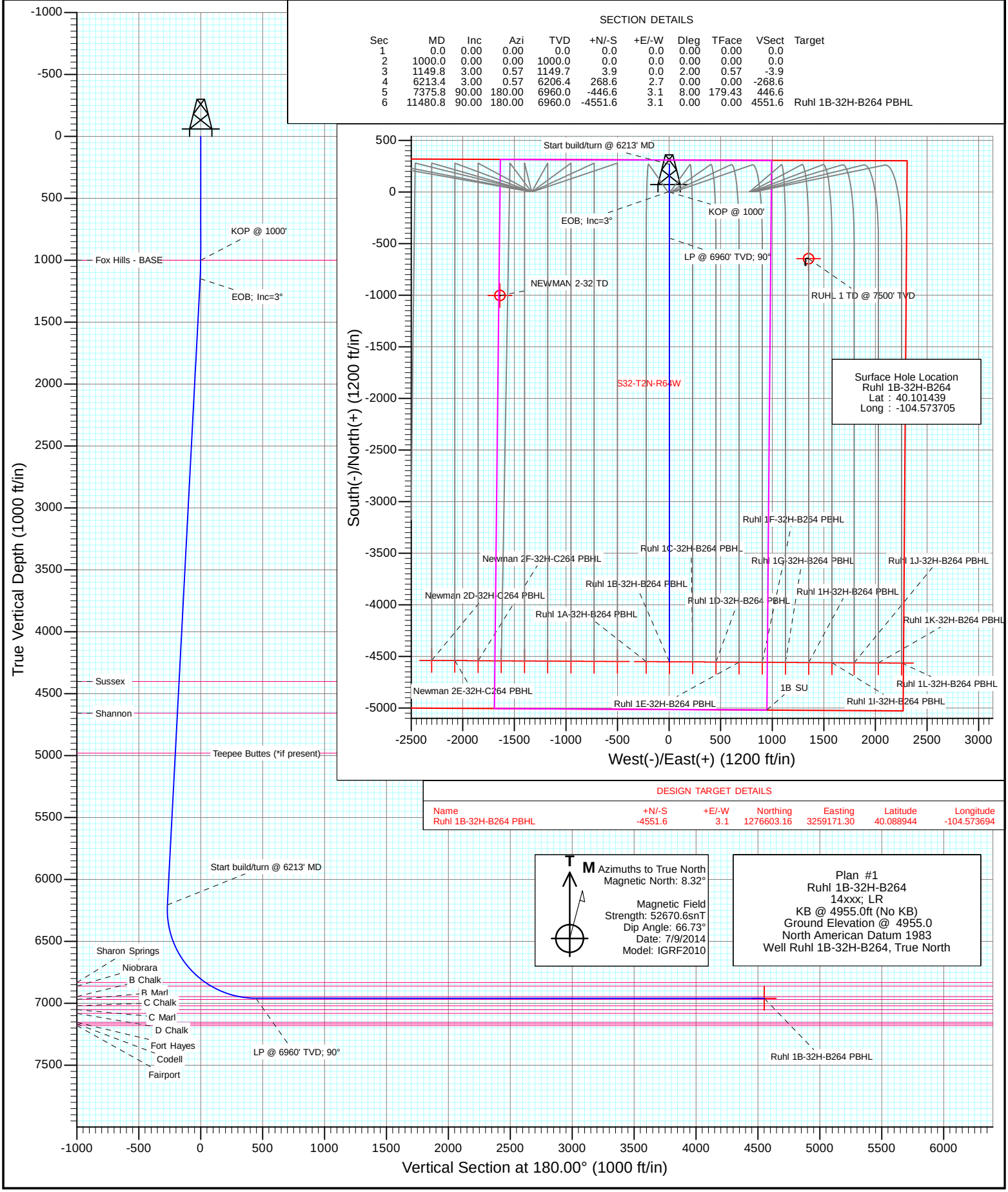
CATHEDRAL

Project: DJ Wattenberg
Site: S32-T2N-R64W (Newman/Ruhl)
Well: Ruhl 1B-32H-B264
Wellbore: Hz
Design: Plan #1

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	1000.0	0.00	0.00	1000.0	0.0	0.0	0.00	0.00	0.0	
3	1149.8	3.00	0.57	1149.7	3.9	0.0	2.00	0.57	-3.9	
4	6213.4	3.00	0.57	6206.4	268.6	2.7	0.00	0.00	-268.6	
5	7375.8	90.00	180.00	6960.0	-446.6	3.1	8.00	179.43	446.6	
6	11480.8	90.00	180.00	6960.0	-4551.6	3.1	0.00	0.00	4551.6	Ruhl 1B-32H-B264 PBHL



DESIGN TARGET DETAILS

Name	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
Ruhl 1B-32H-B264 PBHL	-4551.6	3.1	1276603.16	3259171.30	40.088944	-104.573694

T M Azimuths to True North
Magnetic North: 8.32°

Magnetic Field
Strength: 52670.6snT
Dip Angle: 66.73°
Date: 7/9/2014
Model: IGRF2010

Plan #1
Ruhl 1B-32H-B264
14xxx; LR
KB @ 4955.0ft (No KB)
Ground Elevation @ 4955.0
North American Datum 1983
Well Ruhl 1B-32H-B264, True North

Planning Report

Database:	USA EDM 5000 Multi Users DB	**Local Co-ordinate Reference:**	Well Ruhl 1B-32H-B264
Company:	EnCana Oil & Gas (USA) Inc	**TVD Reference:**	KB @ 4955.0ft (No KB)
Project:	DJ Wattenberg	**MD Reference:**	KB @ 4955.0ft (No KB)
Site:	S32-T2N-R64W (Newman)	**North Reference:**	True
Well:	Ruhl 1B-32H-B264	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Hz		
Design:	Plan #1		

Project DJ Wattenberg

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

Site S32-T2N-R64W (Newman)

Site Position:		**Northing:**	1,281,150.66 ft	**Latitude:**	40.101468
From:	Lat/Long	**Easting:**	3,257,734.55 ft	**Longitude:**	-104.578660
Position Uncertainty:	0.0 ft	**Slot Radius:**	13.200 in	**Grid Convergence:**	0.60 °

Well Ruhl 1B-32H-B264

Well Position	**+N/-S**	0.0 ft	**Northing:**	1,281,154.52 ft	**Latitude:**	40.101439
	+E/-W	0.0 ft	**Easting:**	3,259,120.68 ft	**Longitude:**	-104.573705
Position Uncertainty		0.0 ft	**Wellhead Elevation:**	0.0 ft	**Ground Level:**	4,955.0 ft

Wellbore Hz

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	7/9/2014	8.32	66.73	52,671

Design Plan #1

Audit Notes:

Version:		**Phase:**	PLAN	**Tie On Depth:**	0.0

Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.0	0.0	0.0	180.00

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	
1,149.8	3.00	0.57	1,149.7	3.9	0.0	2.00	2.00	0.00	0.57	
6,213.4	3.00	0.57	6,206.4	268.6	2.7	0.00	0.00	0.00	0.00	
7,375.8	90.00	180.00	6,960.0	-446.6	3.1	8.00	7.48	15.44	179.43	
11,480.8	90.00	180.00	6,960.0	-4,551.6	3.1	0.00	0.00	0.00	0.00	Ruhl 1B-32H-B264 PI

Database:	USA EDM 5000 Multi Users DB	**Local Co-ordinate Reference:**	Well Ruhl 1B-32H-B264
Company:	EnCana Oil & Gas (USA) Inc	**TVD Reference:**	KB @ 4955.0ft (No KB)
Project:	DJ Wattenberg	**MD Reference:**	KB @ 4955.0ft (No KB)
Site:	S32-T2N-R64W (Newman)	**North Reference:**	True
Well:	Ruhl 1B-32H-B264	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Hz		
Design:	Plan #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)	Comments / Formations
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.00	0.00	
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	KOP @ 1000'
1,100.0	2.00	0.57	1,100.0	1.7	0.0	-1.7	2.00	2.00	
1,149.8	3.00	0.57	1,149.7	3.9	0.0	-3.9	2.00	2.00	EOB; Inc=3°
1,200.0	3.00	0.57	1,199.9	6.5	0.1	-6.5	0.00	0.00	
1,300.0	3.00	0.57	1,299.7	11.8	0.1	-11.8	0.00	0.00	
1,400.0	3.00	0.57	1,399.6	17.0	0.2	-17.0	0.00	0.00	
1,500.0	3.00	0.57	1,499.5	22.2	0.2	-22.2	0.00	0.00	
1,600.0	3.00	0.57	1,599.3	27.4	0.3	-27.4	0.00	0.00	
1,700.0	3.00	0.57	1,699.2	32.7	0.3	-32.7	0.00	0.00	
1,800.0	3.00	0.57	1,799.0	37.9	0.4	-37.9	0.00	0.00	
1,900.0	3.00	0.57	1,898.9	43.1	0.4	-43.1	0.00	0.00	
2,000.0	3.00	0.57	1,998.8	48.4	0.5	-48.4	0.00	0.00	
2,100.0	3.00	0.57	2,098.6	53.6	0.5	-53.6	0.00	0.00	
2,200.0	3.00	0.57	2,198.5	58.8	0.6	-58.8	0.00	0.00	
2,300.0	3.00	0.57	2,298.4	64.0	0.6	-64.0	0.00	0.00	
2,400.0	3.00	0.57	2,398.2	69.3	0.7	-69.3	0.00	0.00	
2,500.0	3.00	0.57	2,498.1	74.5	0.7	-74.5	0.00	0.00	
2,600.0	3.00	0.57	2,597.9	79.7	0.8	-79.7	0.00	0.00	
2,700.0	3.00	0.57	2,697.8	84.9	0.8	-84.9	0.00	0.00	
2,800.0	3.00	0.57	2,797.7	90.2	0.9	-90.2	0.00	0.00	
2,900.0	3.00	0.57	2,897.5	95.4	1.0	-95.4	0.00	0.00	
3,000.0	3.00	0.57	2,997.4	100.6	1.0	-100.6	0.00	0.00	
3,100.0	3.00	0.57	3,097.3	105.8	1.1	-105.8	0.00	0.00	
3,200.0	3.00	0.57	3,197.1	111.1	1.1	-111.1	0.00	0.00	
3,300.0	3.00	0.57	3,297.0	116.3	1.2	-116.3	0.00	0.00	
3,400.0	3.00	0.57	3,396.9	121.5	1.2	-121.5	0.00	0.00	
3,500.0	3.00	0.57	3,496.7	126.8	1.3	-126.8	0.00	0.00	
3,600.0	3.00	0.57	3,596.6	132.0	1.3	-132.0	0.00	0.00	
3,700.0	3.00	0.57	3,696.4	137.2	1.4	-137.2	0.00	0.00	
3,800.0	3.00	0.57	3,796.3	142.4	1.4	-142.4	0.00	0.00	
3,900.0	3.00	0.57	3,896.2	147.7	1.5	-147.7	0.00	0.00	
4,000.0	3.00	0.57	3,996.0	152.9	1.5	-152.9	0.00	0.00	
4,100.0	3.00	0.57	4,095.9	158.1	1.6	-158.1	0.00	0.00	
4,200.0	3.00	0.57	4,195.8	163.3	1.6	-163.3	0.00	0.00	
4,300.0	3.00	0.57	4,295.6	168.6	1.7	-168.6	0.00	0.00	
4,400.0	3.00	0.57	4,395.5	173.8	1.7	-173.8	0.00	0.00	
4,500.0	3.00	0.57	4,495.4	179.0	1.8	-179.0	0.00	0.00	
4,600.0	3.00	0.57	4,595.2	184.2	1.8	-184.2	0.00	0.00	
4,700.0	3.00	0.57	4,695.1	189.5	1.9	-189.5	0.00	0.00	
4,800.0	3.00	0.57	4,794.9	194.7	1.9	-194.7	0.00	0.00	
4,900.0	3.00	0.57	4,894.8	199.9	2.0	-199.9	0.00	0.00	
5,000.0	3.00	0.57	4,994.7	205.2	2.0	-205.2	0.00	0.00	

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Project:	DJ Wattenberg	**MD Reference:**	KB @ 4955.0ft (No KB)
Site:	S32-T2N-R64W (Newman)	**North Reference:**	True
Well:	Ruhl 1B-32H-B264	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Hz		
Design:	Plan #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)	Comments / Formations
5,100.0	3.00	0.57	5,094.5	210.4	2.1	-210.4	0.00	0.00	
5,200.0	3.00	0.57	5,194.4	215.6	2.2	-215.6	0.00	0.00	
5,300.0	3.00	0.57	5,294.3	220.8	2.2	-220.8	0.00	0.00	
5,400.0	3.00	0.57	5,394.1	226.1	2.3	-226.1	0.00	0.00	
5,500.0	3.00	0.57	5,494.0	231.3	2.3	-231.3	0.00	0.00	
5,600.0	3.00	0.57	5,593.8	236.5	2.4	-236.5	0.00	0.00	
5,700.0	3.00	0.57	5,693.7	241.7	2.4	-241.7	0.00	0.00	
5,800.0	3.00	0.57	5,793.6	247.0	2.5	-247.0	0.00	0.00	
5,900.0	3.00	0.57	5,893.4	252.2	2.5	-252.2	0.00	0.00	
6,000.0	3.00	0.57	5,993.3	257.4	2.6	-257.4	0.00	0.00	
6,100.0	3.00	0.57	6,093.2	262.7	2.6	-262.7	0.00	0.00	
6,200.0	3.00	0.57	6,193.0	267.9	2.7	-267.9	0.00	0.00	
6,213.4	3.00	0.57	6,206.4	268.6	2.7	-268.6	0.00	0.00	Start build/turn @ 6213' MD
6,300.0	3.94	179.56	6,293.0	267.9	2.7	-267.9	8.00	1.08	
6,400.0	11.94	179.86	6,391.9	254.1	2.8	-254.1	8.00	8.00	
6,500.0	19.94	179.92	6,488.0	226.6	2.8	-226.6	8.00	8.00	
6,600.0	27.94	179.94	6,579.3	186.1	2.9	-186.1	8.00	8.00	
6,700.0	35.94	179.96	6,664.1	133.2	2.9	-133.2	8.00	8.00	
6,800.0	43.94	179.97	6,740.7	69.1	3.0	-69.1	8.00	8.00	
6,900.0	51.94	179.98	6,807.7	-5.1	3.0	5.1	8.00	8.00	
7,000.0	59.94	179.98	6,863.6	-87.8	3.0	87.8	8.00	8.00	
7,100.0	67.94	179.99	6,907.5	-177.6	3.1	177.6	8.00	8.00	
7,200.0	75.94	179.99	6,938.5	-272.6	3.1	272.6	8.00	8.00	
7,300.0	83.94	180.00	6,956.0	-371.0	3.1	371.0	8.00	8.00	
7,375.8	90.00	180.00	6,960.0	-446.6	3.1	446.6	8.00	8.00	LP @ 6960' TVD; 90°
7,400.0	90.00	180.00	6,960.0	-470.8	3.1	470.8	0.00	0.00	
7,500.0	90.00	180.00	6,960.0	-570.8	3.1	570.8	0.00	0.00	
7,600.0	90.00	180.00	6,960.0	-670.8	3.1	670.8	0.00	0.00	
7,700.0	90.00	180.00	6,960.0	-770.8	3.1	770.8	0.00	0.00	
7,800.0	90.00	180.00	6,960.0	-870.8	3.1	870.8	0.00	0.00	
7,900.0	90.00	180.00	6,960.0	-970.8	3.1	970.8	0.00	0.00	
8,000.0	90.00	180.00	6,960.0	-1,070.8	3.1	1,070.8	0.00	0.00	
8,100.0	90.00	180.00	6,960.0	-1,170.8	3.1	1,170.8	0.00	0.00	
8,200.0	90.00	180.00	6,960.0	-1,270.8	3.1	1,270.8	0.00	0.00	
8,300.0	90.00	180.00	6,960.0	-1,370.8	3.1	1,370.8	0.00	0.00	
8,400.0	90.00	180.00	6,960.0	-1,470.8	3.1	1,470.8	0.00	0.00	
8,500.0	90.00	180.00	6,960.0	-1,570.8	3.1	1,570.8	0.00	0.00	
8,600.0	90.00	180.00	6,960.0	-1,670.8	3.1	1,670.8	0.00	0.00	
8,700.0	90.00	180.00	6,960.0	-1,770.8	3.1	1,770.8	0.00	0.00	
8,800.0	90.00	180.00	6,960.0	-1,870.8	3.1	1,870.8	0.00	0.00	
8,900.0	90.00	180.00	6,960.0	-1,970.8	3.1	1,970.8	0.00	0.00	
9,000.0	90.00	180.00	6,960.0	-2,070.8	3.1	2,070.8	0.00	0.00	
9,100.0	90.00	180.00	6,960.0	-2,170.8	3.1	2,170.8	0.00	0.00	
9,200.0	90.00	180.00	6,960.0	-2,270.8	3.1	2,270.8	0.00	0.00	
9,300.0	90.00	180.00	6,960.0	-2,370.8	3.1	2,370.8	0.00	0.00	
9,400.0	90.00	180.00	6,960.0	-2,470.8	3.1	2,470.8	0.00	0.00	
9,500.0	90.00	180.00	6,960.0	-2,570.8	3.1	2,570.8	0.00	0.00	
9,600.0	90.00	180.00	6,960.0	-2,670.8	3.1	2,670.8	0.00	0.00	
9,700.0	90.00	180.00	6,960.0	-2,770.8	3.1	2,770.8	0.00	0.00	
9,800.0	90.00	180.00	6,960.0	-2,870.8	3.1	2,870.8	0.00	0.00	
9,900.0	90.00	180.00	6,960.0	-2,970.8	3.1	2,970.8	0.00	0.00	
10,000.0	90.00	180.00	6,960.0	-3,070.8	3.1	3,070.8	0.00	0.00	

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Project:	DJ Wattenberg	**MD Reference:**	KB @ 4955.0ft (No KB)
Site:	S32-T2N-R64W (Newman)	**North Reference:**	True
Well:	Ruhl 1B-32H-B264	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Hz		
Design:	Plan #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)	Comments / Formations
10,100.0	90.00	180.00	6,960.0	-3,170.8	3.1	3,170.8	0.00	0.00	
10,200.0	90.00	180.00	6,960.0	-3,270.8	3.1	3,270.8	0.00	0.00	
10,300.0	90.00	180.00	6,960.0	-3,370.8	3.1	3,370.8	0.00	0.00	
10,400.0	90.00	180.00	6,960.0	-3,470.8	3.1	3,470.8	0.00	0.00	
10,500.0	90.00	180.00	6,960.0	-3,570.8	3.1	3,570.8	0.00	0.00	
10,600.0	90.00	180.00	6,960.0	-3,670.8	3.1	3,670.8	0.00	0.00	
10,700.0	90.00	180.00	6,960.0	-3,770.8	3.1	3,770.8	0.00	0.00	
10,800.0	90.00	180.00	6,960.0	-3,870.8	3.1	3,870.8	0.00	0.00	
10,900.0	90.00	180.00	6,960.0	-3,970.8	3.1	3,970.8	0.00	0.00	
11,000.0	90.00	180.00	6,960.0	-4,070.8	3.1	4,070.8	0.00	0.00	
11,100.0	90.00	180.00	6,960.0	-4,170.8	3.1	4,170.8	0.00	0.00	
11,200.0	90.00	180.00	6,960.0	-4,270.8	3.1	4,270.8	0.00	0.00	
11,300.0	90.00	180.00	6,960.0	-4,370.8	3.1	4,370.8	0.00	0.00	
11,400.0	90.00	180.00	6,960.0	-4,470.8	3.1	4,470.8	0.00	0.00	
11,480.8	90.00	180.00	6,960.0	-4,551.6	3.1	4,551.6	0.00	0.00	TD at 11480.8

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
Ruhl 1B-32H-B264 PBH - plan hits target center - Point	0.00	0.00	6,960.0	-4,551.6	3.1	1,276,603.16	3,259,171.30	40.088944	-104.573694

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates +N/-S (ft)	Local Coordinates +E/-W (ft)	Comment
1,000.0	1,000.0	0.0	0.0	KOP @ 1000'
1,149.8	1,149.7	3.9	0.0	EOB; Inc=3°
6,213.4	6,206.4	268.6	2.7	Start build/turn @ 6213' MD
7,375.8	6,960.0	-446.6	3.1	LP @ 6960' TVD; 90°
11,480.8	6,960.0	-4,551.6	3.1	TD at 11480.8

EnCana Oil & Gas (USA) Inc

DJ Wattenberg
S32-T2N-R64W (Newman)
Ruhl 1B-32H-B264
Hz
Plan #1

Anticollision Report

09 July, 2014

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Ruhl 1B-32H-B264
Project:	DJ Wattenberg	**TVD Reference:**	KB @ 4955.0ft (No KB)
Reference Site:	S32-T2N-R64W (Newman)	**MD Reference:**	KB @ 4955.0ft (No KB)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Ruhl 1B-32H-B264	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Hz	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Reference	Plan #1

Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	MD Interval 100.0ft	**Error Model:**	Systematic Ellipse
Depth Range:	Unlimited	**Scan Method:**	Closest Approach 3D
Results Limited by:	Maximum center-center distance of 1,000.0ft	**Error Surface:**	Elliptical Conic
Warning Levels Evaluated at:	2.00 **Sigma**		

Survey Tool Program **Date** 7/9/2014

From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.0	11,479.9	Plan #1 (Hz)	Geolink MWD	Geolink MWD

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Ruhl 1B-32H-B264
Project:	DJ Wattenberg	**TVD Reference:**	KB @ 4955.0ft (No KB)
Reference Site:	S32-T2N-R64W (Newman)	**MD Reference:**	KB @ 4955.0ft (No KB)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Ruhl 1B-32H-B264	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Hz	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Summary

Site Name Offset Well - Wellbore - Design	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
S32-T2N-R64W (Newman)						
LAND USX Y31-01 (EXISTING) - EXISTING - NOBLE W						Out of range
NEWMAN 2-32 (EXISTING) - EXISTING - ENCANA WE						Out of range
Newman 2A-32H-C264 - HZ - Plan #1						Out of range
Newman 2B-32H-C264 - HZ - Plan #1						Out of range
Newman 2C-32H-C264 - HZ - Plan #1						Out of range
Newman 2D-32H-C264 - HZ - Plan #1						Out of range
Newman 2E-32H-C264 - HZ - Plan #1						Out of range
Newman 2F-32H-C264 - HZ - Plan #1						Out of range
Newman 2G-32H-C264 - HZ - Plan #1						Out of range
Newman 2H-32H-C264 - HZ - Plan #1						Out of range
Newman 2I-32H-C264 - HZ - Plan #1						Out of range
Newman 2J-32H-C264 - HZ - Plan #1	6,207.8	6,250.4	954.0	930.4	40.294	CC
Newman 2J-32H-C264 - HZ - Plan #1	11,480.8	11,646.6	956.4	791.8	5.813	ES, SF
Newman 2K-32H-C264 - HZ - Plan #1	6,218.6	6,281.2	729.1	705.3	30.672	CC
Newman 2K-32H-C264 - HZ - Plan #1	11,480.8	11,576.8	730.5	565.9	4.438	ES, SF
Newman 2L-32H-C264 - HZ - Plan #1	6,227.8	6,320.6	504.2	480.3	21.095	CC
Newman 2L-32H-C264 - HZ - Plan #1	11,480.8	11,829.1	538.3	383.1	3.468	ES, SF
RUHL 1 (EXISTING) - EXISTING - ENCANA WELL						Out of range
Ruhl 1A-32H-B264 - Hz - Plan #1	200.0	200.0	10.1	9.4	14.425	CC, ES
Ruhl 1A-32H-B264 - Hz - Plan #1	11,480.8	11,568.2	240.5	85.9	1.556	SF
Ruhl 1C-32H-B264 - Hz - Plan #1	300.0	300.0	10.1	9.0	9.617	CC, ES
Ruhl 1C-32H-B264 - Hz - Plan #1	11,480.8	11,695.1	310.0	187.8	2.537	SF
Ruhl 1D-32H-B264 - Hz - Plan #1	333.5	333.5	20.1	19.0	17.303	CC
Ruhl 1D-32H-B264 - Hz - Plan #1	400.0	399.9	20.3	18.9	14.556	ES
Ruhl 1D-32H-B264 - Hz - Plan #1	11,480.8	11,576.7	458.1	296.2	2.829	SF
Ruhl 1E-32H-B264 - Hz - Plan #1	533.4	533.4	29.9	28.1	16.078	CC
Ruhl 1E-32H-B264 - Hz - Plan #1	600.0	599.8	30.1	28.0	14.389	ES
Ruhl 1E-32H-B264 - Hz - Plan #1	11,480.8	11,510.5	675.1	510.5	4.100	SF
Ruhl 1F-32H-B264 - Hz - Plan #1	500.0	500.0	40.0	38.3	22.921	CC, ES
Ruhl 1F-32H-B264 - Hz - Plan #1	11,480.8	11,745.8	924.9	764.4	5.763	SF
Ruhl 1G-32H-B264 - Hz - Plan #1	433.3	433.3	782.2	780.6	517.082	CC
Ruhl 1G-32H-B264 - Hz - Plan #1	500.0	495.3	782.3	780.6	450.348	ES
Ruhl 1G-32H-B264 - Hz - Plan #1	4,700.0	4,651.2	997.5	979.9	56.663	SF
Ruhl 1H-32H-B264 - Hz - Plan #1	400.0	400.0	792.2	790.8	567.388	CC, ES
Ruhl 1H-32H-B264 - Hz - Plan #1	3,000.0	2,919.4	993.6	982.7	90.751	SF
Ruhl 1I-32H-B264 - Hz - Plan #1	333.3	333.3	802.3	801.1	689.519	CC
Ruhl 1I-32H-B264 - Hz - Plan #1	400.0	394.2	802.5	801.1	578.921	ES
Ruhl 1I-32H-B264 - Hz - Plan #1	2,400.0	2,290.9	996.5	987.9	116.471	SF
Ruhl 1J-32H-B264 - Hz - Plan #1	300.0	300.0	812.4	811.3	775.751	CC, ES
Ruhl 1J-32H-B264 - Hz - Plan #1	2,000.0	1,857.6	992.6	985.7	142.660	SF
Ruhl 1K-32H-B264 - Hz - Plan #1	233.3	233.3	822.2	821.3	1,009.414	CC
Ruhl 1K-32H-B264 - Hz - Plan #1	300.0	293.9	822.3	821.3	793.373	ES
Ruhl 1K-32H-B264 - Hz - Plan #1	1,800.0	1,619.2	994.4	988.3	162.556	SF
Ruhl 1L-32H-B264 - Hz - Plan #1	200.0	200.0	832.2	831.5	1,192.073	CC, ES
Ruhl 1L-32H-B264 - Hz - Plan #1	1,700.0	1,491.6	998.1	992.4	175.707	SF

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Ruhl 1B-32H-B264
Project:	DJ Wattenberg	**TVD Reference:**	KB @ 4955.0ft (No KB)
Reference Site:	S32-T2N-R64W (Newman)	**MD Reference:**	KB @ 4955.0ft (No KB)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Ruhl 1B-32H-B264	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Hz	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design S32-T2N-R64W (Newman) - Newman 2J-32H-C264 - HZ - Plan #1

Offset Site Error: 0.0 ft

Survey Program: 0-Geolink MWD

Offset Well Error: 0.0 ft

Reference		Offset		Semi Major Axis			Offset Wellbore Centre		Distance				
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	+N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
5,100.0	5,094.5	5,210.9	5,193.3	9.6	11.5	-88.45	250.8	-990.8	996.1	976.4	19.72	50.506	
5,200.0	5,194.4	5,310.7	5,292.6	9.8	11.8	-88.44	256.0	-983.7	989.0	968.9	20.12	49.163	
5,300.0	5,294.3	5,410.4	5,392.0	10.0	12.0	-88.42	261.2	-976.6	982.0	961.5	20.51	47.872	
5,400.0	5,394.1	5,510.2	5,491.4	10.2	12.2	-88.40	266.4	-969.5	974.9	954.0	20.91	46.629	
5,500.0	5,494.0	5,600.0	5,580.9	10.4	12.4	-88.41	270.7	-963.7	968.4	947.2	21.28	45.518	
5,600.0	5,593.8	5,686.9	5,667.6	10.6	12.6	-88.47	274.1	-959.1	963.2	941.5	21.63	44.531	
5,700.0	5,693.7	5,775.2	5,755.8	10.8	12.8	-88.58	276.7	-955.5	959.1	937.1	21.98	43.643	
5,800.0	5,793.6	5,863.5	5,844.0	11.0	12.9	-88.74	278.6	-953.0	956.2	933.9	22.31	42.853	
5,900.0	5,893.4	5,951.8	5,932.3	11.2	13.0	-88.96	279.6	-951.6	954.6	931.9	22.64	42.156	
6,000.0	5,993.3	6,042.8	6,023.3	11.4	13.2	-89.23	279.8	-951.3	954.1	931.2	22.97	41.534	
6,100.0	6,093.2	6,142.7	6,123.2	11.6	13.3	-89.54	279.8	-951.3	954.1	930.8	23.31	40.925	
6,200.0	6,193.0	6,242.5	6,223.0	11.8	13.5	-89.85	279.8	-951.3	954.0	930.4	23.65	40.333	
6,207.8	6,200.9	6,250.4	6,230.9	11.8	13.5	-90.00	279.8	-951.3	954.0	930.4	23.68	40.294	CC
6,300.0	6,293.0	6,342.4	6,323.0	11.9	13.6	91.15	279.8	-951.3	954.1	930.1	23.96	39.826	
6,400.0	6,391.9	6,441.4	6,421.9	12.0	13.7	91.65	279.8	-951.3	954.4	930.2	24.20	39.442	
6,500.0	6,488.0	6,541.9	6,522.3	12.0	13.9	93.05	277.8	-951.3	955.5	931.1	24.37	39.210	
6,600.0	6,579.3	6,651.2	6,629.7	11.9	13.9	94.44	258.3	-951.3	957.1	932.7	24.37	39.268	
6,700.0	6,664.1	6,766.5	6,736.8	11.9	13.8	95.55	216.0	-951.3	958.7	934.5	24.26	39.527	
6,800.0	6,740.7	6,886.7	6,837.1	11.9	13.8	96.27	150.2	-951.3	960.0	935.8	24.15	39.752	
6,900.0	6,807.7	7,009.6	6,923.1	12.0	13.8	96.53	62.7	-951.3	960.5	936.3	24.25	39.613	
7,000.0	6,863.6	7,132.8	6,988.7	12.4	14.0	96.32	-41.3	-951.3	960.2	935.4	24.76	38.772	
7,100.0	6,907.5	7,253.5	7,030.0	12.9	14.5	95.65	-154.5	-951.3	959.1	933.3	25.81	37.164	
7,200.0	6,938.5	7,369.7	7,046.5	13.6	15.3	94.58	-269.3	-951.3	957.6	930.2	27.38	34.979	
7,300.0	6,956.0	7,471.3	7,047.0	14.5	16.1	93.64	-370.9	-951.3	956.3	927.1	29.25	32.701	
7,399.1	6,961.3	7,570.2	7,047.0	15.5	17.1	93.34	-469.8	-951.3	956.0	924.7	31.35	30.500	
7,400.0	6,960.0	7,571.2	7,047.0	15.5	17.1	93.42	-470.8	-951.3	956.1	924.7	31.36	30.484	
7,500.0	6,960.0	7,671.2	7,047.0	16.7	18.2	93.42	-570.8	-951.3	956.1	922.4	33.70	28.374	
7,600.0	6,960.0	7,771.2	7,047.0	18.0	19.4	93.42	-670.8	-951.3	956.1	919.9	36.22	26.399	
7,700.0	6,960.0	7,871.2	7,047.0	19.3	20.6	93.42	-770.8	-951.3	956.1	917.2	38.89	24.585	
7,800.0	6,960.0	7,971.2	7,047.0	20.7	22.0	93.42	-870.8	-951.4	956.1	914.4	41.69	22.936	
7,900.0	6,960.0	8,071.2	7,047.0	22.2	23.4	93.42	-970.8	-951.4	956.1	911.6	44.58	21.446	
8,000.0	6,960.0	8,171.2	7,047.0	23.7	24.8	93.42	-1,070.8	-951.4	956.1	908.6	47.56	20.103	
8,100.0	6,960.0	8,271.2	7,047.0	25.2	26.3	93.42	-1,170.8	-951.4	956.1	905.5	50.61	18.893	
8,200.0	6,960.0	8,371.2	7,047.0	26.7	27.8	93.42	-1,270.8	-951.4	956.2	902.4	53.71	17.803	
8,300.0	6,960.0	8,471.2	7,047.0	28.3	29.3	93.42	-1,370.8	-951.4	956.2	899.3	56.86	16.817	
8,400.0	6,960.0	8,571.2	7,047.0	29.9	30.9	93.42	-1,470.8	-951.4	956.2	896.1	60.04	15.925	
8,500.0	6,960.0	8,671.2	7,047.0	31.5	32.5	93.42	-1,570.8	-951.4	956.2	892.9	63.26	15.114	
8,600.0	6,960.0	8,771.2	7,047.0	33.2	34.1	93.42	-1,670.8	-951.4	956.2	889.7	66.51	14.376	
8,700.0	6,960.0	8,871.2	7,047.0	34.8	35.7	93.42	-1,770.8	-951.4	956.2	886.4	69.78	13.702	
8,800.0	6,960.0	8,971.2	7,047.0	36.5	37.3	93.42	-1,870.8	-951.4	956.2	883.1	73.08	13.084	
8,900.0	6,960.0	9,071.2	7,047.0	38.1	38.9	93.42	-1,970.8	-951.4	956.2	879.8	76.39	12.517	
9,000.0	6,960.0	9,171.2	7,047.0	39.8	40.6	93.42	-2,070.8	-951.4	956.2	876.5	79.72	11.994	
9,100.0	6,960.0	9,271.2	7,047.0	41.5	42.2	93.42	-2,170.8	-951.4	956.2	873.1	83.06	11.512	
9,200.0	6,960.0	9,371.2	7,047.0	43.1	43.9	93.42	-2,270.8	-951.4	956.2	869.8	86.42	11.065	
9,300.0	6,960.0	9,471.2	7,047.0	44.8	45.6	93.42	-2,370.8	-951.4	956.2	866.4	89.79	10.650	
9,400.0	6,960.0	9,571.2	7,047.0	46.5	47.2	93.42	-2,470.8	-951.4	956.2	863.1	93.16	10.264	
9,500.0	6,960.0	9,671.2	7,047.0	48.2	48.9	93.42	-2,570.8	-951.4	956.2	859.7	96.55	9.904	
9,600.0	6,960.0	9,771.2	7,047.0	49.9	50.6	93.42	-2,670.8	-951.5	956.2	856.3	99.94	9.568	
9,700.0	6,960.0	9,871.2	7,047.0	51.6	52.3	93.42	-2,770.8	-951.5	956.2	852.9	103.35	9.253	
9,800.0	6,960.0	9,971.2	7,047.0	53.3	54.0	93.42	-2,870.8	-951.5	956.2	849.5	106.75	8.958	
9,900.0	6,960.0	10,071.2	7,047.0	55.0	55.7	93.42	-2,970.8	-951.5	956.3	846.1	110.17	8.680	

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Ruhl 1B-32H-B264
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Reference Site:	S32-T2N-R64W (Newman)	**MD Reference:**	KB @ 4955.0ft (No KB)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Ruhl 1B-32H-B264	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Hz	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design S32-T2N-R64W (Newman) - Newman 2J-32H-C264 - HZ - Plan #1

Offset Site Error: 0.0 ft

Survey Program: 0-Geolink MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
10,000.0	6,960.0	10,171.2	7,047.0	56.8	57.4	93.42	-3,070.8	-951.5	956.3	842.7	113.59	8.419	
10,100.0	6,960.0	10,271.2	7,047.0	58.5	59.1	93.42	-3,170.8	-951.5	956.3	839.3	117.01	8.173	
10,200.0	6,960.0	10,371.2	7,047.0	60.2	60.8	93.42	-3,270.8	-951.5	956.3	835.8	120.44	7.940	
10,300.0	6,960.0	10,471.2	7,047.0	61.9	62.5	93.42	-3,370.8	-951.5	956.3	832.4	123.87	7.720	
10,400.0	6,960.0	10,571.2	7,047.0	63.6	64.2	93.42	-3,470.8	-951.5	956.3	829.0	127.31	7.512	
10,500.0	6,960.0	10,671.2	7,047.0	65.4	65.9	93.42	-3,570.8	-951.5	956.3	825.5	130.75	7.314	
10,600.0	6,960.0	10,771.2	7,047.0	67.1	67.6	93.42	-3,670.8	-951.5	956.3	822.1	134.19	7.126	
10,700.0	6,960.0	10,871.2	7,047.0	68.8	69.4	93.42	-3,770.8	-951.5	956.3	818.7	137.63	6.948	
10,800.0	6,960.0	10,971.2	7,047.0	70.5	71.1	93.42	-3,870.8	-951.5	956.3	815.2	141.08	6.778	
10,900.0	6,960.0	11,071.2	7,047.0	72.3	72.8	93.42	-3,970.8	-951.5	956.3	811.8	144.53	6.616	
11,000.0	6,960.0	11,171.2	7,047.0	74.0	74.5	93.42	-4,070.8	-951.5	956.3	808.3	147.99	6.462	
11,100.0	6,960.0	11,271.2	7,047.0	75.7	76.2	93.42	-4,170.8	-951.5	956.3	804.9	151.44	6.315	
11,200.0	6,960.0	11,371.2	7,047.0	77.5	78.0	93.42	-4,270.8	-951.5	956.3	801.4	154.90	6.174	
11,300.0	6,960.0	11,471.2	7,047.0	79.2	79.7	93.42	-4,370.8	-951.6	956.3	798.0	158.36	6.039	
11,400.0	6,960.0	11,571.2	7,047.0	80.9	81.4	93.42	-4,470.8	-951.6	956.3	794.5	161.82	5.910	
11,445.9	6,960.0	11,617.1	7,047.0	81.7	82.2	93.42	-4,516.7	-951.6	956.3	792.9	163.41	5.852	
11,480.8	6,960.0	11,646.6	7,047.0	82.3	82.7	93.42	-4,546.2	-951.6	956.4	791.8	164.53	5.813	ES, SF

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Ruhl 1B-32H-B264
Project:	DJ Wattenberg	**TVD Reference:**	KB @ 4955.0ft (No KB)
Reference Site:	S32-T2N-R64W (Newman)	**MD Reference:**	KB @ 4955.0ft (No KB)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Ruhl 1B-32H-B264	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Hz	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design S32-T2N-R64W (Newman) - Newman 2K-32H-C264 - HZ - Plan #1

Offset Site Error: 0.0 ft

Survey Program: 0-Geolink MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
3,300.0	3,297.0	3,463.1	3,440.8	6.1	8.8	-88.34	160.7	-984.4	993.1	980.4	12.77	77.743	
3,400.0	3,396.9	3,562.4	3,539.3	6.3	9.1	-88.31	166.0	-972.8	981.5	968.3	13.17	74.517	
3,500.0	3,496.7	3,661.7	3,637.8	6.5	9.4	-88.27	171.4	-961.2	969.9	956.3	13.57	71.478	
3,600.0	3,596.6	3,761.0	3,736.3	6.7	9.6	-88.23	176.7	-949.6	958.3	944.3	13.97	68.611	
3,700.0	3,696.4	3,860.3	3,834.8	6.9	9.9	-88.18	182.1	-938.0	946.6	932.3	14.36	65.901	
3,800.0	3,796.3	3,959.7	3,933.3	7.1	10.2	-88.14	187.5	-926.3	935.0	920.2	14.76	63.335	
3,900.0	3,896.2	4,059.0	4,031.8	7.3	10.5	-88.10	192.8	-914.7	923.4	908.2	15.16	60.904	
4,000.0	3,996.0	4,158.3	4,130.3	7.5	10.8	-88.05	198.2	-903.1	911.8	896.2	15.56	58.595	
4,100.0	4,095.9	4,257.6	4,228.7	7.7	11.1	-88.01	203.6	-891.5	900.1	884.2	15.96	56.402	
4,200.0	4,195.8	4,356.9	4,327.2	7.9	11.3	-87.96	208.9	-879.9	888.5	872.2	16.36	54.314	
4,300.0	4,295.6	4,456.2	4,425.7	8.1	11.6	-87.91	214.3	-868.3	876.9	860.1	16.76	52.325	
4,400.0	4,395.5	4,555.6	4,524.2	8.3	11.9	-87.86	219.6	-856.7	865.3	848.1	17.16	50.427	
4,500.0	4,495.4	4,654.9	4,622.7	8.5	12.2	-87.81	225.0	-845.0	853.6	836.1	17.56	48.615	
4,600.0	4,595.2	4,754.2	4,721.2	8.7	12.5	-87.76	230.4	-833.4	842.0	824.1	17.96	46.883	
4,700.0	4,695.1	4,853.5	4,819.7	8.9	12.8	-87.71	235.7	-821.8	830.4	812.0	18.36	45.226	
4,800.0	4,794.9	4,952.8	4,918.2	9.1	13.0	-87.65	241.1	-810.2	818.8	800.0	18.76	43.639	
4,900.0	4,894.8	5,052.2	5,016.7	9.3	13.3	-87.59	246.5	-798.6	807.2	788.0	19.16	42.118	
5,000.0	4,994.7	5,151.5	5,115.2	9.4	13.6	-87.53	251.8	-787.0	795.6	776.0	19.57	40.659	
5,100.0	5,094.5	5,250.8	5,213.7	9.6	13.9	-87.47	257.2	-775.3	783.9	764.0	19.97	39.257	
5,200.0	5,194.4	5,344.7	5,306.9	9.8	14.1	-87.42	262.2	-764.5	772.5	752.1	20.36	37.947	
5,300.0	5,294.3	5,433.7	5,395.2	10.0	14.4	-87.41	266.4	-755.4	762.3	741.5	20.73	36.777	
5,400.0	5,394.1	5,522.9	5,484.0	10.2	14.6	-87.46	270.1	-747.5	753.4	732.3	21.09	35.727	
5,500.0	5,494.0	5,612.3	5,573.1	10.4	14.8	-87.55	273.1	-740.8	745.9	724.4	21.44	34.790	
5,600.0	5,593.8	5,700.0	5,660.6	10.6	14.9	-87.69	275.6	-735.4	739.8	718.0	21.78	33.966	
5,700.0	5,693.7	5,791.4	5,751.9	10.8	15.1	-87.90	277.6	-731.2	735.0	712.9	22.12	33.236	
5,800.0	5,793.6	5,881.1	5,841.6	11.0	15.2	-88.15	278.9	-728.3	731.7	709.2	22.44	32.607	
5,900.0	5,893.4	5,970.8	5,931.2	11.2	15.3	-88.45	279.6	-726.7	729.8	707.0	22.76	32.069	
6,000.0	5,993.3	6,062.9	6,023.3	11.4	15.5	-88.81	279.8	-726.3	729.2	706.2	23.07	31.609	
6,100.0	6,093.2	6,162.8	6,123.2	11.6	15.6	-89.23	279.8	-726.3	729.1	705.7	23.39	31.168	
6,200.0	6,193.0	6,262.6	6,223.0	11.8	15.7	-89.64	279.8	-726.3	729.1	705.4	23.72	30.739	
6,218.6	6,211.6	6,281.2	6,241.6	11.8	15.7	-90.13	279.8	-726.3	729.1	705.3	23.77	30.672	CC
6,300.0	6,293.0	6,362.6	6,323.0	11.9	15.8	91.37	279.8	-726.3	729.1	705.1	24.02	30.354	
6,400.0	6,391.9	6,463.3	6,423.6	12.0	15.9	92.03	278.4	-726.3	729.5	705.2	24.28	30.049	
6,500.0	6,488.0	6,568.2	6,527.0	12.0	15.9	92.89	261.4	-726.3	730.0	705.7	24.34	29.997	
6,600.0	6,579.3	6,675.4	6,627.7	11.9	15.9	93.42	225.0	-726.3	730.5	706.2	24.23	30.149	
6,700.0	6,664.1	6,783.7	6,720.7	11.9	15.8	93.58	169.7	-726.3	730.6	706.6	24.06	30.362	
6,800.0	6,740.7	6,892.0	6,801.7	11.9	15.8	93.34	98.1	-726.3	730.5	706.5	24.01	30.431	
6,900.0	6,807.7	6,999.0	6,867.0	12.0	15.9	92.73	13.6	-726.3	730.2	705.9	24.22	30.144	
7,000.0	6,863.6	7,103.6	6,914.6	12.4	16.2	91.77	-79.4	-726.3	729.7	704.9	24.85	29.370	
7,100.0	6,907.5	7,204.9	6,943.9	12.9	16.6	90.51	-176.2	-726.3	729.4	703.5	25.91	28.153	
7,130.7	6,918.5	7,235.2	6,949.3	13.1	16.7	90.07	-206.1	-726.3	729.4	703.1	26.34	27.690	
7,200.0	6,938.5	7,302.5	6,955.6	13.6	17.2	89.01	-273.0	-726.3	729.5	702.2	27.36	26.666	
7,300.0	6,956.0	7,400.4	6,956.0	14.5	17.9	87.66	-370.9	-726.4	730.0	700.9	29.13	25.059	
7,400.0	6,960.0	7,500.3	6,956.0	15.5	18.8	87.33	-470.8	-726.4	730.2	699.0	31.21	23.396	
7,500.0	6,960.0	7,600.3	6,956.0	16.7	19.8	87.33	-570.8	-726.4	730.2	696.7	33.56	21.762	
7,600.0	6,960.0	7,700.3	6,956.0	18.0	20.9	87.33	-670.8	-726.4	730.2	694.2	36.09	20.234	
7,700.0	6,960.0	7,800.3	6,956.0	19.3	22.0	87.33	-770.8	-726.4	730.2	691.5	38.77	18.834	
7,800.0	6,960.0	7,900.3	6,956.0	20.7	23.3	87.33	-870.8	-726.4	730.3	688.7	41.58	17.562	
7,900.0	6,960.0	8,000.3	6,956.0	22.2	24.6	87.33	-970.8	-726.4	730.3	685.8	44.49	16.415	
8,000.0	6,960.0	8,100.3	6,956.0	23.7	26.0	87.33	-1,070.8	-726.4	730.3	682.8	47.47	15.383	
8,100.0	6,960.0	8,200.3	6,956.0	25.2	27.4	87.33	-1,170.8	-726.4	730.3	679.7	50.53	14.453	
8,200.0	6,960.0	8,300.3	6,956.0	26.7	28.8	87.33	-1,270.8	-726.4	730.3	676.6	53.63	13.616	

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Ruhl 1B-32H-B264
Project:	DJ Wattenberg	**TVD Reference:**	KB @ 4955.0ft (No KB)
Reference Site:	S32-T2N-R64W (Newman)	**MD Reference:**	KB @ 4955.0ft (No KB)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Ruhl 1B-32H-B264	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Hz	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design S32-T2N-R64W (Newman) - Newman 2K-32H-C264 - HZ - Plan #1

Offset Site Error: 0.0 ft

Survey Program: 0-Geolink MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
8,300.0	6,960.0	8,400.3	6,956.0	28.3	30.3	87.33	-1,370.8	-726.4	730.3	673.5	56.79	12.860	
8,400.0	6,960.0	8,500.3	6,956.0	29.9	31.8	87.33	-1,470.8	-726.4	730.3	670.3	59.98	12.175	
8,500.0	6,960.0	8,600.3	6,956.0	31.5	33.4	87.33	-1,570.8	-726.4	730.3	667.1	63.21	11.554	
8,600.0	6,960.0	8,700.3	6,956.0	33.2	34.9	87.33	-1,670.8	-726.4	730.3	663.8	66.46	10.988	
8,700.0	6,960.0	8,800.3	6,956.0	34.8	36.5	87.33	-1,770.8	-726.4	730.3	660.6	69.74	10.472	
8,800.0	6,960.0	8,900.3	6,956.0	36.5	38.1	87.33	-1,870.8	-726.4	730.3	657.3	73.04	9.999	
8,900.0	6,960.0	9,000.3	6,956.0	38.1	39.7	87.33	-1,970.8	-726.5	730.3	654.0	76.36	9.564	
9,000.0	6,960.0	9,100.3	6,956.0	39.8	41.3	87.33	-2,070.8	-726.5	730.3	650.6	79.69	9.164	
9,100.0	6,960.0	9,200.3	6,956.0	41.5	42.9	87.33	-2,170.8	-726.5	730.3	647.3	83.04	8.795	
9,200.0	6,960.0	9,300.3	6,956.0	43.1	44.5	87.33	-2,270.8	-726.5	730.3	643.9	86.40	8.453	
9,300.0	6,960.0	9,400.3	6,956.0	44.8	46.2	87.33	-2,370.8	-726.5	730.3	640.6	89.77	8.135	
9,400.0	6,960.0	9,500.3	6,956.0	46.5	47.8	87.33	-2,470.8	-726.5	730.4	637.2	93.15	7.840	
9,500.0	6,960.0	9,600.3	6,956.0	48.2	49.5	87.33	-2,570.8	-726.5	730.4	633.8	96.54	7.565	
9,600.0	6,960.0	9,700.3	6,956.0	49.9	51.2	87.33	-2,670.8	-726.5	730.4	630.4	99.94	7.308	
9,700.0	6,960.0	9,800.3	6,956.0	51.6	52.8	87.33	-2,770.8	-726.5	730.4	627.0	103.35	7.067	
9,800.0	6,960.0	9,900.3	6,956.0	53.3	54.5	87.33	-2,870.8	-726.5	730.4	623.6	106.76	6.841	
9,900.0	6,960.0	10,000.3	6,956.0	55.0	56.2	87.33	-2,970.8	-726.5	730.4	620.2	110.18	6.629	
10,000.0	6,960.0	10,100.3	6,956.0	56.8	57.9	87.33	-3,070.8	-726.5	730.4	616.8	113.60	6.430	
10,100.0	6,960.0	10,200.3	6,956.0	58.5	59.6	87.33	-3,170.8	-726.5	730.4	613.4	117.03	6.241	
10,200.0	6,960.0	10,300.3	6,956.0	60.2	61.3	87.33	-3,270.8	-726.5	730.4	609.9	120.46	6.064	
10,300.0	6,960.0	10,400.3	6,956.0	61.9	63.0	87.33	-3,370.8	-726.5	730.4	606.5	123.89	5.895	
10,400.0	6,960.0	10,500.3	6,956.0	63.6	64.7	87.33	-3,470.8	-726.5	730.4	603.1	127.33	5.736	
10,500.0	6,960.0	10,600.3	6,956.0	65.4	66.4	87.33	-3,570.8	-726.6	730.4	599.6	130.78	5.585	
10,600.0	6,960.0	10,700.3	6,956.0	67.1	68.1	87.33	-3,670.8	-726.6	730.4	596.2	134.22	5.442	
10,700.0	6,960.0	10,800.3	6,956.0	68.8	69.8	87.33	-3,770.8	-726.6	730.4	592.8	137.67	5.306	
10,800.0	6,960.0	10,900.3	6,956.0	70.5	71.5	87.33	-3,870.8	-726.6	730.4	589.3	141.12	5.176	
10,900.0	6,960.0	11,000.3	6,956.0	72.3	73.2	87.33	-3,970.8	-726.6	730.4	585.9	144.58	5.052	
11,000.0	6,960.0	11,100.3	6,956.0	74.0	74.9	87.33	-4,070.8	-726.6	730.5	582.4	148.03	4.934	
11,100.0	6,960.0	11,200.3	6,956.0	75.7	76.6	87.33	-4,170.8	-726.6	730.5	579.0	151.49	4.822	
11,200.0	6,960.0	11,300.3	6,956.0	77.5	78.3	87.33	-4,270.8	-726.6	730.5	575.5	154.95	4.714	
11,300.0	6,960.0	11,400.3	6,956.0	79.2	80.1	87.33	-4,370.8	-726.6	730.5	572.1	158.42	4.611	
11,400.0	6,960.0	11,500.3	6,956.0	80.9	81.8	87.33	-4,470.8	-726.6	730.5	568.6	161.88	4.512	
11,446.3	6,960.0	11,546.6	6,956.0	81.7	82.6	87.33	-4,517.1	-726.6	730.5	567.0	163.49	4.468	
11,480.8	6,960.0	11,576.8	6,956.0	82.3	83.1	87.33	-4,547.3	-726.6	730.5	565.9	164.61	4.438	ES, SF

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Ruhl 1B-32H-B264
Project:	DJ Wattenberg	**TVD Reference:**	KB @ 4955.0ft (No KB)
Reference Site:	S32-T2N-R64W (Newman)	**MD Reference:**	KB @ 4955.0ft (No KB)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Ruhl 1B-32H-B264	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Hz	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design S32-T2N-R64W (Newman) - Newman 2L-32H-C264 - HZ - Plan #1

Offset Site Error: 0.0 ft

Survey Program: 0-Geolink MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
2,500.0	2,498.1	2,719.0	2,691.0	4.6	7.8	-88.42	119.7	-976.0	991.3	981.6	9.74	101.771	
2,600.0	2,597.9	2,817.7	2,788.1	4.8	8.2	-88.36	125.3	-959.6	974.7	964.6	10.14	96.138	
2,700.0	2,697.8	2,916.3	2,885.2	5.0	8.5	-88.29	130.8	-943.1	958.1	947.6	10.54	90.925	
2,800.0	2,797.7	3,014.9	2,982.2	5.1	8.9	-88.22	136.4	-926.7	941.5	930.6	10.94	86.085	
2,900.0	2,897.5	3,113.5	3,079.3	5.3	9.2	-88.15	141.9	-910.2	924.9	913.6	11.34	81.581	
3,000.0	2,997.4	3,212.1	3,176.4	5.5	9.6	-88.08	147.4	-893.8	908.3	896.6	11.74	77.380	
3,100.0	3,097.3	3,310.7	3,273.4	5.7	9.9	-88.00	153.0	-877.3	891.7	879.6	12.14	73.451	
3,200.0	3,197.1	3,409.3	3,370.5	5.9	10.3	-87.92	158.5	-860.9	875.1	862.6	12.54	69.770	
3,300.0	3,297.0	3,507.9	3,467.6	6.1	10.6	-87.84	164.0	-844.4	858.5	845.6	12.95	66.314	
3,400.0	3,396.9	3,606.5	3,564.6	6.3	11.0	-87.76	169.6	-828.0	841.9	828.6	13.35	63.063	
3,500.0	3,496.7	3,705.1	3,661.7	6.5	11.3	-87.67	175.1	-811.5	825.3	811.6	13.76	59.999	
3,600.0	3,596.6	3,803.7	3,758.8	6.7	11.7	-87.58	180.6	-795.1	808.7	794.6	14.16	57.107	
3,700.0	3,696.4	3,902.3	3,855.8	6.9	12.0	-87.48	186.2	-778.6	792.2	777.6	14.57	54.373	
3,800.0	3,796.3	4,000.9	3,952.9	7.1	12.4	-87.38	191.7	-762.2	775.6	760.6	14.98	51.785	
3,900.0	3,896.2	4,099.5	4,050.0	7.3	12.7	-87.27	197.2	-745.7	759.0	743.6	15.39	49.331	
4,000.0	3,996.0	4,198.1	4,147.0	7.5	13.1	-87.17	202.8	-729.3	742.4	726.6	15.80	47.000	
4,100.0	4,095.9	4,296.7	4,244.1	7.7	13.4	-87.05	208.3	-712.8	725.8	709.6	16.21	44.785	
4,200.0	4,195.8	4,395.3	4,341.2	7.9	13.8	-86.93	213.9	-696.4	709.3	692.6	16.62	42.676	
4,300.0	4,295.6	4,494.0	4,438.2	8.1	14.1	-86.81	219.4	-679.9	692.7	675.7	17.03	40.667	
4,400.0	4,395.5	4,592.6	4,535.3	8.3	14.5	-86.67	224.9	-663.5	676.1	658.7	17.45	38.750	
4,500.0	4,495.4	4,691.2	4,632.4	8.5	14.8	-86.54	230.5	-647.0	659.6	641.7	17.87	36.919	
4,600.0	4,595.2	4,789.8	4,729.4	8.7	15.2	-86.39	236.0	-630.6	643.0	624.7	18.28	35.169	
4,700.0	4,695.1	4,888.4	4,826.5	8.9	15.5	-86.24	241.5	-614.1	626.5	607.8	18.70	33.494	
4,800.0	4,794.9	4,987.0	4,923.6	9.1	15.9	-86.08	247.1	-597.7	609.9	590.8	19.13	31.890	
4,900.0	4,894.8	5,083.0	5,018.1	9.3	16.2	-85.91	252.4	-581.7	593.4	573.9	19.54	30.367	
5,000.0	4,994.7	5,173.4	5,107.2	9.4	16.5	-85.80	257.2	-567.7	578.0	558.1	19.94	28.994	
5,100.0	5,094.5	5,264.1	5,197.0	9.6	16.8	-85.73	261.4	-555.0	564.1	543.7	20.32	27.759	
5,200.0	5,194.4	5,355.2	5,287.3	9.8	17.0	-85.72	265.3	-543.5	551.5	530.9	20.69	26.653	
5,300.0	5,294.3	5,446.6	5,378.0	10.0	17.3	-85.77	268.7	-533.5	540.5	519.4	21.05	25.670	
5,400.0	5,394.1	5,538.2	5,469.2	10.2	17.5	-85.89	271.6	-524.7	530.9	509.5	21.40	24.802	
5,500.0	5,494.0	5,630.1	5,560.8	10.4	17.7	-86.08	274.1	-517.3	522.7	501.0	21.74	24.044	
5,600.0	5,593.8	5,722.2	5,652.7	10.6	17.8	-86.34	276.1	-511.3	516.0	494.0	22.06	23.389	
5,700.0	5,693.7	5,814.4	5,744.7	10.8	18.0	-86.67	277.7	-506.8	510.9	488.5	22.37	22.833	
5,800.0	5,793.6	5,906.7	5,836.9	11.0	18.1	-87.06	278.7	-503.6	507.2	484.5	22.67	22.370	
5,900.0	5,893.4	6,000.0	5,930.2	11.2	18.2	-87.54	279.3	-501.8	505.1	482.1	22.96	21.994	
6,000.0	5,993.3	6,093.1	6,023.3	11.4	18.3	-88.07	279.5	-501.4	504.4	481.2	23.25	21.699	
6,100.0	6,093.2	6,192.9	6,123.2	11.6	18.4	-88.66	279.5	-501.4	504.3	480.7	23.53	21.427	
6,200.0	6,193.0	6,292.8	6,223.0	11.8	18.5	-89.26	279.5	-501.4	504.2	480.3	23.83	21.160	
6,227.8	6,220.8	6,320.6	6,250.8	11.8	18.5	-90.40	279.5	-501.4	504.2	480.3	23.90	21.095 CC	
6,300.0	6,293.0	6,392.7	6,323.0	11.9	18.6	91.75	279.5	-501.4	504.2	480.1	24.13	20.897	
6,400.0	6,391.9	6,491.7	6,421.9	12.0	18.7	92.96	279.5	-501.4	504.8	480.3	24.49	20.612	
6,500.0	6,488.0	6,587.8	6,518.0	12.0	18.8	95.70	279.5	-501.4	507.0	482.1	24.90	20.357	
6,600.0	6,579.3	6,680.1	6,610.3	11.9	18.9	99.39	279.4	-501.4	512.8	487.5	25.32	20.257	
6,700.0	6,664.1	6,793.0	6,722.4	11.9	19.0	103.95	267.1	-501.4	522.5	496.9	25.57	20.432	
6,800.0	6,740.7	6,920.7	6,843.3	11.9	18.9	108.05	227.1	-501.4	533.5	508.0	25.44	20.971	
6,900.0	6,807.7	7,063.9	6,964.7	12.0	18.9	111.32	151.7	-501.4	543.2	518.2	25.00	21.732	
7,000.0	6,863.6	7,220.0	7,071.2	12.4	18.9	113.27	38.3	-501.4	549.4	524.8	24.57	22.361	
7,100.0	6,907.5	7,382.2	7,145.2	12.9	19.2	113.53	-105.4	-501.4	550.3	525.4	24.89	22.110	
7,200.0	6,938.5	7,541.0	7,176.1	13.6	19.9	112.04	-260.6	-501.4	545.6	519.3	26.32	20.728	
7,300.0	6,956.0	7,651.3	7,177.0	14.5	20.6	110.63	-370.9	-501.4	539.4	511.1	28.33	19.044	
7,399.8	6,961.3	7,750.9	7,177.0	15.5	21.4	110.21	-470.6	-501.4	537.6	507.1	30.51	17.618	
7,400.0	6,960.0	7,751.1	7,177.0	15.5	21.4	110.34	-470.8	-501.4	538.0	507.5	30.50	17.639	

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Ruhl 1B-32H-B264
Project:	DJ Wattenberg	**TVD Reference:**	KB @ 4955.0ft (No KB)
Reference Site:	S32-T2N-R64W (Newman)	**MD Reference:**	KB @ 4955.0ft (No KB)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Ruhl 1B-32H-B264	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Hz	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design S32-T2N-R64W (Newman) - Newman 2L-32H-C264 - HZ - Plan #1

Offset Site Error: 0.0 ft

Survey Program: 0-Geolink MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
7,500.0	6,960.0	7,851.1	7,177.0	16.7	22.3	110.34	-570.8	-501.4	538.0	505.4	32.66	16.473	
7,600.0	6,960.0	7,951.1	7,177.0	18.0	23.2	110.34	-670.8	-501.4	538.0	503.0	35.00	15.374	
7,700.0	6,960.0	8,051.1	7,177.0	19.3	24.3	110.34	-770.8	-501.4	538.0	500.6	37.48	14.357	
7,800.0	6,960.0	8,151.1	7,177.0	20.7	25.4	110.34	-870.8	-501.4	538.1	498.0	40.07	13.427	
7,900.0	6,960.0	8,251.1	7,177.0	22.2	26.6	110.34	-970.8	-501.4	538.1	495.3	42.77	12.581	
8,000.0	6,960.0	8,351.1	7,177.0	23.7	27.9	110.34	-1,070.8	-501.4	538.1	492.5	45.54	11.816	
8,100.0	6,960.0	8,451.1	7,177.0	25.2	29.2	110.34	-1,170.8	-501.5	538.1	489.7	48.37	11.123	
8,200.0	6,960.0	8,551.1	7,177.0	26.7	30.6	110.34	-1,270.8	-501.5	538.1	486.8	51.27	10.496	
8,300.0	6,960.0	8,651.1	7,177.0	28.3	32.0	110.34	-1,370.8	-501.5	538.1	483.9	54.20	9.927	
8,400.0	6,960.0	8,751.1	7,177.0	29.9	33.4	110.34	-1,470.8	-501.5	538.1	480.9	57.18	9.410	
8,500.0	6,960.0	8,851.1	7,177.0	31.5	34.9	110.34	-1,570.8	-501.5	538.1	477.9	60.19	8.940	
8,600.0	6,960.0	8,951.1	7,177.0	33.2	36.4	110.34	-1,670.8	-501.5	538.1	474.9	63.23	8.511	
8,700.0	6,960.0	9,051.1	7,177.0	34.8	37.9	110.34	-1,770.8	-501.5	538.1	471.8	66.29	8.118	
8,800.0	6,960.0	9,151.1	7,177.0	36.5	39.4	110.34	-1,870.8	-501.5	538.1	468.7	69.37	7.757	
8,900.0	6,960.0	9,251.1	7,177.0	38.1	41.0	110.34	-1,970.8	-501.5	538.1	465.6	72.47	7.425	
9,000.0	6,960.0	9,351.1	7,177.0	39.8	42.5	110.33	-2,070.8	-501.5	538.1	462.5	75.59	7.119	
9,100.0	6,960.0	9,451.1	7,177.0	41.5	44.1	110.33	-2,170.8	-501.5	538.1	459.4	78.72	6.836	
9,200.0	6,960.0	9,551.1	7,177.0	43.1	45.7	110.33	-2,270.8	-501.5	538.1	456.3	81.86	6.573	
9,300.0	6,960.0	9,651.1	7,177.0	44.8	47.3	110.33	-2,370.8	-501.5	538.1	453.1	85.02	6.330	
9,400.0	6,960.0	9,751.1	7,177.0	46.5	48.9	110.33	-2,470.8	-501.5	538.1	450.0	88.19	6.102	
9,500.0	6,960.0	9,851.1	7,177.0	48.2	50.6	110.33	-2,570.8	-501.5	538.2	446.8	91.36	5.890	
9,600.0	6,960.0	9,951.1	7,177.0	49.9	52.2	110.33	-2,670.8	-501.5	538.2	443.6	94.54	5.692	
9,700.0	6,960.0	10,051.1	7,177.0	51.6	53.8	110.33	-2,770.8	-501.6	538.2	440.4	97.73	5.506	
9,800.0	6,960.0	10,151.1	7,177.0	53.3	55.5	110.33	-2,870.8	-501.6	538.2	437.2	100.93	5.332	
9,900.0	6,960.0	10,251.1	7,177.0	55.0	57.1	110.33	-2,970.8	-501.6	538.2	434.0	104.13	5.168	
10,000.0	6,960.0	10,351.1	7,177.0	56.8	58.8	110.33	-3,070.8	-501.6	538.2	430.8	107.34	5.014	
10,100.0	6,960.0	10,451.1	7,177.0	58.5	60.5	110.33	-3,170.8	-501.6	538.2	427.6	110.55	4.868	
10,200.0	6,960.0	10,551.1	7,177.0	60.2	62.1	110.33	-3,270.8	-501.6	538.2	424.4	113.77	4.731	
10,300.0	6,960.0	10,651.1	7,177.0	61.9	63.8	110.33	-3,370.8	-501.6	538.2	421.2	116.99	4.600	
10,400.0	6,960.0	10,751.1	7,177.0	63.6	65.5	110.33	-3,470.8	-501.6	538.2	418.0	120.22	4.477	
10,500.0	6,960.0	10,851.1	7,177.0	65.4	67.2	110.33	-3,570.8	-501.6	538.2	414.8	123.45	4.360	
10,600.0	6,960.0	10,951.1	7,177.0	67.1	68.8	110.33	-3,670.8	-501.6	538.2	411.5	126.68	4.249	
10,700.0	6,960.0	11,051.1	7,177.0	68.8	70.5	110.33	-3,770.8	-501.6	538.2	408.3	129.91	4.143	
10,800.0	6,960.0	11,151.1	7,177.0	70.5	72.2	110.33	-3,870.8	-501.6	538.2	405.1	133.15	4.042	
10,900.0	6,960.0	11,251.1	7,177.0	72.3	73.9	110.33	-3,970.8	-501.6	538.2	401.8	136.39	3.946	
11,000.0	6,960.0	11,351.1	7,177.0	74.0	75.6	110.33	-4,070.8	-501.6	538.2	398.6	139.64	3.855	
11,100.0	6,960.0	11,451.1	7,177.0	75.7	77.3	110.33	-4,170.8	-501.6	538.2	395.4	142.88	3.767	
11,200.0	6,960.0	11,551.1	7,177.0	77.5	79.0	110.33	-4,270.8	-501.6	538.2	392.1	146.13	3.683	
11,300.0	6,960.0	11,651.1	7,177.0	79.2	80.7	110.33	-4,370.8	-501.7	538.3	388.9	149.38	3.603	
11,400.0	6,960.0	11,751.1	7,177.0	80.9	82.4	110.33	-4,470.8	-501.7	538.3	385.6	152.63	3.527	
11,446.9	6,960.0	11,798.0	7,177.0	81.7	83.2	110.33	-4,517.7	-501.7	538.3	384.1	154.15	3.492	
11,480.8	6,960.0	11,829.1	7,177.0	82.3	83.8	110.33	-4,548.7	-501.7	538.3	383.1	155.21	3.468	ES, SF

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Ruhl 1B-32H-B264
Project:	DJ Wattenberg	**TVD Reference:**	KB @ 4955.0ft (No KB)
Reference Site:	S32-T2N-R64W (Newman)	**MD Reference:**	KB @ 4955.0ft (No KB)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Ruhl 1B-32H-B264	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Hz	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design S32-T2N-R64W (Newman) - Ruhl 1A-32H-B264 - Hz - Plan #1

Offset Site Error: 0.0 ft

Survey Program: 0-Geolink MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	-89.95	0.0	-10.1	10.1	10.1	0.00	N/A	
100.0	100.0	100.0	100.0	0.2	0.2	-89.95	0.0	-10.1	10.1	9.7	0.35	28.850	
200.0	200.0	200.0	200.0	0.3	0.3	-89.95	0.0	-10.1	10.1	9.4	0.70	14.425	CC, ES
300.0	300.0	299.8	299.7	0.5	0.5	-82.62	1.4	-11.1	11.2	10.1	1.05	10.640	
400.0	400.0	399.5	399.3	0.7	0.7	-68.56	5.4	-13.9	14.9	13.5	1.40	10.638	
500.0	500.0	499.3	499.0	0.9	0.9	-59.71	9.9	-17.0	19.7	17.9	1.75	11.245	
600.0	600.0	599.2	598.7	1.0	1.1	-54.39	14.4	-20.1	24.8	22.7	2.10	11.790	
700.0	700.0	699.0	698.4	1.2	1.3	-50.90	18.9	-23.2	30.0	27.5	2.45	12.240	
800.0	800.0	798.9	798.1	1.4	1.5	-48.44	23.4	-26.3	35.2	32.5	2.80	12.605	
900.0	900.0	898.7	897.8	1.6	1.7	-46.63	27.8	-29.5	40.6	37.4	3.14	12.905	
1,000.0	1,000.0	998.6	997.5	1.7	1.9	-45.24	32.3	-32.6	45.9	42.5	3.49	13.154	
1,100.0	1,100.0	1,098.5	1,097.3	1.9	2.1	-46.06	36.8	-35.7	50.1	46.3	3.84	13.038	
1,200.0	1,199.9	1,198.4	1,197.1	2.1	2.3	-48.73	41.3	-38.8	52.2	48.0	4.20	12.433	
1,300.0	1,299.7	1,298.4	1,296.9	2.3	2.5	-51.56	45.7	-42.0	54.2	49.6	4.56	11.875	
1,400.0	1,399.6	1,398.3	1,396.7	2.5	2.7	-54.18	50.2	-45.1	56.2	51.3	4.92	11.414	
1,500.0	1,499.5	1,498.3	1,496.5	2.7	2.9	-56.62	54.7	-48.2	58.4	53.1	5.29	11.031	
1,600.0	1,599.3	1,598.2	1,596.3	2.8	3.1	-58.88	59.2	-51.3	60.7	55.0	5.66	10.708	
1,700.0	1,699.2	1,698.2	1,696.1	3.0	3.3	-60.97	63.7	-54.4	63.0	57.0	6.04	10.435	
1,800.0	1,799.0	1,798.1	1,795.9	3.2	3.5	-62.90	68.2	-57.6	65.4	59.0	6.42	10.201	
1,900.0	1,898.9	1,898.0	1,895.7	3.4	3.7	-64.70	72.6	-60.7	68.0	61.2	6.79	10.001	
2,000.0	1,998.8	1,998.0	1,995.5	3.6	3.9	-66.37	77.1	-63.8	70.5	63.3	7.18	9.827	
2,100.0	2,098.6	2,097.9	2,095.3	3.8	4.1	-67.92	81.6	-66.9	73.1	65.6	7.56	9.676	
2,200.0	2,198.5	2,197.9	2,195.1	4.0	4.3	-69.36	86.1	-70.1	75.8	67.9	7.94	9.545	
2,300.0	2,298.4	2,297.8	2,294.9	4.2	4.5	-70.70	90.6	-73.2	78.5	70.2	8.33	9.429	
2,400.0	2,398.2	2,397.8	2,394.7	4.4	4.7	-71.96	95.0	-76.3	81.3	72.6	8.71	9.327	
2,500.0	2,498.1	2,497.7	2,494.5	4.6	4.9	-73.13	99.5	-79.4	84.1	75.0	9.10	9.237	
2,600.0	2,597.9	2,597.7	2,594.2	4.8	5.1	-74.22	104.0	-82.6	86.9	77.4	9.49	9.157	
2,700.0	2,697.8	2,697.6	2,694.0	5.0	5.3	-75.25	108.5	-85.7	89.8	79.9	9.88	9.086	
2,800.0	2,797.7	2,797.6	2,793.8	5.1	5.5	-76.21	113.0	-88.8	92.6	82.4	10.27	9.022	
2,900.0	2,897.5	2,897.5	2,893.6	5.3	5.7	-77.11	117.5	-91.9	95.5	84.9	10.66	8.965	
3,000.0	2,997.4	2,997.5	2,993.4	5.5	5.9	-77.96	121.9	-95.1	98.5	87.4	11.05	8.913	
3,100.0	3,097.3	3,097.4	3,093.2	5.7	6.1	-78.76	126.4	-98.2	101.4	90.0	11.44	8.867	
3,200.0	3,197.1	3,197.4	3,193.0	5.9	6.3	-79.52	130.9	-101.3	104.4	92.6	11.83	8.825	
3,300.0	3,297.0	3,297.3	3,292.8	6.1	6.5	-80.23	135.4	-104.4	107.4	95.2	12.22	8.786	
3,400.0	3,396.9	3,397.3	3,392.6	6.3	6.7	-80.90	139.9	-107.5	110.4	97.8	12.61	8.752	
3,500.0	3,496.7	3,497.2	3,492.4	6.5	6.9	-81.54	144.3	-110.7	113.4	100.4	13.00	8.720	
3,600.0	3,596.6	3,597.1	3,592.2	6.7	7.1	-82.15	148.8	-113.8	116.4	103.0	13.40	8.691	
3,700.0	3,696.4	3,697.1	3,692.0	6.9	7.2	-82.72	153.3	-116.9	119.5	105.7	13.79	8.665	
3,800.0	3,796.3	3,797.0	3,791.8	7.1	7.4	-83.27	157.8	-120.0	122.5	108.3	14.18	8.641	
3,900.0	3,896.2	3,897.0	3,891.6	7.3	7.6	-83.79	162.3	-123.2	125.6	111.0	14.57	8.618	
4,000.0	3,996.0	3,996.9	3,991.4	7.5	7.8	-84.28	166.8	-126.3	128.7	113.7	14.96	8.598	
4,100.0	4,095.9	4,096.9	4,091.2	7.7	8.0	-84.75	171.2	-129.4	131.7	116.4	15.36	8.579	
4,200.0	4,195.8	4,196.8	4,191.0	7.9	8.2	-85.20	175.7	-132.5	134.8	119.1	15.75	8.562	
4,300.0	4,295.6	4,296.8	4,290.8	8.1	8.4	-85.63	180.2	-135.7	137.9	121.8	16.14	8.546	
4,400.0	4,395.5	4,396.7	4,390.6	8.3	8.6	-86.05	184.7	-138.8	141.0	124.5	16.53	8.531	
4,500.0	4,495.4	4,496.7	4,490.4	8.5	8.8	-86.44	189.2	-141.9	144.1	127.2	16.92	8.517	
4,600.0	4,595.2	4,596.6	4,590.2	8.7	9.0	-86.82	193.6	-145.0	147.3	129.9	17.32	8.504	
4,700.0	4,695.1	4,696.6	4,690.0	8.9	9.2	-87.18	198.1	-148.2	150.4	132.7	17.71	8.492	
4,800.0	4,794.9	4,796.5	4,789.8	9.1	9.4	-87.52	202.6	-151.3	153.5	135.4	18.10	8.481	
4,900.0	4,894.8	4,896.5	4,889.6	9.3	9.6	-87.86	207.1	-154.4	156.7	138.2	18.49	8.471	
5,000.0	4,994.7	4,996.4	4,989.4	9.4	9.8	-88.17	211.6	-157.5	159.8	140.9	18.89	8.461	
5,100.0	5,094.5	5,096.3	5,089.2	9.6	10.0	-88.48	216.0	-160.7	162.9	143.7	19.28	8.452	

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Ruhl 1B-32H-B264
Project:	DJ Wattenberg	**TVD Reference:**	KB @ 4955.0ft (No KB)
Reference Site:	S32-T2N-R64W (Newman)	**MD Reference:**	KB @ 4955.0ft (No KB)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Ruhl 1B-32H-B264	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Hz	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design S32-T2N-R64W (Newman) - Ruhl 1A-32H-B264 - Hz - Plan #1

Offset Site Error: 0.0 ft

Survey Program: 0-Geolink MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
5,200.0	5,194.4	5,196.3	5,189.0	9.8	10.2	-88.78	220.5	-163.8	166.1	146.4	19.67	8.444	
5,300.0	5,294.3	5,296.2	5,288.8	10.0	10.4	-89.06	225.0	-166.9	169.2	149.2	20.06	8.436	
5,400.0	5,394.1	5,396.2	5,388.6	10.2	10.6	-89.34	229.5	-170.0	172.4	152.0	20.45	8.429	
5,500.0	5,494.0	5,496.1	5,488.4	10.4	10.8	-89.60	234.0	-173.1	175.6	154.7	20.85	8.422	
5,600.0	5,593.8	5,596.1	5,588.2	10.6	11.0	-89.85	238.5	-176.3	178.7	157.5	21.24	8.415	
5,700.0	5,693.7	5,696.0	5,688.0	10.8	11.2	-90.10	242.9	-179.4	181.9	160.3	21.63	8.409	
5,800.0	5,793.6	5,796.0	5,787.8	11.0	11.4	-90.34	247.4	-182.5	185.1	163.1	22.02	8.404	
5,900.0	5,893.4	5,895.9	5,887.6	11.2	11.6	-90.57	251.9	-185.6	188.3	165.8	22.42	8.398	
6,000.0	5,993.3	5,995.9	5,987.4	11.4	11.8	-90.79	256.4	-188.8	191.4	168.6	22.81	8.393	
6,100.0	6,093.2	6,095.8	6,087.2	11.6	12.0	-91.00	260.9	-191.9	194.6	171.4	23.20	8.388	
6,200.0	6,193.0	6,195.8	6,187.0	11.8	12.2	-91.21	265.3	-195.0	197.8	174.2	23.59	8.384	
6,300.0	6,293.0	6,295.5	6,286.6	11.9	12.4	90.87	269.8	-198.1	201.0	177.1	23.90	8.408	
6,400.0	6,391.9	6,395.8	6,386.7	12.0	12.6	93.85	268.7	-201.3	204.6	180.6	24.00	8.526	
6,500.0	6,488.0	6,497.9	6,487.6	12.0	12.6	96.92	253.3	-204.4	209.0	185.0	23.94	8.727	
6,600.0	6,579.3	6,602.0	6,587.0	11.9	12.6	99.80	223.0	-207.5	213.8	190.0	23.79	8.984	
6,700.0	6,664.1	6,708.0	6,682.6	11.9	12.6	102.40	177.6	-210.5	218.8	195.2	23.63	9.259	
6,800.0	6,740.7	6,815.9	6,772.1	11.9	12.5	104.68	117.5	-213.3	223.8	200.3	23.56	9.501	
6,900.0	6,807.7	6,925.6	6,852.7	12.0	12.6	106.61	43.3	-215.9	228.6	204.9	23.68	9.652	
7,000.0	6,863.6	7,037.0	6,922.0	12.4	12.9	108.19	-43.7	-218.0	232.8	208.7	24.10	9.662	
7,100.0	6,907.5	7,149.7	6,977.5	12.9	13.3	109.38	-141.6	-219.8	236.3	211.4	24.89	9.494	
7,200.0	6,938.5	7,263.4	7,017.3	13.6	14.0	110.20	-248.0	-221.0	238.8	212.7	26.10	9.148	
7,300.0	6,956.0	7,377.9	7,039.9	14.5	15.0	110.63	-360.1	-221.7	240.2	212.5	27.73	8.663	
7,400.0	6,960.0	7,488.8	7,045.0	15.5	16.1	110.70	-470.8	-221.9	240.5	210.8	29.69	8.099	
7,500.0	6,960.0	7,588.8	7,045.0	16.7	17.2	110.70	-570.8	-221.9	240.5	208.6	31.88	7.543	
7,600.0	6,960.0	7,688.8	7,045.0	18.0	18.5	110.70	-670.8	-221.9	240.5	206.2	34.24	7.024	
7,700.0	6,960.0	7,788.8	7,045.0	19.3	19.8	110.70	-770.8	-221.9	240.5	203.7	36.74	6.545	
7,800.0	6,960.0	7,888.8	7,045.0	20.7	21.1	110.70	-870.8	-221.9	240.5	201.1	39.36	6.110	
7,900.0	6,960.0	7,988.8	7,045.0	22.2	22.6	110.70	-970.8	-221.9	240.5	198.4	42.07	5.717	
8,000.0	6,960.0	8,088.8	7,045.0	23.7	24.0	110.70	-1,070.8	-221.9	240.5	195.6	44.85	5.361	
8,100.0	6,960.0	8,188.8	7,045.0	25.2	25.6	110.70	-1,170.8	-221.9	240.5	192.8	47.70	5.041	
8,200.0	6,960.0	8,288.8	7,045.0	26.7	27.1	110.70	-1,270.8	-221.9	240.5	189.9	50.61	4.752	
8,300.0	6,960.0	8,388.8	7,045.0	28.3	28.6	110.70	-1,370.8	-221.9	240.5	186.9	53.55	4.490	
8,400.0	6,960.0	8,488.8	7,045.0	29.9	30.2	110.70	-1,470.8	-221.9	240.5	183.9	56.54	4.253	
8,500.0	6,960.0	8,588.8	7,045.0	31.5	31.8	110.70	-1,570.8	-221.9	240.5	180.9	59.55	4.038	
8,600.0	6,960.0	8,688.8	7,045.0	33.2	33.4	110.70	-1,670.8	-221.9	240.5	177.9	62.60	3.842	
8,700.0	6,960.0	8,788.8	7,045.0	34.8	35.1	110.70	-1,770.8	-221.9	240.5	174.8	65.66	3.662	
8,800.0	6,960.0	8,888.8	7,045.0	36.5	36.7	110.70	-1,870.8	-221.9	240.5	171.7	68.75	3.498	
8,900.0	6,960.0	8,988.8	7,045.0	38.1	38.4	110.70	-1,970.8	-221.9	240.5	168.6	71.85	3.347	
9,000.0	6,960.0	9,088.8	7,045.0	39.8	40.0	110.70	-2,070.8	-221.9	240.5	165.5	74.97	3.207	
9,100.0	6,960.0	9,188.8	7,045.0	41.5	41.7	110.70	-2,170.8	-221.9	240.5	162.4	78.11	3.079	
9,200.0	6,960.0	9,288.8	7,045.0	43.1	43.4	110.70	-2,270.8	-221.9	240.5	159.2	81.25	2.960	
9,300.0	6,960.0	9,388.8	7,045.0	44.8	45.0	110.70	-2,370.8	-221.9	240.5	156.1	84.41	2.849	
9,400.0	6,960.0	9,488.8	7,045.0	46.5	46.7	110.70	-2,470.8	-221.9	240.5	152.9	87.57	2.746	
9,500.0	6,960.0	9,588.8	7,045.0	48.2	48.4	110.70	-2,570.8	-221.9	240.5	149.7	90.75	2.650	
9,600.0	6,960.0	9,688.8	7,045.0	49.9	50.1	110.70	-2,670.8	-221.9	240.5	146.5	93.93	2.560	
9,700.0	6,960.0	9,788.8	7,045.0	51.6	51.8	110.70	-2,770.8	-221.9	240.5	143.4	97.12	2.476	
9,800.0	6,960.0	9,888.8	7,045.0	53.3	53.5	110.70	-2,870.8	-221.9	240.5	140.2	100.31	2.397	
9,900.0	6,960.0	9,988.8	7,045.0	55.0	55.2	110.70	-2,970.8	-221.9	240.5	137.0	103.51	2.323	
10,000.0	6,960.0	10,088.8	7,045.0	56.8	56.9	110.70	-3,070.8	-221.9	240.5	133.8	106.72	2.253	
10,100.0	6,960.0	10,188.8	7,045.0	58.5	58.6	110.70	-3,170.8	-221.9	240.5	130.5	109.93	2.188	
10,200.0	6,960.0	10,288.8	7,045.0	60.2	60.4	110.70	-3,270.8	-221.9	240.5	127.3	113.14	2.125	
10,300.0	6,960.0	10,388.8	7,045.0	61.9	62.1	110.70	-3,370.8	-221.9	240.5	124.1	116.36	2.067	

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Ruhl 1B-32H-B264
Project:	DJ Wattenberg	**TVD Reference:**	KB @ 4955.0ft (No KB)
Reference Site:	S32-T2N-R64W (Newman)	**MD Reference:**	KB @ 4955.0ft (No KB)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Ruhl 1B-32H-B264	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Hz	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design S32-T2N-R64W (Newman) - Ruhl 1A-32H-B264 - Hz - Plan #1

Offset Site Error: 0.0 ft

Survey Program: 0-Geolink MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
10,400.0	6,960.0	10,488.8	7,045.0	63.6	63.8	110.70	-3,470.8	-221.9	240.5	120.9	119.58	2.011	
10,500.0	6,960.0	10,588.8	7,045.0	65.4	65.5	110.70	-3,570.8	-221.9	240.5	117.7	122.80	1.958	
10,600.0	6,960.0	10,688.8	7,045.0	67.1	67.2	110.70	-3,670.8	-221.9	240.5	114.4	126.03	1.908	
10,700.0	6,960.0	10,788.8	7,045.0	68.8	69.0	110.70	-3,770.8	-221.9	240.5	111.2	129.26	1.860	
10,800.0	6,960.0	10,888.8	7,045.0	70.5	70.7	110.70	-3,870.8	-221.9	240.5	108.0	132.50	1.815	
10,900.0	6,960.0	10,988.8	7,045.0	72.3	72.4	110.70	-3,970.8	-221.9	240.5	104.7	135.73	1.772	
11,000.0	6,960.0	11,088.8	7,045.0	74.0	74.1	110.70	-4,070.8	-221.9	240.5	101.5	138.97	1.730	
11,100.0	6,960.0	11,188.8	7,045.0	75.7	75.9	110.70	-4,170.8	-221.9	240.5	98.3	142.21	1.691	
11,200.0	6,960.0	11,288.8	7,045.0	77.5	77.6	110.70	-4,270.8	-221.9	240.5	95.0	145.45	1.653	
11,300.0	6,960.0	11,388.8	7,045.0	79.2	79.3	110.70	-4,370.8	-221.9	240.5	91.8	148.70	1.617	
11,400.0	6,960.0	11,488.8	7,045.0	80.9	81.1	110.70	-4,470.8	-221.9	240.5	88.5	151.94	1.583	
11,447.8	6,960.0	11,536.6	7,045.0	81.8	81.9	110.70	-4,518.7	-221.9	240.5	87.0	153.50	1.567	
11,480.8	6,960.0	11,568.2	7,045.0	82.3	82.4	110.70	-4,550.2	-221.9	240.5	85.9	154.54	1.556 SF	

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Ruhl 1B-32H-B264
Project:	DJ Wattenberg	**TVD Reference:**	KB @ 4955.0ft (No KB)
Reference Site:	S32-T2N-R64W (Newman)	**MD Reference:**	KB @ 4955.0ft (No KB)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Ruhl 1B-32H-B264	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Hz	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design S32-T2N-R64W (Newman) - Ruhl 1C-32H-B264 - Hz - Plan #1

Offset Site Error: 0.0 ft

Survey Program: 0-Geolink MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	90.05	0.0	10.1	10.1	10.1	0.00	N/A	
100.0	100.0	100.0	100.0	0.2	0.2	90.05	0.0	10.1	10.1	9.7	0.35	28.850	
200.0	200.0	200.0	200.0	0.3	0.3	90.05	0.0	10.1	10.1	9.4	0.70	14.425	
300.0	300.0	300.0	300.0	0.5	0.5	90.05	0.0	10.1	10.1	9.0	1.05	9.617	CC, ES
400.0	400.0	399.8	399.7	0.7	0.7	82.82	1.4	11.1	11.2	9.8	1.40	8.002	
500.0	500.0	499.5	499.3	0.9	0.9	69.03	5.4	14.0	15.0	13.2	1.75	8.558	
600.0	600.0	599.3	599.0	1.0	1.1	60.36	9.8	17.2	19.8	17.7	2.10	9.422	
700.0	700.0	699.2	698.7	1.2	1.3	55.15	14.2	20.4	24.8	22.4	2.45	10.154	
800.0	800.0	799.0	798.4	1.4	1.5	51.72	18.6	23.6	30.1	27.3	2.80	10.753	
900.0	900.0	898.9	898.1	1.6	1.7	49.32	23.0	26.8	35.3	32.2	3.14	11.243	
1,000.0	1,000.0	998.7	997.8	1.7	1.9	47.54	27.4	30.0	40.7	37.2	3.49	11.649	
1,100.0	1,100.0	1,098.6	1,097.6	1.9	2.1	47.14	31.8	33.2	44.8	41.0	3.84	11.667	
1,200.0	1,199.9	1,198.6	1,197.4	2.1	2.2	50.04	36.3	36.4	47.0	42.8	4.20	11.189	
1,300.0	1,299.7	1,298.5	1,297.2	2.3	2.4	53.11	40.7	39.6	49.0	44.4	4.56	10.742	
1,400.0	1,399.6	1,398.5	1,397.0	2.5	2.6	55.93	45.1	42.8	51.1	46.2	4.93	10.378	
1,500.0	1,499.5	1,498.4	1,496.8	2.7	2.8	58.52	49.5	46.0	53.4	48.1	5.29	10.079	
1,600.0	1,599.3	1,598.4	1,596.6	2.8	3.0	60.90	53.9	49.2	55.7	50.0	5.67	9.830	
1,700.0	1,699.2	1,698.3	1,696.4	3.0	3.2	63.08	58.4	52.4	58.1	52.1	6.04	9.623	
1,800.0	1,799.0	1,798.2	1,796.2	3.2	3.4	65.08	62.8	55.6	60.6	54.2	6.42	9.447	
1,900.0	1,898.9	1,898.2	1,896.0	3.4	3.6	66.92	67.2	58.8	63.2	56.4	6.80	9.299	
2,000.0	1,998.8	1,998.1	1,995.8	3.6	3.8	68.62	71.6	62.0	65.9	58.7	7.18	9.172	
2,100.0	2,098.6	2,098.1	2,095.6	3.8	4.0	70.19	76.0	65.2	68.5	61.0	7.56	9.063	
2,200.0	2,198.5	2,198.0	2,195.4	4.0	4.2	71.63	80.5	68.4	71.3	63.3	7.95	8.969	
2,300.0	2,298.4	2,298.0	2,295.2	4.2	4.4	72.97	84.9	71.6	74.1	65.7	8.33	8.887	
2,400.0	2,398.2	2,397.9	2,395.0	4.4	4.6	74.21	89.3	74.8	76.9	68.2	8.72	8.816	
2,500.0	2,498.1	2,497.9	2,494.8	4.6	4.8	75.36	93.7	78.0	79.7	70.6	9.11	8.754	
2,600.0	2,597.9	2,597.8	2,594.5	4.8	5.0	76.43	98.1	81.3	82.6	73.1	9.50	8.699	
2,700.0	2,697.8	2,697.8	2,694.3	5.0	5.2	77.43	102.5	84.5	85.5	75.6	9.88	8.651	
2,800.0	2,797.7	2,797.7	2,794.1	5.1	5.4	78.37	107.0	87.7	88.4	78.2	10.27	8.608	
2,900.0	2,897.5	2,897.7	2,893.9	5.3	5.6	79.24	111.4	90.9	91.4	80.7	10.66	8.571	
3,000.0	2,997.4	2,997.6	2,993.7	5.5	5.8	80.06	115.8	94.1	94.4	83.3	11.05	8.537	
3,100.0	3,097.3	3,097.6	3,093.5	5.7	6.0	80.83	120.2	97.3	97.4	85.9	11.44	8.507	
3,200.0	3,197.1	3,197.5	3,193.3	5.9	6.2	81.55	124.6	100.5	100.4	88.5	11.83	8.481	
3,300.0	3,297.0	3,297.5	3,293.1	6.1	6.4	82.23	129.1	103.7	103.4	91.2	12.23	8.457	
3,400.0	3,396.9	3,397.4	3,392.9	6.3	6.6	82.88	133.5	106.9	106.4	93.8	12.62	8.435	
3,500.0	3,496.7	3,497.3	3,492.7	6.5	6.8	83.48	137.9	110.1	109.5	96.5	13.01	8.416	
3,600.0	3,596.6	3,597.3	3,592.5	6.7	7.0	84.05	142.3	113.3	112.5	99.1	13.40	8.399	
3,700.0	3,696.4	3,697.2	3,692.3	6.9	7.2	84.60	146.7	116.5	115.6	101.8	13.79	8.383	
3,800.0	3,796.3	3,797.2	3,792.1	7.1	7.4	85.11	151.2	119.7	118.7	104.5	14.18	8.369	
3,900.0	3,896.2	3,897.1	3,891.9	7.3	7.6	85.60	155.6	122.9	121.8	107.2	14.57	8.356	
4,000.0	3,996.0	3,997.1	3,991.7	7.5	7.8	86.07	160.0	126.1	124.9	109.9	14.97	8.344	
4,100.0	4,095.9	4,097.0	4,091.5	7.7	8.0	86.51	164.4	129.3	128.0	112.6	15.36	8.334	
4,200.0	4,195.8	4,197.0	4,191.3	7.9	8.2	86.93	168.8	132.5	131.1	115.3	15.75	8.324	
4,300.0	4,295.6	4,296.9	4,291.1	8.1	8.4	87.33	173.3	135.7	134.2	118.1	16.14	8.315	
4,400.0	4,395.5	4,396.9	4,390.9	8.3	8.6	87.71	177.7	138.9	137.3	120.8	16.53	8.307	
4,500.0	4,495.4	4,496.8	4,490.7	8.5	8.8	88.08	182.1	142.2	140.5	123.6	16.92	8.300	
4,600.0	4,595.2	4,596.8	4,590.5	8.7	9.0	88.43	186.5	145.4	143.6	126.3	17.32	8.294	
4,700.0	4,695.1	4,696.7	4,690.3	8.9	9.2	88.76	190.9	148.6	146.8	129.0	17.71	8.287	
4,800.0	4,794.9	4,796.7	4,790.1	9.1	9.4	89.09	195.3	151.8	149.9	131.8	18.10	8.282	
4,900.0	4,894.8	4,896.6	4,889.9	9.3	9.6	89.39	199.8	155.0	153.1	134.6	18.49	8.277	
5,000.0	4,994.7	4,996.6	4,989.7	9.4	9.8	89.69	204.2	158.2	156.2	137.3	18.88	8.272	
5,100.0	5,094.5	5,096.5	5,089.5	9.6	10.0	89.97	208.6	161.4	159.4	140.1	19.28	8.268	

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Ruhl 1B-32H-B264
Project:	DJ Wattenberg	**TVD Reference:**	KB @ 4955.0ft (No KB)
Reference Site:	S32-T2N-R64W (Newman)	**MD Reference:**	KB @ 4955.0ft (No KB)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Ruhl 1B-32H-B264	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Hz	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design S32-T2N-R64W (Newman) - Ruhl 1C-32H-B264 - Hz - Plan #1

Offset Site Error: 0.0 ft

Survey Program: 0-Geolink MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
5,200.0	5,194.4	5,196.4	5,189.3	9.8	10.2	90.25	213.0	164.6	162.5	142.9	19.67	8.264	
5,300.0	5,294.3	5,296.4	5,289.1	10.0	10.4	90.51	217.4	167.8	165.7	145.6	20.06	8.261	
5,400.0	5,394.1	5,396.3	5,388.9	10.2	10.6	90.76	221.9	171.0	168.9	148.4	20.45	8.257	
5,500.0	5,494.0	5,496.3	5,488.7	10.4	10.8	91.00	226.3	174.2	172.1	151.2	20.84	8.254	
5,600.0	5,593.8	5,596.2	5,588.5	10.6	11.0	91.24	230.7	177.4	175.2	154.0	21.24	8.252	
5,700.0	5,693.7	5,696.2	5,688.3	10.8	11.2	91.46	235.1	180.6	178.4	156.8	21.63	8.249	
5,800.0	5,793.6	5,796.1	5,788.1	11.0	11.4	91.68	239.5	183.8	181.6	159.6	22.02	8.247	
5,900.0	5,893.4	5,896.1	5,887.9	11.2	11.6	91.89	244.0	187.0	184.8	162.4	22.41	8.245	
6,000.0	5,993.3	5,996.0	5,987.7	11.4	11.8	92.10	248.4	190.2	188.0	165.2	22.80	8.243	
6,100.0	6,093.2	6,096.0	6,087.5	11.6	12.0	92.29	252.8	193.4	191.2	168.0	23.20	8.241	
6,200.0	6,193.0	6,195.9	6,187.3	11.8	12.2	92.48	257.2	196.6	194.3	170.8	23.59	8.239	
6,300.0	6,293.0	6,295.7	6,286.9	11.9	12.4	-87.64	261.6	199.8	197.3	173.4	23.90	8.256	
6,400.0	6,391.9	6,393.9	6,385.0	12.0	12.6	-92.78	266.0	203.0	200.7	176.7	24.02	8.356	
6,500.0	6,488.0	6,492.0	6,483.0	12.0	12.7	-100.28	268.0	206.1	207.5	183.6	23.93	8.674	
6,600.0	6,579.3	6,595.4	6,585.6	11.9	12.8	-107.53	256.8	209.4	218.4	194.8	23.65	9.237	
6,700.0	6,664.1	6,704.0	6,690.5	11.9	12.8	-113.93	229.3	212.8	232.3	209.1	23.26	9.991	
6,800.0	6,740.7	6,818.5	6,795.2	11.9	12.8	-119.40	183.6	216.2	248.0	225.2	22.83	10.867	
6,900.0	6,807.7	6,939.2	6,896.3	12.0	12.8	-123.91	117.9	219.4	264.2	241.8	22.45	11.768	
7,000.0	6,863.6	7,066.3	6,989.2	12.4	12.9	-127.50	31.5	222.4	279.5	257.2	22.26	12.553	
7,100.0	6,907.5	7,199.5	7,068.6	12.9	13.2	-130.22	-75.3	225.0	292.7	270.3	22.35	13.096	
7,200.0	6,938.5	7,338.0	7,128.7	13.6	13.9	-132.09	-199.8	226.9	302.6	279.7	22.86	13.235	
7,300.0	6,956.0	7,480.4	7,164.4	14.5	15.0	-133.14	-337.3	228.0	308.5	284.7	23.88	12.922	
7,400.0	6,960.0	7,614.3	7,173.0	15.5	16.3	-133.40	-470.8	228.3	310.0	284.6	25.38	12.212	
7,500.0	6,960.0	7,714.3	7,173.0	16.7	17.4	-133.40	-570.8	228.3	310.0	282.9	27.07	11.450	
7,600.0	6,960.0	7,814.3	7,173.0	18.0	18.6	-133.40	-670.8	228.3	310.0	281.1	28.89	10.730	
7,700.0	6,960.0	7,914.3	7,173.0	19.3	19.9	-133.40	-770.8	228.3	310.0	279.2	30.81	10.060	
7,800.0	6,960.0	8,014.3	7,173.0	20.7	21.3	-133.40	-870.8	228.3	310.0	277.2	32.83	9.444	
7,900.0	6,960.0	8,114.3	7,173.0	22.2	22.7	-133.40	-970.8	228.3	310.0	275.1	34.91	8.880	
8,000.0	6,960.0	8,214.3	7,173.0	23.7	24.2	-133.40	-1,070.8	228.3	310.0	272.9	37.05	8.366	
8,100.0	6,960.0	8,314.3	7,173.0	25.2	25.7	-133.40	-1,170.8	228.3	310.0	270.7	39.25	7.898	
8,200.0	6,960.0	8,414.3	7,173.0	26.7	27.2	-133.40	-1,270.8	228.3	310.0	268.5	41.48	7.473	
8,300.0	6,960.0	8,514.3	7,173.0	28.3	28.8	-133.40	-1,370.8	228.3	310.0	266.2	43.76	7.085	
8,400.0	6,960.0	8,614.3	7,173.0	29.9	30.3	-133.40	-1,470.8	228.3	310.0	263.9	46.06	6.730	
8,500.0	6,960.0	8,714.3	7,173.0	31.5	31.9	-133.40	-1,570.8	228.3	310.0	261.6	48.39	6.406	
8,600.0	6,960.0	8,814.3	7,173.0	33.2	33.6	-133.40	-1,670.8	228.3	310.0	259.3	50.74	6.110	
8,700.0	6,960.0	8,914.3	7,173.0	34.8	35.2	-133.40	-1,770.8	228.3	310.0	256.9	53.11	5.837	
8,800.0	6,960.0	9,014.3	7,173.0	36.5	36.8	-133.40	-1,870.8	228.3	310.0	254.5	55.50	5.586	
8,900.0	6,960.0	9,114.3	7,173.0	38.1	38.5	-133.40	-1,970.8	228.3	310.0	252.1	57.90	5.354	
9,000.0	6,960.0	9,214.3	7,173.0	39.8	40.1	-133.40	-2,070.8	228.3	310.0	249.7	60.32	5.139	
9,100.0	6,960.0	9,314.3	7,173.0	41.5	41.8	-133.40	-2,170.8	228.3	310.0	247.2	62.75	4.940	
9,200.0	6,960.0	9,414.3	7,173.0	43.1	43.5	-133.40	-2,270.8	228.3	310.0	244.8	65.18	4.756	
9,300.0	6,960.0	9,514.3	7,173.0	44.8	45.1	-133.40	-2,370.8	228.3	310.0	242.4	67.63	4.584	
9,400.0	6,960.0	9,614.3	7,173.0	46.5	46.8	-133.40	-2,470.8	228.3	310.0	239.9	70.09	4.423	
9,500.0	6,960.0	9,714.3	7,173.0	48.2	48.5	-133.40	-2,570.8	228.3	310.0	237.4	72.55	4.273	
9,600.0	6,960.0	9,814.3	7,173.0	49.9	50.2	-133.40	-2,670.8	228.3	310.0	235.0	75.02	4.132	
9,700.0	6,960.0	9,914.3	7,173.0	51.6	51.9	-133.40	-2,770.8	228.3	310.0	232.5	77.50	4.000	
9,800.0	6,960.0	10,014.3	7,173.0	53.3	53.6	-133.40	-2,870.8	228.3	310.0	230.0	79.98	3.876	
9,900.0	6,960.0	10,114.3	7,173.0	55.0	55.3	-133.40	-2,970.8	228.3	310.0	227.5	82.46	3.759	
10,000.0	6,960.0	10,214.3	7,173.0	56.8	57.0	-133.40	-3,070.8	228.3	310.0	225.0	84.96	3.649	
10,100.0	6,960.0	10,314.3	7,173.0	58.5	58.7	-133.40	-3,170.8	228.3	310.0	222.5	87.45	3.545	
10,200.0	6,960.0	10,414.3	7,173.0	60.2	60.4	-133.40	-3,270.8	228.3	310.0	220.0	89.95	3.446	
10,300.0	6,960.0	10,514.3	7,173.0	61.9	62.1	-133.40	-3,370.8	228.3	310.0	217.5	92.45	3.353	

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Ruhl 1B-32H-B264
Project:	DJ Wattenberg	**TVD Reference:**	KB @ 4955.0ft (No KB)
Reference Site:	S32-T2N-R64W (Newman)	**MD Reference:**	KB @ 4955.0ft (No KB)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Ruhl 1B-32H-B264	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Hz	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design S32-T2N-R64W (Newman) - Ruhl 1C-32H-B264 - Hz - Plan #1

Offset Site Error: 0.0 ft

Survey Program: 0-Geolink MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
10,400.0	6,960.0	10,614.3	7,173.0	63.6	63.9	-133.40	-3,470.8	228.3	310.0	215.0	94.96	3.265	
10,500.0	6,960.0	10,714.3	7,173.0	65.4	65.6	-133.40	-3,570.8	228.3	310.0	212.5	97.47	3.181	
10,600.0	6,960.0	10,814.3	7,173.0	67.1	67.3	-133.40	-3,670.8	228.3	310.0	210.0	99.98	3.101	
10,700.0	6,960.0	10,914.3	7,173.0	68.8	69.0	-133.40	-3,770.8	228.3	310.0	207.5	102.49	3.025	
10,800.0	6,960.0	11,014.3	7,173.0	70.5	70.7	-133.40	-3,870.8	228.3	310.0	205.0	105.01	2.952	
10,900.0	6,960.0	11,114.3	7,173.0	72.3	72.5	-133.40	-3,970.8	228.3	310.0	202.5	107.53	2.883	
11,000.0	6,960.0	11,214.3	7,173.0	74.0	74.2	-133.40	-4,070.8	228.3	310.0	199.9	110.05	2.817	
11,100.0	6,960.0	11,314.3	7,173.0	75.7	75.9	-133.40	-4,170.8	228.3	310.0	197.4	112.57	2.754	
11,200.0	6,960.0	11,414.3	7,173.0	77.5	77.6	-133.40	-4,270.8	228.3	310.0	194.9	115.09	2.693	
11,300.0	6,960.0	11,514.3	7,173.0	79.2	79.4	-133.40	-4,370.8	228.3	310.0	192.4	117.62	2.636	
11,400.0	6,960.0	11,614.3	7,173.0	80.9	81.1	-133.40	-4,470.8	228.3	310.0	189.8	120.15	2.580	
11,480.8	6,960.0	11,695.1	7,173.0	82.3	82.5	-133.40	-4,551.6	228.3	310.0	187.8	122.19	2.537	SF

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Ruhl 1B-32H-B264
Project:	DJ Wattenberg	**TVD Reference:**	KB @ 4955.0ft (No KB)
Reference Site:	S32-T2N-R64W (Newman)	**MD Reference:**	KB @ 4955.0ft (No KB)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Ruhl 1B-32H-B264	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Hz	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design S32-T2N-R64W (Newman) - Ruhl 1D-32H-B264 - Hz - Plan #1

Offset Site Error: 0.0 ft

Survey Program: 0-Geolink MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	90.05	0.0	20.1	20.1				
100.0	100.0	100.0	100.0	0.2	0.2	90.05	0.0	20.1	20.1	19.8	0.35	57.700	
200.0	200.0	200.0	200.0	0.3	0.3	90.05	0.0	20.1	20.1	19.4	0.70	28.850	
300.0	300.0	300.0	300.0	0.5	0.5	90.05	0.0	20.1	20.1	19.1	1.05	19.233	
333.5	333.5	333.5	333.5	0.6	0.6	90.05	0.0	20.1	20.1	19.0	1.16	17.303	CC
400.0	400.0	399.9	399.9	0.7	0.7	89.70	0.1	20.3	20.3	18.9	1.40	14.556	ES
500.0	500.0	499.5	499.5	0.9	0.9	87.11	1.1	21.7	21.8	20.0	1.74	12.480	
600.0	600.0	599.1	599.0	1.0	1.1	82.87	3.1	24.6	24.8	22.7	2.09	11.839	
700.0	700.0	698.6	698.3	1.2	1.2	78.19	6.0	28.8	29.5	27.1	2.44	12.075	
800.0	800.0	797.8	797.3	1.4	1.4	73.89	10.0	34.5	36.0	33.2	2.79	12.891	
900.0	900.0	897.3	896.6	1.6	1.6	70.49	14.6	41.1	43.8	40.6	3.14	13.929	
1,000.0	1,000.0	997.0	995.9	1.7	1.9	68.11	19.2	47.8	51.7	48.2	3.49	14.799	
1,100.0	1,100.0	1,096.7	1,095.3	1.9	2.1	67.21	23.8	54.4	58.9	55.1	3.84	15.335	
1,200.0	1,199.9	1,196.5	1,194.7	2.1	2.3	69.47	28.5	61.1	65.1	60.9	4.20	15.487	
1,300.0	1,299.7	1,296.3	1,294.2	2.3	2.5	71.73	33.1	67.8	71.2	66.6	4.57	15.587	
1,400.0	1,399.6	1,396.1	1,393.6	2.5	2.7	73.62	37.7	74.4	77.3	72.4	4.93	15.679	
1,500.0	1,499.5	1,495.9	1,493.1	2.7	2.9	75.24	42.4	81.1	83.6	78.3	5.30	15.761	
1,600.0	1,599.3	1,595.6	1,592.5	2.8	3.2	76.63	47.0	87.8	89.9	84.2	5.68	15.834	
1,700.0	1,699.2	1,695.4	1,692.0	3.0	3.4	77.83	51.6	94.4	96.3	90.2	6.06	15.900	
1,800.0	1,799.0	1,795.2	1,791.4	3.2	3.6	78.89	56.3	101.1	102.7	96.2	6.43	15.959	
1,900.0	1,898.9	1,895.0	1,890.9	3.4	3.8	79.82	60.9	107.8	109.1	102.3	6.81	16.012	
2,000.0	1,998.8	1,994.8	1,990.3	3.6	4.1	80.65	65.5	114.4	115.6	108.4	7.20	16.060	
2,100.0	2,098.6	2,094.5	2,089.8	3.8	4.3	81.39	70.2	121.1	122.0	114.5	7.58	16.104	
2,200.0	2,198.5	2,194.3	2,189.2	4.0	4.5	82.05	74.8	127.8	128.5	120.6	7.96	16.143	
2,300.0	2,298.4	2,294.1	2,288.7	4.2	4.7	82.65	79.4	134.4	135.0	126.7	8.35	16.179	
2,400.0	2,398.2	2,393.9	2,388.1	4.4	4.9	83.20	84.1	141.1	141.6	132.8	8.73	16.212	
2,500.0	2,498.1	2,493.6	2,487.6	4.6	5.2	83.70	88.7	147.8	148.1	139.0	9.12	16.242	
2,600.0	2,597.9	2,593.4	2,587.0	4.8	5.4	84.15	93.3	154.4	154.6	145.1	9.50	16.270	
2,700.0	2,697.8	2,693.2	2,686.5	5.0	5.6	84.57	98.0	161.1	161.2	151.3	9.89	16.295	
2,800.0	2,797.7	2,793.0	2,785.9	5.1	5.8	84.96	102.6	167.8	167.7	157.5	10.28	16.319	
2,900.0	2,897.5	2,892.8	2,885.4	5.3	6.1	85.32	107.2	174.4	174.3	163.6	10.67	16.341	
3,000.0	2,997.4	2,992.5	2,984.8	5.5	6.3	85.65	111.9	181.1	180.9	169.8	11.06	16.362	
3,100.0	3,097.3	3,092.3	3,084.3	5.7	6.5	85.95	116.5	187.8	187.5	176.0	11.44	16.381	
3,200.0	3,197.1	3,192.1	3,183.7	5.9	6.7	86.24	121.2	194.4	194.1	182.2	11.83	16.399	
3,300.0	3,297.0	3,291.9	3,283.1	6.1	7.0	86.51	125.8	201.1	200.6	188.4	12.22	16.415	
3,400.0	3,396.9	3,391.6	3,382.6	6.3	7.2	86.76	130.4	207.8	207.2	194.6	12.61	16.431	
3,500.0	3,496.7	3,491.4	3,482.0	6.5	7.4	87.00	135.1	214.4	213.8	200.8	13.00	16.446	
3,600.0	3,596.6	3,591.2	3,581.5	6.7	7.6	87.22	139.7	221.1	220.4	207.0	13.39	16.460	
3,700.0	3,696.4	3,691.0	3,680.9	6.9	7.9	87.43	144.3	227.8	227.0	213.3	13.78	16.473	
3,800.0	3,796.3	3,790.8	3,780.4	7.1	8.1	87.62	149.0	234.4	233.6	219.5	14.17	16.486	
3,900.0	3,896.2	3,890.5	3,879.8	7.3	8.3	87.81	153.6	241.1	240.2	225.7	14.56	16.497	
4,000.0	3,996.0	3,990.3	3,979.3	7.5	8.5	87.99	158.2	247.8	246.9	231.9	14.95	16.509	
4,100.0	4,095.9	4,090.1	4,078.7	7.7	8.7	88.15	162.9	254.4	253.5	238.1	15.34	16.519	
4,200.0	4,195.8	4,189.9	4,178.2	7.9	9.0	88.31	167.5	261.1	260.1	244.4	15.74	16.529	
4,300.0	4,295.6	4,289.7	4,277.6	8.1	9.2	88.46	172.1	267.8	266.7	250.6	16.13	16.539	
4,400.0	4,395.5	4,389.4	4,377.1	8.3	9.4	88.60	176.8	274.4	273.3	256.8	16.52	16.548	
4,500.0	4,495.4	4,489.2	4,476.5	8.5	9.6	88.74	181.4	281.1	279.9	263.0	16.91	16.557	
4,600.0	4,595.2	4,589.0	4,576.0	8.7	9.9	88.87	186.0	287.8	286.6	269.3	17.30	16.565	
4,700.0	4,695.1	4,688.8	4,675.4	8.9	10.1	89.00	190.7	294.4	293.2	275.5	17.69	16.573	
4,800.0	4,794.9	4,788.5	4,774.9	9.1	10.3	89.11	195.3	301.1	299.8	281.7	18.08	16.581	
4,900.0	4,894.8	4,888.3	4,874.3	9.3	10.5	89.23	199.9	307.8	306.4	288.0	18.47	16.588	
5,000.0	4,994.7	4,988.1	4,973.8	9.4	10.8	89.34	204.6	314.4	313.1	294.2	18.87	16.595	

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Ruhl 1B-32H-B264
Project:	DJ Wattenberg	**TVD Reference:**	KB @ 4955.0ft (No KB)
Reference Site:	S32-T2N-R64W (Newman)	**MD Reference:**	KB @ 4955.0ft (No KB)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Ruhl 1B-32H-B264	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Hz	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design S32-T2N-R64W (Newman) - Ruhl 1D-32H-B264 - Hz - Plan #1

Offset Site Error: 0.0 ft

Survey Program: 0-Geolink MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
5,100.0	5,094.5	5,087.9	5,073.2	9.6	11.0	89.44	209.2	321.1	319.7	300.4	19.26	16.602	
5,200.0	5,194.4	5,187.7	5,172.7	9.8	11.2	89.54	213.8	327.8	326.3	306.7	19.65	16.608	
5,300.0	5,294.3	5,287.4	5,272.1	10.0	11.4	89.64	218.5	334.4	333.0	312.9	20.04	16.614	
5,400.0	5,394.1	5,387.2	5,371.5	10.2	11.7	89.73	223.1	341.1	339.6	319.2	20.43	16.620	
5,500.0	5,494.0	5,487.0	5,471.0	10.4	11.9	89.82	227.7	347.7	346.2	325.4	20.82	16.626	
5,600.0	5,593.8	5,586.8	5,570.4	10.6	12.1	89.90	232.4	354.4	352.9	331.6	21.22	16.632	
5,700.0	5,693.7	5,686.6	5,669.9	10.8	12.3	89.99	237.0	361.1	359.5	337.9	21.61	16.637	
5,800.0	5,793.6	5,786.3	5,769.3	11.0	12.6	90.06	241.6	367.7	366.1	344.1	22.00	16.642	
5,900.0	5,893.4	5,886.1	5,868.8	11.2	12.8	90.14	246.3	374.4	372.8	350.4	22.39	16.647	
6,000.0	5,993.3	5,985.9	5,968.2	11.4	13.0	90.22	250.9	381.1	379.4	356.6	22.78	16.652	
6,100.0	6,093.2	6,085.7	6,067.7	11.6	13.2	90.29	255.5	387.7	386.0	362.9	23.18	16.657	
6,200.0	6,193.0	6,185.4	6,167.1	11.8	13.5	90.36	260.2	394.4	392.7	369.1	23.57	16.661	
6,300.0	6,293.0	6,285.0	6,266.4	11.9	13.7	-88.86	264.8	401.1	399.2	375.3	23.89	16.710	
6,400.0	6,391.9	6,384.3	6,365.4	12.0	13.9	-90.76	266.2	407.7	406.0	381.9	24.02	16.903	
6,500.0	6,488.0	6,485.7	6,465.7	12.0	14.0	-92.45	254.1	414.4	413.1	389.1	23.99	17.221	
6,600.0	6,579.3	6,589.5	6,565.6	11.9	14.0	-94.03	227.1	421.1	420.5	396.6	23.88	17.611	
6,700.0	6,664.1	6,695.7	6,662.8	11.9	14.0	-95.48	184.8	427.6	427.8	404.1	23.76	18.005	
6,800.0	6,740.7	6,804.6	6,754.7	11.9	14.1	-96.79	127.1	433.8	434.9	411.2	23.75	18.310	
6,900.0	6,807.7	6,915.9	6,838.6	12.0	14.2	-97.94	54.3	439.4	441.5	417.6	23.97	18.420	
7,000.0	6,863.6	7,029.5	6,911.6	12.4	14.4	-98.91	-32.5	444.3	447.3	422.8	24.50	18.256	
7,100.0	6,907.5	7,145.2	6,970.9	12.9	14.8	-99.68	-131.6	448.3	452.1	426.6	25.44	17.768	
7,200.0	6,938.5	7,262.5	7,014.0	13.6	15.5	-100.24	-240.5	451.2	455.6	428.7	26.82	16.984	
7,300.0	6,956.0	7,381.0	7,039.0	14.5	16.4	-100.59	-356.2	452.8	457.6	429.0	28.61	15.993	
7,400.0	6,960.0	7,495.9	7,045.0	15.5	17.4	-100.69	-470.8	453.3	458.1	427.4	30.73	14.908	
7,500.0	6,960.0	7,595.9	7,045.0	16.7	18.5	-100.69	-570.8	453.3	458.1	425.1	33.03	13.871	
7,600.0	6,960.0	7,695.9	7,045.0	18.0	19.6	-100.69	-670.8	453.3	458.1	422.6	35.51	12.902	
7,700.0	6,960.0	7,795.9	7,045.0	19.3	20.9	-100.69	-770.8	453.3	458.1	420.0	38.14	12.011	
7,800.0	6,960.0	7,895.9	7,045.0	20.7	22.2	-100.69	-870.8	453.3	458.1	417.2	40.89	11.203	
7,900.0	6,960.0	7,995.9	7,045.0	22.2	23.5	-100.69	-970.8	453.3	458.1	414.4	43.75	10.472	
8,000.0	6,960.0	8,095.9	7,045.0	23.7	24.9	-100.69	-1,070.8	453.3	458.1	411.5	46.68	9.814	
8,100.0	6,960.0	8,195.9	7,045.0	25.2	26.4	-100.69	-1,170.8	453.3	458.1	408.5	49.68	9.222	
8,200.0	6,960.0	8,295.9	7,045.0	26.7	27.9	-100.69	-1,270.8	453.3	458.1	405.4	52.73	8.688	
8,300.0	6,960.0	8,395.9	7,045.0	28.3	29.4	-100.69	-1,370.8	453.3	458.1	402.3	55.83	8.205	
8,400.0	6,960.0	8,495.9	7,045.0	29.9	30.9	-100.69	-1,470.8	453.3	458.1	399.2	58.97	7.769	
8,500.0	6,960.0	8,595.9	7,045.0	31.5	32.5	-100.69	-1,570.8	453.3	458.1	396.0	62.14	7.372	
8,600.0	6,960.0	8,695.9	7,045.0	33.2	34.1	-100.69	-1,670.8	453.3	458.1	392.8	65.34	7.011	
8,700.0	6,960.0	8,795.9	7,045.0	34.8	35.7	-100.69	-1,770.8	453.3	458.1	389.6	68.57	6.682	
8,800.0	6,960.0	8,895.9	7,045.0	36.5	37.3	-100.69	-1,870.8	453.3	458.1	386.3	71.81	6.380	
8,900.0	6,960.0	8,995.9	7,045.0	38.1	38.9	-100.69	-1,970.8	453.3	458.1	383.1	75.07	6.103	
9,000.0	6,960.0	9,095.9	7,045.0	39.8	40.6	-100.69	-2,070.8	453.3	458.1	379.8	78.35	5.847	
9,100.0	6,960.0	9,195.9	7,045.0	41.5	42.2	-100.69	-2,170.8	453.3	458.1	376.5	81.64	5.611	
9,200.0	6,960.0	9,295.9	7,045.0	43.1	43.9	-100.69	-2,270.8	453.3	458.1	373.2	84.95	5.393	
9,300.0	6,960.0	9,395.9	7,045.0	44.8	45.5	-100.69	-2,370.8	453.3	458.1	369.9	88.26	5.191	
9,400.0	6,960.0	9,495.9	7,045.0	46.5	47.2	-100.69	-2,470.8	453.3	458.1	366.5	91.59	5.002	
9,500.0	6,960.0	9,595.9	7,045.0	48.2	48.9	-100.69	-2,570.8	453.3	458.1	363.2	94.92	4.826	
9,600.0	6,960.0	9,695.9	7,045.0	49.9	50.5	-100.69	-2,670.8	453.3	458.1	359.9	98.26	4.662	
9,700.0	6,960.0	9,795.9	7,045.0	51.6	52.2	-100.69	-2,770.8	453.3	458.1	356.5	101.61	4.509	
9,800.0	6,960.0	9,895.9	7,045.0	53.3	53.9	-100.69	-2,870.8	453.3	458.1	353.2	104.97	4.364	
9,900.0	6,960.0	9,995.9	7,045.0	55.0	55.6	-100.69	-2,970.8	453.3	458.1	349.8	108.33	4.229	
10,000.0	6,960.0	10,095.9	7,045.0	56.8	57.3	-100.69	-3,070.8	453.3	458.1	346.4	111.70	4.102	
10,100.0	6,960.0	10,195.9	7,045.0	58.5	59.0	-100.69	-3,170.8	453.3	458.1	343.1	115.07	3.981	
10,200.0	6,960.0	10,295.9	7,045.0	60.2	60.7	-100.69	-3,270.8	453.3	458.1	339.7	118.44	3.868	

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Ruhl 1B-32H-B264
Project:	DJ Wattenberg	**TVD Reference:**	KB @ 4955.0ft (No KB)
Reference Site:	S32-T2N-R64W (Newman)	**MD Reference:**	KB @ 4955.0ft (No KB)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Ruhl 1B-32H-B264	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Hz	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design S32-T2N-R64W (Newman) - Ruhl 1D-32H-B264 - Hz - Plan #1

Offset Site Error: 0.0 ft

Survey Program: 0-Geolink MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
10,300.0	6,960.0	10,395.9	7,045.0	61.9	62.4	-100.69	-3,370.8	453.3	458.1	336.3	121.82	3.761	
10,400.0	6,960.0	10,495.9	7,045.0	63.6	64.1	-100.69	-3,470.8	453.3	458.1	332.9	125.21	3.659	
10,500.0	6,960.0	10,595.9	7,045.0	65.4	65.8	-100.69	-3,570.8	453.3	458.1	329.5	128.59	3.563	
10,600.0	6,960.0	10,695.9	7,045.0	67.1	67.6	-100.69	-3,670.8	453.3	458.1	326.1	131.98	3.471	
10,700.0	6,960.0	10,795.9	7,045.0	68.8	69.3	-100.69	-3,770.8	453.3	458.1	322.8	135.38	3.384	
10,800.0	6,960.0	10,895.9	7,045.0	70.5	71.0	-100.69	-3,870.8	453.3	458.1	319.4	138.77	3.301	
10,900.0	6,960.0	10,995.9	7,045.0	72.3	72.7	-100.69	-3,970.8	453.3	458.1	316.0	142.17	3.222	
11,000.0	6,960.0	11,095.9	7,045.0	74.0	74.4	-100.69	-4,070.8	453.3	458.1	312.6	145.57	3.147	
11,100.0	6,960.0	11,195.9	7,045.0	75.7	76.1	-100.69	-4,170.8	453.3	458.1	309.2	148.97	3.075	
11,200.0	6,960.0	11,295.9	7,045.0	77.5	77.9	-100.69	-4,270.8	453.3	458.1	305.8	152.38	3.007	
11,300.0	6,960.0	11,395.9	7,045.0	79.2	79.6	-100.69	-4,370.8	453.3	458.1	302.3	155.79	2.941	
11,400.0	6,960.0	11,495.9	7,045.0	80.9	81.3	-100.69	-4,470.8	453.3	458.1	298.9	159.19	2.878	
11,480.8	6,960.0	11,576.7	7,045.0	82.3	82.7	-100.69	-4,551.6	453.3	458.1	296.2	161.95	2.829	SF

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Ruhl 1B-32H-B264
Project:	DJ Wattenberg	**TVD Reference:**	KB @ 4955.0ft (No KB)
Reference Site:	S32-T2N-R64W (Newman)	**MD Reference:**	KB @ 4955.0ft (No KB)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Ruhl 1B-32H-B264	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Hz	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design S32-T2N-R64W (Newman) - Ruhl 1E-32H-B264 - Hz - Plan #1

Offset Site Error: 0.0 ft

Survey Program: 0-Geolink MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	90.70	-0.4	29.9	29.9				
100.0	100.0	100.0	100.0	0.2	0.2	90.70	-0.4	29.9	29.9	29.6	0.35	85.755	
200.0	200.0	200.0	200.0	0.3	0.3	90.70	-0.4	29.9	29.9	29.2	0.70	42.877	
300.0	300.0	300.0	300.0	0.5	0.5	90.70	-0.4	29.9	29.9	28.9	1.05	28.585	
400.0	400.0	400.0	400.0	0.7	0.7	90.70	-0.4	29.9	29.9	28.5	1.40	21.439	
500.0	500.0	500.0	500.0	0.9	0.9	90.70	-0.4	29.9	29.9	28.2	1.75	17.151	
533.4	533.4	533.4	533.4	0.9	0.9	90.70	-0.4	29.9	29.9	28.1	1.86	16.078	CC
600.0	600.0	599.8	599.8	1.0	1.0	90.52	-0.3	30.1	30.1	28.0	2.09	14.389	ES
700.0	700.0	699.3	699.2	1.2	1.2	89.17	0.5	31.7	31.7	29.3	2.44	12.982	
800.0	800.0	798.7	798.6	1.4	1.4	86.85	1.9	34.8	34.9	32.1	2.79	12.505	
900.0	900.0	897.9	897.7	1.6	1.6	84.07	4.1	39.5	39.8	36.6	3.14	12.670	
1,000.0	1,000.0	997.0	996.5	1.7	1.8	81.29	7.0	45.7	46.4	42.9	3.49	13.298	
1,100.0	1,100.0	1,095.8	1,095.0	1.9	2.0	79.82	10.6	53.5	54.4	50.6	3.84	14.176	
1,200.0	1,199.9	1,194.4	1,193.0	2.1	2.2	81.48	14.9	62.7	63.6	59.4	4.20	15.158	
1,300.0	1,299.7	1,293.6	1,291.5	2.3	2.4	82.81	19.8	73.2	74.0	69.4	4.56	16.226	
1,400.0	1,399.6	1,393.0	1,390.3	2.5	2.7	83.80	24.7	83.7	84.4	79.5	4.93	17.139	
1,500.0	1,499.5	1,492.4	1,489.0	2.7	2.9	84.58	29.7	94.3	94.9	89.6	5.30	17.918	
1,600.0	1,599.3	1,591.9	1,587.8	2.8	3.2	85.20	34.6	104.8	105.4	99.7	5.67	18.587	
1,700.0	1,699.2	1,691.3	1,686.6	3.0	3.4	85.70	39.5	115.3	115.9	109.9	6.05	19.169	
1,800.0	1,799.0	1,790.8	1,785.3	3.2	3.7	86.13	44.4	125.9	126.4	120.0	6.42	19.678	
1,900.0	1,898.9	1,890.2	1,884.1	3.4	3.9	86.48	49.4	136.4	136.9	130.1	6.80	20.126	
2,000.0	1,998.8	1,989.6	1,982.8	3.6	4.2	86.79	54.3	147.0	147.5	140.3	7.19	20.524	
2,100.0	2,098.6	2,089.1	2,081.6	3.8	4.5	87.06	59.2	157.5	158.0	150.4	7.57	20.879	
2,200.0	2,198.5	2,188.5	2,180.4	4.0	4.7	87.29	64.1	168.1	168.5	160.6	7.95	21.197	
2,300.0	2,298.4	2,288.0	2,279.1	4.2	5.0	87.50	69.0	178.6	179.1	170.7	8.33	21.485	
2,400.0	2,398.2	2,387.4	2,377.9	4.4	5.2	87.68	74.0	189.1	189.6	180.9	8.72	21.745	
2,500.0	2,498.1	2,486.9	2,476.6	4.6	5.5	87.84	78.9	199.7	200.1	191.0	9.10	21.982	
2,600.0	2,597.9	2,586.3	2,575.4	4.8	5.8	87.99	83.8	210.2	210.7	201.2	9.49	22.199	
2,700.0	2,697.8	2,685.7	2,674.2	5.0	6.0	88.12	88.7	220.8	221.2	211.3	9.88	22.398	
2,800.0	2,797.7	2,785.2	2,772.9	5.1	6.3	88.24	93.6	231.3	231.8	221.5	10.26	22.580	
2,900.0	2,897.5	2,884.6	2,871.7	5.3	6.6	88.35	98.6	241.8	242.3	231.6	10.65	22.749	
3,000.0	2,997.4	2,984.1	2,970.4	5.5	6.8	88.45	103.5	252.4	252.8	241.8	11.04	22.905	
3,100.0	3,097.3	3,083.5	3,069.2	5.7	7.1	88.55	108.4	262.9	263.4	252.0	11.43	23.051	
3,200.0	3,197.1	3,183.0	3,167.9	5.9	7.3	88.63	113.3	273.5	273.9	262.1	11.81	23.186	
3,300.0	3,297.0	3,282.4	3,266.7	6.1	7.6	88.71	118.3	284.0	284.5	272.3	12.20	23.311	
3,400.0	3,396.9	3,381.8	3,365.5	6.3	7.9	88.79	123.2	294.5	295.0	282.4	12.59	23.429	
3,500.0	3,496.7	3,481.3	3,464.2	6.5	8.1	88.86	128.1	305.1	305.6	292.6	12.98	23.540	
3,600.0	3,596.6	3,580.7	3,563.0	6.7	8.4	88.92	133.0	315.6	316.1	302.7	13.37	23.643	
3,700.0	3,696.4	3,680.2	3,661.7	6.9	8.7	88.98	137.9	326.2	326.6	312.9	13.76	23.741	
3,800.0	3,796.3	3,779.6	3,760.5	7.1	8.9	89.04	142.9	336.7	337.2	323.0	14.15	23.832	
3,900.0	3,896.2	3,879.0	3,859.3	7.3	9.2	89.09	147.8	347.2	347.7	333.2	14.54	23.919	
4,000.0	3,996.0	3,978.5	3,958.0	7.5	9.5	89.14	152.7	357.8	358.3	343.4	14.93	24.001	
4,100.0	4,095.9	4,077.9	4,056.8	7.7	9.7	89.19	157.6	368.3	368.8	353.5	15.32	24.079	
4,200.0	4,195.8	4,177.4	4,155.5	7.9	10.0	89.23	162.5	378.9	379.4	363.7	15.71	24.152	
4,300.0	4,295.6	4,276.8	4,254.3	8.1	10.3	89.27	167.5	389.4	389.9	373.8	16.10	24.222	
4,400.0	4,395.5	4,376.3	4,353.1	8.3	10.5	89.31	172.4	400.0	400.5	384.0	16.49	24.288	
4,500.0	4,495.4	4,475.7	4,451.8	8.5	10.8	89.35	177.3	410.5	411.0	394.1	16.88	24.352	
4,600.0	4,595.2	4,575.1	4,550.6	8.7	11.1	89.39	182.2	421.0	421.6	404.3	17.27	24.412	
4,700.0	4,695.1	4,674.6	4,649.3	8.9	11.3	89.42	187.1	431.6	432.1	414.5	17.66	24.469	
4,800.0	4,794.9	4,774.0	4,748.1	9.1	11.6	89.45	192.1	442.1	442.7	424.6	18.05	24.524	
4,900.0	4,894.8	4,873.5	4,846.9	9.3	11.9	89.48	197.0	452.7	453.2	434.8	18.44	24.577	
5,000.0	4,994.7	4,972.9	4,945.6	9.4	12.1	89.51	201.9	463.2	463.8	444.9	18.83	24.627	

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Ruhl 1B-32H-B264
Project:	DJ Wattenberg	**TVD Reference:**	KB @ 4955.0ft (No KB)
Reference Site:	S32-T2N-R64W (Newman)	**MD Reference:**	KB @ 4955.0ft (No KB)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Ruhl 1B-32H-B264	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Hz	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design S32-T2N-R64W (Newman) - Ruhl 1E-32H-B264 - Hz - Plan #1

Offset Site Error: 0.0 ft

Survey Program: 0-Geolink MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
5,100.0	5,094.5	5,072.3	5,044.4	9.6	12.4	89.54	206.8	473.7	474.3	455.1	19.22	24.675	
5,200.0	5,194.4	5,171.8	5,143.1	9.8	12.7	89.57	211.8	484.3	484.9	465.2	19.61	24.721	
5,300.0	5,294.3	5,271.2	5,241.9	10.0	12.9	89.59	216.7	494.8	495.4	475.4	20.00	24.765	
5,400.0	5,394.1	5,370.7	5,340.6	10.2	13.2	89.62	221.6	505.4	506.0	485.6	20.40	24.807	
5,500.0	5,494.0	5,470.1	5,439.4	10.4	13.5	89.64	226.5	515.9	516.5	495.7	20.79	24.848	
5,600.0	5,593.8	5,569.6	5,538.2	10.6	13.7	89.66	231.4	526.4	527.1	505.9	21.18	24.887	
5,700.0	5,693.7	5,669.0	5,636.9	10.8	14.0	89.69	236.4	537.0	537.6	516.0	21.57	24.925	
5,800.0	5,793.6	5,768.4	5,735.7	11.0	14.3	89.71	241.3	547.5	548.2	526.2	21.96	24.962	
5,900.0	5,893.4	5,867.9	5,834.4	11.2	14.5	89.73	246.2	558.1	558.7	536.4	22.35	24.997	
6,000.0	5,993.3	5,967.3	5,933.2	11.4	14.8	89.75	251.1	568.6	569.3	546.5	22.74	25.030	
6,100.0	6,093.2	6,066.8	6,032.0	11.6	15.1	89.77	256.0	579.1	579.8	556.7	23.13	25.063	
6,200.0	6,193.0	6,166.2	6,130.7	11.8	15.3	89.78	261.0	589.7	590.4	566.8	23.53	25.094	
6,300.0	6,293.0	6,265.4	6,229.2	11.9	15.6	-88.94	265.7	600.2	600.9	577.0	23.87	25.170	
6,400.0	6,391.9	6,364.8	6,327.9	12.0	15.8	-89.29	261.4	610.7	611.4	587.3	24.02	25.450	
6,500.0	6,488.0	6,465.5	6,426.3	12.0	15.9	-89.40	243.1	621.2	621.7	597.7	24.02	25.882	
6,600.0	6,579.3	6,567.7	6,522.5	11.9	16.0	-89.49	210.5	631.5	631.7	607.7	23.93	26.401	
6,700.0	6,664.1	6,671.3	6,614.4	11.9	16.1	-89.57	163.8	641.3	641.1	617.2	23.82	26.908	
6,800.0	6,740.7	6,776.5	6,699.8	11.9	16.2	-89.64	103.2	650.4	649.7	625.8	23.83	27.267	
6,900.0	6,807.7	6,883.1	6,776.4	12.0	16.4	-89.71	29.7	658.6	657.3	633.2	24.05	27.328	
7,000.0	6,863.6	6,991.1	6,842.1	12.4	16.6	-89.78	-55.6	665.6	663.7	639.1	24.62	26.963	
7,100.0	6,907.5	7,100.2	6,894.8	12.9	17.0	-89.84	-150.8	671.2	668.8	643.2	25.60	26.127	
7,200.0	6,938.5	7,210.2	6,932.7	13.6	17.6	-89.90	-253.9	675.3	672.5	645.5	27.04	24.868	
7,300.0	6,956.0	7,320.9	6,954.6	14.5	18.4	-89.96	-362.3	677.6	674.6	645.7	28.91	23.337	
7,400.0	6,960.0	7,429.7	6,960.0	15.5	19.3	-90.00	-470.8	678.2	675.1	644.0	31.10	21.711	
7,500.0	6,960.0	7,529.7	6,960.0	16.7	20.3	-90.00	-570.8	678.2	675.1	641.7	33.44	20.192	
7,600.0	6,960.0	7,629.7	6,960.0	18.0	21.3	-90.00	-670.8	678.2	675.1	639.2	35.96	18.774	
7,700.0	6,960.0	7,729.7	6,960.0	19.3	22.4	-90.00	-770.8	678.2	675.1	636.5	38.64	17.471	
7,800.0	6,960.0	7,829.7	6,960.0	20.7	23.7	-90.00	-870.8	678.2	675.1	633.7	41.45	16.289	
7,900.0	6,960.0	7,929.7	6,960.0	22.2	24.9	-90.00	-970.8	678.2	675.1	630.8	44.35	15.222	
8,000.0	6,960.0	8,029.7	6,960.0	23.7	26.3	-90.00	-1,070.8	678.2	675.1	627.8	47.34	14.262	
8,100.0	6,960.0	8,129.7	6,960.0	25.2	27.7	-90.00	-1,170.8	678.2	675.1	624.7	50.39	13.398	
8,200.0	6,960.0	8,229.7	6,960.0	26.7	29.1	-90.00	-1,270.8	678.2	675.1	621.6	53.50	12.619	
8,300.0	6,960.0	8,329.7	6,960.0	28.3	30.5	-90.00	-1,370.8	678.2	675.1	618.5	56.66	11.916	
8,400.0	6,960.0	8,429.7	6,960.0	29.9	32.0	-90.00	-1,470.8	678.2	675.1	615.3	59.85	11.280	
8,500.0	6,960.0	8,529.7	6,960.0	31.5	33.5	-90.00	-1,570.8	678.2	675.1	612.0	63.08	10.703	
8,600.0	6,960.0	8,629.7	6,960.0	33.2	35.1	-90.00	-1,670.8	678.2	675.1	608.8	66.34	10.177	
8,700.0	6,960.0	8,729.7	6,960.0	34.8	36.6	-90.00	-1,770.8	678.2	675.1	605.5	69.62	9.697	
8,800.0	6,960.0	8,829.7	6,960.0	36.5	38.2	-90.00	-1,870.8	678.2	675.1	602.2	72.92	9.258	
8,900.0	6,960.0	8,929.7	6,960.0	38.1	39.8	-90.00	-1,970.8	678.2	675.1	598.9	76.24	8.855	
9,000.0	6,960.0	9,029.7	6,960.0	39.8	41.4	-90.00	-2,070.8	678.2	675.1	595.5	79.58	8.484	
9,100.0	6,960.0	9,129.7	6,960.0	41.5	43.0	-90.00	-2,170.8	678.2	675.1	592.2	82.93	8.141	
9,200.0	6,960.0	9,229.7	6,960.0	43.1	44.6	-90.00	-2,270.8	678.2	675.1	588.8	86.30	7.823	
9,300.0	6,960.0	9,329.7	6,960.0	44.8	46.3	-90.00	-2,370.8	678.2	675.1	585.5	89.67	7.529	
9,400.0	6,960.0	9,429.7	6,960.0	46.5	47.9	-90.00	-2,470.8	678.2	675.1	582.1	93.05	7.255	
9,500.0	6,960.0	9,529.7	6,960.0	48.2	49.6	-90.00	-2,570.8	678.2	675.1	578.7	96.45	7.000	
9,600.0	6,960.0	9,629.7	6,960.0	49.9	51.2	-90.00	-2,670.8	678.2	675.1	575.3	99.85	6.761	
9,700.0	6,960.0	9,729.7	6,960.0	51.6	52.9	-90.00	-2,770.8	678.2	675.1	571.9	103.26	6.538	
9,800.0	6,960.0	9,829.7	6,960.0	53.3	54.5	-90.00	-2,870.8	678.2	675.1	568.5	106.67	6.329	
9,900.0	6,960.0	9,929.7	6,960.0	55.0	56.2	-90.00	-2,970.8	678.2	675.1	565.0	110.09	6.132	
10,000.0	6,960.0	10,029.7	6,960.0	56.8	57.9	-90.00	-3,070.8	678.2	675.1	561.6	113.52	5.947	
10,100.0	6,960.0	10,129.7	6,960.0	58.5	59.6	-90.00	-3,170.8	678.2	675.1	558.2	116.95	5.773	
10,200.0	6,960.0	10,229.7	6,960.0	60.2	61.3	-90.00	-3,270.8	678.2	675.1	554.7	120.39	5.608	

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Ruhl 1B-32H-B264
Project:	DJ Wattenberg	**TVD Reference:**	KB @ 4955.0ft (No KB)
Reference Site:	S32-T2N-R64W (Newman)	**MD Reference:**	KB @ 4955.0ft (No KB)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Ruhl 1B-32H-B264	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Hz	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design S32-T2N-R64W (Newman) - Ruhl 1E-32H-B264 - Hz - Plan #1

Offset Site Error: 0.0 ft

Survey Program: 0-Geolink MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
10,300.0	6,960.0	10,329.7	6,960.0	61.9	63.0	-90.00	-3,370.8	678.2	675.1	551.3	123.83	5.452	
10,400.0	6,960.0	10,429.7	6,960.0	63.6	64.6	-90.00	-3,470.8	678.2	675.1	547.9	127.27	5.305	
10,500.0	6,960.0	10,529.7	6,960.0	65.4	66.3	-90.00	-3,570.8	678.2	675.1	544.4	130.72	5.165	
10,600.0	6,960.0	10,629.7	6,960.0	67.1	68.0	-90.00	-3,670.8	678.2	675.1	541.0	134.17	5.032	
10,700.0	6,960.0	10,729.7	6,960.0	68.8	69.7	-90.00	-3,770.8	678.2	675.1	537.5	137.62	4.906	
10,800.0	6,960.0	10,829.7	6,960.0	70.5	71.5	-90.00	-3,870.8	678.2	675.1	534.1	141.07	4.786	
10,900.0	6,960.0	10,929.7	6,960.0	72.3	73.2	-90.00	-3,970.8	678.2	675.1	530.6	144.53	4.671	
11,000.0	6,960.0	11,029.7	6,960.0	74.0	74.9	-90.00	-4,070.8	678.2	675.1	527.1	147.99	4.562	
11,100.0	6,960.0	11,129.7	6,960.0	75.7	76.6	-90.00	-4,170.8	678.2	675.1	523.7	151.46	4.458	
11,200.0	6,960.0	11,229.7	6,960.0	77.5	78.3	-90.00	-4,270.8	678.2	675.1	520.2	154.92	4.358	
11,300.0	6,960.0	11,329.7	6,960.0	79.2	80.0	-90.00	-4,370.8	678.2	675.1	516.7	158.39	4.263	
11,400.0	6,960.0	11,429.7	6,960.0	80.9	81.7	-90.00	-4,470.8	678.2	675.1	513.3	161.85	4.171	
11,480.8	6,960.0	11,510.5	6,960.0	82.3	83.1	-90.00	-4,551.6	678.2	675.1	510.5	164.66	4.100 SF	

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Ruhl 1B-32H-B264
Project:	DJ Wattenberg	**TVD Reference:**	KB @ 4955.0ft (No KB)
Reference Site:	S32-T2N-R64W (Newman)	**MD Reference:**	KB @ 4955.0ft (No KB)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Ruhl 1B-32H-B264	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Hz	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design S32-T2N-R64W (Newman) - Ruhl 1F-32H-B264 - Hz - Plan #1

Offset Site Error: 0.0 ft

Survey Program: 0-Geolink MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	90.51	-0.4	40.0	40.0				
100.0	100.0	100.0	100.0	0.2	0.2	90.51	-0.4	40.0	40.0	39.7	0.35	114.603	
200.0	200.0	200.0	200.0	0.3	0.3	90.51	-0.4	40.0	40.0	39.3	0.70	57.302	
300.0	300.0	300.0	300.0	0.5	0.5	90.51	-0.4	40.0	40.0	39.0	1.05	38.201	
400.0	400.0	400.0	400.0	0.7	0.7	90.51	-0.4	40.0	40.0	38.6	1.40	28.651	
500.0	500.0	500.0	500.0	0.9	0.9	90.51	-0.4	40.0	40.0	38.3	1.75	22.921	CC, ES
600.0	600.0	599.3	599.3	1.0	1.0	90.10	-0.1	40.8	40.8	38.7	2.09	19.501	
700.0	700.0	698.6	698.6	1.2	1.2	88.98	0.8	43.3	43.3	40.8	2.44	17.730	
800.0	800.0	797.8	797.6	1.4	1.4	87.36	2.2	47.3	47.4	44.6	2.79	16.999	
900.0	900.0	896.8	896.4	1.6	1.6	85.52	4.1	53.0	53.3	50.1	3.14	16.973	
1,000.0	1,000.0	995.5	994.9	1.7	1.8	83.69	6.7	60.2	60.8	57.3	3.49	17.448	
1,100.0	1,100.0	1,094.0	1,092.9	1.9	2.0	82.63	9.7	69.1	69.9	66.0	3.83	18.218	
1,200.0	1,199.9	1,192.2	1,190.5	2.1	2.2	84.19	13.3	79.5	80.2	76.0	4.19	19.146	
1,300.0	1,299.7	1,290.0	1,287.5	2.3	2.5	85.45	17.5	91.4	92.2	87.7	4.55	20.271	
1,400.0	1,399.6	1,388.4	1,384.9	2.5	2.8	86.22	22.1	104.7	105.7	100.7	4.92	21.491	
1,500.0	1,499.5	1,487.5	1,483.0	2.7	3.0	86.80	26.8	118.2	119.2	113.9	5.29	22.552	
1,600.0	1,599.3	1,586.6	1,581.0	2.8	3.3	87.26	31.5	131.7	132.8	127.1	5.66	23.465	
1,700.0	1,699.2	1,685.7	1,679.0	3.0	3.6	87.63	36.2	145.2	146.4	140.3	6.03	24.257	
1,800.0	1,799.0	1,784.7	1,777.1	3.2	3.9	87.94	40.9	158.8	159.9	153.5	6.41	24.949	
1,900.0	1,898.9	1,883.8	1,875.1	3.4	4.2	88.20	45.6	172.3	173.5	166.7	6.79	25.559	
2,000.0	1,998.8	1,982.9	1,973.1	3.6	4.5	88.43	50.3	185.8	187.1	179.9	7.17	26.100	
2,100.0	2,098.6	2,081.9	2,071.1	3.8	4.8	88.62	55.0	199.3	200.7	193.2	7.55	26.583	
2,200.0	2,198.5	2,181.0	2,169.2	4.0	5.1	88.79	59.6	212.9	214.3	206.4	7.93	27.017	
2,300.0	2,298.4	2,280.1	2,267.2	4.2	5.4	88.94	64.3	226.4	227.9	219.6	8.31	27.408	
2,400.0	2,398.2	2,379.1	2,365.2	4.4	5.7	89.07	69.0	239.9	241.5	232.8	8.70	27.762	
2,500.0	2,498.1	2,478.2	2,463.3	4.6	6.0	89.19	73.7	253.4	255.1	246.0	9.08	28.085	
2,600.0	2,597.9	2,577.3	2,561.3	4.8	6.3	89.29	78.4	267.0	268.7	259.2	9.47	28.379	
2,700.0	2,697.8	2,676.4	2,659.3	5.0	6.6	89.39	83.1	280.5	282.3	272.4	9.85	28.650	
2,800.0	2,797.7	2,775.4	2,757.4	5.1	6.9	89.48	87.8	294.0	295.9	285.6	10.24	28.898	
2,900.0	2,897.5	2,874.5	2,855.4	5.3	7.2	89.56	92.5	307.5	309.5	298.8	10.62	29.128	
3,000.0	2,997.4	2,973.6	2,953.4	5.5	7.5	89.63	97.2	321.1	323.1	312.1	11.01	29.340	
3,100.0	3,097.3	3,072.6	3,051.4	5.7	7.8	89.70	101.9	334.6	336.7	325.3	11.40	29.538	
3,200.0	3,197.1	3,171.7	3,149.5	5.9	8.1	89.76	106.6	348.1	350.3	338.5	11.79	29.721	
3,300.0	3,297.0	3,270.8	3,247.5	6.1	8.4	89.81	111.3	361.6	363.9	351.7	12.17	29.893	
3,400.0	3,396.9	3,369.8	3,345.5	6.3	8.7	89.87	116.0	375.1	377.5	364.9	12.56	30.053	
3,500.0	3,496.7	3,468.9	3,443.6	6.5	9.0	89.92	120.7	388.7	391.1	378.1	12.95	30.203	
3,600.0	3,596.6	3,568.0	3,541.6	6.7	9.3	89.96	125.4	402.2	404.7	391.3	13.34	30.344	
3,700.0	3,696.4	3,667.1	3,639.6	6.9	9.6	90.01	130.1	415.7	418.3	404.6	13.72	30.476	
3,800.0	3,796.3	3,766.1	3,737.7	7.1	9.9	90.05	134.8	429.2	431.9	417.8	14.11	30.601	
3,900.0	3,896.2	3,865.2	3,835.7	7.3	10.2	90.08	139.4	442.8	445.5	431.0	14.50	30.719	
4,000.0	3,996.0	3,964.3	3,933.7	7.5	10.5	90.12	144.1	456.3	459.1	444.2	14.89	30.831	
4,100.0	4,095.9	4,063.3	4,031.8	7.7	10.8	90.15	148.8	469.8	472.7	457.4	15.28	30.936	
4,200.0	4,195.8	4,162.4	4,129.8	7.9	11.1	90.18	153.5	483.3	486.3	470.6	15.67	31.036	
4,300.0	4,295.6	4,261.5	4,227.8	8.1	11.4	90.21	158.2	496.9	499.9	483.8	16.06	31.131	
4,400.0	4,395.5	4,360.5	4,325.8	8.3	11.7	90.24	162.9	510.4	513.5	497.1	16.45	31.222	
4,500.0	4,495.4	4,459.6	4,423.9	8.5	12.0	90.27	167.6	523.9	527.1	510.3	16.84	31.308	
4,600.0	4,595.2	4,558.7	4,521.9	8.7	12.3	90.29	172.3	537.4	540.7	523.5	17.23	31.390	
4,700.0	4,695.1	4,657.8	4,619.9	8.9	12.6	90.32	177.0	550.9	554.3	536.7	17.62	31.468	
4,800.0	4,794.9	4,756.8	4,718.0	9.1	12.9	90.34	181.7	564.5	567.9	549.9	18.00	31.542	
4,900.0	4,894.8	4,855.9	4,816.0	9.3	13.2	90.36	186.4	578.0	581.5	563.1	18.39	31.614	
5,000.0	4,994.7	4,955.0	4,914.0	9.4	13.5	90.38	191.1	591.5	595.1	576.3	18.78	31.682	
5,100.0	5,094.5	5,054.0	5,012.1	9.6	13.8	90.40	195.8	605.0	608.7	589.6	19.17	31.747	

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Ruhl 1B-32H-B264
Project:	DJ Wattenberg	**TVD Reference:**	KB @ 4955.0ft (No KB)
Reference Site:	S32-T2N-R64W (Newman)	**MD Reference:**	KB @ 4955.0ft (No KB)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Ruhl 1B-32H-B264	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Hz	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design S32-T2N-R64W (Newman) - Ruhl 1F-32H-B264 - Hz - Plan #1

Offset Site Error: 0.0 ft

Survey Program: 0-Geolink MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
5,200.0	5,194.4	5,153.1	5,110.1	9.8	14.1	90.42	200.5	618.6	622.3	602.8	19.56	31.810	
5,300.0	5,294.3	5,252.2	5,208.1	10.0	14.4	90.44	205.2	632.1	635.9	616.0	19.95	31.870	
5,400.0	5,394.1	5,351.2	5,306.1	10.2	14.7	90.46	209.9	645.6	649.5	629.2	20.34	31.928	
5,500.0	5,494.0	5,450.3	5,404.2	10.4	15.0	90.48	214.6	659.1	663.1	642.4	20.73	31.984	
5,600.0	5,593.8	5,549.4	5,502.2	10.6	15.4	90.49	219.2	672.7	676.8	655.6	21.12	32.037	
5,700.0	5,693.7	5,648.5	5,600.2	10.8	15.7	90.51	223.9	686.2	690.4	668.8	21.51	32.088	
5,800.0	5,793.6	5,747.5	5,698.3	11.0	16.0	90.52	228.6	699.7	704.0	682.1	21.90	32.138	
5,900.0	5,893.4	5,846.6	5,796.3	11.2	16.3	90.54	233.3	713.2	717.6	695.3	22.29	32.185	
6,000.0	5,993.3	5,945.7	5,894.3	11.4	16.6	90.55	238.0	726.8	731.2	708.5	22.69	32.231	
6,100.0	6,093.2	6,044.7	5,992.4	11.6	16.9	90.57	242.7	740.3	744.8	721.7	23.08	32.276	
6,200.0	6,193.0	6,143.8	6,090.4	11.8	17.2	90.58	247.4	753.8	758.4	734.9	23.47	32.319	
6,300.0	6,293.0	6,242.7	6,188.2	11.9	17.5	-87.85	252.1	767.3	771.9	748.0	23.85	32.359	
6,400.0	6,391.9	6,340.0	6,284.5	12.0	17.8	-88.41	256.7	780.6	785.2	761.1	24.07	32.626	
6,500.0	6,488.0	6,433.7	6,377.3	12.0	18.1	-89.54	261.1	793.4	799.0	774.9	24.13	33.114	
6,600.0	6,579.3	6,526.6	6,469.1	11.9	18.4	-91.21	264.4	806.1	814.5	790.4	24.09	33.803	
6,700.0	6,664.1	6,629.1	6,570.3	11.9	18.6	-93.09	256.3	820.0	831.6	807.6	24.00	34.644	
6,800.0	6,740.7	6,740.6	6,677.7	11.9	18.8	-94.99	231.0	834.8	849.8	825.9	23.94	35.495	
6,900.0	6,807.7	6,863.1	6,789.8	12.0	19.0	-96.89	184.3	850.3	868.4	844.4	24.00	36.187	
7,000.0	6,863.6	6,998.8	6,902.6	12.4	19.1	-98.77	110.8	865.9	886.3	862.0	24.29	36.492	
7,100.0	6,907.5	7,149.7	7,009.4	12.9	19.4	-100.54	5.7	880.6	902.2	877.3	24.97	36.134	
7,200.0	6,938.5	7,315.9	7,099.0	13.6	20.0	-102.02	-133.3	892.9	914.9	888.7	26.22	34.889	
7,300.0	6,956.0	7,495.2	7,157.4	14.5	20.9	-103.01	-302.2	901.0	922.8	894.6	28.16	32.774	
7,400.0	6,960.0	7,665.0	7,173.0	15.5	22.0	-103.31	-470.8	903.2	924.9	894.3	30.63	30.198	
7,500.0	6,960.0	7,765.0	7,173.0	16.7	22.9	-103.31	-570.8	903.2	924.9	892.0	32.90	28.111	
7,600.0	6,960.0	7,865.0	7,173.0	18.0	23.8	-103.31	-670.8	903.2	924.9	889.6	35.35	26.163	
7,700.0	6,960.0	7,965.0	7,173.0	19.3	24.8	-103.31	-770.8	903.2	924.9	887.0	37.95	24.371	
7,800.0	6,960.0	8,065.0	7,173.0	20.7	25.9	-103.31	-870.8	903.2	924.9	884.3	40.67	22.741	
7,900.0	6,960.0	8,165.0	7,173.0	22.2	27.1	-103.31	-970.8	903.2	924.9	881.4	43.49	21.267	
8,000.0	6,960.0	8,265.0	7,173.0	23.7	28.3	-103.31	-1,070.8	903.2	924.9	878.5	46.39	19.938	
8,100.0	6,960.0	8,365.0	7,173.0	25.2	29.6	-103.31	-1,170.8	903.2	924.9	875.6	49.36	18.740	
8,200.0	6,960.0	8,465.0	7,173.0	26.7	31.0	-103.31	-1,270.8	903.2	924.9	872.6	52.38	17.660	
8,300.0	6,960.0	8,565.0	7,173.0	28.3	32.3	-103.31	-1,370.8	903.2	924.9	869.5	55.44	16.683	
8,400.0	6,960.0	8,665.0	7,173.0	29.9	33.7	-103.31	-1,470.8	903.2	924.9	866.4	58.55	15.799	
8,500.0	6,960.0	8,765.0	7,173.0	31.5	35.2	-103.31	-1,570.8	903.2	924.9	863.3	61.68	14.995	
8,600.0	6,960.0	8,865.0	7,173.0	33.2	36.7	-103.31	-1,670.8	903.2	924.9	860.1	64.85	14.263	
8,700.0	6,960.0	8,965.0	7,173.0	34.8	38.1	-103.31	-1,770.8	903.2	924.9	856.9	68.04	13.594	
8,800.0	6,960.0	9,065.0	7,173.0	36.5	39.7	-103.31	-1,870.8	903.2	924.9	853.7	71.25	12.982	
8,900.0	6,960.0	9,165.0	7,173.0	38.1	41.2	-103.31	-1,970.8	903.2	924.9	850.5	74.48	12.419	
9,000.0	6,960.0	9,265.0	7,173.0	39.8	42.7	-103.31	-2,070.8	903.2	924.9	847.2	77.72	11.901	
9,100.0	6,960.0	9,365.0	7,173.0	41.5	44.3	-103.31	-2,170.8	903.2	924.9	844.0	80.98	11.422	
9,200.0	6,960.0	9,465.0	7,173.0	43.1	45.9	-103.31	-2,270.8	903.2	924.9	840.7	84.25	10.978	
9,300.0	6,960.0	9,565.0	7,173.0	44.8	47.5	-103.31	-2,370.8	903.2	924.9	837.4	87.53	10.567	
9,400.0	6,960.0	9,665.0	7,173.0	46.5	49.1	-103.31	-2,470.8	903.2	924.9	834.1	90.83	10.184	
9,500.0	6,960.0	9,765.0	7,173.0	48.2	50.7	-103.31	-2,570.8	903.2	924.9	830.8	94.13	9.827	
9,600.0	6,960.0	9,865.0	7,173.0	49.9	52.3	-103.31	-2,670.8	903.2	924.9	827.5	97.44	9.493	
9,700.0	6,960.0	9,965.0	7,173.0	51.6	53.9	-103.31	-2,770.8	903.2	924.9	824.2	100.75	9.180	
9,800.0	6,960.0	10,065.0	7,173.0	53.3	55.6	-103.31	-2,870.8	903.2	924.9	820.9	104.07	8.887	
9,900.0	6,960.0	10,165.0	7,173.0	55.0	57.2	-103.31	-2,970.8	903.2	924.9	817.5	107.40	8.612	
10,000.0	6,960.0	10,265.0	7,173.0	56.8	58.9	-103.31	-3,070.8	903.2	924.9	814.2	110.73	8.353	
10,100.0	6,960.0	10,365.0	7,173.0	58.5	60.5	-103.31	-3,170.8	903.2	924.9	810.9	114.07	8.108	
10,200.0	6,960.0	10,465.0	7,173.0	60.2	62.2	-103.31	-3,270.8	903.2	924.9	807.5	117.41	7.878	
10,300.0	6,960.0	10,565.0	7,173.0	61.9	63.9	-103.31	-3,370.8	903.2	924.9	804.2	120.76	7.659	

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Ruhl 1B-32H-B264
Project:	DJ Wattenberg	**TVD Reference:**	KB @ 4955.0ft (No KB)
Reference Site:	S32-T2N-R64W (Newman)	**MD Reference:**	KB @ 4955.0ft (No KB)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Ruhl 1B-32H-B264	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Hz	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design S32-T2N-R64W (Newman) - Ruhl 1F-32H-B264 - Hz - Plan #1

Offset Site Error: 0.0 ft

Survey Program: 0-Geolink MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
10,400.0	6,960.0	10,665.0	7,173.0	63.6	65.5	-103.31	-3,470.8	903.2	924.9	800.8	124.11	7.453	
10,500.0	6,960.0	10,765.0	7,173.0	65.4	67.2	-103.31	-3,570.8	903.2	924.9	797.5	127.46	7.256	
10,600.0	6,960.0	10,865.0	7,173.0	67.1	68.9	-103.31	-3,670.8	903.2	924.9	794.1	130.82	7.070	
10,700.0	6,960.0	10,965.0	7,173.0	68.8	70.6	-103.31	-3,770.8	903.2	924.9	790.8	134.18	6.893	
10,800.0	6,960.0	11,065.0	7,173.0	70.5	72.3	-103.31	-3,870.8	903.2	924.9	787.4	137.54	6.725	
10,900.0	6,960.0	11,165.0	7,173.0	72.3	73.9	-103.31	-3,970.8	903.2	924.9	784.0	140.91	6.564	
11,000.0	6,960.0	11,265.0	7,173.0	74.0	75.6	-103.31	-4,070.8	903.2	924.9	780.7	144.28	6.411	
11,100.0	6,960.0	11,365.0	7,173.0	75.7	77.3	-103.31	-4,170.8	903.2	924.9	777.3	147.65	6.265	
11,200.0	6,960.0	11,465.0	7,173.0	77.5	79.0	-103.31	-4,270.8	903.2	924.9	773.9	151.02	6.125	
11,300.0	6,960.0	11,565.0	7,173.0	79.2	80.7	-103.31	-4,370.8	903.2	924.9	770.5	154.39	5.991	
11,400.0	6,960.0	11,665.0	7,173.0	80.9	82.4	-103.31	-4,470.8	903.2	924.9	767.2	157.77	5.863	
11,480.8	6,960.0	11,745.8	7,173.0	82.3	83.8	-103.31	-4,551.6	903.2	924.9	764.4	160.50	5.763	SF

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Ruhl 1B-32H-B264
Project:	DJ Wattenberg	**TVD Reference:**	KB @ 4955.0ft (No KB)
Reference Site:	S32-T2N-R64W (Newman)	**MD Reference:**	KB @ 4955.0ft (No KB)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Ruhl 1B-32H-B264	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Hz	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design S32-T2N-R64W (Newman) - Ruhl 1G-32H-B264 - Hz - Plan #1

Offset Site Error: 0.0 ft

Survey Program: 0-Geolink MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	89.73	3.7	782.1	782.2				
100.0	100.0	100.0	100.0	0.2	0.2	89.73	3.7	782.1	782.2	781.8	0.35	2,240.707	
200.0	200.0	200.0	200.0	0.3	0.3	89.73	3.7	782.1	782.2	781.5	0.70	1,120.354	
300.0	300.0	300.0	300.0	0.5	0.5	89.73	3.7	782.1	782.2	781.1	1.05	746.902	
400.0	400.0	400.0	400.0	0.7	0.7	89.73	3.7	782.1	782.2	780.8	1.40	560.177	
433.3	433.3	433.3	433.3	0.8	0.8	89.73	3.7	782.1	782.2	780.6	1.51	517.082	CC
500.0	500.0	495.3	495.3	0.9	0.9	89.72	3.8	782.3	782.3	780.6	1.74	450.348	ES
600.0	600.0	585.8	585.8	1.0	1.0	89.66	4.7	783.4	783.5	781.4	2.07	378.480	
700.0	700.0	676.3	676.3	1.2	1.2	89.52	6.6	785.5	785.9	783.5	2.40	326.873	
800.0	800.0	766.7	766.5	1.4	1.4	89.32	9.4	788.8	789.6	786.8	2.74	288.092	
900.0	900.0	857.5	857.2	1.6	1.5	89.05	13.1	793.1	794.4	791.3	3.08	257.926	
1,000.0	1,000.0	956.6	956.0	1.7	1.7	88.73	17.7	798.5	799.9	796.5	3.44	232.759	
1,100.0	1,100.0	1,056.4	1,055.5	1.9	1.9	87.85	22.3	803.9	805.4	801.6	3.80	212.081	
1,200.0	1,199.9	1,156.2	1,155.1	2.1	2.1	87.82	26.9	809.3	810.7	806.5	4.16	194.758	
1,300.0	1,299.7	1,256.1	1,254.7	2.3	2.3	87.88	31.5	814.7	816.0	811.5	4.53	180.072	
1,400.0	1,399.6	1,355.9	1,354.3	2.5	2.5	87.93	36.1	820.0	821.3	816.4	4.90	167.496	
1,500.0	1,499.5	1,455.8	1,453.9	2.7	2.7	87.98	40.8	825.4	826.7	821.4	5.28	156.624	
1,600.0	1,599.3	1,555.7	1,553.5	2.8	3.0	88.03	45.4	830.8	832.0	826.4	5.65	147.144	
1,700.0	1,699.2	1,655.5	1,653.1	3.0	3.2	88.08	50.0	836.2	837.3	831.3	6.03	138.810	
1,800.0	1,799.0	1,755.4	1,752.8	3.2	3.4	88.13	54.6	841.6	842.7	836.3	6.41	131.433	
1,900.0	1,898.9	1,855.2	1,852.4	3.4	3.6	88.18	59.2	847.0	848.0	841.2	6.79	124.859	
2,000.0	1,998.8	1,955.1	1,952.0	3.6	3.8	88.22	63.8	852.4	853.3	846.2	7.17	118.968	
2,100.0	2,098.6	2,054.9	2,051.6	3.8	4.0	88.27	68.5	857.8	858.7	851.1	7.55	113.659	
2,200.0	2,198.5	2,154.8	2,151.2	4.0	4.2	88.32	73.1	863.2	864.0	856.1	7.94	108.851	
2,300.0	2,298.4	2,254.6	2,250.8	4.2	4.4	88.36	77.7	868.6	869.3	861.0	8.32	104.479	
2,400.0	2,398.2	2,354.5	2,350.4	4.4	4.6	88.41	82.3	873.9	874.7	866.0	8.70	100.485	
2,500.0	2,498.1	2,454.4	2,450.0	4.6	4.9	88.45	86.9	879.3	880.0	870.9	9.09	96.824	
2,600.0	2,597.9	2,554.2	2,549.6	4.8	5.1	88.50	91.5	884.7	885.3	875.9	9.47	93.456	
2,700.0	2,697.8	2,654.1	2,649.2	5.0	5.3	88.54	96.2	890.1	890.7	880.8	9.86	90.347	
2,800.0	2,797.7	2,753.9	2,748.8	5.1	5.5	88.59	100.8	895.5	896.0	885.8	10.24	87.469	
2,900.0	2,897.5	2,853.8	2,848.4	5.3	5.7	88.63	105.4	900.9	901.3	890.7	10.63	84.797	
3,000.0	2,997.4	2,953.6	2,948.0	5.5	5.9	88.67	110.0	906.3	906.7	895.7	11.02	82.311	
3,100.0	3,097.3	3,053.5	3,047.6	5.7	6.1	88.71	114.6	911.7	912.0	900.6	11.40	79.991	
3,200.0	3,197.1	3,153.3	3,147.2	5.9	6.3	88.75	119.2	917.1	917.3	905.6	11.79	77.822	
3,300.0	3,297.0	3,253.2	3,246.8	6.1	6.6	88.80	123.9	922.4	922.7	910.5	12.17	75.789	
3,400.0	3,396.9	3,353.1	3,346.4	6.3	6.8	88.84	128.5	927.8	928.0	915.5	12.56	73.880	
3,500.0	3,496.7	3,452.9	3,446.0	6.5	7.0	88.88	133.1	933.2	933.4	920.4	12.95	72.084	
3,600.0	3,596.6	3,552.8	3,545.6	6.7	7.2	88.92	137.7	938.6	938.7	925.4	13.34	70.391	
3,700.0	3,696.4	3,652.6	3,645.2	6.9	7.4	88.95	142.3	944.0	944.0	930.3	13.72	68.793	
3,800.0	3,796.3	3,752.5	3,744.8	7.1	7.6	88.99	147.0	949.4	949.4	935.3	14.11	67.283	
3,900.0	3,896.2	3,852.3	3,844.4	7.3	7.8	89.03	151.6	954.8	954.7	940.2	14.50	65.852	
4,000.0	3,996.0	3,952.2	3,944.0	7.5	8.1	89.07	156.2	960.2	960.1	945.2	14.89	64.495	
4,100.0	4,095.9	4,052.0	4,043.6	7.7	8.3	89.11	160.8	965.6	965.4	950.1	15.27	63.207	
4,200.0	4,195.8	4,151.9	4,143.2	7.9	8.5	89.14	165.4	970.9	970.7	955.1	15.66	61.982	
4,300.0	4,295.6	4,251.7	4,242.8	8.1	8.7	89.18	170.0	976.3	976.1	960.0	16.05	60.816	
4,400.0	4,395.5	4,351.6	4,342.4	8.3	8.9	89.22	174.7	981.7	981.4	965.0	16.44	59.705	
4,500.0	4,495.4	4,451.5	4,442.0	8.5	9.1	89.25	179.3	987.1	986.8	969.9	16.83	58.644	
4,600.0	4,595.2	4,551.3	4,541.6	8.7	9.3	89.29	183.9	992.5	992.1	974.9	17.21	57.632	
4,700.0	4,695.1	4,651.2	4,641.2	8.9	9.5	89.32	188.5	997.9	997.5	979.9	17.60	56.663	SF

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Ruhl 1B-32H-B264
Project:	DJ Wattenberg	**TVD Reference:**	KB @ 4955.0ft (No KB)
Reference Site:	S32-T2N-R64W (Newman)	**MD Reference:**	KB @ 4955.0ft (No KB)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Ruhl 1B-32H-B264	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Hz	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design S32-T2N-R64W (Newman) - Ruhl 1H-32H-B264 - Hz - Plan #1

Offset Site Error: 0.0 ft

Survey Program: 0-Geolink MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	89.76	3.3	792.2	792.2				
100.0	100.0	100.0	100.0	0.2	0.2	89.76	3.3	792.2	792.2	791.9	0.35	2,269.552	
200.0	200.0	200.0	200.0	0.3	0.3	89.76	3.3	792.2	792.2	791.5	0.70	1,134.776	
300.0	300.0	300.0	300.0	0.5	0.5	89.76	3.3	792.2	792.2	791.2	1.05	756.517	
400.0	400.0	400.0	400.0	0.7	0.7	89.76	3.3	792.2	792.2	790.8	1.40	567.388	CC, ES
500.0	500.0	489.1	489.1	0.9	0.9	89.74	3.6	792.8	792.9	791.2	1.73	459.287	
600.0	600.0	578.1	578.1	1.0	1.0	89.67	4.6	794.7	795.0	792.9	2.06	386.487	
700.0	700.0	667.1	667.0	1.2	1.2	89.55	6.2	797.7	798.4	796.0	2.39	334.314	
800.0	800.0	755.9	755.7	1.4	1.3	89.40	8.5	802.0	803.2	800.5	2.72	295.238	
900.0	900.0	844.6	844.2	1.6	1.5	89.19	11.4	807.4	809.4	806.4	3.05	264.997	
1,000.0	1,000.0	933.1	932.3	1.7	1.7	88.95	14.9	814.1	817.0	813.6	3.39	241.018	
1,100.0	1,100.0	1,026.9	1,025.6	1.9	1.9	88.03	19.3	822.3	825.8	822.1	3.74	220.873	
1,200.0	1,199.9	1,126.5	1,124.7	2.1	2.1	87.96	24.0	831.1	834.6	830.5	4.10	203.435	
1,300.0	1,299.7	1,226.1	1,223.8	2.3	2.4	88.00	28.7	840.0	843.5	839.0	4.47	188.659	
1,400.0	1,399.6	1,325.7	1,322.9	2.5	2.6	88.05	33.4	848.9	852.3	847.5	4.84	176.019	
1,500.0	1,499.5	1,425.3	1,422.0	2.7	2.8	88.10	38.1	857.7	861.1	855.9	5.22	165.101	
1,600.0	1,599.3	1,524.9	1,521.1	2.8	3.1	88.14	42.9	866.6	870.0	864.4	5.59	155.588	
1,700.0	1,699.2	1,624.5	1,620.2	3.0	3.3	88.18	47.6	875.4	878.8	872.8	5.97	147.232	
1,800.0	1,799.0	1,724.1	1,719.3	3.2	3.6	88.23	52.3	884.3	887.6	881.3	6.35	139.839	
1,900.0	1,898.9	1,823.7	1,818.4	3.4	3.8	88.27	57.0	893.2	896.5	889.7	6.73	133.257	
2,000.0	1,998.8	1,923.3	1,917.5	3.6	4.0	88.31	61.7	902.0	905.3	898.2	7.11	127.360	
2,100.0	2,098.6	2,022.9	2,016.6	3.8	4.3	88.35	66.4	910.9	914.1	906.6	7.49	122.050	
2,200.0	2,198.5	2,122.5	2,115.7	4.0	4.5	88.39	71.2	919.7	923.0	915.1	7.87	117.244	
2,300.0	2,298.4	2,222.1	2,214.8	4.2	4.8	88.43	75.9	928.6	931.8	923.5	8.26	112.874	
2,400.0	2,398.2	2,321.7	2,313.9	4.4	5.0	88.47	80.6	937.5	940.6	932.0	8.64	108.885	
2,500.0	2,498.1	2,421.3	2,413.0	4.6	5.3	88.50	85.3	946.3	949.5	940.4	9.02	105.229	
2,600.0	2,597.9	2,521.0	2,512.1	4.8	5.5	88.54	90.0	955.2	958.3	948.9	9.41	101.867	
2,700.0	2,697.8	2,620.6	2,611.2	5.0	5.8	88.58	94.7	964.1	967.1	957.3	9.79	98.765	
2,800.0	2,797.7	2,720.2	2,710.3	5.1	6.0	88.61	99.4	972.9	976.0	965.8	10.18	95.894	
2,900.0	2,897.5	2,819.8	2,809.4	5.3	6.2	88.65	104.2	981.8	984.8	974.2	10.56	93.230	
3,000.0	2,997.4	2,919.4	2,908.5	5.5	6.5	88.68	108.9	990.6	993.6	982.7	10.95	90.751	SF

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Ruhl 1B-32H-B264
Project:	DJ Wattenberg	**TVD Reference:**	KB @ 4955.0ft (No KB)
Reference Site:	S32-T2N-R64W (Newman)	**MD Reference:**	KB @ 4955.0ft (No KB)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Ruhl 1B-32H-B264	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Hz	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design S32-T2N-R64W (Newman) - Ruhl 1I-32H-B264 - Hz - Plan #1

Offset Site Error: 0.0 ft

Survey Program: 0-Geolink MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	89.77	3.3	802.3	802.3				
100.0	100.0	100.0	100.0	0.2	0.2	89.77	3.3	802.3	802.3	801.9	0.35	2,298.402	
200.0	200.0	200.0	200.0	0.3	0.3	89.77	3.3	802.3	802.3	801.6	0.70	1,149.201	
300.0	300.0	300.0	300.0	0.5	0.5	89.77	3.3	802.3	802.3	801.2	1.05	766.134	
333.3	333.3	333.3	333.3	0.6	0.6	89.77	3.3	802.3	802.3	801.1	1.16	689.519	CC
400.0	400.0	394.2	394.2	0.7	0.7	89.76	3.3	802.4	802.5	801.1	1.39	578.921	ES
500.0	500.0	482.6	482.6	0.9	0.8	89.73	3.8	803.7	803.9	802.2	1.72	468.726	
600.0	600.0	570.9	570.9	1.0	1.0	89.66	4.8	806.3	806.8	804.8	2.04	394.649	
700.0	700.0	659.1	659.0	1.2	1.2	89.56	6.3	810.1	811.1	808.8	2.37	341.664	
800.0	800.0	747.2	746.9	1.4	1.3	89.42	8.2	815.1	816.9	814.2	2.70	302.066	
900.0	900.0	835.1	834.5	1.6	1.5	89.26	10.6	821.5	824.1	821.1	3.04	271.497	
1,000.0	1,000.0	922.8	921.8	1.7	1.7	89.07	13.5	829.0	832.8	829.4	3.37	247.307	
1,100.0	1,100.0	1,010.2	1,008.7	1.9	1.9	88.18	16.8	837.8	842.9	839.2	3.70	227.661	
1,200.0	1,199.9	1,099.4	1,097.3	2.1	2.1	88.11	20.7	848.0	854.2	850.2	4.05	211.170	
1,300.0	1,299.7	1,198.7	1,195.8	2.3	2.4	88.17	25.2	859.8	866.1	861.7	4.41	196.350	
1,400.0	1,399.6	1,298.0	1,294.3	2.5	2.7	88.23	29.7	871.7	877.9	873.2	4.78	183.678	
1,500.0	1,499.5	1,397.3	1,392.8	2.7	2.9	88.29	34.2	883.5	889.8	884.6	5.15	172.736	
1,600.0	1,599.3	1,496.6	1,491.2	2.8	3.2	88.35	38.7	895.3	901.6	896.1	5.52	163.206	
1,700.0	1,699.2	1,595.9	1,589.7	3.0	3.5	88.40	43.2	907.2	913.5	907.6	5.90	154.838	
1,800.0	1,799.0	1,695.2	1,688.2	3.2	3.7	88.45	47.7	919.0	925.3	919.1	6.28	147.437	
1,900.0	1,898.9	1,794.5	1,786.7	3.4	4.0	88.51	52.2	930.8	937.2	930.6	6.65	140.849	
2,000.0	1,998.8	1,893.8	1,885.2	3.6	4.3	88.56	56.8	942.7	949.1	942.0	7.03	134.949	
2,100.0	2,098.6	1,993.1	1,983.6	3.8	4.6	88.61	61.3	954.5	960.9	953.5	7.41	129.636	
2,200.0	2,198.5	2,092.4	2,082.1	4.0	4.8	88.65	65.8	966.4	972.8	965.0	7.79	124.829	
2,300.0	2,298.4	2,191.7	2,180.6	4.2	5.1	88.70	70.3	978.2	984.6	976.5	8.17	120.460	
2,400.0	2,398.2	2,290.9	2,279.1	4.4	5.4	88.75	74.8	990.0	996.5	987.9	8.56	116.471	SF

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Ruhl 1B-32H-B264
Project:	DJ Wattenberg	**TVD Reference:**	KB @ 4955.0ft (No KB)
Reference Site:	S32-T2N-R64W (Newman)	**MD Reference:**	KB @ 4955.0ft (No KB)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Ruhl 1B-32H-B264	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Hz	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design S32-T2N-R64W (Newman) - Ruhl 1J-32H-B264 - Hz - Plan #1

Offset Site Error: 0.0 ft

Survey Program: 0-Geolink MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	89.77	3.3	812.4	812.4				
100.0	100.0	100.0	100.0	0.2	0.2	89.77	3.3	812.4	812.4	812.0	0.35	2,327.252	
200.0	200.0	200.0	200.0	0.3	0.3	89.77	3.3	812.4	812.4	811.7	0.70	1,163.626	
300.0	300.0	300.0	300.0	0.5	0.5	89.77	3.3	812.4	812.4	811.3	1.05	775.751	CC, ES
400.0	400.0	388.0	388.0	0.7	0.7	89.75	3.5	813.0	813.1	811.7	1.38	591.169	
500.0	500.0	476.0	476.0	0.9	0.8	89.71	4.1	814.9	815.3	813.6	1.70	478.538	
600.0	600.0	563.9	563.8	1.0	1.0	89.65	5.0	818.2	819.0	817.0	2.03	402.986	
700.0	700.0	651.7	651.5	1.2	1.2	89.55	6.4	822.7	824.1	821.8	2.36	349.043	
800.0	800.0	739.3	738.9	1.4	1.3	89.44	8.1	828.5	830.8	828.1	2.69	308.795	
900.0	900.0	826.7	826.0	1.6	1.5	89.30	10.3	835.5	838.9	835.8	3.02	277.772	
1,000.0	1,000.0	913.9	912.7	1.7	1.7	89.13	12.8	843.8	848.4	845.1	3.35	253.261	
1,100.0	1,100.0	1,000.0	998.3	1.9	1.9	88.26	15.6	853.3	859.4	855.7	3.68	233.474	
1,200.0	1,199.9	1,087.4	1,084.9	2.1	2.2	88.21	18.9	864.1	871.7	867.7	4.02	216.908	
1,300.0	1,299.7	1,173.7	1,170.3	2.3	2.4	88.29	22.5	876.0	885.5	881.1	4.36	203.110	
1,400.0	1,399.6	1,264.8	1,260.2	2.5	2.7	88.34	26.6	889.8	900.6	895.8	4.71	191.105	
1,500.0	1,499.5	1,363.6	1,357.8	2.7	3.0	88.39	31.2	905.1	915.9	910.8	5.08	180.214	
1,600.0	1,599.3	1,462.4	1,455.3	2.8	3.3	88.44	35.8	920.3	931.3	925.8	5.45	170.734	
1,700.0	1,699.2	1,561.2	1,552.8	3.0	3.6	88.49	40.4	935.5	946.6	940.8	5.83	162.415	
1,800.0	1,799.0	1,660.0	1,650.3	3.2	3.9	88.54	44.9	950.7	961.9	955.7	6.20	155.061	
1,900.0	1,898.9	1,758.8	1,747.9	3.4	4.3	88.58	49.5	966.0	977.3	970.7	6.58	148.518	
2,000.0	1,998.8	1,857.6	1,845.4	3.6	4.6	88.62	54.1	981.2	992.6	985.7	6.96	142.660	SF

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Ruhl 1B-32H-B264
Project:	DJ Wattenberg	**TVD Reference:**	KB @ 4955.0ft (No KB)
Reference Site:	S32-T2N-R64W (Newman)	**MD Reference:**	KB @ 4955.0ft (No KB)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Ruhl 1B-32H-B264	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Hz	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design S32-T2N-R64W (Newman) - Ruhl 1K-32H-B264 - Hz - Plan #1

Offset Site Error: 0.0 ft

Survey Program: 0-Geolink MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	89.77	3.3	822.1	822.2				
100.0	100.0	100.0	100.0	0.2	0.2	89.77	3.3	822.1	822.2	821.8	0.35	2,355.300	
200.0	200.0	200.0	200.0	0.3	0.3	89.77	3.3	822.1	822.2	821.5	0.70	1,177.650	
233.3	233.3	233.3	233.3	0.4	0.4	89.77	3.3	822.1	822.2	821.3	0.81	1,009.414	CC
300.0	300.0	293.9	293.9	0.5	0.5	89.77	3.3	822.3	822.3	821.3	1.04	793.373	ES
400.0	400.0	381.6	381.6	0.7	0.7	89.75	3.7	823.6	823.8	822.5	1.36	603.870	
500.0	500.0	469.3	469.2	0.9	0.8	89.70	4.3	826.2	826.8	825.1	1.69	488.635	
600.0	600.0	556.8	556.7	1.0	1.0	89.64	5.2	830.1	831.3	829.3	2.02	411.517	
700.0	700.0	644.3	644.0	1.2	1.2	89.55	6.5	835.3	837.2	834.9	2.35	356.553	
800.0	800.0	731.5	730.9	1.4	1.3	89.45	8.1	841.8	844.7	842.0	2.68	315.603	
900.0	900.0	818.5	817.6	1.6	1.5	89.33	10.0	849.5	853.6	850.6	3.00	284.079	
1,000.0	1,000.0	900.0	898.6	1.7	1.7	89.20	12.0	857.9	864.0	860.7	3.32	259.942	
1,100.0	1,100.0	991.8	989.7	1.9	2.0	88.32	14.7	868.7	875.8	872.1	3.66	239.040	
1,200.0	1,199.9	1,077.9	1,075.1	2.1	2.2	88.29	17.5	880.2	889.0	885.0	4.00	222.359	
1,300.0	1,299.7	1,163.8	1,159.9	2.3	2.5	88.40	20.5	892.8	903.6	899.3	4.34	208.404	
1,400.0	1,399.6	1,249.2	1,244.2	2.5	2.8	88.48	23.9	906.6	919.7	915.0	4.68	196.654	
1,500.0	1,499.5	1,334.2	1,327.8	2.7	3.0	88.54	27.5	921.5	937.2	932.1	5.02	186.698	
1,600.0	1,599.3	1,422.9	1,414.8	2.8	3.4	88.58	31.6	938.3	956.0	950.7	5.37	177.959	
1,700.0	1,699.2	1,521.1	1,511.0	3.0	3.7	88.63	36.2	957.2	975.2	969.5	5.74	169.782	
1,800.0	1,799.0	1,619.2	1,607.2	3.2	4.1	88.67	40.9	976.1	994.4	988.3	6.12	162.556	SF

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Ruhl 1B-32H-B264
Project:	DJ Wattenberg	**TVD Reference:**	KB @ 4955.0ft (No KB)
Reference Site:	S32-T2N-R64W (Newman)	**MD Reference:**	KB @ 4955.0ft (No KB)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Ruhl 1B-32H-B264	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Hz	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design S32-T2N-R64W (Newman) - Ruhl 1L-32H-B264 - Hz - Plan #1

Offset Site Error: 0.0 ft

Survey Program: 0-Geolink MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	89.80	2.9	832.2	832.2				
100.0	100.0	100.0	100.0	0.2	0.2	89.80	2.9	832.2	832.2	831.9	0.35	2,384.146	
200.0	200.0	200.0	200.0	0.3	0.3	89.80	2.9	832.2	832.2	831.5	0.70	1,192.073	CC, ES
300.0	300.0	287.5	287.5	0.5	0.5	89.79	3.1	832.9	833.0	831.9	1.03	812.290	
400.0	400.0	375.0	375.0	0.7	0.7	89.76	3.5	834.8	835.2	833.9	1.35	617.385	
500.0	500.0	462.4	462.3	0.9	0.8	89.72	4.1	838.1	839.0	837.3	1.68	499.308	
600.0	600.0	549.7	549.5	1.0	1.0	89.65	5.1	842.7	844.2	842.2	2.01	420.480	
700.0	700.0	636.8	636.4	1.2	1.2	89.58	6.3	848.5	850.9	848.6	2.34	364.395	
800.0	800.0	723.8	723.0	1.4	1.4	89.48	7.7	855.7	859.1	856.5	2.66	322.664	
900.0	900.0	810.4	809.3	1.6	1.6	89.37	9.5	864.0	868.8	865.9	2.99	290.574	
1,000.0	1,000.0	900.0	898.3	1.7	1.8	89.24	11.5	874.1	880.0	876.7	3.32	264.824	
1,100.0	1,100.0	982.9	980.5	1.9	2.0	88.39	13.7	884.5	892.6	889.0	3.65	244.777	
1,200.0	1,199.9	1,068.7	1,065.4	2.1	2.3	88.37	16.1	896.6	906.6	902.6	3.98	227.842	
1,300.0	1,299.7	1,154.1	1,149.7	2.3	2.5	88.49	18.9	909.9	922.1	917.7	4.32	213.680	
1,400.0	1,399.6	1,239.1	1,233.4	2.5	2.8	88.59	21.8	924.3	938.9	934.3	4.65	201.764	
1,500.0	1,499.5	1,323.7	1,316.5	2.7	3.1	88.68	25.0	939.8	957.2	952.2	4.99	191.671	
1,600.0	1,599.3	1,407.8	1,398.9	2.8	3.4	88.74	28.4	956.5	977.0	971.6	5.34	183.076	
1,700.0	1,699.2	1,491.6	1,480.7	3.0	3.8	88.79	32.1	974.2	998.1	992.4	5.68	175.707	SF

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Ruhl 1B-32H-B264
Project:	DJ Wattenberg	**TVD Reference:**	KB @ 4955.0ft (No KB)
Reference Site:	S32-T2N-R64W (Newman)	**MD Reference:**	KB @ 4955.0ft (No KB)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Ruhl 1B-32H-B264	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Hz	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Reference Depths are relative to KB @ 4955.0ft (No KB)
Offset Depths are relative to Offset Datum
Central Meridian is -105.500000 °

Coordinates are relative to: Ruhl 1B-32H-B264
Coordinate System is US State Plane 1983, Colorado Northern Zone
Grid Convergence at Surface is: 0.60°