

DJ/Paradox/WTX

Wattenberg

New Drills

Costigan 0-8-20

Wellbore #1

Plan: Design #1

Standard Planning Report - Geographic

09 March, 2010

EnCana Corporation
Planning Report - Geographic

Database:	EDM	Local Co-ordinate Reference:	Well Costigan 0-8-20
Company:	DJ/Paradox/WTX	TVD Reference:	WELL @ 5101.0ft (Original Well Elev)
Project:	Wattenberg	MD Reference:	WELL @ 5101.0ft (Original Well Elev)
Site:	New Drills	North Reference:	True
Well:	Costigan 0-8-20	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Project	Wattenberg,		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Northern Zone		

Site		New Drills				
Site Position:		Northing:	1,252,450.66 ft	Latitude:	40° 1' 32.016 N	
From:	Lat/Long	Easting:	3,120,627.66 ft	Longitude:	105° 4' 9.336 W	
Position Uncertainty:		ft	Slot Radius:	in	Grid Convergence:	0.28 °

Well		Costigan 0-8-20				
Well Position	+N/-S	2,919.5 ft	Northing:	1,255,422.69 ft	Latitude:	40° 2' 0.888 N
	+E/-W	10,000.6 ft	Easting:	3,130,612.70 ft	Longitude:	105° 2' 0.780 W
Position Uncertainty		ft	Wellhead Elevation:	ft	Ground Level:	5,088.0 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	12/31/2009	9.13	66.77	53,080

Design	Design #1				
Audit Notes:					
Version:	Phase:	PROTOTYPE		Tie On Depth:	0.0
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction	
	(ft)	(ft)	(ft)	(°)	
	0.0	0.0	0.0	211.73	

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,926.6	18.53	211.73	1,910.5	-126.3	-78.1	2.00	2.00	0.00	211.73	
6,637.8	18.53	211.73	6,377.5	-1,399.9	-865.6	0.00	0.00	0.00	0.00	
7,564.4	0.00	0.00	7,288.0	-1,526.3	-943.7	2.00	-2.00	0.00	180.00	
8,729.4	0.00	0.00	8,453.0	-1,526.3	-943.7	0.00	0.00	0.00	0.00	0-8-20 BHL

EnCana Corporation
Planning Report - Geographic

Database:	EDM	Local Co-ordinate Reference:	Well Costigan 0-8-20
Company:	DJ/Paradox/WTX	TVD Reference:	WELL @ 5101.0ft (Original Well Elev)
Project:	Wattenberg	MD Reference:	WELL @ 5101.0ft (Original Well Elev)
Site:	New Drills	North Reference:	True
Well:	Costigan 0-8-20	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (ft)	Map Easting (ft)	Latitude	Longitude
0.0	0.00	0.00	0.0	0.0	0.0	1,255,422.69	3,130,612.70	40° 2' 0.888 N	105° 2' 0.780 W
100.0	0.00	0.00	100.0	0.0	0.0	1,255,422.69	3,130,612.70	40° 2' 0.888 N	105° 2' 0.780 W
200.0	0.00	0.00	200.0	0.0	0.0	1,255,422.69	3,130,612.70	40° 2' 0.888 N	105° 2' 0.780 W
300.0	0.00	0.00	300.0	0.0	0.0	1,255,422.69	3,130,612.70	40° 2' 0.888 N	105° 2' 0.780 W
400.0	0.00	0.00	400.0	0.0	0.0	1,255,422.69	3,130,612.70	40° 2' 0.888 N	105° 2' 0.780 W
500.0	0.00	0.00	500.0	0.0	0.0	1,255,422.69	3,130,612.70	40° 2' 0.888 N	105° 2' 0.780 W
600.0	0.00	0.00	600.0	0.0	0.0	1,255,422.69	3,130,612.70	40° 2' 0.888 N	105° 2' 0.780 W
700.0	0.00	0.00	700.0	0.0	0.0	1,255,422.69	3,130,612.70	40° 2' 0.888 N	105° 2' 0.780 W
800.0	0.00	0.00	800.0	0.0	0.0	1,255,422.69	3,130,612.70	40° 2' 0.888 N	105° 2' 0.780 W
900.0	0.00	0.00	900.0	0.0	0.0	1,255,422.69	3,130,612.70	40° 2' 0.888 N	105° 2' 0.780 W
1,000.0	0.00	0.00	1,000.0	0.0	0.0	1,255,422.69	3,130,612.70	40° 2' 0.888 N	105° 2' 0.780 W
1,100.0	2.00	211.73	1,100.0	-1.5	-0.9	1,255,421.20	3,130,611.79	40° 2' 0.873 N	105° 2' 0.792 W
1,200.0	4.00	211.73	1,199.8	-5.9	-3.7	1,255,416.73	3,130,609.06	40° 2' 0.829 N	105° 2' 0.827 W
1,300.0	6.00	211.73	1,299.5	-13.3	-8.3	1,255,409.30	3,130,604.51	40° 2' 0.756 N	105° 2' 0.886 W
1,400.0	8.00	211.73	1,398.7	-23.7	-14.7	1,255,398.90	3,130,598.16	40° 2' 0.654 N	105° 2' 0.968 W
1,500.0	10.00	211.73	1,497.5	-37.0	-22.9	1,255,385.55	3,130,590.00	40° 2' 0.522 N	105° 2' 1.074 W
1,600.0	12.00	211.73	1,595.6	-53.2	-32.9	1,255,369.27	3,130,580.05	40° 2' 0.362 N	105° 2' 1.203 W
1,700.0	14.00	211.73	1,693.1	-72.4	-44.8	1,255,350.07	3,130,568.33	40° 2' 0.173 N	105° 2' 1.355 W
1,800.0	16.00	211.73	1,789.6	-94.4	-58.4	1,255,327.99	3,130,554.83	40° 1' 59.955 N	105° 2' 1.530 W
1,900.0	18.00	211.73	1,885.3	-119.3	-73.7	1,255,303.04	3,130,539.59	40° 1' 59.709 N	105° 2' 1.728 W
1,926.6	18.53	211.73	1,910.5	-126.3	-78.1	1,255,295.93	3,130,535.24	40° 1' 59.639 N	105° 2' 1.784 W
2,000.0	18.53	211.73	1,980.1	-146.2	-90.4	1,255,276.02	3,130,523.08	40° 1' 59.443 N	105° 2' 1.942 W
2,100.0	18.53	211.73	2,074.9	-173.2	-107.1	1,255,248.90	3,130,506.50	40° 1' 59.176 N	105° 2' 2.157 W
2,200.0	18.53	211.73	2,169.8	-200.3	-123.8	1,255,221.78	3,130,489.93	40° 1' 58.909 N	105° 2' 2.372 W
2,300.0	18.53	211.73	2,264.6	-227.3	-140.5	1,255,194.66	3,130,473.36	40° 1' 58.642 N	105° 2' 2.587 W
2,400.0	18.53	211.73	2,359.4	-254.3	-157.2	1,255,167.54	3,130,456.79	40° 1' 58.374 N	105° 2' 2.802 W
2,500.0	18.53	211.73	2,454.2	-281.4	-174.0	1,255,140.42	3,130,440.21	40° 1' 58.107 N	105° 2' 3.017 W
2,600.0	18.53	211.73	2,549.0	-308.4	-190.7	1,255,113.30	3,130,423.64	40° 1' 57.840 N	105° 2' 3.231 W
2,700.0	18.53	211.73	2,643.8	-335.4	-207.4	1,255,086.18	3,130,407.07	40° 1' 57.573 N	105° 2' 3.446 W
2,800.0	18.53	211.73	2,738.6	-362.5	-224.1	1,255,059.06	3,130,390.50	40° 1' 57.306 N	105° 2' 3.661 W
2,900.0	18.53	211.73	2,833.5	-389.5	-240.8	1,255,031.94	3,130,373.93	40° 1' 57.039 N	105° 2' 3.876 W
3,000.0	18.53	211.73	2,928.3	-416.5	-257.5	1,255,004.82	3,130,357.35	40° 1' 56.772 N	105° 2' 4.091 W
3,100.0	18.53	211.73	3,023.1	-443.6	-274.3	1,254,977.70	3,130,340.78	40° 1' 56.504 N	105° 2' 4.306 W
3,200.0	18.53	211.73	3,117.9	-470.6	-291.0	1,254,950.58	3,130,324.21	40° 1' 56.237 N	105° 2' 4.521 W
3,300.0	18.53	211.73	3,212.7	-497.6	-307.7	1,254,923.46	3,130,307.64	40° 1' 55.970 N	105° 2' 4.736 W
3,400.0	18.53	211.73	3,307.5	-524.7	-324.4	1,254,896.33	3,130,291.06	40° 1' 55.703 N	105° 2' 4.950 W
3,500.0	18.53	211.73	3,402.3	-551.7	-341.1	1,254,869.21	3,130,274.49	40° 1' 55.436 N	105° 2' 5.165 W
3,600.0	18.53	211.73	3,497.2	-578.7	-357.8	1,254,842.09	3,130,257.92	40° 1' 55.169 N	105° 2' 5.380 W
3,700.0	18.53	211.73	3,592.0	-605.8	-374.5	1,254,814.97	3,130,241.35	40° 1' 54.901 N	105° 2' 5.595 W
3,800.0	18.53	211.73	3,686.8	-632.8	-391.3	1,254,787.85	3,130,224.78	40° 1' 54.634 N	105° 2' 5.810 W
3,900.0	18.53	211.73	3,781.6	-659.8	-408.0	1,254,760.73	3,130,208.20	40° 1' 54.367 N	105° 2' 6.025 W
4,000.0	18.53	211.73	3,876.4	-686.9	-424.7	1,254,733.61	3,130,191.63	40° 1' 54.100 N	105° 2' 6.240 W
4,100.0	18.53	211.73	3,971.2	-713.9	-441.4	1,254,706.49	3,130,175.06	40° 1' 53.833 N	105° 2' 6.455 W
4,200.0	18.53	211.73	4,066.0	-740.9	-458.1	1,254,679.37	3,130,158.49	40° 1' 53.566 N	105° 2' 6.670 W
4,300.0	18.53	211.73	4,160.9	-768.0	-474.8	1,254,652.25	3,130,141.91	40° 1' 53.298 N	105° 2' 6.884 W
4,400.0	18.53	211.73	4,255.7	-795.0	-491.5	1,254,625.13	3,130,125.34	40° 1' 53.031 N	105° 2' 7.099 W
4,500.0	18.53	211.73	4,350.5	-822.0	-508.3	1,254,598.01	3,130,108.77	40° 1' 52.764 N	105° 2' 7.314 W
4,600.0	18.53	211.73	4,445.3	-849.1	-525.0	1,254,570.89	3,130,092.20	40° 1' 52.497 N	105° 2' 7.529 W
4,700.0	18.53	211.73	4,540.1	-876.1	-541.7	1,254,543.77	3,130,075.63	40° 1' 52.230 N	105° 2' 7.744 W
4,800.0	18.53	211.73	4,634.9	-903.1	-558.4	1,254,516.65	3,130,059.05	40° 1' 51.963 N	105° 2' 7.959 W
4,900.0	18.53	211.73	4,729.7	-930.2	-575.1	1,254,489.53	3,130,042.48	40° 1' 51.695 N	105° 2' 8.174 W
5,000.0	18.53	211.73	4,824.6	-957.2	-591.8	1,254,462.41	3,130,025.91	40° 1' 51.428 N	105° 2' 8.389 W
5,100.0	18.53	211.73	4,919.4	-984.2	-608.5	1,254,435.29	3,130,009.34	40° 1' 51.161 N	105° 2' 8.603 W
5,200.0	18.53	211.73	5,014.2	-1,011.2	-625.3	1,254,408.16	3,129,992.76	40° 1' 50.894 N	105° 2' 8.818 W
5,300.0	18.53	211.73	5,109.0	-1,038.3	-642.0	1,254,381.04	3,129,976.19	40° 1' 50.627 N	105° 2' 9.033 W

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Company:	DJ/Paradox/WTX	TVD Reference:	WELL @ 5101.0ft (Original Well Elev)
Project:	Wattenberg	MD Reference:	WELL @ 5101.0ft (Original Well Elev)
Site:	New Drills	North Reference:	True
Well:	Costigan 0-8-20	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (ft)	Map Easting (ft)	Latitude	Longitude	
5,400.0	18.53	211.73	5,203.8	-1,065.3	-658.7	1,254,353.92	3,129,959.62	40° 1' 50.360 N	105° 2' 9.248 W	
5,500.0	18.53	211.73	5,298.6	-1,092.3	-675.4	1,254,326.80	3,129,943.05	40° 1' 50.093 N	105° 2' 9.463 W	
5,600.0	18.53	211.73	5,393.5	-1,119.4	-692.1	1,254,299.68	3,129,926.48	40° 1' 49.825 N	105° 2' 9.678 W	
5,700.0	18.53	211.73	5,488.3	-1,146.4	-708.8	1,254,272.56	3,129,909.90	40° 1' 49.558 N	105° 2' 9.893 W	
5,800.0	18.53	211.73	5,583.1	-1,173.4	-725.5	1,254,245.44	3,129,893.33	40° 1' 49.291 N	105° 2' 10.108 W	
5,900.0	18.53	211.73	5,677.9	-1,200.5	-742.3	1,254,218.32	3,129,876.76	40° 1' 49.024 N	105° 2' 10.322 W	
6,000.0	18.53	211.73	5,772.7	-1,227.5	-759.0	1,254,191.20	3,129,860.19	40° 1' 48.757 N	105° 2' 10.537 W	
6,100.0	18.53	211.73	5,867.5	-1,254.5	-775.7	1,254,164.08	3,129,843.61	40° 1' 48.490 N	105° 2' 10.752 W	
6,200.0	18.53	211.73	5,962.3	-1,281.6	-792.4	1,254,136.96	3,129,827.04	40° 1' 48.222 N	105° 2' 10.967 W	
6,300.0	18.53	211.73	6,057.2	-1,308.6	-809.1	1,254,109.84	3,129,810.47	40° 1' 47.955 N	105° 2' 11.182 W	
6,400.0	18.53	211.73	6,152.0	-1,335.6	-825.8	1,254,082.72	3,129,793.90	40° 1' 47.688 N	105° 2' 11.397 W	
6,500.0	18.53	211.73	6,246.8	-1,362.7	-842.6	1,254,055.60	3,129,777.32	40° 1' 47.421 N	105° 2' 11.612 W	
6,600.0	18.53	211.73	6,341.6	-1,389.7	-859.3	1,254,028.48	3,129,760.75	40° 1' 47.154 N	105° 2' 11.826 W	
6,637.8	18.53	211.73	6,377.5	-1,399.9	-865.6	1,254,018.21	3,129,754.48	40° 1' 47.053 N	105° 2' 11.908 W	
6,700.0	17.29	211.73	6,436.6	-1,416.2	-875.6	1,254,001.90	3,129,744.51	40° 1' 46.892 N	105° 2' 12.037 W	
6,800.0	15.29	211.73	6,532.6	-1,440.1	-890.4	1,253,977.97	3,129,729.89	40° 1' 46.656 N	105° 2' 12.227 W	
6,900.0	13.29	211.73	6,629.5	-1,461.0	-903.4	1,253,956.91	3,129,717.02	40° 1' 46.449 N	105° 2' 12.393 W	
7,000.0	11.29	211.73	6,727.2	-1,479.1	-914.6	1,253,938.75	3,129,705.93	40° 1' 46.270 N	105° 2' 12.537 W	
7,100.0	9.29	211.73	6,825.6	-1,494.3	-924.0	1,253,923.51	3,129,696.61	40° 1' 46.120 N	105° 2' 12.658 W	
7,200.0	7.29	211.73	6,924.5	-1,506.6	-931.5	1,253,911.21	3,129,689.10	40° 1' 45.999 N	105° 2' 12.756 W	
7,300.0	5.29	211.73	7,023.9	-1,515.9	-937.3	1,253,901.86	3,129,683.39	40° 1' 45.906 N	105° 2' 12.830 W	
7,400.0	3.29	211.73	7,123.7	-1,522.3	-941.2	1,253,895.48	3,129,679.49	40° 1' 45.844 N	105° 2' 12.880 W	
7,500.0	1.29	211.73	7,223.6	-1,525.7	-943.3	1,253,892.08	3,129,677.40	40° 1' 45.810 N	105° 2' 12.907 W	
7,564.4	0.00	0.00	7,288.0	-1,526.3	-943.7	1,253,891.46	3,129,677.03	40° 1' 45.804 N	105° 2' 12.912 W	
7,600.0	0.00	0.00	7,323.6	-1,526.3	-943.7	1,253,891.46	3,129,677.03	40° 1' 45.804 N	105° 2' 12.912 W	
7,700.0	0.00	0.00	7,423.6	-1,526.3	-943.7	1,253,891.46	3,129,677.03	40° 1' 45.804 N	105° 2' 12.912 W	
7,800.0	0.00	0.00	7,523.6	-1,526.3	-943.7	1,253,891.46	3,129,677.03	40° 1' 45.804 N	105° 2' 12.912 W	
7,900.0	0.00	0.00	7,623.6	-1,526.3	-943.7	1,253,891.46	3,129,677.03	40° 1' 45.804 N	105° 2' 12.912 W	
8,000.0	0.00	0.00	7,723.6	-1,526.3	-943.7	1,253,891.46	3,129,677.03	40° 1' 45.804 N	105° 2' 12.912 W	
8,100.0	0.00	0.00	7,823.6	-1,526.3	-943.7	1,253,891.46	3,129,677.03	40° 1' 45.804 N	105° 2' 12.912 W	
8,200.0	0.00	0.00	7,923.6	-1,526.3	-943.7	1,253,891.46	3,129,677.03	40° 1' 45.804 N	105° 2' 12.912 W	
8,300.0	0.00	0.00	8,023.6	-1,526.3	-943.7	1,253,891.46	3,129,677.03	40° 1' 45.804 N	105° 2' 12.912 W	
8,400.0	0.00	0.00	8,123.6	-1,526.3	-943.7	1,253,891.46	3,129,677.03	40° 1' 45.804 N	105° 2' 12.912 W	
8,500.0	0.00	0.00	8,223.6	-1,526.3	-943.7	1,253,891.46	3,129,677.03	40° 1' 45.804 N	105° 2' 12.912 W	
8,600.0	0.00	0.00	8,323.6	-1,526.3	-943.7	1,253,891.46	3,129,677.03	40° 1' 45.804 N	105° 2' 12.912 W	
8,700.0	0.00	0.00	8,423.6	-1,526.3	-943.7	1,253,891.46	3,129,677.03	40° 1' 45.804 N	105° 2' 12.912 W	
8,729.4	0.00	0.00	8,453.0	-1,526.3	-943.7	1,253,891.46	3,129,677.03	40° 1' 45.804 N	105° 2' 12.912 W	

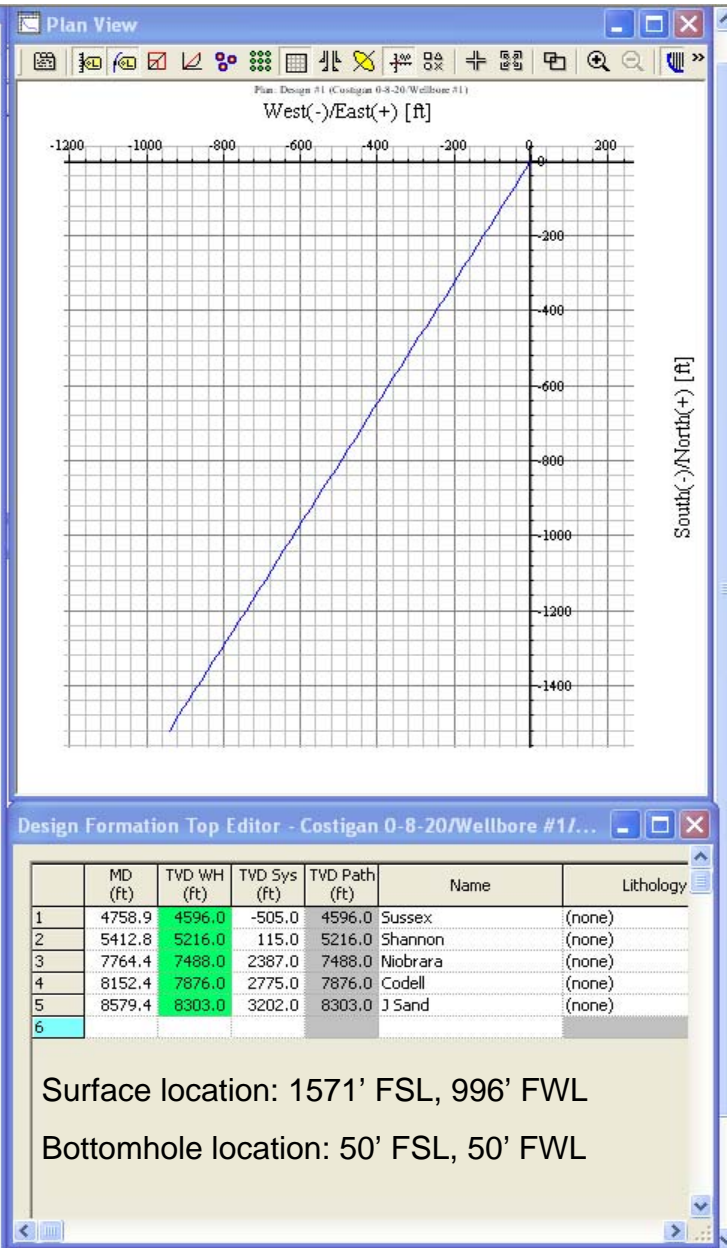
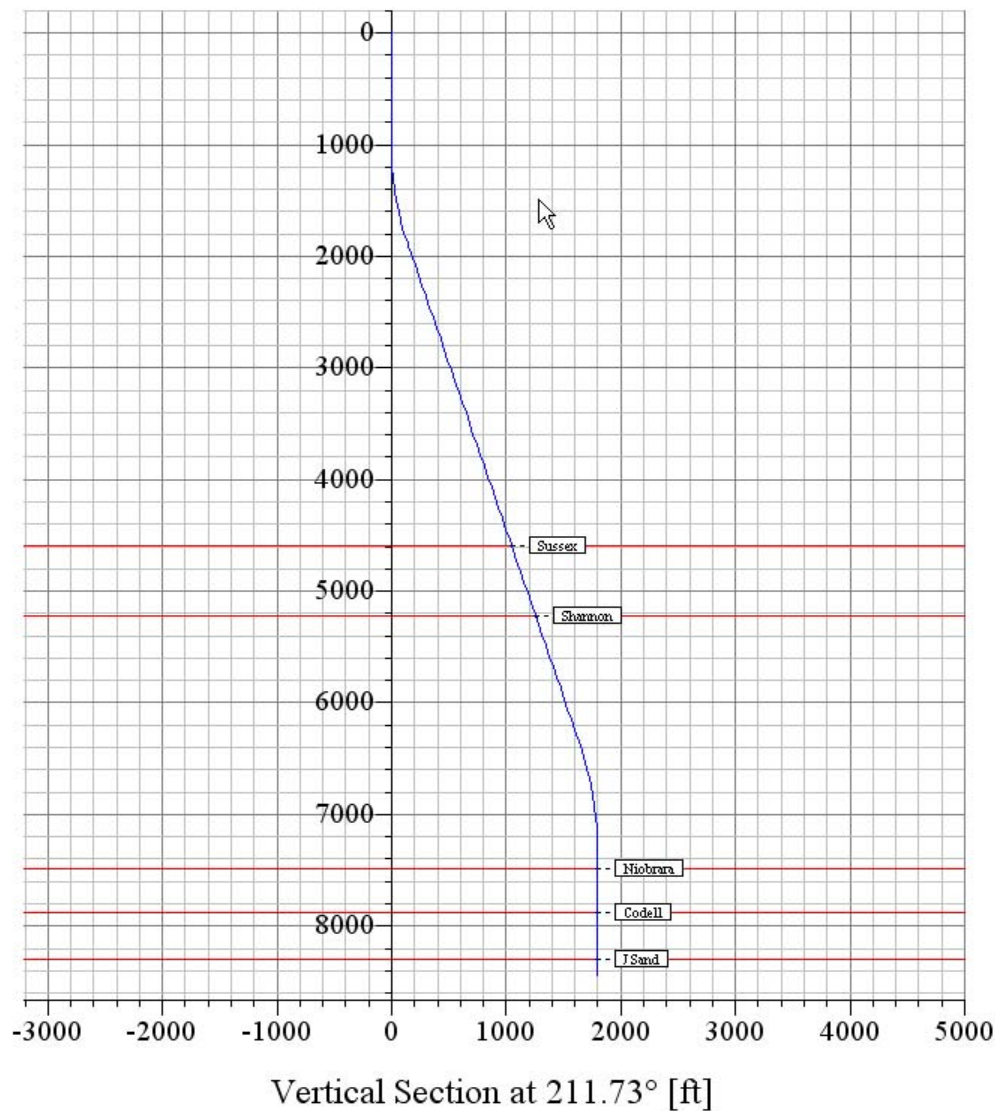
Design Targets										
Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude	
0-8-20 BHL - plan hits target - Point	0.00	0.00	8,453.0	-1,526.3	-943.7	1,253,891.46	3,129,677.03	40° 1' 45.804 N	105° 2' 12.912 W	

EnCana Corporation
Planning Report - Geographic

Database:	EDM	Local Co-ordinate Reference:	Well Costigan 0-8-20
Company:	DJ/Paradox/WTX	TVD Reference:	WELL @ 5101.0ft (Original Well Elev)
Project:	Wattenberg	MD Reference:	WELL @ 5101.0ft (Original Well Elev)
Site:	New Drills	North Reference:	True
Well:	Costigan 0-8-20	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Formations						
	Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
	4,758.9	4,596.0	Sussex		0.00	
	5,412.8	5,216.0	Shannon		0.00	
	7,764.4	7,488.0	Niobrara		0.00	
	8,152.4	7,876.0	Codell		0.00	
	8,579.4	8,303.0	J Sand		0.00	

True Vertical Depth [ft]



EnCana Oil & Gas (USA) Inc.
Costigan 0-8-20