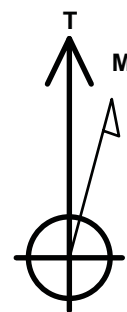
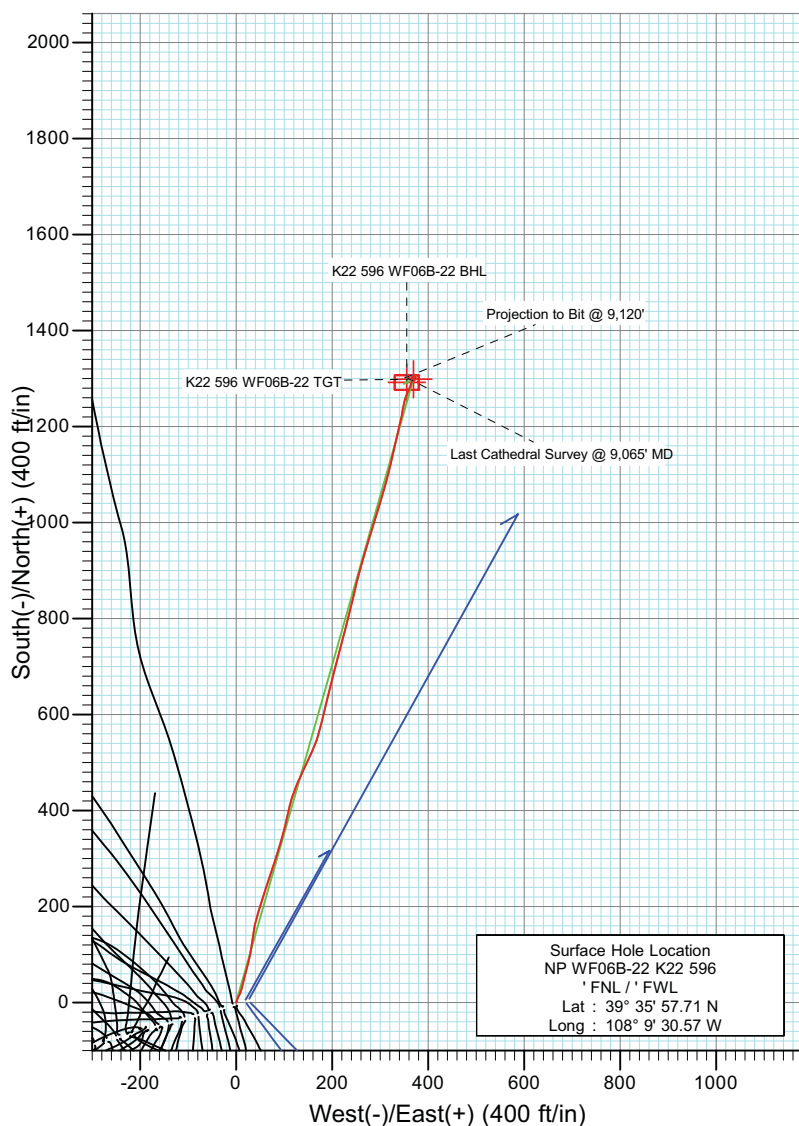
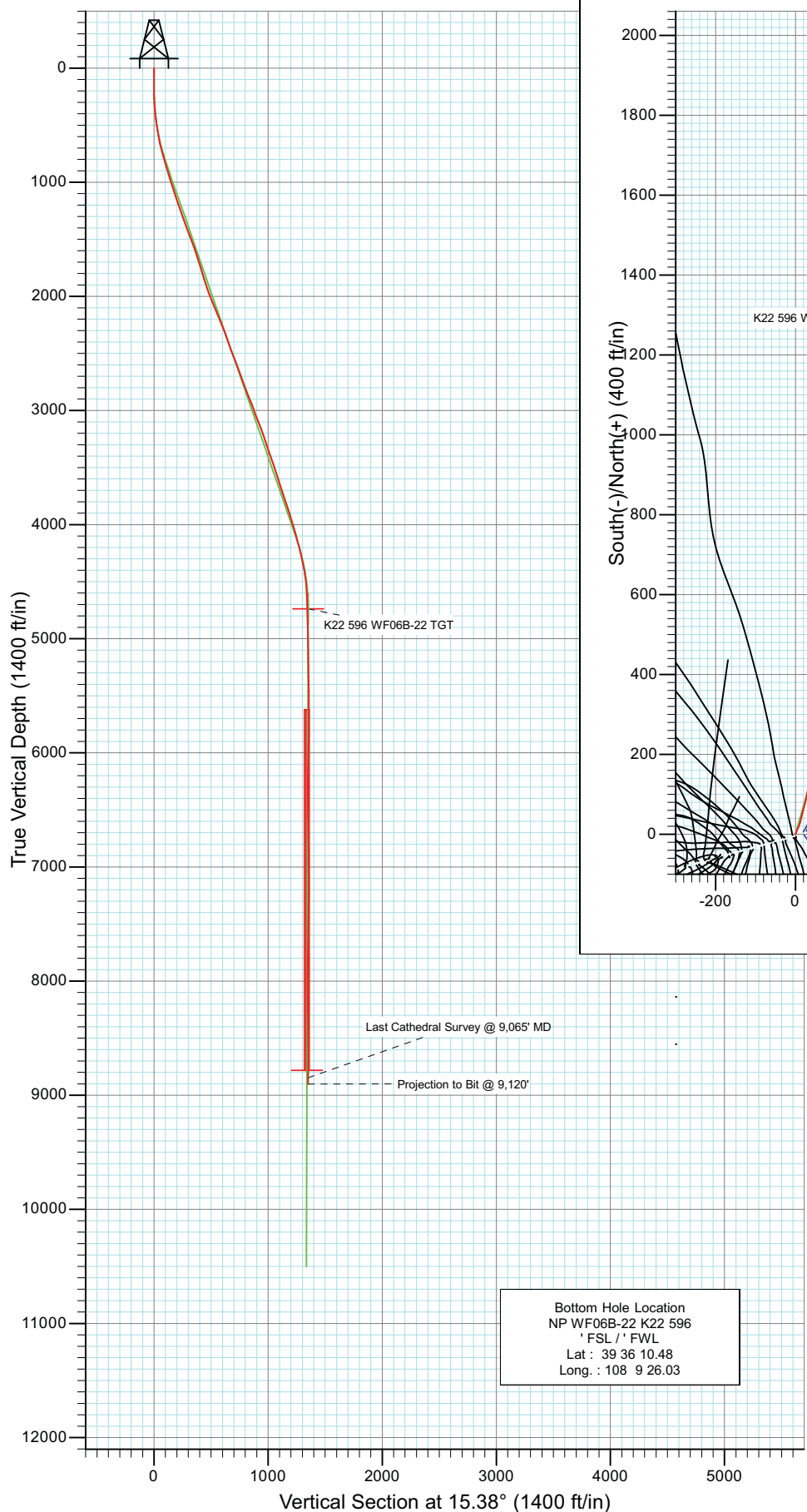




Project: North Piceance
 Site: K22 596 Pad (S22-T5S-R96W)
 Well: NP WF06B-22 K22 596
 Wellbore: DD
 Design: FINAL



Azimuths to True North
 Magnetic North: 10.55°

Magnetic Field
 Strength: 52364.8snT
 Dip Angle: 65.82°
 Date: 8/14/2010
 Model: IGRF2010

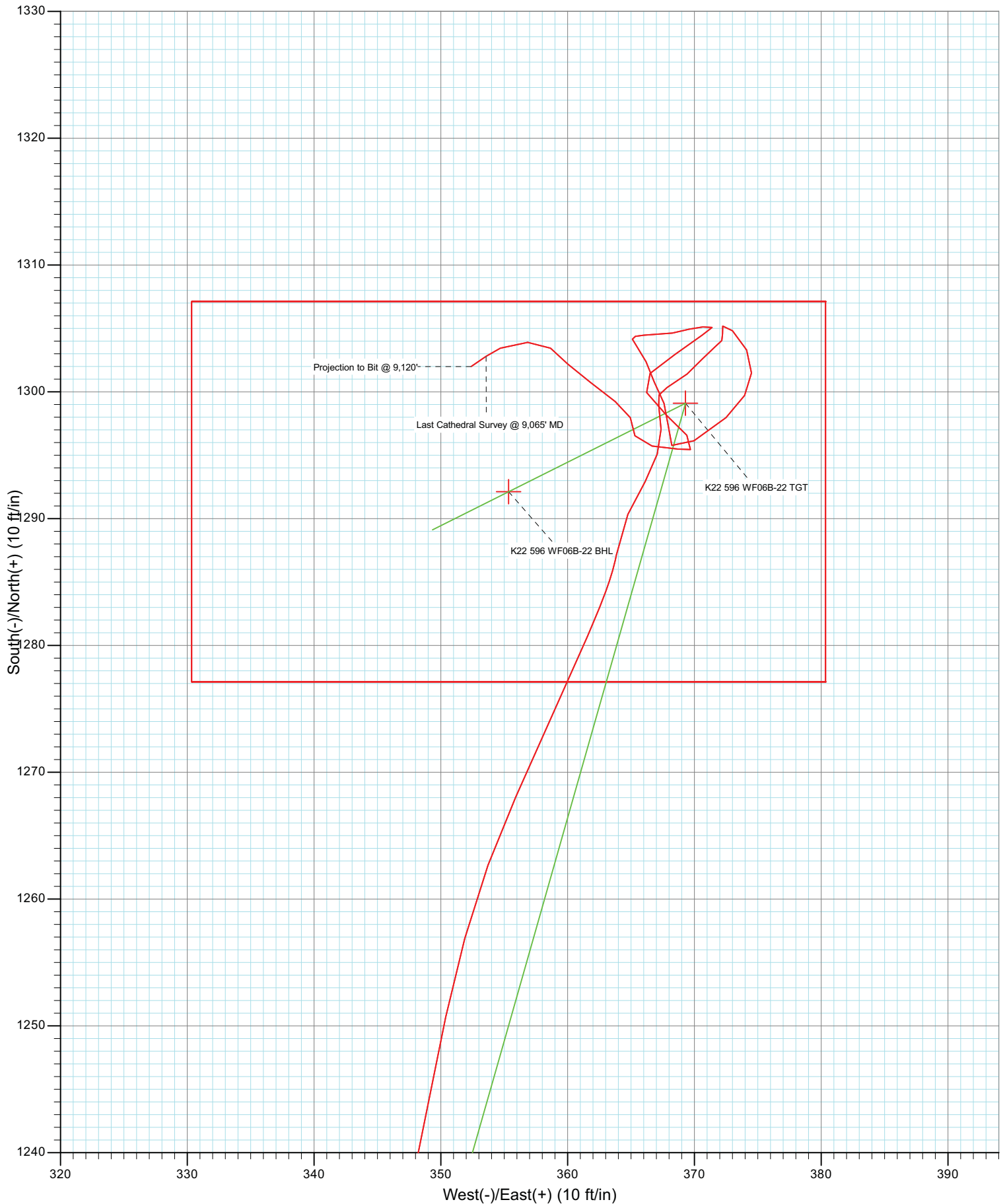
DESIGN DETAILS: DD

105342 (SH); LR
 Well @ 6549.0ft (Patterson 306)

Target	Azimuth	Origin	N/S	E/W	From TVD
K22 596 WF06B-22 BHL	15.38	Slot	0.0	0.0	0.0



Project: North Piceance
Site: K22 596 Pad (S22-T5S-R96W)
Well: NP WF06B-22 K22 596
Wellbore: DD
Design: FINAL



Cathedral Energy

Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well NP WF06B-22 K22 596
Project:	North Piceance	TVD Reference:	Well @ 6549.0ft (Patterson 306)
Site:	K22 596 Pad (S22-T5S-R96W)	MD Reference:	Well @ 6549.0ft (Patterson 306)
Well:	NP WF06B-22 K22 596	North Reference:	True
Wellbore:	DD	Survey Calculation Method:	Minimum Curvature
Design:	DD	Database:	EDM 5000.1 US Multi Users DB

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	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 WF06B-22 K22 596					
Well Position	+N/-S	0.0 ft	Northing:	1,654,160.22 ft	Latitude:	39° 35' 57.71 N
	+E/-W	0.0 ft	Easting:	2,250,985.59 ft	Longitude:	108° 9' 30.57 W
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	6,527.0 ft

Wellbore	DD				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	8/14/2010	10.55	65.82	52,365

Design	DD				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction	
	(ft)	(ft)	(ft)	(°)	
	0.0	0.0	0.0	15.38	

Survey Program	Date	10/13/2010			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
193.0	9,120.0	Survey #1 (DD)	MWD	Geolink MWD	

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	
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00		
193.0	0.20	292.90	193.0	0.1	-0.3	0.0	0.10	0.10		
224.0	0.70	13.60	224.0	0.3	-0.3	0.2	2.25	1.61		
254.0	1.80	75.60	254.0	0.6	0.2	0.7	5.32	3.67		
284.0	3.40	24.20	284.0	1.6	1.0	1.8	8.92	5.33		
314.0	3.80	9.00	313.9	3.4	1.5	3.6	3.44	1.33		
344.0	4.80	10.50	343.8	5.6	1.9	5.9	3.35	3.33		
374.0	5.60	23.20	373.7	8.1	2.7	8.6	4.66	2.67		
405.0	6.60	32.70	404.5	11.0	4.3	11.8	4.57	3.23		
435.0	6.90	24.60	434.3	14.1	6.0	15.2	3.32	1.00		
465.0	8.00	17.40	464.1	17.8	7.3	19.1	4.80	3.67		
496.0	8.40	23.90	494.7	21.9	8.9	23.5	3.25	1.29		
545.0	9.00	15.10	543.2	28.9	11.3	30.8	2.98	1.22		

Cathedral Energy

Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well NP WF06B-22 K22 596
Project:	North Piceance	TVD Reference:	Well @ 6549.0ft (Patterson 306)
Site:	K22 596 Pad (S22-T5S-R96W)	MD Reference:	Well @ 6549.0ft (Patterson 306)
Well:	NP WF06B-22 K22 596	North Reference:	True
Wellbore:	DD	Survey Calculation Method:	Minimum Curvature
Design:	DD	Database:	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
590.0	9.80	13.70	587.6	36.0	13.2	38.2	1.85	1.78	
636.0	10.90	14.40	632.8	44.0	15.2	46.4	2.41	2.39	
682.0	12.50	13.80	677.9	53.0	17.4	55.8	3.49	3.48	
728.0	15.30	15.60	722.5	63.7	20.3	66.8	6.16	6.09	
773.0	16.20	13.40	765.8	75.6	23.3	79.0	2.40	2.00	
819.0	17.00	13.50	809.9	88.3	26.4	92.2	1.74	1.74	
865.0	16.80	11.30	853.9	101.4	29.2	105.5	1.46	-0.43	
956.0	16.30	7.50	941.2	126.9	33.5	131.3	1.31	-0.55	
1,048.0	17.50	9.10	1,029.2	153.4	37.4	157.8	1.40	1.30	
1,139.0	18.50	15.70	1,115.7	180.8	43.4	185.9	2.49	1.10	
1,231.0	19.50	19.20	1,202.7	209.4	52.4	215.8	1.65	1.09	
1,322.0	20.00	18.90	1,288.4	238.4	62.5	246.5	0.56	0.55	
1,414.0	20.20	17.90	1,374.8	268.4	72.4	278.0	0.43	0.22	
1,505.0	20.30	17.40	1,460.1	298.5	82.0	309.5	0.22	0.11	
1,597.0	20.00	15.70	1,546.5	328.8	91.0	341.2	0.72	-0.33	
1,642.0	19.60	15.50	1,588.9	343.5	95.1	356.4	0.90	-0.89	
1,784.0	17.30	12.90	1,723.6	387.0	106.2	401.4	1.72	-1.62	
1,875.0	16.30	15.80	1,810.7	412.5	112.7	427.6	1.43	-1.10	
1,967.0	17.90	17.80	1,898.6	438.4	120.5	454.7	1.85	1.74	
2,058.0	22.30	24.60	1,984.0	467.4	132.0	485.7	5.47	4.84	
2,150.0	22.40	25.50	2,069.1	499.1	146.8	520.2	0.39	0.11	
2,241.0	22.50	23.80	2,153.2	530.7	161.3	554.5	0.72	0.11	
2,332.0	22.40	14.80	2,237.4	563.4	172.8	589.1	3.78	-0.11	
2,424.0	20.50	13.40	2,323.0	596.0	181.0	622.7	2.14	-2.07	
2,516.0	18.60	14.00	2,409.7	626.0	188.3	653.5	2.08	-2.07	
2,607.0	21.20	13.40	2,495.2	656.0	195.6	684.4	2.87	2.86	
2,699.0	21.10	14.50	2,581.0	688.3	203.6	717.6	0.44	-0.11	
2,790.0	19.40	15.70	2,666.4	718.7	211.8	749.1	1.92	-1.87	
2,882.0	20.30	15.10	2,753.0	748.8	220.1	780.3	1.00	0.98	
2,973.0	22.10	14.40	2,837.8	780.6	228.4	813.2	2.00	1.98	
3,064.0	21.50	13.00	2,922.3	813.4	236.5	847.0	0.87	-0.66	
3,156.0	19.30	12.40	3,008.5	844.7	243.5	879.1	2.40	-2.39	
3,247.0	21.90	14.90	3,093.7	875.8	251.1	911.1	3.02	2.86	
3,339.0	20.40	15.70	3,179.5	907.8	259.9	944.2	1.66	-1.63	
3,430.0	19.10	16.10	3,265.1	937.4	268.3	975.0	1.44	-1.43	
3,522.0	17.90	16.70	3,352.4	965.4	276.5	1,004.2	1.32	-1.30	
3,613.0	20.10	18.00	3,438.4	993.7	285.4	1,033.8	2.46	2.42	
3,704.0	18.50	16.50	3,524.3	1,022.4	294.3	1,063.8	1.84	-1.76	
3,796.0	16.30	16.40	3,612.1	1,048.8	302.1	1,091.3	2.39	-2.39	
3,887.0	18.40	15.20	3,698.9	1,074.9	309.5	1,118.5	2.34	2.31	
3,979.0	19.80	15.10	3,785.9	1,104.0	317.3	1,148.6	1.52	1.52	
4,070.0	17.50	12.40	3,872.1	1,132.2	324.3	1,177.7	2.70	-2.53	
4,162.0	16.30	12.90	3,960.1	1,158.3	330.1	1,204.4	1.31	-1.30	
4,253.0	16.20	13.20	4,047.5	1,183.1	335.9	1,229.8	0.14	-0.11	
4,345.0	15.80	12.60	4,135.9	1,207.8	341.6	1,255.2	0.47	-0.43	
4,436.0	13.60	11.00	4,223.9	1,230.4	346.3	1,278.2	2.46	-2.42	
4,528.0	12.40	11.80	4,313.6	1,250.7	350.4	1,298.8	1.32	-1.30	
4,619.0	10.80	24.40	4,402.7	1,268.0	355.9	1,317.0	3.28	-1.76	
4,711.0	6.50	23.50	4,493.7	1,280.7	361.5	1,330.7	4.68	-4.67	
4,802.0	2.20	8.20	4,584.4	1,287.1	363.8	1,337.5	4.85	-4.73	
4,894.0	2.00	24.10	4,676.3	1,290.3	364.8	1,340.9	0.67	-0.22	
4,985.0	1.70	32.40	4,767.3	1,292.9	366.1	1,343.7	0.44	-0.33	
5,077.0	1.30	12.00	4,859.2	1,295.1	367.1	1,346.1	0.72	-0.43	

Cathedral Energy

Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well NP WF06B-22 K22 596
Project:	North Piceance	TVD Reference:	Well @ 6549.0ft (Patterson 306)
Site:	K22 596 Pad (S22-T5S-R96W)	MD Reference:	Well @ 6549.0ft (Patterson 306)
Well:	NP WF06B-22 K22 596	North Reference:	True
Wellbore:	DD	Survey Calculation Method:	Minimum Curvature
Design:	DD	Database:	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
5,168.0	1.20	5.00	4,950.2	1,297.1	367.4	1,348.0	0.20	-0.11	
5,260.0	1.20	343.90	5,042.2	1,298.9	367.2	1,349.8	0.48	0.00	
5,351.0	1.30	62.30	5,133.2	1,300.3	367.8	1,351.3	1.74	0.11	
5,443.0	1.10	48.70	5,225.2	1,301.4	369.4	1,352.8	0.38	-0.22	
5,534.0	1.00	42.00	5,316.1	1,302.6	370.6	1,354.2	0.17	-0.11	
5,626.0	0.70	52.60	5,408.1	1,303.5	371.6	1,355.4	0.37	-0.33	
5,717.0	0.30	32.70	5,499.1	1,304.0	372.2	1,356.1	0.47	-0.44	
5,809.0	0.40	347.30	5,591.1	1,304.6	372.2	1,356.6	0.31	0.11	
5,900.0	0.40	14.60	5,682.1	1,305.2	372.2	1,357.2	0.21	0.00	
5,992.0	1.20	134.50	5,774.1	1,304.8	373.0	1,357.0	1.57	0.87	
6,083.0	1.20	152.60	5,865.1	1,303.3	374.1	1,355.9	0.41	0.00	
6,175.0	1.20	183.70	5,957.1	1,301.5	374.5	1,354.2	0.70	0.00	
6,266.0	1.20	210.20	6,048.1	1,299.7	374.0	1,352.4	0.60	0.00	
6,357.0	1.70	226.90	6,139.0	1,298.0	372.5	1,350.3	0.71	0.55	
6,449.0	2.20	239.90	6,231.0	1,296.1	370.0	1,347.9	0.72	0.54	
6,540.0	0.70	334.80	6,322.0	1,295.8	368.2	1,347.0	2.60	-1.65	
6,632.0	1.20	358.30	6,413.9	1,297.2	368.0	1,348.4	0.68	0.54	
6,723.0	1.20	340.10	6,504.9	1,299.1	367.6	1,350.1	0.42	0.00	
6,815.0	1.10	330.10	6,596.9	1,300.8	366.8	1,351.5	0.24	-0.11	
6,906.0	1.10	345.70	6,687.9	1,302.4	366.2	1,352.9	0.33	0.00	
6,998.0	1.10	312.60	6,779.9	1,303.8	365.3	1,354.0	0.68	0.00	
7,089.0	1.70	87.90	6,870.9	1,304.5	366.0	1,354.8	2.86	0.66	
7,181.0	1.10	82.00	6,962.8	1,304.6	368.3	1,355.6	0.67	-0.65	
7,274.0	0.60	67.80	7,055.8	1,304.9	369.6	1,356.2	0.58	-0.54	
7,365.0	0.80	91.50	7,146.8	1,305.1	370.7	1,356.7	0.38	0.22	
7,457.0	0.10	100.60	7,238.8	1,305.1	371.4	1,356.8	0.76	-0.76	
7,548.0	1.30	235.40	7,329.8	1,304.5	370.6	1,356.1	1.51	1.32	
7,640.0	2.00	234.00	7,421.8	1,302.9	368.5	1,354.0	0.76	0.76	
7,731.0	1.10	230.90	7,512.7	1,301.5	366.5	1,352.1	0.99	-0.99	
7,823.0	1.30	156.70	7,604.7	1,299.9	366.2	1,350.5	1.58	0.22	
7,914.0	1.80	125.70	7,695.7	1,298.2	367.8	1,349.2	1.05	0.55	
8,005.0	1.10	149.20	7,786.7	1,296.6	369.4	1,348.1	0.99	-0.77	
8,097.0	0.50	205.70	7,878.6	1,295.5	369.7	1,347.1	1.00	-0.65	
8,188.0	1.10	296.10	7,969.6	1,295.5	368.7	1,346.9	1.33	0.66	
8,280.0	1.60	263.50	8,061.6	1,295.7	366.7	1,346.6	0.97	0.54	
8,371.0	1.20	355.30	8,152.6	1,296.5	365.3	1,347.0	2.23	-0.44	
8,463.0	0.70	327.70	8,244.6	1,298.0	364.9	1,348.3	0.72	-0.54	
8,554.0	1.50	311.90	8,335.6	1,299.2	363.8	1,349.2	0.93	0.88	
8,646.0	1.60	304.10	8,427.5	1,300.8	361.8	1,350.1	0.25	0.11	
8,737.0	1.30	315.00	8,518.5	1,302.2	360.0	1,351.0	0.45	-0.33	
8,829.0	1.00	309.40	8,610.5	1,303.4	358.7	1,351.9	0.35	-0.33	
8,920.0	1.50	267.80	8,701.5	1,303.9	356.9	1,351.9	1.10	0.55	
9,012.0	1.30	246.50	8,793.4	1,303.4	354.7	1,350.8	0.60	-0.22	
9,065.0	1.50	235.40	8,846.4	1,302.8	353.6	1,349.9	0.63	0.38	Last Cathedral Survey @ 9,065' MD
9,120.0	1.50	235.40	8,901.4	1,302.0	352.4	1,348.8	0.00	0.00	Projection to Bit @ 9,120'

Cathedral Energy

Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well NP WF06B-22 K22 596
Project:	North Piceance	TVD Reference:	Well @ 6549.0ft (Patterson 306)
Site:	K22 596 Pad (S22-T5S-R96W)	MD Reference:	Well @ 6549.0ft (Patterson 306)
Well:	NP WF06B-22 K22 596	North Reference:	True
Wellbore:	DD	Survey Calculation Method:	Minimum Curvature
Design:	DD	Database:	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 WF06B-22 TG1	0.00	0.00	4,738.0	1,299.1	369.3	1,655,447.96	2,251,392.74	39° 36' 10.55 N	108° 9' 25.85 W
- survey misses target center by 7.8ft at 4956.0ft MD (4738.3 TVD, 1292.2 N, 365.7 E)									
- Point									
K22 596 WF06B-22 BHL	0.00	0.00	8,781.0	1,292.1	355.3	1,655,441.39	2,251,378.59	39° 36' 10.48 N	108° 9' 26.03 W
- survey misses target center by 11.4ft at 8999.6ft MD (8781.0 TVD, 1303.5 N, 355.0 E)									
- Rectangle (sides W30.0 H50.0 D0.0)									

Survey Annotations				
Measured Depth	Vertical Depth	Local Coordinates		Comment
(ft)	(ft)	+N/-S (ft)	+E/-W (ft)	
9,065.0	8,846.4	1,302.8	353.6	Last Cathedral Survey @ 9,065' MD
9,120.0	8,901.4	1,302.0	352.4	Projection to Bit @ 9,120'

Checked By: _____	Approved By: _____	Date: _____
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