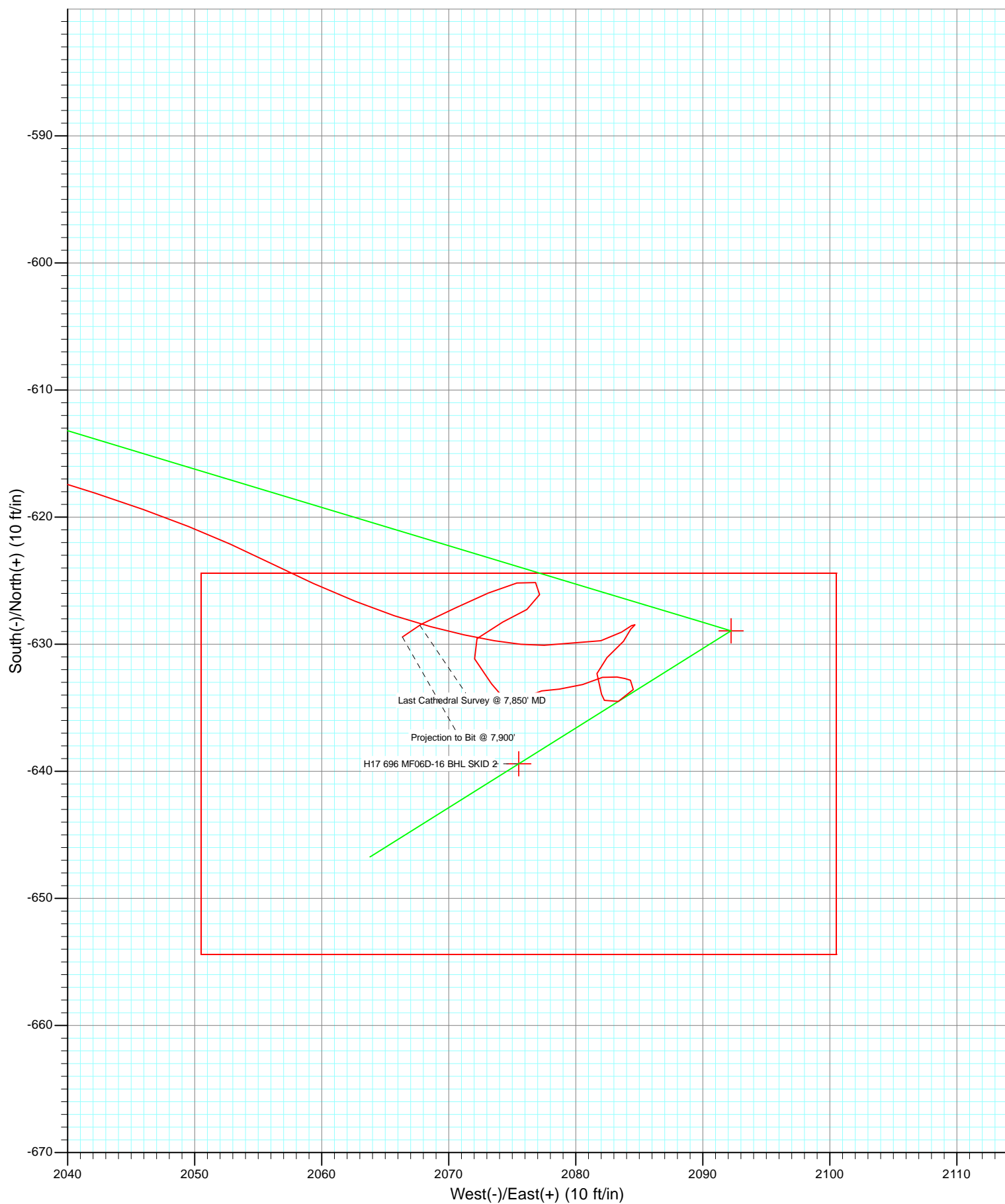






Project: North Piceance  
Site: H17 696 (S17-T6S-R96W)  
Well: NP MF06D-16 H17 696  
Wellbore: DD  
Design: FINAL



## Survey Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well NP MF06D-16 H17 696
<b>Project:</b>	North Piceance	<b>TVD Reference:</b>	KB MF06D-16 @ 5674.0ft (Patterson 303 - Job# 11508)
<b>Site:</b>	H17 696 (S17-T6S-R96W)	<b>MD Reference:</b>	KB MF06D-16 @ 5674.0ft (Patterson 303 - Job# 11508)
<b>Well:</b>	NP MF06D-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		

<b>Site</b>	H17 696 (S17-T6S-R96W)			
<b>Site Position:</b>		<b>Northing:</b>	1,627,645.46 ft	<b>Latitude:</b> 39° 31' 38.37 N
<b>From:</b>	Lat/Long	<b>Easting:</b>	2,260,053.39 ft	<b>Longitude:</b> 108° 7' 24.99 W
<b>Position Uncertainty:</b>	0.0 ft	<b>Slot Radius:</b>	13.200 in	<b>Grid Convergence:</b> -1.65 °

<b>Well</b>	NP MF06D-16 H17 696			
<b>Well Position</b>	<b>+N/-S</b>	0.0 ft	<b>Northing:</b>	1,627,650.20 ft
	<b>+E/-W</b>	0.0 ft	<b>Easting:</b>	2,260,063.72 ft
<b>Position Uncertainty</b>		0.0 ft	<b>Wellhead Elevation:</b>	ft
			<b>Ground Level:</b>	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	3/10/2011	10.45	65.75	52,280

<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) (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>	
	0.0	0.0	0.0	108.16	

<b>Survey Program</b>	<b>Date</b>	3/15/2011			
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
30.0	150.0	Survey #1 (DD)	Gyro	Gyro	
201.0	1,605.0	Survey #2 (DD)	MWD	Geolink MWD	
1,662.0	7,900.0	Survey #3 (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	
30.0	0.37	65.56	30.0	0.0	0.1	0.1	1.23	1.23	
60.0	0.10	237.69	60.0	0.1	0.2	0.1	1.56	-0.90	
90.0	0.12	280.97	90.0	0.1	0.1	0.1	0.28	0.07	
120.0	0.61	358.13	120.0	0.2	0.1	0.0	1.98	1.63	
150.0	0.67	315.29	150.0	0.5	-0.1	-0.2	1.57	0.20	Last Gyro Survey @ 150' MD
201.0	1.00	85.50	201.0	0.8	0.2	-0.1	2.98	0.65	
231.0	1.70	104.30	231.0	0.7	0.9	0.6	2.73	2.33	
262.0	2.30	106.70	262.0	0.4	1.9	1.7	1.95	1.94	
292.0	3.30	102.10	291.9	0.0	3.3	3.2	3.41	3.33	
323.0	3.90	96.10	322.9	-0.3	5.2	5.1	2.28	1.94	

## Survey Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well NP MF06D-16 H17 696
<b>Project:</b>	North Piceance	<b>TVD Reference:</b>	KB MF06D-16 @ 5674.0ft (Patterson 303 - Job# 11508)
<b>Site:</b>	H17 696 (S17-T6S-R96W)	<b>MD Reference:</b>	KB MF06D-16 @ 5674.0ft (Patterson 303 - Job# 11508)
<b>Well:</b>	NP MF06D-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
353.0	4.60	93.30	352.8	-0.5	7.5	7.2	2.43	2.33	
383.0	5.20	96.50	382.7	-0.7	10.0	9.7	2.20	2.00	
414.0	6.30	96.20	413.5	-1.0	13.1	12.8	3.55	3.55	
445.0	7.10	97.70	444.3	-1.5	16.7	16.3	2.64	2.58	
476.0	7.80	99.70	475.0	-2.1	20.7	20.3	2.41	2.26	
507.0	8.60	101.60	505.7	-2.9	25.0	24.7	2.72	2.58	
555.0	9.60	105.00	553.1	-4.7	32.4	32.2	2.36	2.08	
601.0	10.90	105.00	598.4	-6.8	40.3	40.4	2.83	2.83	
647.0	12.00	107.10	643.5	-9.3	49.1	49.5	2.56	2.39	
693.0	13.30	107.10	688.4	-12.3	58.7	59.6	2.83	2.83	
738.0	14.90	107.80	732.0	-15.6	69.2	70.6	3.58	3.56	
784.0	16.30	107.50	776.3	-19.3	80.9	82.9	3.05	3.04	
830.0	17.70	107.40	820.3	-23.3	93.8	96.4	3.04	3.04	
876.0	18.80	107.90	864.0	-27.7	107.5	110.8	2.42	2.39	
922.0	20.40	106.50	907.3	-32.3	122.2	126.2	3.62	3.48	
968.0	21.40	107.40	950.3	-37.0	137.9	142.6	2.28	2.17	
1,014.0	23.30	107.00	992.8	-42.2	154.6	160.1	4.14	4.13	
1,059.0	24.20	106.70	1,034.0	-47.5	172.0	178.2	2.02	2.00	
1,105.0	25.60	106.50	1,075.7	-53.0	190.5	197.6	3.05	3.04	
1,151.0	26.80	106.60	1,117.0	-58.8	210.0	217.9	2.61	2.61	
1,197.0	28.50	105.90	1,157.8	-64.8	230.5	239.2	3.76	3.70	
1,242.0	29.30	107.20	1,197.2	-71.0	251.4	260.9	2.26	1.78	
1,288.0	31.10	107.00	1,236.9	-77.8	273.5	284.1	3.92	3.91	
1,334.0	32.30	107.10	1,276.0	-84.8	296.6	308.3	2.61	2.61	
1,380.0	33.70	107.80	1,314.6	-92.4	320.5	333.3	3.15	3.04	
1,426.0	34.50	108.20	1,352.7	-100.3	345.0	359.1	1.81	1.74	
1,471.0	36.00	108.00	1,389.5	-108.4	369.7	385.1	3.34	3.33	
1,517.0	37.40	107.40	1,426.3	-116.8	395.9	412.5	3.14	3.04	
1,563.0	38.80	107.40	1,462.5	-125.2	423.0	440.9	3.04	3.04	
1,605.0	40.20	107.00	1,494.9	-133.1	448.5	467.6	3.39	3.33	Last Cathedral svy @ 1605' MD
1,662.0	41.20	103.20	1,538.2	-142.8	484.4	504.7	4.69	1.75	
1,707.0	41.40	104.00	1,572.0	-149.8	513.2	534.3	1.25	0.44	
1,799.0	38.90	106.00	1,642.3	-165.1	570.5	593.6	3.06	-2.72	
1,891.0	35.10	109.10	1,715.8	-181.7	623.3	648.9	4.60	-4.13	
1,982.0	34.70	108.40	1,790.4	-198.5	672.6	701.0	0.62	-0.44	
2,074.0	34.20	107.00	1,866.3	-214.3	722.2	753.0	1.02	-0.54	
2,165.0	33.40	107.40	1,941.9	-229.3	770.5	803.6	0.91	-0.88	
2,257.0	35.00	105.50	2,018.0	-243.9	820.1	855.3	2.09	1.74	
2,348.0	34.50	106.80	2,092.7	-258.3	870.0	907.1	0.98	-0.55	
2,440.0	32.90	107.00	2,169.3	-273.2	918.8	958.2	1.74	-1.74	
2,531.0	33.50	104.70	2,245.4	-286.8	966.7	1,007.9	1.53	0.66	
2,623.0	34.70	102.40	2,321.6	-298.8	1,016.9	1,059.3	1.91	1.30	
2,715.0	34.90	103.60	2,397.2	-310.6	1,068.0	1,111.6	0.78	0.22	
2,806.0	33.50	107.60	2,472.4	-324.4	1,117.3	1,162.7	2.91	-1.54	
2,898.0	34.90	108.80	2,548.5	-340.5	1,166.4	1,214.4	1.69	1.52	
2,989.0	33.80	105.50	2,623.7	-355.7	1,215.4	1,265.7	2.38	-1.21	
3,081.0	32.90	109.00	2,700.5	-370.6	1,263.7	1,316.3	2.31	-0.98	
3,172.0	34.20	106.00	2,776.4	-385.7	1,311.7	1,366.6	2.31	1.43	
3,264.0	34.60	107.50	2,852.3	-400.7	1,361.4	1,418.5	1.02	0.43	
3,355.0	34.50	106.10	2,927.2	-415.6	1,410.8	1,470.1	0.88	-0.11	
3,447.0	35.70	109.20	3,002.5	-431.7	1,461.2	1,523.0	2.34	1.30	
3,538.0	34.70	109.60	3,076.9	-449.1	1,510.7	1,575.4	1.13	-1.10	
3,630.0	34.40	109.60	3,152.6	-466.6	1,559.9	1,627.6	0.33	-0.33	

## Survey Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well NP MF06D-16 H17 696
<b>Project:</b>	North Piceance	<b>TVD Reference:</b>	KB MF06D-16 @ 5674.0ft (Patterson 303 - Job# 11508)
<b>Site:</b>	H17 696 (S17-T6S-R96W)	<b>MD Reference:</b>	KB MF06D-16 @ 5674.0ft (Patterson 303 - Job# 11508)
<b>Well:</b>	NP MF06D-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
3,721.0	34.30	108.10	3,227.8	-483.2	1,608.4	1,678.9	0.94	-0.11	
3,813.0	34.10	107.70	3,303.8	-499.1	1,657.7	1,730.6	0.33	-0.22	
3,904.0	33.60	106.50	3,379.4	-514.0	1,706.1	1,781.3	0.92	-0.55	
3,996.0	32.30	108.60	3,456.6	-529.1	1,753.8	1,831.4	1.88	-1.41	
4,088.0	32.20	106.70	3,534.4	-544.0	1,800.6	1,880.4	1.11	-0.11	
4,179.0	29.40	108.90	3,612.6	-558.2	1,845.0	1,927.0	3.32	-3.08	
4,271.0	28.30	109.20	3,693.2	-572.7	1,886.9	1,971.4	1.21	-1.20	
4,362.0	24.90	103.50	3,774.5	-584.2	1,925.9	2,012.1	4.67	-3.74	
4,454.0	21.70	108.50	3,859.0	-594.1	1,960.9	2,048.4	4.09	-3.48	
4,545.0	18.50	106.60	3,944.5	-603.6	1,990.7	2,079.7	3.59	-3.52	
4,637.0	15.10	104.70	4,032.5	-610.8	2,016.3	2,106.2	3.74	-3.70	
4,728.0	13.70	106.30	4,120.7	-616.9	2,038.1	2,128.8	1.60	-1.54	
4,820.0	10.20	116.50	4,210.7	-623.6	2,055.8	2,147.8	4.43	-3.80	
4,911.0	7.20	104.90	4,300.6	-628.6	2,068.6	2,161.5	3.80	-3.30	
5,003.0	4.20	89.80	4,392.2	-630.1	2,077.5	2,170.4	3.62	-3.26	
5,094.0	1.50	72.60	4,483.1	-629.7	2,082.0	2,174.6	3.08	-2.97	
5,186.0	0.70	55.70	4,575.0	-629.0	2,083.6	2,175.9	0.93	-0.87	
5,277.0	0.50	60.90	4,666.0	-628.5	2,084.4	2,176.5	0.23	-0.22	
5,369.0	0.20	216.20	4,758.0	-628.5	2,084.7	2,176.7	0.75	-0.33	
5,460.0	0.40	227.00	4,849.0	-628.8	2,084.3	2,176.5	0.23	0.22	
5,552.0	1.00	204.80	4,941.0	-629.8	2,083.8	2,176.3	0.70	0.65	
5,643.0	1.40	240.00	5,032.0	-631.0	2,082.5	2,175.4	0.90	0.44	
5,735.0	0.90	165.60	5,124.0	-632.3	2,081.7	2,175.1	1.57	-0.54	
5,826.0	1.20	169.30	5,215.0	-633.9	2,082.0	2,175.9	0.34	0.33	
5,918.0	1.50	71.50	5,307.0	-634.5	2,083.4	2,177.3	2.22	0.33	
6,009.0	0.70	5.10	5,397.9	-633.6	2,084.5	2,178.2	1.51	-0.88	
6,101.0	0.40	301.20	5,489.9	-632.8	2,084.3	2,177.7	0.69	-0.33	
6,192.0	0.20	261.00	5,580.9	-632.7	2,083.9	2,177.3	0.31	-0.22	
6,284.0	0.60	286.90	5,672.9	-632.6	2,083.3	2,176.7	0.47	0.43	
6,375.0	0.90	257.10	5,763.9	-632.6	2,082.1	2,175.6	0.53	0.33	
6,466.0	1.20	244.70	5,854.9	-633.2	2,080.5	2,174.3	0.41	0.33	
6,558.0	1.20	273.10	5,946.9	-633.5	2,078.7	2,172.6	0.64	0.00	
6,650.0	0.60	246.20	6,038.9	-633.7	2,077.3	2,171.3	0.78	-0.65	
6,741.0	1.30	250.00	6,129.9	-634.2	2,075.9	2,170.2	0.77	0.77	
6,833.0	0.60	292.00	6,221.9	-634.4	2,074.5	2,168.9	1.03	-0.76	
6,925.0	1.60	329.30	6,313.8	-633.1	2,073.4	2,167.4	1.28	1.09	
7,016.0	1.40	322.10	6,404.8	-631.1	2,072.0	2,165.5	0.30	-0.22	
7,108.0	1.40	51.80	6,496.8	-629.6	2,072.2	2,165.2	2.15	0.00	
7,200.0	1.60	61.80	6,588.8	-628.3	2,074.3	2,166.7	0.36	0.22	
7,291.0	1.10	63.20	6,679.7	-627.3	2,076.2	2,168.2	0.55	-0.55	
7,383.0	1.00	15.60	6,771.7	-626.1	2,077.2	2,168.8	0.93	-0.11	
7,474.0	0.70	289.20	6,862.7	-625.1	2,076.8	2,168.2	1.30	-0.33	
7,566.0	1.20	256.50	6,954.7	-625.2	2,075.4	2,166.9	0.78	0.54	
7,658.0	1.80	246.90	7,046.7	-626.0	2,073.1	2,165.0	0.70	0.65	
7,749.0	1.80	244.20	7,137.6	-627.2	2,070.5	2,162.8	0.09	0.00	
7,841.0	1.70	245.00	7,229.6	-628.4	2,068.0	2,160.8	0.11	-0.11	
7,850.0	1.90	235.70	7,238.6	-628.5	2,067.7	2,160.6	3.93	2.22	Last Cathedral Survey @ 7,850' MD
7,900.0	1.90	235.70	7,288.6	-629.4	2,066.4	2,159.6	0.00	0.00	Projection to Bit @ 7,900'

## Survey Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well NP MF06D-16 H17 696
<b>Project:</b>	North Piceance	<b>TVD Reference:</b>	KB MF06D-16 @ 5674.0ft (Patterson 303 - Job# 11508)
<b>Site:</b>	H17 696 (S17-T6S-R96W)	<b>MD Reference:</b>	KB MF06D-16 @ 5674.0ft (Patterson 303 - Job# 11508)
<b>Well:</b>	NP MF06D-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 MF06D-16 BHL	0.00	0.00	7,169.0	-639.4	2,075.5	1,626,951.13	2,262,119.91	39° 31' 32.10 N	108° 6' 58.37 W
- actual wellpath misses target center by 13.2ft at 7780.4ft MD (7169.0 TVD, -627.6 N, 2069.6 E)									
- Rectangle (sides W30.0 H50.0 D0.0)									
H17 696 MF06D-16 TOC	0.00	0.00	4,469.0	-628.9	2,092.2	1,626,961.10	2,262,136.92	39° 31' 32.20 N	108° 6' 58.16 W
- actual wellpath misses target center by 10.7ft at 5080.5ft MD (4469.5 TVD, -629.8 N, 2081.6 E)									
- Point									

Design Annotations				
Measured Depth	Vertical Depth	Local Coordinates		Comment
(ft)	(ft)	+N/-S (ft)	+E/-W (ft)	
150.0	150.0	0.5	-0.1	Last Gyro Survey @ 150' MD
1,605.0	1,494.9	-133.1	448.5	Last Cathedral svy @ 1605' MD
7,850.0	7,238.6	-628.5	2,067.7	Last Cathedral Survey @ 7,850' MD
7,900.0	7,288.6	-629.4	2,066.4	Projection to Bit @ 7,900'

Checked By: _____	Approved By: _____	Date: _____
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