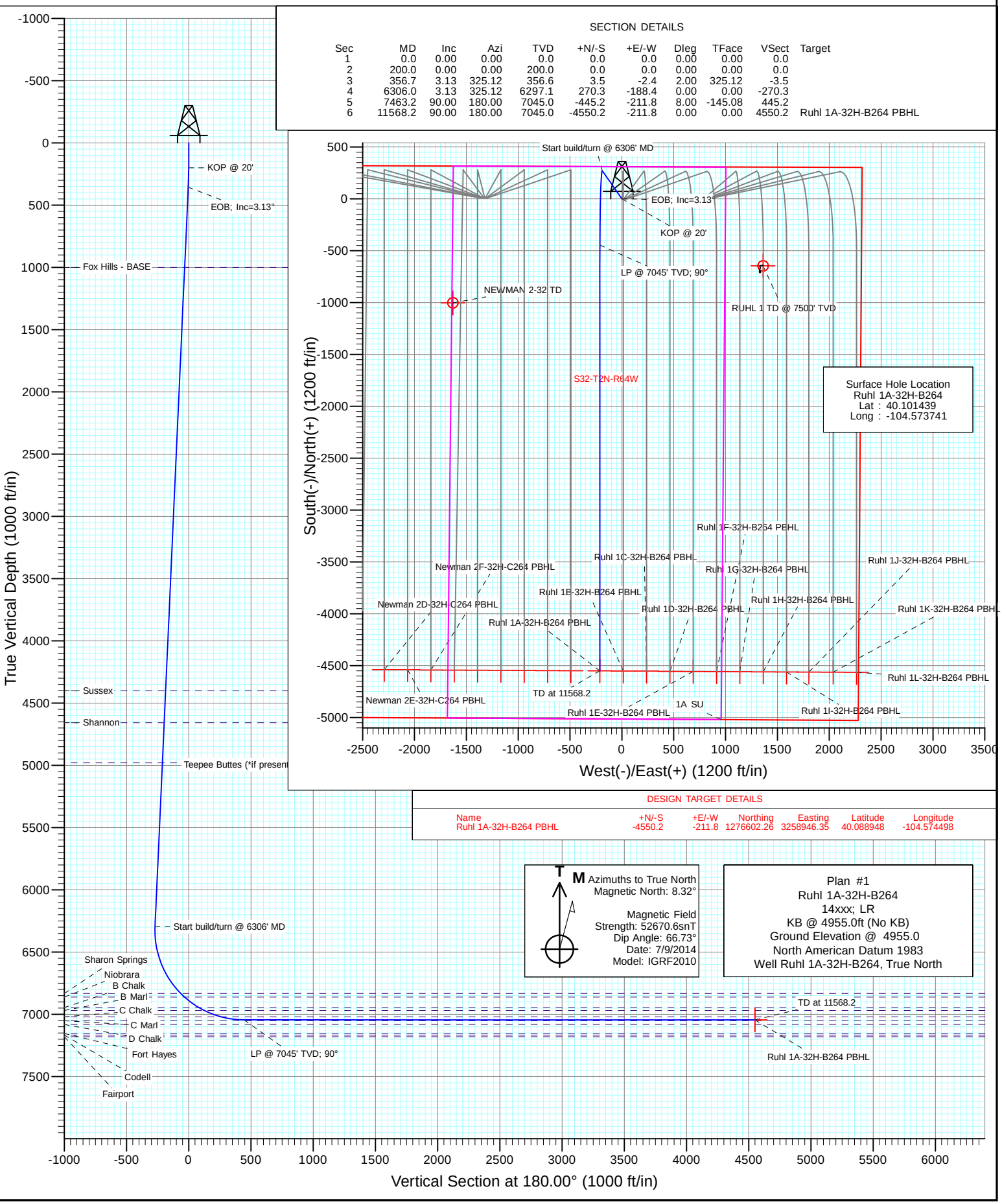
CATHEDRAL

Project: DJ Wattenberg
Site: S32-T2N-R64W (Newman/Ruhl)
Well: Ruhl 1A-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	200.0	0.00	0.00	200.0	0.0	0.0	0.00	0.00	0.0	
3	356.7	3.13	325.12	356.6	3.5	-2.4	2.00	325.12	-3.5	
4	6306.0	3.13	325.12	6297.1	270.3	-188.4	0.00	0.00	-270.3	
5	7463.2	90.00	180.00	7045.0	-445.2	-211.8	8.00	-145.08	445.2	
6	11568.2	90.00	180.00	7045.0	-4550.2	-211.8	0.00	0.00	4550.2	Ruhl 1A-32H-B264 PBHL



DESIGN TARGET DETAILS

Name	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
Ruhl 1A-32H-B264 PBHL	-4550.2	-211.8	1276602.26	3258946.35	40.088948	-104.574498

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

Planning Report

Database:	USA EDM 5000 Multi Users DB	**Local Co-ordinate Reference:**	Well Ruhl 1A-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 1A-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 1A-32H-B264

Well Position	**+N/-S**	0.0 ft	**Northing:**	1,281,154.42 ft	**Latitude:**	40.101439
	+E/-W	0.0 ft	**Easting:**	3,259,110.61 ft	**Longitude:**	-104.573741
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	
200.0	0.00	0.00	200.0	0.0	0.0	0.00	0.00	0.00	0.00	
356.7	3.13	325.12	356.6	3.5	-2.4	2.00	2.00	0.00	325.12	
6,306.0	3.13	325.12	6,297.1	270.3	-188.4	0.00	0.00	0.00	0.00	
7,463.2	90.00	180.00	7,045.0	-445.2	-211.8	8.00	7.51	-12.54	-145.08	
11,568.2	90.00	180.00	7,045.0	-4,550.2	-211.8	0.00	0.00	0.00	0.00	Ruhl 1A-32H-B264 PI

Database:	USA EDM 5000 Multi Users DB	**Local Co-ordinate Reference:**	Well Ruhl 1A-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 1A-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	KOP @ 20'
300.0	2.00	325.12	300.0	1.4	-1.0	-1.4	2.00	2.00	
356.7	3.13	325.12	356.6	3.5	-2.4	-3.5	2.00	2.00	EOB; Inc=3.13°
400.0	3.13	325.12	399.9	5.5	-3.8	-5.5	0.00	0.00	
500.0	3.13	325.12	499.7	9.9	-6.9	-9.9	0.00	0.00	
600.0	3.13	325.12	599.6	14.4	-10.1	-14.4	0.00	0.00	
700.0	3.13	325.12	699.4	18.9	-13.2	-18.9	0.00	0.00	
800.0	3.13	325.12	799.3	23.4	-16.3	-23.4	0.00	0.00	
900.0	3.13	325.12	899.1	27.9	-19.4	-27.9	0.00	0.00	
1,000.0	3.13	325.12	999.0	32.4	-22.6	-32.4	0.00	0.00	
1,001.0	3.13	325.12	1,000.0	32.4	-22.6	-32.4	0.00	0.00	Fox Hills - BASE
1,100.0	3.13	325.12	1,098.8	36.8	-25.7	-36.8	0.00	0.00	
1,200.0	3.13	325.12	1,198.7	41.3	-28.8	-41.3	0.00	0.00	
1,300.0	3.13	325.12	1,298.5	45.8	-31.9	-45.8	0.00	0.00	
1,400.0	3.13	325.12	1,398.4	50.3	-35.1	-50.3	0.00	0.00	
1,500.0	3.13	325.12	1,498.2	54.8	-38.2	-54.8	0.00	0.00	
1,600.0	3.13	325.12	1,598.1	59.3	-41.3	-59.3	0.00	0.00	
1,700.0	3.13	325.12	1,697.9	63.7	-44.4	-63.7	0.00	0.00	
1,800.0	3.13	325.12	1,797.8	68.2	-47.6	-68.2	0.00	0.00	
1,900.0	3.13	325.12	1,897.6	72.7	-50.7	-72.7	0.00	0.00	
2,000.0	3.13	325.12	1,997.5	77.2	-53.8	-77.2	0.00	0.00	
2,100.0	3.13	325.12	2,097.3	81.7	-56.9	-81.7	0.00	0.00	
2,200.0	3.13	325.12	2,197.2	86.2	-60.1	-86.2	0.00	0.00	
2,300.0	3.13	325.12	2,297.0	90.7	-63.2	-90.7	0.00	0.00	
2,400.0	3.13	325.12	2,396.9	95.1	-66.3	-95.1	0.00	0.00	
2,500.0	3.13	325.12	2,496.7	99.6	-69.4	-99.6	0.00	0.00	
2,600.0	3.13	325.12	2,596.6	104.1	-72.6	-104.1	0.00	0.00	
2,700.0	3.13	325.12	2,696.4	108.6	-75.7	-108.6	0.00	0.00	
2,800.0	3.13	325.12	2,796.3	113.1	-78.8	-113.1	0.00	0.00	
2,900.0	3.13	325.12	2,896.1	117.6	-81.9	-117.6	0.00	0.00	
3,000.0	3.13	325.12	2,996.0	122.0	-85.1	-122.0	0.00	0.00	
3,100.0	3.13	325.12	3,095.8	126.5	-88.2	-126.5	0.00	0.00	
3,200.0	3.13	325.12	3,195.7	131.0	-91.3	-131.0	0.00	0.00	
3,300.0	3.13	325.12	3,295.5	135.5	-94.4	-135.5	0.00	0.00	
3,400.0	3.13	325.12	3,395.4	140.0	-97.6	-140.0	0.00	0.00	
3,500.0	3.13	325.12	3,495.2	144.5	-100.7	-144.5	0.00	0.00	
3,600.0	3.13	325.12	3,595.1	148.9	-103.8	-148.9	0.00	0.00	
3,700.0	3.13	325.12	3,694.9	153.4	-106.9	-153.4	0.00	0.00	
3,800.0	3.13	325.12	3,794.8	157.9	-110.1	-157.9	0.00	0.00	
3,900.0	3.13	325.12	3,894.6	162.4	-113.2	-162.4	0.00	0.00	
4,000.0	3.13	325.12	3,994.5	166.9	-116.3	-166.9	0.00	0.00	
4,100.0	3.13	325.12	4,094.3	171.4	-119.4	-171.4	0.00	0.00	
4,200.0	3.13	325.12	4,194.2	175.8	-122.6	-175.8	0.00	0.00	
4,300.0	3.13	325.12	4,294.0	180.3	-125.7	-180.3	0.00	0.00	
4,400.0	3.13	325.12	4,393.9	184.8	-128.8	-184.8	0.00	0.00	
4,408.1	3.13	325.12	4,402.0	185.2	-129.1	-185.2	0.00	0.00	Sussex
4,500.0	3.13	325.12	4,493.7	189.3	-131.9	-189.3	0.00	0.00	
4,600.0	3.13	325.12	4,593.6	193.8	-135.1	-193.8	0.00	0.00	
4,664.5	3.13	325.12	4,658.0	196.7	-137.1	-196.7	0.00	0.00	Shannon
4,700.0	3.13	325.12	4,693.4	198.3	-138.2	-198.3	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 1A-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
4,800.0	3.13	325.12	4,793.3	202.8	-141.3	-202.8	0.00	0.00	
4,900.0	3.13	325.12	4,893.1	207.2	-144.4	-207.2	0.00	0.00	
4,987.0	3.13	325.12	4,980.0	211.1	-147.2	-211.1	0.00	0.00	Teepee Buttes (*if present)
5,000.0	3.13	325.12	4,993.0	211.7	-147.6	-211.7	0.00	0.00	
5,100.0	3.13	325.12	5,092.8	216.2	-150.7	-216.2	0.00	0.00	
5,200.0	3.13	325.12	5,192.7	220.7	-153.8	-220.7	0.00	0.00	
5,300.0	3.13	325.12	5,292.5	225.2	-156.9	-225.2	0.00	0.00	
5,400.0	3.13	325.12	5,392.4	229.7	-160.1	-229.7	0.00	0.00	
5,500.0	3.13	325.12	5,492.2	234.1	-163.2	-234.1	0.00	0.00	
5,600.0	3.13	325.12	5,592.1	238.6	-166.3	-238.6	0.00	0.00	
5,700.0	3.13	325.12	5,691.9	243.1	-169.4	-243.1	0.00	0.00	
5,800.0	3.13	325.12	5,791.8	247.6	-172.6	-247.6	0.00	0.00	
5,900.0	3.13	325.12	5,891.6	252.1	-175.7	-252.1	0.00	0.00	
6,000.0	3.13	325.12	5,991.5	256.6	-178.8	-256.6	0.00	0.00	
6,100.0	3.13	325.12	6,091.3	261.0	-181.9	-261.0	0.00	0.00	
6,200.0	3.13	325.12	6,191.2	265.5	-185.1	-265.5	0.00	0.00	
6,300.0	3.13	325.12	6,291.0	270.0	-188.2	-270.0	0.00	0.00	
6,306.0	3.13	325.12	6,297.1	270.3	-188.4	-270.3	0.00	0.00	Start build/turn @ 6306' MD
6,400.0	5.26	199.87	6,390.9	268.3	-191.3	-268.3	8.00	2.27	
6,500.0	13.07	187.75	6,489.5	252.8	-194.4	-252.8	8.00	7.81	
6,600.0	21.02	184.67	6,585.1	223.7	-197.4	-223.7	8.00	7.95	
6,700.0	29.00	183.24	6,675.6	181.5	-200.2	-181.5	8.00	7.98	
6,800.0	36.99	182.38	6,759.4	127.2	-202.9	-127.2	8.00	7.99	
6,897.4	44.76	181.81	6,833.0	63.6	-205.2	-63.6	8.00	7.99	Sharon Springs
6,900.0	44.98	181.80	6,834.9	61.7	-205.2	-61.7	8.00	7.99	
6,939.5	48.13	181.61	6,862.0	33.1	-206.1	-33.1	8.00	7.99	Niobrara
7,000.0	52.97	181.35	6,900.5	-13.7	-207.3	13.7	8.00	7.99	
7,082.0	59.52	181.06	6,946.0	-81.8	-208.7	81.8	8.00	7.99	B Chalk
7,100.0	60.96	181.00	6,954.9	-97.4	-209.0	97.4	8.00	7.99	
7,130.1	63.37	180.90	6,969.0	-124.0	-209.4	124.0	8.00	7.99	B Marl
7,200.0	68.96	180.69	6,997.2	-187.9	-210.3	187.9	8.00	8.00	
7,273.3	74.82	180.49	7,020.0	-257.6	-211.0	257.6	8.00	8.00	C Chalk
7,300.0	76.95	180.42	7,026.5	-283.4	-211.2	283.4	8.00	8.00	
7,400.0	84.95	180.16	7,042.2	-382.1	-211.7	382.1	8.00	8.00	
7,463.2	90.00	180.00	7,045.0	-445.2	-211.8	445.2	8.00	8.00	LP @ 7045' TVD; 90°
7,500.0	90.00	180.00	7,045.0	-482.0	-211.8	482.0	0.00	0.00	
7,600.0	90.00	180.00	7,045.0	-582.0	-211.8	582.0	0.00	0.00	
7,700.0	90.00	180.00	7,045.0	-682.0	-211.8	682.0	0.00	0.00	
7,800.0	90.00	180.00	7,045.0	-782.0	-211.8	782.0	0.00	0.00	
7,900.0	90.00	180.00	7,045.0	-882.0	-211.8	882.0	0.00	0.00	
8,000.0	90.00	180.00	7,045.0	-982.0	-211.8	982.0	0.00	0.00	
8,100.0	90.00	180.00	7,045.0	-1,082.0	-211.8	1,082.0	0.00	0.00	
8,200.0	90.00	180.00	7,045.0	-1,182.0	-211.8	1,182.0	0.00	0.00	
8,300.0	90.00	180.00	7,045.0	-1,282.0	-211.8	1,282.0	0.00	0.00	
8,400.0	90.00	180.00	7,045.0	-1,382.0	-211.8	1,382.0	0.00	0.00	
8,500.0	90.00	180.00	7,045.0	-1,482.0	-211.8	1,482.0	0.00	0.00	
8,600.0	90.00	180.00	7,045.0	-1,582.0	-211.8	1,582.0	0.00	0.00	
8,700.0	90.00	180.00	7,045.0	-1,682.0	-211.8	1,682.0	0.00	0.00	
8,800.0	90.00	180.00	7,045.0	-1,782.0	-211.8	1,782.0	0.00	0.00	
8,900.0	90.00	180.00	7,045.0	-1,882.0	-211.8	1,882.0	0.00	0.00	
9,000.0	90.00	180.00	7,045.0	-1,982.0	-211.8	1,982.0	0.00	0.00	
9,100.0	90.00	180.00	7,045.0	-2,082.0	-211.8	2,082.0	0.00	0.00	

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Well:	Ruhl 1A-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
9,200.0	90.00	180.00	7,045.0	-2,182.0	-211.8	2,182.0	0.00	0.00	
9,300.0	90.00	180.00	7,045.0	-2,282.0	-211.8	2,282.0	0.00	0.00	
9,400.0	90.00	180.00	7,045.0	-2,382.0	-211.8	2,382.0	0.00	0.00	
9,500.0	90.00	180.00	7,045.0	-2,482.0	-211.8	2,482.0	0.00	0.00	
9,600.0	90.00	180.00	7,045.0	-2,582.0	-211.8	2,582.0	0.00	0.00	
9,700.0	90.00	180.00	7,045.0	-2,682.0	-211.8	2,682.0	0.00	0.00	
9,800.0	90.00	180.00	7,045.0	-2,782.0	-211.8	2,782.0	0.00	0.00	
9,900.0	90.00	180.00	7,045.0	-2,882.0	-211.8	2,882.0	0.00	0.00	
10,000.0	90.00	180.00	7,045.0	-2,982.0	-211.8	2,982.0	0.00	0.00	
10,100.0	90.00	180.00	7,045.0	-3,082.0	-211.8	3,082.0	0.00	0.00	
10,200.0	90.00	180.00	7,045.0	-3,182.0	-211.8	3,182.0	0.00	0.00	
10,300.0	90.00	180.00	7,045.0	-3,282.0	-211.8	3,282.0	0.00	0.00	
10,400.0	90.00	180.00	7,045.0	-3,382.0	-211.8	3,382.0	0.00	0.00	
10,500.0	90.00	180.00	7,045.0	-3,482.0	-211.8	3,482.0	0.00	0.00	
10,600.0	90.00	180.00	7,045.0	-3,582.0	-211.8	3,582.0	0.00	0.00	
10,700.0	90.00	180.00	7,045.0	-3,682.0	-211.8	3,682.0	0.00	0.00	
10,800.0	90.00	180.00	7,045.0	-3,782.0	-211.8	3,782.0	0.00	0.00	
10,900.0	90.00	180.00	7,045.0	-3,882.0	-211.8	3,882.0	0.00	0.00	
11,000.0	90.00	180.00	7,045.0	-3,982.0	-211.8	3,982.0	0.00	0.00	
11,100.0	90.00	180.00	7,045.0	-4,082.0	-211.8	4,082.0	0.00	0.00	
11,200.0	90.00	180.00	7,045.0	-4,182.0	-211.8	4,182.0	0.00	0.00	
11,300.0	90.00	180.00	7,045.0	-4,282.0	-211.8	4,282.0	0.00	0.00	
11,400.0	90.00	180.00	7,045.0	-4,382.0	-211.8	4,382.0	0.00	0.00	
11,500.0	90.00	180.00	7,045.0	-4,482.0	-211.8	4,482.0	0.00	0.00	
11,568.2	90.00	180.00	7,045.0	-4,550.2	-211.8	4,550.2	0.00	0.00	TD at 11568.2

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 1A-32H-B264 PBH - plan hits target center - Point	0.00	0.00	7,045.0	-4,550.2	-211.8	1,276,602.26	3,258,946.35	40.088948	-104.574498

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,001.0	1,000.0	Fox Hills - BASE			
4,408.1	4,402.0	Sussex			
4,664.5	4,658.0	Shannon			
4,987.0	4,980.0	Teepee Buttes (*if present)			
6,897.4	6,833.0	Sharon Springs			
6,939.5	6,862.0	Niobrara			
7,082.0	6,946.0	B Chalk			
7,130.1	6,969.0	B Marl			
7,273.3	7,020.0	C Chalk			

Database:	USA EDM 5000 Multi Users DB	**Local Co-ordinate Reference:**	Well Ruhl 1A-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 1A-32H-B264	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Hz		
Design:	Plan #1		

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates +N/-S (ft)	Local Coordinates +E/-W (ft)	Comment
200.0	200.0	0.0	0.0	KOP @ 20'
356.7	356.6	3.5	-2.4	EOB; Inc=3.13°
6,306.0	6,297.1	270.3	-188.4	Start build/turn @ 6306' MD
7,463.2	7,045.0	-445.2	-211.8	LP @ 7045' TVD; 90°
11,568.2	7,045.0	-4,550.2	-211.8	TD at 11568.2

EnCana Oil & Gas (USA) Inc

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

Anticollision Report

09 July, 2014

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Ruhl 1A-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 1A-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	11,568.2	Plan #1 (Hz)	Geolink MWD	Geolink MWD

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Ruhl 1A-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 1A-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 2H-32H-C264 - HZ - Plan #1						Out of range
Newman 2I-32H-C264 - HZ - Plan #1	7,491.2	7,692.9	959.6	928.0	30.362	CC
Newman 2I-32H-C264 - HZ - Plan #1	11,568.2	11,764.5	960.1	796.1	5.856	ES, SF
Newman 2J-32H-C264 - HZ - Plan #1	7,374.4	7,457.0	730.0	700.8	25.046	CC
Newman 2J-32H-C264 - HZ - Plan #1	11,568.2	11,646.6	730.2	565.5	4.434	ES, SF
Newman 2K-32H-C264 - HZ - Plan #1	7,039.9	7,088.5	510.6	485.9	20.638	CC
Newman 2K-32H-C264 - HZ - Plan #1	11,568.2	11,576.8	518.6	358.0	3.229	ES, SF
Newman 2L-32H-C264 - HZ - Plan #1	7,492.7	7,755.0	297.0	266.3	9.672	CC
Newman 2L-32H-C264 - HZ - Plan #1	11,568.2	11,829.1	297.8	142.3	1.915	ES, SF
RUHL 1 (EXISTING) - EXISTING - ENCANA WELL						Out of range
Ruhl 1B-32H-B264 - Hz - Plan #1	200.0	200.0	10.1	9.4	14.425	CC, ES
Ruhl 1B-32H-B264 - Hz - Plan #1	11,568.2	11,479.4	240.5	86.0	1.556	SF
Ruhl 1C-32H-B264 - Hz - Plan #1	200.0	200.0	20.1	19.4	28.850	CC, ES
Ruhl 1C-32H-B264 - Hz - Plan #1	11,568.2	11,693.7	468.0	309.3	2.948	SF
Ruhl 1D-32H-B264 - Hz - Plan #1	200.0	200.0	30.2	29.5	43.275	CC, ES
Ruhl 1D-32H-B264 - Hz - Plan #1	11,568.2	11,575.2	675.1	510.4	4.100	SF
Ruhl 1E-32H-B264 - Hz - Plan #1	200.0	200.0	40.0	39.3	57.302	CC, ES
Ruhl 1E-32H-B264 - Hz - Plan #1	11,568.2	11,509.0	904.1	740.1	5.514	SF
Ruhl 1F-32H-B264 - Hz - Plan #1	200.0	200.0	50.1	49.4	71.726	CC, ES
Ruhl 1F-32H-B264 - Hz - Plan #1	900.0	894.6	85.8	82.6	26.905	SF
Ruhl 1G-32H-B264 - Hz - Plan #1	200.0	200.0	792.2	791.5	1,134.778	CC, ES
Ruhl 1G-32H-B264 - Hz - Plan #1	2,900.0	2,848.4	994.1	983.3	92.400	SF
Ruhl 1H-32H-B264 - Hz - Plan #1	200.0	200.0	802.3	801.6	1,149.201	CC, ES
Ruhl 1H-32H-B264 - Hz - Plan #1	2,200.0	2,116.2	993.3	985.3	123.819	SF
Ruhl 1I-32H-B264 - Hz - Plan #1	200.0	200.0	812.4	811.7	1,163.626	CC, ES
Ruhl 1I-32H-B264 - Hz - Plan #1	1,900.0	1,787.3	998.0	991.2	146.691	SF
Ruhl 1J-32H-B264 - Hz - Plan #1	200.0	200.0	822.4	821.7	1,178.051	CC, ES
Ruhl 1J-32H-B264 - Hz - Plan #1	1,600.0	1,454.7	982.3	976.7	175.537	SF
Ruhl 1K-32H-B264 - Hz - Plan #1	200.0	200.0	832.2	831.5	1,192.075	CC, ES
Ruhl 1K-32H-B264 - Hz - Plan #1	1,500.0	1,326.8	985.0	979.8	191.034	SF
Ruhl 1L-32H-B264 - Hz - Plan #1	200.0	200.0	842.3	841.6	1,206.498	CC, ES
Ruhl 1L-32H-B264 - Hz - Plan #1	1,400.0	1,232.2	983.7	978.9	205.608	SF

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Ruhl 1A-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 1A-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 2I-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
5,800.0	5,791.8	5,843.8	5,834.9	11.4	11.5	-53.46	277.8	-1,167.3	995.3	973.1	22.19	44.858	
5,900.0	5,891.6	5,936.3	5,927.4	11.6	11.6	-53.60	279.4	-1,166.4	991.1	968.6	22.53	43.986	
6,000.0	5,991.5	6,030.3	6,021.5	11.8	11.8	-53.81	279.8	-1,166.2	987.6	964.7	22.87	43.179	
6,100.0	6,091.3	6,130.2	6,121.3	12.0	11.9	-54.07	279.8	-1,166.2	984.4	961.2	23.22	42.389	
6,200.0	6,191.2	6,230.0	6,221.2	12.2	12.1	-54.33	279.8	-1,166.2	981.2	957.6	23.57	41.621	
6,300.0	6,291.0	6,329.9	6,321.0	12.4	12.2	-54.59	279.8	-1,166.2	978.0	954.1	23.93	40.876	
6,400.0	6,390.9	6,429.7	6,420.9	12.6	12.4	70.88	279.8	-1,166.2	974.9	950.7	24.21	40.262	
6,500.0	6,489.5	6,528.4	6,519.5	12.6	12.6	84.00	279.8	-1,166.2	972.1	947.7	24.41	39.823	
6,600.0	6,585.1	6,625.1	6,616.3	12.6	12.7	88.76	279.7	-1,166.2	970.4	945.8	24.54	39.542	
6,700.0	6,675.6	6,733.7	6,724.0	12.6	12.8	92.12	267.2	-1,166.2	969.9	945.3	24.56	39.491	
6,719.5	6,692.6	6,755.9	6,745.6	12.6	12.8	92.67	262.1	-1,166.2	969.9	945.3	24.56	39.497	
6,800.0	6,759.4	6,850.9	6,835.3	12.5	12.7	94.64	231.1	-1,166.2	970.0	945.5	24.49	39.610	
6,900.0	6,834.9	6,976.1	6,943.4	12.6	12.7	96.50	168.6	-1,166.2	970.1	945.6	24.43	39.711	
7,000.0	6,900.5	7,107.2	7,039.2	12.8	12.7	97.67	79.6	-1,166.2	969.5	945.0	24.56	39.478	
7,100.0	6,954.9	7,240.9	7,113.6	13.1	12.9	98.11	-31.2	-1,166.2	968.1	943.0	25.10	38.568	
7,200.0	6,997.2	7,373.2	7,160.1	13.6	13.5	97.84	-154.8	-1,166.2	965.6	939.4	26.20	36.854	
7,300.0	7,026.5	7,500.6	7,176.9	14.3	14.4	96.94	-280.8	-1,166.2	962.5	934.7	27.84	34.570	
7,400.0	7,042.2	7,601.9	7,177.0	15.2	15.3	96.23	-382.1	-1,166.2	960.2	930.5	29.69	32.344	
7,491.2	7,046.6	7,692.9	7,177.0	16.1	16.3	96.01	-473.1	-1,166.2	959.6	928.0	31.61	30.362	CC
7,500.0	7,045.0	7,701.8	7,177.0	16.2	16.3	96.10	-482.0	-1,166.2	959.8	928.1	31.79	30.194	
7,600.0	7,045.0	7,801.8	7,177.0	17.4	17.5	96.10	-582.0	-1,166.2	959.9	925.7	34.12	28.129	
7,700.0	7,045.0	7,901.8	7,177.0	18.6	18.8	96.10	-682.0	-1,166.2	959.9	923.2	36.64	26.197	
7,800.0	7,045.0	8,001.8	7,177.0	19.9	20.1	96.10	-782.0	-1,166.2	959.9	920.6	39.31	24.421	
7,900.0	7,045.0	8,101.8	7,177.0	21.3	21.5	96.10	-882.0	-1,166.2	959.9	917.8	42.09	22.804	
8,000.0	7,045.0	8,201.8	7,177.0	22.7	22.9	96.10	-982.0	-1,166.2	959.9	914.9	44.98	21.342	
8,100.0	7,045.0	8,301.8	7,177.0	24.2	24.4	96.10	-1,082.0	-1,166.2	959.9	911.9	47.94	20.022	
8,200.0	7,045.0	8,401.8	7,177.0	25.7	25.9	96.10	-1,182.0	-1,166.3	959.9	908.9	50.97	18.832	
8,300.0	7,045.0	8,501.8	7,177.0	27.3	27.4	96.10	-1,282.0	-1,166.3	959.9	905.8	54.06	17.757	
8,400.0	7,045.0	8,601.8	7,177.0	28.8	29.0	96.10	-1,382.0	-1,166.3	959.9	902.7	57.19	16.784	
8,500.0	7,045.0	8,701.8	7,177.0	30.4	30.6	96.10	-1,482.0	-1,166.3	959.9	899.5	60.36	15.902	
8,600.0	7,045.0	8,801.8	7,177.0	32.0	32.2	96.10	-1,582.0	-1,166.3	959.9	896.3	63.57	15.101	
8,700.0	7,045.0	8,901.8	7,177.0	33.6	33.8	96.10	-1,682.0	-1,166.3	959.9	893.1	66.80	14.370	
8,800.0	7,045.0	9,001.8	7,177.0	35.3	35.5	96.10	-1,782.0	-1,166.3	959.9	889.9	70.06	13.702	
8,900.0	7,045.0	9,101.8	7,177.0	36.9	37.1	96.10	-1,882.0	-1,166.3	959.9	886.6	73.34	13.089	
9,000.0	7,045.0	9,201.8	7,177.0	38.5	38.7	96.10	-1,982.0	-1,166.3	959.9	883.3	76.63	12.526	
9,100.0	7,045.0	9,301.8	7,177.0	40.2	40.4	96.10	-2,082.0	-1,166.3	959.9	880.0	79.95	12.007	
9,200.0	7,045.0	9,401.8	7,177.0	41.9	42.1	96.10	-2,182.0	-1,166.3	959.9	876.7	83.28	11.527	
9,300.0	7,045.0	9,501.8	7,177.0	43.6	43.8	96.10	-2,282.0	-1,166.3	959.9	873.3	86.62	11.083	
9,400.0	7,045.0	9,601.8	7,177.0	45.2	45.4	96.10	-2,382.0	-1,166.3	960.0	870.0	89.97	10.670	
9,500.0	7,045.0	9,701.8	7,177.0	46.9	47.1	96.10	-2,482.0	-1,166.3	960.0	866.6	93.33	10.286	
9,600.0	7,045.0	9,801.8	7,177.0	48.6	48.8	96.10	-2,582.0	-1,166.3	960.0	863.3	96.70	9.927	
9,700.0	7,045.0	9,901.8	7,177.0	50.3	50.5	96.10	-2,682.0	-1,166.3	960.0	859.9	100.08	9.592	
9,800.0	7,045.0	10,001.8	7,177.0	52.0	52.2	96.10	-2,782.0	-1,166.3	960.0	856.5	103.47	9.278	
9,900.0	7,045.0	10,101.8	7,177.0	53.7	53.9	96.10	-2,882.0	-1,166.3	960.0	853.1	106.86	8.984	
10,000.0	7,045.0	10,201.8	7,177.0	55.4	55.6	96.10	-2,982.0	-1,166.4	960.0	849.7	110.26	8.707	
10,100.0	7,045.0	10,301.8	7,177.0	57.1	57.3	96.10	-3,082.0	-1,166.4	960.0	846.3	113.66	8.446	
10,200.0	7,045.0	10,401.8	7,177.0	58.8	59.0	96.10	-3,182.0	-1,166.4	960.0	842.9	117.07	8.200	
10,300.0	7,045.0	10,501.8	7,177.0	60.5	60.8	96.10	-3,282.0	-1,166.4	960.0	839.5	120.48	7.968	
10,400.0	7,045.0	10,601.8	7,177.0	62.3	62.5	96.10	-3,382.0	-1,166.4	960.0	836.1	123.90	7.748	
10,500.0	7,045.0	10,701.8	7,177.0	64.0	64.2	96.10	-3,482.0	-1,166.4	960.0	832.7	127.32	7.540	
10,600.0	7,045.0	10,801.8	7,177.0	65.7	65.9	96.10	-3,582.0	-1,166.4	960.0	829.3	130.75	7.342	
10,700.0	7,045.0	10,901.8	7,177.0	67.4	67.6	96.10	-3,682.0	-1,166.4	960.0	825.8	134.18	7.155	

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 1A-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 1A-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 2I-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
10,800.0	7,045.0	11,001.8	7,177.0	69.1	69.4	96.10	-3,782.0	-1,166.4	960.0	822.4	137.61	6.977	
10,900.0	7,045.0	11,101.8	7,177.0	70.9	71.1	96.10	-3,882.0	-1,166.4	960.0	819.0	141.04	6.807	
11,000.0	7,045.0	11,201.8	7,177.0	72.6	72.8	96.10	-3,982.0	-1,166.4	960.0	815.6	144.48	6.645	
11,100.0	7,045.0	11,301.8	7,177.0	74.3	74.5	96.10	-4,082.0	-1,166.4	960.0	812.1	147.92	6.490	
11,200.0	7,045.0	11,401.8	7,177.0	76.1	76.3	96.10	-4,182.0	-1,166.4	960.1	808.7	151.36	6.343	
11,300.0	7,045.0	11,501.8	7,177.0	77.8	78.0	96.10	-4,282.0	-1,166.4	960.1	805.3	154.80	6.202	
11,400.0	7,045.0	11,601.8	7,177.0	79.5	79.7	96.10	-4,382.0	-1,166.4	960.1	801.8	158.25	6.067	
11,500.0	7,045.0	11,701.8	7,177.0	81.2	81.5	96.10	-4,482.0	-1,166.4	960.1	798.4	161.70	5.937	
11,537.5	7,045.0	11,739.3	7,177.0	81.9	82.1	96.10	-4,519.5	-1,166.4	960.1	797.1	162.99	5.890	
11,568.2	7,045.0	11,764.5	7,177.0	82.4	82.5	96.10	-4,544.7	-1,166.4	960.1	796.1	163.95	5.856	ES, SF

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Ruhl 1A-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 1A-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
3,500.0	3,495.2	3,606.4	3,595.0	6.9	7.8	-54.05	166.9	-1,094.8	996.8	983.3	13.46	74.056	
3,600.0	3,595.1	3,705.9	3,694.1	7.1	8.0	-53.99	172.1	-1,087.7	986.6	972.7	13.85	71.244	
3,700.0	3,694.9	3,805.3	3,793.2	7.3	8.3	-53.94	177.3	-1,080.7	976.4	962.2	14.24	68.585	
3,800.0	3,794.8	3,904.8	3,892.3	7.5	8.5	-53.88	182.5	-1,073.6	966.2	951.6	14.62	66.067	
3,900.0	3,894.6	4,004.3	3,991.3	7.7	8.7	-53.82	187.7	-1,066.5	956.0	941.0	15.01	63.679	
4,000.0	3,994.5	4,103.8	4,090.4	7.9	9.0	-53.76	192.9	-1,059.4	945.8	930.4	15.40	61.411	
4,100.0	4,094.3	4,203.2	4,189.5	8.1	9.2	-53.70	198.1	-1,052.4	935.6	919.8	15.79	59.254	
4,200.0	4,194.2	4,302.7	4,288.6	8.2	9.4	-53.64	203.3	-1,045.3	925.4	909.2	16.18	57.200	
4,300.0	4,294.0	4,402.2	4,387.7	8.4	9.7	-53.57	208.5	-1,038.2	915.2	898.6	16.57	55.242	
4,400.0	4,393.9	4,501.6	4,486.8	8.6	9.9	-53.51	213.7	-1,031.1	905.0	888.0	16.96	53.374	
4,500.0	4,493.7	4,601.1	4,585.9	8.8	10.1	-53.44	218.9	-1,024.1	894.8	877.4	17.34	51.589	
4,600.0	4,593.6	4,700.6	4,684.9	9.0	10.4	-53.37	224.1	-1,017.0	884.6	866.8	17.73	49.882	
4,700.0	4,693.4	4,800.1	4,784.0	9.2	10.6	-53.30	229.3	-1,009.9	874.4	856.3	18.12	48.249	
4,800.0	4,793.3	4,899.5	4,883.1	9.4	10.8	-53.23	234.5	-1,002.9	864.2	845.7	18.51	46.683	
4,900.0	4,893.1	4,999.0	4,982.2	9.6	11.1	-53.15	239.7	-995.8	854.0	835.1	18.90	45.182	
5,000.0	4,993.0	5,098.5	5,081.3	9.8	11.3	-53.08	244.9	-988.7	843.8	824.5	19.29	43.741	
5,100.0	5,092.8	5,198.0	5,180.4	10.0	11.5	-53.00	250.1	-981.6	833.6	813.9	19.68	42.357	
5,200.0	5,192.7	5,297.4	5,279.4	10.2	11.8	-52.92	255.3	-974.6	823.4	803.4	20.07	41.027	
5,300.0	5,292.5	5,396.9	5,378.5	10.4	12.0	-52.84	260.5	-967.5	813.2	792.8	20.46	39.747	
5,400.0	5,392.4	5,496.4	5,477.6	10.6	12.2	-52.76	265.7	-960.4	803.1	782.2	20.85	38.514	
5,500.0	5,492.2	5,587.8	5,568.7	10.8	12.4	-52.70	270.2	-954.3	793.3	772.1	21.22	37.386	
5,600.0	5,592.1	5,677.8	5,658.5	11.0	12.6	-52.71	273.8	-949.4	784.7	763.2	21.57	36.373	
5,700.0	5,691.9	5,767.9	5,748.5	11.2	12.8	-52.78	276.6	-945.7	777.4	755.5	21.92	35.461	
5,800.0	5,791.8	5,858.2	5,838.7	11.4	12.9	-52.92	278.5	-943.0	771.3	749.0	22.26	34.645	
5,900.0	5,891.6	5,948.6	5,929.1	11.6	13.0	-53.13	279.6	-941.6	766.4	743.8	22.59	33.920	
6,000.0	5,991.5	6,041.0	6,021.5	11.8	13.2	-53.42	279.8	-941.2	762.7	739.8	22.92	33.273	
6,100.0	6,091.3	6,140.8	6,121.3	12.0	13.3	-53.75	279.8	-941.2	759.5	736.2	23.27	32.645	
6,200.0	6,191.2	6,240.7	6,221.2	12.2	13.5	-54.08	279.8	-941.2	756.3	732.7	23.61	32.035	
6,300.0	6,291.0	6,340.5	6,321.0	12.4	13.6	-54.42	279.8	-941.2	753.1	729.1	23.95	31.443	
6,400.0	6,390.9	6,440.4	6,420.9	12.6	13.7	71.08	279.8	-941.2	750.0	725.7	24.25	30.929	
6,500.0	6,489.5	6,541.2	6,521.6	12.6	13.9	84.36	277.8	-941.2	747.2	722.8	24.45	30.557	
6,600.0	6,585.1	6,646.2	6,624.9	12.6	13.9	88.49	259.6	-941.2	744.7	720.3	24.48	30.419	
6,700.0	6,675.6	6,753.6	6,725.3	12.6	13.8	90.63	221.8	-941.2	742.3	718.0	24.38	30.448	
6,800.0	6,759.4	6,862.3	6,817.9	12.5	13.8	91.78	165.2	-941.2	739.9	715.6	24.26	30.501	
6,900.0	6,834.9	6,971.1	6,898.2	12.6	13.8	92.23	92.0	-941.2	737.4	713.1	24.26	30.395	
7,000.0	6,900.5	7,078.7	6,962.7	12.8	13.9	92.12	6.1	-941.2	734.9	710.4	24.55	29.939	
7,100.0	6,954.9	7,183.9	7,009.1	13.1	14.2	91.52	-88.1	-941.2	732.7	707.5	25.21	29.060	
7,200.0	6,997.2	7,285.8	7,036.9	13.6	14.7	90.51	-186.0	-941.2	731.0	704.7	26.31	27.781	
7,300.0	7,026.5	7,384.0	7,046.9	14.3	15.4	89.17	-283.6	-941.2	730.1	702.3	27.79	26.270	
7,374.4	7,039.5	7,457.0	7,047.0	15.0	16.0	88.22	-356.6	-941.3	730.0	700.8	29.14	25.046 CC	
7,400.0	7,042.2	7,482.5	7,047.0	15.2	16.2	88.01	-382.1	-941.3	730.0	700.4	29.62	24.646	
7,500.0	7,045.0	7,582.4	7,047.0	16.2	17.2	87.80	-482.0	-941.3	730.0	698.3	31.74	23.000	
7,600.0	7,045.0	7,682.4	7,047.0	17.4	18.3	87.80	-582.0	-941.3	730.0	695.9	34.09	21.413	
7,700.0	7,045.0	7,782.4	7,047.0	18.6	19.5	87.80	-682.0	-941.3	730.0	693.4	36.63	19.929	
7,800.0	7,045.0	7,882.4	7,047.0	19.9	20.8	87.80	-782.0	-941.3	730.0	690.7	39.32	18.567	
7,900.0	7,045.0	7,982.4	7,047.0	21.3	22.1	87.80	-882.0	-941.3	730.0	687.9	42.12	17.330	
8,000.0	7,045.0	8,082.4	7,047.0	22.7	23.5	87.80	-982.0	-941.3	730.0	685.0	45.03	16.212	
8,100.0	7,045.0	8,182.4	7,047.0	24.2	25.0	87.80	-1,082.0	-941.3	730.0	682.0	48.02	15.204	
8,200.0	7,045.0	8,282.4	7,047.0	25.7	26.4	87.80	-1,182.0	-941.3	730.0	679.0	51.07	14.295	
8,300.0	7,045.0	8,382.4	7,047.0	27.3	28.0	87.80	-1,282.0	-941.3	730.0	675.9	54.18	13.475	
8,400.0	7,045.0	8,482.4	7,047.0	28.8	29.5	87.80	-1,382.0	-941.3	730.0	672.7	57.33	12.734	
8,500.0	7,045.0	8,582.4	7,047.0	30.4	31.1	87.80	-1,482.0	-941.3	730.1	669.5	60.52	12.063	

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 1A-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 1A-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
8,600.0	7,045.0	8,682.4	7,047.0	32.0	32.6	87.80	-1,582.0	-941.3	730.1	666.3	63.75	11.453	
8,700.0	7,045.0	8,782.4	7,047.0	33.6	34.2	87.80	-1,682.0	-941.3	730.1	663.1	67.00	10.897	
8,800.0	7,045.0	8,882.4	7,047.0	35.3	35.8	87.80	-1,782.0	-941.3	730.1	659.8	70.28	10.389	
8,900.0	7,045.0	8,982.4	7,047.0	36.9	37.5	87.80	-1,882.0	-941.3	730.1	656.5	73.57	9.923	
9,000.0	7,045.0	9,082.4	7,047.0	38.5	39.1	87.80	-1,982.0	-941.3	730.1	653.2	76.89	9.495	
9,100.0	7,045.0	9,182.4	7,047.0	40.2	40.8	87.80	-2,082.0	-941.4	730.1	649.9	80.22	9.101	
9,200.0	7,045.0	9,282.4	7,047.0	41.9	42.4	87.80	-2,182.0	-941.4	730.1	646.5	83.57	8.736	
9,300.0	7,045.0	9,382.4	7,047.0	43.6	44.1	87.80	-2,282.0	-941.4	730.1	643.2	86.93	8.399	
9,400.0	7,045.0	9,482.4	7,047.0	45.2	45.7	87.80	-2,382.0	-941.4	730.1	639.8	90.30	8.085	
9,500.0	7,045.0	9,582.4	7,047.0	46.9	47.4	87.80	-2,482.0	-941.4	730.1	636.4	93.68	7.794	
9,600.0	7,045.0	9,682.4	7,047.0	48.6	49.1	87.80	-2,582.0	-941.4	730.1	633.0	97.07	7.521	
9,700.0	7,045.0	9,782.4	7,047.0	50.3	50.8	87.80	-2,682.0	-941.4	730.1	629.7	100.47	7.267	
9,800.0	7,045.0	9,882.4	7,047.0	52.0	52.5	87.80	-2,782.0	-941.4	730.1	626.3	103.87	7.029	
9,900.0	7,045.0	9,982.4	7,047.0	53.7	54.2	87.80	-2,882.0	-941.4	730.1	622.8	107.28	6.806	
10,000.0	7,045.0	10,082.4	7,047.0	55.4	55.9	87.80	-2,982.0	-941.4	730.1	619.4	110.70	6.596	
10,100.0	7,045.0	10,182.4	7,047.0	57.1	57.6	87.80	-3,082.0	-941.4	730.1	616.0	114.12	6.398	
10,200.0	7,045.0	10,282.4	7,047.0	58.8	59.3	87.80	-3,182.0	-941.4	730.1	612.6	117.55	6.211	
10,300.0	7,045.0	10,382.4	7,047.0	60.5	61.0	87.80	-3,282.0	-941.4	730.2	609.2	120.98	6.035	
10,400.0	7,045.0	10,482.4	7,047.0	62.3	62.7	87.80	-3,382.0	-941.4	730.2	605.7	124.42	5.869	
10,500.0	7,045.0	10,582.4	7,047.0	64.0	64.4	87.80	-3,482.0	-941.4	730.2	602.3	127.86	5.711	
10,600.0	7,045.0	10,682.4	7,047.0	65.7	66.1	87.80	-3,582.0	-941.4	730.2	598.9	131.30	5.561	
10,700.0	7,045.0	10,782.4	7,047.0	67.4	67.8	87.80	-3,682.0	-941.4	730.2	595.4	134.75	5.419	
10,800.0	7,045.0	10,882.4	7,047.0	69.1	69.5	87.80	-3,782.0	-941.4	730.2	592.0	138.20	5.284	
10,900.0	7,045.0	10,982.4	7,047.0	70.9	71.3	87.80	-3,882.0	-941.5	730.2	588.5	141.65	5.155	
11,000.0	7,045.0	11,082.4	7,047.0	72.6	73.0	87.80	-3,982.0	-941.5	730.2	585.1	145.10	5.032	
11,100.0	7,045.0	11,182.4	7,047.0	74.3	74.7	87.80	-4,082.0	-941.5	730.2	581.6	148.56	4.915	
11,200.0	7,045.0	11,282.4	7,047.0	76.1	76.4	87.80	-4,182.0	-941.5	730.2	578.2	152.02	4.803	
11,300.0	7,045.0	11,382.4	7,047.0	77.8	78.2	87.80	-4,282.0	-941.5	730.2	574.7	155.48	4.696	
11,400.0	7,045.0	11,482.4	7,047.0	79.5	79.9	87.80	-4,382.0	-941.5	730.2	571.3	158.94	4.594	
11,500.0	7,045.0	11,582.4	7,047.0	81.2	81.6	87.80	-4,482.0	-941.5	730.2	567.8	162.41	4.496	
11,538.1	7,045.0	11,620.5	7,047.0	81.9	82.3	87.80	-4,520.1	-941.5	730.2	566.5	163.73	4.460	
11,568.2	7,045.0	11,646.6	7,047.0	82.4	82.7	87.80	-4,546.2	-941.5	730.2	565.5	164.70	4.434	ES, SF

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Ruhl 1A-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 1A-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
2,600.0	2,596.6	2,758.0	2,741.6	5.1	6.8	-54.39	122.6	-1,056.8	991.1	981.1	10.07	98.391	
2,700.0	2,696.4	2,856.9	2,839.7	5.3	7.1	-54.32	127.9	-1,045.2	976.3	965.9	10.46	93.326	
2,800.0	2,796.3	2,955.8	2,937.8	5.5	7.3	-54.25	133.3	-1,033.7	961.6	950.7	10.85	88.621	
2,900.0	2,896.1	3,054.7	3,035.9	5.7	7.6	-54.18	138.6	-1,022.1	946.8	935.6	11.24	84.239	
3,000.0	2,996.0	3,153.6	3,133.9	5.9	7.9	-54.10	143.9	-1,010.5	932.0	920.4	11.63	80.149	
3,100.0	3,095.8	3,252.5	3,232.0	6.1	8.2	-54.03	149.3	-999.0	917.2	905.2	12.02	76.322	
3,200.0	3,195.7	3,351.4	3,330.1	6.3	8.5	-53.95	154.6	-987.4	902.5	890.1	12.41	72.733	
3,300.0	3,295.5	3,450.3	3,428.1	6.5	8.8	-53.87	160.0	-975.8	887.7	874.9	12.80	69.361	
3,400.0	3,395.4	3,549.2	3,526.2	6.7	9.0	-53.78	165.3	-964.3	872.9	859.7	13.19	66.187	
3,500.0	3,495.2	3,648.1	3,624.3	6.9	9.3	-53.70	170.6	-952.7	858.2	844.6	13.58	63.194	
3,600.0	3,595.1	3,747.0	3,722.4	7.1	9.6	-53.61	176.0	-941.2	843.4	829.4	13.97	60.368	
3,700.0	3,694.9	3,845.9	3,820.4	7.3	9.9	-53.52	181.3	-929.6	828.6	814.3	14.36	57.693	
3,800.0	3,794.8	3,944.7	3,918.5	7.5	10.2	-53.42	186.7	-918.0	813.9	799.1	14.75	55.160	
3,900.0	3,894.6	4,043.6	4,016.6	7.7	10.4	-53.32	192.0	-906.5	799.1	784.0	15.15	52.756	
4,000.0	3,994.5	4,142.5	4,114.6	7.9	10.7	-53.22	197.3	-894.9	784.4	768.8	15.54	50.472	
4,100.0	4,094.3	4,241.4	4,212.7	8.1	11.0	-53.11	202.7	-883.3	769.6	753.7	15.93	48.300	
4,200.0	4,194.2	4,340.3	4,310.8	8.2	11.3	-53.00	208.0	-871.8	754.9	738.5	16.33	46.231	
4,300.0	4,294.0	4,439.2	4,408.9	8.4	11.6	-52.88	213.4	-860.2	740.1	723.4	16.72	44.259	
4,400.0	4,393.9	4,538.1	4,506.9	8.6	11.9	-52.76	218.7	-848.6	725.4	708.3	17.12	42.376	
4,500.0	4,493.7	4,637.0	4,605.0	8.8	12.1	-52.63	224.0	-837.1	710.6	693.1	17.51	40.577	
4,600.0	4,593.6	4,735.9	4,703.1	9.0	12.4	-52.50	229.4	-825.5	695.9	678.0	17.91	38.856	
4,700.0	4,693.4	4,834.8	4,801.1	9.2	12.7	-52.36	234.7	-813.9	681.2	662.9	18.31	37.208	
4,800.0	4,793.3	4,933.7	4,899.2	9.4	13.0	-52.22	240.0	-802.4	666.4	647.7	18.70	35.630	
4,900.0	4,893.1	5,032.6	4,997.3	9.6	13.3	-52.07	245.4	-790.8	651.7	632.6	19.10	34.115	
5,000.0	4,993.0	5,131.5	5,095.4	9.8	13.5	-51.91	250.7	-779.2	637.0	617.5	19.50	32.662	
5,100.0	5,092.8	5,230.4	5,193.4	10.0	13.8	-51.75	256.1	-767.7	622.3	602.4	19.90	31.266	
5,200.0	5,192.7	5,326.7	5,289.0	10.2	14.1	-51.59	261.2	-756.5	607.6	587.3	20.30	29.938	
5,300.0	5,292.5	5,417.4	5,379.1	10.4	14.3	-51.47	265.7	-746.9	594.0	573.3	20.67	28.738	
5,400.0	5,392.4	5,508.5	5,469.7	10.6	14.5	-51.43	269.5	-738.6	581.8	560.8	21.04	27.658	
5,500.0	5,492.2	5,600.0	5,560.8	10.8	14.7	-51.45	272.7	-731.5	571.0	549.6	21.39	26.691	
5,600.0	5,592.1	5,691.4	5,652.1	11.0	14.9	-51.54	275.4	-725.8	561.5	539.8	21.74	25.833	
5,700.0	5,691.9	5,783.2	5,743.7	11.2	15.1	-51.71	277.4	-721.5	553.5	531.4	22.07	25.075	
5,800.0	5,791.8	5,875.2	5,835.6	11.4	15.2	-51.95	278.8	-718.4	546.9	524.5	22.40	24.414	
5,900.0	5,891.6	5,967.3	5,927.7	11.6	15.3	-52.28	279.6	-716.7	541.7	519.0	22.72	23.844	
6,000.0	5,991.5	6,061.1	6,021.5	11.8	15.5	-52.69	279.8	-716.2	537.9	514.9	23.03	23.354	
6,100.0	6,091.3	6,160.9	6,121.3	12.0	15.6	-53.15	279.8	-716.2	534.6	511.3	23.36	22.891	
6,200.0	6,191.2	6,260.8	6,221.2	12.2	15.7	-53.63	279.8	-716.2	531.4	507.7	23.68	22.439	
6,300.0	6,291.0	6,360.6	6,321.0	12.4	15.8	-54.10	279.8	-716.2	528.1	504.1	24.01	22.000	
6,400.0	6,390.9	6,461.2	6,421.6	12.6	15.9	71.32	278.5	-716.2	525.0	500.7	24.29	21.613	
6,500.0	6,489.5	6,563.0	6,522.0	12.6	15.9	83.57	262.7	-716.2	521.9	497.6	24.37	21.413	
6,600.0	6,585.1	6,664.4	6,617.7	12.6	15.9	86.35	229.5	-716.2	518.9	494.6	24.29	21.363	
6,700.0	6,675.6	6,764.6	6,705.1	12.6	15.9	87.06	180.7	-716.3	516.0	491.9	24.13	21.383	
6,800.0	6,759.4	6,863.0	6,781.3	12.5	15.8	86.80	118.8	-716.3	513.5	489.5	24.03	21.368	
6,900.0	6,834.9	6,958.9	6,844.4	12.6	15.9	85.91	46.6	-716.3	511.7	487.5	24.12	21.214	
7,000.0	6,900.5	7,052.1	6,893.3	12.8	16.0	84.57	-32.6	-716.3	510.7	486.2	24.48	20.862	
7,039.9	6,923.6	7,088.5	6,908.8	12.9	16.1	83.94	-65.5	-716.3	510.6	485.9	24.74	20.638	CC
7,100.0	6,954.9	7,142.5	6,927.9	13.1	16.3	82.90	-115.9	-716.3	510.8	485.7	25.17	20.297	
7,200.0	6,997.2	7,229.8	6,948.5	13.6	16.7	80.98	-200.8	-716.3	512.2	486.1	26.16	19.581	
7,300.0	7,026.5	7,314.4	6,955.9	14.3	17.2	78.90	-284.9	-716.3	515.0	487.6	27.39	18.803	
7,400.0	7,042.2	7,411.6	6,956.0	15.2	18.0	77.06	-382.1	-716.3	517.8	488.8	28.98	17.868	
7,500.0	7,045.0	7,511.5	6,956.0	16.2	18.9	76.73	-482.0	-716.3	518.3	487.4	30.97	16.739	
7,600.0	7,045.0	7,611.5	6,956.0	17.4	19.9	76.73	-582.0	-716.3	518.3	485.1	33.27	15.581	

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 1A-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 1A-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
7,700.0	7,045.0	7,711.5	6,956.0	18.6	21.0	76.73	-682.0	-716.3	518.3	482.6	35.75	14.500	
7,800.0	7,045.0	7,811.5	6,956.0	19.9	22.2	76.73	-782.0	-716.3	518.4	480.0	38.37	13.509	
7,900.0	7,045.0	7,911.5	6,956.0	21.3	23.4	76.73	-882.0	-716.3	518.4	477.2	41.11	12.609	
8,000.0	7,045.0	8,011.5	6,956.0	22.7	24.8	76.73	-982.0	-716.3	518.4	474.4	43.95	11.795	
8,100.0	7,045.0	8,111.5	6,956.0	24.2	26.1	76.73	-1,082.0	-716.3	518.4	471.5	46.86	11.062	
8,200.0	7,045.0	8,211.5	6,956.0	25.7	27.5	76.73	-1,182.0	-716.3	518.4	468.5	49.84	10.402	
8,300.0	7,045.0	8,311.5	6,956.0	27.3	29.0	76.73	-1,282.0	-716.3	518.4	465.5	52.87	9.806	
8,400.0	7,045.0	8,411.5	6,956.0	28.8	30.5	76.73	-1,382.0	-716.3	518.4	462.4	55.94	9.267	
8,500.0	7,045.0	8,511.5	6,956.0	30.4	32.0	76.73	-1,482.0	-716.4	518.4	459.3	59.05	8.779	
8,600.0	7,045.0	8,611.5	6,956.0	32.0	33.5	76.73	-1,582.0	-716.4	518.4	456.2	62.20	8.335	
8,700.0	7,045.0	8,711.5	6,956.0	33.6	35.1	76.73	-1,682.0	-716.4	518.4	453.0	65.37	7.931	
8,800.0	7,045.0	8,811.5	6,956.0	35.3	36.7	76.73	-1,782.0	-716.4	518.4	449.9	68.56	7.561	
8,900.0	7,045.0	8,911.5	6,956.0	36.9	38.2	76.73	-1,882.0	-716.4	518.4	446.6	71.78	7.223	
9,000.0	7,045.0	9,011.5	6,956.0	38.5	39.9	76.73	-1,982.0	-716.4	518.4	443.4	75.01	6.912	
9,100.0	7,045.0	9,111.5	6,956.0	40.2	41.5	76.73	-2,082.0	-716.4	518.4	440.2	78.26	6.625	
9,200.0	7,045.0	9,211.5	6,956.0	41.9	43.1	76.73	-2,182.0	-716.4	518.4	436.9	81.52	6.360	
9,300.0	7,045.0	9,311.5	6,956.0	43.6	44.7	76.73	-2,282.0	-716.4	518.4	433.6	84.79	6.114	
9,400.0	7,045.0	9,411.5	6,956.0	45.2	46.4	76.73	-2,382.0	-716.4	518.4	430.4	88.08	5.886	
9,500.0	7,045.0	9,511.5	6,956.0	46.9	48.0	76.73	-2,482.0	-716.4	518.5	427.1	91.37	5.674	
9,600.0	7,045.0	9,611.5	6,956.0	48.6	49.7	76.73	-2,582.0	-716.4	518.5	423.8	94.67	5.476	
9,700.0	7,045.0	9,711.5	6,956.0	50.3	51.4	76.73	-2,682.0	-716.4	518.5	420.5	97.99	5.291	
9,800.0	7,045.0	9,811.5	6,956.0	52.0	53.0	76.73	-2,782.0	-716.4	518.5	417.2	101.30	5.118	
9,900.0	7,045.0	9,911.5	6,956.0	53.7	54.7	76.73	-2,882.0	-716.4	518.5	413.9	104.63	4.955	
10,000.0	7,045.0	10,011.5	6,956.0	55.4	56.4	76.73	-2,982.0	-716.4	518.5	410.5	107.96	4.803	
10,100.0	7,045.0	10,111.5	6,956.0	57.1	58.1	76.73	-3,082.0	-716.4	518.5	407.2	111.29	4.659	
10,200.0	7,045.0	10,211.5	6,956.0	58.8	59.8	76.73	-3,182.0	-716.5	518.5	403.9	114.63	4.523	
10,300.0	7,045.0	10,311.5	6,956.0	60.5	61.4	76.73	-3,282.0	-716.5	518.5	400.5	117.98	4.395	
10,400.0	7,045.0	10,411.5	6,956.0	62.3	63.1	76.73	-3,382.0	-716.5	518.5	397.2	121.32	4.274	
10,500.0	7,045.0	10,511.5	6,956.0	64.0	64.8	76.73	-3,482.0	-716.5	518.5	393.8	124.68	4.159	
10,600.0	7,045.0	10,611.5	6,956.0	65.7	66.5	76.73	-3,582.0	-716.5	518.5	390.5	128.03	4.050	
10,700.0	7,045.0	10,711.5	6,956.0	67.4	68.3	76.73	-3,682.0	-716.5	518.5	387.1	131.39	3.947	
10,800.0	7,045.0	10,811.5	6,956.0	69.1	70.0	76.73	-3,782.0	-716.5	518.5	383.8	134.75	3.848	
10,900.0	7,045.0	10,911.5	6,956.0	70.9	71.7	76.73	-3,882.0	-716.5	518.5	380.4	138.11	3.754	
11,000.0	7,045.0	11,011.5	6,956.0	72.6	73.4	76.73	-3,982.0	-716.5	518.5	377.1	141.48	3.665	
11,100.0	7,045.0	11,111.5	6,956.0	74.3	75.1	76.73	-4,082.0	-716.5	518.5	373.7	144.85	3.580	
11,200.0	7,045.0	11,211.5	6,956.0	76.1	76.8	76.73	-4,182.0	-716.5	518.6	370.3	148.22	3.499	
11,300.0	7,045.0	11,311.5	6,956.0	77.8	78.5	76.73	-4,282.0	-716.5	518.6	367.0	151.59	3.421	
11,400.0	7,045.0	11,411.5	6,956.0	79.5	80.2	76.73	-4,382.0	-716.5	518.6	363.6	154.97	3.346	
11,500.0	7,045.0	11,511.5	6,956.0	81.2	82.0	76.73	-4,482.0	-716.5	518.6	360.2	158.34	3.275	
11,538.5	7,045.0	11,550.0	6,956.0	81.9	82.6	76.73	-4,520.5	-716.5	518.6	358.9	159.64	3.248	
11,568.2	7,045.0	11,576.8	6,956.0	82.4	83.1	76.73	-4,547.3	-716.5	518.6	358.0	160.60	3.229	ES, SF

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Ruhl 1A-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 1A-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
2,100.0	2,097.3	2,313.6	2,292.0	4.1	6.4	-54.70	97.0	-1,033.6	990.5	982.3	8.23	120.412	
2,200.0	2,197.2	2,411.7	2,388.5	4.3	6.7	-54.62	102.5	-1,017.2	970.8	962.2	8.61	112.700	
2,300.0	2,297.0	2,509.7	2,484.9	4.5	7.1	-54.54	108.0	-1,000.9	951.1	942.0	9.00	105.646	
2,400.0	2,396.9	2,607.7	2,581.4	4.7	7.4	-54.45	113.5	-984.5	931.3	921.9	9.39	99.170	
2,500.0	2,496.7	2,705.7	2,677.9	4.9	7.8	-54.36	119.0	-968.2	911.6	901.8	9.78	93.202	
2,600.0	2,596.6	2,803.7	2,774.4	5.1	8.1	-54.26	124.5	-951.8	891.8	881.7	10.17	87.687	
2,700.0	2,696.4	2,901.8	2,870.9	5.3	8.5	-54.16	130.0	-935.5	872.1	861.5	10.56	82.573	
2,800.0	2,796.3	2,999.8	2,967.4	5.5	8.8	-54.06	135.5	-919.1	852.4	841.4	10.95	77.820	
2,900.0	2,896.1	3,097.8	3,063.9	5.7	9.2	-53.95	141.0	-902.8	832.6	821.3	11.35	73.391	
3,000.0	2,996.0	3,195.8	3,160.4	5.9	9.5	-53.84	146.5	-886.4	812.9	801.2	11.74	69.253	
3,100.0	3,095.8	3,293.9	3,256.9	6.1	9.9	-53.72	152.0	-870.0	793.2	781.0	12.13	65.379	
3,200.0	3,195.7	3,391.9	3,353.4	6.3	10.2	-53.60	157.5	-853.7	773.5	760.9	12.53	61.744	
3,300.0	3,295.5	3,489.9	3,449.9	6.5	10.6	-53.46	163.0	-837.3	753.7	740.8	12.92	58.327	
3,400.0	3,395.4	3,587.9	3,546.3	6.7	10.9	-53.33	168.5	-821.0	734.0	720.7	13.32	55.110	
3,500.0	3,495.2	3,685.9	3,642.8	6.9	11.2	-53.18	174.0	-804.6	714.3	700.6	13.72	52.074	
3,600.0	3,595.1	3,784.0	3,739.3	7.1	11.6	-53.02	179.5	-788.3	694.6	680.5	14.12	49.206	
3,700.0	3,694.9	3,882.0	3,835.8	7.3	11.9	-52.86	185.0	-771.9	674.9	660.4	14.52	46.492	
3,800.0	3,794.8	3,980.0	3,932.3	7.5	12.3	-52.69	190.5	-755.6	655.2	640.3	14.92	43.919	
3,900.0	3,894.6	4,078.0	4,028.8	7.7	12.6	-52.50	196.0	-739.2	635.5	620.2	15.32	41.478	
4,000.0	3,994.5	4,176.0	4,125.3	7.9	13.0	-52.31	201.5	-722.9	615.9	600.1	15.73	39.157	
4,100.0	4,094.3	4,274.1	4,221.8	8.1	13.3	-52.10	207.0	-706.5	596.2	580.0	16.13	36.950	
4,200.0	4,194.2	4,372.1	4,318.3	8.2	13.7	-51.87	212.5	-690.2	576.5	560.0	16.54	34.847	
4,300.0	4,294.0	4,470.1	4,414.8	8.4	14.0	-51.64	218.0	-673.8	556.9	539.9	16.96	32.841	
4,400.0	4,393.9	4,568.1	4,511.3	8.6	14.4	-51.38	223.5	-657.5	537.2	519.8	17.37	30.927	
4,500.0	4,493.7	4,666.2	4,607.8	8.8	14.7	-51.10	229.0	-641.1	517.6	499.8	17.79	29.097	
4,600.0	4,593.6	4,764.2	4,704.2	9.0	15.1	-50.81	234.5	-624.8	498.0	479.7	18.21	27.347	
4,700.0	4,693.4	4,862.2	4,800.7	9.2	15.4	-50.48	240.1	-608.4	478.4	459.7	18.63	25.671	
4,800.0	4,793.3	4,960.2	4,897.2	9.4	15.8	-50.13	245.6	-592.1	458.8	439.7	19.06	24.066	
4,900.0	4,893.1	5,058.1	4,993.6	9.6	16.1	-49.75	251.1	-575.7	439.2	419.7	19.50	22.526	
5,000.0	4,993.0	5,150.0	5,084.2	9.8	16.4	-49.41	256.0	-561.1	420.4	400.5	19.91	21.114	
5,100.0	5,092.8	5,242.4	5,175.5	10.0	16.7	-49.12	260.4	-547.8	403.0	382.7	20.31	19.840	
5,200.0	5,192.7	5,335.3	5,267.6	10.2	17.0	-48.90	264.5	-535.8	387.1	366.4	20.71	18.696	
5,300.0	5,292.5	5,428.7	5,360.2	10.4	17.2	-48.77	268.0	-525.3	372.7	351.6	21.09	17.674	
5,400.0	5,392.4	5,522.4	5,453.4	10.6	17.4	-48.72	271.1	-516.1	359.7	338.3	21.45	16.768	
5,500.0	5,492.2	5,616.5	5,547.2	10.8	17.6	-48.79	273.7	-508.3	348.2	326.4	21.80	15.973	
5,600.0	5,592.1	5,710.8	5,641.3	11.0	17.8	-48.97	275.9	-501.9	338.2	316.1	22.13	15.281	
5,700.0	5,691.9	5,805.4	5,735.8	11.2	18.0	-49.27	277.5	-497.1	329.7	307.3	22.45	14.687	
5,800.0	5,791.8	5,900.0	5,830.3	11.4	18.1	-49.70	278.7	-493.7	322.7	300.0	22.75	14.188	
5,900.0	5,891.6	5,995.2	5,925.4	11.6	18.2	-50.27	279.3	-491.8	317.2	294.2	23.03	13.777	
6,000.0	5,991.5	6,091.3	6,021.5	11.8	18.3	-50.97	279.5	-491.3	313.3	290.0	23.30	13.449	
6,100.0	6,091.3	6,191.1	6,121.3	12.0	18.4	-51.76	279.5	-491.3	309.9	286.3	23.57	13.148	
6,200.0	6,191.2	6,291.0	6,221.2	12.2	18.5	-52.56	279.5	-491.3	306.5	282.7	23.85	12.855	
6,300.0	6,291.0	6,390.8	6,321.0	12.4	18.6	-53.38	279.5	-491.3	303.2	279.1	24.13	12.569	
6,400.0	6,390.9	6,490.7	6,420.9	12.6	18.7	72.33	279.5	-491.3	300.2	275.7	24.46	12.270	
6,500.0	6,489.5	6,589.3	6,519.5	12.6	18.8	87.45	279.5	-491.3	298.1	273.1	24.94	11.952	
6,529.4	6,518.1	6,617.8	6,548.1	12.6	18.9	90.00	279.5	-491.3	297.9	272.8	25.10	11.868	
6,600.0	6,585.1	6,686.0	6,616.3	12.6	18.9	95.73	279.3	-491.3	299.1	273.6	25.55	11.708	
6,700.0	6,675.6	6,794.5	6,723.9	12.6	19.0	103.13	266.8	-491.3	303.8	277.8	25.99	11.692	
6,800.0	6,759.4	6,911.6	6,835.1	12.5	19.0	108.98	230.8	-491.3	309.9	283.9	25.96	11.935	
6,900.0	6,834.9	7,036.7	6,943.2	12.6	18.9	113.27	168.3	-491.3	315.2	289.7	25.53	12.348	
7,000.0	6,900.5	7,167.7	7,039.0	12.8	18.9	115.86	79.4	-491.3	318.0	293.1	24.92	12.759	
7,100.0	6,954.9	7,301.4	7,113.4	13.1	19.0	116.63	-31.2	-491.3	317.2	292.6	24.62	12.884	

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 1A-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 1A-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
7,200.0	6,997.2	7,433.7	7,160.0	13.6	19.4	115.56	-154.8	-491.3	312.5	287.4	25.10	12.453	
7,300.0	7,026.5	7,561.1	7,176.9	14.3	20.1	112.74	-280.8	-491.3	304.9	278.2	26.63	11.449	
7,400.0	7,042.2	7,662.4	7,177.0	15.2	20.7	110.46	-382.1	-491.3	298.6	269.9	28.68	10.412	
7,492.7	7,046.6	7,755.0	7,177.0	16.1	21.4	109.76	-474.7	-491.3	297.0	266.3	30.70	9.672	CC
7,500.0	7,045.0	7,762.3	7,177.0	16.2	21.5	110.05	-482.0	-491.3	297.6	266.7	30.83	9.653	
7,600.0	7,045.0	7,862.3	7,177.0	17.4	22.4	110.05	-582.0	-491.3	297.6	264.6	33.01	9.015	
7,700.0	7,045.0	7,962.3	7,177.0	18.6	23.3	110.05	-682.0	-491.4	297.6	262.2	35.37	8.414	
7,800.0	7,045.0	8,062.3	7,177.0	19.9	24.4	110.05	-782.0	-491.4	297.6	259.7	37.86	7.860	
7,900.0	7,045.0	8,162.3	7,177.0	21.3	25.6	110.04	-882.0	-491.4	297.6	257.1	40.47	7.353	
8,000.0	7,045.0	8,262.3	7,177.0	22.7	26.8	110.04	-982.0	-491.4	297.6	254.4	43.18	6.892	
8,100.0	7,045.0	8,362.3	7,177.0	24.2	28.1	110.04	-1,082.0	-491.4	297.6	251.6	45.96	6.475	
8,200.0	7,045.0	8,462.3	7,177.0	25.7	29.4	110.04	-1,182.0	-491.4	297.6	248.8	48.81	6.097	
8,300.0	7,045.0	8,562.3	7,177.0	27.3	30.8	110.04	-1,282.0	-491.4	297.6	245.9	51.71	5.755	
8,400.0	7,045.0	8,662.3	7,177.0	28.8	32.2	110.04	-1,382.0	-491.4	297.6	243.0	54.66	5.445	
8,500.0	7,045.0	8,762.3	7,177.0	30.4	33.6	110.04	-1,482.0	-491.4	297.6	240.0	57.65	5.163	
8,600.0	7,045.0	8,862.3	7,177.0	32.0	35.1	110.04	-1,582.0	-491.4	297.6	237.0	60.66	4.906	
8,700.0	7,045.0	8,962.3	7,177.0	33.6	36.6	110.04	-1,682.0	-491.4	297.6	233.9	63.71	4.672	
8,800.0	7,045.0	9,062.3	7,177.0	35.3	38.1	110.04	-1,782.0	-491.4	297.6	230.9	66.78	4.457	
8,900.0	7,045.0	9,162.3	7,177.0	36.9	39.6	110.04	-1,882.0	-491.4	297.6	227.8	69.87	4.260	
9,000.0	7,045.0	9,262.3	7,177.0	38.5	41.2	110.04	-1,982.0	-491.4	297.7	224.7	72.98	4.079	
9,100.0	7,045.0	9,362.3	7,177.0	40.2	42.7	110.04	-2,082.0	-491.4	297.7	221.6	76.10	3.911	
9,200.0	7,045.0	9,462.3	7,177.0	41.9	44.3	110.04	-2,182.0	-491.4	297.7	218.4	79.24	3.757	
9,300.0	7,045.0	9,562.3	7,177.0	43.6	45.9	110.04	-2,282.0	-491.4	297.7	215.3	82.39	3.613	
9,400.0	7,045.0	9,662.3	7,177.0	45.2	47.5	110.04	-2,382.0	-491.5	297.7	212.1	85.55	3.479	
9,500.0	7,045.0	9,762.3	7,177.0	46.9	49.1	110.04	-2,482.0	-491.5	297.7	209.0	88.72	3.355	
9,600.0	7,045.0	9,862.3	7,177.0	48.6	50.7	110.04	-2,582.0	-491.5	297.7	205.8	91.91	3.239	
9,700.0	7,045.0	9,962.3	7,177.0	50.3	52.4	110.04	-2,682.0	-491.5	297.7	202.6	95.10	3.130	
9,800.0	7,045.0	10,062.3	7,177.0	52.0	54.0	110.04	-2,782.0	-491.5	297.7	199.4	98.29	3.029	
9,900.0	7,045.0	10,162.3	7,177.0	53.7	55.7	110.04	-2,882.0	-491.5	297.7	196.2	101.49	2.933	
10,000.0	7,045.0	10,262.3	7,177.0	55.4	57.3	110.04	-2,982.0	-491.5	297.7	193.0	104.70	2.843	
10,100.0	7,045.0	10,362.3	7,177.0	57.1	59.0	110.04	-3,082.0	-491.5	297.7	189.8	107.92	2.759	
10,200.0	7,045.0	10,462.3	7,177.0	58.8	60.6	110.04	-3,182.0	-491.5	297.7	186.6	111.14	2.679	
10,300.0	7,045.0	10,562.3	7,177.0	60.5	62.3	110.04	-3,282.0	-491.5	297.7	183.4	114.36	2.603	
10,400.0	7,045.0	10,662.3	7,177.0	62.3	64.0	110.03	-3,382.0	-491.5	297.7	180.1	117.59	2.532	
10,500.0	7,045.0	10,762.3	7,177.0	64.0	65.7	110.03	-3,482.0	-491.5	297.7	176.9	120.82	2.464	
10,600.0	7,045.0	10,862.3	7,177.0	65.7	67.4	110.03	-3,582.0	-491.5	297.7	173.7	124.06	2.400	
10,700.0	7,045.0	10,962.3	7,177.0	67.4	69.0	110.03	-3,682.0	-491.5	297.8	170.5	127.29	2.339	
10,800.0	7,045.0	11,062.3	7,177.0	69.1	70.7	110.03	-3,782.0	-491.5	297.8	167.2	130.54	2.281	
10,900.0	7,045.0	11,162.3	7,177.0	70.9	72.4	110.03	-3,882.0	-491.5	297.8	164.0	133.78	2.226	
11,000.0	7,045.0	11,262.3	7,177.0	72.6	74.1	110.03	-3,982.0	-491.6	297.8	160.7	137.03	2.173	
11,100.0	7,045.0	11,362.3	7,177.0	74.3	75.8	110.03	-4,082.0	-491.6	297.8	157.5	140.28	2.123	
11,200.0	7,045.0	11,462.3	7,177.0	76.1	77.5	110.03	-4,182.0	-491.6	297.8	154.3	143.53	2.075	
11,300.0	7,045.0	11,562.3	7,177.0	77.8	79.2	110.03	-4,282.0	-491.6	297.8	151.0	146.78	2.029	
11,400.0	7,045.0	11,662.3	7,177.0	79.5	80.9	110.03	-4,382.0	-491.6	297.8	147.8	150.04	1.985	
11,500.0	7,045.0	11,762.3	7,177.0	81.2	82.6	110.03	-4,482.0	-491.6	297.8	144.5	153.30	1.943	
11,539.0	7,045.0	11,801.3	7,177.0	81.9	83.3	110.03	-4,521.0	-491.6	297.8	143.2	154.57	1.927	
11,568.2	7,045.0	11,829.1	7,177.0	82.4	83.8	110.03	-4,548.7	-491.6	297.8	142.3	155.49	1.915	ES, SF

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Ruhl 1A-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 1A-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 1B-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	CC, ES
300.0	300.0	300.0	300.0	0.5	0.5	132.27	0.0	10.1	11.2	10.1	1.05	10.641	
400.0	399.9	399.9	399.9	0.7	0.7	146.34	0.0	10.1	14.9	13.5	1.40	10.646	
500.0	499.7	499.7	499.7	0.9	0.9	155.18	0.0	10.1	19.7	17.9	1.75	11.253	
600.0	599.6	599.6	599.6	1.1	1.0	160.50	0.0	10.1	24.8	22.7	2.10	11.799	
700.0	699.4	699.4	699.4	1.3	1.2	163.99	0.0	10.1	30.0	27.5	2.45	12.247	
800.0	799.3	799.3	799.3	1.5	1.4	166.44	0.0	10.1	35.3	32.5	2.80	12.612	
900.0	899.1	899.1	899.1	1.7	1.6	168.25	0.0	10.1	40.6	37.4	3.14	12.912	
1,000.0	999.0	999.0	999.0	1.9	1.7	169.63	0.0	10.1	46.0	42.5	3.49	13.160	
1,100.0	1,098.8	1,100.0	1,100.0	2.1	1.9	169.34	1.7	10.1	50.1	46.3	3.84	13.039	
1,200.0	1,198.7	1,200.6	1,200.5	2.3	2.1	166.64	6.6	10.1	52.2	48.0	4.20	12.430	
1,300.0	1,298.5	1,300.5	1,300.3	2.5	2.3	163.82	11.8	10.2	54.2	49.6	4.56	11.872	
1,400.0	1,398.4	1,400.5	1,400.1	2.7	2.5	161.19	17.0	10.2	56.2	51.3	4.93	11.413	
1,500.0	1,498.2	1,500.4	1,499.9	2.9	2.7	158.76	22.2	10.3	58.4	53.1	5.30	11.030	
1,600.0	1,598.1	1,600.4	1,599.7	3.1	2.8	156.50	27.5	10.3	60.7	55.0	5.67	10.707	
1,700.0	1,697.9	1,700.3	1,699.5	3.3	3.0	154.41	32.7	10.4	63.0	57.0	6.04	10.434	
1,800.0	1,797.8	1,800.3	1,799.3	3.5	3.2	152.48	37.9	10.4	65.5	59.1	6.42	10.201	
1,900.0	1,897.6	1,900.2	1,899.1	3.7	3.4	150.68	43.1	10.5	68.0	61.2	6.80	10.000	
2,000.0	1,997.5	2,000.2	1,998.9	3.9	3.6	149.01	48.4	10.6	70.5	63.4	7.18	9.827	
2,100.0	2,097.3	2,100.1	2,098.8	4.1	3.8	147.47	53.6	10.6	73.2	65.6	7.56	9.676	
2,200.0	2,197.2	2,200.1	2,198.6	4.3	4.0	146.02	58.8	10.7	75.8	67.9	7.95	9.545	
2,300.0	2,297.0	2,300.0	2,298.4	4.5	4.2	144.68	64.0	10.7	78.6	70.2	8.33	9.429	
2,400.0	2,396.9	2,400.0	2,398.2	4.7	4.4	143.43	69.2	10.8	81.3	72.6	8.72	9.327	
2,500.0	2,496.7	2,499.9	2,498.0	4.9	4.6	142.26	74.5	10.8	84.1	75.0	9.11	9.237	
2,600.0	2,596.6	2,599.9	2,597.8	5.1	4.8	141.17	79.7	10.9	86.9	77.4	9.49	9.157	
2,700.0	2,696.4	2,699.8	2,697.6	5.3	5.0	140.15	84.9	10.9	89.8	79.9	9.88	9.086	
2,800.0	2,796.3	2,799.7	2,797.4	5.5	5.1	139.18	90.1	11.0	92.7	82.4	10.27	9.022	
2,900.0	2,896.1	2,899.7	2,897.2	5.7	5.3	138.28	95.4	11.0	95.6	84.9	10.66	8.965	
3,000.0	2,996.0	2,999.6	2,997.0	5.9	5.5	137.43	100.6	11.1	98.5	87.5	11.05	8.913	
3,100.0	3,095.8	3,099.6	3,096.9	6.1	5.7	136.63	105.8	11.1	101.5	90.0	11.44	8.867	
3,200.0	3,195.7	3,199.5	3,196.7	6.3	5.9	135.88	111.0	11.2	104.4	92.6	11.83	8.825	
3,300.0	3,295.5	3,299.5	3,296.5	6.5	6.1	135.17	116.3	11.2	107.4	95.2	12.22	8.786	
3,400.0	3,395.4	3,399.4	3,396.3	6.7	6.3	134.49	121.5	11.3	110.4	97.8	12.62	8.752	
3,500.0	3,495.2	3,499.4	3,496.1	6.9	6.5	133.85	126.7	11.3	113.4	100.4	13.01	8.720	
3,600.0	3,595.1	3,599.3	3,595.9	7.1	6.7	133.25	131.9	11.4	116.5	103.1	13.40	8.691	
3,700.0	3,694.9	3,699.3	3,695.7	7.3	6.9	132.67	137.2	11.4	119.5	105.7	13.79	8.665	
3,800.0	3,794.8	3,799.2	3,795.5	7.5	7.1	132.13	142.4	11.5	122.5	108.4	14.18	8.641	
3,900.0	3,894.6	3,899.2	3,895.3	7.7	7.3	131.61	147.6	11.5	125.6	111.0	14.57	8.619	
4,000.0	3,994.5	3,999.1	3,995.1	7.9	7.5	131.11	152.8	11.6	128.7	113.7	14.97	8.598	
4,100.0	4,094.3	4,099.1	4,095.0	8.1	7.7	130.64	158.1	11.6	131.8	116.4	15.36	8.579	
4,200.0	4,194.2	4,199.0	4,194.8	8.2	7.9	130.19	163.3	11.7	134.9	119.1	15.75	8.562	
4,300.0	4,294.0	4,298.9	4,294.6	8.4	8.1	129.76	168.5	11.8	138.0	121.8	16.14	8.546	
4,400.0	4,393.9	4,398.9	4,394.4	8.6	8.3	129.35	173.7	11.8	141.1	124.5	16.54	8.531	
4,500.0	4,493.7	4,498.8	4,494.2	8.8	8.5	128.96	179.0	11.9	144.2	127.2	16.93	8.517	
4,600.0	4,593.6	4,598.8	4,594.0	9.0	8.7	128.58	184.2	11.9	147.3	130.0	17.32	8.504	
4,700.0	4,693.4	4,698.7	4,693.8	9.2	8.9	128.22	189.4	12.0	150.4	132.7	17.71	8.492	
4,800.0	4,793.3	4,798.7	4,793.6	9.4	9.1	127.87	194.6	12.0	153.6	135.4	18.10	8.481	
4,900.0	4,893.1	4,898.6	4,893.4	9.6	9.2	127.54	199.8	12.1	156.7	138.2	18.50	8.471	
5,000.0	4,993.0	4,998.6	4,993.2	9.8	9.4	127.22	205.1	12.1	159.8	140.9	18.89	8.461	
5,100.0	5,092.8	5,098.5	5,093.1	10.0	9.6	126.92	210.3	12.2	163.0	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 1A-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 1A-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 1B-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	5,192.7	5,198.5	5,192.9	10.2	9.8	126.62	215.5	12.2	166.1	146.5	19.67	8.444	
5,300.0	5,292.5	5,298.4	5,292.7	10.4	10.0	126.34	220.7	12.3	169.3	149.2	20.07	8.436	
5,400.0	5,392.4	5,398.4	5,392.5	10.6	10.2	126.06	226.0	12.3	172.4	152.0	20.46	8.429	
5,500.0	5,492.2	5,498.3	5,492.3	10.8	10.4	125.80	231.2	12.4	175.6	154.8	20.85	8.422	
5,600.0	5,592.1	5,598.3	5,592.1	11.0	10.6	125.54	236.4	12.4	178.8	157.5	21.24	8.415	
5,700.0	5,691.9	5,698.2	5,691.9	11.2	10.8	125.30	241.6	12.5	181.9	160.3	21.64	8.409	
5,800.0	5,791.8	5,798.1	5,791.7	11.4	11.0	125.06	246.9	12.5	185.1	163.1	22.03	8.404	
5,900.0	5,891.6	5,898.1	5,891.5	11.6	11.2	124.83	252.1	12.6	188.3	165.9	22.42	8.398	
6,000.0	5,991.5	5,998.0	5,991.3	11.8	11.4	124.61	257.3	12.6	191.5	168.7	22.81	8.393	
6,100.0	6,091.3	6,098.0	6,091.2	12.0	11.6	124.40	262.5	12.7	194.6	171.4	23.20	8.389	
6,200.0	6,191.2	6,197.9	6,191.0	12.2	11.8	124.19	267.8	12.7	197.8	174.2	23.60	8.384	
6,300.0	6,291.0	6,297.8	6,290.8	12.4	11.9	125.41	268.0	12.8	201.0	177.1	23.90	8.409	
6,400.0	6,390.9	6,396.0	6,388.0	12.6	12.0	-105.96	254.9	12.8	204.6	180.6	24.00	8.526	
6,500.0	6,489.5	6,492.7	6,481.1	12.6	12.0	-90.67	229.1	12.9	208.8	184.9	23.96	8.718	
6,600.0	6,585.1	6,588.0	6,568.7	12.6	11.9	-84.70	191.6	12.9	213.4	189.6	23.83	8.954	
6,700.0	6,675.6	6,682.1	6,649.5	12.6	11.9	-80.68	143.6	13.0	218.1	194.4	23.70	9.203	
6,800.0	6,759.4	6,775.0	6,722.4	12.5	11.9	-77.58	86.1	13.0	222.8	199.2	23.64	9.425	
6,900.0	6,834.9	6,867.0	6,786.8	12.6	12.0	-75.11	20.4	13.1	227.3	203.6	23.72	9.582	
7,000.0	6,900.5	6,958.2	6,841.7	12.8	12.2	-73.13	-52.3	13.1	231.3	207.3	24.01	9.636	
7,100.0	6,954.9	7,050.0	6,887.2	13.1	12.6	-71.58	-132.0	13.1	234.8	210.2	24.56	9.558	
7,200.0	6,997.2	7,138.9	6,921.2	13.6	13.1	-70.46	-214.0	13.1	237.5	212.0	25.42	9.342	
7,300.0	7,026.5	7,228.6	6,944.9	14.3	13.8	-69.72	-300.4	13.1	239.3	212.7	26.60	8.999	
7,400.0	7,042.2	7,318.0	6,957.7	15.2	14.7	-69.35	-388.9	13.1	240.3	212.2	28.08	8.557	
7,500.0	7,045.0	7,411.2	6,960.0	16.2	15.7	-69.30	-482.0	13.1	240.5	210.5	29.93	8.034	
7,600.0	7,045.0	7,511.2	6,960.0	17.4	16.8	-69.30	-582.0	13.1	240.5	208.3	32.13	7.483	
7,700.0	7,045.0	7,611.2	6,960.0	18.6	18.1	-69.30	-682.0	13.1	240.5	206.0	34.51	6.968	
7,800.0	7,045.0	7,711.2	6,960.0	19.9	19.5	-69.30	-782.0	13.1	240.5	203.4	37.03	6.495	
7,900.0	7,045.0	7,811.2	6,960.0	21.3	20.9	-69.30	-882.0	13.1	240.5	200.8	39.65	6.064	
8,000.0	7,045.0	7,911.2	6,960.0	22.7	22.3	-69.30	-982.0	13.1	240.5	198.1	42.37	5.675	
8,100.0	7,045.0	8,011.2	6,960.0	24.2	23.8	-69.30	-1,082.0	13.1	240.5	195.3	45.17	5.324	
8,200.0	7,045.0	8,111.2	6,960.0	25.7	25.4	-69.30	-1,182.0	13.1	240.5	192.4	48.03	5.007	
8,300.0	7,045.0	8,211.2	6,960.0	27.3	26.9	-69.30	-1,282.0	13.1	240.5	189.5	50.93	4.721	
8,400.0	7,045.0	8,311.2	6,960.0	28.8	28.5	-69.30	-1,382.0	13.1	240.5	186.6	53.89	4.463	
8,500.0	7,045.0	8,411.2	6,960.0	30.4	30.1	-69.30	-1,482.0	13.1	240.5	183.6	56.87	4.228	
8,600.0	7,045.0	8,511.2	6,960.0	32.0	31.7	-69.30	-1,582.0	13.1	240.5	180.6	59.89	4.015	
8,700.0	7,045.0	8,611.2	6,960.0	33.6	33.3	-69.30	-1,682.0	13.1	240.5	177.5	62.94	3.821	
8,800.0	7,045.0	8,711.2	6,960.0	35.3	35.0	-69.30	-1,782.0	13.1	240.5	174.5	66.01	3.643	
8,900.0	7,045.0	8,811.2	6,960.0	36.9	36.6	-69.30	-1,882.0	13.1	240.5	171.4	69.10	3.480	
9,000.0	7,045.0	8,911.2	6,960.0	38.5	38.3	-69.30	-1,982.0	13.1	240.5	168.3	72.20	3.330	
9,100.0	7,045.0	9,011.2	6,960.0	40.2	40.0	-69.30	-2,082.0	13.1	240.5	165.1	75.32	3.192	
9,200.0	7,045.0	9,111.2	6,960.0	41.9	41.6	-69.30	-2,182.0	13.1	240.5	162.0	78.46	3.065	
9,300.0	7,045.0	9,211.2	6,960.0	43.6	43.3	-69.30	-2,282.0	13.1	240.5	158.9	81.61	2.947	
9,400.0	7,045.0	9,311.2	6,960.0	45.2	45.0	-69.30	-2,382.0	13.1	240.5	155.7	84.76	2.837	
9,500.0	7,045.0	9,411.2	6,960.0	46.9	46.7	-69.30	-2,482.0	13.1	240.5	152.5	87.93	2.735	
9,600.0	7,045.0	9,511.2	6,960.0	48.6	48.4	-69.30	-2,582.0	13.1	240.5	149.4	91.10	2.640	
9,700.0	7,045.0	9,611.2	6,960.0	50.3	50.1	-69.30	-2,682.0	13.1	240.5	146.2	94.28	2.550	
9,800.0	7,045.0	9,711.2	6,960.0	52.0	51.8	-69.30	-2,782.0	13.1	240.5	143.0	97.47	2.467	
9,900.0	7,045.0	9,811.2	6,960.0	53.7	53.5	-69.30	-2,882.0	13.1	240.5	139.8	100.67	2.389	
10,000.0	7,045.0	9,911.2	6,960.0	55.4	55.2	-69.30	-2,982.0	13.1	240.5	136.6	103.87	2.315	
10,100.0	7,045.0	10,011.2	6,960.0	57.1	56.9	-69.30	-3,082.0	13.1	240.5	133.4	107.07	2.246	
10,200.0	7,045.0	10,111.2	6,960.0	58.8	58.7	-69.30	-3,182.0	13.1	240.5	130.2	110.29	2.180	
10,300.0	7,045.0	10,211.2	6,960.0	60.5	60.4	-69.30	-3,282.0	13.1	240.5	127.0	113.50	2.119	

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 1A-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 1A-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 1B-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	7,045.0	10,311.2	6,960.0	62.3	62.1	-69.30	-3,382.0	13.1	240.5	123.8	116.72	2.060	
10,500.0	7,045.0	10,411.2	6,960.0	64.0	63.8	-69.30	-3,482.0	13.1	240.5	120.5	119.94	2.005	
10,600.0	7,045.0	10,511.2	6,960.0	65.7	65.5	-69.30	-3,582.0	13.1	240.5	117.3	123.17	1.952	
10,700.0	7,045.0	10,611.2	6,960.0	67.4	67.3	-69.30	-3,682.0	13.1	240.5	114.1	126.39	1.903	
10,800.0	7,045.0	10,711.2	6,960.0	69.1	69.0	-69.30	-3,782.0	13.1	240.5	110.8	129.62	1.855	
10,900.0	7,045.0	10,811.2	6,960.0	70.9	70.7	-69.30	-3,882.0	13.1	240.5	107.6	132.86	1.810	
11,000.0	7,045.0	10,911.2	6,960.0	72.6	72.5	-69.30	-3,982.0	13.1	240.5	104.4	136.10	1.767	
11,100.0	7,045.0	11,011.2	6,960.0	74.3	74.2	-69.30	-4,082.0	13.1	240.5	101.1	139.33	1.726	
11,200.0	7,045.0	11,111.2	6,960.0	76.1	75.9	-69.30	-4,182.0	13.1	240.5	97.9	142.57	1.687	
11,300.0	7,045.0	11,211.2	6,960.0	77.8	77.7	-69.30	-4,282.0	13.1	240.5	94.7	145.82	1.649	
11,400.0	7,045.0	11,311.2	6,960.0	79.5	79.4	-69.30	-4,382.0	13.2	240.5	91.4	149.06	1.613	
11,500.0	7,045.0	11,411.2	6,960.0	81.2	81.1	-69.30	-4,482.0	13.2	240.5	88.2	152.31	1.579	
11,568.2	7,045.0	11,479.4	6,960.0	82.4	82.3	-69.30	-4,550.2	13.2	240.5	86.0	154.52	1.556 SF	

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Ruhl 1A-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 1A-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	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	CC, ES
300.0	300.0	300.0	300.0	0.5	0.5	128.78	0.0	20.1	21.2	20.1	1.05	20.196	
400.0	399.9	399.5	399.5	0.7	0.7	134.07	1.4	21.2	25.3	23.9	1.41	17.990	
500.0	499.7	499.1	498.9	0.9	0.9	133.26	5.3	24.0	31.3	29.5	1.77	17.652	
600.0	599.6	598.9	598.6	1.1	1.1	131.94	9.7	27.2	37.6	35.4	2.15	17.512	
700.0	699.4	698.7	698.2	1.3	1.3	131.00	14.1	30.4	43.9	41.3	2.52	17.400	
800.0	799.3	798.5	797.9	1.5	1.5	130.30	18.6	33.6	50.2	47.3	2.90	17.310	
900.0	899.1	898.3	897.5	1.7	1.7	129.75	23.0	36.8	56.5	53.2	3.28	17.237	
1,000.0	999.0	998.1	997.2	1.9	1.9	129.31	27.4	40.0	62.8	59.1	3.66	17.177	
1,100.0	1,098.8	1,097.9	1,096.8	2.1	2.0	128.95	31.8	43.2	69.1	65.1	4.04	17.127	
1,200.0	1,198.7	1,197.7	1,196.5	2.3	2.2	128.65	36.2	46.4	75.4	71.0	4.42	17.084	
1,300.0	1,298.5	1,297.5	1,296.1	2.5	2.4	128.40	40.6	49.6	81.8	77.0	4.80	17.048	
1,400.0	1,398.4	1,397.3	1,395.8	2.7	2.6	128.19	45.0	52.8	88.1	82.9	5.18	17.016	
1,500.0	1,498.2	1,497.1	1,495.4	2.9	2.8	128.00	49.4	56.0	94.4	88.8	5.56	16.989	
1,600.0	1,598.1	1,596.9	1,595.1	3.1	3.0	127.84	53.9	59.2	100.7	94.8	5.94	16.965	
1,700.0	1,697.9	1,696.7	1,694.7	3.3	3.2	127.69	58.3	62.4	107.0	100.7	6.32	16.943	
1,800.0	1,797.8	1,796.5	1,794.4	3.5	3.4	127.57	62.7	65.6	113.4	106.7	6.70	16.924	
1,900.0	1,897.6	1,896.3	1,894.0	3.7	3.6	127.45	67.1	68.8	119.7	112.6	7.08	16.907	
2,000.0	1,997.5	1,996.1	1,993.7	3.9	3.8	127.35	71.5	72.0	126.0	118.6	7.46	16.891	
2,100.0	2,097.3	2,095.9	2,093.3	4.1	4.0	127.26	75.9	75.2	132.3	124.5	7.84	16.877	
2,200.0	2,197.2	2,195.7	2,193.0	4.3	4.2	127.17	80.3	78.4	138.7	130.4	8.22	16.865	
2,300.0	2,297.0	2,295.5	2,292.6	4.5	4.4	127.09	84.7	81.6	145.0	136.4	8.60	16.853	
2,400.0	2,396.9	2,395.2	2,392.3	4.7	4.6	127.02	89.2	84.8	151.3	142.3	8.99	16.842	
2,500.0	2,496.7	2,495.0	2,491.9	4.9	4.8	126.96	93.6	88.0	157.7	148.3	9.37	16.832	
2,600.0	2,596.6	2,594.8	2,591.6	5.1	5.0	126.90	98.0	91.2	164.0	154.2	9.75	16.823	
2,700.0	2,696.4	2,694.6	2,691.2	5.3	5.2	126.84	102.4	94.4	170.3	160.2	10.13	16.814	
2,800.0	2,796.3	2,794.4	2,790.9	5.5	5.4	126.79	106.8	97.6	176.6	166.1	10.51	16.806	
2,900.0	2,896.1	2,894.2	2,890.5	5.7	5.6	126.74	111.2	100.8	183.0	172.1	10.89	16.799	
3,000.0	2,996.0	2,994.0	2,990.2	5.9	5.8	126.70	115.6	104.0	189.3	178.0	11.27	16.792	
3,100.0	3,095.8	3,093.8	3,089.8	6.1	6.0	126.66	120.0	107.2	195.6	184.0	11.65	16.786	
3,200.0	3,195.7	3,193.6	3,189.5	6.3	6.2	126.62	124.5	110.4	201.9	189.9	12.04	16.779	
3,300.0	3,295.5	3,293.4	3,289.1	6.5	6.4	126.58	128.9	113.6	208.3	195.9	12.42	16.774	
3,400.0	3,395.4	3,393.2	3,388.8	6.7	6.6	126.55	133.3	116.8	214.6	201.8	12.80	16.768	
3,500.0	3,495.2	3,493.0	3,488.4	6.9	6.8	126.51	137.7	120.0	220.9	207.8	13.18	16.763	
3,600.0	3,595.1	3,592.8	3,588.1	7.1	7.0	126.48	142.1	123.2	227.3	213.7	13.56	16.759	
3,700.0	3,694.9	3,692.6	3,687.7	7.3	7.2	126.45	146.5	126.4	233.6	219.6	13.94	16.754	
3,800.0	3,794.8	3,792.4	3,787.4	7.5	7.4	126.42	150.9	129.6	239.9	225.6	14.32	16.750	
3,900.0	3,894.6	3,892.2	3,887.0	7.7	7.6	126.40	155.3	132.8	246.2	231.5	14.71	16.746	
4,000.0	3,994.5	3,992.0	3,986.7	7.9	7.8	126.37	159.8	136.0	252.6	237.5	15.09	16.742	
4,100.0	4,094.3	4,091.8	4,086.3	8.1	8.0	126.35	164.2	139.2	258.9	243.4	15.47	16.738	
4,200.0	4,194.2	4,191.6	4,186.0	8.2	8.2	126.33	168.6	142.4	265.2	249.4	15.85	16.734	
4,300.0	4,294.0	4,291.4	4,285.6	8.4	8.4	126.31	173.0	145.6	271.6	255.3	16.23	16.731	
4,400.0	4,393.9	4,391.2	4,385.3	8.6	8.6	126.29	177.4	148.8	277.9	261.3	16.61	16.728	
4,500.0	4,493.7	4,491.0	4,484.9	8.8	8.8	126.27	181.8	152.0	284.2	267.2	16.99	16.725	
4,600.0	4,593.6	4,590.8	4,584.6	9.0	9.0	126.25	186.2	155.2	290.5	273.2	17.38	16.722	
4,700.0	4,693.4	4,690.6	4,684.2	9.2	9.2	126.23	190.7	158.4	296.9	279.1	17.76	16.719	
4,800.0	4,793.3	4,790.4	4,783.9	9.4	9.4	126.21	195.1	161.6	303.2	285.1	18.14	16.716	
4,900.0	4,893.1	4,890.2	4,883.5	9.6	9.6	126.20	199.5	164.8	309.5	291.0	18.52	16.714	
5,000.0	4,993.0	4,990.0	4,983.2	9.8	9.8	126.18	203.9	168.0	315.9	297.0	18.90	16.711	
5,100.0	5,092.8	5,089.8	5,082.8	10.0	10.0	126.16	208.3	171.2	322.2	302.9	19.28	16.709	

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 1A-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 1A-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	5,192.7	5,189.6	5,182.5	10.2	10.2	126.15	212.7	174.4	328.5	308.9	19.66	16.707	
5,300.0	5,292.5	5,289.4	5,282.1	10.4	10.4	126.14	217.1	177.6	334.8	314.8	20.05	16.704	
5,400.0	5,392.4	5,389.2	5,381.8	10.6	10.6	126.12	221.5	180.8	341.2	320.8	20.43	16.702	
5,500.0	5,492.2	5,489.0	5,481.4	10.8	10.8	126.11	226.0	184.0	347.5	326.7	20.81	16.700	
5,600.0	5,592.1	5,588.8	5,581.1	11.0	11.0	126.10	230.4	187.2	353.8	332.6	21.19	16.698	
5,700.0	5,691.9	5,688.6	5,680.7	11.2	11.2	126.08	234.8	190.4	360.2	338.6	21.57	16.696	
5,800.0	5,791.8	5,788.4	5,780.4	11.4	11.4	126.07	239.2	193.6	366.5	344.5	21.95	16.695	
5,900.0	5,891.6	5,888.2	5,880.0	11.6	11.6	126.06	243.6	196.8	372.8	350.5	22.33	16.693	
6,000.0	5,991.5	5,988.0	5,979.7	11.8	11.8	126.05	248.0	200.0	379.2	356.4	22.72	16.691	
6,100.0	6,091.3	6,087.8	6,079.3	12.0	12.0	126.04	252.4	203.2	385.5	362.4	23.10	16.689	
6,200.0	6,191.2	6,187.6	6,179.0	12.2	12.2	126.03	256.8	206.5	391.8	368.3	23.48	16.688	
6,300.0	6,291.0	6,287.4	6,278.6	12.4	12.4	126.02	261.3	209.7	398.1	374.3	23.86	16.686	
6,400.0	6,390.9	6,387.0	6,378.0	12.6	12.6	-109.25	265.7	212.8	404.4	380.2	24.18	16.724	
6,500.0	6,489.5	6,485.8	6,476.8	12.6	12.7	-99.25	268.2	216.0	410.9	386.5	24.38	16.857	
6,600.0	6,585.1	6,587.3	6,577.6	12.6	12.8	-98.44	258.2	219.3	418.2	393.8	24.41	17.133	
6,700.0	6,675.6	6,691.8	6,678.9	12.6	12.8	-99.16	233.2	222.5	425.9	401.6	24.32	17.515	
6,800.0	6,759.4	6,799.5	6,778.4	12.5	12.8	-100.34	192.3	225.7	433.9	409.7	24.18	17.943	
6,900.0	6,834.9	6,910.5	6,873.3	12.6	12.8	-101.61	135.0	228.8	441.8	417.7	24.11	18.324	
7,000.0	6,900.5	7,024.9	6,960.6	12.8	12.8	-102.82	61.4	231.6	449.2	425.0	24.23	18.542	
7,100.0	6,954.9	7,142.4	7,037.0	13.1	13.0	-103.90	-27.7	234.0	455.9	431.2	24.66	18.485	
7,200.0	6,997.2	7,262.7	7,099.0	13.6	13.5	-104.77	-130.6	236.0	461.3	435.8	25.53	18.068	
7,300.0	7,026.5	7,385.2	7,143.6	14.3	14.2	-105.41	-244.6	237.4	465.3	438.4	26.89	17.303	
7,400.0	7,042.2	7,509.3	7,168.3	15.2	15.3	-105.78	-366.0	238.2	467.6	438.8	28.73	16.275	
7,500.0	7,045.0	7,625.5	7,173.0	16.2	16.4	-105.87	-482.0	238.4	468.0	437.1	30.90	15.148	
7,600.0	7,045.0	7,725.5	7,173.0	17.4	17.6	-105.87	-582.0	238.4	468.0	434.9	33.14	14.122	
7,700.0	7,045.0	7,825.5	7,173.0	18.6	18.8	-105.87	-682.0	238.4	468.0	432.5	35.57	13.159	
7,800.0	7,045.0	7,925.5	7,173.0	19.9	20.1	-105.87	-782.0	238.4	468.0	429.9	38.14	12.273	
7,900.0	7,045.0	8,025.5	7,173.0	21.3	21.5	-105.87	-882.0	238.4	468.0	427.2	40.82	11.465	
8,000.0	7,045.0	8,125.5	7,173.0	22.7	22.9	-105.87	-982.0	238.4	468.0	424.4	43.61	10.733	
8,100.0	7,045.0	8,225.5	7,173.0	24.2	24.4	-105.87	-1,082.0	238.4	468.0	421.6	46.47	10.072	
8,200.0	7,045.0	8,325.5	7,173.0	25.7	25.9	-105.87	-1,182.0	238.4	468.0	418.6	49.40	9.475	
8,300.0	7,045.0	8,425.5	7,173.0	27.3	27.4	-105.87	-1,282.0	238.4	468.0	415.6	52.38	8.936	
8,400.0	7,045.0	8,525.5	7,173.0	28.8	28.9	-105.87	-1,382.0	238.4	468.0	412.6	55.40	8.447	
8,500.0	7,045.0	8,625.5	7,173.0	30.4	30.5	-105.87	-1,482.0	238.4	468.0	409.6	58.47	8.005	
8,600.0	7,045.0	8,725.5	7,173.0	32.0	32.1	-105.87	-1,582.0	238.4	468.0	406.5	61.57	7.602	
8,700.0	7,045.0	8,825.5	7,173.0	33.6	33.7	-105.87	-1,682.0	238.4	468.0	403.3	64.69	7.235	
8,800.0	7,045.0	8,925.5	7,173.0	35.3	35.4	-105.87	-1,782.0	238.4	468.0	400.2	67.84	6.899	
8,900.0	7,045.0	9,025.5	7,173.0	36.9	37.0	-105.87	-1,882.0	238.4	468.0	397.0	71.01	6.591	
9,000.0	7,045.0	9,125.5	7,173.0	38.5	38.6	-105.87	-1,982.0	238.4	468.0	393.8	74.20	6.308	
9,100.0	7,045.0	9,225.5	7,173.0	40.2	40.3	-105.87	-2,082.0	238.4	468.0	390.6	77.40	6.046	
9,200.0	7,045.0	9,325.5	7,173.0	41.9	42.0	-105.87	-2,182.0	238.4	468.0	387.4	80.62	5.805	
9,300.0	7,045.0	9,425.5	7,173.0	43.6	43.6	-105.87	-2,282.0	238.4	468.0	384.2	83.85	5.581	
9,400.0	7,045.0	9,525.5	7,173.0	45.2	45.3	-105.87	-2,382.0	238.4	468.0	380.9	87.09	5.374	
9,500.0	7,045.0	9,625.5	7,173.0	46.9	47.0	-105.87	-2,482.0	238.4	468.0	377.7	90.35	5.180	
9,600.0	7,045.0	9,725.5	7,173.0	48.6	48.7	-105.87	-2,582.0	238.4	468.0	374.4	93.61	5.000	
9,700.0	7,045.0	9,825.5	7,173.0	50.3	50.4	-105.87	-2,682.0	238.4	468.0	371.1	96.88	4.831	
9,800.0	7,045.0	9,925.5	7,173.0	52.0	52.1	-105.87	-2,782.0	238.4	468.0	367.9	100.15	4.673	
9,900.0	7,045.0	10,025.5	7,173.0	53.7	53.8	-105.87	-2,882.0	238.4	468.0	364.6	103.43	4.525	
10,000.0	7,045.0	10,125.5	7,173.0	55.4	55.5	-105.87	-2,982.0	238.4	468.0	361.3	106.72	4.385	
10,100.0	7,045.0	10,225.5	7,173.0	57.1	57.2	-105.87	-3,082.0	238.4	468.0	358.0	110.01	4.254	
10,200.0	7,045.0	10,325.5	7,173.0	58.8	58.9	-105.87	-3,182.0	238.4	468.0	354.7	113.31	4.130	
10,300.0	7,045.0	10,425.5	7,173.0	60.5	60.6	-105.87	-3,282.0	238.4	468.0	351.4	116.61	4.013	

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 1A-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 1A-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	7,045.0	10,525.5	7,173.0	62.3	62.3	-105.87	-3,382.0	238.4	468.0	348.1	119.92	3.903	
10,500.0	7,045.0	10,625.5	7,173.0	64.0	64.0	-105.87	-3,482.0	238.4	468.0	344.8	123.23	3.798	
10,600.0	7,045.0	10,725.5	7,173.0	65.7	65.8	-105.87	-3,582.0	238.4	468.0	341.5	126.55	3.698	
10,700.0	7,045.0	10,825.5	7,173.0	67.4	67.5	-105.87	-3,682.0	238.4	468.0	338.2	129.86	3.604	
10,800.0	7,045.0	10,925.5	7,173.0	69.1	69.2	-105.87	-3,782.0	238.4	468.0	334.8	133.18	3.514	
10,900.0	7,045.0	11,025.5	7,173.0	70.9	70.9	-105.87	-3,882.0	238.4	468.0	331.5	136.50	3.429	
11,000.0	7,045.0	11,125.5	7,173.0	72.6	72.7	-105.87	-3,982.0	238.4	468.0	328.2	139.83	3.347	
11,100.0	7,045.0	11,225.5	7,173.0	74.3	74.4	-105.87	-4,082.0	238.4	468.0	324.9	143.16	3.269	
11,200.0	7,045.0	11,325.5	7,173.0	76.1	76.1	-105.87	-4,182.0	238.4	468.0	321.5	146.49	3.195	
11,300.0	7,045.0	11,425.5	7,173.0	77.8	77.8	-105.87	-4,282.0	238.4	468.0	318.2	149.82	3.124	
11,400.0	7,045.0	11,525.5	7,173.0	79.5	79.6	-105.87	-4,382.0	238.4	468.0	314.9	153.15	3.056	
11,500.0	7,045.0	11,625.5	7,173.0	81.2	81.3	-105.87	-4,482.0	238.4	468.0	311.5	156.49	2.991	
11,568.2	7,045.0	11,693.7	7,173.0	82.4	82.5	-105.87	-4,550.2	238.4	468.0	309.3	158.76	2.948	SF

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Ruhl 1A-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 1A-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	30.2	30.2				
100.0	100.0	100.0	100.0	0.2	0.2	90.05	0.0	30.2	30.2	29.9	0.35	86.550	
200.0	200.0	200.0	200.0	0.3	0.3	90.05	0.0	30.2	30.2	29.5	0.70	43.275	CC, ES
300.0	300.0	300.0	300.0	0.5	0.5	127.53	0.0	30.2	31.2	30.2	1.05	29.777	
400.0	399.9	399.6	399.6	0.7	0.7	133.73	0.1	30.4	34.6	33.2	1.40	24.646	
500.0	499.7	499.0	499.0	0.9	0.9	137.68	1.1	31.8	39.7	38.0	1.76	22.576	
600.0	599.6	598.3	598.2	1.1	1.1	139.06	3.0	34.6	46.1	44.0	2.12	21.763	
700.0	699.4	697.5	697.3	1.3	1.2	138.70	6.0	38.9	53.7	51.2	2.49	21.594	
800.0	799.3	796.4	796.0	1.5	1.4	137.24	9.9	44.5	62.4	59.5	2.86	21.818	
900.0	899.1	895.8	895.0	1.7	1.6	135.45	14.5	51.1	71.9	68.7	3.24	22.220	
1,000.0	999.0	995.3	994.2	1.9	1.9	134.07	19.1	57.7	81.5	77.9	3.62	22.549	
1,100.0	1,098.8	1,094.8	1,093.4	2.1	2.1	132.98	23.7	64.4	91.2	87.2	4.00	22.820	
1,200.0	1,198.7	1,194.3	1,192.6	2.3	2.3	132.10	28.4	71.0	100.9	96.5	4.38	23.048	
1,300.0	1,298.5	1,293.9	1,291.8	2.5	2.5	131.37	33.0	77.7	110.6	105.8	4.76	23.242	
1,400.0	1,398.4	1,393.4	1,391.0	2.7	2.7	130.76	37.6	84.3	120.3	115.2	5.14	23.409	
1,500.0	1,498.2	1,492.9	1,490.1	2.9	2.9	130.24	42.2	91.0	130.0	124.5	5.52	23.554	
1,600.0	1,598.1	1,592.4	1,589.3	3.1	3.2	129.79	46.8	97.6	139.8	133.9	5.90	23.682	
1,700.0	1,697.9	1,691.9	1,688.5	3.3	3.4	129.40	51.5	104.3	149.5	143.2	6.28	23.795	
1,800.0	1,797.8	1,791.5	1,787.7	3.5	3.6	129.06	56.1	110.9	159.3	152.6	6.67	23.895	
1,900.0	1,897.6	1,891.0	1,886.9	3.7	3.8	128.76	60.7	117.6	169.0	162.0	7.05	23.986	
2,000.0	1,997.5	1,990.5	1,986.1	3.9	4.0	128.49	65.3	124.2	178.8	171.4	7.43	24.067	
2,100.0	2,097.3	2,090.0	2,085.3	4.1	4.3	128.25	70.0	130.9	188.6	180.8	7.81	24.141	
2,200.0	2,197.2	2,189.5	2,184.5	4.3	4.5	128.03	74.6	137.5	198.3	190.1	8.19	24.208	
2,300.0	2,297.0	2,289.0	2,283.7	4.5	4.7	127.84	79.2	144.2	208.1	199.5	8.57	24.270	
2,400.0	2,396.9	2,388.6	2,382.8	4.7	4.9	127.66	83.8	150.8	217.9	208.9	8.96	24.327	
2,500.0	2,496.7	2,488.1	2,482.0	4.9	5.2	127.49	88.4	157.5	227.7	218.3	9.34	24.379	
2,600.0	2,596.6	2,587.6	2,581.2	5.1	5.4	127.34	93.1	164.1	237.4	227.7	9.72	24.427	
2,700.0	2,696.4	2,687.1	2,680.4	5.3	5.6	127.21	97.7	170.8	247.2	237.1	10.10	24.471	
2,800.0	2,796.3	2,786.6	2,779.6	5.5	5.8	127.08	102.3	177.4	257.0	246.5	10.48	24.513	
2,900.0	2,896.1	2,886.2	2,878.8	5.7	6.0	126.96	106.9	184.1	266.8	255.9	10.87	24.552	
3,000.0	2,996.0	2,985.7	2,978.0	5.9	6.3	126.85	111.6	190.7	276.6	265.3	11.25	24.588	
3,100.0	3,095.8	3,085.2	3,077.2	6.1	6.5	126.75	116.2	197.4	286.3	274.7	11.63	24.622	
3,200.0	3,195.7	3,184.7	3,176.4	6.3	6.7	126.65	120.8	204.0	296.1	284.1	12.01	24.653	
3,300.0	3,295.5	3,284.2	3,275.5	6.5	6.9	126.56	125.4	210.7	305.9	293.5	12.39	24.683	
3,400.0	3,395.4	3,383.8	3,374.7	6.7	7.2	126.48	130.0	217.3	315.7	302.9	12.78	24.711	
3,500.0	3,495.2	3,483.3	3,473.9	6.9	7.4	126.40	134.7	224.0	325.5	312.3	13.16	24.738	
3,600.0	3,595.1	3,582.8	3,573.1	7.1	7.6	126.32	139.3	230.6	335.3	321.7	13.54	24.763	
3,700.0	3,694.9	3,682.3	3,672.3	7.3	7.8	126.25	143.9	237.3	345.1	331.1	13.92	24.787	
3,800.0	3,794.8	3,781.8	3,771.5	7.5	8.1	126.19	148.5	243.9	354.9	340.6	14.30	24.809	
3,900.0	3,894.6	3,881.4	3,870.7	7.7	8.3	126.12	153.2	250.6	364.6	350.0	14.69	24.831	
4,000.0	3,994.5	3,980.9	3,969.9	7.9	8.5	126.07	157.8	257.2	374.4	359.4	15.07	24.851	
4,100.0	4,094.3	4,080.4	4,069.1	8.1	8.7	126.01	162.4	263.8	384.2	368.8	15.45	24.870	
4,200.0	4,194.2	4,179.9	4,168.2	8.2	8.9	125.96	167.0	270.5	394.0	378.2	15.83	24.889	
4,300.0	4,294.0	4,279.4	4,267.4	8.4	9.2	125.90	171.6	277.1	403.8	387.6	16.21	24.906	
4,400.0	4,393.9	4,378.9	4,366.6	8.6	9.4	125.86	176.3	283.8	413.6	397.0	16.60	24.923	
4,500.0	4,493.7	4,478.5	4,465.8	8.8	9.6	125.81	180.9	290.4	423.4	406.4	16.98	24.939	
4,600.0	4,593.6	4,578.0	4,565.0	9.0	9.8	125.77	185.5	297.1	433.2	415.8	17.36	24.954	
4,700.0	4,693.4	4,677.5	4,664.2	9.2	10.1	125.72	190.1	303.7	443.0	425.2	17.74	24.969	
4,800.0	4,793.3	4,777.0	4,763.4	9.4	10.3	125.68	194.8	310.4	452.8	434.6	18.12	24.983	
4,900.0	4,893.1	4,876.5	4,862.6	9.6	10.5	125.64	199.4	317.0	462.6	444.1	18.50	24.997	
5,000.0	4,993.0	4,976.1	4,961.8	9.8	10.7	125.61	204.0	323.7	472.4	453.5	18.89	25.010	
5,100.0	5,092.8	5,075.6	5,060.9	10.0	11.0	125.57	208.6	330.3	482.1	462.9	19.27	25.022	

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 1A-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 1A-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
5,200.0	5,192.7	5,175.1	5,160.1	10.2	11.2	125.54	213.2	337.0	491.9	472.3	19.65	25.034	
5,300.0	5,292.5	5,274.6	5,259.3	10.4	11.4	125.50	217.9	343.6	501.7	481.7	20.03	25.046	
5,400.0	5,392.4	5,374.1	5,358.5	10.6	11.6	125.47	222.5	350.3	511.5	491.1	20.41	25.057	
5,500.0	5,492.2	5,473.7	5,457.7	10.8	11.9	125.44	227.1	356.9	521.3	500.5	20.80	25.067	
5,600.0	5,592.1	5,573.2	5,556.9	11.0	12.1	125.41	231.7	363.6	531.1	509.9	21.18	25.078	
5,700.0	5,691.9	5,672.7	5,656.1	11.2	12.3	125.38	236.4	370.2	540.9	519.3	21.56	25.088	
5,800.0	5,791.8	5,772.2	5,755.3	11.4	12.5	125.36	241.0	376.9	550.7	528.8	21.94	25.097	
5,900.0	5,891.6	5,871.7	5,854.5	11.6	12.8	125.33	245.6	383.5	560.5	538.2	22.32	25.107	
6,000.0	5,991.5	5,971.2	5,953.6	11.8	13.0	125.30	250.2	390.2	570.3	547.6	22.71	25.116	
6,100.0	6,091.3	6,070.8	6,052.8	12.0	13.2	125.28	254.8	396.8	580.1	557.0	23.09	25.124	
6,200.0	6,191.2	6,170.3	6,152.0	12.2	13.4	125.26	259.5	403.5	589.9	566.4	23.47	25.133	
6,300.0	6,291.0	6,269.8	6,251.2	12.4	13.6	125.23	264.1	410.1	599.7	575.8	23.85	25.141	
6,400.0	6,390.9	6,369.0	6,350.1	12.6	13.8	-109.31	266.7	416.7	609.4	585.3	24.15	25.232	
6,500.0	6,489.5	6,468.5	6,448.9	12.6	14.0	-97.09	257.1	423.4	619.1	594.9	24.27	25.507	
6,600.0	6,585.1	6,568.9	6,546.2	12.6	14.0	-93.94	233.6	429.9	628.6	604.3	24.25	25.916	
6,700.0	6,675.6	6,670.2	6,640.1	12.6	14.0	-92.44	196.3	436.2	637.6	613.4	24.16	26.390	
6,800.0	6,759.4	6,772.5	6,728.6	12.5	14.1	-91.56	145.5	442.1	646.0	621.9	24.08	26.826	
6,900.0	6,834.9	6,875.6	6,809.6	12.6	14.1	-90.97	82.1	447.5	653.6	629.5	24.12	27.093	
7,000.0	6,900.5	6,979.7	6,881.3	12.8	14.3	-90.57	7.0	452.4	660.2	635.8	24.41	27.050	
7,100.0	6,954.9	7,084.5	6,941.8	13.1	14.6	-90.29	-78.4	456.4	665.8	640.8	25.03	26.597	
7,200.0	6,997.2	7,190.0	6,989.5	13.6	15.0	-90.11	-172.4	459.6	670.1	644.1	26.07	25.705	
7,300.0	7,026.5	7,296.1	7,023.0	14.3	15.7	-90.01	-272.9	461.9	673.2	645.6	27.54	24.444	
7,400.0	7,042.2	7,402.6	7,041.4	15.2	16.5	-89.98	-377.7	463.1	674.8	645.4	29.41	22.946	
7,500.0	7,045.0	7,507.1	7,045.0	16.2	17.5	-90.00	-482.0	463.3	675.1	643.5	31.58	21.380	
7,600.0	7,045.0	7,607.1	7,045.0	17.4	18.6	-90.00	-582.0	463.3	675.1	641.2	33.93	19.900	
7,700.0	7,045.0	7,707.1	7,045.0	18.6	19.8	-90.00	-682.0	463.3	675.1	638.7	36.46	18.517	
7,800.0	7,045.0	7,807.1	7,045.0	19.9	21.0	-90.00	-782.0	463.3	675.1	636.0	39.14	17.247	
7,900.0	7,045.0	7,907.1	7,045.0	21.3	22.3	-90.00	-882.0	463.3	675.1	633.2	41.95	16.093	
8,000.0	7,045.0	8,007.1	7,045.0	22.7	23.7	-90.00	-982.0	463.3	675.1	630.3	44.86	15.051	
8,100.0	7,045.0	8,107.1	7,045.0	24.2	25.1	-90.00	-1,082.0	463.3	675.1	627.3	47.84	14.111	
8,200.0	7,045.0	8,207.1	7,045.0	25.7	26.6	-90.00	-1,182.0	463.3	675.1	624.2	50.90	13.265	
8,300.0	7,045.0	8,307.1	7,045.0	27.3	28.1	-90.00	-1,282.0	463.3	675.1	621.1	54.01	12.501	
8,400.0	7,045.0	8,407.1	7,045.0	28.8	29.6	-90.00	-1,382.0	463.3	675.1	618.0	57.16	11.811	
8,500.0	7,045.0	8,507.1	7,045.0	30.4	31.1	-90.00	-1,482.0	463.3	675.1	614.8	60.35	11.186	
8,600.0	7,045.0	8,607.1	7,045.0	32.0	32.7	-90.00	-1,582.0	463.3	675.1	611.5	63.58	10.618	
8,700.0	7,045.0	8,707.1	7,045.0	33.6	34.3	-90.00	-1,682.0	463.3	675.1	608.3	66.84	10.101	
8,800.0	7,045.0	8,807.1	7,045.0	35.3	35.9	-90.00	-1,782.0	463.3	675.1	605.0	70.12	9.629	
8,900.0	7,045.0	8,907.1	7,045.0	36.9	37.5	-90.00	-1,882.0	463.3	675.1	601.7	73.42	9.196	
9,000.0	7,045.0	9,007.1	7,045.0	38.5	39.1	-90.00	-1,982.0	463.3	675.1	598.4	76.74	8.798	
9,100.0	7,045.0	9,107.1	7,045.0	40.2	40.8	-90.00	-2,082.0	463.3	675.1	595.1	80.07	8.432	
9,200.0	7,045.0	9,207.1	7,045.0	41.9	42.4	-90.00	-2,182.0	463.3	675.1	591.7	83.42	8.093	
9,300.0	7,045.0	9,307.1	7,045.0	43.6	44.1	-90.00	-2,282.0	463.3	675.1	588.3	86.78	7.780	
9,400.0	7,045.0	9,407.1	7,045.0	45.2	45.7	-90.00	-2,382.0	463.3	675.1	585.0	90.16	7.488	
9,500.0	7,045.0	9,507.1	7,045.0	46.9	47.4	-90.00	-2,482.0	463.3	675.1	581.6	93.54	7.218	
9,600.0	7,045.0	9,607.1	7,045.0	48.6	49.1	-90.00	-2,582.0	463.3	675.1	578.2	96.93	6.965	
9,700.0	7,045.0	9,707.1	7,045.0	50.3	50.7	-90.00	-2,682.0	463.3	675.1	574.8	100.33	6.729	
9,800.0	7,045.0	9,807.1	7,045.0	52.0	52.4	-90.00	-2,782.0	463.3	675.1	571.4	103.74	6.508	
9,900.0	7,045.0	9,907.1	7,045.0	53.7	54.1	-90.00	-2,882.0	463.3	675.1	568.0	107.15	6.301	
10,000.0	7,045.0	10,007.1	7,045.0	55.4	55.8	-90.00	-2,982.0	463.3	675.1	564.6	110.57	6.106	
10,100.0	7,045.0	10,107.1	7,045.0	57.1	57.5	-90.00	-3,082.0	463.3	675.1	561.1	114.00	5.922	
10,200.0	7,045.0	10,207.1	7,045.0	58.8	59.2	-90.00	-3,182.0	463.3	675.1	557.7	117.43	5.749	
10,300.0	7,045.0	10,307.1	7,045.0	60.5	60.9	-90.00	-3,282.0	463.3	675.1	554.3	120.86	5.586	

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 1A-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 1A-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
10,400.0	7,045.0	10,407.1	7,045.0	62.3	62.6	-90.00	-3,382.0	463.3	675.1	550.8	124.30	5.432	
10,500.0	7,045.0	10,507.1	7,045.0	64.0	64.3	-90.00	-3,482.0	463.3	675.1	547.4	127.74	5.285	
10,600.0	7,045.0	10,607.1	7,045.0	65.7	66.0	-90.00	-3,582.0	463.3	675.1	543.9	131.19	5.146	
10,700.0	7,045.0	10,707.1	7,045.0	67.4	67.7	-90.00	-3,682.0	463.3	675.1	540.5	134.64	5.015	
10,800.0	7,045.0	10,807.1	7,045.0	69.1	69.5	-90.00	-3,782.0	463.3	675.1	537.0	138.09	4.889	
10,900.0	7,045.0	10,907.1	7,045.0	70.9	71.2	-90.00	-3,882.0	463.3	675.1	533.6	141.54	4.770	
11,000.0	7,045.0	11,007.1	7,045.0	72.6	72.9	-90.00	-3,982.0	463.3	675.1	530.1	145.00	4.656	
11,100.0	7,045.0	11,107.1	7,045.0	74.3	74.6	-90.00	-4,082.0	463.3	675.1	526.7	148.46	4.548	
11,200.0	7,045.0	11,207.1	7,045.0	76.1	76.3	-90.00	-4,182.0	463.3	675.1	523.2	151.92	4.444	
11,300.0	7,045.0	11,307.1	7,045.0	77.8	78.1	-90.00	-4,282.0	463.3	675.1	519.7	155.38	4.345	
11,400.0	7,045.0	11,407.1	7,045.0	79.5	79.8	-90.00	-4,382.0	463.3	675.1	516.3	158.85	4.250	
11,500.0	7,045.0	11,507.1	7,045.0	81.2	81.5	-90.00	-4,482.0	463.3	675.1	512.8	162.32	4.159	
11,568.2	7,045.0	11,575.2	7,045.0	82.4	82.7	-90.00	-4,550.2	463.3	675.1	510.4	164.68	4.100 SF	

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Ruhl 1A-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 1A-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	90.53	-0.4	40.0	40.0				
100.0	100.0	100.0	100.0	0.2	0.2	90.53	-0.4	40.0	40.0	39.7	0.35	114.604	
200.0	200.0	200.0	200.0	0.3	0.3	90.53	-0.4	40.0	40.0	39.3	0.70	57.302	CC, ES
300.0	300.0	300.0	300.0	0.5	0.5	127.38	-0.4	40.0	41.0	40.0	1.05	39.113	
400.0	399.9	399.9	399.9	0.7	0.7	132.41	-0.4	40.0	44.2	42.8	1.41	31.453	
500.0	499.7	499.7	499.7	0.9	0.9	137.23	-0.4	40.0	48.1	46.3	1.76	27.289	
600.0	599.6	599.2	599.2	1.1	1.0	141.14	-0.3	40.2	52.4	50.2	2.11	24.758	
700.0	699.4	698.3	698.3	1.3	1.2	143.39	0.4	41.7	58.0	55.5	2.47	23.478	
800.0	799.3	797.3	797.3	1.5	1.4	144.16	1.9	44.8	64.8	62.0	2.82	22.956	
900.0	899.1	896.2	895.9	1.7	1.6	143.83	4.0	49.5	73.0	69.8	3.19	22.907	
1,000.0	999.0	994.7	994.3	1.9	1.8	142.75	6.9	55.6	82.4	78.8	3.55	23.182	
1,100.0	1,098.8	1,093.0	1,092.2	2.1	2.0	141.18	10.5	63.3	93.0	89.1	3.93	23.698	
1,200.0	1,198.7	1,191.0	1,189.6	2.3	2.2	139.35	14.8	72.5	105.1	100.8	4.30	24.409	
1,300.0	1,298.5	1,289.6	1,287.6	2.5	2.4	137.49	19.6	82.8	118.2	113.5	4.69	25.220	
1,400.0	1,398.4	1,388.6	1,385.9	2.7	2.7	135.98	24.5	93.3	131.5	126.5	5.07	25.935	
1,500.0	1,498.2	1,487.7	1,484.3	2.9	2.9	134.74	29.4	103.8	144.9	139.5	5.46	26.563	
1,600.0	1,598.1	1,586.7	1,582.7	3.1	3.2	133.72	34.3	114.3	158.4	152.5	5.84	27.119	
1,700.0	1,697.9	1,685.8	1,681.1	3.3	3.4	132.85	39.2	124.8	171.9	165.6	6.22	27.613	
1,800.0	1,797.8	1,784.8	1,779.4	3.5	3.7	132.11	44.1	135.3	185.4	178.8	6.61	28.056	
1,900.0	1,897.6	1,883.9	1,877.8	3.7	3.9	131.47	49.0	145.8	198.9	191.9	6.99	28.455	
2,000.0	1,997.5	1,983.0	1,976.2	3.9	4.2	130.91	53.9	156.3	212.5	205.1	7.37	28.816	
2,100.0	2,097.3	2,082.0	2,074.6	4.1	4.4	130.42	58.8	166.8	226.1	218.3	7.76	29.144	
2,200.0	2,197.2	2,181.1	2,172.9	4.3	4.7	129.99	63.7	177.3	239.7	231.5	8.14	29.444	
2,300.0	2,297.0	2,280.1	2,271.3	4.5	5.0	129.60	68.6	187.8	253.3	244.8	8.52	29.718	
2,400.0	2,396.9	2,379.2	2,369.7	4.7	5.2	129.25	73.5	198.3	266.9	258.0	8.91	29.971	
2,500.0	2,496.7	2,478.2	2,468.1	4.9	5.5	128.94	78.4	208.8	280.5	271.3	9.29	30.204	
2,600.0	2,596.6	2,577.3	2,566.4	5.1	5.7	128.65	83.3	219.3	294.2	284.5	9.67	30.419	
2,700.0	2,696.4	2,676.3	2,664.8	5.3	6.0	128.39	88.3	229.8	307.8	297.8	10.05	30.619	
2,800.0	2,796.3	2,775.4	2,763.2	5.5	6.3	128.15	93.2	240.3	321.5	311.0	10.44	30.805	
2,900.0	2,896.1	2,874.5	2,861.6	5.7	6.5	127.93	98.1	250.8	335.1	324.3	10.82	30.979	
3,000.0	2,996.0	2,973.5	2,959.9	5.9	6.8	127.73	103.0	261.3	348.8	337.6	11.20	31.141	
3,100.0	3,095.8	3,072.6	3,058.3	6.1	7.1	127.54	107.9	271.8	362.4	350.9	11.58	31.293	
3,200.0	3,195.7	3,171.6	3,156.7	6.3	7.3	127.37	112.8	282.3	376.1	364.2	11.96	31.436	
3,300.0	3,295.5	3,270.7	3,255.1	6.5	7.6	127.21	117.7	292.8	389.8	377.4	12.35	31.570	
3,400.0	3,395.4	3,369.7	3,353.5	6.7	7.8	127.06	122.6	303.3	403.5	390.7	12.73	31.697	
3,500.0	3,495.2	3,468.8	3,451.8	6.9	8.1	126.92	127.5	313.8	417.1	404.0	13.11	31.816	
3,600.0	3,595.1	3,567.8	3,550.2	7.1	8.4	126.79	132.4	324.3	430.8	417.3	13.49	31.929	
3,700.0	3,694.9	3,666.9	3,648.6	7.3	8.6	126.67	137.3	334.8	444.5	430.6	13.87	32.036	
3,800.0	3,794.8	3,766.0	3,747.0	7.5	8.9	126.55	142.2	345.3	458.2	443.9	14.26	32.137	
3,900.0	3,894.6	3,865.0	3,845.3	7.7	9.2	126.44	147.1	355.8	471.9	457.2	14.64	32.233	
4,000.0	3,994.5	3,964.1	3,943.7	7.9	9.4	126.34	152.0	366.3	485.5	470.5	15.02	32.325	
4,100.0	4,094.3	4,063.1	4,042.1	8.1	9.7	126.24	156.9	376.8	499.2	483.8	15.40	32.412	
4,200.0	4,194.2	4,162.2	4,140.5	8.2	10.0	126.15	161.8	387.3	512.9	497.1	15.78	32.495	
4,300.0	4,294.0	4,261.2	4,238.8	8.4	10.2	126.06	166.7	397.8	526.6	510.4	16.17	32.574	
4,400.0	4,393.9	4,360.3	4,337.2	8.6	10.5	125.98	171.6	408.3	540.3	523.7	16.55	32.650	
4,500.0	4,493.7	4,459.3	4,435.6	8.8	10.8	125.90	176.5	418.8	554.0	537.1	16.93	32.722	
4,600.0	4,593.6	4,558.4	4,534.0	9.0	11.0	125.83	181.4	429.3	567.7	550.4	17.31	32.792	
4,700.0	4,693.4	4,657.5	4,632.3	9.2	11.3	125.75	186.3	439.8	581.4	563.7	17.69	32.858	
4,800.0	4,793.3	4,756.5	4,730.7	9.4	11.6	125.69	191.2	450.3	595.1	577.0	18.08	32.922	
4,900.0	4,893.1	4,855.6	4,829.1	9.6	11.8	125.62	196.1	460.8	608.8	590.3	18.46	32.983	
5,000.0	4,993.0	4,954.6	4,927.5	9.8	12.1	125.56	201.0	471.3	622.5	603.6	18.84	33.041	
5,100.0	5,092.8	5,053.7	5,025.8	10.0	12.4	125.50	205.9	481.8	636.1	616.9	19.22	33.098	

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 1A-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 1A-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
5,200.0	5,192.7	5,152.7	5,124.2	10.2	12.6	125.44	210.8	492.3	649.8	630.2	19.60	33.152	
5,300.0	5,292.5	5,251.8	5,222.6	10.4	12.9	125.39	215.7	502.8	663.5	643.6	19.98	33.204	
5,400.0	5,392.4	5,350.8	5,321.0	10.6	13.2	125.34	220.6	513.3	677.2	656.9	20.37	33.254	
5,500.0	5,492.2	5,449.9	5,419.3	10.8	13.4	125.28	225.5	523.8	690.9	670.2	20.75	33.303	
5,600.0	5,592.1	5,549.0	5,517.7	11.0	13.7	125.24	230.4	534.3	704.6	683.5	21.13	33.350	
5,700.0	5,691.9	5,648.0	5,616.1	11.2	14.0	125.19	235.3	544.8	718.3	696.8	21.51	33.395	
5,800.0	5,791.8	5,747.1	5,714.5	11.4	14.2	125.14	240.2	555.3	732.0	710.1	21.89	33.438	
5,900.0	5,891.6	5,846.1	5,812.8	11.6	14.5	125.10	245.1	565.8	745.7	723.5	22.27	33.480	
6,000.0	5,991.5	5,945.2	5,911.2	11.8	14.7	125.06	250.0	576.3	759.4	736.8	22.66	33.521	
6,100.0	6,091.3	6,044.2	6,009.6	12.0	15.0	125.02	254.9	586.8	773.1	750.1	23.04	33.561	
6,200.0	6,191.2	6,143.3	6,108.0	12.2	15.3	124.98	259.8	597.3	786.8	763.4	23.42	33.599	
6,300.0	6,291.0	6,242.3	6,206.3	12.4	15.5	124.94	264.7	607.8	800.5	776.7	23.80	33.636	
6,400.0	6,390.9	6,340.8	6,304.1	12.6	15.8	-108.93	263.7	618.3	814.2	790.1	24.10	33.781	
6,500.0	6,489.5	6,439.3	6,400.9	12.6	15.9	-95.92	249.2	628.6	827.8	803.5	24.23	34.159	
6,600.0	6,585.1	6,538.0	6,495.0	12.6	16.0	-92.00	221.4	638.6	840.9	816.7	24.22	34.714	
6,700.0	6,675.6	6,636.9	6,584.7	12.6	16.1	-89.81	180.8	648.2	853.3	829.2	24.13	35.359	
6,800.0	6,759.4	6,736.3	6,668.2	12.5	16.2	-88.28	127.9	657.1	864.8	840.8	24.05	35.962	
6,900.0	6,834.9	6,835.9	6,743.9	12.6	16.3	-87.13	63.6	665.2	875.2	851.1	24.08	36.351	
7,000.0	6,900.5	6,936.0	6,810.2	12.8	16.5	-86.23	-10.9	672.3	884.2	859.8	24.34	36.319	
7,100.0	6,954.9	7,036.5	6,865.8	13.1	16.8	-85.56	-94.3	678.2	891.7	866.7	24.93	35.763	
7,200.0	6,997.2	7,137.3	6,909.3	13.6	17.2	-85.07	-185.0	682.9	897.5	871.5	25.94	34.595	
7,300.0	7,026.5	7,238.5	6,939.9	14.3	17.8	-84.75	-281.2	686.1	901.5	874.1	27.39	32.913	
7,400.0	7,042.2	7,339.8	6,956.7	15.2	18.5	-84.61	-381.1	687.9	903.7	874.4	29.25	30.896	
7,500.0	7,045.0	7,440.9	6,960.0	16.2	19.4	-84.61	-482.0	688.3	904.1	872.7	31.42	28.777	
7,600.0	7,045.0	7,540.9	6,960.0	17.4	20.4	-84.61	-582.0	688.3	904.1	870.3	33.76	26.781	
7,700.0	7,045.0	7,640.9	6,960.0	18.6	21.4	-84.61	-682.0	688.3	904.1	867.8	36.28	24.918	
7,800.0	7,045.0	7,740.9	6,960.0	19.9	22.6	-84.61	-782.0	688.3	904.1	865.1	38.96	23.207	
7,900.0	7,045.0	7,840.9	6,960.0	21.3	23.8	-84.61	-882.0	688.3	904.1	862.3	41.75	21.653	
8,000.0	7,045.0	7,940.9	6,960.0	22.7	25.1	-84.61	-982.0	688.3	904.1	859.4	44.65	20.249	
8,100.0	7,045.0	8,040.9	6,960.0	24.2	26.4	-84.61	-1,082.0	688.3	904.1	856.5	47.62	18.985	
8,200.0	7,045.0	8,140.9	6,960.0	25.7	27.8	-84.61	-1,182.0	688.3	904.1	853.4	50.66	17.845	
8,300.0	7,045.0	8,240.9	6,960.0	27.3	29.2	-84.61	-1,282.0	688.3	904.1	850.3	53.76	16.817	
8,400.0	7,045.0	8,340.9	6,960.0	28.8	30.7	-84.61	-1,382.0	688.3	904.1	847.2	56.90	15.889	
8,500.0	7,045.0	8,440.9	6,960.0	30.4	32.2	-84.61	-1,482.0	688.3	904.1	844.0	60.08	15.048	
8,600.0	7,045.0	8,540.9	6,960.0	32.0	33.7	-84.61	-1,582.0	688.3	904.1	840.8	63.29	14.284	
8,700.0	7,045.0	8,640.9	6,960.0	33.6	35.3	-84.61	-1,682.0	688.3	904.1	837.5	66.54	13.588	
8,800.0	7,045.0	8,740.9	6,960.0	35.3	36.8	-84.61	-1,782.0	688.3	904.1	834.3	69.80	12.952	
8,900.0	7,045.0	8,840.9	6,960.0	36.9	38.4	-84.61	-1,882.0	688.3	904.1	831.0	73.09	12.369	
9,000.0	7,045.0	8,940.9	6,960.0	38.5	40.0	-84.61	-1,982.0	688.3	904.1	827.7	76.39	11.834	
9,100.0	7,045.0	9,040.9	6,960.0	40.2	41.6	-84.61	-2,082.0	688.3	904.1	824.4	79.72	11.341	
9,200.0	7,045.0	9,140.9	6,960.0	41.9	43.2	-84.61	-2,182.0	688.3	904.1	821.0	83.05	10.886	
9,300.0	7,045.0	9,240.9	6,960.0	43.6	44.8	-84.61	-2,282.0	688.3	904.1	817.7	86.40	10.464	
9,400.0	7,045.0	9,340.9	6,960.0	45.2	46.4	-84.61	-2,382.0	688.3	904.1	814.3	89.76	10.072	
9,500.0	7,045.0	9,440.9	6,960.0	46.9	48.1	-84.61	-2,482.0	688.3	904.1	811.0	93.13	9.708	
9,600.0	7,045.0	9,540.9	6,960.0	48.6	49.7	-84.61	-2,582.0	688.3	904.1	807.6	96.50	9.368	
9,700.0	7,045.0	9,640.9	6,960.0	50.3	51.4	-84.61	-2,682.0	688.3	904.1	804.2	99.89	9.051	
9,800.0	7,045.0	9,740.9	6,960.0	52.0	53.1	-84.61	-2,782.0	688.3	904.1	800.8	103.28	8.754	
9,900.0	7,045.0	9,840.9	6,960.0	53.7	54.7	-84.61	-2,882.0	688.3	904.1	797.4	106.68	8.475	
10,000.0	7,045.0	9,940.9	6,960.0	55.4	56.4	-84.61	-2,982.0	688.3	904.1	794.0	110.09	8.212	
10,100.0	7,045.0	10,040.9	6,960.0	57.1	58.1	-84.61	-3,082.0	688.3	904.1	790.6	113.50	7.966	
10,200.0	7,045.0	10,140.9	6,960.0	58.8	59.8	-84.61	-3,182.0	688.3	904.1	787.2	116.91	7.733	
10,300.0	7,045.0	10,240.9	6,960.0	60.5	61.5	-84.61	-3,282.0	688.3	904.1	783.8	120.33	7.513	

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 1A-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 1A-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
10,400.0	7,045.0	10,340.9	6,960.0	62.3	63.1	-84.61	-3,382.0	688.3	904.1	780.3	123.75	7.305	
10,500.0	7,045.0	10,440.9	6,960.0	64.0	64.8	-84.61	-3,482.0	688.3	904.1	776.9	127.18	7.109	
10,600.0	7,045.0	10,540.9	6,960.0	65.7	66.5	-84.61	-3,582.0	688.3	904.1	773.5	130.61	6.922	
10,700.0	7,045.0	10,640.9	6,960.0	67.4	68.2	-84.61	-3,682.0	688.3	904.1	770.0	134.05	6.745	
10,800.0	7,045.0	10,740.9	6,960.0	69.1	69.9	-84.61	-3,782.0	688.3	904.1	766.6	137.48	6.576	
10,900.0	7,045.0	10,840.9	6,960.0	70.9	71.6	-84.61	-3,882.0	688.3	904.1	763.2	140.92	6.415	
11,000.0	7,045.0	10,940.9	6,960.0	72.6	73.4	-84.61	-3,982.0	688.3	904.1	759.7	144.37	6.262	
11,100.0	7,045.0	11,040.9	6,960.0	74.3	75.1	-84.61	-4,082.0	688.3	904.1	756.3	147.81	6.116	
11,200.0	7,045.0	11,140.9	6,960.0	76.1	76.8	-84.61	-4,182.0	688.3	904.1	752.8	151.26	5.977	
11,300.0	7,045.0	11,240.9	6,960.0	77.8	78.5	-84.61	-4,282.0	688.3	904.1	749.4	154.71	5.844	
11,400.0	7,045.0	11,340.9	6,960.0	79.5	80.2	-84.61	-4,382.0	688.3	904.1	745.9	158.16	5.716	
11,500.0	7,045.0	11,440.9	6,960.0	81.2	81.9	-84.61	-4,482.0	688.3	904.1	742.5	161.61	5.594	
11,568.2	7,045.0	11,509.0	6,960.0	82.4	83.1	-84.61	-4,550.2	688.3	904.1	740.1	163.96	5.514	SF

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Ruhl 1A-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 1A-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	90.42	-0.4	50.1	50.1				
100.0	100.0	100.0	100.0	0.2	0.2	90.42	-0.4	50.1	50.1	49.7	0.35	143.452	
200.0	200.0	200.0	200.0	0.3	0.3	90.42	-0.4	50.1	50.1	49.4	0.70	71.726	CC, ES
300.0	300.0	300.0	300.0	0.5	0.5	126.87	-0.4	50.1	51.1	50.1	1.05	48.702	
400.0	399.9	399.9	399.9	0.7	0.7	131.00	-0.4	50.1	54.2	52.8	1.41	38.556	
500.0	499.7	499.7	499.7	0.9	0.9	135.08	-0.4	50.1	57.9	56.2	1.76	32.871	
600.0	599.6	598.7	598.6	1.1	1.0	138.20	-0.1	50.9	62.6	60.5	2.12	29.592	
700.0	699.4	697.5	697.4	1.3	1.2	140.06	0.8	53.3	68.9	66.5	2.47	27.885	
800.0	799.3	796.2	796.0	1.5	1.4	140.85	2.1	57.3	76.7	73.9	2.83	27.102	
900.0	899.1	894.6	894.3	1.7	1.6	140.84	4.1	62.9	85.8	82.6	3.19	26.905	SF
1,000.0	999.0	992.8	992.1	1.9	1.8	140.25	6.6	70.1	96.4	92.8	3.56	27.109	
1,100.0	1,098.8	1,090.6	1,089.5	2.1	2.0	139.27	9.6	78.8	108.4	104.4	3.93	27.604	
1,200.0	1,198.7	1,188.0	1,186.3	2.3	2.2	138.06	13.2	89.0	121.8	117.5	4.30	28.323	
1,300.0	1,298.5	1,285.0	1,282.5	2.5	2.5	136.73	17.2	100.8	136.7	132.0	4.68	29.221	
1,400.0	1,398.4	1,382.6	1,379.2	2.7	2.7	135.38	21.8	114.0	152.9	147.9	5.06	30.225	
1,500.0	1,498.2	1,481.2	1,476.7	2.9	3.0	134.25	26.5	127.4	169.4	163.9	5.44	31.121	
1,600.0	1,598.1	1,579.8	1,574.3	3.1	3.3	133.31	31.2	140.9	185.9	180.0	5.82	31.910	
1,700.0	1,697.9	1,678.4	1,671.8	3.3	3.6	132.53	35.8	154.3	202.4	196.2	6.21	32.609	
1,800.0	1,797.8	1,777.0	1,769.4	3.5	3.9	131.87	40.5	167.8	219.0	212.4	6.59	33.233	
1,900.0	1,897.6	1,875.6	1,866.9	3.7	4.2	131.30	45.2	181.2	235.6	228.6	6.97	33.794	
2,000.0	1,997.5	1,974.2	1,964.5	3.9	4.4	130.81	49.8	194.7	252.2	244.8	7.35	34.300	
2,100.0	2,097.3	2,072.7	2,062.0	4.1	4.7	130.37	54.5	208.2	268.8	261.1	7.73	34.760	
2,200.0	2,197.2	2,171.3	2,159.6	4.3	5.0	129.99	59.2	221.6	285.4	277.3	8.11	35.178	
2,300.0	2,297.0	2,269.9	2,257.2	4.5	5.3	129.65	63.8	235.1	302.1	293.6	8.50	35.561	
2,400.0	2,396.9	2,368.5	2,354.7	4.7	5.6	129.34	68.5	248.5	318.8	309.9	8.88	35.912	
2,500.0	2,496.7	2,467.1	2,452.3	4.9	5.9	129.07	73.2	262.0	335.4	326.2	9.26	36.236	
2,600.0	2,596.6	2,565.7	2,549.8	5.1	6.2	128.82	77.9	275.4	352.1	342.5	9.64	36.536	
2,700.0	2,696.4	2,664.3	2,647.4	5.3	6.5	128.59	82.5	288.9	368.8	358.8	10.02	36.813	
2,800.0	2,796.3	2,762.9	2,744.9	5.5	6.8	128.39	87.2	302.4	385.5	375.1	10.40	37.072	
2,900.0	2,896.1	2,861.5	2,842.5	5.7	7.1	128.20	91.9	315.8	402.2	391.4	10.78	37.312	
3,000.0	2,996.0	2,960.0	2,940.0	5.9	7.4	128.02	96.5	329.3	418.9	407.7	11.16	37.537	
3,100.0	3,095.8	3,058.6	3,037.6	6.1	7.7	127.86	101.2	342.7	435.6	424.0	11.54	37.747	
3,200.0	3,195.7	3,157.2	3,135.1	6.3	8.0	127.71	105.9	356.2	452.3	440.4	11.92	37.945	
3,300.0	3,295.5	3,255.8	3,232.7	6.5	8.3	127.57	110.6	369.6	469.0	456.7	12.30	38.130	
3,400.0	3,395.4	3,354.4	3,330.2	6.7	8.6	127.45	115.2	383.1	485.7	473.0	12.68	38.305	
3,500.0	3,495.2	3,453.0	3,427.8	6.9	8.9	127.32	119.9	396.6	502.4	489.3	13.06	38.470	
3,600.0	3,595.1	3,551.6	3,525.4	7.1	9.2	127.21	124.6	410.0	519.1	505.7	13.44	38.626	
3,700.0	3,694.9	3,650.2	3,622.9	7.3	9.5	127.11	129.2	423.5	535.8	522.0	13.82	38.773	
3,800.0	3,794.8	3,748.7	3,720.5	7.5	9.8	127.01	133.9	436.9	552.5	538.3	14.20	38.913	
3,900.0	3,894.6	3,847.3	3,818.0	7.7	10.1	126.91	138.6	450.4	569.3	554.7	14.58	39.046	
4,000.0	3,994.5	3,945.9	3,915.6	7.9	10.4	126.83	143.3	463.9	586.0	571.0	14.96	39.172	
4,100.0	4,094.3	4,044.5	4,013.1	8.1	10.7	126.74	147.9	477.3	602.7	587.4	15.34	39.292	
4,200.0	4,194.2	4,143.1	4,110.7	8.2	11.0	126.66	152.6	490.8	619.4	603.7	15.72	39.406	
4,300.0	4,294.0	4,241.7	4,208.2	8.4	11.3	126.59	157.3	504.2	636.2	620.1	16.10	39.515	
4,400.0	4,393.9	4,340.3	4,305.8	8.6	11.6	126.52	161.9	517.7	652.9	636.4	16.48	39.620	
4,500.0	4,493.7	4,438.9	4,403.3	8.8	11.9	126.45	166.6	531.1	669.6	652.7	16.86	39.719	
4,600.0	4,593.6	4,537.5	4,500.9	9.0	12.2	126.39	171.3	544.6	686.3	669.1	17.24	39.814	
4,700.0	4,693.4	4,636.0	4,598.4	9.2	12.5	126.33	176.0	558.1	703.1	685.4	17.62	39.906	
4,800.0	4,793.3	4,734.6	4,696.0	9.4	12.8	126.27	180.6	571.5	719.8	701.8	18.00	39.993	
4,900.0	4,893.1	4,833.2	4,793.6	9.6	13.2	126.21	185.3	585.0	736.5	718.1	18.38	40.077	
5,000.0	4,993.0	4,931.8	4,891.1	9.8	13.5	126.16	190.0	598.4	753.2	734.5	18.76	40.158	
5,100.0	5,092.8	5,030.4	4,988.7	10.0	13.8	126.11	194.6	611.9	770.0	750.8	19.14	40.235	

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 1A-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 1A-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	5,192.7	5,129.0	5,086.2	10.2	14.1	126.06	199.3	625.3	786.7	767.2	19.52	40.310	
5,300.0	5,292.5	5,227.6	5,183.8	10.4	14.4	126.01	204.0	638.8	803.4	783.5	19.90	40.381	
5,400.0	5,392.4	5,326.2	5,281.3	10.6	14.7	125.97	208.7	652.3	820.2	799.9	20.28	40.450	
5,500.0	5,492.2	5,424.8	5,378.9	10.8	15.0	125.93	213.3	665.7	836.9	816.2	20.66	40.517	
5,600.0	5,592.1	5,523.3	5,476.4	11.0	15.3	125.89	218.0	679.2	853.6	832.6	21.04	40.581	
5,700.0	5,691.9	5,621.9	5,574.0	11.2	15.6	125.85	222.7	692.6	870.4	848.9	21.41	40.643	
5,800.0	5,791.8	5,720.5	5,671.5	11.4	15.9	125.81	227.3	706.1	887.1	865.3	21.79	40.703	
5,900.0	5,891.6	5,819.1	5,769.1	11.6	16.2	125.77	232.0	719.5	903.8	881.6	22.17	40.760	
6,000.0	5,991.5	5,917.7	5,866.6	11.8	16.5	125.74	236.7	733.0	920.6	898.0	22.55	40.816	
6,100.0	6,091.3	6,016.3	5,964.2	12.0	16.8	125.70	241.4	746.5	937.3	914.4	22.93	40.870	
6,200.0	6,191.2	6,114.9	6,061.8	12.2	17.1	125.67	246.0	759.9	954.0	930.7	23.31	40.923	
6,300.0	6,291.0	6,213.5	6,159.3	12.4	17.4	125.64	250.7	773.4	970.8	947.1	23.69	40.973	
6,400.0	6,390.9	6,311.8	6,256.6	12.6	17.7	-108.35	255.4	786.8	987.4	963.3	24.07	41.015	

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Ruhl 1A-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 1A-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	89.74	3.7	792.2	792.2				
100.0	100.0	100.0	100.0	0.2	0.2	89.74	3.7	792.2	792.2	791.9	0.35	2,269.557	
200.0	200.0	200.0	200.0	0.3	0.3	89.74	3.7	792.2	792.2	791.5	0.70	1,134.778	CC, ES
300.0	300.0	300.0	300.0	0.5	0.5	124.70	3.7	792.2	793.2	792.2	1.05	755.856	
400.0	399.9	399.9	399.9	0.7	0.7	124.97	3.7	792.2	796.0	794.6	1.41	565.623	
500.0	499.7	495.0	495.0	0.9	0.9	125.26	3.8	792.4	799.3	797.6	1.76	454.131	
600.0	599.6	585.3	585.3	1.1	1.0	125.48	4.7	793.4	803.7	801.6	2.11	381.547	
700.0	699.4	675.6	675.5	1.3	1.2	125.64	6.5	795.6	809.2	806.8	2.45	329.670	
800.0	799.3	765.8	765.6	1.5	1.4	125.72	9.3	798.8	815.9	813.1	2.81	290.823	
900.0	899.1	857.5	857.2	1.7	1.5	125.74	13.1	803.2	823.8	820.7	3.16	260.509	
1,000.0	999.0	955.3	954.7	1.9	1.7	125.72	17.6	808.5	832.4	828.8	3.53	235.579	
1,100.0	1,098.8	1,054.9	1,054.1	2.1	1.9	125.70	22.2	813.9	840.9	837.0	3.91	215.109	
1,200.0	1,198.7	1,154.5	1,153.4	2.3	2.1	125.68	26.8	819.2	849.4	845.1	4.29	198.170	
1,300.0	1,298.5	1,254.2	1,252.8	2.5	2.3	125.66	31.4	824.6	857.9	853.2	4.66	183.933	
1,400.0	1,398.4	1,353.8	1,352.2	2.7	2.5	125.65	36.0	830.0	866.4	861.4	5.04	171.805	
1,500.0	1,498.2	1,453.5	1,451.6	2.9	2.7	125.63	40.6	835.4	874.9	869.5	5.42	161.355	
1,600.0	1,598.1	1,553.1	1,551.0	3.1	3.0	125.61	45.2	840.8	883.4	877.6	5.80	152.260	
1,700.0	1,697.9	1,652.7	1,650.4	3.3	3.2	125.59	49.9	846.1	891.9	885.8	6.18	144.273	
1,800.0	1,797.8	1,752.4	1,749.8	3.5	3.4	125.58	54.5	851.5	900.5	893.9	6.56	137.206	
1,900.0	1,897.6	1,852.0	1,849.1	3.7	3.6	125.56	59.1	856.9	909.0	902.0	6.94	130.908	
2,000.0	1,997.5	1,951.6	1,948.5	3.9	3.8	125.55	63.7	862.3	917.5	910.2	7.32	125.262	
2,100.0	2,097.3	2,051.3	2,047.9	4.1	4.0	125.53	68.3	867.6	926.0	918.3	7.71	120.171	
2,200.0	2,197.2	2,150.9	2,147.3	4.3	4.2	125.52	72.9	873.0	934.5	926.4	8.09	115.558	
2,300.0	2,297.0	2,250.5	2,246.7	4.5	4.4	125.50	77.5	878.4	943.0	934.6	8.47	111.359	
2,400.0	2,396.9	2,350.2	2,346.1	4.7	4.6	125.49	82.1	883.8	951.5	942.7	8.85	107.520	
2,500.0	2,496.7	2,449.8	2,445.4	4.9	4.8	125.47	86.7	889.2	960.0	950.8	9.23	103.997	
2,600.0	2,596.6	2,549.5	2,544.8	5.1	5.1	125.46	91.3	894.5	968.6	958.9	9.61	100.754	
2,700.0	2,696.4	2,649.1	2,644.2	5.3	5.3	125.44	95.9	899.9	977.1	967.1	9.99	97.757	
2,800.0	2,796.3	2,748.7	2,743.6	5.5	5.5	125.43	100.5	905.3	985.6	975.2	10.38	94.980	
2,900.0	2,896.1	2,848.4	2,843.0	5.7	5.7	125.42	105.1	910.7	994.1	983.3	10.76	92.400	SF

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Ruhl 1A-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 1A-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	89.77	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	CC, ES
300.0	300.0	300.0	300.0	0.5	0.5	124.73	3.3	802.3	803.3	802.2	1.05	765.452	
400.0	399.9	399.9	399.9	0.7	0.7	124.99	3.3	802.3	806.1	804.7	1.41	572.783	
500.0	499.7	488.7	488.7	0.9	0.9	125.25	3.6	802.9	809.9	808.2	1.75	463.016	
600.0	599.6	577.4	577.4	1.1	1.0	125.46	4.6	804.7	815.1	813.0	2.09	389.482	
700.0	699.4	666.1	666.0	1.3	1.2	125.62	6.2	807.7	821.7	819.3	2.44	337.035	
800.0	799.3	754.6	754.4	1.5	1.3	125.73	8.4	812.0	829.6	826.8	2.78	297.897	
900.0	899.1	842.9	842.5	1.7	1.5	125.80	11.3	817.4	838.9	835.8	3.13	267.680	
1,000.0	999.0	931.0	930.3	1.9	1.7	125.82	14.8	824.0	849.5	846.0	3.49	243.744	
1,100.0	1,098.8	1,024.2	1,023.0	2.1	1.9	125.79	19.1	832.1	861.3	857.5	3.85	223.803	
1,200.0	1,198.7	1,123.4	1,121.7	2.3	2.1	125.76	23.8	840.9	873.3	869.1	4.22	206.715	
1,300.0	1,298.5	1,222.7	1,220.5	2.5	2.4	125.73	28.5	849.8	885.3	880.7	4.60	192.372	
1,400.0	1,398.4	1,322.0	1,319.3	2.7	2.6	125.70	33.2	858.6	897.3	892.3	4.98	180.171	
1,500.0	1,498.2	1,421.3	1,418.0	2.9	2.8	125.68	37.9	867.4	909.3	904.0	5.36	169.671	
1,600.0	1,598.1	1,520.6	1,516.8	3.1	3.1	125.65	42.6	876.3	921.3	915.6	5.74	160.542	
1,700.0	1,697.9	1,619.8	1,615.6	3.3	3.3	125.62	47.3	885.1	933.3	927.2	6.12	152.535	
1,800.0	1,797.8	1,719.1	1,714.4	3.5	3.6	125.60	52.0	893.9	945.3	938.8	6.50	145.457	
1,900.0	1,897.6	1,818.4	1,813.1	3.7	3.8	125.57	56.7	902.8	957.3	950.4	6.88	139.155	
2,000.0	1,997.5	1,917.7	1,911.9	3.9	4.0	125.55	61.4	911.6	969.3	962.1	7.26	133.510	
2,100.0	2,097.3	2,016.9	2,010.7	4.1	4.3	125.52	66.1	920.4	981.3	973.7	7.64	128.424	
2,200.0	2,197.2	2,116.2	2,109.4	4.3	4.5	125.50	70.8	929.3	993.3	985.3	8.02	123.819	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 1A-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 1A-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	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	2,327.251	
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	CC, ES
300.0	300.0	300.0	300.0	0.5	0.5	124.73	3.3	812.4	813.4	812.3	1.05	775.049	
400.0	399.9	394.0	394.0	0.7	0.7	124.97	3.3	812.5	816.3	814.9	1.40	584.301	
500.0	499.7	482.1	482.1	0.9	0.8	125.21	3.8	813.8	820.9	819.2	1.74	472.398	
600.0	599.6	570.1	570.0	1.1	1.0	125.41	4.8	816.3	826.9	824.9	2.08	397.563	
700.0	699.4	657.9	657.8	1.3	1.2	125.58	6.2	820.1	834.4	832.0	2.42	344.294	
800.0	799.3	745.6	745.3	1.5	1.3	125.71	8.1	825.1	843.3	840.5	2.77	304.633	
900.0	899.1	833.0	832.4	1.7	1.5	125.81	10.5	831.4	853.6	850.5	3.11	274.095	
1,000.0	999.0	920.2	919.3	1.9	1.7	125.86	13.4	838.9	865.3	861.8	3.46	249.964	
1,100.0	1,098.8	1,007.1	1,005.6	2.1	1.9	125.89	16.7	847.5	878.4	874.6	3.81	230.503	
1,200.0	1,198.7	1,095.2	1,093.1	2.3	2.1	125.88	20.5	857.6	892.9	888.7	4.16	214.401	
1,300.0	1,298.5	1,194.1	1,191.2	2.5	2.4	125.86	25.0	869.4	907.9	903.4	4.54	200.001	
1,400.0	1,398.4	1,292.9	1,289.2	2.7	2.7	125.84	29.5	881.1	922.9	918.0	4.92	187.761	
1,500.0	1,498.2	1,391.8	1,387.3	2.9	2.9	125.81	34.0	892.9	937.9	932.6	5.29	177.236	
1,600.0	1,598.1	1,490.7	1,485.3	3.1	3.2	125.79	38.4	904.7	952.9	947.3	5.67	168.091	
1,700.0	1,697.9	1,589.5	1,583.4	3.3	3.5	125.77	42.9	916.5	967.9	961.9	6.05	160.075	
1,800.0	1,797.8	1,688.4	1,681.4	3.5	3.7	125.75	47.4	928.3	983.0	976.5	6.42	152.993	
1,900.0	1,897.6	1,787.3	1,779.5	3.7	4.0	125.74	51.9	940.1	998.0	991.2	6.80	146.691	SF

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Ruhl 1A-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 1A-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	822.4	822.4				
100.0	100.0	100.0	100.0	0.2	0.2	89.77	3.3	822.4	822.4	822.1	0.35	2,356.101	
200.0	200.0	200.0	200.0	0.3	0.3	89.77	3.3	822.4	822.4	821.7	0.70	1,178.051	CC, ES
300.0	300.0	300.0	300.0	0.5	0.5	124.73	3.3	822.4	823.4	822.4	1.05	784.645	
400.0	399.9	387.7	387.7	0.7	0.7	124.94	3.5	823.1	827.0	825.6	1.39	596.550	
500.0	499.7	475.4	475.4	0.9	0.8	125.17	4.1	825.0	832.3	830.6	1.73	482.148	
600.0	599.6	562.9	562.8	1.1	1.0	125.37	5.0	828.2	839.1	837.0	2.07	405.807	
700.0	699.4	650.3	650.1	1.3	1.2	125.54	6.4	832.7	847.4	845.0	2.41	351.564	
800.0	799.3	737.4	737.0	1.5	1.3	125.68	8.1	838.4	857.1	854.4	2.75	311.247	
900.0	899.1	824.3	823.6	1.7	1.5	125.79	10.2	845.4	868.3	865.2	3.10	280.256	
1,000.0	999.0	910.9	909.8	1.9	1.7	125.87	12.7	853.6	880.9	877.4	3.44	255.810	
1,100.0	1,098.8	1,000.0	998.3	2.1	1.9	125.92	15.6	863.3	894.9	891.1	3.80	235.814	
1,200.0	1,198.7	1,083.1	1,080.7	2.3	2.2	125.94	18.7	873.6	910.4	906.2	4.14	220.006	
1,300.0	1,298.5	1,168.7	1,165.3	2.5	2.4	125.94	22.2	885.4	927.2	922.7	4.49	206.640	
1,400.0	1,398.4	1,258.1	1,253.7	2.7	2.7	125.92	26.3	898.9	945.4	940.5	4.84	195.131	
1,500.0	1,498.2	1,356.4	1,350.7	2.9	3.0	125.88	30.9	914.0	963.9	958.6	5.22	184.641	
1,600.0	1,598.1	1,454.7	1,447.7	3.1	3.3	125.85	35.4	929.2	982.3	976.7	5.60	175.537	SF

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Ruhl 1A-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 1A-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	832.2	832.2				
100.0	100.0	100.0	100.0	0.2	0.2	89.77	3.3	832.2	832.2	831.9	0.35	2,384.150	
200.0	200.0	200.0	200.0	0.3	0.3	89.77	3.3	832.2	832.2	831.5	0.70	1,192.075	CC, ES
300.0	300.0	293.8	293.8	0.5	0.5	124.72	3.3	832.4	833.4	832.4	1.04	802.411	
400.0	399.9	381.2	381.2	0.7	0.7	124.90	3.6	833.7	837.7	836.3	1.37	609.263	
500.0	499.7	468.5	468.5	0.9	0.8	125.13	4.3	836.3	843.8	842.1	1.71	492.189	
600.0	599.6	555.7	555.6	1.1	1.0	125.32	5.2	840.1	851.4	849.3	2.06	414.247	
700.0	699.4	642.7	642.4	1.3	1.2	125.50	6.5	845.3	860.4	858.1	2.40	358.967	
800.0	799.3	729.4	728.8	1.5	1.3	125.64	8.0	851.7	871.0	868.2	2.74	317.942	
900.0	899.1	815.9	814.9	1.7	1.5	125.76	9.9	859.3	883.0	879.9	3.08	286.450	
1,000.0	999.0	900.0	898.6	1.9	1.7	125.86	12.0	868.0	896.4	893.0	3.42	261.918	
1,100.0	1,098.8	987.8	985.8	2.1	2.0	125.93	14.5	878.3	911.3	907.5	3.77	241.684	
1,200.0	1,198.7	1,073.2	1,070.4	2.3	2.2	125.98	17.3	889.6	927.6	923.5	4.12	225.373	
1,300.0	1,298.5	1,158.2	1,154.4	2.5	2.5	126.01	20.3	902.0	945.3	940.9	4.46	211.869	
1,400.0	1,398.4	1,242.8	1,237.8	2.7	2.7	126.01	23.6	915.6	964.5	959.6	4.81	200.569	
1,500.0	1,498.2	1,326.8	1,320.5	2.9	3.0	126.00	27.2	930.2	985.0	979.8	5.16	191.034	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 1A-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 1A-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	842.3	842.3				
100.0	100.0	100.0	100.0	0.2	0.2	89.80	2.9	842.3	842.3	841.9	0.35	2,412.996	
200.0	200.0	200.0	200.0	0.3	0.3	89.80	2.9	842.3	842.3	841.6	0.70	1,206.498	CC, ES
300.0	300.0	287.4	287.4	0.5	0.5	124.73	3.1	842.9	844.0	843.0	1.03	821.487	
400.0	399.9	374.6	374.5	0.7	0.7	124.89	3.5	844.9	849.1	847.7	1.36	622.791	
500.0	499.7	461.6	461.5	0.9	0.8	125.11	4.1	848.1	855.9	854.2	1.70	502.803	
600.0	599.6	548.4	548.2	1.1	1.0	125.31	5.1	852.7	864.3	862.3	2.04	423.114	
700.0	699.4	635.1	634.6	1.3	1.2	125.48	6.2	858.5	874.1	871.8	2.38	366.694	
800.0	799.3	721.4	720.7	1.5	1.4	125.63	7.7	865.5	885.5	882.7	2.73	324.880	
900.0	899.1	807.5	806.4	1.7	1.6	125.76	9.4	873.8	898.2	895.2	3.07	292.820	
1,000.0	999.0	893.3	891.6	1.9	1.8	125.86	11.3	883.3	912.5	909.1	3.41	267.584	
1,100.0	1,098.8	978.6	976.3	2.1	2.0	125.95	13.5	894.0	928.1	924.4	3.75	247.306	
1,200.0	1,198.7	1,063.6	1,060.4	2.3	2.3	126.01	16.0	905.9	945.3	941.2	4.10	230.751	
1,300.0	1,298.5	1,148.2	1,143.9	2.5	2.5	126.06	18.7	919.0	963.8	959.3	4.44	217.057	
1,400.0	1,398.4	1,232.2	1,226.7	2.7	2.8	126.09	21.6	933.1	983.7	978.9	4.78	205.608	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 1A-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 1A-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 1A-32H-B264
Coordinate System is US State Plane 1983, Colorado Northern Zone
Grid Convergence at Surface is: 0.60°