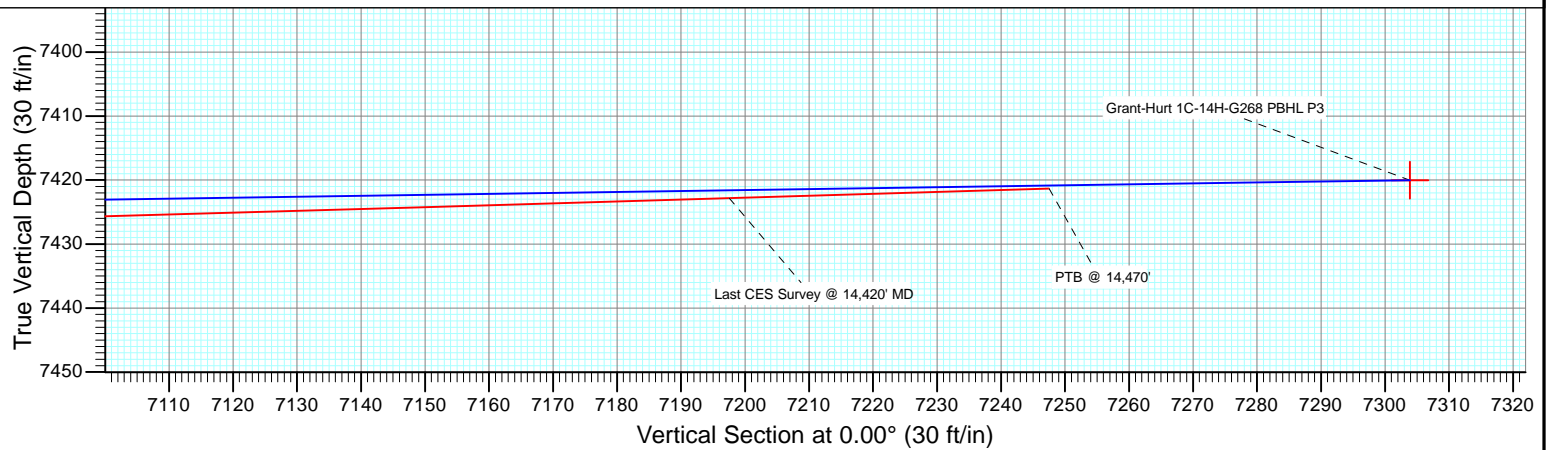
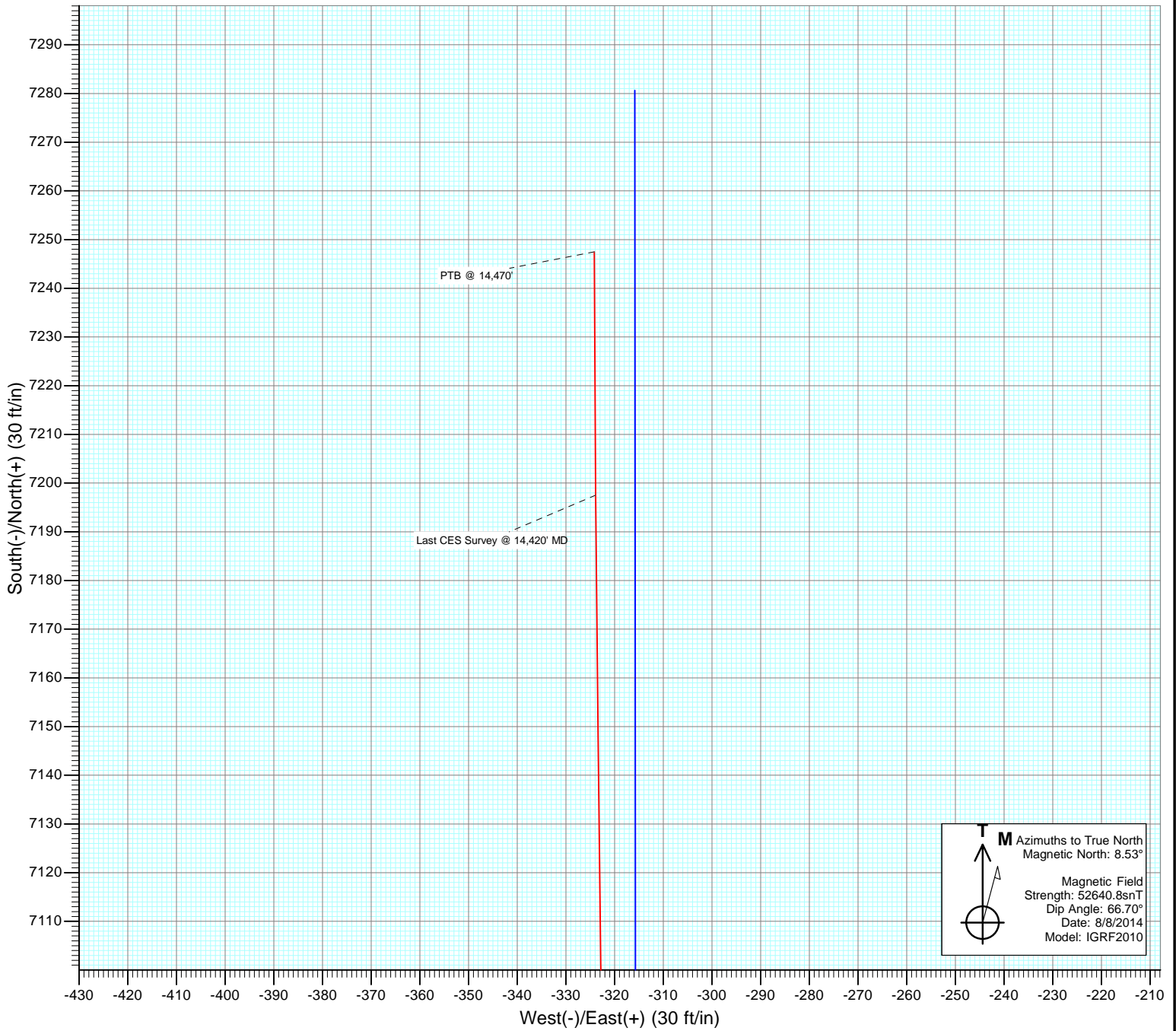




Project: DJ Wattenberg  
Site: S14-T2N-R68W (Grant Elmquist/Salisbury/Hurt)  
Well: Grant-Hurt 1C-14H-G268  
Wellbore: Hz  
Design: FINAL



# Cathedral Energy Services

## Survey Report

<b>Company:</b> EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b> Well Grant-Hurt 1C-14H-G268
<b>Project:</b> DJ Wattenberg	<b>TVD Reference:</b> 32' KB @ 4920.0ft (PATT 326)
<b>Site:</b> S14-T2N-R68W (Grant Elmquist/Salisbury/Hurt)	<b>MD Reference:</b> 32' KB @ 4920.0ft (PATT 326)
<b>Well:</b> Grant-Hurt 1C-14H-G268	<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		

<b>Site</b> S14-T2N-R68W (Grant Elmquist/Salisbury/Hurt)				
<b>Site Position:</b>	<b>Northing:</b> 1,295,686.81 ft	<b>Latitude:</b> 40.143850		
<b>From:</b> Lat/Long	<b>Easting:</b> 3,147,060.98 ft	<b>Longitude:</b> -104.973980		
<b>Position Uncertainty:</b> 0.0 ft	<b>Slot Radius:</b> 13.200 in	<b>Grid Convergence:</b> 0.34 °		

<b>Well</b> Grant-Hurt 1C-14H-G268				
<b>Well Position</b>	<b>+N/-S</b> 0.0 ft	<b>Northing:</b> 1,294,034.28 ft	<b>Latitude:</b> 40.139280	
	<b>+E/-W</b> 0.0 ft	<b>Easting:</b> 3,149,117.36 ft	<b>Longitude:</b> -104.966660	
<b>Position Uncertainty</b>	0.0 ft	<b>Wellhead Elevation:</b> ft	<b>Ground Level:</b> 4,888.0 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	8/8/2014	8.53	66.70	52,641

<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) (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>
	0.0	0.0	0.0	0.00

<b>Survey Program</b>		<b>Date</b> 8/15/2014
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>
146.0	14,470.0	Survey #1 (Hz)
		<b>Tool Name</b> Geolink MWD
		<b>Description</b> Geolink MWD

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	
146.0	0.30	165.65	146.0	-0.4	0.1	-0.4	0.21	0.21	
241.0	0.70	161.95	241.0	-1.2	0.3	-1.2	0.42	0.42	
335.0	0.40	260.65	335.0	-1.8	0.2	-1.8	0.91	-0.32	
430.0	1.10	256.95	430.0	-2.0	-1.0	-2.0	0.74	0.74	
525.0	2.20	238.25	524.9	-3.2	-3.5	-3.2	1.27	1.16	
620.0	3.20	236.45	619.8	-5.6	-7.2	-5.6	1.06	1.05	
714.0	3.90	237.65	713.7	-8.8	-12.1	-8.8	0.75	0.74	
825.0	2.90	237.05	824.5	-12.3	-17.7	-12.3	0.90	-0.90	
911.0	2.90	240.90	910.3	-14.6	-21.4	-14.6	0.23	0.00	
1,003.0	2.80	239.50	1,002.2	-16.8	-25.4	-16.8	0.13	-0.11	
1,095.0	2.60	239.70	1,094.1	-19.0	-29.1	-19.0	0.22	-0.22	
1,186.0	2.60	243.20	1,185.0	-21.0	-32.7	-21.0	0.17	0.00	

# Cathedral Energy Services

## Survey Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Grant-Hurt 1C-14H-G268
<b>Project:</b>	DJ Wattenberg	<b>TD Reference:</b>	32' KB @ 4920.0ft (PATT 326)
<b>Site:</b>	S14-T2N-R68W (Grant Elmquist/Salisbury/Hurt)	<b>MVD Reference:</b>	32' KB @ 4920.0ft (PATT 326)
<b>Well:</b>	Grant-Hurt 1C-14H-G268	<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
1,279.0	2.50	238.80	1,277.9	-23.0	-36.3	-23.0	0.24	-0.11	
1,371.0	2.20	233.90	1,369.9	-25.1	-39.5	-25.1	0.39	-0.33	
1,464.0	1.80	234.80	1,462.8	-27.0	-42.1	-27.0	0.43	-0.43	
1,556.0	3.40	257.30	1,554.7	-28.4	-46.0	-28.4	2.03	1.74	
1,647.0	3.00	262.80	1,645.6	-29.3	-50.9	-29.3	0.55	-0.44	
1,740.0	2.90	255.90	1,738.5	-30.2	-55.6	-30.2	0.40	-0.11	
1,833.0	5.00	254.30	1,831.2	-31.8	-61.8	-31.8	2.26	2.26	
1,925.0	4.40	250.10	1,922.9	-34.1	-69.0	-34.1	0.75	-0.65	
2,017.0	3.90	252.50	2,014.7	-36.3	-75.3	-36.3	0.58	-0.54	
2,108.0	5.20	239.90	2,105.4	-39.3	-81.8	-39.3	1.79	1.43	
2,200.0	4.70	241.40	2,197.0	-43.2	-88.7	-43.2	0.56	-0.54	
2,292.0	4.80	236.00	2,288.7	-47.1	-95.2	-47.1	0.50	0.11	
2,384.0	4.40	236.40	2,380.4	-51.2	-101.4	-51.2	0.44	-0.43	
2,478.0	4.20	229.50	2,474.2	-55.5	-107.0	-55.5	0.59	-0.21	
2,572.0	4.20	226.90	2,567.9	-60.0	-112.1	-60.0	0.20	0.00	
2,667.0	3.90	228.50	2,662.7	-64.6	-117.1	-64.6	0.34	-0.32	
2,761.0	2.90	240.30	2,756.5	-67.9	-121.5	-67.9	1.29	-1.06	
2,856.0	2.90	239.20	2,851.4	-70.3	-125.7	-70.3	0.06	0.00	
2,950.0	2.50	243.80	2,945.3	-72.4	-129.6	-72.4	0.48	-0.43	
3,045.0	2.70	247.10	3,040.2	-74.2	-133.5	-74.2	0.26	0.21	
3,140.0	2.50	241.10	3,135.1	-76.1	-137.4	-76.1	0.36	-0.21	
3,234.0	2.40	251.90	3,229.0	-77.7	-141.0	-77.7	0.50	-0.11	
3,329.0	1.50	207.80	3,324.0	-79.4	-143.5	-79.4	1.77	-0.95	
3,423.0	1.50	218.00	3,417.9	-81.4	-144.8	-81.4	0.28	0.00	
3,518.0	1.80	210.90	3,512.9	-83.7	-146.4	-83.7	0.38	0.32	
3,613.0	1.50	218.00	3,607.8	-86.0	-147.9	-86.0	0.38	-0.32	
3,707.0	1.50	222.70	3,701.8	-87.8	-149.5	-87.8	0.13	0.00	
3,802.0	1.20	236.50	3,796.8	-89.3	-151.2	-89.3	0.46	-0.32	
3,897.0	1.50	237.70	3,891.8	-90.5	-153.1	-90.5	0.32	0.32	
3,993.0	1.50	237.50	3,987.7	-91.9	-155.2	-91.9	0.01	0.00	
4,087.0	2.10	242.10	4,081.7	-93.3	-157.7	-93.3	0.66	0.64	
4,181.0	3.50	240.00	4,175.6	-95.6	-161.7	-95.6	1.49	1.49	
4,276.0	3.00	236.30	4,270.4	-98.4	-166.3	-98.4	0.57	-0.53	
4,371.0	2.90	234.50	4,365.3	-101.2	-170.3	-101.2	0.14	-0.11	
4,466.0	2.90	233.90	4,460.2	-104.0	-174.2	-104.0	0.03	0.00	
4,561.0	2.30	227.80	4,555.1	-106.7	-177.6	-106.7	0.69	-0.63	
4,656.0	1.90	233.20	4,650.0	-108.9	-180.3	-108.9	0.47	-0.42	
4,751.0	3.00	249.10	4,744.9	-110.7	-183.9	-110.7	1.35	1.16	
4,846.0	2.80	244.70	4,839.8	-112.6	-188.3	-112.6	0.31	-0.21	
4,941.0	3.00	248.70	4,934.7	-114.5	-192.7	-114.5	0.30	0.21	
5,036.0	2.20	250.50	5,029.6	-116.0	-196.7	-116.0	0.85	-0.84	
5,131.0	2.90	245.90	5,124.5	-117.6	-200.6	-117.6	0.77	0.74	
5,226.0	2.90	248.00	5,219.4	-119.5	-205.1	-119.5	0.11	0.00	
5,321.0	2.60	255.20	5,314.3	-120.9	-209.4	-120.9	0.48	-0.32	
5,415.0	2.00	256.90	5,408.2	-121.9	-213.0	-121.9	0.64	-0.64	
5,510.0	3.20	248.40	5,503.1	-123.2	-217.1	-123.2	1.32	1.26	
5,605.0	2.50	247.20	5,598.0	-125.0	-221.5	-125.0	0.74	-0.74	
5,699.0	1.50	248.30	5,691.9	-126.2	-224.5	-126.2	1.06	-1.06	
5,794.0	2.30	223.20	5,786.8	-128.1	-227.0	-128.1	1.20	0.84	
5,888.0	3.10	238.20	5,880.7	-130.8	-230.4	-130.8	1.13	0.85	
5,983.0	2.40	237.60	5,975.6	-133.2	-234.3	-133.2	0.74	-0.74	
6,078.0	3.40	245.20	6,070.5	-135.5	-238.5	-135.5	1.13	1.05	
6,172.0	2.90	245.70	6,164.4	-137.6	-243.2	-137.6	0.53	-0.53	

# Cathedral Energy Services

## Survey Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Grant-Hurt 1C-14H-G268
<b>Project:</b>	DJ Wattenberg	<b>TD Reference:</b>	32' KB @ 4920.0ft (PATT 326)
<b>Site:</b>	S14-T2N-R68W (Grant Elmquist/Salisbury/Hurt)	<b>MVD Reference:</b>	32' KB @ 4920.0ft (PATT 326)
<b>Well:</b>	Grant-Hurt 1C-14H-G268	<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
6,267.0	2.20	259.30	6,259.3	-138.9	-247.2	-138.9	0.97	-0.74	
6,362.0	1.30	237.90	6,354.2	-139.9	-249.9	-139.9	1.16	-0.95	
6,457.0	2.70	305.10	6,449.2	-139.1	-252.7	-139.1	2.63	1.47	
6,504.0	3.60	312.60	6,496.1	-137.5	-254.6	-137.5	2.10	1.91	
6,552.0	6.50	318.90	6,543.9	-134.4	-257.5	-134.4	6.14	6.04	
6,599.0	8.70	334.50	6,590.5	-129.2	-260.8	-129.2	6.38	4.68	
6,646.0	11.30	355.40	6,636.8	-121.4	-262.7	-121.4	9.41	5.53	
6,693.0	12.70	0.30	6,682.8	-111.7	-263.1	-111.7	3.68	2.98	
6,741.0	13.80	356.80	6,729.5	-100.7	-263.4	-100.7	2.84	2.29	
6,788.0	14.70	356.10	6,775.1	-89.1	-264.1	-89.1	1.95	1.91	
6,836.0	16.70	358.60	6,821.3	-76.2	-264.7	-76.2	4.40	4.17	
6,883.0	18.90	359.70	6,866.0	-61.8	-264.9	-61.8	4.74	4.68	
6,930.0	21.30	358.30	6,910.1	-45.6	-265.2	-45.6	5.21	5.11	
6,977.0	22.30	358.50	6,953.8	-28.2	-265.6	-28.2	2.13	2.13	
7,025.0	24.70	0.40	6,997.8	-9.1	-265.8	-9.1	5.24	5.00	
7,072.0	27.50	2.60	7,040.0	11.6	-265.3	11.6	6.30	5.96	
7,120.0	31.60	3.20	7,081.7	35.2	-264.0	35.2	8.56	8.54	
7,167.0	37.40	1.30	7,120.5	61.8	-263.0	61.8	12.55	12.34	
7,214.0	41.60	357.50	7,156.7	91.7	-263.4	91.7	10.31	8.94	
7,261.0	43.70	355.30	7,191.3	123.5	-265.4	123.5	5.48	4.47	
7,309.0	45.10	355.00	7,225.6	156.9	-268.2	156.9	2.95	2.92	
7,356.0	48.00	354.80	7,257.9	190.9	-271.3	190.9	6.18	6.17	
7,403.0	52.40	357.10	7,288.0	226.9	-273.8	226.9	10.09	9.36	
7,450.0	56.90	358.00	7,315.2	265.2	-275.4	265.2	9.70	9.57	
7,498.0	61.00	357.50	7,339.9	306.3	-277.1	306.3	8.59	8.54	
7,545.0	64.00	357.50	7,361.6	347.9	-278.9	347.9	6.38	6.38	
7,592.0	66.70	357.70	7,381.2	390.6	-280.7	390.6	5.76	5.74	
7,639.0	68.80	358.00	7,399.0	434.1	-282.3	434.1	4.51	4.47	
7,687.0	70.50	358.30	7,415.7	479.1	-283.7	479.1	3.59	3.54	
7,737.0	72.40	358.20	7,431.6	526.4	-285.2	526.4	3.80	3.80	
7,785.0	74.90	358.20	7,445.1	572.5	-286.6	572.5	5.21	5.21	
7,816.0	76.40	358.10	7,452.8	602.5	-287.6	602.5	4.85	4.84	
7,848.0	78.70	358.30	7,459.7	633.7	-288.6	633.7	7.21	7.19	
7,880.0	81.40	358.80	7,465.2	665.2	-289.4	665.2	8.58	8.44	
7,930.0	83.86	357.83	7,471.7	714.8	-290.8	714.8	5.28	4.92	
7,994.0	87.00	356.60	7,476.8	778.5	-293.9	778.5	5.27	4.91	
8,085.0	93.20	354.60	7,476.6	869.2	-300.9	869.2	7.16	6.81	
8,177.0	96.70	0.40	7,468.7	960.7	-304.9	960.7	7.34	3.80	
8,269.0	94.00	2.40	7,460.1	1,052.3	-302.7	1,052.3	3.65	-2.93	
8,361.0	92.60	3.50	7,454.8	1,144.0	-298.0	1,144.0	1.93	-1.52	
8,453.0	89.10	4.00	7,453.4	1,235.8	-291.9	1,235.8	3.84	-3.80	
8,545.0	89.00	3.00	7,454.9	1,327.6	-286.3	1,327.6	1.09	-0.11	
8,637.0	89.20	1.80	7,456.4	1,419.5	-282.5	1,419.5	1.32	0.22	
8,728.0	89.50	2.40	7,457.4	1,510.4	-279.1	1,510.4	0.74	0.33	
8,821.0	89.10	359.50	7,458.6	1,603.4	-277.6	1,603.4	3.15	-0.43	
8,913.0	90.90	358.60	7,458.6	1,695.4	-279.1	1,695.4	2.19	1.96	
9,005.0	91.20	358.70	7,456.9	1,787.3	-281.3	1,787.3	0.34	0.33	
9,097.0	91.40	358.20	7,454.8	1,879.3	-283.8	1,879.3	0.59	0.22	
9,189.0	90.70	358.20	7,453.1	1,971.2	-286.7	1,971.2	0.76	-0.76	
9,281.0	91.10	357.50	7,451.7	2,063.1	-290.1	2,063.1	0.88	0.43	
9,374.0	90.80	358.30	7,450.1	2,156.1	-293.5	2,156.1	0.92	-0.32	
9,467.0	90.60	359.10	7,449.0	2,249.0	-295.6	2,249.0	0.89	-0.22	
9,558.0	90.90	359.70	7,447.8	2,340.0	-296.6	2,340.0	0.74	0.33	

# Cathedral Energy Services

## Survey Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Grant-Hurt 1C-14H-G268
<b>Project:</b>	DJ Wattenberg	<b>TD Reference:</b>	32' KB @ 4920.0ft (PATT 326)
<b>Site:</b>	S14-T2N-R68W (Grant Elmquist/Salisbury/Hurt)	<b>MD Reference:</b>	32' KB @ 4920.0ft (PATT 326)
<b>Well:</b>	Grant-Hurt 1C-14H-G268	<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
9,650.0	89.80	359.70	7,447.2	2,432.0	-297.1	2,432.0	1.20	-1.20	
9,741.0	90.20	359.80	7,447.2	2,523.0	-297.5	2,523.0	0.45	0.44	
9,833.0	90.80	0.00	7,446.4	2,615.0	-297.6	2,615.0	0.69	0.65	
9,925.0	88.40	358.30	7,447.1	2,707.0	-299.0	2,707.0	3.20	-2.61	
10,019.0	88.40	358.20	7,449.7	2,800.9	-301.9	2,800.9	0.11	0.00	
10,113.0	88.20	358.20	7,452.5	2,894.8	-304.8	2,894.8	0.21	-0.21	
10,207.0	90.00	357.70	7,453.9	2,988.8	-308.2	2,988.8	1.99	1.91	
10,301.0	90.20	356.40	7,453.8	3,082.6	-313.0	3,082.6	1.40	0.21	
10,395.0	89.80	355.60	7,453.8	3,176.4	-319.6	3,176.4	0.95	-0.43	
10,489.0	93.20	358.00	7,451.3	3,270.2	-324.8	3,270.2	4.43	3.62	
10,583.0	93.00	359.20	7,446.2	3,364.0	-327.1	3,364.0	1.29	-0.21	
10,677.0	92.20	2.00	7,442.0	3,457.9	-326.1	3,457.9	3.09	-0.85	
10,771.0	90.50	1.90	7,439.8	3,551.8	-322.9	3,551.8	1.81	-1.81	
10,864.0	90.10	2.60	7,439.3	3,644.8	-319.3	3,644.8	0.87	-0.43	
10,959.0	90.20	2.90	7,439.0	3,739.7	-314.7	3,739.7	0.33	0.11	
11,054.0	88.90	1.50	7,439.8	3,834.6	-311.1	3,834.6	2.01	-1.37	
11,148.0	88.20	0.60	7,442.2	3,928.5	-309.4	3,928.5	1.21	-0.74	
11,243.0	90.00	357.50	7,443.6	4,023.5	-310.9	4,023.5	3.77	1.89	
11,337.0	92.60	359.00	7,441.5	4,117.4	-313.8	4,117.4	3.19	2.77	
11,432.0	91.10	1.00	7,438.4	4,212.4	-313.8	4,212.4	2.63	-1.58	
11,526.0	91.00	1.90	7,436.7	4,306.3	-311.4	4,306.3	0.96	-0.11	
11,621.0	89.50	2.60	7,436.3	4,401.2	-307.7	4,401.2	1.74	-1.58	
11,716.0	88.00	2.00	7,438.4	4,496.1	-303.9	4,496.1	1.70	-1.58	
11,811.0	88.10	0.20	7,441.6	4,591.0	-302.1	4,591.0	1.90	0.11	
11,906.0	90.00	358.20	7,443.2	4,686.0	-303.4	4,686.0	2.90	2.00	
12,000.0	90.50	357.50	7,442.8	4,779.9	-306.9	4,779.9	0.92	0.53	
12,095.0	91.10	358.90	7,441.5	4,874.9	-309.9	4,874.9	1.60	0.63	
12,190.0	90.80	0.80	7,439.9	4,969.9	-310.1	4,969.9	2.02	-0.32	
12,285.0	89.20	2.30	7,439.9	5,064.8	-307.6	5,064.8	2.31	-1.68	
12,380.0	89.50	2.60	7,441.0	5,159.7	-303.5	5,159.7	0.45	0.32	
12,475.0	88.50	1.00	7,442.6	5,254.7	-300.5	5,254.7	1.99	-1.05	
12,569.0	88.00	358.80	7,445.5	5,348.6	-300.7	5,348.6	2.40	-0.53	
12,664.0	89.20	358.40	7,447.8	5,443.5	-303.0	5,443.5	1.33	1.26	
12,759.0	89.10	357.50	7,449.2	5,538.5	-306.4	5,538.5	0.95	-0.11	
12,855.0	91.00	357.30	7,449.1	5,634.4	-310.8	5,634.4	1.99	1.98	
12,949.0	91.10	356.00	7,447.4	5,728.2	-316.3	5,728.2	1.39	0.11	
13,044.0	92.40	355.80	7,444.5	5,822.9	-323.0	5,822.9	1.38	1.37	
13,138.0	94.40	356.90	7,438.9	5,916.5	-329.0	5,916.5	2.43	2.13	
13,233.0	94.20	359.10	7,431.8	6,011.2	-332.3	6,011.2	2.32	-0.21	
13,328.0	93.10	0.20	7,425.8	6,106.0	-332.9	6,106.0	1.64	-1.16	
13,423.0	92.60	1.90	7,421.0	6,200.9	-331.2	6,200.9	1.86	-0.53	
13,518.0	88.80	1.90	7,419.9	6,295.8	-328.0	6,295.8	4.00	-4.00	
13,613.0	88.80	1.50	7,421.9	6,390.7	-325.2	6,390.7	0.42	0.00	
13,707.0	89.30	0.80	7,423.4	6,484.7	-323.3	6,484.7	0.92	0.53	
13,802.0	89.10	1.10	7,424.7	6,579.7	-321.7	6,579.7	0.38	-0.21	
13,897.0	89.30	0.50	7,426.1	6,674.7	-320.4	6,674.7	0.67	0.21	
13,992.0	89.30	359.00	7,427.2	6,769.7	-320.8	6,769.7	1.58	0.00	
14,087.0	88.50	359.60	7,429.1	6,864.6	-322.0	6,864.6	1.05	-0.84	
14,182.0	91.30	359.70	7,429.2	6,959.6	-322.6	6,959.6	2.95	2.95	
14,276.0	91.50	0.10	7,426.9	7,053.6	-322.7	7,053.6	0.48	0.21	
14,371.0	91.70	359.10	7,424.3	7,148.6	-323.4	7,148.6	1.07	0.21	
14,420.0	91.70	359.70	7,422.8	7,197.5	-323.9	7,197.5	1.22	0.00	Last CES Survey @ 14,420' MD
14,470.0	91.70	359.70	7,421.3	7,247.5	-324.2	7,247.5	0.00	0.00	PTB @ 14,470'

# Cathedral Energy Services

## Survey Report

<b>Company:</b> EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b> Well Grant-Hurt 1C-14H-G268
<b>Project:</b> DJ Wattenberg	<b>TVD Reference:</b> 32' KB @ 4920.0ft (PATT 326)
<b>Site:</b> S14-T2N-R68W (Grant Elmquist/Salisbury/Hurt)	<b>MD Reference:</b> 32' KB @ 4920.0ft (PATT 326)
<b>Well:</b> Grant-Hurt 1C-14H-G268	<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

Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
Grant-Hurt 1C-14H-G26 - hit/miss target - Shape	0.00	0.00	7,189.9	184.4	-286.0	1,294,216.96	3,148,830.25	40.139786	-104.967683
- actual wellpath misses target center by 48.2ft at 7303.7ft MD (7221.8 TVD, 153.2 N, -267.9 E)									
- Point									
Grant-Hurt 1C-14H-G26 - hit/miss target - Shape	0.00	0.00	7,420.0	7,303.9	-315.8	1,301,336.10	3,148,757.60	40.159330	-104.967790
- actual wellpath misses target center by 57.0ft at 14470.0ft MD (7421.3 TVD, 7247.5 N, -324.2 E)									
- Point									
Grant-Hurt 1C-14H-G26 - hit/miss target - Shape	0.00	0.00	7,440.0	3,140.8	-308.6	1,297,173.16	3,148,789.89	40.147902	-104.967764
- actual wellpath misses target center by 16.0ft at 10358.7ft MD (7453.7 TVD, 3140.2 N, -316.9 E)									
- Point									
Grant-Hurt 1C-14H-G26 - hit/miss target - Shape	0.00	0.00	7,440.0	5,940.8	-315.1	1,299,973.06	3,148,766.58	40.155588	-104.967787
- actual wellpath misses target center by 15.4ft at 13161.6ft MD (7437.1 TVD, 5940.0 N, -330.2 E)									
- Point									
Grant-Hurt 1C-14H-G26 - hit/miss target - Shape	0.00	0.00	7,250.0	184.4	-286.0	1,294,216.96	3,148,830.25	40.139786	-104.967683
- actual wellpath misses target center by 15.4ft at 7346.8ft MD (7251.7 TVD, 184.1 N, -270.7 E)									
- Point									
Grant-Hurt 1C-14H-G26 - hit/miss target - Shape	0.00	0.00	7,400.0	7,303.9	-315.8	1,301,336.10	3,148,757.60	40.159330	-104.967790
- actual wellpath misses target center by 60.8ft at 14470.0ft MD (7421.3 TVD, 7247.5 N, -324.2 E)									
- Point									

Design Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
14,420.0	7,422.8	7,197.5	-323.9	Last CES Survey @ 14,420' MD
14,470.0	7,421.3	7,247.5	-324.2	PTB @ 14,470'

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

# **EnCana Oil & Gas (USA) Inc**

**DJ Wattenberg**

**S14-T2N-R68W (Grant Elmquist/Salisbury/Hurt)**

**Grant-Hurt 1C-14H-G268**

**Hz**

**Design: FINAL**

## **Survey Report - Geographic**

**15 August, 2014**



# Cathedral Energy Services

## Survey Report - Geographic

<b>Company:</b> EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b> Well Grant-Hurt 1C-14H-G268
<b>Project:</b> DJ Wattenberg	<b>TVD Reference:</b> 32' KB @ 4920.0ft (PATT 326)
<b>Site:</b> S14-T2N-R68W (Grant Elmquist/Salisbury/Hurt)	<b>MD Reference:</b> 32' KB @ 4920.0ft (PATT 326)
<b>Well:</b> Grant-Hurt 1C-14H-G268	<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		

<b>Site</b> S14-T2N-R68W (Grant Elmquist/Salisbury/Hurt)				
<b>Site Position:</b>	<b>Northing:</b>	1,295,686.81 ft	<b>Latitude:</b>	40.143850
<b>From:</b> Lat/Long	<b>Easting:</b>	3,147,060.98 ft	<b>Longitude:</b>	-104.973980
<b>Position Uncertainty:</b> 0.0 ft	<b>Slot Radius:</b>	13.200 in	<b>Grid Convergence:</b>	0.34 °

<b>Well</b> Grant-Hurt 1C-14H-G268				
<b>Well Position</b>	<b>+N/-S</b>	0.0 ft	<b>Northing:</b>	1,294,034.28 ft
	<b>+E/-W</b>	0.0 ft	<b>Easting:</b>	3,149,117.36 ft
<b>Position Uncertainty</b>		0.0 ft	<b>Wellhead Elevation:</b>	ft
			<b>Latitude:</b>	40.139280
			<b>Longitude:</b>	-104.966660
			<b>Ground Level:</b>	4,888.0 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	8/8/2014	8.53	66.70	52,641

<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) (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>	
	0.0	0.0	0.0		0.00

<b>Survey Program</b>		<b>Date</b>	8/15/2014		
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
146.0	14,470.0	Survey #1 (Hz)	Geolink MWD	Geolink MWD	

<b>Survey</b>										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (ft)	Map Easting (ft)	Latitude	Longitude	
0.0	0.00	0.00	0.0	0.0	0.0	1,294,034.28	3,149,117.36	40.139280	-104.966660	
146.0	0.30	165.65	146.0	-0.4	0.1	1,294,033.91	3,149,117.46	40.139279	-104.966660	
241.0	0.70	161.95	241.0	-1.2	0.3	1,294,033.12	3,149,117.70	40.139277	-104.966659	
335.0	0.40	260.65	335.0	-1.8	0.2	1,294,032.52	3,149,117.56	40.139275	-104.966660	
430.0	1.10	256.95	430.0	-2.0	-1.0	1,294,032.25	3,149,116.35	40.139274	-104.966664	
525.0	2.20	238.25	524.9	-3.2	-3.5	1,294,031.07	3,149,113.91	40.139271	-104.966673	
620.0	3.20	236.45	619.8	-5.6	-7.2	1,294,028.62	3,149,110.17	40.139265	-104.966686	
714.0	3.90	237.65	713.7	-8.8	-12.1	1,294,025.43	3,149,105.30	40.139256	-104.966704	
825.0	2.90	237.05	824.5	-12.3	-17.7	1,294,021.85	3,149,099.78	40.139246	-104.966723	
911.0	2.90	240.90	910.3	-14.6	-21.4	1,294,019.59	3,149,096.06	40.139240	-104.966737	
1,003.0	2.80	239.50	1,002.2	-16.8	-25.4	1,294,017.29	3,149,092.11	40.139234	-104.966751	
1,095.0	2.60	239.70	1,094.1	-19.0	-29.1	1,294,015.08	3,149,088.38	40.139228	-104.966764	

# Cathedral Energy Services

## Survey Report - Geographic

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Grant-Hurt 1C-14H-G268
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	32' KB @ 4920.0ft (PATT 326)
<b>Site:</b>	S14-T2N-R68W (Grant Elmquist/Salisbury/Hurt)	<b>MD Reference:</b>	32' KB @ 4920.0ft (PATT 326)
<b>Well:</b>	Grant-Hurt 1C-14H-G268	<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)	Map Northing (ft)	Map Easting (ft)	Latitude	Longitude	
1,186.0	2.60	243.20	1,185.0	-21.0	-32.7	1,294,013.08	3,149,084.77	40.139222	-104.966777	
1,279.0	2.50	238.80	1,277.9	-23.0	-36.3	1,294,011.06	3,149,081.16	40.139217	-104.966790	
1,371.0	2.20	233.90	1,369.9	-25.1	-39.5	1,294,008.96	3,149,078.03	40.139211	-104.966801	
1,464.0	1.80	234.80	1,462.8	-27.0	-42.1	1,294,007.05	3,149,075.41	40.139206	-104.966811	
1,556.0	3.40	257.30	1,554.7	-28.4	-46.0	1,294,005.60	3,149,071.58	40.139202	-104.966825	
1,647.0	3.00	262.80	1,645.6	-29.3	-50.9	1,294,004.67	3,149,066.59	40.139200	-104.966842	
1,740.0	2.90	255.90	1,738.5	-30.2	-55.6	1,294,003.77	3,149,061.90	40.139197	-104.966859	
1,833.0	5.00	254.30	1,831.2	-31.8	-61.8	1,294,002.06	3,149,055.72	40.139193	-104.966881	
1,925.0	4.40	250.10	1,922.9	-34.1	-69.0	1,293,999.73	3,149,048.56	40.139186	-104.966907	
2,017.0	3.90	252.50	2,014.7	-36.3	-75.3	1,293,997.55	3,149,042.27	40.139180	-104.966930	
2,108.0	5.20	239.90	2,105.4	-39.3	-81.8	1,293,994.51	3,149,035.77	40.139172	-104.966953	
2,200.0	4.70	241.40	2,197.0	-43.2	-88.7	1,293,990.58	3,149,028.87	40.139162	-104.966978	
2,292.0	4.80	236.00	2,288.7	-47.1	-95.2	1,293,986.58	3,149,022.40	40.139151	-104.967001	
2,384.0	4.40	236.40	2,380.4	-51.2	-101.4	1,293,982.44	3,149,016.29	40.139139	-104.967023	
2,478.0	4.20	229.50	2,474.2	-55.5	-107.0	1,293,978.17	3,149,010.70	40.139128	-104.967043	
2,572.0	4.20	226.90	2,567.9	-60.0	-112.1	1,293,973.56	3,149,005.59	40.139115	-104.967061	
2,667.0	3.90	228.50	2,662.7	-64.6	-117.1	1,293,969.01	3,149,000.66	40.139103	-104.967079	
2,761.0	2.90	240.30	2,756.5	-67.9	-121.5	1,293,965.69	3,148,996.22	40.139094	-104.967095	
2,856.0	2.90	239.20	2,851.4	-70.3	-125.7	1,293,963.24	3,148,992.08	40.139087	-104.967110	
2,950.0	2.50	243.80	2,945.3	-72.4	-129.6	1,293,961.09	3,148,988.22	40.139081	-104.967124	
3,045.0	2.70	247.10	3,040.2	-74.2	-133.5	1,293,959.28	3,148,984.31	40.139076	-104.967138	
3,140.0	2.50	241.10	3,135.1	-76.1	-137.4	1,293,957.39	3,148,980.44	40.139071	-104.967152	
3,234.0	2.40	251.90	3,229.0	-77.7	-141.0	1,293,955.76	3,148,976.79	40.139067	-104.967165	
3,329.0	1.50	207.80	3,324.0	-79.4	-143.5	1,293,954.03	3,148,974.33	40.139062	-104.967174	
3,423.0	1.50	218.00	3,417.9	-81.4	-144.8	1,293,951.97	3,148,973.01	40.139056	-104.967178	
3,518.0	1.80	210.90	3,512.9	-83.7	-146.4	1,293,949.70	3,148,971.49	40.139050	-104.967184	
3,613.0	1.50	218.00	3,607.8	-86.0	-147.9	1,293,947.43	3,148,969.97	40.139044	-104.967189	
3,707.0	1.50	222.70	3,701.8	-87.8	-149.5	1,293,945.54	3,148,968.39	40.139039	-104.967195	
3,802.0	1.20	236.50	3,796.8	-89.3	-151.2	1,293,944.07	3,148,966.73	40.139035	-104.967201	
3,897.0	1.50	237.70	3,891.8	-90.5	-153.1	1,293,942.85	3,148,964.85	40.139032	-104.967208	
3,993.0	1.50	237.50	3,987.7	-91.9	-155.2	1,293,941.49	3,148,962.74	40.139028	-104.967215	
4,087.0	2.10	242.10	4,081.7	-93.3	-157.7	1,293,940.01	3,148,960.19	40.139024	-104.967224	
4,181.0	3.50	240.00	4,175.6	-95.6	-161.7	1,293,937.74	3,148,956.19	40.139018	-104.967239	
4,276.0	3.00	236.30	4,270.4	-98.4	-166.3	1,293,934.88	3,148,951.63	40.139010	-104.967255	
4,371.0	2.90	234.50	4,365.3	-101.2	-170.3	1,293,932.08	3,148,947.62	40.139002	-104.967270	
4,466.0	2.90	233.90	4,460.2	-104.0	-174.2	1,293,929.25	3,148,943.74	40.138995	-104.967283	
4,561.0	2.30	227.80	4,555.1	-106.7	-177.6	1,293,926.53	3,148,940.41	40.138987	-104.967295	
4,656.0	1.90	233.20	4,650.0	-108.9	-180.3	1,293,924.29	3,148,937.75	40.138981	-104.967305	
4,751.0	3.00	249.10	4,744.9	-110.7	-183.9	1,293,922.44	3,148,934.17	40.138976	-104.967318	
4,846.0	2.80	244.70	4,839.8	-112.6	-188.3	1,293,920.54	3,148,929.76	40.138971	-104.967334	
4,941.0	3.00	248.70	4,934.7	-114.5	-192.7	1,293,918.62	3,148,925.36	40.138966	-104.967349	
5,036.0	2.20	250.50	5,029.6	-116.0	-196.7	1,293,917.08	3,148,921.34	40.138962	-104.967364	
5,131.0	2.90	245.90	5,124.5	-117.6	-200.6	1,293,915.47	3,148,917.43	40.138957	-104.967378	
5,226.0	2.90	248.00	5,219.4	-119.5	-205.1	1,293,913.56	3,148,913.02	40.138952	-104.967394	
5,321.0	2.60	255.20	5,314.2	-120.9	-209.4	1,293,912.08	3,148,908.72	40.138948	-104.967409	
5,415.0	2.00	256.90	5,408.2	-121.9	-213.0	1,293,911.14	3,148,905.07	40.138946	-104.967422	
5,510.0	3.20	248.40	5,503.1	-123.2	-217.1	1,293,909.77	3,148,900.99	40.138942	-104.967437	
5,605.0	2.50	247.20	5,598.0	-125.0	-221.5	1,293,907.96	3,148,896.63	40.138937	-104.967452	
5,699.0	1.50	248.30	5,691.9	-126.2	-224.5	1,293,906.69	3,148,893.60	40.138934	-104.967463	
5,794.0	2.30	223.20	5,786.8	-128.1	-227.0	1,293,904.83	3,148,891.16	40.138928	-104.967472	
5,888.0	3.10	238.20	5,880.7	-130.8	-230.4	1,293,902.09	3,148,887.72	40.138921	-104.967484	
5,983.0	2.40	237.60	5,975.6	-133.2	-234.3	1,293,899.65	3,148,883.87	40.138914	-104.967498	
6,078.0	3.40	245.20	6,070.5	-135.5	-238.5	1,293,897.38	3,148,879.65	40.138908	-104.967513	
6,172.0	2.90	245.70	6,164.4	-137.6	-243.2	1,293,895.20	3,148,874.96	40.138902	-104.967530	
6,267.0	2.20	259.30	6,259.3	-138.9	-247.2	1,293,893.85	3,148,870.99	40.138899	-104.967544	

# Cathedral Energy Services

## Survey Report - Geographic

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Grant-Hurt 1C-14H-G268
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	32' KB @ 4920.0ft (PATT 326)
<b>Site:</b>	S14-T2N-R68W (Grant Elmquist/Salisbury/Hurt)	<b>MD Reference:</b>	32' KB @ 4920.0ft (PATT 326)
<b>Well:</b>	Grant-Hurt 1C-14H-G268	<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)	Map Northing (ft)	Map Easting (ft)	Latitude	Longitude	
6,362.0	1.30	237.90	6,354.2	-139.9	-249.9	1,293,892.92	3,148,868.29	40.138896	-104.967554	
6,457.0	2.70	305.10	6,449.2	-139.1	-252.7	1,293,893.62	3,148,865.54	40.138898	-104.967564	
6,504.0	3.60	312.60	6,496.1	-137.5	-254.6	1,293,895.24	3,148,863.54	40.138903	-104.967571	
6,552.0	6.50	318.90	6,543.9	-134.4	-257.5	1,293,898.30	3,148,860.63	40.138911	-104.967581	
6,599.0	8.70	334.50	6,590.5	-129.2	-260.8	1,293,903.49	3,148,857.32	40.138925	-104.967593	
6,646.0	11.30	355.40	6,636.8	-121.4	-262.7	1,293,911.28	3,148,855.37	40.138947	-104.967600	
6,693.0	12.70	0.30	6,682.8	-111.7	-263.1	1,293,921.03	3,148,854.97	40.138974	-104.967601	
6,741.0	13.80	356.80	6,729.5	-100.7	-263.4	1,293,932.03	3,148,854.61	40.139004	-104.967602	
6,788.0	14.70	356.10	6,775.1	-89.1	-264.1	1,293,943.57	3,148,853.82	40.139035	-104.967605	
6,836.0	16.70	358.60	6,821.3	-76.2	-264.7	1,293,956.54	3,148,853.16	40.139071	-104.967607	
6,883.0	18.90	359.70	6,866.0	-61.8	-264.9	1,293,970.90	3,148,852.87	40.139110	-104.967608	
6,930.0	21.30	358.30	6,910.1	-45.6	-265.2	1,293,987.04	3,148,852.48	40.139155	-104.967609	
6,977.0	22.30	358.50	6,953.8	-28.2	-265.6	1,294,004.49	3,148,851.89	40.139203	-104.967610	
7,025.0	24.70	0.40	6,997.8	-9.1	-265.8	1,294,023.62	3,148,851.60	40.139255	-104.967611	
7,072.0	27.50	2.60	7,040.0	11.6	-265.3	1,294,044.29	3,148,852.04	40.139312	-104.967609	
7,120.0	31.60	3.20	7,081.7	35.2	-264.0	1,294,067.93	3,148,853.10	40.139377	-104.967605	
7,167.0	37.40	1.30	7,120.5	61.8	-263.0	1,294,094.53	3,148,853.96	40.139450	-104.967601	
7,214.0	41.60	357.50	7,156.7	91.7	-263.4	1,294,124.40	3,148,853.42	40.139532	-104.967602	
7,261.0	43.70	355.30	7,191.3	123.5	-265.4	1,294,156.16	3,148,851.22	40.139619	-104.967610	
7,309.0	45.10	355.00	7,225.6	156.9	-268.2	1,294,189.60	3,148,848.18	40.139711	-104.967620	
7,356.0	48.00	354.80	7,257.9	190.9	-271.3	1,294,223.57	3,148,844.94	40.139804	-104.967631	
7,403.0	52.40	357.10	7,288.0	226.9	-273.8	1,294,259.56	3,148,842.19	40.139903	-104.967640	
7,450.0	56.90	358.00	7,315.2	265.2	-275.4	1,294,297.84	3,148,840.33	40.140008	-104.967645	
7,498.0	61.00	357.50	7,339.9	306.3	-277.1	1,294,338.91	3,148,838.47	40.140121	-104.967651	
7,545.0	64.00	357.50	7,361.6	347.9	-278.9	1,294,380.54	3,148,836.40	40.140235	-104.967658	
7,592.0	66.70	357.70	7,381.2	390.6	-280.7	1,294,423.21	3,148,834.36	40.140352	-104.967664	
7,639.0	68.80	358.00	7,399.0	434.1	-282.3	1,294,466.66	3,148,832.46	40.140472	-104.967670	
7,687.0	70.50	358.30	7,415.7	479.1	-283.7	1,294,511.63	3,148,830.74	40.140595	-104.967675	
7,737.0	72.40	358.20	7,431.6	526.4	-285.2	1,294,559.00	3,148,829.01	40.140725	-104.967680	
7,785.0	74.90	358.20	7,445.1	572.5	-286.6	1,294,605.02	3,148,827.28	40.140852	-104.967686	
7,816.0	76.40	358.10	7,452.8	602.5	-287.6	1,294,635.03	3,148,826.13	40.140934	-104.967689	
7,848.0	78.70	358.30	7,459.7	633.7	-288.6	1,294,666.26	3,148,824.97	40.141020	-104.967693	
7,880.0	81.40	358.80	7,465.2	665.2	-289.4	1,294,697.76	3,148,823.98	40.141106	-104.967695	
7,930.0	83.86	357.83	7,471.7	714.8	-290.8	1,294,747.31	3,148,822.22	40.141242	-104.967701	
7,994.0	87.00	356.60	7,476.8	778.5	-293.9	1,294,811.00	3,148,818.74	40.141417	-104.967712	
8,085.0	93.20	354.60	7,476.6	869.2	-300.9	1,294,901.64	3,148,811.22	40.141666	-104.967737	
8,177.0	96.70	0.40	7,468.7	960.7	-304.9	1,294,993.13	3,148,806.66	40.141917	-104.967751	
8,269.0	94.00	2.40	7,460.1	1,052.3	-302.7	1,295,084.70	3,148,808.35	40.142169	-104.967743	
8,361.0	92.60	3.50	7,454.8	1,144.0	-298.0	1,295,176.45	3,148,812.52	40.142420	-104.967726	
8,453.0	89.10	4.00	7,453.4	1,235.8	-291.9	1,295,268.26	3,148,817.99	40.142672	-104.967705	
8,545.0	89.00	3.00	7,454.9	1,327.6	-286.3	1,295,360.11	3,148,823.05	40.142924	-104.967684	
8,637.0	89.20	1.80	7,456.4	1,419.5	-282.5	1,295,452.04	3,148,826.35	40.143177	-104.967671	
8,728.0	89.50	2.40	7,457.4	1,510.4	-279.1	1,295,542.99	3,148,829.14	40.143426	-104.967659	
8,821.0	89.10	359.50	7,458.6	1,603.4	-277.6	1,295,635.97	3,148,830.12	40.143682	-104.967653	
8,913.0	90.90	358.60	7,458.6	1,695.4	-279.1	1,295,727.94	3,148,828.04	40.143934	-104.967659	
9,005.0	91.20	358.70	7,456.9	1,787.3	-281.3	1,295,819.88	3,148,825.32	40.144186	-104.967666	
9,097.0	91.40	358.20	7,454.8	1,879.3	-283.8	1,295,911.81	3,148,822.28	40.144439	-104.967675	
9,189.0	90.70	358.20	7,453.1	1,971.2	-286.7	1,296,003.73	3,148,818.84	40.144691	-104.967686	
9,281.0	91.10	357.50	7,451.7	2,063.1	-290.1	1,296,095.63	3,148,814.83	40.144944	-104.967698	
9,374.0	90.80	358.30	7,450.1	2,156.1	-293.5	1,296,188.53	3,148,810.87	40.145199	-104.967710	
9,467.0	90.60	359.10	7,449.0	2,249.0	-295.6	1,296,281.48	3,148,808.20	40.145454	-104.967718	
9,558.0	90.90	359.70	7,447.8	2,340.0	-296.6	1,296,372.46	3,148,806.70	40.145704	-104.967721	
9,650.0	89.80	359.70	7,447.2	2,432.0	-297.1	1,296,464.45	3,148,805.66	40.145956	-104.967723	
9,741.0	90.20	359.80	7,447.2	2,523.0	-297.5	1,296,555.45	3,148,804.72	40.146206	-104.967724	
9,833.0	90.80	0.00	7,446.4	2,615.0	-297.6	1,296,647.46	3,148,804.00	40.146459	-104.967725	

# Cathedral Energy Services

## Survey Report - Geographic

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Grant-Hurt 1C-14H-G268
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	32' KB @ 4920.0ft (PATT 326)
<b>Site:</b>	S14-T2N-R68W (Grant Elmquist/Salisbury/Hurt)	<b>MD Reference:</b>	32' KB @ 4920.0ft (PATT 326)
<b>Well:</b>	Grant-Hurt 1C-14H-G268	<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)	Map Northing (ft)	Map Easting (ft)	Latitude	Longitude	
9,925.0	88.40	358.30	7,447.1	2,707.0	-299.0	1,296,739.43	3,148,802.09	40.146711	-104.967730	
10,019.0	88.40	358.20	7,449.7	2,800.9	-301.9	1,296,833.33	3,148,798.65	40.146969	-104.967740	
10,113.0	88.20	358.20	7,452.5	2,894.8	-304.8	1,296,927.22	3,148,795.14	40.147227	-104.967751	
10,207.0	90.00	357.70	7,453.9	2,988.8	-308.2	1,297,021.13	3,148,791.21	40.147485	-104.967763	
10,301.0	90.20	356.40	7,453.8	3,082.6	-313.0	1,297,114.97	3,148,785.81	40.147742	-104.967780	
10,395.0	89.80	355.60	7,453.8	3,176.4	-319.6	1,297,208.70	3,148,778.69	40.148000	-104.967803	
10,489.0	93.20	358.00	7,451.3	3,270.2	-324.8	1,297,302.46	3,148,772.88	40.148257	-104.967822	
10,583.0	93.00	359.20	7,446.2	3,364.0	-327.1	1,297,396.28	3,148,770.02	40.148515	-104.967830	
10,677.0	92.20	2.00	7,442.0	3,457.9	-326.1	1,297,490.17	3,148,770.44	40.148772	-104.967827	
10,771.0	90.50	1.90	7,439.8	3,551.8	-322.9	1,297,584.11	3,148,773.07	40.149030	-104.967815	
10,864.0	90.10	2.60	7,439.3	3,644.8	-319.3	1,297,677.05	3,148,776.16	40.149285	-104.967802	
10,959.0	90.20	2.90	7,439.0	3,739.7	-314.7	1,297,771.97	3,148,780.15	40.149546	-104.967786	
11,054.0	88.90	1.50	7,439.8	3,834.6	-311.1	1,297,866.91	3,148,783.23	40.149806	-104.967773	
11,148.0	88.20	0.60	7,442.2	3,928.5	-309.4	1,297,960.88	3,148,784.38	40.150064	-104.967767	
11,243.0	90.00	357.50	7,443.6	4,023.5	-310.9	1,298,055.82	3,148,782.24	40.150325	-104.967773	
11,337.0	92.60	359.00	7,441.5	4,117.4	-313.8	1,298,149.73	3,148,778.80	40.150583	-104.967783	
11,432.0	91.10	1.00	7,438.4	4,212.4	-313.8	1,298,244.67	3,148,778.23	40.150844	-104.967783	
11,526.0	91.00	1.90	7,436.7	4,306.3	-311.4	1,298,338.63	3,148,780.04	40.151101	-104.967774	
11,621.0	89.50	2.60	7,436.3	4,401.2	-307.7	1,298,433.58	3,148,783.20	40.151362	-104.967761	
11,716.0	88.00	2.00	7,438.4	4,496.1	-303.9	1,298,528.50	3,148,786.44	40.151623	-104.967747	
11,811.0	88.10	0.20	7,441.6	4,591.0	-302.1	1,298,623.43	3,148,787.70	40.151883	-104.967741	
11,906.0	90.00	358.20	7,443.2	4,686.0	-303.4	1,298,718.36	3,148,785.80	40.152144	-104.967746	
12,000.0	90.50	357.50	7,442.8	4,779.9	-306.9	1,298,812.27	3,148,781.71	40.152402	-104.967758	
12,095.0	91.10	358.90	7,441.5	4,874.9	-309.9	1,298,907.20	3,148,778.15	40.152662	-104.967769	
12,190.0	90.80	0.80	7,439.9	4,969.8	-310.1	1,299,002.17	3,148,777.33	40.152923	-104.967770	
12,285.0	89.20	2.30	7,439.9	5,064.8	-307.6	1,299,097.15	3,148,779.33	40.153184	-104.967761	
12,380.0	89.50	2.60	7,441.0	5,159.7	-303.5	1,299,192.08	3,148,782.82	40.153444	-104.967746	
12,475.0	88.50	1.00	7,442.6	5,254.7	-300.5	1,299,287.03	3,148,785.23	40.153705	-104.967735	
12,569.0	88.00	358.80	7,445.5	5,348.6	-300.7	1,299,380.97	3,148,784.50	40.153963	-104.967736	
12,664.0	89.20	358.40	7,447.8	5,443.5	-303.0	1,299,475.90	3,148,781.61	40.154223	-104.967744	
12,759.0	89.10	357.50	7,449.2	5,538.5	-306.4	1,299,570.81	3,148,777.64	40.154484	-104.967756	
12,855.0	91.00	357.30	7,449.1	5,634.4	-310.8	1,299,666.67	3,148,772.71	40.154747	-104.967772	
12,949.0	91.10	356.00	7,447.4	5,728.2	-316.3	1,299,760.46	3,148,766.66	40.155005	-104.967792	
13,044.0	92.40	355.80	7,444.5	5,822.9	-323.0	1,299,855.13	3,148,759.30	40.155265	-104.967816	
13,138.0	94.40	356.90	7,438.9	5,916.5	-329.0	1,299,948.73	3,148,752.76	40.155522	-104.967837	
13,233.0	94.20	359.10	7,431.8	6,011.2	-332.3	1,300,043.38	3,148,748.89	40.155782	-104.967849	
13,328.0	93.10	0.20	7,425.8	6,106.0	-332.9	1,300,138.17	3,148,747.74	40.156042	-104.967851	
13,423.0	92.60	1.90	7,421.0	6,200.9	-331.2	1,300,233.05	3,148,748.91	40.156302	-104.967845	
13,518.0	88.80	1.90	7,419.9	6,295.8	-328.0	1,300,327.99	3,148,751.48	40.156563	-104.967834	
13,613.0	88.80	1.50	7,421.9	6,390.7	-325.2	1,300,422.94	3,148,753.73	40.156823	-104.967824	
13,707.0	89.30	0.80	7,423.4	6,484.7	-323.3	1,300,516.92	3,148,755.05	40.157081	-104.967817	
13,802.0	89.10	1.10	7,424.7	6,579.7	-321.7	1,300,611.93	3,148,756.06	40.157342	-104.967811	
13,897.0	89.30	0.50	7,426.1	6,674.7	-320.4	1,300,706.92	3,148,756.81	40.157603	-104.967807	
13,992.0	89.30	359.00	7,427.2	6,769.7	-320.8	1,300,801.90	3,148,755.82	40.157864	-104.967808	
14,087.0	88.50	359.60	7,429.1	6,864.6	-322.0	1,300,896.87	3,148,754.09	40.158124	-104.967812	
14,182.0	91.30	359.70	7,429.2	6,959.6	-322.6	1,300,991.85	3,148,752.94	40.158385	-104.967814	
14,276.0	91.50	0.10	7,426.9	7,053.6	-322.7	1,301,085.82	3,148,752.21	40.158643	-104.967815	
14,371.0	91.70	359.10	7,424.3	7,148.6	-323.4	1,301,180.77	3,148,750.98	40.158904	-104.967817	
14,420.0	91.70	359.70	7,422.8	7,197.5	-323.9	1,301,229.72	3,148,750.17	40.159038	-104.967819	
<b>Last CES Survey @ 14,420' MD</b>										
14,470.0	91.70	359.70	7,421.3	7,247.5	-324.2	1,301,279.69	3,148,749.61	40.159175	-104.967820	
<b>PTB @ 14,470'</b>										

# Cathedral Energy Services

## Survey Report - Geographic

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Grant-Hurt 1C-14H-G268
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	32' KB @ 4920.0ft (PATT 326)
<b>Site:</b>	S14-T2N-R68W (Grant Elmquist/Salisbury/Hurt)	<b>MD Reference:</b>	32' KB @ 4920.0ft (PATT 326)
<b>Well:</b>	Grant-Hurt 1C-14H-G268	<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

Design 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									
Grant-Hurt 1C-14H-G26i - actual wellpath misses target center by 57.0ft at 14470.0ft MD (7421.3 TVD, 7247.5 N, -324.2 E) - Point	0.00	0.00	7,420.0	7,303.9	-315.8	1,301,336.10	3,148,757.60	40.159330	-104.967790
Grant-Hurt 1C-14H-G26i - actual wellpath misses target center by 16.0ft at 10358.7ft MD (7453.7 TVD, 3140.2 N, -316.9 E) - Point	0.00	0.00	7,440.0	3,140.8	-308.6	1,297,173.16	3,148,789.89	40.147902	-104.967764
Grant-Hurt 1C-14H-G26i - actual wellpath misses target center by 15.4ft at 13161.6ft MD (7437.1 TVD, 5940.0 N, -330.2 E) - Point	0.00	0.00	7,440.0	5,940.8	-315.1	1,299,973.06	3,148,766.58	40.155588	-104.967787

Design Annotations				
Measured Depth	Vertical Depth	Local Coordinates		Comment
(ft)	(ft)	+N/-S (ft)	+E/-W (ft)	
14,420.0	7,422.8	7,197.5	-323.9	Last CES Survey @ 14,420' MD
14,470.0	7,421.3	7,247.5	-324.2	PTB @ 14,470'

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