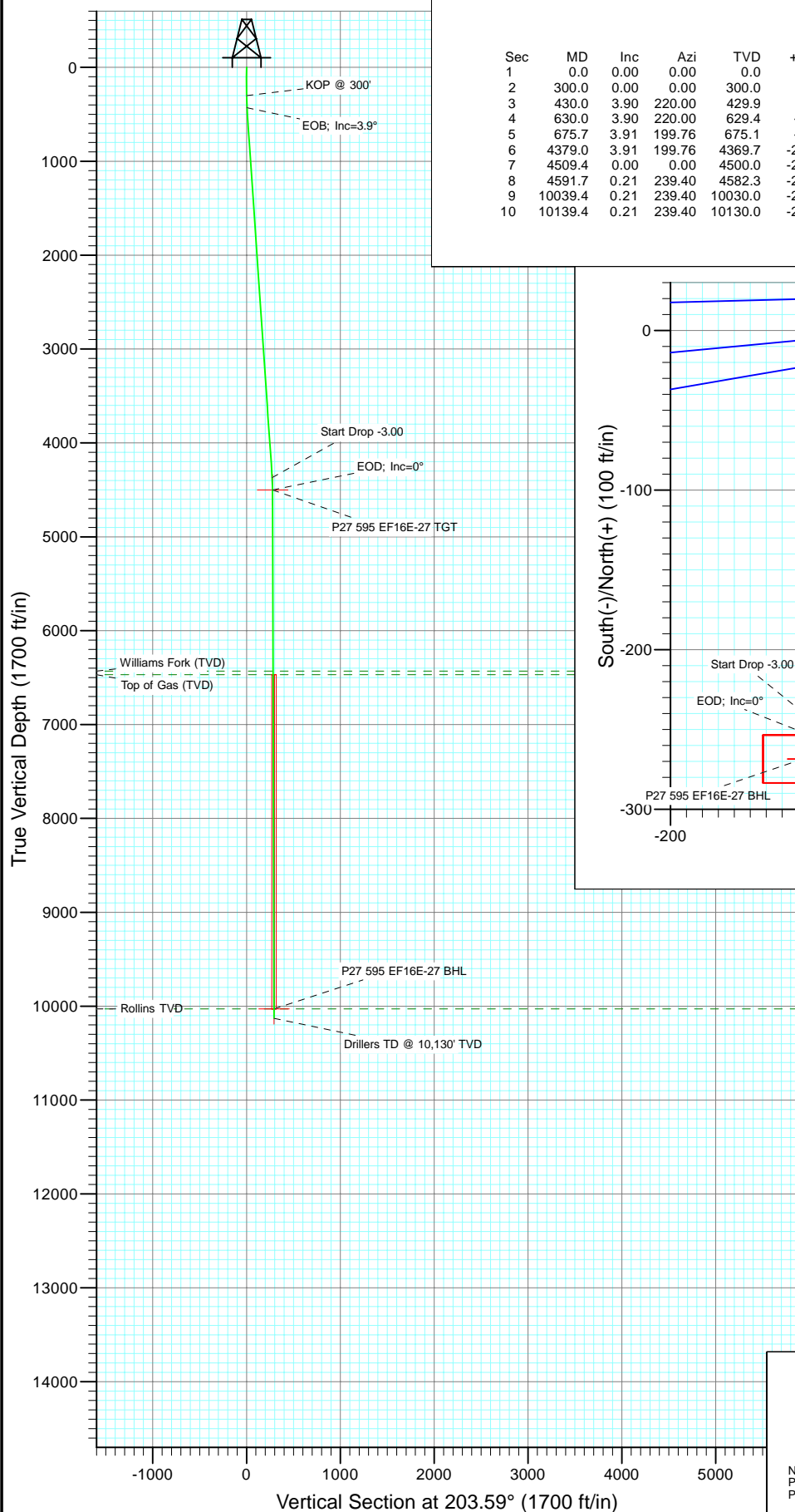


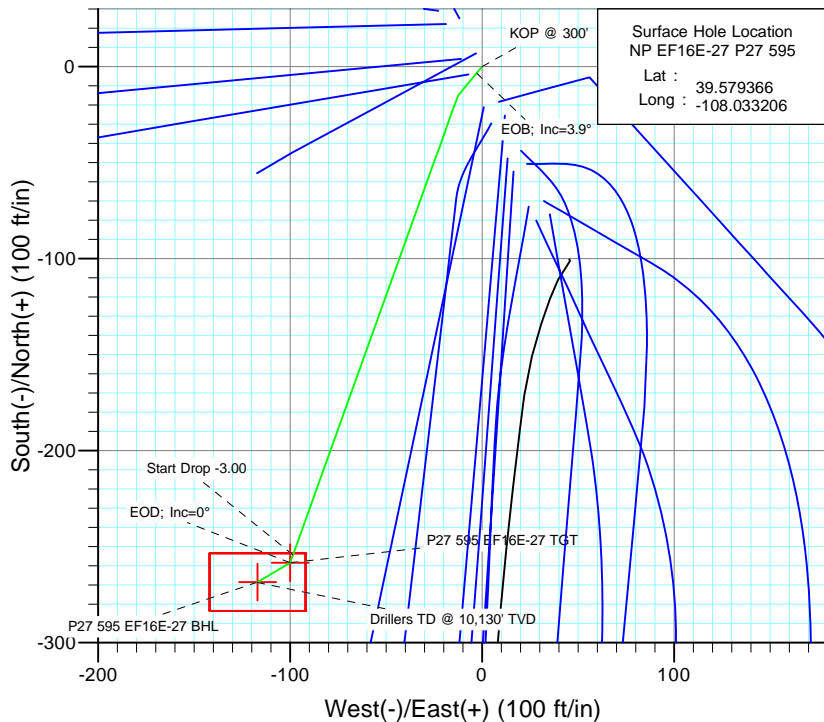


Project: North Piceance
 Site: P27 595 (S27-T5S-R95W)
 Well: NP EF16E-27 P27 595
 Wellbore: DD
 Design: Plan #1



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	300.0	0.00	0.00	300.0	0.0	0.0	0.00	0.00	0.0	
3	430.0	3.90	220.00	429.9	-3.4	-2.8	3.00	220.00	4.2	
4	630.0	3.90	220.00	629.4	-13.8	-11.6	0.00	0.00	17.3	
5	675.7	3.91	199.76	675.1	-16.5	-13.1	3.00	-99.63	20.3	
6	4379.0	3.91	199.76	4369.7	-254.2	-98.5	0.00	0.00	272.4	
7	4509.4	0.00	0.00	4500.0	-258.4	-100.0	3.00	180.00	276.8	P27 595 EF16E-27 TGT
8	4591.7	0.21	239.40	4582.3	-258.5	-100.1	0.25	239.40	276.9	
9	10039.4	0.21	239.40	10030.0	-268.4	-117.0	0.00	0.00	292.8	P27 595 EF16E-27 BHL
10	10139.4	0.21	239.40	10130.0	-268.6	-117.3	0.00	0.00	293.1	



Azimuths to True North
 Magnetic North: 10.46°

Magnetic Field
 Strength: 52345.8nT
 Dip Angle: 65.82°
 Date: 11/8/2010
 Model: IGRF2010

FORMATION TOP DETAILS

TVDPATH	MDPATH	Formation
6430.0	6439.4	Williams Fork (TVD)
6470.0	6479.4	Top of Gas (TVD)
10030.0	10039.4	Rollins TVD

Plan #1						
NP EF16E-27 P27 595						
WELL @ 6675.0ft (Original Well Elev)						
North American Datum 1983						
Well NP EF16E-27 P27 595, True North						
Type	Target	Azimuth	Origin	Type	N/S	E/W From TVD
TD	No Target (Freehand)	203.59	Slot		0.0	0.0
Name	TVD	+N/-S	+E/-W	Latitude	Longitude	
P27 595 EF16E-27 TGT	4500.0	-258.4	-100.0	39.578657	-108.033560	
P27 595 EF16E-27 BHL	10030.0	-268.4	-117.0	39.578629	-108.033621	

Cathedral Energy Services

Planning Report

Database:	EDM 5000.1 US Multi Users DB	Local Co-ordinate Reference:	Well NP EF16E-27 P27 595
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	WELL @ 6675.0ft (Original Well Elev)
Project:	North Piceance	MD Reference:	WELL @ 6675.0ft (Original Well Elev)
Site:	P27 595 (S27-T5S-R95W)	North Reference:	True
Well:	NP EF16E-27 P27 595	Survey Calculation Method:	Minimum Curvature
Wellbore:	DD		
Design:	Plan #1		

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 EF16E-27 P27 595					
Well Position	+N/-S	0.0 ft	Northing:	1,645,870.22 ft	Latitude:	39.579366
	+E/-W	0.0 ft	Easting:	2,286,071.99 ft	Longitude:	-108.033206
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)
	IGRF2010	11/8/2010	10.46	65.82	52,346

Design	Plan #1			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.0	0.0	0.0	203.59

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	
300.0	0.00	0.00	300.0	0.0	0.0	0.00	0.00	0.00	0.00	
430.0	3.90	220.00	429.9	-3.4	-2.8	3.00	3.00	0.00	220.00	
630.0	3.90	220.00	629.4	-13.8	-11.6	0.00	0.00	0.00	0.00	
675.7	3.91	199.76	675.1	-16.5	-13.1	3.00	0.02	-44.27	-99.63	
4,379.0	3.91	199.76	4,369.7	-254.2	-98.5	0.00	0.00	0.00	0.00	
4,509.4	0.00	0.00	4,500.0	-258.4	-100.0	3.00	-3.00	0.00	180.00	P27 595 EF16E-27 T
4,591.7	0.21	239.40	4,582.3	-258.5	-100.1	0.25	0.25	-146.45	239.40	
10,039.4	0.21	239.40	10,030.0	-268.4	-117.0	0.00	0.00	0.00	0.00	P27 595 EF16E-27 B
10,139.4	0.21	239.40	10,130.0	-268.6	-117.3	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 EF16E-27 P27 595
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	WELL @ 6675.0ft (Original Well Elev)
Project:	North Piceance	MD Reference:	WELL @ 6675.0ft (Original Well Elev)
Site:	P27 595 (S27-T5S-R95W)	North Reference:	True
Well:	NP EF16E-27 P27 595	Survey Calculation Method:	Minimum Curvature
Wellbore:	DD		
Design:	Plan #1		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Comments / Formations
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	KOP @ 300'
400.0	3.00	220.00	400.0	-2.0	-1.7	2.5	3.00	3.00	
430.0	3.90	220.00	429.9	-3.4	-2.8	4.2	3.00	3.00	EOB; Inc=3.9°
500.0	3.90	220.00	499.7	-7.0	-5.9	8.8	0.00	0.00	
600.0	3.90	220.00	599.5	-12.2	-10.3	15.3	0.00	0.00	
630.0	3.90	220.00	629.4	-13.8	-11.6	17.3	0.00	0.00	
675.7	3.91	199.76	675.1	-16.5	-13.1	20.3	3.00	0.02	
700.0	3.91	199.76	699.3	-18.0	-13.7	22.0	0.00	0.00	
800.0	3.91	199.76	799.0	-24.4	-16.0	28.8	0.00	0.00	
900.0	3.91	199.76	898.8	-30.9	-18.3	35.6	0.00	0.00	
1,000.0	3.91	199.76	998.6	-37.3	-20.6	42.4	0.00	0.00	
1,100.0	3.91	199.76	1,098.3	-43.7	-22.9	49.2	0.00	0.00	
1,200.0	3.91	199.76	1,198.1	-50.1	-25.2	56.0	0.00	0.00	
1,300.0	3.91	199.76	1,297.9	-56.5	-27.5	62.8	0.00	0.00	
1,400.0	3.91	199.76	1,397.6	-63.0	-29.8	69.6	0.00	0.00	
1,500.0	3.91	199.76	1,497.4	-69.4	-32.1	76.4	0.00	0.00	
1,600.0	3.91	199.76	1,597.2	-75.8	-34.4	83.2	0.00	0.00	
1,700.0	3.91	199.76	1,696.9	-82.2	-36.7	90.1	0.00	0.00	
1,800.0	3.91	199.76	1,796.7	-88.6	-39.0	96.9	0.00	0.00	
1,900.0	3.91	199.76	1,896.5	-95.1	-41.3	103.7	0.00	0.00	
2,000.0	3.91	199.76	1,996.2	-101.5	-43.6	110.5	0.00	0.00	
2,100.0	3.91	199.76	2,096.0	-107.9	-46.0	117.3	0.00	0.00	
2,200.0	3.91	199.76	2,195.8	-114.3	-48.3	124.1	0.00	0.00	
2,300.0	3.91	199.76	2,295.5	-120.7	-50.6	130.9	0.00	0.00	
2,400.0	3.91	199.76	2,395.3	-127.2	-52.9	137.7	0.00	0.00	
2,500.0	3.91	199.76	2,495.1	-133.6	-55.2	144.5	0.00	0.00	
2,600.0	3.91	199.76	2,594.9	-140.0	-57.5	151.3	0.00	0.00	
2,700.0	3.91	199.76	2,694.6	-146.4	-59.8	158.1	0.00	0.00	
2,800.0	3.91	199.76	2,794.4	-152.8	-62.1	164.9	0.00	0.00	
2,900.0	3.91	199.76	2,894.2	-159.3	-64.4	171.7	0.00	0.00	
3,000.0	3.91	199.76	2,993.9	-165.7	-66.7	178.5	0.00	0.00	
3,100.0	3.91	199.76	3,093.7	-172.1	-69.0	185.3	0.00	0.00	
3,200.0	3.91	199.76	3,193.5	-178.5	-71.3	192.1	0.00	0.00	
3,300.0	3.91	199.76	3,293.2	-184.9	-73.6	198.9	0.00	0.00	
3,400.0	3.91	199.76	3,393.0	-191.4	-75.9	205.8	0.00	0.00	
3,500.0	3.91	199.76	3,492.8	-197.8	-78.2	212.6	0.00	0.00	
3,600.0	3.91	199.76	3,592.5	-204.2	-80.5	219.4	0.00	0.00	
3,700.0	3.91	199.76	3,692.3	-210.6	-82.8	226.2	0.00	0.00	
3,800.0	3.91	199.76	3,792.1	-217.0	-85.1	233.0	0.00	0.00	
3,900.0	3.91	199.76	3,891.8	-223.5	-87.5	239.8	0.00	0.00	
4,000.0	3.91	199.76	3,991.6	-229.9	-89.8	246.6	0.00	0.00	
4,100.0	3.91	199.76	4,091.4	-236.3	-92.1	253.4	0.00	0.00	
4,200.0	3.91	199.76	4,191.1	-242.7	-94.4	260.2	0.00	0.00	
4,300.0	3.91	199.76	4,290.9	-249.1	-96.7	267.0	0.00	0.00	
4,379.0	3.91	199.76	4,369.7	-254.2	-98.5	272.4	0.00	0.00	Start Drop -3.00
4,400.0	3.28	199.76	4,390.7	-255.5	-98.9	273.7	3.00	-3.00	
4,500.0	0.28	199.76	4,490.6	-258.4	-100.0	276.8	3.00	-3.00	
4,509.4	0.00	199.76	4,500.0	-258.4	-100.0	276.8	3.00	-3.00	EOD; Inc=0° - P27 595 EF16E-27 TGT
4,591.7	0.21	239.40	4,582.3	-258.5	-100.1	276.9	0.25	0.25	

Cathedral Energy Services

Planning Report

Database:	EDM 5000.1 US Multi Users DB	Local Co-ordinate Reference:	Well NP EF16E-27 P27 595
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	WELL @ 6675.0ft (Original Well Elev)
Project:	North Piceance	MD Reference:	WELL @ 6675.0ft (Original Well Elev)
Site:	P27 595 (S27-T5S-R95W)	North Reference:	True
Well:	NP EF16E-27 P27 595	Survey Calculation Method:	Minimum Curvature
Wellbore:	DD		
Design:	Plan #1		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Comments / Formations
4,600.0	0.21	239.40	4,590.6	-258.5	-100.2	277.0	0.00	0.00	
4,700.0	0.21	239.40	4,690.6	-258.7	-100.5	277.3	0.00	0.00	
4,800.0	0.21	239.40	4,790.6	-258.9	-100.8	277.6	0.00	0.00	
4,900.0	0.21	239.40	4,890.6	-259.0	-101.1	277.8	0.00	0.00	
5,000.0	0.21	239.40	4,990.6	-259.2	-101.4	278.1	0.00	0.00	
5,100.0	0.21	239.40	5,090.6	-259.4	-101.7	278.4	0.00	0.00	
5,200.0	0.21	239.40	5,190.6	-259.6	-102.0	278.7	0.00	0.00	
5,300.0	0.21	239.40	5,290.6	-259.8	-102.3	279.0	0.00	0.00	
5,400.0	0.21	239.40	5,390.6	-260.0	-102.6	279.3	0.00	0.00	
5,500.0	0.21	239.40	5,490.6	-260.1	-102.9	279.6	0.00	0.00	
5,600.0	0.21	239.40	5,590.6	-260.3	-103.2	279.9	0.00	0.00	
5,700.0	0.21	239.40	5,690.6	-260.5	-103.6	280.2	0.00	0.00	
5,800.0	0.21	239.40	5,790.6	-260.7	-103.9	280.5	0.00	0.00	
5,900.0	0.21	239.40	5,890.6	-260.9	-104.2	280.8	0.00	0.00	
6,000.0	0.21	239.40	5,990.6	-261.1	-104.5	281.0	0.00	0.00	
6,100.0	0.21	239.40	6,090.6	-261.2	-104.8	281.3	0.00	0.00	
6,200.0	0.21	239.40	6,190.6	-261.4	-105.1	281.6	0.00	0.00	
6,300.0	0.21	239.40	6,290.6	-261.6	-105.4	281.9	0.00	0.00	
6,400.0	0.21	239.40	6,390.6	-261.8	-105.7	282.2	0.00	0.00	
6,439.4	0.21	239.40	6,430.0	-261.9	-105.8	282.3	0.00	0.00	Williams Fork (TVD)
6,479.4	0.21	239.40	6,470.0	-261.9	-106.0	282.4	0.00	0.00	Top of Gas (TVD)
6,500.0	0.21	239.40	6,490.6	-262.0	-106.0	282.5	0.00	0.00	
6,600.0	0.21	239.40	6,590.6	-262.1	-106.3	282.8	0.00	0.00	
6,700.0	0.21	239.40	6,690.6	-262.3	-106.6	283.1	0.00	0.00	
6,800.0	0.21	239.40	6,790.6	-262.5	-107.0	283.4	0.00	0.00	
6,900.0	0.21	239.40	6,890.6	-262.7	-107.3	283.7	0.00	0.00	
7,000.0	0.21	239.40	6,990.6	-262.9	-107.6	284.0	0.00	0.00	
7,100.0	0.21	239.40	7,090.6	-263.1	-107.9	284.3	0.00	0.00	
7,200.0	0.21	239.40	7,190.6	-263.2	-108.2	284.5	0.00	0.00	
7,300.0	0.21	239.40	7,290.6	-263.4	-108.5	284.8	0.00	0.00	
7,400.0	0.21	239.40	7,390.6	-263.6	-108.8	285.1	0.00	0.00	
7,500.0	0.21	239.40	7,490.6	-263.8	-109.1	285.4	0.00	0.00	
7,600.0	0.21	239.40	7,590.6	-264.0	-109.4	285.7	0.00	0.00	
7,700.0	0.21	239.40	7,690.6	-264.2	-109.7	286.0	0.00	0.00	
7,800.0	0.21	239.40	7,790.6	-264.3	-110.0	286.3	0.00	0.00	
7,900.0	0.21	239.40	7,890.6	-264.5	-110.4	286.6	0.00	0.00	
8,000.0	0.21	239.40	7,990.6	-264.7	-110.7	286.9	0.00	0.00	
8,100.0	0.21	239.40	8,090.6	-264.9	-111.0	287.2	0.00	0.00	
8,200.0	0.21	239.40	8,190.6	-265.1	-111.3	287.5	0.00	0.00	
8,300.0	0.21	239.40	8,290.6	-265.3	-111.6	287.8	0.00	0.00	
8,400.0	0.21	239.40	8,390.6	-265.4	-111.9	288.0	0.00	0.00	
8,500.0	0.21	239.40	8,490.6	-265.6	-112.2	288.3	0.00	0.00	
8,600.0	0.21	239.40	8,590.6	-265.8	-112.5	288.6	0.00	0.00	
8,700.0	0.21	239.40	8,690.6	-266.0	-112.8	288.9	0.00	0.00	
8,800.0	0.21	239.40	8,790.6	-266.2	-113.1	289.2	0.00	0.00	
8,900.0	0.21	239.40	8,890.6	-266.4	-113.5	289.5	0.00	0.00	
9,000.0	0.21	239.40	8,990.6	-266.5	-113.8	289.8	0.00	0.00	
9,100.0	0.21	239.40	9,090.6	-266.7	-114.1	290.1	0.00	0.00	
9,200.0	0.21	239.40	9,190.6	-266.9	-114.4	290.4	0.00	0.00	
9,300.0	0.21	239.40	9,290.6	-267.1	-114.7	290.7	0.00	0.00	
9,400.0	0.21	239.40	9,390.6	-267.3	-115.0	291.0	0.00	0.00	
9,500.0	0.21	239.40	9,490.6	-267.5	-115.3	291.2	0.00	0.00	

Cathedral Energy Services

Planning Report

Database:	EDM 5000.1 US Multi Users DB	Local Co-ordinate Reference:	Well NP EF16E-27 P27 595
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	WELL @ 6675.0ft (Original Well Elev)
Project:	North Piceance	MD Reference:	WELL @ 6675.0ft (Original Well Elev)
Site:	P27 595 (S27-T5S-R95W)	North Reference:	True
Well:	NP EF16E-27 P27 595	Survey Calculation Method:	Minimum Curvature
Wellbore:	DD		
Design:	Plan #1		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Comments / Formations
9,600.0	0.21	239.40	9,590.6	-267.6	-115.6	291.5	0.00	0.00	
9,700.0	0.21	239.40	9,690.6	-267.8	-115.9	291.8	0.00	0.00	
9,800.0	0.21	239.40	9,790.6	-268.0	-116.2	292.1	0.00	0.00	
9,900.0	0.21	239.40	9,890.6	-268.2	-116.5	292.4	0.00	0.00	
10,000.0	0.21	239.40	9,990.6	-268.4	-116.9	292.7	0.00	0.00	
10,039.4	0.21	239.40	10,030.0	-268.4	-117.0	292.8	0.00	0.00	Rollins TVD - P27 595 EF16E-27 BHL
10,100.0	0.21	239.40	10,090.6	-268.5	-117.2	293.0	0.00	0.00	
10,139.4	0.21	239.40	10,130.0	-268.6	-117.3	293.1	0.00	0.00	Drillers TD @ 10,130' TVD

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									
P27 595 EF16E-27 BHL	0.00	0.00	10,030.0	-268.4	-117.0	1,645,605.15	2,285,947.57	39.578629	-108.033621
- plan hits target center									
- Rectangle (sides W30.0 H50.0 D0.0)									
P27 595 EF16E-27 TGT	0.00	0.00	4,500.0	-258.4	-100.0	1,645,614.71	2,285,964.82	39.578657	-108.033560
- plan hits target center									
- Point									

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
6,439.4	6,430.0	Williams Fork (TVD)			
6,479.4	6,470.0	Top of Gas (TVD)			
10,039.4	10,030.0	Rollins TVD			

Plan Annotations

	Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
			+N/-S (ft)	+E/-W (ft)	
	300.0	300.0	0.0	0.0	KOP @ 300'
	430.0	429.9	-3.4	-2.8	EOB; Inc=3.9°
	4,379.0	4,369.7	-13.8	-11.6	Start Drop -3.00
	4,509.4	4,500.0	-16.5	-13.1	EOD; Inc=0°
	10,139.4	10,130.0	-254.2	-98.5	Drillers TD @ 10,130' TVD