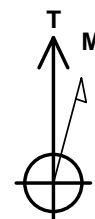
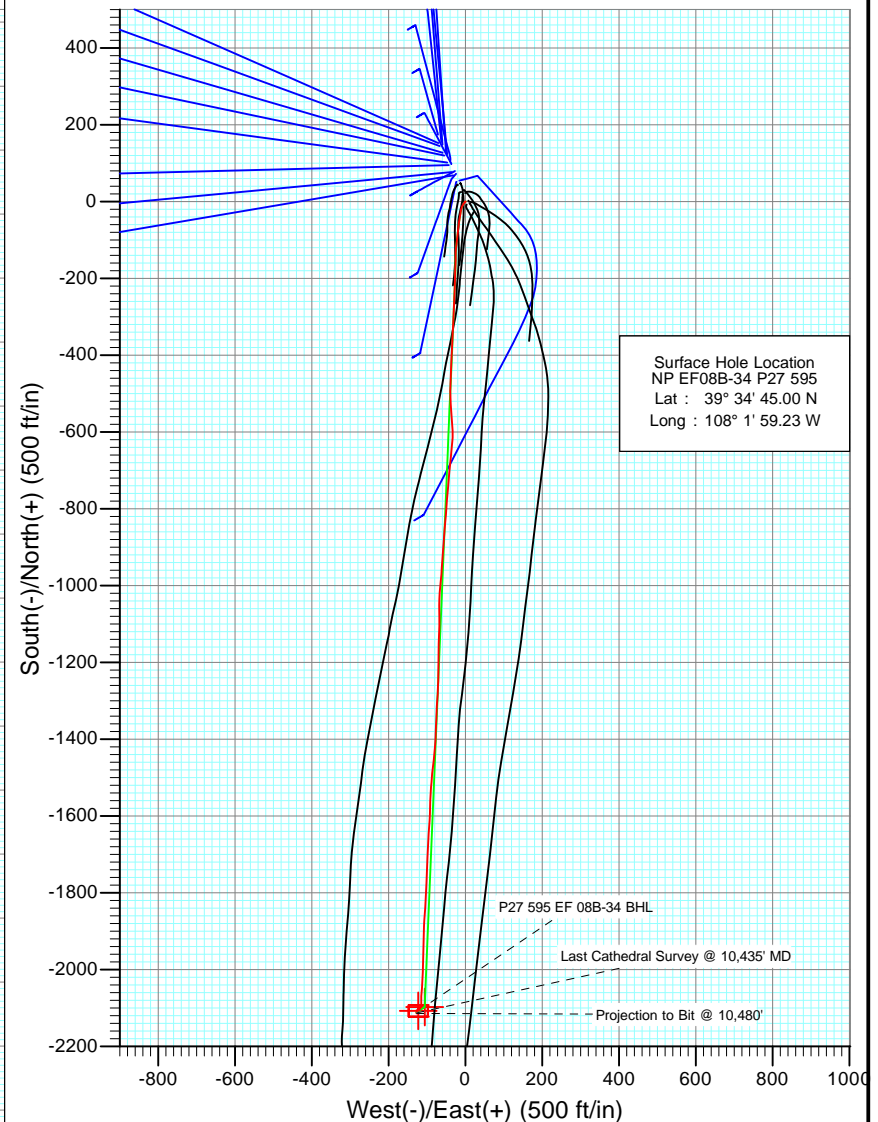
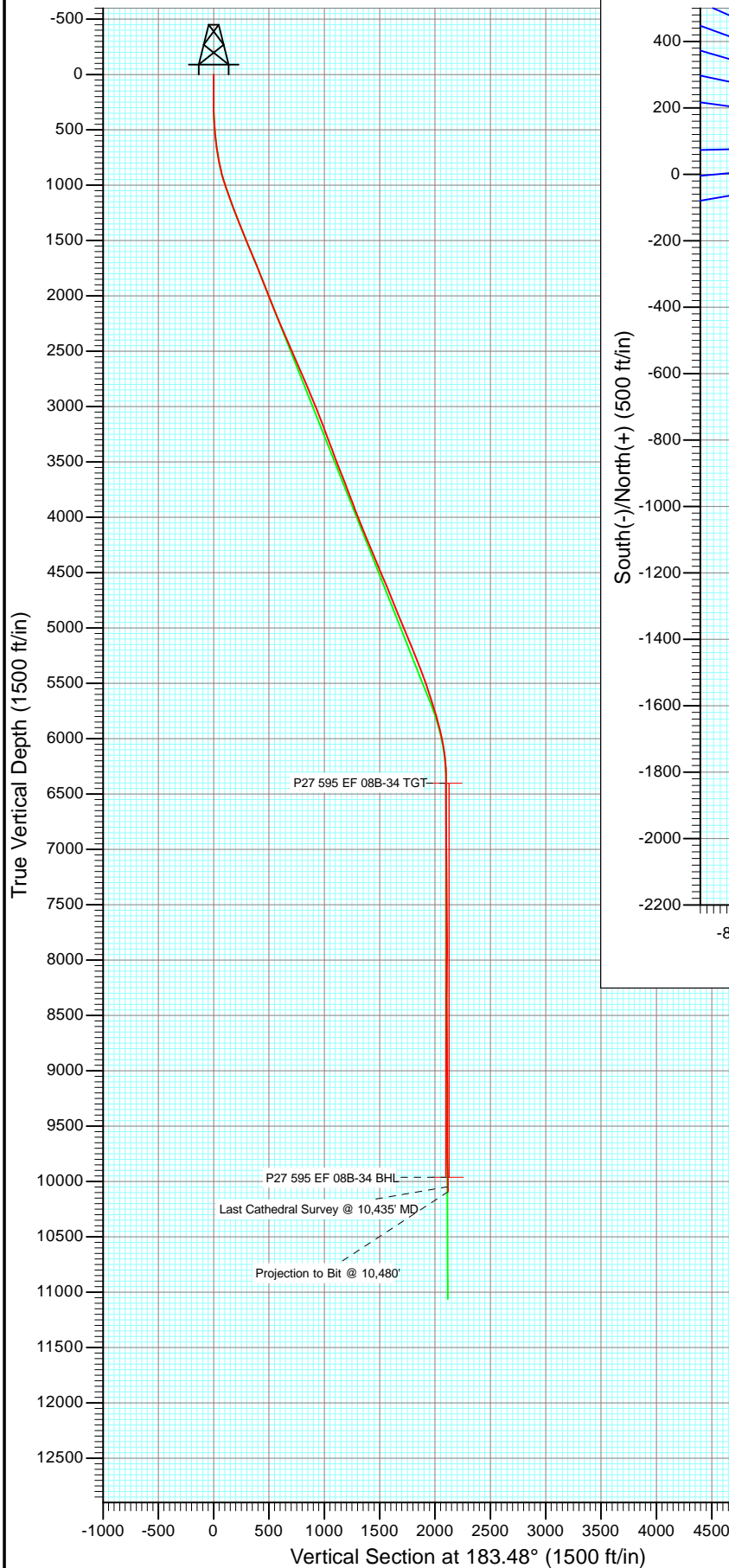




Project: North Piceance
 Site: P27 595 (S27-T5S-R95W)
 Well: NP EF08B-34 P27 595
 Wellbore: DD
 Design: FINAL



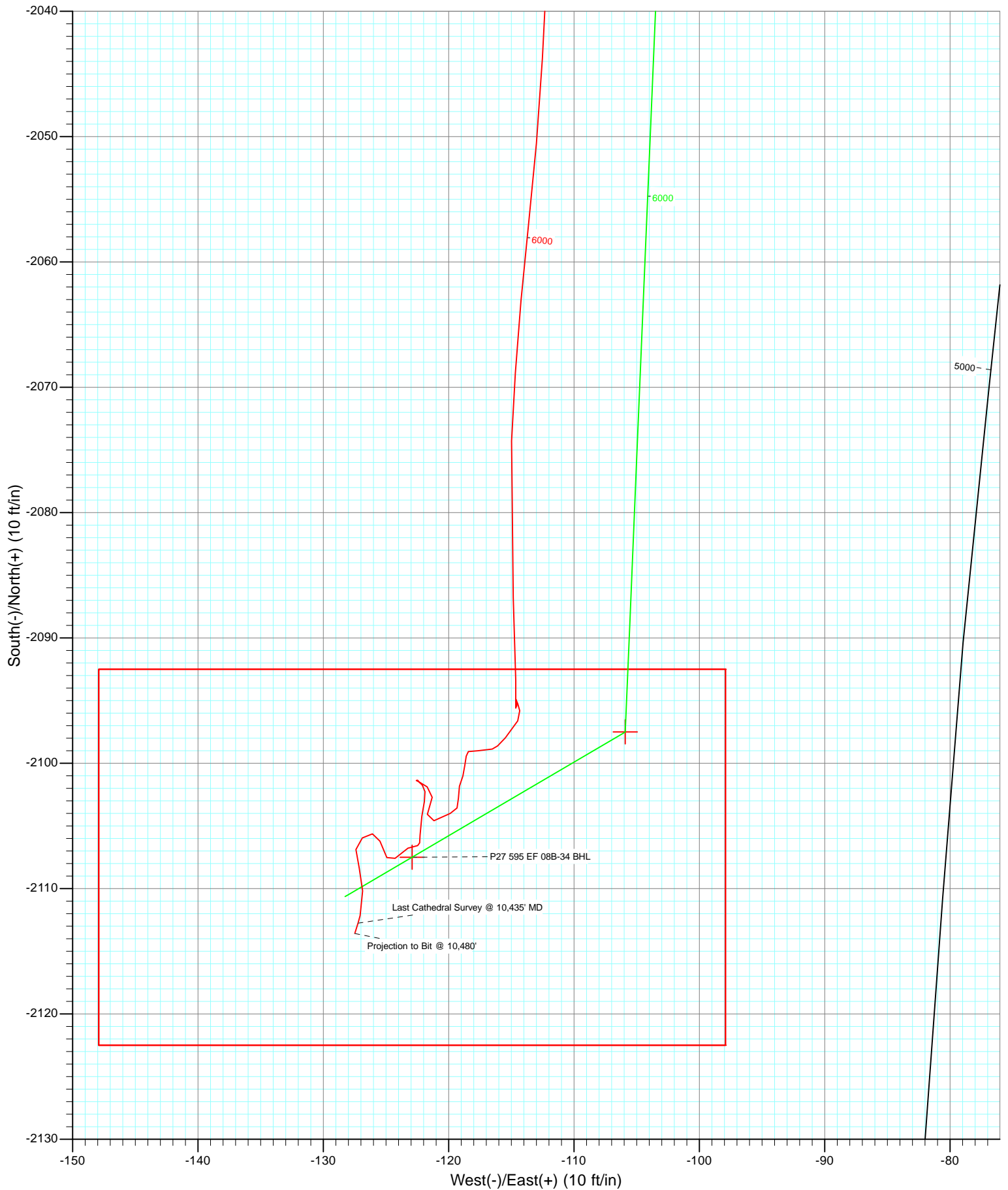
Azimuths to True North
 Magnetic North: 10.44°

Magnetic Field
 Strength: 52334.1nT
 Dip Angle: 65.81°
 Date: 12/20/2010
 Model: IGRF2010

		DD							
		NP EF08B-34 P27 595		115580 126455; LR					
		WELL @ 6671.0ft (Patterson 303)		North American Datum 1983					
		Well NP EF08B-34 P27 595, True North							
Type	Target	Azimuth	Origin	Type	N/S	E/W	From	TVD	
User	No Target (Freehand)	183.48	Slot		0.0	0.0		0.0	
Name									
P27 595 EF 08B-34 TGT		TVD	+N/-S	+E/-W			Latitude	Longitude	
		6402.0	-2097.5	-105.9			39° 34' 24.27 N	108° 2' 0.58 W	
P27 595 EF 08B-34 BHL		9962.0	-2107.5	-122.9			39° 34' 24.17 N	108° 2' 0.80 W	



Project: North Piceance
Site: P27 595 (S27-T5S-R95W)
Well: NP EF08B-34 P27 595
Wellbore: DD
Design: FINAL



Cathedral Energy Services

Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well NP EF08B-34 P27 595
Project:	North Piceance	TVD Reference:	WELL @ 6671.0ft (Patterson 303)
Site:	P27 595 (S27-T5S-R95W)	MD Reference:	WELL @ 6671.0ft (Patterson 303)
Well:	NP EF08B-34 P27 595	North Reference:	True
Wellbore:	DD	Survey Calculation Method:	Minimum Curvature
Design:	DD	Database:	USA EDM 5000 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		P27 595 (S27-T5S-R95W)			
Site Position:		Northing:	1,645,842.89 ft	Latitude:	39° 34' 45.45 N
From:	Lat/Long	Easting:	2,286,079.88 ft	Longitude:	108° 1' 59.43 W
Position Uncertainty:	0.0 ft	Slot Radius:	0.000 in	Grid Convergence:	-1.60 °

Well	NP EF08B-34 P27 595					
Well Position	+N/-S	0.0 ft	Northing:	1,645,796.72 ft	Latitude:	39° 34' 45.00 N
	+E/-W	0.0 ft	Easting:	2,286,094.19 ft	Longitude:	108° 1' 59.23 W
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	6,649.0 ft

Wellbore	DD				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	12/20/2010	10.44	65.81	52,334

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	183.48	

Survey Program	Date	12/27/2011			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
173.0	1,790.0	Survey #1 (DD)	MWD	Geolink MWD	
1,896.0	10,480.0	Survey #2 (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		
173.0	0.90	56.60	173.0	0.7	1.1	-0.8	0.52	0.52		
264.0	0.90	238.80	264.0	0.8	1.1	-0.8	1.98	0.00		
295.0	1.60	248.20	295.0	0.5	0.5	-0.5	2.35	2.26		
325.0	2.10	225.60	325.0	-0.1	-0.3	0.1	2.92	1.67		
355.0	2.60	222.00	354.9	-0.9	-1.1	1.0	1.74	1.67		
385.0	3.30	220.60	384.9	-2.1	-2.1	2.2	2.35	2.33		
416.0	3.90	216.90	415.8	-3.6	-3.4	3.8	2.07	1.94		
447.0	4.40	213.30	446.8	-5.5	-4.6	5.7	1.82	1.61		
478.0	4.80	208.40	477.7	-7.6	-5.9	7.9	1.81	1.29		
508.0	5.10	208.50	507.5	-9.9	-7.1	10.3	1.00	1.00		
557.0	5.80	200.50	556.3	-14.1	-9.0	14.6	2.11	1.43		

Cathedral Energy Services

Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well NP EF08B-34 P27 595
Project:	North Piceance	TVD Reference:	WELL @ 6671.0ft (Patterson 303)
Site:	P27 595 (S27-T5S-R95W)	MD Reference:	WELL @ 6671.0ft (Patterson 303)
Well:	NP EF08B-34 P27 595	North Reference:	True
Wellbore:	DD	Survey Calculation Method:	Minimum Curvature
Design:	DD	Database:	USA EDM 5000 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
603.0	6.70	195.60	602.1	-18.9	-10.6	19.5	2.27	1.96	
649.0	7.70	190.80	647.7	-24.5	-11.9	25.2	2.54	2.17	
694.0	8.70	188.70	692.2	-30.8	-13.0	31.5	2.32	2.22	
740.0	9.70	188.40	737.6	-38.1	-14.1	38.9	2.18	2.17	
786.0	11.00	188.90	782.9	-46.3	-15.3	47.1	2.83	2.83	
832.0	12.30	188.80	827.9	-55.4	-16.7	56.3	2.83	2.83	
878.0	13.50	187.20	872.8	-65.6	-18.1	66.6	2.72	2.61	
924.0	15.00	186.40	917.4	-76.8	-19.5	77.9	3.29	3.26	
969.0	16.90	185.70	960.6	-89.1	-20.8	90.2	4.24	4.22	
1,015.0	18.60	186.50	1,004.4	-103.1	-22.3	104.2	3.73	3.70	
1,061.0	19.60	185.70	1,047.9	-118.0	-23.9	119.3	2.25	2.17	
1,107.0	20.10	182.80	1,091.2	-133.6	-25.0	134.9	2.40	1.09	
1,153.0	20.60	180.60	1,134.3	-149.6	-25.5	150.9	1.99	1.09	
1,244.0	21.60	181.80	1,219.2	-182.4	-26.2	183.6	1.20	1.10	
1,336.0	20.60	182.70	1,305.0	-215.5	-27.5	216.7	1.14	-1.09	
1,427.0	21.20	182.40	1,390.0	-247.9	-28.9	249.2	0.67	0.66	
1,519.0	22.20	182.30	1,475.5	-281.9	-30.3	283.2	1.09	1.09	
1,611.0	23.50	181.90	1,560.3	-317.6	-31.6	318.9	1.42	1.41	
1,702.0	22.40	181.80	1,644.1	-353.0	-32.8	354.4	1.21	-1.21	
1,790.0	22.00	183.10	1,725.6	-386.3	-34.2	387.6	0.72	-0.45	Last Cathedral Survey @ 1,790' MD
1,896.0	21.90	184.80	1,823.9	-425.8	-36.9	427.2	0.61	-0.09	
1,988.0	21.60	182.10	1,909.3	-459.8	-39.0	461.3	1.14	-0.33	
2,079.0	21.30	179.00	1,994.0	-493.1	-39.3	494.5	1.29	-0.33	
2,171.0	22.60	177.10	2,079.4	-527.4	-38.1	528.8	1.61	1.41	
2,263.0	22.80	175.20	2,164.2	-562.8	-35.7	564.0	0.83	0.22	
2,354.0	22.00	177.20	2,248.4	-597.4	-33.4	598.4	1.21	-0.88	
2,446.0	23.30	186.30	2,333.3	-632.7	-34.6	633.7	4.06	1.41	
2,537.0	23.50	185.50	2,416.8	-668.7	-38.3	669.8	0.41	0.22	
2,628.0	23.60	185.20	2,500.2	-704.9	-41.7	706.1	0.17	0.11	
2,720.0	23.60	185.10	2,584.5	-741.6	-45.0	742.9	0.04	0.00	
2,811.0	24.20	184.30	2,667.7	-778.3	-48.0	779.8	0.75	0.66	
2,903.0	23.50	184.30	2,751.9	-815.4	-50.8	817.0	0.76	-0.76	
2,994.0	22.80	184.70	2,835.6	-851.1	-53.6	852.8	0.79	-0.77	
3,086.0	22.10	183.90	2,920.6	-886.1	-56.2	887.9	0.83	-0.76	
3,178.0	21.90	184.80	3,005.9	-920.5	-58.9	922.4	0.43	-0.22	
3,269.0	21.30	183.30	3,090.5	-953.9	-61.2	955.8	0.90	-0.66	
3,361.0	20.50	185.70	3,176.4	-986.6	-63.8	988.7	1.27	-0.87	
3,452.0	20.70	184.30	3,261.6	-1,018.5	-66.6	1,020.7	0.58	0.22	
3,544.0	21.40	180.80	3,347.5	-1,051.5	-68.0	1,053.7	1.56	0.76	
3,636.0	19.90	178.60	3,433.6	-1,083.9	-67.9	1,086.1	1.84	-1.63	
3,727.0	21.50	182.70	3,518.7	-1,116.1	-68.3	1,118.2	2.37	1.76	
3,819.0	22.00	181.20	3,604.2	-1,150.1	-69.4	1,152.2	0.81	0.54	
3,910.0	20.60	180.60	3,688.9	-1,183.2	-70.0	1,185.3	1.56	-1.54	
4,002.0	21.20	180.30	3,774.9	-1,216.0	-70.2	1,218.0	0.66	0.65	
4,094.0	20.30	181.20	3,860.9	-1,248.6	-70.6	1,250.6	1.04	-0.98	
4,185.0	21.00	183.50	3,946.1	-1,280.7	-72.0	1,282.7	1.18	0.77	
4,277.0	22.30	183.60	4,031.6	-1,314.5	-74.1	1,316.6	1.41	1.41	
4,368.0	21.90	182.40	4,115.9	-1,348.7	-75.9	1,350.8	0.66	-0.44	
4,460.0	21.90	181.50	4,201.3	-1,383.0	-77.0	1,385.1	0.36	0.00	
4,551.0	23.40	184.40	4,285.2	-1,418.0	-78.9	1,420.2	2.05	1.65	
4,643.0	22.90	186.40	4,369.8	-1,454.0	-82.3	1,456.3	1.01	-0.54	
4,735.0	22.00	186.40	4,454.9	-1,488.9	-86.2	1,491.4	0.98	-0.98	
4,826.0	23.80	183.90	4,538.7	-1,524.2	-89.3	1,526.8	2.25	1.98	

Cathedral Energy Services

Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well NP EF08B-34 P27 595
Project:	North Piceance	TVD Reference:	WELL @ 6671.0ft (Patterson 303)
Site:	P27 595 (S27-T5S-R95W)	MD Reference:	WELL @ 6671.0ft (Patterson 303)
Well:	NP EF08B-34 P27 595	North Reference:	True
Wellbore:	DD	Survey Calculation Method:	Minimum Curvature
Design:	DD	Database:	USA EDM 5000 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
4,918.0	23.30	182.00	4,623.0	-1,560.9	-91.2	1,563.5	0.99	-0.54	
5,009.0	21.20	182.00	4,707.2	-1,595.3	-92.4	1,598.0	2.31	-2.31	
5,101.0	21.80	185.00	4,792.8	-1,629.0	-94.5	1,631.7	1.36	0.65	
5,192.0	23.60	182.70	4,876.8	-1,664.0	-96.8	1,666.8	2.21	1.98	
5,283.0	22.50	182.00	4,960.5	-1,699.6	-98.3	1,702.4	1.25	-1.21	
5,375.0	21.00	182.00	5,046.0	-1,733.7	-99.5	1,736.5	1.63	-1.63	
5,466.0	23.20	182.70	5,130.3	-1,767.9	-100.9	1,770.7	2.43	2.42	
5,557.0	22.90	183.80	5,214.0	-1,803.4	-102.9	1,806.4	0.58	-0.33	
5,648.0	21.50	183.50	5,298.3	-1,837.8	-105.1	1,840.7	1.54	-1.54	
5,740.0	20.80	182.70	5,384.1	-1,870.9	-106.9	1,873.9	0.82	-0.76	
5,831.0	19.60	181.50	5,469.5	-1,902.3	-108.1	1,905.4	1.40	-1.32	
5,923.0	18.60	181.40	5,556.4	-1,932.4	-108.8	1,935.4	1.09	-1.09	
6,014.0	17.80	181.20	5,642.9	-1,960.8	-109.5	1,963.8	0.88	-0.88	
6,105.0	17.10	181.80	5,729.7	-1,988.1	-110.2	1,991.1	0.79	-0.77	
6,196.0	15.40	182.70	5,817.0	-2,013.5	-111.2	2,016.6	1.89	-1.87	
6,288.0	13.80	182.20	5,906.1	-2,036.7	-112.2	2,039.8	1.74	-1.74	
6,379.0	12.00	186.20	5,994.8	-2,057.0	-113.6	2,060.1	2.21	-1.98	
6,471.0	9.80	182.40	6,085.1	-2,074.3	-115.0	2,077.4	2.51	-2.39	
6,562.0	6.00	174.60	6,175.2	-2,086.8	-114.8	2,089.9	4.33	-4.18	
6,654.0	2.30	187.80	6,267.0	-2,093.4	-114.6	2,096.5	4.13	-4.02	
6,745.0	0.60	148.90	6,357.9	-2,095.6	-114.6	2,098.7	2.06	-1.87	
6,836.1	0.80	346.10	6,449.0	-2,095.4	-114.6	2,098.5	1.52	0.22	
6,928.0	0.20	148.60	6,540.9	-2,094.9	-114.6	2,098.0	1.08	-0.65	
7,019.0	0.30	162.60	6,631.9	-2,095.3	-114.5	2,098.4	0.13	0.11	
7,111.0	0.40	166.40	6,723.9	-2,095.8	-114.3	2,098.9	0.11	0.11	
7,202.0	0.70	205.50	6,814.9	-2,096.6	-114.5	2,099.7	0.51	0.33	
7,294.0	1.40	221.20	6,906.9	-2,098.0	-115.5	2,101.1	0.82	0.76	
7,385.0	0.40	259.20	6,997.9	-2,098.9	-116.5	2,102.1	1.22	-1.10	
7,477.0	1.00	265.00	7,089.9	-2,099.0	-117.6	2,102.3	0.66	0.65	
7,568.0	0.00	100.30	7,180.9	-2,099.1	-118.4	2,102.4	1.10	-1.10	
7,660.0	0.50	205.20	7,272.9	-2,099.4	-118.6	2,102.8	0.54	0.54	
7,751.0	0.50	172.20	7,363.9	-2,100.2	-118.7	2,103.5	0.31	0.00	
7,843.0	0.60	205.30	7,455.9	-2,101.0	-118.9	2,104.4	0.36	0.11	
7,934.0	0.50	190.10	7,546.9	-2,101.8	-119.1	2,105.2	0.19	-0.11	
8,026.0	0.70	181.40	7,638.9	-2,102.8	-119.2	2,106.2	0.24	0.22	
8,117.0	0.30	204.60	7,729.9	-2,103.6	-119.3	2,106.9	0.48	-0.44	
8,209.0	0.60	244.50	7,821.9	-2,104.0	-119.9	2,107.4	0.45	0.33	
8,300.0	1.20	246.20	7,912.9	-2,104.6	-121.2	2,108.1	0.66	0.66	
8,392.0	1.20	21.70	8,004.9	-2,104.1	-121.7	2,107.6	2.41	0.00	
8,483.0	0.60	4.30	8,095.8	-2,102.7	-121.3	2,106.2	0.72	-0.66	
8,575.0	0.70	309.20	8,187.8	-2,101.9	-121.7	2,105.4	0.66	0.11	
8,666.0	0.30	280.20	8,278.8	-2,101.5	-122.4	2,105.0	0.51	-0.44	
8,758.0	0.10	25.10	8,370.8	-2,101.4	-122.6	2,104.9	0.37	-0.22	
8,850.0	0.10	124.40	8,462.8	-2,101.3	-122.5	2,104.9	0.17	0.00	
8,941.0	0.10	156.50	8,553.8	-2,101.5	-122.4	2,105.0	0.06	0.00	
9,033.0	0.40	130.20	8,645.8	-2,101.7	-122.1	2,105.3	0.34	0.33	
9,124.0	0.40	185.00	8,736.8	-2,102.3	-121.9	2,105.8	0.40	0.00	
9,216.0	0.60	183.20	8,828.8	-2,103.1	-121.9	2,106.6	0.22	0.22	
9,307.0	0.90	194.30	8,919.8	-2,104.2	-122.1	2,107.8	0.36	0.33	
9,399.0	1.00	177.00	9,011.8	-2,105.7	-122.3	2,109.3	0.33	0.11	
9,490.0	0.30	260.50	9,102.8	-2,106.6	-122.5	2,110.1	1.11	-0.77	
9,582.0	0.70	252.50	9,194.8	-2,106.8	-123.2	2,110.4	0.44	0.43	
9,674.0	1.00	217.40	9,286.8	-2,107.6	-124.3	2,111.2	0.64	0.33	

Cathedral Energy Services

Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well NP EF08B-34 P27 595
Project:	North Piceance	TVD Reference:	WELL @ 6671.0ft (Patterson 303)
Site:	P27 595 (S27-T5S-R95W)	MD Reference:	WELL @ 6671.0ft (Patterson 303)
Well:	NP EF08B-34 P27 595	North Reference:	True
Wellbore:	DD	Survey Calculation Method:	Minimum Curvature
Design:	DD	Database:	USA EDM 5000 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
9,765.0	0.90	345.40	9,377.8	-2,107.5	-124.9	2,111.2	1.88	-0.11	
9,856.0	0.90	329.10	9,468.8	-2,106.2	-125.5	2,110.0	0.28	0.00	
9,947.0	0.30	264.00	9,559.7	-2,105.6	-126.1	2,109.4	0.90	-0.66	
10,039.0	0.80	242.10	9,651.7	-2,106.0	-126.9	2,109.8	0.58	0.54	
10,130.0	0.80	174.80	9,742.7	-2,106.9	-127.4	2,110.7	0.97	0.00	
10,222.0	1.10	166.30	9,834.7	-2,108.4	-127.1	2,112.2	0.36	0.33	
10,313.0	1.20	176.30	9,925.7	-2,110.2	-126.9	2,114.0	0.25	0.11	
10,405.0	1.30	194.60	10,017.7	-2,112.2	-127.1	2,116.0	0.45	0.11	
10,435.0	1.10	197.30	10,047.7	-2,112.8	-127.2	2,116.6	0.69	-0.67	Last Cathedral Survey @ 10,435' MD
10,480.0	1.10	197.30	10,092.7	-2,113.6	-127.5	2,117.4	0.00	0.00	Projection to Bit @ 10,480'

Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
- hit/miss target									
- Shape									
P27 595 EF 08B-34 BHL	0.00	0.00	9,962.0	-2,107.5	-122.9	1,643,693.48	2,285,912.58	39° 34' 24.17 N	108° 2' 0.80 W
- actual wellpath misses target center by 5.3ft at 10349.2ft MD (9961.9 TVD, -2110.9 N, -126.9 E)									
- Rectangle (sides W30.0 H50.0 D0.0)									
P27 595 EF 08B-34 TG1	0.00	0.00	6,402.0	-2,097.5	-105.9	1,643,703.00	2,285,929.85	39° 34' 24.27 N	108° 2' 0.58 W
- actual wellpath misses target center by 8.8ft at 6789.1ft MD (6402.0 TVD, -2095.8 N, -114.5 E)									
- Point									

Design Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
1,790.0	1,725.6	-386.3	-34.2	Last Cathedral Survey @ 1,790' MD	
10,435.0	10,047.7	-2,112.8	-127.2	Last Cathedral Survey @ 10,435' MD	
10,480.0	10,092.7	-2,113.6	-127.5	Projection to Bit @ 10,480'	

Checked By: _____ Approved By: _____ Date: _____