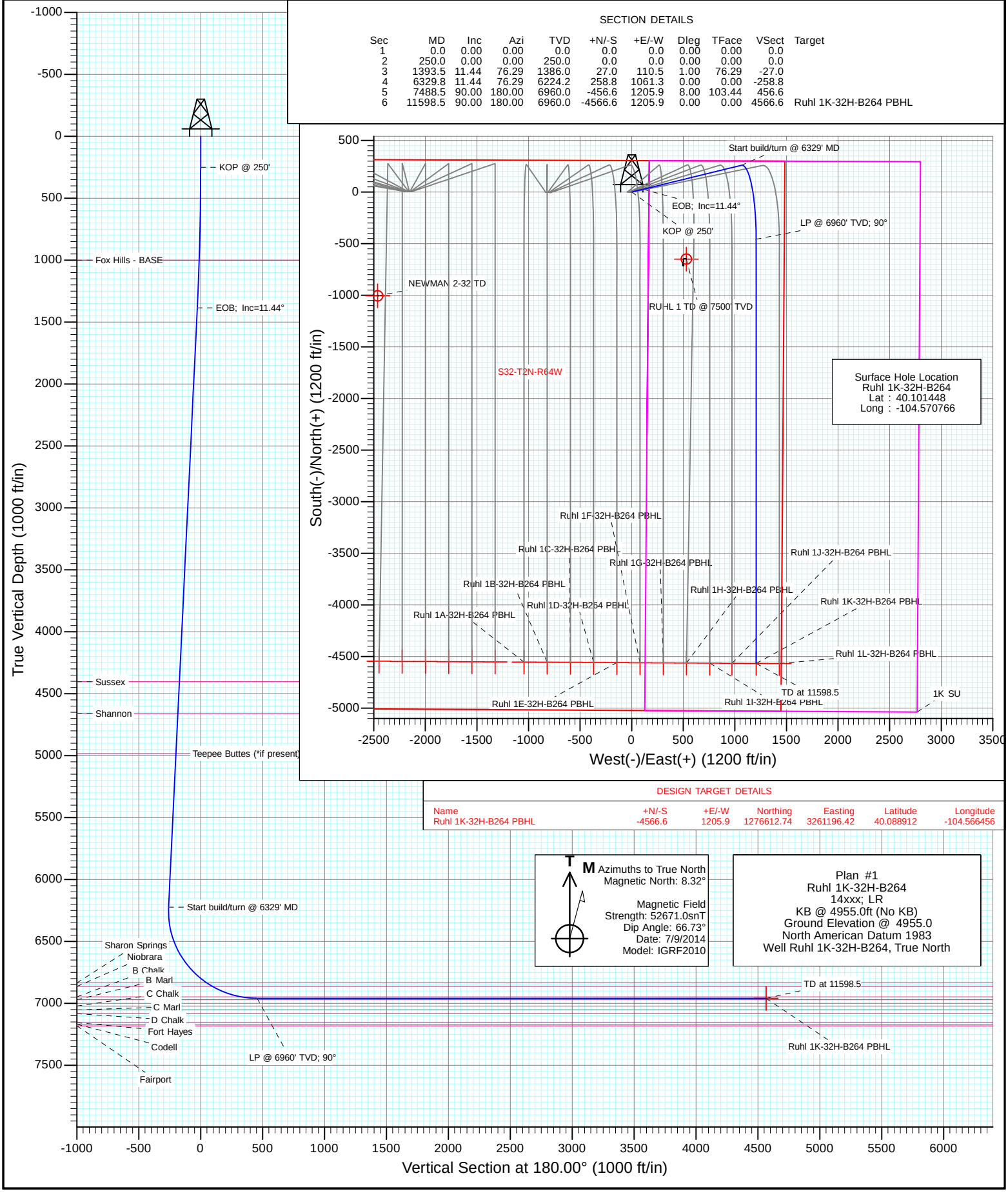
CATHEDRAL

Project: DJ Wattenberg
Site: S32-T2N-R64W (Newman/Ruhl)
Well: Ruhl 1K-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	250.0	0.00	0.00	250.0	0.0	0.0	0.00	0.00	0.0	
3	1393.5	11.44	76.29	1386.0	27.0	110.5	1.00	76.29	-27.0	
4	6329.8	11.44	76.29	6224.2	258.8	1061.3	0.00	0.00	-258.8	
5	7488.5	90.00	180.00	6960.0	-456.6	1205.9	8.00	103.44	456.6	
6	11598.5	90.00	180.00	6960.0	-4566.6	1205.9	0.00	0.00	4566.6	Ruhl 1K-32H-B264 PBHL



DESIGN TARGET DETAILS

Name	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
Ruhl 1K-32H-B264 PBHL	-4566.6	1205.9	1276612.74	3261196.42	40.088912	-104.566456

T M Azimuths to True North
Magnetic North: 8.32°

Magnetic Field
Strength: 52671.0snT
Dip Angle: 66.73°
Date: 7/9/2014
Model: IGRF2010

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

Planning Report

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

Well Position	**+N/-S**	0.0 ft	**Northing:**	1,281,166.41 ft	**Latitude:**	40.101448
	+E/-W	0.0 ft	**Easting:**	3,259,942.75 ft	**Longitude:**	-104.570766
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	
250.0	0.00	0.00	250.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,393.5	11.44	76.29	1,386.0	27.0	110.5	1.00	1.00	0.00	76.29	
6,329.8	11.44	76.29	6,224.2	258.8	1,061.3	0.00	0.00	0.00	0.00	
7,488.5	90.00	180.00	6,960.0	-456.6	1,205.9	8.00	6.78	8.95	103.44	
11,598.5	90.00	180.00	6,960.0	-4,566.6	1,205.9	0.00	0.00	0.00	0.00	Ruhl 1K-32H-B264 PI

Database:	USA EDM 5000 Multi Users DB	**Local Co-ordinate Reference:**	Well Ruhl 1K-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 1K-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	
250.0	0.00	0.00	250.0	0.0	0.0	0.0	0.00	0.00	KOP @ 250'
300.0	0.50	76.29	300.0	0.1	0.2	-0.1	1.00	1.00	
400.0	1.50	76.29	400.0	0.5	1.9	-0.5	1.00	1.00	
500.0	2.50	76.29	499.9	1.3	5.3	-1.3	1.00	1.00	
600.0	3.50	76.29	599.8	2.5	10.4	-2.5	1.00	1.00	
700.0	4.50	76.29	699.5	4.2	17.2	-4.2	1.00	1.00	
800.0	5.50	76.29	799.2	6.3	25.6	-6.3	1.00	1.00	
900.0	6.50	76.29	898.6	8.7	35.8	-8.7	1.00	1.00	
1,000.0	7.50	76.29	997.9	11.6	47.6	-11.6	1.00	1.00	
1,002.2	7.52	76.29	1,000.0	11.7	47.9	-11.7	1.00	1.00	Fox Hills - BASE
1,100.0	8.50	76.29	1,096.9	14.9	61.1	-14.9	1.00	1.00	
1,200.0	9.50	76.29	1,195.7	18.6	76.3	-18.6	1.00	1.00	
1,300.0	10.50	76.29	1,294.1	22.7	93.2	-22.7	1.00	1.00	
1,393.5	11.44	76.29	1,386.0	27.0	110.5	-27.0	1.00	1.00	EOB; Inc=11.44°
1,400.0	11.44	76.29	1,392.3	27.3	111.7	-27.3	0.00	0.00	
1,500.0	11.44	76.29	1,490.3	32.0	131.0	-32.0	0.00	0.00	
1,600.0	11.44	76.29	1,588.3	36.6	150.3	-36.6	0.00	0.00	
1,700.0	11.44	76.29	1,686.3	41.3	169.5	-41.3	0.00	0.00	
1,800.0	11.44	76.29	1,784.4	46.0	188.8	-46.0	0.00	0.00	
1,900.0	11.44	76.29	1,882.4	50.7	208.1	-50.7	0.00	0.00	
2,000.0	11.44	76.29	1,980.4	55.4	227.3	-55.4	0.00	0.00	
2,100.0	11.44	76.29	2,078.4	60.1	246.6	-60.1	0.00	0.00	
2,200.0	11.44	76.29	2,176.4	64.8	265.8	-64.8	0.00	0.00	
2,300.0	11.44	76.29	2,274.4	69.5	285.1	-69.5	0.00	0.00	
2,400.0	11.44	76.29	2,372.4	74.2	304.4	-74.2	0.00	0.00	
2,500.0	11.44	76.29	2,470.5	78.9	323.6	-78.9	0.00	0.00	
2,600.0	11.44	76.29	2,568.5	83.6	342.9	-83.6	0.00	0.00	
2,700.0	11.44	76.29	2,666.5	88.3	362.1	-88.3	0.00	0.00	
2,800.0	11.44	76.29	2,764.5	93.0	381.4	-93.0	0.00	0.00	
2,900.0	11.44	76.29	2,862.5	97.7	400.7	-97.7	0.00	0.00	
3,000.0	11.44	76.29	2,960.5	102.4	419.9	-102.4	0.00	0.00	
3,100.0	11.44	76.29	3,058.5	107.1	439.2	-107.1	0.00	0.00	
3,200.0	11.44	76.29	3,156.6	111.8	458.5	-111.8	0.00	0.00	
3,300.0	11.44	76.29	3,254.6	116.5	477.7	-116.5	0.00	0.00	
3,400.0	11.44	76.29	3,352.6	121.2	497.0	-121.2	0.00	0.00	
3,500.0	11.44	76.29	3,450.6	125.9	516.2	-125.9	0.00	0.00	
3,600.0	11.44	76.29	3,548.6	130.6	535.5	-130.6	0.00	0.00	
3,700.0	11.44	76.29	3,646.6	135.3	554.8	-135.3	0.00	0.00	
3,800.0	11.44	76.29	3,744.7	140.0	574.0	-140.0	0.00	0.00	
3,900.0	11.44	76.29	3,842.7	144.7	593.3	-144.7	0.00	0.00	
4,000.0	11.44	76.29	3,940.7	149.4	612.5	-149.4	0.00	0.00	
4,100.0	11.44	76.29	4,038.7	154.1	631.8	-154.1	0.00	0.00	
4,200.0	11.44	76.29	4,136.7	158.8	651.1	-158.8	0.00	0.00	
4,300.0	11.44	76.29	4,234.7	163.5	670.3	-163.5	0.00	0.00	
4,400.0	11.44	76.29	4,332.7	168.2	689.6	-168.2	0.00	0.00	
4,472.7	11.44	76.29	4,404.0	171.6	703.6	-171.6	0.00	0.00	Sussex
4,500.0	11.44	76.29	4,430.8	172.9	708.9	-172.9	0.00	0.00	
4,600.0	11.44	76.29	4,528.8	177.6	728.1	-177.6	0.00	0.00	
4,700.0	11.44	76.29	4,626.8	182.3	747.4	-182.3	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 1K-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
4,733.9	11.44	76.29	4,660.0	183.9	753.9	-183.9	0.00	0.00	Shannon
4,800.0	11.44	76.29	4,724.8	187.0	766.6	-187.0	0.00	0.00	
4,900.0	11.44	76.29	4,822.8	191.7	785.9	-191.7	0.00	0.00	
5,000.0	11.44	76.29	4,920.8	196.4	805.2	-196.4	0.00	0.00	
5,062.4	11.44	76.29	4,982.0	199.3	817.2	-199.3	0.00	0.00	Teepee Buttes (*if present)
5,100.0	11.44	76.29	5,018.8	201.1	824.4	-201.1	0.00	0.00	
5,200.0	11.44	76.29	5,116.9	205.8	843.7	-205.8	0.00	0.00	
5,300.0	11.44	76.29	5,214.9	210.5	862.9	-210.5	0.00	0.00	
5,400.0	11.44	76.29	5,312.9	215.2	882.2	-215.2	0.00	0.00	
5,500.0	11.44	76.29	5,410.9	219.9	901.5	-219.9	0.00	0.00	
5,600.0	11.44	76.29	5,508.9	224.6	920.7	-224.6	0.00	0.00	
5,700.0	11.44	76.29	5,606.9	229.3	940.0	-229.3	0.00	0.00	
5,800.0	11.44	76.29	5,705.0	234.0	959.3	-234.0	0.00	0.00	
5,900.0	11.44	76.29	5,803.0	238.7	978.5	-238.7	0.00	0.00	
6,000.0	11.44	76.29	5,901.0	243.4	997.8	-243.4	0.00	0.00	
6,100.0	11.44	76.29	5,999.0	248.1	1,017.0	-248.1	0.00	0.00	
6,200.0	11.44	76.29	6,097.0	252.8	1,036.3	-252.8	0.00	0.00	
6,300.0	11.44	76.29	6,195.0	257.4	1,055.6	-257.4	0.00	0.00	
6,329.8	11.44	76.29	6,224.2	258.8	1,061.3	-258.8	0.00	0.00	Start build/turn @ 6329' MD
6,400.0	11.49	104.83	6,293.1	258.7	1,074.8	-258.7	8.00	0.08	
6,500.0	15.54	135.03	6,390.4	246.7	1,094.0	-246.7	8.00	4.05	
6,600.0	21.84	150.64	6,485.2	220.9	1,112.6	-220.9	8.00	6.31	
6,700.0	28.97	159.21	6,575.5	182.0	1,130.3	-182.0	8.00	7.13	
6,800.0	36.44	164.56	6,659.6	130.7	1,146.8	-130.7	8.00	7.47	
6,900.0	44.07	168.29	6,735.8	67.9	1,161.8	-67.9	8.00	7.63	
7,000.0	51.79	171.10	6,802.8	-5.1	1,175.0	5.1	8.00	7.72	
7,054.7	56.04	172.39	6,835.0	-48.8	1,181.3	48.8	8.00	7.77	Sharon Springs
7,100.0	59.57	173.37	6,859.1	-86.9	1,186.1	86.9	8.00	7.79	
7,109.7	60.33	173.57	6,864.0	-95.2	1,187.0	95.2	8.00	7.80	Niobrara
7,200.0	67.38	175.30	6,903.8	-175.8	1,194.8	175.8	8.00	7.81	
7,300.0	75.21	177.03	6,935.8	-270.3	1,201.1	270.3	8.00	7.83	
7,355.9	79.60	177.93	6,948.0	-324.8	1,203.5	324.8	8.00	7.84	B Chalk
7,400.0	83.06	178.63	6,954.6	-368.3	1,204.8	368.3	8.00	7.85	
7,488.5	90.00	180.00	6,960.0	-456.6	1,205.9	456.6	8.00	7.85	LP @ 6960' TVD; 90°
7,500.0	90.00	180.00	6,960.0	-468.1	1,205.9	468.1	0.00	0.00	
7,600.0	90.00	180.00	6,960.0	-568.1	1,205.9	568.1	0.00	0.00	
7,700.0	90.00	180.00	6,960.0	-668.1	1,205.9	668.1	0.00	0.00	
7,800.0	90.00	180.00	6,960.0	-768.1	1,205.9	768.1	0.00	0.00	
7,900.0	90.00	180.00	6,960.0	-868.1	1,205.9	868.1	0.00	0.00	
8,000.0	90.00	180.00	6,960.0	-968.1	1,205.9	968.1	0.00	0.00	
8,100.0	90.00	180.00	6,960.0	-1,068.1	1,205.9	1,068.1	0.00	0.00	
8,200.0	90.00	180.00	6,960.0	-1,168.1	1,205.9	1,168.1	0.00	0.00	
8,300.0	90.00	180.00	6,960.0	-1,268.1	1,205.9	1,268.1	0.00	0.00	
8,400.0	90.00	180.00	6,960.0	-1,368.1	1,205.9	1,368.1	0.00	0.00	
8,500.0	90.00	180.00	6,960.0	-1,468.1	1,205.9	1,468.1	0.00	0.00	
8,600.0	90.00	180.00	6,960.0	-1,568.1	1,205.9	1,568.1	0.00	0.00	
8,700.0	90.00	180.00	6,960.0	-1,668.1	1,205.9	1,668.1	0.00	0.00	
8,800.0	90.00	180.00	6,960.0	-1,768.1	1,205.9	1,768.1	0.00	0.00	
8,900.0	90.00	180.00	6,960.0	-1,868.1	1,205.9	1,868.1	0.00	0.00	
9,000.0	90.00	180.00	6,960.0	-1,968.1	1,205.9	1,968.1	0.00	0.00	
9,100.0	90.00	180.00	6,960.0	-2,068.1	1,205.9	2,068.1	0.00	0.00	
9,200.0	90.00	180.00	6,960.0	-2,168.1	1,205.9	2,168.1	0.00	0.00	

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Well:	Ruhl 1K-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
9,300.0	90.00	180.00	6,960.0	-2,268.1	1,205.9	2,268.1	0.00	0.00	
9,400.0	90.00	180.00	6,960.0	-2,368.1	1,205.9	2,368.1	0.00	0.00	
9,500.0	90.00	180.00	6,960.0	-2,468.1	1,205.9	2,468.1	0.00	0.00	
9,600.0	90.00	180.00	6,960.0	-2,568.1	1,205.9	2,568.1	0.00	0.00	
9,700.0	90.00	180.00	6,960.0	-2,668.1	1,205.9	2,668.1	0.00	0.00	
9,800.0	90.00	180.00	6,960.0	-2,768.1	1,205.9	2,768.1	0.00	0.00	
9,900.0	90.00	180.00	6,960.0	-2,868.1	1,205.9	2,868.1	0.00	0.00	
10,000.0	90.00	180.00	6,960.0	-2,968.1	1,205.9	2,968.1	0.00	0.00	
10,100.0	90.00	180.00	6,960.0	-3,068.1	1,205.9	3,068.1	0.00	0.00	
10,200.0	90.00	180.00	6,960.0	-3,168.1	1,205.9	3,168.1	0.00	0.00	
10,300.0	90.00	180.00	6,960.0	-3,268.1	1,205.9	3,268.1	0.00	0.00	
10,400.0	90.00	180.00	6,960.0	-3,368.1	1,205.9	3,368.1	0.00	0.00	
10,500.0	90.00	180.00	6,960.0	-3,468.1	1,205.9	3,468.1	0.00	0.00	
10,600.0	90.00	180.00	6,960.0	-3,568.1	1,205.9	3,568.1	0.00	0.00	
10,700.0	90.00	180.00	6,960.0	-3,668.1	1,205.9	3,668.1	0.00	0.00	
10,800.0	90.00	180.00	6,960.0	-3,768.1	1,205.9	3,768.1	0.00	0.00	
10,900.0	90.00	180.00	6,960.0	-3,868.1	1,205.9	3,868.1	0.00	0.00	
11,000.0	90.00	180.00	6,960.0	-3,968.1	1,205.9	3,968.1	0.00	0.00	
11,100.0	90.00	180.00	6,960.0	-4,068.1	1,205.9	4,068.1	0.00	0.00	
11,200.0	90.00	180.00	6,960.0	-4,168.1	1,205.9	4,168.1	0.00	0.00	
11,300.0	90.00	180.00	6,960.0	-4,268.1	1,205.9	4,268.1	0.00	0.00	
11,400.0	90.00	180.00	6,960.0	-4,368.1	1,205.9	4,368.1	0.00	0.00	
11,500.0	90.00	180.00	6,960.0	-4,468.1	1,205.9	4,468.1	0.00	0.00	
11,598.5	90.00	180.00	6,960.0	-4,566.6	1,205.9	4,566.6	0.00	0.00	TD at 11598.5

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 1K-32H-B264 PBH - plan hits target center - Point	0.00	0.00	6,960.0	-4,566.6	1,205.9	1,276,612.74	3,261,196.42	40.088912	-104.566456

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,002.2	1,000.0	Fox Hills - BASE			
4,472.7	4,404.0	Sussex			
4,733.9	4,660.0	Shannon			
5,062.4	4,982.0	Teepee Buttes (*if present)			
7,054.7	6,835.0	Sharon Springs			
7,109.7	6,864.0	Niobrara			
7,355.9	6,948.0	B Chalk			

Database:	USA EDM 5000 Multi Users DB	**Local Co-ordinate Reference:**	Well Ruhl 1K-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 1K-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
250.0	250.0	0.0	0.0	KOP @ 250'
1,393.5	1,386.0	27.0	110.5	EOB; Inc=11.44°
6,329.8	6,224.2	258.8	1,061.3	Start build/turn @ 6329' MD
7,488.5	6,960.0	-456.6	1,205.9	LP @ 6960' TVD; 90°
11,598.5	6,960.0	-4,566.6	1,205.9	TD at 11598.5

EnCana Oil & Gas (USA) Inc

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

Anticollision Report

09 July, 2014

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Ruhl 1K-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 1K-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	11,598.5	Plan #1 (Hz)	Geolink MWD	Geolink MWD

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Ruhl 1K-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 1K-32H-B264	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Hz	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Summary

Site Name Offset Well - Wellbore - Design	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
S32-T2N-R64W (Newman)						
LAND USX Y31-01 (EXISTING) - EXISTING - NOBLE W						Out of range
NEWMAN 2-32 (EXISTING) - EXISTING - ENCANA WE						Out of range
Newman 2A-32H-C264 - HZ - Plan #1						Out of range
Newman 2B-32H-C264 - HZ - Plan #1						Out of range
Newman 2C-32H-C264 - HZ - Plan #1						Out of range
Newman 2D-32H-C264 - HZ - Plan #1						Out of range
Newman 2E-32H-C264 - HZ - Plan #1						Out of range
Newman 2F-32H-C264 - HZ - Plan #1						Out of range
Newman 2G-32H-C264 - HZ - Plan #1						Out of range
Newman 2H-32H-C264 - HZ - Plan #1						Out of range
Newman 2I-32H-C264 - HZ - Plan #1						Out of range
Newman 2J-32H-C264 - HZ - Plan #1						Out of range
Newman 2K-32H-C264 - HZ - Plan #1						Out of range
Newman 2L-32H-C264 - HZ - Plan #1						Out of range
RUHL 1 (EXISTING) - EXISTING - ENCANA WELL	7,677.1	7,034.2	683.7	653.7	22.747	CC, ES
RUHL 1 (EXISTING) - EXISTING - ENCANA WELL	7,900.0	7,034.6	719.2	686.1	21.746	SF
Ruhl 1A-32H-B264 - Hz - Plan #1	200.0	200.0	832.2	831.5	1,192.075	CC, ES
Ruhl 1A-32H-B264 - Hz - Plan #1	1,400.0	1,362.5	978.5	973.5	196.078	SF
Ruhl 1B-32H-B264 - Hz - Plan #1	200.0	200.0	822.2	821.5	1,177.650	CC
Ruhl 1B-32H-B264 - Hz - Plan #1	300.0	300.0	822.4	821.3	785.319	ES
Ruhl 1B-32H-B264 - Hz - Plan #1	1,700.0	1,688.3	991.4	985.4	164.628	SF
Ruhl 1C-32H-B264 - Hz - Plan #1	200.0	200.0	812.1	811.4	1,163.225	CC
Ruhl 1C-32H-B264 - Hz - Plan #1	300.0	300.0	812.3	811.2	775.703	ES
Ruhl 1C-32H-B264 - Hz - Plan #1	2,000.0	2,016.4	997.5	990.2	137.021	SF
Ruhl 1D-32H-B264 - Hz - Plan #1	200.0	200.0	802.0	801.3	1,148.800	CC
Ruhl 1D-32H-B264 - Hz - Plan #1	300.0	300.0	802.2	801.2	766.086	ES
Ruhl 1D-32H-B264 - Hz - Plan #1	2,500.0	2,543.7	999.4	990.1	107.382	SF
Ruhl 1E-32H-B264 - Hz - Plan #1	200.0	200.0	792.2	791.5	1,134.778	CC
Ruhl 1E-32H-B264 - Hz - Plan #1	300.0	300.0	792.4	791.4	756.738	ES
Ruhl 1E-32H-B264 - Hz - Plan #1	3,300.0	3,373.2	998.6	986.1	80.048	SF
Ruhl 1F-32H-B264 - Hz - Plan #1	1,018.5	1,119.9	770.4	766.6	202.864	CC, ES
Ruhl 1F-32H-B264 - Hz - Plan #1	4,800.0	4,894.2	998.4	980.1	54.713	SF
Ruhl 1G-32H-B264 - Hz - Plan #1	200.0	200.0	40.0	39.3	57.302	CC
Ruhl 1G-32H-B264 - Hz - Plan #1	300.0	300.0	40.2	39.2	38.404	ES
Ruhl 1G-32H-B264 - Hz - Plan #1	11,598.5	11,577.0	904.1	739.6	5.496	SF
Ruhl 1H-32H-B264 - Hz - Plan #1	200.0	200.0	29.9	29.2	42.874	CC
Ruhl 1H-32H-B264 - Hz - Plan #1	300.0	300.0	30.1	29.1	28.786	ES
Ruhl 1H-32H-B264 - Hz - Plan #1	11,598.5	11,509.6	675.1	510.0	4.089	SF
Ruhl 1I-32H-B264 - Hz - Plan #1	200.0	200.0	19.9	19.2	28.449	CC
Ruhl 1I-32H-B264 - Hz - Plan #1	300.0	300.0	20.1	19.0	19.169	ES
Ruhl 1I-32H-B264 - Hz - Plan #1	11,598.5	11,743.2	497.8	347.4	3.311	SF
Ruhl 1J-32H-B264 - Hz - Plan #1	200.0	200.0	9.8	9.1	14.024	CC
Ruhl 1J-32H-B264 - Hz - Plan #1	300.0	300.0	10.0	9.0	9.552	ES
Ruhl 1J-32H-B264 - Hz - Plan #1	11,598.5	11,643.9	249.9	93.9	1.602	SF
Ruhl 1L-32H-B264 - Hz - Plan #1	200.0	200.0	10.1	9.4	14.434	CC, ES
Ruhl 1L-32H-B264 - Hz - Plan #1	11,598.5	11,848.3	309.8	187.5	2.534	SF

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Ruhl 1K-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 1K-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 1 (EXISTING) - EXISTING - ENCANA WELL

Offset Site Error: 0.0 ft

Survey Program: 100-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	37.9	37.9	0.0	0.1	144.40	-698.0	499.7	858.4	858.3	0.07	N/A	
100.0	100.0	133.7	133.7	0.2	0.2	144.39	-698.3	500.1	858.9	858.5	0.41	2,103.233	
200.0	200.0	233.5	233.5	0.3	0.4	144.39	-699.0	500.5	859.7	859.0	0.76	1,134.715	
300.0	300.0	336.3	336.3	0.5	0.6	68.14	-699.7	500.6	860.2	859.1	1.11	774.561	
400.0	400.0	436.2	436.2	0.7	0.8	68.27	-700.1	500.6	860.0	858.5	1.46	588.530	
500.0	499.9	533.8	533.8	0.9	0.9	68.48	-700.6	500.9	859.3	857.5	1.81	474.045	
600.0	599.8	632.8	632.8	1.1	1.1	68.84	-701.4	501.1	858.1	856.0	2.17	394.648	
700.0	699.5	731.9	731.9	1.3	1.3	69.30	-702.3	501.3	856.5	854.0	2.55	336.151	
800.0	799.2	831.0	831.0	1.5	1.5	69.88	-703.2	501.7	854.4	851.4	2.94	291.002	
900.0	898.6	930.4	930.3	1.7	1.6	70.57	-704.1	502.1	851.8	848.5	3.34	254.873	
1,000.0	997.9	1,030.5	1,030.4	2.0	1.8	71.38	-704.9	502.5	848.8	845.0	3.77	225.135	
1,100.0	1,096.9	1,131.6	1,131.5	2.3	2.0	72.32	-705.5	502.9	845.1	840.9	4.22	200.124	
1,200.0	1,195.7	1,229.6	1,229.6	2.6	2.2	73.37	-706.2	503.0	841.1	836.4	4.70	179.097	
1,300.0	1,294.1	1,326.5	1,326.4	2.9	2.3	74.52	-707.0	503.4	837.1	831.9	5.20	161.129	
1,400.0	1,392.3	1,425.9	1,425.9	3.3	2.5	75.82	-707.7	503.8	833.0	827.3	5.73	145.438	
1,500.0	1,490.3	1,523.2	1,523.2	3.7	2.7	77.13	-708.5	504.0	829.1	822.8	6.27	132.322	
1,600.0	1,588.3	1,619.6	1,619.5	4.0	2.8	78.44	-709.4	504.1	825.8	819.0	6.81	121.281	
1,700.0	1,686.3	1,718.4	1,718.4	4.4	3.0	79.81	-710.5	504.2	823.0	815.7	7.36	111.788	
1,800.0	1,784.4	1,818.4	1,818.4	4.8	3.2	81.20	-711.5	504.1	820.6	812.6	7.92	103.577	
1,900.0	1,882.4	1,917.3	1,917.3	5.2	3.4	82.61	-712.4	503.6	818.4	809.9	8.48	96.473	
2,000.0	1,980.4	2,015.1	2,015.0	5.5	3.5	84.01	-713.3	503.1	816.7	807.6	9.04	90.306	
2,100.0	2,078.4	2,114.1	2,114.0	5.9	3.7	85.44	-714.1	502.5	815.4	805.8	9.61	84.873	
2,200.0	2,176.4	2,211.6	2,211.5	6.3	3.9	86.86	-714.9	501.9	814.7	804.5	10.17	80.117	
2,300.0	2,274.4	2,314.7	2,314.6	6.7	4.1	88.36	-715.4	501.0	814.1	803.4	10.74	75.807	
2,400.0	2,372.4	2,416.0	2,415.9	7.1	4.2	89.84	-715.4	500.1	813.6	802.3	11.30	71.967	
2,500.0	2,470.5	2,517.5	2,517.4	7.5	4.4	91.32	-715.0	499.0	813.1	801.2	11.87	68.511	
2,600.0	2,568.5	2,617.7	2,617.6	7.9	4.6	92.79	-714.2	497.8	812.8	800.4	12.43	65.410	
2,635.0	2,602.8	2,652.2	2,652.1	8.0	4.6	93.30	-713.9	497.4	812.8	800.2	12.62	64.404	
2,700.0	2,666.5	2,715.9	2,715.8	8.3	4.7	94.24	-713.3	496.5	812.9	799.9	12.98	62.638	
2,800.0	2,764.5	2,813.1	2,812.9	8.6	4.9	95.65	-712.4	495.5	813.5	800.0	13.52	60.161	
2,900.0	2,862.5	2,913.3	2,913.2	9.0	5.1	97.07	-711.3	494.9	814.6	800.5	14.07	57.902	
3,000.0	2,960.5	3,012.3	3,012.1	9.4	5.3	98.44	-710.0	494.8	815.9	801.3	14.61	55.860	
3,100.0	3,058.5	3,111.9	3,111.7	9.8	5.4	99.80	-708.5	494.7	817.6	802.4	15.14	53.997	
3,200.0	3,156.6	3,209.4	3,209.3	10.2	5.6	101.12	-706.9	494.8	819.6	804.0	15.67	52.318	
3,300.0	3,254.6	3,307.9	3,307.7	10.6	5.8	102.46	-705.4	494.6	822.2	806.0	16.19	50.792	
3,400.0	3,352.6	3,406.1	3,405.9	11.0	5.9	103.80	-703.8	494.4	825.1	808.4	16.70	49.410	
3,500.0	3,450.6	3,505.6	3,505.4	11.4	6.1	105.13	-702.1	494.3	828.4	811.2	17.21	48.144	
3,600.0	3,548.6	3,604.0	3,603.7	11.8	6.3	106.43	-700.3	494.3	832.1	814.4	17.71	46.992	
3,700.0	3,646.6	3,703.2	3,703.0	12.2	6.5	107.73	-698.5	494.3	836.1	817.9	18.20	45.940	
3,800.0	3,744.7	3,807.2	3,807.0	12.5	6.6	109.08	-696.1	494.4	840.1	821.4	18.69	44.949	
3,900.0	3,842.7	3,908.0	3,907.7	12.9	6.8	110.35	-693.2	494.8	844.1	824.9	19.17	44.030	
4,000.0	3,940.7	4,008.3	4,007.9	13.3	7.0	111.59	-690.2	495.5	848.2	828.5	19.64	43.179	
4,100.0	4,038.7	4,107.7	4,107.3	13.7	7.2	112.81	-687.0	496.2	852.4	832.3	20.11	42.396	
4,200.0	4,136.7	4,204.6	4,204.1	14.1	7.3	113.97	-683.9	497.0	857.1	836.6	20.56	41.688	
4,300.0	4,234.7	4,300.0	4,299.5	14.5	7.5	115.09	-681.2	498.0	862.4	841.4	21.01	41.053	
4,400.0	4,332.7	4,397.8	4,397.2	14.9	7.7	116.23	-678.5	499.0	868.2	846.8	21.45	40.481	
4,500.0	4,430.8	4,490.7	4,490.1	15.3	7.8	117.28	-676.3	500.0	874.7	852.8	21.88	39.982	
4,600.0	4,528.8	4,586.7	4,586.1	15.7	8.0	118.33	-674.6	501.3	882.0	859.7	22.31	39.543	
4,700.0	4,626.8	4,683.3	4,682.7	16.1	8.2	119.37	-673.1	502.6	889.8	867.1	22.73	39.152	
4,800.0	4,724.8	4,782.0	4,781.3	16.5	8.4	120.43	-671.5	503.5	898.1	874.9	23.14	38.806	
4,900.0	4,822.8	4,879.9	4,879.3	16.9	8.5	121.51	-669.7	503.7	906.6	883.0	23.54	38.504	

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Ruhl 1K-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 1K-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 1 (EXISTING) - EXISTING - ENCANA WELL

Offset Site Error: 0.0 ft

Survey Program: 100-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
5,000.0	4,920.8	4,976.9	4,976.2	17.2	8.7	122.60	-667.8	503.3	915.5	891.5	23.94	38.247	
5,100.0	5,018.8	5,074.5	5,073.8	17.6	8.9	123.70	-665.8	502.6	924.8	900.5	24.32	38.032	
5,200.0	5,116.9	5,169.2	5,168.4	18.0	9.0	124.74	-664.0	501.8	934.6	909.9	24.69	37.854	
5,300.0	5,214.9	5,264.5	5,263.8	18.4	9.2	125.78	-662.5	500.8	945.2	920.1	25.06	37.721	
5,400.0	5,312.9	5,362.8	5,362.1	18.8	9.4	126.82	-661.1	499.8	956.1	930.7	25.42	37.615	
5,500.0	5,410.9	5,461.6	5,460.8	19.2	9.6	127.81	-659.8	499.3	967.3	941.5	25.78	37.522	
5,600.0	5,508.9	5,560.1	5,559.3	19.6	9.7	128.76	-658.6	499.1	978.7	952.5	26.14	37.446	
5,700.0	5,606.9	5,659.1	5,658.3	20.0	9.9	129.70	-657.3	498.9	990.3	963.8	26.49	37.385	
6,900.0	6,735.8	6,803.9	6,802.9	24.0	11.9	63.57	-645.5	512.0	965.4	939.2	26.22	36.824	
7,000.0	6,802.8	6,875.0	6,873.9	24.3	12.0	68.00	-645.3	514.9	920.1	894.3	25.71	35.793	
7,100.0	6,859.1	6,934.4	6,933.3	24.6	12.1	73.75	-645.1	517.7	871.5	845.9	25.62	34.021	
7,200.0	6,903.8	6,981.4	6,980.2	25.0	12.2	80.03	-645.1	520.2	822.6	796.7	25.91	31.755	
7,300.0	6,935.8	7,012.6	7,011.4	25.4	12.3	85.73	-645.1	521.9	776.7	750.2	26.43	29.390	
7,400.0	6,954.6	7,029.1	7,027.8	26.0	12.3	90.12	-645.2	522.7	736.9	709.8	27.10	27.196	
7,500.0	6,960.0	7,033.9	7,032.6	26.6	12.3	92.74	-645.2	522.9	706.3	678.3	27.93	25.283	
7,600.0	6,960.0	7,034.1	7,032.8	27.2	12.3	92.75	-645.2	523.0	688.1	659.0	29.09	23.651	
7,677.1	6,960.0	7,034.2	7,033.0	27.8	12.3	92.76	-645.2	523.0	683.7	653.7	30.06	22.747	CC, ES
7,700.0	6,960.0	7,034.3	7,033.0	28.0	12.3	92.77	-645.2	523.0	684.1	653.8	30.35	22.544	
7,800.0	6,960.0	7,034.4	7,033.2	28.9	12.3	92.78	-645.2	523.0	694.7	663.0	31.68	21.931	
7,900.0	6,960.0	7,034.6	7,033.4	29.8	12.3	92.80	-645.2	523.0	719.2	686.1	33.07	21.746	SF
8,000.0	6,960.0	7,034.8	7,033.6	30.8	12.3	92.81	-645.2	523.0	756.2	721.6	34.51	21.908	
8,100.0	6,960.0	7,035.0	7,033.7	31.9	12.3	92.83	-645.2	523.0	804.0	768.0	36.00	22.332	
8,200.0	6,960.0	7,035.2	7,033.9	33.1	12.3	92.84	-645.2	523.0	860.8	823.3	37.52	22.942	
8,300.0	6,960.0	7,035.4	7,034.1	34.2	12.3	92.86	-645.2	523.0	924.9	885.9	39.07	23.675	
8,400.0	6,960.0	7,035.6	7,034.3	35.5	12.3	92.88	-645.2	523.0	995.0	954.4	40.64	24.484	

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Ruhl 1K-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 1K-32H-B264	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Hz	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

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

Offset Site Error: 0.0 ft

Survey Program: 0-Geolink MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	-90.22	-3.3	-832.2	832.2				
100.0	100.0	100.0	100.0	0.2	0.2	-90.22	-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	-90.22	-3.3	-832.2	832.2	831.5	0.70	1,192.075	CC, ES
300.0	300.0	285.8	285.8	0.5	0.5	-166.45	-2.2	-833.0	833.3	832.3	1.02	813.414	
400.0	400.0	373.9	373.8	0.7	0.7	-166.24	1.0	-835.2	837.5	836.2	1.36	616.119	
500.0	499.9	473.6	473.3	0.9	0.9	-165.98	5.5	-838.3	844.0	842.3	1.72	490.912	
600.0	599.8	573.2	572.8	1.1	1.1	-165.74	10.0	-841.4	852.3	850.2	2.08	409.635	
700.0	699.5	672.7	672.1	1.3	1.2	-165.53	14.4	-844.5	862.2	859.8	2.44	352.989	
800.0	799.2	772.0	771.3	1.5	1.4	-165.36	18.9	-847.6	873.8	871.0	2.81	311.513	
900.0	898.6	871.1	870.2	1.7	1.6	-165.21	23.3	-850.7	887.1	883.9	3.17	280.024	
1,000.0	997.9	969.9	968.9	2.0	1.8	-165.08	27.7	-853.8	902.1	898.5	3.53	255.449	
1,100.0	1,096.9	1,068.5	1,067.4	2.3	2.0	-164.99	32.2	-856.9	918.7	914.8	3.90	235.859	
1,200.0	1,195.7	1,166.8	1,165.5	2.6	2.2	-164.92	36.6	-860.0	937.0	932.7	4.26	219.977	
1,300.0	1,294.1	1,264.8	1,263.4	2.9	2.4	-164.87	41.0	-863.0	956.9	952.3	4.62	206.930	
1,400.0	1,392.3	1,362.5	1,360.9	3.3	2.6	-164.85	45.3	-866.1	978.5	973.5	4.99	196.078	SF

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Ruhl 1K-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 1K-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	-90.23	-3.3	-822.1	822.2				
100.0	100.0	100.0	100.0	0.2	0.2	-90.23	-3.3	-822.1	822.2	821.8	0.35	2,355.300	
200.0	200.0	200.0	200.0	0.3	0.3	-90.23	-3.3	-822.1	822.2	821.5	0.70	1,177.650	CC
227.8	227.8	227.8	227.8	0.4	0.4	-166.52	-3.3	-822.1	822.2	821.4	0.80	1,034.072	
300.0	300.0	300.0	300.0	0.5	0.5	-166.52	-3.3	-822.1	822.4	821.3	1.05	785.319	ES
400.0	400.0	400.0	400.0	0.7	0.7	-166.55	-3.3	-822.1	824.1	822.7	1.40	590.268	
500.0	499.9	499.9	499.9	0.9	0.9	-166.60	-3.3	-822.1	827.5	825.7	1.74	474.223	
600.0	599.8	599.8	599.8	1.1	1.0	-166.67	-3.3	-822.1	832.6	830.5	2.09	397.671	
700.0	699.5	699.5	699.5	1.3	1.2	-166.76	-3.3	-822.1	839.3	836.9	2.44	343.685	
800.0	799.2	799.2	799.2	1.5	1.4	-166.88	-3.3	-822.1	847.8	845.0	2.79	303.804	
900.0	898.6	898.6	898.6	1.7	1.6	-167.01	-3.3	-822.1	858.0	854.9	3.14	273.330	
1,000.0	997.9	997.9	997.9	2.0	1.7	-167.17	-3.3	-822.1	869.9	866.4	3.49	249.445	
1,100.0	1,096.9	1,097.8	1,097.8	2.3	1.9	-167.23	-1.6	-822.1	883.4	879.6	3.84	230.176	
1,200.0	1,195.7	1,197.1	1,196.9	2.6	2.1	-167.11	3.1	-822.1	898.6	894.4	4.19	214.336	
1,300.0	1,294.1	1,295.6	1,295.4	2.9	2.3	-166.99	8.3	-822.0	915.4	910.8	4.55	201.220	
1,400.0	1,392.3	1,393.9	1,393.5	3.3	2.5	-166.90	13.4	-822.0	933.8	928.9	4.91	190.235	
1,500.0	1,490.3	1,492.0	1,491.5	3.7	2.6	-166.85	18.5	-821.9	953.0	947.8	5.28	180.567	
1,600.0	1,588.3	1,590.2	1,589.5	4.0	2.8	-166.81	23.7	-821.9	972.2	966.6	5.65	172.099	
1,700.0	1,686.3	1,688.3	1,687.5	4.4	3.0	-166.77	28.8	-821.8	991.4	985.4	6.02	164.628	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 1K-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 1K-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	-90.23	-3.3	-812.1	812.1				
100.0	100.0	100.0	100.0	0.2	0.2	-90.23	-3.3	-812.1	812.1	811.7	0.35	2,326.450	
200.0	200.0	200.0	200.0	0.3	0.3	-90.23	-3.3	-812.1	812.1	811.4	0.70	1,163.225	CC
227.8	227.8	227.8	227.8	0.4	0.4	-166.53	-3.3	-812.1	812.1	811.3	0.80	1,021.406	
300.0	300.0	300.0	300.0	0.5	0.5	-166.53	-3.3	-812.1	812.3	811.2	1.05	775.703	ES
400.0	400.0	400.0	400.0	0.7	0.7	-166.55	-3.3	-812.1	814.0	812.6	1.40	583.055	
500.0	499.9	499.9	499.9	0.9	0.9	-166.60	-3.3	-812.1	817.4	815.6	1.74	468.452	
600.0	599.8	599.8	599.8	1.1	1.0	-166.67	-3.3	-812.1	822.5	820.4	2.09	392.861	
700.0	699.5	708.8	708.8	1.3	1.2	-166.72	-2.4	-811.5	828.7	826.3	2.46	337.033	
800.0	799.2	818.0	817.9	1.5	1.4	-166.69	0.1	-809.7	835.5	832.7	2.83	295.584	
900.0	898.6	927.1	926.9	1.7	1.6	-166.56	4.3	-806.6	842.9	839.7	3.20	263.502	
1,000.0	997.9	1,027.3	1,027.0	2.0	1.8	-166.42	9.0	-803.2	851.3	847.8	3.56	239.204	
1,100.0	1,096.9	1,126.8	1,126.3	2.3	2.0	-166.30	13.7	-799.8	861.5	857.6	3.92	219.737	
1,200.0	1,195.7	1,226.1	1,225.4	2.6	2.2	-166.20	18.4	-796.5	873.3	869.0	4.28	203.855	
1,300.0	1,294.1	1,325.2	1,324.3	2.9	2.4	-166.13	23.1	-793.1	886.8	882.2	4.65	190.749	
1,400.0	1,392.3	1,424.0	1,423.0	3.3	2.6	-166.09	27.8	-789.7	902.0	897.0	5.02	179.820	
1,500.0	1,490.3	1,522.7	1,521.5	3.7	2.8	-166.09	32.4	-786.4	917.9	912.5	5.39	170.260	
1,600.0	1,588.3	1,621.5	1,620.1	4.0	3.0	-166.09	37.1	-783.0	933.8	928.1	5.77	161.914	
1,700.0	1,686.3	1,720.2	1,718.7	4.4	3.2	-166.10	41.8	-779.7	949.7	943.6	6.14	154.567	
1,800.0	1,784.4	1,818.9	1,817.2	4.8	3.4	-166.10	46.4	-776.3	965.6	959.1	6.52	148.053	
1,900.0	1,882.4	1,917.6	1,915.8	5.2	3.6	-166.10	51.1	-772.9	981.6	974.7	6.90	142.240	
2,000.0	1,980.4	2,016.4	2,014.3	5.5	3.8	-166.10	55.7	-769.6	997.5	990.2	7.28	137.021	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 1K-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 1K-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	-90.24	-3.3	-802.0	802.0				
100.0	100.0	100.0	100.0	0.2	0.2	-90.24	-3.3	-802.0	802.0	801.7	0.35	2,297.601	
200.0	200.0	200.0	200.0	0.3	0.3	-90.24	-3.3	-802.0	802.0	801.3	0.70	1,148.800	CC
227.8	227.8	227.8	227.8	0.4	0.4	-166.53	-3.3	-802.0	802.0	801.3	0.80	1,008.741	
300.0	300.0	300.0	300.0	0.5	0.5	-166.53	-3.3	-802.0	802.2	801.2	1.05	766.086	ES
400.0	400.0	400.0	400.0	0.7	0.7	-166.56	-3.3	-802.0	803.9	802.5	1.40	575.842	
500.0	499.9	513.0	513.0	0.9	0.9	-166.57	-2.7	-801.1	806.5	804.7	1.77	456.146	
600.0	599.8	626.1	626.1	1.1	1.1	-166.53	-0.7	-798.3	809.2	807.0	2.14	377.790	
700.0	699.5	739.3	739.1	1.3	1.3	-166.43	2.4	-793.8	811.9	809.4	2.52	322.301	
800.0	799.2	852.4	851.9	1.5	1.5	-166.27	6.9	-787.4	814.7	811.8	2.90	280.822	
900.0	898.6	954.4	953.6	1.7	1.7	-166.11	11.7	-780.5	818.1	814.9	3.27	250.417	
1,000.0	997.9	1,054.3	1,053.1	2.0	2.0	-165.97	16.4	-773.8	823.3	819.6	3.63	226.703	
1,100.0	1,096.9	1,154.0	1,152.6	2.3	2.2	-165.86	21.0	-767.1	830.1	826.1	4.00	207.630	
1,200.0	1,195.7	1,253.7	1,251.9	2.6	2.4	-165.78	25.7	-760.4	838.6	834.2	4.37	192.068	
1,300.0	1,294.1	1,353.2	1,351.0	2.9	2.6	-165.72	30.4	-753.7	848.8	844.1	4.74	179.222	
1,400.0	1,392.3	1,452.4	1,450.0	3.3	2.8	-165.69	35.0	-747.0	860.7	855.6	5.11	168.507	
1,500.0	1,490.3	1,551.6	1,548.8	3.7	3.0	-165.70	39.7	-740.3	873.3	867.8	5.49	159.166	
1,600.0	1,588.3	1,650.9	1,647.7	4.0	3.3	-165.71	44.3	-733.6	885.9	880.0	5.87	151.008	
1,700.0	1,686.3	1,750.1	1,746.6	4.4	3.5	-165.72	49.0	-726.9	898.5	892.3	6.25	143.826	
1,800.0	1,784.4	1,849.3	1,845.4	4.8	3.7	-165.73	53.6	-720.2	911.1	904.5	6.63	137.456	
1,900.0	1,882.4	1,948.5	1,944.3	5.2	3.9	-165.74	58.3	-713.6	923.7	916.7	7.01	131.771	
2,000.0	1,980.4	2,047.7	2,043.2	5.5	4.1	-165.75	62.9	-706.9	936.3	928.9	7.39	126.665	
2,100.0	2,078.4	2,146.9	2,142.0	5.9	4.4	-165.76	67.6	-700.2	948.9	941.2	7.77	122.056	
2,200.0	2,176.4	2,246.1	2,240.9	6.3	4.6	-165.77	72.2	-693.5	961.5	953.4	8.16	117.876	
2,300.0	2,274.4	2,345.3	2,339.8	6.7	4.8	-165.78	76.9	-686.8	974.2	965.6	8.54	114.067	
2,400.0	2,372.4	2,444.5	2,438.6	7.1	5.0	-165.79	81.5	-680.2	986.8	977.8	8.92	110.582	
2,500.0	2,470.5	2,543.7	2,537.5	7.5	5.3	-165.80	86.2	-673.5	999.4	990.1	9.31	107.382	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 1K-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 1K-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	-90.26	-3.6	-792.2	792.2				
100.0	100.0	100.0	100.0	0.2	0.2	-90.26	-3.6	-792.2	792.2	791.9	0.35	2,269.557	
200.0	200.0	200.0	200.0	0.3	0.3	-90.26	-3.6	-792.2	792.2	791.5	0.70	1,134.778	CC
227.8	227.8	227.8	227.8	0.4	0.4	-166.56	-3.6	-792.2	792.3	791.5	0.80	996.429	
300.0	300.0	300.0	300.0	0.5	0.5	-166.56	-3.6	-792.2	792.4	791.4	1.05	756.738	ES
400.0	400.0	407.2	407.2	0.7	0.7	-166.58	-3.5	-792.0	793.9	792.5	1.41	563.580	
500.0	499.9	521.6	521.6	0.9	0.9	-166.57	-2.6	-789.9	795.5	793.7	1.78	446.076	
600.0	599.8	636.0	635.9	1.1	1.1	-166.53	-0.6	-785.7	797.0	794.8	2.16	369.041	
700.0	699.5	750.5	750.2	1.3	1.3	-166.46	2.3	-779.5	798.3	795.8	2.54	314.478	
800.0	799.2	865.0	864.3	1.5	1.6	-166.35	6.1	-771.2	799.5	796.6	2.92	273.675	
900.0	898.6	979.5	978.2	1.7	1.8	-166.21	10.9	-760.9	800.6	797.3	3.31	241.904	
1,000.0	997.9	1,081.9	1,080.0	2.0	2.1	-166.06	15.8	-750.4	802.3	798.6	3.68	218.038	
1,100.0	1,096.9	1,181.8	1,179.3	2.3	2.3	-165.95	20.5	-740.2	805.6	801.5	4.05	199.048	
1,200.0	1,195.7	1,281.7	1,278.5	2.6	2.6	-165.87	25.3	-729.9	810.6	806.1	4.42	183.514	
1,300.0	1,294.1	1,381.5	1,377.6	2.9	2.8	-165.81	30.0	-719.7	817.2	812.5	4.79	170.666	
1,400.0	1,392.3	1,481.1	1,476.6	3.3	3.1	-165.78	34.8	-709.5	825.6	820.4	5.16	159.932	
1,500.0	1,490.3	1,580.7	1,575.6	3.7	3.3	-165.79	39.5	-699.3	834.7	829.2	5.54	150.587	
1,600.0	1,588.3	1,680.3	1,674.5	4.0	3.6	-165.79	44.3	-689.1	843.8	837.9	5.92	142.420	
1,700.0	1,686.3	1,779.9	1,773.5	4.4	3.9	-165.79	49.0	-678.9	852.9	846.6	6.31	135.225	
1,800.0	1,784.4	1,879.5	1,872.4	4.8	4.1	-165.79	53.8	-668.7	862.0	855.3	6.69	128.841	
1,900.0	1,882.4	1,979.0	1,971.4	5.2	4.4	-165.80	58.5	-658.5	871.1	864.1	7.07	123.138	
2,000.0	1,980.4	2,078.6	2,070.3	5.5	4.6	-165.80	63.2	-648.3	880.2	872.8	7.46	118.016	
2,100.0	2,078.4	2,178.2	2,169.3	5.9	4.9	-165.80	68.0	-638.1	889.3	881.5	7.84	113.389	
2,200.0	2,176.4	2,277.8	2,268.2	6.3	5.1	-165.80	72.7	-627.9	898.4	890.2	8.23	109.191	
2,300.0	2,274.4	2,377.4	2,367.2	6.7	5.4	-165.81	77.5	-617.7	907.5	898.9	8.61	105.365	
2,400.0	2,372.4	2,477.0	2,466.1	7.1	5.7	-165.81	82.2	-607.5	916.6	907.6	9.00	101.864	
2,500.0	2,470.5	2,576.5	2,565.1	7.5	5.9	-165.81	87.0	-597.2	925.7	916.4	9.38	98.648	
2,600.0	2,568.5	2,676.1	2,664.0	7.9	6.2	-165.81	91.7	-587.0	934.9	925.1	9.77	95.684	
2,700.0	2,666.5	2,775.7	2,762.9	8.3	6.5	-165.81	96.4	-576.8	944.0	933.8	10.16	92.943	
2,800.0	2,764.5	2,875.3	2,861.9	8.6	6.7	-165.82	101.2	-566.6	953.1	942.5	10.54	90.403	
2,900.0	2,862.5	2,974.9	2,960.8	9.0	7.0	-165.82	105.9	-556.4	962.2	951.2	10.93	88.040	
3,000.0	2,960.5	3,074.5	3,059.8	9.4	7.2	-165.82	110.7	-546.2	971.3	960.0	11.32	85.839	
3,100.0	3,058.5	3,174.1	3,158.7	9.8	7.5	-165.82	115.4	-536.0	980.4	968.7	11.70	83.781	
3,200.0	3,156.6	3,273.6	3,257.7	10.2	7.8	-165.82	120.1	-525.8	989.5	977.4	12.09	81.855	
3,300.0	3,254.6	3,373.2	3,356.6	10.6	8.0	-165.83	124.9	-515.6	998.6	986.1	12.47	80.048	SF

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Ruhl 1K-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 1K-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	-90.27	-3.6	-782.1	782.2				
100.0	100.0	100.0	100.0	0.2	0.2	-90.27	-3.6	-782.1	782.2	781.8	0.35	2,240.707	
200.0	200.0	200.0	200.0	0.3	0.3	-90.27	-3.6	-782.1	782.2	781.5	0.70	1,120.354	
300.0	300.0	314.8	314.8	0.5	0.6	-166.54	-3.3	-781.1	781.4	780.3	1.07	728.088	
400.0	400.0	429.6	429.6	0.7	0.8	-166.49	-2.1	-777.8	780.3	778.8	1.45	538.499	
500.0	499.9	544.4	544.2	0.9	1.0	-166.43	-0.3	-772.4	778.9	777.1	1.83	426.558	
600.0	599.8	659.1	658.6	1.1	1.2	-166.34	2.4	-764.8	777.4	775.2	2.21	352.495	
700.0	699.5	773.8	772.8	1.3	1.5	-166.24	5.7	-755.0	775.6	773.1	2.59	299.736	
800.0	799.2	888.4	886.8	1.5	1.8	-166.11	9.8	-743.1	773.7	770.7	2.97	260.143	
900.0	898.6	1,001.3	998.7	1.7	2.1	-165.97	14.6	-729.3	771.6	768.2	3.36	229.475	
1,000.0	997.9	1,101.3	1,097.8	2.0	2.3	-165.86	19.1	-716.3	770.4	766.7	3.73	206.592	
1,018.5	1,016.2	1,119.9	1,116.1	2.0	2.4	-165.84	19.9	-713.9	770.4	766.6	3.80	202.864	CC, ES
1,100.0	1,096.9	1,201.3	1,196.8	2.3	2.6	-165.77	23.6	-703.3	771.0	766.9	4.10	188.120	
1,200.0	1,195.7	1,301.3	1,295.8	2.6	2.9	-165.71	28.1	-690.3	773.2	768.7	4.47	173.003	
1,300.0	1,294.1	1,401.2	1,394.8	2.9	3.2	-165.67	32.5	-677.3	777.1	772.3	4.84	160.494	
1,400.0	1,392.3	1,501.1	1,493.7	3.3	3.5	-165.67	37.0	-664.3	782.7	777.5	5.22	150.045	
1,500.0	1,490.3	1,600.9	1,592.5	3.7	3.8	-165.69	41.5	-651.3	789.1	783.5	5.60	140.969	
1,600.0	1,588.3	1,700.7	1,691.4	4.0	4.1	-165.71	46.0	-638.4	795.4	789.4	5.98	133.034	
1,700.0	1,686.3	1,800.4	1,790.2	4.4	4.4	-165.73	50.4	-625.4	801.7	795.4	6.36	126.039	
1,800.0	1,784.4	1,900.2	1,889.1	4.8	4.7	-165.75	54.9	-612.4	808.1	801.3	6.74	119.830	
1,900.0	1,882.4	2,000.0	1,988.0	5.2	5.0	-165.78	59.4	-599.4	814.4	807.3	7.13	114.282	
2,000.0	1,980.4	2,099.8	2,086.8	5.5	5.2	-165.80	63.8	-586.5	820.8	813.2	7.51	109.295	
2,100.0	2,078.4	2,199.6	2,185.7	5.9	5.5	-165.82	68.3	-573.5	827.1	819.2	7.89	104.790	
2,200.0	2,176.4	2,299.4	2,284.5	6.3	5.8	-165.84	72.8	-560.5	833.4	825.2	8.28	100.701	
2,300.0	2,274.4	2,399.2	2,383.4	6.7	6.1	-165.85	77.3	-547.6	839.8	831.1	8.66	96.972	
2,400.0	2,372.4	2,499.0	2,482.2	7.1	6.4	-165.87	81.7	-534.6	846.1	837.1	9.04	93.559	
2,500.0	2,470.5	2,598.8	2,581.1	7.5	6.7	-165.89	86.2	-521.6	852.5	843.0	9.43	90.424	
2,600.0	2,568.5	2,698.6	2,679.9	7.9	7.0	-165.91	90.7	-508.6	858.8	849.0	9.81	87.533	
2,700.0	2,666.5	2,798.4	2,778.8	8.3	7.3	-165.93	95.2	-495.7	865.2	855.0	10.20	84.859	
2,800.0	2,764.5	2,898.2	2,877.6	8.6	7.6	-165.95	99.6	-482.7	871.5	860.9	10.58	82.380	
2,900.0	2,862.5	2,998.0	2,976.5	9.0	7.9	-165.97	104.1	-469.7	877.8	866.9	10.96	80.074	
3,000.0	2,960.5	3,097.8	3,075.3	9.4	8.2	-165.98	108.6	-456.7	884.2	872.8	11.35	77.925	
3,100.0	3,058.5	3,197.6	3,174.2	9.8	8.5	-166.00	113.1	-443.8	890.5	878.8	11.73	75.916	
3,200.0	3,156.6	3,297.4	3,273.0	10.2	8.8	-166.02	117.5	-430.8	896.9	884.7	12.11	74.035	
3,300.0	3,254.6	3,397.2	3,371.9	10.6	9.1	-166.03	122.0	-417.8	903.2	890.7	12.50	72.269	
3,400.0	3,352.6	3,497.0	3,470.7	11.0	9.4	-166.05	126.5	-404.9	909.5	896.7	12.88	70.609	
3,500.0	3,450.6	3,596.8	3,569.6	11.4	9.7	-166.07	131.0	-391.9	915.9	902.6	13.27	69.045	
3,600.0	3,548.6	3,696.6	3,668.4	11.8	10.0	-166.08	135.4	-378.9	922.2	908.6	13.65	67.569	
3,700.0	3,646.6	3,796.4	3,767.3	12.2	10.3	-166.10	139.9	-365.9	928.6	914.5	14.03	66.175	
3,800.0	3,744.7	3,896.2	3,866.1	12.5	10.6	-166.12	144.4	-353.0	934.9	920.5	14.42	64.854	
3,900.0	3,842.7	3,996.0	3,965.0	12.9	10.9	-166.13	148.8	-340.0	941.3	926.5	14.80	63.603	
4,000.0	3,940.7	4,095.8	4,063.8	13.3	11.2	-166.15	153.3	-327.0	947.6	932.4	15.18	62.415	
4,100.0	4,038.7	4,195.6	4,162.7	13.7	11.5	-166.16	157.8	-314.0	954.0	938.4	15.57	61.285	
4,200.0	4,136.7	4,295.4	4,261.5	14.1	11.8	-166.18	162.3	-301.1	960.3	944.3	15.95	60.211	
4,300.0	4,234.7	4,395.2	4,360.4	14.5	12.1	-166.19	166.7	-288.1	966.6	950.3	16.33	59.186	
4,400.0	4,332.7	4,495.0	4,459.2	14.9	12.4	-166.21	171.2	-275.1	973.0	956.3	16.72	58.209	
4,500.0	4,430.8	4,594.8	4,558.1	15.3	12.7	-166.22	175.7	-262.2	979.3	962.2	17.10	57.276	
4,600.0	4,528.8	4,694.6	4,656.9	15.7	13.0	-166.23	180.2	-249.2	985.7	968.2	17.48	56.384	
4,700.0	4,626.8	4,794.4	4,755.8	16.1	13.3	-166.25	184.6	-236.2	992.0	974.1	17.86	55.531	
4,800.0	4,724.8	4,894.2	4,854.6	16.5	13.6	-166.26	189.1	-223.2	998.4	980.1	18.25	54.713	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 1K-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 1K-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	-89.48	0.4	-40.0	40.0				
100.0	100.0	100.0	100.0	0.2	0.2	-89.48	0.4	-40.0	40.0	39.7	0.35	114.603	
200.0	200.0	200.0	200.0	0.3	0.3	-89.48	0.4	-40.0	40.0	39.3	0.70	57.302	CC
227.8	227.8	227.8	227.8	0.4	0.4	-165.78	0.4	-40.0	40.0	39.2	0.80	50.352	
300.0	300.0	300.0	300.0	0.5	0.5	-165.85	0.4	-40.0	40.2	39.2	1.05	38.404	ES
400.0	400.0	400.0	400.0	0.7	0.7	-166.43	0.4	-40.0	41.9	40.5	1.40	30.020	
500.0	499.9	500.2	500.2	0.9	0.9	-167.28	0.5	-39.8	45.1	43.4	1.75	25.863	
600.0	599.8	600.8	600.8	1.1	1.0	-167.31	1.7	-38.5	48.9	46.8	2.10	23.330	
700.0	699.5	701.4	701.3	1.3	1.2	-166.54	4.0	-35.8	53.0	50.6	2.45	21.645	
800.0	799.2	802.0	801.8	1.5	1.4	-165.15	7.4	-31.8	57.5	54.7	2.81	20.482	
900.0	898.6	902.3	901.8	1.7	1.6	-163.41	11.9	-26.6	62.5	59.4	3.17	19.711	
1,000.0	997.9	1,002.1	1,001.4	2.0	1.8	-162.23	16.5	-21.2	69.1	65.5	3.54	19.502	
1,100.0	1,096.9	1,101.7	1,100.8	2.3	2.0	-161.66	21.1	-15.8	77.3	73.4	3.92	19.743	
1,200.0	1,195.7	1,201.2	1,200.0	2.6	2.2	-161.55	25.7	-10.5	87.2	82.9	4.29	20.319	
1,300.0	1,294.1	1,300.6	1,299.1	2.9	2.4	-161.79	30.3	-5.1	98.7	94.0	4.67	21.155	
1,400.0	1,392.3	1,399.7	1,398.0	3.3	2.6	-162.24	34.9	0.3	111.9	106.8	5.04	22.197	
1,500.0	1,490.3	1,498.7	1,496.7	3.7	2.8	-162.73	39.4	5.6	125.8	120.4	5.42	23.208	
1,600.0	1,588.3	1,597.7	1,595.5	4.0	3.0	-163.12	44.0	11.0	139.7	133.9	5.80	24.087	
1,700.0	1,686.3	1,696.8	1,694.3	4.4	3.3	-163.44	48.6	16.3	153.6	147.4	6.18	24.857	
1,800.0	1,784.4	1,795.8	1,793.1	4.8	3.5	-163.71	53.2	21.6	167.5	161.0	6.56	25.538	
1,900.0	1,882.4	1,894.8	1,891.8	5.2	3.7	-163.94	57.8	27.0	181.5	174.5	6.94	26.143	
2,000.0	1,980.4	1,993.8	1,990.6	5.5	3.9	-164.13	62.3	32.3	195.4	188.1	7.32	26.686	
2,100.0	2,078.4	2,092.9	2,089.4	5.9	4.1	-164.30	66.9	37.7	209.3	201.6	7.70	27.175	
2,200.0	2,176.4	2,191.9	2,188.2	6.3	4.3	-164.45	71.5	43.0	223.2	215.1	8.08	27.617	
2,300.0	2,274.4	2,290.9	2,286.9	6.7	4.5	-164.58	76.1	48.4	237.2	228.7	8.46	28.019	
2,400.0	2,372.4	2,389.9	2,385.7	7.1	4.7	-164.70	80.6	53.7	251.1	242.2	8.85	28.387	
2,500.0	2,470.5	2,489.0	2,484.5	7.5	4.9	-164.80	85.2	59.1	265.0	255.8	9.23	28.724	
2,600.0	2,568.5	2,588.0	2,583.3	7.9	5.1	-164.89	89.8	64.4	278.9	269.3	9.61	29.034	
2,700.0	2,666.5	2,687.0	2,682.0	8.3	5.4	-164.98	94.4	69.7	292.9	282.9	9.99	29.321	
2,800.0	2,764.5	2,786.0	2,780.8	8.6	5.6	-165.06	99.0	75.1	306.8	296.4	10.37	29.586	
2,900.0	2,862.5	2,885.0	2,879.6	9.0	5.8	-165.13	103.5	80.4	320.7	310.0	10.75	29.832	
3,000.0	2,960.5	2,984.1	2,978.4	9.4	6.0	-165.19	108.1	85.8	334.7	323.5	11.13	30.062	
3,100.0	3,058.5	3,083.1	3,077.1	9.8	6.2	-165.25	112.7	91.1	348.6	337.1	11.51	30.276	
3,200.0	3,156.6	3,182.1	3,175.9	10.2	6.4	-165.30	117.3	96.5	362.5	350.6	11.90	30.476	
3,300.0	3,254.6	3,281.1	3,274.7	10.6	6.6	-165.35	121.9	101.8	376.5	364.2	12.28	30.664	
3,400.0	3,352.6	3,380.2	3,373.4	11.0	6.8	-165.40	126.4	107.2	390.4	377.8	12.66	30.841	
3,500.0	3,450.6	3,479.2	3,472.2	11.4	7.0	-165.45	131.0	112.5	404.3	391.3	13.04	31.007	
3,600.0	3,548.6	3,578.2	3,571.0	11.8	7.3	-165.49	135.6	117.8	418.3	404.9	13.42	31.163	
3,700.0	3,646.6	3,677.2	3,669.8	12.2	7.5	-165.52	140.2	123.2	432.2	418.4	13.80	31.311	
3,800.0	3,744.7	3,776.3	3,768.5	12.5	7.7	-165.56	144.7	128.5	446.2	432.0	14.19	31.451	
3,900.0	3,842.7	3,875.3	3,867.3	12.9	7.9	-165.59	149.3	133.9	460.1	445.5	14.57	31.584	
4,000.0	3,940.7	3,974.3	3,966.1	13.3	8.1	-165.63	153.9	139.2	474.0	459.1	14.95	31.709	
4,100.0	4,038.7	4,073.3	4,064.9	13.7	8.3	-165.66	158.5	144.6	488.0	472.6	15.33	31.829	
4,200.0	4,136.7	4,172.4	4,163.6	14.1	8.5	-165.68	163.1	149.9	501.9	486.2	15.71	31.943	
4,300.0	4,234.7	4,271.4	4,262.4	14.5	8.7	-165.71	167.6	155.3	515.8	499.7	16.09	32.051	
4,400.0	4,332.7	4,370.4	4,361.2	14.9	8.9	-165.74	172.2	160.6	529.8	513.3	16.48	32.154	
4,500.0	4,430.8	4,469.4	4,460.0	15.3	9.2	-165.76	176.8	165.9	543.7	526.9	16.86	32.253	
4,600.0	4,528.8	4,568.5	4,558.7	15.7	9.4	-165.78	181.4	171.3	557.6	540.4	17.24	32.347	
4,700.0	4,626.8	4,667.5	4,657.5	16.1	9.6	-165.80	186.0	176.6	571.6	554.0	17.62	32.437	
4,800.0	4,724.8	4,766.5	4,756.3	16.5	9.8	-165.82	190.5	182.0	585.5	567.5	18.00	32.523	
4,900.0	4,822.8	4,865.5	4,855.0	16.9	10.0	-165.84	195.1	187.3	599.5	581.1	18.39	32.605	
5,000.0	4,920.8	4,964.5	4,953.8	17.2	10.2	-165.86	199.7	192.7	613.4	594.6	18.77	32.685	

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 1K-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 1K-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
5,100.0	5,018.8	5,063.6	5,052.6	17.6	10.4	-165.88	204.3	198.0	627.3	608.2	19.15	32.761	
5,200.0	5,116.9	5,162.6	5,151.4	18.0	10.6	-165.90	208.8	203.4	641.3	621.7	19.53	32.834	
5,300.0	5,214.9	5,261.6	5,250.1	18.4	10.8	-165.91	213.4	208.7	655.2	635.3	19.91	32.904	
5,400.0	5,312.9	5,360.6	5,348.9	18.8	11.1	-165.93	218.0	214.0	669.1	648.8	20.29	32.972	
5,500.0	5,410.9	5,459.7	5,447.7	19.2	11.3	-165.95	222.6	219.4	683.1	662.4	20.68	33.037	
5,600.0	5,508.9	5,558.7	5,546.5	19.6	11.5	-165.96	227.2	224.7	697.0	676.0	21.06	33.100	
5,700.0	5,606.9	5,657.7	5,645.2	20.0	11.7	-165.97	231.7	230.1	711.0	689.5	21.44	33.160	
5,800.0	5,705.0	5,756.7	5,744.0	20.4	11.9	-165.99	236.3	235.4	724.9	703.1	21.82	33.219	
5,900.0	5,803.0	5,855.8	5,842.8	20.8	12.1	-166.00	240.9	240.8	738.8	716.6	22.20	33.275	
6,000.0	5,901.0	5,954.8	5,941.6	21.2	12.3	-166.01	245.5	246.1	752.8	730.2	22.59	33.329	
6,100.0	5,999.0	6,053.8	6,040.3	21.6	12.5	-166.02	250.1	251.5	766.7	743.7	22.97	33.382	
6,200.0	6,097.0	6,152.8	6,139.1	22.0	12.8	-166.04	254.6	256.8	780.6	757.3	23.35	33.433	
6,300.0	6,195.0	6,251.9	6,237.9	22.4	13.0	-166.05	259.2	262.1	794.6	770.8	23.73	33.482	
6,400.0	6,293.1	6,351.0	6,336.8	22.7	13.2	165.32	262.7	267.5	808.5	784.6	23.96	33.745	
6,500.0	6,390.4	6,450.8	6,436.1	23.0	13.3	135.09	254.8	272.9	822.4	798.4	24.00	34.265	
6,600.0	6,485.2	6,551.3	6,533.9	23.3	13.3	119.46	232.9	278.2	835.9	812.0	23.95	34.902	
6,700.0	6,575.5	6,652.4	6,628.3	23.6	13.3	110.96	197.3	283.3	848.8	825.0	23.88	35.539	
6,800.0	6,659.6	6,754.3	6,717.5	23.8	13.3	105.75	148.4	288.1	860.9	837.0	23.89	36.035	
6,900.0	6,735.8	6,856.9	6,799.3	24.0	13.4	102.27	86.8	292.5	871.8	847.8	24.06	36.240	
7,000.0	6,802.8	6,960.3	6,872.0	24.3	13.5	99.83	13.5	296.5	881.5	857.0	24.46	36.030	
7,100.0	6,859.1	7,064.3	6,933.8	24.6	13.8	98.08	-70.0	299.8	889.6	864.4	25.18	35.328	
7,200.0	6,903.8	7,168.9	6,983.1	25.0	14.2	96.85	-162.0	302.5	896.0	869.8	26.23	34.157	
7,300.0	6,935.8	7,273.9	7,018.6	25.4	14.9	96.02	-260.7	304.4	900.6	873.0	27.62	32.608	
7,400.0	6,954.6	7,379.1	7,039.4	26.0	15.8	95.54	-363.8	305.5	903.3	874.0	29.31	30.821	
7,500.0	6,960.0	7,483.7	7,045.0	26.6	16.8	95.39	-468.1	305.8	904.1	872.8	31.26	28.923	
7,600.0	6,960.0	7,583.7	7,045.0	27.2	17.9	95.39	-568.1	305.8	904.1	870.5	33.57	26.934	
7,700.0	6,960.0	7,683.7	7,045.0	28.0	19.0	95.39	-668.1	305.8	904.1	868.0	36.06	25.072	
7,800.0	6,960.0	7,783.7	7,045.0	28.9	20.3	95.39	-768.1	305.8	904.1	865.4	38.71	23.356	
7,900.0	6,960.0	7,883.7	7,045.0	29.8	21.6	95.39	-868.1	305.8	904.1	862.6	41.48	21.795	
8,000.0	6,960.0	7,983.7	7,045.0	30.8	23.0	95.39	-968.1	305.8	904.1	859.7	44.36	20.382	
8,100.0	6,960.0	8,083.7	7,045.0	31.9	24.5	95.39	-1,068.1	305.8	904.1	856.8	47.32	19.108	
8,200.0	6,960.0	8,183.7	7,045.0	33.1	26.0	95.39	-1,168.1	305.8	904.1	853.7	50.34	17.959	
8,300.0	6,960.0	8,283.7	7,045.0	34.2	27.5	95.39	-1,268.1	305.8	904.1	850.7	53.43	16.922	
8,400.0	6,960.0	8,383.7	7,045.0	35.5	29.0	95.39	-1,368.1	305.8	904.1	847.5	56.56	15.985	
8,500.0	6,960.0	8,483.7	7,045.0	36.8	30.6	95.39	-1,468.1	305.8	904.1	844.4	59.73	15.136	
8,600.0	6,960.0	8,583.7	7,045.0	38.1	32.1	95.39	-1,568.1	305.8	904.1	841.1	62.94	14.365	
8,700.0	6,960.0	8,683.7	7,045.0	39.4	33.7	95.39	-1,668.1	305.8	904.1	837.9	66.17	13.663	
8,800.0	6,960.0	8,783.7	7,045.0	40.8	35.4	95.39	-1,768.1	305.8	904.1	834.7	69.43	13.022	
8,900.0	6,960.0	8,883.7	7,045.0	42.2	37.0	95.39	-1,868.1	305.8	904.1	831.4	72.71	12.434	
9,000.0	6,960.0	8,983.7	7,045.0	43.7	38.6	95.39	-1,968.1	305.8	904.1	828.1	76.01	11.894	
9,100.0	6,960.0	9,083.7	7,045.0	45.1	40.3	95.39	-2,068.1	305.8	904.1	824.8	79.33	11.397	
9,200.0	6,960.0	9,183.7	7,045.0	46.6	41.9	95.39	-2,168.1	305.8	904.1	821.4	82.66	10.937	
9,300.0	6,960.0	9,283.7	7,045.0	48.1	43.6	95.39	-2,268.1	305.8	904.1	818.1	86.00	10.512	
9,400.0	6,960.0	9,383.7	7,045.0	49.6	45.3	95.39	-2,368.1	305.8	904.1	814.7	89.36	10.117	
9,500.0	6,960.0	9,483.7	7,045.0	51.2	46.9	95.39	-2,468.1	305.8	904.1	811.4	92.72	9.750	
9,600.0	6,960.0	9,583.7	7,045.0	52.7	48.6	95.39	-2,568.1	305.8	904.1	808.0	96.10	9.408	
9,700.0	6,960.0	9,683.7	7,045.0	54.3	50.3	95.39	-2,668.1	305.8	904.1	804.6	99.48	9.088	
9,800.0	6,960.0	9,783.7	7,045.0	55.8	52.0	95.39	-2,768.1	305.8	904.1	801.2	102.87	8.788	
9,900.0	6,960.0	9,883.7	7,045.0	57.4	53.7	95.39	-2,868.1	305.8	904.1	797.8	106.27	8.508	
10,000.0	6,960.0	9,983.7	7,045.0	59.0	55.4	95.39	-2,968.1	305.8	904.1	794.4	109.67	8.244	
10,100.0	6,960.0	10,083.7	7,045.0	60.6	57.1	95.39	-3,068.1	305.8	904.1	791.0	113.08	7.995	
10,200.0	6,960.0	10,183.7	7,045.0	62.2	58.8	95.39	-3,168.1	305.8	904.1	787.6	116.49	7.761	

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 1K-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 1K-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
10,300.0	6,960.0	10,283.7	7,045.0	63.8	60.5	95.39	-3,268.1	305.8	904.1	784.2	119.91	7.540	
10,400.0	6,960.0	10,383.7	7,045.0	65.4	62.2	95.39	-3,368.1	305.8	904.1	780.8	123.33	7.330	
10,500.0	6,960.0	10,483.7	7,045.0	67.1	63.9	95.39	-3,468.1	305.8	904.1	777.3	126.76	7.132	
10,600.0	6,960.0	10,583.7	7,045.0	68.7	65.6	95.39	-3,568.1	305.8	904.1	773.9	130.19	6.944	
10,700.0	6,960.0	10,683.7	7,045.0	70.3	67.4	95.39	-3,668.1	305.8	904.1	770.5	133.62	6.766	
10,800.0	6,960.0	10,783.7	7,045.0	72.0	69.1	95.39	-3,768.1	305.8	904.1	767.0	137.06	6.596	
10,900.0	6,960.0	10,883.7	7,045.0	73.6	70.8	95.39	-3,868.1	305.8	904.1	763.6	140.50	6.435	
11,000.0	6,960.0	10,983.7	7,045.0	75.3	72.5	95.39	-3,968.1	305.8	904.1	760.1	143.94	6.281	
11,100.0	6,960.0	11,083.7	7,045.0	77.0	74.2	95.39	-4,068.1	305.8	904.1	756.7	147.38	6.134	
11,200.0	6,960.0	11,183.7	7,045.0	78.6	76.0	95.39	-4,168.1	305.8	904.1	753.3	150.83	5.994	
11,300.0	6,960.0	11,283.7	7,045.0	80.3	77.7	95.39	-4,268.1	305.8	904.1	749.8	154.27	5.860	
11,400.0	6,960.0	11,383.7	7,045.0	82.0	79.4	95.39	-4,368.1	305.8	904.1	746.4	157.72	5.732	
11,500.0	6,960.0	11,483.7	7,045.0	83.6	81.1	95.39	-4,468.1	305.8	904.1	742.9	161.18	5.609	
11,558.3	6,960.0	11,541.9	7,045.0	84.6	82.2	95.39	-4,526.4	305.8	904.1	740.9	163.19	5.540	
11,598.5	6,960.0	11,577.0	7,045.0	85.3	82.8	95.39	-4,561.5	305.8	904.1	739.6	164.49	5.496	SF

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Ruhl 1K-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 1K-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	-90.05	0.0	-29.9	29.9				
100.0	100.0	100.0	100.0	0.2	0.2	-90.05	0.0	-29.9	29.9	29.6	0.35	85.749	
200.0	200.0	200.0	200.0	0.3	0.3	-90.05	0.0	-29.9	29.9	29.2	0.70	42.874	CC
227.8	227.8	227.8	227.8	0.4	0.4	-166.36	0.0	-29.9	30.0	29.2	0.80	37.685	
300.0	300.0	300.0	300.0	0.5	0.5	-166.44	0.0	-29.9	30.1	29.1	1.05	28.786	ES
400.0	400.0	400.0	400.0	0.7	0.7	-167.17	0.0	-29.9	31.8	30.4	1.40	22.809	
500.0	499.9	500.5	500.5	0.9	0.9	-167.79	0.4	-29.2	34.5	32.7	1.75	19.743	
600.0	599.8	601.0	600.9	1.1	1.1	-167.68	1.6	-26.8	37.2	35.1	2.10	17.760	
700.0	699.5	701.6	701.4	1.3	1.2	-166.99	3.7	-22.9	40.1	37.7	2.45	16.388	
800.0	799.2	802.1	801.8	1.5	1.4	-165.85	6.6	-17.5	43.2	40.4	2.81	15.393	
900.0	898.6	902.8	902.1	1.7	1.6	-164.34	10.3	-10.5	46.4	43.2	3.17	14.645	
1,000.0	997.9	1,003.2	1,002.1	2.0	1.9	-162.61	14.9	-2.0	49.9	46.3	3.54	14.078	
1,100.0	1,096.9	1,103.1	1,101.5	2.3	2.1	-161.41	19.6	6.9	54.6	50.7	3.92	13.924	
1,200.0	1,195.7	1,202.9	1,200.8	2.6	2.3	-160.94	24.3	15.8	61.0	56.7	4.31	14.174	
1,300.0	1,294.1	1,302.6	1,300.0	2.9	2.6	-161.04	29.0	24.7	69.1	64.4	4.69	14.737	
1,400.0	1,392.3	1,402.1	1,399.0	3.3	2.8	-161.52	33.7	33.5	78.8	73.7	5.07	15.547	
1,500.0	1,490.3	1,501.6	1,497.9	3.7	3.0	-162.07	38.4	42.4	89.2	83.8	5.45	16.367	
1,600.0	1,588.3	1,601.0	1,596.9	4.0	3.3	-162.50	43.2	51.2	99.6	93.8	5.83	17.080	
1,700.0	1,686.3	1,700.5	1,695.8	4.4	3.5	-162.85	47.9	60.1	110.1	103.9	6.22	17.705	
1,800.0	1,784.4	1,799.9	1,794.8	4.8	3.7	-163.15	52.6	68.9	120.5	113.9	6.60	18.256	
1,900.0	1,882.4	1,899.4	1,893.7	5.2	4.0	-163.39	57.3	77.8	131.0	124.0	6.99	18.747	
2,000.0	1,980.4	1,998.8	1,992.7	5.5	4.2	-163.60	62.0	86.6	141.4	134.0	7.37	19.187	
2,100.0	2,078.4	2,098.3	2,091.6	5.9	4.5	-163.78	66.7	95.4	151.8	144.1	7.75	19.582	
2,200.0	2,176.4	2,197.7	2,190.5	6.3	4.7	-163.94	71.4	104.3	162.3	154.2	8.14	19.941	
2,300.0	2,274.4	2,297.2	2,289.5	6.7	5.0	-164.07	76.1	113.1	172.7	164.2	8.52	20.266	
2,400.0	2,372.4	2,396.6	2,388.4	7.1	5.2	-164.20	80.8	122.0	183.2	174.3	8.91	20.564	
2,500.0	2,470.5	2,496.1	2,487.4	7.5	5.5	-164.30	85.5	130.8	193.6	184.3	9.29	20.836	
2,600.0	2,568.5	2,595.5	2,586.3	7.9	5.7	-164.40	90.2	139.7	204.1	194.4	9.68	21.087	
2,700.0	2,666.5	2,695.0	2,685.3	8.3	5.9	-164.49	95.0	148.5	214.5	204.5	10.06	21.319	
2,800.0	2,764.5	2,794.4	2,784.2	8.6	6.2	-164.57	99.7	157.4	225.0	214.5	10.45	21.533	
2,900.0	2,862.5	2,893.9	2,883.2	9.0	6.4	-164.64	104.4	166.2	235.4	224.6	10.83	21.732	
3,000.0	2,960.5	2,993.4	2,982.1	9.4	6.7	-164.71	109.1	175.1	245.9	234.7	11.22	21.918	
3,100.0	3,058.5	3,092.8	3,081.1	9.8	6.9	-164.77	113.8	183.9	256.3	244.7	11.60	22.091	
3,200.0	3,156.6	3,192.3	3,180.0	10.2	7.2	-164.83	118.5	192.8	266.8	254.8	11.99	22.253	
3,300.0	3,254.6	3,291.7	3,278.9	10.6	7.4	-164.88	123.2	201.6	277.3	264.9	12.37	22.404	
3,400.0	3,352.6	3,391.2	3,377.9	11.0	7.7	-164.93	127.9	210.5	287.7	274.9	12.76	22.547	
3,500.0	3,450.6	3,490.6	3,476.8	11.4	7.9	-164.97	132.6	219.3	298.2	285.0	13.15	22.681	
3,600.0	3,548.6	3,590.1	3,575.8	11.8	8.1	-165.02	137.3	228.2	308.6	295.1	13.53	22.807	
3,700.0	3,646.6	3,689.5	3,674.7	12.2	8.4	-165.06	142.0	237.0	319.1	305.1	13.92	22.927	
3,800.0	3,744.7	3,789.0	3,773.7	12.5	8.6	-165.09	146.7	245.9	329.5	315.2	14.30	23.040	
3,900.0	3,842.7	3,888.4	3,872.6	12.9	8.9	-165.13	151.5	254.7	340.0	325.3	14.69	23.147	
4,000.0	3,940.7	3,987.9	3,971.6	13.3	9.1	-165.16	156.2	263.5	350.4	335.4	15.07	23.248	
4,100.0	4,038.7	4,087.3	4,070.5	13.7	9.4	-165.19	160.9	272.4	360.9	345.4	15.46	23.345	
4,200.0	4,136.7	4,186.8	4,169.5	14.1	9.6	-165.22	165.6	281.2	371.3	355.5	15.84	23.436	
4,300.0	4,234.7	4,286.2	4,268.4	14.5	9.9	-165.25	170.3	290.1	381.8	365.6	16.23	23.524	
4,400.0	4,332.7	4,385.7	4,367.3	14.9	10.1	-165.27	175.0	298.9	392.2	375.6	16.62	23.607	
4,500.0	4,430.8	4,485.1	4,466.3	15.3	10.4	-165.30	179.7	307.8	402.7	385.7	17.00	23.686	
4,600.0	4,528.8	4,584.6	4,565.2	15.7	10.6	-165.32	184.4	316.6	413.2	395.8	17.39	23.762	
4,700.0	4,626.8	4,684.0	4,664.2	16.1	10.9	-165.34	189.1	325.5	423.6	405.8	17.77	23.835	
4,800.0	4,724.8	4,783.5	4,763.1	16.5	11.1	-165.36	193.8	334.3	434.1	415.9	18.16	23.905	
4,900.0	4,822.8	4,882.9	4,862.1	16.9	11.3	-165.38	198.5	343.2	444.5	426.0	18.54	23.971	
5,000.0	4,920.8	4,982.4	4,961.0	17.2	11.6	-165.40	203.2	352.0	455.0	436.0	18.93	24.035	

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 1K-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 1K-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
5,100.0	5,018.8	5,081.8	5,060.0	17.6	11.8	-165.42	208.0	360.9	465.4	446.1	19.32	24.096	
5,200.0	5,116.9	5,181.3	5,158.9	18.0	12.1	-165.44	212.7	369.7	475.9	456.2	19.70	24.155	
5,300.0	5,214.9	5,280.7	5,257.9	18.4	12.3	-165.45	217.4	378.6	486.3	466.2	20.09	24.212	
5,400.0	5,312.9	5,380.2	5,356.8	18.8	12.6	-165.47	222.1	387.4	496.8	476.3	20.47	24.266	
5,500.0	5,410.9	5,479.6	5,455.8	19.2	12.8	-165.48	226.8	396.3	507.2	486.4	20.86	24.319	
5,600.0	5,508.9	5,579.1	5,554.7	19.6	13.1	-165.50	231.5	405.1	517.7	496.5	21.24	24.369	
5,700.0	5,606.9	5,678.6	5,653.6	20.0	13.3	-165.51	236.2	414.0	528.2	506.5	21.63	24.418	
5,800.0	5,705.0	5,778.0	5,752.6	20.4	13.6	-165.53	240.9	422.8	538.6	516.6	22.02	24.465	
5,900.0	5,803.0	5,877.5	5,851.5	20.8	13.8	-165.54	245.6	431.6	549.1	526.7	22.40	24.511	
6,000.0	5,901.0	5,976.9	5,950.5	21.2	14.1	-165.55	250.3	440.5	559.5	536.7	22.79	24.555	
6,100.0	5,999.0	6,076.4	6,049.4	21.6	14.3	-165.56	255.0	449.3	570.0	546.8	23.17	24.597	
6,200.0	6,097.0	6,175.8	6,148.4	22.0	14.5	-165.58	259.8	458.2	580.4	556.9	23.56	24.638	
6,300.0	6,195.0	6,275.6	6,247.7	22.4	14.8	-165.67	263.6	467.1	590.9	567.0	23.91	24.709	
6,400.0	6,293.1	6,375.0	6,346.3	22.7	14.9	164.94	256.6	475.9	601.3	577.4	23.91	25.152	
6,500.0	6,390.4	6,473.2	6,441.9	23.0	15.0	133.88	236.3	484.4	611.8	588.0	23.75	25.757	
6,600.0	6,485.2	6,570.3	6,532.9	23.3	15.1	117.50	203.4	492.6	622.1	598.5	23.61	26.344	
6,700.0	6,575.5	6,666.4	6,617.8	23.6	15.2	108.29	159.1	500.2	632.0	608.4	23.58	26.799	
6,800.0	6,659.6	6,761.7	6,695.3	23.8	15.2	102.45	104.2	507.1	641.3	617.6	23.73	27.023	
6,900.0	6,735.8	6,856.3	6,764.4	24.0	15.3	98.43	40.1	513.3	649.8	625.7	24.11	26.948	
7,000.0	6,802.8	6,950.0	6,824.0	24.3	15.5	95.52	-32.0	518.6	657.3	632.6	24.73	26.583	
7,100.0	6,859.1	7,043.6	6,873.7	24.6	15.9	93.39	-111.1	523.0	663.6	638.0	25.60	25.926	
7,200.0	6,903.8	7,136.5	6,912.4	25.0	16.3	91.85	-195.4	526.5	668.7	642.0	26.69	25.051	
7,300.0	6,935.8	7,229.2	6,939.9	25.4	16.9	90.80	-283.8	529.0	672.3	644.3	27.99	24.024	
7,400.0	6,954.6	7,321.6	6,955.8	26.0	17.6	90.20	-374.8	530.4	674.5	645.0	29.44	22.908	
7,500.0	6,960.0	7,415.1	6,960.0	26.6	18.4	90.00	-468.1	530.8	675.1	644.0	31.11	21.701	
7,600.0	6,960.0	7,515.1	6,960.0	27.2	19.4	90.00	-568.1	530.8	675.1	641.7	33.44	20.191	
7,700.0	6,960.0	7,615.1	6,960.0	28.0	20.5	90.00	-668.1	530.8	675.1	639.2	35.96	18.777	
7,800.0	6,960.0	7,715.1	6,960.0	28.9	21.7	90.00	-768.1	530.8	675.1	636.5	38.63	17.477	
7,900.0	6,960.0	7,815.1	6,960.0	29.8	22.9	90.00	-868.1	530.8	675.1	633.7	41.43	16.297	
8,000.0	6,960.0	7,915.1	6,960.0	30.8	24.2	90.00	-968.1	530.8	675.1	630.8	44.33	15.231	
8,100.0	6,960.0	8,015.1	6,960.0	31.9	25.6	90.00	-1,068.1	530.8	675.1	627.8	47.31	14.271	
8,200.0	6,960.0	8,115.1	6,960.0	33.1	27.0	90.00	-1,168.1	530.8	675.1	624.8	50.36	13.406	
8,300.0	6,960.0	8,215.1	6,960.0	34.2	28.5	90.00	-1,268.1	530.8	675.1	621.7	53.46	12.628	
8,400.0	6,960.0	8,315.1	6,960.0	35.5	30.0	90.00	-1,368.1	530.8	675.1	618.5	56.62	11.924	
8,500.0	6,960.0	8,415.1	6,960.0	36.8	31.5	90.00	-1,468.1	530.8	675.1	615.3	59.81	11.288	
8,600.0	6,960.0	8,515.1	6,960.0	38.1	33.0	90.00	-1,568.1	530.8	675.1	612.1	63.04	10.710	
8,700.0	6,960.0	8,615.1	6,960.0	39.4	34.6	90.00	-1,668.1	530.8	675.1	608.8	66.29	10.184	
8,800.0	6,960.0	8,715.1	6,960.0	40.8	36.1	90.00	-1,768.1	530.8	675.1	605.6	69.57	9.704	
8,900.0	6,960.0	8,815.1	6,960.0	42.2	37.7	90.00	-1,868.1	530.8	675.1	602.3	72.87	9.265	
9,000.0	6,960.0	8,915.1	6,960.0	43.7	39.3	90.00	-1,968.1	530.8	675.1	598.9	76.19	8.861	
9,100.0	6,960.0	9,015.1	6,960.0	45.1	40.9	90.00	-2,068.1	530.8	675.1	595.6	79.53	8.489	
9,200.0	6,960.0	9,115.1	6,960.0	46.6	42.6	90.00	-2,168.1	530.8	675.1	592.3	82.88	8.146	
9,300.0	6,960.0	9,215.1	6,960.0	48.1	44.2	90.00	-2,268.1	530.8	675.1	588.9	86.24	7.829	
9,400.0	6,960.0	9,315.1	6,960.0	49.6	45.9	90.00	-2,368.1	530.8	675.1	585.5	89.61	7.534	
9,500.0	6,960.0	9,415.1	6,960.0	51.2	47.5	90.00	-2,468.1	530.8	675.1	582.1	93.00	7.260	
9,600.0	6,960.0	9,515.1	6,960.0	52.7	49.2	90.00	-2,568.1	530.8	675.1	578.7	96.39	7.004	
9,700.0	6,960.0	9,615.1	6,960.0	54.3	50.8	90.00	-2,668.1	530.8	675.1	575.3	99.79	6.766	
9,800.0	6,960.0	9,715.1	6,960.0	55.8	52.5	90.00	-2,768.1	530.8	675.1	571.9	103.20	6.542	
9,900.0	6,960.0	9,815.1	6,960.0	57.4	54.2	90.00	-2,868.1	530.8	675.1	568.5	106.61	6.333	
10,000.0	6,960.0	9,915.1	6,960.0	59.0	55.9	90.00	-2,968.1	530.8	675.1	565.1	110.03	6.136	
10,100.0	6,960.0	10,015.1	6,960.0	60.6	57.6	90.00	-3,068.1	530.8	675.1	561.7	113.46	5.951	
10,200.0	6,960.0	10,115.1	6,960.0	62.2	59.3	90.00	-3,168.1	530.8	675.1	558.2	116.89	5.776	

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Ruhl 1K-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 1K-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
10,300.0	6,960.0	10,215.1	6,960.0	63.8	60.9	90.00	-3,268.1	530.8	675.1	554.8	120.32	5.611	
10,400.0	6,960.0	10,315.1	6,960.0	65.4	62.6	90.00	-3,368.1	530.8	675.1	551.4	123.76	5.455	
10,500.0	6,960.0	10,415.1	6,960.0	67.1	64.3	90.00	-3,468.1	530.8	675.1	547.9	127.20	5.307	
10,600.0	6,960.0	10,515.1	6,960.0	68.7	66.0	90.00	-3,568.1	530.8	675.1	544.5	130.65	5.167	
10,700.0	6,960.0	10,615.1	6,960.0	70.3	67.8	90.00	-3,668.1	530.8	675.1	541.0	134.10	5.035	
10,800.0	6,960.0	10,715.1	6,960.0	72.0	69.5	90.00	-3,768.1	530.8	675.1	537.6	137.55	4.908	
10,900.0	6,960.0	10,815.1	6,960.0	73.6	71.2	90.00	-3,868.1	530.8	675.1	534.1	141.01	4.788	
11,000.0	6,960.0	10,915.1	6,960.0	75.3	72.9	90.00	-3,968.1	530.8	675.1	530.7	144.46	4.673	
11,100.0	6,960.0	11,015.1	6,960.0	77.0	74.6	90.00	-4,068.1	530.8	675.1	527.2	147.92	4.564	
11,200.0	6,960.0	11,115.1	6,960.0	78.6	76.3	90.00	-4,168.1	530.8	675.1	523.7	151.39	4.460	
11,300.0	6,960.0	11,215.1	6,960.0	80.3	78.0	90.00	-4,268.1	530.8	675.1	520.3	154.85	4.360	
11,400.0	6,960.0	11,315.1	6,960.0	82.0	79.8	90.00	-4,368.1	530.8	675.1	516.8	158.32	4.264	
11,500.0	6,960.0	11,415.1	6,960.0	83.6	81.5	90.00	-4,468.1	530.8	675.1	513.3	161.78	4.173	
11,558.7	6,960.0	11,473.8	6,960.0	84.6	82.5	90.00	-4,526.8	530.8	675.1	511.3	163.82	4.121	
11,598.5	6,960.0	11,509.6	6,960.0	85.3	83.1	90.00	-4,562.6	530.8	675.1	510.0	165.13	4.089	SF

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Ruhl 1K-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 1K-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	-90.05	0.0	-19.9	19.9	19.9	0.00	N/A	
100.0	100.0	100.0	100.0	0.2	0.2	-90.05	0.0	-19.9	19.9	19.5	0.35	56.899	
200.0	200.0	200.0	200.0	0.3	0.3	-90.05	0.0	-19.9	19.9	19.2	0.70	28.449	CC
227.8	227.8	227.8	227.8	0.4	0.4	-166.36	0.0	-19.9	19.9	19.1	0.80	25.019	
300.0	300.0	300.0	300.0	0.5	0.5	-166.49	0.0	-19.9	20.1	19.0	1.05	19.169	ES
400.0	400.0	400.2	400.2	0.7	0.7	-167.36	0.1	-19.7	21.6	20.2	1.40	15.446	
500.0	499.9	500.5	500.5	0.9	0.9	-167.78	0.7	-18.0	23.3	21.6	1.75	13.360	
600.0	599.8	600.9	600.8	1.1	1.1	-167.66	1.9	-14.7	25.1	23.0	2.10	11.991	
700.0	699.5	701.3	701.1	1.3	1.2	-167.10	3.8	-9.8	27.0	24.6	2.45	11.029	
800.0	799.2	801.8	801.3	1.5	1.4	-166.19	6.3	-3.2	28.9	26.1	2.80	10.319	
900.0	898.6	902.2	901.4	1.7	1.7	-165.01	9.4	5.0	30.9	27.8	3.16	9.772	
1,000.0	997.9	1,002.7	1,001.3	2.0	1.9	-163.61	13.2	14.8	33.0	29.5	3.53	9.337	
1,100.0	1,096.9	1,103.1	1,101.0	2.3	2.2	-162.07	17.6	26.3	35.2	31.3	3.92	8.987	
1,200.0	1,195.7	1,203.1	1,200.1	2.6	2.4	-161.19	22.1	38.2	38.5	34.2	4.30	8.962	
1,300.0	1,294.1	1,302.9	1,299.1	2.9	2.7	-161.22	26.6	50.1	43.6	38.9	4.68	9.300	
1,400.0	1,392.3	1,402.7	1,398.1	3.3	2.9	-161.88	31.2	62.0	50.2	45.2	5.06	9.925	
1,500.0	1,490.3	1,502.4	1,497.0	3.7	3.2	-162.63	35.7	73.9	57.6	52.2	5.44	10.595	
1,600.0	1,588.3	1,602.1	1,595.9	4.0	3.5	-163.20	40.2	85.8	65.0	59.2	5.82	11.180	
1,700.0	1,686.3	1,701.9	1,694.8	4.4	3.8	-163.66	44.7	97.7	72.4	66.3	6.20	11.693	
1,800.0	1,784.4	1,801.6	1,793.7	4.8	4.0	-164.03	49.3	109.5	79.9	73.3	6.57	12.148	
1,900.0	1,882.4	1,901.3	1,892.6	5.2	4.3	-164.34	53.8	121.4	87.3	80.3	6.95	12.553	
2,000.0	1,980.4	2,001.0	1,991.5	5.5	4.6	-164.61	58.3	133.3	94.7	87.4	7.33	12.917	
2,100.0	2,078.4	2,100.8	2,090.5	5.9	4.9	-164.83	62.8	145.2	102.1	94.4	7.71	13.244	
2,200.0	2,176.4	2,200.5	2,189.4	6.3	5.1	-165.02	67.4	157.1	109.5	101.5	8.09	13.541	
2,300.0	2,274.4	2,300.2	2,288.3	6.7	5.4	-165.19	71.9	169.0	117.0	108.5	8.47	13.812	
2,400.0	2,372.4	2,399.9	2,387.2	7.1	5.7	-165.34	76.4	180.9	124.4	115.5	8.85	14.059	
2,500.0	2,470.5	2,499.7	2,486.1	7.5	6.0	-165.47	81.0	192.8	131.8	122.6	9.23	14.286	
2,600.0	2,568.5	2,599.4	2,585.0	7.9	6.3	-165.59	85.5	204.6	139.2	129.6	9.61	14.495	
2,700.0	2,666.5	2,699.1	2,683.9	8.3	6.5	-165.70	90.0	216.5	146.7	136.7	9.99	14.688	
2,800.0	2,764.5	2,798.8	2,782.8	8.6	6.8	-165.79	94.5	228.4	154.1	143.7	10.36	14.867	
2,900.0	2,862.5	2,898.6	2,881.7	9.0	7.1	-165.88	99.1	240.3	161.5	150.8	10.74	15.034	
3,000.0	2,960.5	2,998.3	2,980.6	9.4	7.4	-165.96	103.6	252.2	169.0	157.8	11.12	15.189	
3,100.0	3,058.5	3,098.0	3,079.5	9.8	7.7	-166.03	108.1	264.1	176.4	164.9	11.50	15.333	
3,200.0	3,156.6	3,197.7	3,178.5	10.2	8.0	-166.10	112.6	276.0	183.8	171.9	11.88	15.469	
3,300.0	3,254.6	3,297.4	3,277.4	10.6	8.2	-166.16	117.2	287.8	191.2	179.0	12.26	15.596	
3,400.0	3,352.6	3,397.2	3,376.3	11.0	8.5	-166.22	121.7	299.7	198.7	186.0	12.64	15.715	
3,500.0	3,450.6	3,496.9	3,475.2	11.4	8.8	-166.27	126.2	311.6	206.1	193.1	13.02	15.828	
3,600.0	3,548.6	3,596.6	3,574.1	11.8	9.1	-166.32	130.7	323.5	213.5	200.1	13.40	15.934	
3,700.0	3,646.6	3,696.3	3,673.0	12.2	9.4	-166.36	135.3	335.4	221.0	207.2	13.78	16.034	
3,800.0	3,744.7	3,796.1	3,771.9	12.5	9.6	-166.41	139.8	347.3	228.4	214.2	14.16	16.129	
3,900.0	3,842.7	3,895.8	3,870.8	12.9	9.9	-166.45	144.3	359.2	235.8	221.3	14.54	16.219	
4,000.0	3,940.7	3,995.5	3,969.7	13.3	10.2	-166.48	148.9	371.0	243.2	228.3	14.92	16.304	
4,100.0	4,038.7	4,095.2	4,068.6	13.7	10.5	-166.52	153.4	382.9	250.7	235.4	15.30	16.385	
4,200.0	4,136.7	4,195.0	4,167.5	14.1	10.8	-166.55	157.9	394.8	258.1	242.4	15.68	16.462	
4,300.0	4,234.7	4,294.7	4,266.5	14.5	11.1	-166.58	162.4	406.7	265.5	249.5	16.06	16.536	
4,400.0	4,332.7	4,394.4	4,365.4	14.9	11.3	-166.61	167.0	418.6	273.0	256.5	16.44	16.606	
4,500.0	4,430.8	4,494.1	4,464.3	15.3	11.6	-166.64	171.5	430.5	280.4	263.6	16.82	16.673	
4,600.0	4,528.8	4,593.9	4,563.2	15.7	11.9	-166.67	176.0	442.4	287.8	270.6	17.20	16.736	
4,700.0	4,626.8	4,693.6	4,662.1	16.1	12.2	-166.69	180.5	454.2	295.3	277.7	17.58	16.798	
4,800.0	4,724.8	4,793.3	4,761.0	16.5	12.5	-166.72	185.1	466.1	302.7	284.7	17.96	16.856	
4,900.0	4,822.8	4,893.0	4,859.9	16.9	12.7	-166.74	189.6	478.0	310.1	291.8	18.34	16.912	
5,000.0	4,920.8	4,992.7	4,958.8	17.2	13.0	-166.76	194.1	489.9	317.5	298.8	18.72	16.966	

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 1K-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 1K-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
5,100.0	5,018.8	5,092.5	5,057.7	17.6	13.3	-166.78	198.6	501.8	325.0	305.9	19.10	17.018	
5,200.0	5,116.9	5,192.2	5,156.6	18.0	13.6	-166.80	203.2	513.7	332.4	312.9	19.48	17.068	
5,300.0	5,214.9	5,291.9	5,255.5	18.4	13.9	-166.82	207.7	525.6	339.8	320.0	19.86	17.115	
5,400.0	5,312.9	5,391.6	5,354.5	18.8	14.2	-166.84	212.2	537.5	347.3	327.0	20.24	17.161	
5,500.0	5,410.9	5,491.4	5,453.4	19.2	14.4	-166.86	216.8	549.3	354.7	334.1	20.61	17.206	
5,600.0	5,508.9	5,591.1	5,552.3	19.6	14.7	-166.88	221.3	561.2	362.1	341.1	20.99	17.248	
5,700.0	5,606.9	5,690.8	5,651.2	20.0	15.0	-166.89	225.8	573.1	369.6	348.2	21.37	17.290	
5,800.0	5,705.0	5,790.5	5,750.1	20.4	15.3	-166.91	230.3	585.0	377.0	355.2	21.75	17.329	
5,900.0	5,803.0	5,890.3	5,849.0	20.8	15.6	-166.92	234.9	596.9	384.4	362.3	22.13	17.368	
6,000.0	5,901.0	5,990.0	5,947.9	21.2	15.9	-166.94	239.4	608.8	391.8	369.3	22.51	17.405	
6,100.0	5,999.0	6,089.7	6,046.8	21.6	16.1	-166.95	243.9	620.7	399.3	376.4	22.89	17.441	
6,200.0	6,097.0	6,189.4	6,145.7	22.0	16.4	-166.96	248.4	632.5	406.7	383.4	23.27	17.475	
6,300.0	6,195.0	6,289.2	6,244.6	22.4	16.7	-166.98	253.0	644.4	414.1	390.5	23.65	17.509	
6,400.0	6,293.1	6,388.8	6,343.4	22.7	17.0	165.07	257.5	656.3	421.5	397.5	24.01	17.558	
6,500.0	6,390.4	6,487.3	6,441.2	23.0	17.3	137.22	261.9	668.0	429.2	404.6	24.57	17.471	
6,600.0	6,485.2	6,588.3	6,541.3	23.3	17.5	124.58	257.7	680.1	437.7	412.6	25.06	17.465	
6,700.0	6,575.5	6,692.7	6,643.1	23.6	17.7	118.91	238.5	692.3	446.8	421.5	25.29	17.669	
6,800.0	6,659.6	6,800.7	6,744.4	23.8	17.8	116.32	203.3	704.5	456.2	431.0	25.24	18.075	
6,900.0	6,735.8	6,912.6	6,842.4	24.0	17.9	115.23	151.0	716.3	465.6	440.6	24.99	18.633	
7,000.0	6,802.8	7,028.3	6,934.1	24.3	18.1	114.88	81.5	727.3	474.5	449.9	24.68	19.225	
7,100.0	6,859.1	7,147.6	7,015.7	24.6	18.3	114.89	-4.8	737.1	482.5	458.0	24.56	19.650	
7,200.0	6,903.8	7,270.3	7,083.7	25.0	18.7	115.05	-106.5	745.3	489.2	464.3	24.87	19.666	
7,300.0	6,935.8	7,395.8	7,134.3	25.4	19.2	115.23	-220.9	751.3	494.1	468.2	25.87	19.098	
7,400.0	6,954.6	7,523.1	7,164.6	26.0	20.0	115.33	-344.3	755.0	497.0	469.3	27.68	17.957	
7,500.0	6,960.0	7,647.3	7,173.0	26.6	20.9	115.33	-468.1	756.0	497.8	467.7	30.11	16.533	
7,600.0	6,960.0	7,747.3	7,173.0	27.2	21.8	115.33	-568.1	756.0	497.8	465.6	32.15	15.484	
7,700.0	6,960.0	7,847.3	7,173.0	28.0	22.8	115.33	-668.1	756.0	497.8	463.4	34.35	14.489	
7,800.0	6,960.0	7,947.3	7,173.0	28.9	23.9	115.33	-768.1	756.0	497.8	461.1	36.70	13.562	
7,900.0	6,960.0	8,047.3	7,173.0	29.8	25.0	115.33	-868.1	756.0	497.8	458.6	39.17	12.708	
8,000.0	6,960.0	8,147.3	7,173.0	30.8	26.2	115.33	-968.1	756.0	497.8	456.0	41.73	11.928	
8,100.0	6,960.0	8,247.3	7,173.0	31.9	27.5	115.33	-1,068.1	756.0	497.8	453.4	44.37	11.218	
8,200.0	6,960.0	8,347.3	7,173.0	33.1	28.8	115.33	-1,168.1	756.0	497.8	450.7	47.08	10.573	
8,300.0	6,960.0	8,447.3	7,173.0	34.2	30.2	115.33	-1,268.1	756.0	497.8	447.9	49.84	9.987	
8,400.0	6,960.0	8,547.3	7,173.0	35.5	31.6	115.33	-1,368.1	756.0	497.8	445.1	52.65	9.454	
8,500.0	6,960.0	8,647.3	7,173.0	36.8	33.0	115.33	-1,468.1	756.0	497.8	442.3	55.50	8.969	
8,600.0	6,960.0	8,747.3	7,173.0	38.1	34.5	115.33	-1,568.1	756.0	497.8	439.4	58.38	8.526	
8,700.0	6,960.0	8,847.3	7,173.0	39.4	36.0	115.33	-1,668.1	756.0	497.8	436.5	61.29	8.121	
8,800.0	6,960.0	8,947.3	7,173.0	40.8	37.5	115.33	-1,768.1	756.0	497.8	433.5	64.23	7.750	
8,900.0	6,960.0	9,047.3	7,173.0	42.2	39.0	115.33	-1,868.1	756.0	497.8	430.6	67.19	7.409	
9,000.0	6,960.0	9,147.3	7,173.0	43.7	40.6	115.33	-1,968.1	756.0	497.8	427.6	70.17	7.094	
9,100.0	6,960.0	9,247.3	7,173.0	45.1	42.2	115.33	-2,068.1	756.0	497.8	424.6	73.16	6.804	
9,200.0	6,960.0	9,347.3	7,173.0	46.6	43.8	115.33	-2,168.1	756.0	497.8	421.6	76.17	6.535	
9,300.0	6,960.0	9,447.3	7,173.0	48.1	45.4	115.33	-2,268.1	756.0	497.8	418.6	79.19	6.286	
9,400.0	6,960.0	9,547.3	7,173.0	49.6	47.0	115.33	-2,368.1	756.0	497.8	415.6	82.22	6.054	
9,500.0	6,960.0	9,647.3	7,173.0	51.2	48.6	115.33	-2,468.1	756.0	497.8	412.5	85.27	5.838	
9,600.0	6,960.0	9,747.3	7,173.0	52.7	50.2	115.33	-2,568.1	756.0	497.8	409.5	88.32	5.636	
9,700.0	6,960.0	9,847.3	7,173.0	54.3	51.8	115.33	-2,668.1	756.0	497.8	406.4	91.38	5.447	
9,800.0	6,960.0	9,947.3	7,173.0	55.8	53.5	115.33	-2,768.1	756.0	497.8	403.3	94.45	5.270	
9,900.0	6,960.0	10,047.3	7,173.0	57.4	55.1	115.33	-2,868.1	756.0	497.8	400.3	97.52	5.104	
10,000.0	6,960.0	10,147.3	7,173.0	59.0	56.8	115.33	-2,968.1	756.0	497.8	397.2	100.60	4.948	
10,100.0	6,960.0	10,247.3	7,173.0	60.6	58.4	115.33	-3,068.1	756.0	497.8	394.1	103.69	4.801	
10,200.0	6,960.0	10,347.3	7,173.0	62.2	60.1	115.33	-3,168.1	756.0	497.8	391.0	106.78	4.661	

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 1K-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 1K-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
10,300.0	6,960.0	10,447.3	7,173.0	63.8	61.8	115.33	-3,268.1	756.0	497.8	387.9	109.88	4.530	
10,400.0	6,960.0	10,547.3	7,173.0	65.4	63.5	115.33	-3,368.1	756.0	497.8	384.8	112.98	4.406	
10,500.0	6,960.0	10,647.3	7,173.0	67.1	65.1	115.33	-3,468.1	756.0	497.8	381.7	116.09	4.288	
10,600.0	6,960.0	10,747.3	7,173.0	68.7	66.8	115.33	-3,568.1	756.0	497.8	378.6	119.20	4.176	
10,700.0	6,960.0	10,847.3	7,173.0	70.3	68.5	115.33	-3,668.1	756.0	497.8	375.5	122.31	4.070	
10,800.0	6,960.0	10,947.3	7,173.0	72.0	70.2	115.33	-3,768.1	756.0	497.8	372.3	125.43	3.969	
10,900.0	6,960.0	11,047.3	7,173.0	73.6	71.9	115.33	-3,868.1	756.0	497.8	369.2	128.54	3.872	
11,000.0	6,960.0	11,147.3	7,173.0	75.3	73.6	115.33	-3,968.1	756.0	497.8	366.1	131.66	3.781	
11,100.0	6,960.0	11,247.3	7,173.0	77.0	75.3	115.33	-4,068.1	756.0	497.8	363.0	134.79	3.693	
11,200.0	6,960.0	11,347.3	7,173.0	78.6	77.0	115.33	-4,168.1	756.0	497.8	359.9	137.91	3.609	
11,300.0	6,960.0	11,447.3	7,173.0	80.3	78.7	115.33	-4,268.1	756.0	497.8	356.7	141.04	3.529	
11,400.0	6,960.0	11,547.3	7,173.0	82.0	80.4	115.33	-4,368.1	756.0	497.8	353.6	144.17	3.453	
11,500.0	6,960.0	11,647.3	7,173.0	83.6	82.1	115.33	-4,468.1	756.0	497.8	350.5	147.31	3.379	
11,559.2	6,960.0	11,706.5	7,173.0	84.6	83.1	115.33	-4,527.3	756.0	497.8	348.6	149.16	3.337	
11,598.5	6,960.0	11,743.2	7,173.0	85.3	83.8	115.33	-4,564.0	756.0	497.8	347.4	150.35	3.311	SF

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Ruhl 1K-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 1K-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	-90.05	0.0	-9.8	9.8	9.8	0.00	N/A	
100.0	100.0	100.0	100.0	0.2	0.2	-90.05	0.0	-9.8	9.8	9.4	0.35	28.049	
200.0	200.0	200.0	200.0	0.3	0.3	-90.05	0.0	-9.8	9.8	9.1	0.70	14.024	CC
227.8	227.8	227.8	227.8	0.4	0.4	-166.39	0.0	-9.8	9.8	9.0	0.80	12.353	
300.0	300.0	300.0	300.0	0.5	0.5	-166.64	0.0	-9.8	10.0	9.0	1.05	9.552	ES
400.0	400.0	400.2	400.2	0.7	0.7	-167.46	0.2	-9.0	10.9	9.5	1.40	7.779	
500.0	499.9	500.4	500.3	0.9	0.9	-167.72	1.0	-6.4	11.7	10.0	1.75	6.727	
600.0	599.8	600.6	600.4	1.1	1.1	-167.53	2.3	-2.2	12.6	10.5	2.10	6.032	
700.0	699.5	700.8	700.4	1.3	1.3	-166.98	4.0	3.6	13.6	11.1	2.45	5.541	
800.0	799.2	801.0	800.4	1.5	1.5	-166.15	6.3	11.2	14.5	11.7	2.80	5.175	
900.0	898.6	901.3	900.1	1.7	1.7	-165.08	9.1	20.4	15.5	12.3	3.16	4.893	
1,000.0	997.9	1,001.5	999.8	2.0	1.9	-163.82	12.4	31.3	16.5	12.9	3.53	4.665	
1,100.0	1,096.9	1,101.8	1,099.2	2.3	2.2	-162.42	16.1	43.8	17.5	13.6	3.91	4.476	
1,200.0	1,195.7	1,202.1	1,198.3	2.6	2.5	-160.90	20.4	58.1	18.6	14.3	4.30	4.313	
1,300.0	1,294.1	1,302.1	1,297.1	2.9	2.8	-159.87	25.0	73.4	20.1	15.4	4.71	4.277	
1,400.0	1,392.3	1,402.1	1,395.8	3.3	3.1	-160.48	29.7	88.8	23.3	18.2	5.09	4.574	
1,500.0	1,490.3	1,502.0	1,494.4	3.7	3.4	-161.47	34.3	104.2	27.2	21.7	5.47	4.968	
1,600.0	1,588.3	1,601.9	1,593.0	4.0	3.8	-162.21	38.9	119.6	31.1	25.2	5.85	5.311	
1,700.0	1,686.3	1,701.8	1,691.6	4.4	4.1	-162.79	43.6	135.0	35.0	28.7	6.23	5.613	
1,800.0	1,784.4	1,801.8	1,790.2	4.8	4.4	-163.25	48.2	150.4	38.9	32.3	6.61	5.880	
1,900.0	1,882.4	1,901.7	1,888.9	5.2	4.7	-163.63	52.8	165.8	42.8	35.8	6.99	6.118	
2,000.0	1,980.4	2,001.6	1,987.5	5.5	5.1	-163.95	57.5	181.2	46.7	39.3	7.37	6.332	
2,100.0	2,078.4	2,101.5	2,086.1	5.9	5.4	-164.21	62.1	196.6	50.6	42.8	7.75	6.525	
2,200.0	2,176.4	2,201.5	2,184.7	6.3	5.7	-164.44	66.7	212.0	54.5	46.4	8.13	6.699	
2,300.0	2,274.4	2,301.4	2,283.3	6.7	6.0	-164.64	71.4	227.4	58.4	49.9	8.51	6.858	
2,400.0	2,372.4	2,401.3	2,382.0	7.1	6.4	-164.81	76.0	242.8	62.3	53.4	8.90	7.004	
2,500.0	2,470.5	2,501.2	2,480.6	7.5	6.7	-164.96	80.6	258.2	66.2	56.9	9.28	7.137	
2,600.0	2,568.5	2,601.2	2,579.2	7.9	7.0	-165.10	85.3	273.6	70.1	60.5	9.66	7.260	
2,700.0	2,666.5	2,701.1	2,677.8	8.3	7.4	-165.22	89.9	289.0	74.0	64.0	10.04	7.373	
2,800.0	2,764.5	2,801.0	2,776.5	8.6	7.7	-165.33	94.5	304.4	77.9	67.5	10.42	7.478	
2,900.0	2,862.5	2,900.9	2,875.1	9.0	8.0	-165.43	99.2	319.8	81.8	71.0	10.80	7.576	
3,000.0	2,960.5	3,000.9	2,973.7	9.4	8.3	-165.52	103.8	335.2	85.7	74.6	11.18	7.667	
3,100.0	3,058.5	3,100.8	3,072.3	9.8	8.7	-165.60	108.4	350.6	89.7	78.1	11.57	7.752	
3,200.0	3,156.6	3,200.7	3,170.9	10.2	9.0	-165.67	113.1	366.0	93.6	81.6	11.95	7.832	
3,300.0	3,254.6	3,300.6	3,269.6	10.6	9.3	-165.74	117.7	381.4	97.5	85.1	12.33	7.906	
3,400.0	3,352.6	3,400.5	3,368.2	11.0	9.7	-165.81	122.3	396.8	101.4	88.7	12.71	7.976	
3,500.0	3,450.6	3,500.5	3,466.8	11.4	10.0	-165.86	127.0	412.2	105.3	92.2	13.09	8.042	
3,600.0	3,548.6	3,600.4	3,565.4	11.8	10.3	-165.92	131.6	427.6	109.2	95.7	13.47	8.105	
3,700.0	3,646.6	3,700.3	3,664.0	12.2	10.7	-165.97	136.3	443.0	113.1	99.3	13.86	8.164	
3,800.0	3,744.7	3,800.2	3,762.7	12.5	11.0	-166.02	140.9	458.4	117.0	102.8	14.24	8.219	
3,900.0	3,842.7	3,900.2	3,861.3	12.9	11.3	-166.06	145.5	473.8	120.9	106.3	14.62	8.272	
4,000.0	3,940.7	4,000.1	3,959.9	13.3	11.7	-166.10	150.2	489.2	124.8	109.8	15.00	8.322	
4,100.0	4,038.7	4,100.0	4,058.5	13.7	12.0	-166.14	154.8	504.6	128.8	113.4	15.38	8.370	
4,200.0	4,136.7	4,199.9	4,157.1	14.1	12.3	-166.18	159.4	520.0	132.7	116.9	15.77	8.415	
4,300.0	4,234.7	4,299.9	4,255.8	14.5	12.6	-166.21	164.1	535.4	136.6	120.4	16.15	8.458	
4,400.0	4,332.7	4,399.8	4,354.4	14.9	13.0	-166.25	168.7	550.8	140.5	124.0	16.53	8.499	
4,500.0	4,430.8	4,499.7	4,453.0	15.3	13.3	-166.28	173.3	566.2	144.4	127.5	16.91	8.538	
4,600.0	4,528.8	4,599.6	4,551.6	15.7	13.6	-166.31	178.0	581.6	148.3	131.0	17.29	8.576	
4,700.0	4,626.8	4,699.6	4,650.3	16.1	14.0	-166.34	182.6	597.0	152.2	134.5	17.68	8.612	
4,800.0	4,724.8	4,799.5	4,748.9	16.5	14.3	-166.36	187.2	612.4	156.1	138.1	18.06	8.646	
4,900.0	4,822.8	4,899.4	4,847.5	16.9	14.6	-166.39	191.9	627.8	160.0	141.6	18.44	8.679	
5,000.0	4,920.8	4,999.3	4,946.1	17.2	15.0	-166.41	196.5	643.2	164.0	145.1	18.82	8.711	

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 1K-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 1K-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
5,100.0	5,018.8	5,099.2	5,044.7	17.6	15.3	-166.43	201.1	658.6	167.9	148.7	19.20	8.741	
5,200.0	5,116.9	5,199.2	5,143.4	18.0	15.6	-166.46	205.8	674.0	171.8	152.2	19.59	8.770	
5,300.0	5,214.9	5,299.1	5,242.0	18.4	16.0	-166.48	210.4	689.4	175.7	155.7	19.97	8.798	
5,400.0	5,312.9	5,399.0	5,340.6	18.8	16.3	-166.50	215.0	704.8	179.6	159.2	20.35	8.825	
5,500.0	5,410.9	5,498.9	5,439.2	19.2	16.6	-166.52	219.7	720.2	183.5	162.8	20.73	8.851	
5,600.0	5,508.9	5,598.9	5,537.8	19.6	17.0	-166.53	224.3	735.6	187.4	166.3	21.11	8.876	
5,700.0	5,606.9	5,698.8	5,636.5	20.0	17.3	-166.55	228.9	751.0	191.3	169.8	21.50	8.901	
5,800.0	5,705.0	5,798.7	5,735.1	20.4	17.6	-166.57	233.6	766.4	195.2	173.4	21.88	8.924	
5,900.0	5,803.0	5,898.6	5,833.7	20.8	18.0	-166.58	238.2	781.7	199.2	176.9	22.26	8.946	
6,000.0	5,901.0	5,998.6	5,932.3	21.2	18.3	-166.60	242.8	797.1	203.1	180.4	22.64	8.968	
6,100.0	5,999.0	6,098.5	6,031.0	21.6	18.6	-166.61	247.5	812.5	207.0	184.0	23.02	8.989	
6,200.0	6,097.0	6,198.4	6,129.6	22.0	19.0	-166.63	252.1	827.9	210.9	187.5	23.41	9.010	
6,300.0	6,195.0	6,298.3	6,228.2	22.4	19.3	-166.64	256.7	843.3	214.8	191.0	23.79	9.029	
6,400.0	6,293.1	6,398.2	6,326.8	22.7	19.6	165.94	261.0	858.7	218.7	194.5	24.26	9.014	
6,500.0	6,390.4	6,498.7	6,425.9	23.0	19.9	137.90	255.5	874.2	222.8	198.0	24.73	9.007	
6,600.0	6,485.2	6,600.1	6,524.1	23.3	20.1	124.35	235.7	889.5	226.9	201.9	24.97	9.085	
6,700.0	6,575.5	6,702.5	6,619.4	23.6	20.3	117.78	201.7	904.4	231.0	206.0	24.99	9.243	
6,800.0	6,659.6	6,805.8	6,709.8	23.8	20.5	114.33	153.9	918.5	234.9	210.1	24.84	9.457	
6,900.0	6,735.8	6,910.0	6,793.0	24.0	20.7	112.42	92.8	931.5	238.6	214.0	24.64	9.686	
7,000.0	6,802.8	7,015.0	6,867.2	24.3	20.9	111.32	19.6	943.1	241.9	217.4	24.53	9.862	
7,100.0	6,859.1	7,120.7	6,930.4	24.6	21.2	110.68	-64.4	953.0	244.8	220.1	24.72	9.903	
7,200.0	6,903.8	7,227.0	6,981.0	25.0	21.6	110.30	-157.5	960.9	247.1	221.7	25.36	9.742	
7,300.0	6,935.8	7,333.7	7,017.5	25.4	22.1	110.08	-257.5	966.6	248.7	222.1	26.58	9.358	
7,400.0	6,954.6	7,440.7	7,039.0	26.0	22.7	109.95	-362.2	969.9	249.7	221.3	28.39	8.795	
7,500.0	6,960.0	7,546.9	7,045.0	26.6	23.4	109.88	-468.1	970.9	249.9	219.3	30.66	8.152	
7,600.0	6,960.0	7,646.9	7,045.0	27.2	24.2	109.88	-568.1	970.9	249.9	217.1	32.80	7.620	
7,700.0	6,960.0	7,746.9	7,045.0	28.0	25.1	109.88	-668.1	970.9	249.9	214.8	35.11	7.118	
7,800.0	6,960.0	7,846.9	7,045.0	28.9	26.0	109.88	-768.1	970.9	249.9	212.3	37.57	6.651	
7,900.0	6,960.0	7,946.9	7,045.0	29.8	27.1	109.88	-868.1	970.9	249.9	209.8	40.16	6.224	
8,000.0	6,960.0	8,046.9	7,045.0	30.8	28.2	109.88	-968.1	970.9	249.9	207.1	42.84	5.834	
8,100.0	6,960.0	8,146.9	7,045.0	31.9	29.4	109.88	-1,068.1	970.9	249.9	204.3	45.60	5.481	
8,200.0	6,960.0	8,246.9	7,045.0	33.1	30.6	109.88	-1,168.1	970.9	249.9	201.5	48.43	5.160	
8,300.0	6,960.0	8,346.9	7,045.0	34.2	31.9	109.88	-1,268.1	970.9	249.9	198.6	51.32	4.870	
8,400.0	6,960.0	8,446.9	7,045.0	35.5	33.2	109.88	-1,368.1	970.9	249.9	195.7	54.25	4.607	
8,500.0	6,960.0	8,546.9	7,045.0	36.8	34.6	109.88	-1,468.1	970.9	249.9	192.7	57.22	4.367	
8,600.0	6,960.0	8,646.9	7,045.0	38.1	36.0	109.88	-1,568.1	970.9	249.9	189.7	60.23	4.149	
8,700.0	6,960.0	8,746.9	7,045.0	39.4	37.4	109.88	-1,668.1	970.9	249.9	186.6	63.27	3.950	
8,800.0	6,960.0	8,846.9	7,045.0	40.8	38.9	109.88	-1,768.1	970.9	249.9	183.6	66.33	3.768	
8,900.0	6,960.0	8,946.9	7,045.0	42.2	40.4	109.88	-1,868.1	970.9	249.9	180.5	69.42	3.600	
9,000.0	6,960.0	9,046.9	7,045.0	43.7	41.9	109.88	-1,968.1	970.9	249.9	177.4	72.52	3.446	
9,100.0	6,960.0	9,146.9	7,045.0	45.1	43.4	109.88	-2,068.1	970.9	249.9	174.3	75.64	3.304	
9,200.0	6,960.0	9,246.9	7,045.0	46.6	44.9	109.88	-2,168.1	970.9	249.9	171.1	78.78	3.172	
9,300.0	6,960.0	9,346.9	7,045.0	48.1	46.5	109.88	-2,268.1	970.9	249.9	168.0	81.93	3.051	
9,400.0	6,960.0	9,446.9	7,045.0	49.6	48.1	109.88	-2,368.1	970.9	249.9	164.8	85.09	2.937	
9,500.0	6,960.0	9,546.9	7,045.0	51.2	49.7	109.88	-2,468.1	970.9	249.9	161.7	88.26	2.832	
9,600.0	6,960.0	9,646.9	7,045.0	52.7	51.2	109.88	-2,568.1	970.9	249.9	158.5	91.44	2.733	
9,700.0	6,960.0	9,746.9	7,045.0	54.3	52.8	109.88	-2,668.1	970.9	249.9	155.3	94.63	2.641	
9,800.0	6,960.0	9,846.9	7,045.0	55.8	54.5	109.88	-2,768.1	970.9	249.9	152.1	97.82	2.555	
9,900.0	6,960.0	9,946.9	7,045.0	57.4	56.1	109.88	-2,868.1	970.9	249.9	148.9	101.02	2.474	
10,000.0	6,960.0	10,046.9	7,045.0	59.0	57.7	109.88	-2,968.1	970.9	249.9	145.7	104.23	2.398	
10,100.0	6,960.0	10,146.9	7,045.0	60.6	59.3	109.88	-3,068.1	970.9	249.9	142.5	107.45	2.326	
10,200.0	6,960.0	10,246.9	7,045.0	62.2	61.0	109.88	-3,168.1	970.9	249.9	139.3	110.67	2.258	

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 1K-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 1K-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
10,300.0	6,960.0	10,346.9	7,045.0	63.8	62.6	109.88	-3,268.1	970.9	249.9	136.0	113.89	2.194	
10,400.0	6,960.0	10,446.9	7,045.0	65.4	64.3	109.88	-3,368.1	970.9	249.9	132.8	117.12	2.134	
10,500.0	6,960.0	10,546.9	7,045.0	67.1	65.9	109.88	-3,468.1	970.9	249.9	129.6	120.35	2.077	
10,600.0	6,960.0	10,646.9	7,045.0	68.7	67.6	109.88	-3,568.1	970.9	249.9	126.3	123.59	2.022	
10,700.0	6,960.0	10,746.9	7,045.0	70.3	69.3	109.88	-3,668.1	970.9	249.9	123.1	126.83	1.971	
10,800.0	6,960.0	10,846.9	7,045.0	72.0	70.9	109.88	-3,768.1	970.9	249.9	119.9	130.07	1.921	
10,900.0	6,960.0	10,946.9	7,045.0	73.6	72.6	109.88	-3,868.1	970.9	249.9	116.6	133.31	1.875	
11,000.0	6,960.0	11,046.9	7,045.0	75.3	74.3	109.88	-3,968.1	970.9	249.9	113.4	136.56	1.830	
11,100.0	6,960.0	11,146.9	7,045.0	77.0	76.0	109.88	-4,068.1	970.9	249.9	110.1	139.81	1.788	
11,200.0	6,960.0	11,246.9	7,045.0	78.6	77.7	109.88	-4,168.1	970.9	249.9	106.9	143.07	1.747	
11,300.0	6,960.0	11,346.9	7,045.0	80.3	79.4	109.88	-4,268.1	970.9	249.9	103.6	146.32	1.708	
11,400.0	6,960.0	11,446.9	7,045.0	82.0	81.1	109.88	-4,368.1	970.9	249.9	100.3	149.58	1.671	
11,500.0	6,960.0	11,546.9	7,045.0	83.6	82.7	109.88	-4,468.1	970.9	249.9	97.1	152.84	1.635	
11,559.6	6,960.0	11,606.5	7,045.0	84.6	83.8	109.88	-4,527.7	970.9	249.9	95.1	154.78	1.615	
11,598.5	6,960.0	11,643.9	7,045.0	85.3	84.4	109.88	-4,565.1	970.9	249.9	93.9	156.02	1.602	SF

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Ruhl 1K-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 1K-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	92.07	-0.4	10.1	10.1	10.1	0.00	N/A	
100.0	100.0	100.0	100.0	0.2	0.2	92.07	-0.4	10.1	10.1	9.7	0.35	28.869	
200.0	200.0	200.0	200.0	0.3	0.3	92.07	-0.4	10.1	10.1	9.4	0.70	14.434	CC, ES
300.0	300.0	299.8	299.8	0.5	0.5	15.00	-0.2	10.9	10.7	9.7	1.05	10.234	
400.0	400.0	399.6	399.6	0.7	0.7	14.35	0.3	13.5	11.6	10.2	1.40	8.294	
500.0	499.9	499.4	499.3	0.9	0.9	14.08	1.2	17.7	12.5	10.7	1.75	7.135	
600.0	599.8	599.2	598.9	1.1	1.1	14.12	2.4	23.7	13.3	11.2	2.10	6.365	
700.0	699.5	699.0	698.3	1.3	1.3	14.40	4.0	31.3	14.2	11.8	2.45	5.816	
800.0	799.2	798.7	797.6	1.5	1.5	14.90	5.9	40.7	15.1	12.3	2.80	5.404	
900.0	898.6	898.4	896.7	1.7	1.8	15.56	8.2	51.7	16.1	12.9	3.16	5.083	
1,000.0	997.9	998.2	995.6	2.0	2.1	16.36	10.8	64.4	17.0	13.5	3.52	4.823	
1,100.0	1,096.9	1,097.9	1,094.2	2.3	2.4	17.27	13.7	78.8	17.9	14.0	3.90	4.605	
1,200.0	1,195.7	1,197.5	1,192.5	2.6	2.7	18.29	17.0	94.9	18.9	14.6	4.28	4.418	
1,300.0	1,294.1	1,297.2	1,290.5	2.9	3.0	19.37	20.7	112.7	19.9	15.2	4.68	4.252	
1,400.0	1,392.3	1,396.9	1,388.2	3.3	3.4	20.53	24.7	132.1	20.9	15.8	5.10	4.101	
1,500.0	1,490.3	1,496.5	1,485.5	3.7	3.8	20.82	29.0	153.2	22.9	17.3	5.52	4.142	
1,600.0	1,588.3	1,596.5	1,582.9	4.0	4.2	20.50	33.5	175.0	25.6	19.6	5.92	4.314	
1,700.0	1,686.3	1,696.4	1,680.3	4.4	4.6	20.24	38.0	196.9	28.3	21.9	6.33	4.463	
1,800.0	1,784.4	1,796.4	1,777.8	4.8	5.1	20.03	42.5	218.8	30.9	24.2	6.74	4.594	
1,900.0	1,882.4	1,896.4	1,875.2	5.2	5.5	19.85	47.0	240.7	33.6	26.5	7.14	4.709	
2,000.0	1,980.4	1,996.3	1,972.6	5.5	5.9	19.70	51.4	262.6	36.3	28.8	7.55	4.812	
2,100.0	2,078.4	2,096.3	2,070.1	5.9	6.3	19.56	55.9	284.5	39.0	31.1	7.96	4.904	
2,200.0	2,176.4	2,196.3	2,167.5	6.3	6.8	19.45	60.4	306.4	41.7	33.4	8.37	4.986	
2,300.0	2,274.4	2,296.2	2,264.9	6.7	7.2	19.35	64.9	328.3	44.4	35.7	8.78	5.061	
2,400.0	2,372.4	2,396.2	2,362.4	7.1	7.6	19.26	69.4	350.1	47.1	37.9	9.19	5.130	
2,500.0	2,470.5	2,496.1	2,459.8	7.5	8.0	19.18	73.9	372.0	49.8	40.2	9.60	5.192	
2,600.0	2,568.5	2,596.1	2,557.2	7.9	8.5	19.11	78.4	393.9	52.5	42.5	10.01	5.249	
2,700.0	2,666.5	2,696.1	2,654.7	8.3	8.9	19.04	82.9	415.8	55.2	44.8	10.42	5.301	
2,800.0	2,764.5	2,796.0	2,752.1	8.6	9.3	18.98	87.4	437.7	57.9	47.1	10.83	5.350	
2,900.0	2,862.5	2,896.0	2,849.6	9.0	9.8	18.93	91.9	459.6	60.6	49.4	11.24	5.395	
3,000.0	2,960.5	2,996.0	2,947.0	9.4	10.2	18.88	96.4	481.5	63.3	51.7	11.65	5.436	
3,100.0	3,058.5	3,095.9	3,044.4	9.8	10.6	18.84	100.8	503.4	66.0	54.0	12.06	5.475	
3,200.0	3,156.6	3,195.9	3,141.9	10.2	11.1	18.79	105.3	525.3	68.7	56.2	12.47	5.511	
3,300.0	3,254.6	3,295.9	3,239.3	10.6	11.5	18.76	109.8	547.1	71.4	58.5	12.88	5.545	
3,400.0	3,352.6	3,395.8	3,336.7	11.0	11.9	18.72	114.3	569.0	74.1	60.8	13.29	5.577	
3,500.0	3,450.6	3,495.8	3,434.2	11.4	12.4	18.69	118.8	590.9	76.8	63.1	13.70	5.606	
3,600.0	3,548.6	3,595.7	3,531.6	11.8	12.8	18.66	123.3	612.8	79.5	65.4	14.11	5.634	
3,700.0	3,646.6	3,695.7	3,629.0	12.2	13.2	18.63	127.8	634.7	82.2	67.7	14.52	5.661	
3,800.0	3,744.7	3,795.7	3,726.5	12.5	13.7	18.60	132.3	656.6	84.9	70.0	14.93	5.686	
3,900.0	3,842.7	3,895.6	3,823.9	12.9	14.1	18.58	136.8	678.5	87.6	72.3	15.34	5.709	
4,000.0	3,940.7	3,995.6	3,921.3	13.3	14.5	18.55	141.3	700.4	90.3	74.5	15.75	5.732	
4,100.0	4,038.7	4,095.6	4,018.8	13.7	15.0	18.53	145.7	722.2	93.0	76.8	16.16	5.753	
4,200.0	4,136.7	4,195.5	4,116.2	14.1	15.4	18.51	150.2	744.1	95.7	79.1	16.58	5.773	
4,300.0	4,234.7	4,295.5	4,213.6	14.5	15.8	18.49	154.7	766.0	98.4	81.4	16.99	5.792	
4,400.0	4,332.7	4,395.5	4,311.1	14.9	16.3	18.47	159.2	787.9	101.1	83.7	17.40	5.810	
4,500.0	4,430.8	4,495.4	4,408.5	15.3	16.7	18.45	163.7	809.8	103.8	86.0	17.81	5.828	
4,600.0	4,528.8	4,595.4	4,505.9	15.7	17.1	18.44	168.2	831.7	106.5	88.3	18.22	5.844	
4,700.0	4,626.8	4,695.3	4,603.4	16.1	17.6	18.42	172.7	853.6	109.2	90.5	18.63	5.860	
4,800.0	4,724.8	4,795.3	4,700.8	16.5	18.0	18.40	177.2	875.5	111.9	92.8	19.04	5.875	
4,900.0	4,822.8	4,895.3	4,798.2	16.9	18.4	18.39	181.7	897.4	114.6	95.1	19.45	5.890	
5,000.0	4,920.8	4,995.2	4,895.7	17.2	18.9	18.38	186.2	919.2	117.3	97.4	19.86	5.904	
5,100.0	5,018.8	5,095.2	4,993.1	17.6	19.3	18.36	190.7	941.1	120.0	99.7	20.28	5.917	

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 1K-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 1K-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
5,200.0	5,116.9	5,195.2	5,090.5	18.0	19.7	18.35	195.1	963.0	122.7	102.0	20.69	5.930	
5,300.0	5,214.9	5,295.1	5,188.0	18.4	20.2	18.34	199.6	984.9	125.4	104.3	21.10	5.942	
5,400.0	5,312.9	5,395.1	5,285.4	18.8	20.6	18.33	204.1	1,006.8	128.1	106.6	21.51	5.954	
5,500.0	5,410.9	5,495.1	5,382.8	19.2	21.1	18.31	208.6	1,028.7	130.8	108.8	21.92	5.965	
5,600.0	5,508.9	5,595.0	5,480.3	19.6	21.5	18.30	213.1	1,050.6	133.5	111.1	22.33	5.976	
5,700.0	5,606.9	5,695.0	5,577.7	20.0	21.9	18.29	217.6	1,072.5	136.2	113.4	22.74	5.987	
5,800.0	5,705.0	5,794.9	5,675.1	20.4	22.4	18.28	222.1	1,094.4	138.9	115.7	23.15	5.997	
5,900.0	5,803.0	5,894.9	5,772.6	20.8	22.8	18.27	226.6	1,116.2	141.6	118.0	23.57	6.007	
6,000.0	5,901.0	5,994.9	5,870.0	21.2	23.2	18.26	231.1	1,138.1	144.3	120.3	23.98	6.016	
6,100.0	5,999.0	6,094.8	5,967.5	21.6	23.7	18.26	235.6	1,160.0	146.9	122.6	24.39	6.025	
6,200.0	6,097.0	6,194.8	6,064.9	22.0	24.1	18.25	240.1	1,181.9	149.6	124.8	24.80	6.034	
6,300.0	6,195.0	6,294.8	6,162.3	22.4	24.5	18.24	244.5	1,203.8	152.3	127.1	25.21	6.043	
6,400.0	6,293.1	6,394.6	6,259.7	22.7	25.0	-10.90	249.0	1,225.7	154.8	129.6	25.20	6.143	
6,500.0	6,390.4	6,493.1	6,355.7	23.0	25.4	-46.08	253.5	1,247.2	157.3	133.4	23.89	6.586	
6,600.0	6,485.2	6,588.7	6,448.8	23.3	25.8	-70.45	257.7	1,268.2	163.9	140.9	23.09	7.100	
6,700.0	6,575.5	6,689.8	6,547.3	23.6	26.2	-88.62	254.3	1,290.3	177.8	153.4	24.38	7.291	
6,800.0	6,659.6	6,796.8	6,650.0	23.8	26.6	-101.91	235.2	1,313.3	196.8	170.3	26.48	7.434	
6,900.0	6,735.8	6,910.8	6,754.9	24.0	26.9	-111.82	197.9	1,336.9	218.9	190.9	28.03	7.810	
7,000.0	6,802.8	7,032.5	6,859.1	24.3	27.3	-119.24	139.7	1,360.3	241.9	213.3	28.60	8.456	
7,100.0	6,859.1	7,162.7	6,958.2	24.6	27.6	-124.76	58.6	1,382.6	263.8	235.5	28.29	9.326	
7,200.0	6,903.8	7,301.2	7,046.1	25.0	28.1	-128.75	-46.4	1,402.3	282.9	255.6	27.30	10.365	
7,300.0	6,935.8	7,447.6	7,115.7	25.4	28.6	-131.44	-173.9	1,418.0	297.7	271.7	26.03	11.438	
7,400.0	6,954.6	7,600.0	7,159.7	26.0	29.2	-132.98	-319.1	1,427.9	307.0	282.1	24.81	12.373	
7,500.0	6,960.0	7,749.8	7,173.0	26.6	30.0	-133.44	-468.1	1,430.8	309.8	285.6	24.23	12.787	
7,600.0	6,960.0	7,849.8	7,173.0	27.2	30.6	-133.44	-568.1	1,430.8	309.8	283.8	25.99	11.921	
7,700.0	6,960.0	7,949.8	7,173.0	28.0	31.3	-133.44	-668.1	1,430.8	309.8	281.9	27.87	11.117	
7,800.0	6,960.0	8,049.8	7,173.0	28.9	32.1	-133.44	-768.1	1,430.8	309.8	279.9	29.85	10.379	
7,900.0	6,960.0	8,149.8	7,173.0	29.8	32.9	-133.44	-868.1	1,430.8	309.8	277.9	31.91	9.708	
8,000.0	6,960.0	8,249.8	7,173.0	30.8	33.9	-133.44	-968.1	1,430.8	309.8	275.8	34.04	9.100	
8,100.0	6,960.0	8,349.8	7,173.0	31.9	34.8	-133.44	-1,068.1	1,430.8	309.8	273.6	36.23	8.551	
8,200.0	6,960.0	8,449.8	7,173.0	33.1	35.9	-133.44	-1,168.1	1,430.8	309.8	271.3	38.46	8.054	
8,300.0	6,960.0	8,549.8	7,173.0	34.2	37.0	-133.44	-1,268.1	1,430.8	309.8	269.1	40.73	7.605	
8,400.0	6,960.0	8,649.8	7,173.0	35.5	38.1	-133.44	-1,368.1	1,430.8	309.8	266.8	43.04	7.198	
8,500.0	6,960.0	8,749.8	7,173.0	36.8	39.3	-133.44	-1,468.1	1,430.8	309.8	264.4	45.37	6.828	
8,600.0	6,960.0	8,849.8	7,173.0	38.1	40.5	-133.44	-1,568.1	1,430.8	309.8	262.1	47.73	6.491	
8,700.0	6,960.0	8,949.8	7,173.0	39.4	41.8	-133.44	-1,668.1	1,430.8	309.8	259.7	50.10	6.183	
8,800.0	6,960.0	9,049.8	7,173.0	40.8	43.1	-133.44	-1,768.1	1,430.8	309.8	257.3	52.50	5.901	
8,900.0	6,960.0	9,149.8	7,173.0	42.2	44.5	-133.44	-1,868.1	1,430.8	309.8	254.9	54.91	5.642	
9,000.0	6,960.0	9,249.8	7,173.0	43.7	45.8	-133.44	-1,968.1	1,430.8	309.8	252.5	57.33	5.404	
9,100.0	6,960.0	9,349.8	7,173.0	45.1	47.2	-133.44	-2,068.1	1,430.8	309.8	250.0	59.76	5.184	
9,200.0	6,960.0	9,449.8	7,173.0	46.6	48.6	-133.44	-2,168.1	1,430.8	309.8	247.6	62.20	4.980	
9,300.0	6,960.0	9,549.8	7,173.0	48.1	50.1	-133.44	-2,268.1	1,430.8	309.8	245.1	64.66	4.791	
9,400.0	6,960.0	9,649.8	7,173.0	49.6	51.5	-133.44	-2,368.1	1,430.8	309.8	242.7	67.12	4.616	
9,500.0	6,960.0	9,749.8	7,173.0	51.2	53.0	-133.44	-2,468.1	1,430.8	309.8	240.2	69.59	4.452	
9,600.0	6,960.0	9,849.8	7,173.0	52.7	54.5	-133.44	-2,568.1	1,430.8	309.8	237.7	72.06	4.299	
9,700.0	6,960.0	9,949.8	7,173.0	54.3	56.0	-133.44	-2,668.1	1,430.8	309.8	235.3	74.54	4.156	
9,800.0	6,960.0	10,049.8	7,173.0	55.8	57.5	-133.44	-2,768.1	1,430.8	309.8	232.8	77.03	4.022	
9,900.0	6,960.0	10,149.8	7,173.0	57.4	59.1	-133.44	-2,868.1	1,430.8	309.8	230.3	79.52	3.896	
10,000.0	6,960.0	10,249.8	7,173.0	59.0	60.6	-133.44	-2,968.1	1,430.8	309.8	227.8	82.01	3.777	
10,100.0	6,960.0	10,349.8	7,173.0	60.6	62.2	-133.44	-3,068.1	1,430.8	309.8	225.3	84.51	3.666	
10,200.0	6,960.0	10,449.8	7,173.0	62.2	63.7	-133.44	-3,168.1	1,430.8	309.8	222.8	87.01	3.560	
10,300.0	6,960.0	10,549.8	7,173.0	63.8	65.3	-133.44	-3,268.1	1,430.8	309.8	220.3	89.52	3.461	

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 1K-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 1K-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
10,400.0	6,960.0	10,649.8	7,173.0	65.4	66.9	-133.44	-3,368.1	1,430.8	309.8	217.8	92.03	3.366	
10,500.0	6,960.0	10,749.8	7,173.0	67.1	68.5	-133.44	-3,468.1	1,430.8	309.8	215.3	94.54	3.277	
10,600.0	6,960.0	10,849.8	7,173.0	68.7	70.1	-133.44	-3,568.1	1,430.8	309.8	212.7	97.06	3.192	
10,700.0	6,960.0	10,949.8	7,173.0	70.3	71.7	-133.44	-3,668.1	1,430.8	309.8	210.2	99.57	3.111	
10,800.0	6,960.0	11,049.8	7,173.0	72.0	73.3	-133.44	-3,768.1	1,430.8	309.8	207.7	102.09	3.034	
10,900.0	6,960.0	11,149.8	7,173.0	73.6	74.9	-133.44	-3,868.1	1,430.8	309.8	205.2	104.61	2.961	
11,000.0	6,960.0	11,249.8	7,173.0	75.3	76.6	-133.44	-3,968.1	1,430.8	309.8	202.7	107.14	2.892	
11,100.0	6,960.0	11,349.8	7,173.0	77.0	78.2	-133.44	-4,068.1	1,430.8	309.8	200.1	109.66	2.825	
11,200.0	6,960.0	11,449.8	7,173.0	78.6	79.8	-133.44	-4,168.1	1,430.8	309.8	197.6	112.19	2.761	
11,300.0	6,960.0	11,549.8	7,173.0	80.3	81.5	-133.44	-4,268.1	1,430.8	309.8	195.1	114.72	2.701	
11,400.0	6,960.0	11,649.8	7,173.0	82.0	83.1	-133.44	-4,368.1	1,430.8	309.8	192.5	117.25	2.642	
11,500.0	6,960.0	11,749.8	7,173.0	83.6	84.8	-133.44	-4,468.1	1,430.8	309.8	190.0	119.78	2.586	
11,598.5	6,960.0	11,848.3	7,173.0	85.3	86.4	-133.44	-4,566.6	1,430.8	309.8	187.5	122.27	2.534	SF

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Ruhl 1K-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 1K-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 1K-32H-B264
Coordinate System is US State Plane 1983, Colorado Northern Zone
Grid Convergence at Surface is: 0.60°