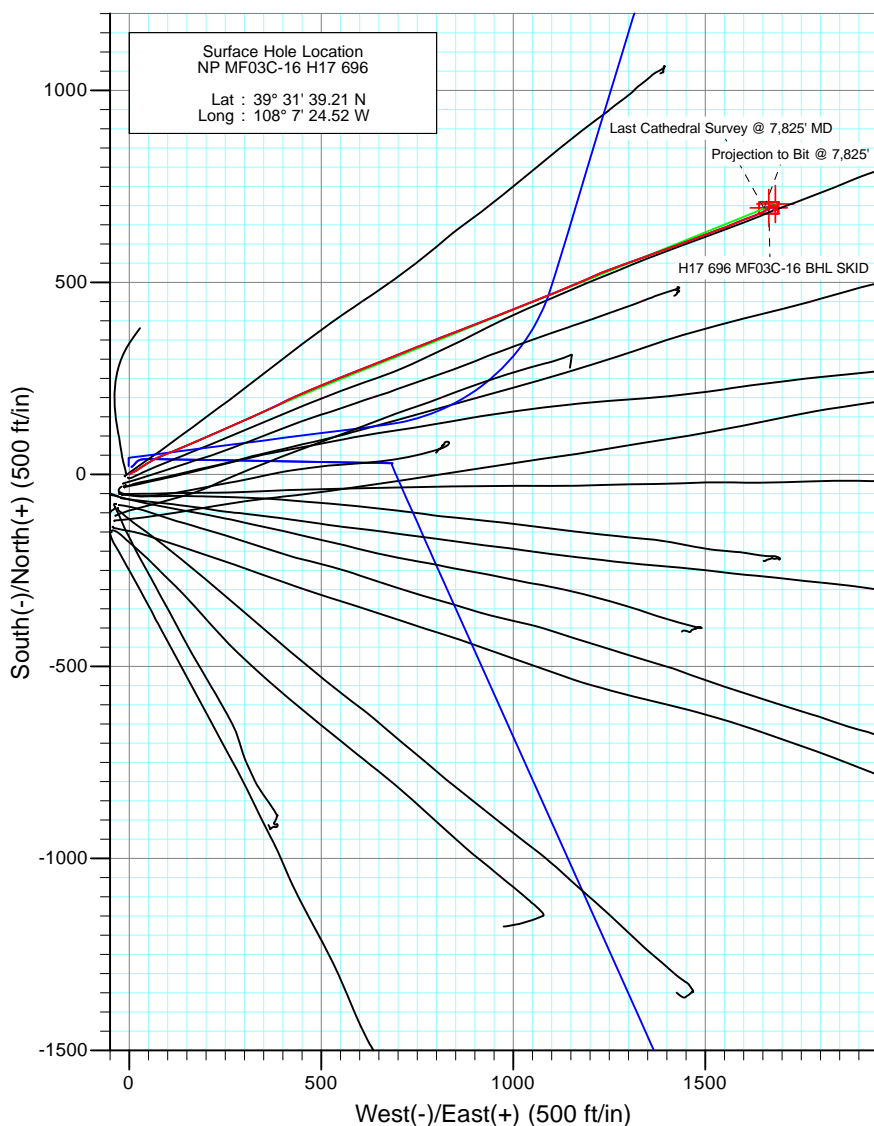
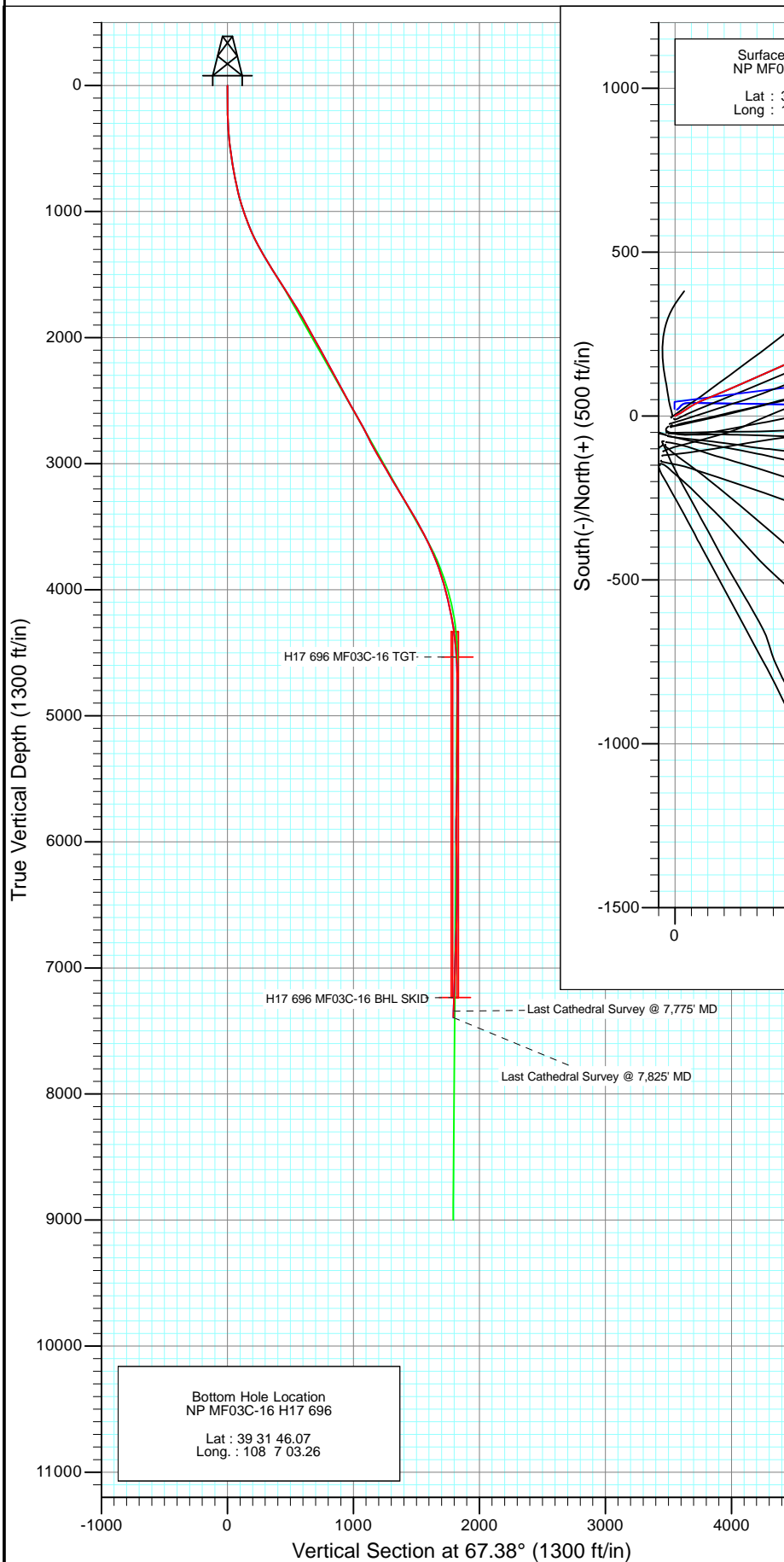




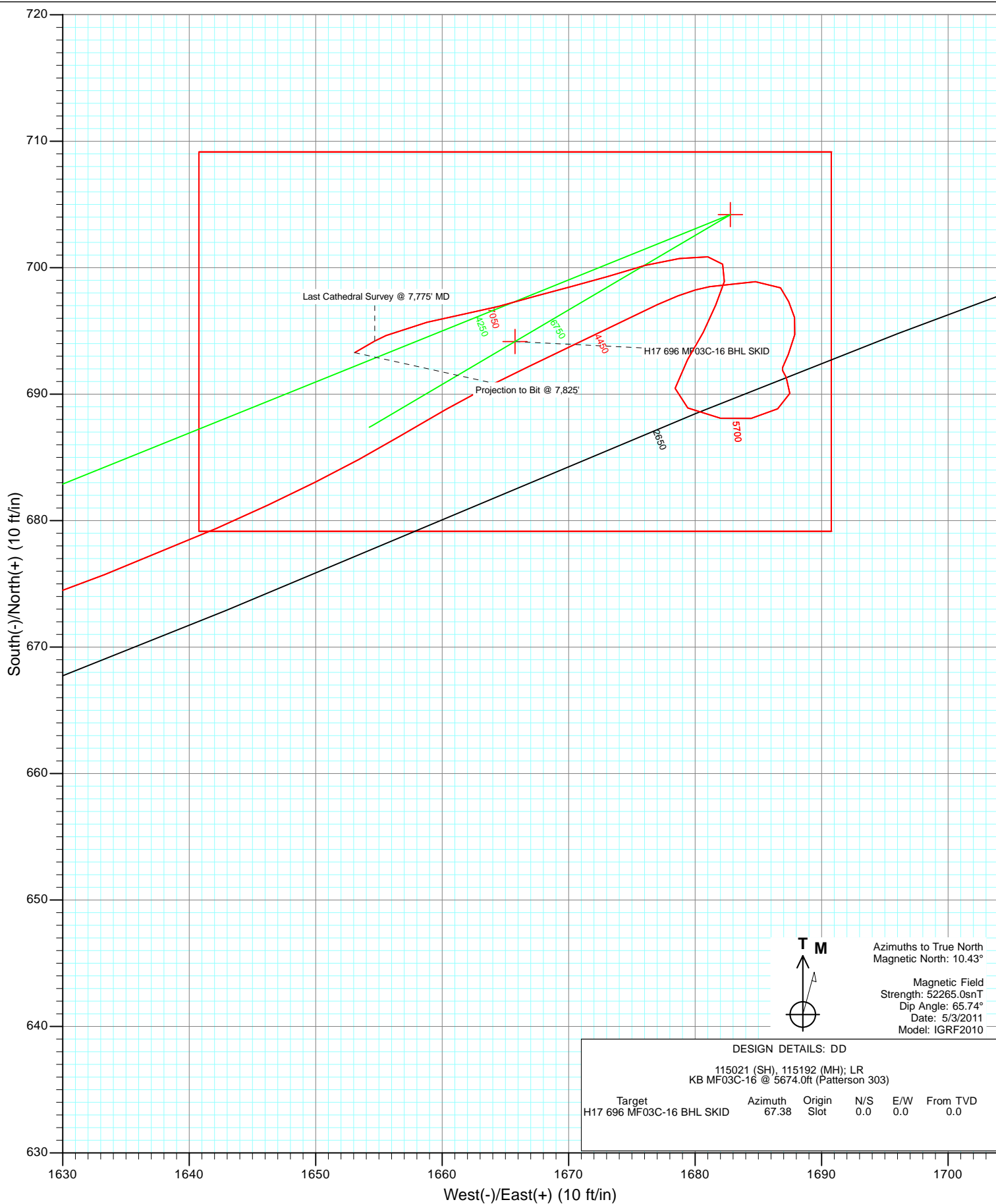
Project: North Piceance
 Site: H17 696 (S17-T6S-R96W)
 Well: NP MF03C-16 H17 696
 Wellbore: DD
 Design: FINAL



Azimuths to True North
 Magnetic North: 10.43°

Magnetic Field
 Strength: 52265.0nT
 Dip Angle: 65.74°
 Date: 5/3/2011
 Model: IGRF2010

DESIGN DETAILS: DD					
115021 (SH), 115192 (MH); LR					
KB MF03C-16 @ 5674.0ft (Patterson 303)					
Target	Azimuth	Origin	N/S	E/W	From TVD
H17 696 MF03C-16 BHL SKID	67.38	Slot	0.0	0.0	0.0



Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well NP MF03C-16 H17 696
Project:	North Piceance	TVD Reference:	KB MF03C-16 @ 5674.0ft (Patterson 303)
Site:	H17 696 (S17-T6S-R96W)	MD Reference:	KB MF03C-16 @ 5674.0ft (Patterson 303)
Well:	NP MF03C-16 H17 696	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	H17 696 (S17-T6S-R96W)			
Site Position:		Northing:	1,627,645.46 ft	Latitude: 39° 31' 38.37 N
From:	Lat/Long	Easting:	2,260,053.39 ft	Longitude: 108° 7' 24.99 W
Position Uncertainty:	0.0 ft	Slot Radius:	13.200 in	Grid Convergence: -1.65 °

Well	NP MF03C-16 H17 696			
Well Position	+N/-S	0.0 ft	Northing:	1,627,729.33 ft
	+E/-W	0.0 ft	Easting:	2,260,092.66 ft
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft
			Ground Level:	5,652.0 ft

Wellbore	DD				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	5/3/2011	10.43	65.74	52,265

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	67.38

Survey Program	Date	5/19/2011		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
200.0	7,825.0	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	
200.0	0.92	51.60	200.0	1.0	1.3	1.5	0.46	0.46	
231.0	1.50	57.50	231.0	1.4	1.8	2.2	1.91	1.87	
262.0	2.30	62.90	262.0	1.9	2.7	3.2	2.64	2.58	
292.0	2.70	59.70	291.9	2.5	3.8	4.5	1.41	1.33	
322.0	2.70	51.80	321.9	3.3	5.0	5.9	1.24	0.00	
353.0	3.30	62.30	352.9	4.2	6.4	7.5	2.62	1.94	
383.0	4.70	66.70	382.8	5.0	8.3	9.6	4.77	4.67	
414.0	5.60	65.10	413.7	6.2	10.8	12.3	2.94	2.90	
445.0	6.20	64.90	444.5	7.5	13.7	15.5	1.94	1.94	
475.0	6.50	63.40	474.3	9.0	16.7	18.8	1.14	1.00	
506.0	7.60	56.60	505.1	10.9	20.0	22.6	4.45	3.55	
555.0	8.30	55.60	553.6	14.7	25.6	29.3	1.46	1.43	

Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well NP MF03C-16 H17 696
Project:	North Piceance	TVD Reference:	KB MF03C-16 @ 5674.0ft (Patterson 303)
Site:	H17 696 (S17-T6S-R96W)	MD Reference:	KB MF03C-16 @ 5674.0ft (Patterson 303)
Well:	NP MF03C-16 H17 696	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
601.0	9.30	56.30	599.1	18.6	31.4	36.2	2.19	2.17	
646.0	10.50	58.00	643.4	22.8	37.9	43.8	2.74	2.67	
692.0	10.50	57.60	688.6	27.3	45.0	52.0	0.16	0.00	
738.0	11.30	57.90	733.8	31.9	52.4	60.6	1.74	1.74	
784.0	11.60	60.10	778.9	36.6	60.2	69.6	1.15	0.65	
830.0	12.20	64.00	823.9	41.1	68.6	79.1	2.18	1.30	
876.0	13.90	66.00	868.7	45.4	78.0	89.5	3.82	3.70	
921.0	16.40	68.00	912.1	50.0	88.8	101.2	5.67	5.56	
967.0	17.90	69.30	956.1	54.9	101.4	114.8	3.37	3.26	
1,013.0	18.50	67.50	999.8	60.2	114.8	129.1	1.79	1.30	
1,059.0	19.50	67.00	1,043.3	66.0	128.6	144.1	2.20	2.17	
1,105.0	20.70	65.30	1,086.5	72.4	143.1	159.9	2.90	2.61	
1,150.0	22.60	67.00	1,128.3	79.1	158.3	176.5	4.45	4.22	
1,196.0	24.30	67.30	1,170.5	86.2	175.1	194.8	3.70	3.70	
1,242.0	25.90	66.70	1,212.2	93.9	193.1	214.3	3.52	3.48	
1,288.0	28.30	66.80	1,253.1	102.1	212.3	235.3	5.22	5.22	
1,334.0	29.60	66.20	1,293.4	111.0	232.8	257.5	2.90	2.83	
1,425.0	30.40	66.20	1,372.2	129.4	274.4	303.0	0.88	0.88	
1,516.0	31.60	65.50	1,450.2	148.6	317.1	349.9	1.38	1.32	
1,580.0	32.00	65.80	1,504.6	162.5	347.9	383.6	0.67	0.62	
1,662.0	32.80	63.30	1,573.8	181.3	387.5	427.5	1.90	0.98	
1,707.0	33.10	64.40	1,611.6	192.1	409.5	451.9	1.49	0.67	
1,799.0	33.00	67.40	1,688.7	212.6	455.3	502.0	1.78	-0.11	
1,891.0	31.80	66.40	1,766.4	231.9	500.6	551.3	1.43	-1.30	
1,982.0	29.20	69.00	1,844.8	249.5	543.3	597.5	3.20	-2.86	
2,073.0	28.90	67.70	1,924.3	265.8	584.4	641.7	0.77	-0.33	
2,165.0	28.70	68.50	2,004.9	282.3	625.5	686.0	0.47	-0.22	
2,257.0	29.30	68.20	2,085.4	298.8	667.0	730.6	0.67	0.65	
2,348.0	29.40	67.80	2,164.7	315.5	708.3	775.2	0.24	0.11	
2,440.0	28.40	69.40	2,245.3	331.7	749.7	819.6	1.37	-1.09	
2,532.0	28.00	67.00	2,326.3	347.9	790.1	863.1	1.31	-0.43	
2,623.0	28.80	70.20	2,406.4	363.6	830.4	906.4	1.89	0.88	
2,715.0	28.40	68.40	2,487.2	379.2	871.6	950.4	1.03	-0.43	
2,806.0	30.50	67.80	2,566.4	395.9	913.1	995.1	2.33	2.31	
2,898.0	29.30	68.10	2,646.2	413.1	955.6	1,041.0	1.31	-1.30	
2,989.0	27.50	69.10	2,726.2	428.9	995.9	1,084.2	2.05	-1.98	
3,081.0	26.50	69.80	2,808.2	443.6	1,035.0	1,126.0	1.14	-1.09	
3,172.0	28.90	67.50	2,888.7	459.0	1,074.4	1,168.3	2.89	2.64	
3,263.0	30.60	67.70	2,967.7	476.2	1,116.1	1,213.4	1.87	1.87	
3,354.0	30.30	66.80	3,046.2	494.0	1,158.6	1,259.5	0.60	-0.33	
3,446.0	30.70	65.00	3,125.5	513.1	1,201.2	1,306.2	1.08	0.43	
3,537.0	31.00	70.30	3,203.6	530.8	1,244.4	1,352.8	3.00	0.33	
3,629.0	31.20	69.80	3,282.4	547.0	1,289.0	1,400.3	0.36	0.22	
3,720.0	30.20	71.10	3,360.6	562.6	1,332.8	1,446.7	1.32	-1.10	
3,812.0	30.50	69.60	3,440.0	578.2	1,376.6	1,493.1	0.89	0.33	
3,903.0	29.10	69.10	3,519.0	594.2	1,418.9	1,538.3	1.56	-1.54	
3,995.0	25.50	71.30	3,600.7	608.5	1,458.6	1,580.4	4.06	-3.91	
4,087.0	23.70	67.90	3,684.4	621.8	1,494.5	1,618.7	2.49	-1.96	
4,178.0	22.30	69.30	3,768.1	634.8	1,527.6	1,654.2	1.65	-1.54	
4,270.0	18.50	70.20	3,854.4	645.9	1,557.6	1,686.3	4.14	-4.13	
4,361.0	16.00	66.40	3,941.3	655.8	1,582.7	1,713.2	3.01	-2.75	
4,453.0	13.60	68.30	4,030.2	664.9	1,604.4	1,736.7	2.66	-2.61	
4,544.0	12.90	70.60	4,118.8	672.2	1,623.9	1,757.6	0.96	-0.77	

Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well NP MF03C-16 H17 696
Project:	North Piceance	TVD Reference:	KB MF03C-16 @ 5674.0ft (Patterson 303)
Site:	H17 696 (S17-T6S-R96W)	MD Reference:	KB MF03C-16 @ 5674.0ft (Patterson 303)
Well:	NP MF03C-16 H17 696	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
4,636.0	11.70	66.40	4,208.7	679.4	1,642.2	1,777.1	1.63	-1.30	
4,727.0	8.70	59.20	4,298.2	686.6	1,656.5	1,793.2	3.58	-3.30	
4,819.0	6.00	65.10	4,389.5	692.2	1,666.9	1,804.9	3.04	-2.93	
4,910.0	5.60	63.40	4,480.0	696.2	1,675.2	1,814.1	0.48	-0.44	
5,002.0	2.50	81.10	4,571.8	698.5	1,681.2	1,820.5	3.59	-3.37	
5,093.0	2.10	87.20	4,662.7	698.9	1,684.8	1,824.0	0.51	-0.44	
5,185.0	0.80	152.30	4,754.7	698.4	1,686.8	1,825.6	2.07	-1.41	
5,276.0	0.80	146.70	4,845.6	697.3	1,687.4	1,825.8	0.09	0.00	
5,368.0	0.90	171.20	4,937.6	696.1	1,687.9	1,825.7	0.41	0.11	
5,460.0	0.80	188.20	5,029.6	694.7	1,687.9	1,825.2	0.29	-0.11	
5,551.0	1.30	203.70	5,120.6	693.1	1,687.4	1,824.2	0.63	0.55	
5,643.0	0.10	206.50	5,212.6	692.1	1,686.9	1,823.4	1.30	-1.30	
5,734.0	0.20	172.10	5,303.6	691.9	1,686.9	1,823.3	0.14	0.11	
5,826.0	0.60	145.70	5,395.6	691.3	1,687.2	1,823.3	0.47	0.43	
5,917.0	1.10	178.40	5,486.6	690.1	1,687.5	1,823.1	0.74	0.55	
6,009.0	1.30	251.10	5,578.6	688.8	1,686.5	1,821.7	1.56	0.22	
6,100.0	1.50	249.20	5,669.5	688.1	1,684.4	1,819.5	0.23	0.22	
6,192.0	1.70	288.50	5,761.5	688.1	1,682.0	1,817.3	1.19	0.22	
6,284.0	1.70	286.90	5,853.5	688.9	1,679.4	1,815.2	0.05	0.00	
6,375.0	1.50	14.40	5,944.5	690.5	1,678.4	1,814.9	2.44	-0.22	
6,467.0	1.60	31.70	6,036.4	692.7	1,679.4	1,816.7	0.52	0.11	
6,559.0	1.50	28.20	6,128.4	694.9	1,680.6	1,818.6	0.15	-0.11	
6,650.0	1.50	21.10	6,219.4	697.0	1,681.6	1,820.4	0.20	0.00	
6,741.0	1.00	18.40	6,310.3	698.9	1,682.3	1,821.7	0.55	-0.55	
6,833.0	0.90	327.40	6,402.3	700.3	1,682.2	1,822.1	0.89	-0.11	
6,924.0	1.00	269.30	6,493.3	700.9	1,681.0	1,821.3	1.02	0.11	
7,016.0	1.80	264.60	6,585.3	700.7	1,678.8	1,819.1	0.88	0.87	
7,107.0	1.70	252.80	6,676.2	700.2	1,676.1	1,816.4	0.41	-0.11	
7,199.0	2.20	253.80	6,768.2	699.3	1,673.1	1,813.3	0.54	0.54	
7,290.0	1.50	256.00	6,859.1	698.5	1,670.2	1,810.4	0.77	-0.77	
7,382.0	2.20	254.20	6,951.1	697.7	1,667.4	1,807.5	0.76	0.76	
7,473.0	1.60	254.90	7,042.0	696.9	1,664.4	1,804.5	0.66	-0.66	
7,565.0	1.70	260.00	7,134.0	696.4	1,661.9	1,801.9	0.19	0.11	
7,657.0	2.20	255.40	7,225.9	695.7	1,658.8	1,798.8	0.57	0.54	
7,748.0	2.10	248.50	7,316.9	694.6	1,655.6	1,795.4	0.30	-0.11	
7,775.0	2.10	239.80	7,343.9	694.2	1,654.7	1,794.4	1.18	0.00	Last Cathedral Survey @ 7,775' MD Projection to Bit @ 7,825'
7,825.0	2.10	239.80	7,393.8	693.3	1,653.1	1,792.6	0.00	0.00	

Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well NP MF03C-16 H17 696
Project:	North Piceance	TVD Reference:	KB MF03C-16 @ 5674.0ft (Patterson 303)
Site:	H17 696 (S17-T6S-R96W)	MD Reference:	KB MF03C-16 @ 5674.0ft (Patterson 303)
Well:	NP MF03C-16 H17 696	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									
H17 696 MF03C-16 BHL	0.00	0.00	7,234.0	694.2	1,665.8	1,628,375.11	2,261,777.77	39° 31' 46.07 N	108° 7' 3.26 W
- survey misses target center by 7.4ft at 7664.8ft MD (7233.8 TVD, 695.6 N, 1658.5 E)									
- Rectangle (sides W30.0 H50.0 D0.0)									
H17 696 MF03C-16 TG1	0.00	0.00	4,534.0	704.2	1,682.8	1,628,384.65	2,261,795.09	39° 31' 46.17 N	108° 7' 3.04 W
- survey misses target center by 7.2ft at 4964.6ft MD (4534.4 TVD, 698.0 N, 1679.2 E)									
- Point									

Survey Annotations				
Measured Depth	Vertical Depth	Local Coordinates		Comment
(ft)	(ft)	+N/-S (ft)	+E/-W (ft)	
7,775.0	7,343.9	694.2	1,654.7	Last Cathedral Survey @ 7,775' MD
7,825.0	7,393.8	693.3	1,653.1	Projection to Bit @ 7,825'

Checked By: _____ Approved By: _____ Date: _____