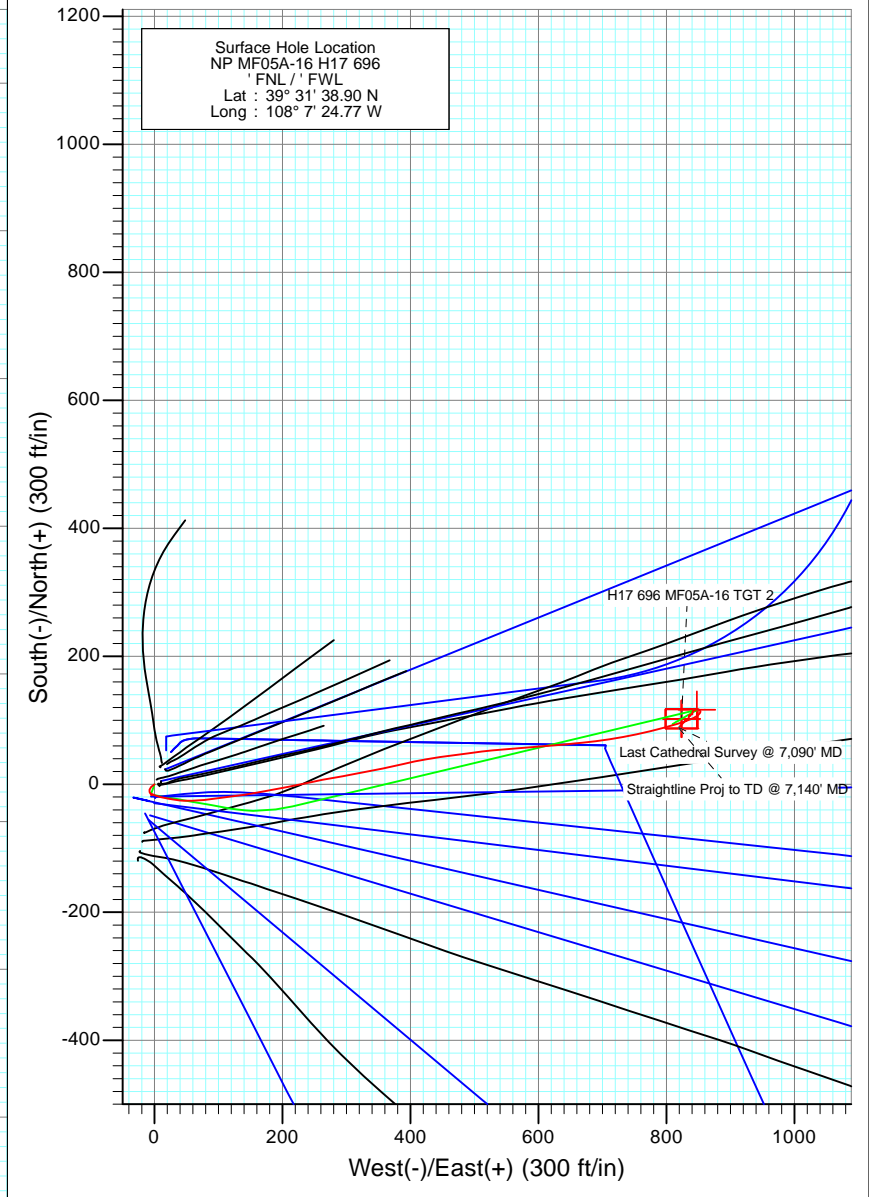
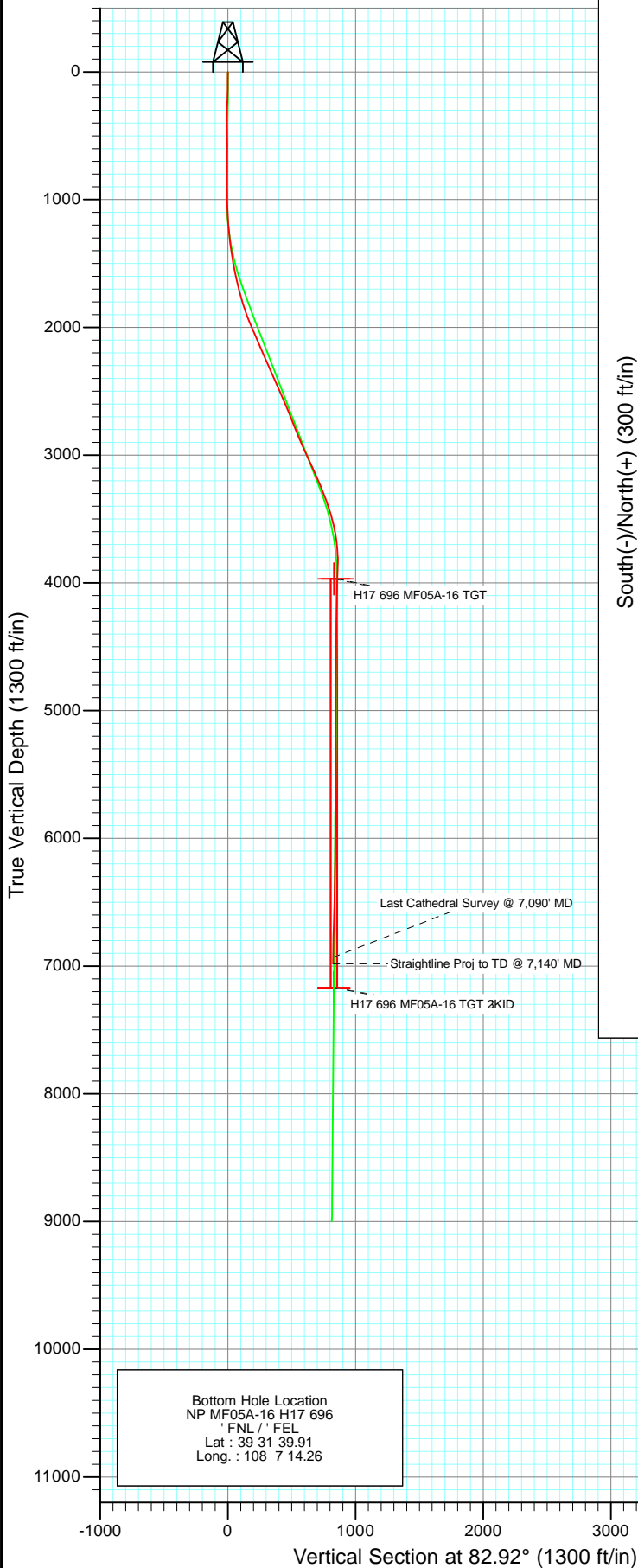




Project: North Piceance
 Site: H17 696 (S17-T6S-R96W)
 Well: NP MF05A-16 H17 696
 Wellbore: DD
 Design: FINAL



Azimuths to True North
 Magnetic North: 10.44°

Magnetic Field
 Strength: 52271.8snT
 Dip Angle: 65.75°
 Date: 4/8/2011
 Model: IGRF2010

Bottom Hole Location
 NP MF05A-16 H17 696
 FNL / FEL
 Lat : 39 31 39.91
 Long : 108 7 14.26

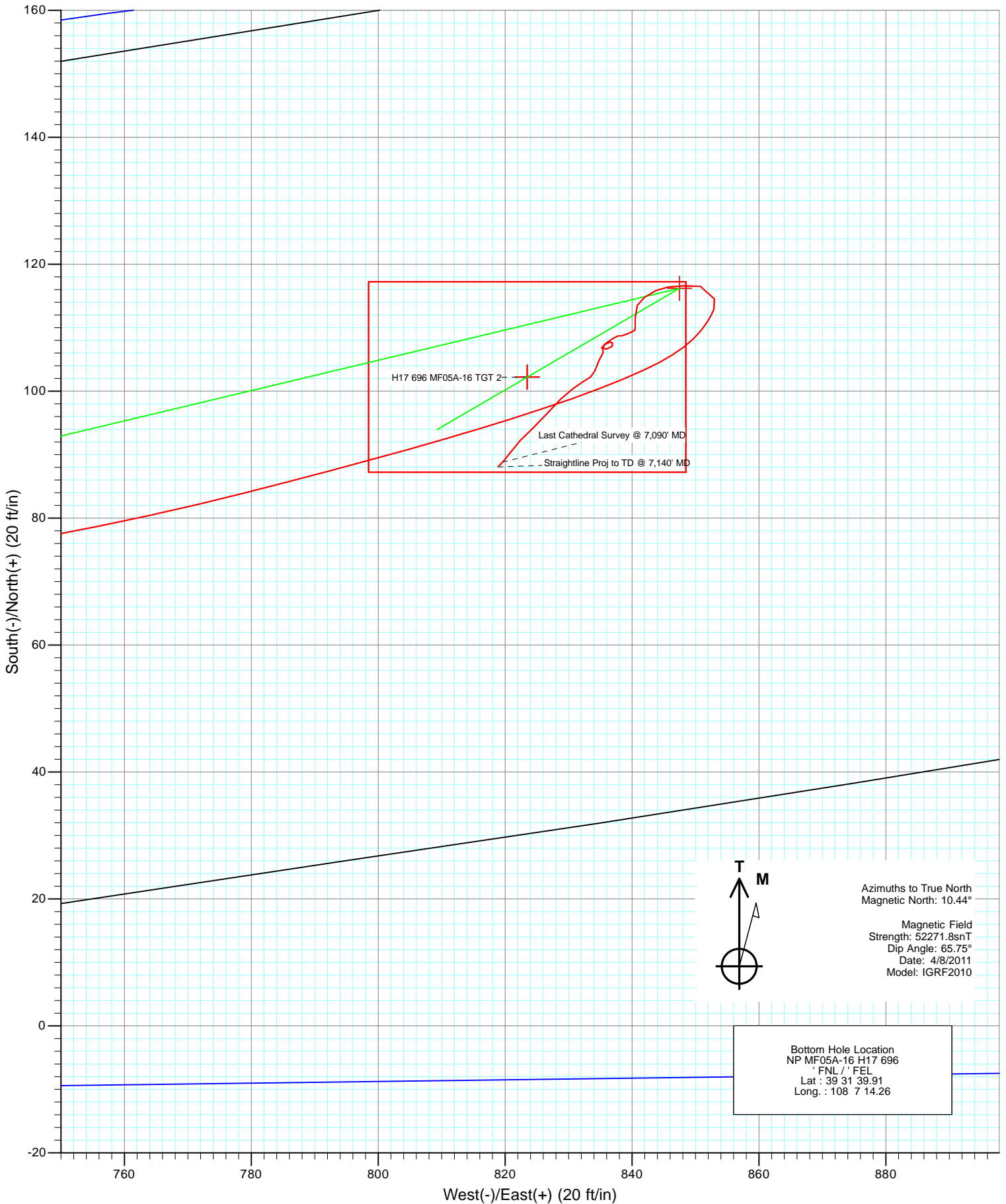
DESIGN DETAILS: DD

115067 (SH), 115154 (MH); LR
 KB MF05A-16 @ 5674.0ft (Patterson 303)

Target	Azimuth	Origin	N/S	E/W	From TVD
H17 696 MF05A-16 BHL SKID	82.92	Slot	0.0	0.0	0.0



Project: North Piceance
Site: H17 696 (S17-T6S-R96W)
Well: NP MF05A-16 H17 696
Wellbore: DD
Design: FINAL



Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well NP MF05A-16 H17 696
Project:	North Piceance	TVD Reference:	KB MF05A-16 @ 5674.0ft (Patterson 303)
Site:	H17 696 (S17-T6S-R96W)	MD Reference:	KB MF05A-16 @ 5674.0ft (Patterson 303)
Well:	NP MF05A-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:	Latitude:	
From:	Lat/Long	1,627,645.46 ft	39° 31' 38.37 N
Position Uncertainty:	0.0 ft	Easting:	Longitude:
		2,260,053.39 ft	108° 7' 24.99 W
		Slot Radius:	Grid Convergence:
		13.200 in	-1.65 °

Well NP MF05A-16 H17 696			
Well Position	+N/-S	Northing:	Latitude:
	0.0 ft	1,627,698.55 ft	39° 31' 38.90 N
	+E/-W	Easting:	Longitude:
	0.0 ft	2,260,072.17 ft	108° 7' 24.77 W
Position Uncertainty	0.0 ft	Wellhead Elevation:	Ground Level:
		ft	5,652.0 ft

Wellbore DD					
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	4/8/2011	10.44	65.75	52,272

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	82.92

Survey Program		Date 4/15/2011			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
201.0	7,140.0	Survey #1 (DD)	MWD	Geolink MWD	

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	
201.0	2.20	231.70	201.0	-2.4	-3.0	-3.3	1.09	1.09	
231.0	3.20	226.50	230.9	-3.3	-4.1	-4.5	3.43	3.33	
262.0	3.30	222.50	261.9	-4.6	-5.3	-5.8	0.80	0.32	
292.0	3.40	211.90	291.8	-6.0	-6.4	-7.1	2.09	0.33	
323.0	3.20	206.00	322.8	-7.5	-7.2	-8.1	1.27	-0.65	
353.0	2.40	190.20	352.7	-8.9	-7.7	-8.8	3.68	-2.67	
383.0	2.10	174.00	382.7	-10.1	-7.8	-8.9	2.33	-1.00	
414.0	2.00	179.60	413.7	-11.2	-7.7	-9.0	0.72	-0.32	
445.0	2.50	159.60	444.7	-12.3	-7.5	-8.9	2.98	1.61	
475.0	2.50	144.70	474.6	-13.5	-6.9	-8.5	2.16	0.00	
506.0	2.20	143.10	505.6	-14.5	-6.1	-7.9	0.99	-0.97	
555.0	1.70	150.60	554.6	-15.9	-5.2	-7.1	1.14	-1.02	

Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well NP MF05A-16 H17 696
Project:	North Piceance	TVD Reference:	KB MF05A-16 @ 5674.0ft (Patterson 303)
Site:	H17 696 (S17-T6S-R96W)	MD Reference:	KB MF05A-16 @ 5674.0ft (Patterson 303)
Well:	NP MF05A-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	0.50	136.10	600.6	-16.6	-4.7	-6.7	2.66	-2.61	
647.0	0.20	313.90	646.6	-16.7	-4.6	-6.7	1.52	-0.65	
693.0	0.40	306.80	692.6	-16.6	-4.8	-6.8	0.44	0.43	
738.0	0.60	353.20	737.6	-16.3	-5.0	-6.9	0.97	0.44	
784.0	0.90	323.60	783.6	-15.7	-5.2	-7.1	1.04	0.65	
830.0	0.60	337.60	829.6	-15.2	-5.5	-7.4	0.76	-0.65	
876.0	0.40	354.30	875.6	-14.8	-5.6	-7.4	0.53	-0.43	
922.0	0.20	280.50	921.6	-14.7	-5.7	-7.5	0.86	-0.43	
968.0	0.60	100.50	967.6	-14.7	-5.6	-7.3	1.74	0.87	
1,013.0	1.60	109.60	1,012.5	-14.9	-4.7	-6.5	2.25	2.22	
1,059.0	2.50	113.30	1,058.5	-15.5	-3.2	-5.1	1.98	1.96	
1,105.0	3.70	114.30	1,104.5	-16.6	-0.9	-3.0	2.61	2.61	
1,151.0	4.40	110.10	1,150.3	-17.8	2.1	-0.1	1.65	1.52	
1,197.0	5.30	107.70	1,196.2	-19.0	5.7	3.4	2.01	1.96	
1,242.0	6.10	102.00	1,240.9	-20.2	10.1	7.5	2.18	1.78	
1,290.0	6.90	102.10	1,288.6	-21.3	15.4	12.6	1.67	1.67	
1,343.0	7.30	100.40	1,341.2	-22.6	21.8	18.9	0.85	0.75	
1,435.0	9.00	97.50	1,432.3	-24.6	34.7	31.4	1.90	1.85	
1,526.0	10.80	92.40	1,521.9	-25.8	50.3	46.7	2.20	1.98	
1,618.0	12.00	84.60	1,612.1	-25.3	68.4	64.8	2.12	1.30	
1,710.0	14.30	83.30	1,701.7	-23.1	89.2	85.7	2.52	2.50	
1,801.0	16.50	83.40	1,789.4	-20.3	113.2	109.9	2.42	2.42	
1,893.0	19.90	80.50	1,876.8	-16.2	141.6	138.6	3.82	3.70	
1,984.0	22.10	79.20	1,961.8	-10.4	173.7	171.1	2.47	2.42	
2,076.0	23.60	79.50	2,046.6	-3.8	208.8	206.8	1.64	1.63	
2,168.0	22.90	78.00	2,131.1	3.2	244.5	243.0	1.00	-0.76	
2,259.0	23.90	79.90	2,214.6	10.2	279.9	279.0	1.38	1.10	
2,350.0	25.10	79.60	2,297.4	16.9	317.1	316.7	1.33	1.32	
2,441.0	23.80	78.20	2,380.2	24.1	354.0	354.3	1.56	-1.43	
2,533.0	22.30	76.90	2,464.9	31.9	389.2	390.2	1.72	-1.63	
2,624.0	23.70	80.00	2,548.7	39.0	424.0	425.6	2.03	1.54	
2,716.0	24.00	82.80	2,632.8	44.5	460.8	462.8	1.27	0.33	
2,807.0	20.90	81.70	2,716.9	49.2	495.2	497.5	3.44	-3.41	
2,898.0	21.70	84.90	2,801.7	53.0	528.0	530.6	1.55	0.88	
2,990.0	24.60	85.70	2,886.3	56.0	564.1	566.7	3.17	3.15	
3,082.0	23.40	85.10	2,970.3	59.0	601.4	604.1	1.33	-1.30	
3,173.0	25.00	85.10	3,053.3	62.1	638.6	641.3	1.76	1.76	
3,265.0	23.80	84.00	3,137.1	65.7	676.4	679.3	1.39	-1.30	
3,357.0	23.50	80.10	3,221.4	70.8	712.9	716.2	1.73	-0.33	
3,448.0	21.90	79.40	3,305.3	77.1	747.5	751.3	1.78	-1.76	
3,540.0	18.80	75.70	3,391.6	83.9	778.7	783.1	3.65	-3.37	
3,631.0	15.70	74.40	3,478.5	90.8	804.8	809.9	3.43	-3.41	
3,722.0	12.50	71.60	3,566.7	97.3	826.0	831.7	3.59	-3.52	
3,814.0	8.80	65.50	3,657.1	103.3	841.9	848.2	4.20	-4.02	
3,905.0	5.40	38.70	3,747.4	109.6	850.9	857.9	5.12	-3.74	
3,996.0	2.20	341.00	3,838.3	114.6	853.0	860.6	5.07	-3.52	
4,087.0	2.10	281.40	3,929.2	116.5	850.8	858.7	2.35	-0.11	
4,179.0	1.40	255.70	4,021.2	116.6	848.0	855.9	1.13	-0.76	
4,270.0	1.50	276.00	4,112.1	116.4	845.8	853.7	0.57	0.11	
4,362.0	1.30	228.00	4,204.1	115.9	843.8	851.6	1.25	-0.22	
4,453.0	1.40	249.50	4,295.1	114.8	842.0	849.7	0.56	0.11	
4,545.0	1.10	187.50	4,387.1	113.5	840.8	848.4	1.43	-0.33	
4,637.0	1.40	190.00	4,479.0	111.5	840.5	847.9	0.33	0.33	

Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well NP MF05A-16 H17 696
Project:	North Piceance	TVD Reference:	KB MF05A-16 @ 5674.0ft (Patterson 303)
Site:	H17 696 (S17-T6S-R96W)	MD Reference:	KB MF05A-16 @ 5674.0ft (Patterson 303)
Well:	NP MF05A-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
4,728.0	0.50	150.50	4,570.0	110.1	840.5	847.7	1.17	-0.99	
4,820.0	0.40	241.70	4,662.0	109.6	840.4	847.5	0.70	-0.11	
4,911.0	1.00	244.20	4,753.0	109.1	839.4	846.5	0.66	0.66	
5,003.0	0.40	265.80	4,845.0	108.7	838.4	845.4	0.70	-0.65	
5,094.0	0.40	267.30	4,936.0	108.7	837.8	844.8	0.01	0.00	
5,186.0	0.70	228.90	5,028.0	108.3	837.0	844.0	0.50	0.33	
5,278.0	1.10	241.20	5,120.0	107.5	835.8	842.7	0.48	0.43	
5,369.0	0.40	149.80	5,211.0	106.8	835.2	842.0	1.30	-0.77	
5,461.0	0.80	79.20	5,303.0	106.7	836.0	842.8	0.83	0.43	
5,552.0	0.50	39.40	5,394.0	107.1	836.9	843.7	0.58	-0.33	
5,644.0	0.30	309.10	5,486.0	107.5	837.0	843.8	0.64	-0.22	
5,735.0	0.00	100.40	5,577.0	107.7	836.8	843.7	0.33	-0.33	
5,827.0	0.40	272.10	5,669.0	107.7	836.4	843.3	0.43	0.43	
5,918.0	0.80	229.30	5,760.0	107.3	835.6	842.5	0.63	0.44	
6,010.0	0.40	127.30	5,852.0	106.7	835.4	842.2	1.05	-0.43	
6,102.0	0.60	207.80	5,944.0	106.1	835.4	842.1	0.72	0.22	
6,193.0	1.20	206.40	6,035.0	104.8	834.8	841.4	0.66	0.66	
6,284.0	0.90	196.90	6,125.9	103.3	834.2	840.5	0.38	-0.33	
6,376.0	0.70	236.90	6,217.9	102.3	833.5	839.7	0.63	-0.22	
6,467.0	1.10	237.90	6,308.9	101.5	832.3	838.4	0.44	0.44	
6,559.0	1.40	233.40	6,400.9	100.3	830.6	836.7	0.34	0.33	
6,650.0	1.70	226.60	6,491.9	98.8	828.8	834.6	0.39	0.33	
6,742.0	2.00	220.30	6,583.8	96.6	826.7	832.3	0.39	0.33	
6,834.0	2.20	227.50	6,675.8	94.2	824.4	829.7	0.36	0.22	
6,925.0	1.40	222.70	6,766.7	92.2	822.3	827.4	0.89	-0.88	
7,017.0	1.70	216.20	6,858.7	90.3	820.8	825.6	0.38	0.33	
7,090.0	1.20	223.60	6,931.6	88.8	819.6	824.3	0.73	-0.68	Last Cathedral Survey @ 7,090' MD
7,140.0	1.20	223.60	6,981.6	88.1	818.9	823.5	0.00	0.00	Straightline Proj to TD @ 7,140' MD

Survey Report

Company: EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference: Well NP MF05A-16 H17 696
Project: North Piceance	TVD Reference: KB MF05A-16 @ 5674.0ft (Patterson 303)
Site: H17 696 (S17-T6S-R96W)	MD Reference: KB MF05A-16 @ 5674.0ft (Patterson 303)
Well: NP MF05A-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 MF05A-16 BHL - survey misses target center by 188.0ft at 7140.0ft MD (6981.6 TVD, 88.1 N, 818.9 E) - Rectangle (sides W30.0 H50.0 D0.0)	0.00	0.00	7,169.0	102.2	823.5	1,627,776.95	2,260,898.28	39° 31' 39.91 N	108° 7' 14.26 W
H17 696 MF05A-16 TOC - survey misses target center by 29.7ft at 4127.6ft MD (3969.8 TVD, 116.7 N, 849.4 E) - Point	0.00	0.00	3,969.0	102.2	823.5	1,627,776.95	2,260,898.28	39° 31' 39.91 N	108° 7' 14.26 W
H17 696 MF05A-16 TG1 - survey misses target center by 188.0ft at 7140.0ft MD (6981.6 TVD, 88.1 N, 818.9 E) - Point	0.00	0.00	7,169.0	102.2	823.5	1,627,776.95	2,260,898.28	39° 31' 39.91 N	108° 7' 14.26 W
H17 696 MF05A-16 TG1 - survey misses target center by 2.0ft at 4126.9ft MD (3969.1 TVD, 116.7 N, 849.5 E) - Point	0.00	0.00	3,969.0	116.2	847.5	1,627,790.24	2,260,922.67	39° 31' 40.05 N	108° 7' 13.95 W

Survey Annotations				
Measured Depth	Vertical Depth	Local Coordinates		Comment
(ft)	(ft)	+N/-S (ft)	+E/-W (ft)	
7,090.0	6,931.6	88.8	819.6	Last Cathedral Survey @ 7,090' MD
7,140.0	6,981.6	88.1	818.9	Straightline Proj to TD @ 7,140' MD

Checked By: _____ Approved By: _____ Date: _____