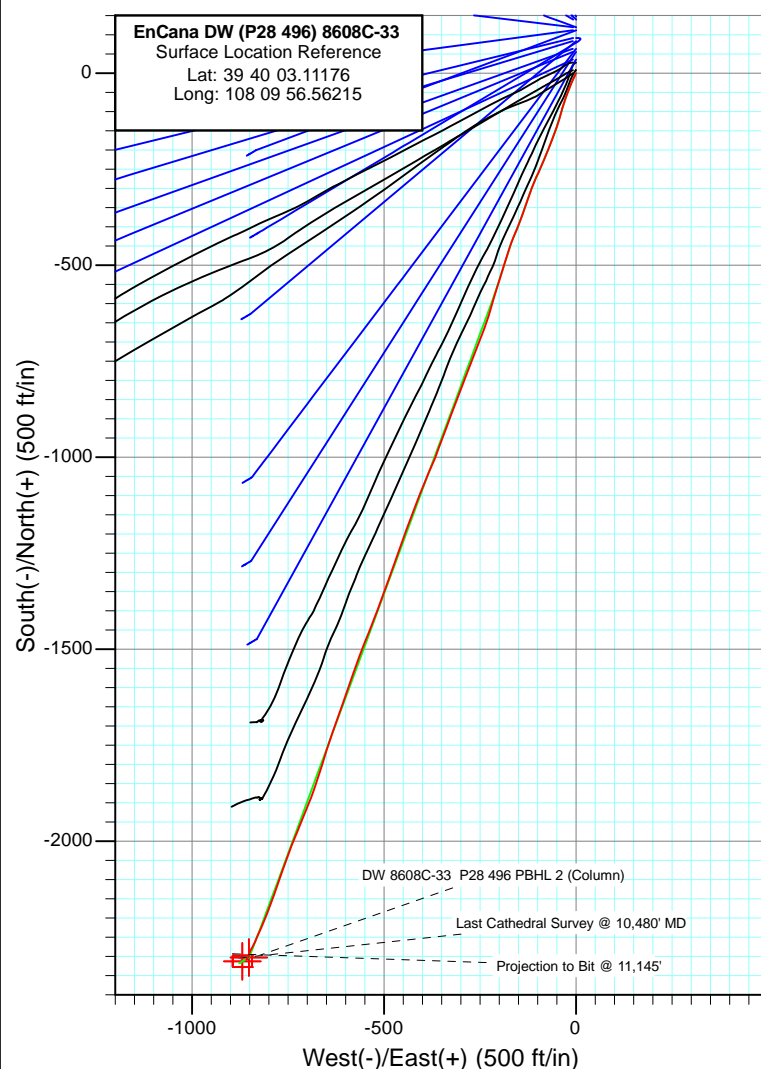
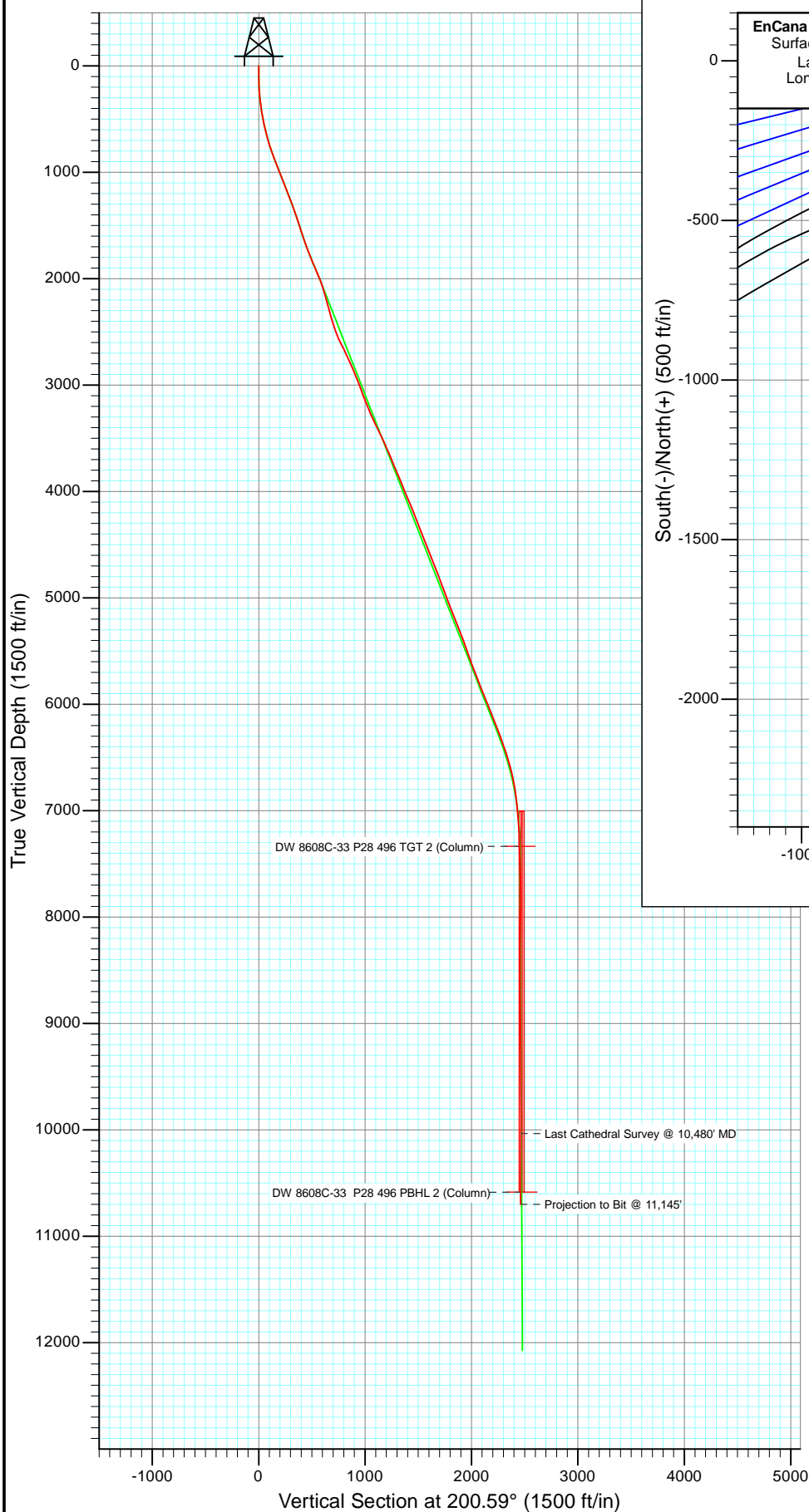




Project: Double Willow
Site: S28-T4S-R96W (P28 496)(column pattern)
Well: DW 8608C-33 (P28 496)
Wellbore: DD
Design: FINAL



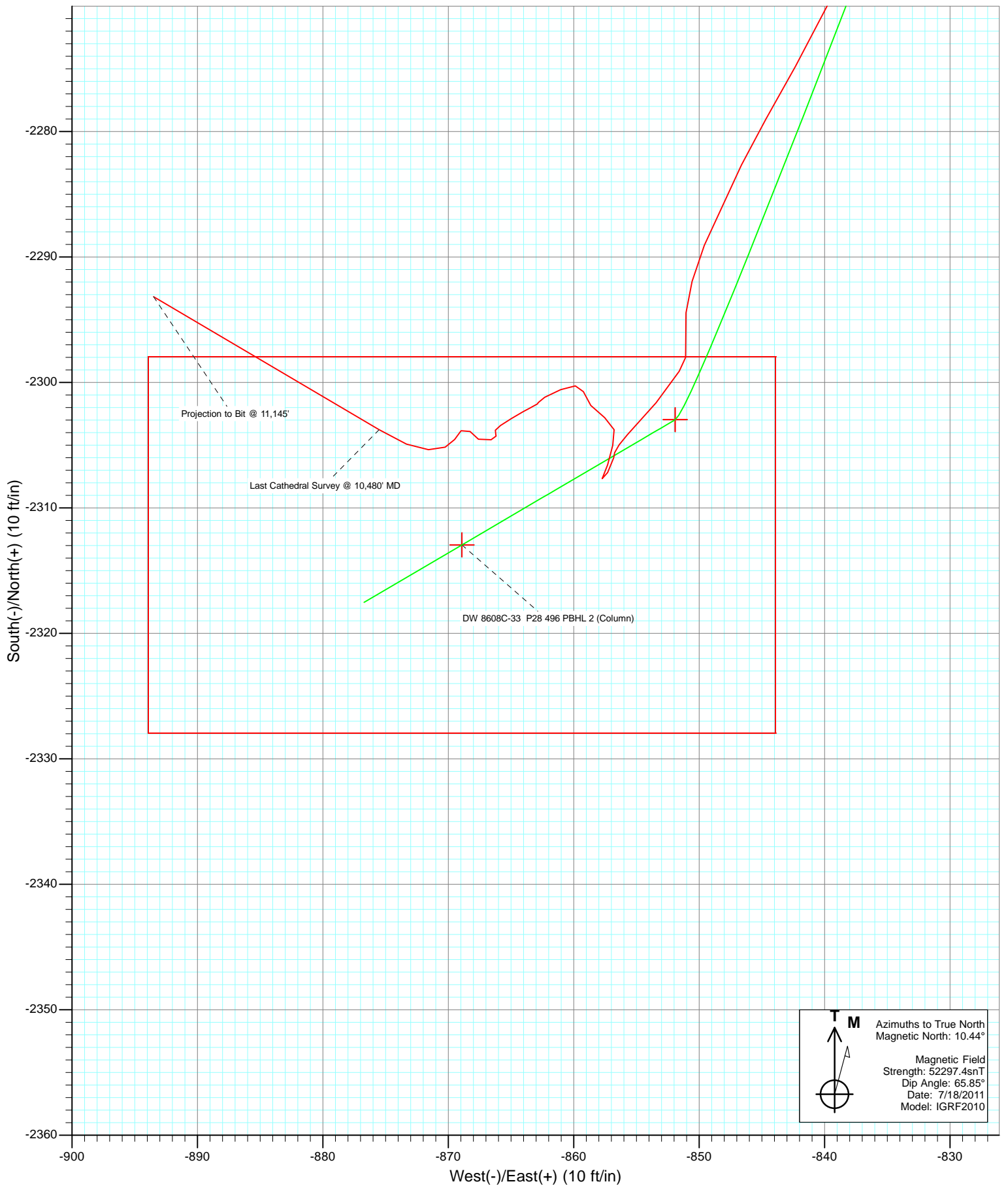
Azimuths to True North
Magnetic North: 10.44°

Magnetic Field
Strength: 52297.4snT
Dip Angle: 65.85°
Date: 7/18/2011
Model: IGRF2010

DD DW 8608C-33 (P28 496) 115255, 115286 7646; LR KBE @ 7813.0ft (Patterson 308) GL @ 7780.0 North American Datum 1983 Well DW 8608C-33 (P28 496), True North							
Type	Target	TVD	Azimuth	Origin Type	N/S	E/W	From TVD
DW 8608C-33 P28 496 TGT 2 (Column)	DW 8608C-33 P28 496 PBHL (Column)	7335.7	+N/-S -2303.0	+E/-W -851.9	39° 39' 40.35 N	108° 10' 7.46 W	0.0
DW 8608C-33 P28 496 PBHL 2 (Column)		10584.0	-2312.9	-868.9	39° 39' 40.25 N	108° 10' 7.67 W	0.0



Project: Double Willow
Site: S28-T4S-R96W (P28 496)(column pattern)
Well: DW 8608C-33 (P28 496)
Wellbore: DD
Design: FINAL



Cathedral Energy Services

Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well DW 8608C-33 (P28 496)
Project:	Double Willow	TVD Reference:	KBE @ 7813.0ft (Patterson 308)
Site:	S28-T4S-R96W (P28 496)(column pattern)	MD Reference:	KBE @ 7813.0ft (Patterson 308)
Well:	DW 8608C-33 (P28 496)	North Reference:	True
Wellbore:	DD	Survey Calculation Method:	Minimum Curvature
Design:	DD	Database:	USA EDM 5000 Multi Users DB

Project	Double Willow		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Central Zone		

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

Well	DW 8608C-33 (P28 496)			
Well Position	+N/-S	0.0 ft	Northing:	1,679,039.44 ft
	+E/-W	0.0 ft	Easting:	2,249,680.44 ft
Position Uncertainty	0.0 ft	Wellhead Elevation:	ft	Ground Level: 7,780.0 ft

Wellbore	DD				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	7/18/2011	10.44	65.85	52,297

Design	DD			
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	200.59

Survey Program	Date	7/26/2011		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
172.0	2,091.0	Survey #1 (DD)	MWD	Geolink MWD
2,258.0	11,145.0	Survey #2 (DD)	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	
172.0	1.90	205.70	172.0	-2.6	-1.2	2.8	1.10	1.10	
202.0	2.80	206.90	201.9	-3.7	-1.8	4.1	3.00	3.00	
232.0	3.40	199.90	231.9	-5.2	-2.4	5.7	2.36	2.00	
263.0	4.40	208.60	262.8	-7.1	-3.3	7.8	3.74	3.23	
294.0	5.60	206.40	293.7	-9.5	-4.5	10.5	3.92	3.87	
324.0	6.40	203.00	323.5	-12.3	-5.8	13.6	2.92	2.67	
355.0	7.60	203.50	354.3	-15.8	-7.3	17.4	3.88	3.87	
386.0	8.00	205.40	385.0	-19.6	-9.1	21.6	1.54	1.29	
416.0	8.70	202.40	414.7	-23.6	-10.8	25.9	2.75	2.33	
447.0	9.10	201.80	445.3	-28.0	-12.6	30.7	1.32	1.29	
477.0	10.00	203.30	474.9	-32.6	-14.6	35.7	3.11	3.00	

Cathedral Energy Services

Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well DW 8608C-33 (P28 496)
Project:	Double Willow	TVD Reference:	KBE @ 7813.0ft (Patterson 308)
Site:	S28-T4S-R96W (P28 496)(column pattern)	MD Reference:	KBE @ 7813.0ft (Patterson 308)
Well:	DW 8608C-33 (P28 496)	North Reference:	True
Wellbore:	DD	Survey Calculation Method:	Minimum Curvature
Design:	DD	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
508.0	10.90	201.70	505.4	-37.8	-16.7	41.3	3.05	2.90	
539.0	12.10	201.50	535.8	-43.6	-19.0	47.5	3.87	3.87	
570.0	13.10	201.10	566.0	-49.9	-21.4	54.2	3.24	3.23	
602.0	13.90	200.30	597.1	-56.9	-24.1	61.7	2.57	2.50	
648.0	14.80	199.30	641.7	-67.6	-27.9	73.1	2.03	1.96	
694.0	15.60	197.70	686.1	-79.0	-31.8	85.2	1.96	1.74	
740.0	16.50	196.80	730.3	-91.2	-35.5	97.9	2.03	1.96	
785.0	18.30	195.00	773.2	-104.1	-39.2	111.3	4.17	4.00	
831.0	19.90	195.10	816.7	-118.7	-43.1	126.2	3.48	3.48	
877.0	21.00	200.00	859.8	-134.0	-48.0	142.3	4.42	2.39	
968.0	21.70	200.40	944.6	-165.1	-59.4	175.4	0.79	0.77	
1,060.0	21.00	201.60	1,030.3	-196.3	-71.4	208.9	0.90	-0.76	
1,152.0	21.20	202.70	1,116.1	-227.0	-83.9	242.0	0.48	0.22	
1,244.0	21.50	203.90	1,201.8	-257.8	-97.1	275.5	0.58	0.33	
1,335.0	20.50	203.20	1,286.7	-287.7	-110.2	308.0	1.13	-1.10	
1,427.0	19.20	199.20	1,373.3	-316.7	-121.5	339.2	2.04	-1.41	
1,518.0	18.60	198.30	1,459.4	-344.7	-131.0	368.7	0.73	-0.66	
1,564.0	17.70	198.90	1,503.1	-358.2	-135.5	383.0	2.00	-1.96	
1,610.0	18.00	201.00	1,546.9	-371.5	-140.4	397.1	1.54	0.65	
1,656.0	18.60	200.50	1,590.5	-385.0	-145.5	411.6	1.35	1.30	
1,702.0	19.20	202.40	1,634.1	-398.9	-150.9	426.5	1.87	1.30	
1,747.0	19.90	202.70	1,676.5	-412.8	-156.7	441.5	1.57	1.56	
1,793.0	20.70	201.70	1,719.6	-427.5	-162.7	457.5	1.90	1.74	
1,839.0	21.30	200.80	1,762.5	-442.9	-168.7	473.9	1.48	1.30	
1,885.0	22.10	197.70	1,805.3	-459.0	-174.3	490.9	3.04	1.74	
1,977.0	23.20	197.10	1,890.2	-492.8	-184.9	526.3	1.22	1.20	
2,069.0	22.30	197.80	1,975.0	-526.7	-195.6	561.8	1.02	-0.98	
2,091.0	21.81	198.40	1,995.4	-534.6	-198.1	570.1	2.45	-2.23	Last Cathedral Survey @ 2,091' MD
2,258.0	15.30	194.60	2,153.7	-585.4	-213.5	623.1	3.96	-3.90	
2,350.0	14.90	197.00	2,242.5	-608.4	-220.0	646.9	0.81	-0.43	
2,441.0	15.90	198.30	2,330.2	-631.5	-227.3	671.1	1.16	1.10	
2,533.0	17.60	198.60	2,418.3	-656.6	-235.7	697.6	1.85	1.85	
2,578.0	18.40	200.80	2,461.1	-669.7	-240.4	711.5	2.33	1.78	
2,624.0	20.70	202.70	2,504.5	-684.0	-246.1	726.9	5.19	5.00	
2,716.0	25.50	199.50	2,589.1	-717.7	-259.0	762.9	5.39	5.22	
2,807.0	26.20	202.00	2,671.0	-754.8	-273.1	802.6	1.42	0.77	
2,899.0	25.00	200.70	2,753.9	-791.8	-287.6	842.3	1.44	-1.30	
2,990.0	23.90	201.00	2,836.8	-827.0	-301.0	880.0	1.22	-1.21	
3,082.0	21.50	200.70	2,921.6	-860.2	-313.6	915.5	2.61	-2.61	
3,173.0	20.50	200.60	3,006.6	-890.7	-325.1	948.1	1.10	-1.10	
3,265.0	21.10	200.80	3,092.6	-921.2	-336.7	980.8	0.66	0.65	
3,356.0	21.50	200.30	3,177.4	-952.2	-348.3	1,013.8	0.48	0.44	
3,447.0	22.70	200.20	3,261.7	-984.3	-360.1	1,048.1	1.32	1.32	
3,539.0	26.30	202.80	3,345.4	-1,019.8	-374.2	1,086.2	4.08	3.91	
3,630.0	24.80	203.50	3,427.5	-1,055.9	-389.6	1,125.4	1.68	-1.65	
3,722.0	24.90	202.60	3,511.0	-1,091.4	-404.7	1,164.0	0.43	0.11	
3,813.0	24.80	200.60	3,593.5	-1,127.0	-418.8	1,202.3	0.93	-0.11	
3,905.0	23.00	200.60	3,677.6	-1,161.9	-431.9	1,239.5	1.96	-1.96	
3,996.0	22.50	198.60	3,761.6	-1,195.0	-443.7	1,274.7	1.01	-0.55	
4,087.0	22.50	199.90	3,845.6	-1,227.9	-455.2	1,309.5	0.55	0.00	
4,179.0	22.20	199.50	3,930.7	-1,260.8	-467.0	1,344.5	0.37	-0.33	
4,271.0	22.80	199.10	4,015.7	-1,294.1	-478.6	1,379.7	0.67	0.65	
4,362.0	23.20	200.50	4,099.5	-1,327.5	-490.7	1,415.3	0.74	0.44	

Cathedral Energy Services

Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well DW 8608C-33 (P28 496)
Project:	Double Willow	TVD Reference:	KBE @ 7813.0ft (Patterson 308)
Site:	S28-T4S-R96W (P28 496)(column pattern)	MD Reference:	KBE @ 7813.0ft (Patterson 308)
Well:	DW 8608C-33 (P28 496)	North Reference:	True
Wellbore:	DD	Survey Calculation Method:	Minimum Curvature
Design:	DD	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
4,454.0	21.40	199.60	4,184.6	-1,360.3	-502.6	1,450.2	1.99	-1.96	
4,545.0	21.50	202.30	4,269.3	-1,391.4	-514.5	1,483.4	1.09	0.11	
4,637.0	21.40	200.30	4,354.9	-1,422.7	-526.8	1,517.1	0.80	-0.11	
4,729.0	21.80	201.00	4,440.5	-1,454.4	-538.7	1,550.9	0.52	0.43	
4,820.0	21.30	202.40	4,525.1	-1,485.5	-551.1	1,584.4	0.79	-0.55	
4,912.0	21.50	200.00	4,610.8	-1,516.7	-563.2	1,617.9	0.98	0.22	
5,003.0	21.70	200.10	4,695.4	-1,548.2	-574.7	1,651.4	0.22	0.22	
5,095.0	20.90	198.40	4,781.1	-1,579.8	-585.7	1,684.8	1.10	-0.87	
5,186.0	20.70	199.90	4,866.2	-1,610.3	-596.3	1,717.1	0.63	-0.22	
5,278.0	20.80	199.10	4,952.2	-1,641.0	-607.2	1,749.7	0.33	0.11	
5,369.0	20.60	199.50	5,037.3	-1,671.4	-617.8	1,781.9	0.27	-0.22	
5,461.0	21.10	200.20	5,123.3	-1,702.2	-628.9	1,814.6	0.61	0.54	
5,552.0	22.30	197.70	5,207.9	-1,734.0	-639.8	1,848.2	1.66	1.32	
5,644.0	21.30	198.30	5,293.3	-1,766.5	-650.4	1,882.4	1.11	-1.09	
5,735.0	20.00	196.10	5,378.4	-1,797.1	-659.9	1,914.4	1.66	-1.43	
5,827.0	19.60	199.30	5,465.0	-1,826.8	-669.4	1,945.5	1.26	-0.43	
5,918.0	20.10	198.10	5,550.6	-1,856.1	-679.3	1,976.4	0.71	0.55	
6,010.0	20.60	200.10	5,636.8	-1,886.3	-689.7	2,008.4	0.93	0.54	
6,102.0	20.60	203.10	5,723.0	-1,916.4	-701.7	2,040.7	1.15	0.00	
6,193.0	21.80	201.80	5,807.8	-1,946.8	-714.2	2,073.6	1.42	1.32	
6,285.0	22.30	201.70	5,893.1	-1,978.9	-727.0	2,108.1	0.55	0.54	
6,377.0	22.40	200.80	5,978.2	-2,011.5	-739.7	2,143.1	0.39	0.11	
6,468.0	20.40	201.80	6,062.9	-2,042.4	-751.7	2,176.3	2.23	-2.20	
6,560.0	21.10	199.50	6,148.9	-2,072.9	-763.2	2,208.9	1.17	0.76	
6,652.0	22.10	199.60	6,234.5	-2,104.8	-774.6	2,242.8	1.09	1.09	
6,743.0	20.40	198.90	6,319.3	-2,136.0	-785.4	2,275.7	1.89	-1.87	
6,835.0	19.30	198.80	6,405.8	-2,165.5	-795.5	2,307.0	1.20	-1.20	
6,927.0	17.60	202.20	6,493.1	-2,192.8	-805.7	2,336.1	2.19	-1.85	
7,018.0	15.10	204.40	6,580.4	-2,216.3	-815.8	2,361.7	2.83	-2.75	
7,110.0	12.30	203.50	6,669.8	-2,236.2	-824.6	2,383.4	3.05	-3.04	
7,201.0	9.60	205.30	6,759.1	-2,252.0	-831.7	2,400.6	2.99	-2.97	
7,293.0	7.80	202.60	6,850.0	-2,264.7	-837.4	2,414.5	2.01	-1.96	
7,384.0	6.40	209.70	6,940.3	-2,274.8	-842.3	2,425.7	1.81	-1.54	
7,476.0	4.80	207.50	7,031.9	-2,282.7	-846.6	2,434.6	1.75	-1.74	
7,567.0	4.10	201.60	7,122.6	-2,289.1	-849.6	2,441.6	0.92	-0.77	
7,659.0	2.90	186.20	7,214.4	-2,294.4	-851.0	2,447.2	1.65	-1.30	
7,752.0	0.70	155.00	7,307.4	-2,297.3	-851.1	2,449.8	2.50	-2.37	
7,843.0	1.90	210.00	7,398.4	-2,299.1	-851.6	2,451.7	1.76	1.32	
7,935.0	2.00	222.30	7,490.3	-2,301.6	-853.4	2,454.7	0.47	0.11	
8,026.0	2.30	221.60	7,581.2	-2,304.2	-855.7	2,457.9	0.33	0.33	
8,118.0	0.60	164.50	7,673.2	-2,306.0	-856.8	2,460.0	2.21	-1.85	
8,209.0	1.20	220.60	7,764.2	-2,307.2	-857.3	2,461.3	1.10	0.66	
8,301.0	0.40	37.50	7,856.2	-2,307.7	-857.7	2,461.9	1.74	-0.87	
8,392.0	1.10	16.00	7,947.2	-2,306.6	-857.3	2,460.7	0.82	0.77	
8,484.0	0.90	13.20	8,039.2	-2,305.0	-856.9	2,459.1	0.22	-0.22	
8,575.0	0.70	354.60	8,130.2	-2,303.8	-856.8	2,457.9	0.36	-0.22	
8,667.0	1.00	300.00	8,222.2	-2,302.8	-857.5	2,457.3	0.90	0.33	
8,758.0	0.90	323.40	8,313.1	-2,301.8	-858.6	2,456.8	0.44	-0.11	
8,849.0	0.70	342.70	8,404.1	-2,300.7	-859.2	2,455.9	0.37	-0.22	
8,941.0	0.60	260.30	8,496.1	-2,300.3	-859.9	2,455.7	0.93	-0.11	
9,033.0	0.90	252.70	8,588.1	-2,300.6	-861.0	2,456.4	0.34	0.33	
9,124.0	0.90	236.10	8,679.1	-2,301.2	-862.3	2,457.4	0.29	0.00	
9,216.0	0.10	100.40	8,771.1	-2,301.6	-862.8	2,458.0	1.06	-0.87	

Cathedral Energy Services

Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well DW 8608C-33 (P28 496)
Project:	Double Willow	TVD Reference:	KBE @ 7813.0ft (Patterson 308)
Site:	S28-T4S-R96W (P28 496)(column pattern)	MD Reference:	KBE @ 7813.0ft (Patterson 308)
Well:	DW 8608C-33 (P28 496)	North Reference:	True
Wellbore:	DD	Survey Calculation Method:	Minimum Curvature
Design:	DD	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
9,307.0	0.20	234.30	8,862.1	-2,301.7	-862.9	2,458.1	0.31	0.11	
9,399.0	0.60	243.70	8,954.1	-2,302.0	-863.4	2,458.6	0.44	0.43	
9,490.0	1.60	239.10	9,045.1	-2,302.9	-865.0	2,460.0	1.10	1.10	
9,582.0	0.40	215.10	9,137.1	-2,303.8	-866.2	2,461.3	1.35	-1.30	
9,674.0	0.30	107.30	9,229.1	-2,304.1	-866.2	2,461.6	0.62	-0.11	
9,765.0	0.90	239.50	9,320.1	-2,304.6	-866.6	2,462.1	1.23	0.66	
9,857.0	0.70	317.30	9,412.1	-2,304.5	-867.6	2,462.4	1.11	-0.22	
9,931.0	0.70	308.60	9,486.1	-2,303.9	-868.3	2,462.1	0.14	0.00	
10,022.0	0.50	225.50	9,577.1	-2,303.8	-869.0	2,462.3	0.89	-0.22	
10,114.0	0.60	209.70	9,669.1	-2,304.5	-869.5	2,463.1	0.20	0.11	
10,205.0	0.70	248.30	9,760.0	-2,305.2	-870.2	2,464.0	0.48	0.11	
10,297.0	1.00	271.00	9,852.0	-2,305.4	-871.6	2,464.6	0.48	0.33	
10,389.0	1.30	294.20	9,944.0	-2,304.9	-873.3	2,464.8	0.60	0.33	
10,480.0	1.80	300.50	10,035.0	-2,303.8	-875.5	2,464.5	0.58	0.55	Last Cathedral Survey @ 10,480' MD Projection to Bit @ 11,145'
11,145.0	1.80	300.50	10,699.7	-2,293.2	-893.5	2,460.9	0.00	0.00	

Targets									
Target Name	- hit/miss target	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	
- Shape									Latitude Longitude
DW 8608C-33 P28 496	- actual wellpath misses target center by 5.4ft at 7780.4ft MD (7335.8 TVD, -2297.7 N, -851.0 E)	0.00	0.00	7,335.7	-2,303.0	-851.9	1,676,762.46	2,248,761.34	39° 39' 40.35 N 108° 10' 7.46 W
- Point									
DW 8608C-33 P28 496	- actual wellpath misses target center by 5.7ft at 8107.7ft MD (7662.9 TVD, -2305.9 N, -856.8 E)	0.00	0.00	7,663.0	-2,303.0	-851.9	1,676,762.46	2,248,761.34	39° 39' 40.35 N 108° 10' 7.46 W
- Point									
DW 8608C-33 P28 496	- actual wellpath misses target center by 28.0ft at 11028.4ft MD (10583.1 TVD, -2295.0 N, -890.3 E)	0.00	0.00	10,584.0	-2,312.9	-868.9	1,676,752.98	2,248,744.05	39° 39' 40.25 N 108° 10' 7.67 W
- Rectangle (sides W30.0 H50.0 D0.0)									
DW 8608C-33 P28 496	- actual wellpath misses target center by 28.0ft at 11028.4ft MD (10583.1 TVD, -2295.0 N, -890.3 E)	0.00	0.00	10,584.0	-2,312.9	-868.9	1,676,752.98	2,248,744.05	39° 39' 40.25 N 108° 10' 7.67 W
- Rectangle (sides W30.0 H50.0 D0.0)									

Design Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
2,091.0	1,995.4	-534.6	-198.1	Last Cathedral Survey @ 2,091' MD
10,480.0	10,035.0	-2,303.8	-875.5	Last Cathedral Survey @ 10,480' MD
11,145.0	10,699.7	-2,293.2	-893.5	Projection to Bit @ 11,145'

Checked By: _____ Approved By: _____ Date: _____