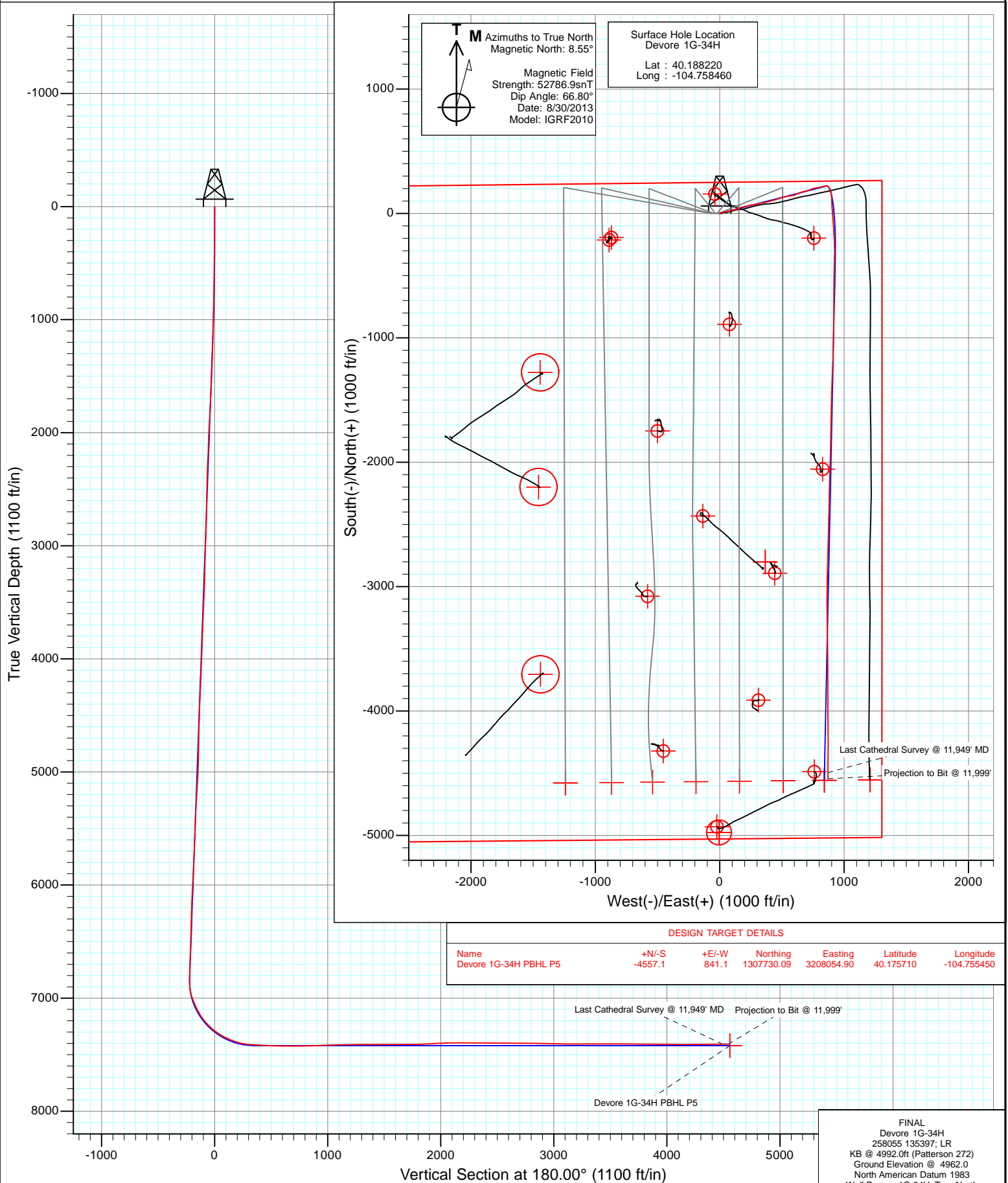


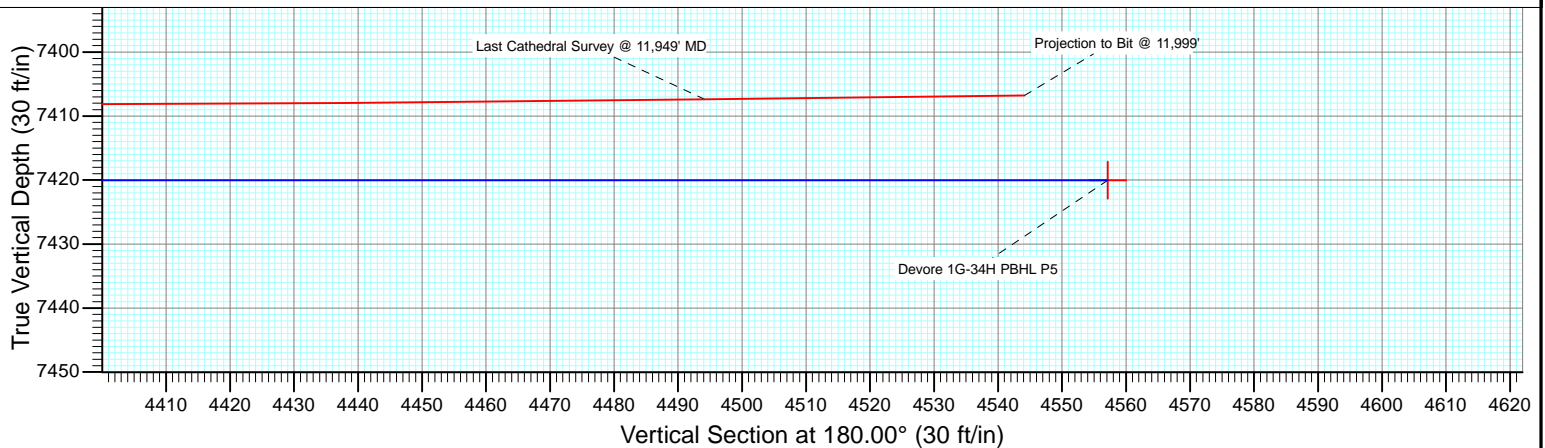
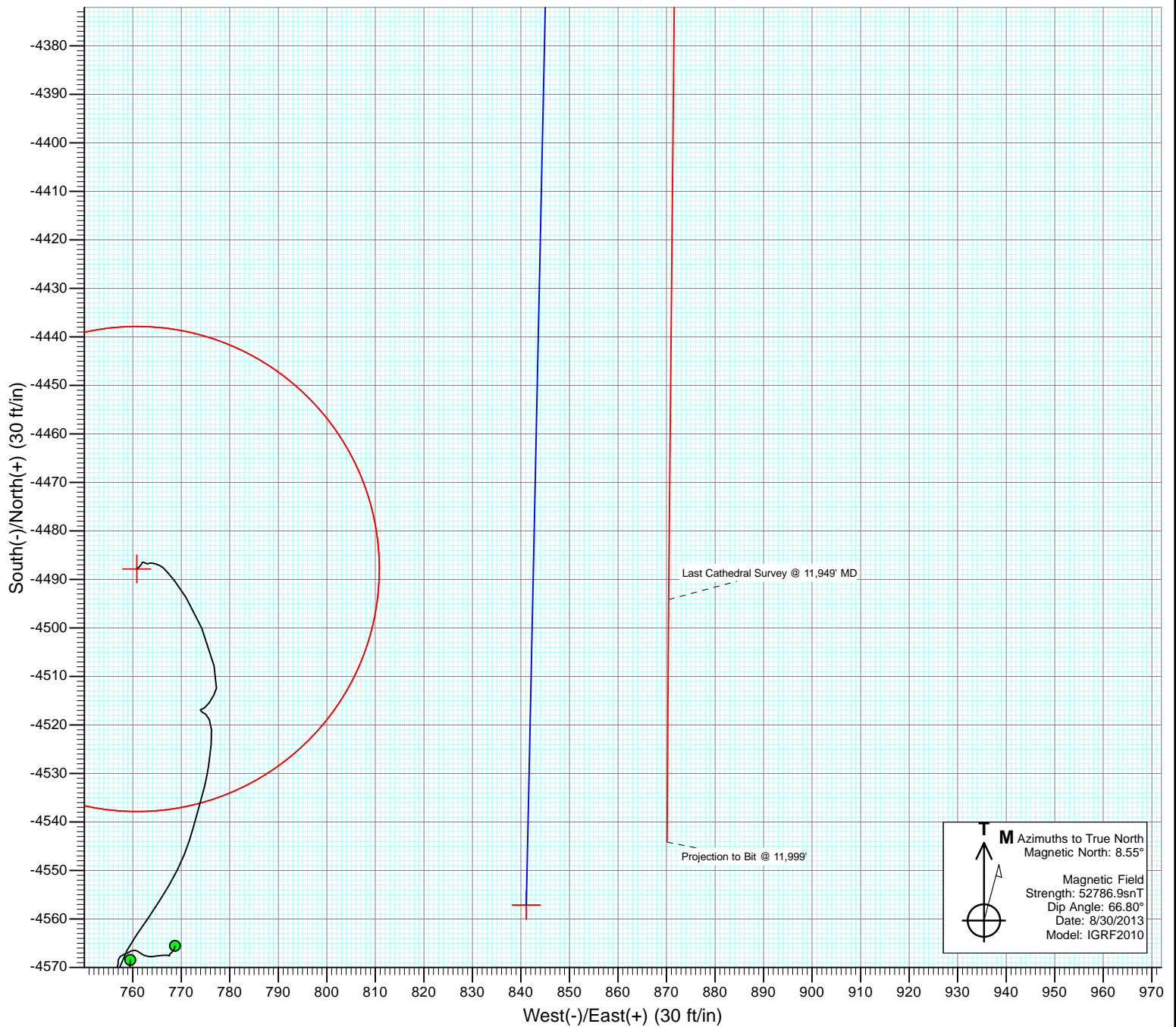


Project: DJ Wattenberg  
Site: S34-T3N-R66W (Devore)  
Well: Devore 1G-34H  
Wellbore: Hz  
Design: FINAL





Project: DJ Wattenberg  
Site: S34-T3N-R66W (Devore)  
Well: Devore 1G-34H  
Wellbore: Hz  
Design: FINAL



# Cathedral Energy Services

## Survey Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Devore 1G-34H
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	KB @ 4992.0ft (Patterson 272)
<b>Site:</b>	S34-T3N-R66W (Devore)	<b>MD Reference:</b>	KB @ 4992.0ft (Patterson 272)
<b>Well:</b>	Devore 1G-34H	<b>North Reference:</b>	True
<b>Wellbore:</b>	Hz	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	FINAL	<b>Database:</b>	USA EDM 5000 Multi Users DB

<b>Project</b>	DJ Wattenberg		
<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 Northern Zone		

Site		S34-T3N-R66W (Devore)			
Site Position:		Northing:	1,307,711.17 ft	Latitude:	40.175660
From:	Lat/Long	Easting:	3,207,971.22 ft	Longitude:	-104.755750
Position Uncertainty:	0.0 ft	Slot Radius:	13.200 in	Grid Convergence:	0.48 °

Well	Devore 1G-34H					
Well Position	+N/-S	0.0 ft	Northing:	1,312,280.04 ft	Latitude:	40.188220
	+E/-W	0.0 ft	Easting:	3,207,175.73 ft	Longitude:	-104.758460
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,962.0 ft

<b>Wellbore</b>	Hz				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2010	8/30/2013	8.55	66.80	52,787

<b>Design</b>	FINAL				
<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	180.00	

<b>Survey Program</b>	<b>Date</b>	9/16/2013			
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
261.0	11,999.0	Survey #1 (Hz)	Geolink 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		
261.0	0.50	52.90	261.0	0.7	0.9	-0.7	0.19	0.19		
355.0	0.70	37.60	355.0	1.4	1.6	-1.4	0.27	0.21		
448.0	1.60	69.50	448.0	2.3	3.1	-2.3	1.15	0.97		
542.0	2.20	77.60	541.9	3.1	6.1	-3.1	0.70	0.64		
635.0	2.90	74.50	634.8	4.2	10.2	-4.2	0.77	0.75		
729.0	3.60	77.00	728.7	5.5	15.3	-5.5	0.76	0.74		
823.0	4.60	80.30	822.4	6.8	21.9	-6.8	1.09	1.06		
916.0	6.00	74.60	915.0	8.7	30.3	-8.7	1.61	1.51		
959.0	6.00	72.80	957.8	9.9	34.6	-9.9	0.44	0.00		
1,015.0	6.10	74.40	1,013.5	11.6	40.2	-11.6	0.35	0.18		
1,109.0	6.90	83.00	1,106.9	13.6	50.7	-13.6	1.34	0.85		
1,202.0	8.60	79.40	1,199.0	15.6	63.0	-15.6	1.90	1.83		

# Cathedral Energy Services

## Survey Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Devore 1G-34H
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	KB @ 4992.0ft (Patterson 272)
<b>Site:</b>	S34-T3N-R66W (Devore)	<b>MD Reference:</b>	KB @ 4992.0ft (Patterson 272)
<b>Well:</b>	Devore 1G-34H	<b>North Reference:</b>	True
<b>Wellbore:</b>	Hz	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	FINAL	<b>Database:</b>	USA EDM 5000 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
1,296.0	8.40	76.50	1,292.0	18.5	76.6	-18.5	0.50	-0.21	
1,390.0	8.00	75.60	1,385.0	21.7	89.6	-21.7	0.45	-0.43	
1,483.0	7.40	68.80	1,477.2	25.5	101.5	-25.5	1.17	-0.65	
1,577.0	7.60	72.40	1,570.4	29.6	113.1	-29.6	0.54	0.21	
1,671.0	10.20	79.20	1,663.3	33.0	127.2	-33.0	2.98	2.77	
1,764.0	9.50	71.40	1,754.9	37.0	142.5	-37.0	1.62	-0.75	
1,858.0	9.20	62.70	1,847.7	42.9	156.6	-42.9	1.54	-0.32	
1,951.0	9.70	72.80	1,939.4	48.6	170.6	-48.6	1.86	0.54	
2,046.0	9.80	77.70	2,033.0	52.7	186.2	-52.7	0.88	0.11	
2,140.0	7.90	81.10	2,125.9	55.4	200.4	-55.4	2.10	-2.02	
2,234.0	9.90	77.10	2,218.8	58.2	214.7	-58.2	2.23	2.13	
2,329.0	9.70	72.30	2,312.4	62.5	230.2	-62.5	0.89	-0.21	
2,423.0	9.80	79.50	2,405.0	66.4	245.6	-66.4	1.30	0.11	
2,518.0	8.30	87.80	2,498.8	68.1	260.5	-68.1	2.09	-1.58	
2,612.0	8.00	81.40	2,591.9	69.3	273.7	-69.3	1.02	-0.32	
2,707.0	7.60	78.50	2,686.0	71.6	286.4	-71.6	0.59	-0.42	
2,801.0	7.40	78.00	2,779.2	74.1	298.4	-74.1	0.22	-0.21	
2,896.0	7.30	74.10	2,873.4	77.0	310.2	-77.0	0.54	-0.11	
2,990.0	6.90	70.10	2,966.7	80.6	321.2	-80.6	0.68	-0.43	
3,085.0	8.70	83.40	3,060.8	83.3	333.8	-83.3	2.67	1.89	
3,179.0	8.20	79.80	3,153.8	85.3	347.4	-85.3	0.77	-0.53	
3,273.0	7.30	79.40	3,247.0	87.6	359.9	-87.6	0.96	-0.96	
3,336.0	7.70	82.60	3,309.4	88.9	368.0	-88.9	0.92	0.63	
3,431.0	9.50	74.50	3,403.4	91.8	381.9	-91.8	2.28	1.89	
3,462.0	9.10	72.60	3,433.9	93.2	386.7	-93.2	1.63	-1.29	
3,557.0	7.90	71.60	3,527.9	97.5	400.0	-97.5	1.27	-1.26	
3,651.0	8.50	75.30	3,620.9	101.3	412.9	-101.3	0.85	0.64	
3,746.0	8.10	73.90	3,714.9	105.0	426.1	-105.0	0.47	-0.42	
3,840.0	7.30	71.40	3,808.1	108.7	438.1	-108.7	0.92	-0.85	
3,935.0	8.60	75.20	3,902.2	112.5	450.7	-112.5	1.48	1.37	
4,029.0	8.00	77.30	3,995.2	115.7	463.9	-115.7	0.72	-0.64	
4,124.0	7.80	77.30	4,089.3	118.6	476.6	-118.6	0.21	-0.21	
4,218.0	8.20	71.30	4,182.4	122.1	489.2	-122.1	0.98	0.43	
4,312.0	7.70	68.30	4,275.5	126.6	501.4	-126.6	0.69	-0.53	
4,407.0	6.00	66.80	4,369.8	130.9	511.9	-130.9	1.80	-1.79	
4,502.0	7.30	77.80	4,464.2	134.1	522.3	-134.1	1.91	1.37	
4,596.0	8.70	80.10	4,557.2	136.6	535.2	-136.6	1.53	1.49	
4,691.0	7.80	78.70	4,651.3	139.1	548.6	-139.1	0.97	-0.95	
4,785.0	8.00	85.80	4,744.4	140.8	561.4	-140.8	1.06	0.21	
4,880.0	8.50	79.20	4,838.4	142.6	574.9	-142.6	1.13	0.53	
4,974.0	7.70	79.80	4,931.4	145.1	587.9	-145.1	0.86	-0.85	
5,068.0	9.40	69.90	5,024.4	148.8	601.3	-148.8	2.39	1.81	
5,163.0	9.00	68.10	5,118.2	154.2	615.5	-154.2	0.52	-0.42	
5,257.0	8.60	69.60	5,211.1	159.4	628.9	-159.4	0.49	-0.43	
5,351.0	7.80	65.90	5,304.1	164.5	641.3	-164.5	1.02	-0.85	
5,446.0	6.70	67.10	5,398.4	169.3	652.3	-169.3	1.17	-1.16	
5,540.0	7.00	74.70	5,491.7	172.9	662.9	-172.9	1.01	0.32	
5,635.0	7.80	77.90	5,585.9	175.8	674.7	-175.8	0.95	0.84	
5,729.0	9.70	75.90	5,678.8	179.1	688.7	-179.1	2.05	2.02	
5,824.0	9.00	74.20	5,772.5	183.0	703.6	-183.0	0.79	-0.74	
5,918.0	7.90	71.40	5,865.5	187.1	716.8	-187.1	1.25	-1.17	
6,013.0	8.20	69.40	5,959.6	191.6	729.3	-191.6	0.43	0.32	
6,107.0	9.10	69.20	6,052.5	196.6	742.5	-196.6	0.96	0.96	

# Cathedral Energy Services

## Survey Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Devore 1G-34H
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	KB @ 4992.0ft (Patterson 272)
<b>Site:</b>	S34-T3N-R66W (Devore)	<b>MD Reference:</b>	KB @ 4992.0ft (Patterson 272)
<b>Well:</b>	Devore 1G-34H	<b>North Reference:</b>	True
<b>Wellbore:</b>	Hz	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	FINAL	<b>Database:</b>	USA EDM 5000 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
6,202.0	9.10	74.30	6,146.3	201.3	756.8	-201.3	0.85	0.00	
6,296.0	8.80	80.70	6,239.2	204.4	771.0	-204.4	1.11	-0.32	
6,391.0	7.70	79.20	6,333.2	206.8	784.5	-206.8	1.18	-1.16	
6,485.0	8.20	79.80	6,426.3	209.2	797.2	-209.2	0.54	0.53	
6,580.0	7.80	75.60	6,520.4	212.0	810.2	-212.0	0.75	-0.42	
6,674.0	9.30	78.80	6,613.3	215.0	823.8	-215.0	1.67	1.60	
6,768.0	8.30	76.30	6,706.2	218.1	837.8	-218.1	1.14	-1.06	
6,831.0	7.00	73.90	6,768.7	220.3	845.9	-220.3	2.12	-2.06	
6,863.0	6.80	70.20	6,800.4	221.5	849.6	-221.5	1.52	-0.62	
6,894.0	7.80	80.90	6,831.2	222.4	853.4	-222.4	5.43	3.23	
6,926.0	11.00	103.10	6,862.7	222.1	858.5	-222.1	14.94	10.00	
6,957.0	12.20	111.20	6,893.1	220.2	864.4	-220.2	6.52	3.87	
6,989.0	14.60	123.00	6,924.3	216.8	871.0	-216.8	11.33	7.50	
7,020.0	18.10	137.20	6,954.0	211.1	877.5	-211.1	17.06	11.29	
7,051.0	20.90	146.40	6,983.2	203.0	883.9	-203.0	13.38	9.03	
7,083.0	23.00	157.30	7,012.9	192.4	889.4	-192.4	14.30	6.56	
7,114.0	23.70	167.40	7,041.4	180.8	893.1	-180.8	13.09	2.26	
7,146.0	23.80	172.20	7,070.7	168.1	895.4	-168.1	6.05	0.31	
7,177.0	25.80	173.10	7,098.8	155.2	897.1	-155.2	6.57	6.45	
7,209.0	27.60	174.80	7,127.4	140.9	898.6	-140.9	6.11	5.62	
7,240.0	31.30	174.30	7,154.4	125.7	900.0	-125.7	11.96	11.94	
7,272.0	36.60	176.40	7,180.9	107.9	901.5	-107.9	16.96	16.56	
7,303.0	41.90	176.80	7,204.9	88.4	902.6	-88.4	17.12	17.10	
7,334.0	44.90	177.30	7,227.5	67.1	903.7	-67.1	9.74	9.68	
7,366.0	46.30	177.70	7,249.8	44.3	904.7	-44.3	4.47	4.37	
7,397.0	48.50	177.70	7,270.8	21.5	905.6	-21.5	7.10	7.10	
7,429.0	51.60	176.90	7,291.4	-3.0	906.8	3.0	9.88	9.69	
7,460.0	56.00	175.30	7,309.7	-28.0	908.5	28.0	14.79	14.19	
7,492.0	60.00	174.90	7,326.6	-55.0	910.8	55.0	12.54	12.50	
7,523.0	62.70	174.90	7,341.5	-82.1	913.2	82.1	8.71	8.71	
7,555.0	65.10	175.90	7,355.6	-110.8	915.5	110.8	8.01	7.50	
7,586.0	67.60	176.20	7,368.0	-139.1	917.5	139.1	8.11	8.06	
7,618.0	69.80	176.70	7,379.6	-168.8	919.3	168.8	7.03	6.87	
7,649.0	73.00	177.40	7,389.5	-198.2	920.9	198.2	10.54	10.32	
7,681.0	76.80	178.10	7,397.9	-229.1	922.1	229.1	12.06	11.87	
7,712.0	80.20	178.50	7,404.0	-259.4	923.0	259.4	11.04	10.97	
7,744.0	84.00	179.20	7,408.4	-291.1	923.6	291.1	12.07	11.87	
7,762.0	85.30	180.30	7,410.1	-309.0	923.7	309.0	9.44	7.22	
7,833.0	86.70	180.90	7,415.1	-379.8	922.9	379.8	2.14	1.97	
7,927.0	87.70	181.30	7,419.7	-473.7	921.1	473.7	1.15	1.06	
8,022.0	88.70	180.90	7,422.6	-568.6	919.3	568.6	1.13	1.05	
8,116.0	89.80	180.70	7,423.9	-662.6	918.0	662.6	1.19	1.17	
8,210.0	90.90	180.20	7,423.3	-756.6	917.3	756.6	1.29	1.17	
8,305.0	91.30	180.00	7,421.5	-851.6	917.1	851.6	0.47	0.42	
8,399.0	92.00	180.70	7,418.8	-945.6	916.5	945.6	1.05	0.74	
8,494.0	92.10	181.30	7,415.4	-1,040.5	914.9	1,040.5	0.64	0.11	
8,588.0	90.90	182.00	7,412.9	-1,134.4	912.2	1,134.4	1.48	-1.28	
8,683.0	91.40	182.30	7,411.0	-1,229.3	908.6	1,229.3	0.61	0.53	
8,778.0	91.00	182.60	7,409.0	-1,324.2	904.5	1,324.2	0.53	-0.42	
8,872.0	89.70	181.40	7,408.4	-1,418.2	901.3	1,418.2	1.88	-1.38	
8,967.0	89.30	181.60	7,409.3	-1,513.1	898.8	1,513.1	0.47	-0.42	
9,061.0	89.60	180.70	7,410.2	-1,607.1	896.9	1,607.1	1.01	0.32	
9,155.0	90.40	181.20	7,410.2	-1,701.1	895.3	1,701.1	1.00	0.85	

# Cathedral Energy Services

## Survey Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Devore 1G-34H
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	KB @ 4992.0ft (Patterson 272)
<b>Site:</b>	S34-T3N-R66W (Devore)	<b>MD Reference:</b>	KB @ 4992.0ft (Patterson 272)
<b>Well:</b>	Devore 1G-34H	<b>North Reference:</b>	True
<b>Wellbore:</b>	Hz	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	FINAL	<b>Database:</b>	USA EDM 5000 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
9,250.0	92.00	181.20	7,408.2	-1,796.0	893.3	1,796.0	1.68	1.68	
9,344.0	92.90	181.40	7,404.2	-1,889.9	891.2	1,889.9	0.98	0.96	
9,438.0	92.40	181.60	7,399.8	-1,983.8	888.7	1,983.8	0.57	-0.53	
9,533.0	91.30	181.80	7,396.7	-2,078.7	885.9	2,078.7	1.18	-1.16	
9,627.0	90.40	181.30	7,395.3	-2,172.6	883.4	2,172.6	1.10	-0.96	
9,721.0	89.50	181.30	7,395.4	-2,266.6	881.3	2,266.6	0.96	-0.96	
9,816.0	89.30	181.30	7,396.4	-2,361.6	879.1	2,361.6	0.21	-0.21	
9,910.0	89.80	181.00	7,397.2	-2,455.6	877.2	2,455.6	0.62	0.53	
10,004.0	89.50	181.40	7,397.7	-2,549.5	875.2	2,549.5	0.53	-0.32	
10,099.0	90.00	182.00	7,398.2	-2,644.5	872.4	2,644.5	0.82	0.53	
10,193.0	89.50	181.60	7,398.6	-2,738.4	869.5	2,738.4	0.68	-0.53	
10,288.0	89.10	181.20	7,399.7	-2,833.4	867.1	2,833.4	0.60	-0.42	
10,382.0	89.10	181.30	7,401.2	-2,927.4	865.1	2,927.4	0.11	0.00	
10,477.0	88.40	181.00	7,403.3	-3,022.3	863.2	3,022.3	0.80	-0.74	
10,571.0	89.30	179.80	7,405.2	-3,116.3	862.5	3,116.3	1.60	0.96	
10,666.0	89.10	179.10	7,406.5	-3,211.3	863.4	3,211.3	0.77	-0.21	
10,761.0	90.50	179.20	7,406.8	-3,306.3	864.9	3,306.3	1.48	1.47	
10,855.0	91.00	179.40	7,405.6	-3,400.3	866.0	3,400.3	0.57	0.53	
10,949.0	90.70	179.60	7,404.2	-3,494.2	866.8	3,494.2	0.38	-0.32	
11,044.0	89.50	178.80	7,404.0	-3,589.2	868.2	3,589.2	1.52	-1.26	
11,138.0	89.00	179.40	7,405.3	-3,683.2	869.6	3,683.2	0.83	-0.53	
11,232.0	89.10	180.20	7,406.8	-3,777.2	870.0	3,777.2	0.86	0.11	
11,327.0	89.70	180.70	7,407.8	-3,872.2	869.2	3,872.2	0.82	0.63	
11,421.0	89.30	179.10	7,408.6	-3,966.2	869.4	3,966.2	1.75	-0.43	
11,515.0	89.70	179.00	7,409.5	-4,060.2	870.9	4,060.2	0.44	0.43	
11,610.0	90.50	179.90	7,409.3	-4,155.2	871.8	4,155.2	1.27	0.84	
11,704.0	90.30	179.80	7,408.6	-4,249.2	872.1	4,249.2	0.24	-0.21	
11,798.0	90.00	180.50	7,408.4	-4,343.2	871.8	4,343.2	0.81	-0.32	
11,893.0	90.50	180.60	7,408.0	-4,438.2	870.9	4,438.2	0.54	0.53	
11,949.0	90.70	180.40	7,407.4	-4,494.1	870.4	4,494.1	0.51	0.36	Last Cathedral Survey @ 11,949' MD Projection to Bit @ 11,999'
11,999.0	90.70	180.40	7,406.8	-4,544.1	870.1	4,544.1	0.00	0.00	

# Cathedral Energy Services

## Survey Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Devore 1G-34H
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	KB @ 4992.0ft (Patterson 272)
<b>Site:</b>	S34-T3N-R66W (Devore)	<b>MD Reference:</b>	KB @ 4992.0ft (Patterson 272)
<b>Well:</b>	Devore 1G-34H	<b>North Reference:</b>	True
<b>Wellbore:</b>	Hz	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	FINAL	<b>Database:</b>	USA EDM 5000 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									
Devore 1G-34H PBHL P	0.00	0.00	7,420.0	-4,557.1	841.1	1,307,730.09	3,208,054.90	40.175710	-104.755450
- actual wellpath misses target center by 34.4ft at 11999.0ft MD (7406.8 TVD, -4544.1 N, 870.1 E)									
- Point									
Devore 1G-34H PBHL	0.00	0.00	7,421.0	-4,557.1	841.1	1,307,730.09	3,208,054.90	40.175710	-104.755450
- actual wellpath misses target center by 34.8ft at 11999.0ft MD (7406.8 TVD, -4544.1 N, 870.1 E)									
- Point									

Design Annotations					
Measured Depth	Vertical Depth	Local Coordinates			
(ft)	(ft)	+N/-S	+E/-W		
		(ft)	(ft)	Comment	
11,949.0	7,407.4	-4,494.1	870.4	Last Cathedral Survey @ 11,949' MD	
11,999.0	7,406.8	-4,544.1	870.1	Projection to Bit @ 11,999'	

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