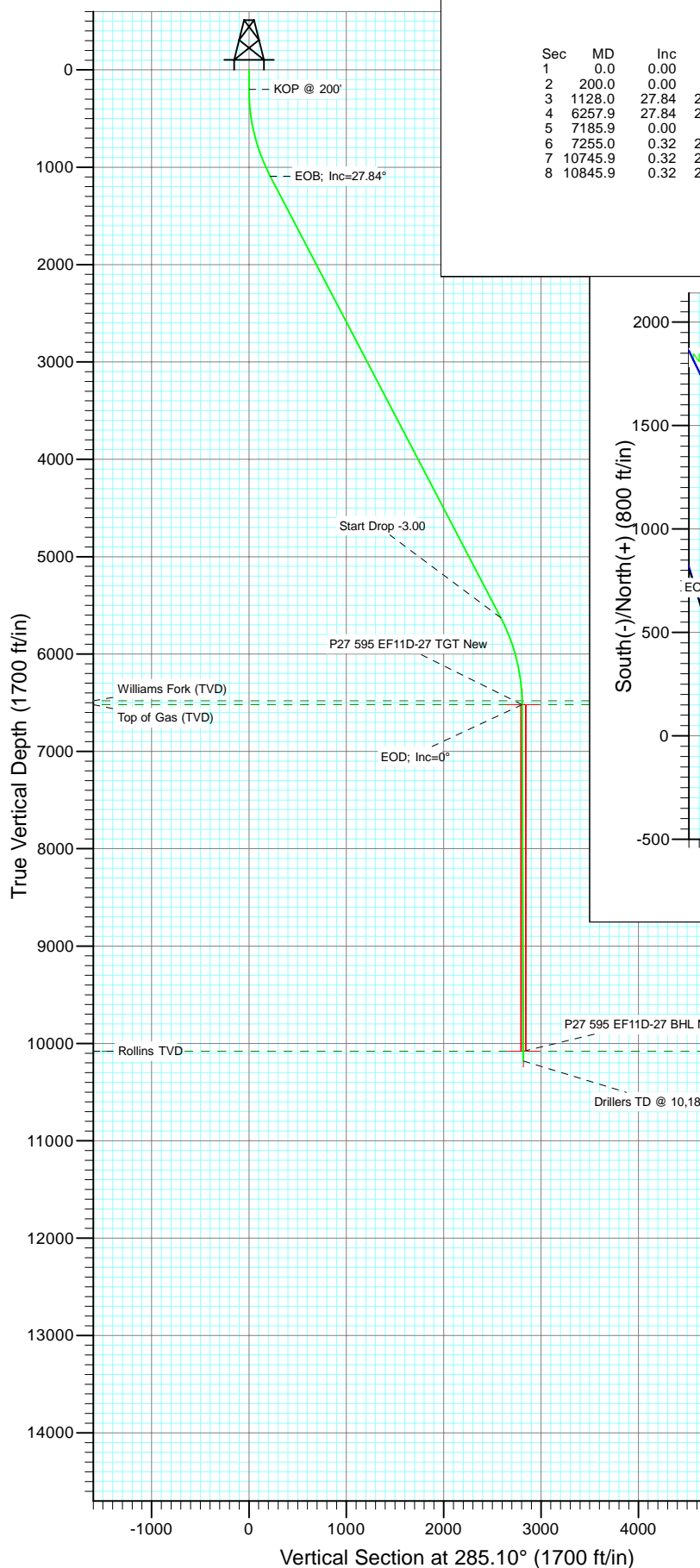


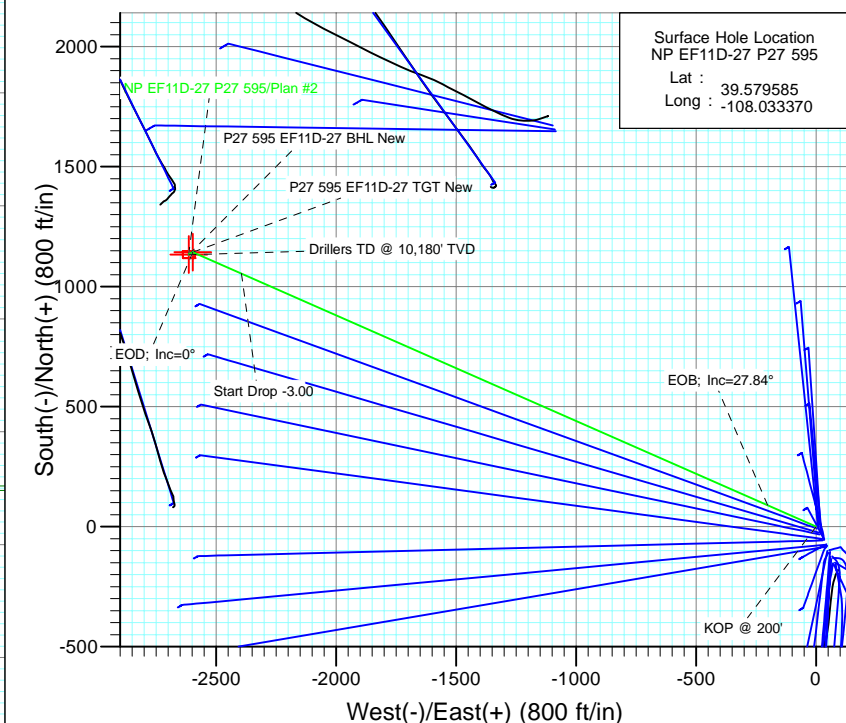


Project: North Piceance
 Site: P27 595 (S27-T5S-R95W)
 Well: NP EF11D-27 P27 595
 Wellbore: DD
 Design: Plan #2



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	200.0	0.00	0.00	200.0	0.0	0.0	0.00	0.00	0.0	
3	1128.0	27.84	293.77	1091.9	89.1	-202.3	3.00	293.77	218.5	
4	6257.9	27.84	293.77	5628.1	1054.6	-2394.7	0.00	0.00	2586.7	
5	7185.9	0.00	0.00	6520.0	1143.7	-2597.0	3.00	180.00	2805.3	P27 595 EF11D-27 TGT New
6	7255.0	0.32	239.59	6589.1	1143.6	-2597.2	0.46	239.59	2805.4	
7	10745.9	0.32	239.59	10080.0	1133.7	-2614.0	0.00	0.00	2819.1	P27 595 EF11D-27 BHL New
8	10845.9	0.32	239.59	10180.0	1133.4	-2614.5	0.00	0.00	2819.5	



Surface Hole Location
 NP EF11D-27 P27 595
 Lat : 39.579585
 Long : -108.033370



Azimuths to True North
 Magnetic North: 10.65°

Magnetic Field
 Strength: 52540.8nT
 Dip Angle: 65.87°
 Date: 3/4/2009
 Model: IGRF200510

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
6480.0	7145.9	Williams Fork (TVD)
6520.0	7185.9	Top of Gas (TVD)
10080.0	10745.9	Rollins TVD

Plan #2
 NP EF11D-27 P27 595
 95xxx; LR
 EF11D-27 P27 @ 6671.0ft (Original Well Elev)
 North American Datum 1983
 Well NP EF11D-27 P27 595, True North

Type	Target	Azimuth	Origin	Type	N/S	E/W	From
Target	P27 595 EF11D-27 BHL	285.10	Slot		0.0	0.0	0.0
Name							
P27 595 EF11D-27 TGT New	6520.0	1143.7	+N/-S	+E/-W	Latitude	Longitude	
P27 595 EF11D-27 BHL New	10080.0	1133.7	-2597.0	-2614.0	39.582725	-108.042584	
					39.582697	-108.042644	

Cathedral Energy Services

Planning Report

Database:	EDM 5000.1 US Multi Users DB	Local Co-ordinate Reference:	Well NP EF11D-27 P27 595
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	EF11D-27 P27 @ 6671.0ft (Original Well Elev)
Project:	North Piceance	MD Reference:	EF11D-27 P27 @ 6671.0ft (Original Well Elev)
Site:	P27 595 (S27-T5S-R95W)	North Reference:	True
Well:	NP EF11D-27 P27 595	Survey Calculation Method:	Minimum Curvature
Wellbore:	DD		
Design:	Plan #2		

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		P27 595 (S27-T5S-R95W)			
Site Position:		Northing:	1,645,842.89 ft	Latitude:	39.579292
From:	Lat/Long	Easting:	2,286,079.88 ft	Longitude:	-108.033175
Position Uncertainty:	0.0 ft	Slot Radius:	0.000 in	Grid Convergence:	-1.60 °

Well	NP EF11D-27 P27 595					
Well Position	+N/-S	0.0 ft	Northing:	1,645,951.25 ft	Latitude:	39.579585
	+E/-W	0.0 ft	Easting:	2,286,028.01 ft	Longitude:	-108.033370
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	6,649.0 ft

Wellbore	DD				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	3/4/2009	10.65	65.87	52,541

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	285.10

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	
1,128.0	27.84	293.77	1,091.9	89.1	-202.3	3.00	3.00	0.00	293.77	
6,257.9	27.84	293.77	5,628.1	1,054.6	-2,394.7	0.00	0.00	0.00	0.00	
7,185.9	0.00	0.00	6,520.0	1,143.7	-2,597.0	3.00	-3.00	0.00	180.00	P27 595 EF11D-27 T
7,255.0	0.32	239.59	6,589.1	1,143.6	-2,597.2	0.46	0.46	-174.20	239.59	
10,745.9	0.32	239.59	10,080.0	1,133.7	-2,614.0	0.00	0.00	0.00	0.00	P27 595 EF11D-27 B
10,845.9	0.32	239.59	10,180.0	1,133.4	-2,614.5	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 NP EF11D-27 P27 595
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	EF11D-27 P27 @ 6671.0ft (Original Well Elev)
Project:	North Piceance	MD Reference:	EF11D-27 P27 @ 6671.0ft (Original Well Elev)
Site:	P27 595 (S27-T5S-R95W)	North Reference:	True
Well:	NP EF11D-27 P27 595	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'
300.0	3.00	293.77	300.0	1.1	-2.4	2.6	3.00	3.00	
400.0	6.00	293.77	399.6	4.2	-9.6	10.3	3.00	3.00	
500.0	9.00	293.77	498.8	9.5	-21.5	23.2	3.00	3.00	
600.0	12.00	293.77	597.1	16.8	-38.2	41.3	3.00	3.00	
700.0	15.00	293.77	694.3	26.2	-59.6	64.3	3.00	3.00	
800.0	18.00	293.77	790.2	37.7	-85.5	92.4	3.00	3.00	
900.0	21.00	293.77	884.4	51.1	-116.1	125.4	3.00	3.00	
1,000.0	24.00	293.77	976.8	66.5	-151.1	163.2	3.00	3.00	
1,100.0	27.00	293.77	1,067.1	83.9	-190.5	205.8	3.00	3.00	
1,128.0	27.84	293.77	1,091.9	89.1	-202.3	218.5	3.00	3.00	EOB; Inc=27.84°
1,200.0	27.84	293.77	1,155.6	102.6	-233.1	251.8	0.00	0.00	
1,300.0	27.84	293.77	1,244.0	121.5	-275.8	297.9	0.00	0.00	
1,400.0	27.84	293.77	1,332.4	140.3	-318.6	344.1	0.00	0.00	
1,500.0	27.84	293.77	1,420.9	159.1	-361.3	390.3	0.00	0.00	
1,600.0	27.84	293.77	1,509.3	177.9	-404.0	436.4	0.00	0.00	
1,700.0	27.84	293.77	1,597.7	196.8	-446.8	482.6	0.00	0.00	
1,800.0	27.84	293.77	1,686.1	215.6	-489.5	528.8	0.00	0.00	
1,900.0	27.84	293.77	1,774.6	234.4	-532.2	574.9	0.00	0.00	
2,000.0	27.84	293.77	1,863.0	253.2	-575.0	621.1	0.00	0.00	
2,100.0	27.84	293.77	1,951.4	272.0	-617.7	667.3	0.00	0.00	
2,200.0	27.84	293.77	2,039.8	290.9	-660.5	713.4	0.00	0.00	
2,300.0	27.84	293.77	2,128.3	309.7	-703.2	759.6	0.00	0.00	
2,400.0	27.84	293.77	2,216.7	328.5	-745.9	805.7	0.00	0.00	
2,500.0	27.84	293.77	2,305.1	347.3	-788.7	851.9	0.00	0.00	
2,600.0	27.84	293.77	2,393.6	366.1	-831.4	898.1	0.00	0.00	
2,700.0	27.84	293.77	2,482.0	385.0	-874.1	944.2	0.00	0.00	
2,800.0	27.84	293.77	2,570.4	403.8	-916.9	990.4	0.00	0.00	
2,900.0	27.84	293.77	2,658.8	422.6	-959.6	1,036.6	0.00	0.00	
3,000.0	27.84	293.77	2,747.3	441.4	-1,002.4	1,082.7	0.00	0.00	
3,100.0	27.84	293.77	2,835.7	460.3	-1,045.1	1,128.9	0.00	0.00	
3,200.0	27.84	293.77	2,924.1	479.1	-1,087.8	1,175.1	0.00	0.00	
3,300.0	27.84	293.77	3,012.5	497.9	-1,130.6	1,221.2	0.00	0.00	
3,400.0	27.84	293.77	3,101.0	516.7	-1,173.3	1,267.4	0.00	0.00	
3,500.0	27.84	293.77	3,189.4	535.5	-1,216.0	1,313.6	0.00	0.00	
3,600.0	27.84	293.77	3,277.8	554.4	-1,258.8	1,359.7	0.00	0.00	
3,700.0	27.84	293.77	3,366.2	573.2	-1,301.5	1,405.9	0.00	0.00	
3,800.0	27.84	293.77	3,454.7	592.0	-1,344.3	1,452.1	0.00	0.00	
3,900.0	27.84	293.77	3,543.1	610.8	-1,387.0	1,498.2	0.00	0.00	
4,000.0	27.84	293.77	3,631.5	629.6	-1,429.7	1,544.4	0.00	0.00	
4,100.0	27.84	293.77	3,719.9	648.5	-1,472.5	1,590.5	0.00	0.00	
4,200.0	27.84	293.77	3,808.4	667.3	-1,515.2	1,636.7	0.00	0.00	
4,300.0	27.84	293.77	3,896.8	686.1	-1,557.9	1,682.9	0.00	0.00	
4,400.0	27.84	293.77	3,985.2	704.9	-1,600.7	1,729.0	0.00	0.00	
4,500.0	27.84	293.77	4,073.7	723.7	-1,643.4	1,775.2	0.00	0.00	
4,600.0	27.84	293.77	4,162.1	742.6	-1,686.2	1,821.4	0.00	0.00	
4,700.0	27.84	293.77	4,250.5	761.4	-1,728.9	1,867.5	0.00	0.00	
4,800.0	27.84	293.77	4,338.9	780.2	-1,771.6	1,913.7	0.00	0.00	
4,900.0	27.84	293.77	4,427.4	799.0	-1,814.4	1,959.9	0.00	0.00	
5,000.0	27.84	293.77	4,515.8	817.9	-1,857.1	2,006.0	0.00	0.00	

Cathedral Energy Services

Planning Report

Database:	EDM 5000.1 US Multi Users DB	Local Co-ordinate Reference:	Well NP EF11D-27 P27 595
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	EF11D-27 P27 @ 6671.0ft (Original Well Elev)
Project:	North Piceance	MD Reference:	EF11D-27 P27 @ 6671.0ft (Original Well Elev)
Site:	P27 595 (S27-T5S-R95W)	North Reference:	True
Well:	NP EF11D-27 P27 595	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
5,100.0	27.84	293.77	4,604.2	836.7	-1,899.8	2,052.2	0.00	0.00	
5,200.0	27.84	293.77	4,692.6	855.5	-1,942.6	2,098.4	0.00	0.00	
5,300.0	27.84	293.77	4,781.1	874.3	-1,985.3	2,144.5	0.00	0.00	
5,400.0	27.84	293.77	4,869.5	893.1	-2,028.1	2,190.7	0.00	0.00	
5,500.0	27.84	293.77	4,957.9	912.0	-2,070.8	2,236.9	0.00	0.00	
5,600.0	27.84	293.77	5,046.3	930.8	-2,113.5	2,283.0	0.00	0.00	
5,700.0	27.84	293.77	5,134.8	949.6	-2,156.3	2,329.2	0.00	0.00	
5,800.0	27.84	293.77	5,223.2	968.4	-2,199.0	2,375.3	0.00	0.00	
5,900.0	27.84	293.77	5,311.6	987.2	-2,241.7	2,421.5	0.00	0.00	
6,000.0	27.84	293.77	5,400.1	1,006.1	-2,284.5	2,467.7	0.00	0.00	
6,100.0	27.84	293.77	5,488.5	1,024.9	-2,327.2	2,513.8	0.00	0.00	
6,200.0	27.84	293.77	5,576.9	1,043.7	-2,370.0	2,560.0	0.00	0.00	
6,257.9	27.84	293.77	5,628.1	1,054.6	-2,394.7	2,586.7	0.00	0.00	Start Drop -3.00
6,300.0	26.58	293.77	5,665.5	1,062.4	-2,412.3	2,605.8	3.00	-3.00	
6,400.0	23.58	293.77	5,756.1	1,079.4	-2,451.1	2,647.7	3.00	-3.00	
6,500.0	20.58	293.77	5,848.8	1,094.6	-2,485.5	2,684.8	3.00	-3.00	
6,600.0	17.58	293.77	5,943.3	1,107.8	-2,515.4	2,717.1	3.00	-3.00	
6,700.0	14.58	293.77	6,039.3	1,118.9	-2,540.7	2,744.5	3.00	-3.00	
6,800.0	11.58	293.77	6,136.7	1,128.0	-2,561.4	2,766.8	3.00	-3.00	
6,900.0	8.58	293.77	6,235.2	1,135.1	-2,577.5	2,784.1	3.00	-3.00	
7,000.0	5.58	293.77	6,334.4	1,140.1	-2,588.7	2,796.3	3.00	-3.00	
7,100.0	2.58	293.77	6,434.1	1,142.9	-2,595.2	2,803.3	3.00	-3.00	
7,145.9	1.20	293.77	6,480.0	1,143.5	-2,596.6	2,804.8	3.00	-3.00	Williams Fork (TVD)
7,185.9	0.00	0.00	6,520.0	1,143.7	-2,597.0	2,805.3	3.00	-3.00	EOD; Inc=0° - Top of Gas (TVD) - P27 595 EF1
7,200.0	0.07	239.59	6,534.1	1,143.7	-2,597.0	2,805.3	0.46	0.46	
7,255.0	0.32	239.59	6,589.1	1,143.6	-2,597.2	2,805.4	0.46	0.46	
7,300.0	0.32	239.59	6,634.1	1,143.5	-2,597.4	2,805.6	0.00	0.00	
7,400.0	0.32	239.59	6,734.1	1,143.2	-2,597.9	2,806.0	0.00	0.00	
7,500.0	0.32	239.59	6,834.1	1,142.9	-2,598.4	2,806.4	0.00	0.00	
7,600.0	0.32	239.59	6,934.1	1,142.6	-2,598.8	2,806.7	0.00	0.00	
7,700.0	0.32	239.59	7,034.1	1,142.3	-2,599.3	2,807.1	0.00	0.00	
7,800.0	0.32	239.59	7,134.1	1,142.1	-2,599.8	2,807.5	0.00	0.00	
7,900.0	0.32	239.59	7,234.1	1,141.8	-2,600.3	2,807.9	0.00	0.00	
8,000.0	0.32	239.59	7,334.1	1,141.5	-2,600.8	2,808.3	0.00	0.00	
8,100.0	0.32	239.59	7,434.1	1,141.2	-2,601.3	2,808.7	0.00	0.00	
8,200.0	0.32	239.59	7,534.1	1,140.9	-2,601.7	2,809.1	0.00	0.00	
8,300.0	0.32	239.59	7,634.1	1,140.6	-2,602.2	2,809.5	0.00	0.00	
8,400.0	0.32	239.59	7,734.1	1,140.4	-2,602.7	2,809.9	0.00	0.00	
8,500.0	0.32	239.59	7,834.1	1,140.1	-2,603.2	2,810.3	0.00	0.00	
8,600.0	0.32	239.59	7,934.1	1,139.8	-2,603.7	2,810.7	0.00	0.00	
8,700.0	0.32	239.59	8,034.1	1,139.5	-2,604.2	2,811.1	0.00	0.00	
8,800.0	0.32	239.59	8,134.1	1,139.2	-2,604.6	2,811.5	0.00	0.00	
8,900.0	0.32	239.59	8,234.1	1,138.9	-2,605.1	2,811.9	0.00	0.00	
9,000.0	0.32	239.59	8,334.1	1,138.6	-2,605.6	2,812.2	0.00	0.00	
9,100.0	0.32	239.59	8,434.1	1,138.4	-2,606.1	2,812.6	0.00	0.00	
9,200.0	0.32	239.59	8,534.1	1,138.1	-2,606.6	2,813.0	0.00	0.00	
9,300.0	0.32	239.59	8,634.1	1,137.8	-2,607.1	2,813.4	0.00	0.00	
9,400.0	0.32	239.59	8,734.1	1,137.5	-2,607.5	2,813.8	0.00	0.00	
9,500.0	0.32	239.59	8,834.1	1,137.2	-2,608.0	2,814.2	0.00	0.00	
9,600.0	0.32	239.59	8,934.1	1,136.9	-2,608.5	2,814.6	0.00	0.00	
9,700.0	0.32	239.59	9,034.1	1,136.7	-2,609.0	2,815.0	0.00	0.00	
9,800.0	0.32	239.59	9,134.1	1,136.4	-2,609.5	2,815.4	0.00	0.00	

Cathedral Energy Services

Planning Report

Database:	EDM 5000.1 US Multi Users DB	Local Co-ordinate Reference:	Well NP EF11D-27 P27 595
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	EF11D-27 P27 @ 6671.0ft (Original Well Elev)
Project:	North Piceance	MD Reference:	EF11D-27 P27 @ 6671.0ft (Original Well Elev)
Site:	P27 595 (S27-T5S-R95W)	North Reference:	True
Well:	NP EF11D-27 P27 595	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
9,900.0	0.32	239.59	9,234.1	1,136.1	-2,610.0	2,815.8	0.00	0.00	
10,000.0	0.32	239.59	9,334.1	1,135.8	-2,610.4	2,816.2	0.00	0.00	
10,100.0	0.32	239.59	9,434.1	1,135.5	-2,610.9	2,816.6	0.00	0.00	
10,200.0	0.32	239.59	9,534.1	1,135.2	-2,611.4	2,817.0	0.00	0.00	
10,300.0	0.32	239.59	9,634.1	1,135.0	-2,611.9	2,817.4	0.00	0.00	
10,400.0	0.32	239.59	9,734.1	1,134.7	-2,612.4	2,817.7	0.00	0.00	
10,500.0	0.32	239.59	9,834.1	1,134.4	-2,612.9	2,818.1	0.00	0.00	
10,600.0	0.32	239.59	9,934.1	1,134.1	-2,613.3	2,818.5	0.00	0.00	
10,700.0	0.32	239.59	10,034.1	1,133.8	-2,613.8	2,818.9	0.00	0.00	
10,745.9	0.32	239.59	10,080.0	1,133.7	-2,614.0	2,819.1	0.00	0.00	Rollins TVD - P27 595 EF11D-27 BHL New
10,800.0	0.32	239.59	10,134.1	1,133.5	-2,614.3	2,819.3	0.00	0.00	
10,845.9	0.32	239.59	10,180.0	1,133.4	-2,614.5	2,819.5	0.00	0.00	Drillers TD @ 10,180' TVD

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
P27 595 EF11D-27 TGT - plan hits target center - Point	0.00	0.00	6,520.0	1,143.7	-2,597.0	1,647,166.92	2,283,463.90	39.582725	-108.042584
P27 595 EF11D-27 BHL - plan hits target center - Rectangle (sides W30.0 H50.0 D0.0)	0.00	0.00	10,080.0	1,133.7	-2,614.0	1,647,157.39	2,283,446.58	39.582697	-108.042644

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
7,145.9	6,480.0	Williams Fork (TVD)			
7,185.9	6,520.0	Top of Gas (TVD)			
10,745.9	10,080.0	Rollins TVD			

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'
1,128.0	1,091.9	89.1	-202.3	EOB; Inc=27.84°
6,257.9	5,628.1	1,054.6	-2,394.7	Start Drop -3.00
7,185.9	6,520.0	1,143.7	-2,597.0	EOD; Inc=0°
10,845.9	10,180.0	1,143.6	-2,597.2	Drillers TD @ 10,180' TVD