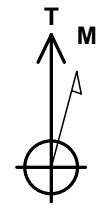
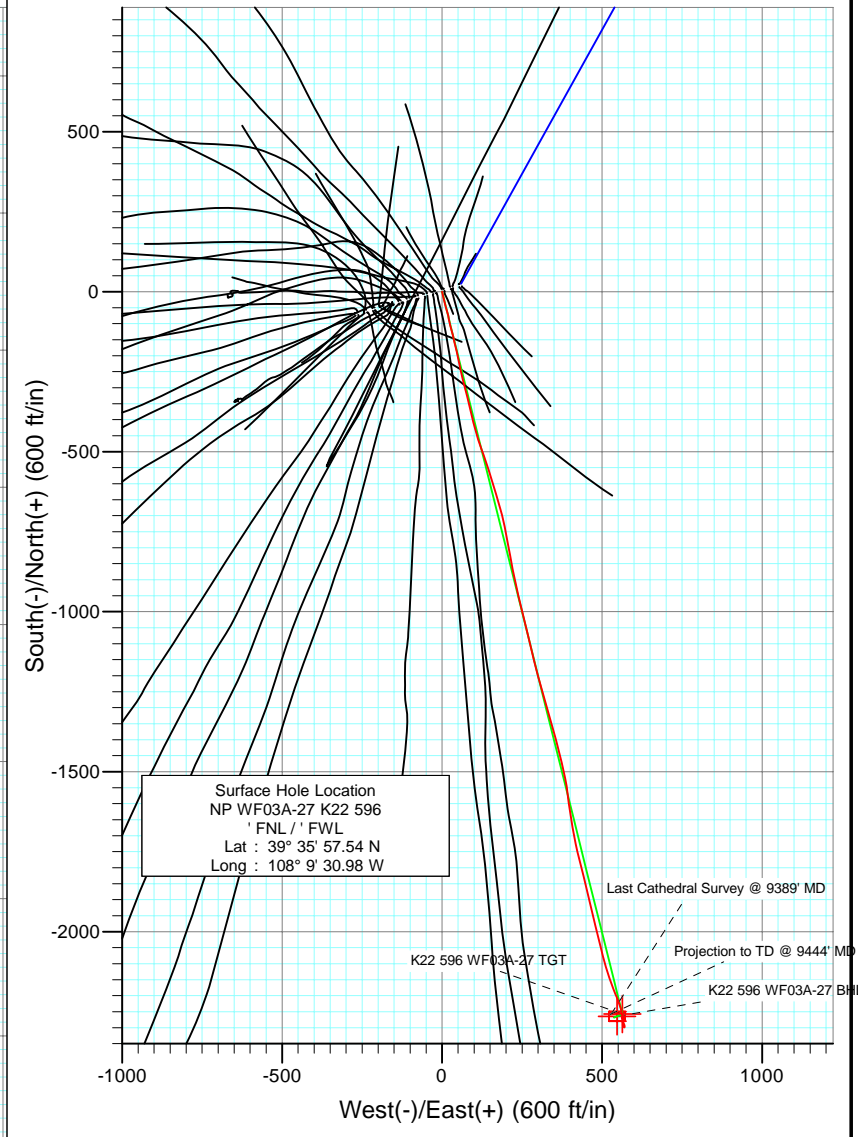
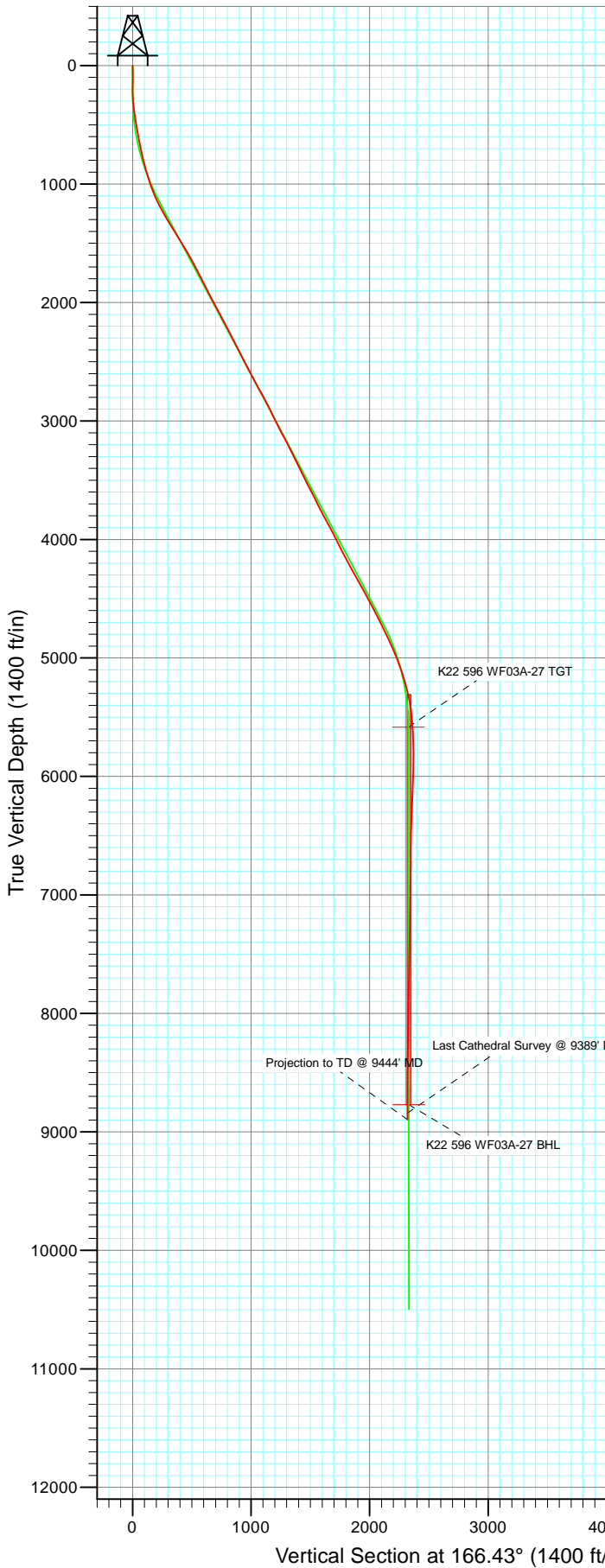




Project: North Piceance  
 Site: K22 596 Pad (S22-T5S-R96W)  
 Well: NP WF03A-27 K22 596  
 Wellbore: DD  
 Design: Final

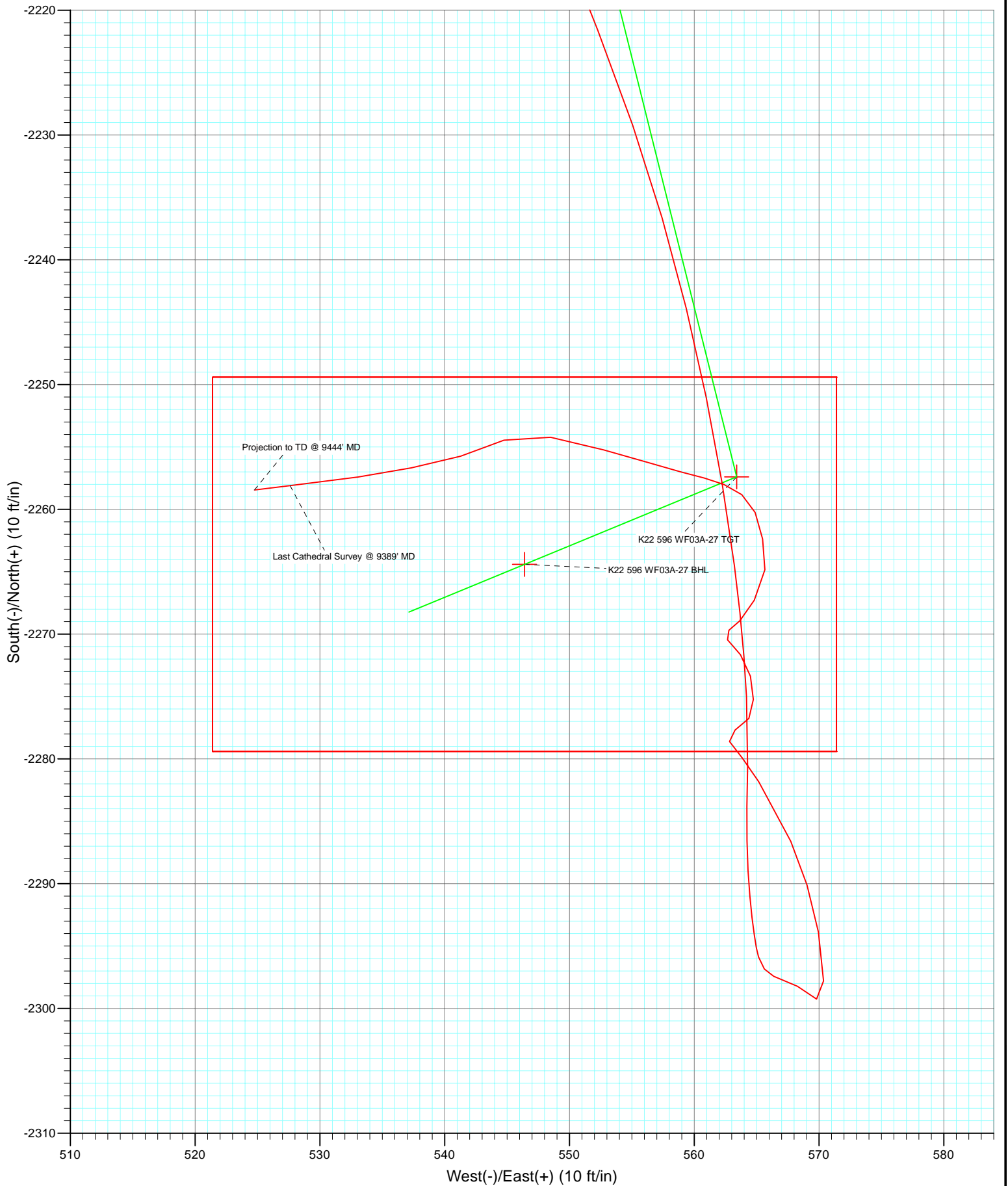


Azimuths to True North  
 Magnetic North: 10.52°  
 Magnetic Field  
 Strength: 52392.1nT  
 Dip Angle: 65.83°  
 Date: 8/26/2010  
 Model: IGRF200510

DD NP WF03A-27 K22 596 105258, 105361; LR							
WF03A-27 K22 596 @ 6546.0ft (Patterson 303) North American Datum 1983 Well NP WF03A-27 K22 596, True North							
Type	Target	Azimuth	Origin	Type	N/S	E/W	From TVD
Target	K22 596 WF03A-27 BHL	166.43	105258, 105361	Slot	0.0	0.0	0.0
Name	TVD	+N/-S	+E/-W	Latitude	Longitude		
K22 596 WF03A-27 BHL	8770.0	-2264.4	546.439°	35° 35.16 N	108° 9' 24.00 W		



Project: North Piceance  
Site: K22 596 Pad (S22-T5S-R96W)  
Well: NP WF03A-27 K22 596  
Wellbore: DD  
Design: Final



# Cathedral Energy Services

## Survey Report

<b>Company:</b> EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b> Well NP WF03A-27 K22 596
<b>Project:</b> North Piceance	<b>TVD Reference:</b> WF03A-27 K22 596 @ 6546.0ft (Patterson 303)
<b>Site:</b> K22 596 Pad (S22-T5S-R96W)	<b>MD Reference:</b> WF03A-27 K22 596 @ 6546.0ft (Patterson 303)
<b>Well:</b> NP WF03A-27 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		

<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 WF03A-27 K22 596					
<b>Well Position</b>	<b>+N/-S</b> 0.0 ft	<b>Northing:</b> 1,654,143.99 ft	<b>Latitude:</b> 39° 35' 57.54 N		
	<b>+E/-W</b> 0.0 ft	<b>Easting:</b> 2,250,953.01 ft	<b>Longitude:</b> 108° 9' 30.98 W		
<b>Position Uncertainty</b>	0.0 ft	<b>Wellhead Elevation:</b> ft	<b>Ground Level:</b> 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>
	IGRF200510	8/26/2010	10.52	65.83	52,392

<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) (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>	
	0.0	0.0	0.0	166.43	

<b>Survey Program</b>		<b>Date</b> 9/2/2010
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>
170.0	1,680.0	Survey #1 (DD)
1,781.0	9,444.0	Survey #2 (DD)
		<b>Tool Name</b>
		MWD
		MWD
		<b>Description</b>
		Geolink MWD
		Geolink MWD

<b>Survey</b>									
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
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	
170.0	0.20	197.00	170.0	-0.3	-0.1	0.3	0.12	0.12	
199.0	0.40	110.30	199.0	-0.4	0.0	0.4	1.51	0.69	
230.0	0.90	149.80	230.0	-0.6	0.2	0.6	2.08	1.61	
260.0	2.60	177.90	260.0	-1.5	0.4	1.5	6.18	5.67	
290.0	4.30	168.20	289.9	-3.3	0.6	3.3	5.97	5.67	
320.0	5.50	165.10	319.8	-5.8	1.2	5.9	4.09	4.00	
351.0	6.80	167.60	350.6	-9.0	2.0	9.2	4.28	4.19	
381.0	7.50	169.40	380.4	-12.7	2.7	12.9	2.45	2.33	
412.0	8.10	167.00	411.1	-16.8	3.6	17.2	2.20	1.94	
442.0	8.80	166.20	440.8	-21.1	4.6	21.6	2.37	2.33	
472.0	9.20	167.10	470.4	-25.6	5.7	26.3	1.41	1.33	

# Cathedral Energy Services

## Survey Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well NP WF03A-27 K22 596
<b>Project:</b>	North Piceance	<b>TD Reference:</b>	WF03A-27 K22 596 @ 6546.0ft (Patterson 303)
<b>Site:</b>	K22 596 Pad (S22-T5S-R96W)	<b>MD Reference:</b>	WF03A-27 K22 596 @ 6546.0ft (Patterson 303)
<b>Well:</b>	NP WF03A-27 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
503.0	9.60	167.40	501.0	-30.6	6.8	31.3	1.30	1.29	
597.0	10.70	163.00	593.5	-46.6	11.1	47.9	1.43	1.17	
689.0	11.10	164.30	683.9	-63.3	16.0	65.2	0.51	0.43	
780.0	13.10	170.90	772.9	-81.9	20.0	84.3	2.67	2.20	
872.0	15.60	165.00	862.0	-104.1	24.8	107.0	3.14	2.72	
963.0	17.30	165.00	949.3	-129.0	31.5	132.8	1.87	1.87	
1,055.0	19.70	167.00	1,036.5	-157.3	38.5	162.0	2.70	2.61	
1,146.0	24.50	167.20	1,120.8	-190.7	46.2	196.2	5.28	5.27	
1,238.0	28.70	168.60	1,203.0	-231.0	54.8	237.4	4.62	4.57	
1,329.0	30.50	166.10	1,282.2	-274.8	64.6	282.3	2.40	1.98	
1,421.0	31.30	165.70	1,361.1	-320.6	76.1	329.6	0.90	0.87	
1,512.0	31.60	166.80	1,438.7	-366.8	87.4	377.0	0.71	0.33	
1,604.0	31.60	165.30	1,517.1	-413.5	99.0	425.2	0.85	0.00	
1,680.0	30.90	163.60	1,582.1	-451.5	109.6	464.6	1.48	-0.92	Last Cathedral Survey @ 1680' MD
1,781.0	28.20	160.20	1,669.9	-498.9	125.0	514.3	3.15	-2.67	
1,873.0	26.70	160.50	1,751.6	-538.8	139.3	556.4	1.64	-1.63	
1,964.0	26.90	162.70	1,832.8	-577.7	152.2	597.3	1.11	0.22	
2,056.0	28.40	164.40	1,914.3	-618.7	164.3	640.0	1.84	1.63	
2,147.0	27.50	163.20	1,994.7	-659.6	176.2	682.6	1.17	-0.99	
2,239.0	27.60	165.40	2,076.2	-700.6	187.7	725.1	1.11	0.11	
2,330.0	28.30	170.10	2,156.6	-742.2	196.7	767.7	2.54	0.77	
2,422.0	27.60	168.20	2,237.9	-784.6	204.8	810.7	1.23	-0.76	
2,513.0	26.20	169.50	2,319.1	-825.0	212.8	851.9	1.67	-1.54	
2,605.0	27.00	169.70	2,401.3	-865.5	220.2	893.0	0.87	0.87	
2,696.0	27.60	168.30	2,482.2	-906.5	228.2	934.7	0.97	0.66	
2,788.0	28.60	166.10	2,563.3	-948.7	237.8	978.0	1.57	1.09	
2,879.0	27.20	166.40	2,643.8	-990.1	247.9	1,020.6	1.55	-1.54	
2,970.0	28.40	166.00	2,724.3	-1,031.3	258.1	1,063.0	1.33	1.32	
3,062.0	28.90	166.50	2,805.0	-1,074.1	268.6	1,107.2	0.60	0.54	
3,153.0	27.10	166.70	2,885.3	-1,115.7	278.5	1,149.9	1.98	-1.98	
3,245.0	25.00	166.70	2,968.0	-1,155.0	287.7	1,190.3	2.28	-2.28	
3,336.0	27.30	163.80	3,049.7	-1,193.8	298.0	1,230.4	2.89	2.53	
3,428.0	29.10	165.20	3,130.7	-1,235.7	309.6	1,273.8	2.08	1.96	
3,519.0	27.10	165.00	3,211.0	-1,277.1	320.6	1,316.7	2.20	-2.20	
3,611.0	25.20	164.30	3,293.6	-1,316.2	331.3	1,357.2	2.09	-2.07	
3,702.0	26.50	163.80	3,375.5	-1,354.3	342.2	1,396.8	1.45	1.43	
3,793.0	25.70	164.40	3,457.2	-1,392.8	353.2	1,436.8	0.93	-0.88	
3,885.0	28.00	164.80	3,539.3	-1,432.9	364.2	1,478.3	2.51	2.50	
3,976.0	27.20	167.30	3,619.9	-1,473.8	374.4	1,520.5	1.55	-0.88	
4,068.0	25.40	167.30	3,702.4	-1,513.6	383.4	1,561.3	1.96	-1.96	
4,159.0	29.20	172.80	3,783.3	-1,554.6	390.5	1,602.9	5.01	4.18	
4,251.0	27.80	172.50	3,864.1	-1,598.2	396.1	1,646.5	1.53	-1.52	
4,342.0	28.00	171.00	3,944.5	-1,640.3	402.2	1,688.9	0.80	0.22	
4,434.0	26.70	169.90	4,026.2	-1,682.0	409.2	1,731.0	1.52	-1.41	
4,525.0	27.00	168.90	4,107.4	-1,722.4	416.7	1,772.1	0.60	0.33	
4,617.0	28.70	165.90	4,188.8	-1,764.3	426.2	1,815.0	2.39	1.85	
4,708.0	28.00	165.40	4,268.9	-1,806.2	436.9	1,858.3	0.81	-0.77	
4,800.0	29.20	167.30	4,349.6	-1,849.0	447.2	1,902.3	1.64	1.30	
4,891.0	29.80	166.40	4,428.8	-1,892.6	457.4	1,947.1	0.82	0.66	
4,983.0	28.50	166.70	4,509.2	-1,936.2	467.9	1,991.9	1.42	-1.41	
5,074.0	27.10	165.80	4,589.7	-1,977.4	477.9	2,034.3	1.61	-1.54	
5,166.0	26.60	165.60	4,671.8	-2,017.7	488.2	2,075.9	0.55	-0.54	
5,257.0	25.80	166.10	4,753.4	-2,056.6	498.0	2,116.1	0.91	-0.88	

# Cathedral Energy Services

## Survey Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well NP WF03A-27 K22 596
<b>Project:</b>	North Piceance	<b>TVD Reference:</b>	WF03A-27 K22 596 @ 6546.0ft (Patterson 303)
<b>Site:</b>	K22 596 Pad (S22-T5S-R96W)	<b>MD Reference:</b>	WF03A-27 K22 596 @ 6546.0ft (Patterson 303)
<b>Well:</b>	NP WF03A-27 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
5,349.0	25.40	166.20	4,836.4	-2,095.2	507.5	2,155.8	0.44	-0.43	
5,440.0	24.30	160.50	4,919.0	-2,131.8	518.4	2,194.0	2.90	-1.21	
5,532.0	21.90	160.50	5,003.6	-2,165.9	530.5	2,229.9	2.61	-2.61	
5,623.0	19.30	157.60	5,088.8	-2,195.8	541.9	2,261.6	3.07	-2.86	
5,715.0	15.90	158.70	5,176.4	-2,221.6	552.3	2,289.1	3.71	-3.70	
5,806.0	14.00	166.50	5,264.4	-2,243.9	559.4	2,312.5	3.04	-2.09	
5,898.0	12.40	172.70	5,353.9	-2,264.5	563.2	2,333.4	2.32	-1.74	
5,989.0	8.20	181.60	5,443.5	-2,280.7	564.3	2,349.4	4.92	-4.62	
6,081.0	4.70	174.50	5,534.9	-2,291.0	564.5	2,359.5	3.89	-3.80	
6,172.0	1.50	163.60	5,625.7	-2,295.9	565.2	2,364.4	3.56	-3.52	
6,264.0	1.20	114.00	5,717.7	-2,297.4	566.4	2,366.2	1.27	-0.33	
6,355.0	1.40	111.60	5,808.7	-2,298.2	568.3	2,367.4	0.23	0.22	
6,446.0	1.00	142.10	5,899.7	-2,299.2	569.8	2,368.8	0.81	-0.44	
6,538.0	2.60	1.90	5,991.6	-2,297.8	570.4	2,367.5	3.73	1.74	
6,629.0	2.40	345.40	6,082.5	-2,293.9	570.0	2,363.6	0.82	-0.22	
6,720.0	2.50	347.60	6,173.5	-2,290.1	569.0	2,359.7	0.15	0.11	
6,812.0	2.20	330.60	6,265.4	-2,286.6	567.7	2,356.0	0.82	-0.33	
6,904.0	1.50	333.40	6,357.3	-2,284.0	566.3	2,353.1	0.77	-0.76	
6,995.0	1.60	330.20	6,448.3	-2,281.8	565.2	2,350.7	0.15	0.11	
7,087.0	1.30	319.20	6,540.3	-2,279.9	563.9	2,348.6	0.44	-0.33	
7,178.0	0.80	326.90	6,631.3	-2,278.6	562.8	2,347.1	0.57	-0.55	
7,270.0	1.10	64.10	6,723.3	-2,277.7	563.3	2,346.3	1.56	0.33	
7,361.0	0.80	29.90	6,814.2	-2,276.8	564.4	2,345.6	0.69	-0.33	
7,453.0	1.20	2.40	6,906.2	-2,275.2	564.7	2,344.2	0.67	0.43	
7,544.0	1.20	343.50	6,997.2	-2,273.4	564.5	2,342.4	0.43	0.00	
7,636.0	1.20	326.20	7,089.2	-2,271.6	563.7	2,340.5	0.39	0.00	
7,727.0	0.80	308.30	7,180.2	-2,270.5	562.7	2,339.1	0.55	-0.44	
7,819.0	0.90	58.50	7,272.2	-2,269.7	562.8	2,338.4	1.52	0.11	
7,910.0	0.60	35.20	7,363.2	-2,268.9	563.7	2,337.8	0.46	-0.33	
8,002.0	1.90	34.70	7,455.1	-2,267.3	564.8	2,336.5	1.41	1.41	
8,093.0	1.50	359.60	7,546.1	-2,264.8	565.7	2,334.3	1.20	-0.44	
8,185.0	1.60	352.20	7,638.1	-2,262.4	565.5	2,331.9	0.24	0.11	
8,276.0	1.20	333.70	7,729.0	-2,260.2	564.9	2,329.7	0.66	-0.44	
8,367.0	1.10	312.00	7,820.0	-2,258.8	563.8	2,328.0	0.49	-0.11	
8,459.0	1.00	285.40	7,912.0	-2,258.0	562.4	2,326.9	0.54	-0.11	
8,550.0	1.10	290.50	8,003.0	-2,257.5	560.8	2,326.1	0.15	0.11	
8,642.0	1.40	280.50	8,095.0	-2,257.0	558.9	2,325.1	0.40	0.33	
8,733.0	2.00	290.00	8,185.9	-2,256.2	556.3	2,323.8	0.73	0.66	
8,825.0	2.60	282.50	8,277.9	-2,255.2	552.7	2,322.0	0.73	0.65	
8,916.0	2.90	284.20	8,368.7	-2,254.2	548.5	2,320.0	0.34	0.33	
9,008.0	2.10	241.40	8,460.7	-2,254.5	544.8	2,319.3	2.14	-0.87	
9,099.0	2.60	256.40	8,551.6	-2,255.7	541.3	2,319.8	0.87	0.55	
9,190.0	2.50	257.10	8,642.5	-2,256.7	537.3	2,319.7	0.12	-0.11	
9,282.0	2.90	262.80	8,734.4	-2,257.4	533.1	2,319.5	0.52	0.43	
9,389.0	3.00	262.90	8,841.3	-2,258.1	527.6	2,318.9	0.09	0.09	Last Cathedral Survey @ 9389' MD
9,444.0	3.00	262.90	8,896.2	-2,258.4	524.8	2,318.5	0.00	0.00	Projection to TD @ 9444' MD

# Cathedral Energy Services

## Survey Report

<b>Company:</b> EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b> Well NP WF03A-27 K22 596
<b>Project:</b> North Piceance	<b>TVD Reference:</b> WF03A-27 K22 596 @ 6546.0ft (Patterson 303)
<b>Site:</b> K22 596 Pad (S22-T5S-R96W)	<b>MD Reference:</b> WF03A-27 K22 596 @ 6546.0ft (Patterson 303)
<b>Well:</b> NP WF03A-27 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 WF03A-27 TG1	0.00	0.00	5,584.0	-2,257.4	563.4	1,651,871.08	2,251,450.11	39° 35' 35.23 N	108° 9' 23.78 W
- actual wellpath misses target center by 36.9ft at 6128.3ft MD (5582.0 TVD, -2294.2 N, 564.8 E)									
- Point									
K22 596 WF03A-27 BHL	0.00	0.00	8,770.0	-2,264.4	546.4	1,651,864.56	2,251,432.91	39° 35' 35.16 N	108° 9' 24.00 W
- actual wellpath misses target center by 16.6ft at 9316.9ft MD (8769.3 TVD, -2257.6 N, 531.3 E)									
- Rectangle (sides W30.0 H50.0 D0.0)									

Design Annotations				
Measured Depth	Vertical Depth	Local Coordinates		Comment
		+N/-S	+E/-W	
(ft)	(ft)	(ft)	(ft)	
1,680.0	1,582.1	-451.5	109.6	Last Cathedral Survey @ 1680' MD
9,389.0	8,841.3	-2,258.1	527.6	Last Cathedral Survey @ 9389' MD
9,444.0	8,896.2	-2,258.4	524.8	Projection to TD @ 9444' MD

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