

DJ/Paradox/WTX

Wattenberg

New Drills

Bury Crandell 32-23

Wellbore #1

Plan: Design #1

Standard Planning Report

02 September, 2009

EnCana Corporation

Planning Report

Database:	EDM	Local Co-ordinate Reference:	Well Bury Crandell 32-23
Company:	DJ/Paradox/WTX	TVD Reference:	RKB-2 @ 5126.0ft (TBD)
Project:	Wattenberg	MD Reference:	RKB-2 @ 5126.0ft (TBD)
Site:	New Drills	North Reference:	True
Well:	Bury Crandell 32-23	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:	1,263,581.84 ft	Latitude:	40° 3' 21.888 N	
From:	Lat/Long	Easting:	3,123,347.66 ft	Longitude:	105° 3' 33.660 W	
Position Uncertainty:		ft	Slot Radius:	in	Grid Convergence:	0.28 °

Well	Bury Crandell 32-23					
Well Position	+N-S	-5,339.9 ft	Northing:	1,258,401.86 ft	Latitude:	40° 2' 29.256 N
	+E-W	26,469.6 ft	Easting:	3,149,848.94 ft	Longitude:	104° 57' 53.244 W
Position Uncertainty		ft	Wellhead Elevation:	ft	Ground Level:	5,113.0ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	08/31/2009	9.14	66.79	53,125

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	297.91	

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	
1,606.3	14.13	216.67	1,599.2	-69.5	-51.7	2.00	2.00	0.00	216.67	
6,813.4	14.13	216.67	6,648.8	-1,088.9	-810.7	0.00	0.00	0.00	0.00	
7,519.7	0.00	0.00	7,348.0	-1,158.4	-862.4	2.00	-2.00	0.00	180.00	
8,619.7	0.00	0.00	8,448.0	-1,158.4	-862.4	0.00	0.00	0.00	0.00	B Crandell 32-23 PI

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Project:	Wattenberg	MD Reference:	RKB-2 @ 5126.0ft (TBD)
Site:	New Drills	North Reference:	True
Well:	Bury Crandell 32-23	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
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	216.67	1,000.0	-1.4	-1.0	0.3	2.00	2.00	0.00
1,100.0	4.00	216.67	1,099.8	-5.6	-4.2	1.1	2.00	2.00	0.00
1,200.0	6.00	216.67	1,199.5	-12.6	-9.4	2.4	2.00	2.00	0.00
1,300.0	8.00	216.67	1,298.7	-22.4	-16.6	4.2	2.00	2.00	0.00
1,400.0	10.00	216.67	1,397.5	-34.9	-26.0	6.6	2.00	2.00	0.00
1,500.0	12.00	216.67	1,495.6	-50.2	-37.4	9.5	2.00	2.00	0.00
1,606.3	14.13	216.67	1,599.2	-69.5	-51.7	13.2	2.00	2.00	0.00
1,700.0	14.13	216.67	1,690.0	-87.8	-65.4	16.7	0.00	0.00	0.00
1,800.0	14.13	216.67	1,787.0	-107.4	-80.0	20.4	0.00	0.00	0.00
1,900.0	14.13	216.67	1,884.0	-127.0	-94.5	24.1	0.00	0.00	0.00
2,000.0	14.13	216.67	1,981.0	-146.6	-109.1	27.8	0.00	0.00	0.00
2,100.0	14.13	216.67	2,077.9	-166.1	-123.7	31.5	0.00	0.00	0.00
2,200.0	14.13	216.67	2,174.9	-185.7	-138.3	35.3	0.00	0.00	0.00
2,300.0	14.13	216.67	2,271.9	-205.3	-152.8	39.0	0.00	0.00	0.00
2,400.0	14.13	216.67	2,368.9	-224.9	-167.4	42.7	0.00	0.00	0.00
2,500.0	14.13	216.67	2,465.8	-244.4	-182.0	46.4	0.00	0.00	0.00
2,600.0	14.13	216.67	2,562.8	-264.0	-196.6	50.1	0.00	0.00	0.00
2,700.0	14.13	216.67	2,659.8	-283.6	-211.1	53.8	0.00	0.00	0.00
2,800.0	14.13	216.67	2,756.8	-303.2	-225.7	57.6	0.00	0.00	0.00
2,900.0	14.13	216.67	2,853.7	-322.8	-240.3	61.3	0.00	0.00	0.00
3,000.0	14.13	216.67	2,950.7	-342.3	-254.9	65.0	0.00	0.00	0.00
3,100.0	14.13	216.67	3,047.7	-361.9	-269.4	68.7	0.00	0.00	0.00
3,200.0	14.13	216.67	3,144.7	-381.5	-284.0	72.4	0.00	0.00	0.00
3,300.0	14.13	216.67	3,241.6	-401.1	-298.6	76.1	0.00	0.00	0.00
3,400.0	14.13	216.67	3,338.6	-420.6	-313.2	79.9	0.00	0.00	0.00
3,500.0	14.13	216.67	3,435.6	-440.2	-327.7	83.6	0.00	0.00	0.00
3,600.0	14.13	216.67	3,532.6	-459.8	-342.3	87.3	0.00	0.00	0.00
3,700.0	14.13	216.67	3,629.6	-479.4	-356.9	91.0	0.00	0.00	0.00
3,800.0	14.13	216.67	3,726.5	-498.9	-371.5	94.7	0.00	0.00	0.00
3,900.0	14.13	216.67	3,823.5	-518.5	-386.0	98.4	0.00	0.00	0.00
4,000.0	14.13	216.67	3,920.5	-538.1	-400.6	102.2	0.00	0.00	0.00
4,100.0	14.13	216.67	4,017.5	-557.7	-415.2	105.9	0.00	0.00	0.00
4,200.0	14.13	216.67	4,114.4	-577.2	-429.8	109.6	0.00	0.00	0.00
4,300.0	14.13	216.67	4,211.4	-596.8	-444.3	113.3	0.00	0.00	0.00
4,400.0	14.13	216.67	4,308.4	-616.4	-458.9	117.0	0.00	0.00	0.00
4,500.0	14.13	216.67	4,405.4	-636.0	-473.5	120.7	0.00	0.00	0.00
4,600.0	14.13	216.67	4,502.3	-655.6	-488.1	124.5	0.00	0.00	0.00
4,700.0	14.13	216.67	4,599.3	-675.1	-502.6	128.2	0.00	0.00	0.00
4,800.0	14.13	216.67	4,696.3	-694.7	-517.2	131.9	0.00	0.00	0.00
4,827.5	14.13	216.67	4,723.0	-700.1	-521.2	132.9	0.00	0.00	0.00
Sussex									
4,900.0	14.13	216.67	4,793.3	-714.3	-531.8	135.6	0.00	0.00	0.00
5,000.0	14.13	216.67	4,890.2	-733.9	-546.4	139.3	0.00	0.00	0.00

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Site:	New Drills	North Reference:	True
Well:	Bury Crandell 32-23	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)
5,100.0	14.13	216.67	4,987.2	-753.4	-560.9	143.0	0.00	0.00	0.00
5,200.0	14.13	216.67	5,084.2	-773.0	-575.5	146.8	0.00	0.00	0.00
5,300.0	14.13	216.67	5,181.2	-792.6	-590.1	150.5	0.00	0.00	0.00
5,400.0	14.13	216.67	5,278.1	-812.2	-604.7	154.2	0.00	0.00	0.00
5,410.2	14.13	216.67	5,288.0	-814.2	-606.1	154.6	0.00	0.00	0.00
Shannon									
5,500.0	14.13	216.67	5,375.1	-831.7	-619.2	157.9	0.00	0.00	0.00
5,600.0	14.13	216.67	5,472.1	-851.3	-633.8	161.6	0.00	0.00	0.00
5,700.0	14.13	216.67	5,569.1	-870.9	-648.4	165.3	0.00	0.00	0.00
5,800.0	14.13	216.67	5,666.0	-890.5	-663.0	169.1	0.00	0.00	0.00
5,900.0	14.13	216.67	5,763.0	-910.1	-677.5	172.8	0.00	0.00	0.00
6,000.0	14.13	216.67	5,860.0	-929.6	-692.1	176.5	0.00	0.00	0.00
6,100.0	14.13	216.67	5,957.0	-949.2	-706.7	180.2	0.00	0.00	0.00
6,200.0	14.13	216.67	6,053.9	-968.8	-721.3	183.9	0.00	0.00	0.00
6,300.0	14.13	216.67	6,150.9	-988.4	-735.8	187.7	0.00	0.00	0.00
6,400.0	14.13	216.67	6,247.9	-1,007.9	-750.4	191.4	0.00	0.00	0.00
6,500.0	14.13	216.67	6,344.9	-1,027.5	-765.0	195.1	0.00	0.00	0.00
6,600.0	14.13	216.67	6,441.9	-1,047.1	-779.6	198.8	0.00	0.00	0.00
6,700.0	14.13	216.67	6,538.8	-1,066.7	-794.1	202.5	0.00	0.00	0.00
6,800.0	14.13	216.67	6,635.8	-1,086.2	-808.7	206.2	0.00	0.00	0.00
6,813.4	14.13	216.67	6,648.8	-1,088.9	-810.7	206.7	0.00	0.00	0.00
6,900.0	12.39	216.67	6,733.1	-1,104.8	-822.5	209.8	2.00	-2.00	0.00
7,000.0	10.39	216.67	6,831.1	-1,120.6	-834.3	212.8	2.00	-2.00	0.00
7,100.0	8.39	216.67	6,929.8	-1,133.7	-844.1	215.3	2.00	-2.00	0.00
7,200.0	6.39	216.67	7,028.9	-1,144.1	-851.7	217.2	2.00	-2.00	0.00
7,300.0	4.39	216.67	7,128.5	-1,151.6	-857.4	218.6	2.00	-2.00	0.00
7,400.0	2.39	216.67	7,228.3	-1,156.4	-860.9	219.5	2.00	-2.00	0.00
7,500.0	0.39	216.67	7,328.3	-1,158.3	-862.3	219.9	2.00	-2.00	0.00
7,519.7	0.00	0.00	7,348.0	-1,158.4	-862.4	219.9	2.00	-2.00	0.00
7,600.0	0.00	0.00	7,428.3	-1,158.4	-862.4	219.9	0.00	0.00	0.00
7,639.7	0.00	0.00	7,468.0	-1,158.4	-862.4	219.9	0.00	0.00	0.00
Niobrara									
7,700.0	0.00	0.00	7,528.3	-1,158.4	-862.4	219.9	0.00	0.00	0.00
7,800.0	0.00	0.00	7,628.3	-1,158.4	-862.4	219.9	0.00	0.00	0.00
7,900.0	0.00	0.00	7,728.3	-1,158.4	-862.4	219.9	0.00	0.00	0.00
8,000.0	0.00	0.00	7,828.3	-1,158.4	-862.4	219.9	0.00	0.00	0.00
8,029.7	0.00	0.00	7,858.0	-1,158.4	-862.4	219.9	0.00	0.00	0.00
Codell									
8,100.0	0.00	0.00	7,928.3	-1,158.4	-862.4	219.9	0.00	0.00	0.00
8,200.0	0.00	0.00	8,028.3	-1,158.4	-862.4	219.9	0.00	0.00	0.00
8,300.0	0.00	0.00	8,128.3	-1,158.4	-862.4	219.9	0.00	0.00	0.00
8,400.0	0.00	0.00	8,228.3	-1,158.4	-862.4	219.9	0.00	0.00	0.00
8,469.7	0.00	0.00	8,298.0	-1,158.4	-862.4	219.9	0.00	0.00	0.00
J Sand									
8,500.0	0.00	0.00	8,328.3	-1,158.4	-862.4	219.9	0.00	0.00	0.00
8,524.7	0.00	0.00	8,353.0	-1,158.4	-862.4	219.9	0.00	0.00	0.00
A Marker									
8,600.0	0.00	0.00	8,428.3	-1,158.4	-862.4	219.9	0.00	0.00	0.00
8,619.7	0.00	0.00	8,448.0	-1,158.4	-862.4	219.9	0.00	0.00	0.00
4-1/2" Production									

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Planning Report

Database:	EDM	Local Co-ordinate Reference:	Well Bury Crandell 32-23
Company:	DJ/Paradox/WTX	TVD Reference:	RKB-2 @ 5126.0ft (TBD)
Project:	Wattenberg	MD Reference:	RKB-2 @ 5126.0ft (TBD)
Site:	New Drills	North Reference:	True
Well:	Bury Crandell 32-23	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Design Targets

Target Name

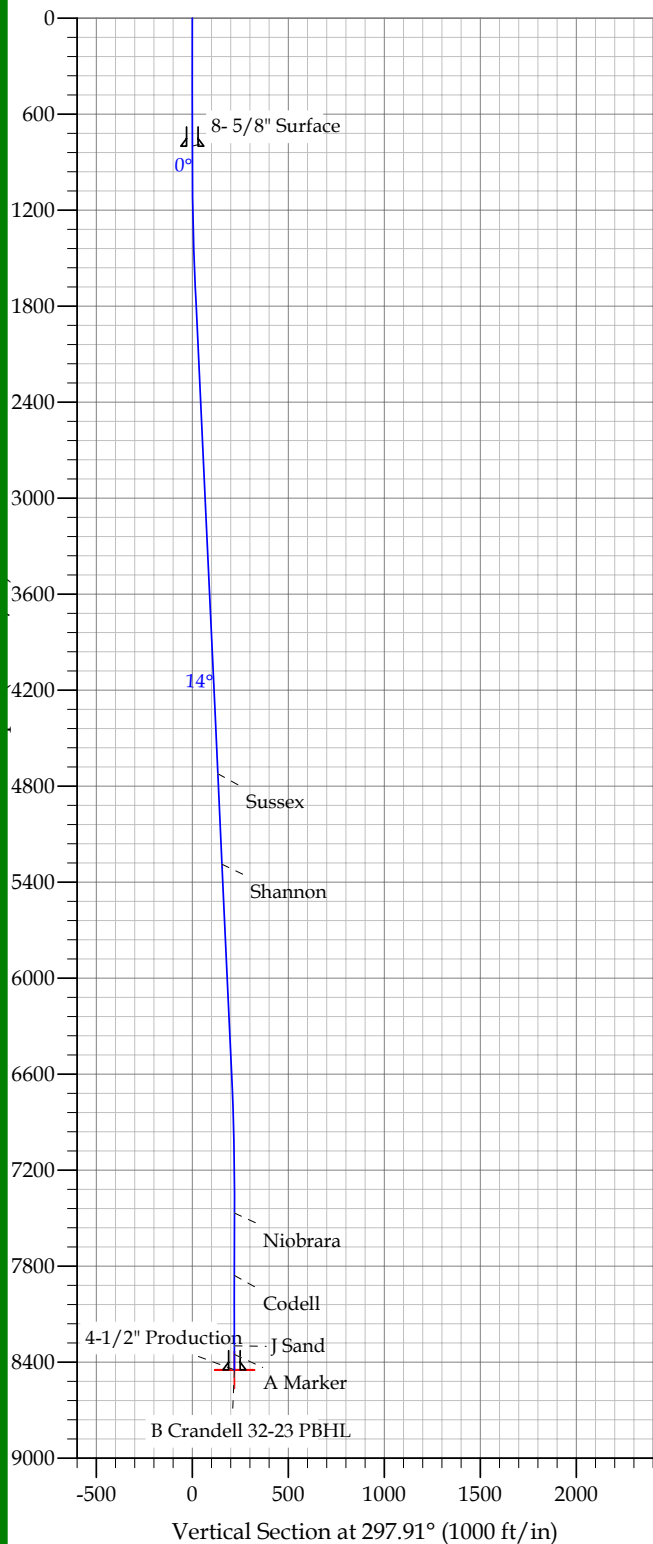
- hit/miss target	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
- Shape									
B Crandell 32-23 PBH	0.00	0.00	8,448.0	-1,158.4	-862.4	1,257,238.31	3,148,993.56	40° 2' 17.808 N	104° 58' 4.332 W
- plan hits target									
- Circle (radius 100.0)									

Casing Points

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)
8,619.7	8,448.0	4-1/2" Production	4.500	7.875
800.0	800.0	8- 5/8" Surface	8.625	12.250

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
4,827.5	4,723.0	Sussex		0.00	
5,410.2	5,288.0	Shannon		0.00	
7,639.7	7,468.0	Niobrara		0.00	
8,029.7	7,858.0	Codell		0.00	
8,469.7	8,298.0	J Sand		0.00	
8,524.7	8,353.0	A Marker		0.00	



REFERENCE INFORMATION

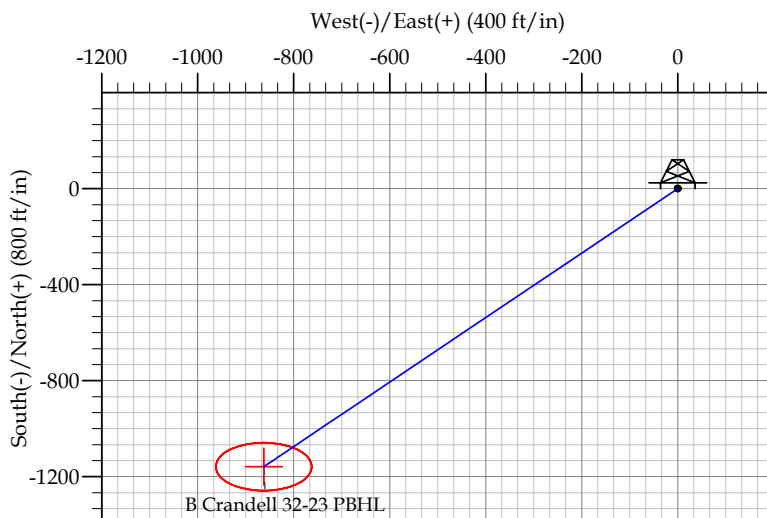
Co-ordinate (N/E) Reference: Well Bury Crandell 32-23, True North
Vertical (TVD) Reference: RKB-2 @ 5126.0ft (TBD)
Section (VS) Reference: Slot - (0.0N, 0.0E)
Measured Depth Reference: RKB-2 @ 5126.0ft (TBD)
Calculation Method:

WELL DETAILS: Bury Crandell 32-23

+N/-S	+E/-W	Northing	Ground Level:	5113.0	Latitude	Longitude	Slot
0.0	0.0	1258401.86	Easting	3149848.94	40° 2' 29.256 N	4° 57' 53.244 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	1606.3	14.13	216.67	1599.2	-69.5	-51.7	2.00	216.67	13.2	
4	6813.4	14.13	216.67	6648.8	-1088.9	-810.7	0.00	0.00	206.7	
5	7519.7	0.00	0.00	7348.0	-1158.4	-862.4	2.00	180.00	219.9	
6	8619.7	0.00	0.00	8448.0	-1158.4	-862.4	0.00	0.00	219.9	B Crandell 32-23 PBHL



FORMATION TOP DETAILS

TVDPath	MDPath	Formation
4723.0	4827.5	Sussex
5288.0	5410.2	Shannon
7468.0	7639.7	Niobrara
7858.0	8029.7	Codell
8298.0	8469.7	J Sand
8353.0	8524.7	A Marker

CASING DETAILS

TVD	MD	Name	Size
800.0	800.0	8- 5/8" Surface	8.625
8448.0	8619.7	4-1/2" Production	4.500