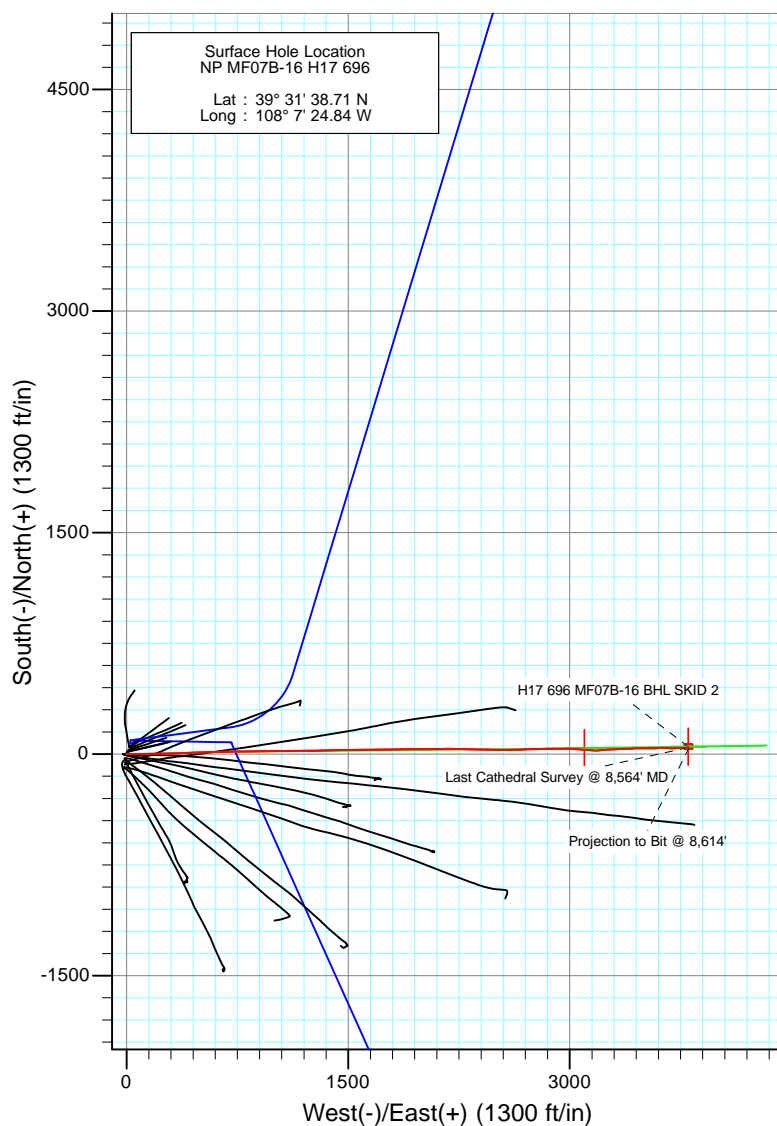
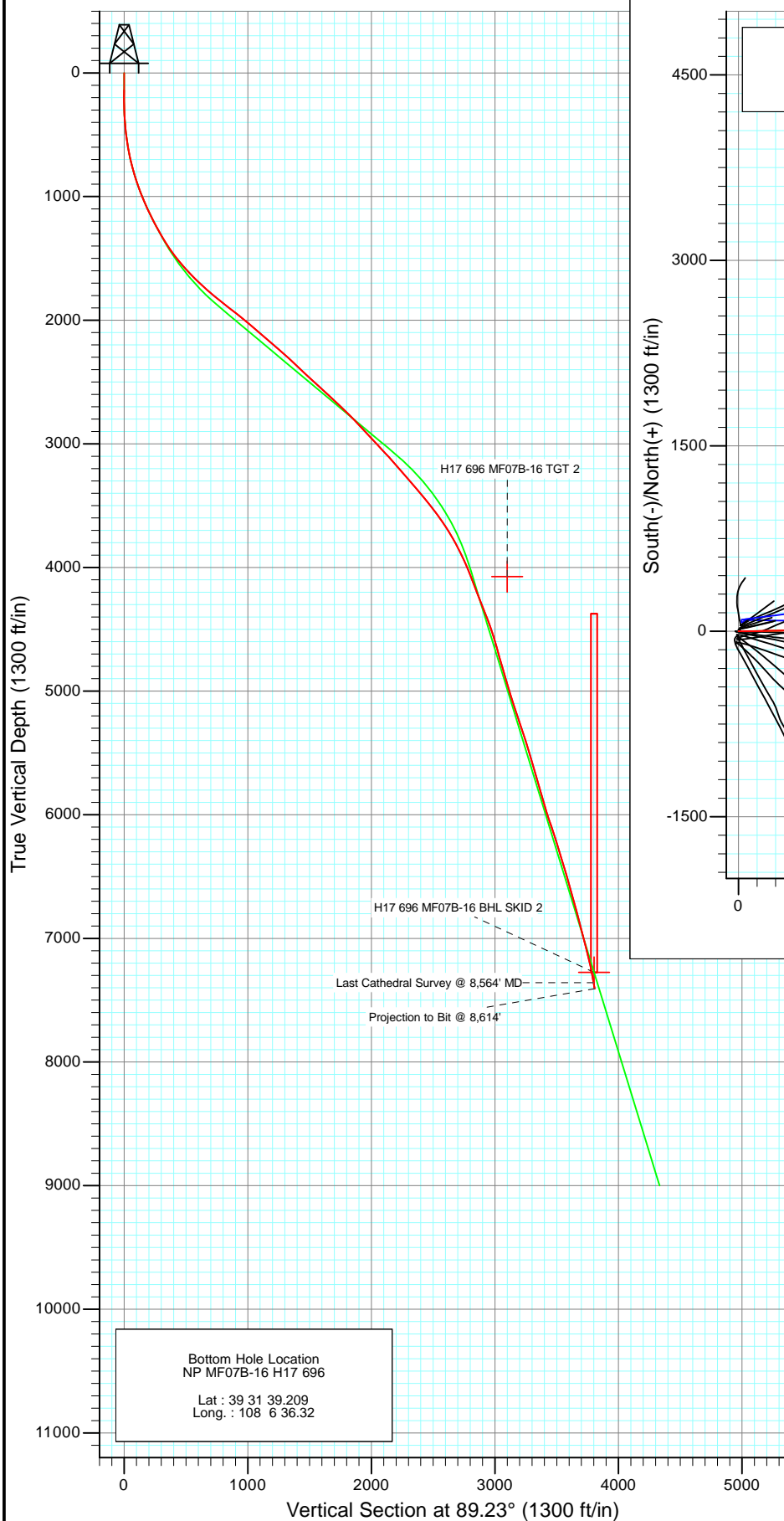




Project: North Piceance
 Site: H17 696 (S17-T6S-R96W)
 Well: NP MF07B-16 H17 696
 Wellbore: DD
 Design: FINAL



Azimuths to True North
 Magnetic North: 10.46°

Magnetic Field
 Strength: 52289.7nT
 Dip Angle: 65.75°
 Date: 2/2/2011
 Model: IGRF2010

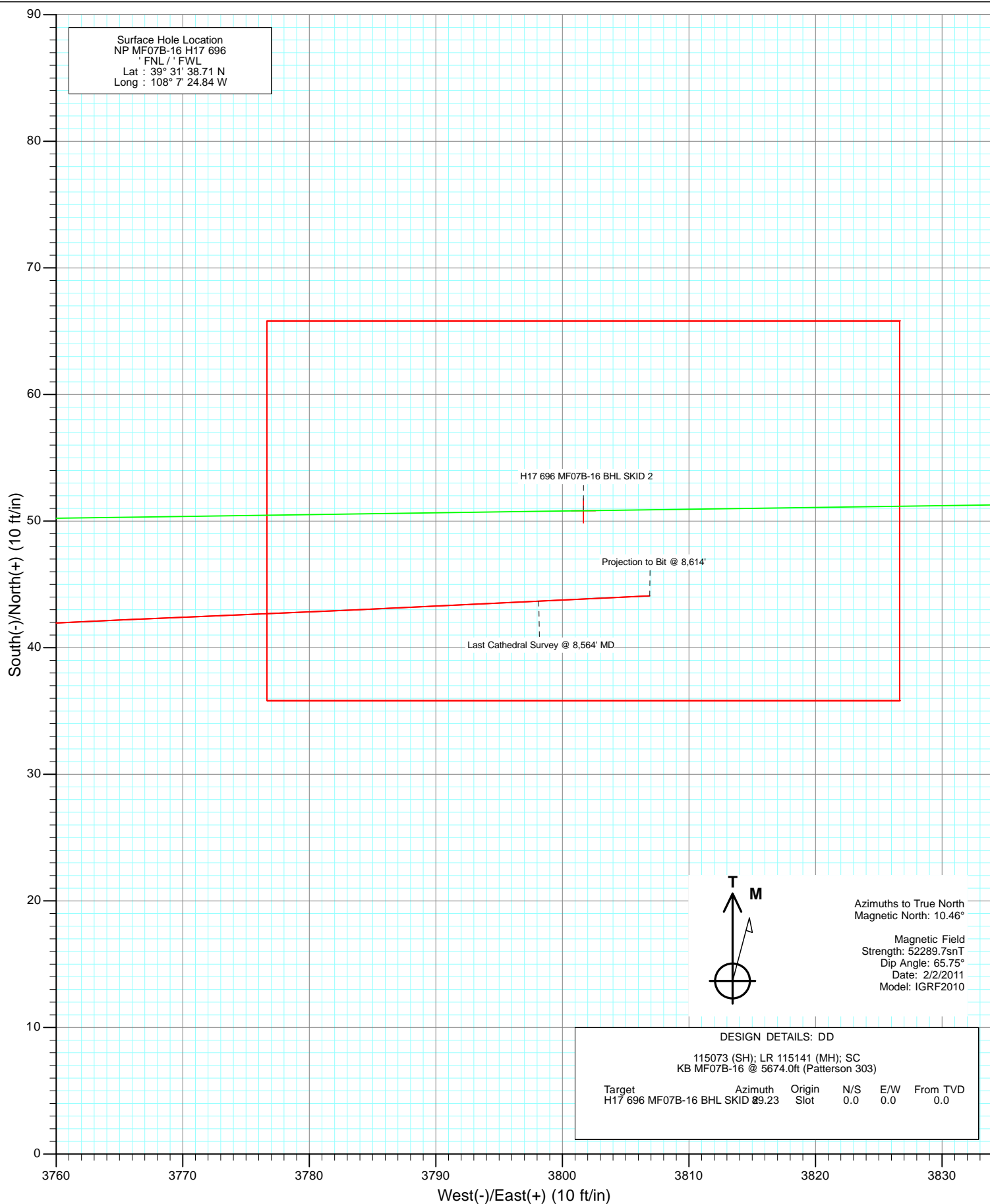
DESIGN DETAILS: DD

115073 (SH); LR 115141 (MH); SC
 KB MF07B-16 @ 5674.0ft (Patterson 303)

Target	Azimuth	Origin	N/S	E/W	From TVD
H17 696 MF07B-16 BHL SKID 89.23		Slot	0.0	0.0	0.0



Project: North Piceance
Site: H17 696 (S17-T6S-R96W)
Well: NP MF07B-16 H17 696
Wellbore: DD
Design: FINAL



Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well NP MF07B-16 H17 696
Project:	North Piceance	TVD Reference:	KB MF07B-16 @ 5674.0ft (Patterson 303)
Site:	H17 696 (S17-T6S-R96W)	MD Reference:	KB MF07B-16 @ 5674.0ft (Patterson 303)
Well:	NP MF07B-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 MF07B-16 H17 696					
Well Position	+N/-S	0.0 ft	Northing:	1,627,679.49 ft	Latitude:	39° 31' 38.71 N
	+E/-W	0.0 ft	Easting:	2,260,066.13 ft	Longitude:	108° 7' 24.84 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	2/2/2011	10.46	65.75	52,290

Design	DD				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction	
	(ft)	(ft)	(ft)	(°)	
	0.0	0.0	0.0	89.23	

Survey Program	Date	4/4/2011			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
30.0	139.0	Survey #1 (DD)	Gyro	Gyro	
201.0	8,614.0	Survey #2 (DD)	MWD	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	
30.0	0.38	159.62	30.0	-0.1	0.0	0.0	1.27	1.27	
60.0	0.20	195.65	60.0	-0.2	0.1	0.1	0.83	-0.60	
90.0	0.17	236.52	90.0	-0.3	0.0	0.0	0.44	-0.10	
120.0	0.59	301.10	120.0	-0.3	-0.2	-0.2	1.80	1.40	
139.0	0.52	291.24	139.0	-0.2	-0.3	-0.3	0.62	-0.37	Last Gyro Survey @ 139' MD
201.0	0.70	287.90	201.0	0.0	-1.0	-1.0	0.30	0.29	
231.0	0.30	316.00	231.0	0.2	-1.2	-1.2	1.53	-1.33	
262.0	0.80	108.10	262.0	0.1	-1.0	-1.0	3.47	1.61	
292.0	1.80	101.60	292.0	0.0	-0.4	-0.4	3.36	3.33	
323.0	2.80	97.70	323.0	-0.2	0.9	0.9	3.26	3.23	
353.0	3.60	88.60	352.9	-0.3	2.5	2.5	3.15	2.67	

Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well NP MF07B-16 H17 696
Project:	North Piceance	TVD Reference:	KB MF07B-16 @ 5674.0ft (Patterson 303)
Site:	H17 696 (S17-T6S-R96W)	MD Reference:	KB MF07B-16 @ 5674.0ft (Patterson 303)
Well:	NP MF07B-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
383.0	4.20	88.60	382.8	-0.2	4.6	4.6	2.00	2.00	
414.0	4.60	90.00	413.8	-0.2	6.9	6.9	1.34	1.29	
445.0	5.50	94.40	444.6	-0.3	9.7	9.7	3.16	2.90	
476.0	6.30	90.90	475.5	-0.5	12.8	12.8	2.83	2.58	
506.0	7.00	85.40	505.3	-0.3	16.3	16.3	3.15	2.33	
555.0	8.40	88.30	553.8	0.0	22.9	22.9	2.96	2.86	
601.0	9.80	91.60	599.2	0.0	30.1	30.1	3.25	3.04	
647.0	11.10	88.70	644.5	0.0	38.5	38.5	3.05	2.83	
693.0	12.80	89.50	689.5	0.1	48.0	48.0	3.71	3.70	
738.0	14.40	89.40	733.2	0.2	58.6	58.6	3.56	3.56	
784.0	15.30	88.90	777.7	0.4	70.4	70.4	1.98	1.96	
830.0	16.30	89.60	821.9	0.6	82.9	82.9	2.21	2.17	
876.0	17.50	88.70	866.0	0.8	96.3	96.3	2.67	2.61	
921.0	19.10	88.10	908.7	1.2	110.4	110.4	3.58	3.56	
967.0	20.40	88.30	952.0	1.7	125.9	125.9	2.83	2.83	
1,013.0	22.00	88.90	994.9	2.1	142.6	142.6	3.51	3.48	
1,059.0	23.50	89.30	1,037.3	2.3	160.3	160.4	3.28	3.26	
1,105.0	24.60	89.60	1,079.3	2.5	179.1	179.1	2.41	2.39	
1,151.0	25.20	89.50	1,121.0	2.7	198.5	198.5	1.31	1.30	
1,197.0	26.30	90.00	1,162.4	2.8	218.4	218.5	2.44	2.39	
1,242.0	27.20	89.40	1,202.6	2.9	238.7	238.7	2.09	2.00	
1,290.0	28.80	88.60	1,245.0	3.3	261.2	261.2	3.42	3.33	
1,341.0	29.40	88.60	1,289.6	3.9	286.0	286.0	1.18	1.18	
1,433.0	31.80	88.20	1,368.7	5.2	332.8	332.9	2.62	2.61	
1,525.0	35.70	87.00	1,445.2	7.3	383.9	383.9	4.30	4.24	
1,616.0	39.30	87.50	1,517.4	10.0	439.2	439.3	3.97	3.96	
1,708.0	42.00	88.80	1,587.2	11.9	499.1	499.2	3.08	2.93	
1,799.0	45.00	88.50	1,653.2	13.4	561.7	561.8	3.30	3.30	
1,891.0	47.30	89.10	1,716.9	14.8	628.0	628.2	2.54	2.50	
1,982.0	50.20	88.80	1,776.9	16.0	696.4	696.6	3.20	3.19	
2,074.0	51.20	88.30	1,835.2	17.8	767.6	767.8	1.17	1.09	
2,166.0	51.40	89.90	1,892.7	19.0	839.4	839.6	1.37	0.22	
2,257.0	52.00	88.40	1,949.1	20.0	910.8	911.0	1.45	0.66	
2,349.0	50.70	89.80	2,006.6	21.2	982.6	982.8	1.85	-1.41	
2,440.0	49.20	90.70	2,065.1	20.9	1,052.3	1,052.5	1.81	-1.65	
2,532.0	49.30	89.60	2,125.2	20.7	1,122.0	1,122.2	0.91	0.11	
2,623.0	49.10	89.00	2,184.7	21.5	1,190.9	1,191.0	0.55	-0.22	
2,715.0	49.10	88.00	2,244.9	23.3	1,260.4	1,260.6	0.82	0.00	
2,807.0	46.90	89.60	2,306.5	24.8	1,328.7	1,328.9	2.72	-2.39	
2,898.0	47.10	88.90	2,368.5	25.7	1,395.3	1,395.5	0.60	0.22	
2,989.0	46.70	87.80	2,430.7	27.6	1,461.7	1,461.9	0.99	-0.44	
3,081.0	48.00	88.70	2,493.0	29.6	1,529.3	1,529.6	1.59	1.41	
3,173.0	47.70	91.00	2,554.8	29.8	1,597.5	1,597.8	1.88	-0.33	
3,264.0	46.80	89.70	2,616.5	29.4	1,664.3	1,664.6	1.44	-0.99	
3,356.0	46.90	89.10	2,679.5	30.1	1,731.5	1,731.7	0.49	0.11	
3,447.0	45.30	87.40	2,742.6	32.1	1,797.0	1,797.3	2.21	-1.76	
3,539.0	43.90	88.60	2,808.1	34.4	1,861.5	1,861.8	1.78	-1.52	
3,630.0	43.10	91.70	2,874.1	34.2	1,924.2	1,924.4	2.50	-0.88	
3,722.0	43.00	90.00	2,941.3	33.3	1,987.0	1,987.2	1.27	-0.11	
3,813.0	43.00	89.30	3,007.9	33.6	2,049.0	2,049.3	0.52	0.00	
3,905.0	43.00	88.30	3,075.2	35.0	2,111.7	2,112.0	0.74	0.00	
3,996.0	41.80	89.40	3,142.4	36.2	2,173.1	2,173.4	1.55	-1.32	
4,088.0	41.00	92.40	3,211.4	35.3	2,233.9	2,234.2	2.32	-0.87	

Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well NP MF07B-16 H17 696
Project:	North Piceance	TVD Reference:	KB MF07B-16 @ 5674.0ft (Patterson 303)
Site:	H17 696 (S17-T6S-R96W)	MD Reference:	KB MF07B-16 @ 5674.0ft (Patterson 303)
Well:	NP MF07B-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
4,179.0	40.30	91.50	3,280.4	33.2	2,293.1	2,293.4	1.00	-0.77	
4,271.0	40.30	91.10	3,350.6	31.9	2,352.6	2,352.9	0.28	0.00	
4,362.0	41.00	91.10	3,419.6	30.8	2,411.9	2,412.1	0.77	0.77	
4,454.0	38.80	89.90	3,490.2	30.2	2,470.9	2,471.1	2.53	-2.39	
4,546.0	36.20	91.70	3,563.2	29.5	2,526.9	2,527.1	3.07	-2.83	
4,637.0	33.80	90.10	3,637.7	28.6	2,579.1	2,579.2	2.82	-2.64	
4,729.0	31.50	88.50	3,715.2	29.2	2,628.7	2,628.9	2.67	-2.50	
4,820.0	29.10	87.50	3,793.7	30.8	2,674.6	2,674.8	2.69	-2.64	
4,912.0	26.50	88.40	3,875.1	32.3	2,717.5	2,717.7	2.86	-2.83	
5,003.0	23.70	88.70	3,957.5	33.3	2,756.0	2,756.2	3.08	-3.08	
5,095.0	22.60	87.50	4,042.1	34.5	2,792.2	2,792.4	1.30	-1.20	
5,186.0	20.40	88.80	4,126.8	35.6	2,825.5	2,825.7	2.47	-2.42	
5,278.0	21.30	89.20	4,212.7	36.2	2,858.3	2,858.5	0.99	0.98	
5,369.0	21.20	88.40	4,297.6	36.9	2,891.2	2,891.5	0.34	-0.11	
5,461.0	22.00	88.60	4,383.1	37.8	2,925.1	2,925.3	0.87	0.87	
5,552.0	20.00	90.90	4,468.0	37.9	2,957.7	2,957.9	2.38	-2.20	
5,644.0	17.10	93.70	4,555.3	36.8	2,986.9	2,987.2	3.30	-3.15	
5,735.0	15.70	93.10	4,642.6	35.3	3,012.6	3,012.8	1.55	-1.54	
5,827.0	16.40	94.00	4,731.0	33.7	3,038.0	3,038.1	0.81	0.76	
5,918.0	16.40	94.60	4,818.3	31.8	3,063.6	3,063.7	0.19	0.00	
6,011.0	15.60	94.20	4,907.7	29.8	3,089.1	3,089.3	0.87	-0.86	
6,102.0	17.90	92.90	4,994.8	28.2	3,115.3	3,115.4	2.56	2.53	
6,194.0	16.70	93.80	5,082.6	26.6	3,142.6	3,142.7	1.34	-1.30	
6,285.0	19.10	92.00	5,169.2	25.2	3,170.6	3,170.6	2.71	2.64	
6,377.0	18.90	85.90	5,256.2	25.8	3,200.5	3,200.5	2.17	-0.22	
6,468.0	18.10	85.20	5,342.5	28.0	3,229.3	3,229.3	0.91	-0.88	
6,560.0	17.20	84.30	5,430.2	30.5	3,257.0	3,257.1	1.02	-0.98	
6,651.0	17.00	87.60	5,517.2	32.4	3,283.7	3,283.9	1.09	-0.22	
6,743.0	15.30	87.50	5,605.5	33.5	3,309.3	3,309.4	1.85	-1.85	
6,835.0	16.50	89.20	5,694.0	34.2	3,334.5	3,334.6	1.40	1.30	
6,926.0	16.80	87.50	5,781.2	35.0	3,360.5	3,360.7	0.63	0.33	
7,018.0	15.30	87.30	5,869.6	36.2	3,385.9	3,386.1	1.63	-1.63	
7,110.0	16.50	86.40	5,958.1	37.5	3,411.1	3,411.3	1.33	1.30	
7,201.0	19.40	89.50	6,044.6	38.5	3,439.1	3,439.3	3.35	3.19	
7,293.0	18.10	88.90	6,131.8	38.9	3,468.7	3,468.9	1.43	-1.41	
7,384.0	17.10	89.30	6,218.5	39.3	3,496.2	3,496.4	1.11	-1.10	
7,476.0	18.40	90.70	6,306.1	39.3	3,524.2	3,524.5	1.49	1.41	
7,568.0	16.00	90.80	6,394.0	39.0	3,551.4	3,551.6	2.61	-2.61	
7,659.0	16.50	86.80	6,481.4	39.5	3,576.9	3,577.1	1.35	0.55	
7,751.0	15.00	85.80	6,569.9	41.1	3,601.8	3,602.0	1.66	-1.63	
7,843.0	15.60	87.50	6,658.7	42.5	3,626.0	3,626.3	0.81	0.65	
7,934.0	14.90	95.50	6,746.5	41.9	3,649.9	3,650.1	2.43	-0.77	
8,026.0	14.70	95.50	6,835.4	39.7	3,673.3	3,673.5	0.22	-0.22	
8,117.0	15.40	88.40	6,923.3	38.9	3,696.9	3,697.1	2.17	0.77	
8,209.0	15.60	86.70	7,011.9	40.0	3,721.4	3,721.6	0.54	0.22	
8,300.0	13.70	87.00	7,100.0	41.2	3,744.4	3,744.6	2.09	-2.09	
8,392.0	12.60	87.70	7,189.6	42.2	3,765.3	3,765.6	1.21	-1.20	
8,483.0	10.60	87.40	7,278.7	43.0	3,783.6	3,783.8	2.20	-2.20	
8,564.0	10.10	87.20	7,358.4	43.7	3,798.1	3,798.4	0.62	-0.62	Last Cathedral Survey @ 8,564' MD Projection to Bit @ 8,614'
8,614.0	10.10	87.20	7,407.6	44.1	3,806.9	3,807.1	0.00	0.00	

Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well NP MF07B-16 H17 696
Project:	North Piceance	TVD Reference:	KB MF07B-16 @ 5674.0ft (Patterson 303)
Site:	H17 696 (S17-T6S-R96W)	MD Reference:	KB MF07B-16 @ 5674.0ft (Patterson 303)
Well:	NP MF07B-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 MF07B-16 TG1	0.00	0.00	4,074.0	40.5	3,098.6	1,627,630.49	2,263,164.63	39° 31' 39.11 N	108° 6' 45.29 W
- actual wellpath misses target center by 274.2ft at 5233.9ft MD (4171.6 TVD, 35.9 N, 2842.4 E)									
- Point									
H17 696 MF07B-16 BHL	0.00	0.00	7,274.0	50.8	3,801.7	1,627,620.51	2,263,867.68	39° 31' 39.21 N	108° 6' 36.32 W
- actual wellpath misses target center by 20.2ft at 8482.1ft MD (7277.8 TVD, 43.0 N, 3783.4 E)									
- Rectangle (sides W30.0 H50.0 D0.0)									

Design Annotations				
Measured Depth	Vertical Depth	Local Coordinates		Comment
(ft)	(ft)	+N/-S (ft)	+E/-W (ft)	
139.0	139.0	-0.2	-0.3	Last Gyro Survey @ 139' MD
8,564.0	7,358.4	43.7	3,798.1	Last Cathedral Survey @ 8,564' MD
8,614.0	7,407.6	44.1	3,806.9	Projection to Bit @ 8,614'

Checked By: _____ Approved By: _____ Date: _____