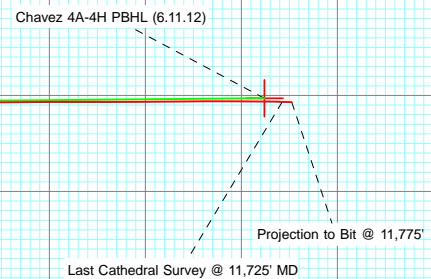
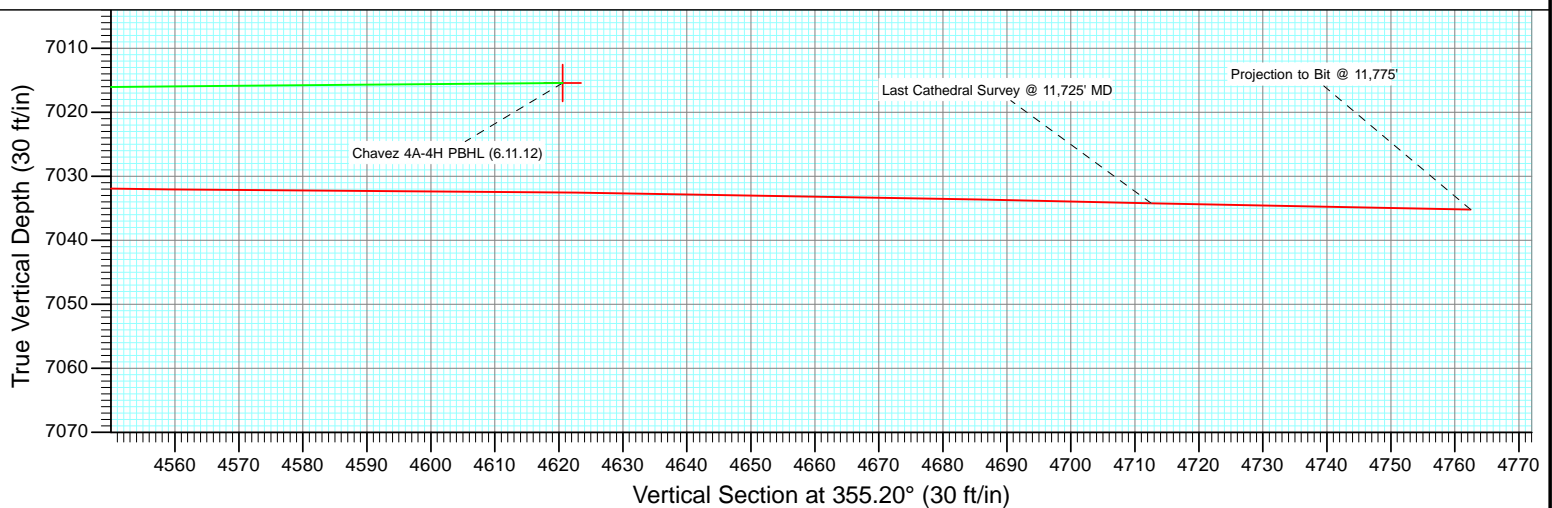
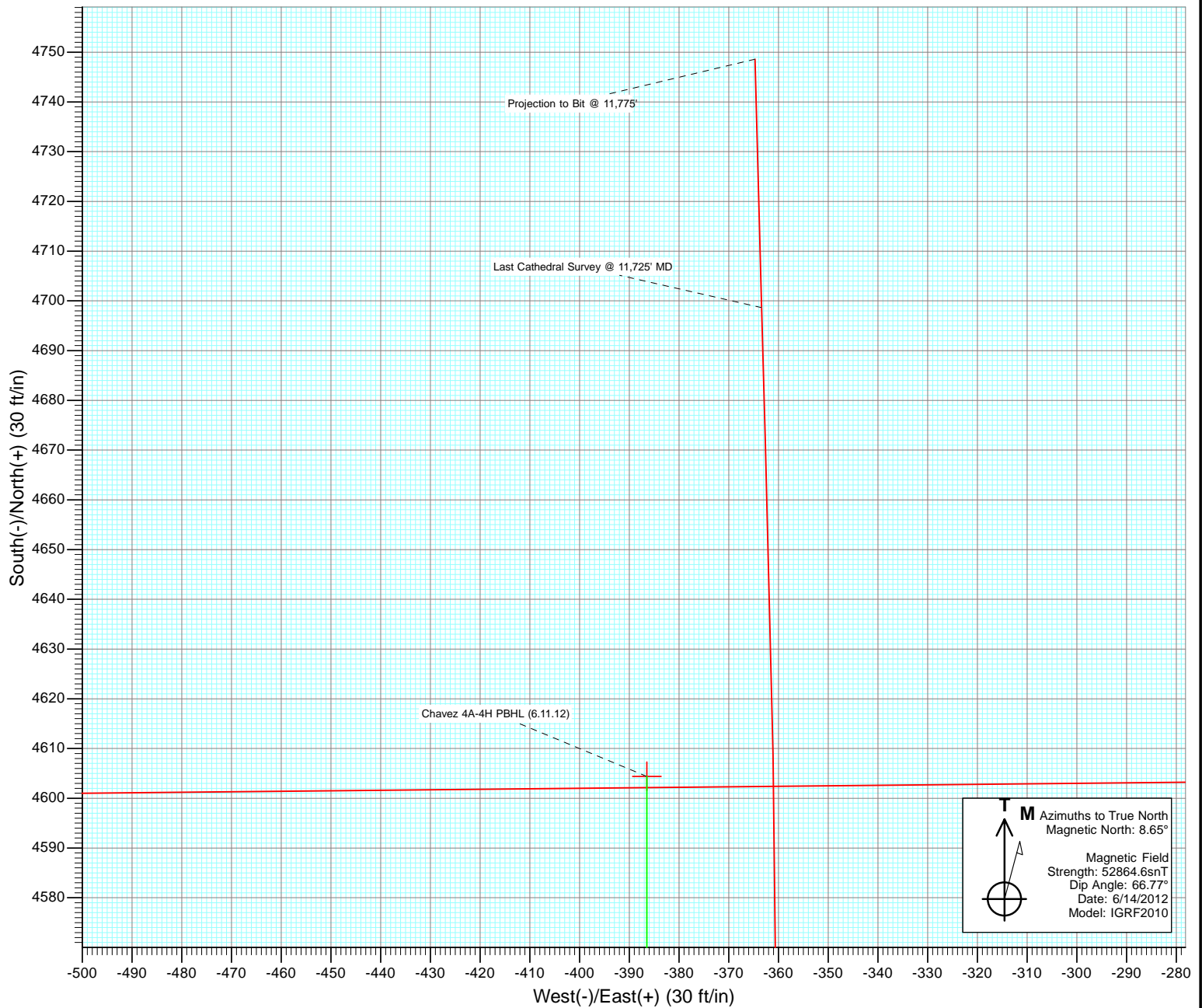


FINAL
Chavez 4A-4H
125406 174955; LR
KBE @ 4928.0ft (Ensign 124)
North American Datum 1983
Well Chavez 4A-4H, True North

Type	Target	Target	Azimuth	Origin Type	N/S	E/W	From TVD
Target	Chavez 4A-4H PBHL (6.11.12)		355.20	Slot	0.0	0.0	0.0
Name	TV	+N/-S	+E/-W	Latitude	Longitude		
Chavez 4A-4H PBHL (6.11.12)	7015.4	4604.4	-386.5	40.086600	-104.666311		





Cathedral Energy Services

Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Chavez 4A-4H
Project:	DJ Wattenberg	TVD Reference:	KBE @ 4928.0ft (Ensign 124)
Site:	SWSE S4-T1N-R65W (Chavez)	MD Reference:	KBE @ 4928.0ft (Ensign 124)
Well:	Chavez 4A-4H	North Reference:	True
Wellbore:	HZ	Survey Calculation Method:	Minimum Curvature
Design:	FINAL	Database:	USA EDM 5000 Multi Users DB

Project	DJ Wattenberg		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Northern Zone		

Site		SWSE S4-T1N-R65W (Chavez)			
Site Position:		Northing:	1,270,891.54 ft	Latitude:	40.073960
From:	Lat/Long	Easting:	3,233,697.16 ft	Longitude:	-104.664930
Position Uncertainty:	0.0 ft	Slot Radius:	13.200 in	Grid Convergence:	0.54 °

Well	Chavez 4A-4H					
Well Position	+N/-S	0.0 ft	Northing:	1,270,891.53 ft	Latitude:	40.073960
	+E/-W	0.0 ft	Easting:	3,233,697.16 ft	Longitude:	-104.664930
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,915.0 ft

Wellbore	HZ				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	6/14/2012	8.65	66.77	52,865

Design	FINAL				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD)	+N/-S (ft)	+E/-W (ft)	Direction (°)	
	0.0	0.0	0.0	355.20	

Survey Program	Date	7/25/2012			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
110.0	11,775.0	Survey #1 (HZ)	MWD	Geolink MWD	

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	
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00		
110.0	0.30	267.50	110.0	0.0	-0.3	0.0	0.27	0.27		
203.0	0.20	220.50	203.0	-0.1	-0.6	-0.1	0.24	-0.11		
296.0	0.40	174.70	296.0	-0.6	-0.7	-0.5	0.32	0.22		
389.0	0.50	203.20	389.0	-1.3	-0.8	-1.2	0.26	0.11		
482.0	0.40	176.90	482.0	-2.0	-1.0	-1.9	0.24	-0.11		
575.0	0.20	223.60	575.0	-2.4	-1.1	-2.3	0.32	-0.22		
668.0	0.40	240.80	668.0	-2.7	-1.5	-2.6	0.23	0.22		
761.0	1.10	236.20	761.0	-3.4	-2.5	-3.1	0.75	0.75		
854.0	0.50	212.30	854.0	-4.2	-3.5	-3.9	0.72	-0.65		
928.0	0.60	192.00	928.0	-4.9	-3.7	-4.5	0.29	0.14		
1,008.0	0.40	148.00	1,008.0	-5.5	-3.6	-5.2	0.52	-0.25		
1,101.0	0.40	198.80	1,101.0	-6.1	-3.6	-5.8	0.37	0.00		

Cathedral Energy Services

Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Chavez 4A-4H
Project:	DJ Wattenberg	TVD Reference:	KBE @ 4928.0ft (Ensign 124)
Site:	SWSE S4-T1N-R65W (Chavez)	MD Reference:	KBE @ 4928.0ft (Ensign 124)
Well:	Chavez 4A-4H	North Reference:	True
Wellbore:	HZ	Survey Calculation Method:	Minimum Curvature
Design:	FINAL	Database:	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
1,132.0	0.30	210.00	1,132.0	-6.3	-3.7	-5.9	0.39	-0.32	
1,225.0	2.20	213.00	1,224.9	-8.0	-4.8	-7.5	2.04	2.04	
1,318.0	4.50	226.30	1,317.8	-12.0	-8.4	-11.2	2.59	2.47	
1,411.0	7.30	233.80	1,410.3	-18.0	-15.8	-16.6	3.12	3.01	
1,505.0	8.10	243.20	1,503.4	-24.5	-26.5	-22.2	1.58	0.85	
1,600.0	8.70	239.30	1,597.4	-31.2	-38.7	-27.8	0.87	0.63	
1,695.0	8.20	240.50	1,691.4	-38.2	-50.7	-33.8	0.56	-0.53	
1,790.0	8.30	240.40	1,785.4	-44.9	-62.6	-39.5	0.11	0.11	
1,885.0	7.70	249.20	1,879.5	-50.6	-74.5	-44.2	1.43	-0.63	
1,980.0	8.30	251.80	1,973.5	-55.0	-87.0	-47.5	0.74	0.63	
2,075.0	7.30	250.00	2,067.7	-59.2	-99.1	-50.7	1.08	-1.05	
2,170.0	6.60	251.80	2,162.0	-62.9	-110.0	-53.5	0.77	-0.74	
2,266.0	7.10	234.40	2,257.3	-68.1	-120.1	-57.8	2.21	0.52	
2,361.0	6.50	230.70	2,351.6	-74.9	-129.0	-63.9	0.78	-0.63	
2,456.0	5.30	233.90	2,446.1	-80.9	-136.7	-69.2	1.31	-1.26	
2,551.0	7.60	232.30	2,540.5	-87.4	-145.2	-74.9	2.43	2.42	
2,646.0	6.10	250.30	2,634.8	-92.9	-155.0	-79.6	2.74	-1.58	
2,741.0	6.90	252.40	2,729.2	-96.3	-165.1	-82.2	0.88	0.84	
2,836.0	7.20	258.60	2,823.5	-99.2	-176.4	-84.1	0.86	0.32	
2,931.0	8.70	259.00	2,917.6	-101.8	-189.3	-85.6	1.58	1.58	
3,026.0	8.10	258.40	3,011.6	-104.5	-202.9	-87.2	0.64	-0.63	
3,121.0	8.70	257.80	3,105.6	-107.4	-216.5	-88.9	0.64	0.63	
3,217.0	9.40	255.20	3,200.4	-110.9	-231.2	-91.2	0.84	0.73	
3,312.0	8.60	249.70	3,294.2	-115.3	-245.3	-94.4	1.24	-0.84	
3,407.0	8.40	245.20	3,388.2	-120.7	-258.3	-98.7	0.73	-0.21	
3,502.0	8.30	241.60	3,482.2	-126.9	-270.6	-103.8	0.56	-0.11	
3,597.0	8.40	244.90	3,576.1	-133.1	-282.9	-109.0	0.52	0.11	
3,692.0	8.50	238.70	3,670.1	-139.7	-295.2	-114.5	0.96	0.11	
3,788.0	7.80	238.70	3,765.1	-146.8	-306.9	-120.6	0.73	-0.73	
3,883.0	6.90	237.10	3,859.4	-153.2	-317.2	-126.1	0.97	-0.95	
3,978.0	7.00	233.80	3,953.7	-159.7	-326.6	-131.8	0.43	0.11	
4,073.0	7.40	235.30	4,047.9	-166.6	-336.3	-137.9	0.47	0.42	
4,168.0	8.40	233.00	4,142.0	-174.3	-346.9	-144.7	1.10	1.05	
4,263.0	7.90	232.40	4,236.1	-182.4	-357.6	-151.9	0.53	-0.53	
4,358.0	6.40	239.00	4,330.3	-189.2	-367.3	-157.8	1.80	-1.58	
4,454.0	5.60	242.10	4,425.8	-194.1	-376.0	-162.0	0.90	-0.83	
4,549.0	4.70	248.40	4,520.4	-197.7	-383.8	-164.9	1.12	-0.95	
4,644.0	3.50	234.10	4,615.2	-200.8	-389.7	-167.5	1.65	-1.26	
4,739.0	2.10	206.10	4,710.1	-204.1	-392.8	-170.5	2.02	-1.47	
4,834.0	2.40	161.10	4,805.0	-207.6	-393.0	-174.0	1.84	0.32	
4,929.0	1.60	152.40	4,899.9	-210.6	-391.7	-177.1	0.90	-0.84	
5,024.0	1.10	150.00	4,994.9	-212.6	-390.6	-179.2	0.53	-0.53	
5,120.0	1.20	135.60	5,090.9	-214.1	-389.5	-180.8	0.32	0.10	
5,215.0	1.10	122.30	5,185.9	-215.3	-388.0	-182.1	0.30	-0.11	
5,310.0	1.10	102.20	5,280.8	-216.0	-386.3	-182.9	0.40	0.00	
5,405.0	0.60	75.80	5,375.8	-216.0	-385.0	-183.1	0.66	-0.53	
5,500.0	0.70	9.80	5,470.8	-215.3	-384.4	-182.4	0.75	0.11	
5,595.0	0.90	10.70	5,565.8	-214.0	-384.2	-181.2	0.21	0.21	
5,691.0	0.90	355.80	5,661.8	-212.5	-384.1	-179.7	0.24	0.00	
5,786.0	0.90	357.40	5,756.8	-211.1	-384.2	-178.2	0.03	0.00	
5,881.0	0.90	0.70	5,851.8	-209.6	-384.2	-176.7	0.05	0.00	
5,976.0	0.70	354.20	5,946.8	-208.2	-384.2	-175.4	0.23	-0.21	
6,071.0	0.50	8.60	6,041.8	-207.3	-384.2	-174.4	0.26	-0.21	

Cathedral Energy Services

Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Chavez 4A-4H
Project:	DJ Wattenberg	TVD Reference:	KBE @ 4928.0ft (Ensign 124)
Site:	SWSE S4-T1N-R65W (Chavez)	MD Reference:	KBE @ 4928.0ft (Ensign 124)
Well:	Chavez 4A-4H	North Reference:	True
Wellbore:	HZ	Survey Calculation Method:	Minimum Curvature
Design:	FINAL	Database:	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
6,167.0	0.40	338.90	6,137.8	-206.5	-384.3	-173.7	0.26	-0.10	
6,262.0	0.30	3.30	6,232.8	-206.0	-384.4	-173.1	0.19	-0.11	
6,325.0	0.20	87.50	6,295.8	-205.8	-384.3	-172.9	0.54	-0.16	
6,389.0	1.50	18.00	6,359.8	-205.0	-383.9	-172.2	2.25	2.03	
6,420.0	4.10	15.80	6,390.7	-203.5	-383.5	-170.8	8.39	8.39	
6,452.0	6.40	15.50	6,422.6	-200.7	-382.7	-168.0	7.19	7.19	
6,484.0	8.40	15.40	6,454.3	-196.8	-381.6	-164.1	6.25	6.25	
6,515.0	9.90	14.40	6,484.9	-192.0	-380.3	-159.5	4.87	4.84	
6,547.0	12.10	14.40	6,516.3	-186.1	-378.8	-153.7	6.87	6.87	
6,579.0	13.60	15.90	6,547.5	-179.2	-376.9	-147.1	4.80	4.69	
6,610.0	15.60	16.20	6,577.5	-171.7	-374.8	-139.8	6.46	6.45	
6,642.0	17.60	16.70	6,608.2	-162.9	-372.2	-131.2	6.27	6.25	
6,674.0	19.90	16.80	6,638.5	-153.1	-369.2	-121.7	7.19	7.19	
6,705.0	22.20	16.40	6,667.4	-142.4	-366.0	-111.3	7.43	7.42	
6,737.0	24.60	15.80	6,696.8	-130.2	-362.5	-99.4	7.54	7.50	
6,769.0	26.90	15.20	6,725.6	-116.8	-358.8	-86.4	7.23	7.19	
6,800.0	29.10	14.50	6,753.0	-102.7	-355.1	-72.7	7.18	7.10	
6,832.0	31.50	12.60	6,780.6	-87.0	-351.3	-57.4	8.08	7.50	
6,864.0	33.50	10.70	6,807.6	-70.2	-347.8	-40.9	7.02	6.25	
6,896.0	35.40	10.40	6,834.0	-52.4	-344.5	-23.4	5.96	5.94	
6,927.0	37.50	10.70	6,858.9	-34.3	-341.2	-5.7	6.80	6.77	
6,959.0	40.10	9.20	6,883.8	-14.6	-337.7	13.7	8.64	8.12	
6,991.0	43.50	7.00	6,907.7	6.6	-334.7	34.5	11.57	10.62	
7,022.0	48.70	3.60	6,929.2	28.8	-332.7	56.5	18.54	16.77	
7,054.0	54.90	359.60	6,949.0	53.9	-332.0	81.5	21.72	19.37	
7,086.0	60.70	356.60	6,966.0	80.9	-332.9	108.5	19.78	18.12	
7,117.0	64.60	355.40	6,980.3	108.4	-334.9	136.0	13.04	12.58	
7,149.0	67.60	354.00	6,993.2	137.5	-337.6	165.3	10.19	9.37	
7,180.0	71.20	352.30	7,004.1	166.3	-341.0	194.3	12.70	11.61	
7,212.0	74.60	350.60	7,013.5	196.6	-345.6	224.8	11.78	10.62	
7,244.0	78.00	349.90	7,021.1	227.2	-350.8	255.8	10.84	10.62	
7,275.0	81.50	349.80	7,026.6	257.2	-356.2	286.1	11.29	11.29	
7,292.0	84.20	349.80	7,028.7	273.8	-359.2	302.9	15.88	15.88	
7,360.0	89.80	348.40	7,032.3	340.5	-372.0	370.4	8.49	8.24	
7,392.0	89.40	348.00	7,032.5	371.8	-378.6	402.2	1.77	-1.25	
7,424.0	89.00	347.50	7,033.0	403.1	-385.4	433.9	2.00	-1.25	
7,455.0	89.30	348.00	7,033.4	433.4	-392.0	464.6	1.88	0.97	
7,487.0	89.60	349.60	7,033.7	464.8	-398.2	496.4	5.09	0.94	
7,550.0	89.40	351.20	7,034.3	526.9	-408.7	559.2	2.56	-0.32	
7,614.0	89.80	353.20	7,034.7	590.3	-417.4	623.1	3.19	0.62	
7,677.0	89.70	354.50	7,035.0	652.9	-424.1	686.1	2.07	-0.16	
7,772.0	90.20	357.70	7,035.1	747.7	-430.6	781.1	3.41	0.53	
7,835.0	90.00	359.10	7,035.0	810.7	-432.3	844.0	2.24	-0.32	
7,899.0	89.40	0.20	7,035.3	874.6	-432.7	907.8	1.96	-0.94	
7,962.0	90.60	2.90	7,035.3	937.6	-431.0	970.4	4.69	1.90	
8,025.0	89.90	3.90	7,035.0	1,000.5	-427.3	1,032.7	1.94	-1.11	
8,089.0	89.90	3.80	7,035.2	1,064.4	-423.0	1,096.0	0.16	0.00	
8,152.0	90.00	3.20	7,035.2	1,127.2	-419.1	1,158.4	0.97	0.16	
8,216.0	90.10	2.90	7,035.2	1,191.2	-415.7	1,221.8	0.49	0.16	
8,279.0	90.60	2.40	7,034.8	1,254.1	-412.8	1,284.2	1.12	0.79	
8,343.0	90.60	3.00	7,034.1	1,318.0	-409.8	1,347.7	0.94	0.00	
8,406.0	89.50	3.50	7,034.0	1,380.9	-406.2	1,410.0	1.92	-1.75	
8,469.0	89.90	2.80	7,034.4	1,443.8	-402.8	1,472.4	1.28	0.63	

Cathedral Energy Services

Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Chavez 4A-4H
Project:	DJ Wattenberg	TVD Reference:	KBE @ 4928.0ft (Ensign 124)
Site:	SWSE S4-T1N-R65W (Chavez)	MD Reference:	KBE @ 4928.0ft (Ensign 124)
Well:	Chavez 4A-4H	North Reference:	True
Wellbore:	HZ	Survey Calculation Method:	Minimum Curvature
Design:	FINAL	Database:	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
8,533.0	89.70	3.30	7,034.6	1,507.7	-399.4	1,535.8	0.84	-0.31	
8,596.0	89.00	3.70	7,035.3	1,570.6	-395.5	1,598.2	1.28	-1.11	
8,660.0	88.70	3.10	7,036.6	1,634.5	-391.7	1,661.5	1.05	-0.47	
8,723.0	90.10	3.20	7,037.3	1,697.4	-388.3	1,723.9	2.23	2.22	
8,786.0	89.70	3.00	7,037.4	1,760.3	-384.9	1,786.3	0.71	-0.63	
8,849.0	90.10	2.20	7,037.5	1,823.2	-382.0	1,848.8	1.42	0.63	
8,913.0	89.90	2.20	7,037.5	1,887.2	-379.5	1,912.3	0.31	-0.31	
8,976.0	90.20	1.60	7,037.4	1,950.1	-377.5	1,974.9	1.06	0.48	
9,039.0	90.10	1.40	7,037.3	2,013.1	-375.8	2,037.5	0.35	-0.16	
9,103.0	89.70	1.10	7,037.4	2,077.1	-374.4	2,101.1	0.78	-0.62	
9,166.0	89.60	0.70	7,037.8	2,140.1	-373.4	2,163.8	0.65	-0.16	
9,229.0	89.30	1.30	7,038.4	2,203.1	-372.3	2,226.5	1.06	-0.48	
9,292.0	89.50	1.40	7,039.0	2,266.1	-370.8	2,289.1	0.35	0.32	
9,354.0	89.50	1.40	7,039.6	2,328.0	-369.3	2,350.8	0.00	0.00	
9,417.0	90.70	1.80	7,039.5	2,391.0	-367.6	2,413.4	2.01	1.90	
9,481.0	90.40	1.60	7,038.8	2,455.0	-365.7	2,477.0	0.56	-0.47	
9,544.0	90.20	1.40	7,038.5	2,517.9	-364.0	2,539.6	0.45	-0.32	
9,607.0	89.90	0.10	7,038.5	2,580.9	-363.2	2,602.3	2.12	-0.48	
9,671.0	89.50	359.30	7,038.8	2,644.9	-363.5	2,666.1	1.40	-0.62	
9,734.0	89.50	0.70	7,039.3	2,707.9	-363.5	2,728.9	2.22	0.00	
9,797.0	89.80	0.80	7,039.7	2,770.9	-362.7	2,791.6	0.50	0.48	
9,861.0	89.80	0.30	7,039.9	2,834.9	-362.1	2,855.3	0.78	0.00	
9,924.0	89.70	359.20	7,040.2	2,897.9	-362.4	2,918.1	1.75	-0.16	
9,987.0	90.20	0.50	7,040.3	2,960.9	-362.5	2,980.9	2.21	0.79	
10,050.0	90.70	2.00	7,039.8	3,023.9	-361.2	3,043.5	2.51	0.79	
10,113.0	90.90	0.80	7,038.9	3,086.9	-359.6	3,106.1	1.93	0.32	
10,176.0	91.30	0.20	7,037.7	3,149.9	-359.1	3,168.9	1.14	0.63	
10,239.0	90.90	0.80	7,036.5	3,212.8	-358.5	3,231.6	1.14	-0.63	
10,302.0	90.50	1.40	7,035.7	3,275.8	-357.3	3,294.2	1.14	-0.63	
10,366.0	90.50	0.80	7,035.2	3,339.8	-356.1	3,357.9	0.94	0.00	
10,429.0	90.50	0.10	7,034.6	3,402.8	-355.6	3,420.6	1.11	0.00	
10,493.0	90.10	359.30	7,034.3	3,466.8	-355.9	3,484.4	1.40	-0.62	
10,556.0	89.40	359.00	7,034.5	3,529.8	-356.9	3,547.3	1.21	-1.11	
10,619.0	90.60	359.80	7,034.5	3,592.8	-357.5	3,610.1	2.29	1.90	
10,683.0	90.10	0.40	7,034.2	3,656.8	-357.4	3,673.9	1.22	-0.78	
10,746.0	90.00	0.00	7,034.1	3,719.8	-357.2	3,736.6	0.65	-0.16	
10,810.0	89.70	359.10	7,034.3	3,783.8	-357.7	3,800.4	1.48	-0.47	
10,873.0	89.50	359.20	7,034.7	3,846.8	-358.6	3,863.3	0.35	-0.32	
10,937.0	91.20	359.80	7,034.3	3,910.8	-359.2	3,927.1	2.82	2.66	
11,000.0	90.30	0.90	7,033.5	3,973.8	-358.8	3,989.9	2.26	-1.43	
11,064.0	90.30	0.70	7,033.2	4,037.8	-357.9	4,053.5	0.31	0.00	
11,127.0	90.00	0.40	7,033.0	4,100.8	-357.3	4,116.3	0.67	-0.48	
11,191.0	89.80	359.80	7,033.1	4,164.8	-357.2	4,180.0	0.99	-0.31	
11,254.0	90.70	0.80	7,032.8	4,227.8	-356.8	4,242.8	2.14	1.43	
11,318.0	91.10	0.10	7,031.8	4,291.7	-356.3	4,306.5	1.26	0.62	
11,381.0	91.30	359.50	7,030.5	4,354.7	-356.6	4,369.3	1.00	0.32	
11,445.0	89.30	358.90	7,030.2	4,418.7	-357.5	4,433.1	3.26	-3.12	
11,508.0	88.80	358.00	7,031.2	4,481.7	-359.2	4,496.0	1.63	-0.79	
11,571.0	89.70	359.80	7,032.0	4,544.7	-360.4	4,558.9	3.19	1.43	
11,630.9	89.42	358.96	7,032.5	4,604.5	-361.0	4,618.6	1.48	-0.47	Chavez 4A-4H PBHL (6.11.12)
11,635.0	89.40	358.90	7,032.5	4,608.7	-361.1	4,622.7	1.48	-0.47	
11,698.0	88.60	358.30	7,033.6	4,671.6	-362.6	4,685.6	1.59	-1.27	
11,725.0	88.90	358.50	7,034.2	4,698.6	-363.4	4,712.5	1.34	1.11	Last Cathedral Survey @ 11,725' MD

Cathedral Energy Services

Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Chavez 4A-4H
Project:	DJ Wattenberg	TVD Reference:	KBE @ 4928.0ft (Ensign 124)
Site:	SWSE S4-T1N-R65W (Chavez)	MD Reference:	KBE @ 4928.0ft (Ensign 124)
Well:	Chavez 4A-4H	North Reference:	True
Wellbore:	HZ	Survey Calculation Method:	Minimum Curvature
Design:	FINAL	Database:	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
11,775.0	88.90	358.50	7,035.2	4,748.6	-364.7	4,762.5	0.00	0.00	Projection to Bit @ 11,775'

Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
- hit/miss target									
- Shape									
Chavez 4A-4H PBHL (6.	0.00	0.00	7,015.4	4,604.4	-386.5	1,275,492.07	3,233,267.34	40.086600	-104.666311
- actual wellpath misses target center by 30.7ft at 11631.0ft MD (7032.5 TVD, 4604.7 N, -361.0 E)									
- Point									

Design Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
11,725.0	7,034.2	4,698.6	-363.4	Last Cathedral Survey @ 11,725' MD	
11,775.0	7,035.2	4,748.6	-364.7	Projection to Bit @ 11,775'	

Checked By: _____ Approved By: _____ Date: _____