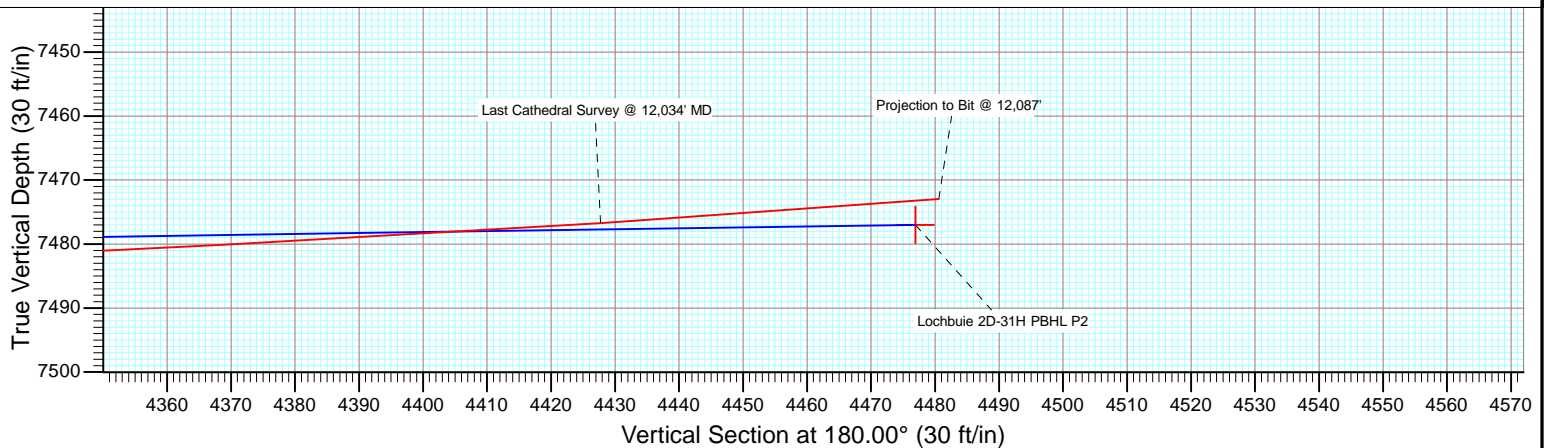
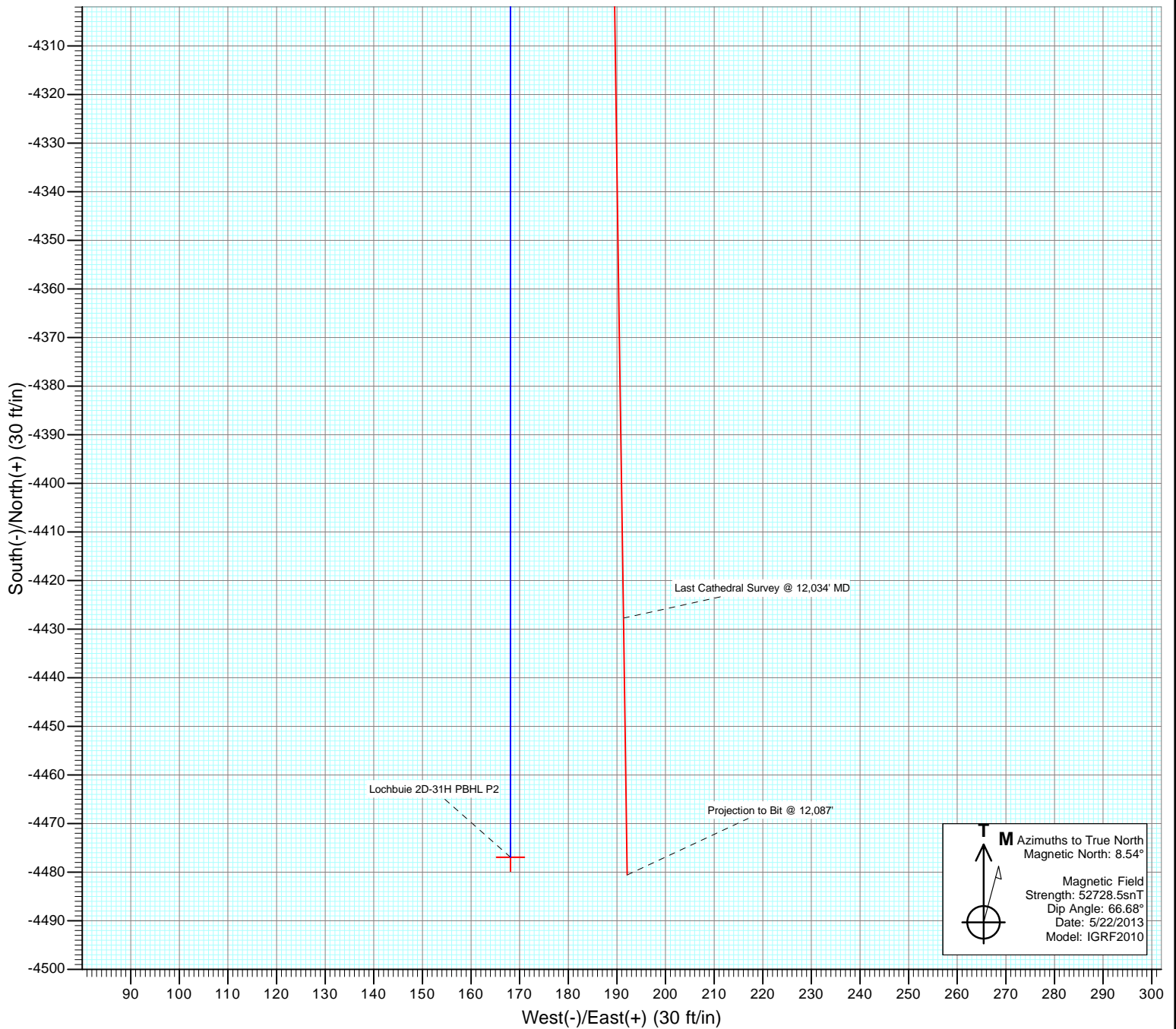




Project: DJ Wattenberg  
Site: S31-T1N-R65W (Lochbuie)  
Well: Lochbuie 2D-31H  
Wellbore: HZ  
Design: FINAL



# Cathedral Energy Services

## Survey Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Lochbuie 2D-31H
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	WELL @ 5020.0ft (Original Well Elev)
<b>Site:</b>	S31-T1N-R65W (Lochbuie)	<b>MD Reference:</b>	WELL @ 5020.0ft (Original Well Elev)
<b>Well:</b>	Lochbuie 2D-31H	<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		S31-T1N-R65W (Lochbuie)			
Site Position:		Northing:	1,248,958.49 ft	Latitude:	40.014080
From:	Lat/Long	Easting:	3,220,662.97 ft	Longitude:	-104.712200
Position Uncertainty:	0.0 ft	Slot Radius:	13.200 in	Grid Convergence:	0.51 °

Well	Lochbuie 2D-31H					
Well Position	+N/-S	0.0 ft	Northing:	1,248,958.73 ft	Latitude:	40.014080
	+E/-W	0.0 ft	Easting:	3,220,693.78 ft	Longitude:	-104.712090
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	5,007.0 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	5/22/2013	8.54	66.68	52,728

Design	FINAL			
Audit Notes:				
Version:	1.0	Phase:	ACTUAL	Tie On Depth: 0.0
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.0	0.0	0.0	180.00

<b>Survey Program</b>	<b>Date</b>	1/4/2014			
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
165.0	12,087.0	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	
165.0	0.60	347.60	165.0	0.8	-0.2	-0.8	0.36	0.36	
257.0	0.60	347.40	257.0	1.8	-0.4	-1.8	0.00	0.00	
349.0	0.80	340.60	349.0	2.9	-0.7	-2.9	0.24	0.22	
440.0	0.60	324.20	440.0	3.8	-1.2	-3.8	0.31	-0.22	
532.0	0.60	338.90	532.0	4.7	-1.7	-4.7	0.17	0.00	
624.0	0.70	351.40	624.0	5.7	-1.9	-5.7	0.19	0.11	
716.0	1.20	353.30	716.0	7.2	-2.1	-7.2	0.54	0.54	
808.0	1.20	17.20	807.9	9.1	-1.9	-9.1	0.54	0.00	
900.0	1.20	25.80	899.9	10.9	-1.2	-10.9	0.20	0.00	
992.0	1.60	30.90	991.9	12.8	-0.2	-12.8	0.45	0.43	
1,084.0	2.10	34.10	1,083.8	15.3	1.4	-15.3	0.55	0.54	
1,175.0	2.60	35.60	1,174.8	18.4	3.6	-18.4	0.55	0.55	

# Cathedral Energy Services

## Survey Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Lochbuie 2D-31H
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	WELL @ 5020.0ft (Original Well Elev)
<b>Site:</b>	S31-T1N-R65W (Lochbuie)	<b>MD Reference:</b>	WELL @ 5020.0ft (Original Well Elev)
<b>Well:</b>	Lochbuie 2D-31H	<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
1,267.0	2.80	30.80	1,266.7	22.0	6.0	-22.0	0.33	0.22	
1,359.0	2.70	31.00	1,358.6	25.8	8.2	-25.8	0.11	-0.11	
1,449.0	2.70	28.10	1,448.5	29.5	10.3	-29.5	0.15	0.00	
1,546.0	2.80	14.00	1,545.3	33.8	12.0	-33.8	0.70	0.10	
1,640.0	2.40	12.90	1,639.2	38.0	13.0	-38.0	0.43	-0.43	
1,735.0	1.30	32.70	1,734.2	40.8	14.0	-40.8	1.32	-1.16	
1,830.0	0.20	23.80	1,829.2	41.9	14.6	-41.9	1.16	-1.16	
1,924.0	0.30	95.80	1,923.2	42.0	14.9	-42.0	0.32	0.11	
2,019.0	0.50	35.50	2,018.2	42.3	15.4	-42.3	0.46	0.21	
2,113.0	0.50	25.90	2,112.2	43.0	15.8	-43.0	0.09	0.00	
2,208.0	1.50	188.00	2,207.2	42.1	15.9	-42.1	2.09	1.05	
2,303.0	1.40	187.10	2,302.1	39.8	15.5	-39.8	0.11	-0.11	
2,397.0	0.80	158.50	2,396.1	38.0	15.6	-38.0	0.85	-0.64	
2,492.0	0.80	130.60	2,491.1	37.0	16.4	-37.0	0.41	0.00	
2,586.0	1.10	101.60	2,585.1	36.4	17.8	-36.4	0.59	0.32	
2,681.0	1.20	82.40	2,680.1	36.3	19.6	-36.3	0.42	0.11	
2,776.0	0.90	203.90	2,775.1	35.7	20.3	-35.7	1.93	-0.32	
2,870.0	0.40	182.60	2,869.1	34.7	20.0	-34.7	0.58	-0.53	
2,965.0	0.80	169.10	2,964.1	33.8	20.1	-33.8	0.44	0.42	
3,059.0	0.40	173.50	3,058.1	32.8	20.3	-32.8	0.43	-0.43	
3,154.0	0.40	142.20	3,153.1	32.2	20.5	-32.2	0.23	0.00	
3,249.0	0.60	108.00	3,248.1	31.8	21.2	-31.8	0.37	0.21	
3,343.0	0.60	115.00	3,342.0	31.4	22.1	-31.4	0.08	0.00	
3,438.0	0.70	80.90	3,437.0	31.3	23.1	-31.3	0.41	0.11	
3,532.0	0.70	87.80	3,531.0	31.4	24.3	-31.4	0.09	0.00	
3,627.0	0.40	97.20	3,626.0	31.4	25.2	-31.4	0.33	-0.32	
3,722.0	0.50	88.80	3,721.0	31.4	25.9	-31.4	0.13	0.11	
3,816.0	0.60	108.70	3,815.0	31.2	26.8	-31.2	0.23	0.11	
3,911.0	0.20	158.80	3,910.0	30.9	27.3	-30.9	0.52	-0.42	
4,005.0	0.30	160.00	4,004.0	30.5	27.5	-30.5	0.11	0.11	
4,100.0	1.30	31.70	4,099.0	31.2	28.1	-31.2	1.58	1.05	
4,195.0	1.10	22.50	4,194.0	33.0	29.0	-33.0	0.29	-0.21	
4,289.0	0.90	31.10	4,288.0	34.4	29.8	-34.4	0.27	-0.21	
4,384.0	1.00	27.60	4,383.0	35.8	30.5	-35.8	0.12	0.11	
4,478.0	0.70	14.20	4,477.0	37.1	31.1	-37.1	0.38	-0.32	
4,573.0	2.10	9.80	4,571.9	39.4	31.5	-39.4	1.48	1.47	
4,668.0	2.20	16.10	4,666.9	42.8	32.3	-42.8	0.27	0.11	
4,762.0	3.60	13.10	4,760.7	47.4	33.5	-47.4	1.50	1.49	
4,857.0	5.10	15.60	4,855.5	54.4	35.3	-54.4	1.59	1.58	
4,952.0	5.90	18.60	4,950.0	63.1	38.0	-63.1	0.89	0.84	
5,046.0	7.90	15.90	5,043.3	73.9	41.3	-73.9	2.15	2.13	
5,141.0	8.80	16.10	5,137.3	87.2	45.1	-87.2	0.95	0.95	
5,235.0	8.10	12.00	5,230.3	100.5	48.5	-100.5	0.98	-0.74	
5,330.0	8.80	14.60	5,324.3	114.1	51.7	-114.1	0.84	0.74	
5,425.0	8.20	21.00	5,418.2	127.5	55.9	-127.5	1.18	-0.63	
5,519.0	9.00	19.60	5,511.2	140.7	60.8	-140.7	0.88	0.85	
5,614.0	8.40	21.10	5,605.1	154.1	65.8	-154.1	0.68	-0.63	
5,709.0	7.50	31.90	5,699.2	165.9	71.6	-165.9	1.83	-0.95	
5,803.0	8.20	34.80	5,792.3	176.6	78.7	-176.6	0.86	0.74	
5,898.0	7.10	34.90	5,886.4	187.0	85.9	-187.0	1.16	-1.16	
5,992.0	6.80	31.80	5,979.8	196.5	92.1	-196.5	0.51	-0.32	
6,087.0	7.50	29.50	6,074.0	206.6	98.1	-206.6	0.80	0.74	
6,182.0	7.90	19.50	6,168.2	218.2	103.4	-218.2	1.47	0.42	

# Cathedral Energy Services

## Survey Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Lochbuie 2D-31H
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	WELL @ 5020.0ft (Original Well Elev)
<b>Site:</b>	S31-T1N-R65W (Lochbuie)	<b>MD Reference:</b>	WELL @ 5020.0ft (Original Well Elev)
<b>Well:</b>	Lochbuie 2D-31H	<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
6,276.0	7.90	13.50	6,261.3	230.6	107.0	-230.6	0.88	0.00	
6,371.0	7.30	14.10	6,355.4	242.8	110.0	-242.8	0.64	-0.63	
6,466.0	7.70	23.80	6,449.6	254.4	114.1	-254.4	1.40	0.42	
6,560.0	9.00	22.40	6,542.6	267.0	119.4	-267.0	1.40	1.38	
6,655.0	7.40	22.00	6,636.7	279.5	124.5	-279.5	1.69	-1.68	
6,749.0	7.80	15.20	6,729.8	291.3	128.5	-291.3	1.05	0.43	
6,795.0	7.40	12.30	6,775.4	297.2	129.9	-297.2	1.20	-0.87	
6,844.0	6.70	10.90	6,824.1	303.1	131.1	-303.1	1.47	-1.43	
6,875.0	3.80	39.10	6,854.9	305.7	132.1	-305.7	12.26	-9.35	
6,907.0	4.30	97.70	6,886.9	306.3	134.0	-306.3	12.45	1.56	
6,938.0	5.90	114.50	6,917.7	305.5	136.6	-305.5	7.01	5.16	
6,970.0	4.40	135.30	6,949.6	304.0	139.0	-304.0	7.41	-4.69	
7,001.0	4.80	171.30	6,980.5	301.8	140.0	-301.8	9.24	1.29	
7,033.0	6.50	171.10	7,012.4	298.7	140.5	-298.7	5.31	5.31	
7,064.0	9.50	162.90	7,043.1	294.6	141.5	-294.6	10.33	9.68	
7,096.0	12.70	162.30	7,074.5	288.7	143.3	-288.7	10.01	10.00	
7,127.0	15.60	160.00	7,104.5	281.5	145.8	-281.5	9.53	9.35	
7,159.0	18.70	159.20	7,135.1	272.7	149.1	-272.7	9.72	9.69	
7,190.0	21.50	158.60	7,164.2	262.7	152.9	-262.7	9.06	9.03	
7,222.0	24.00	160.90	7,193.7	251.1	157.2	-251.1	8.29	7.81	
7,254.0	26.90	163.30	7,222.6	238.0	161.4	-238.0	9.62	9.06	
7,285.0	30.50	165.50	7,249.8	223.7	165.4	-223.7	12.10	11.61	
7,317.0	33.10	164.30	7,277.0	207.4	169.8	-207.4	8.36	8.12	
7,348.0	36.40	163.30	7,302.4	190.5	174.7	-190.5	10.80	10.65	
7,380.0	40.40	164.70	7,327.5	171.4	180.2	-171.4	12.79	12.50	
7,411.0	44.40	167.60	7,350.4	151.1	185.2	-151.1	14.36	12.90	
7,443.0	49.00	170.60	7,372.4	128.2	189.6	-128.2	15.91	14.37	
7,474.0	53.20	171.20	7,391.8	104.4	193.4	-104.4	13.63	13.55	
7,506.0	56.90	172.80	7,410.1	78.4	197.0	-78.4	12.27	11.56	
7,537.0	61.30	175.10	7,426.1	52.0	199.8	-52.0	15.55	14.19	
7,569.0	64.10	177.80	7,440.7	23.6	201.6	-23.6	11.52	8.75	
7,600.0	67.30	180.70	7,453.5	-4.6	201.9	4.6	13.39	10.32	
7,632.0	69.50	184.00	7,465.3	-34.4	200.7	34.4	11.80	6.87	
7,663.0	72.40	186.20	7,475.4	-63.5	198.1	63.5	11.51	9.35	
7,695.0	75.00	187.20	7,484.4	-94.0	194.5	94.0	8.66	8.12	
7,727.0	79.20	186.90	7,491.5	-125.0	190.7	125.0	13.16	13.12	
7,758.0	83.20	185.40	7,496.3	-155.4	187.4	155.4	13.76	12.90	
7,766.0	83.90	185.10	7,497.2	-163.4	186.7	163.4	9.51	8.75	
7,813.0	87.10	183.60	7,500.8	-210.1	183.1	210.1	7.52	6.81	
7,907.0	90.80	181.30	7,502.6	-304.0	179.1	304.0	4.63	3.94	
8,002.0	89.30	181.90	7,502.5	-398.9	176.5	398.9	1.70	-1.58	
8,097.0	89.20	182.70	7,503.7	-493.8	172.6	493.8	0.85	-0.11	
8,191.0	88.70	182.40	7,505.5	-587.7	168.5	587.7	0.62	-0.53	
8,285.0	89.40	181.70	7,507.0	-681.6	165.1	681.6	1.05	0.74	
8,380.0	90.60	181.40	7,507.0	-776.6	162.5	776.6	1.30	1.26	
8,474.0	88.80	179.60	7,507.5	-870.6	161.7	870.6	2.71	-1.91	
8,569.0	88.40	179.40	7,509.8	-965.6	162.5	965.6	0.47	-0.42	
8,663.0	90.00	180.00	7,511.1	-1,059.5	163.0	1,059.5	1.82	1.70	
8,758.0	89.70	180.50	7,511.4	-1,154.5	162.6	1,154.5	0.61	-0.32	
8,853.0	91.50	182.50	7,510.4	-1,249.5	160.1	1,249.5	2.83	1.89	
8,947.0	90.50	181.70	7,508.8	-1,343.4	156.7	1,343.4	1.36	-1.06	
9,042.0	88.60	182.00	7,509.5	-1,438.4	153.6	1,438.4	2.02	-2.00	
9,136.0	87.30	181.40	7,512.9	-1,532.3	150.8	1,532.3	1.52	-1.38	

# Cathedral Energy Services

## Survey Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Lochbuie 2D-31H
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	WELL @ 5020.0ft (Original Well Elev)
<b>Site:</b>	S31-T1N-R65W (Lochbuie)	<b>MD Reference:</b>	WELL @ 5020.0ft (Original Well Elev)
<b>Well:</b>	Lochbuie 2D-31H	<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
9,231.0	88.20	180.90	7,516.6	-1,627.2	148.9	1,627.2	1.08	0.95	
9,326.0	89.30	180.10	7,518.7	-1,722.1	148.1	1,722.1	1.43	1.16	
9,420.0	88.20	179.70	7,520.7	-1,816.1	148.3	1,816.1	1.25	-1.17	
9,515.0	88.70	178.80	7,523.3	-1,911.1	149.5	1,911.1	1.08	0.53	
9,610.0	90.20	178.10	7,524.2	-2,006.0	152.1	2,006.0	1.74	1.58	
9,704.0	91.60	178.30	7,522.7	-2,100.0	155.0	2,100.0	1.50	1.49	
9,799.0	90.90	177.10	7,520.6	-2,194.9	158.8	2,194.9	1.46	-0.74	
9,893.0	91.30	177.70	7,518.8	-2,288.8	163.1	2,288.8	0.77	0.43	
9,988.0	91.60	179.60	7,516.4	-2,383.7	165.3	2,383.7	2.02	0.32	
10,083.0	92.10	180.90	7,513.4	-2,478.6	164.9	2,478.6	1.47	0.53	
10,177.0	88.40	179.40	7,513.0	-2,572.6	164.7	2,572.6	4.25	-3.94	
10,272.0	91.90	178.70	7,512.7	-2,667.6	166.3	2,667.6	3.76	3.68	
10,366.0	90.20	181.30	7,511.0	-2,761.6	166.2	2,761.6	3.30	-1.81	
10,461.0	89.80	183.20	7,511.0	-2,856.5	162.5	2,856.5	2.04	-0.42	
10,555.0	89.50	181.90	7,511.6	-2,950.4	158.3	2,950.4	1.42	-0.32	
10,650.0	91.60	181.20	7,510.6	-3,045.3	155.8	3,045.3	2.33	2.21	
10,744.0	89.80	180.60	7,509.5	-3,139.3	154.3	3,139.3	2.02	-1.91	
10,839.0	89.10	180.50	7,510.4	-3,234.3	153.4	3,234.3	0.74	-0.74	
10,934.0	91.10	180.00	7,510.2	-3,329.3	153.0	3,329.3	2.17	2.11	
11,029.0	90.90	180.10	7,508.6	-3,424.3	152.9	3,424.3	0.24	-0.21	
11,123.0	90.90	179.30	7,507.1	-3,518.3	153.4	3,518.3	0.85	0.00	
11,218.0	91.10	178.20	7,505.5	-3,613.2	155.4	3,613.2	1.18	0.21	
11,312.0	91.20	176.90	7,503.6	-3,707.1	159.5	3,707.1	1.39	0.11	
11,407.0	92.10	178.10	7,500.8	-3,802.0	163.6	3,802.0	1.58	0.95	
11,502.0	91.90	176.60	7,497.5	-3,896.8	168.0	3,896.8	1.59	-0.21	
11,596.0	90.40	176.00	7,495.6	-3,990.6	174.1	3,990.6	1.72	-1.60	
11,691.0	92.30	176.60	7,493.4	-4,085.4	180.2	4,085.4	2.10	2.00	
11,785.0	92.60	176.60	7,489.4	-4,179.1	185.8	4,179.1	0.32	0.32	
11,880.0	93.10	179.30	7,484.6	-4,273.9	189.2	4,273.9	2.89	0.53	
11,975.0	92.40	179.10	7,480.1	-4,368.8	190.5	4,368.8	0.77	-0.74	
12,034.0	94.10	179.20	7,476.7	-4,427.7	191.4	4,427.7	2.89	2.88	Last Cathedral Survey @ 12,034' MD
12,087.0	94.10	179.20	7,473.0	-4,480.6	192.1	4,480.6	0.00	0.00	Projection to Bit @ 12,087'

# Cathedral Energy Services

## Survey Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Lochbuie 2D-31H
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	WELL @ 5020.0ft (Original Well Elev)
<b>Site:</b>	S31-T1N-R65W (Lochbuie)	<b>MD Reference:</b>	WELL @ 5020.0ft (Original Well Elev)
<b>Well:</b>	Lochbuie 2D-31H	<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)		
Lochbuie 2D-31H PBHL	0.00	0.00	7,504.0	-4,476.9	168.1	1,244,483.49	3,220,901.64	40.001790	-104.711490
- actual wellpath misses target center by 38.9ft at 12080.8ft MD (7473.4 TVD, -4474.4 N, 192.0 E)									
- Point									
Lochbuie 2D-31H TGT #	0.00	0.00	7,504.0	-2,298.3	168.1	1,246,662.02	3,220,882.28	40.007771	-104.711490
- actual wellpath misses target center by 15.3ft at 9903.0ft MD (7518.6 TVD, -2298.8 N, 163.5 E)									
- Point									
Lochbuie 2D-31H TGT #	0.00	0.00	7,493.0	-798.3	168.1	1,248,161.96	3,220,868.96	40.011888	-104.711490
- actual wellpath misses target center by 15.1ft at 8401.6ft MD (7506.9 TVD, -798.2 N, 162.1 E)									
- Point									
Lochbuie 2D-31H LP P2	0.00	0.00	7,493.0	-252.9	168.1	1,248,707.33	3,220,864.11	40.013386	-104.711490
- actual wellpath misses target center by 15.8ft at 7856.3ft MD (7502.4 TVD, -253.3 N, 180.8 E)									
- Point									
Lochbuie 2D-31H PBHL	0.00	0.00	7,477.0	-4,476.9	168.1	1,244,483.49	3,220,901.64	40.001790	-104.711490
- actual wellpath misses target center by 24.2ft at 12082.7ft MD (7473.3 TVD, -4476.3 N, 192.0 E)									
- Point									
Lochbuie 2D-31H TGT #	0.00	0.00	7,504.0	-2,598.3	168.1	1,246,362.03	3,220,884.95	40.006947	-104.711490
- actual wellpath misses target center by 10.0ft at 10202.8ft MD (7513.5 TVD, -2598.4 N, 165.0 E)									
- Point									

Design Annotations				
Measured Depth	Vertical Depth	Local Coordinates		Comment
(ft)	(ft)	+N/-S (ft)	+E/-W (ft)	
12,034.0	7,476.7	-4,427.7	191.4	Last Cathedral Survey @ 12,034' MD
12,087.0	7,473.0	-4,480.6	192.1	Projection to Bit @ 12,087'

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