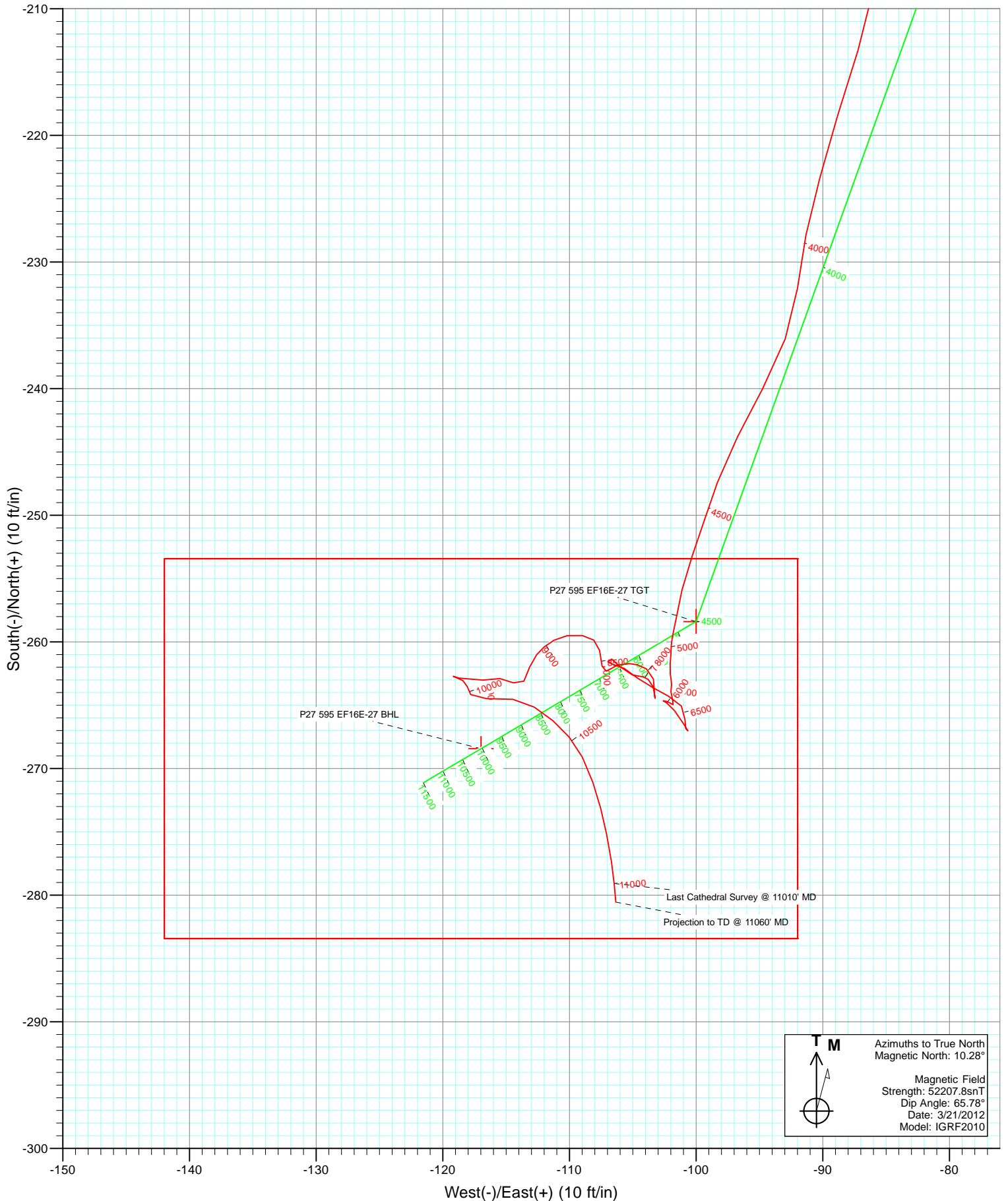


Azimuths to True North
 Magnetic North: 10.28°

Magnetic Field
 Strength: 52207.8nT
 Dip Angle: 65.78°
 Date: 3/21/2012
 Model: IGRF2010

DD NP EF16E-27 P27 595 125116/141855 (SH) 125190/145555 (MH); LR well @ 6671.0ft North American Datum 1983 Well NP EF16E-27 P27 595, True North							
Type User	Target No Target (Freehand)	Azimuth	Origin Type Slot	N/S	E/W	From TVD	
		204.14		0.0	0.0	0.0	
Name	TV	+N/-S	+E/-W	Latitude	Longitude		
P27 595 EF16E-27 TGT	4500.0	-258.4	-100.0	39° 34' 43.16 N	108° 2' 0.82 W		
P27 595 EF16E-27 BHL	10030.0	-268.4	-117.0	39° 34' 43.06 N	108° 2' 1.03 W		



Cathedral Energy Services

Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well NP EF16E-27 P27 595
Project:	North Piceance	TVD Reference:	well @ 6671.0ft
Site:	P27 595 (S27-T5S-R95W)	MD Reference:	well @ 6671.0ft
Well:	NP EF16E-27 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 EF16E-27 P27 595					
Well Position	+N/-S	0.0 ft	Northing:	1,645,870.22 ft	Latitude:	39° 34' 45.72 N
	+E/-W	0.0 ft	Easting:	2,286,071.99 ft	Longitude:	108° 1' 59.54 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	3/21/2012	10.28	65.78	52,208

Design	DD				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD)	+N/-S (ft)	+E/-W (ft)	Direction (°)	
	0.0	0.0	0.0	204.14	

Survey Program	Date	4/3/2012			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
173.0	11,060.0	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		
173.0	0.60	56.80	173.0	0.5	0.8	-0.8	0.35	0.35		
203.0	0.40	79.40	203.0	0.6	1.0	-1.0	0.92	-0.67		
234.0	0.20	352.30	234.0	0.7	1.1	-1.1	1.41	-0.65		
265.0	0.30	41.30	265.0	0.8	1.1	-1.2	0.73	0.32		
295.0	0.40	239.50	295.0	0.8	1.1	-1.2	2.30	0.33		
326.0	0.60	246.00	326.0	0.7	0.9	-1.0	0.67	0.65		
357.0	1.60	238.50	357.0	0.4	0.3	-0.5	3.25	3.23		
388.0	1.90	238.60	388.0	-0.1	-0.5	0.3	0.97	0.97		
418.0	3.10	229.70	417.9	-0.9	-1.5	1.4	4.19	4.00		
449.0	3.70	228.60	448.9	-2.1	-2.9	3.1	1.95	1.94		
479.0	4.00	225.50	478.8	-3.5	-4.4	5.0	1.22	1.00		
510.0	3.80	223.00	509.7	-5.0	-5.8	6.9	0.85	-0.65		

Cathedral Energy Services

Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well NP EF16E-27 P27 595
Project:	North Piceance	TVD Reference:	well @ 6671.0ft
Site:	P27 595 (S27-T5S-R95W)	MD Reference:	well @ 6671.0ft
Well:	NP EF16E-27 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
559.0	4.40	216.10	558.6	-7.7	-8.1	10.3	1.58	1.22	
605.0	4.40	210.80	604.5	-10.6	-10.0	13.8	0.88	0.00	
650.0	4.40	217.30	649.4	-13.5	-11.9	17.2	1.11	0.00	
696.0	4.40	214.10	695.2	-16.4	-14.0	20.6	0.53	0.00	
788.0	4.00	203.50	787.0	-22.2	-17.2	27.3	0.95	-0.43	
879.0	4.30	209.70	877.7	-28.1	-20.2	33.9	0.59	0.33	
971.0	4.10	205.10	969.5	-34.1	-23.3	40.6	0.43	-0.22	
1,062.0	3.60	195.30	1,060.3	-39.8	-25.4	46.7	0.91	-0.55	
1,154.0	3.40	188.80	1,152.1	-45.2	-26.6	52.2	0.48	-0.22	
1,246.0	3.90	184.20	1,243.9	-51.1	-27.3	57.7	0.63	0.54	
1,337.0	4.10	190.90	1,334.7	-57.3	-28.1	63.8	0.56	0.22	
1,429.0	4.70	201.20	1,426.4	-64.1	-30.1	70.8	1.08	0.65	
1,521.0	4.40	201.20	1,518.1	-70.9	-32.7	78.1	0.33	-0.33	
1,612.0	4.00	206.70	1,608.9	-77.0	-35.4	84.7	0.62	-0.44	
1,714.0	4.00	206.70	1,710.7	-83.3	-38.6	91.8	0.00	0.00	
1,761.0	4.70	199.60	1,757.5	-86.6	-40.0	95.4	1.88	1.49	
1,889.0	4.90	200.50	1,885.1	-96.7	-43.7	106.1	0.17	0.16	
1,981.0	4.70	205.20	1,976.7	-103.8	-46.7	113.8	0.48	-0.22	
2,072.0	4.30	195.90	2,067.5	-110.4	-49.2	120.9	0.91	-0.44	
2,164.0	4.30	194.90	2,159.2	-117.1	-51.0	127.7	0.08	0.00	
2,256.0	4.10	192.10	2,251.0	-123.6	-52.6	134.3	0.31	-0.22	
2,347.0	3.70	210.30	2,341.8	-129.3	-54.8	140.4	1.42	-0.44	
2,439.0	3.40	209.40	2,433.6	-134.3	-57.6	146.1	0.33	-0.33	
2,530.0	3.40	208.70	2,524.4	-139.0	-60.2	151.5	0.05	0.00	
2,622.0	3.30	208.70	2,616.3	-143.7	-62.8	156.8	0.11	-0.11	
2,713.0	3.30	206.60	2,707.1	-148.4	-65.2	162.1	0.13	0.00	
2,805.0	3.40	203.50	2,799.0	-153.2	-67.5	167.4	0.22	0.11	
2,896.0	4.30	194.20	2,889.7	-159.0	-69.4	173.5	1.20	0.99	
2,987.0	4.10	193.30	2,980.5	-165.5	-71.0	180.0	0.23	-0.22	
3,079.0	4.30	198.00	3,072.3	-172.0	-72.8	186.7	0.43	0.22	
3,171.0	4.20	201.80	3,164.0	-178.4	-75.1	193.5	0.32	-0.11	
3,262.0	3.90	201.20	3,254.8	-184.3	-77.5	199.9	0.33	-0.33	
3,354.0	3.70	201.70	3,346.6	-190.0	-79.7	206.0	0.22	-0.22	
3,446.0	3.40	208.20	3,438.4	-195.2	-82.1	211.7	0.55	-0.33	
3,537.0	4.30	194.60	3,529.2	-200.9	-84.2	217.7	1.40	0.99	
3,629.0	4.10	191.10	3,620.9	-207.4	-85.7	224.4	0.35	-0.22	
3,720.0	3.50	197.50	3,711.7	-213.3	-87.2	230.3	0.81	-0.66	
3,812.0	3.30	197.20	3,803.6	-218.5	-88.8	235.7	0.22	-0.22	
3,904.0	3.10	194.80	3,895.4	-223.4	-90.2	240.8	0.26	-0.22	
3,995.0	2.70	192.00	3,986.3	-227.9	-91.3	245.3	0.47	-0.44	
4,087.0	2.60	186.20	4,078.2	-232.1	-92.0	249.4	0.31	-0.11	
4,178.0	2.60	200.70	4,169.1	-236.1	-93.0	253.4	0.72	0.00	
4,270.0	2.80	208.00	4,261.0	-240.0	-94.7	257.8	0.43	0.22	
4,361.0	2.60	207.00	4,351.9	-243.8	-96.7	262.0	0.23	-0.22	
4,453.0	2.30	200.00	4,443.8	-247.4	-98.3	266.0	0.46	-0.33	
4,509.5	2.05	198.75	4,500.3	-249.4	-99.0	268.1	0.44	-0.44	P27 595 EF16E-27 TGT
4,545.0	1.90	197.80	4,535.8	-250.6	-99.4	269.3	0.44	-0.43	
4,636.0	1.70	199.90	4,626.7	-253.3	-100.3	272.2	0.23	-0.22	
4,728.0	1.70	193.60	4,718.7	-255.9	-101.1	274.9	0.20	0.00	
4,819.0	1.30	188.70	4,809.7	-258.2	-101.6	277.2	0.46	-0.44	
4,911.0	0.50	200.10	4,901.7	-259.6	-101.9	278.6	0.89	-0.87	
5,002.0	0.40	169.50	4,992.7	-260.3	-102.0	279.3	0.28	-0.11	
5,094.0	0.40	195.40	5,084.6	-260.9	-102.0	279.8	0.19	0.00	

Cathedral Energy Services

Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well NP EF16E-27 P27 595
Project:	North Piceance	TVD Reference:	well @ 6671.0ft
Site:	P27 595 (S27-T5S-R95W)	MD Reference:	well @ 6671.0ft
Well:	NP EF16E-27 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
5,185.0	0.60	177.30	5,175.6	-261.7	-102.0	280.6	0.28	0.22	
5,277.0	0.40	181.80	5,267.6	-262.5	-102.0	281.3	0.22	-0.22	
5,368.0	0.20	152.10	5,358.6	-263.0	-102.0	281.7	0.27	-0.22	
5,459.0	0.30	189.50	5,449.6	-263.4	-101.9	282.0	0.20	0.11	
5,550.0	0.40	182.90	5,540.6	-263.9	-102.0	282.5	0.12	0.11	
5,642.0	0.60	159.60	5,632.6	-264.7	-101.8	283.2	0.31	0.22	
5,733.0	0.30	321.60	5,723.6	-265.0	-101.8	283.4	0.98	-0.33	
5,824.0	0.40	280.30	5,814.6	-264.7	-102.3	283.4	0.29	0.11	
5,916.0	0.00	270.50	5,906.6	-264.6	-102.6	283.5	0.43	-0.43	
6,007.0	0.40	121.60	5,997.6	-264.8	-102.3	283.5	0.44	0.44	
6,098.0	0.70	141.60	6,088.6	-265.4	-101.7	283.8	0.39	0.33	
6,190.0	0.90	148.70	6,180.6	-266.5	-101.0	284.5	0.24	0.22	
6,281.0	0.10	335.50	6,271.6	-267.0	-100.6	284.8	1.10	-0.88	
6,372.0	0.20	303.80	6,362.6	-266.9	-100.8	284.7	0.14	0.11	
6,464.0	0.80	6.20	6,454.6	-266.1	-100.9	284.1	0.79	0.65	
6,555.0	0.70	320.60	6,545.6	-265.1	-101.2	283.3	0.65	-0.11	
6,647.0	0.90	298.00	6,637.6	-264.3	-102.2	283.0	0.40	0.22	
6,738.0	0.90	299.60	6,728.6	-263.6	-103.4	282.8	0.03	0.00	
6,830.0	0.90	303.70	6,820.6	-262.8	-104.6	282.7	0.07	0.00	
6,921.0	0.70	309.80	6,911.6	-262.1	-105.7	282.4	0.24	-0.22	
7,012.0	0.60	265.10	7,002.6	-261.8	-106.6	282.5	0.55	-0.11	
7,104.0	0.30	17.70	7,094.6	-261.6	-107.0	282.5	0.83	-0.33	
7,195.0	0.30	89.50	7,185.6	-261.4	-106.7	282.1	0.39	0.00	
7,287.0	0.80	148.00	7,277.6	-261.9	-106.1	282.4	0.75	0.54	
7,379.0	0.90	102.80	7,369.6	-262.6	-105.0	282.6	0.72	0.11	
7,470.0	0.20	89.70	7,460.6	-262.8	-104.2	282.4	0.78	-0.77	
7,561.0	0.40	130.30	7,551.6	-263.0	-103.8	282.4	0.31	0.22	
7,653.0	0.50	159.60	7,643.5	-263.6	-103.4	282.8	0.27	0.11	
7,750.0	0.60	179.10	7,740.5	-264.5	-103.2	283.5	0.22	0.10	
7,842.0	0.90	356.60	7,832.5	-264.2	-103.3	283.3	1.63	0.33	
7,934.0	0.70	354.60	7,924.5	-262.9	-103.4	282.2	0.22	-0.22	
8,025.0	0.70	296.70	8,015.5	-262.1	-103.9	281.7	0.74	0.00	
8,116.0	0.30	289.20	8,106.5	-261.8	-104.6	281.7	0.44	-0.44	
8,208.0	0.50	271.60	8,198.5	-261.7	-105.3	281.9	0.25	0.22	
8,299.0	0.70	256.80	8,289.5	-261.8	-106.2	282.4	0.28	0.22	
8,391.0	0.60	224.90	8,381.5	-262.3	-107.1	283.2	0.40	-0.11	
8,482.0	0.90	0.20	8,472.5	-261.9	-107.4	282.9	1.53	0.33	
8,574.0	0.70	339.80	8,564.5	-260.7	-107.6	281.9	0.37	-0.22	
8,665.0	0.50	317.60	8,655.5	-259.9	-108.1	281.3	0.33	-0.22	
8,757.0	0.80	276.40	8,747.5	-259.5	-109.0	281.4	0.58	0.33	
8,848.0	0.70	261.20	8,838.5	-259.5	-110.2	281.9	0.24	-0.11	
8,940.0	0.70	241.00	8,930.5	-259.9	-111.2	282.6	0.27	0.00	
9,031.0	0.50	229.00	9,021.5	-260.4	-112.0	283.4	0.26	-0.22	
9,122.0	0.60	218.70	9,112.5	-261.0	-112.6	284.2	0.15	0.11	
9,214.0	0.80	203.00	9,204.5	-262.0	-113.1	285.4	0.30	0.22	
9,305.0	0.70	201.30	9,295.5	-263.1	-113.6	286.5	0.11	-0.11	
9,396.0	0.90	302.10	9,386.4	-263.2	-114.4	287.0	1.36	0.22	
9,487.0	0.60	265.70	9,477.4	-262.9	-115.5	287.1	0.60	-0.33	
9,579.0	1.10	264.20	9,569.4	-263.0	-116.8	287.8	0.54	0.54	
9,670.0	1.30	283.80	9,660.4	-262.9	-118.7	288.4	0.50	0.22	
9,761.0	0.70	100.30	9,751.4	-262.7	-119.2	288.5	2.20	-0.66	
9,853.0	0.40	139.70	9,843.4	-263.1	-118.4	288.5	0.51	-0.33	
9,944.0	0.30	147.90	9,934.4	-263.5	-118.1	288.7	0.12	-0.11	

Cathedral Energy Services

Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well NP EF16E-27 P27 595
Project:	North Piceance	TVD Reference:	well @ 6671.0ft
Site:	P27 595 (S27-T5S-R95W)	MD Reference:	well @ 6671.0ft
Well:	NP EF16E-27 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
10,035.0	0.60	161.00	10,025.4	-264.2	-117.8	289.2	0.35	0.33	
10,039.7	0.59	154.24	10,030.0	-264.2	-117.8	289.3	1.53	-0.23	P27 595 EF16E-27 BHL
10,126.0	1.40	83.90	10,116.4	-264.5	-116.5	289.0	1.53	0.94	
10,218.0	1.20	100.10	10,208.4	-264.5	-114.5	288.2	0.45	-0.22	
10,309.0	1.10	120.60	10,299.3	-265.1	-112.8	288.1	0.46	-0.11	
10,400.0	1.20	131.10	10,390.3	-266.2	-111.3	288.5	0.26	0.11	
10,492.0	1.10	139.40	10,482.3	-267.5	-110.0	289.1	0.21	-0.11	
10,583.0	1.30	153.70	10,573.3	-269.1	-109.0	290.1	0.39	0.22	
10,675.0	1.40	160.60	10,665.2	-271.1	-108.1	291.6	0.21	0.11	
10,766.0	1.30	166.20	10,756.2	-273.2	-107.5	293.2	0.18	-0.11	
10,857.0	1.30	168.10	10,847.2	-275.2	-107.1	294.9	0.05	0.00	
10,949.0	1.50	171.40	10,939.2	-277.4	-106.7	296.7	0.23	0.22	
11,010.0	1.70	174.60	11,000.1	-279.1	-106.5	298.2	0.36	0.33	Last Cathedral Survey @ 11010' MD
11,060.0	1.70	174.60	11,050.1	-280.5	-106.3	299.5	0.00	0.00	Projection to TD @ 11060' MD

Targets

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
P27 595 EF16E-27 BHL	0.00	0.00	10,030.0	-268.4	-117.0	1,645,605.15	2,285,947.57	39° 34' 43.06 N	108° 2' 1.03 W
- hit/miss target									
- Shape									
- actual wellpath misses target center by 4.3ft at 10039.7ft MD (10030.0 TVD, -264.2 N, -117.8 E)									
- Rectangle (sides W30.0 H50.0 D0.0)									
P27 595 EF16E-27 TGT	0.00	0.00	4,500.0	-258.4	-100.0	1,645,614.71	2,285,964.82	39° 34' 43.16 N	108° 2' 0.82 W
- actual wellpath misses target center by 9.0ft at 4509.5ft MD (4500.3 TVD, -249.4 N, -99.0 E)									
- Point									

Design Annotations

	Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
			+N/-S (ft)	+E/-W (ft)	
	11,010.0	11,000.1	-279.1	-106.5	Last Cathedral Survey @ 11010' MD
	11,060.0	11,050.1	-280.5	-106.3	Projection to TD @ 11060' MD

Checked By: _____ Approved By: _____ Date: _____