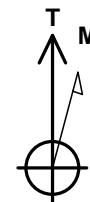
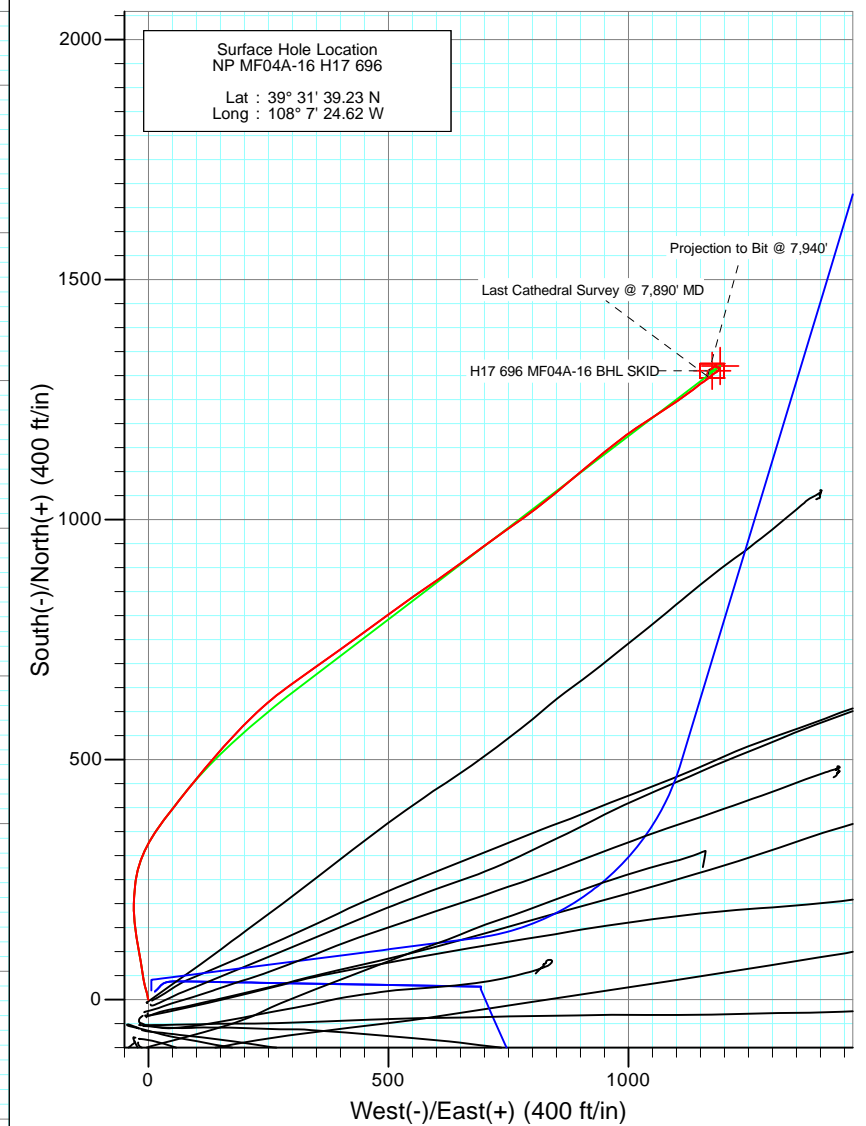
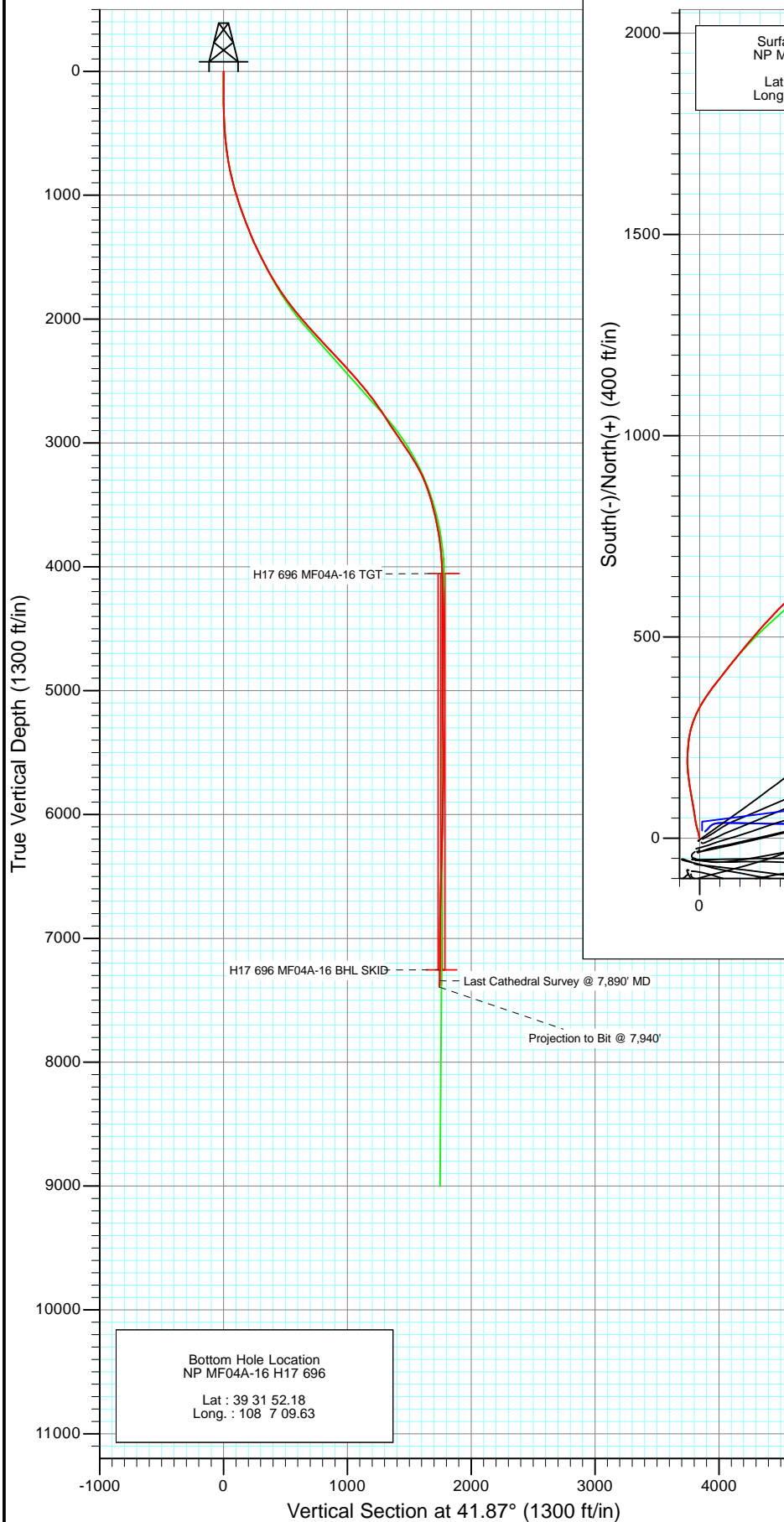




Project: North Piceance  
 Site: H17 696 (S17-T6S-R96W)  
 Well: NP MF04A-16 H17 696  
 Wellbore: DD  
 Design: FINAL



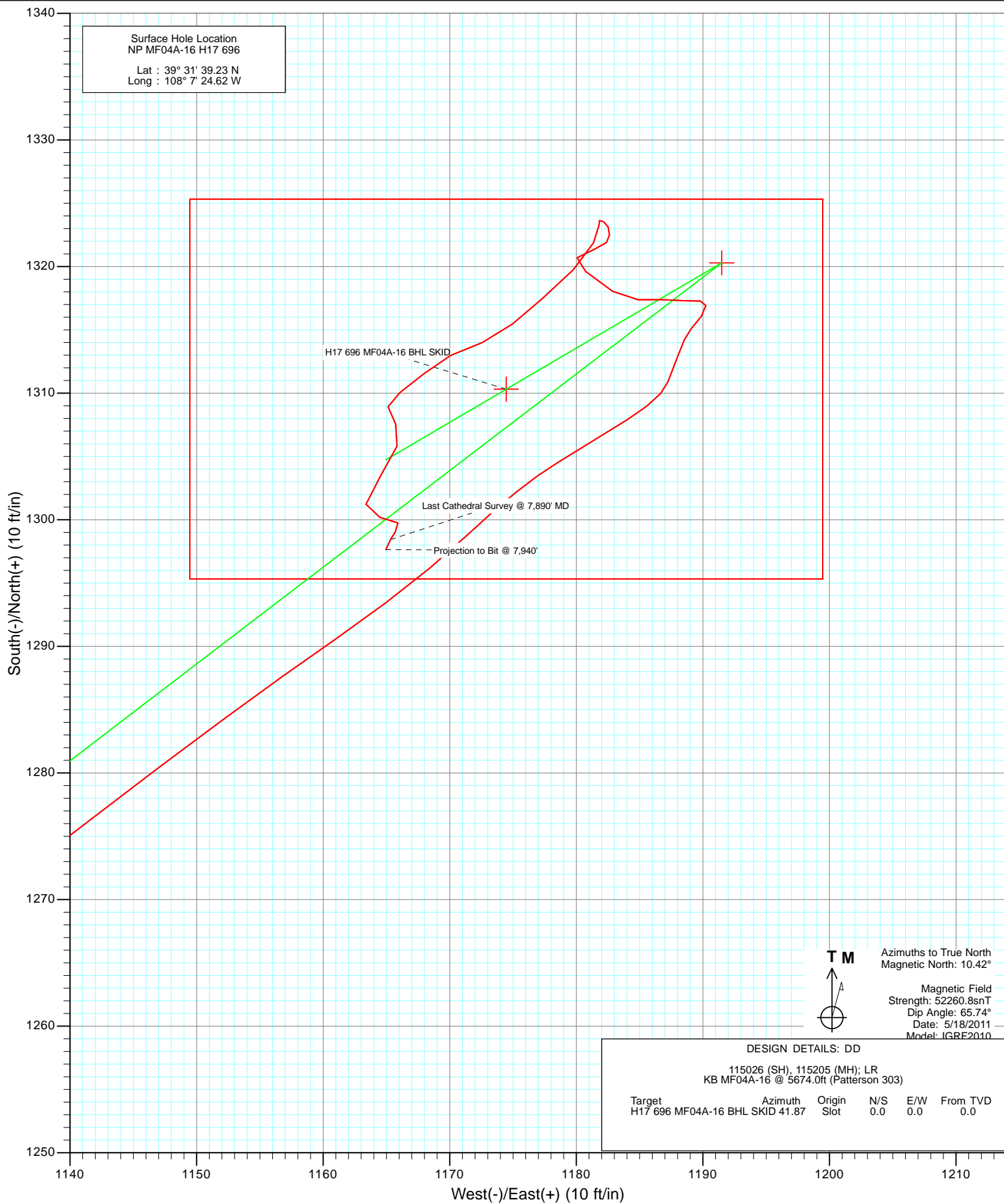
Azimuths to True North  
 Magnetic North: 10.42°

Magnetic Field  
 Strength: 52260.8snT  
 Dip Angle: 65.74°  
 Date: 5/18/2011  
 Model: IGRF2010

DESIGN DETAILS: DD					
115026 (SH), 115205 (MH); LR KB MF04A-16 @ 5674.0ft (Patterson 303)					
Target	Azimuth	Origin	N/S	E/W	From TVD
H17 696 MF04A-16 BHL SKID	41.87	Slot	0.0	0.0	0.0



Project: North Piceance  
Site: H17 696 (S17-T6S-R96W)  
Well: NP MF04A-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 MF04A-16 H17 696
<b>Project:</b>	North Piceance	<b>TVD Reference:</b>	KB MF04A-16 @ 5674.0ft (Patterson 303)
<b>Site:</b>	H17 696 (S17-T6S-R96W)	<b>MD Reference:</b>	KB MF04A-16 @ 5674.0ft (Patterson 303)
<b>Well:</b>	NP MF04A-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 MF04A-16 H17 696					
Well Position	+N/-S	0.0 ft	Northing:	1,627,731.59 ft	Latitude:	39° 31' 39.23 N
	+E/-W	0.0 ft	Easting:	2,260,084.88 ft	Longitude:	108° 7' 24.62 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	5/18/2011	10.42	65.74	52,261

<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	41.87	

<b>Survey Program</b>	<b>Date</b>	5/25/2011			
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
200.0	7,940.0	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	0.30	322.80	200.0	0.4	-0.3	0.1	0.15	0.15		
231.0	0.50	17.50	231.0	0.6	-0.3	0.2	1.32	0.65		
262.0	1.30	343.90	262.0	1.1	-0.4	0.5	2.99	2.58		
292.0	1.80	347.70	292.0	1.9	-0.6	1.0	1.70	1.67		
322.0	2.20	350.00	322.0	2.9	-0.8	1.6	1.36	1.33		
353.0	3.50	353.60	352.9	4.4	-1.0	2.6	4.23	4.19		
383.0	4.70	346.10	382.8	6.5	-1.4	3.9	4.37	4.00		
414.0	5.40	349.30	413.7	9.2	-2.0	5.5	2.43	2.26		
445.0	6.00	345.50	444.6	12.2	-2.6	7.3	2.29	1.94		
475.0	7.00	344.50	474.4	15.5	-3.5	9.2	3.35	3.33		
506.0	8.00	345.20	505.1	19.4	-4.6	11.4	3.24	3.23		
555.0	9.70	345.60	553.5	26.7	-6.5	15.5	3.47	3.47		

## Survey Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well NP MF04A-16 H17 696
<b>Project:</b>	North Piceance	<b>TVD Reference:</b>	KB MF04A-16 @ 5674.0ft (Patterson 303)
<b>Site:</b>	H17 696 (S17-T6S-R96W)	<b>MD Reference:</b>	KB MF04A-16 @ 5674.0ft (Patterson 303)
<b>Well:</b>	NP MF04A-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	11.00	347.70	598.8	34.7	-8.4	20.3	2.94	2.83	
646.0	12.70	349.20	642.8	43.8	-10.2	25.8	3.84	3.78	
692.0	14.10	351.50	687.6	54.3	-12.0	32.4	3.26	3.04	
738.0	15.60	351.00	732.0	65.9	-13.8	39.9	3.27	3.26	
784.0	17.30	351.00	776.1	78.8	-15.8	48.1	3.70	3.70	
830.0	19.30	350.60	819.8	93.0	-18.1	57.2	4.36	4.35	
876.0	20.70	349.70	863.0	108.5	-20.8	66.9	3.12	3.04	
921.0	22.20	350.60	904.9	124.8	-23.6	77.1	3.41	3.33	
967.0	23.30	351.70	947.3	142.3	-26.4	88.4	2.56	2.39	
1,013.0	24.20	355.10	989.5	160.7	-28.5	100.7	3.56	1.96	
1,059.0	24.10	356.20	1,031.4	179.5	-29.9	113.7	1.00	-0.22	
1,105.0	24.50	1.20	1,073.4	198.4	-30.3	127.5	4.56	0.87	
1,150.0	24.10	3.60	1,114.4	216.9	-29.6	141.8	2.37	-0.89	
1,196.0	24.40	6.30	1,156.3	235.7	-27.9	156.9	2.50	0.65	
1,242.0	24.10	9.00	1,198.3	254.4	-25.4	172.5	2.50	-0.65	
1,288.0	23.40	15.70	1,240.4	272.5	-21.5	188.6	6.06	-1.52	
1,334.0	23.20	19.60	1,282.6	289.8	-16.0	205.2	3.38	-0.43	
1,379.0	23.60	24.30	1,323.9	306.4	-9.3	222.0	4.24	0.89	
1,425.0	24.30	28.20	1,366.0	323.1	-1.0	239.9	3.76	1.52	
1,471.0	25.30	31.70	1,407.7	339.9	8.6	258.8	3.86	2.17	
1,516.0	26.20	35.40	1,448.3	356.1	19.4	278.2	4.09	2.00	
1,580.0	26.60	37.30	1,505.6	379.0	36.3	306.5	1.46	0.62	
1,617.0	27.00	37.30	1,538.6	392.3	46.4	323.1	1.08	1.08	
1,708.0	29.00	38.50	1,619.0	426.0	72.6	365.7	2.28	2.20	
1,800.0	31.30	39.90	1,698.5	461.8	101.9	411.9	2.61	2.50	
1,892.0	33.90	39.90	1,776.0	499.8	133.7	461.4	2.83	2.83	
1,983.0	36.30	42.20	1,850.4	539.3	168.0	513.7	3.01	2.64	
2,074.0	38.60	45.00	1,922.7	579.3	206.2	569.0	3.14	2.53	
2,166.0	40.00	49.40	1,993.9	618.8	249.0	627.0	3.39	1.52	
2,258.0	42.70	54.60	2,063.0	656.2	296.9	686.8	4.75	2.93	
2,349.0	43.30	54.10	2,129.5	692.3	347.3	747.4	0.76	0.66	
2,441.0	43.60	55.00	2,196.3	729.0	398.8	809.1	0.75	0.33	
2,533.0	43.90	53.80	2,262.8	766.1	450.6	871.2	0.96	0.33	
2,624.0	43.50	53.60	2,328.6	803.3	501.2	932.7	0.47	-0.44	
2,716.0	43.50	55.00	2,395.3	840.2	552.7	994.6	1.05	0.00	
2,807.0	41.00	55.50	2,462.7	875.1	602.9	1,054.1	2.77	-2.75	
2,899.0	41.90	53.40	2,531.6	910.5	652.5	1,113.5	1.80	0.98	
2,990.0	38.40	54.00	2,601.2	945.3	699.7	1,170.9	3.87	-3.85	
3,082.0	36.20	54.60	2,674.3	977.8	745.0	1,225.4	2.42	-2.39	
3,173.0	34.30	53.60	2,748.7	1,008.6	787.5	1,276.7	2.18	-2.09	
3,264.0	33.10	52.40	2,824.4	1,039.0	827.9	1,326.2	1.51	-1.32	
3,355.0	34.50	49.40	2,900.0	1,070.9	867.1	1,376.2	2.39	1.54	
3,447.0	33.80	49.60	2,976.1	1,104.5	906.4	1,427.4	0.77	-0.76	
3,538.0	35.20	50.50	3,051.1	1,137.5	945.9	1,478.4	1.64	1.54	
3,630.0	32.10	53.50	3,127.7	1,169.0	986.0	1,528.6	3.82	-3.37	
3,722.0	29.40	56.40	3,206.8	1,196.0	1,024.5	1,574.4	3.35	-2.93	
3,813.0	24.40	57.00	3,287.9	1,218.6	1,058.9	1,614.2	5.50	-5.49	
3,904.0	19.60	56.10	3,372.2	1,237.4	1,087.3	1,647.2	5.29	-5.27	
3,996.0	16.00	55.10	3,459.8	1,253.2	1,110.6	1,674.5	3.93	-3.91	
4,088.0	14.50	52.40	3,548.6	1,267.5	1,130.1	1,698.1	1.80	-1.63	
4,179.0	12.40	53.00	3,637.1	1,280.4	1,146.9	1,718.9	2.31	-2.31	
4,271.0	9.50	55.30	3,727.4	1,290.6	1,161.1	1,736.0	3.19	-3.15	
4,362.0	7.20	46.90	3,817.4	1,298.8	1,171.4	1,749.0	2.85	-2.53	

## Survey Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well NP MF04A-16 H17 696
<b>Project:</b>	North Piceance	<b>TVD Reference:</b>	KB MF04A-16 @ 5674.0ft (Patterson 303)
<b>Site:</b>	H17 696 (S17-T6S-R96W)	<b>MD Reference:</b>	KB MF04A-16 @ 5674.0ft (Patterson 303)
<b>Well:</b>	NP MF04A-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
4,454.0	4.20	58.70	3,909.0	1,304.5	1,178.5	1,758.0	3.48	-3.26	
4,545.0	4.00	58.00	3,999.7	1,307.9	1,184.0	1,764.2	0.23	-0.22	
4,637.0	1.70	21.30	4,091.6	1,310.9	1,187.2	1,768.6	3.07	-2.50	
4,728.0	1.10	20.20	4,182.6	1,313.0	1,188.0	1,770.6	0.66	-0.66	
4,820.0	0.60	25.60	4,274.6	1,314.2	1,188.5	1,771.9	0.55	-0.54	
4,911.0	0.70	36.60	4,365.6	1,315.1	1,189.1	1,772.9	0.18	0.11	
5,003.0	0.90	41.10	4,457.6	1,316.1	1,189.9	1,774.2	0.23	0.22	
5,094.0	0.40	338.40	4,548.6	1,316.9	1,190.2	1,775.1	0.88	-0.55	
5,186.0	0.40	280.40	4,640.6	1,317.3	1,189.8	1,775.1	0.42	0.00	
5,277.0	1.10	267.90	4,731.5	1,317.3	1,188.6	1,774.3	0.79	0.77	
5,369.0	1.10	277.40	4,823.5	1,317.4	1,186.9	1,773.2	0.20	0.00	
5,461.0	1.40	264.40	4,915.5	1,317.4	1,184.9	1,771.8	0.45	0.33	
5,552.0	1.50	310.70	5,006.5	1,318.1	1,182.9	1,771.0	1.26	0.11	
5,644.0	1.80	302.60	5,098.4	1,319.6	1,180.7	1,770.7	0.41	0.33	
5,735.0	0.80	60.10	5,189.4	1,320.7	1,180.1	1,771.1	2.51	-1.10	
5,827.0	1.00	67.80	5,281.4	1,321.3	1,181.4	1,772.4	0.25	0.22	
5,918.0	0.50	45.70	5,372.4	1,321.9	1,182.4	1,773.6	0.62	-0.55	
6,010.0	0.40	349.80	5,464.4	1,322.5	1,182.6	1,774.2	0.47	-0.11	
6,102.0	0.40	349.70	5,556.4	1,323.1	1,182.5	1,774.5	0.00	0.00	
6,193.0	0.40	286.80	5,647.4	1,323.5	1,182.2	1,774.6	0.46	0.00	
6,285.0	0.00	100.40	5,739.4	1,323.6	1,181.8	1,774.5	0.43	-0.43	
6,376.0	0.50	187.70	5,830.4	1,323.2	1,181.8	1,774.1	0.55	0.55	
6,468.0	1.30	201.30	5,922.4	1,321.9	1,181.4	1,772.8	0.89	0.87	
6,560.0	2.10	226.80	6,014.3	1,319.7	1,179.8	1,770.2	1.18	0.87	
6,651.0	2.10	227.20	6,105.3	1,317.5	1,177.3	1,766.9	0.02	0.00	
6,742.0	1.80	232.20	6,196.2	1,315.5	1,175.0	1,763.8	0.38	-0.33	
6,834.0	1.70	245.20	6,288.2	1,314.0	1,172.6	1,761.1	0.44	-0.11	
6,925.0	1.70	250.60	6,379.2	1,313.0	1,170.1	1,758.7	0.18	0.00	
7,017.0	1.60	219.70	6,471.1	1,311.5	1,168.0	1,756.2	0.96	-0.11	
7,109.0	1.50	244.80	6,563.1	1,310.0	1,166.1	1,753.8	0.74	-0.11	
7,200.0	0.80	166.40	6,654.1	1,308.9	1,165.1	1,752.4	1.70	-0.77	
7,291.0	1.10	149.10	6,745.1	1,307.6	1,165.7	1,751.7	0.45	0.33	
7,383.0	1.30	199.40	6,837.0	1,305.8	1,165.8	1,750.5	1.13	0.22	
7,474.0	2.10	214.80	6,928.0	1,303.5	1,164.5	1,747.9	1.00	0.88	
7,566.0	1.10	192.20	7,020.0	1,301.2	1,163.4	1,745.5	1.27	-1.09	
7,658.0	1.60	97.40	7,111.9	1,300.2	1,164.5	1,745.4	2.19	0.54	
7,749.0	0.40	149.70	7,202.9	1,299.8	1,165.9	1,746.1	1.53	-1.32	
7,841.0	0.70	220.60	7,294.9	1,299.1	1,165.7	1,745.4	0.74	0.33	
7,890.0	1.00	205.30	7,343.9	1,298.4	1,165.3	1,744.7	0.76	0.61	Last Cathedral Survey @ 7,890' MD
7,940.0	1.00	205.30	7,393.9	1,297.6	1,165.0	1,743.8	0.00	0.00	Projection to Bit @ 7,940'

## Survey Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well NP MF04A-16 H17 696
<b>Project:</b>	North Piceance	<b>TVD Reference:</b>	KB MF04A-16 @ 5674.0ft (Patterson 303)
<b>Site:</b>	H17 696 (S17-T6S-R96W)	<b>MD Reference:</b>	KB MF04A-16 @ 5674.0ft (Patterson 303)
<b>Well:</b>	NP MF04A-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 MF04A-16 TG1	0.00	0.00	4,054.0	1,320.3	1,191.5	1,629,016.93	2,261,314.01	39° 31' 52.28 N	108° 7' 9.41 W
- survey misses target center by 11.7ft at 4599.9ft MD (4054.5 TVD, 1309.8 N, 1186.5 E)									
- Point									
H17 696 MF04A-16 BHL	0.00	0.00	7,254.0	1,310.3	1,174.5	1,629,007.44	2,261,296.70	39° 31' 52.18 N	108° 7' 9.63 W
- survey misses target center by 13.9ft at 7800.0ft MD (7253.9 TVD, 1299.4 N, 1165.9 E)									
- Rectangle (sides W30.0 H50.0 D0.0)									

Survey Annotations				
Measured Depth	Vertical Depth	Local Coordinates		Comment
(ft)	(ft)	+N/-S (ft)	+E/-W (ft)	
7,890.0	7,343.9	1,298.4	1,165.3	Last Cathedral Survey @ 7,890' MD
7,940.0	7,393.9	1,297.6	1,165.0	Projection to Bit @ 7,940'

Checked By: \_\_\_\_\_ Approved By: \_\_\_\_\_ Date: \_\_\_\_\_