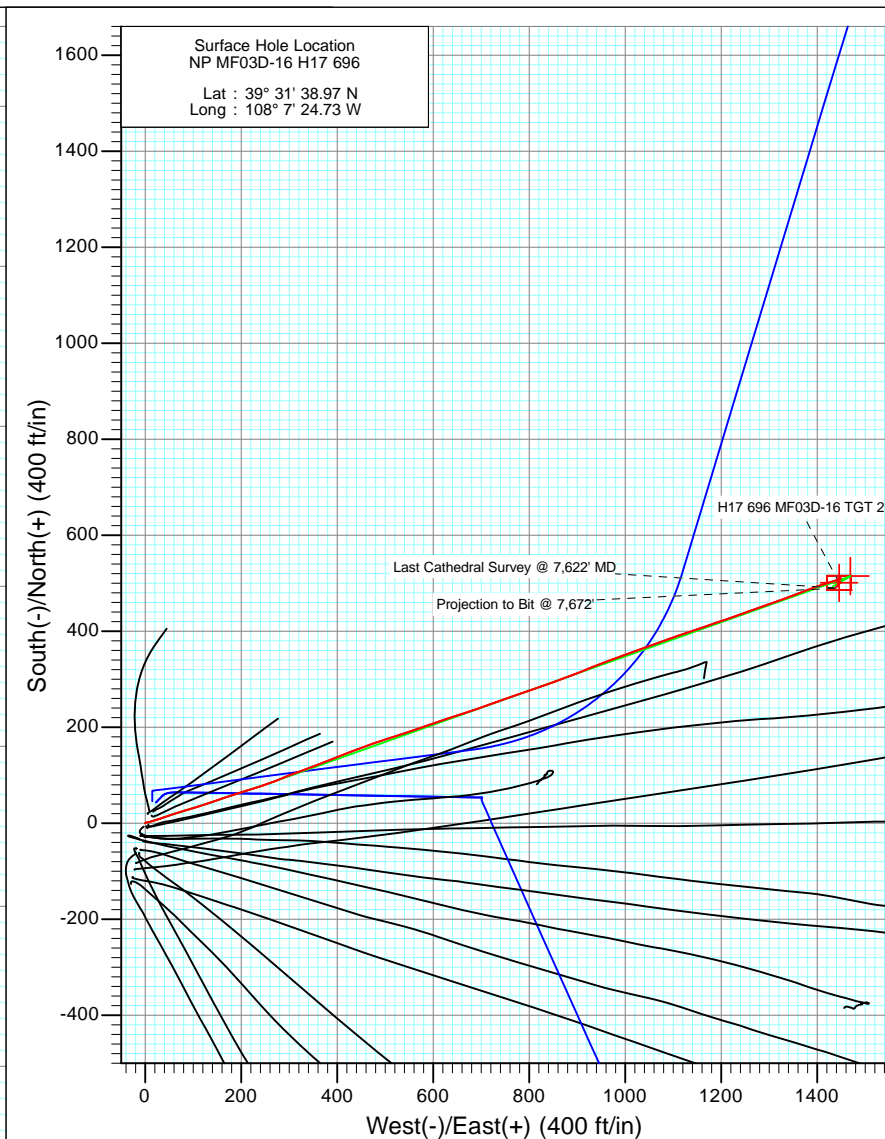
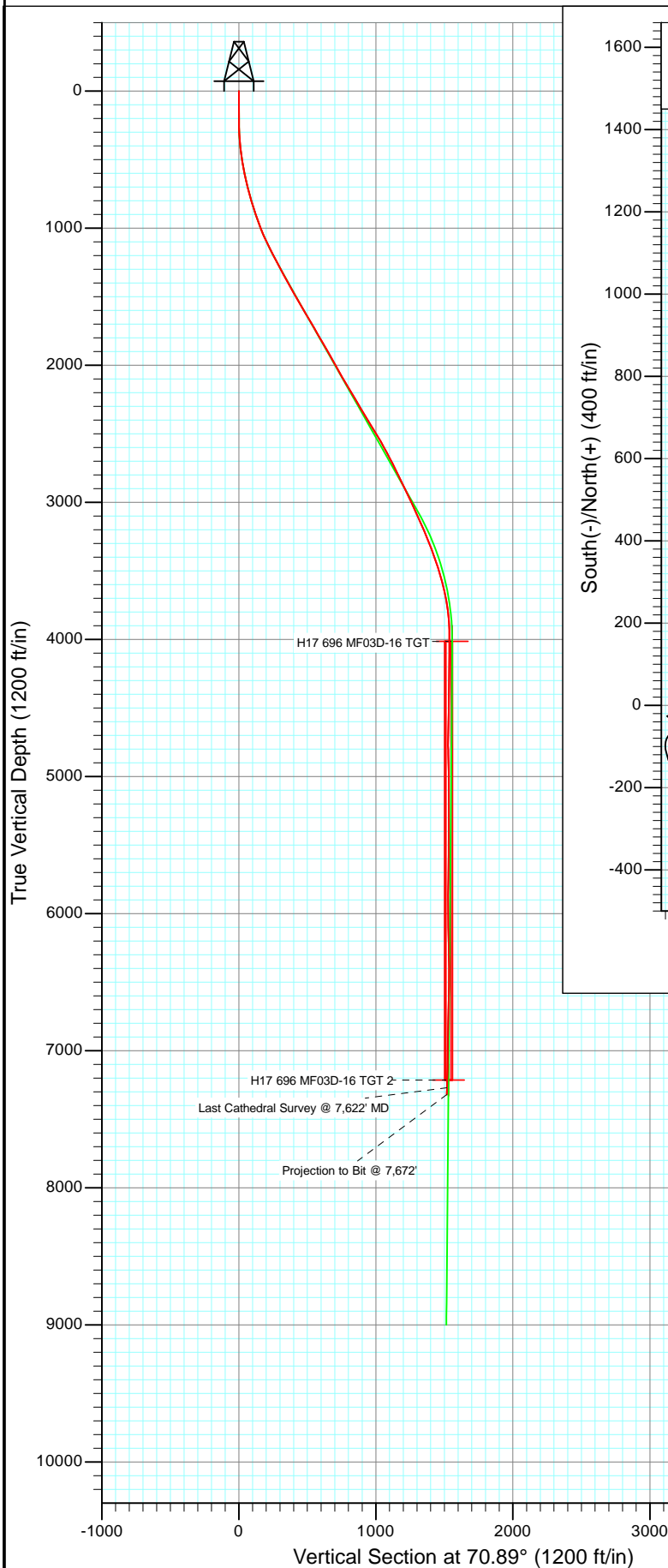




Project: North Piceance  
 Site: H17 696 (S17-T6S-R96W)  
 Well: NP MF03D-16 H17 696  
 Wellbore: DD  
 Design: FINAL



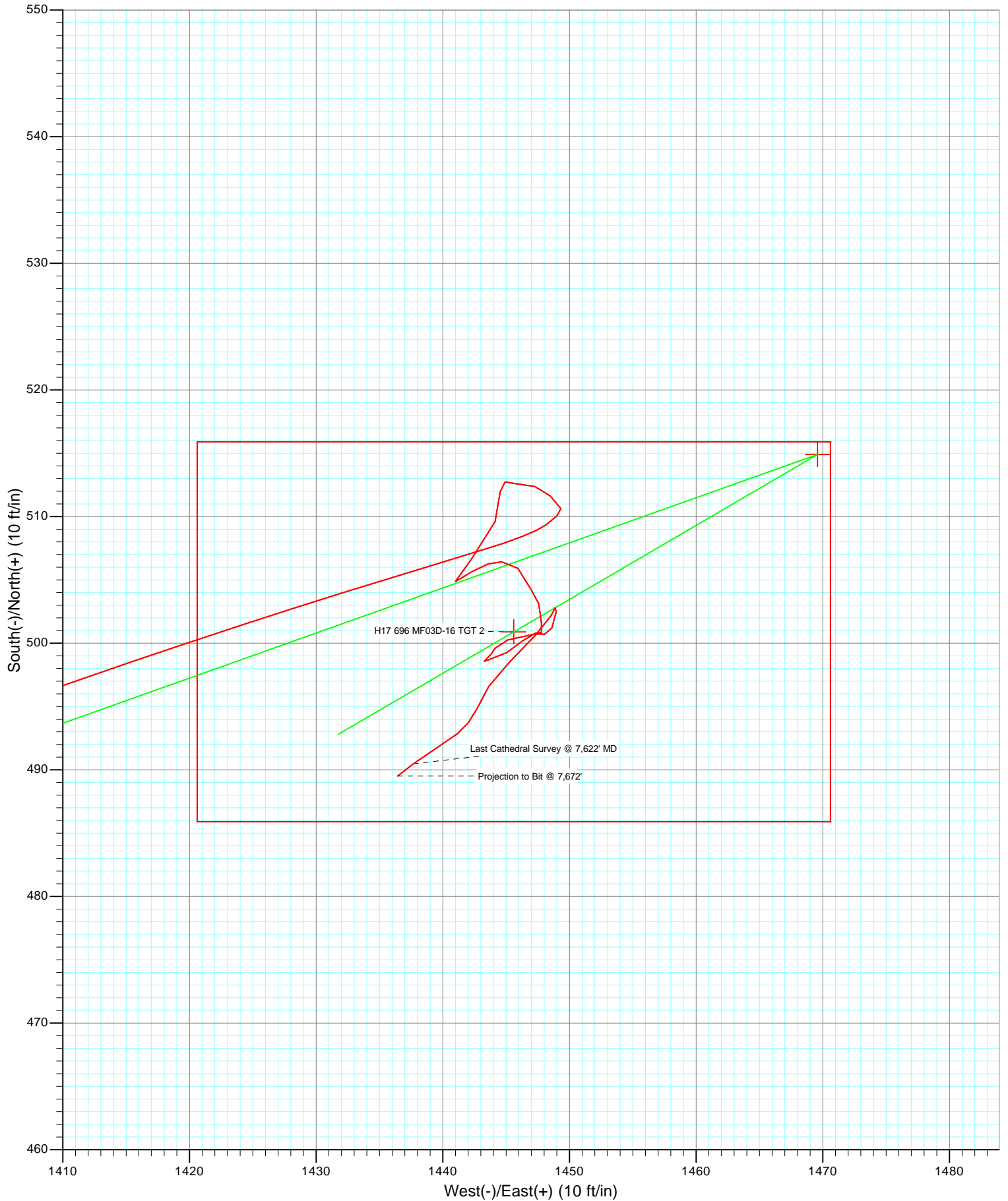
Azimuths to True North  
 Magnetic North: 10.43°

Magnetic Field  
 Strength: 52268.2snT  
 Dip Angle: 65.75°  
 Date: 4/21/2011  
 Model: IGRF2010

DD NP MF03D-16 H17 696 115051 (SH), 115176 (MH); LR Ground Elevation @ 5652.0 KB MF03A-16 @ 5674.0ft (Patterson 303) North American Datum 1983 Well NP MF03D-16 H17 696, True North						
Type	Target	Azimuth	Origin Type	N/S	E/W	From TVD
Target	H17 696 MF03D-16 BHL SKID	70.89	Slot	0.0	0.0	0.0
Name	TVD	+N/-S	+E/-W	Latitude	Longitude	
H17 696 MF03D-16 TGT	4014.0	514.9	1469.6	39° 31' 44.06 N	108° 7' 5.97 W	
H17 696 MF03D-16 TGT 2	7214.0	500.9	1445.6	39° 31' 43.92 N	108° 7' 6.28 W	



Project: North Piceance  
Site: H17 696 (S17-T6S-R96W)  
Well: NP MF03D-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 MF03D-16 H17 696
<b>Project:</b>	North Piceance	<b>TVD Reference:</b>	KB MF03A-16 @ 5674.0ft (Patterson 303)
<b>Site:</b>	H17 696 (S17-T6S-R96W)	<b>MD Reference:</b>	KB MF03A-16 @ 5674.0ft (Patterson 303)
<b>Well:</b>	NP MF03D-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		

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 MF03D-16 H17 696					
Well Position	+N/-S	0.0 ft	Northing:	1,627,705.54 ft	Latitude:	39° 31' 38.97 N
	+E/-W	0.0 ft	Easting:	2,260,075.51 ft	Longitude:	108° 7' 24.73 W
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	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	4/21/2011	10.43	65.75	52,268

<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)</b>	<b>+N/-S</b>	<b>+E/-W</b>	<b>Direction</b>	
	(ft)	(ft)	(ft)	(°)	
	0.0	0.0	0.0	70.89	

<b>Survey Program</b>	<b>Date</b>	4/29/2011			
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
200.0	7,672.0	Survey #1 (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>	
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00		
200.0	0.70	58.40	200.0	0.6	1.0	1.2	0.35	0.35		
231.0	0.80	47.10	231.0	0.9	1.4	1.6	0.57	0.32		
262.0	0.80	57.80	262.0	1.1	1.7	2.0	0.48	0.00		
292.0	1.40	63.70	292.0	1.4	2.2	2.6	2.03	2.00		
322.0	2.60	76.20	322.0	1.7	3.2	3.6	4.23	4.00		
353.0	4.00	77.10	352.9	2.2	4.9	5.4	4.52	4.52		
383.0	5.10	76.30	382.8	2.7	7.2	7.7	3.67	3.67		
414.0	6.40	76.90	413.7	3.4	10.3	10.8	4.20	4.19		
445.0	7.80	76.70	444.4	4.3	14.0	14.6	4.52	4.52		
475.0	9.10	74.60	474.1	5.4	18.3	19.0	4.45	4.33		
506.0	9.60	72.30	504.7	6.8	23.1	24.1	2.01	1.61		
555.0	10.50	70.20	552.9	9.6	31.2	32.6	1.98	1.84		

## Survey Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well NP MF03D-16 H17 696
<b>Project:</b>	North Piceance	<b>TVD Reference:</b>	KB MF03A-16 @ 5674.0ft (Patterson 303)
<b>Site:</b>	H17 696 (S17-T6S-R96W)	<b>MD Reference:</b>	KB MF03A-16 @ 5674.0ft (Patterson 303)
<b>Well:</b>	NP MF03D-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
601.0	11.60	71.60	598.1	12.5	39.5	41.4	2.46	2.39	
646.0	12.90	71.30	642.1	15.5	48.6	51.0	2.89	2.89	
692.0	13.60	72.20	686.8	18.8	58.6	61.5	1.59	1.52	
738.0	14.50	72.60	731.5	22.2	69.2	72.7	1.97	1.96	
784.0	15.90	73.20	775.8	25.7	80.8	84.7	3.06	3.04	
830.0	16.30	72.70	820.0	29.5	93.0	97.5	0.92	0.87	
876.0	17.40	73.00	864.1	33.4	105.7	110.8	2.40	2.39	
921.0	18.40	72.70	906.9	37.5	118.9	124.6	2.23	2.22	
967.0	19.50	71.70	950.4	42.0	133.1	139.6	2.49	2.39	
1,013.0	21.70	70.40	993.4	47.3	148.4	155.7	4.88	4.78	
1,059.0	23.20	71.30	1,036.0	53.1	165.0	173.3	3.35	3.26	
1,105.0	24.70	72.10	1,078.0	58.9	182.8	192.0	3.34	3.26	
1,150.0	25.50	72.40	1,118.7	64.7	200.9	211.1	1.80	1.78	
1,196.0	26.30	72.60	1,160.1	70.8	220.1	231.1	1.75	1.74	
1,242.0	27.60	71.80	1,201.1	77.2	239.9	252.0	2.93	2.83	
1,290.0	28.70	70.40	1,243.5	84.5	261.4	274.6	2.67	2.29	
1,341.0	29.60	67.60	1,288.0	93.4	284.6	299.5	3.20	1.76	
1,436.0	27.60	70.40	1,371.4	109.7	327.0	344.9	2.53	-2.11	
1,527.0	29.40	68.10	1,451.4	125.1	367.6	388.3	2.32	1.98	
1,619.0	29.70	68.80	1,531.4	141.8	409.8	433.6	0.50	0.33	
1,711.0	30.70	69.80	1,610.9	158.2	453.1	479.9	1.22	1.09	
1,802.0	30.90	72.20	1,689.1	173.3	497.1	526.5	1.37	0.22	
1,894.0	29.90	71.80	1,768.4	187.7	541.4	573.0	1.11	-1.09	
1,985.0	30.50	70.50	1,847.1	202.5	584.7	618.8	0.98	0.66	
2,077.0	28.90	71.50	1,927.0	217.3	627.8	664.4	1.82	-1.74	
2,169.0	29.20	72.40	2,007.4	231.2	670.3	709.0	0.58	0.33	
2,260.0	30.30	69.70	2,086.4	245.9	713.0	754.2	1.90	1.21	
2,351.0	31.00	71.20	2,164.7	261.4	756.7	800.6	1.14	0.77	
2,442.0	30.50	71.40	2,242.9	276.3	800.7	847.1	0.56	-0.55	
2,534.0	30.20	69.90	2,322.3	291.7	844.6	893.6	0.89	-0.33	
2,625.0	31.40	68.50	2,400.5	308.3	888.2	940.1	1.54	1.32	
2,717.0	32.30	68.40	2,478.6	326.1	933.3	988.6	0.98	0.98	
2,808.0	29.80	70.50	2,556.6	342.6	977.2	1,035.5	2.99	-2.75	
2,899.0	28.00	69.10	2,636.3	357.8	1,018.5	1,079.5	2.11	-1.98	
2,991.0	26.70	69.90	2,718.0	372.6	1,058.1	1,121.8	1.47	-1.41	
3,082.0	26.10	72.10	2,799.5	385.7	1,096.4	1,162.2	1.26	-0.66	
3,174.0	26.60	71.10	2,881.9	398.6	1,135.1	1,203.1	0.73	0.54	
3,266.0	24.40	69.90	2,965.0	411.8	1,172.4	1,242.7	2.46	-2.39	
3,357.0	25.30	72.20	3,047.5	424.2	1,208.6	1,280.9	1.45	0.99	
3,449.0	24.20	69.50	3,131.1	436.9	1,245.0	1,319.4	1.71	-1.20	
3,541.0	22.20	71.30	3,215.6	449.0	1,279.1	1,355.6	2.31	-2.17	
3,632.0	21.00	70.00	3,300.2	460.1	1,310.7	1,389.1	1.42	-1.32	
3,723.0	20.00	69.20	3,385.5	471.2	1,340.6	1,421.0	1.14	-1.10	
3,815.0	18.40	69.20	3,472.4	482.0	1,368.9	1,451.2	1.74	-1.74	
3,906.0	15.50	70.80	3,559.4	491.1	1,393.8	1,477.7	3.23	-3.19	
3,998.0	12.90	71.20	3,648.6	498.4	1,415.1	1,500.3	2.83	-2.83	
4,089.0	9.50	72.80	3,737.8	503.9	1,431.9	1,518.0	3.75	-3.74	
4,181.0	5.10	73.20	3,829.1	507.4	1,443.1	1,529.7	4.78	-4.78	
4,272.0	1.80	55.40	3,919.9	509.3	1,448.1	1,535.1	3.77	-3.63	
4,364.0	0.60	358.90	4,011.9	510.6	1,449.3	1,536.6	1.69	-1.30	
4,456.0	1.20	302.00	4,103.9	511.6	1,448.5	1,536.2	1.09	0.65	
4,547.0	0.60	300.50	4,194.9	512.4	1,447.3	1,535.3	0.66	-0.66	
4,639.0	0.80	262.10	4,286.8	512.5	1,446.2	1,534.3	0.54	0.22	

## Survey Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well NP MF03D-16 H17 696
<b>Project:</b>	North Piceance	<b>TVD Reference:</b>	KB MF03A-16 @ 5674.0ft (Patterson 303)
<b>Site:</b>	H17 696 (S17-T6S-R96W)	<b>MD Reference:</b>	KB MF03A-16 @ 5674.0ft (Patterson 303)
<b>Well:</b>	NP MF03D-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
4,732.0	0.90	293.50	4,379.8	512.7	1,444.9	1,533.1	0.51	0.11	
4,822.0	1.40	165.90	4,469.8	511.9	1,444.5	1,532.5	2.31	0.56	
4,913.0	1.80	208.00	4,560.8	509.6	1,444.1	1,531.4	1.33	0.44	
5,005.0	2.60	215.00	4,652.7	506.6	1,442.3	1,528.6	0.92	0.87	
5,096.0	0.10	234.10	4,743.7	504.9	1,441.0	1,526.9	2.75	-2.75	
5,188.0	2.00	59.00	4,835.7	505.7	1,442.3	1,528.4	2.28	2.07	
5,280.0	1.20	94.10	4,927.6	506.4	1,444.7	1,530.8	1.34	-0.87	
5,371.0	0.70	142.20	5,018.6	505.9	1,445.9	1,531.9	0.99	-0.55	
5,463.0	0.50	157.30	5,110.6	505.1	1,446.4	1,532.1	0.28	-0.22	
5,554.0	0.80	142.90	5,201.6	504.2	1,447.0	1,532.3	0.37	0.33	
5,646.0	0.80	160.40	5,293.6	503.1	1,447.6	1,532.5	0.26	0.00	
5,738.0	1.10	180.10	5,385.6	501.6	1,447.8	1,532.2	0.48	0.33	
5,829.0	0.10	1.60	5,476.6	500.8	1,447.8	1,532.0	1.32	-1.10	
5,920.0	0.60	258.10	5,567.6	500.8	1,447.3	1,531.5	0.69	0.55	
6,012.0	1.00	227.20	5,659.6	500.2	1,446.3	1,530.3	0.62	0.43	
6,104.0	0.90	240.90	5,751.6	499.3	1,445.1	1,528.9	0.27	-0.11	
6,195.0	1.10	253.50	5,842.6	498.7	1,443.6	1,527.3	0.33	0.22	
6,287.0	0.70	73.60	5,934.6	498.6	1,443.3	1,527.0	1.96	-0.43	
6,378.0	0.50	359.10	6,025.5	499.1	1,443.8	1,527.7	0.82	-0.22	
6,470.0	1.90	61.20	6,117.5	500.3	1,445.1	1,529.3	1.87	1.52	
6,561.0	1.10	107.70	6,208.5	500.7	1,447.3	1,531.5	1.53	-0.88	
6,653.0	1.10	32.70	6,300.5	501.2	1,448.6	1,532.9	1.46	0.00	
6,744.0	0.70	346.60	6,391.5	502.5	1,449.0	1,533.6	0.87	-0.44	
6,836.0	0.30	167.90	6,483.5	502.8	1,448.9	1,533.6	1.09	-0.43	
6,927.0	0.70	223.50	6,574.5	502.2	1,448.5	1,533.1	0.64	0.44	
7,019.0	1.80	217.30	6,666.4	500.6	1,447.3	1,531.4	1.20	1.20	
7,110.0	1.90	230.10	6,757.4	498.5	1,445.3	1,528.8	0.47	0.11	
7,202.0	1.30	206.20	6,849.4	496.6	1,443.6	1,526.6	0.96	-0.65	
7,294.0	1.10	209.10	6,941.3	494.9	1,442.7	1,525.2	0.23	-0.22	
7,385.0	0.60	216.70	7,032.3	493.7	1,442.0	1,524.2	0.56	-0.55	
7,477.0	1.00	230.40	7,124.3	492.8	1,441.1	1,523.0	0.48	0.43	
7,568.0	2.00	238.30	7,215.3	491.5	1,439.2	1,520.8	1.12	1.10	
7,622.0	1.80	232.40	7,269.3	490.5	1,437.7	1,519.0	0.52	-0.37	Last Cathedral Survey @ 7,622' MD
7,672.0	1.80	232.40	7,319.2	489.5	1,436.4	1,517.5	0.00	0.00	Projection to Bit @ 7,672'

## Survey Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well NP MF03D-16 H17 696
<b>Project:</b>	North Piceance	<b>TVD Reference:</b>	KB MF03A-16 @ 5674.0ft (Patterson 303)
<b>Site:</b>	H17 696 (S17-T6S-R96W)	<b>MD Reference:</b>	KB MF03A-16 @ 5674.0ft (Patterson 303)
<b>Well:</b>	NP MF03D-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 MF03D-16 TG1	0.00	0.00	4,014.0	514.9	1,469.6	1,628,177.80	2,261,559.36	39° 31' 44.06 N	108° 7' 5.97 W
- survey misses target center by 20.7ft at 4366.0ft MD (4013.9 TVD, 510.7 N, 1449.3 E)									
- Point									
H17 696 MF03D-16 TG1	0.00	0.00	7,214.0	500.9	1,445.6	1,628,164.48	2,261,534.97	39° 31' 43.92 N	108° 7' 6.28 W
- survey misses target center by 11.4ft at 7566.4ft MD (7213.7 TVD, 491.5 N, 1439.2 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)	
7,622.0	7,269.3	490.5	1,437.7	Last Cathedral Survey @ 7,622' MD
7,672.0	7,319.2	489.5	1,436.4	Projection to Bit @ 7,672'

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