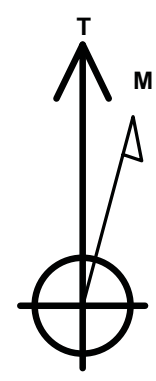
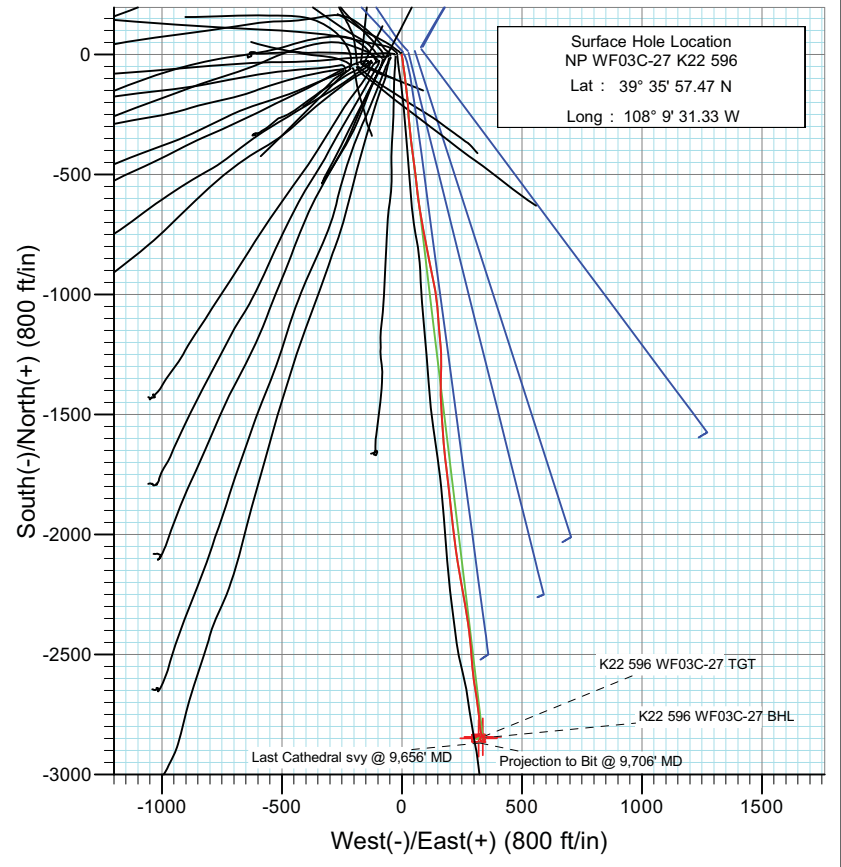
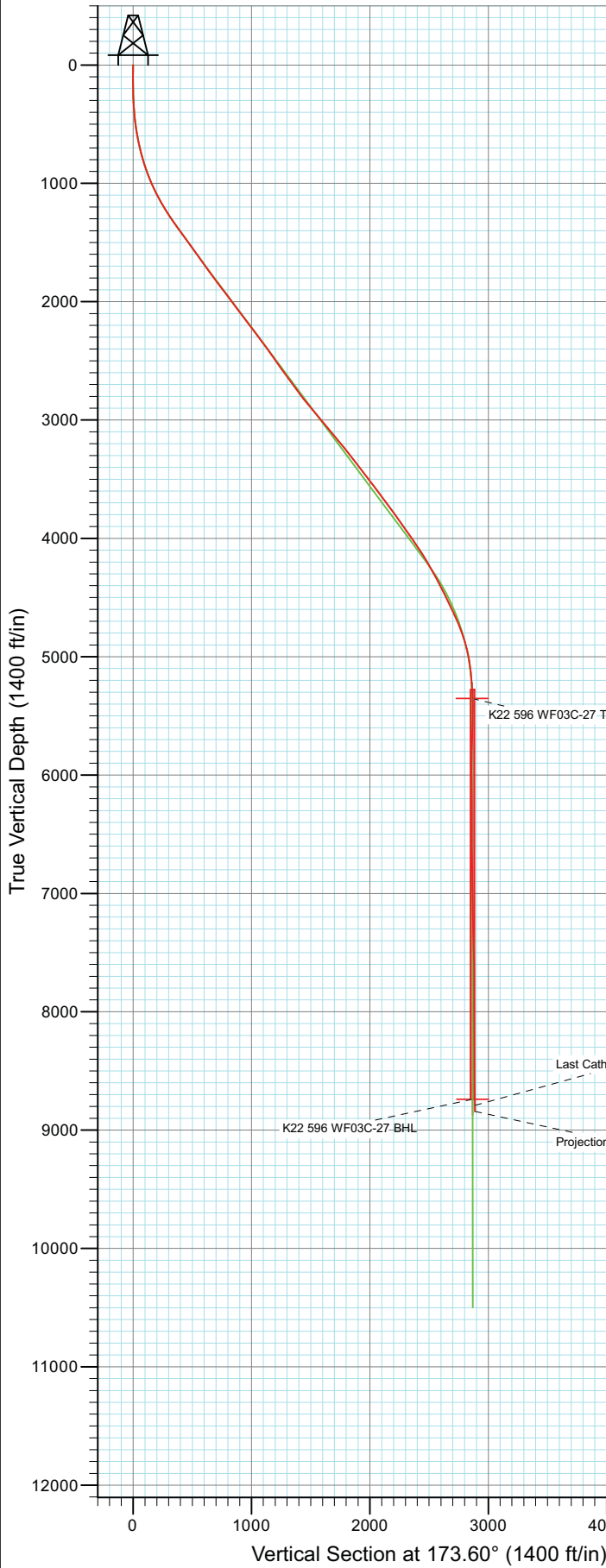




Project: North Piceance
 Site: K22 596 Pad (S22-T5S-R96W)
 Well: NP WF03C-27 K22 596
 Wellbore: DD
 Design: Final

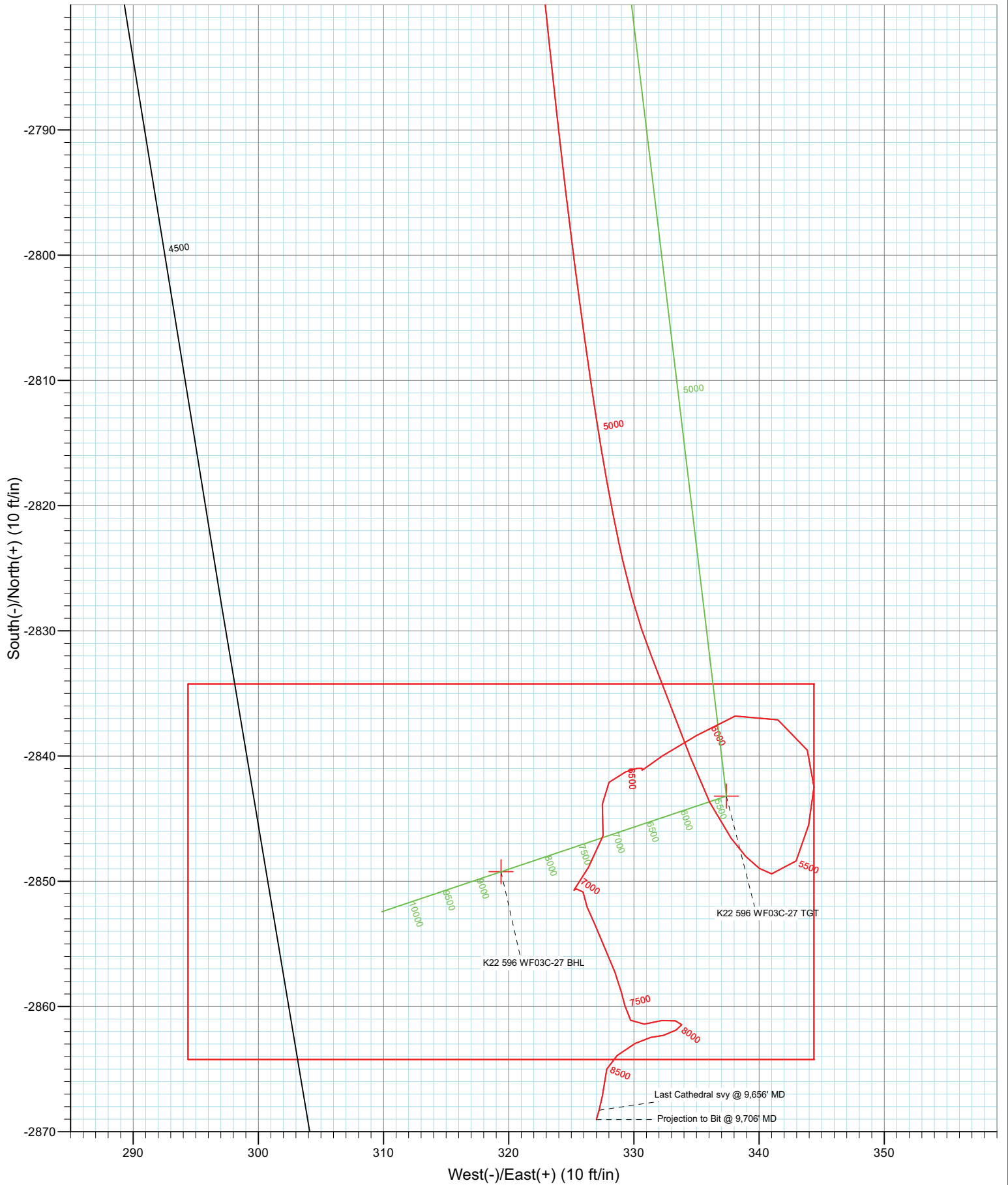


Azimuths to True North
 Magnetic North: 10.53°
 Magnetic Field
 Strength: 52404.8snT
 Dip Angle: 65.83°
 Date: 7/9/2010
 Model: IGRF200510

DD		105249 (SH) 105295 (MH)	
WF03C-27 K22 596 @ 6546.0ft (Original Well Elev) North American Datum 1983			
Well NP WF03C-27 K22 596, True North			
Type	Target	Azimuth	Origin Type N/S
Target	K22 596 WF03C-27 BHL	173.60	0.0
E/W From	TVD	0.0	
Name	TVD	+N/-S	+E/-W
K22 596 WF03C-27 BHL	739.0	-2849.2	319.439° 35' 29.31 N
			108° 9' 27.25 W



Project: North Piceance
Site: K22 596 Pad (S22-T5S-R96W)
Well: NP WF03C-27 K22 596
Wellbore: DD
Design: DD



Cathedral Energy Services

Survey Report

Company: EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference: Well NP WF03C-27 K22 596
Project: North Piceance	TVD Reference: WF03C-27 K22 596 @ 6546.0ft (Original Well Elev)
Site: K22 596 Pad (S22-T5S-R96W)	MD Reference: WF03C-27 K22 596 @ 6546.0ft (Original Well Elev)
Well: NP WF03C-27 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 WF03C-27 K22 596					
Well Position	+N/-S	0.0 ft	Northing:	1,654,137.71 ft	Latitude: 39° 35' 57.47 N
	+E/-W	0.0 ft	Easting:	2,250,925.41 ft	Longitude: 108° 9' 31.33 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)
	IGRF200510	7/9/2010	10.54	65.83	52,405

Design DD					
Audit Notes:					
Version: 1.0	Phase: ACTUAL	Tie On Depth: 0.0			
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)	
	0.0	0.0	0.0	173.60	

Survey Program		Date 7/19/2010
From (ft)	To (ft)	Survey (Wellbore)
170.0	9,706.0	Survey #1 (DD)
		Tool Name MWD
		Description 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	
170.0	0.40	232.90	170.0	-0.4	-0.5	0.3	0.24	0.24	
199.0	0.40	242.40	199.0	-0.5	-0.6	0.4	0.23	0.00	
230.0	0.50	200.00	230.0	-0.6	-0.8	0.6	1.09	0.32	
260.0	1.70	199.10	260.0	-1.2	-1.0	1.1	4.00	4.00	
290.0	2.60	189.10	290.0	-2.3	-1.2	2.1	3.24	3.00	
320.0	2.50	179.40	319.9	-3.6	-1.3	3.4	1.47	-0.33	
351.0	3.40	166.00	350.9	-5.2	-1.1	5.0	3.64	2.90	
381.0	4.40	158.40	380.8	-7.1	-0.5	7.0	3.75	3.33	
412.0	5.00	161.50	411.7	-9.5	0.4	9.5	2.10	1.94	
442.0	5.70	167.00	441.6	-12.2	1.2	12.2	2.89	2.33	
472.0	6.90	170.40	471.4	-15.4	1.8	15.5	4.19	4.00	
503.0	7.60	176.40	502.2	-19.3	2.2	19.4	3.32	2.26	

Cathedral Energy Services

Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well NP WF03C-27 K22 596
Project:	North Piceance	TVD Reference:	WF03C-27 K22 596 @ 6546.0ft (Original Well Elev)
Site:	K22 596 Pad (S22-T5S-R96W)	MVD Reference:	WF03C-27 K22 596 @ 6546.0ft (Original Well Elev)
Well:	NP WF03C-27 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
552.0	9.80	172.60	550.6	-26.7	3.0	26.8	4.64	4.49	
597.0	10.90	172.20	594.9	-34.7	4.0	34.9	2.45	2.44	
643.0	11.60	169.00	640.0	-43.5	5.5	43.9	2.04	1.52	
689.0	12.40	169.60	685.0	-52.9	7.3	53.4	1.76	1.74	
735.0	14.00	172.70	729.8	-63.3	8.9	63.9	3.80	3.48	
780.0	15.70	174.30	773.3	-74.8	10.2	75.4	3.89	3.78	
826.0	16.90	174.90	817.4	-87.6	11.4	88.3	2.63	2.61	
872.0	18.40	172.40	861.2	-101.5	12.9	102.3	3.65	3.26	
918.0	19.70	173.00	904.7	-116.4	14.9	117.3	2.86	2.83	
963.0	21.00	173.50	946.9	-131.9	16.7	132.9	2.91	2.89	
1,009.0	22.90	172.90	989.6	-149.0	18.7	150.1	4.16	4.13	
1,055.0	24.70	172.80	1,031.7	-167.4	21.0	168.7	3.91	3.91	
1,101.0	26.90	174.70	1,073.1	-187.3	23.2	188.7	5.11	4.78	
1,146.0	28.50	176.40	1,112.9	-208.1	24.8	209.6	3.97	3.56	
1,192.0	30.00	176.30	1,153.0	-230.6	26.3	232.1	3.26	3.26	
1,238.0	30.70	176.00	1,192.7	-253.8	27.8	255.3	1.56	1.52	
1,283.0	32.00	175.00	1,231.2	-277.1	29.7	278.7	3.11	2.89	
1,329.0	32.50	174.40	1,270.1	-301.5	31.9	303.2	1.29	1.09	
1,375.0	33.90	173.80	1,308.6	-326.6	34.5	328.4	3.13	3.04	
1,421.0	35.20	173.30	1,346.5	-352.5	37.4	354.5	2.89	2.83	
1,467.0	35.70	173.10	1,383.9	-379.0	40.6	381.2	1.12	1.09	
1,512.0	35.90	172.60	1,420.4	-405.1	43.9	407.5	0.79	0.44	
1,604.0	35.80	172.60	1,495.0	-458.6	50.8	461.4	0.11	-0.11	
1,695.0	36.80	172.90	1,568.3	-512.0	57.6	515.2	1.12	1.10	
1,716.0	36.70	173.10	1,585.2	-524.5	59.2	527.8	0.74	-0.48	
1,719.0	36.70	173.10	1,587.6	-526.3	59.4	529.6	0.00	0.00	
1,789.0	35.40	174.60	1,644.2	-567.2	63.8	570.8	2.24	-1.86	
1,880.0	34.70	171.10	1,718.7	-619.0	70.3	623.0	2.34	-0.77	
1,972.0	36.40	170.10	1,793.5	-671.8	79.0	676.4	1.95	1.85	
2,064.0	38.00	169.90	1,866.8	-726.6	88.7	731.9	1.74	1.74	
2,155.0	37.90	169.10	1,938.6	-781.6	98.9	787.8	0.55	-0.11	
2,247.0	37.10	168.90	2,011.5	-836.6	109.6	843.6	0.88	-0.87	
2,338.0	36.90	168.20	2,084.2	-890.3	120.4	898.1	0.51	-0.22	
2,430.0	36.00	168.20	2,158.2	-943.8	131.6	952.6	0.98	-0.98	
2,521.0	38.30	171.60	2,230.8	-997.9	141.2	1,007.4	3.39	2.53	
2,613.0	37.10	175.60	2,303.6	-1,053.7	147.5	1,063.6	2.96	-1.30	
2,704.0	35.20	174.70	2,377.0	-1,107.2	152.0	1,117.3	2.17	-2.09	
2,795.0	36.10	175.40	2,451.0	-1,160.1	156.6	1,170.3	1.09	0.99	
2,887.0	34.00	175.20	2,526.3	-1,212.7	160.9	1,223.1	2.29	-2.28	
2,978.0	36.60	179.40	2,600.6	-1,265.2	163.3	1,275.5	3.91	2.86	
3,070.0	37.40	180.70	2,674.0	-1,320.6	163.3	1,330.5	1.22	0.87	
3,161.0	35.30	181.60	2,747.3	-1,374.5	162.2	1,384.0	2.38	-2.31	
3,253.0	38.40	178.30	2,820.9	-1,429.7	162.3	1,438.8	4.00	3.37	
3,344.0	40.90	176.20	2,891.0	-1,487.6	165.1	1,496.8	3.12	2.75	
3,435.0	40.00	176.10	2,960.3	-1,546.5	169.1	1,555.8	0.99	-0.99	
3,527.0	38.10	176.10	3,031.7	-1,604.4	173.0	1,613.7	2.07	-2.07	
3,618.0	41.00	173.50	3,101.9	-1,662.1	178.3	1,671.6	3.67	3.19	
3,710.0	40.00	173.30	3,171.8	-1,721.4	185.2	1,731.3	1.10	-1.09	
3,802.0	38.50	173.70	3,243.1	-1,779.2	191.8	1,789.5	1.65	-1.63	
3,893.0	37.30	173.30	3,314.9	-1,834.8	198.1	1,845.4	1.35	-1.32	
3,985.0	38.80	173.90	3,387.3	-1,891.1	204.4	1,902.1	1.68	1.63	
4,076.0	37.30	173.60	3,459.0	-1,946.9	210.5	1,958.2	1.66	-1.65	
4,168.0	36.00	173.80	3,532.8	-2,001.5	216.6	2,013.1	1.42	-1.41	

Cathedral Energy Services

Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well NP WF03C-27 K22 596
Project:	North Piceance	TVD Reference:	WF03C-27 K22 596 @ 6546.0ft (Original Well Elev)
Site:	K22 596 Pad (S22-T5S-R96W)	MVD Reference:	WF03C-27 K22 596 @ 6546.0ft (Original Well Elev)
Well:	NP WF03C-27 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
4,259.0	38.00	171.40	3,605.5	-2,055.8	223.6	2,067.9	2.71	2.20	
4,351.0	35.90	171.60	3,679.0	-2,110.4	231.8	2,123.1	2.29	-2.28	
4,442.0	37.10	170.00	3,752.1	-2,163.9	240.5	2,177.2	1.68	1.32	
4,534.0	35.10	169.30	3,826.5	-2,217.2	250.2	2,231.3	2.22	-2.17	
4,625.0	36.40	171.00	3,900.3	-2,269.6	259.3	2,284.3	1.80	1.43	
4,717.0	33.40	170.70	3,975.8	-2,321.5	267.7	2,336.9	3.27	-3.26	
4,808.0	34.10	171.00	4,051.4	-2,371.5	275.7	2,387.4	0.79	0.77	
4,900.0	33.70	174.60	4,127.8	-2,422.3	282.1	2,438.7	2.23	-0.43	
4,991.0	30.80	174.70	4,204.7	-2,470.7	286.7	2,487.2	3.19	-3.19	
5,083.0	28.50	174.90	4,284.7	-2,516.0	290.8	2,532.7	2.50	-2.50	
5,174.0	27.10	175.70	4,365.2	-2,558.3	294.3	2,575.2	1.59	-1.54	
5,266.0	27.20	171.10	4,447.1	-2,600.0	299.1	2,617.1	2.28	0.11	
5,357.0	26.40	171.70	4,528.3	-2,640.5	305.2	2,658.1	0.93	-0.88	
5,449.0	24.90	172.10	4,611.2	-2,680.0	310.8	2,697.9	1.64	-1.63	
5,540.0	23.80	171.70	4,694.1	-2,717.1	316.1	2,735.4	1.22	-1.21	
5,631.0	20.80	174.90	4,778.3	-2,751.4	320.2	2,769.9	3.56	-3.30	
5,723.0	16.40	174.20	4,865.5	-2,780.6	323.0	2,799.3	4.79	-4.78	
5,814.0	13.30	172.40	4,953.4	-2,803.7	325.7	2,822.6	3.44	-3.41	
5,906.0	8.80	168.90	5,043.7	-2,821.2	328.4	2,840.2	4.94	-4.89	
5,997.0	5.50	158.00	5,134.0	-2,832.0	331.4	2,851.3	3.91	-3.63	
6,089.0	5.30	159.70	5,225.6	-2,840.1	334.5	2,859.7	0.28	-0.22	
6,180.0	3.90	144.60	5,316.3	-2,846.6	337.8	2,866.5	2.02	-1.54	
6,272.0	1.80	101.40	5,408.2	-2,849.4	341.0	2,869.7	3.12	-2.28	
6,363.0	1.80	23.00	5,499.1	-2,848.4	343.0	2,868.8	2.50	0.00	
6,455.0	2.00	15.80	5,591.1	-2,845.5	344.0	2,866.1	0.34	0.22	
6,546.0	1.90	359.70	5,682.0	-2,842.5	344.4	2,863.1	0.61	-0.11	
6,637.0	1.90	339.60	5,773.0	-2,839.5	343.9	2,860.2	0.73	0.00	
6,729.0	2.60	298.90	5,864.9	-2,837.1	341.5	2,857.5	1.84	0.76	
6,820.0	2.20	246.40	5,955.9	-2,836.8	338.1	2,856.8	2.37	-0.44	
6,912.0	2.10	240.00	6,047.8	-2,838.4	335.0	2,858.0	0.28	-0.11	
7,003.0	1.90	237.80	6,138.7	-2,840.0	332.3	2,859.3	0.24	-0.22	
7,095.0	0.40	221.90	6,230.7	-2,841.0	330.8	2,860.2	1.65	-1.63	
7,186.0	0.20	29.50	6,321.7	-2,841.1	330.7	2,860.3	0.66	-0.22	
7,278.0	0.10	280.60	6,413.7	-2,841.0	330.7	2,860.1	0.27	-0.11	
7,369.0	0.40	267.30	6,504.7	-2,841.0	330.3	2,860.1	0.33	0.33	
7,461.0	0.80	246.20	6,596.7	-2,841.3	329.4	2,860.3	0.49	0.43	
7,552.0	1.20	232.90	6,687.7	-2,842.1	328.0	2,860.9	0.51	0.44	
7,644.0	1.50	168.40	6,779.7	-2,843.9	327.5	2,862.6	1.59	0.33	
7,735.0	1.70	187.50	6,870.6	-2,846.4	327.5	2,865.1	0.62	0.22	
7,827.0	1.90	220.40	6,962.6	-2,848.9	326.4	2,867.5	1.13	0.22	
7,918.0	0.90	195.00	7,053.6	-2,850.7	325.2	2,869.2	1.27	-1.10	
8,010.0	1.10	26.20	7,145.6	-2,850.6	325.4	2,869.1	2.16	0.22	
8,101.0	1.30	172.50	7,236.6	-2,850.9	325.9	2,869.4	2.52	0.22	
8,192.0	2.40	152.80	7,327.5	-2,853.6	326.9	2,872.2	1.38	1.21	
8,284.0	2.60	161.50	7,419.4	-2,857.3	328.5	2,876.1	0.47	0.22	
8,375.0	0.90	168.50	7,510.4	-2,859.9	329.3	2,878.8	1.88	-1.87	
8,467.0	0.70	146.30	7,602.4	-2,861.1	329.7	2,880.0	0.40	-0.22	
8,558.0	1.00	78.70	7,693.4	-2,861.4	330.8	2,880.4	1.07	0.33	
8,650.0	0.80	78.90	7,785.3	-2,861.1	332.2	2,880.3	0.22	-0.22	
8,741.0	0.60	107.80	7,876.3	-2,861.1	333.3	2,880.5	0.44	-0.22	
8,833.0	0.20	165.50	7,968.3	-2,861.5	333.8	2,880.8	0.57	-0.43	
8,925.0	0.70	240.70	8,060.3	-2,861.9	333.4	2,881.2	0.74	0.54	
9,016.0	0.70	254.50	8,151.3	-2,862.3	332.4	2,881.5	0.18	0.00	

Cathedral Energy Services

Survey Report

Company: EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference: Well NP WF03C-27 K22 596
Project: North Piceance	TVD Reference: WF03C-27 K22 596 @ 6546.0ft (Original Well Elev)
Site: K22 596 Pad (S22-T5S-R96W)	MD Reference: WF03C-27 K22 596 @ 6546.0ft (Original Well Elev)
Well: NP WF03C-27 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
9,108.0	0.60	267.70	8,243.3	-2,862.5	331.3	2,881.6	0.20	-0.11	
9,199.0	1.10	238.90	8,334.3	-2,862.9	330.1	2,881.9	0.71	0.55	
9,290.0	1.10	233.10	8,425.3	-2,863.9	328.7	2,882.7	0.12	0.00	
9,382.0	0.70	191.50	8,517.3	-2,865.0	327.8	2,883.7	0.80	-0.43	
9,473.0	0.70	188.10	8,608.3	-2,866.1	327.7	2,884.8	0.05	0.00	
9,565.0	0.60	189.20	8,700.3	-2,867.1	327.5	2,885.8	0.11	-0.11	
9,656.0	0.90	196.00	8,791.3	-2,868.3	327.2	2,886.9	0.34	0.33	Last Cathedral svy @ 9,656' MD
9,706.0	0.90	196.00	8,841.3	-2,869.0	327.0	2,887.6	0.00	0.00	Projection to Bit @ 9,706' MD

Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
K22 596 WF03C-27 TG ¹ - hit/miss target - Shape - Point	0.00	0.00	5,352.0	-2,843.2	337.4	1,651,285.86	2,251,179.47	39° 35' 29.37 N	108° 9' 27.02 W
- survey misses target center by 5.3ft at 6215.6ft MD (5351.8 TVD, -2848.2 N, 339.1 E)									
K22 596 WF03C-27 BHL - Rectangle (sides W30.0 H50.0 D0.0)	0.00	0.00	8,739.0	-2,849.2	319.4	1,651,280.34	2,251,161.30	39° 35' 29.31 N	108° 9' 27.25 W
- survey misses target center by 20.0ft at 9603.5ft MD (8738.8 TVD, -2867.6 N, 327.4 E)									

Survey Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment	
		+N/-S (ft)	+E/-W (ft)		
9,656.0	8,791.3	-2,868.3	327.2	Last Cathedral svy @ 9,656' MD	
9,706.0	8,841.3	-2,869.0	327.0	Projection to Bit @ 9,706' MD	

Checked By: _____	Approved By: _____	Date: _____
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