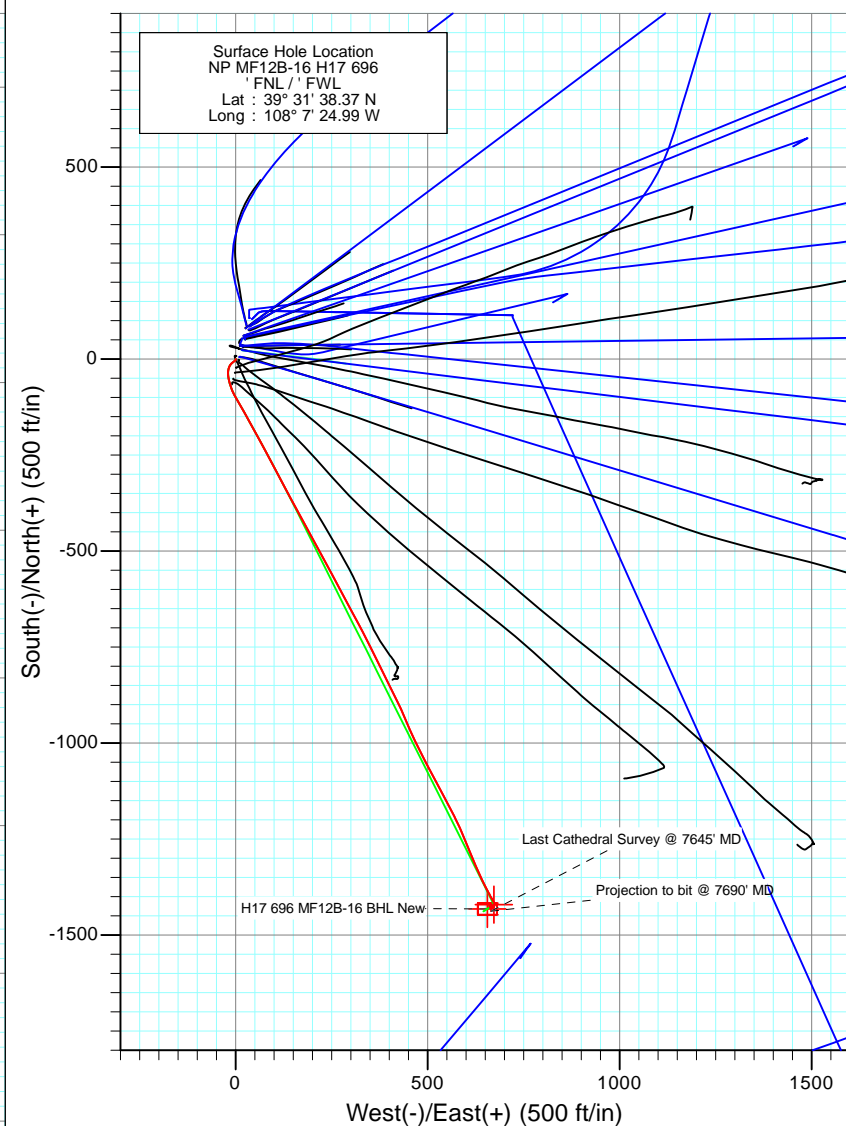
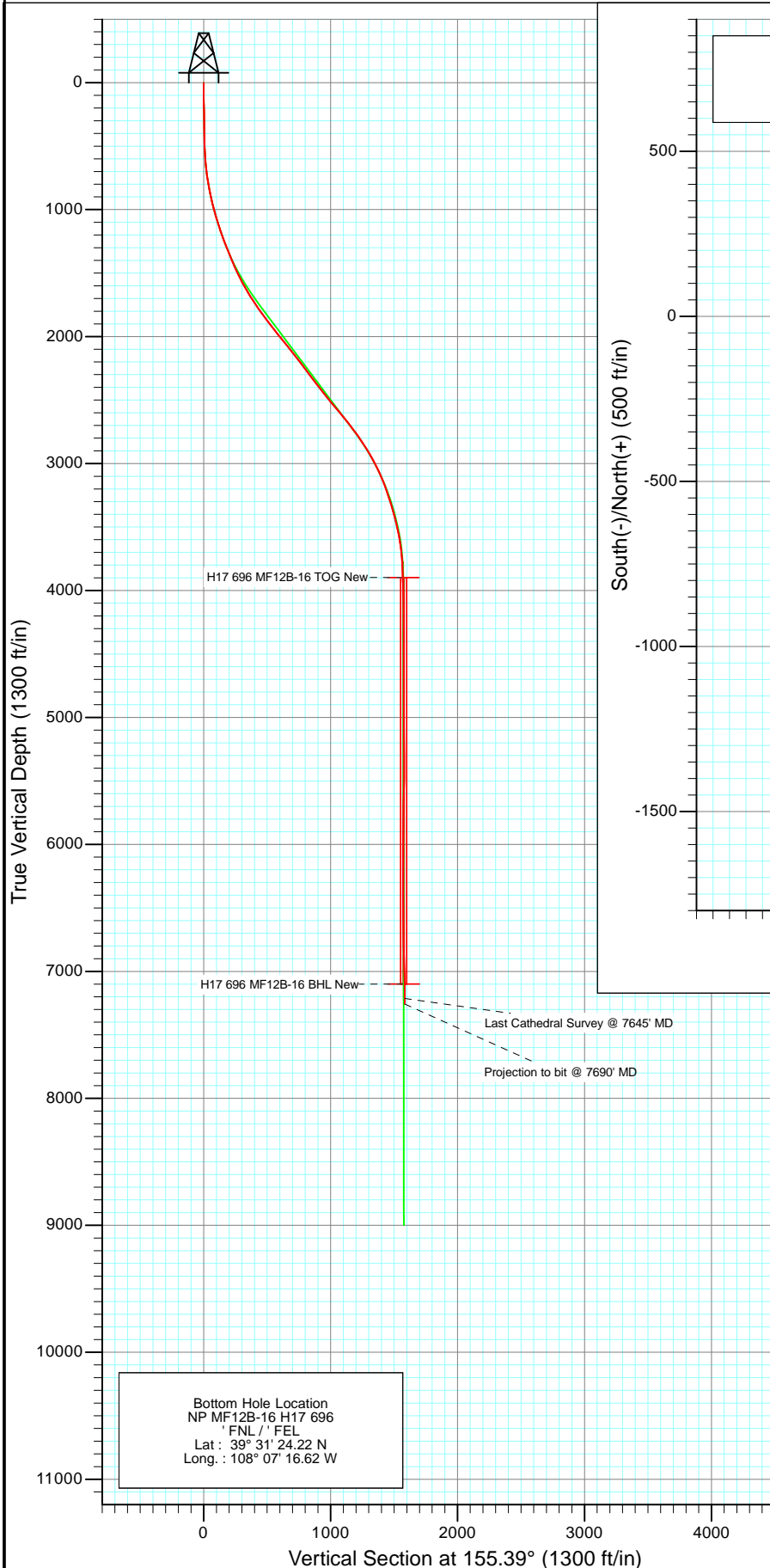




Project: North Piceance  
 Site: H17 696 (S17-T6S-R96W)  
 Well: NP MF12B-16 H17 696  
 Wellbore: DD  
 Design: FINAL



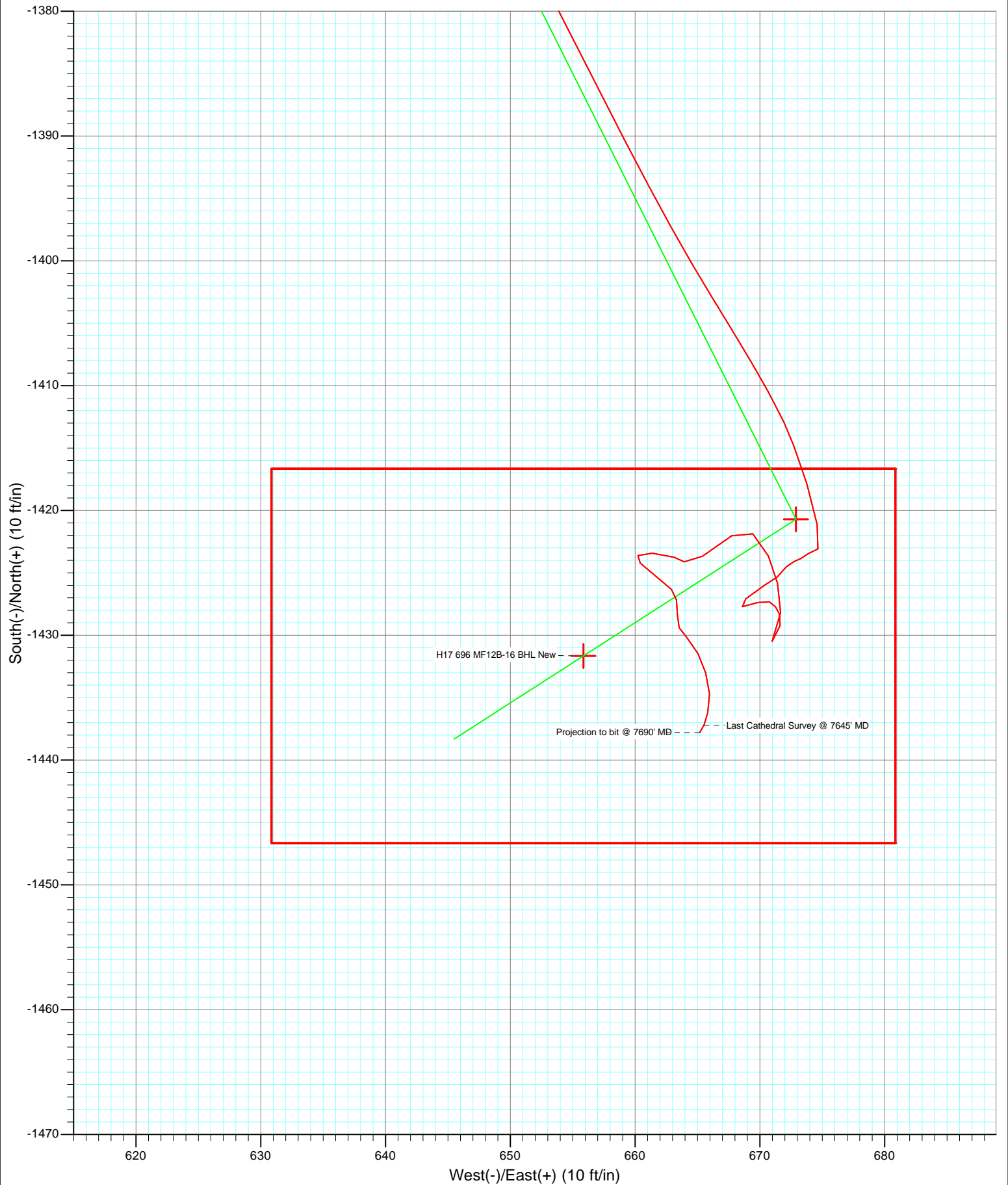
Azimuths to True North  
 Magnetic North: 10.45°

Magnetic Field  
 Strength: 52282.8nT  
 Dip Angle: 65.75°  
 Date: 2/27/2011  
 Model: IGRF2010

DD									
NP MF12B-16 H17 696									
115091 (SH), 115109 (MH); LR									
KB MF12B-16 @ 5674.0ft (Patterson 303)									
GL @ 5652.0									
North American Datum 1983									
Well NP MF12B-16 H17 696, True North									
Type	Target	Target	Azimuth	Origin Type	N/S	E/W	From TVD		
Target		Slot						Latitude	Longitude
H17 696 MF12B-16 TOG New			155.39		0.0		0.0	39° 31' 24.33 N	108° 7' 16.40 W
H17 696 MF12B-16 BHL New			155.39		0.0		0.0	39° 31' 24.22 N	108° 7' 16.62 W



Project: North Piceance  
Site: H17 696 (S17-T6S-R96W)  
Well: NP MF12B-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 MF12B-16 H17 696
<b>Project:</b>	North Piceance	<b>TVD Reference:</b>	KB MF12B-16 @ 5674.0ft (Patterson 303)
<b>Site:</b>	H17 696 (S17-T6S-R96W)	<b>MD Reference:</b>	KB MF12B-16 @ 5674.0ft (Patterson 303)
<b>Well:</b>	NP MF12B-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		

<b>Site</b>	H17 696 (S17-T6S-R96W)			
<b>Site Position:</b>		<b>Northing:</b>	1,627,645.46 ft	<b>Latitude:</b> 39° 31' 38.37 N
<b>From:</b>	Lat/Long	<b>Easting:</b>	2,260,053.39 ft	<b>Longitude:</b> 108° 7' 24.99 W
<b>Position Uncertainty:</b>	0.0 ft	<b>Slot Radius:</b>	13.200 in	<b>Grid Convergence:</b> -1.65 °

<b>Well</b>	NP MF12B-16 H17 696			
<b>Well Position</b>	<b>+N/-S</b>	0.0 ft	<b>Northing:</b>	1,627,645.45 ft
	<b>+E/-W</b>	0.0 ft	<b>Easting:</b>	2,260,053.39 ft
<b>Position Uncertainty</b>		0.0 ft	<b>Wellhead Elevation:</b>	ft
			<b>Ground Level:</b>	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	2/27/2011	10.45	65.75	52,283

<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) (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>
	0.0	0.0	0.0	155.39

<b>Survey Program</b>	<b>Date</b>	3/5/2011		
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>
30.0	150.0	Survey #1 (DD)	Gyro	Gyro
201.0	7,690.0	Survey #2 (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>
150.0	0.75	163.54	150.0	-0.3	0.9	0.6	0.00	0.00	
201.0	1.70	202.30	201.0	-1.3	0.7	1.5	2.37	1.86	
231.0	1.90	201.40	231.0	-2.2	0.4	2.1	0.67	0.67	
262.0	2.70	222.50	261.9	-3.2	-0.3	2.8	3.72	2.58	
292.0	2.80	232.30	291.9	-4.2	-1.4	3.2	1.60	0.33	
323.0	3.30	235.80	322.9	-5.1	-2.7	3.5	1.72	1.61	
353.0	3.10	229.80	352.8	-6.1	-4.0	3.9	1.30	-0.67	
384.0	3.50	235.70	383.8	-7.2	-5.5	4.3	1.69	1.29	
414.0	3.60	230.60	413.7	-8.3	-6.9	4.7	1.10	0.33	
445.0	3.30	233.70	444.7	-9.5	-8.4	5.1	1.14	-0.97	
476.0	3.90	223.20	475.6	-10.8	-9.9	5.7	2.87	1.94	
507.0	4.70	224.50	506.5	-12.4	-11.5	6.5	2.60	2.58	

## Survey Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well NP MF12B-16 H17 696
<b>Project:</b>	North Piceance	<b>TVD Reference:</b>	KB MF12B-16 @ 5674.0ft (Patterson 303)
<b>Site:</b>	H17 696 (S17-T6S-R96W)	<b>MVD Reference:</b>	KB MF12B-16 @ 5674.0ft (Patterson 303)
<b>Well:</b>	NP MF12B-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
555.0	5.70	210.10	554.3	-15.9	-14.0	8.6	3.41	2.08	
601.0	6.50	206.50	600.0	-20.2	-16.3	11.6	1.93	1.74	
647.0	7.40	195.30	645.7	-25.4	-18.3	15.5	3.53	1.96	
693.0	8.20	184.80	691.3	-31.5	-19.3	20.6	3.55	1.74	
738.0	8.90	181.70	735.8	-38.2	-19.7	26.5	1.86	1.56	
784.0	9.70	171.40	781.2	-45.6	-19.2	33.4	4.01	1.74	
830.0	10.80	164.10	826.5	-53.6	-17.5	41.4	3.70	2.39	
876.0	11.60	164.00	871.6	-62.2	-15.0	50.3	1.74	1.74	
922.0	13.00	161.60	916.5	-71.5	-12.1	60.0	3.24	3.04	
968.0	13.90	159.30	961.3	-81.6	-8.5	70.6	2.28	1.96	
1,014.0	15.30	151.70	1,005.8	-92.1	-3.7	82.2	5.15	3.04	
1,059.0	16.30	151.10	1,049.1	-102.9	2.2	94.4	2.25	2.22	
1,105.0	17.30	148.70	1,093.1	-114.4	8.8	107.7	2.65	2.17	
1,151.0	18.30	149.60	1,136.9	-126.4	16.0	121.6	2.25	2.17	
1,197.0	19.20	152.80	1,180.5	-139.4	23.2	136.4	2.97	1.96	
1,242.0	20.40	151.80	1,222.8	-152.9	30.2	151.6	2.77	2.67	
1,300.0	21.40	149.90	1,277.0	-171.0	40.3	172.2	2.08	1.72	
1,436.0	22.60	151.80	1,403.1	-215.5	65.1	223.0	1.03	0.88	
1,527.0	25.50	151.10	1,486.2	-248.0	82.9	260.0	3.20	3.19	
1,619.0	27.40	153.30	1,568.5	-284.3	101.9	300.9	2.32	2.07	
1,710.0	31.20	150.80	1,647.9	-323.6	122.9	345.3	4.39	4.18	
1,802.0	33.20	151.60	1,725.7	-366.5	146.5	394.2	2.22	2.17	
1,893.0	36.00	152.10	1,800.6	-412.1	170.8	445.8	3.09	3.08	
1,985.0	37.30	151.00	1,874.4	-460.4	197.0	500.6	1.58	1.41	
2,077.0	37.90	151.90	1,947.3	-509.7	223.8	556.6	0.88	0.65	
2,168.0	39.10	151.70	2,018.6	-559.6	250.6	613.1	1.33	1.32	
2,260.0	38.80	152.20	2,090.1	-610.6	277.8	670.9	0.47	-0.33	
2,351.0	38.60	151.60	2,161.1	-660.8	304.6	727.6	0.47	-0.22	
2,443.0	36.70	151.80	2,234.0	-710.3	331.2	783.7	2.07	-2.07	
2,534.0	36.90	154.20	2,306.8	-758.9	356.0	838.2	1.59	0.22	
2,626.0	37.90	154.20	2,379.9	-809.2	380.3	894.0	1.09	1.09	
2,718.0	38.00	152.40	2,452.5	-859.7	405.7	950.6	1.21	0.11	
2,809.0	40.30	156.10	2,523.0	-911.5	430.6	1,008.0	3.60	2.53	
2,901.0	39.60	156.60	2,593.6	-965.6	454.3	1,067.1	0.84	-0.76	
2,992.0	38.60	152.70	2,664.2	-1,017.4	478.9	1,124.4	2.92	-1.10	
3,084.0	36.80	152.60	2,737.0	-1,067.4	504.7	1,180.6	1.96	-1.96	
3,175.0	34.80	152.00	2,810.8	-1,114.5	529.4	1,233.8	2.23	-2.20	
3,267.0	32.20	151.40	2,887.5	-1,159.2	553.5	1,284.4	2.85	-2.83	
3,358.0	28.80	154.70	2,965.9	-1,200.4	574.5	1,330.6	4.16	-3.74	
3,450.0	25.60	157.40	3,047.7	-1,238.8	591.6	1,372.6	3.73	-3.48	
3,541.0	22.30	157.20	3,130.9	-1,272.8	605.9	1,409.5	3.63	-3.63	
3,633.0	18.90	156.80	3,217.0	-1,302.6	618.5	1,441.9	3.70	-3.70	
3,724.0	17.70	157.10	3,303.4	-1,328.9	629.7	1,470.4	1.32	-1.32	
3,816.0	15.30	154.30	3,391.6	-1,352.7	640.4	1,496.5	2.75	-2.61	
3,907.0	13.50	153.30	3,479.7	-1,373.0	650.4	1,519.2	2.00	-1.98	
3,999.0	10.70	152.70	3,569.7	-1,390.2	659.1	1,538.4	3.05	-3.04	
4,090.0	7.60	148.40	3,659.5	-1,402.9	666.1	1,552.8	3.49	-3.41	
4,182.0	3.60	151.10	3,751.0	-1,410.6	670.7	1,561.8	4.36	-4.35	
4,274.0	2.20	160.80	3,842.9	-1,414.8	672.7	1,566.4	1.61	-1.52	
4,365.0	1.90	161.00	3,933.9	-1,417.9	673.8	1,569.6	0.33	-0.33	
4,457.0	2.30	169.70	4,025.8	-1,421.1	674.6	1,573.0	0.55	0.43	
4,548.0	0.40	237.60	4,116.8	-1,423.1	674.7	1,574.8	2.40	-2.09	
4,640.0	0.60	247.30	4,208.8	-1,423.4	673.9	1,574.8	0.24	0.22	

## Survey Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well NP MF12B-16 H17 696
<b>Project:</b>	North Piceance	<b>TVD Reference:</b>	KB MF12B-16 @ 5674.0ft (Patterson 303)
<b>Site:</b>	H17 696 (S17-T6S-R96W)	<b>MD Reference:</b>	KB MF12B-16 @ 5674.0ft (Patterson 303)
<b>Well:</b>	NP MF12B-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
4,731.0	0.40	224.40	4,299.8	-1,423.9	673.3	1,574.9	0.31	-0.22	
4,823.0	0.40	267.00	4,391.8	-1,424.1	672.7	1,574.9	0.32	0.00	
4,914.0	0.60	215.40	4,482.8	-1,424.5	672.1	1,575.0	0.52	0.22	
5,006.0	0.80	226.20	4,574.8	-1,425.3	671.4	1,575.5	0.26	0.22	
5,097.0	0.80	247.90	4,665.8	-1,426.0	670.3	1,575.6	0.33	0.00	
5,189.0	1.50	226.90	4,757.7	-1,427.1	668.9	1,576.0	0.88	0.76	
5,280.0	0.80	72.20	4,848.7	-1,427.7	668.6	1,576.4	2.47	-0.77	
5,372.0	0.80	78.10	4,940.7	-1,427.4	669.8	1,576.7	0.09	0.00	
5,463.0	0.40	106.30	5,031.7	-1,427.3	670.8	1,577.0	0.53	-0.44	
5,555.0	0.40	148.80	5,123.7	-1,427.7	671.2	1,577.5	0.32	0.00	
5,646.0	0.50	154.90	5,214.7	-1,428.3	671.6	1,578.3	0.12	0.11	
5,738.0	0.70	193.40	5,306.7	-1,429.2	671.6	1,579.1	0.48	0.22	
5,829.0	1.10	215.30	5,397.7	-1,430.5	671.0	1,580.0	0.57	0.44	
5,921.0	1.30	32.10	5,489.7	-1,430.3	671.0	1,579.8	2.61	0.22	
6,012.0	1.60	3.80	5,580.7	-1,428.2	671.7	1,578.2	0.84	0.33	
6,104.0	1.40	342.80	5,672.6	-1,425.8	671.4	1,575.9	0.63	-0.22	
6,195.0	1.50	340.10	5,763.6	-1,423.6	670.7	1,573.6	0.13	0.11	
6,287.0	1.30	307.70	5,855.6	-1,421.9	669.4	1,571.5	0.87	-0.22	
6,378.0	1.50	228.50	5,946.5	-1,422.0	667.7	1,570.9	1.97	0.22	
6,469.0	2.10	239.70	6,037.5	-1,423.7	665.4	1,571.4	0.76	0.66	
6,561.0	0.50	358.60	6,129.5	-1,424.1	663.9	1,571.2	2.59	-1.74	
6,653.0	1.00	268.10	6,221.5	-1,423.7	663.1	1,570.6	1.22	0.54	
6,744.0	1.30	289.50	6,312.5	-1,423.4	661.4	1,569.5	0.57	0.33	
6,836.0	0.70	194.80	6,404.4	-1,423.6	660.2	1,569.2	1.66	-0.65	
6,928.0	1.70	123.00	6,496.4	-1,424.9	661.2	1,570.8	1.76	1.09	
7,019.0	1.10	141.30	6,587.4	-1,426.3	662.9	1,572.8	0.81	-0.66	
7,111.0	1.60	183.20	6,679.4	-1,428.3	663.4	1,574.8	1.17	0.54	
7,203.0	1.20	125.30	6,771.4	-1,430.1	664.1	1,576.8	1.52	-0.43	
7,294.0	1.00	168.90	6,862.3	-1,431.5	665.0	1,578.4	0.92	-0.22	
7,386.0	1.10	148.90	6,954.3	-1,433.0	665.7	1,580.0	0.41	0.11	
7,477.0	1.20	188.60	7,045.3	-1,434.7	666.0	1,581.7	0.86	0.11	
7,569.0	0.70	179.60	7,137.3	-1,436.2	665.8	1,583.0	0.57	-0.54	
7,645.0	0.90	210.00	7,213.3	-1,437.2	665.5	1,583.8	0.61	0.26	Last Cathedral Survey @ 7645' MD
7,690.0	0.90	210.00	7,258.3	-1,437.8	665.2	1,584.2	0.00	0.00	Projection to bit @ 7690' MD

## Survey Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well NP MF12B-16 H17 696
<b>Project:</b>	North Piceance	<b>TVD Reference:</b>	KB MF12B-16 @ 5674.0ft (Patterson 303)
<b>Site:</b>	H17 696 (S17-T6S-R96W)	<b>MD Reference:</b>	KB MF12B-16 @ 5674.0ft (Patterson 303)
<b>Well:</b>	NP MF12B-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 MF12B-16 TOC	0.00	0.00	3,899.0	-1,420.7	672.9	1,626,205.91	2,260,684.99	39° 31' 24.33 N	108° 7' 16.40 W
- survey misses target center by 4.0ft at 4330.2ft MD (3899.1 TVD, -1416.7 N, 673.4 E)									
- Point									
H17 696 MF12B-16 BHL	0.00	0.00	7,099.0	-1,431.7	655.9	1,626,195.45	2,260,667.64	39° 31' 24.22 N	108° 7' 16.62 W
- survey misses target center by 10.8ft at 7530.6ft MD (7098.9 TVD, -1435.7 N, 665.8 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)	
7,645.0	7,213.3	-1,437.2	665.5	Last Cathedral Survey @ 7645' MD
7,690.0	7,258.3	-1,437.8	665.2	Projection to bit @ 7690' MD

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