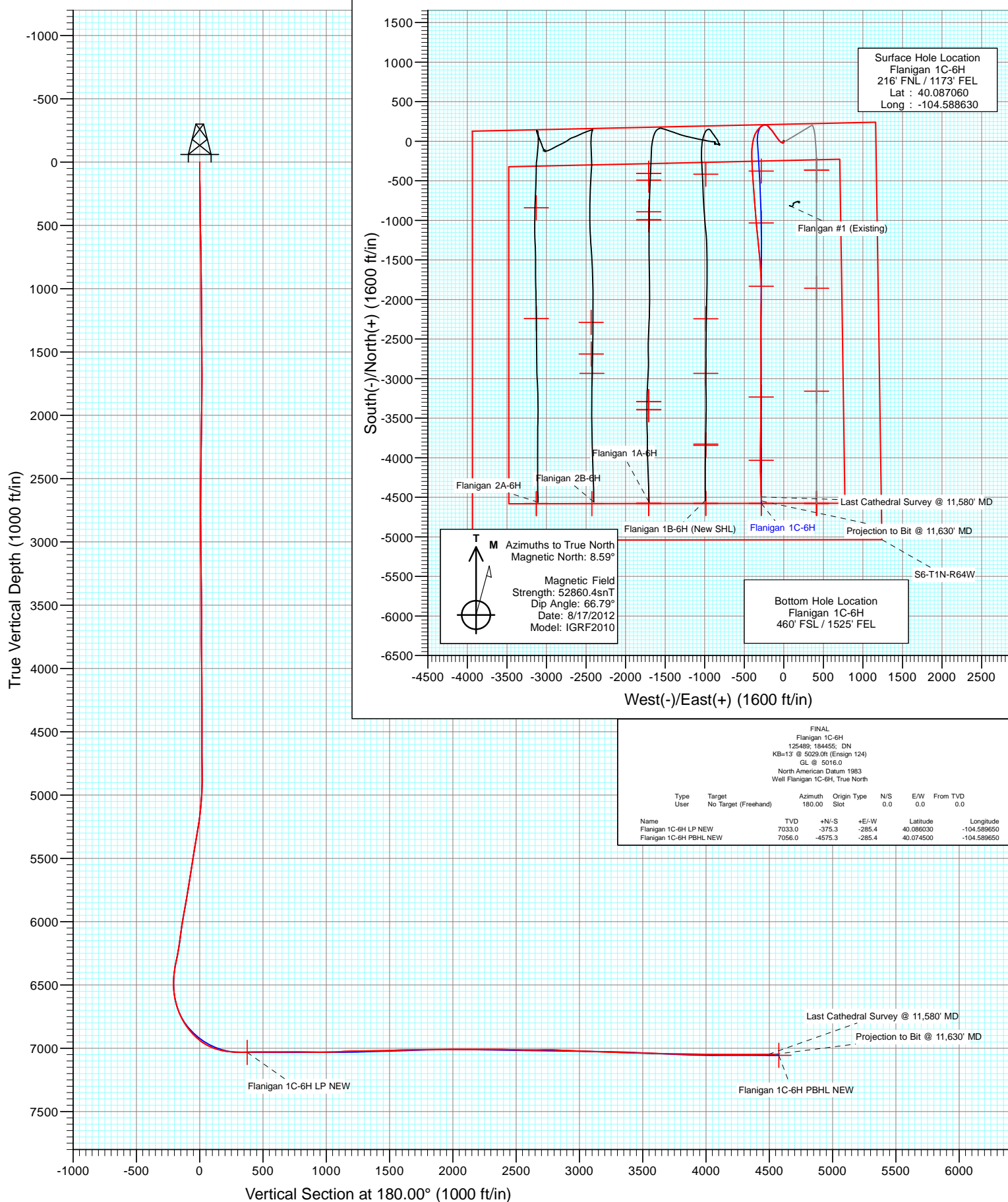


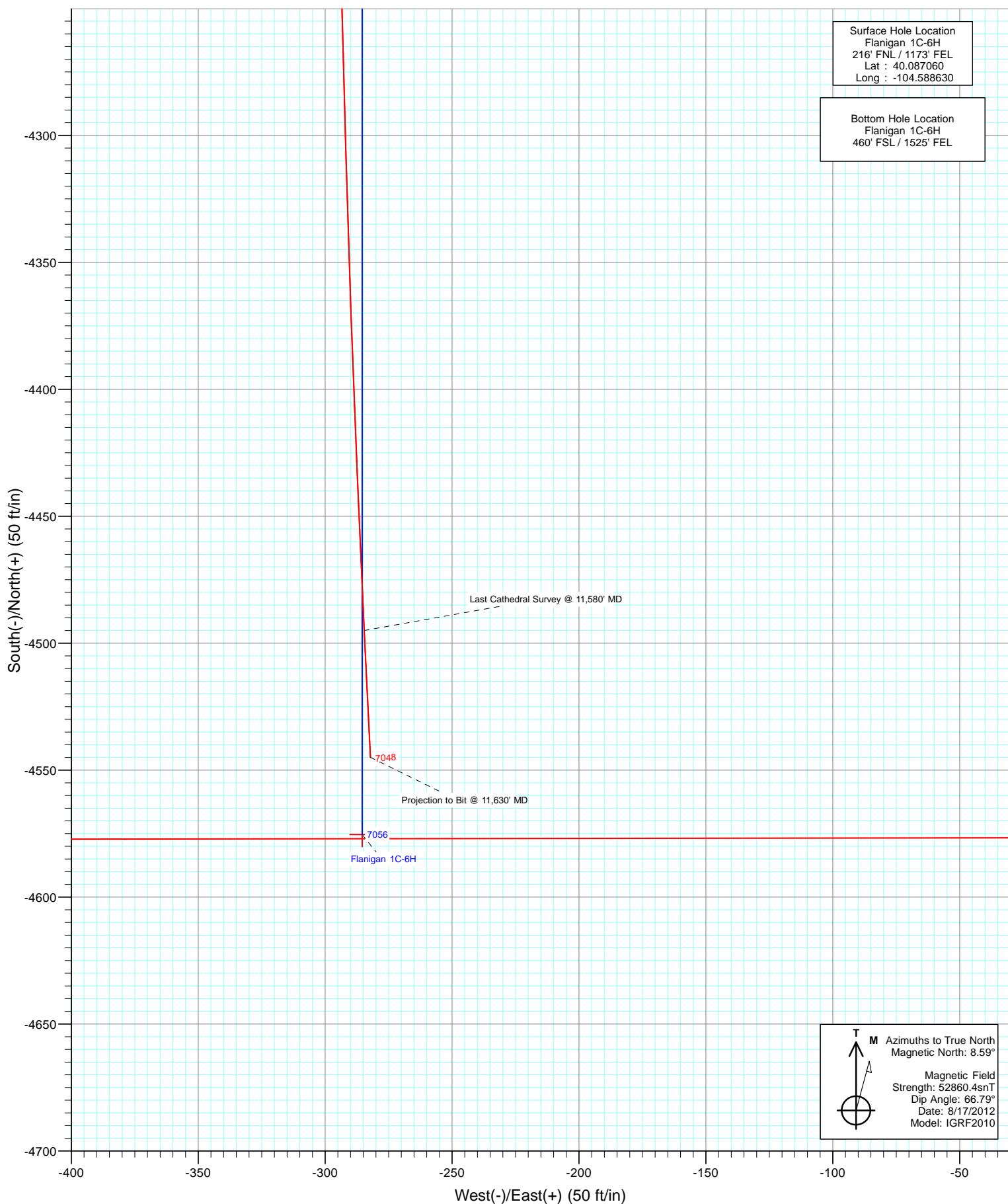


Project: DJ Wattenberg  
 Site: NWNE S6-T1N-R64W (Flanigan)  
 Well: Flanigan 1C-6H  
 Wellbore: Hz  
 Design: FINAL





Project: DJ Wattenberg  
Site: NWNE S6-T1N-R64W (Flanigan)  
Well: Flanigan 1C-6H  
Wellbore: Hz  
Design: FINAL



# Cathedral Energy Services

## Survey Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Flanigan 1C-6H
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	KB=13' @ 5029.0ft (Ensign 124)
<b>Site:</b>	NWNE S6-T1N-R64W (Flanigan)	<b>MD Reference:</b>	KB=13' @ 5029.0ft (Ensign 124)
<b>Well:</b>	Flanigan 1C-6H	<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		NWNE S6-T1N-R64W (Flanigan)			
Site Position:		Northing:	1,275,832.11 ft	Latitude:	40.086970
From:	Lat/Long	Easting:	3,254,152.25 ft	Longitude:	-104.591660
Position Uncertainty:	0.0 ft	Slot Radius:	13.200 in	Grid Convergence:	0.59 °

Well	Flanigan 1C-6H					
Well Position	+N/-S	0.0 ft	Northing:	1,275,873.57 ft	Latitude:	40.087060
	+E/-W	0.0 ft	Easting:	3,254,999.66 ft	Longitude:	-104.588630
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	5,016.0 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	8/17/2012	8.58	66.79	52,860

<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 (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>	
	0.0	0.0	0.0	180.00	

<b>Survey Program</b>	<b>Date</b>	8/31/2012			
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
110.0	11,630.0	Survey #1 (Hz)	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		
110.0	0.70	229.90	110.0	-0.4	-0.5	0.4	0.64	0.64		
203.0	0.80	218.60	203.0	-1.3	-1.4	1.3	0.19	0.11		
296.0	0.60	199.40	296.0	-2.3	-1.9	2.3	0.33	-0.22		
389.0	0.80	199.40	389.0	-3.3	-2.3	3.3	0.22	0.22		
482.0	1.10	186.40	482.0	-4.8	-2.6	4.8	0.40	0.32		
575.0	1.30	197.30	574.9	-6.7	-3.0	6.7	0.33	0.22		
668.0	0.90	205.60	667.9	-8.4	-3.7	8.4	0.46	-0.43		
761.0	1.00	216.00	760.9	-9.7	-4.4	9.7	0.21	0.11		
854.0	1.00	204.40	853.9	-11.1	-5.3	11.1	0.22	0.00		
947.0	0.70	223.00	946.9	-12.3	-6.0	12.3	0.43	-0.32		
1,040.0	0.70	223.40	1,039.9	-13.1	-6.8	13.1	0.01	0.00		
1,133.0	0.70	240.60	1,132.9	-13.8	-7.6	13.8	0.23	0.00		

# Cathedral Energy Services

## Survey Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Flanigan 1C-6H
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	KB=13' @ 5029.0ft (Ensign 124)
<b>Site:</b>	NWNE S6-T1N-R64W (Flanigan)	<b>MD Reference:</b>	KB=13' @ 5029.0ft (Ensign 124)
<b>Well:</b>	Flanigan 1C-6H	<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
1,226.0	0.50	238.30	1,225.9	-14.3	-8.5	14.3	0.22	-0.22	
1,378.0	0.70	204.10	1,377.9	-15.5	-9.4	15.5	0.26	0.13	
1,471.0	0.30	245.90	1,470.9	-16.1	-9.9	16.1	0.56	-0.43	
1,565.0	0.50	249.80	1,564.9	-16.3	-10.5	16.3	0.21	0.21	
1,660.0	0.70	255.30	1,659.9	-16.6	-11.4	16.6	0.22	0.21	
1,755.0	0.80	252.30	1,754.8	-17.0	-12.6	17.0	0.11	0.11	
1,850.0	0.90	259.60	1,849.8	-17.3	-14.0	17.3	0.15	0.11	
1,948.0	1.50	342.00	1,947.8	-16.2	-15.2	16.2	1.68	0.61	
2,043.0	1.60	60.40	2,042.8	-14.4	-14.4	14.4	2.06	0.11	
2,139.0	1.30	58.60	2,138.8	-13.2	-12.3	13.2	0.32	-0.31	
2,234.0	1.10	42.10	2,233.7	-11.9	-10.8	11.9	0.42	-0.21	
2,328.0	1.20	50.70	2,327.7	-10.6	-9.4	10.6	0.21	0.11	
2,423.0	1.10	44.20	2,422.7	-9.4	-8.0	9.4	0.17	-0.11	
2,518.0	0.50	35.00	2,517.7	-8.4	-7.1	8.4	0.64	-0.63	
2,613.0	0.40	10.80	2,612.7	-7.7	-6.8	7.7	0.22	-0.11	
2,708.0	0.70	327.00	2,707.7	-6.9	-7.1	6.9	0.52	0.32	
2,803.0	0.80	110.50	2,802.7	-6.6	-6.8	6.6	1.50	0.11	
2,899.0	0.80	171.50	2,898.7	-7.5	-6.0	7.5	0.85	0.00	
2,994.0	0.50	201.80	2,993.7	-8.6	-6.1	8.6	0.47	-0.32	
3,089.0	0.80	171.80	3,088.7	-9.6	-6.2	9.6	0.47	0.32	
3,184.0	0.10	179.70	3,183.7	-10.3	-6.1	10.3	0.74	-0.74	
3,279.0	1.30	210.20	3,278.6	-11.4	-6.6	11.4	1.28	1.26	
3,374.0	1.40	223.60	3,373.6	-13.1	-7.9	13.1	0.35	0.11	
3,469.0	0.80	270.80	3,468.6	-14.0	-9.4	14.0	1.09	-0.63	
3,564.0	1.00	248.40	3,563.6	-14.3	-10.8	14.3	0.42	0.21	
3,659.0	0.40	27.80	3,658.6	-14.3	-11.5	14.3	1.40	-0.63	
3,754.0	0.70	85.10	3,753.6	-13.9	-10.7	13.9	0.62	0.32	
3,849.0	1.00	127.00	3,848.6	-14.4	-9.5	14.4	0.70	0.32	
3,944.0	1.30	141.60	3,943.6	-15.7	-8.2	15.7	0.44	0.32	
4,040.0	0.80	80.30	4,039.5	-16.5	-6.8	16.5	1.20	-0.52	
4,135.0	1.10	132.00	4,134.5	-17.0	-5.5	17.0	0.92	0.32	
4,230.0	0.80	89.20	4,229.5	-17.6	-4.1	17.6	0.79	-0.32	
4,325.0	0.70	108.00	4,324.5	-17.7	-2.9	17.7	0.28	-0.11	
4,420.0	1.10	278.90	4,419.5	-17.8	-3.3	17.8	1.89	0.42	
4,515.0	2.10	287.00	4,514.5	-17.1	-5.8	17.1	1.08	1.05	
4,611.0	2.10	268.00	4,610.4	-16.7	-9.3	16.7	0.72	0.00	
4,706.0	1.50	231.70	4,705.4	-17.5	-12.0	17.5	1.32	-0.63	
4,801.0	2.00	224.80	4,800.3	-19.4	-14.1	19.4	0.57	0.53	
4,896.0	4.00	283.50	4,895.2	-19.8	-18.5	19.8	3.60	2.11	
4,991.0	6.40	299.10	4,989.8	-16.5	-26.4	16.5	2.91	2.53	
5,086.0	8.90	305.00	5,084.0	-9.7	-37.0	9.7	2.75	2.63	
5,181.0	10.90	313.00	5,177.5	0.6	-49.6	-0.6	2.55	2.11	
5,276.0	12.50	322.40	5,270.6	14.9	-62.5	-14.9	2.61	1.68	
5,371.0	11.20	322.80	5,363.5	30.4	-74.3	-30.4	1.37	-1.37	
5,465.0	11.60	324.60	5,455.7	45.4	-85.3	-45.4	0.57	0.43	
5,560.0	10.40	326.40	5,548.9	60.3	-95.6	-60.3	1.31	-1.26	
5,655.0	10.90	322.30	5,642.3	74.6	-105.8	-74.6	0.96	0.53	
5,750.0	11.90	326.10	5,735.4	89.8	-116.8	-89.8	1.32	1.05	
5,845.0	11.60	326.60	5,828.4	105.9	-127.5	-105.9	0.33	-0.32	
5,941.0	12.10	326.10	5,922.4	122.3	-138.4	-122.3	0.53	0.52	
6,036.0	12.90	317.00	6,015.2	138.3	-151.2	-138.3	2.23	0.84	
6,099.0	10.30	314.90	6,076.9	147.5	-160.0	-147.5	4.18	-4.13	
6,162.0	10.00	314.80	6,138.9	155.3	-167.9	-155.3	0.48	-0.48	

# Cathedral Energy Services

## Survey Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Flanigan 1C-6H
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	KB=13' @ 5029.0ft (Ensign 124)
<b>Site:</b>	NWNE S6-T1N-R64W (Flanigan)	<b>MD Reference:</b>	KB=13' @ 5029.0ft (Ensign 124)
<b>Well:</b>	Flanigan 1C-6H	<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
6,226.0	11.80	318.40	6,201.7	164.1	-176.2	-164.1	3.01	2.81	
6,258.0	14.00	321.70	6,232.9	169.6	-180.7	-169.6	7.25	6.87	
6,290.0	14.50	322.30	6,263.9	175.8	-185.6	-175.8	1.63	1.56	
6,321.0	14.90	321.20	6,293.9	182.0	-190.5	-182.0	1.57	1.29	
6,353.0	15.70	315.90	6,324.8	188.3	-196.0	-188.3	5.03	2.50	
6,385.0	16.00	307.20	6,355.6	194.1	-202.6	-194.1	7.48	0.94	
6,416.0	16.70	298.10	6,385.3	198.7	-209.9	-198.7	8.56	2.26	
6,448.0	17.50	289.10	6,415.9	202.5	-218.5	-202.5	8.63	2.50	
6,480.0	17.40	282.50	6,446.4	205.1	-227.7	-205.1	6.19	-0.31	
6,512.0	16.50	273.90	6,477.1	206.4	-236.9	-206.4	8.32	-2.81	
6,543.0	16.30	264.60	6,506.8	206.3	-245.7	-206.3	8.49	-0.65	
6,575.0	16.60	254.10	6,537.5	204.6	-254.5	-204.6	9.33	0.94	
6,606.0	17.40	246.20	6,567.1	201.6	-263.0	-201.6	7.88	2.58	
6,638.0	18.70	238.90	6,597.6	197.0	-271.8	-197.0	8.15	4.06	
6,669.0	20.40	233.30	6,626.8	191.2	-280.4	-191.2	8.16	5.48	
6,701.0	22.80	229.10	6,656.5	183.8	-289.5	-183.8	8.92	7.50	
6,732.0	25.90	227.30	6,684.8	175.3	-299.1	-175.3	10.28	10.00	
6,764.0	29.50	225.20	6,713.1	165.0	-309.8	-165.0	11.65	11.25	
6,796.0	32.20	221.80	6,740.6	153.1	-321.1	-153.1	10.04	8.44	
6,827.0	34.10	218.60	6,766.5	140.1	-332.0	-140.1	8.33	6.13	
6,859.0	35.50	214.20	6,792.8	125.4	-342.8	-125.4	8.98	4.37	
6,891.0	37.40	208.70	6,818.6	109.2	-352.7	-109.2	11.81	5.94	
6,922.0	39.40	203.80	6,842.9	91.9	-361.2	-91.9	11.74	6.45	
6,954.0	41.70	200.50	6,867.2	72.7	-369.0	-72.7	9.83	7.19	
6,986.0	44.70	196.60	6,890.5	51.9	-376.0	-51.9	12.55	9.37	
7,017.0	48.00	194.00	6,911.9	30.3	-381.9	-30.3	12.25	10.65	
7,049.0	51.50	192.10	6,932.6	6.5	-387.4	-6.5	11.84	10.94	
7,081.0	55.30	189.60	6,951.7	-18.8	-392.2	18.8	13.43	11.87	
7,112.0	59.50	188.50	6,968.4	-44.5	-396.3	44.5	13.87	13.55	
7,144.0	64.00	186.60	6,983.5	-72.5	-400.0	72.5	15.00	14.06	
7,176.0	68.30	185.00	6,996.4	-101.6	-403.0	101.6	14.19	13.44	
7,207.0	72.30	182.40	7,006.9	-130.7	-404.8	130.7	15.13	12.90	
7,239.0	76.60	180.20	7,015.5	-161.5	-405.5	161.5	14.98	13.44	
7,271.0	80.00	178.80	7,021.9	-192.8	-405.2	192.8	11.46	10.62	
7,303.0	83.30	178.00	7,026.6	-224.5	-404.4	224.5	10.60	10.31	
7,334.0	85.90	177.60	7,029.5	-255.3	-403.2	255.3	8.48	8.39	
7,355.0	87.60	177.10	7,030.7	-276.3	-402.2	276.3	8.44	8.10	
7,398.0	90.50	177.40	7,031.4	-319.2	-400.1	319.2	6.78	6.74	
7,461.0	90.40	175.80	7,030.9	-382.1	-396.4	382.1	2.54	-0.16	
7,525.0	90.90	175.40	7,030.2	-445.9	-391.5	445.9	1.00	0.78	
7,588.0	90.60	175.80	7,029.4	-508.7	-386.7	508.7	0.79	-0.48	
7,652.0	89.80	176.50	7,029.1	-572.6	-382.4	572.6	1.66	-1.25	
7,715.0	90.10	176.70	7,029.2	-635.5	-378.6	635.5	0.57	0.48	
7,779.0	90.00	176.10	7,029.1	-699.3	-374.6	699.3	0.95	-0.16	
7,842.0	90.10	175.80	7,029.1	-762.2	-370.2	762.2	0.50	0.16	
7,905.0	89.70	174.90	7,029.2	-825.0	-365.1	825.0	1.56	-0.63	
7,969.0	88.00	174.50	7,030.5	-888.7	-359.1	888.7	2.73	-2.66	
8,032.0	89.20	175.10	7,032.0	-951.4	-353.4	951.4	2.13	1.90	
8,096.0	92.10	175.30	7,031.3	-1,015.2	-348.1	1,015.2	4.54	4.53	
8,159.0	93.10	174.40	7,028.4	-1,077.8	-342.4	1,077.8	2.13	1.59	
8,222.0	92.10	174.40	7,025.6	-1,140.5	-336.3	1,140.5	1.59	-1.59	
8,286.0	91.70	174.80	7,023.5	-1,204.2	-330.3	1,204.2	0.88	-0.62	
8,349.0	90.70	175.10	7,022.1	-1,266.9	-324.7	1,266.9	1.66	-1.59	

# Cathedral Energy Services

## Survey Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Flanigan 1C-6H
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	KB=13' @ 5029.0ft (Ensign 124)
<b>Site:</b>	NWNE S6-T1N-R64W (Flanigan)	<b>MD Reference:</b>	KB=13' @ 5029.0ft (Ensign 124)
<b>Well:</b>	Flanigan 1C-6H	<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
8,413.0	90.80	175.00	7,021.3	-1,330.7	-319.2	1,330.7	0.22	0.16	
8,476.0	90.90	174.50	7,020.4	-1,393.4	-313.4	1,393.4	0.81	0.16	
8,539.0	91.00	174.30	7,019.3	-1,456.1	-307.3	1,456.1	0.35	0.16	
8,603.0	91.40	174.30	7,018.0	-1,519.7	-300.9	1,519.7	0.62	0.62	
8,666.0	92.40	174.70	7,015.9	-1,582.4	-294.9	1,582.4	1.71	1.59	
8,730.0	91.50	176.50	7,013.7	-1,646.2	-290.0	1,646.2	3.14	-1.41	
8,793.0	91.00	178.00	7,012.3	-1,709.1	-287.0	1,709.1	2.51	-0.79	
8,856.0	89.90	179.20	7,011.8	-1,772.1	-285.4	1,772.1	2.58	-1.75	
8,920.0	90.50	180.00	7,011.6	-1,836.1	-285.0	1,836.1	1.56	0.94	
8,983.0	91.50	179.50	7,010.5	-1,899.1	-284.7	1,899.1	1.77	1.59	
9,047.0	90.40	180.70	7,009.5	-1,963.1	-284.8	1,963.1	2.54	-1.72	
9,110.0	89.90	180.20	7,009.3	-2,026.0	-285.3	2,026.0	1.12	-0.79	
9,173.0	89.30	180.70	7,009.7	-2,089.0	-285.8	2,089.0	1.24	-0.95	
9,237.0	90.70	183.00	7,009.7	-2,153.0	-287.9	2,153.0	4.21	2.19	
9,300.0	90.20	181.40	7,009.2	-2,215.9	-290.3	2,215.9	2.66	-0.79	
9,363.0	89.80	180.10	7,009.2	-2,278.9	-291.1	2,278.9	2.16	-0.63	
9,427.0	90.10	180.00	7,009.3	-2,342.9	-291.2	2,342.9	0.49	0.47	
9,490.0	88.00	179.20	7,010.3	-2,405.9	-290.7	2,405.9	3.57	-3.33	
9,553.0	87.60	179.00	7,012.8	-2,468.9	-289.8	2,468.9	0.71	-0.63	
9,617.0	89.20	178.90	7,014.5	-2,532.8	-288.6	2,532.8	2.50	2.50	
9,680.0	91.50	180.50	7,014.2	-2,595.8	-288.3	2,595.8	4.45	3.65	
9,744.0	89.90	179.20	7,013.4	-2,659.8	-288.1	2,659.8	3.22	-2.50	
9,807.0	90.50	180.20	7,013.2	-2,722.8	-287.8	2,722.8	1.85	0.95	
9,871.0	88.60	180.20	7,013.7	-2,786.8	-288.0	2,786.8	2.97	-2.97	
9,934.0	87.40	180.80	7,015.9	-2,849.8	-288.5	2,849.8	2.13	-1.90	
9,997.0	87.30	180.30	7,018.8	-2,912.7	-289.1	2,912.7	0.81	-0.16	
10,061.0	87.30	180.20	7,021.8	-2,976.6	-289.4	2,976.6	0.16	0.00	
10,124.0	88.00	180.40	7,024.4	-3,039.6	-289.7	3,039.6	1.16	1.11	
10,188.0	88.40	180.40	7,026.4	-3,103.5	-290.2	3,103.5	0.62	0.62	
10,251.0	88.20	180.00	7,028.3	-3,166.5	-290.4	3,166.5	0.71	-0.32	
10,314.0	87.80	179.90	7,030.5	-3,229.5	-290.4	3,229.5	0.65	-0.63	
10,378.0	87.30	180.00	7,033.2	-3,293.4	-290.3	3,293.4	0.80	-0.78	
10,441.0	88.00	180.50	7,035.8	-3,356.4	-290.6	3,356.4	1.37	1.11	
10,505.0	88.40	180.00	7,037.8	-3,420.3	-290.9	3,420.3	1.00	0.62	
10,568.0	88.50	180.00	7,039.5	-3,483.3	-290.9	3,483.3	0.16	0.16	
10,631.0	88.60	180.20	7,041.1	-3,546.3	-291.0	3,546.3	0.35	0.16	
10,695.0	88.30	180.10	7,042.8	-3,610.3	-291.1	3,610.3	0.49	-0.47	
10,758.0	89.10	180.90	7,044.2	-3,673.2	-291.7	3,673.2	1.80	1.27	
10,822.0	89.20	180.80	7,045.2	-3,737.2	-292.6	3,737.2	0.22	0.16	
10,885.0	89.00	180.80	7,046.2	-3,800.2	-293.5	3,800.2	0.32	-0.32	
10,948.0	89.70	180.60	7,046.9	-3,863.2	-294.3	3,863.2	1.16	1.11	
11,012.0	89.80	180.20	7,047.2	-3,927.2	-294.7	3,927.2	0.64	0.16	
11,075.0	89.70	180.20	7,047.4	-3,990.2	-294.9	3,990.2	0.16	-0.16	
11,138.0	88.90	180.40	7,048.2	-4,053.2	-295.3	4,053.2	1.31	-1.27	
11,202.0	89.20	179.70	7,049.3	-4,117.2	-295.3	4,117.2	1.19	0.47	
11,265.0	89.90	179.20	7,049.8	-4,180.2	-294.7	4,180.2	1.37	1.11	
11,328.0	89.80	178.60	7,049.9	-4,243.2	-293.5	4,243.2	0.97	-0.16	
11,392.0	90.60	178.40	7,049.7	-4,307.1	-291.8	4,307.1	1.29	1.25	
11,455.0	90.50	177.90	7,049.1	-4,370.1	-289.8	4,370.1	0.81	-0.16	
11,519.0	90.30	177.70	7,048.7	-4,434.1	-287.3	4,434.1	0.44	-0.31	
11,580.0	90.20	177.20	7,048.4	-4,495.0	-284.6	4,495.0	0.84	-0.16	
11,630.0	90.20	177.20	7,048.2	-4,544.9	-282.2	4,544.9	0.00	0.00	

# Cathedral Energy Services

## Survey Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Flanigan 1C-6H
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	KB=13' @ 5029.0ft (Ensign 124)
<b>Site:</b>	NWNE S6-T1N-R64W (Flanigan)	<b>MD Reference:</b>	KB=13' @ 5029.0ft (Ensign 124)
<b>Well:</b>	Flanigan 1C-6H	<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									
- hit/miss target	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- Shape	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(ft)		
Flanigan 1C-6H PBHL	0.00	0.00	7,005.0	-4,575.3	-285.4	1,271,295.57	3,254,761.25	40.074500	-104.589650
- survey misses target center by 52.9ft at 11630.0ft MD (7048.2 TVD, -4544.9 N, -282.2 E)									
- Point									
Flanigan 1C-6H TGT #4	0.00	0.00	7,056.0	-4,032.2	-285.4	1,271,838.63	3,254,755.67	40.075991	-104.589650
- survey misses target center by 12.7ft at 11117.1ft MD (7047.9 TVD, -4032.3 N, -295.1 E)									
- Point									
Flanigan 1C-6H PBHL N	0.00	0.00	7,056.0	-4,575.3	-285.4	1,271,295.57	3,254,761.25	40.074500	-104.589650
- survey misses target center by 31.5ft at 11630.0ft MD (7048.2 TVD, -4544.9 N, -282.2 E)									
- Point									
Flanigan 1C-6H TGT #2	0.00	0.00	7,013.0	-1,832.5	-285.4	1,274,038.24	3,254,733.06	40.082029	-104.589650
- survey misses target center by 1.4ft at 8916.4ft MD (7011.7 TVD, -1832.5 N, -285.0 E)									
- Point									
Flanigan 1C-6H TGT #3	0.00	0.00	7,028.0	-3,232.3	-285.4	1,272,638.49	3,254,747.45	40.078187	-104.589650
- survey misses target center by 5.5ft at 10316.7ft MD (7030.6 TVD, -3232.2 N, -290.3 E)									
- Point									
Flanigan 1C-6H LP NEV	0.00	0.00	7,033.0	-375.3	-285.4	1,275,495.36	3,254,718.08	40.086030	-104.589650
- survey misses target center by 111.2ft at 7462.7ft MD (7030.9 TVD, -383.8 N, -396.3 E)									
- Point									
Flanigan 1C-6H TGT #1	0.00	0.00	7,033.0	-1,032.5	-285.4	1,274,838.16	3,254,724.84	40.084225	-104.589650
- survey misses target center by 61.0ft at 8118.8ft MD (7030.4 TVD, -1037.9 N, -346.2 E)									
- Point									

Survey Annotations				
Measured Depth	Vertical Depth	Local Coordinates		Comment
(ft)	(ft)	+N/-S (ft)	+E/-W (ft)	
11,580.0	7,048.4	-4,495.0	-284.6	Last Cathedral Survey @ 11,580' MD
11,630.0	7,048.2	-4,544.9	-282.2	Projection to Bit @ 11,630' MD

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