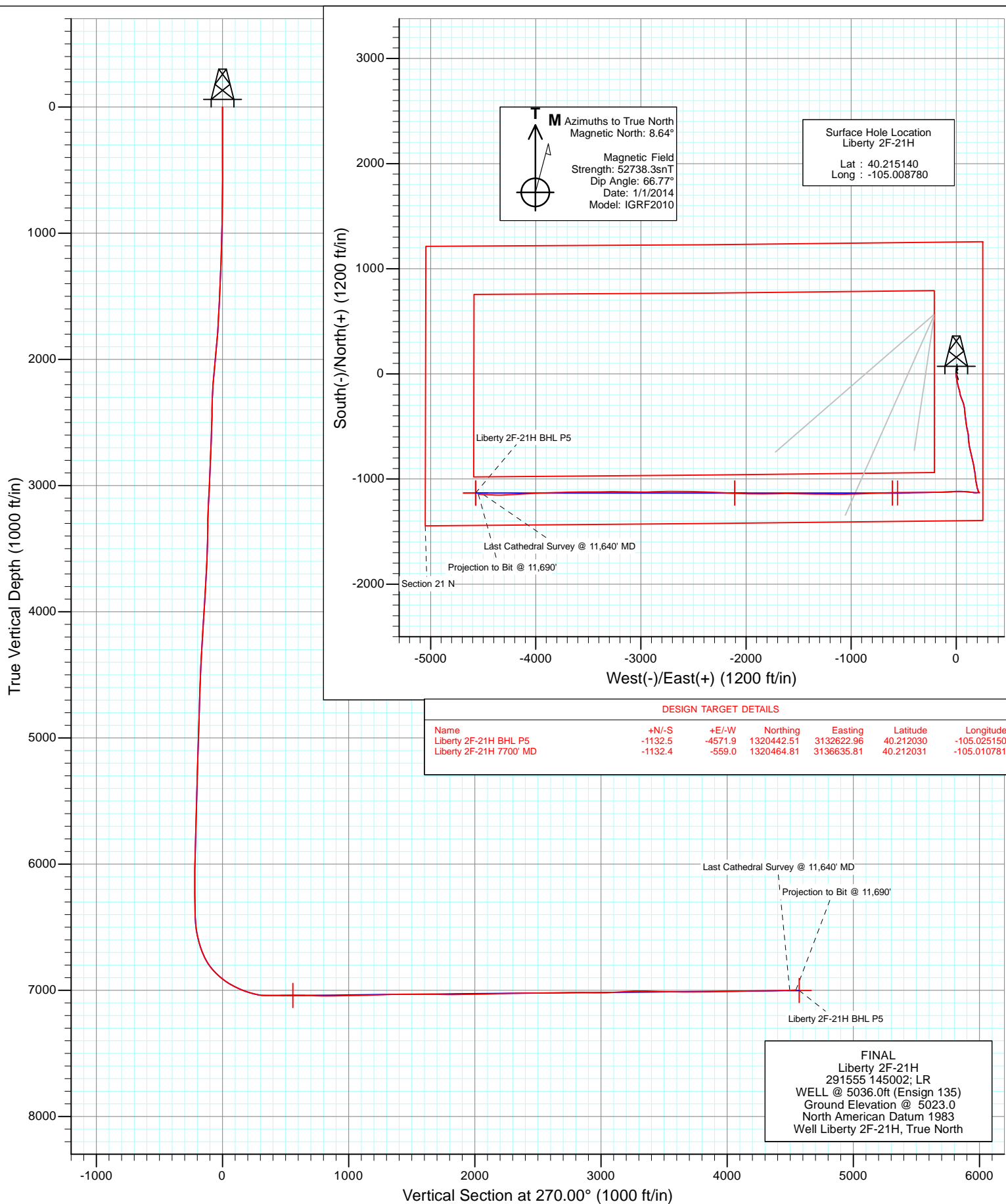


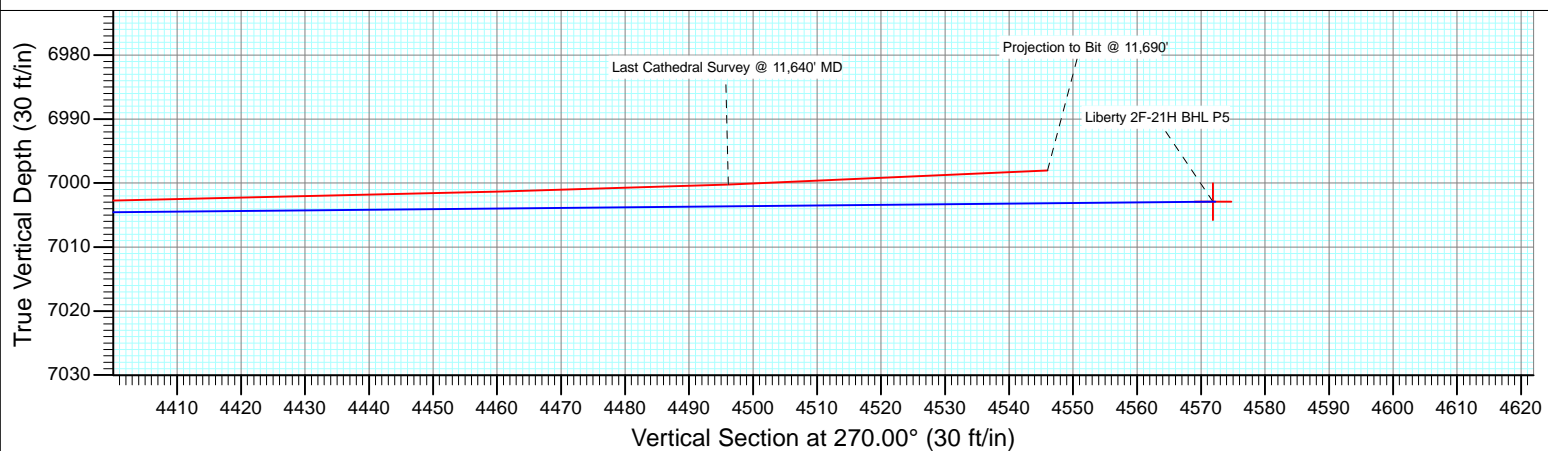
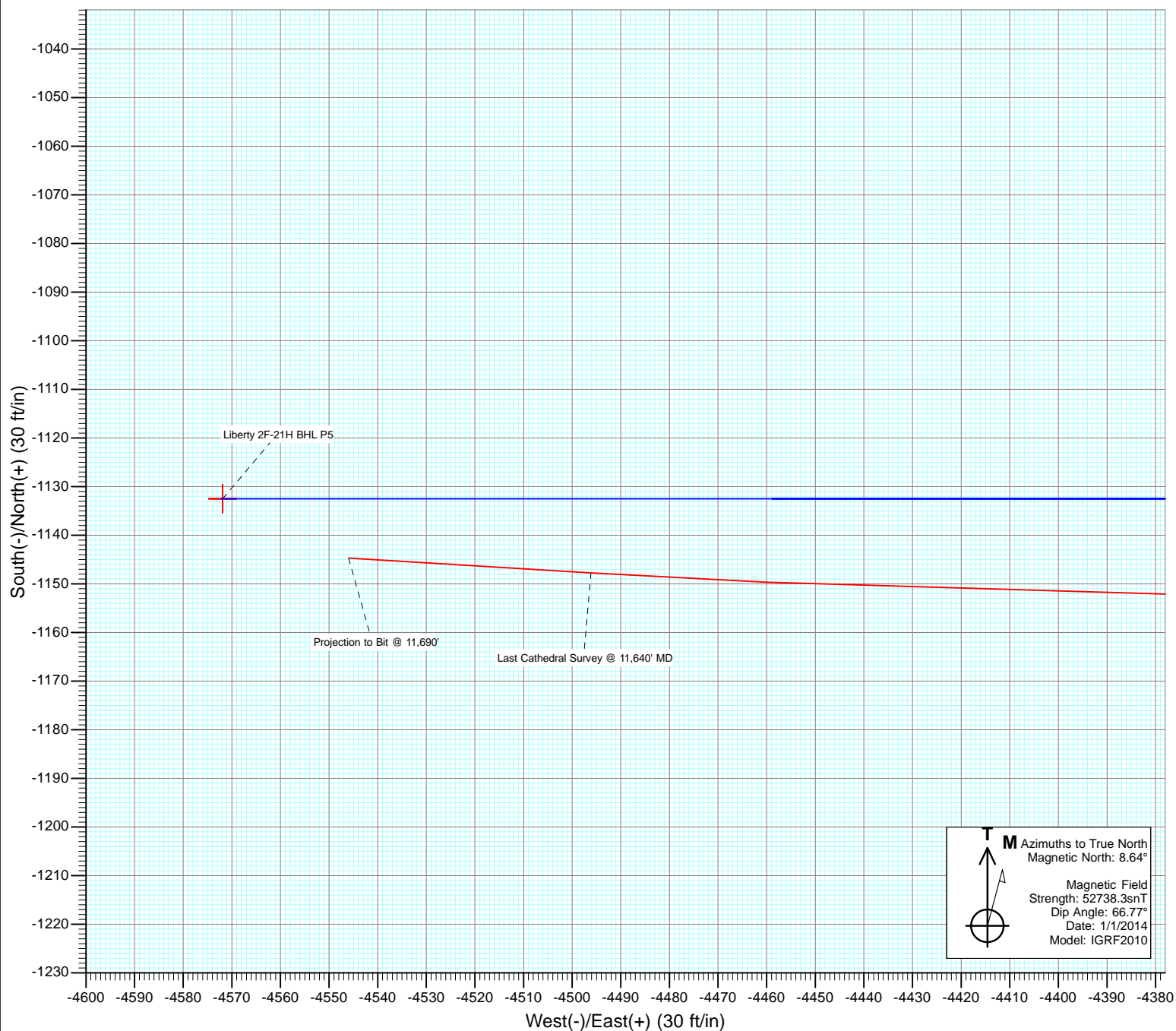


Project: DJ Wattenberg
 Site: S20-T3N-R68W (Liberty 2A-21H)
 Well: Liberty 2F-21H
 Wellbore: HZ
 Design: FINAL





Project: DJ Wattenberg
Site: S20-T3N-R68W (Liberty 2A-21H)
Wellbore: HZ
Design: FINAL



Cathedral Energy Services

Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Liberty 2F-21H
Project:	DJ Wattenberg	TVD Reference:	WELL @ 5036.0ft (Ensign 135)
Site:	S20-T3N-R68W (Liberty 2A-21H)	MD Reference:	WELL @ 5036.0ft (Ensign 135)
Well:	Liberty 2F-21H	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		S20-T3N-R68W (Liberty 2A-21H)			
Site Position:		Northing:	1,322,254.59 ft	Latitude:	40.216940
From:	Lat/Long	Easting:	3,136,925.14 ft	Longitude:	-105.009710
Position Uncertainty:	0.0 ft	Slot Radius:	13.200 in	Grid Convergence:	0.32 °

Well	Liberty 2F-21H					
Well Position	+N/-S	0.0 ft	Northing:	1,321,600.31 ft	Latitude:	40.215140
	+E/-W	0.0 ft	Easting:	3,137,188.48 ft	Longitude:	-105.008780
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	5,023.0 ft

Wellbore	HZ				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	1/1/2014	8.64	66.77	52,738

Design	FINAL				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction	
	(ft)	(ft)	(ft)	(°)	
	0.0	0.0	0.0	270.00	

Survey Program	Date	1/13/2014			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
145.0	11,690.0	Survey #1 (HZ)	Geolink 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		
145.0	0.30	237.70	145.0	-0.2	-0.3	0.3	0.21	0.21		
237.0	0.70	207.00	237.0	-0.8	-0.8	0.8	0.51	0.43		
329.0	1.60	143.50	329.0	-2.4	-0.3	0.3	1.56	0.98		
421.0	2.20	201.40	420.9	-5.0	-0.2	0.2	2.08	0.65		
513.0	2.60	194.50	512.9	-8.7	-1.3	1.3	0.54	0.43		
605.0	3.00	180.20	604.7	-13.1	-1.8	1.8	0.87	0.43		
696.0	4.30	171.50	695.6	-18.9	-1.4	1.4	1.55	1.43		
788.0	5.80	167.90	787.2	-26.8	0.1	-0.1	1.67	1.63		
862.0	6.80	168.10	860.8	-34.8	1.8	-1.8	1.35	1.35		
948.0	6.80	168.20	946.1	-44.8	3.9	-3.9	0.01	0.00		
1,009.0	7.40	171.80	1,006.7	-52.2	5.2	-5.2	1.22	0.98		
1,101.0	9.50	172.60	1,097.7	-65.6	7.0	-7.0	2.29	2.28		

Cathedral Energy Services

Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Liberty 2F-21H
Project:	DJ Wattenberg	TVD Reference:	WELL @ 5036.0ft (Ensign 135)
Site:	S20-T3N-R68W (Liberty 2A-21H)	MD Reference:	WELL @ 5036.0ft (Ensign 135)
Well:	Liberty 2F-21H	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
1,193.0	9.00	164.80	1,188.5	-80.0	9.9	-9.9	1.47	-0.54	
1,285.0	8.90	166.70	1,279.4	-93.9	13.4	-13.4	0.34	-0.11	
1,346.0	9.00	168.50	1,339.6	-103.2	15.5	-15.5	0.49	0.16	
1,407.0	10.50	168.70	1,399.7	-113.3	17.5	-17.5	2.46	2.46	
1,468.0	10.70	167.20	1,459.7	-124.3	19.8	-19.8	0.56	0.33	
1,530.0	10.90	164.00	1,520.6	-135.5	22.7	-22.7	1.02	0.32	
1,591.0	10.70	160.00	1,580.5	-146.4	26.3	-26.3	1.27	-0.33	
1,652.0	12.00	164.70	1,640.3	-157.8	29.9	-29.9	2.61	2.13	
1,744.0	15.60	171.40	1,729.7	-179.3	34.2	-34.2	4.28	3.91	
1,835.0	16.60	164.60	1,817.1	-203.9	39.5	-39.5	2.34	1.10	
1,927.0	15.30	157.80	1,905.6	-227.8	47.6	-47.6	2.47	-1.41	
2,022.0	15.20	157.40	1,997.2	-250.9	57.1	-57.1	0.15	-0.11	
2,116.0	16.20	162.20	2,087.7	-274.8	65.9	-65.9	1.74	1.06	
2,211.0	15.20	165.10	2,179.2	-299.5	73.1	-73.1	1.34	-1.05	
2,305.0	15.80	172.20	2,269.8	-324.1	78.0	-78.0	2.12	0.64	
2,400.0	16.10	176.00	2,361.1	-350.0	80.7	-80.7	1.14	0.32	
2,494.0	16.70	175.30	2,451.3	-376.5	82.7	-82.7	0.67	0.64	
2,589.0	16.30	173.20	2,542.4	-403.3	85.4	-85.4	0.76	-0.42	
2,684.0	16.40	172.40	2,633.5	-429.8	88.8	-88.8	0.26	0.11	
2,779.0	15.80	171.60	2,724.8	-455.9	92.4	-92.4	0.67	-0.63	
2,874.0	13.60	172.30	2,816.7	-479.8	95.8	-95.8	2.32	-2.32	
2,969.0	14.80	171.50	2,908.8	-502.9	99.1	-99.1	1.28	1.26	
3,063.0	14.60	167.50	2,999.7	-526.3	103.4	-103.4	1.10	-0.21	
3,158.0	14.60	168.50	3,091.6	-549.7	108.4	-108.4	0.27	0.00	
3,253.0	11.60	167.70	3,184.2	-570.8	112.8	-112.8	3.16	-3.16	
3,347.0	12.40	176.70	3,276.1	-590.1	115.4	-115.4	2.16	0.85	
3,442.0	14.20	178.20	3,368.6	-611.9	116.4	-116.4	1.93	1.89	
3,537.0	14.70	172.50	3,460.6	-635.5	118.3	-118.3	1.59	0.53	
3,632.0	16.80	172.30	3,552.0	-661.1	121.7	-121.7	2.21	2.21	
3,727.0	17.10	171.80	3,642.9	-688.5	125.6	-125.6	0.35	0.32	
3,821.0	17.80	171.80	3,732.5	-716.4	129.6	-129.6	0.74	0.74	
3,916.0	13.40	165.20	3,824.0	-741.5	134.5	-134.5	4.99	-4.63	
4,011.0	12.30	161.80	3,916.6	-761.7	140.5	-140.5	1.40	-1.16	
4,106.0	13.70	164.20	4,009.2	-782.2	146.7	-146.7	1.58	1.47	
4,200.0	16.10	166.70	4,100.0	-805.6	152.7	-152.7	2.64	2.55	
4,295.0	16.20	169.70	4,191.3	-831.4	158.1	-158.1	0.88	0.11	
4,390.0	14.90	168.40	4,282.8	-856.4	162.9	-162.9	1.42	-1.37	
4,484.0	15.40	169.80	4,373.5	-880.5	167.6	-167.6	0.66	0.53	
4,579.0	15.30	170.80	4,465.2	-905.3	171.8	-171.8	0.30	-0.11	
4,674.0	16.00	171.90	4,556.6	-930.7	175.7	-175.7	0.80	0.74	
4,768.0	15.60	172.70	4,647.1	-956.0	179.1	-179.1	0.48	-0.43	
4,863.0	14.10	172.80	4,738.9	-980.2	182.2	-182.2	1.58	-1.58	
4,958.0	12.90	173.90	4,831.3	-1,002.2	184.7	-184.7	1.29	-1.26	
5,052.0	11.50	170.00	4,923.2	-1,021.9	187.5	-187.5	1.73	-1.49	
5,147.0	11.00	169.40	5,016.3	-1,040.1	190.8	-190.8	0.54	-0.53	
5,242.0	8.90	171.00	5,109.9	-1,056.3	193.6	-193.6	2.23	-2.21	
5,336.0	8.20	166.50	5,202.8	-1,070.0	196.3	-196.3	1.03	-0.74	
5,431.0	6.60	167.20	5,297.1	-1,081.9	199.1	-199.1	1.69	-1.68	
5,526.0	5.20	163.50	5,391.6	-1,091.3	201.5	-201.5	1.53	-1.47	
5,620.0	6.20	159.10	5,485.1	-1,100.2	204.6	-204.6	1.16	1.06	
5,715.0	4.00	160.50	5,579.7	-1,108.1	207.5	-207.5	2.32	-2.32	
5,809.0	4.40	163.20	5,673.5	-1,114.6	209.6	-209.6	0.47	0.43	
5,904.0	4.50	160.00	5,768.2	-1,121.6	212.0	-212.0	0.28	0.11	

Cathedral Energy Services

Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Liberty 2F-21H
Project:	DJ Wattenberg	TVD Reference:	WELL @ 5036.0ft (Ensign 135)
Site:	S20-T3N-R68W (Liberty 2A-21H)	MD Reference:	WELL @ 5036.0ft (Ensign 135)
Well:	Liberty 2F-21H	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
5,998.0	2.30	152.30	5,862.0	-1,126.7	214.1	-214.1	2.39	-2.34	
6,093.0	2.20	92.70	5,956.9	-1,128.5	216.8	-216.8	2.36	-0.11	
6,188.0	0.90	78.80	6,051.9	-1,128.5	219.4	-219.4	1.41	-1.37	
6,282.0	1.00	342.60	6,145.9	-1,127.5	219.8	-219.8	1.51	0.11	
6,377.0	0.50	253.60	6,240.9	-1,126.9	219.2	-219.2	1.17	-0.53	
6,472.0	1.10	278.00	6,335.9	-1,126.9	217.9	-217.9	0.71	0.63	
6,535.0	1.30	295.40	6,398.9	-1,126.5	216.7	-216.7	0.66	0.32	
6,629.0	6.40	257.50	6,492.6	-1,127.1	210.6	-210.6	5.78	5.43	
6,661.0	9.10	259.00	6,524.3	-1,128.0	206.3	-206.3	8.46	8.44	
6,693.0	10.70	260.80	6,555.9	-1,129.0	200.9	-200.9	5.09	5.00	
6,724.0	13.00	264.10	6,586.2	-1,129.8	194.6	-194.6	7.73	7.42	
6,756.0	15.90	269.80	6,617.2	-1,130.2	186.7	-186.7	10.08	9.06	
6,787.0	17.70	274.30	6,646.9	-1,129.8	177.7	-177.7	7.16	5.81	
6,819.0	19.30	279.00	6,677.2	-1,128.6	167.6	-167.6	6.83	5.00	
6,850.0	22.10	278.80	6,706.2	-1,126.9	156.8	-156.8	9.04	9.03	
6,882.0	25.50	276.80	6,735.5	-1,125.2	144.0	-144.0	10.92	10.62	
6,914.0	29.30	275.70	6,763.9	-1,123.6	129.4	-129.4	11.98	11.87	
6,945.0	33.30	274.90	6,790.4	-1,122.1	113.3	-113.3	12.97	12.90	
6,977.0	37.80	274.60	6,816.4	-1,120.6	94.8	-94.8	14.07	14.06	
7,009.0	42.10	273.80	6,840.9	-1,119.1	74.3	-74.3	13.53	13.44	
7,040.0	46.00	272.00	6,863.2	-1,118.0	52.8	-52.8	13.21	12.58	
7,072.0	48.00	269.80	6,885.0	-1,117.7	29.4	-29.4	8.02	6.25	
7,103.0	50.50	267.90	6,905.3	-1,118.1	5.9	-5.9	9.30	8.06	
7,135.0	53.80	266.30	6,924.9	-1,119.4	-19.3	19.3	11.04	10.31	
7,166.0	57.90	265.80	6,942.3	-1,121.2	-44.9	44.9	13.29	13.23	
7,198.0	61.40	267.20	6,958.5	-1,122.9	-72.4	72.4	11.57	10.94	
7,229.0	63.20	268.00	6,972.9	-1,124.0	-99.9	99.9	6.24	5.81	
7,261.0	65.10	268.60	6,986.8	-1,124.9	-128.7	128.7	6.17	5.94	
7,293.0	67.60	269.00	6,999.7	-1,125.5	-158.0	158.0	7.90	7.81	
7,324.0	71.30	269.70	7,010.5	-1,125.8	-187.0	187.0	12.12	11.94	
7,356.0	73.80	269.70	7,020.1	-1,126.0	-217.5	217.5	7.81	7.81	
7,387.0	76.00	269.50	7,028.2	-1,126.2	-247.4	247.4	7.13	7.10	
7,419.0	78.70	268.90	7,035.2	-1,126.6	-278.6	278.6	8.63	8.44	
7,450.0	83.00	268.50	7,040.1	-1,127.3	-309.2	309.2	13.93	13.87	
7,472.0	87.20	268.70	7,042.0	-1,127.8	-331.1	331.1	19.11	19.09	
7,533.0	91.60	271.10	7,042.7	-1,128.0	-392.1	392.1	8.22	7.21	
7,628.0	91.60	269.50	7,040.0	-1,127.5	-487.1	487.1	1.68	0.00	
7,723.0	88.00	268.90	7,040.3	-1,128.8	-582.0	582.0	3.84	-3.79	
7,817.0	88.80	268.60	7,043.0	-1,130.8	-676.0	676.0	0.91	0.85	
7,912.0	88.80	267.30	7,045.0	-1,134.2	-770.9	770.9	1.37	0.00	
7,976.0	90.40	267.10	7,045.4	-1,137.4	-834.8	834.8	2.52	2.50	
8,039.0	90.80	267.80	7,044.7	-1,140.2	-897.8	897.8	1.28	0.63	
8,102.0	90.70	268.20	7,043.9	-1,142.4	-960.7	960.7	0.65	-0.16	
8,165.0	91.10	269.00	7,042.9	-1,143.9	-1,023.7	1,023.7	1.42	0.63	
8,228.0	91.40	269.70	7,041.6	-1,144.6	-1,086.7	1,086.7	1.21	0.48	
8,291.0	91.80	270.60	7,039.8	-1,144.4	-1,149.7	1,149.7	1.56	0.63	
8,386.0	92.70	270.60	7,036.1	-1,143.5	-1,244.6	1,244.6	0.95	0.95	
8,481.0	90.90	270.00	7,033.1	-1,143.0	-1,339.5	1,339.5	2.00	-1.89	
8,576.0	90.20	271.70	7,032.2	-1,141.5	-1,434.5	1,434.5	1.94	-0.74	
8,670.0	89.40	271.50	7,032.5	-1,138.9	-1,528.5	1,528.5	0.88	-0.85	
8,765.0	90.30	269.80	7,032.7	-1,137.8	-1,623.5	1,623.5	2.02	0.95	
8,859.0	89.10	268.50	7,033.2	-1,139.2	-1,717.4	1,717.4	1.88	-1.28	
8,954.0	89.70	269.60	7,034.2	-1,140.8	-1,812.4	1,812.4	1.32	0.63	

Cathedral Energy Services

Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Liberty 2F-21H
Project:	DJ Wattenberg	TVD Reference:	WELL @ 5036.0ft (Ensign 135)
Site:	S20-T3N-R68W (Liberty 2A-21H)	MD Reference:	WELL @ 5036.0ft (Ensign 135)
Well:	Liberty 2F-21H	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
9,049.0	90.80	270.30	7,033.8	-1,140.9	-1,907.4	1,907.4	1.37	1.16	
9,144.0	90.70	271.60	7,032.6	-1,139.3	-2,002.4	2,002.4	1.37	-0.11	
9,238.0	92.00	272.80	7,030.4	-1,135.7	-2,096.3	2,096.3	1.88	1.38	
9,333.0	91.90	272.00	7,027.1	-1,131.7	-2,191.2	2,191.2	0.85	-0.11	
9,427.0	91.00	273.60	7,024.7	-1,127.1	-2,285.0	2,285.0	1.95	-0.96	
9,522.0	90.00	271.50	7,023.9	-1,122.9	-2,379.9	2,379.9	2.45	-1.05	
9,617.0	91.20	271.90	7,022.9	-1,120.1	-2,474.9	2,474.9	1.33	1.26	
9,711.0	90.20	270.30	7,021.8	-1,118.3	-2,568.8	2,568.8	2.01	-1.06	
9,806.0	91.60	270.80	7,020.3	-1,117.4	-2,663.8	2,663.8	1.56	1.47	
9,901.0	91.00	268.80	7,018.1	-1,117.7	-2,758.8	2,758.8	2.20	-0.63	
9,995.0	89.40	267.70	7,017.8	-1,120.6	-2,852.7	2,852.7	2.07	-1.70	
10,090.0	88.70	268.60	7,019.4	-1,123.7	-2,947.7	2,947.7	1.20	-0.74	
10,184.0	91.70	272.40	7,019.0	-1,122.8	-3,041.6	3,041.6	5.15	3.19	
10,279.0	93.90	270.40	7,014.4	-1,120.5	-3,136.5	3,136.5	3.13	2.32	
10,342.0	93.60	270.40	7,010.3	-1,120.1	-3,199.3	3,199.3	0.48	-0.48	
10,405.0	92.50	270.10	7,006.9	-1,119.8	-3,262.3	3,262.3	1.81	-1.75	
10,500.0	88.00	269.20	7,006.5	-1,120.4	-3,357.2	3,357.2	4.83	-4.74	
10,563.0	88.00	269.20	7,008.7	-1,121.3	-3,420.2	3,420.2	0.00	0.00	
10,657.0	88.10	268.90	7,011.9	-1,122.8	-3,514.1	3,514.1	0.34	0.11	
10,752.0	89.80	270.20	7,013.7	-1,123.6	-3,609.1	3,609.1	2.25	1.79	
10,846.0	89.70	268.40	7,014.1	-1,124.7	-3,703.1	3,703.1	1.92	-0.11	
10,941.0	90.20	267.40	7,014.1	-1,128.2	-3,798.0	3,798.0	1.18	0.53	
11,036.0	92.20	268.40	7,012.2	-1,131.7	-3,892.9	3,892.9	2.35	2.11	
11,131.0	91.00	267.90	7,009.5	-1,134.7	-3,987.8	3,987.8	1.37	-1.26	
11,225.0	91.60	267.00	7,007.4	-1,138.9	-4,081.7	4,081.7	1.15	0.64	
11,320.0	90.90	266.70	7,005.3	-1,144.1	-4,176.5	4,176.5	0.80	-0.74	
11,415.0	89.90	266.20	7,004.6	-1,150.0	-4,271.3	4,271.3	1.18	-1.05	
11,510.0	91.50	270.90	7,003.5	-1,152.4	-4,366.3	4,366.3	5.23	1.68	
11,604.0	91.10	272.50	7,001.3	-1,149.6	-4,460.2	4,460.2	1.75	-0.43	
11,640.0	92.50	273.50	7,000.2	-1,147.8	-4,496.1	4,496.1	4.78	3.89	Last Cathedral Survey @ 11,640' MD
11,690.0	92.50	273.50	6,998.0	-1,144.7	-4,546.0	4,546.0	0.00	0.00	Projection to Bit @ 11,690'

Cathedral Energy Services

Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Liberty 2F-21H
Project:	DJ Wattenberg	TVD Reference:	WELL @ 5036.0ft (Ensign 135)
Site:	S20-T3N-R68W (Liberty 2A-21H)	MD Reference:	WELL @ 5036.0ft (Ensign 135)
Well:	Liberty 2F-21H	North Reference:	True
Wellbore:	HZ	Survey Calculation Method:	Minimum Curvature
Design:	FINAL	Database:	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)		
Liberty 2F-21H TGT 1	0.00	0.00	6,997.4	-1,132.7	-608.0	1,320,464.24	3,136,586.77	40.212030	-105.010957
- actual wellpath misses target center by 43.9ft at 7747.8ft MD (7041.2 TVD, -1129.3 N, -606.8 E)									
- Point									
Liberty 2F-21H TGT 4	0.00	0.00	6,997.8	-1,132.6	-2,107.8	1,320,456.02	3,135,087.02	40.212031	-105.016327
- actual wellpath misses target center by 32.2ft at 9250.7ft MD (7029.9 TVD, -1135.1 N, -2109.0 E)									
- Point									
Liberty 2F-21H BHL	0.00	0.00	7,066.8	-1,132.5	-4,571.9	1,320,442.51	3,132,622.96	40.212030	-105.025150
- actual wellpath misses target center by 74.5ft at 11690.0ft MD (6998.0 TVD, -1144.7 N, -4546.0 E)									
- Point									
Liberty 2F-21H BHL P5	0.00	0.00	7,002.9	-1,132.5	-4,571.9	1,320,442.51	3,132,622.96	40.212030	-105.025150
- actual wellpath misses target center by 29.0ft at 11690.0ft MD (6998.0 TVD, -1144.7 N, -4546.0 E)									
- Point									
Liberty 2F-21H 7700' MI	0.00	0.00	7,041.1	-1,132.4	-559.0	1,320,464.81	3,136,635.81	40.212031	-105.010781
- actual wellpath misses target center by 4.3ft at 7700.0ft MD (7039.7 TVD, -1128.4 N, -559.0 E)									
- Point									
Liberty 2F-21H TGT 3	0.00	0.00	7,035.4	-1,132.7	-608.0	1,320,464.24	3,136,586.77	40.212030	-105.010957
- actual wellpath misses target center by 6.7ft at 7748.9ft MD (7041.2 TVD, -1129.3 N, -607.9 E)									
- Point									
Liberty 2F-21H TGT 2	0.00	0.00	6,959.8	-1,132.6	-2,107.8	1,320,456.02	3,135,087.02	40.212031	-105.016327
- actual wellpath misses target center by 70.2ft at 9252.0ft MD (7029.9 TVD, -1135.0 N, -2110.3 E)									
- Point									
Liberty 2F-21H BHL P3	0.00	0.00	6,938.0	-1,132.5	-4,571.9	1,320,442.51	3,132,622.96	40.212030	-105.025150
- actual wellpath misses target center by 66.5ft at 11690.0ft MD (6998.0 TVD, -1144.7 N, -4546.0 E)									
- Point									
Liberty 2F-21H BHL P4	0.00	0.00	6,976.0	-1,132.5	-4,571.9	1,320,442.51	3,132,622.96	40.212030	-105.025150
- actual wellpath misses target center by 36.1ft at 11690.0ft MD (6998.0 TVD, -1144.7 N, -4546.0 E)									
- Point									

Design Annotations				
Measured Depth	Vertical Depth	Local Coordinates		Comment
(ft)	(ft)	+N/-S (ft)	+E/-W (ft)	
11,640.0	7,000.2	-1,147.8	-4,496.1	Last Cathedral Survey @ 11,640' MD
11,690.0	6,998.0	-1,144.7	-4,546.0	Projection to Bit @ 11,690'

Checked By: _____ Approved By: _____ Date: _____