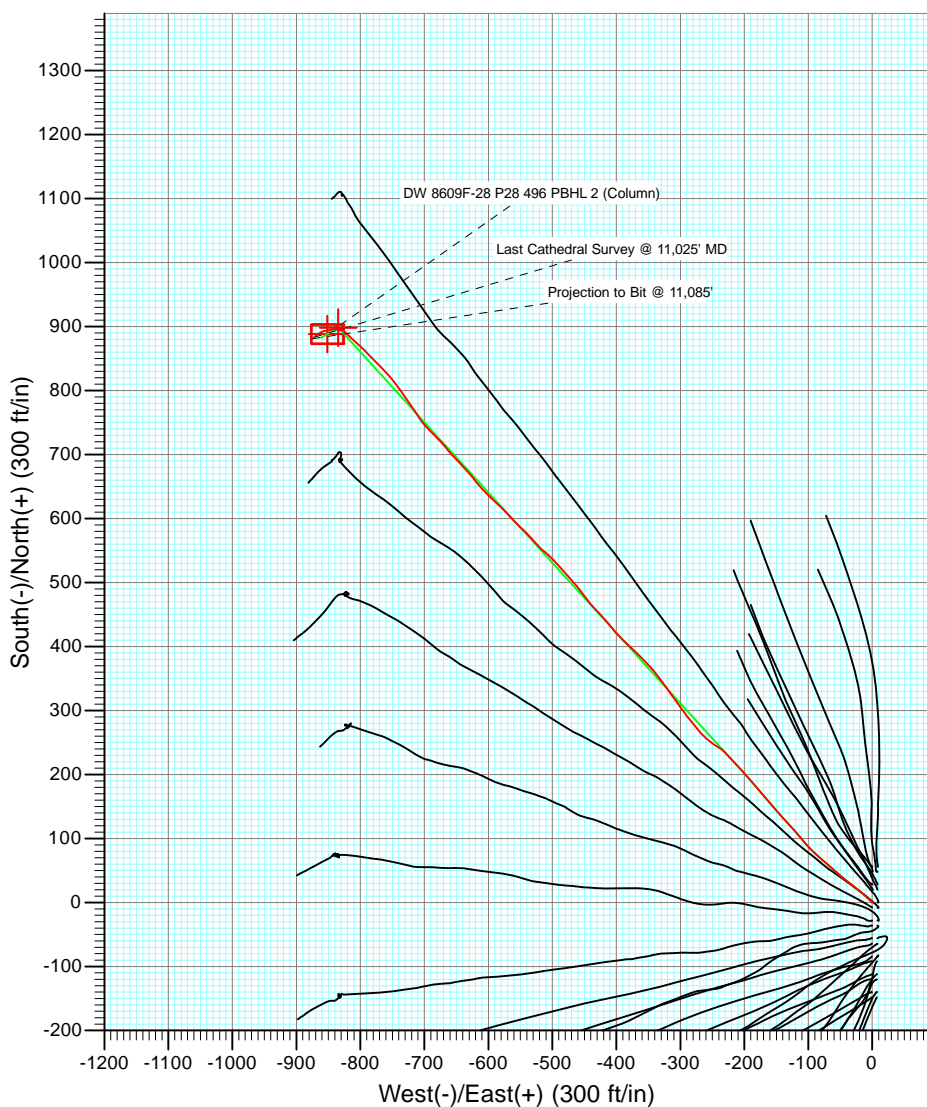
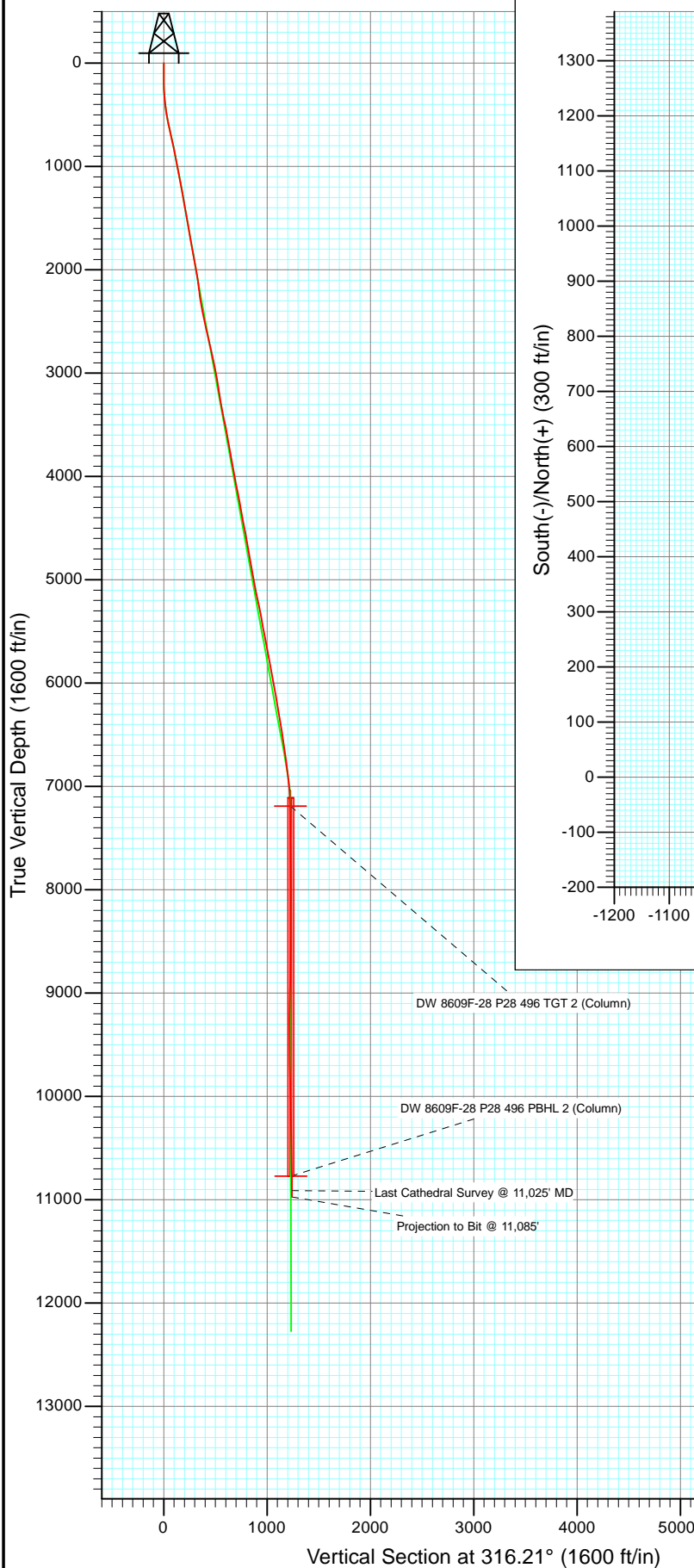




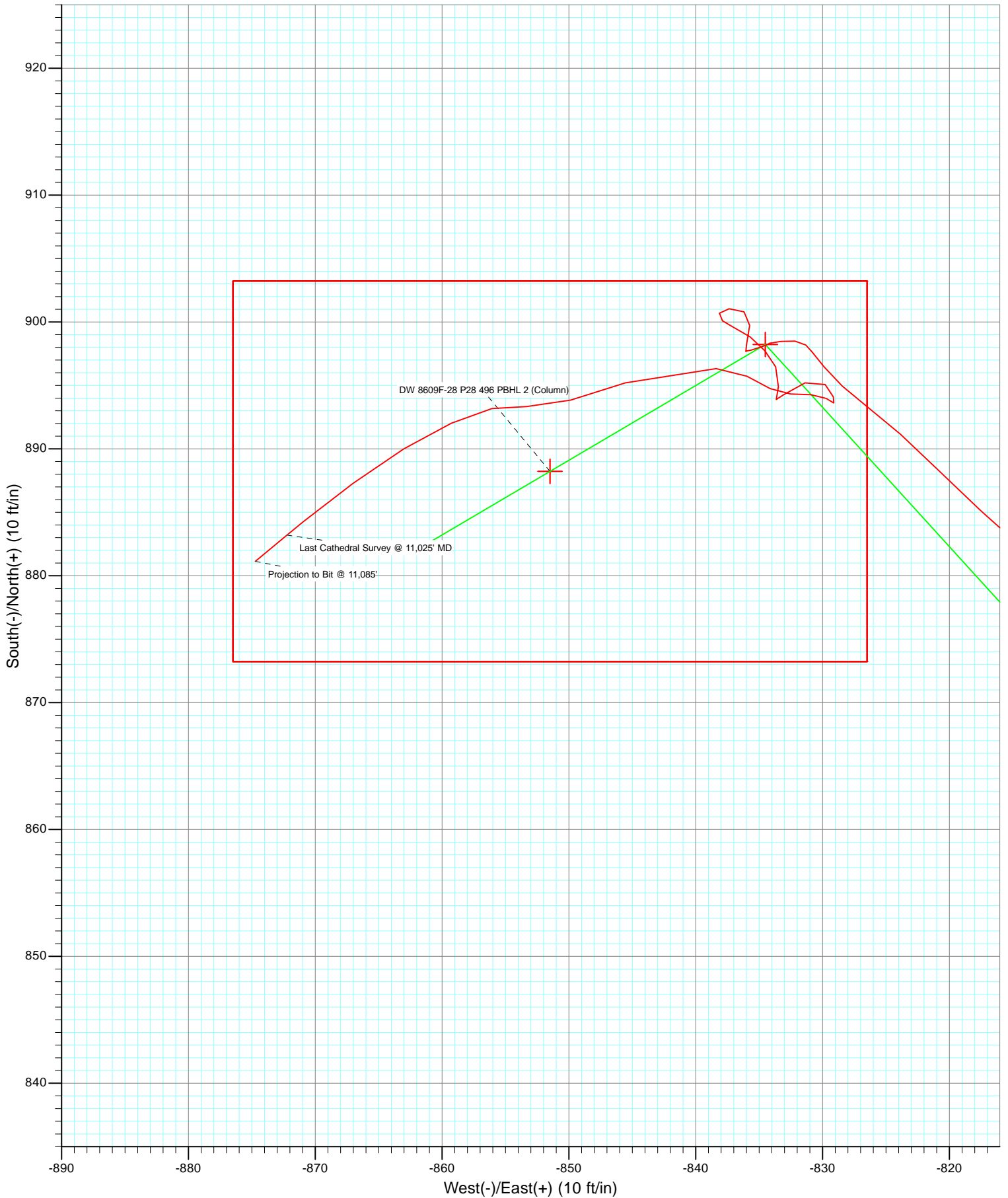
Project: Double Willow  
 Site: S28-T4S-R96W (P28 496)(column pattern)  
 Well: DW 8609F-28 (P28 496)  
 Wellbore: DD  
 Design: FINAL



Azimuths to True North  
 Magnetic North: 10.35°

Magnetic Field  
 Strength: 52227.2snT  
 Dip Angle: 65.83°  
 Date: 3/29/2012  
 Model: IGRF2010

DD DW 8609F-28 (P28 496) 125128; 142655; DN						
KBE @ 7813.0ft (Patterson 308) North American Datum 1983 Well DW 8609F-28 (P28 496), True North						
Type	Target	Azimuth	Origin	Type	N/S	E/W From TVD
Target	DW 8609F-28 P28 496 PBHL (Column)	316.21	Slot		0.0	0.0
Name	TVD	+N/-S	+E/-W	Latitude	Longitude	
DW 8609F-28 P28 496 TGT 2 (Column)	7191.0	898.2	-834.5	39° 40' 13.45 N	108° 10' 7.33 W	
DW 8609F-28 P28 496 PBHL 2 (Column)	10771.0	888.2	-851.5	39° 40' 13.35 N	108° 10' 7.54 W	



# Cathedral Energy Services

## Survey Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well DW 8609F-28 (P28 496)
<b>Project:</b>	Double Willow	<b>TVD Reference:</b>	KBE @ 7813.0ft (Patterson 308)
<b>Site:</b>	S28-T4S-R96W (P28 496)(column pattern)	<b>MD Reference:</b>	KBE @ 7813.0ft (Patterson 308)
<b>Well:</b>	DW 8609F-28 (P28 496)	<b>North Reference:</b>	True
<b>Wellbore:</b>	DD	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	DD	<b>Database:</b>	USA EDM 5000 Multi Users DB

<b>Project</b>	Double Willow		
<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 Central Zone		

<b>Site</b>	S28-T4S-R96W (P28 496)(column pattern)			
<b>Site Position:</b>		<b>Northing:</b>	1,679,243.29 ft	<b>Latitude:</b> 39° 40' 5.13 N
<b>From:</b>	Lat/Long	<b>Easting:</b>	2,249,687.54 ft	<b>Longitude:</b> 108° 9' 56.55 W
<b>Position Uncertainty:</b>	0.0 ft	<b>Slot Radius:</b>	13.200 in	<b>Grid Convergence:</b> -1.68 °

<b>Well</b>	DW 8609F-28 (P28 496)			
<b>Well Position</b>	<b>+N/-S</b>	0.0 ft	<b>Northing:</b>	1,679,187.54 ft
	<b>+E/-W</b>	0.0 ft	<b>Easting:</b>	2,249,677.63 ft
<b>Position Uncertainty</b>	0.0 ft	<b>Wellhead Elevation:</b>	ft	<b>Ground Level:</b> 7,780.0 ft

<b>Wellbore</b>	DD				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2010	3/29/2012	10.35	65.83	52,227

<b>Design</b>	DD			
<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	316.21

<b>Survey Program</b>	<b>Date</b>	4/8/2012		
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>
111.0	2,080.0	Survey #1 (DD)	MWD	Geolink MWD
2,214.0	11,085.0	Survey #2 (DD)	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	
111.0	0.00	0.00	111.0	0.0	0.0	0.0	0.00	0.00	
141.0	0.30	299.70	141.0	0.0	-0.1	0.1	1.00	1.00	
171.0	0.70	337.10	171.0	0.2	-0.2	0.3	1.65	1.33	
202.0	1.50	306.80	202.0	0.7	-0.6	0.9	3.11	2.58	
232.0	2.10	306.70	232.0	1.2	-1.4	1.8	2.00	2.00	
262.0	3.10	314.00	261.9	2.1	-2.4	3.2	3.50	3.33	
292.0	3.30	317.40	291.9	3.3	-3.6	4.9	0.92	0.67	
322.0	4.70	311.80	321.8	4.8	-5.1	6.9	4.84	4.67	
352.0	5.40	313.90	351.7	6.6	-7.0	9.6	2.41	2.33	
383.0	6.20	316.20	382.6	8.8	-9.2	12.7	2.69	2.58	
413.0	6.90	310.80	412.4	11.1	-11.7	16.1	3.11	2.33	

# Cathedral Energy Services

## Survey Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well DW 8609F-28 (P28 496)
<b>Project:</b>	Double Willow	<b>TVD Reference:</b>	KBE @ 7813.0ft (Patterson 308)
<b>Site:</b>	S28-T4S-R96W (P28 496)(column pattern)	<b>MD Reference:</b>	KBE @ 7813.0ft (Patterson 308)
<b>Well:</b>	DW 8609F-28 (P28 496)	<b>North Reference:</b>	True
<b>Wellbore:</b>	DD	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	DD	<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
444.0	8.10	310.40	443.1	13.8	-14.8	20.2	3.87	3.87	
474.0	9.10	308.30	472.8	16.6	-18.2	24.6	3.49	3.33	
504.0	10.00	309.60	502.3	19.7	-22.1	29.5	3.08	3.00	
553.0	11.00	307.30	550.5	25.3	-29.1	38.4	2.21	2.04	
599.0	11.90	307.60	595.6	30.8	-36.3	47.4	1.96	1.96	
690.0	13.10	311.10	684.4	43.3	-51.5	67.0	1.56	1.32	
782.0	12.30	312.30	774.2	56.8	-66.7	87.1	0.92	-0.87	
873.0	10.80	308.90	863.3	68.7	-80.5	105.3	1.81	-1.65	
965.0	11.00	315.50	953.7	80.3	-93.3	122.6	1.37	0.22	
1,056.0	11.80	319.90	1,042.9	93.7	-105.4	140.5	1.30	0.88	
1,148.0	11.00	318.40	1,133.1	107.4	-117.3	158.7	0.93	-0.87	
1,239.0	10.30	316.60	1,222.5	119.8	-128.6	175.5	0.85	-0.77	
1,331.0	9.80	318.10	1,313.1	131.6	-139.5	191.6	0.61	-0.54	
1,423.0	10.30	320.50	1,403.7	143.8	-150.0	207.6	0.71	0.54	
1,514.0	9.70	319.10	1,493.3	155.9	-160.2	223.4	0.71	-0.66	
1,606.0	9.40	318.00	1,584.0	167.3	-170.3	238.6	0.38	-0.33	
1,697.0	10.20	319.40	1,673.7	179.0	-180.5	254.1	0.92	0.88	
1,789.0	10.90	320.20	1,764.2	191.8	-191.4	270.9	0.78	0.76	
1,880.0	9.80	317.40	1,853.7	204.1	-202.1	287.2	1.33	-1.21	
1,972.0	9.90	316.60	1,944.3	215.6	-212.8	303.0	0.18	0.11	
2,080.0	10.00	318.90	2,050.7	229.5	-225.4	321.6	0.38	0.09	Last Cathedral Survey @ 2,080' MD
2,214.0	6.50	299.50	2,183.3	242.0	-239.6	340.5	3.30	-2.61	
2,306.0	8.70	306.80	2,274.5	248.7	-249.7	352.4	2.61	2.39	
2,397.0	10.90	311.90	2,364.2	258.6	-261.7	367.7	2.60	2.42	
2,488.0	12.10	322.40	2,453.3	271.9	-273.9	385.8	2.65	1.32	
2,580.0	11.50	320.10	2,543.4	286.5	-285.7	404.5	0.83	-0.65	
2,671.0	13.60	324.80	2,632.2	302.2	-297.6	424.2	2.56	2.31	
2,763.0	13.20	324.00	2,721.7	319.6	-310.1	445.3	0.48	-0.43	
2,855.0	12.80	323.90	2,811.4	336.3	-322.2	465.8	0.44	-0.43	
2,946.0	12.10	323.10	2,900.2	352.1	-333.9	485.2	0.79	-0.77	
3,038.0	9.70	318.10	2,990.5	365.6	-344.9	502.6	2.80	-2.61	
3,129.0	10.60	316.70	3,080.1	377.4	-355.7	518.6	1.03	0.99	
3,221.0	8.40	313.10	3,170.9	388.1	-366.4	533.8	2.48	-2.39	
3,312.0	10.40	314.20	3,260.6	398.4	-377.2	548.6	2.21	2.20	
3,403.0	10.00	312.20	3,350.2	409.4	-388.9	564.7	0.59	-0.44	
3,495.0	11.90	320.50	3,440.5	422.1	-400.9	582.1	2.68	2.07	
3,586.0	11.20	319.00	3,529.7	436.0	-412.6	600.3	0.84	-0.77	
3,678.0	10.40	317.70	3,620.0	448.9	-424.1	617.5	0.91	-0.87	
3,769.0	9.30	316.00	3,709.7	460.3	-434.7	633.1	1.25	-1.21	
3,860.0	11.20	323.10	3,799.2	472.6	-445.1	649.2	2.50	2.09	
3,952.0	10.30	322.50	3,889.6	486.3	-455.5	666.3	0.99	-0.98	
4,043.0	9.50	318.90	3,979.3	498.4	-465.4	681.9	1.11	-0.88	
4,135.0	12.10	318.90	4,069.6	511.4	-476.7	699.1	2.83	2.83	
4,227.0	11.50	317.90	4,159.7	525.5	-489.2	717.9	0.69	-0.65	
4,318.0	10.50	315.10	4,249.0	538.1	-501.2	735.2	1.25	-1.10	
4,409.0	9.10	308.90	4,338.7	548.5	-512.6	750.7	1.92	-1.54	
4,501.0	11.60	318.00	4,429.2	559.9	-524.5	767.1	3.24	2.72	
4,593.0	10.70	315.50	4,519.5	572.9	-536.6	784.9	1.11	-0.98	
4,684.0	10.10	316.10	4,609.0	584.7	-548.1	801.3	0.67	-0.66	
4,776.0	9.20	314.20	4,699.7	595.6	-559.0	816.8	1.04	-0.98	
4,868.0	10.30	316.90	4,790.3	606.7	-569.9	832.3	1.29	1.20	
4,959.0	10.90	315.00	4,879.8	618.8	-581.5	849.1	0.76	0.66	
5,051.0	9.50	311.20	4,970.3	629.9	-593.4	865.3	1.69	-1.52	

# Cathedral Energy Services

## Survey Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well DW 8609F-28 (P28 496)
<b>Project:</b>	Double Willow	<b>TVD Reference:</b>	KBE @ 7813.0ft (Patterson 308)
<b>Site:</b>	S28-T4S-R96W (P28 496)(column pattern)	<b>MD Reference:</b>	KBE @ 7813.0ft (Patterson 308)
<b>Well:</b>	DW 8609F-28 (P28 496)	<b>North Reference:</b>	True
<b>Wellbore:</b>	DD	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	DD	<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
5,142.0	11.10	316.60	5,059.9	641.2	-605.0	881.6	2.05	1.76	
5,234.0	12.70	321.00	5,149.9	655.5	-617.5	900.5	2.00	1.74	
5,325.0	11.50	319.60	5,238.9	670.2	-629.7	919.5	1.36	-1.32	
5,417.0	10.10	316.60	5,329.2	683.0	-641.1	936.8	1.64	-1.52	
5,508.0	10.20	316.00	5,418.8	694.6	-652.2	952.8	0.16	0.11	
5,600.0	11.90	320.40	5,509.1	707.8	-663.9	970.4	2.06	1.85	
5,691.0	11.00	318.10	5,598.3	721.5	-675.7	988.4	1.11	-0.99	
5,783.0	9.70	312.30	5,688.8	733.2	-687.3	1,004.9	1.81	-1.41	
5,874.0	10.90	319.00	5,778.3	744.9	-698.6	1,021.2	1.86	1.32	
5,966.0	11.50	327.30	5,868.6	759.2	-709.3	1,038.9	1.87	0.65	
6,057.0	10.70	326.40	5,957.9	773.9	-718.9	1,056.1	0.90	-0.88	
6,149.0	10.00	325.30	6,048.4	787.5	-728.1	1,072.4	0.79	-0.76	
6,241.0	9.30	323.40	6,139.1	800.1	-737.1	1,087.6	0.84	-0.76	
6,332.0	9.30	323.90	6,228.9	811.9	-745.8	1,102.2	0.09	0.00	
6,424.0	10.00	316.40	6,319.6	823.7	-755.7	1,117.6	1.56	0.76	
6,516.0	9.20	316.50	6,410.3	834.8	-766.3	1,132.9	0.87	-0.87	
6,608.0	9.10	315.70	6,501.1	845.4	-776.4	1,147.6	0.18	-0.11	
6,699.0	8.80	315.40	6,591.0	855.5	-786.3	1,161.7	0.33	-0.33	
6,791.0	8.00	314.50	6,682.0	865.0	-795.9	1,175.1	0.88	-0.87	
6,883.0	7.50	313.80	6,773.2	873.6	-804.8	1,187.5	0.55	-0.54	
6,974.0	7.30	310.70	6,863.4	881.5	-813.4	1,199.2	0.49	-0.22	
7,066.0	5.50	315.00	6,954.9	888.4	-821.0	1,209.5	2.02	-1.96	
7,157.0	3.70	306.90	7,045.6	893.3	-826.4	1,216.7	2.10	-1.98	
7,248.0	2.30	321.90	7,136.4	896.5	-829.9	1,221.4	1.75	-1.54	
7,340.0	0.50	311.60	7,228.4	898.2	-831.3	1,223.7	1.97	-1.96	
7,431.0	0.70	274.80	7,319.4	898.5	-832.2	1,224.5	0.47	0.22	
7,523.0	0.70	262.00	7,411.4	898.5	-833.3	1,225.2	0.17	0.00	
7,615.0	0.40	258.40	7,503.4	898.3	-834.2	1,225.7	0.33	-0.33	
7,706.0	0.10	166.90	7,594.4	898.2	-834.4	1,225.8	0.46	-0.33	
7,798.0	0.40	263.00	7,686.4	898.1	-834.7	1,226.0	0.46	0.33	
7,889.0	0.80	246.70	7,777.4	897.8	-835.6	1,226.4	0.47	0.44	
7,981.0	0.40	53.40	7,869.4	897.7	-836.0	1,226.6	1.30	-0.43	
8,072.0	0.50	234.90	7,960.4	897.7	-836.0	1,226.6	0.99	0.11	
8,164.0	1.10	26.10	8,052.4	898.2	-836.0	1,226.9	1.69	0.65	
8,255.0	0.90	349.00	8,143.4	899.7	-835.7	1,227.8	0.73	-0.22	
8,347.0	0.60	320.50	8,235.3	900.8	-836.2	1,228.9	0.51	-0.33	
8,438.0	1.10	261.50	8,326.3	901.0	-837.4	1,229.9	1.04	0.55	
8,529.0	0.30	157.50	8,417.3	900.7	-838.1	1,230.2	1.33	-0.88	
8,621.0	0.50	158.40	8,509.3	900.1	-837.9	1,229.6	0.22	0.22	
8,712.0	0.90	100.40	8,600.3	899.6	-837.0	1,228.6	0.84	0.44	
8,804.0	1.10	136.00	8,692.3	898.8	-835.7	1,227.2	0.70	0.22	
8,896.0	0.90	129.50	8,784.3	897.7	-834.5	1,225.6	0.25	-0.22	
8,987.0	1.10	160.50	8,875.3	896.5	-833.7	1,224.1	0.62	0.22	
9,079.0	0.90	185.40	8,967.3	894.9	-833.5	1,222.8	0.51	-0.22	
9,170.0	0.40	199.40	9,058.3	893.9	-833.6	1,222.2	0.57	-0.55	
9,262.0	1.20	46.20	9,150.3	894.3	-833.1	1,222.0	1.70	0.87	
9,353.0	1.30	74.20	9,241.2	895.2	-831.4	1,221.6	0.67	0.11	
9,445.0	0.90	125.80	9,333.2	895.1	-829.8	1,220.4	1.11	-0.43	
9,536.0	0.70	173.50	9,424.2	894.1	-829.1	1,219.2	0.74	-0.22	
9,628.0	0.10	343.70	9,516.2	893.6	-829.1	1,218.8	0.87	-0.65	
9,720.0	0.80	296.00	9,608.2	894.0	-829.7	1,219.5	0.80	0.76	
9,811.0	0.80	271.80	9,699.2	894.3	-830.9	1,220.6	0.37	0.00	
9,903.0	1.20	272.10	9,791.2	894.3	-832.5	1,221.7	0.43	0.43	

# Cathedral Energy Services

## Survey Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well DW 8609F-28 (P28 496)
<b>Project:</b>	Double Willow	<b>TVD Reference:</b>	KBE @ 7813.0ft (Patterson 308)
<b>Site:</b>	S28-T4S-R96W (P28 496)(column pattern)	<b>MD Reference:</b>	KBE @ 7813.0ft (Patterson 308)
<b>Well:</b>	DW 8609F-28 (P28 496)	<b>North Reference:</b>	True
<b>Wellbore:</b>	DD	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	DD	<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
9,985.0	1.20	297.80	9,873.2	894.8	-834.1	1,223.1	0.65	0.00	
10,076.0	1.40	298.00	9,964.1	895.7	-836.0	1,225.1	0.22	0.22	
10,168.0	1.80	273.00	10,056.1	896.3	-838.4	1,227.2	0.86	0.43	
10,351.0	2.80	253.50	10,239.0	895.2	-845.5	1,231.4	0.69	0.55	
10,442.0	2.90	251.40	10,329.9	893.8	-849.9	1,233.4	0.16	0.11	
10,534.0	1.60	280.40	10,421.8	893.3	-853.3	1,235.4	1.84	-1.41	
10,626.0	1.90	255.20	10,513.7	893.2	-856.1	1,237.2	0.89	0.33	
10,717.0	2.40	245.90	10,604.7	892.0	-859.3	1,238.5	0.67	0.55	
10,809.0	2.90	238.30	10,696.6	890.0	-863.0	1,239.7	0.66	0.54	
10,900.0	3.20	233.50	10,787.4	887.3	-867.0	1,240.5	0.43	0.33	
10,992.0	2.90	231.40	10,879.3	884.3	-870.9	1,241.0	0.35	-0.33	
11,025.0	3.10	230.20	10,912.3	883.2	-872.2	1,241.2	0.64	0.61	Last Cathedral Survey @ 11,025' MD
11,085.0	3.10	230.20	10,972.2	881.1	-874.7	1,241.4	0.00	0.00	Projection to Bit @ 11,085'

### Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
DW 8609F-28 P28 496 f - actual wellpath misses target center by 14.8ft at 10882.9ft MD (10770.3 TVD, 887.8 N, -866.2 E) - Rectangle (sides W30.0 H50.0 D0.0)	0.00	0.00	10,771.0	888.2	-851.5	1,680,100.36	2,248,852.57	39° 40' 13.35 N	108° 10' 7.54 W
DW 8609F-28 P28 496 f - actual wellpath misses target center by 15.3ft at 10894.8ft MD (10782.3 TVD, 887.5 N, -866.8 E) - Rectangle (sides W30.0 H50.0 D0.0)	0.00	0.00	10,783.0	888.2	-851.5	1,680,100.36	2,248,852.57	39° 40' 13.35 N	108° 10' 7.54 W
DW 8609F-28 P28 496 T - actual wellpath misses target center by 5.4ft at 7234.8ft MD (7123.3 TVD, 896.0 N, -829.5 E) - Point	0.00	0.00	7,123.0	898.2	-834.5	1,680,109.86	2,248,869.84	39° 40' 13.45 N	108° 10' 7.33 W
DW 8609F-28 P28 496 T - actual wellpath misses target center by 3.6ft at 7302.7ft MD (7191.1 TVD, 897.8 N, -830.9 E) - Point	0.00	0.00	7,191.0	898.2	-834.5	1,680,109.86	2,248,869.84	39° 40' 13.45 N	108° 10' 7.33 W

### Design Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates +N/-S (ft)	+E/-W (ft)	Comment
2,080.0	2,050.7	229.5	-225.4	Last Cathedral Survey @ 2,080' MD
11,025.0	10,912.3	883.2	-872.2	Last Cathedral Survey @ 11,025' MD
11,085.0	10,972.2	881.1	-874.7	Projection to Bit @ 11,085'

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