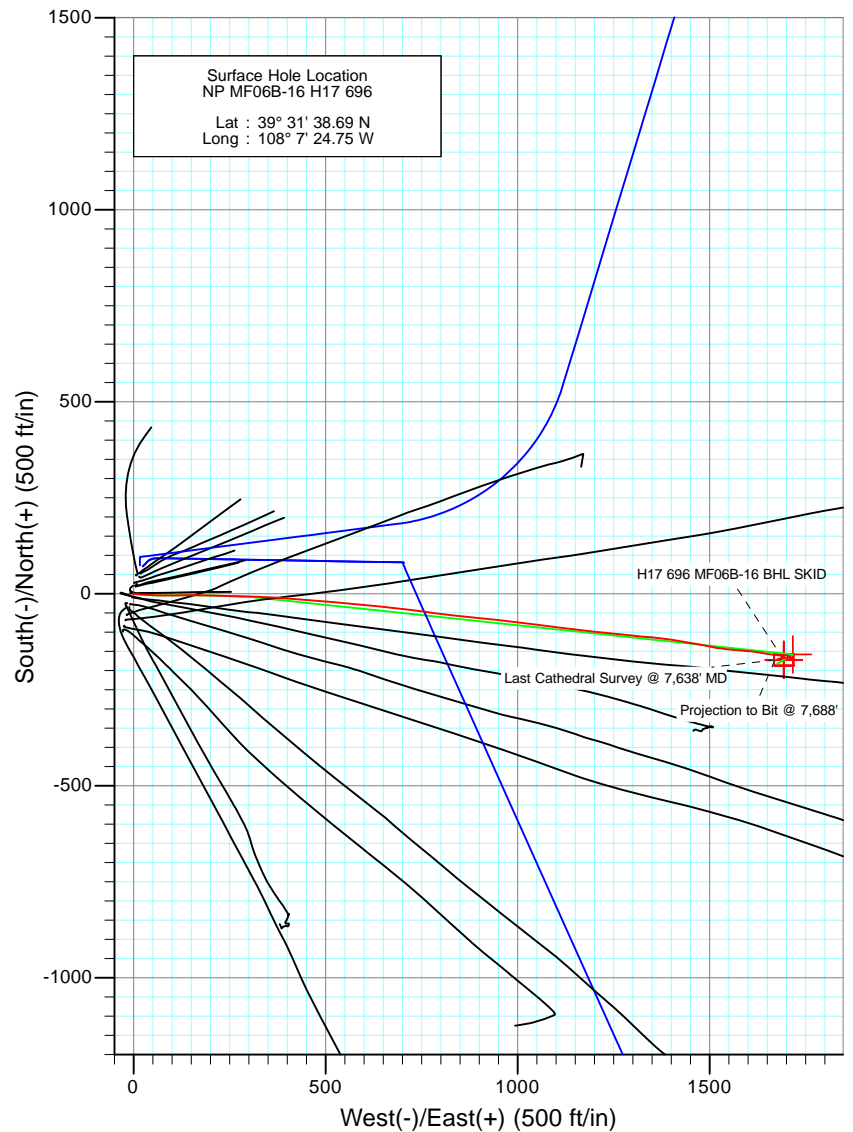
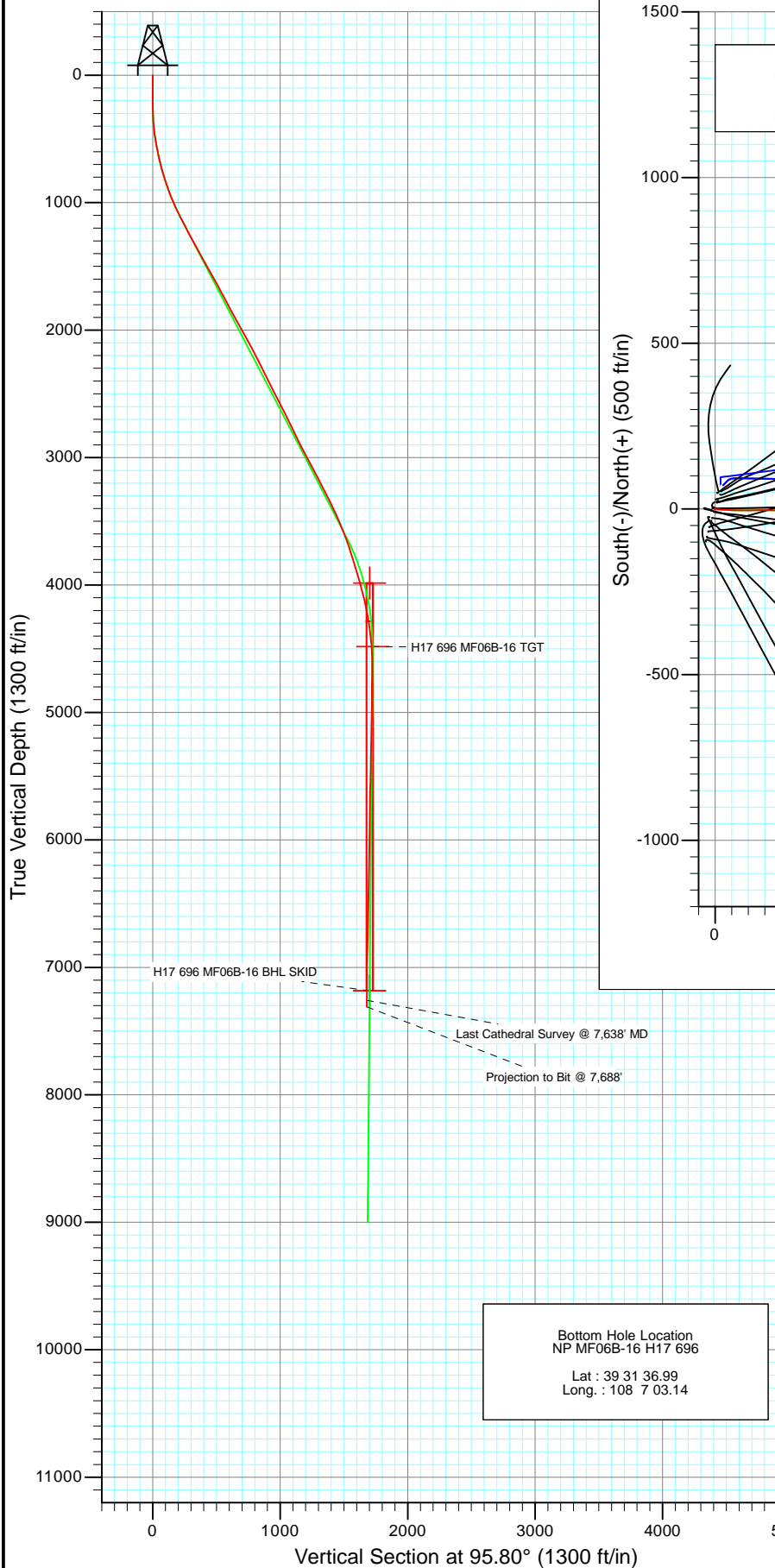




Project: North Piceance
Site: H17 696 (S17-T6S-R96W)
Well: NP MF06B-16 H17 696
Wellbore: DD
Design: FINAL



Azimuths to True North
Magnetic North: 10.42°

Magnetic Field
Strength: 52309.4snT
Dip Angle: 65.76°
Date: 3/21/2011
Model: IGRF200510

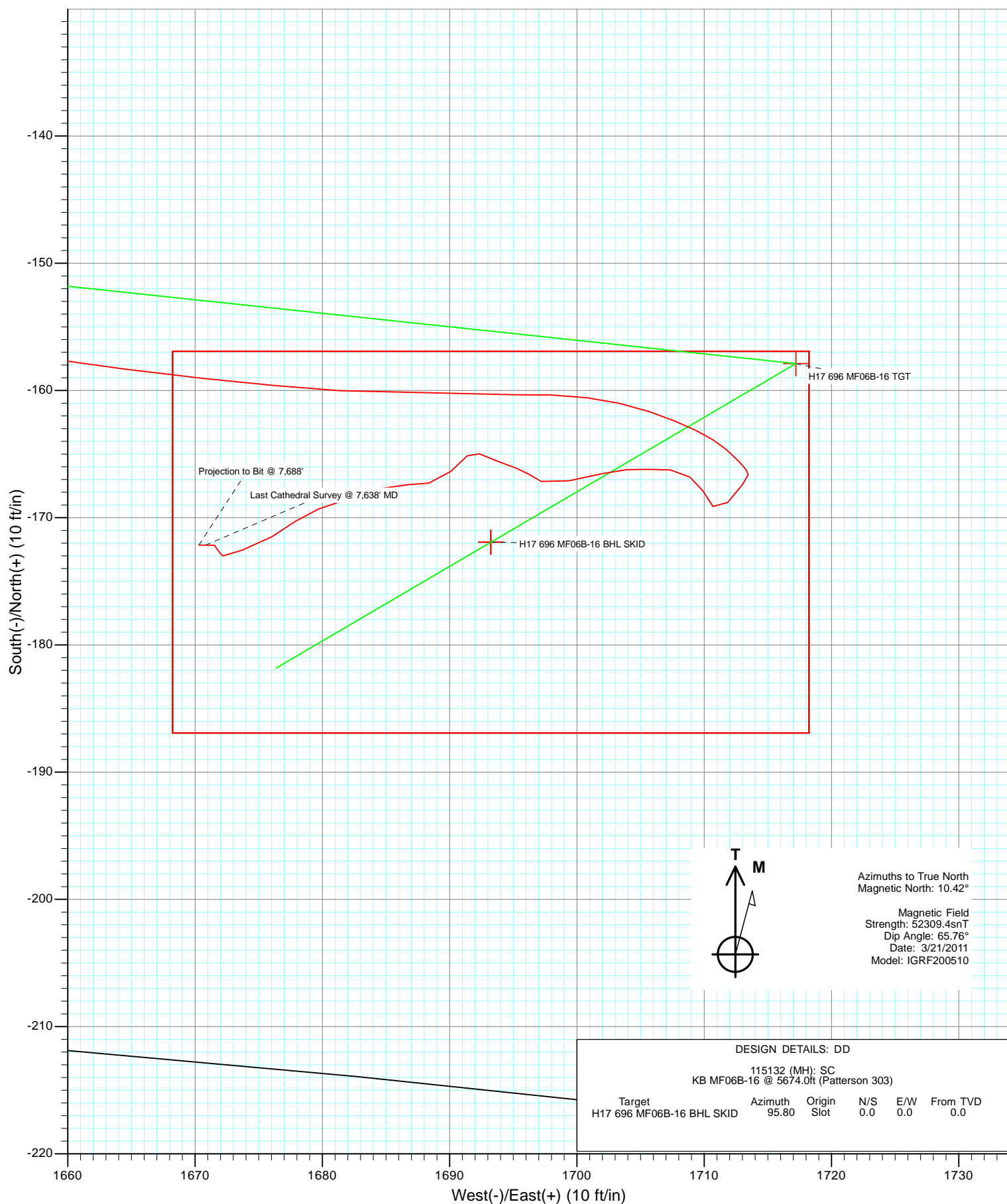
DESIGN DETAILS: DD

115132 (MH): SC
KB MF06B-16 @ 5674.0ft (Patterson 303)

Target	Azimuth	Origin	N/S	E/W	From TVD
H17 696 MF06B-16 BHL SKID	95.80	Slot	0.0	0.0	0.0



Project: North Piceance
Site: H17 696 (S17-T6S-R96W)
Well: NP MF06B-16 H17 696
Wellbore: DD
Design: FINAL



Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well NP MF06B-16 H17 696
Project:	North Piceance	TVD Reference:	KB MF06B-16 @ 5674.0ft (Patterson 303)
Site:	H17 696 (S17-T6S-R96W)	MD Reference:	KB MF06B-16 @ 5674.0ft (Patterson 303)
Well:	NP MF06B-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 MF06B-16 H17 696					
Well Position	+N/-S	0.0 ft	Northing:	1,627,677.26 ft	Latitude:	39° 31' 38.69 N
	+E/-W	0.0 ft	Easting:	2,260,073.12 ft	Longitude:	108° 7' 24.75 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)
	IGRF200510	3/21/2011	10.42	65.76	52,309

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	95.80	

Survey Program	Date	3/28/2011			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
30.0	7,688.0	Survey #1 (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	0.35	326.35	30.0	0.1	-0.1	-0.1	1.17	1.17		
60.0	0.85	318.13	60.0	0.3	-0.3	-0.3	1.69	1.67		
90.0	0.73	294.87	90.0	0.6	-0.6	-0.6	1.13	-0.40		
116.0	0.44	294.88	116.0	0.7	-0.8	-0.9	1.12	-1.12		
201.0	0.50	75.00	201.0	0.9	-0.8	-0.8	1.04	0.07		
231.0	0.70	140.40	231.0	0.8	-0.5	-0.6	2.23	0.67		
262.0	1.10	144.00	262.0	0.4	-0.2	-0.3	1.30	1.29		
292.0	2.10	116.60	292.0	-0.1	0.4	0.5	4.11	3.33		
323.0	3.10	96.30	322.9	-0.4	1.8	1.8	4.34	3.23		
353.0	4.20	89.90	352.9	-0.5	3.7	3.7	3.90	3.67		
383.0	5.10	91.30	382.8	-0.5	6.1	6.1	3.02	3.00		
414.0	5.80	88.00	413.6	-0.5	9.1	9.1	2.47	2.26		

Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well NP MF06B-16 H17 696
Project:	North Piceance	TVD Reference:	KB MF06B-16 @ 5674.0ft (Patterson 303)
Site:	H17 696 (S17-T6S-R96W)	MD Reference:	KB MF06B-16 @ 5674.0ft (Patterson 303)
Well:	NP MF06B-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
445.0	7.30	97.20	444.4	-0.7	12.6	12.6	5.89	4.84	
476.0	8.10	98.30	475.2	-1.3	16.7	16.7	2.62	2.58	
506.0	9.40	91.00	504.8	-1.6	21.2	21.3	5.69	4.33	
555.0	10.40	96.50	553.1	-2.2	29.6	29.7	2.81	2.04	
601.0	11.10	93.80	598.3	-2.9	38.2	38.3	1.87	1.52	
647.0	12.60	92.40	643.3	-3.4	47.6	47.7	3.32	3.26	
693.0	13.80	92.40	688.1	-3.9	58.1	58.2	2.61	2.61	
738.0	15.40	91.10	731.6	-4.2	69.4	69.5	3.63	3.56	
784.0	16.50	89.00	775.9	-4.2	82.1	82.1	2.70	2.39	
830.0	17.90	88.00	819.8	-3.9	95.7	95.6	3.11	3.04	
876.0	18.90	89.20	863.4	-3.5	110.2	110.0	2.32	2.17	
922.0	20.60	89.60	906.7	-3.4	125.7	125.4	3.71	3.70	
968.0	22.00	90.50	949.6	-3.4	142.4	142.1	3.13	3.04	
1,013.0	23.30	90.30	991.1	-3.5	159.8	159.3	2.89	2.89	
1,059.0	24.60	91.10	1,033.2	-3.7	178.4	177.9	2.91	2.83	
1,105.0	25.70	90.80	1,074.8	-4.0	198.0	197.4	2.41	2.39	
1,151.0	26.90	92.20	1,116.0	-4.6	218.4	217.7	2.94	2.61	
1,197.0	27.40	92.10	1,157.0	-5.4	239.3	238.7	1.09	1.09	
1,242.0	27.90	92.50	1,196.8	-6.2	260.2	259.5	1.19	1.11	
1,290.0	28.00	91.30	1,239.2	-7.0	282.7	282.0	1.19	0.21	
1,340.0	28.10	89.50	1,283.4	-7.1	306.2	305.4	1.70	0.20	
1,431.0	29.20	94.40	1,363.2	-8.6	349.8	348.9	2.85	1.21	
1,523.0	29.90	93.70	1,443.3	-11.8	395.0	394.2	0.85	0.76	
1,615.0	28.70	95.20	1,523.5	-15.3	439.9	439.2	1.53	-1.30	
1,706.0	29.40	93.90	1,603.0	-18.8	484.0	483.4	1.04	0.77	
1,798.0	27.80	95.40	1,683.8	-22.4	527.9	527.4	1.91	-1.74	
1,889.0	28.00	95.20	1,764.2	-26.3	570.3	570.0	0.24	0.22	
1,981.0	28.80	94.60	1,845.2	-30.0	613.9	613.7	0.92	0.87	
2,072.0	28.60	96.90	1,925.0	-34.4	657.3	657.4	1.23	-0.22	
2,164.0	29.00	97.10	2,005.6	-39.8	701.3	701.7	0.45	0.43	
2,255.0	29.60	96.70	2,085.0	-45.2	745.5	746.3	0.69	0.66	
2,347.0	27.50	97.70	2,165.8	-50.7	789.1	790.2	2.34	-2.28	
2,439.0	26.50	96.70	2,247.7	-55.9	830.6	832.0	1.19	-1.09	
2,530.0	26.00	95.80	2,329.4	-60.3	870.6	872.2	0.70	-0.55	
2,622.0	26.90	95.30	2,411.7	-64.2	911.4	913.2	1.01	0.98	
2,715.0	27.30	96.80	2,494.5	-68.7	953.5	955.6	0.85	0.43	
2,805.0	27.40	95.80	2,574.5	-73.3	994.6	996.9	0.52	0.11	
2,897.0	26.20	97.80	2,656.6	-78.2	1,035.8	1,038.4	1.63	-1.30	
2,988.0	25.80	97.20	2,738.4	-83.4	1,075.3	1,078.3	0.53	-0.44	
3,079.0	26.20	96.90	2,820.2	-88.3	1,114.9	1,118.1	0.46	0.44	
3,171.0	27.20	97.30	2,902.3	-93.4	1,155.9	1,159.5	1.10	1.09	
3,263.0	28.30	95.80	2,983.8	-98.2	1,198.5	1,202.3	1.42	1.20	
3,354.0	27.60	95.80	3,064.2	-102.6	1,240.9	1,244.9	0.77	-0.77	
3,445.0	27.30	96.30	3,144.9	-107.0	1,282.6	1,286.9	0.42	-0.33	
3,537.0	27.20	95.90	3,226.7	-111.4	1,324.5	1,329.0	0.23	-0.11	
3,628.0	27.10	95.00	3,307.7	-115.4	1,365.9	1,370.5	0.46	-0.11	
3,720.0	26.20	98.60	3,389.9	-120.3	1,406.8	1,411.8	2.01	-0.98	
3,812.0	24.00	100.40	3,473.2	-126.7	1,445.3	1,450.7	2.53	-2.39	
3,903.0	21.80	101.30	3,557.0	-133.3	1,480.1	1,486.0	2.45	-2.42	
3,995.0	20.00	100.00	3,643.0	-139.4	1,512.3	1,518.7	2.02	-1.96	
4,086.0	17.90	96.20	3,729.0	-143.6	1,541.6	1,548.2	2.68	-2.31	
4,178.0	17.20	95.20	3,816.8	-146.4	1,569.2	1,575.9	0.83	-0.76	
4,269.0	16.30	94.40	3,903.9	-148.6	1,595.3	1,602.2	1.02	-0.99	

Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well NP MF06B-16 H17 696
Project:	North Piceance	TVD Reference:	KB MF06B-16 @ 5674.0ft (Patterson 303)
Site:	H17 696 (S17-T6S-R96W)	MD Reference:	KB MF06B-16 @ 5674.0ft (Patterson 303)
Well:	NP MF06B-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
4,361.0	16.30	98.40	3,992.2	-151.5	1,621.0	1,628.0	1.22	0.00	
4,453.0	13.80	100.00	4,081.0	-155.2	1,644.5	1,651.8	2.75	-2.72	
4,544.0	11.80	97.30	4,169.8	-158.3	1,664.5	1,671.9	2.29	-2.20	
4,636.0	9.50	93.80	4,260.2	-160.0	1,681.4	1,688.9	2.60	-2.50	
4,727.0	7.80	88.40	4,350.1	-160.3	1,695.0	1,702.6	2.07	-1.87	
4,819.0	5.80	108.70	4,441.5	-161.7	1,705.7	1,713.3	3.37	-2.17	
4,910.0	2.90	131.60	4,532.2	-164.7	1,711.8	1,719.6	3.65	-3.19	
5,002.0	0.50	185.30	4,624.2	-166.6	1,713.5	1,721.5	2.86	-2.61	
5,093.0	0.70	225.90	4,715.2	-167.4	1,713.0	1,721.2	0.50	0.22	
5,185.0	1.60	217.10	4,807.2	-168.8	1,711.8	1,720.1	0.99	0.98	
5,276.0	1.00	330.90	4,898.2	-169.1	1,710.7	1,719.0	2.42	-0.66	
5,368.0	0.80	323.20	4,990.1	-167.9	1,709.9	1,718.1	0.25	-0.22	
5,459.0	1.10	312.30	5,081.1	-166.8	1,708.9	1,717.0	0.38	0.33	
5,551.0	1.10	268.20	5,173.1	-166.2	1,707.4	1,715.4	0.90	0.00	
5,642.0	1.10	275.00	5,264.1	-166.2	1,705.6	1,713.7	0.14	0.00	
5,734.0	1.00	262.40	5,356.1	-166.2	1,703.9	1,712.0	0.27	-0.11	
5,825.0	1.40	259.90	5,447.1	-166.5	1,702.1	1,710.2	0.44	0.44	
5,917.0	2.00	256.30	5,539.0	-167.1	1,699.4	1,707.6	0.66	0.65	
6,008.0	0.90	297.00	5,630.0	-167.1	1,697.2	1,705.4	1.59	-1.21	
6,099.0	0.60	304.30	5,721.0	-166.6	1,696.2	1,704.3	0.35	-0.33	
6,191.0	0.70	289.20	5,813.0	-166.1	1,695.2	1,703.4	0.21	0.11	
6,282.0	1.20	290.30	5,904.0	-165.6	1,693.8	1,701.9	0.55	0.55	
6,374.0	0.80	294.80	5,996.0	-165.0	1,692.3	1,700.4	0.44	-0.43	
6,465.0	0.70	221.70	6,087.0	-165.1	1,691.4	1,699.4	0.99	-0.11	
6,557.0	1.50	228.60	6,178.9	-166.3	1,690.1	1,698.3	0.88	0.87	
6,648.0	1.10	260.10	6,269.9	-167.3	1,688.4	1,696.6	0.88	-0.44	
6,740.0	1.00	272.60	6,361.9	-167.4	1,686.7	1,695.0	0.27	-0.11	
6,832.0	1.30	253.10	6,453.9	-167.7	1,684.9	1,693.2	0.53	0.33	
6,923.0	2.00	253.80	6,544.8	-168.4	1,682.4	1,690.8	0.77	0.77	
7,015.0	1.50	248.10	6,636.8	-169.3	1,679.7	1,688.2	0.57	-0.54	
7,107.0	1.10	233.60	6,728.8	-170.3	1,677.9	1,686.5	0.56	-0.43	
7,198.0	1.70	239.10	6,819.7	-171.5	1,676.0	1,684.8	0.67	0.66	
7,290.0	1.50	253.30	6,911.7	-172.5	1,673.7	1,682.6	0.48	-0.22	
7,381.0	0.50	252.30	7,002.7	-173.0	1,672.2	1,681.1	1.10	-1.10	
7,473.0	0.60	7.20	7,094.7	-172.6	1,671.9	1,680.8	1.01	0.11	
7,565.0	0.50	270.80	7,186.7	-172.2	1,671.5	1,680.4	0.89	-0.11	
7,638.0	0.60	271.00	7,259.7	-172.2	1,670.8	1,679.7	0.14	0.14	Last Cathedral Survey @ 7,638' MD
7,688.0	0.60	271.00	7,309.7	-172.1	1,670.3	1,679.1	0.00	0.00	Projection to Bit @ 7,688'

Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well NP MF06B-16 H17 696
Project:	North Piceance	TVD Reference:	KB MF06B-16 @ 5674.0ft (Patterson 303)
Site:	H17 696 (S17-T6S-R96W)	MD Reference:	KB MF06B-16 @ 5674.0ft (Patterson 303)
Well:	NP MF06B-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 MF06B-16 TG1	0.00	0.00	7,184.0	-171.9	1,693.2	1,627,456.51	2,261,760.70	39° 31' 36.99 N	108° 7' 3.14 W
- survey misses target center by 21.7ft at 7562.2ft MD (7183.9 TVD, -172.2 N, 1671.5 E)									
- Point									
H17 696 MF06B-16 TG1	0.00	0.00	4,484.0	-157.9	1,717.2	1,627,469.86	2,261,785.05	39° 31' 37.13 N	108° 7' 2.83 W
- survey misses target center by 9.5ft at 4862.0ft MD (4484.4 TVD, -163.1 N, 1709.2 E)									
- Point									
H17 696 MF06B-16 BHL	0.00	0.00	7,184.0	-171.9	1,693.2	1,627,456.51	2,261,760.70	39° 31' 36.99 N	108° 7' 3.14 W
- survey misses target center by 21.7ft at 7562.2ft MD (7183.9 TVD, -172.2 N, 1671.5 E)									
- Rectangle (sides W30.0 H50.0 D0.0)									
H17 696 MF06B-16 TOC	0.00	0.00	3,984.0	-171.9	1,693.2	1,627,456.51	2,261,760.70	39° 31' 36.99 N	108° 7' 3.14 W
- survey misses target center by 74.5ft at 4372.5ft MD (4003.2 TVD, -151.9 N, 1624.1 E)									
- Rectangle (sides W30.0 H50.0 D300.0)									

Survey Annotations					
Measured Depth	Vertical Depth	Local Coordinates			
(ft)	(ft)	+N/-S (ft)	+E/-W (ft)	Comment	
7,638.0	7,259.7	-172.2	1,670.8	Last Cathedral Survey @ 7,638' MD	
7,688.0	7,309.7	-172.1	1,670.3	Projection to Bit @ 7,688'	

Checked By: _____	Approved By: _____	Date: _____
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