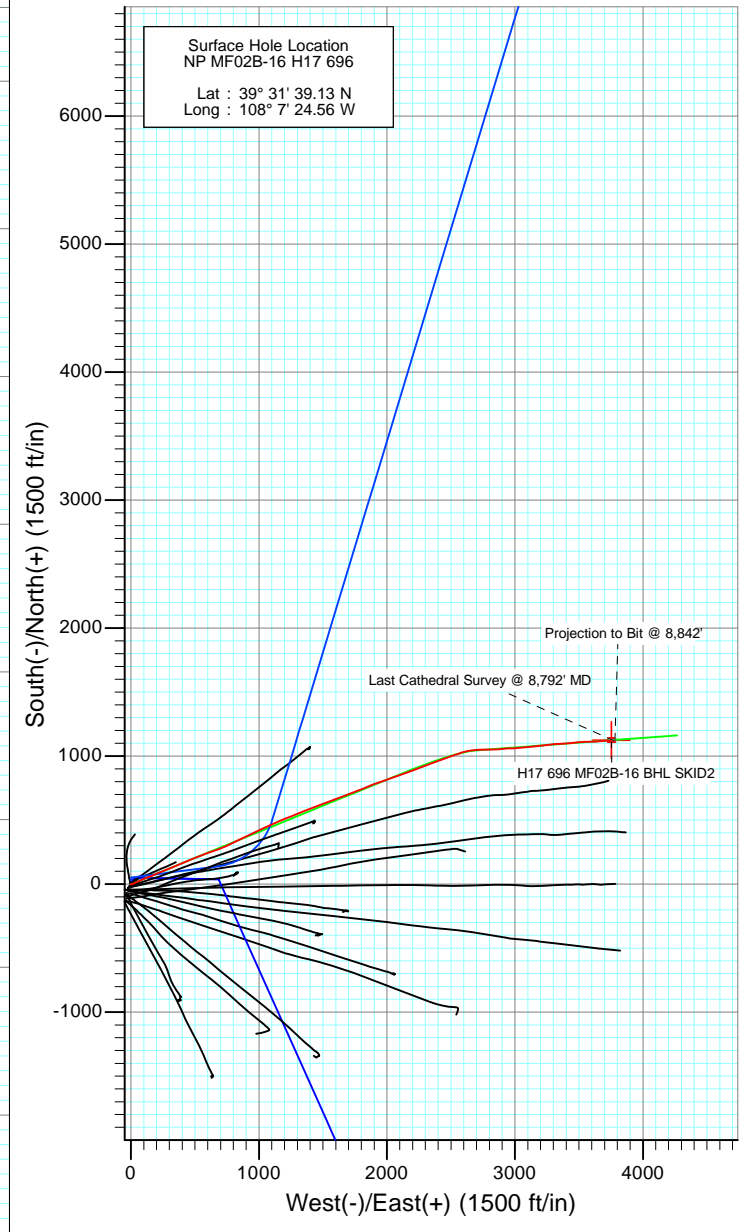
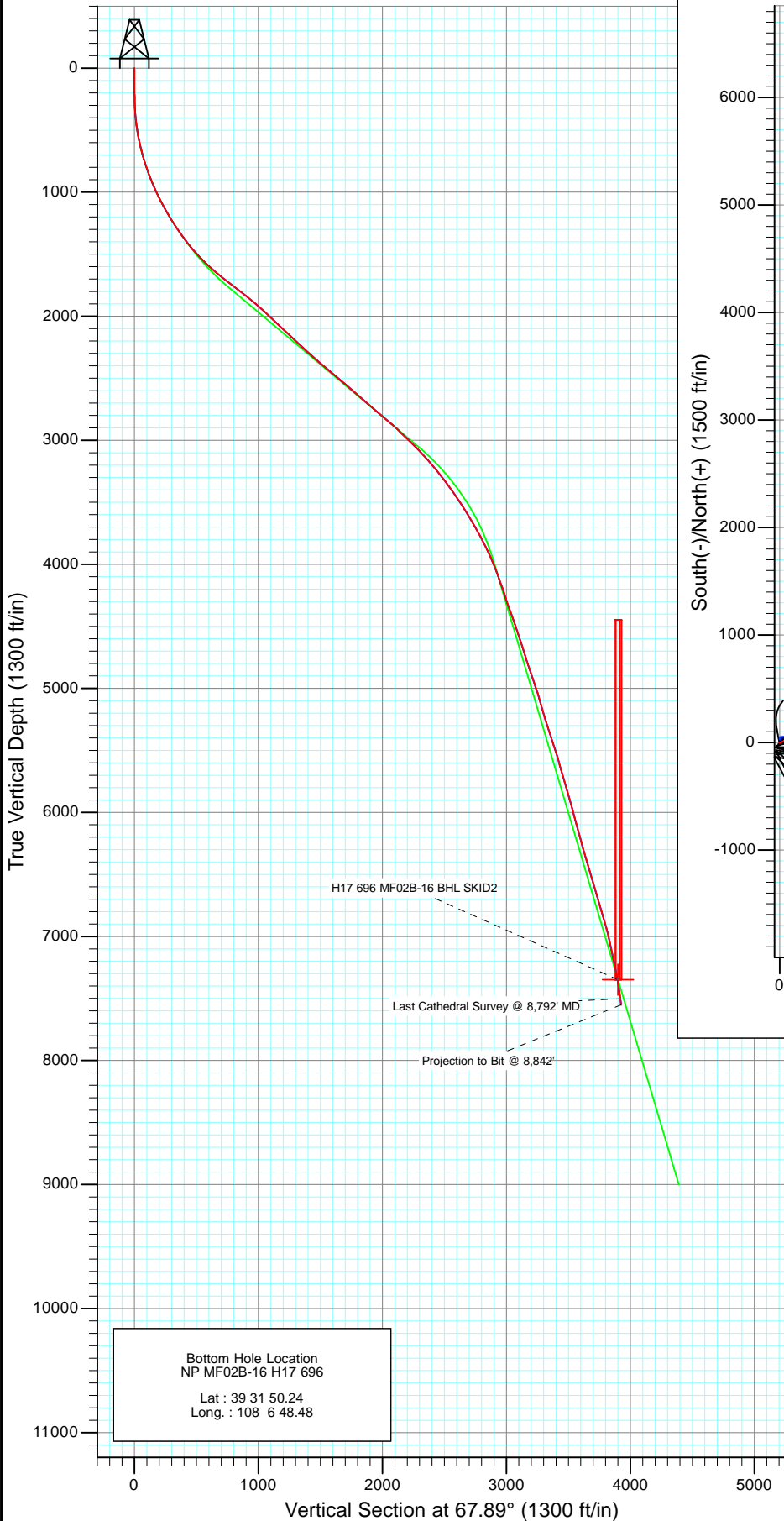




Project: North Piceance
 Site: H17 696 (S17-T6S-R96W)
 Well: NP MF02B-16 H17 696
 Wellbore: DD
 Design: FINAL



Azimuths to True North
 Magnetic North: 10.43°

Magnetic Field
 Strength: 52264.9snT
 Dip Angle: 65.74°
 Date: 5/3/2011
 Model: IGRF2010

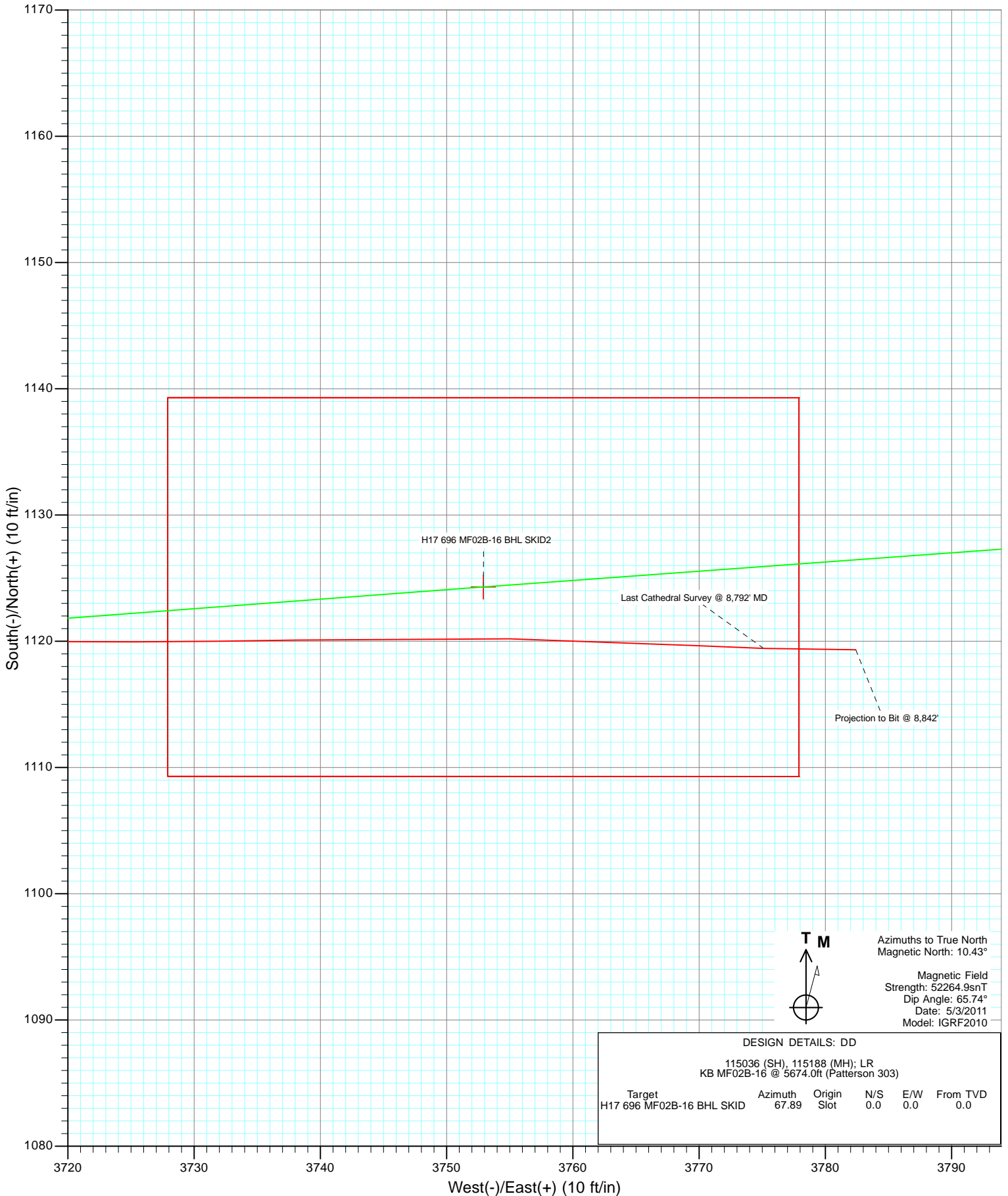
DESIGN DETAILS: DD

115036 (SH), 115188 (MH); LR
 KB MF02B-16 @ 5674.0ft (Patterson 303)

Target	Azimuth	Origin Slot	N/S	E/W	From TVD
H17 696 MF02B-16 BHL SKID	67.89		0.0	0.0	0.0



Project: North Piceance
 Site: H17 696 (S17-T6S-R96W)
 Well: NP MF02B-16 H17 696
 Wellbore: DD
 Design: FINAL



Azimuths to True North
 Magnetic North: 10.43°

Magnetic Field
 Strength: 52264.9snT
 Dip Angle: 65.74°
 Date: 5/3/2011
 Model: IGRF2010

DESIGN DETAILS: DD					
115036 (SH); 115188 (MH); LR					
KB MF02B-16 @ 5674.0ft (Patterson 303)					
Target	Azimuth	Origin	N/S	E/W	From TVD
H17 696 MF02B-16 BHL SKID	67.89	Slot	0.0	0.0	0.0

Survey Report

Company: EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference: Well NP MF02B-16 H17 696
Project: North Piceance	TVD Reference: KB MF02B-16 @ 5674.0ft (Patterson 303)
Site: H17 696 (S17-T6S-R96W)	MD Reference: KB MF02B-16 @ 5674.0ft (Patterson 303)
Well: NP MF02B-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 MF02B-16 H17 696					
Well Position	+N/-S 0.0 ft	Northing: 1,627,721.34 ft	Latitude: 39° 31' 39.13 N		
	+E/-W 0.0 ft	Easting: 2,260,089.29 ft	Longitude: 108° 7' 24.56 W		
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	67.89

Survey Program		Date 5/12/2011
From (ft)	To (ft)	Survey (Wellbore)
200.0	8,842.0	Survey #1 (DD)
		Tool Name MWD
		Description 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	0.80	147.30	200.0	-1.2	0.8	0.3	0.40	0.40	
231.0	1.50	129.80	231.0	-1.6	1.2	0.5	2.50	2.26	
262.0	2.10	104.10	262.0	-2.0	2.0	1.1	3.20	1.94	
292.0	2.60	89.50	291.9	-2.1	3.3	2.2	2.59	1.67	
322.0	3.00	73.60	321.9	-1.9	4.7	3.6	2.90	1.33	
353.0	4.10	71.40	352.9	-1.3	6.5	5.5	3.57	3.55	
383.0	5.00	68.60	382.8	-0.5	8.8	7.9	3.09	3.00	
414.0	5.90	66.80	413.6	0.6	11.5	10.9	2.95	2.90	
445.0	6.60	65.90	444.4	2.0	14.6	14.2	2.28	2.26	
475.0	7.60	65.20	474.2	3.5	17.9	17.9	3.35	3.33	
506.0	8.80	65.20	504.9	5.4	22.0	22.4	3.87	3.87	
555.0	10.50	63.40	553.2	8.9	29.4	30.6	3.52	3.47	

Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well NP MF02B-16 H17 696
Project:	North Piceance	TVD Reference:	KB MF02B-16 @ 5674.0ft (Patterson 303)
Site:	H17 696 (S17-T6S-R96W)	MD Reference:	KB MF02B-16 @ 5674.0ft (Patterson 303)
Well:	NP MF02B-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	12.20	64.60	598.3	12.9	37.5	39.6	3.73	3.70	
646.0	13.60	65.40	642.2	17.1	46.6	49.6	3.14	3.11	
692.0	15.20	66.40	686.7	21.8	57.0	61.0	3.52	3.48	
738.0	16.70	67.50	730.9	26.7	68.7	73.7	3.33	3.26	
784.0	18.10	68.40	774.8	31.9	81.4	87.4	3.10	3.04	
876.0	21.00	67.20	861.5	43.5	109.9	118.2	3.18	3.15	
921.0	21.80	67.60	903.4	49.9	125.1	134.6	1.81	1.78	
967.0	23.20	67.80	945.9	56.5	141.4	152.2	3.05	3.04	
1,013.0	25.20	67.70	987.9	63.7	158.8	171.1	4.35	4.35	
1,059.0	26.60	68.00	1,029.2	71.3	177.4	191.2	3.06	3.04	
1,105.0	27.50	68.00	1,070.2	79.1	196.8	212.1	1.96	1.96	
1,150.0	28.10	68.10	1,110.0	86.9	216.3	233.1	1.34	1.33	
1,196.0	29.60	67.50	1,150.3	95.3	236.8	255.3	3.32	3.26	
1,242.0	30.60	67.40	1,190.1	104.2	258.1	278.4	2.18	2.17	
1,288.0	31.80	67.10	1,229.4	113.4	280.1	302.2	2.63	2.61	
1,334.0	32.50	67.00	1,268.4	122.9	302.7	326.7	1.53	1.52	
1,379.0	34.20	67.20	1,306.0	132.6	325.4	351.4	3.79	3.78	
1,425.0	35.40	67.80	1,343.8	142.6	349.7	377.7	2.71	2.61	
1,475.0	37.50	67.80	1,384.0	153.8	377.2	407.4	4.20	4.20	
1,525.0	39.20	67.40	1,423.2	165.6	405.9	438.4	3.44	3.40	
1,617.0	42.40	67.50	1,492.8	188.7	461.4	498.5	3.48	3.48	
1,709.0	45.30	68.70	1,559.2	212.4	520.5	562.2	3.28	3.15	
1,800.0	47.80	69.50	1,621.7	236.0	582.2	628.3	2.82	2.75	
1,892.0	51.90	71.30	1,681.0	259.6	648.5	698.5	4.70	4.46	
1,983.0	53.20	67.30	1,736.4	285.1	716.0	770.7	3.77	1.43	
2,075.0	52.90	63.60	1,791.7	315.6	782.9	844.1	3.23	-0.33	
2,167.0	49.20	65.20	1,849.5	346.6	847.4	915.5	4.24	-4.02	
2,258.0	50.80	62.20	1,908.0	377.5	909.8	985.0	3.08	1.76	
2,349.0	47.40	64.50	1,967.6	408.3	971.3	1,053.6	4.20	-3.74	
2,440.0	46.60	66.40	2,029.7	436.0	1,031.8	1,120.0	1.76	-0.88	
2,532.0	46.10	67.30	2,093.2	462.2	1,093.0	1,186.6	0.89	-0.54	
2,623.0	46.80	65.40	2,155.9	488.6	1,153.4	1,252.5	1.70	0.77	
2,715.0	47.90	69.10	2,218.2	514.8	1,215.8	1,320.2	3.19	1.20	
2,806.0	48.00	66.90	2,279.2	540.1	1,278.5	1,387.7	1.80	0.11	
2,897.0	48.40	68.20	2,339.8	566.0	1,341.2	1,455.6	1.15	0.44	
2,989.0	49.80	70.10	2,400.1	590.7	1,406.1	1,525.1	2.18	1.52	
3,081.0	49.70	69.80	2,459.5	614.8	1,472.1	1,595.3	0.27	-0.11	
3,172.0	49.60	68.80	2,518.4	639.3	1,537.0	1,664.6	0.84	-0.11	
3,264.0	49.70	69.80	2,578.0	664.1	1,602.6	1,734.7	0.84	0.11	
3,356.0	49.10	66.70	2,637.9	690.0	1,667.4	1,804.5	2.64	-0.65	
3,447.0	48.30	71.30	2,698.0	714.5	1,731.2	1,872.8	3.90	-0.88	
3,539.0	50.20	68.30	2,758.0	738.5	1,796.6	1,942.5	3.22	2.07	
3,630.0	50.10	67.10	2,816.3	765.1	1,861.2	2,012.3	1.02	-0.11	
3,721.0	48.30	70.50	2,875.8	790.0	1,925.4	2,081.2	3.45	-1.98	
3,813.0	45.70	71.50	2,938.5	811.9	1,989.0	2,148.4	2.94	-2.83	
3,904.0	46.50	69.70	3,001.6	833.7	2,050.9	2,213.8	1.67	0.88	
3,996.0	44.50	70.60	3,066.1	856.0	2,112.6	2,279.4	2.28	-2.17	
4,087.0	42.60	69.80	3,132.1	877.2	2,171.6	2,342.1	2.17	-2.09	
4,179.0	39.90	70.20	3,201.2	898.0	2,228.6	2,402.7	2.95	-2.93	
4,270.0	38.70	67.60	3,271.7	918.7	2,282.3	2,460.3	2.24	-1.32	
4,362.0	37.00	71.20	3,344.3	938.6	2,335.2	2,516.7	3.03	-1.85	
4,454.0	34.10	71.30	3,419.2	955.8	2,385.8	2,570.1	3.15	-3.15	
4,545.0	34.10	68.80	3,494.5	973.2	2,433.7	2,621.1	1.54	0.00	

Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well NP MF02B-16 H17 696
Project:	North Piceance	TVD Reference:	KB MF02B-16 @ 5674.0ft (Patterson 303)
Site:	H17 696 (S17-T6S-R96W)	MD Reference:	KB MF02B-16 @ 5674.0ft (Patterson 303)
Well:	NP MF02B-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
4,637.0	32.70	68.20	3,571.3	991.7	2,480.9	2,671.7	1.56	-1.52	
4,728.0	30.20	72.70	3,649.0	1,007.7	2,525.6	2,719.1	3.77	-2.75	
4,820.0	29.20	70.60	3,728.9	1,022.0	2,568.8	2,764.6	1.57	-1.09	
4,911.0	27.30	76.80	3,809.0	1,034.1	2,610.1	2,807.4	3.84	-2.09	
5,004.0	26.20	80.50	3,892.1	1,042.4	2,651.1	2,848.5	2.15	-1.18	
5,096.0	23.90	82.90	3,975.4	1,048.1	2,689.6	2,886.3	2.73	-2.50	
5,187.0	21.70	90.40	4,059.3	1,050.2	2,724.8	2,919.7	4.00	-2.42	
5,279.0	21.10	89.20	4,145.0	1,050.3	2,758.3	2,950.8	0.81	-0.65	
5,370.0	19.60	90.20	4,230.3	1,050.5	2,790.0	2,980.2	1.69	-1.65	
5,462.0	20.80	88.70	4,316.7	1,050.8	2,821.7	3,009.7	1.42	1.30	
5,554.0	20.50	85.30	4,402.7	1,052.5	2,854.1	3,040.4	1.34	-0.33	
5,645.0	19.90	85.50	4,488.1	1,055.0	2,885.4	3,070.3	0.66	-0.66	
5,737.0	18.50	83.10	4,575.0	1,058.0	2,915.5	3,099.4	1.75	-1.52	
5,828.0	18.50	88.10	4,661.3	1,060.2	2,944.3	3,126.8	1.74	0.00	
5,920.0	18.80	89.20	4,748.5	1,060.9	2,973.7	3,154.3	0.50	0.33	
6,011.0	20.20	86.90	4,834.3	1,062.0	3,004.1	3,182.9	1.75	1.54	
6,103.0	19.10	87.20	4,920.9	1,063.6	3,035.0	3,212.1	1.20	-1.20	
6,195.0	19.20	82.30	5,007.8	1,066.3	3,065.0	3,240.9	1.75	0.11	
6,286.0	17.20	83.60	5,094.3	1,069.8	3,093.2	3,268.4	2.24	-2.20	
6,378.0	16.20	84.30	5,182.4	1,072.6	3,119.5	3,293.8	1.11	-1.09	
6,469.0	18.20	81.70	5,269.3	1,075.9	3,146.2	3,319.8	2.35	2.20	
6,561.0	18.30	83.60	5,356.7	1,079.6	3,174.7	3,347.6	0.66	0.11	
6,652.0	19.60	85.20	5,442.8	1,082.5	3,204.2	3,376.0	1.54	1.43	
6,744.0	18.00	85.50	5,529.9	1,084.9	3,233.7	3,404.2	1.74	-1.74	
6,835.0	15.60	85.60	5,617.0	1,086.9	3,259.9	3,429.3	2.64	-2.64	
6,927.0	17.70	82.10	5,705.1	1,089.8	3,286.1	3,454.6	2.53	2.28	
7,018.0	16.40	83.70	5,792.1	1,093.1	3,312.6	3,480.4	1.52	-1.43	
7,110.0	16.10	86.50	5,880.4	1,095.3	3,338.2	3,505.0	0.91	-0.33	
7,201.0	17.40	86.50	5,967.6	1,096.9	3,364.4	3,529.9	1.43	1.43	
7,293.0	15.00	87.00	6,055.9	1,098.4	3,390.0	3,554.1	2.61	-2.61	
7,384.0	16.20	87.10	6,143.6	1,099.6	3,414.5	3,577.3	1.32	1.32	
7,476.0	16.00	83.10	6,231.9	1,101.8	3,439.9	3,601.6	1.22	-0.22	
7,567.0	17.60	82.90	6,319.1	1,105.0	3,466.0	3,627.0	1.76	1.76	
7,659.0	16.90	85.30	6,406.9	1,107.8	3,493.1	3,653.2	1.08	-0.76	
7,751.0	16.10	86.90	6,495.1	1,109.6	3,519.2	3,678.0	1.00	-0.87	
7,842.0	18.00	86.60	6,582.1	1,111.1	3,545.8	3,703.3	2.09	2.09	
7,934.0	18.40	88.40	6,669.5	1,112.4	3,574.5	3,730.3	0.75	0.43	
8,025.0	16.80	90.70	6,756.3	1,112.6	3,602.0	3,755.9	1.92	-1.76	
8,117.0	16.70	88.10	6,844.4	1,112.9	3,628.5	3,780.6	0.82	-0.11	
8,208.0	16.60	81.70	6,931.6	1,115.2	3,654.5	3,805.5	2.02	-0.11	
8,300.0	13.30	82.00	7,020.4	1,118.6	3,678.0	3,828.5	3.59	-3.59	
8,392.0	12.00	90.20	7,110.2	1,120.0	3,698.0	3,847.6	2.41	-1.41	
8,483.0	13.80	90.20	7,198.9	1,120.0	3,718.3	3,866.4	1.98	1.98	
8,574.0	11.30	88.90	7,287.7	1,120.1	3,738.1	3,884.8	2.76	-2.75	
8,666.0	9.90	90.50	7,378.2	1,120.2	3,755.0	3,900.5	1.55	-1.52	
8,757.0	8.90	93.90	7,467.9	1,119.7	3,769.9	3,914.0	1.26	-1.10	
8,792.0	8.40	90.80	7,502.5	1,119.4	3,775.1	3,918.8	1.95	-1.43	Last Cathedral Survey @ 8,792' MD
8,842.0	8.40	90.80	7,552.0	1,119.3	3,782.4	3,925.6	0.00	0.00	Projection to Bit @ 8,842'

Survey Report

Company: EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference: Well NP MF02B-16 H17 696
Project: North Piceance	TVD Reference: KB MF02B-16 @ 5674.0ft (Patterson 303)
Site: H17 696 (S17-T6S-R96W)	MD Reference: KB MF02B-16 @ 5674.0ft (Patterson 303)
Well: NP MF02B-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 MF02B-16 BHL	0.00	0.00	7,349.0	1,124.3	3,752.9	1,628,736.81	2,263,873.11	39° 31' 50.24 N	108° 6' 36.66 W
- survey misses target center by 5.1ft at 8637.0ft MD (7349.6 TVD, 1120.2 N, 3749.9 E) - Rectangle (sides W30.0 H50.0 D0.0)									

Survey Annotations					
Measured Depth	Vertical Depth	Local Coordinates		Comment	
(ft)	(ft)	+N/-S	+E/-W		
		(ft)	(ft)		
8,792.0	7,502.5	1,119.4	3,775.1	Last Cathedral Survey @ 8,792' MD	
8,842.0	7,552.0	1,119.3	3,782.4	Projection to Bit @ 8,842'	

Checked By: _____	Approved By: _____	Date: _____
-------------------	--------------------	-------------