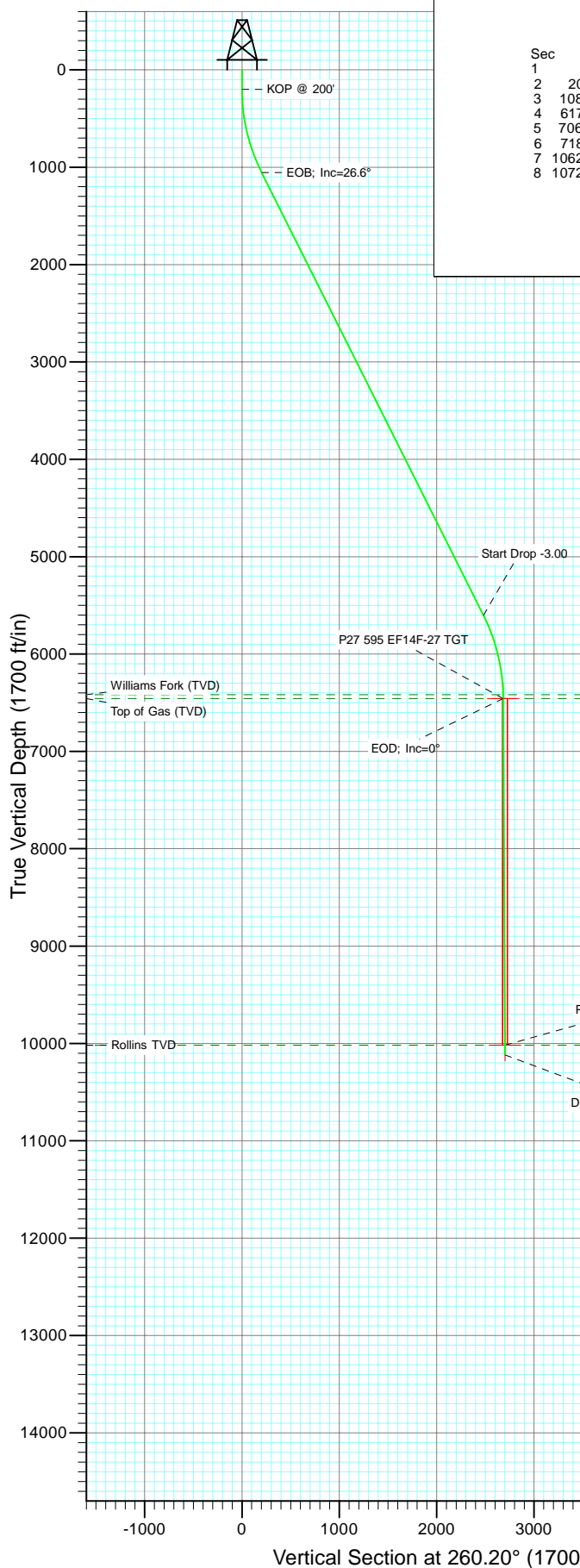


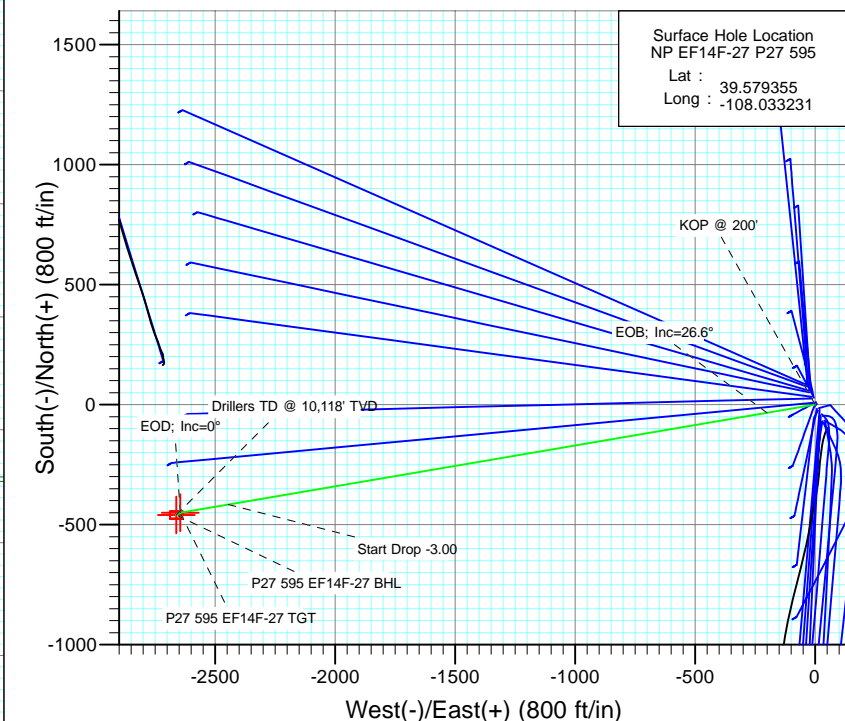


Project: North Piceance
Site: P27 595 (S27-T5S-R95W)
Well: NP EF14F-27 P27 595
Wellbore: DD
Design: Plan #1



SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSecl	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	1087.3	26.62	260.35	1055.7	-33.9	-199.6	3.00	260.35	202.4	
4	6172.9	26.62	260.35	5602.3	-416.0	-2445.8	0.00	0.00	2481.0	
5	7060.1	0.00	0.00	6458.0	-449.9	-2645.4	3.00	180.00	2683.4	P27 595 EF14F-27 TGT
6	7189.4	0.32	239.53	6587.3	-450.1	-2645.7	0.25	239.53	2683.7	
7	10620.2	0.32	239.53	10018.0	-459.9	-2662.4	0.00	0.00	2701.8	P27 595 EF14F-27 BHL
8	10720.2	0.32	239.53	10118.0	-460.2	-2662.9	0.00	0.00	2702.3	



Azimuths to True North
Magnetic North: 10.46°

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

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
6418.0	7020.1	Williams Fork (TVD)
6458.0	7060.1	Top of Gas (TVD)
10018.0	10620.2	Rollins TVD

Plan #1
NP EF14F-27 P27 595
WELL @ 6675.0ft (Original Well Elev)
North American Datum 1983
Well NP EF14F-27 P27 595, True North

Type TD	Target No Target (Freehand)	Azimuth 260.20	Origin Type Slot	N/S 0.0	E/W 0.0	From TVD 0.0
Name	TVD	+N/-S	+E/-W	Latitude	Longitude	
P27 595 EF14F-27 TGT	6458.0	-449.9	-2645.4	39.578120	-108.042616	
P27 595 EF14F-27 BHL	10018.0	-459.9	-2662.4	39.578092	-108.042676	

Cathedral Energy Services

Planning Report

Database:	EDM 5000.1 US Multi Users DB	Local Co-ordinate Reference:	Well NP EF14F-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 EF14F-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 EF14F-27 P27 595					
Well Position	+N/-S	0.0 ft	Northing:	1,645,866.42 ft	Latitude:	39.579355
	+E/-W	0.0 ft	Easting:	2,286,064.83 ft	Longitude:	-108.033231
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	260.20

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	
1,087.3	26.62	260.35	1,055.7	-33.9	-199.6	3.00	3.00	0.00	260.35	
6,172.9	26.62	260.35	5,602.3	-416.0	-2,445.8	0.00	0.00	0.00	0.00	
7,060.1	0.00	0.00	6,458.0	-449.9	-2,645.4	3.00	-3.00	0.00	180.00	P27 595 EF14F-27 T
7,189.4	0.32	239.53	6,587.3	-450.1	-2,645.7	0.25	0.25	-93.19	239.53	
10,620.2	0.32	239.53	10,018.0	-459.9	-2,662.4	0.00	0.00	0.00	0.00	P27 595 EF14F-27 BI
10,720.2	0.32	239.53	10,118.0	-460.2	-2,662.9	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 NP EF14F-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 EF14F-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	KOP @ 200'
300.0	3.00	260.35	300.0	-0.4	-2.6	2.6	3.00	3.00	
400.0	6.00	260.35	399.6	-1.8	-10.3	10.5	3.00	3.00	
500.0	9.00	260.35	498.8	-3.9	-23.2	23.5	3.00	3.00	
600.0	12.00	260.35	597.1	-7.0	-41.1	41.7	3.00	3.00	
700.0	15.00	260.35	694.3	-10.9	-64.2	65.1	3.00	3.00	
800.0	18.00	260.35	790.2	-15.7	-92.2	93.5	3.00	3.00	
900.0	21.00	260.35	884.4	-21.3	-125.1	126.9	3.00	3.00	
1,000.0	24.00	260.35	976.8	-27.7	-162.8	165.1	3.00	3.00	
1,087.3	26.62	260.35	1,055.7	-33.9	-199.6	202.4	3.00	3.00	EOB; Inc=26.6°
1,100.0	26.62	260.35	1,067.1	-34.9	-205.2	208.1	0.00	0.00	
1,200.0	26.62	260.35	1,156.5	-42.4	-249.3	252.9	0.00	0.00	
1,300.0	26.62	260.35	1,245.9	-49.9	-293.5	297.7	0.00	0.00	
1,400.0	26.62	260.35	1,335.3	-57.4	-337.7	342.5	0.00	0.00	
1,500.0	26.62	260.35	1,424.7	-64.9	-381.9	387.3	0.00	0.00	
1,600.0	26.62	260.35	1,514.1	-72.5	-426.0	432.1	0.00	0.00	
1,700.0	26.62	260.35	1,603.5	-80.0	-470.2	476.9	0.00	0.00	
1,800.0	26.62	260.35	1,692.9	-87.5	-514.4	521.7	0.00	0.00	
1,900.0	26.62	260.35	1,782.3	-95.0	-558.5	566.6	0.00	0.00	
2,000.0	26.62	260.35	1,871.7	-102.5	-602.7	611.4	0.00	0.00	
2,100.0	26.62	260.35	1,961.1	-110.0	-646.9	656.2	0.00	0.00	
2,200.0	26.62	260.35	2,050.5	-117.5	-691.0	701.0	0.00	0.00	
2,300.0	26.62	260.35	2,139.9	-125.0	-735.2	745.8	0.00	0.00	
2,400.0	26.62	260.35	2,229.3	-132.5	-779.4	790.6	0.00	0.00	
2,500.0	26.62	260.35	2,318.7	-140.1	-823.6	835.4	0.00	0.00	
2,600.0	26.62	260.35	2,408.1	-147.6	-867.7	880.2	0.00	0.00	
2,700.0	26.62	260.35	2,497.5	-155.1	-911.9	925.0	0.00	0.00	
2,800.0	26.62	260.35	2,586.9	-162.6	-956.1	969.8	0.00	0.00	
2,900.0	26.62	260.35	2,676.3	-170.1	-1,000.2	1,014.6	0.00	0.00	
3,000.0	26.62	260.35	2,765.7	-177.6	-1,044.4	1,059.4	0.00	0.00	
3,100.0	26.62	260.35	2,855.1	-185.1	-1,088.6	1,104.2	0.00	0.00	
3,200.0	26.62	260.35	2,944.5	-192.6	-1,132.7	1,149.0	0.00	0.00	
3,300.0	26.62	260.35	3,033.9	-200.2	-1,176.9	1,193.8	0.00	0.00	
3,400.0	26.62	260.35	3,123.3	-207.7	-1,221.1	1,238.6	0.00	0.00	
3,500.0	26.62	260.35	3,212.7	-215.2	-1,265.2	1,283.4	0.00	0.00	
3,600.0	26.62	260.35	3,302.1	-222.7	-1,309.4	1,328.2	0.00	0.00	
3,700.0	26.62	260.35	3,391.5	-230.2	-1,353.6	1,373.0	0.00	0.00	
3,800.0	26.62	260.35	3,480.9	-237.7	-1,397.8	1,417.8	0.00	0.00	
3,900.0	26.62	260.35	3,570.3	-245.2	-1,441.9	1,462.6	0.00	0.00	
4,000.0	26.62	260.35	3,659.7	-252.7	-1,486.1	1,507.4	0.00	0.00	
4,100.0	26.62	260.35	3,749.1	-260.3	-1,530.3	1,552.2	0.00	0.00	
4,200.0	26.62	260.35	3,838.5	-267.8	-1,574.4	1,597.0	0.00	0.00	
4,300.0	26.62	260.35	3,927.9	-275.3	-1,618.6	1,641.8	0.00	0.00	
4,400.0	26.62	260.35	4,017.3	-282.8	-1,662.8	1,686.6	0.00	0.00	
4,500.0	26.62	260.35	4,106.7	-290.3	-1,706.9	1,731.4	0.00	0.00	
4,600.0	26.62	260.35	4,196.1	-297.8	-1,751.1	1,776.2	0.00	0.00	
4,700.0	26.62	260.35	4,285.5	-305.3	-1,795.3	1,821.1	0.00	0.00	
4,800.0	26.62	260.35	4,374.9	-312.8	-1,839.5	1,865.9	0.00	0.00	
4,900.0	26.62	260.35	4,464.3	-320.3	-1,883.6	1,910.7	0.00	0.00	
5,000.0	26.62	260.35	4,553.7	-327.9	-1,927.8	1,955.5	0.00	0.00	

Cathedral Energy Services

Planning Report

Database:	EDM 5000.1 US Multi Users DB	Local Co-ordinate Reference:	Well NP EF14F-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 EF14F-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
5,100.0	26.62	260.35	4,643.1	-335.4	-1,972.0	2,000.3	0.00	0.00	
5,200.0	26.62	260.35	4,732.5	-342.9	-2,016.1	2,045.1	0.00	0.00	
5,300.0	26.62	260.35	4,821.9	-350.4	-2,060.3	2,089.9	0.00	0.00	
5,400.0	26.62	260.35	4,911.3	-357.9	-2,104.5	2,134.7	0.00	0.00	
5,500.0	26.62	260.35	5,000.7	-365.4	-2,148.6	2,179.5	0.00	0.00	
5,600.0	26.62	260.35	5,090.1	-372.9	-2,192.8	2,224.3	0.00	0.00	
5,700.0	26.62	260.35	5,179.5	-380.4	-2,237.0	2,269.1	0.00	0.00	
5,800.0	26.62	260.35	5,268.9	-388.0	-2,281.1	2,313.9	0.00	0.00	
5,900.0	26.62	260.35	5,358.3	-395.5	-2,325.3	2,358.7	0.00	0.00	
6,000.0	26.62	260.35	5,447.7	-403.0	-2,369.5	2,403.5	0.00	0.00	
6,100.0	26.62	260.35	5,537.2	-410.5	-2,413.7	2,448.3	0.00	0.00	
6,172.9	26.62	260.35	5,602.3	-416.0	-2,445.8	2,481.0	0.00	0.00	Start Drop -3.00
6,200.0	25.80	260.35	5,626.6	-418.0	-2,457.7	2,492.9	3.00	-3.00	
6,300.0	22.80	260.35	5,717.8	-424.9	-2,498.2	2,534.1	3.00	-3.00	
6,400.0	19.80	260.35	5,810.9	-431.0	-2,534.0	2,570.4	3.00	-3.00	
6,500.0	16.80	260.35	5,905.8	-436.2	-2,565.0	2,601.8	3.00	-3.00	
6,600.0	13.80	260.35	6,002.3	-440.7	-2,591.0	2,628.2	3.00	-3.00	
6,700.0	10.80	260.35	6,100.0	-444.2	-2,612.0	2,649.5	3.00	-3.00	
6,800.0	7.80	260.35	6,198.7	-446.9	-2,628.0	2,665.7	3.00	-3.00	
6,900.0	4.80	260.35	6,298.0	-448.8	-2,638.8	2,676.7	3.00	-3.00	
7,000.0	1.80	260.35	6,397.9	-449.7	-2,644.5	2,682.4	3.00	-3.00	
7,020.1	1.20	260.35	6,418.0	-449.8	-2,645.0	2,683.0	3.00	-3.00	Williams Fork (TVD)
7,060.1	0.00	0.00	6,458.0	-449.9	-2,645.4	2,683.4	3.00	-3.00	EOD; Inc=0° - Top of Gas (TVD) - P27 595 EF1
7,100.0	0.10	239.53	6,497.9	-449.9	-2,645.4	2,683.4	0.25	0.25	
7,189.4	0.32	239.53	6,587.3	-450.1	-2,645.7	2,683.7	0.25	0.25	
7,200.0	0.32	239.53	6,597.9	-450.1	-2,645.8	2,683.8	0.00	0.00	
7,300.0	0.32	239.53	6,697.9	-450.4	-2,646.3	2,684.3	0.00	0.00	
7,400.0	0.32	239.53	6,797.8	-450.7	-2,646.7	2,684.8	0.00	0.00	
7,500.0	0.32	239.53	6,897.8	-451.0	-2,647.2	2,685.4	0.00	0.00	
7,600.0	0.32	239.53	6,997.8	-451.3	-2,647.7	2,685.9	0.00	0.00	
7,700.0	0.32	239.53	7,097.8	-451.5	-2,648.2	2,686.4	0.00	0.00	
7,800.0	0.32	239.53	7,197.8	-451.8	-2,648.7	2,686.9	0.00	0.00	
7,900.0	0.32	239.53	7,297.8	-452.1	-2,649.2	2,687.5	0.00	0.00	
8,000.0	0.32	239.53	7,397.8	-452.4	-2,649.7	2,688.0	0.00	0.00	
8,100.0	0.32	239.53	7,497.8	-452.7	-2,650.1	2,688.5	0.00	0.00	
8,200.0	0.32	239.53	7,597.8	-453.0	-2,650.6	2,689.0	0.00	0.00	
8,300.0	0.32	239.53	7,697.8	-453.3	-2,651.1	2,689.6	0.00	0.00	
8,400.0	0.32	239.53	7,797.8	-453.5	-2,651.6	2,690.1	0.00	0.00	
8,500.0	0.32	239.53	7,897.8	-453.8	-2,652.1	2,690.6	0.00	0.00	
8,600.0	0.32	239.53	7,997.8	-454.1	-2,652.6	2,691.2	0.00	0.00	
8,700.0	0.32	239.53	8,097.8	-454.4	-2,653.1	2,691.7	0.00	0.00	
8,800.0	0.32	239.53	8,197.8	-454.7	-2,653.5	2,692.2	0.00	0.00	
8,900.0	0.32	239.53	8,297.8	-455.0	-2,654.0	2,692.7	0.00	0.00	
9,000.0	0.32	239.53	8,397.8	-455.3	-2,654.5	2,693.3	0.00	0.00	
9,100.0	0.32	239.53	8,497.8	-455.5	-2,655.0	2,693.8	0.00	0.00	
9,200.0	0.32	239.53	8,597.8	-455.8	-2,655.5	2,694.3	0.00	0.00	
9,300.0	0.32	239.53	8,697.8	-456.1	-2,656.0	2,694.9	0.00	0.00	
9,400.0	0.32	239.53	8,797.8	-456.4	-2,656.5	2,695.4	0.00	0.00	
9,500.0	0.32	239.53	8,897.8	-456.7	-2,656.9	2,695.9	0.00	0.00	
9,600.0	0.32	239.53	8,997.8	-457.0	-2,657.4	2,696.4	0.00	0.00	
9,700.0	0.32	239.53	9,097.8	-457.3	-2,657.9	2,697.0	0.00	0.00	
9,800.0	0.32	239.53	9,197.8	-457.6	-2,658.4	2,697.5	0.00	0.00	

Cathedral Energy Services

Planning Report

Database:	EDM 5000.1 US Multi Users DB	Local Co-ordinate Reference:	Well NP EF14F-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 EF14F-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
9,900.0	0.32	239.53	9,297.8	-457.8	-2,658.9	2,698.0	0.00	0.00	
10,000.0	0.32	239.53	9,397.8	-458.1	-2,659.4	2,698.5	0.00	0.00	
10,100.0	0.32	239.53	9,497.8	-458.4	-2,659.9	2,699.1	0.00	0.00	
10,200.0	0.32	239.53	9,597.8	-458.7	-2,660.3	2,699.6	0.00	0.00	
10,300.0	0.32	239.53	9,697.8	-459.0	-2,660.8	2,700.1	0.00	0.00	
10,400.0	0.32	239.53	9,797.8	-459.3	-2,661.3	2,700.7	0.00	0.00	
10,500.0	0.32	239.53	9,897.8	-459.6	-2,661.8	2,701.2	0.00	0.00	
10,600.0	0.32	239.53	9,997.8	-459.8	-2,662.3	2,701.7	0.00	0.00	
10,620.2	0.32	239.53	10,018.0	-459.9	-2,662.4	2,701.8	0.00	0.00	Rollins TVD - P27 595 EF14F-27 BHL
10,700.0	0.32	239.53	10,097.8	-460.1	-2,662.8	2,702.2	0.00	0.00	
10,720.2	0.32	239.53	10,118.0	-460.2	-2,662.9	2,702.3	0.00	0.00	Drillers TD @ 10,118' 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 EF14F-27 BHL - plan hits target center - Rectangle (sides W30.0 H50.0 D0.0)	0.00	0.00	10,018.0	-459.9	-2,662.4	1,645,480.93	2,283,390.65	39.578092	-108.042676
P27 595 EF14F-27 TGT - plan hits target center - Point	0.00	0.00	6,458.0	-449.9	-2,645.4	1,645,490.45	2,283,407.92	39.578120	-108.042616

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
7,020.1	6,418.0	Williams Fork (TVD)			
7,060.1	6,458.0	Top of Gas (TVD)			
10,620.2	10,018.0	Rollins TVD			

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Comment
200.0	200.0	0.0	0.0	KOP @ 200'
1,087.3	1,055.7	-33.9	-199.6	EOB; Inc=26.6°
6,172.9	5,602.3	-416.0	-2,445.8	Start Drop -3.00
7,060.1	6,458.0	-449.9	-2,645.4	EOD; Inc=0°
10,720.2	10,118.0	-450.1	-2,645.7	Drillers TD @ 10,118' TVD