

# **DJ/Paradox/WTX**

**Wattenberg**

**New Drills**

**Sprague 8-6-9**

**Wellbore #1**

**Plan: Design #1**

## **Standard Planning Report - Geographic**

**14 April, 2010**

**EnCana Corporation**  
Planning Report - Geographic

<b>Database:</b>	EDM	<b>Local Co-ordinate Reference:</b>	Well Sprague 8-6-9
<b>Company:</b>	DJ/Paradox/WTX	<b>TVD Reference:</b>	WELL @ 4986.0ft (Original Well Elev)
<b>Project:</b>	Wattenberg	<b>MD Reference:</b>	WELL @ 4986.0ft (Original Well Elev)
<b>Site:</b>	New Drills	<b>North Reference:</b>	True
<b>Well:</b>	Sprague 8-6-9	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Design #1		

<b>Project</b>	Wattenberg,		
<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 Northern Zone		

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

<b>Well</b>	Sprague 8-6-9					
<b>Well Position</b>	<b>+N/-S</b>	45,770.5 ft	<b>Northing:</b>	1,298,571.10 ft	<b>Latitude:</b>	40° 9' 4.860 N
	<b>+E/-W</b>	50,851.3 ft	<b>Easting:</b>	3,171,161.58 ft	<b>Longitude:</b>	104° 53' 15.648 W
<b>Position Uncertainty</b>		ft	<b>Wellhead Elevation:</b>	ft	<b>Ground Level:</b>	4,973.0 ft

<b>Wellbore</b>	Wellbore #1				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF200510	12/31/2009	9.07	66.89	53,159

<b>Design</b>	Design #1			
<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b>	PROTOTYPE	<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	150.85

<b>Plan Sections</b>										
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	
650.0	0.00	0.00	650.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,076.4	8.53	150.85	1,074.8	-27.7	15.4	2.00	2.00	0.00	150.85	
6,725.2	8.53	150.85	6,661.2	-759.2	423.5	0.00	0.00	0.00	0.00	
7,151.6	0.00	0.00	7,086.0	-786.8	438.9	2.00	-2.00	0.00	180.00	
8,191.6	0.00	0.00	8,126.0	-786.8	438.9	0.00	0.00	0.00	0.00	Sprague 8-6-9 BHL

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 Planning Report - Geographic

<b>Database:</b>	EDM	<b>Local Co-ordinate Reference:</b>	Well Sprague 8-6-9
<b>Company:</b>	DJ/Paradox/WTX	<b>TVD Reference:</b>	WELL @ 4986.0ft (Original Well Elev)
<b>Project:</b>	Wattenberg	<b>MD Reference:</b>	WELL @ 4986.0ft (Original Well Elev)
<b>Site:</b>	New Drills	<b>North Reference:</b>	True
<b>Well:</b>	Sprague 8-6-9	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	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	1,298,571.10	3,171,161.58	40° 9' 4.860 N	104° 53' 15.648 W	
100.0	0.00	0.00	100.0	0.0	0.0	1,298,571.10	3,171,161.58	40° 9' 4.860 N	104° 53' 15.648 W	
200.0	0.00	0.00	200.0	0.0	0.0	1,298,571.10	3,171,161.58	40° 9' 4.860 N	104° 53' 15.648 W	
300.0	0.00	0.00	300.0	0.0	0.0	1,298,571.10	3,171,161.58	40° 9' 4.860 N	104° 53' 15.648 W	
400.0	0.00	0.00	400.0	0.0	0.0	1,298,571.10	3,171,161.58	40° 9' 4.860 N	104° 53' 15.648 W	
500.0	0.00	0.00	500.0	0.0	0.0	1,298,571.10	3,171,161.58	40° 9' 4.860 N	104° 53' 15.648 W	
600.0	0.00	0.00	600.0	0.0	0.0	1,298,571.10	3,171,161.58	40° 9' 4.860 N	104° 53' 15.648 W	
650.0	0.00	0.00	650.0	0.0	0.0	1,298,571.10	3,171,161.58	40° 9' 4.860 N	104° 53' 15.648 W	
700.0	1.00	150.85	700.0	-0.4	0.2	1,298,570.72	3,171,161.79	40° 9' 4.856 N	104° 53' 15.645 W	
800.0	3.00	150.85	799.9	-3.4	1.9	1,298,567.68	3,171,163.51	40° 9' 4.826 N	104° 53' 15.623 W	
900.0	5.00	150.85	899.7	-9.5	5.3	1,298,561.61	3,171,166.95	40° 9' 4.766 N	104° 53' 15.580 W	
1,000.0	7.00	150.85	999.1	-18.6	10.4	1,298,552.52	3,171,172.11	40° 9' 4.676 N	104° 53' 15.514 W	
1,076.4	8.53	150.85	1,074.8	-27.7	15.4	1,298,543.54	3,171,177.20	40° 9' 4.587 N	104° 53' 15.449 W	
1,100.0	8.53	150.85	1,098.2	-30.7	17.1	1,298,540.50	3,171,178.92	40° 9' 4.556 N	104° 53' 15.427 W	
1,200.0	8.53	150.85	1,197.1	-43.7	24.4	1,298,527.60	3,171,186.24	40° 9' 4.428 N	104° 53' 15.334 W	
1,300.0	8.53	150.85	1,296.0	-56.6	31.6	1,298,514.70	3,171,193.55	40° 9' 4.300 N	104° 53' 15.241 W	
1,400.0	8.53	150.85	1,394.9	-69.6	38.8	1,298,501.80	3,171,200.86	40° 9' 4.172 N	104° 53' 15.148 W	
1,500.0	8.53	150.85	1,493.7	-82.5	46.0	1,298,488.90	3,171,208.17	40° 9' 4.044 N	104° 53' 15.055 W	
1,600.0	8.53	150.85	1,592.6	-95.5	53.2	1,298,476.00	3,171,215.49	40° 9' 3.916 N	104° 53' 14.962 W	
1,700.0	8.53	150.85	1,691.5	-108.4	60.5	1,298,463.10	3,171,222.80	40° 9' 3.788 N	104° 53' 14.869 W	
1,800.0	8.53	150.85	1,790.4	-121.4	67.7	1,298,450.20	3,171,230.11	40° 9' 3.660 N	104° 53' 14.776 W	
1,900.0	8.53	150.85	1,889.3	-134.3	74.9	1,298,437.30	3,171,237.42	40° 9' 3.532 N	104° 53' 14.683 W	
2,000.0	8.53	150.85	1,988.2	-147.3	82.1	1,298,424.40	3,171,244.74	40° 9' 3.404 N	104° 53' 14.590 W	
2,100.0	8.53	150.85	2,087.1	-160.2	89.4	1,298,411.50	3,171,252.05	40° 9' 3.277 N	104° 53' 14.497 W	
2,200.0	8.53	150.85	2,186.0	-173.2	96.6	1,298,398.60	3,171,259.36	40° 9' 3.149 N	104° 53' 14.404 W	
2,300.0	8.53	150.85	2,284.9	-186.1	103.8	1,298,385.70	3,171,266.67	40° 9' 3.021 N	104° 53' 14.311 W	
2,400.0	8.53	150.85	2,383.8	-199.1	111.0	1,298,372.80	3,171,273.99	40° 9' 2.893 N	104° 53' 14.218 W	
2,500.0	8.53	150.85	2,482.7	-212.0	118.3	1,298,359.90	3,171,281.30	40° 9' 2.765 N	104° 53' 14.125 W	
2,600.0	8.53	150.85	2,581.6	-225.0	125.5	1,298,347.00	3,171,288.61	40° 9' 2.637 N	104° 53' 14.032 W	
2,700.0	8.53	150.85	2,680.5	-237.9	132.7	1,298,334.10	3,171,295.92	40° 9' 2.509 N	104° 53' 13.939 W	
2,800.0	8.53	150.85	2,779.4	-250.9	139.9	1,298,321.20	3,171,303.24	40° 9' 2.381 N	104° 53' 13.846 W	
2,900.0	8.53	150.85	2,878.3	-263.8	147.2	1,298,308.30	3,171,310.55	40° 9' 2.253 N	104° 53' 13.753 W	
3,000.0	8.53	150.85	2,977.2	-276.8	154.4	1,298,295.40	3,171,317.86	40° 9' 2.125 N	104° 53' 13.660 W	
3,100.0	8.53	150.85	3,076.1	-289.7	161.6	1,298,282.50	3,171,325.17	40° 9' 1.997 N	104° 53' 13.567 W	
3,200.0	8.53	150.85	3,175.0	-302.7	168.8	1,298,269.61	3,171,332.48	40° 9' 1.869 N	104° 53' 13.474 W	
3,300.0	8.53	150.85	3,273.8	-315.6	176.0	1,298,256.71	3,171,339.80	40° 9' 1.741 N	104° 53' 13.381 W	
3,400.0	8.53	150.85	3,372.7	-328.6	183.3	1,298,243.81	3,171,347.11	40° 9' 1.613 N	104° 53' 13.288 W	
3,500.0	8.53	150.85	3,471.6	-341.5	190.5	1,298,230.91	3,171,354.42	40° 9' 1.485 N	104° 53' 13.195 W	
3,600.0	8.53	150.85	3,570.5	-354.5	197.7	1,298,218.01	3,171,361.73	40° 9' 1.357 N	104° 53' 13.102 W	
3,700.0	8.53	150.85	3,669.4	-367.4	204.9	1,298,205.11	3,171,369.05	40° 9' 1.229 N	104° 53' 13.009 W	
3,800.0	8.53	150.85	3,768.3	-380.4	212.2	1,298,192.21	3,171,376.36	40° 9' 1.101 N	104° 53' 12.916 W	
3,900.0	8.53	150.85	3,867.2	-393.3	219.4	1,298,179.31	3,171,383.67	40° 9' 0.973 N	104° 53' 12.823 W	
4,000.0	8.53	150.85	3,966.1	-406.3	226.6	1,298,166.41	3,171,390.98	40° 9' 0.845 N	104° 53' 12.730 W	
4,100.0	8.53	150.85	4,065.0	-419.2	233.8	1,298,153.51	3,171,398.30	40° 9' 0.717 N	104° 53' 12.637 W	
4,200.0	8.53	150.85	4,163.9	-432.2	241.1	1,298,140.61	3,171,405.61	40° 9' 0.589 N	104° 53' 12.544 W	
4,300.0	8.53	150.85	4,262.8	-445.1	248.3	1,298,127.71	3,171,412.92	40° 9' 0.461 N	104° 53' 12.451 W	
4,400.0	8.53	150.85	4,361.7	-458.1	255.5	1,298,114.81	3,171,420.23	40° 9' 0.333 N	104° 53' 12.358 W	
4,500.0	8.53	150.85	4,460.6	-471.0	262.7	1,298,101.91	3,171,427.55	40° 9' 0.205 N	104° 53' 12.265 W	
4,600.0	8.53	150.85	4,559.5	-484.0	269.9	1,298,089.01	3,171,434.86	40° 9' 0.077 N	104° 53' 12.172 W	
4,700.0	8.53	150.85	4,658.4	-496.9	277.2	1,298,076.11	3,171,442.17	40° 8' 59.949 N	104° 53' 12.079 W	
4,800.0	8.53	150.85	4,757.3	-509.9	284.4	1,298,063.21	3,171,449.48	40° 8' 59.821 N	104° 53' 11.986 W	
4,900.0	8.53	150.85	4,856.2	-522.8	291.6	1,298,050.31	3,171,456.80	40° 8' 59.693 N	104° 53' 11.892 W	
5,000.0	8.53	150.85	4,955.1	-535.8	298.8	1,298,037.41	3,171,464.11	40° 8' 59.565 N	104° 53' 11.799 W	
5,100.0	8.53	150.85	5,053.9	-548.7	306.1	1,298,024.51	3,171,471.42	40° 8' 59.437 N	104° 53' 11.706 W	
5,200.0	8.53	150.85	5,152.8	-561.7	313.3	1,298,011.61	3,171,478.73	40° 8' 59.309 N	104° 53' 11.613 W	

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<b>Database:</b>	EDM	<b>Local Co-ordinate Reference:</b>	Well Sprague 8-6-9
<b>Company:</b>	DJ/Paradox/WTX	<b>TVD Reference:</b>	WELL @ 4986.0ft (Original Well Elev)
<b>Project:</b>	Wattenberg	<b>MD Reference:</b>	WELL @ 4986.0ft (Original Well Elev)
<b>Site:</b>	New Drills	<b>North Reference:</b>	True
<b>Well:</b>	Sprague 8-6-9	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	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	
5,300.0	8.53	150.85	5,251.7	-574.6	320.5	1,297,998.71	3,171,486.04	40° 8' 59.181 N	104° 53' 11.520 W	
5,400.0	8.53	150.85	5,350.6	-587.6	327.7	1,297,985.81	3,171,493.36	40° 8' 59.053 N	104° 53' 11.427 W	
5,500.0	8.53	150.85	5,449.5	-600.5	335.0	1,297,972.91	3,171,500.67	40° 8' 58.925 N	104° 53' 11.334 W	
5,600.0	8.53	150.85	5,548.4	-613.5	342.2	1,297,960.02	3,171,507.98	40° 8' 58.797 N	104° 53' 11.241 W	
5,700.0	8.53	150.85	5,647.3	-626.4	349.4	1,297,947.12	3,171,515.29	40° 8' 58.669 N	104° 53' 11.148 W	
5,800.0	8.53	150.85	5,746.2	-639.4	356.6	1,297,934.22	3,171,522.61	40° 8' 58.541 N	104° 53' 11.055 W	
5,900.0	8.53	150.85	5,845.1	-652.3	363.8	1,297,921.32	3,171,529.92	40° 8' 58.413 N	104° 53' 10.962 W	
6,000.0	8.53	150.85	5,944.0	-665.3	371.1	1,297,908.42	3,171,537.23	40° 8' 58.285 N	104° 53' 10.869 W	
6,100.0	8.53	150.85	6,042.9	-678.2	378.3	1,297,895.52	3,171,544.54	40° 8' 58.157 N	104° 53' 10.776 W	
6,200.0	8.53	150.85	6,141.8	-691.2	385.5	1,297,882.62	3,171,551.86	40° 8' 58.029 N	104° 53' 10.683 W	
6,300.0	8.53	150.85	6,240.7	-704.1	392.7	1,297,869.72	3,171,559.17	40° 8' 57.901 N	104° 53' 10.590 W	
6,400.0	8.53	150.85	6,339.6	-717.1	400.0	1,297,856.82	3,171,566.48	40° 8' 57.774 N	104° 53' 10.497 W	
6,500.0	8.53	150.85	6,438.5	-730.0	407.2	1,297,843.92	3,171,573.79	40° 8' 57.646 N	104° 53' 10.404 W	
6,600.0	8.53	150.85	6,537.4	-743.0	414.4	1,297,831.02	3,171,581.11	40° 8' 57.518 N	104° 53' 10.311 W	
6,700.0	8.53	150.85	6,636.3	-755.9	421.6	1,297,818.12	3,171,588.42	40° 8' 57.390 N	104° 53' 10.218 W	
6,725.2	8.53	150.85	6,661.2	-759.2	423.5	1,297,814.87	3,171,590.26	40° 8' 57.357 N	104° 53' 10.195 W	
6,800.0	7.03	150.85	6,735.3	-768.0	428.4	1,297,806.06	3,171,595.25	40° 8' 57.270 N	104° 53' 10.131 W	
6,900.0	5.03	150.85	6,834.7	-777.2	433.5	1,297,796.92	3,171,600.44	40° 8' 57.179 N	104° 53' 10.065 W	
7,000.0	3.03	150.85	6,934.5	-783.3	436.9	1,297,790.80	3,171,603.90	40° 8' 57.119 N	104° 53' 10.021 W	
7,100.0	1.03	150.85	7,034.4	-786.4	438.7	1,297,787.72	3,171,605.65	40° 8' 57.088 N	104° 53' 9.999 W	
7,151.6	0.00	0.00	7,086.0	-786.8	438.9	1,297,787.32	3,171,605.88	40° 8' 57.084 N	104° 53' 9.996 W	
7,200.0	0.00	0.00	7,134.4	-786.8	438.9	1,297,787.32	3,171,605.88	40° 8' 57.084 N	104° 53' 9.996 W	
7,300.0	0.00	0.00	7,234.4	-786.8	438.9	1,297,787.32	3,171,605.88	40° 8' 57.084 N	104° 53' 9.996 W	
7,400.0	0.00	0.00	7,334.4	-786.8	438.9	1,297,787.32	3,171,605.88	40° 8' 57.084 N	104° 53' 9.996 W	
7,500.0	0.00	0.00	7,434.4	-786.8	438.9	1,297,787.32	3,171,605.88	40° 8' 57.084 N	104° 53' 9.996 W	
7,600.0	0.00	0.00	7,534.4	-786.8	438.9	1,297,787.32	3,171,605.88	40° 8' 57.084 N	104° 53' 9.996 W	
7,700.0	0.00	0.00	7,634.4	-786.8	438.9	1,297,787.32	3,171,605.88	40° 8' 57.084 N	104° 53' 9.996 W	
7,800.0	0.00	0.00	7,734.4	-786.8	438.9	1,297,787.32	3,171,605.88	40° 8' 57.084 N	104° 53' 9.996 W	
7,900.0	0.00	0.00	7,834.4	-786.8	438.9	1,297,787.32	3,171,605.88	40° 8' 57.084 N	104° 53' 9.996 W	
8,000.0	0.00	0.00	7,934.4	-786.8	438.9	1,297,787.32	3,171,605.88	40° 8' 57.084 N	104° 53' 9.996 W	
8,100.0	0.00	0.00	8,034.4	-786.8	438.9	1,297,787.32	3,171,605.88	40° 8' 57.084 N	104° 53' 9.996 W	
8,191.6	0.00	0.00	8,126.0	-786.8	438.9	1,297,787.32	3,171,605.88	40° 8' 57.084 N	104° 53' 9.996 W	

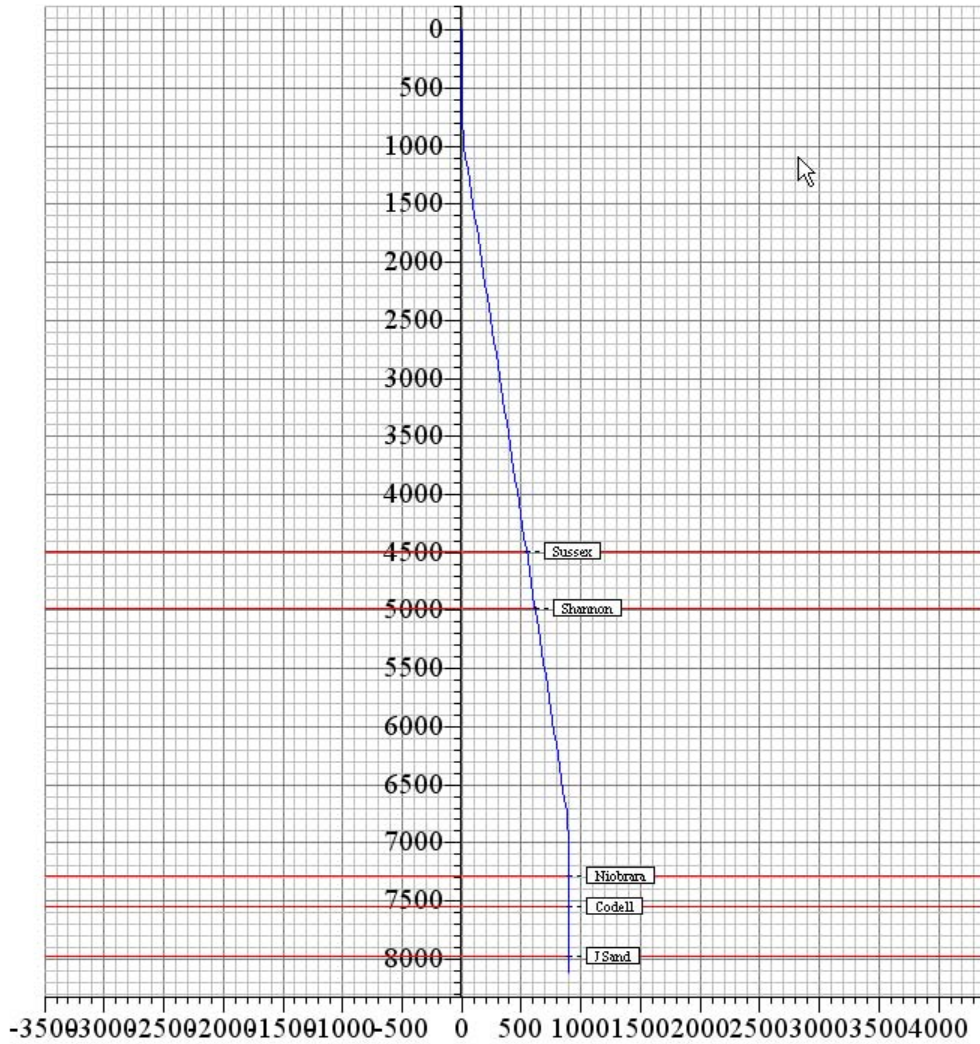
Design Targets										
Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude	
Sprague 8-6-9 BHL - plan hits target - Point	0.00	0.00	8,126.0	-786.8	438.9	1,297,787.32	3,171,605.88	40° 8' 57.084 N	104° 53' 9.996 W	

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
4,525.7	4,486.0	Sussex		0.00		
5,026.2	4,981.0	Shannon		0.00		
7,351.6	7,286.0	Niobrara		0.00		
7,611.6	7,546.0	Codell		0.00		
8,041.6	7,976.0	J Sand		0.00		

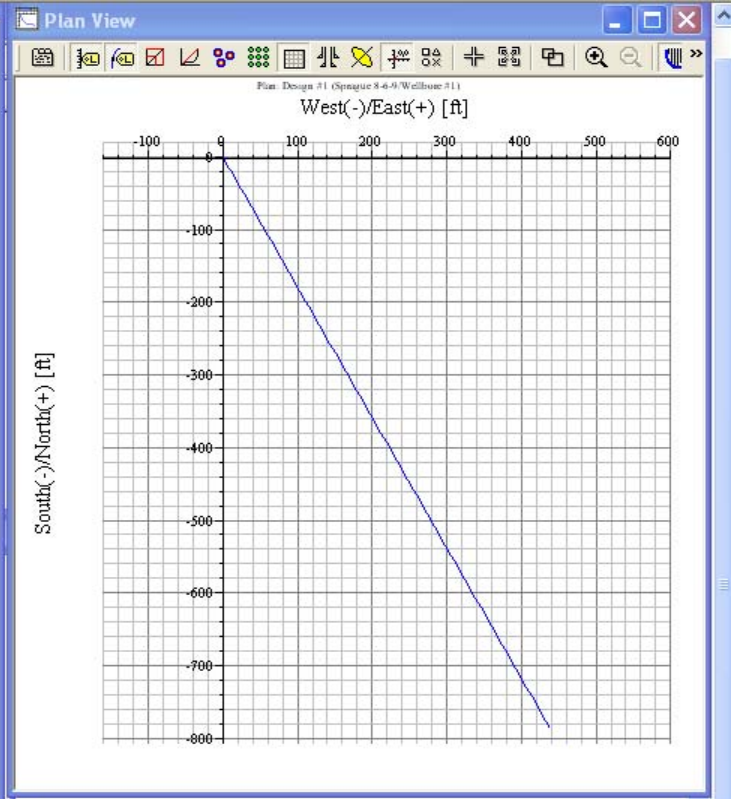
**EnCana Corporation**  
Planning Report - Geographic

<b>Database:</b>	EDM	<b>Local Co-ordinate Reference:</b>	Well Sprague 8-6-9
<b>Company:</b>	DJ/Paradox/WTX	<b>TVD Reference:</b>	WELL @ 4986.0ft (Original Well Elev)
<b>Project:</b>	Wattenberg	<b>MD Reference:</b>	WELL @ 4986.0ft (Original Well Elev)
<b>Site:</b>	New Drills	<b>North Reference:</b>	True
<b>Well:</b>	Sprague 8-6-9	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Design #1		

True Vertical Depth [ft]



Vertical Section at 150.85° [ft]



Design Formation Top Editor - Sprague 8-6-9/Wellbore #1/De...

	MD (ft)	TVD WH (ft)	TVD Sys (ft)	TVD Path (ft)	Name	Lithology
1	4525.7	4486.0	-500.0	4486.0	Sussex	(none)
2	5026.2	4981.0	-5.0	4981.0	Shannon	(none)
3	7351.6	7286.0	2300.0	7286.0	Niobrara	(none)
4	7611.6	7546.0	2560.0	7546.0	Codell	(none)
5	8041.6	7976.0	2990.0	7976.0	J Sand	(none)
6						

Surface location: 2134' FSL, 493' FEL  
 Bottomhole location: 1350' FSL, 50' FEL