-1,737.8	754.7	1,894.6	0.00	0.00	
10,300.0	0.32	210.55	9,963.9	-1,738.3	754.4	1,894.9	0.00	0.00	
10,400.0	0.32	210.55	10,063.9	-1,738.7	754.1	1,895.2	0.00	0.00	
10,500.0	0.32	210.55	10,163.9	-1,739.2	753.8	1,895.6	0.00	0.00	
10,600.0	0.32	210.55	10,263.9	-1,739.7	753.5	1,895.9	0.00	0.00	
10,700.0	0.32	210.55	10,363.9	-1,740.2	753.2	1,896.2	0.00	0.00	
10,800.0	0.32	210.55	10,463.9	-1,740.7	753.0	1,896.5	0.00	0.00	
10,900.0	0.32	210.55	10,563.9	-1,741.2	752.7	1,896.9	0.00	0.00	
11,000.0	0.32	210.55	10,663.9	-1,741.6	752.4	1,897.2	0.00	0.00	
11,100.0	0.32	210.55	10,763.9	-1,742.1	752.1	1,897.5	0.00	0.00	
11,164.1	0.32	210.55	10,828.0	-1,742.4	751.9	1,897.8	0.00	0.00	

Targets

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
- hit/miss target									
- Shape									
EMF10D-17 F17 595 TC	0.00	0.00	6,168.0	-1,720.1	765.1	1,657,507.36	2,274,245.43	39.610389	-108.076317
- plan hits target center									
- Point									
EMF10D-17 F17 595 BHL	0.00	0.00	9,728.0	-1,737.1	755.1	1,657,490.69	2,274,234.95	39.610342	-108.076353
- plan hits target center									
- Rectangle (sides W30.0 H50.0 D0.0)									

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
6,464.0	6,128.0	WF		0.00	
6,504.0	6,168.0	TOG		0.00	
10,064.1	9,728.0	Rollins		0.00	

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
600.0	600.0	0.0	0.0	KOP @ 600' MD
1,306.8	1,290.8	-118.1	52.5	EOB; Inc=21.20°
5,797.3	5,477.3	-1,602.0	712.5	Start Drop -3.00
6,504.1	6,168.0	-1,720.1	765.1	EOD; Inc=0°
10,164.1	9,828.0	-1,737.6	754.8	Drillers TD @ 10164.1' MD
11,164.1	10,828.0	-1,742.4	751.9	Permit TD @ 11164.1' MD