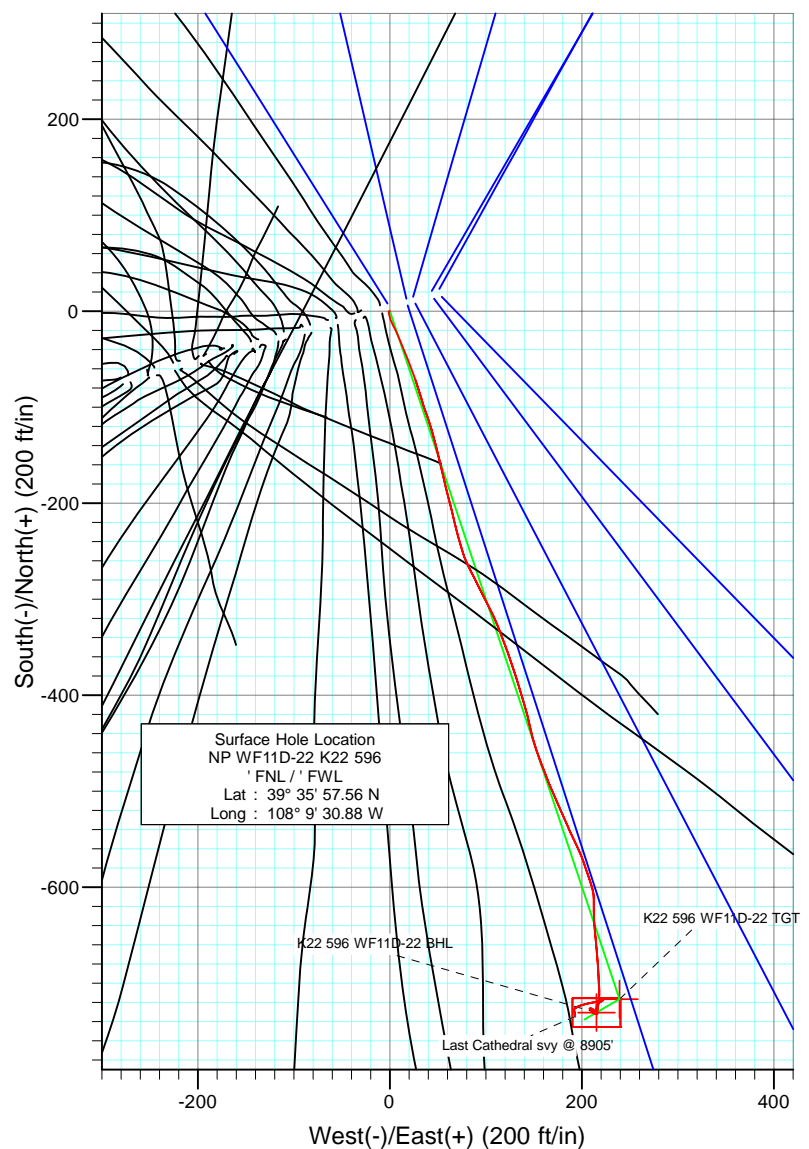
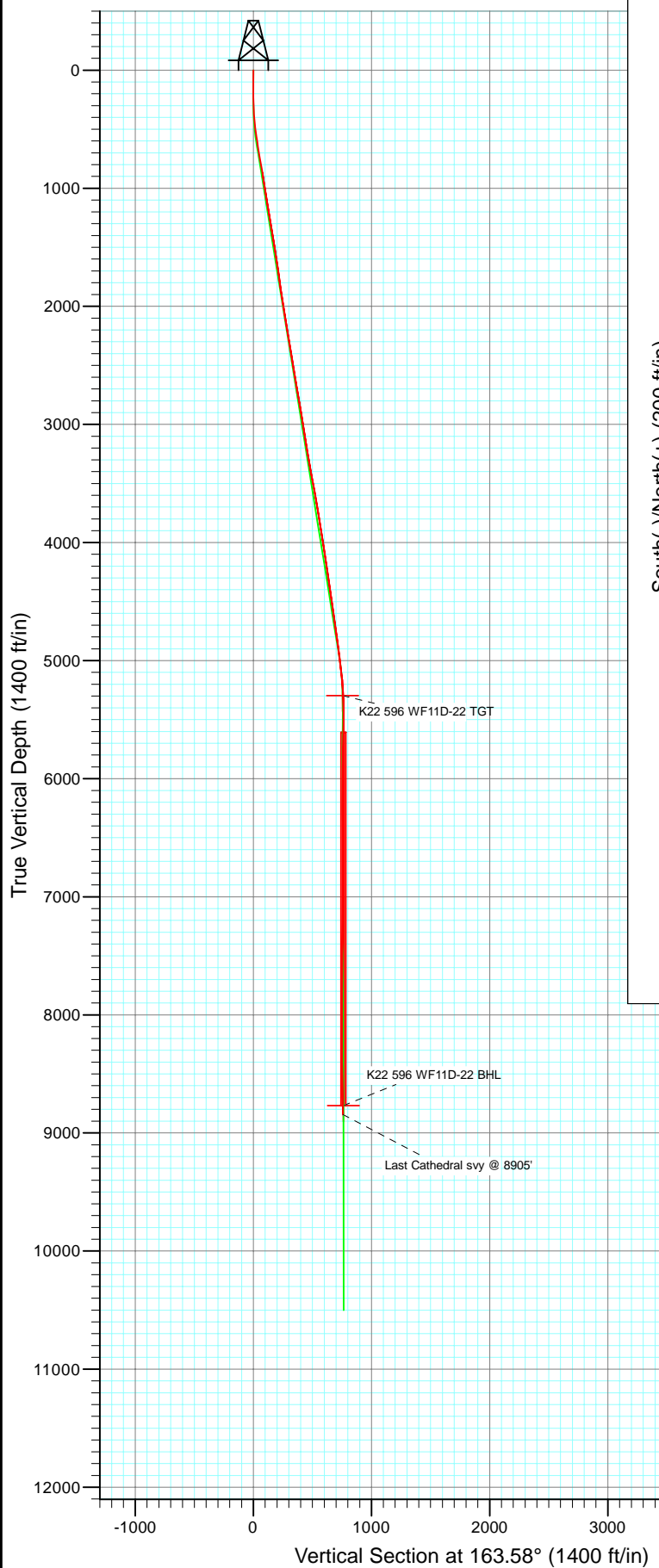




Project: North Piceance  
 Site: K22 596 Pad (S22-T5S-R96W)  
 Well: NP WF11D-22 K22 596  
 Wellbore: DD  
 Design: Final Survey



Azimuths to True North  
 Magnetic North: 10.54°

Magnetic Field  
 Strength: 52359.8snT  
 Dip Angle: 65.82°  
 Date: 9/1/2010  
 Model: IGRF2010

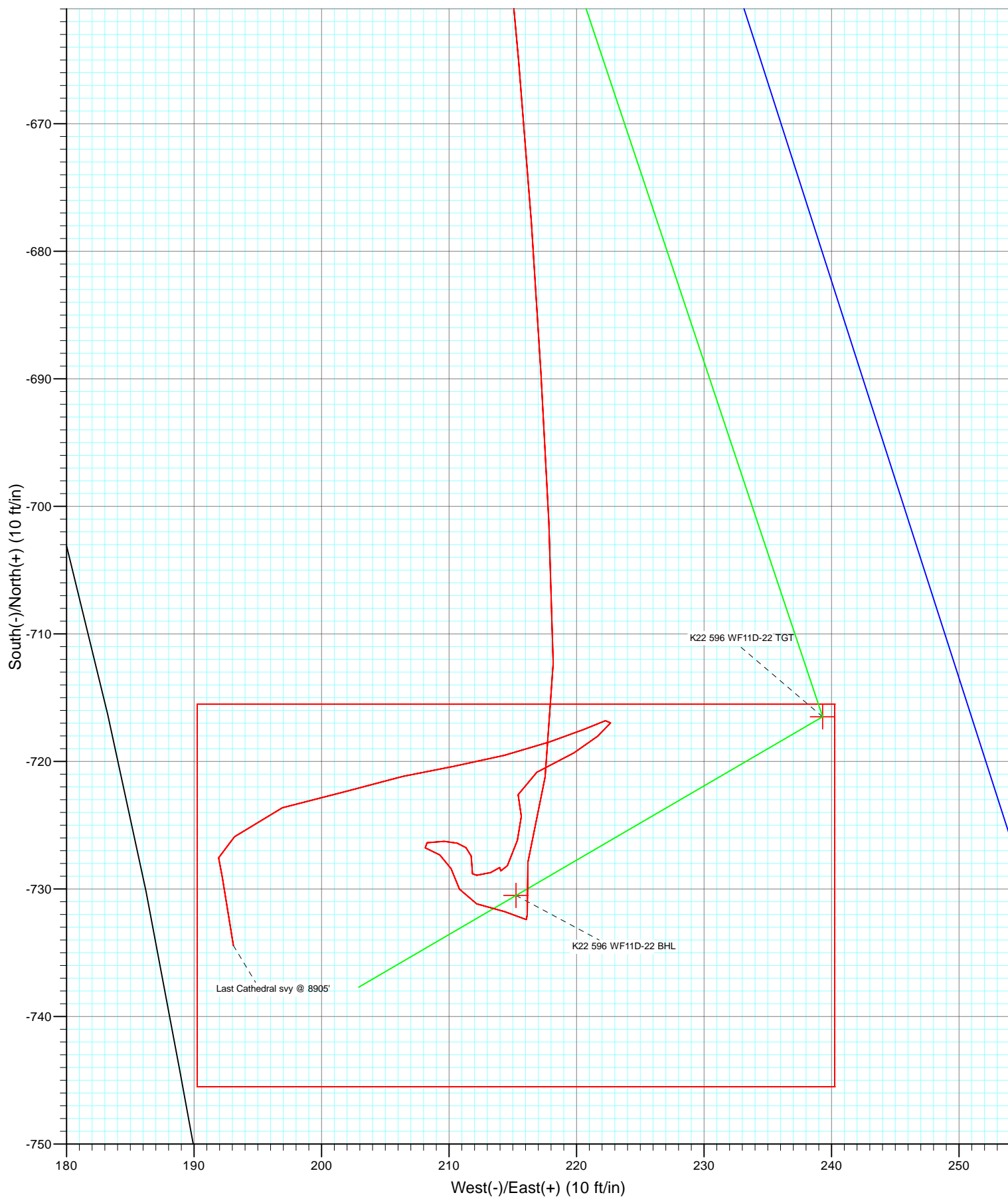
DD  
 NP WF11D-22 K22 596  
 105325 (SH), 105376 (MH); LR

Well @ 6549.0ft (Patterson 303)  
 North American Datum 1983  
 Well NP WF11D-22 K22 596, True North

Type	Target	Azimuth	Origin	Type	N/S	E/W	From	TVD
Target	K22 596 WF11D-22 BHL	163.58	Slot	0.0	0.0	0.0		
Name	TVD	+N/-S	+E/-W	Latitude	Longitude			
K22 596 WF11D-22 BHL	8768.0	-730.5	215.339° 35'	50.34 N	108° 9' 28.13 W			



Project: North Piceance  
Site: K22 596 Pad (S22-T5S-R96W)  
Well: NP WF11D-22 K22 596  
Wellbore: DD  
Design: DD



# Cathedral Energy Services

## Survey Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well NP WF11D-22 K22 596
<b>Project:</b>	North Piceance	<b>TVD Reference:</b>	Well @ 6549.0ft (Patterson 303)
<b>Site:</b>	K22 596 Pad (S22-T5S-R96W)	<b>MD Reference:</b>	Well @ 6549.0ft (Patterson 303)
<b>Well:</b>	NP WF11D-22 K22 596	<b>North Reference:</b>	True
<b>Wellbore:</b>	DD	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	DD	<b>Database:</b>	EDM 5000.1 US Multi Users DB

<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		

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

Well	NP WF11D-22 K22 596					
Well Position	+N/-S	0.0 ft	Northing:	1,654,145.78 ft	Latitude:	39° 35' 57.56 N
	+E/-W	0.0 ft	Easting:	2,250,960.89 ft	Longitude:	108° 9' 30.88 W
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	6,527.0 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 (nT)</b>
	IGRF2010	9/1/2010	10.54	65.82	52,360

<b>Design</b>	DD				
<b>Audit Notes:</b>					
<b>Version:</b>	1.0	<b>Phase:</b>	ACTUAL	<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	163.58	

<b>Survey Program</b>	<b>Date</b>	9/8/2010			
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
147.0	878.0	Survey #1 (DD)	MWD	Geolink MWD	
924.0	8,905.0	Survey #2 (DD)	MWD	Geolink MWD	

<b>Survey</b>										
<b>Measured Depth (ft)</b>	<b>Inclination (°)</b>	<b>Azimuth (°)</b>	<b>Vertical Depth (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Vertical Section (ft)</b>	<b>Dogleg Rate (°/100ft)</b>	<b>Build Rate (°/100ft)</b>	<b>Formations / Comments</b>	
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00		
147.0	0.30	264.60	147.0	0.0	-0.4	-0.1	0.20	0.20		
177.0	0.40	261.70	177.0	-0.1	-0.6	-0.1	0.34	0.33		
206.0	0.40	271.00	206.0	-0.1	-0.8	-0.1	0.22	0.00		
237.0	0.60	235.60	237.0	-0.2	-1.0	-0.1	1.16	0.65		
267.0	0.70	198.70	267.0	-0.4	-1.2	0.1	1.41	0.33		
297.0	1.80	168.10	297.0	-1.1	-1.2	0.7	4.16	3.67		
327.0	2.50	165.50	327.0	-2.2	-0.9	1.8	2.36	2.33		
357.0	3.40	168.30	356.9	-3.7	-0.6	3.4	3.04	3.00		
388.0	4.70	164.40	387.8	-5.8	0.0	5.5	4.28	4.19		
418.0	5.60	166.80	417.7	-8.4	0.6	8.2	3.08	3.00		
448.0	6.40	152.70	447.6	-11.3	1.7	11.3	5.57	2.67		

# Cathedral Energy Services

## Survey Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well NP WF11D-22 K22 596
<b>Project:</b>	North Piceance	<b>TVD Reference:</b>	Well @ 6549.0ft (Patterson 303)
<b>Site:</b>	K22 596 Pad (S22-T5S-R96W)	<b>MD Reference:</b>	Well @ 6549.0ft (Patterson 303)
<b>Well:</b>	NP WF11D-22 K22 596	<b>North Reference:</b>	True
<b>Wellbore:</b>	DD	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	DD	<b>Database:</b>	EDM 5000.1 US Multi Users DB

### Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Formations / Comments
479.0	6.70	153.50	478.4	-14.5	3.3	14.8	1.01	0.97	
509.0	7.60	152.10	508.1	-17.8	5.0	18.5	3.06	3.00	
558.0	8.20	158.40	556.7	-23.9	7.9	25.1	2.15	1.22	
604.0	8.00	158.50	602.2	-29.9	10.2	31.6	0.44	-0.43	
649.0	8.80	155.00	646.7	-35.9	12.8	38.1	2.11	1.78	
695.0	9.40	158.00	692.1	-42.6	15.7	45.3	1.66	1.30	
741.0	9.80	156.80	737.5	-49.7	18.7	53.0	0.97	0.87	
787.0	10.10	158.80	782.8	-57.1	21.7	60.9	0.99	0.65	
832.0	9.80	160.50	827.1	-64.3	24.4	68.6	0.93	-0.67	
878.0	9.70	161.60	872.5	-71.7	26.9	76.4	0.46	-0.22	Last Cathedral Survey @ 878' MD
924.0	9.50	163.90	917.8	-79.0	29.2	84.1	0.94	-0.43	
970.0	9.20	164.70	963.2	-86.2	31.2	91.5	0.71	-0.65	
1,061.0	9.20	159.50	1,053.0	-100.1	35.7	106.1	0.91	0.00	
1,152.0	8.90	160.80	1,142.9	-113.5	40.5	120.4	0.40	-0.33	
1,244.0	9.60	164.30	1,233.7	-127.6	45.0	135.1	0.98	0.76	
1,335.0	9.50	167.40	1,323.5	-142.3	48.7	150.2	0.58	-0.11	
1,427.0	9.50	166.80	1,414.2	-157.1	52.0	165.4	0.11	0.00	
1,519.0	9.10	165.30	1,505.0	-171.5	55.6	180.2	0.51	-0.43	
1,610.0	8.80	167.60	1,594.9	-185.3	58.9	194.4	0.51	-0.33	
1,630.0	8.90	167.30	1,614.6	-188.3	59.6	197.4	0.55	0.50	
1,783.0	7.00	163.70	1,766.2	-208.8	64.8	218.6	1.28	-1.24	
1,875.0	8.80	169.00	1,857.3	-221.0	67.7	231.2	2.11	1.96	
1,967.0	9.50	161.90	1,948.1	-235.2	71.4	245.8	1.44	0.76	
2,058.0	9.10	165.50	2,037.9	-249.3	75.6	260.5	0.78	-0.44	
2,150.0	9.40	154.40	2,128.7	-263.1	80.7	275.2	1.96	0.33	
2,241.0	8.70	152.10	2,218.6	-275.9	87.1	289.2	0.87	-0.77	
2,333.0	10.50	154.20	2,309.3	-289.6	94.0	304.3	1.99	1.96	
2,424.0	9.40	152.60	2,398.9	-303.6	101.0	319.8	1.25	-1.21	
2,516.0	8.30	153.70	2,489.8	-316.3	107.4	333.7	1.21	-1.20	
2,607.0	10.10	159.30	2,579.7	-329.6	113.1	348.2	2.21	1.98	
2,699.0	9.10	158.80	2,670.4	-343.9	118.6	363.5	1.09	-1.09	
2,790.0	10.60	161.50	2,760.0	-358.6	123.9	379.0	1.72	1.65	
2,881.0	9.60	161.10	2,849.6	-373.7	129.0	394.9	1.10	-1.10	
2,973.0	8.60	161.90	2,940.5	-387.5	133.6	409.5	1.10	-1.09	
3,064.0	9.50	164.60	3,030.3	-401.2	137.7	423.8	1.09	0.99	
3,155.0	8.70	163.10	3,120.2	-415.0	141.7	438.2	0.92	-0.88	
3,247.0	10.20	167.50	3,210.9	-429.7	145.5	453.3	1.81	1.63	
3,339.0	9.00	166.60	3,301.6	-444.6	148.9	468.6	1.31	-1.30	
3,430.0	11.70	159.60	3,391.2	-460.2	153.8	484.9	3.27	2.97	
3,521.0	10.90	159.70	3,480.4	-476.9	160.0	502.7	0.88	-0.88	
3,613.0	9.40	156.90	3,571.0	-492.0	166.0	518.8	1.72	-1.63	
3,704.0	8.40	157.30	3,660.9	-504.9	171.5	532.8	1.10	-1.10	
3,796.0	10.30	155.80	3,751.6	-518.6	177.4	547.6	2.08	2.07	
3,887.0	9.40	155.70	3,841.3	-532.8	183.8	563.1	0.99	-0.99	
3,979.0	9.70	156.40	3,932.0	-546.8	190.0	578.2	0.35	0.33	
4,070.0	8.60	153.20	4,021.9	-559.9	196.1	592.5	1.33	-1.21	
4,162.0	9.30	161.10	4,112.7	-573.1	201.7	606.7	1.54	0.76	
4,253.0	8.90	161.60	4,202.6	-586.7	206.3	621.1	0.45	-0.44	
4,345.0	8.10	161.50	4,293.6	-599.6	210.6	634.7	0.87	-0.87	
4,436.0	8.00	180.10	4,383.7	-612.0	212.6	647.1	2.85	-0.11	
4,528.0	7.80	180.80	4,474.8	-624.7	212.5	659.2	0.24	-0.22	
4,619.0	8.90	174.90	4,564.9	-637.8	213.0	672.0	1.53	1.21	
4,710.0	8.60	174.80	4,654.8	-651.6	214.3	685.6	0.33	-0.33	

# Cathedral Energy Services

## Survey Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well NP WF11D-22 K22 596
<b>Project:</b>	North Piceance	<b>TVD Reference:</b>	Well @ 6549.0ft (Patterson 303)
<b>Site:</b>	K22 596 Pad (S22-T5S-R96W)	<b>MD Reference:</b>	Well @ 6549.0ft (Patterson 303)
<b>Well:</b>	NP WF11D-22 K22 596	<b>North Reference:</b>	True
<b>Wellbore:</b>	DD	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	DD	<b>Database:</b>	EDM 5000.1 US Multi Users DB

### Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Formations / Comments
4,802.0	8.30	175.10	4,745.8	-665.1	215.5	698.9	0.33	-0.33	
4,894.0	7.60	175.90	4,836.9	-677.8	216.5	711.3	0.77	-0.76	
4,985.0	7.40	176.90	4,927.1	-689.6	217.2	722.9	0.26	-0.22	
5,077.0	7.10	177.00	5,018.4	-701.2	217.8	734.2	0.33	-0.33	
5,168.0	6.90	179.50	5,108.7	-712.3	218.2	744.9	0.40	-0.22	
5,260.0	4.30	191.30	5,200.3	-721.2	217.5	753.3	3.08	-2.83	
5,351.0	4.30	191.60	5,291.0	-727.9	216.2	759.3	0.02	0.00	
5,443.0	1.20	137.70	5,382.9	-732.0	216.1	763.2	4.04	-3.37	
5,544.0	1.00	295.80	5,483.9	-732.4	216.1	763.6	2.14	-0.20	
5,626.0	1.50	285.90	5,565.9	-731.8	214.4	762.5	0.66	0.61	
5,717.0	1.40	285.60	5,656.9	-731.2	212.2	761.3	0.11	-0.11	
5,809.0	1.10	342.60	5,748.8	-730.0	210.8	759.8	1.33	-0.33	
5,900.0	1.10	333.10	5,839.8	-728.4	210.2	758.1	0.20	0.00	
5,992.0	0.70	300.60	5,931.8	-727.3	209.3	756.8	0.69	-0.43	
6,083.0	0.90	292.60	6,022.8	-726.8	208.1	756.0	0.25	0.22	
6,174.0	1.00	81.10	6,113.8	-726.4	208.3	755.6	2.01	0.11	
6,266.0	0.70	91.60	6,205.8	-726.3	209.6	755.9	0.37	-0.33	
6,357.0	0.60	104.60	6,296.8	-726.4	210.6	756.3	0.20	-0.11	
6,449.0	0.40	135.30	6,388.8	-726.8	211.3	756.9	0.36	-0.22	
6,540.0	0.60	156.80	6,479.8	-727.4	211.7	757.6	0.30	0.22	
6,632.0	0.70	192.40	6,571.8	-728.4	211.8	758.6	0.44	0.11	
6,723.0	0.60	86.70	6,662.8	-728.9	212.2	759.2	1.14	-0.11	
6,815.0	0.80	73.40	6,754.8	-728.7	213.3	759.3	0.28	0.22	
6,906.0	0.30	26.00	6,845.8	-728.3	214.0	759.1	0.70	-0.55	
6,998.0	0.60	182.20	6,937.8	-728.6	214.1	759.4	0.96	0.33	
7,089.0	1.30	31.20	7,028.8	-728.2	214.6	759.1	2.03	0.77	
7,181.0	1.40	12.30	7,120.7	-726.2	215.4	757.4	0.49	0.11	
7,272.0	1.00	5.20	7,211.7	-724.3	215.7	755.7	0.47	-0.44	
7,364.0	1.20	340.40	7,303.7	-722.6	215.4	754.0	0.56	0.22	
7,455.0	2.50	64.30	7,394.7	-720.8	216.9	752.8	2.92	1.43	
7,547.0	1.60	59.60	7,486.6	-719.3	219.8	752.1	0.99	-0.98	
7,638.0	1.30	49.20	7,577.6	-718.0	221.7	751.4	0.44	-0.33	
7,730.0	0.50	29.70	7,669.6	-717.0	222.7	750.7	0.92	-0.87	
7,821.0	0.80	253.50	7,760.5	-716.8	222.3	750.4	1.33	0.33	
7,913.0	1.50	245.20	7,852.5	-717.5	220.6	750.6	0.78	0.76	
8,004.0	2.10	253.20	7,943.5	-718.5	217.9	750.8	0.71	0.66	
8,096.0	2.50	253.80	8,035.4	-719.5	214.3	750.8	0.44	0.43	
8,187.0	2.60	261.60	8,126.3	-720.4	210.4	750.5	0.40	0.11	
8,279.0	2.50	255.90	8,218.2	-721.2	206.4	750.1	0.30	-0.11	
8,370.0	3.30	254.70	8,309.1	-722.3	201.9	750.0	0.88	0.88	
8,461.0	3.20	256.40	8,400.0	-723.6	196.9	749.8	0.15	-0.11	
8,553.0	2.60	217.10	8,491.9	-725.9	193.2	750.9	2.21	-0.65	
8,644.0	0.00	148.40	8,582.8	-727.6	191.9	752.1	2.86	-2.86	
8,736.0	1.90	169.10	8,674.8	-729.0	192.2	753.7	2.07	2.07	
8,905.0	1.80	172.60	8,843.7	-734.4	193.1	759.1	0.09	-0.06	Last Cathedral svy @ 8905'

# Cathedral Energy Services

## Survey Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well NP WF11D-22 K22 596
<b>Project:</b>	North Piceance	<b>TVD Reference:</b>	Well @ 6549.0ft (Patterson 303)
<b>Site:</b>	K22 596 Pad (S22-T5S-R96W)	<b>MD Reference:</b>	Well @ 6549.0ft (Patterson 303)
<b>Well:</b>	NP WF11D-22 K22 596	<b>North Reference:</b>	True
<b>Wellbore:</b>	DD	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	DD	<b>Database:</b>	EDM 5000.1 US Multi Users DB

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 WF11D-22 BHL	0.00	0.00	8,768.0	-730.5	215.3	1,653,409.28	2,251,154.68	39° 35' 50.34 N	108° 9' 28.13 W
- actual wellpath misses target center by 22.6ft at 8829.3ft MD (8768.1 TVD, -732.1 N, 192.7 E)									
- Rectangle (sides W30.0 H50.0 D0.0)									
K22 596 WF11D-22 TG <sup>1</sup>	0.00	0.00	5,297.0	-716.5	239.3	1,653,422.59	2,251,179.12	39° 35' 50.48 N	108° 9' 27.82 W
- actual wellpath misses target center by 26.0ft at 5356.5ft MD (5296.5 TVD, -728.3 N, 216.1 E)									
- Point									

Design Annotations				
Measured Depth	Vertical Depth	Local Coordinates		Comment
(ft)	(ft)	+N/-S (ft)	+E/-W (ft)	
878.0	872.5	-71.7	26.9	Last Cathedral Survey @ 878' MD
8,905.0	8,843.7	-734.4	193.1	Last Cathedral svy @ 8905'

Checked By: \_\_\_\_\_ Approved By: \_\_\_\_\_ Date: \_\_\_\_\_