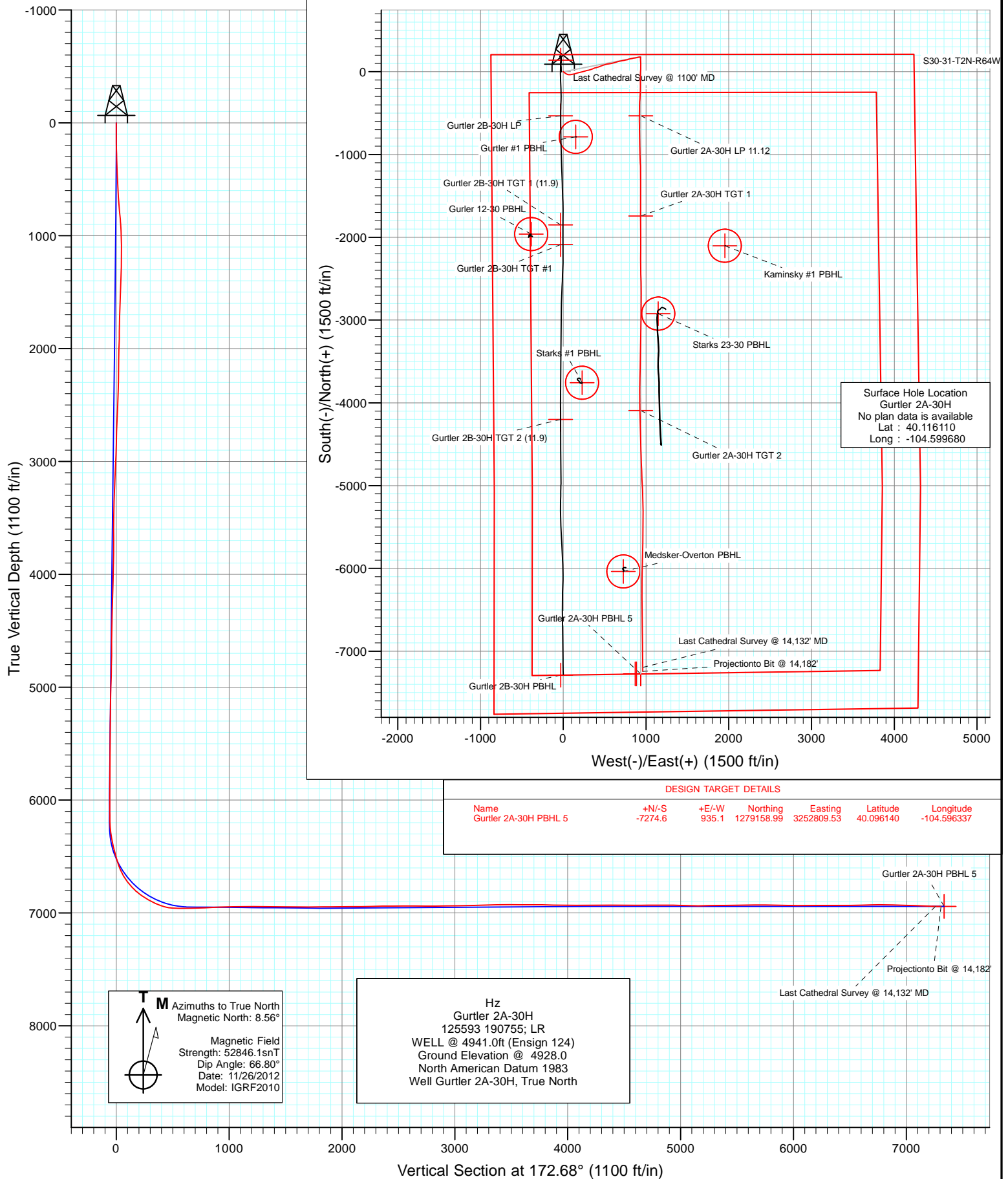


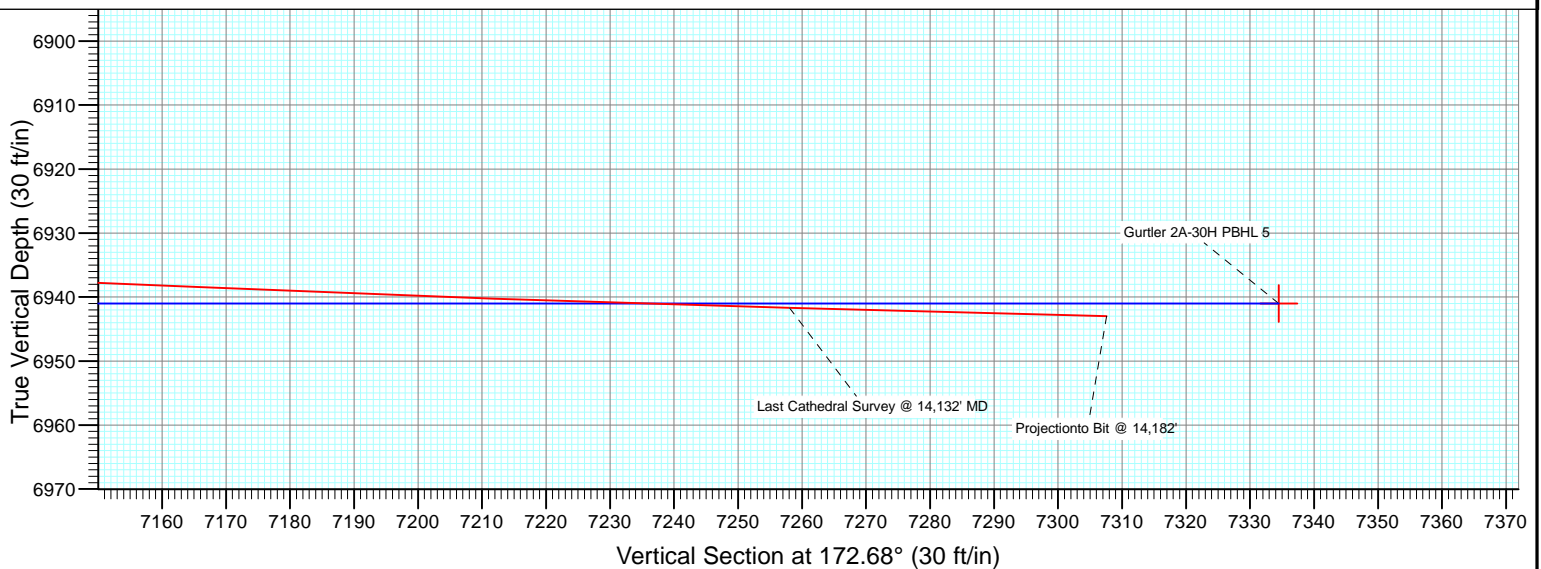
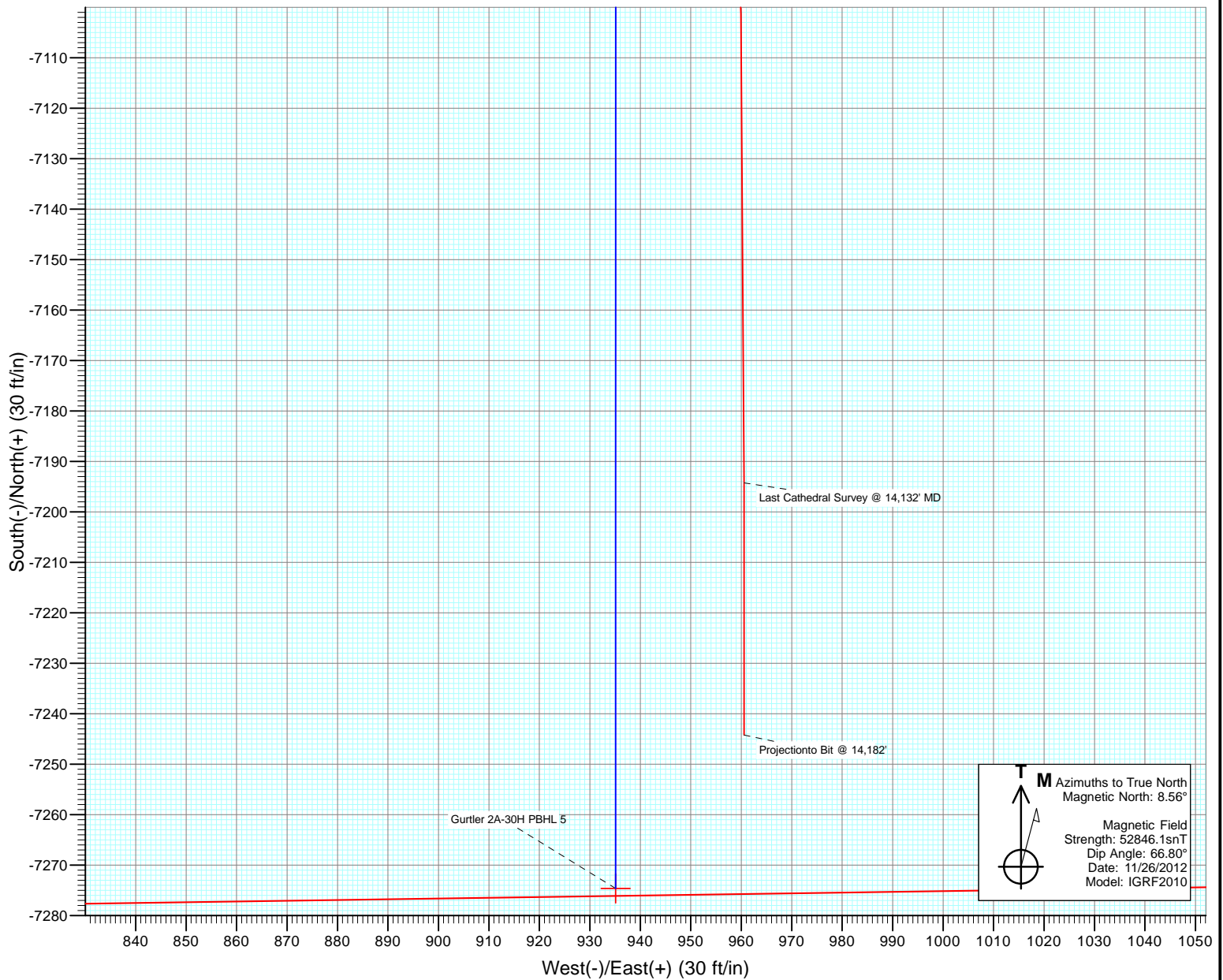


Project: DJ Wattenberg
Site: NWNW S30-T2N-R64W (Gurtler)
Well: Gurtler 2A-30H
Wellbore: Hz
Design: FINAL





Project: DJ Wattenberg
Site: NWNW S30-T2N-R64W (Gurtler)
Well: Gurtler 2A-30H
Wellbore: Hz
Design: FINAL



Cathedral Energy Services

Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Gurtler 2A-30H
Project:	DJ Wattenberg	TVD Reference:	WELL @ 4941.0ft (Ensign 124)
Site:	NWNW S30-T2N-R64W (Gurtler)	MD Reference:	WELL @ 4941.0ft (Ensign 124)
Well:	Gurtler 2A-30H	North Reference:	True
Wellbore:	Hz	Survey Calculation Method:	Minimum Curvature
Design:	Hz	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		NWNW S30-T2N-R64W (Gurtler)			
Site Position:		Northing:	1,286,423.76 ft	Latitude:	40.116110
From:	Lat/Long	Easting:	3,251,800.62 ft	Longitude:	-104.599680
Position Uncertainty:	0.0 ft	Slot Radius:	13.200 in	Grid Convergence:	0.58 °

Well	Gurtler 2A-30H					
Well Position	+N/-S	0.0 ft	Northing:	1,286,423.75 ft	Latitude:	40.116110
	+E/-W	0.0 ft	Easting:	3,251,800.62 ft	Longitude:	-104.599680
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,928.0 ft

Wellbore	Hz				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	11/26/2012	8.56	66.80	52,846

Design	Hz				
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	172.68	

Survey Program	Date	12/28/2012			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
135.0	14,182.0	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		
135.0	0.30	105.80	135.0	-0.1	0.3	0.1	0.22	0.22		
228.0	1.40	116.10	228.0	-0.7	1.6	0.9	1.19	1.18		
321.0	2.50	136.40	320.9	-2.6	4.0	3.1	1.38	1.18		
383.0	2.70	125.50	382.9	-4.5	6.1	5.2	0.86	0.32		
445.0	3.40	118.10	444.8	-6.2	8.9	7.3	1.29	1.13		
507.0	3.60	126.40	506.7	-8.2	12.1	9.7	0.88	0.32		
569.0	4.00	131.60	568.5	-10.8	15.3	12.6	0.85	0.65		
631.0	4.70	130.40	630.4	-13.9	18.9	16.2	1.14	1.13		
693.0	6.10	126.50	692.1	-17.5	23.5	20.3	2.33	2.26		
755.0	7.70	122.50	753.6	-21.7	29.6	25.3	2.69	2.58		
817.0	9.10	117.90	815.0	-26.2	37.4	30.7	2.50	2.26		
879.0	11.50	111.70	876.0	-30.8	47.5	36.6	4.26	3.87		

Cathedral Energy Services

Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Gurtler 2A-30H
Project:	DJ Wattenberg	TVD Reference:	WELL @ 4941.0ft (Ensign 124)
Site:	NWNW S30-T2N-R64W (Gurtler)	MD Reference:	WELL @ 4941.0ft (Ensign 124)
Well:	Gurtler 2A-30H	North Reference:	True
Wellbore:	Hz	Survey Calculation Method:	Minimum Curvature
Design:	Hz	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
941.0	12.60	101.50	936.6	-34.4	59.9	41.8	3.86	1.77	
1,003.0	12.70	92.00	997.1	-36.0	73.3	45.0	3.36	0.16	
1,065.0	12.60	83.00	1,057.6	-35.4	86.9	46.2	3.18	-0.16	
1,095.0	12.20	79.00	1,086.9	-34.4	93.2	46.0	3.16	-1.33	
1,189.0	11.90	77.90	1,178.8	-30.5	112.4	44.6	0.40	-0.32	
1,282.0	12.90	76.70	1,269.7	-26.1	131.9	42.7	1.11	1.08	
1,374.0	12.70	74.90	1,359.4	-21.1	151.7	40.2	0.48	-0.22	
1,468.0	13.10	75.20	1,451.0	-15.7	171.9	37.5	0.43	0.43	
1,562.0	11.90	74.10	1,542.8	-10.3	191.6	34.6	1.30	-1.28	
1,658.0	10.50	75.40	1,636.9	-5.4	209.6	32.0	1.48	-1.46	
1,753.0	10.80	76.80	1,730.3	-1.2	226.6	30.0	0.42	0.32	
1,847.0	11.00	76.90	1,822.6	2.9	243.9	28.2	0.21	0.21	
1,942.0	9.00	72.50	1,916.2	7.2	259.8	26.0	2.25	-2.11	
2,037.0	8.40	71.00	2,010.1	11.7	273.5	23.3	0.68	-0.63	
2,132.0	9.80	77.00	2,103.9	15.7	287.9	21.1	1.78	1.47	
2,227.0	9.50	77.90	2,197.5	19.2	303.5	19.6	0.35	-0.32	
2,322.0	8.50	79.90	2,291.4	22.1	318.0	18.6	1.10	-1.05	
2,417.0	9.80	70.80	2,385.2	26.0	332.6	16.6	2.04	1.37	
2,512.0	10.00	68.20	2,478.7	31.7	347.9	12.9	0.52	0.21	
2,607.0	9.50	65.60	2,572.4	38.0	362.7	8.6	0.70	-0.53	
2,702.0	9.30	71.10	2,666.1	43.7	377.1	4.7	0.97	-0.21	
2,797.0	9.50	75.80	2,759.8	48.1	391.9	2.2	0.83	0.21	
2,892.0	10.80	73.20	2,853.3	52.6	408.1	-0.2	1.45	1.37	
2,987.0	11.30	70.70	2,946.6	58.3	425.4	-3.6	0.73	0.53	
3,082.0	11.30	70.70	3,039.7	64.4	442.9	-7.4	0.00	0.00	
3,177.0	11.20	69.90	3,132.9	70.7	460.4	-11.4	0.20	-0.11	
3,272.0	11.00	69.40	3,226.1	77.0	477.5	-15.5	0.23	-0.21	
3,367.0	10.30	72.20	3,319.5	82.8	494.1	-19.2	0.92	-0.74	
3,462.0	9.60	77.10	3,413.1	87.2	509.9	-21.5	1.16	-0.74	
3,557.0	7.90	76.00	3,506.9	90.5	524.0	-23.0	1.80	-1.79	
3,652.0	8.00	82.10	3,601.0	93.0	536.8	-23.8	0.89	0.11	
3,747.0	8.60	84.90	3,695.0	94.6	550.5	-23.6	0.76	0.63	
3,842.0	9.00	79.80	3,788.9	96.5	564.9	-23.7	0.92	0.42	
3,937.0	9.50	78.70	3,882.7	99.4	579.9	-24.6	0.56	0.53	
4,032.0	10.10	74.40	3,976.3	103.1	595.6	-26.4	1.00	0.63	
4,127.0	11.60	72.50	4,069.6	108.3	612.7	-29.3	1.62	1.58	
4,222.0	11.60	73.60	4,162.7	113.8	631.0	-32.4	0.23	0.00	
4,318.0	10.20	73.80	4,256.9	118.9	648.4	-35.3	1.46	-1.46	
4,412.0	10.00	76.40	4,349.5	123.2	664.3	-37.5	0.53	-0.21	
4,507.0	11.50	78.20	4,442.8	127.0	681.6	-39.1	1.62	1.58	
4,602.0	11.10	80.00	4,536.0	130.6	699.9	-40.3	0.56	-0.42	
4,697.0	11.20	79.50	4,629.2	133.8	718.0	-41.2	0.15	0.11	
4,792.0	11.70	79.80	4,722.3	137.2	736.5	-42.2	0.53	0.53	
4,887.0	11.70	76.90	4,815.3	141.1	755.4	-43.6	0.62	0.00	
4,982.0	10.50	75.20	4,908.5	145.5	773.1	-45.7	1.31	-1.26	
5,077.0	9.70	70.90	5,002.1	150.3	789.1	-48.5	1.16	-0.84	
5,172.0	9.70	76.50	5,095.7	154.8	804.4	-51.0	0.99	0.00	
5,267.0	10.90	79.60	5,189.2	158.3	821.0	-52.3	1.39	1.26	
5,362.0	10.20	76.90	5,282.6	161.8	838.1	-53.7	0.90	-0.74	
5,457.0	8.80	82.30	5,376.3	164.7	853.5	-54.6	1.75	-1.47	
5,552.0	6.80	83.80	5,470.4	166.3	866.2	-54.5	2.12	-2.11	
5,647.0	6.20	75.30	5,564.8	168.2	876.8	-55.0	1.19	-0.63	
5,742.0	7.00	79.00	5,659.1	170.6	887.4	-56.1	0.95	0.84	

Cathedral Energy Services

Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Gurtler 2A-30H
Project:	DJ Wattenberg	TVD Reference:	WELL @ 4941.0ft (Ensign 124)
Site:	NWNW S30-T2N-R64W (Gurtler)	MD Reference:	WELL @ 4941.0ft (Ensign 124)
Well:	Gurtler 2A-30H	North Reference:	True
Wellbore:	Hz	Survey Calculation Method:	Minimum Curvature
Design:	Hz	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
5,837.0	7.90	78.70	5,753.3	173.0	899.5	-56.9	0.95	0.95	
5,932.0	7.40	78.30	5,847.5	175.5	911.9	-57.8	0.53	-0.53	
6,027.0	5.50	81.50	5,941.9	177.4	922.4	-58.4	2.03	-2.00	
6,123.0	3.60	87.70	6,037.6	178.2	930.0	-58.2	2.04	-1.98	
6,186.0	1.70	88.20	6,100.5	178.3	932.9	-57.9	3.02	-3.02	
6,218.0	1.20	96.70	6,132.5	178.3	933.7	-57.8	1.70	-1.56	
6,250.0	0.40	140.80	6,164.5	178.2	934.1	-57.6	2.98	-2.50	
6,281.0	1.90	192.50	6,195.5	177.6	934.1	-57.1	5.42	4.84	
6,313.0	3.80	189.20	6,227.5	176.0	933.8	-55.6	5.96	5.94	
6,344.0	6.20	185.50	6,258.3	173.4	933.4	-52.9	7.81	7.74	
6,376.0	8.00	182.70	6,290.1	169.4	933.2	-49.1	5.73	5.62	
6,408.0	9.20	180.20	6,321.7	164.6	933.1	-44.3	3.93	3.75	
6,440.0	10.90	180.50	6,353.2	159.0	933.0	-38.8	5.31	5.31	
6,471.0	12.30	180.10	6,383.6	152.8	933.0	-32.6	4.53	4.52	
6,503.0	13.10	178.20	6,414.8	145.8	933.1	-25.6	2.82	2.50	
6,535.0	14.20	176.10	6,445.9	138.2	933.5	-18.1	3.77	3.44	
6,566.0	15.50	176.00	6,475.9	130.3	934.0	-10.2	4.19	4.19	
6,600.0	16.10	177.00	6,508.6	121.1	934.6	-0.9	1.94	1.76	
6,632.0	16.70	176.10	6,539.3	112.1	935.1	8.1	2.04	1.87	
6,663.0	18.70	177.20	6,568.8	102.7	935.7	17.5	6.54	6.45	
6,695.0	21.70	177.20	6,598.8	91.6	936.2	28.5	9.37	9.37	
6,727.0	24.80	179.80	6,628.2	79.0	936.5	41.1	10.20	9.69	
6,758.0	28.40	181.60	6,656.0	65.1	936.4	54.8	11.90	11.61	
6,790.0	32.00	181.80	6,683.6	49.0	935.9	70.7	11.25	11.25	
6,822.0	36.00	181.70	6,710.1	31.1	935.3	88.4	12.50	12.50	
6,853.0	39.20	182.10	6,734.7	12.2	934.7	107.0	10.35	10.32	
6,885.0	42.30	183.30	6,758.9	-8.6	933.7	127.6	9.99	9.69	
6,917.0	45.00	183.50	6,782.1	-30.7	932.4	149.3	8.45	8.44	
6,948.0	47.40	181.20	6,803.5	-53.0	931.5	171.3	9.41	7.74	
6,980.0	51.10	180.20	6,824.4	-77.3	931.2	195.3	11.80	11.56	
7,012.0	55.20	179.30	6,843.6	-102.9	931.3	220.7	13.01	12.81	
7,044.0	57.70	179.20	6,861.3	-129.5	931.7	247.2	7.82	7.81	
7,075.0	60.30	178.60	6,877.3	-156.1	932.2	273.7	8.55	8.39	
7,085.0	61.10	178.90	6,882.1	-164.8	932.4	282.3	8.42	8.00	
7,165.0	65.50	181.80	6,918.1	-236.3	931.9	353.1	6.38	5.50	
7,197.0	69.10	183.00	6,930.4	-265.7	930.7	382.2	11.77	11.25	
7,228.0	73.20	184.20	6,940.5	-295.0	928.8	411.0	13.72	13.23	
7,260.0	77.60	184.30	6,948.5	-325.9	926.5	441.4	13.75	13.75	
7,292.0	82.30	183.60	6,954.1	-357.3	924.4	472.2	14.84	14.69	
7,323.0	87.10	182.60	6,957.0	-388.1	922.7	502.6	15.81	15.48	
7,355.0	88.60	182.20	6,958.2	-420.1	921.3	534.1	4.85	4.69	
7,418.0	90.20	181.10	6,958.8	-483.0	919.5	596.3	3.08	2.54	
7,450.0	91.10	181.10	6,958.5	-515.0	918.9	628.0	2.81	2.81	
7,482.0	90.60	180.00	6,958.0	-547.0	918.6	659.7	3.78	-1.56	
7,545.0	92.00	179.20	6,956.6	-610.0	919.0	722.2	2.56	2.22	
7,607.0	92.20	178.40	6,954.3	-671.9	920.3	783.8	1.33	0.32	
7,669.0	92.50	179.40	6,951.7	-733.9	921.5	845.4	1.68	0.48	
7,730.0	92.30	179.00	6,949.2	-794.8	922.4	905.9	0.73	-0.33	
7,792.0	91.30	178.90	6,947.2	-856.8	923.5	967.5	1.62	-1.61	
7,854.0	91.50	179.10	6,945.7	-918.7	924.6	1,029.1	0.46	0.32	
7,916.0	91.50	177.80	6,944.1	-980.7	926.3	1,090.8	2.10	0.00	
7,978.0	90.20	177.60	6,943.2	-1,042.6	928.8	1,152.5	2.12	-2.10	
8,040.0	90.40	177.10	6,942.9	-1,104.6	931.6	1,214.3	0.87	0.32	

Cathedral Energy Services

Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Gurtler 2A-30H
Project:	DJ Wattenberg	TVD Reference:	WELL @ 4941.0ft (Ensign 124)
Site:	NWNW S30-T2N-R64W (Gurtler)	MD Reference:	WELL @ 4941.0ft (Ensign 124)
Well:	Gurtler 2A-30H	North Reference:	True
Wellbore:	Hz	Survey Calculation Method:	Minimum Curvature
Design:	Hz	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
8,102.0	89.80	178.30	6,942.8	-1,166.5	934.1	1,276.1	2.16	-0.97	
8,165.0	90.00	179.70	6,942.9	-1,229.5	935.2	1,338.7	2.24	0.32	
8,257.0	89.10	181.20	6,943.6	-1,321.5	934.5	1,429.9	1.90	-0.98	
8,351.0	88.60	180.00	6,945.5	-1,415.5	933.5	1,522.9	1.38	-0.53	
8,444.0	88.70	180.60	6,947.7	-1,508.4	933.0	1,615.1	0.65	0.11	
8,537.0	91.30	180.00	6,947.7	-1,601.4	932.5	1,707.3	2.87	2.80	
8,599.0	90.60	179.20	6,946.6	-1,663.4	933.0	1,768.8	1.71	-1.13	
8,661.0	90.50	178.60	6,946.0	-1,725.4	934.2	1,830.4	0.98	-0.16	
8,723.0	90.40	179.20	6,945.6	-1,787.4	935.4	1,892.1	0.98	-0.16	
8,816.0	90.60	179.40	6,944.7	-1,880.4	936.5	1,984.4	0.30	0.22	
8,909.0	90.50	180.70	6,943.9	-1,973.4	936.4	2,076.7	1.40	-0.11	
9,004.0	90.10	179.90	6,943.4	-2,068.4	935.9	2,170.8	0.94	-0.42	
9,099.0	91.90	180.90	6,941.7	-2,163.4	935.2	2,264.9	2.17	1.89	
9,194.0	90.60	180.00	6,939.6	-2,258.3	934.5	2,359.0	1.66	-1.37	
9,288.0	90.40	179.20	6,938.8	-2,352.3	935.2	2,452.4	0.88	-0.21	
9,383.0	90.50	178.20	6,938.1	-2,447.3	937.3	2,546.8	1.06	0.11	
9,478.0	89.30	178.60	6,938.2	-2,542.3	940.0	2,641.3	1.33	-1.26	
9,573.0	89.80	179.10	6,939.0	-2,637.2	941.9	2,735.8	0.74	0.53	
9,668.0	90.20	179.30	6,939.0	-2,732.2	943.2	2,830.2	0.47	0.42	
9,763.0	91.50	182.00	6,937.6	-2,827.2	942.1	2,924.2	3.15	1.37	
9,858.0	90.20	180.60	6,936.2	-2,922.2	940.0	3,018.1	2.01	-1.37	
9,953.0	91.80	181.20	6,934.5	-3,017.1	938.5	3,112.2	1.80	1.68	
10,048.0	91.50	179.70	6,931.8	-3,112.1	937.7	3,206.2	1.61	-0.32	
10,143.0	91.80	181.40	6,929.0	-3,207.0	936.8	3,300.3	1.82	0.32	
10,238.0	91.10	181.40	6,926.6	-3,302.0	934.5	3,394.2	0.74	-0.74	
10,333.0	89.60	181.10	6,926.0	-3,396.9	932.4	3,488.1	1.61	-1.58	
10,428.0	89.10	180.60	6,927.1	-3,491.9	931.0	3,582.1	0.74	-0.53	
10,523.0	91.10	181.80	6,927.0	-3,586.9	929.0	3,676.1	2.46	2.11	
10,618.0	88.70	181.40	6,927.1	-3,681.9	926.4	3,769.9	2.56	-2.53	
10,681.0	88.10	180.90	6,928.9	-3,744.8	925.1	3,832.2	1.24	-0.95	
10,745.0	88.30	180.40	6,930.9	-3,808.8	924.4	3,895.6	0.84	0.31	
10,808.0	89.10	180.00	6,932.3	-3,871.8	924.2	3,958.0	1.42	1.27	
10,871.0	90.70	179.80	6,932.4	-3,934.8	924.3	4,020.5	2.56	2.54	
10,935.0	90.50	179.60	6,931.8	-3,998.8	924.6	4,084.0	0.44	-0.31	
10,998.0	91.00	179.20	6,930.9	-4,061.7	925.3	4,146.6	1.02	0.79	
11,061.0	89.50	178.30	6,930.7	-4,124.7	926.6	4,209.2	2.78	-2.38	
11,125.0	90.30	178.60	6,930.8	-4,188.7	928.4	4,272.9	1.33	1.25	
11,188.0	90.20	178.60	6,930.5	-4,251.7	929.9	4,335.5	0.16	-0.16	
11,283.0	88.60	178.20	6,931.5	-4,346.6	932.6	4,430.1	1.74	-1.68	
11,378.0	90.40	179.20	6,932.3	-4,441.6	934.7	4,524.5	2.17	1.89	
11,442.0	90.50	178.50	6,931.8	-4,505.6	936.0	4,588.2	1.10	0.16	
11,505.0	90.90	177.50	6,931.0	-4,568.6	938.2	4,650.9	1.71	0.63	
11,568.0	90.50	177.90	6,930.3	-4,631.5	940.7	4,713.6	0.90	-0.63	
11,664.0	89.90	178.30	6,929.9	-4,727.4	943.9	4,809.2	0.75	-0.62	
11,759.0	89.80	177.70	6,930.2	-4,822.4	947.2	4,903.8	0.64	-0.11	
11,853.0	87.70	177.40	6,932.2	-4,916.3	951.2	4,997.4	2.26	-2.23	
11,917.0	87.60	177.40	6,934.9	-4,980.1	954.2	5,061.2	0.16	-0.16	
12,012.0	90.40	178.10	6,936.5	-5,075.1	957.9	5,155.8	3.04	2.95	
12,107.0	91.20	178.60	6,935.2	-5,170.0	960.6	5,250.3	0.99	0.84	
12,170.0	90.90	178.20	6,934.0	-5,233.0	962.4	5,313.0	0.79	-0.48	
12,233.0	91.00	178.90	6,933.0	-5,295.9	964.0	5,375.6	1.12	0.16	
12,329.0	91.00	179.50	6,931.3	-5,391.9	965.3	5,471.0	0.62	0.00	
12,424.0	90.60	180.20	6,930.0	-5,486.9	965.6	5,565.2	0.85	-0.42	

Cathedral Energy Services

Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Gurtler 2A-30H
Project:	DJ Wattenberg	TVD Reference:	WELL @ 4941.0ft (Ensign 124)
Site:	NWNW S30-T2N-R64W (Gurtler)	MD Reference:	WELL @ 4941.0ft (Ensign 124)
Well:	Gurtler 2A-30H	North Reference:	True
Wellbore:	Hz	Survey Calculation Method:	Minimum Curvature
Design:	Hz	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
12,518.0	90.40	181.50	6,929.2	-5,580.9	964.2	5,658.3	1.40	-0.21	
12,613.0	89.50	182.10	6,929.3	-5,675.8	961.2	5,752.1	1.14	-0.95	
12,708.0	89.00	182.10	6,930.5	-5,770.8	957.7	5,845.8	0.53	-0.53	
12,803.0	88.70	180.60	6,932.4	-5,865.7	955.5	5,939.7	1.61	-0.32	
12,898.0	88.90	179.80	6,934.4	-5,960.7	955.1	6,033.8	0.87	0.21	
12,993.0	91.10	181.50	6,934.4	-6,055.7	954.0	6,127.9	2.93	2.32	
13,088.0	90.50	181.30	6,933.1	-6,150.6	951.7	6,221.8	0.67	-0.63	
13,183.0	89.60	179.90	6,933.0	-6,245.6	950.7	6,315.9	1.75	-0.95	
13,278.0	89.80	178.50	6,933.5	-6,340.6	952.1	6,410.3	1.49	0.21	
13,373.0	91.00	180.10	6,932.8	-6,435.6	953.2	6,504.6	2.11	1.26	
13,469.0	91.60	179.90	6,930.6	-6,531.6	953.2	6,599.8	0.66	0.62	
13,564.0	91.40	179.40	6,928.2	-6,626.5	953.8	6,694.1	0.57	-0.21	
13,627.0	90.50	179.20	6,927.1	-6,689.5	954.6	6,756.6	1.46	-1.43	
13,691.0	89.00	179.50	6,927.4	-6,753.5	955.3	6,820.2	2.39	-2.34	
13,754.0	88.40	179.40	6,928.8	-6,816.5	955.9	6,882.7	0.97	-0.95	
13,817.0	88.40	179.30	6,930.6	-6,879.5	956.6	6,945.3	0.16	0.00	
13,881.0	88.20	179.10	6,932.5	-6,943.4	957.5	7,008.9	0.44	-0.31	
13,944.0	87.90	179.10	6,934.6	-7,006.4	958.5	7,071.4	0.48	-0.48	
14,039.0	87.50	179.20	6,938.4	-7,101.3	959.9	7,165.7	0.43	-0.42	
14,132.0	88.50	180.00	6,941.7	-7,194.2	960.6	7,258.0	1.38	1.08	Last Cathedral Survey @ 14,132' MD
14,182.0	88.50	180.00	6,943.0	-7,244.2	960.6	7,307.6	0.00	0.00	Projection to Bit @ 14,182'

Cathedral Energy Services

Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Gurtler 2A-30H
Project:	DJ Wattenberg	TVD Reference:	WELL @ 4941.0ft (Ensign 124)
Site:	NWNW S30-T2N-R64W (Gurtler)	MD Reference:	WELL @ 4941.0ft (Ensign 124)
Well:	Gurtler 2A-30H	North Reference:	True
Wellbore:	Hz	Survey Calculation Method:	Minimum Curvature
Design:	Hz	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)		
Gurtler 2A-30H PBHL 5	0.00	0.00	6,941.0	-7,274.6	935.1	1,279,158.99	3,252,809.53	40.096140	-104.596337
- actual wellpath misses target center by 39.7ft at 14182.0ft MD (6943.0 TVD, -7244.2 N, 960.6 E)									
- Point									
Gurtler 2A-30H PBHL 2	0.00	0.00	6,939.5	-7,274.6	885.1	1,279,158.49	3,252,759.54	40.096140	-104.596516
- actual wellpath misses target center by 81.4ft at 14182.0ft MD (6943.0 TVD, -7244.2 N, 960.6 E)									
- Point									
Gurtler 2A-30H PBHL 4	0.00	0.00	6,939.5	-7,274.6	935.1	1,279,158.99	3,252,809.53	40.096140	-104.596337
- actual wellpath misses target center by 39.8ft at 14182.0ft MD (6943.0 TVD, -7244.2 N, 960.6 E)									
- Point									
Gurtler 2A-30H LP 11.12	0.00	0.00	6,947.0	-532.7	936.6	1,285,900.59	3,252,742.60	40.114648	-104.596331
- actual wellpath misses target center by 21.1ft at 7467.7ft MD (6958.2 TVD, -532.7 N, 918.7 E)									
- Point									
Gurtler 2A-30H TGT 2	0.00	0.00	6,941.0	-4,092.1	935.8	1,282,341.32	3,252,777.92	40.104876	-104.596335
- actual wellpath misses target center by 14.4ft at 11028.6ft MD (6930.6 TVD, -4092.3 N, 925.8 E)									
- Point									
Gurtler 2A-30H LP	0.00	0.00	6,947.0	-203.4	936.7	1,286,229.85	3,252,739.30	40.115551	-104.596331
- actual wellpath misses target center by 40.3ft at 7148.6ft MD (6911.2 TVD, -221.4 N, 932.3 E)									
- Point									
Gurtler 2A-30H TGT 1	0.00	0.00	6,958.0	-1,742.2	936.3	1,284,691.12	3,252,754.58	40.111327	-104.596332
- actual wellpath misses target center by 12.2ft at 8677.8ft MD (6945.9 TVD, -1742.2 N, 934.5 E)									
- Point									

Design Annotations				
Measured Depth	Vertical Depth	Local Coordinates		Comment
(ft)	(ft)	+N/-S (ft)	+E/-W (ft)	
14,132.0	6,941.7	-7,194.2	960.6	Last Cathedral Survey @ 14,132' MD
14,182.0	6,943.0	-7,244.2	960.6	Projection to Bit @ 14,182'

Checked By: _____ Approved By: _____ Date: _____