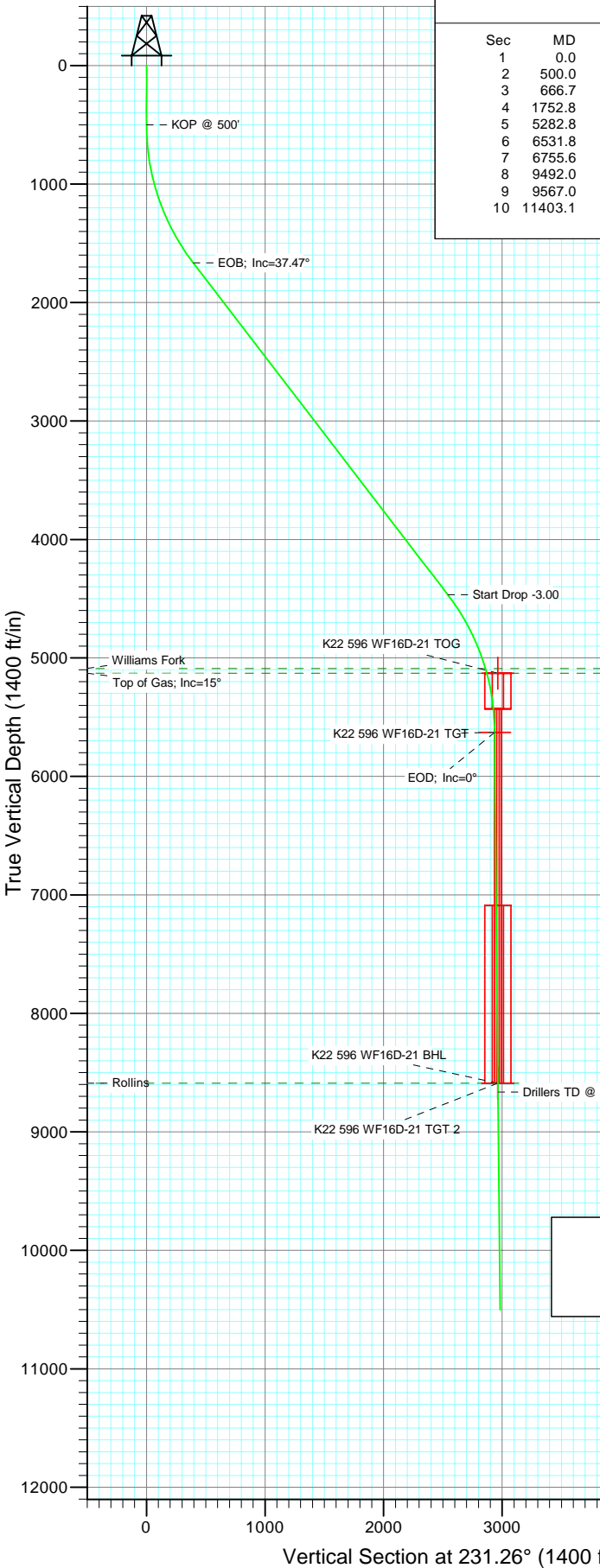
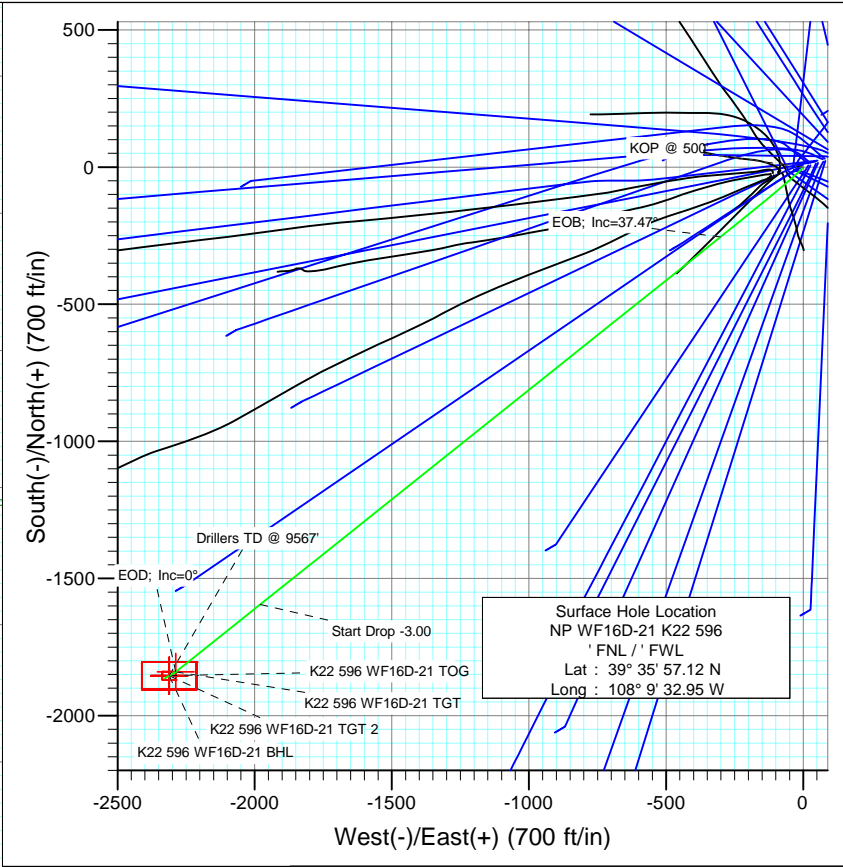




Project: North Piceance  
 Site: K22 596 Pad (S22-T5S-R96W)  
 Well: NP WF16D-21 K22 596  
 Wellbore: DD  
 Design: Plan #1

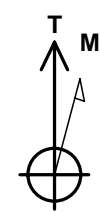


SECTION DETAILS										
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	500.0	0.00	0.00	500.0	0.0	0.0	0.00	0.00	0.0	
3	666.7	5.00	220.00	666.5	-5.6	-4.7	3.00	220.00	7.1	
4	1752.8	37.47	231.40	1665.5	-254.7	-301.3	3.00	12.90	394.4	
5	5282.8	37.47	231.40	4467.1	-1594.6	-1979.6	0.00	0.00	2542.0	
6	6531.8	0.00	0.00	5629.0	-1840.5	-2287.6	3.00	180.00	2936.1	K22 596 WF16D-21 TGT
7	6755.6	0.56	239.69	5852.8	-1841.1	-2288.5	0.25	239.69	2937.2	
8	9492.0	0.56	239.69	8589.0	-1854.5	-2311.6	0.00	0.00	2963.6	K22 596 WF16D-21 BHL
9	9567.0	0.56	239.69	8664.0	-1854.9	-2312.2	0.00	0.00	2964.3	
10	11403.1	0.56	239.69	10500.0	-1864.0	-2327.7	0.00	0.00	2982.0	



FORMATION TOP DETAILS		
TVDPath	MDPath	Formation
5089.0	5984.4	Williams Fork
5129.0	6025.9	Top of Gas; Inc=15°
8589.0	9492.0	Rollins

Bottom Hole Location  
 NP WF16D-21 K22 596  
 'FSL'/'FWL  
 Lat : 39 35 38.79  
 Long. : 108 10 2.48



Azimuths to True North  
 Magnetic North: 10.74°  
 Magnetic Field  
 Strength: 52554.8snT  
 Dip Angle: 65.87°  
 Date: 12/23/2008  
 Model: IGRF200510

DESIGN DETAILS: Plan #1

85xxx; LR  
 WELL @ 6546.0ft (Original Well Elev)

Target	Azimuth	Origin	N/S	E/W	From TVD
K22 596 WF16D-21 BHL	231.26	Slot	0.0	0.0	0.0

# Cathedral Energy Services

## Planning Report

<b>Database:</b> EDM 2003.21 US Multi Users DB	<b>Local Co-ordinate Reference:</b> Well NP WF16D-21 K22 596
<b>Company:</b> EnCana Oil & Gas (USA) Inc	<b>TVD Reference:</b> WELL @ 6546.0ft (Original Well Elev)
<b>Project:</b> North Piceance	<b>MD Reference:</b> WELL @ 6546.0ft (Original Well Elev)
<b>Site:</b> K22 596 Pad (S22-T5S-R96W)	<b>North Reference:</b> True
<b>Well:</b> NP WF16D-21 K22 596	<b>Survey Calculation Method:</b> Minimum Curvature
<b>Wellbore:</b> DD	
<b>Design:</b> Plan #1	

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

<b>Site</b> K22 596 Pad (S22-T5S-R96W)					
<b>Site Position:</b>		<b>Northing:</b>	1,654,096.85 ft	<b>Latitude:</b>	39° 35' 57.02 N
<b>From:</b> Lat/Long		<b>Easting:</b>	2,250,762.90 ft	<b>Longitude:</b>	108° 9' 33.39 W
<b>Position Uncertainty:</b>	0.0 ft	<b>Slot Radius:</b>	0.000 in	<b>Grid Convergence:</b>	-1.68 °

<b>Well</b> NP WF16D-21 K22 596					
<b>Well Position</b>	<b>+N/-S</b>	0.0 ft	<b>Northing:</b>	1,654,106.03 ft	<b>Latitude:</b> 39° 35' 57.12 N
	<b>+E/-W</b>	0.0 ft	<b>Easting:</b>	2,250,797.63 ft	<b>Longitude:</b> 108° 9' 32.95 W
<b>Position Uncertainty</b>		0.0 ft	<b>Wellhead Elevation:</b>	ft	<b>Ground Level:</b> 6,524.0 ft

<b>Wellbore</b> DD					
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination</b>	<b>Dip Angle</b>	<b>Field Strength</b>
	IGRF200510	12/23/2008	(°) 10.74	(°) 65.87	(nT) 52,555

<b>Design</b> Plan #1				
<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b>	PLAN	<b>Tie On Depth:</b>	0.0
<b>Vertical Section:</b>	<b>Depth From (TVD)</b>	<b>+N/-S</b>	<b>+E/-W</b>	<b>Direction</b>
	(ft)	(ft)	(ft)	(°)
	0.0	0.0	0.0	231.26

<b>Plan Sections</b>										
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	
500.0	0.00	0.00	500.0	0.0	0.0	0.00	0.00	0.00	0.00	
666.7	5.00	220.00	666.5	-5.6	-4.7	3.00	3.00	0.00	220.00	
1,752.8	37.47	231.40	1,665.5	-254.7	-301.3	3.00	2.99	1.05	12.90	
5,282.8	37.47	231.40	4,467.1	-1,594.6	-1,979.6	0.00	0.00	0.00	0.00	
6,531.8	0.00	0.00	5,629.0	-1,840.5	-2,287.6	3.00	-3.00	0.00	180.00	K22 596 WF16D-21 T
6,755.6	0.56	239.69	5,852.8	-1,841.1	-2,288.5	0.25	0.25	-53.77	239.69	
9,492.0	0.56	239.69	8,589.0	-1,854.5	-2,311.6	0.00	0.00	0.00	0.00	K22 596 WF16D-21 E
9,567.0	0.56	239.69	8,664.0	-1,854.9	-2,312.2	0.00	0.00	0.00	0.00	
11,403.1	0.56	239.69	10,500.0	-1,864.0	-2,327.7	0.00	0.00	0.00	0.00	

# Cathedral Energy Services

## Planning Report

**Database:** EDM 2003.21 US Multi Users DB  
**Company:** EnCana Oil & Gas (USA) Inc  
**Project:** North Piceance  
**Site:** K22 596 Pad (S22-T5S-R96W)  
**Well:** NP WF16D-21 K22 596  
**Wellbore:** DD  
**Design:** Plan #1

**Local Co-ordinate Reference:** Well NP WF16D-21 K22 596  
**TVD Reference:** WELL @ 6546.0ft (Original Well Elev)  
**MD Reference:** WELL @ 6546.0ft (Original Well Elev)  
**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature

### 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	
30.0	0.00	0.00	30.0	0.0	0.0	0.0	0.00	0.00	
60.0	0.00	0.00	60.0	0.0	0.0	0.0	0.00	0.00	
90.0	0.00	0.00	90.0	0.0	0.0	0.0	0.00	0.00	
120.0	0.00	0.00	120.0	0.0	0.0	0.0	0.00	0.00	
150.0	0.00	0.00	150.0	0.0	0.0	0.0	0.00	0.00	
180.0	0.00	0.00	180.0	0.0	0.0	0.0	0.00	0.00	
210.0	0.00	0.00	210.0	0.0	0.0	0.0	0.00	0.00	
240.0	0.00	0.00	240.0	0.0	0.0	0.0	0.00	0.00	
270.0	0.00	0.00	270.0	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	
330.0	0.00	0.00	330.0	0.0	0.0	0.0	0.00	0.00	
360.0	0.00	0.00	360.0	0.0	0.0	0.0	0.00	0.00	
390.0	0.00	0.00	390.0	0.0	0.0	0.0	0.00	0.00	
420.0	0.00	0.00	420.0	0.0	0.0	0.0	0.00	0.00	
450.0	0.00	0.00	450.0	0.0	0.0	0.0	0.00	0.00	
480.0	0.00	0.00	480.0	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	KOP @ 500'
510.0	0.30	220.00	510.0	0.0	0.0	0.0	3.00	3.00	
540.0	1.20	220.00	540.0	-0.3	-0.3	0.4	3.00	3.00	
570.0	2.10	220.00	570.0	-1.0	-0.8	1.3	3.00	3.00	
600.0	3.00	220.00	600.0	-2.0	-1.7	2.6	3.00	3.00	
630.0	3.90	220.00	629.9	-3.4	-2.8	4.3	3.00	3.00	
660.0	4.80	220.00	659.8	-5.1	-4.3	6.6	3.00	3.00	
666.7	5.00	220.00	666.5	-5.6	-4.7	7.1	3.00	3.00	
690.0	5.68	221.58	689.7	-7.2	-6.1	9.3	3.00	2.93	
720.0	6.57	223.12	719.5	-9.6	-8.3	12.4	3.00	2.95	
750.0	7.46	224.30	749.3	-12.2	-10.8	16.1	3.00	2.96	
780.0	8.35	225.23	779.0	-15.1	-13.7	20.2	3.00	2.97	
810.0	9.24	225.98	808.7	-18.4	-17.0	24.7	3.00	2.98	
840.0	10.14	226.60	838.2	-21.8	-20.6	29.8	3.00	2.98	
870.0	11.03	227.12	867.7	-25.6	-24.6	35.2	3.00	2.98	
900.0	11.93	227.57	897.1	-29.7	-29.0	41.2	3.00	2.99	
930.0	12.82	227.95	926.4	-34.0	-33.8	47.6	3.00	2.99	
960.0	13.72	228.28	955.6	-38.6	-38.9	54.5	3.00	2.99	
990.0	14.62	228.57	984.7	-43.4	-44.4	61.8	3.00	2.99	
1,020.0	15.51	228.83	1,013.7	-48.6	-50.3	69.6	3.00	2.99	
1,050.0	16.41	229.06	1,042.5	-54.0	-56.5	77.9	3.00	2.99	
1,080.0	17.31	229.27	1,071.2	-59.7	-63.1	86.6	3.00	2.99	
1,110.0	18.21	229.46	1,099.8	-65.7	-70.0	95.7	3.00	2.99	
1,140.0	19.11	229.63	1,128.2	-71.9	-77.3	105.3	3.00	2.99	
1,170.0	20.00	229.79	1,156.5	-78.4	-85.0	115.3	3.00	2.99	
1,200.0	20.90	229.93	1,184.6	-85.1	-93.0	125.8	3.00	3.00	
1,230.0	21.80	230.06	1,212.5	-92.2	-101.4	136.7	3.00	3.00	
1,260.0	22.70	230.19	1,240.3	-99.4	-110.1	148.1	3.00	3.00	
1,290.0	23.60	230.30	1,267.9	-107.0	-119.1	159.9	3.00	3.00	
1,320.0	24.50	230.40	1,295.3	-114.8	-128.6	172.1	3.00	3.00	
1,350.0	25.40	230.50	1,322.5	-122.8	-138.3	184.8	3.00	3.00	
1,380.0	26.30	230.59	1,349.5	-131.1	-148.4	197.8	3.00	3.00	
1,410.0	27.20	230.68	1,376.3	-139.7	-158.9	211.3	3.00	3.00	
1,440.0	28.09	230.76	1,402.8	-148.5	-169.6	225.3	3.00	3.00	
1,470.0	28.99	230.84	1,429.2	-157.6	-180.7	239.6	3.00	3.00	

# Cathedral Energy Services

## Planning Report

**Database:** EDM 2003.21 US Multi Users DB  
**Company:** EnCana Oil & Gas (USA) Inc  
**Project:** North Piceance  
**Site:** K22 596 Pad (S22-T5S-R96W)  
**Well:** NP WF16D-21 K22 596  
**Wellbore:** DD  
**Design:** Plan #1

**Local Co-ordinate Reference:** Well NP WF16D-21 K22 596  
**TVD Reference:** WELL @ 6546.0ft (Original Well Elev)  
**MD Reference:** WELL @ 6546.0ft (Original Well Elev)  
**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature

### 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
1,500.0	29.89	230.91	1,455.3	-166.9	-192.2	254.3	3.00	3.00	
1,530.0	30.79	230.98	1,481.2	-176.4	-203.9	269.5	3.00	3.00	
1,560.0	31.69	231.05	1,506.9	-186.2	-216.0	285.0	3.00	3.00	
1,590.0	32.59	231.11	1,532.3	-196.3	-228.5	301.0	3.00	3.00	
1,620.0	33.49	231.17	1,557.4	-206.5	-241.2	317.4	3.00	3.00	
1,650.0	34.39	231.22	1,582.3	-217.0	-254.2	334.1	3.00	3.00	
1,680.0	35.29	231.28	1,606.9	-227.7	-267.6	351.3	3.00	3.00	
1,710.0	36.19	231.33	1,631.3	-238.7	-281.3	368.8	3.00	3.00	
1,740.0	37.09	231.38	1,655.3	-249.9	-295.3	386.7	3.00	3.00	
1,752.8	37.47	231.40	1,665.5	-254.7	-301.3	394.4	3.00	2.99	EOB; Inc=37.47°
1,770.0	37.47	231.40	1,679.2	-261.2	-309.5	404.9	0.00	0.00	
1,800.0	37.47	231.40	1,703.0	-272.6	-323.8	423.1	0.00	0.00	
1,830.0	37.47	231.40	1,726.8	-284.0	-338.0	441.4	0.00	0.00	
1,860.0	37.47	231.40	1,750.6	-295.4	-352.3	459.7	0.00	0.00	
1,890.0	37.47	231.40	1,774.4	-306.8	-366.6	477.9	0.00	0.00	
1,920.0	37.47	231.40	1,798.2	-318.2	-380.8	496.2	0.00	0.00	
1,950.0	37.47	231.40	1,822.0	-329.6	-395.1	514.4	0.00	0.00	
1,980.0	37.47	231.40	1,845.8	-341.0	-409.4	532.7	0.00	0.00	
2,010.0	37.47	231.40	1,869.7	-352.3	-423.6	550.9	0.00	0.00	
2,040.0	37.47	231.40	1,893.5	-363.7	-437.9	569.2	0.00	0.00	
2,070.0	37.47	231.40	1,917.3	-375.1	-452.1	587.4	0.00	0.00	
2,100.0	37.47	231.40	1,941.1	-386.5	-466.4	605.7	0.00	0.00	
2,130.0	37.47	231.40	1,964.9	-397.9	-480.7	623.9	0.00	0.00	
2,160.0	37.47	231.40	1,988.7	-409.3	-494.9	642.2	0.00	0.00	
2,190.0	37.47	231.40	2,012.5	-420.7	-509.2	660.4	0.00	0.00	
2,220.0	37.47	231.40	2,036.3	-432.1	-523.5	678.7	0.00	0.00	
2,250.0	37.47	231.40	2,060.1	-443.4	-537.7	696.9	0.00	0.00	
2,280.0	37.47	231.40	2,083.9	-454.8	-552.0	715.2	0.00	0.00	
2,310.0	37.47	231.40	2,107.8	-466.2	-566.2	733.4	0.00	0.00	
2,340.0	37.47	231.40	2,131.6	-477.6	-580.5	751.7	0.00	0.00	
2,370.0	37.47	231.40	2,155.4	-489.0	-594.8	769.9	0.00	0.00	
2,400.0	37.47	231.40	2,179.2	-500.4	-609.0	788.2	0.00	0.00	
2,430.0	37.47	231.40	2,203.0	-511.8	-623.3	806.4	0.00	0.00	
2,460.0	37.47	231.40	2,226.8	-523.2	-637.6	824.7	0.00	0.00	
2,490.0	37.47	231.40	2,250.6	-534.5	-651.8	842.9	0.00	0.00	

# Cathedral Energy Services

## Planning Report

**Database:** EDM 2003.21 US Multi Users DB  
**Company:** EnCana Oil & Gas (USA) Inc  
**Project:** North Piceance  
**Site:** K22 596 Pad (S22-T5S-R96W)  
**Well:** NP WF16D-21 K22 596  
**Wellbore:** DD  
**Design:** Plan #1

**Local Co-ordinate Reference:** Well NP WF16D-21 K22 596  
**TVD Reference:** WELL @ 6546.0ft (Original Well Elev)  
**MD Reference:** WELL @ 6546.0ft (Original Well Elev)  
**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature

### 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
2,500.0	37.47	231.40	2,258.5	-538.3	-656.6	849.0	0.00	0.00	
2,600.0	37.47	231.40	2,337.9	-576.3	-704.1	909.8	0.00	0.00	
2,700.0	37.47	231.40	2,417.3	-614.3	-751.7	970.7	0.00	0.00	
2,800.0	37.47	231.40	2,496.6	-652.2	-799.2	1,031.5	0.00	0.00	
2,900.0	37.47	231.40	2,576.0	-690.2	-846.8	1,092.4	0.00	0.00	
3,000.0	37.47	231.40	2,655.4	-728.1	-894.3	1,153.2	0.00	0.00	
3,100.0	37.47	231.40	2,734.7	-766.1	-941.8	1,214.0	0.00	0.00	
3,200.0	37.47	231.40	2,814.1	-804.0	-989.4	1,274.9	0.00	0.00	
3,300.0	37.47	231.40	2,893.5	-842.0	-1,036.9	1,335.7	0.00	0.00	
3,400.0	37.47	231.40	2,972.8	-880.0	-1,084.5	1,396.5	0.00	0.00	
3,500.0	37.47	231.40	3,052.2	-917.9	-1,132.0	1,457.4	0.00	0.00	
3,600.0	37.47	231.40	3,131.6	-955.9	-1,179.6	1,518.2	0.00	0.00	
3,700.0	37.47	231.40	3,210.9	-993.8	-1,227.1	1,579.1	0.00	0.00	
3,800.0	37.47	231.40	3,290.3	-1,031.8	-1,274.6	1,639.9	0.00	0.00	
3,900.0	37.47	231.40	3,369.7	-1,069.7	-1,322.2	1,700.7	0.00	0.00	
4,000.0	37.47	231.40	3,449.0	-1,107.7	-1,369.7	1,761.6	0.00	0.00	
4,100.0	37.47	231.40	3,528.4	-1,145.7	-1,417.3	1,822.4	0.00	0.00	
4,200.0	37.47	231.40	3,607.7	-1,183.6	-1,464.8	1,883.2	0.00	0.00	
4,300.0	37.47	231.40	3,687.1	-1,221.6	-1,512.4	1,944.1	0.00	0.00	
4,400.0	37.47	231.40	3,766.5	-1,259.5	-1,559.9	2,004.9	0.00	0.00	
4,500.0	37.47	231.40	3,845.8	-1,297.5	-1,607.5	2,065.8	0.00	0.00	
4,600.0	37.47	231.40	3,925.2	-1,335.4	-1,655.0	2,126.6	0.00	0.00	
4,700.0	37.47	231.40	4,004.6	-1,373.4	-1,702.5	2,187.4	0.00	0.00	
4,800.0	37.47	231.40	4,083.9	-1,411.4	-1,750.1	2,248.3	0.00	0.00	
4,900.0	37.47	231.40	4,163.3	-1,449.3	-1,797.6	2,309.1	0.00	0.00	
5,000.0	37.47	231.40	4,242.7	-1,487.3	-1,845.2	2,369.9	0.00	0.00	
5,100.0	37.47	231.40	4,322.0	-1,525.2	-1,892.7	2,430.8	0.00	0.00	
5,200.0	37.47	231.40	4,401.4	-1,563.2	-1,940.3	2,491.6	0.00	0.00	
5,282.8	37.47	231.40	4,467.1	-1,594.6	-1,979.6	2,542.0	0.00	0.00	Start Drop -3.00
5,300.0	36.96	231.40	4,480.8	-1,601.1	-1,987.8	2,552.4	3.01	-3.01	
5,400.0	33.96	231.40	4,562.3	-1,637.3	-2,033.1	2,610.4	3.00	-3.00	
5,500.0	30.96	231.40	4,646.6	-1,670.8	-2,075.0	2,664.1	3.00	-3.00	
5,600.0	27.96	231.40	4,733.7	-1,701.5	-2,113.4	2,713.2	3.00	-3.00	
5,700.0	24.96	231.40	4,823.2	-1,729.2	-2,148.3	2,757.8	3.00	-3.00	
5,800.0	21.96	231.40	4,914.9	-1,754.1	-2,179.4	2,797.6	3.00	-3.00	
5,900.0	18.96	231.40	5,008.6	-1,775.9	-2,206.7	2,832.5	3.00	-3.00	
5,984.4	16.42	231.40	5,089.0	-1,791.9	-2,226.7	2,858.1	3.00	-3.00	Williams Fork
6,000.0	15.96	231.40	5,104.0	-1,794.6	-2,230.1	2,862.5	3.00	-3.00	
6,025.9	15.18	231.40	5,129.0	-1,798.9	-2,235.5	2,869.5	3.00	-3.00	Top of Gas; Inc=15°
6,048.8	14.49	231.40	5,151.1	-1,802.6	-2,240.1	2,875.3	3.00	-3.00	K22 596 WF16D-21 TOG
6,100.0	12.96	231.40	5,200.8	-1,810.2	-2,249.6	2,887.5	3.00	-3.00	
6,200.0	9.96	231.40	5,298.8	-1,822.6	-2,265.1	2,907.3	3.00	-3.00	
6,300.0	6.96	231.40	5,397.7	-1,831.7	-2,276.6	2,922.0	3.00	-3.00	
6,400.0	3.96	231.40	5,497.3	-1,837.7	-2,284.0	2,931.5	3.00	-3.00	
6,500.0	0.96	231.40	5,597.2	-1,840.3	-2,287.4	2,935.8	3.00	-3.00	
6,531.8	0.00	231.40	5,629.0	-1,840.5	-2,287.6	2,936.1	3.00	-3.00	EOD; Inc=0° - K22 596 WF16D-21 TGT
6,600.0	0.17	239.69	5,697.2	-1,840.6	-2,287.7	2,936.2	0.25	0.25	
6,700.0	0.42	239.69	5,797.2	-1,840.8	-2,288.1	2,936.7	0.25	0.25	
6,755.6	0.56	239.69	5,852.8	-1,841.1	-2,288.5	2,937.2	0.25	0.25	
6,800.0	0.56	239.69	5,897.2	-1,841.3	-2,288.9	2,937.6	0.00	0.00	
6,900.0	0.56	239.69	5,997.1	-1,841.8	-2,289.8	2,938.6	0.00	0.00	
7,000.0	0.56	239.69	6,097.1	-1,842.3	-2,290.6	2,939.5	0.00	0.00	

# Cathedral Energy Services

## Planning Report

**Database:** EDM 2003.21 US Multi Users DB  
**Company:** EnCana Oil & Gas (USA) Inc  
**Project:** North Piceance  
**Site:** K22 596 Pad (S22-T5S-R96W)  
**Well:** NP WF16D-21 K22 596  
**Wellbore:** DD  
**Design:** Plan #1

**Local Co-ordinate Reference:** Well NP WF16D-21 K22 596  
**TVD Reference:** WELL @ 6546.0ft (Original Well Elev)  
**MD Reference:** WELL @ 6546.0ft (Original Well Elev)  
**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature

### 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
7,100.0	0.56	239.69	6,197.1	-1,842.7	-2,291.4	2,940.5	0.00	0.00	
7,200.0	0.56	239.69	6,297.1	-1,843.2	-2,292.3	2,941.4	0.00	0.00	
7,300.0	0.56	239.69	6,397.1	-1,843.7	-2,293.1	2,942.4	0.00	0.00	
7,400.0	0.56	239.69	6,497.1	-1,844.2	-2,294.0	2,943.4	0.00	0.00	
7,500.0	0.56	239.69	6,597.1	-1,844.7	-2,294.8	2,944.3	0.00	0.00	
7,600.0	0.56	239.69	6,697.1	-1,845.2	-2,295.7	2,945.3	0.00	0.00	
7,700.0	0.56	239.69	6,797.1	-1,845.7	-2,296.5	2,946.3	0.00	0.00	
7,800.0	0.56	239.69	6,897.1	-1,846.2	-2,297.3	2,947.2	0.00	0.00	
7,900.0	0.56	239.69	6,997.1	-1,846.7	-2,298.2	2,948.2	0.00	0.00	
8,000.0	0.56	239.69	7,097.1	-1,847.2	-2,299.0	2,949.2	0.00	0.00	
8,100.0	0.56	239.69	7,197.1	-1,847.7	-2,299.9	2,950.1	0.00	0.00	
8,200.0	0.56	239.69	7,297.1	-1,848.2	-2,300.7	2,951.1	0.00	0.00	
8,300.0	0.56	239.69	7,397.1	-1,848.7	-2,301.6	2,952.1	0.00	0.00	
8,400.0	0.56	239.69	7,497.1	-1,849.2	-2,302.4	2,953.0	0.00	0.00	
8,500.0	0.56	239.69	7,597.1	-1,849.6	-2,303.2	2,954.0	0.00	0.00	
8,600.0	0.56	239.69	7,697.1	-1,850.1	-2,304.1	2,955.0	0.00	0.00	
8,700.0	0.56	239.69	7,797.1	-1,850.6	-2,304.9	2,955.9	0.00	0.00	
8,800.0	0.56	239.69	7,897.1	-1,851.1	-2,305.8	2,956.9	0.00	0.00	
8,900.0	0.56	239.69	7,997.1	-1,851.6	-2,306.6	2,957.9	0.00	0.00	
9,000.0	0.56	239.69	8,097.0	-1,852.1	-2,307.5	2,958.8	0.00	0.00	
9,100.0	0.56	239.69	8,197.0	-1,852.6	-2,308.3	2,959.8	0.00	0.00	
9,200.0	0.56	239.69	8,297.0	-1,853.1	-2,309.1	2,960.8	0.00	0.00	
9,300.0	0.56	239.69	8,397.0	-1,853.6	-2,310.0	2,961.7	0.00	0.00	
9,400.0	0.56	239.69	8,497.0	-1,854.1	-2,310.8	2,962.7	0.00	0.00	
9,492.0	0.56	239.69	8,589.0	-1,854.5	-2,311.6	2,963.6	0.00	0.00	Rollins - K22 596 WF16D-21 TGT 2 - K22 596 \
9,500.0	0.56	239.69	8,597.0	-1,854.6	-2,311.7	2,963.7	0.00	0.00	
9,567.0	0.56	239.69	8,664.0	-1,854.9	-2,312.2	2,964.3	0.00	0.00	Drillers TD @ 9567'
9,600.0	0.56	239.69	8,697.0	-1,855.1	-2,312.5	2,964.6	0.00	0.00	
9,700.0	0.56	239.69	8,797.0	-1,855.6	-2,313.4	2,965.6	0.00	0.00	
9,800.0	0.56	239.69	8,897.0	-1,856.1	-2,314.2	2,966.6	0.00	0.00	
9,900.0	0.56	239.69	8,997.0	-1,856.5	-2,315.0	2,967.5	0.00	0.00	
10,000.0	0.56	239.69	9,097.0	-1,857.0	-2,315.9	2,968.5	0.00	0.00	
10,100.0	0.56	239.69	9,197.0	-1,857.5	-2,316.7	2,969.5	0.00	0.00	
10,200.0	0.56	239.69	9,297.0	-1,858.0	-2,317.6	2,970.4	0.00	0.00	
10,300.0	0.56	239.69	9,397.0	-1,858.5	-2,318.4	2,971.4	0.00	0.00	
10,400.0	0.56	239.69	9,497.0	-1,859.0	-2,319.3	2,972.4	0.00	0.00	
10,500.0	0.56	239.69	9,597.0	-1,859.5	-2,320.1	2,973.3	0.00	0.00	
10,600.0	0.56	239.69	9,697.0	-1,860.0	-2,320.9	2,974.3	0.00	0.00	
10,700.0	0.56	239.69	9,797.0	-1,860.5	-2,321.8	2,975.2	0.00	0.00	
10,800.0	0.56	239.69	9,897.0	-1,861.0	-2,322.6	2,976.2	0.00	0.00	
10,900.0	0.56	239.69	9,997.0	-1,861.5	-2,323.5	2,977.2	0.00	0.00	
11,000.0	0.56	239.69	10,097.0	-1,862.0	-2,324.3	2,978.1	0.00	0.00	
11,100.0	0.56	239.69	10,196.9	-1,862.5	-2,325.2	2,979.1	0.00	0.00	
11,200.0	0.56	239.69	10,296.9	-1,863.0	-2,326.0	2,980.1	0.00	0.00	
11,300.0	0.56	239.69	10,396.9	-1,863.4	-2,326.8	2,981.0	0.00	0.00	
11,400.0	0.56	239.69	10,496.9	-1,863.9	-2,327.7	2,982.0	0.00	0.00	
11,403.1	0.56	239.69	10,500.0	-1,864.0	-2,327.7	2,982.0	0.00	0.00	

# Cathedral Energy Services

## Planning Report

<b>Database:</b>	EDM 2003.21 US Multi Users DB	<b>Local Co-ordinate Reference:</b>	Well NP WF16D-21 K22 596
<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>TVD Reference:</b>	WELL @ 6546.0ft (Original Well Elev)
<b>Project:</b>	North Piceance	<b>MD Reference:</b>	WELL @ 6546.0ft (Original Well Elev)
<b>Site:</b>	K22 596 Pad (S22-T5S-R96W)	<b>North Reference:</b>	True
<b>Well:</b>	NP WF16D-21 K22 596	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	DD		
<b>Design:</b>	Plan #1		

Targets									
Target Name	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- hit/miss target	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(ft)		
- Shape									
K22 596 WF16D-21 TOC - plan misses target center by 91.1ft at 6048.8ft MD (5151.1 TVD, -1802.6 N, -2240.1 E) - Rectangle (sides W100.0 H200.0 D300.0)	0.00	0.00	5,129.0	-1,854.5	-2,311.6	1,652,319.94	2,248,432.74	39° 35' 38.79 N	108° 10' 2.48 W
K22 596 WF16D-21 TG <sup>+</sup> - plan hits target center - Point	0.00	0.00	5,629.0	-1,840.5	-2,287.6	1,652,333.27	2,248,457.14	39° 35' 38.93 N	108° 10' 2.17 W
K22 596 WF16D-21 TG <sup>-</sup> - plan hits target center - Rectangle (sides W100.0 H200.0 D0.0)	0.00	0.00	8,589.0	-1,854.5	-2,311.6	1,652,319.94	2,248,432.74	39° 35' 38.79 N	108° 10' 2.48 W
K22 596 WF16D-21 BHL - plan hits target center - Rectangle (sides W30.0 H50.0 D0.0)	0.00	0.00	8,589.0	-1,854.5	-2,311.6	1,652,319.94	2,248,432.74	39° 35' 38.79 N	108° 10' 2.48 W

Formations						
Measured Depth	Vertical Depth	Name	Lithology	Dip	Dip Direction	
(ft)	(ft)			(°)	(°)	
5,984.4	5,089.0	Williams Fork		0.00		
6,025.9	5,129.0	Top of Gas; Inc=15°		0.00		
9,492.0	8,589.0	Rollins		0.00		

Plan Annotations					
Measured Depth	Vertical Depth	Local Coordinates		Comment	
(ft)	(ft)	+N/-S	+E/-W		
		(ft)	(ft)		
500.0	500.0	0.0	0.0	KOP @ 500'	
1,752.8	1,665.5	-5.6	-4.7	EOB; Inc=37.47°	
5,282.8	4,467.1	-254.7	-301.3	Start Drop -3.00	
6,531.8	5,629.0	-1,594.6	-1,979.6	EOD; Inc=0°	
9,567.0	8,664.0	-1,840.5	-2,287.6	Drillers TD @ 9567'	
11,403.1	10,500.0	-1,841.1	-2,288.5	Permit TD @ 11403'	