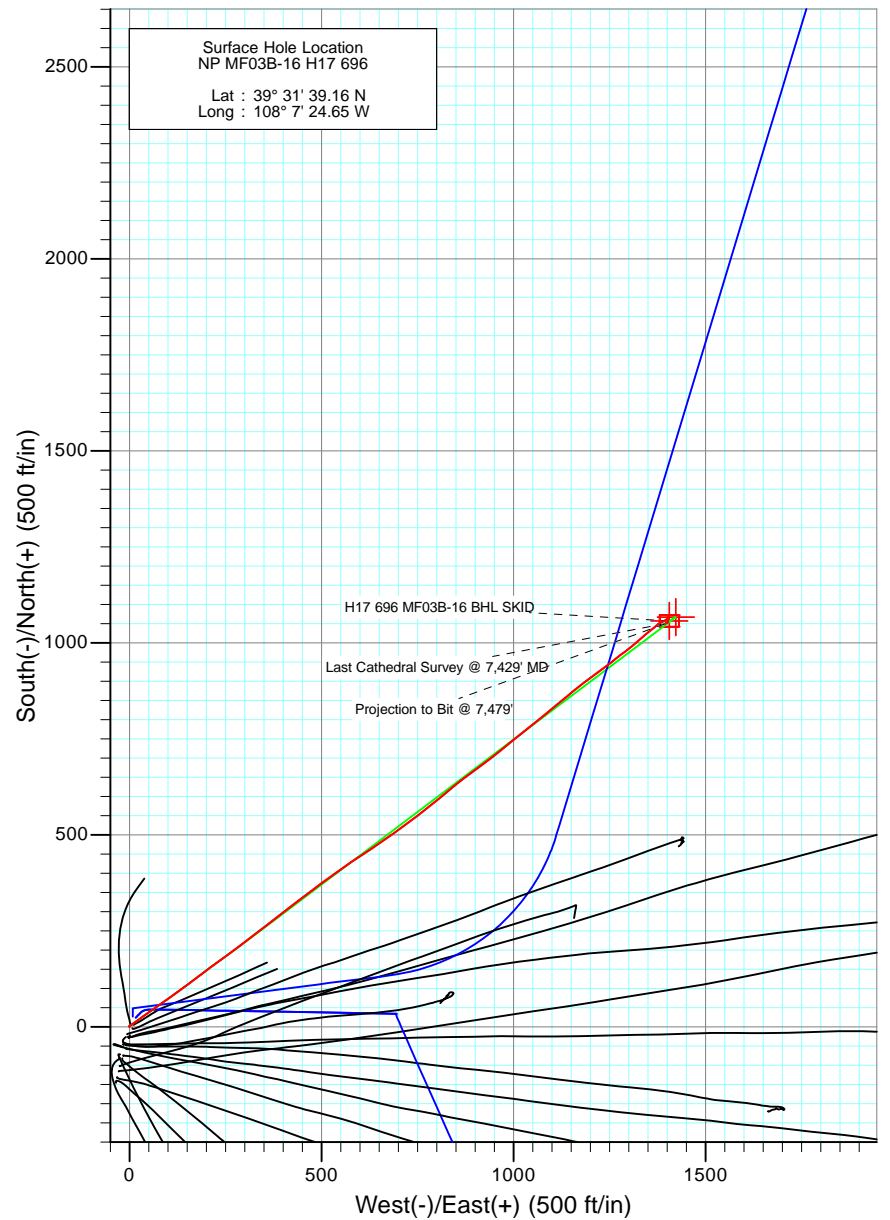
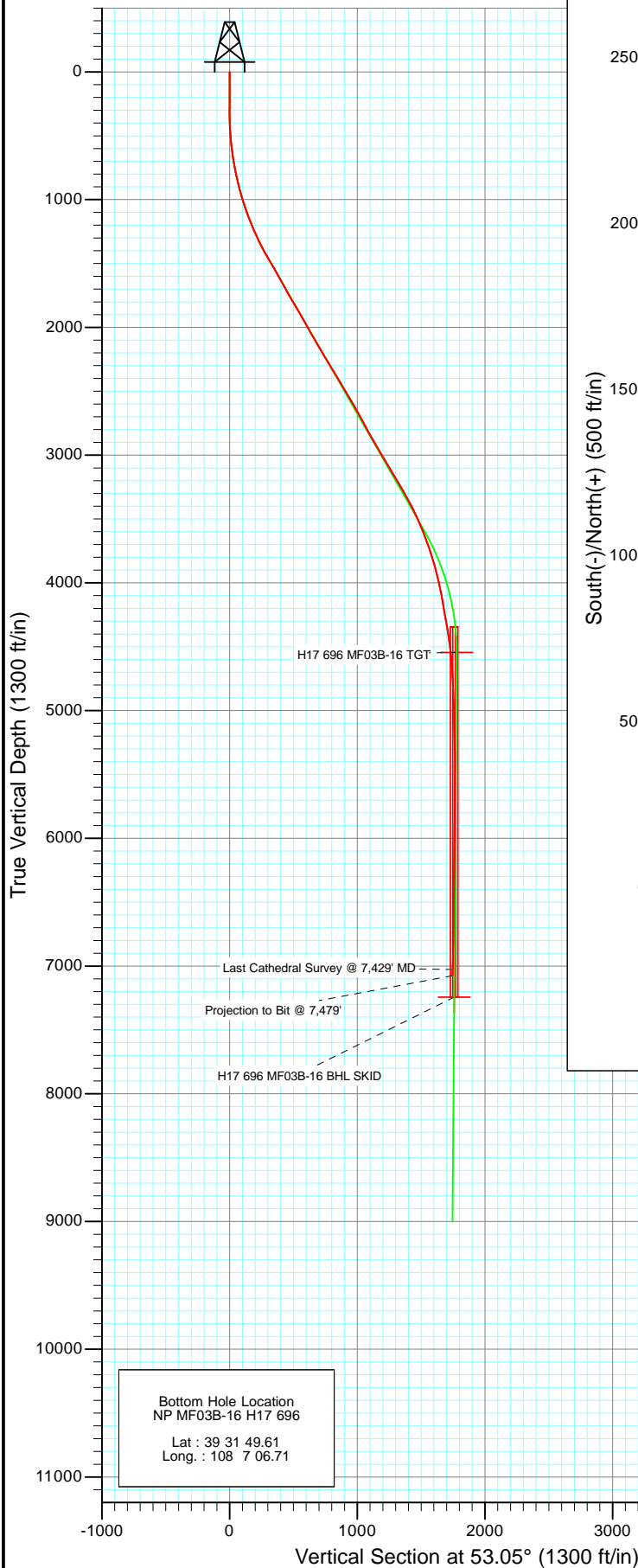




Project: North Piceance  
 Site: H17 696 (S17-T6S-R96W)  
 Well: NP MF03B-16 H17 696  
 Wellbore: DD  
 Design: FINAL



Azimuths to True North  
 Magnetic North: 10.43°

Magnetic Field  
 Strength: 52266.3snT  
 Dip Angle: 65.74°  
 Date: 4/28/2011  
 Model: IGRF2010

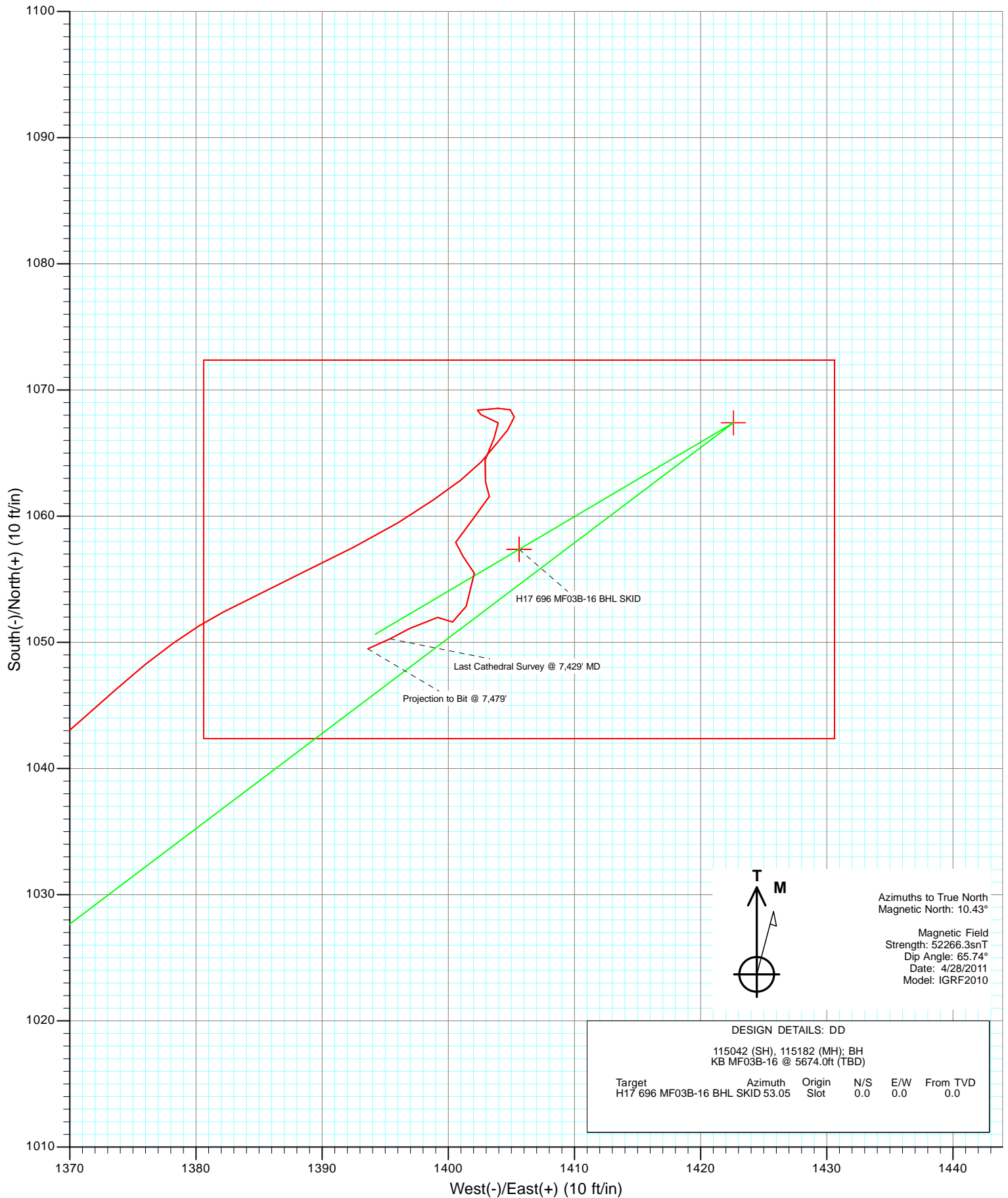
DESIGN DETAILS: DD

115042 (SH), 115182 (MH); BH  
 KB MF03B-16 @ 5674.0ft (TBD)

Target	Azimuth	Origin	N/S	E/W	From TVD
H17 696 MF03B-16 BHL SKID	53.05	Slot	0.0	0.0	0.0



Project: North Piceance  
Site: H17 696 (S17-T6S-R96W)  
Well: NP MF03B-16 H17 696  
Wellbore: DD  
Design: FINAL



## Survey Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well NP MF03B-16 H17 696
<b>Project:</b>	North Piceance	<b>TVD Reference:</b>	KB MF03B-16 @ 5674.0ft (TBD)
<b>Site:</b>	H17 696 (S17-T6S-R96W)	<b>MD Reference:</b>	KB MF03B-16 @ 5674.0ft (TBD)
<b>Well:</b>	NP MF03B-16 H17 696	<b>North Reference:</b>	True
<b>Wellbore:</b>	DD	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	DD	<b>Database:</b>	EDM 5000.1 US Multi Users DB

<b>Project</b>	North Piceance		
<b>Map System:</b>	US State Plane 1983	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	North American Datum 1983		
<b>Map Zone:</b>	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 MF03B-16 H17 696					
Well Position	+N/-S	0.0 ft	Northing:	1,627,724.58 ft	Latitude:	39° 31' 39.16 N
	+E/-W	0.0 ft	Easting:	2,260,082.33 ft	Longitude:	108° 7' 24.65 W
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	5,652.0 ft

<b>Wellbore</b>	DD				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2010	4/28/2011	10.43	65.74	52,266

<b>Design</b>	DD				
<b>Audit Notes:</b>					
<b>Version:</b>	1.0	<b>Phase:</b>	ACTUAL	<b>Tie On Depth:</b>	0.0
<b>Vertical Section:</b>	<b>Depth From (TVD)</b>	<b>+N/-S</b>	<b>+E/-W</b>	<b>Direction</b>	
	(ft)	(ft)	(ft)	(°)	
	0.0	0.0	0.0	53.05	

<b>Survey Program</b>	<b>Date</b>	5/3/2011			
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
200.0	7,479.0	Survey #1 (DD)	MWD	Geolink MWD	

<b>Survey</b>										
<b>Measured Depth (ft)</b>	<b>Inclination (°)</b>	<b>Azimuth (°)</b>	<b>Vertical Depth (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Vertical Section (ft)</b>	<b>Dogleg Rate (°/100ft)</b>	<b>Build Rate (°/100ft)</b>	<b>Formations / Comments</b>	
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00		
200.0	0.70	312.40	200.0	0.8	-0.9	-0.2	0.35	0.35		
231.0	0.80	328.70	231.0	1.1	-1.2	-0.2	0.76	0.32		
262.0	0.20	280.50	262.0	1.3	-1.3	-0.3	2.20	-1.94		
292.0	0.10	211.20	292.0	1.3	-1.4	-0.3	0.63	-0.33		
322.0	0.40	45.50	322.0	1.4	-1.3	-0.2	1.66	1.00		
353.0	0.10	308.80	353.0	1.5	-1.3	-0.1	1.37	-0.97		
383.0	0.60	60.10	383.0	1.6	-1.2	0.0	2.14	1.67		
414.0	1.80	67.20	414.0	1.8	-0.6	0.6	3.89	3.87		
445.0	3.30	61.10	445.0	2.4	0.7	2.0	4.91	4.84		
475.0	4.70	57.90	474.9	3.5	2.5	4.1	4.72	4.67		
506.0	5.00	54.80	505.8	5.0	4.6	6.7	1.28	0.97		
555.0	6.40	52.80	554.5	7.9	8.6	11.6	2.89	2.86		

## Survey Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well NP MF03B-16 H17 696
<b>Project:</b>	North Piceance	<b>TVD Reference:</b>	KB MF03B-16 @ 5674.0ft (TBD)
<b>Site:</b>	H17 696 (S17-T6S-R96W)	<b>MD Reference:</b>	KB MF03B-16 @ 5674.0ft (TBD)
<b>Well:</b>	NP MF03B-16 H17 696	<b>North Reference:</b>	True
<b>Wellbore:</b>	DD	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	DD	<b>Database:</b>	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	7.40	53.00	600.2	11.2	13.0	17.1	2.17	2.17	
646.0	8.80	54.20	644.7	14.9	18.1	23.4	3.13	3.11	
692.0	9.50	55.50	690.2	19.2	24.1	30.7	1.59	1.52	
738.0	9.90	54.20	735.5	23.6	30.4	38.5	0.99	0.87	
784.0	10.50	52.10	780.8	28.5	36.9	46.6	1.53	1.30	
830.0	12.10	55.60	825.9	33.8	44.2	55.6	3.78	3.48	
876.0	13.50	55.80	870.7	39.5	52.6	65.8	3.04	3.04	
921.0	14.70	55.60	914.4	45.7	61.7	76.8	2.67	2.67	
967.0	15.90	55.30	958.7	52.6	71.7	88.9	2.61	2.61	
1,013.0	17.10	55.10	1,002.8	60.1	82.4	102.0	2.61	2.61	
1,059.0	18.60	54.10	1,046.6	68.2	93.9	116.0	3.33	3.26	
1,105.0	20.30	53.30	1,090.0	77.3	106.2	131.4	3.74	3.70	
1,150.0	21.00	53.90	1,132.1	86.7	119.0	147.2	1.63	1.56	
1,196.0	21.70	54.10	1,175.0	96.6	132.6	164.0	1.53	1.52	
1,242.0	22.40	53.60	1,217.6	106.8	146.5	181.2	1.58	1.52	
1,288.0	23.90	53.60	1,259.9	117.5	161.0	199.3	3.26	3.26	
1,334.0	24.90	53.50	1,301.8	128.8	176.3	218.3	2.18	2.17	
1,379.0	26.80	52.90	1,342.3	140.5	192.0	237.9	4.26	4.22	
1,425.0	27.90	53.40	1,383.1	153.2	209.0	259.1	2.44	2.39	
1,516.0	30.60	53.60	1,462.5	179.6	244.7	303.5	2.97	2.97	
1,580.0	30.40	53.90	1,517.7	198.9	270.9	336.0	0.39	-0.31	
1,617.0	29.90	52.80	1,549.7	209.9	285.8	354.6	2.01	-1.35	
1,708.0	28.50	52.40	1,629.1	236.9	321.1	399.0	1.55	-1.54	
1,800.0	29.50	52.20	1,709.6	264.2	356.4	443.6	1.09	1.09	
1,891.0	30.50	52.60	1,788.4	291.9	392.4	489.1	1.12	1.10	
1,983.0	30.00	51.50	1,867.8	320.4	429.0	535.4	0.81	-0.54	
2,075.0	30.50	54.00	1,947.3	348.5	465.8	581.8	1.47	0.54	
2,166.0	29.20	53.50	2,026.2	375.3	502.4	627.1	1.45	-1.43	
2,257.0	29.70	54.60	2,105.5	401.5	538.6	671.8	0.81	0.55	
2,349.0	30.80	55.10	2,185.0	428.2	576.5	718.1	1.23	1.20	
2,440.0	31.80	56.80	2,262.7	454.7	615.7	765.3	1.47	1.10	
2,531.0	30.10	55.70	2,340.8	480.7	654.6	812.0	1.97	-1.87	
2,622.0	31.80	54.50	2,418.8	507.4	693.0	858.8	1.99	1.87	
2,714.0	30.70	52.30	2,497.4	535.9	731.3	906.5	1.72	-1.20	
2,806.0	30.10	53.00	2,576.8	564.1	768.3	953.1	0.76	-0.65	
2,897.0	29.50	50.10	2,655.8	592.2	803.7	998.3	1.72	-0.66	
2,989.0	28.10	49.60	2,736.4	620.8	837.6	1,042.5	1.54	-1.52	
3,080.0	28.70	53.10	2,816.4	647.8	871.4	1,085.8	1.94	0.66	
3,172.0	30.10	54.00	2,896.6	674.6	907.7	1,130.9	1.60	1.52	
3,263.0	31.40	51.90	2,974.8	702.7	944.8	1,177.5	1.85	1.43	
3,355.0	30.00	50.20	3,053.9	732.2	981.4	1,224.4	1.79	-1.52	
3,447.0	31.90	52.10	3,132.8	761.9	1,018.2	1,271.7	2.32	2.07	
3,538.0	30.80	50.90	3,210.5	791.3	1,055.3	1,319.0	1.39	-1.21	
3,629.0	29.60	49.70	3,289.2	820.5	1,090.5	1,364.7	1.48	-1.32	
3,721.0	27.30	51.40	3,370.0	848.4	1,124.3	1,408.5	2.65	-2.50	
3,812.0	26.20	50.20	3,451.3	874.3	1,156.1	1,449.4	1.35	-1.21	
3,904.0	23.50	52.40	3,534.8	898.5	1,186.2	1,488.1	3.10	-2.93	
3,995.0	20.60	54.70	3,619.1	918.8	1,213.6	1,522.2	3.32	-3.19	
4,087.0	20.00	53.30	3,705.4	937.6	1,239.5	1,554.1	0.84	-0.65	
4,178.0	17.80	50.30	3,791.5	955.8	1,262.6	1,583.6	2.64	-2.42	
4,270.0	14.80	53.50	3,879.8	971.7	1,282.9	1,609.4	3.40	-3.26	
4,362.0	12.70	52.70	3,969.2	984.8	1,300.4	1,631.2	2.29	-2.28	
4,453.0	12.10	50.40	4,058.0	997.0	1,315.7	1,650.8	0.85	-0.66	

## Survey Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well NP MF03B-16 H17 696
<b>Project:</b>	North Piceance	<b>TVD Reference:</b>	KB MF03B-16 @ 5674.0ft (TBD)
<b>Site:</b>	H17 696 (S17-T6S-R96W)	<b>MD Reference:</b>	KB MF03B-16 @ 5674.0ft (TBD)
<b>Well:</b>	NP MF03B-16 H17 696	<b>North Reference:</b>	True
<b>Wellbore:</b>	DD	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	DD	<b>Database:</b>	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
4,545.0	10.50	44.40	4,148.2	1,009.1	1,329.0	1,668.7	2.16	-1.74	
4,636.0	9.50	53.90	4,237.9	1,019.5	1,340.9	1,684.4	2.12	-1.10	
4,728.0	9.00	50.80	4,328.7	1,028.5	1,352.6	1,699.2	0.77	-0.54	
4,819.0	8.90	50.10	4,418.6	1,037.5	1,363.5	1,713.3	0.16	-0.11	
4,911.0	7.90	48.30	4,509.6	1,046.3	1,373.7	1,726.7	1.12	-1.09	
5,003.0	5.30	63.10	4,601.0	1,052.4	1,382.2	1,737.2	3.35	-2.83	
5,094.0	3.30	64.00	4,691.7	1,055.5	1,388.3	1,743.9	2.20	-2.20	
5,186.0	2.60	63.20	4,783.6	1,057.6	1,392.5	1,748.6	0.76	-0.76	
5,277.0	2.40	58.90	4,874.5	1,059.5	1,396.0	1,752.5	0.30	-0.22	
5,369.0	1.80	54.80	4,966.4	1,061.3	1,398.8	1,755.9	0.67	-0.65	
5,460.0	1.50	53.20	5,057.4	1,062.8	1,401.0	1,758.5	0.33	-0.33	
5,552.0	1.30	43.20	5,149.4	1,064.3	1,402.6	1,760.7	0.34	-0.22	
5,644.0	1.00	35.10	5,241.3	1,065.7	1,403.8	1,762.5	0.37	-0.33	
5,735.0	0.80	43.70	5,332.3	1,066.9	1,404.7	1,763.9	0.26	-0.22	
5,826.0	0.70	7.50	5,423.3	1,067.9	1,405.2	1,764.9	0.52	-0.11	
5,918.0	0.50	271.60	5,515.3	1,068.4	1,404.9	1,765.0	0.98	-0.22	
6,010.0	0.70	280.40	5,607.3	1,068.5	1,403.9	1,764.3	0.24	0.22	
6,101.0	1.40	257.60	5,698.3	1,068.4	1,402.3	1,762.9	0.88	0.77	
6,193.0	1.70	94.50	5,790.3	1,068.1	1,402.6	1,762.9	3.33	0.33	
6,284.0	0.70	176.50	5,881.3	1,067.4	1,404.0	1,763.6	1.92	-1.10	
6,376.0	0.90	209.00	5,973.3	1,066.2	1,403.6	1,762.7	0.53	0.22	
6,467.0	1.50	198.00	6,064.2	1,064.4	1,402.9	1,761.0	0.70	0.66	
6,558.0	0.90	146.40	6,155.2	1,062.7	1,403.0	1,760.0	1.29	-0.66	
6,650.0	0.70	190.70	6,247.2	1,061.6	1,403.3	1,759.5	0.69	-0.22	
6,742.0	2.00	224.50	6,339.2	1,059.9	1,402.0	1,757.5	1.60	1.41	
6,833.0	1.10	201.40	6,430.2	1,057.9	1,400.6	1,755.2	1.18	-0.99	
6,925.0	1.20	107.90	6,522.2	1,056.8	1,401.2	1,755.0	1.82	0.11	
7,016.0	1.30	181.30	6,613.1	1,055.5	1,402.1	1,754.9	1.64	0.11	
7,108.0	2.10	201.50	6,705.1	1,052.9	1,401.4	1,752.9	1.07	0.87	
7,199.0	0.70	303.00	6,796.1	1,051.6	1,400.3	1,751.3	2.57	-1.54	
7,291.0	0.90	274.20	6,888.1	1,052.0	1,399.2	1,750.5	0.48	0.22	
7,383.0	2.20	238.10	6,980.0	1,051.1	1,396.9	1,748.2	1.70	1.41	
7,429.0	2.20	246.00	7,026.0	1,050.3	1,395.4	1,746.5	0.66	0.00	Last Cathedral Survey @ 7,429' MD
7,479.0	2.20	246.00	7,076.0	1,049.5	1,393.6	1,744.6	0.00	0.00	Projection to Bit @ 7,479'

## Survey Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well NP MF03B-16 H17 696
<b>Project:</b>	North Piceance	<b>TVD Reference:</b>	KB MF03B-16 @ 5674.0ft (TBD)
<b>Site:</b>	H17 696 (S17-T6S-R96W)	<b>MD Reference:</b>	KB MF03B-16 @ 5674.0ft (TBD)
<b>Well:</b>	NP MF03B-16 H17 696	<b>North Reference:</b>	True
<b>Wellbore:</b>	DD	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	DD	<b>Database:</b>	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 MF03B-16 TG1	0.00	0.00	4,544.0	1,067.4	1,422.6	1,628,750.46	2,261,535.16	39° 31' 49.71 N	108° 7' 6.49 W
- survey misses target center by 48.7ft at 4951.1ft MD (4549.4 TVD, 1049.5 N, 1377.6 E)									
- Point									
H17 696 MF03B-16 TG1	0.00	0.00	7,244.0	1,057.4	1,405.6	1,628,740.92	2,261,517.89	39° 31' 49.61 N	108° 7' 6.71 W
- survey misses target center by 168.7ft at 7479.0ft MD (7076.0 TVD, 1049.5 N, 1393.6 E)									
- Point									
H17 696 MF03B-16 TOC	0.00	0.00	4,044.0	1,057.4	1,405.6	1,628,740.92	2,261,517.89	39° 31' 49.61 N	108° 7' 6.71 W
- survey misses target center by 108.9ft at 4460.2ft MD (4065.1 TVD, 998.0 N, 1316.9 E)									
- Point									
H17 696 MF03B-16 BHL	0.00	0.00	7,244.0	1,057.4	1,405.6	1,628,740.92	2,261,517.89	39° 31' 49.61 N	108° 7' 6.71 W
- survey misses target center by 168.7ft at 7479.0ft MD (7076.0 TVD, 1049.5 N, 1393.6 E)									
- Rectangle (sides W30.0 H50.0 D0.0)									

Survey Annotations					
Measured Depth	Vertical Depth	Local Coordinates			
(ft)	(ft)	+N/-S	+E/-W		
(ft)	(ft)	(ft)	(ft)	Comment	
7,429.0	7,026.0	1,050.3	1,395.4	Last Cathedral Survey @ 7,429' MD	
7,479.0	7,076.0	1,049.5	1,393.6	Projection to Bit @ 7,479'	

Checked By: _____	Approved By: _____	Date: _____
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