

DJ/Paradox/WTX

**Wattenberg
New Drills
Townsend 6-8-5**

Wellbore #1

Plan: Design #1

Standard Planning Report

09 February, 2010

EnCana Corporation

Planning Report

Database:	EDM	Local Co-ordinate Reference:	Well Townsend 6-8-5
Company:	DJ/Paradox/WTX	TVD Reference:	RKB @ 4918.0ft (TBD)
Project:	Wattenberg	MD Reference:	RKB @ 4918.0ft (TBD)
Site:	New Drills	North Reference:	True
Well:	Townsend 6-8-5	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:	1,252,450.66ft	Latitude:	40° 1' 32.016 N
From:	Lat/Long	Easting:	3,120,627.66ft	Longitude:	105° 4' 9.336 W
Position Uncertainty:	ft	Slot Radius:	in	Grid Convergence:	0.28 °

Well	Townsend 6-8-5					
Well Position	+N-S	49,642.0 ft	Northing:	1,302,397.03 ft	Latitude:	40° 9' 43.020 N
	+E-W	45,642.4 ft	Easting:	3,165,936.55 ft	Longitude:	104° 54' 22.608 W
Position Uncertainty		ft	Wellhead Elevation:	ft	Ground Level:	4,905.0 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	12/31/2009	9.08	66.89	53,163

Design	Design #1			
Audit Notes:				
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (ft)	+N-S (ft)	+E-W (ft)	Direction (°)
	0.0	0.0	0.0	238.64

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	
900.0	0.00	0.00	900.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,459.6	11.19	238.64	1,456.0	-28.4	-46.5	2.00	2.00	0.00	238.64	
6,631.9	11.19	238.64	6,530.0	-550.8	-903.8	0.00	0.00	0.00	0.00	
7,191.5	0.00	0.00	7,086.0	-579.2	-950.3	2.00	-2.00	0.00	180.00	
8,091.5	0.00	0.00	7,986.0	-579.2	-950.3	0.00	0.00	0.00	0.00	Townsend 6-8-5 PE

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Project:	Wattenberg	MD Reference:	RKB @ 4918.0ft (TBD)
Site:	New Drills	North Reference:	True
Well:	Townsend 6-8-5	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)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	0.00
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	0.00
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	0.00
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	0.00
850.0	0.00	0.00	850.0	0.0	0.0	0.0	0.00	0.00	0.00
8-5/8" Surface									
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.00	0.00	0.00
1,000.0	2.00	238.64	1,000.0	-0.9	-1.5	1.7	2.00	2.00	0.00
1,100.0	4.00	238.64	1,099.8	-3.6	-6.0	7.0	2.00	2.00	0.00
1,200.0	6.00	238.64	1,199.5	-8.2	-13.4	15.7	2.00	2.00	0.00
1,300.0	8.00	238.64	1,298.7	-14.5	-23.8	27.9	2.00	2.00	0.00
1,400.0	10.00	238.64	1,397.5	-22.7	-37.2	43.5	2.00	2.00	0.00
1,459.6	11.19	238.64	1,456.0	-28.4	-46.5	54.5	2.00	2.00	0.00
1,500.0	11.19	238.64	1,495.7	-32.4	-53.2	62.3	0.00	0.00	0.00
1,600.0	11.19	238.64	1,593.8	-42.5	-69.8	81.7	0.00	0.00	0.00
1,700.0	11.19	238.64	1,691.9	-52.6	-86.4	101.1	0.00	0.00	0.00
1,800.0	11.19	238.64	1,790.0	-62.7	-102.9	120.6	0.00	0.00	0.00
1,900.0	11.19	238.64	1,888.1	-72.8	-119.5	140.0	0.00	0.00	0.00
2,000.0	11.19	238.64	1,986.2	-82.9	-136.1	159.4	0.00	0.00	0.00
2,100.0	11.19	238.64	2,084.3	-93.0	-152.7	178.8	0.00	0.00	0.00
2,200.0	11.19	238.64	2,182.4	-103.1	-169.2	198.2	0.00	0.00	0.00
2,300.0	11.19	238.64	2,280.5	-113.2	-185.8	217.6	0.00	0.00	0.00
2,400.0	11.19	238.64	2,378.6	-123.3	-202.4	237.0	0.00	0.00	0.00
2,500.0	11.19	238.64	2,476.7	-133.4	-219.0	256.4	0.00	0.00	0.00
2,600.0	11.19	238.64	2,574.8	-143.6	-235.5	275.8	0.00	0.00	0.00
2,700.0	11.19	238.64	2,672.9	-153.7	-252.1	295.2	0.00	0.00	0.00
2,800.0	11.19	238.64	2,771.0	-163.8	-268.7	314.6	0.00	0.00	0.00
2,900.0	11.19	238.64	2,869.1	-173.9	-285.3	334.1	0.00	0.00	0.00
3,000.0	11.19	238.64	2,967.2	-184.0	-301.8	353.5	0.00	0.00	0.00
3,100.0	11.19	238.64	3,065.3	-194.1	-318.4	372.9	0.00	0.00	0.00
3,200.0	11.19	238.64	3,163.4	-204.2	-335.0	392.3	0.00	0.00	0.00
3,300.0	11.19	238.64	3,261.4	-214.3	-351.5	411.7	0.00	0.00	0.00
3,400.0	11.19	238.64	3,359.5	-224.4	-368.1	431.1	0.00	0.00	0.00
3,500.0	11.19	238.64	3,457.6	-234.5	-384.7	450.5	0.00	0.00	0.00
3,600.0	11.19	238.64	3,555.7	-244.6	-401.3	469.9	0.00	0.00	0.00
3,700.0	11.19	238.64	3,653.8	-254.7	-417.8	489.3	0.00	0.00	0.00
3,800.0	11.19	238.64	3,751.9	-264.8	-434.4	508.7	0.00	0.00	0.00
3,900.0	11.19	238.64	3,850.0	-274.9	-451.0	528.2	0.00	0.00	0.00
4,000.0	11.19	238.64	3,948.1	-285.0	-467.6	547.6	0.00	0.00	0.00
4,100.0	11.19	238.64	4,046.2	-295.1	-484.1	567.0	0.00	0.00	0.00
4,200.0	11.19	238.64	4,144.3	-305.2	-500.7	586.4	0.00	0.00	0.00
4,300.0	11.19	238.64	4,242.4	-315.3	-517.3	605.8	0.00	0.00	0.00
4,326.1	11.19	238.64	4,268.0	-317.9	-521.6	610.8	0.00	0.00	0.00
Sussex									
4,400.0	11.19	238.64	4,340.5	-325.4	-533.9	625.2	0.00	0.00	0.00
4,500.0	11.19	238.64	4,438.6	-335.5	-550.4	644.6	0.00	0.00	0.00
4,600.0	11.19	238.64	4,536.7	-345.6	-567.0	664.0	0.00	0.00	0.00
4,700.0	11.19	238.64	4,634.8	-355.7	-583.6	683.4	0.00	0.00	0.00
4,800.0	11.19	238.64	4,732.9	-365.8	-600.2	702.8	0.00	0.00	0.00

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Well:	Townsend 6-8-5	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)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
4,861.2	11.19	238.64	4,793.0	-372.0	-610.3	714.7	0.00	0.00	0.00
Shannon									
4,900.0	11.19	238.64	4,831.0	-375.9	-616.7	722.2	0.00	0.00	0.00
5,000.0	11.19	238.64	4,929.1	-386.0	-633.3	741.7	0.00	0.00	0.00
5,100.0	11.19	238.64	5,027.2	-396.1	-649.9	761.1	0.00	0.00	0.00
5,200.0	11.19	238.64	5,125.3	-406.2	-666.4	780.5	0.00	0.00	0.00
5,300.0	11.19	238.64	5,223.4	-416.3	-683.0	799.9	0.00	0.00	0.00
5,400.0	11.19	238.64	5,321.5	-426.4	-699.6	819.3	0.00	0.00	0.00
5,500.0	11.19	238.64	5,419.6	-436.5	-716.2	838.7	0.00	0.00	0.00
5,600.0	11.19	238.64	5,517.7	-446.6	-732.7	858.1	0.00	0.00	0.00
5,700.0	11.19	238.64	5,615.8	-456.7	-749.3	877.5	0.00	0.00	0.00
5,800.0	11.19	238.64	5,713.9	-466.8	-765.9	896.9	0.00	0.00	0.00
5,900.0	11.19	238.64	5,812.0	-476.9	-782.5	916.3	0.00	0.00	0.00
6,000.0	11.19	238.64	5,910.1	-487.0	-799.0	935.8	0.00	0.00	0.00
6,100.0	11.19	238.64	6,008.2	-497.1	-815.6	955.2	0.00	0.00	0.00
6,200.0	11.19	238.64	6,106.3	-507.2	-832.2	974.6	0.00	0.00	0.00
6,300.0	11.19	238.64	6,204.4	-517.3	-848.8	994.0	0.00	0.00	0.00
6,400.0	11.19	238.64	6,302.5	-527.4	-865.3	1,013.4	0.00	0.00	0.00
6,500.0	11.19	238.64	6,400.6	-537.5	-881.9	1,032.8	0.00	0.00	0.00
6,600.0	11.19	238.64	6,498.7	-547.6	-898.5	1,052.2	0.00	0.00	0.00
6,631.9	11.19	238.64	6,530.0	-550.8	-903.8	1,058.4	0.00	0.00	0.00
6,700.0	9.83	238.64	6,596.9	-557.3	-914.4	1,070.8	2.00	-2.00	0.00
6,800.0	7.83	238.64	6,695.8	-565.3	-927.5	1,086.2	2.00	-2.00	0.00
6,900.0	5.83	238.64	6,795.0	-571.5	-937.6	1,098.1	2.00	-2.00	0.00
7,000.0	3.83	238.64	6,894.7	-575.9	-944.8	1,106.5	2.00	-2.00	0.00
7,100.0	1.83	238.64	6,994.5	-578.4	-949.0	1,111.4	2.00	-2.00	0.00
7,191.5	0.00	0.00	7,086.0	-579.2	-950.3	1,112.9	2.00	-2.00	0.00
7,200.0	0.00	0.00	7,094.5	-579.2	-950.3	1,112.9	0.00	0.00	0.00
7,261.5	0.00	0.00	7,156.0	-579.2	-950.3	1,112.9	0.00	0.00	0.00
Niobrara									
7,300.0	0.00	0.00	7,194.5	-579.2	-950.3	1,112.9	0.00	0.00	0.00
7,400.0	0.00	0.00	7,294.5	-579.2	-950.3	1,112.9	0.00	0.00	0.00
7,500.0	0.00	0.00	7,394.5	-579.2	-950.3	1,112.9	0.00	0.00	0.00
7,518.5	0.00	0.00	7,413.0	-579.2	-950.3	1,112.9	0.00	0.00	0.00
Codell									
7,600.0	0.00	0.00	7,494.5	-579.2	-950.3	1,112.9	0.00	0.00	0.00
7,700.0	0.00	0.00	7,594.5	-579.2	-950.3	1,112.9	0.00	0.00	0.00
7,800.0	0.00	0.00	7,694.5	-579.2	-950.3	1,112.9	0.00	0.00	0.00
7,900.0	0.00	0.00	7,794.5	-579.2	-950.3	1,112.9	0.00	0.00	0.00
7,941.5	0.00	0.00	7,836.0	-579.2	-950.3	1,112.9	0.00	0.00	0.00
J Sand									
8,000.0	0.00	0.00	7,894.5	-579.2	-950.3	1,112.9	0.00	0.00	0.00
8,018.5	0.00	0.00	7,913.0	-579.2	-950.3	1,112.9	0.00	0.00	0.00
A Marker									
8,091.5	0.00	0.00	7,986.0	-579.2	-950.3	1,112.9	0.00	0.00	0.00
4-1/2" Production									

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Planning Report

Database:	EDM	Local Co-ordinate Reference:	Well Townsend 6-8-5
Company:	DJ/Paradox/WTX	TVD Reference:	RKB @ 4918.0ft (TBD)
Project:	Wattenberg	MD Reference:	RKB @ 4918.0ft (TBD)
Site:	New Drills	North Reference:	True
Well:	Townsend 6-8-5	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Design Targets

Target Name

- hit/miss target	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
Townsend 6-8-5 PBHI - plan hits target - Circle (radius 100.0)	0.00	0.00	7,986.0	-579.2	-950.3	1,301,811.50	3,164,990.17	40° 9' 37.296 N	104° 54' 34.848 W

Casing Points

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)
850.0	850.0	8-5/8" Surface	8.625	12.250
8,091.5	7,986.0	4-1/2" Production	4.500	7.875

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
4,326.1	4,268.0	Sussex		0.00	
4,861.2	4,793.0	Shannon		0.00	
7,261.5	7,156.0	Niobrara		0.00	
7,518.5	7,413.0	Codell		0.00	
7,941.5	7,836.0	J Sand		0.00	
8,018.5	7,913.0	A Marker		0.00	



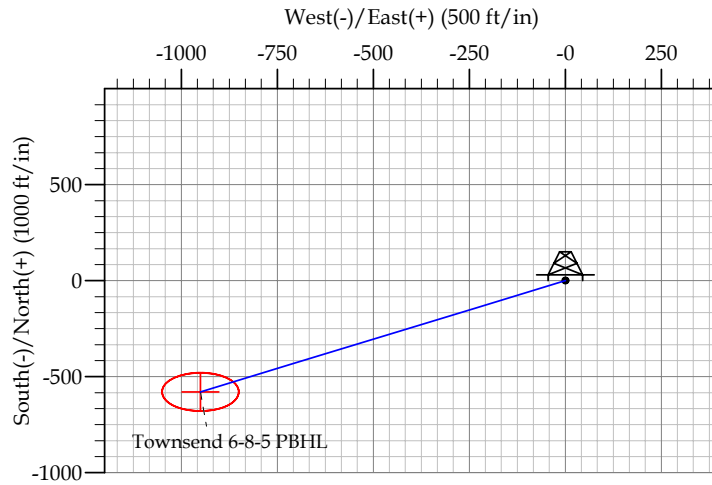
REFERENCE INFORMATION
 Co-ordinate (NE) Reference: Well Townsend 6-8-5, True North
 Vertical (TVD) Reference: RKB @ 4918.0ft (TBD)
 Section (VS) Reference: Slot - (0.0N, 0.0E)
 Measured Depth Reference: RKB @ 4918.0ft (TBD)
 Calculation Method:

WELL DETAILS: Townsend 6-8-5

+N/-S	+E/-W	Northing	Ground Level:	4905.0	Longitude	Slot
0.0	0.0	1302397.03	Easting	3165936.55	40° 9' 43.020 N 04° 54' 22.608 W	

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	900.0	0.00	0.00	900.0	0.0	0.0	0.00	0.00	0.0	
3	1459.6	11.19	238.64	1456.0	-28.4	-46.5	2.00	238.64	54.5	
4	6631.9	11.19	238.64	6530.0	-550.8	-903.8	0.00	0.00	1058.4	
5	7191.5	0.00	0.00	7086.0	-579.2	-950.3	2.00	180.00	1112.9	
6	8091.5	0.00	0.00	7986.0	-579.2	-950.3	0.00	0.00	1112.9	Townsend 6-8-5 PBHL



FORMATION TOP DETAILS

TVDPath	MDPath	Formation
4268.0	4326.1	Sussex
4793.0	4861.2	Shannon
7156.0	7261.5	Niobrara
7413.0	7518.5	Codell
7836.0	7941.5	J Sand
7913.0	8018.5	A Marker

CASING DETAILS

TVD	MD	Name	Size
850.0	850.0	8-5/8" Surface	8.625
7986.0	8091.5	4-1/2" Production	4.500

