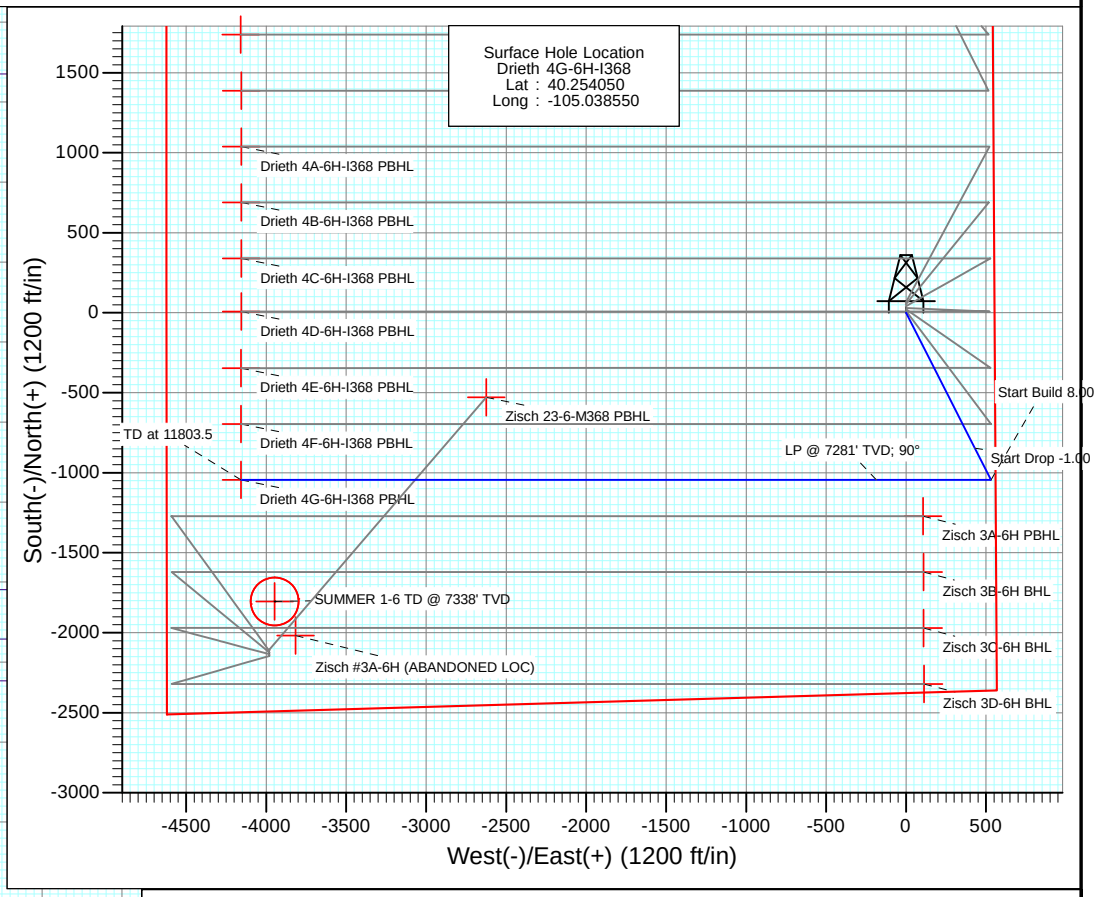
encana natural gas

Project: DJ Wattenberg
Site: S6-T3N-R68W (Zisch/Drieth)
Well: Drieth 4G-6H-I368
Wellbore: Hz
Design: Plan #1

CATHEDRAL

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	200.0	0.00	0.00	200.0	0.0	0.0	0.00	0.00	0.0	
3	1800.0	16.00	153.10	1779.3	-197.9	100.4	1.00	153.10	-100.4	
4	4440.0	16.00	153.10	4317.0	-846.9	429.6	0.00	0.00	-429.6	
5	6040.0	0.00	0.00	5896.3	-1044.8	530.1	1.00	180.00	-530.1	
6	6708.5	0.00	0.00	6564.8	-1044.8	530.1	0.00	0.00	-530.1	
7	7833.5	90.00	270.00	7281.0	-1044.9	-186.1	8.00	270.00	186.1	
8	11803.5	90.00	270.00	7281.0	-1045.1	-4156.1	0.00	0.00	4156.1	Drieth 4G-6H-I368 PBHL



DESIGN TARGET DETAILS

Name	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
Drieth 4G-6H-I368 PBHL	-1045.1	-4156.1	1334663.07	3124650.32	40.251180	-105.053440

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
324.0	324.0	Fox Hills - BASE
3548.0	3640.0	Sussex
3856.0	3960.4	Sussex Marker
4117.0	4231.9	Shannon
6024.0	6167.7	Teepee Buttes (*if present)
6838.0	6988.8	Sharon Springs
6912.0	7071.0	Niobrara
7051.0	7242.9	B Chalk
7078.0	7280.6	B Marl
7111.0	7329.7	C Chalk
7149.0	7391.7	C Marl
7251.0	7625.5	Ft. Hayes
7271.0	7713.7	Codell

T M Azimuths to True North
Magnetic North: 8.70°

Magnetic Field
Strength: 52857.6snT
Dip Angle: 66.84°
Date: 4/15/2013
Model: IGRF200510

Plan #1
Drieth 4G-6H-I368
13xxx; LR
WELL @ 5124.0ft (Original Well Elev)
Ground Elevation @ 5111.0
North American Datum 1983
Well Drieth 4G-6H-I368, True North

Planning Report

Database:	USA EDM 5000 Multi Users DB	**Local Co-ordinate Reference:**	Well Drieth 4G-6H-I368
Company:	EnCana Oil & Gas (USA) Inc	**TVD Reference:**	WELL @ 5124.0ft (Original Well Elev)
Project:	DJ Wattenberg	**MD Reference:**	WELL @ 5124.0ft (Original Well Elev)
Site:	S6-T3N-R68W (Zisch/Drieth 1)	**North Reference:**	True
Well:	Drieth 4G-6H-I368	**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 S6-T3N-R68W (Zisch/Drieth 1)

Site Position:		**Northing:**	1,333,692.15 ft	**Latitude:**	40.248510
From:	Lat/Long	**Easting:**	3,124,995.76 ft	**Longitude:**	-105.052220
Position Uncertainty:	0.0 ft	**Slot Radius:**	13.200 in	**Grid Convergence:**	0.29 °

Well Drieth 4G-6H-I368

Well Position	**+N/-S**	0.0 ft	**Northing:**	1,335,729.83 ft	**Latitude:**	40.254050
	+E/-W	0.0 ft	**Easting:**	3,128,800.96 ft	**Longitude:**	-105.038550
Position Uncertainty		0.0 ft	**Wellhead Elevation:**	ft	**Ground Level:**	5,111.0 ft

Wellbore Hz

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	4/15/2013	8.70	66.84	52,858

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	270.00

Plan Sections

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
200.0	0.00	0.00	200.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,800.0	16.00	153.10	1,779.3	-197.9	100.4	1.00	1.00	0.00	153.10	
4,440.0	16.00	153.10	4,317.0	-846.9	429.6	0.00	0.00	0.00	0.00	
6,040.0	0.00	0.00	5,896.3	-1,044.8	530.1	1.00	-1.00	0.00	180.00	
6,708.5	0.00	0.00	6,564.8	-1,044.8	530.1	0.00	0.00	0.00	0.00	
7,833.5	90.00	270.00	7,281.0	-1,044.9	-186.1	8.00	8.00	0.00	270.00	
11,803.5	90.00	270.00	7,281.0	-1,045.1	-4,156.1	0.00	0.00	0.00	0.00	Drieth 4G-6H-I368 PE

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Project:	DJ Wattenberg	**MD Reference:**	WELL @ 5124.0ft (Original Well Elev)
Site:	S6-T3N-R68W (Zisch/Drieth 1)	**North Reference:**	True
Well:	Drieth 4G-6H-I368	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Hz		
Design:	Plan #1		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Comments / Formations
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	KOP @ 200'
300.0	1.00	153.10	300.0	-0.8	0.4	-0.4	1.00	1.00	
324.0	1.24	153.10	324.0	-1.2	0.6	-0.6	1.00	1.00	Fox Hills - BASE
400.0	2.00	153.10	400.0	-3.1	1.6	-1.6	1.00	1.00	
500.0	3.00	153.10	499.9	-7.0	3.6	-3.6	1.00	1.00	
600.0	4.00	153.10	599.7	-12.4	6.3	-6.3	1.00	1.00	
700.0	5.00	153.10	699.4	-19.4	9.9	-9.9	1.00	1.00	
800.0	6.00	153.10	798.9	-28.0	14.2	-14.2	1.00	1.00	
900.0	7.00	153.10	898.3	-38.1	19.3	-19.3	1.00	1.00	
1,000.0	8.00	153.10	997.4	-49.7	25.2	-25.2	1.00	1.00	
1,100.0	9.00	153.10	1,096.3	-62.9	31.9	-31.9	1.00	1.00	
1,200.0	10.00	153.10	1,194.9	-77.6	39.4	-39.4	1.00	1.00	
1,300.0	11.00	153.10	1,293.3	-93.9	47.6	-47.6	1.00	1.00	
1,400.0	12.00	153.10	1,391.2	-111.7	56.6	-56.6	1.00	1.00	
1,500.0	13.00	153.10	1,488.9	-131.0	66.4	-66.4	1.00	1.00	
1,600.0	14.00	153.10	1,586.1	-151.8	77.0	-77.0	1.00	1.00	
1,700.0	15.00	153.10	1,682.9	-174.1	88.3	-88.3	1.00	1.00	
1,800.0	16.00	153.10	1,779.3	-197.9	100.4	-100.4	1.00	1.00	EOB; Inc=16°
1,900.0	16.00	153.10	1,875.4	-222.5	112.9	-112.9	0.00	0.00	
2,000.0	16.00	153.10	1,971.5	-247.1	125.4	-125.4	0.00	0.00	
2,100.0	16.00	153.10	2,067.7	-271.7	137.8	-137.8	0.00	0.00	
2,200.0	16.00	153.10	2,163.8	-296.3	150.3	-150.3	0.00	0.00	
2,300.0	16.00	153.10	2,259.9	-320.8	162.8	-162.8	0.00	0.00	
2,400.0	16.00	153.10	2,356.0	-345.4	175.2	-175.2	0.00	0.00	
2,500.0	16.00	153.10	2,452.2	-370.0	187.7	-187.7	0.00	0.00	
2,600.0	16.00	153.10	2,548.3	-394.6	200.2	-200.2	0.00	0.00	
2,700.0	16.00	153.10	2,644.4	-419.2	212.7	-212.7	0.00	0.00	
2,800.0	16.00	153.10	2,740.5	-443.8	225.1	-225.1	0.00	0.00	
2,900.0	16.00	153.10	2,836.7	-468.3	237.6	-237.6	0.00	0.00	
3,000.0	16.00	153.10	2,932.8	-492.9	250.1	-250.1	0.00	0.00	
3,100.0	16.00	153.10	3,028.9	-517.5	262.5	-262.5	0.00	0.00	
3,200.0	16.00	153.10	3,125.1	-542.1	275.0	-275.0	0.00	0.00	
3,300.0	16.00	153.10	3,221.2	-566.7	287.5	-287.5	0.00	0.00	
3,400.0	16.00	153.10	3,317.3	-591.2	300.0	-300.0	0.00	0.00	
3,500.0	16.00	153.10	3,413.4	-615.8	312.4	-312.4	0.00	0.00	
3,600.0	16.00	153.10	3,509.6	-640.4	324.9	-324.9	0.00	0.00	
3,640.0	16.00	153.10	3,548.0	-650.2	329.9	-329.9	0.00	0.00	Sussex
3,700.0	16.00	153.10	3,605.7	-665.0	337.4	-337.4	0.00	0.00	
3,800.0	16.00	153.10	3,701.8	-689.6	349.8	-349.8	0.00	0.00	
3,900.0	16.00	153.10	3,797.9	-714.1	362.3	-362.3	0.00	0.00	
3,960.4	16.00	153.10	3,856.0	-729.0	369.8	-369.8	0.00	0.00	Sussex Marker
4,000.0	16.00	153.10	3,894.1	-738.7	374.8	-374.8	0.00	0.00	
4,100.0	16.00	153.10	3,990.2	-763.3	387.2	-387.2	0.00	0.00	
4,200.0	16.00	153.10	4,086.3	-787.9	399.7	-399.7	0.00	0.00	
4,231.9	16.00	153.10	4,117.0	-795.7	403.7	-403.7	0.00	0.00	Shannon
4,300.0	16.00	153.10	4,182.4	-812.5	412.2	-412.2	0.00	0.00	
4,400.0	16.00	153.10	4,278.6	-837.1	424.7	-424.7	0.00	0.00	
4,440.0	16.00	153.10	4,317.0	-846.9	429.6	-429.6	0.00	0.00	Start Drop -1.00
4,500.0	15.40	153.10	4,374.8	-861.4	437.0	-437.0	1.00	-1.00	
4,600.0	14.40	153.10	4,471.4	-884.3	448.6	-448.6	1.00	-1.00	

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Project:	DJ Wattenberg	**MD Reference:**	WELL @ 5124.0ft (Original Well Elev)
Site:	S6-T3N-R68W (Zisch/Drieth 1)	**North Reference:**	True
Well:	Drieth 4G-6H-I368	**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
4,700.0	13.40	153.10	4,568.5	-905.7	459.5	-459.5	1.00	-1.00	
4,800.0	12.40	153.10	4,666.0	-925.6	469.6	-469.6	1.00	-1.00	
4,900.0	11.40	153.10	4,763.8	-944.0	478.9	-478.9	1.00	-1.00	
5,000.0	10.40	153.10	4,862.0	-960.9	487.5	-487.5	1.00	-1.00	
5,100.0	9.40	153.10	4,960.5	-976.2	495.3	-495.3	1.00	-1.00	
5,200.0	8.40	153.10	5,059.3	-990.0	502.3	-502.3	1.00	-1.00	
5,300.0	7.40	153.10	5,158.4	-1,002.3	508.5	-508.5	1.00	-1.00	
5,400.0	6.40	153.10	5,257.6	-1,013.0	513.9	-513.9	1.00	-1.00	
5,500.0	5.40	153.10	5,357.1	-1,022.1	518.6	-518.6	1.00	-1.00	
5,600.0	4.40	153.10	5,456.7	-1,029.8	522.4	-522.4	1.00	-1.00	
5,700.0	3.40	153.10	5,556.5	-1,035.8	525.5	-525.5	1.00	-1.00	
5,800.0	2.40	153.10	5,656.4	-1,040.3	527.8	-527.8	1.00	-1.00	
5,900.0	1.40	153.10	5,756.3	-1,043.3	529.3	-529.3	1.00	-1.00	
6,000.0	0.40	153.10	5,856.3	-1,044.7	530.0	-530.0	1.00	-1.00	
6,040.0	0.00	0.00	5,896.3	-1,044.8	530.1	-530.1	1.00	-1.00	EOD; Inc=0°
6,100.0	0.00	0.00	5,956.3	-1,044.8	530.1	-530.1	0.00	0.00	
6,167.7	0.00	0.00	6,024.0	-1,044.8	530.1	-530.1	0.00	0.00	Teepee Buttes (*if present)
6,200.0	0.00	0.00	6,056.3	-1,044.8	530.1	-530.1	0.00	0.00	
6,300.0	0.00	0.00	6,156.3	-1,044.8	530.1	-530.1	0.00	0.00	
6,400.0	0.00	0.00	6,256.3	-1,044.8	530.1	-530.1	0.00	0.00	
6,500.0	0.00	0.00	6,356.3	-1,044.8	530.1	-530.1	0.00	0.00	
6,600.0	0.00	0.00	6,456.3	-1,044.8	530.1	-530.1	0.00	0.00	
6,700.0	0.00	0.00	6,556.3	-1,044.8	530.1	-530.1	0.00	0.00	
6,708.5	0.00	0.00	6,564.8	-1,044.8	530.1	-530.1	0.00	0.00	Start Build 8.00
6,800.0	7.32	270.00	6,656.1	-1,044.8	524.2	-524.2	8.00	8.00	
6,900.0	15.32	270.00	6,754.0	-1,044.8	504.6	-504.6	8.00	8.00	
6,988.8	22.42	270.00	6,838.0	-1,044.8	475.9	-475.9	8.00	8.00	Sharon Springs
7,000.0	23.32	270.00	6,848.3	-1,044.8	471.6	-471.6	8.00	8.00	
7,071.0	29.00	270.00	6,912.0	-1,044.8	440.3	-440.3	8.00	8.00	Niobrara
7,100.0	31.32	270.00	6,937.1	-1,044.8	425.7	-425.7	8.00	8.00	
7,200.0	39.32	270.00	7,018.6	-1,044.8	367.9	-367.9	8.00	8.00	
7,242.9	42.75	270.00	7,051.0	-1,044.8	339.8	-339.8	8.00	8.00	B Chalk
7,280.6	45.77	270.00	7,078.0	-1,044.8	313.4	-313.4	8.00	8.00	B Marl
7,300.0	47.32	270.00	7,091.3	-1,044.8	299.4	-299.4	8.00	8.00	
7,329.7	49.70	270.00	7,111.0	-1,044.8	277.1	-277.1	8.00	8.00	C Chalk
7,391.7	54.66	270.00	7,149.0	-1,044.8	228.2	-228.2	8.00	8.00	C Marl
7,400.0	55.32	270.00	7,153.8	-1,044.8	221.4	-221.4	8.00	8.00	
7,500.0	63.32	270.00	7,204.7	-1,044.8	135.4	-135.4	8.00	8.00	
7,600.0	71.32	270.00	7,243.3	-1,044.9	43.3	-43.3	8.00	8.00	
7,625.5	73.36	270.00	7,251.0	-1,044.9	19.0	-19.0	8.00	8.00	Ft. Hayes
7,700.0	79.32	270.00	7,268.6	-1,044.9	-53.4	53.4	8.00	8.00	
7,713.7	80.41	270.00	7,271.0	-1,044.9	-66.9	66.9	8.00	8.00	Codell
7,800.0	87.32	270.00	7,280.2	-1,044.9	-152.6	152.6	8.00	8.00	
7,833.5	90.00	270.00	7,281.0	-1,044.9	-186.1	186.1	8.00	8.00	LP @ 7281' TVD; 90°
7,900.0	90.00	270.00	7,281.0	-1,044.9	-252.6	252.6	0.00	0.00	
8,000.0	90.00	270.00	7,281.0	-1,044.9	-352.6	352.6	0.00	0.00	
8,100.0	90.00	270.00	7,281.0	-1,044.9	-452.6	452.6	0.00	0.00	
8,200.0	90.00	270.00	7,281.0	-1,044.9	-552.6	552.6	0.00	0.00	
8,300.0	90.00	270.00	7,281.0	-1,044.9	-652.6	652.6	0.00	0.00	
8,400.0	90.00	270.00	7,281.0	-1,044.9	-752.6	752.6	0.00	0.00	
8,500.0	90.00	270.00	7,281.0	-1,044.9	-852.6	852.6	0.00	0.00	
8,600.0	90.00	270.00	7,281.0	-1,044.9	-952.6	952.6	0.00	0.00	

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Site:	S6-T3N-R68W (Zisch/Drieth 1)	**North Reference:**	True
Well:	Drieth 4G-6H-I368	**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
8,700.0	90.00	270.00	7,281.0	-1,044.9	-1,052.6	1,052.6	0.00	0.00	
8,800.0	90.00	270.00	7,281.0	-1,044.9	-1,152.6	1,152.6	0.00	0.00	
8,900.0	90.00	270.00	7,281.0	-1,044.9	-1,252.6	1,252.6	0.00	0.00	
9,000.0	90.00	270.00	7,281.0	-1,045.0	-1,352.6	1,352.6	0.00	0.00	
9,100.0	90.00	270.00	7,281.0	-1,045.0	-1,452.6	1,452.6	0.00	0.00	
9,200.0	90.00	270.00	7,281.0	-1,045.0	-1,552.6	1,552.6	0.00	0.00	
9,300.0	90.00	270.00	7,281.0	-1,045.0	-1,652.6	1,652.6	0.00	0.00	
9,400.0	90.00	270.00	7,281.0	-1,045.0	-1,752.6	1,752.6	0.00	0.00	
9,500.0	90.00	270.00	7,281.0	-1,045.0	-1,852.6	1,852.6	0.00	0.00	
9,600.0	90.00	270.00	7,281.0	-1,045.0	-1,952.6	1,952.6	0.00	0.00	
9,700.0	90.00	270.00	7,281.0	-1,045.0	-2,052.6	2,052.6	0.00	0.00	
9,800.0	90.00	270.00	7,281.0	-1,045.0	-2,152.6	2,152.6	0.00	0.00	
9,900.0	90.00	270.00	7,281.0	-1,045.0	-2,252.6	2,252.6	0.00	0.00	
10,000.0	90.00	270.00	7,281.0	-1,045.0	-2,352.6	2,352.6	0.00	0.00	
10,100.0	90.00	270.00	7,281.0	-1,045.0	-2,452.6	2,452.6	0.00	0.00	
10,200.0	90.00	270.00	7,281.0	-1,045.0	-2,552.6	2,552.6	0.00	0.00	
10,300.0	90.00	270.00	7,281.0	-1,045.0	-2,652.6	2,652.6	0.00	0.00	
10,400.0	90.00	270.00	7,281.0	-1,045.0	-2,752.6	2,752.6	0.00	0.00	
10,500.0	90.00	270.00	7,281.0	-1,045.1	-2,852.6	2,852.6	0.00	0.00	
10,600.0	90.00	270.00	7,281.0	-1,045.1	-2,952.6	2,952.6	0.00	0.00	
10,700.0	90.00	270.00	7,281.0	-1,045.1	-3,052.6	3,052.6	0.00	0.00	
10,800.0	90.00	270.00	7,281.0	-1,045.1	-3,152.6	3,152.6	0.00	0.00	
10,900.0	90.00	270.00	7,281.0	-1,045.1	-3,252.6	3,252.6	0.00	0.00	
11,000.0	90.00	270.00	7,281.0	-1,045.1	-3,352.6	3,352.6	0.00	0.00	
11,100.0	90.00	270.00	7,281.0	-1,045.1	-3,452.6	3,452.6	0.00	0.00	
11,200.0	90.00	270.00	7,281.0	-1,045.1	-3,552.6	3,552.6	0.00	0.00	
11,300.0	90.00	270.00	7,281.0	-1,045.1	-3,652.6	3,652.6	0.00	0.00	
11,400.0	90.00	270.00	7,281.0	-1,045.1	-3,752.6	3,752.6	0.00	0.00	
11,500.0	90.00	270.00	7,281.0	-1,045.1	-3,852.6	3,852.6	0.00	0.00	
11,600.0	90.00	270.00	7,281.0	-1,045.1	-3,952.6	3,952.6	0.00	0.00	
11,700.0	90.00	270.00	7,281.0	-1,045.1	-4,052.6	4,052.6	0.00	0.00	
11,800.0	90.00	270.00	7,281.0	-1,045.1	-4,152.6	4,152.6	0.00	0.00	
11,803.5	90.00	270.00	7,281.0	-1,045.1	-4,156.1	4,156.1	0.00	0.00	TD at 11803.5 - Drieth 4G-6H-I368 PBHL

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
Drieth 4G-6H-I368 PBHl - plan hits target center - Point	0.00	0.00	7,281.0	-1,045.1	-4,156.1	1,334,663.07	3,124,650.32	40.251180	-105.053440

Database:	USA EDM 5000 Multi Users DB	**Local Co-ordinate Reference:**	Well Drieth 4G-6H-I368
Company:	EnCana Oil & Gas (USA) Inc	**TVD Reference:**	WELL @ 5124.0ft (Original Well Elev)
Project:	DJ Wattenberg	**MD Reference:**	WELL @ 5124.0ft (Original Well Elev)
Site:	S6-T3N-R68W (Zisch/Drieth 1)	**North Reference:**	True
Well:	Drieth 4G-6H-I368	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Hz		
Design:	Plan #1		

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
324.0	324.0	Fox Hills - BASE			
3,640.0	3,548.0	Sussex			
3,960.4	3,856.0	Sussex Marker			
4,231.9	4,117.0	Shannon			
6,167.7	6,024.0	Teepee Buttes (*if present)			
6,988.8	6,838.0	Sharon Springs			
7,071.0	6,912.0	Niobrara			
7,242.9	7,051.0	B Chalk			
7,280.6	7,078.0	B Marl			
7,329.7	7,111.0	C Chalk			
7,391.7	7,149.0	C Marl			
7,625.5	7,251.0	Ft. Hayes			
7,713.7	7,271.0	Codell			

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates +N/-S (ft)	Local Coordinates +E/-W (ft)	Comment
200.0	200.0	0.0	0.0	KOP @ 200'
1,800.0	1,779.3	-197.9	100.4	EOB; Inc=16°
4,440.0	4,317.0	-846.9	429.6	Start Drop -1.00
6,040.0	5,896.3	-1,044.8	530.1	EOD; Inc=0°
6,708.5	6,564.8	-1,044.8	530.1	Start Build 8.00
7,833.5	7,281.0	-1,044.9	-186.1	LP @ 7281' TVD; 90°
11,803.5	7,281.0	-1,045.1	-4,156.1	TD at 11803.5

EnCana Oil & Gas (USA) Inc

DJ Wattenberg
S6-T3N-R68W (Zisch/Drieth 1)
Drieth 4G-6H-I368
Hz
Plan #1

Anticollision Report

15 April, 2013

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Drieth 4G-6H-I368
Project:	DJ Wattenberg	**TVD Reference:**	WELL @ 5124.0ft (Original Well Elev)
Reference Site:	S6-T3N-R68W (Zisch/Drieth 1)	**MD Reference:**	WELL @ 5124.0ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Drieth 4G-6H-I368	**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 500.0ft	**Error Surface:**	Elliptical Conic
Warning Levels Evaluated at:	2.00 **Sigma**		

Survey Tool Program **Date** 4/15/2013

From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.0	11,803.5	Plan #1 (Hz)	MWD	Geolink MWD

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
S6-T3N-R68W (Zisch/Drieth 1)						
Breakneck Properties 21-6 - DD - Plan #1						Out of range
Drieth 1A-6H-A368 - Hz - Plan #1						Out of range
Drieth 1B-6H-A368 - Hz - Plan #1						Out of range
Drieth 1C-6H-A368 - Hz - Plan #1						Out of range
Drieth 1D-6H-A368 - Hz - Plan #1						Out of range
Drieth 1E-6H-A368 - Hz - Plan #1						Out of range
Drieth 4A-6H-I368 - Hz - Plan #1	200.0	199.0	62.0	61.3	95.224	CC, ES
Drieth 4A-6H-I368 - Hz - Plan #1	700.0	691.5	100.3	97.8	41.525	SF
Drieth 4B-6H-I368 - Hz - Plan #1	200.0	199.0	51.1	50.4	78.458	CC, ES
Drieth 4B-6H-I368 - Hz - Plan #1	700.0	694.5	81.2	78.8	33.617	SF
Drieth 4C-6H-I368 - Hz - Plan #1	200.0	199.0	40.2	39.5	61.702	CC, ES
Drieth 4C-6H-I368 - Hz - Plan #1	700.0	697.1	63.6	61.2	26.366	SF
Drieth 4D-6H-I368 - Hz - Plan #1	200.0	199.0	29.1	28.5	44.766	CC, ES
Drieth 4D-6H-I368 - Hz - Plan #1	600.0	598.7	42.1	40.0	20.530	SF
Drieth 4E-6H-I368 - Hz - Plan #1	200.0	199.0	21.9	21.2	33.574	CC, ES
Drieth 4E-6H-I368 - Hz - Plan #1	1,000.0	1,000.7	53.7	50.1	14.967	SF
Drieth 4F-6H-I368 - Hz - Plan #1	200.0	200.0	10.9	10.3	16.742	CC, ES
Drieth 4F-6H-I368 - Hz - Plan #1	11,803.5	11,539.2	413.2	227.7	2.228	SF
SUMMER 6-1 (EXISTING) - EXISTING - NO SURVEYS						Out of range
Zisch 23-6-M368 - DD - Plan #1						Out of range
Zisch 3A-6H-M368 - HZ - Plan #1	7,400.0	11,551.0	301.3	208.0	3.230	ES, SF
Zisch 3A-6H-M368 - HZ - Plan #1	7,403.9	11,551.0	301.3	208.0	3.231	CC
Zisch 3B-6H-M368 - HZ - Plan #1						Out of range
Zisch 3C-6H-M368 - HZ - Plan #1						Out of range
Zisch 3D-6H-M368 - HZ - Plan #1						Out of range

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Drieth 4G-6H-I368
Project:	DJ Wattenberg	**TVD Reference:**	WELL @ 5124.0ft (Original Well Elev)
Reference Site:	S6-T3N-R68W (Zisch/Drieth 1)	**MD Reference:**	WELL @ 5124.0ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Drieth 4G-6H-I368	**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 S6-T3N-R68W (Zisch/Drieth 1) - Drieth 4A-6H-I368 - Hz - Plan #1

Offset Site Error: 0.0 ft

Survey Program: 0-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	-2.58	61.9	-2.8	62.0				
100.0	100.0	99.0	99.0	0.2	0.2	-2.58	61.9	-2.8	62.0	61.7	0.30	205.156	
200.0	200.0	199.0	199.0	0.3	0.3	-2.58	61.9	-2.8	62.0	61.3	0.65	95.224	CC, ES
300.0	300.0	298.1	298.1	0.5	0.5	-155.61	62.7	-2.4	63.5	62.5	1.00	63.594	
400.0	400.0	397.0	396.9	0.7	0.7	-155.39	64.9	-1.2	68.1	66.8	1.35	50.535	
500.0	499.9	495.6	495.5	0.9	0.9	-155.09	68.6	0.8	75.8	74.1	1.70	44.592	
600.0	599.7	593.8	593.5	1.1	1.1	-154.74	73.9	3.6	86.5	84.4	2.05	42.101	
700.0	699.4	691.5	690.9	1.3	1.3	-154.40	80.5	7.2	100.3	97.8	2.41	41.525	SF
800.0	798.9	788.5	787.5	1.5	1.5	-154.08	88.5	11.5	117.0	114.3	2.78	42.100	
900.0	898.3	884.7	883.0	1.8	1.7	-153.79	97.9	16.5	136.8	133.6	3.15	43.400	
1,000.0	997.4	979.9	977.5	2.0	2.0	-153.53	108.6	22.3	159.5	156.0	3.53	45.170	
1,100.0	1,096.3	1,074.1	1,070.7	2.3	2.3	-153.29	120.6	28.7	185.2	181.2	3.92	47.247	
1,200.0	1,194.9	1,167.1	1,162.5	2.7	2.6	-153.08	133.7	35.7	213.7	209.4	4.31	49.521	
1,300.0	1,293.3	1,258.8	1,252.8	3.0	2.9	-152.88	147.9	43.3	245.0	240.3	4.72	51.916	
1,400.0	1,391.2	1,349.2	1,341.5	3.4	3.2	-152.69	163.2	51.5	279.2	274.0	5.13	54.380	
1,500.0	1,488.9	1,438.1	1,428.5	3.8	3.5	-152.51	179.4	60.2	316.0	310.5	5.56	56.873	
1,600.0	1,586.1	1,525.5	1,513.7	4.2	3.9	-152.33	196.4	69.3	355.6	349.6	5.99	59.368	
1,700.0	1,682.9	1,611.2	1,597.0	4.7	4.3	-152.15	214.3	78.9	397.7	391.3	6.43	61.847	
1,800.0	1,779.3	1,695.3	1,678.3	5.2	4.7	-151.97	232.9	88.9	442.4	435.6	6.88	64.289	
1,900.0	1,875.4	1,783.7	1,763.8	5.7	5.1	-152.02	253.1	99.7	488.5	481.1	7.36	66.338	

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Drieth 4G-6H-I368
Project:	DJ Wattenberg	**TVD Reference:**	WELL @ 5124.0ft (Original Well Elev)
Reference Site:	S6-T3N-R68W (Zisch/Drieth 1)	**MD Reference:**	WELL @ 5124.0ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Drieth 4G-6H-I368	**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 S6-T3N-R68W (Zisch/Drieth 1) - Drieth 4B-6H-I368 - Hz - Plan #1

Offset Site Error: 0.0 ft

Survey Program: 0-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	-3.13	51.0	-2.8	51.1				
100.0	100.0	99.0	99.0	0.2	0.2	-3.13	51.0	-2.8	51.1	50.8	0.30	169.033	
200.0	200.0	199.0	199.0	0.3	0.3	-3.13	51.0	-2.8	51.1	50.4	0.65	78.458	CC, ES
300.0	300.0	299.0	299.0	0.5	0.5	-156.62	51.0	-2.8	51.9	50.9	1.00	51.869	
400.0	400.0	398.3	398.3	0.7	0.7	-157.09	51.7	-2.3	54.9	53.6	1.35	40.709	
500.0	499.9	497.4	497.3	0.9	0.9	-157.00	53.6	-0.6	60.8	59.1	1.70	35.778	
600.0	599.7	596.2	596.0	1.1	1.0	-156.52	56.9	2.0	69.6	67.5	2.05	33.864	
700.0	699.4	694.5	694.2	1.3	1.2	-155.81	61.5	5.8	81.2	78.8	2.42	33.617	SF
800.0	798.9	792.3	791.7	1.5	1.4	-155.01	67.4	10.5	95.7	92.9	2.78	34.366	
900.0	898.3	889.5	888.4	1.8	1.7	-154.22	74.5	16.3	113.0	109.8	3.16	35.735	
1,000.0	997.4	985.8	984.2	2.0	1.9	-153.48	82.8	23.1	133.1	129.6	3.55	37.496	
1,100.0	1,096.3	1,081.3	1,078.9	2.3	2.1	-152.81	92.3	30.8	156.1	152.1	3.95	39.500	
1,200.0	1,194.9	1,175.8	1,172.4	2.7	2.4	-152.20	102.8	39.3	181.8	177.4	4.36	41.647	
1,300.0	1,293.3	1,269.1	1,264.5	3.0	2.7	-151.65	114.5	48.8	210.2	205.4	4.79	43.870	
1,400.0	1,391.2	1,361.3	1,355.3	3.4	3.0	-151.15	127.1	59.0	241.3	236.1	5.23	46.121	
1,500.0	1,488.9	1,452.2	1,444.5	3.8	3.3	-150.70	140.6	70.0	275.0	269.4	5.69	48.365	
1,600.0	1,586.1	1,543.5	1,533.8	4.2	3.7	-150.30	155.2	81.9	311.3	305.1	6.16	50.554	
1,700.0	1,682.9	1,636.1	1,624.4	4.7	4.0	-150.05	170.1	94.0	349.1	342.4	6.64	52.565	
1,800.0	1,779.3	1,728.1	1,714.4	5.2	4.4	-149.95	185.0	106.1	388.2	381.1	7.13	54.436	
1,900.0	1,875.4	1,819.8	1,804.1	5.7	4.7	-150.10	199.8	118.1	428.1	420.5	7.64	56.032	
2,000.0	1,971.5	1,911.5	1,893.7	6.2	5.1	-150.23	214.6	130.1	468.0	459.9	8.15	57.404	

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Drieth 4G-6H-I368
Project:	DJ Wattenberg	**TVD Reference:**	WELL @ 5124.0ft (Original Well Elev)
Reference Site:	S6-T3N-R68W (Zisch/Drieth 1)	**MD Reference:**	WELL @ 5124.0ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Drieth 4G-6H-I368	**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 S6-T3N-R68W (Zisch/Drieth 1) - Drieth 4C-6H-I368 - Hz - Plan #1

Offset Site Error: 0.0 ft

Survey Program: 0-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	-3.98	40.1	-2.8	40.2				
100.0	100.0	99.0	99.0	0.2	0.2	-3.98	40.1	-2.8	40.2	39.9	0.30	132.934	
200.0	200.0	199.0	199.0	0.3	0.3	-3.98	40.1	-2.8	40.2	39.5	0.65	61.702	CC, ES
300.0	300.0	299.0	299.0	0.5	0.5	-157.56	40.1	-2.8	41.0	40.0	1.00	40.969	
400.0	400.0	399.0	399.0	0.7	0.7	-158.87	40.1	-2.8	43.4	42.1	1.35	32.164	
500.0	499.9	498.5	498.5	0.9	0.8	-159.80	40.5	-2.1	47.8	46.1	1.70	28.144	
600.0	599.7	598.0	597.9	1.1	1.0	-159.49	41.8	0.2	54.6	52.5	2.05	26.582	
700.0	699.4	697.1	697.0	1.3	1.2	-158.36	43.9	3.9	63.6	61.2	2.41	26.366	SF
800.0	798.9	796.0	795.7	1.5	1.4	-156.81	46.8	9.1	75.0	72.2	2.78	26.951	
900.0	898.3	894.4	893.8	1.8	1.6	-155.12	50.6	15.8	88.8	85.6	3.17	28.027	
1,000.0	997.4	992.2	991.2	2.0	1.8	-153.47	55.1	23.8	105.0	101.4	3.57	29.404	
1,100.0	1,096.3	1,089.5	1,087.8	2.3	2.1	-151.92	60.5	33.3	123.6	119.6	3.99	30.955	
1,200.0	1,194.9	1,186.0	1,183.6	2.7	2.3	-150.51	66.6	44.1	144.7	140.2	4.44	32.592	
1,300.0	1,293.3	1,281.8	1,278.3	3.0	2.6	-149.25	73.4	56.2	168.1	163.2	4.91	34.257	
1,400.0	1,391.2	1,376.7	1,372.0	3.4	2.9	-148.12	81.0	69.5	193.9	188.5	5.40	35.908	
1,500.0	1,488.9	1,472.3	1,466.1	3.8	3.2	-147.20	89.1	83.9	221.8	215.9	5.91	37.514	
1,600.0	1,586.1	1,567.8	1,560.2	4.2	3.5	-146.65	97.3	98.3	251.2	244.8	6.44	39.011	
1,700.0	1,682.9	1,663.0	1,653.9	4.7	3.8	-146.38	105.4	112.7	282.0	275.0	6.98	40.421	
1,800.0	1,779.3	1,757.7	1,747.2	5.2	4.1	-146.30	113.5	127.0	314.1	306.6	7.52	41.762	
1,900.0	1,875.4	1,852.1	1,840.2	5.7	4.4	-146.47	121.6	141.3	347.0	338.9	8.08	42.932	
2,000.0	1,971.5	1,946.6	1,933.2	6.2	4.8	-146.61	129.7	155.6	379.8	371.2	8.65	43.931	
2,100.0	2,067.7	2,041.0	2,026.2	6.7	5.1	-146.74	137.7	169.8	412.7	403.5	9.21	44.792	
2,200.0	2,163.8	2,135.5	2,119.2	7.2	5.4	-146.84	145.8	184.1	445.5	435.7	9.78	45.541	
2,300.0	2,259.9	2,229.9	2,212.2	7.7	5.7	-146.93	153.9	198.4	478.4	468.0	10.35	46.198	

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Drieth 4G-6H-I368
Project:	DJ Wattenberg	**TVD Reference:**	WELL @ 5124.0ft (Original Well Elev)
Reference Site:	S6-T3N-R68W (Zisch/Drieth 1)	**MD Reference:**	WELL @ 5124.0ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Drieth 4G-6H-I368	**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 S6-T3N-R68W (Zisch/Drieth 1) - Drieth 4D-6H-I368 - Hz - Plan #1

Offset Site Error: 0.0 ft

Survey Program: 0-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	0.00	29.1	0.0	29.2				
100.0	100.0	99.0	99.0	0.2	0.2	0.00	29.1	0.0	29.1	28.8	0.30	96.446	
200.0	200.0	199.0	199.0	0.3	0.3	0.00	29.1	0.0	29.1	28.5	0.65	44.766	CC, ES
300.0	300.0	299.0	299.0	0.5	0.5	-153.85	29.1	0.0	29.9	28.9	1.00	29.919	
400.0	400.0	399.0	399.0	0.7	0.7	-155.89	29.1	0.0	32.3	30.9	1.35	23.926	
500.0	499.9	498.9	498.9	0.9	0.8	-158.69	29.1	0.0	36.3	34.6	1.70	21.370	
600.0	599.7	598.7	598.7	1.1	1.0	-161.69	29.1	0.0	42.1	40.0	2.05	20.530	SF
700.0	699.4	698.6	698.6	1.3	1.2	-163.57	29.1	0.8	49.4	47.0	2.40	20.584	
800.0	798.9	798.4	798.4	1.5	1.4	-163.73	29.0	3.4	58.0	55.2	2.75	21.071	
900.0	898.3	898.1	898.0	1.8	1.6	-162.82	28.8	7.7	67.9	64.8	3.11	21.804	
1,000.0	997.4	997.7	997.4	2.0	1.7	-161.28	28.6	13.8	79.1	75.6	3.49	22.677	
1,100.0	1,096.3	1,097.2	1,096.5	2.3	1.9	-159.41	28.2	21.5	91.7	87.9	3.88	23.620	
1,200.0	1,194.9	1,196.3	1,195.3	2.7	2.2	-157.39	27.8	31.0	105.8	101.5	4.31	24.579	
1,300.0	1,293.3	1,295.3	1,293.5	3.0	2.4	-155.36	27.4	42.1	121.4	116.6	4.76	25.515	
1,400.0	1,391.2	1,393.8	1,391.3	3.4	2.6	-153.38	26.8	54.9	138.5	133.3	5.25	26.399	
1,500.0	1,488.9	1,492.1	1,488.5	3.8	2.9	-151.48	26.2	69.2	157.2	151.4	5.78	27.215	
1,600.0	1,586.1	1,589.9	1,585.0	4.2	3.2	-149.69	25.6	85.2	177.5	171.2	6.35	27.954	
1,700.0	1,682.9	1,687.4	1,681.0	4.7	3.5	-148.21	24.9	102.1	199.4	192.5	6.95	28.695	
1,800.0	1,779.3	1,784.5	1,776.7	5.2	3.8	-147.24	24.2	119.0	222.9	215.3	7.56	29.468	
1,900.0	1,875.4	1,881.5	1,872.2	5.7	4.1	-146.67	23.5	135.8	247.0	238.9	8.19	30.164	
2,000.0	1,971.5	1,978.5	1,967.7	6.2	4.5	-146.20	22.7	152.6	271.2	262.4	8.82	30.735	
2,100.0	2,067.7	2,075.6	2,063.3	6.7	4.8	-145.80	22.0	169.5	295.4	286.0	9.47	31.210	
2,200.0	2,163.8	2,172.6	2,158.8	7.2	5.1	-145.47	21.3	186.3	319.7	309.5	10.11	31.610	
2,300.0	2,259.9	2,269.6	2,254.3	7.7	5.4	-145.18	20.6	203.1	343.9	333.1	10.76	31.950	
2,400.0	2,356.0	2,366.6	2,349.9	8.2	5.8	-144.93	19.9	220.0	368.1	356.7	11.42	32.241	
2,500.0	2,452.2	2,463.6	2,445.4	8.7	6.1	-144.72	19.2	236.8	392.4	380.3	12.07	32.494	
2,600.0	2,548.3	2,560.6	2,540.9	9.2	6.4	-144.52	18.5	253.6	416.6	403.9	12.73	32.715	
2,700.0	2,644.4	2,657.6	2,636.5	9.7	6.8	-144.35	17.8	270.5	440.8	427.4	13.40	32.908	
2,800.0	2,740.5	2,754.6	2,732.0	10.2	7.1	-144.20	17.1	287.3	465.1	451.0	14.06	33.080	
2,900.0	2,836.7	2,851.6	2,827.5	10.7	7.4	-144.06	16.4	304.1	489.3	474.6	14.72	33.233	

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Drieth 4G-6H-I368
Project:	DJ Wattenberg	**TVD Reference:**	WELL @ 5124.0ft (Original Well Elev)
Reference Site:	S6-T3N-R68W (Zisch/Drieth 1)	**MD Reference:**	WELL @ 5124.0ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Drieth 4G-6H-I368	**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 S6-T3N-R68W (Zisch/Drieth 1) - Drieth 4E-6H-I368 - Hz - Plan #1

Offset Site Error: 0.0 ft

Survey Program: 0-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	0.00	21.9	0.0	21.9				
100.0	100.0	99.0	99.0	0.2	0.2	0.00	21.9	0.0	21.9	21.6	0.30	72.334	
200.0	200.0	199.0	199.0	0.3	0.3	0.00	21.9	0.0	21.9	21.2	0.65	33.574	CC, ES
300.0	300.0	299.0	299.0	0.5	0.5	-154.10	21.9	0.0	22.6	21.6	1.00	22.635	
400.0	400.0	399.0	399.0	0.7	0.7	-156.71	21.9	0.0	25.0	23.7	1.35	18.538	
500.0	499.9	499.2	499.2	0.9	0.8	-158.82	21.4	0.7	28.5	26.8	1.70	16.769	
600.0	599.7	599.5	599.4	1.1	1.0	-159.20	19.9	2.9	32.5	30.5	2.05	15.830	
700.0	699.4	699.8	699.6	1.3	1.2	-158.40	17.4	6.4	37.0	34.6	2.41	15.329	
800.0	798.9	800.1	799.7	1.5	1.4	-156.83	13.9	11.5	42.0	39.2	2.79	15.080	
900.0	898.3	900.4	899.7	1.8	1.6	-154.77	9.4	17.9	47.6	44.4	3.18	14.981	
1,000.0	997.4	1,000.7	999.6	2.0	1.8	-152.44	3.9	25.8	53.7	50.1	3.59	14.967	SF
1,100.0	1,096.3	1,101.0	1,099.2	2.3	2.1	-150.00	-2.6	35.2	60.5	56.5	4.04	14.992	
1,200.0	1,194.9	1,201.2	1,198.6	2.7	2.3	-147.54	-10.1	45.9	68.0	63.5	4.53	15.029	
1,300.0	1,293.3	1,301.4	1,297.7	3.0	2.6	-145.14	-18.5	58.1	76.3	71.2	5.06	15.060	
1,400.0	1,391.2	1,401.6	1,396.5	3.4	3.0	-142.83	-28.0	71.7	85.3	79.6	5.65	15.077	
1,500.0	1,488.9	1,501.7	1,494.9	3.8	3.3	-140.63	-38.4	86.7	95.0	88.7	6.30	15.076	
1,600.0	1,586.1	1,601.7	1,592.9	4.2	3.7	-138.58	-49.8	103.1	105.6	98.5	7.01	15.060	
1,700.0	1,682.9	1,701.0	1,690.0	4.7	4.0	-137.08	-61.6	120.1	117.2	109.5	7.74	15.145	
1,800.0	1,779.3	1,800.1	1,787.0	5.2	4.4	-136.36	-73.3	137.0	130.1	121.7	8.47	15.364	
1,900.0	1,875.4	1,899.2	1,883.9	5.7	4.8	-136.09	-85.1	153.9	143.7	134.5	9.20	15.615	
2,000.0	1,971.5	1,998.3	1,980.8	6.2	5.2	-135.87	-96.9	170.8	157.3	147.4	9.94	15.818	
2,100.0	2,067.7	2,097.4	2,077.7	6.7	5.6	-135.69	-108.6	187.7	170.9	160.2	10.69	15.984	
2,200.0	2,163.8	2,196.4	2,174.6	7.2	6.0	-135.53	-120.4	204.6	184.5	173.0	11.44	16.123	
2,300.0	2,259.9	2,295.5	2,271.6	7.7	6.3	-135.39	-132.1	221.6	198.1	185.9	12.20	16.239	
2,400.0	2,356.0	2,394.6	2,368.5	8.2	6.7	-135.27	-143.9	238.5	211.7	198.7	12.95	16.339	
2,500.0	2,452.2	2,493.6	2,465.4	8.7	7.1	-135.17	-155.6	255.4	225.2	211.5	13.71	16.424	
2,600.0	2,548.3	2,592.7	2,562.3	9.2	7.5	-135.07	-167.4	272.3	238.8	224.4	14.48	16.498	
2,700.0	2,644.4	2,691.8	2,659.2	9.7	7.9	-134.99	-179.1	289.2	252.4	237.2	15.24	16.563	
2,800.0	2,740.5	2,790.9	2,756.1	10.2	8.3	-134.92	-190.9	306.1	266.0	250.0	16.01	16.620	
2,900.0	2,836.7	2,889.9	2,853.0	10.7	8.7	-134.85	-202.7	323.0	279.6	262.8	16.77	16.670	
3,000.0	2,932.8	2,989.0	2,949.9	11.2	9.1	-134.79	-214.4	340.0	293.2	275.7	17.54	16.715	
3,100.0	3,028.9	3,088.1	3,046.8	11.7	9.5	-134.73	-226.2	356.9	306.8	288.5	18.31	16.755	
3,200.0	3,125.1	3,187.1	3,143.7	12.3	9.9	-134.68	-237.9	373.8	320.4	301.3	19.08	16.791	
3,300.0	3,221.2	3,286.2	3,240.6	12.8	10.3	-134.63	-249.7	390.7	334.0	314.1	19.85	16.824	
3,400.0	3,317.3	3,385.3	3,337.5	13.3	10.7	-134.59	-261.4	407.6	347.6	327.0	20.62	16.854	
3,500.0	3,413.4	3,484.4	3,434.4	13.8	11.1	-134.55	-273.2	424.5	361.2	339.8	21.40	16.881	
3,600.0	3,509.6	3,581.7	3,529.8	14.3	11.5	-134.62	-284.3	440.5	375.0	352.9	22.12	16.952	
3,700.0	3,605.7	3,678.7	3,625.1	14.8	11.8	-134.92	-294.5	455.2	389.3	366.5	22.78	17.089	
3,800.0	3,701.8	3,775.5	3,720.6	15.3	12.1	-135.43	-303.8	468.5	404.1	380.8	23.37	17.289	
3,900.0	3,797.9	3,872.0	3,816.0	15.8	12.4	-136.11	-312.1	480.4	419.5	395.6	23.90	17.551	
4,000.0	3,894.1	3,968.2	3,911.3	16.3	12.7	-136.94	-319.4	491.0	435.5	411.1	24.37	17.873	
4,100.0	3,990.2	4,064.0	4,006.4	16.9	13.0	-137.91	-325.8	500.2	452.2	427.4	24.77	18.258	
4,200.0	4,086.3	4,159.3	4,101.2	17.4	13.2	-138.98	-331.3	508.1	469.6	444.4	25.10	18.706	
4,300.0	4,182.4	4,254.1	4,195.8	17.9	13.4	-140.16	-335.9	514.7	487.7	462.3	25.38	19.219	

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Drieth 4G-6H-I368
Project:	DJ Wattenberg	**TVD Reference:**	WELL @ 5124.0ft (Original Well Elev)
Reference Site:	S6-T3N-R68W (Zisch/Drieth 1)	**MD Reference:**	WELL @ 5124.0ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Drieth 4G-6H-I368	**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 S6-T3N-R68W (Zisch/Drieth 1) - Drieth 4F-6H-I368 - Hz - Plan #1

Offset Site Error: 0.0 ft

Survey Program: 0-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	0.00	10.9	0.0	10.9				
100.0	100.0	100.0	100.0	0.2	0.2	0.00	10.9	0.0	10.9	10.6	0.30	35.986	
200.0	200.0	200.0	200.0	0.3	0.3	0.00	10.9	0.0	10.9	10.3	0.65	16.742	CC, ES
300.0	300.0	300.0	300.0	0.5	0.5	-155.03	10.9	0.0	11.7	10.7	1.00	11.691	
400.0	400.0	400.2	400.2	0.7	0.7	-157.61	10.2	0.5	13.4	12.0	1.35	9.900	
500.0	499.9	500.4	500.3	0.9	0.9	-158.58	8.1	2.1	15.2	13.5	1.70	8.925	
600.0	599.7	600.6	600.4	1.1	1.0	-158.41	4.6	4.7	17.2	15.1	2.06	8.335	
700.0	699.4	700.8	700.5	1.3	1.2	-157.46	-0.3	8.4	19.3	16.8	2.42	7.953	
800.0	798.9	801.1	800.5	1.5	1.5	-155.97	-6.6	13.1	21.5	18.7	2.79	7.693	
900.0	898.3	901.4	900.3	1.8	1.7	-154.13	-14.3	18.9	23.9	20.7	3.18	7.506	
1,000.0	997.4	1,001.7	1,000.0	2.0	1.9	-152.06	-23.4	25.8	26.5	22.9	3.59	7.362	
1,100.0	1,096.3	1,102.0	1,099.4	2.3	2.2	-149.86	-33.9	33.7	29.2	25.2	4.04	7.241	
1,200.0	1,194.9	1,202.4	1,198.7	2.7	2.5	-147.60	-45.8	42.6	32.2	27.7	4.52	7.129	
1,300.0	1,293.3	1,302.8	1,297.7	3.0	2.8	-145.33	-59.1	52.6	35.4	30.4	5.05	7.018	
1,400.0	1,391.2	1,403.2	1,396.3	3.4	3.2	-143.11	-73.7	63.6	38.9	33.3	5.63	6.905	
1,500.0	1,488.9	1,503.6	1,494.7	3.8	3.5	-140.94	-89.8	75.6	42.6	36.3	6.27	6.789	
1,600.0	1,586.1	1,604.0	1,592.7	4.2	3.9	-138.86	-107.2	88.7	46.5	39.6	6.98	6.671	
1,700.0	1,682.9	1,704.4	1,690.4	4.7	4.4	-136.86	-126.0	102.8	50.8	43.0	7.75	6.553	
1,800.0	1,779.3	1,804.8	1,787.6	5.2	4.8	-134.96	-146.2	118.0	55.3	46.7	8.58	6.438	
1,900.0	1,875.4	1,904.7	1,884.0	5.7	5.3	-133.37	-166.9	133.5	60.0	50.5	9.45	6.348	
2,000.0	1,971.5	2,004.5	1,980.5	6.2	5.8	-132.00	-187.5	149.0	64.7	54.4	10.32	6.268	
2,100.0	2,067.7	2,104.4	2,077.0	6.7	6.2	-130.82	-208.2	164.5	69.5	58.3	11.21	6.197	
2,200.0	2,163.8	2,204.3	2,173.4	7.2	6.7	-129.79	-228.9	180.0	74.3	62.2	12.11	6.133	
2,300.0	2,259.9	2,304.2	2,269.9	7.7	7.2	-128.89	-249.5	195.6	79.1	66.1	13.02	6.077	
2,400.0	2,356.0	2,404.0	2,366.4	8.2	7.7	-128.09	-270.2	211.1	84.0	70.0	13.93	6.026	
2,500.0	2,452.2	2,503.9	2,462.9	8.7	8.1	-127.38	-290.9	226.6	88.8	74.0	14.85	5.981	
2,600.0	2,548.3	2,603.8	2,559.3	9.2	8.6	-126.75	-311.6	242.1	93.7	77.9	15.77	5.941	
2,700.0	2,644.4	2,703.7	2,655.8	9.7	9.1	-126.17	-332.2	257.7	98.6	81.9	16.69	5.905	
2,800.0	2,740.5	2,803.6	2,752.3	10.2	9.6	-125.65	-352.9	273.2	103.4	85.8	17.62	5.872	
2,900.0	2,836.7	2,903.4	2,848.8	10.7	10.1	-125.18	-373.6	288.7	108.3	89.8	18.54	5.842	
3,000.0	2,932.8	3,003.3	2,945.2	11.2	10.5	-124.75	-394.2	304.2	113.2	93.8	19.47	5.814	
3,100.0	3,028.9	3,103.2	3,041.7	11.7	11.0	-124.35	-414.9	319.7	118.1	97.7	20.41	5.789	
3,200.0	3,125.1	3,203.1	3,138.2	12.3	11.5	-123.99	-435.6	335.3	123.0	101.7	21.34	5.767	
3,300.0	3,221.2	3,302.9	3,234.6	12.8	12.0	-123.65	-456.3	350.8	128.0	105.7	22.27	5.746	
3,400.0	3,317.3	3,402.8	3,331.1	13.3	12.5	-123.34	-476.9	366.3	132.9	109.7	23.21	5.726	
3,500.0	3,413.4	3,502.7	3,427.6	13.8	13.0	-123.05	-497.6	381.8	137.8	113.7	24.14	5.708	
3,600.0	3,509.6	3,602.6	3,524.1	14.3	13.4	-122.78	-518.3	397.3	142.7	117.7	25.08	5.692	
3,700.0	3,605.7	3,702.4	3,620.5	14.8	13.9	-122.53	-538.9	412.9	147.7	121.6	26.02	5.676	
3,800.0	3,701.8	3,801.3	3,716.3	15.3	14.4	-122.58	-558.8	427.8	152.9	126.0	26.87	5.690	
3,900.0	3,797.9	3,900.0	3,812.2	15.8	14.8	-123.19	-577.3	441.6	158.8	131.2	27.59	5.757	
4,000.0	3,894.1	3,998.7	3,908.5	16.3	15.2	-124.29	-594.4	454.5	165.5	137.3	28.18	5.874	
4,100.0	3,990.2	4,097.0	4,004.9	16.9	15.6	-125.81	-610.2	466.4	173.0	144.3	28.62	6.044	
4,200.0	4,086.3	4,195.1	4,101.3	17.4	15.9	-127.68	-624.6	477.2	181.3	152.4	28.92	6.271	
4,300.0	4,182.4	4,292.9	4,197.7	17.9	16.2	-129.81	-637.7	487.0	190.7	161.7	29.08	6.559	
4,400.0	4,278.6	4,390.3	4,293.9	18.4	16.5	-132.14	-649.4	495.8	201.3	172.2	29.11	6.915	
4,500.0	4,374.8	4,487.2	4,390.1	18.9	16.8	-134.59	-659.7	503.5	212.9	183.9	29.02	7.336	
4,600.0	4,471.4	4,584.0	4,486.1	19.4	17.0	-136.88	-668.7	510.3	224.7	195.8	28.89	7.778	
4,700.0	4,568.5	4,680.5	4,582.2	19.8	17.3	-138.97	-676.4	516.1	236.6	207.8	28.74	8.233	
4,800.0	4,666.0	4,776.9	4,678.2	20.2	17.4	-140.90	-682.8	520.9	248.5	219.9	28.56	8.699	
4,900.0	4,763.8	4,873.0	4,774.1	20.6	17.6	-142.69	-687.9	524.7	260.4	232.0	28.38	9.174	
5,000.0	4,862.0	4,968.9	4,869.9	21.0	17.8	-144.36	-691.7	527.6	272.2	244.1	28.18	9.659	
5,100.0	4,960.5	5,064.6	4,965.5	21.3	17.9	-145.92	-694.2	529.4	284.1	256.1	27.98	10.153	

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 Drieth 4G-6H-I368
Project:	DJ Wattenberg	**TVD Reference:**	WELL @ 5124.0ft (Original Well Elev)
Reference Site:	S6-T3N-R68W (Zisch/Drieth 1)	**MD Reference:**	WELL @ 5124.0ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Drieth 4G-6H-I368	**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 S6-T3N-R68W (Zisch/Drieth 1) - Drieth 4F-6H-I368 - Hz - Plan #1

Offset Site Error: 0.0 ft

Survey Program: 0-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	5,059.3	5,160.1	5,061.0	21.6	18.0	-147.39	-695.5	530.4	295.9	268.1	27.77	10.653	
5,300.0	5,158.4	5,257.4	5,158.4	21.9	18.0	-148.78	-695.6	530.5	307.5	279.9	27.57	11.150	
5,400.0	5,257.6	5,356.7	5,257.6	22.1	18.1	-149.96	-695.6	530.5	317.8	290.4	27.44	11.581	
5,500.0	5,357.1	5,456.2	5,357.1	22.4	18.2	-150.90	-695.6	530.5	326.8	299.4	27.38	11.932	
5,600.0	5,456.7	5,555.8	5,456.7	22.6	18.3	-151.65	-695.6	530.5	334.3	306.9	27.39	12.204	
5,700.0	5,556.5	5,655.6	5,556.5	22.7	18.4	-152.22	-695.6	530.5	340.3	312.8	27.45	12.395	
5,800.0	5,656.4	5,755.4	5,656.4	22.9	18.5	-152.63	-695.6	530.5	344.7	317.2	27.56	12.508	
5,900.0	5,756.3	5,855.4	5,756.3	23.0	18.6	-152.90	-695.6	530.5	347.7	320.0	27.72	12.545	
6,000.0	5,856.3	5,955.4	5,856.3	23.1	18.7	-153.02	-695.6	530.5	349.1	321.2	27.91	12.506	
6,100.0	5,956.3	6,055.4	5,956.3	23.2	18.8	0.07	-695.6	530.5	349.2	311.7	37.47	9.319	
6,200.0	6,056.3	6,155.4	6,056.3	23.2	18.9	0.07	-695.6	530.5	349.2	311.5	37.67	9.269	
6,300.0	6,156.3	6,255.4	6,156.3	23.3	19.0	0.07	-695.6	530.5	349.2	311.3	37.88	9.220	
6,400.0	6,256.3	6,355.4	6,256.3	23.4	19.1	0.07	-695.6	530.5	349.2	311.1	38.08	9.170	
6,500.0	6,356.3	6,455.4	6,356.3	23.5	19.2	0.05	-695.6	530.4	349.2	310.9	38.30	9.119	
6,523.0	6,379.3	6,478.3	6,379.2	23.5	19.2	-0.07	-695.6	529.6	349.2	310.8	38.37	9.100	
6,600.0	6,456.3	6,554.5	6,455.0	23.6	19.2	-1.33	-695.6	521.9	349.3	310.5	38.85	8.991	
6,700.0	6,556.3	6,650.0	6,548.1	23.7	19.1	-4.76	-695.6	501.0	350.5	310.7	39.83	8.800	
6,800.0	6,656.1	6,739.8	6,632.4	23.7	18.9	80.80	-695.6	470.2	354.2	327.8	26.39	13.422	
6,900.0	6,754.0	6,827.1	6,710.0	23.6	18.7	76.60	-695.6	430.4	359.7	334.5	25.21	14.272	
7,000.0	6,848.3	6,912.0	6,780.3	23.5	18.4	72.76	-695.6	382.8	366.7	342.3	24.40	15.027	
7,100.0	6,937.1	6,995.0	6,843.1	23.3	18.2	69.34	-695.6	328.7	374.4	350.5	23.98	15.612	
7,200.0	7,018.6	7,076.2	6,898.2	23.0	18.0	66.36	-695.6	269.0	382.5	358.6	23.91	15.999	
7,300.0	7,091.3	7,156.1	6,945.3	22.8	17.9	63.83	-695.6	204.5	390.2	366.2	24.07	16.212	
7,400.0	7,153.8	7,234.9	6,984.6	22.7	17.8	61.76	-695.6	136.2	397.3	372.9	24.46	16.246	
7,500.0	7,204.7	7,312.9	7,015.7	22.6	17.8	60.13	-695.6	64.9	403.4	378.3	25.04	16.109	
7,600.0	7,243.3	7,390.1	7,038.8	22.6	18.0	58.94	-695.6	-8.8	408.1	382.2	25.83	15.797	
7,700.0	7,268.6	7,467.0	7,053.8	22.8	18.3	58.17	-695.6	-84.2	411.2	384.3	26.90	15.284	
7,800.0	7,280.2	7,543.5	7,060.6	23.3	18.9	57.82	-695.6	-160.4	412.7	384.4	28.26	14.606	
7,900.0	7,281.0	7,635.8	7,061.0	23.9	19.9	57.80	-695.6	-252.6	412.8	382.2	30.57	13.505	
8,000.0	7,281.0	7,735.8	7,061.0	24.9	21.3	57.80	-695.6	-352.6	412.8	379.3	33.49	12.325	
8,100.0	7,281.0	7,835.8	7,061.0	26.1	23.0	57.80	-695.6	-452.6	412.8	376.2	36.67	11.259	
8,200.0	7,281.0	7,935.8	7,061.0	27.6	24.8	57.80	-695.6	-552.6	412.8	372.8	40.03	10.313	
8,300.0	7,281.0	8,035.8	7,061.0	29.2	26.7	57.80	-695.6	-652.6	412.8	369.3	43.54	9.482	
8,400.0	7,281.0	8,135.8	7,061.0	31.0	28.8	57.80	-695.6	-752.6	412.9	365.7	47.16	8.755	
8,500.0	7,281.0	8,235.8	7,061.0	32.9	30.8	57.80	-695.6	-852.6	412.9	362.0	50.87	8.117	
8,600.0	7,281.0	8,335.8	7,061.0	34.9	33.0	57.80	-695.5	-952.6	412.9	358.2	54.64	7.556	
8,700.0	7,281.0	8,435.8	7,061.0	37.0	35.2	57.80	-695.5	-1,052.6	412.9	354.4	58.48	7.060	
8,800.0	7,281.0	8,535.8	7,061.0	39.1	37.4	57.80	-695.5	-1,152.6	412.9	350.5	62.36	6.621	
8,900.0	7,281.0	8,635.8	7,061.0	41.3	39.7	57.80	-695.5	-1,252.6	412.9	346.6	66.28	6.230	
9,000.0	7,281.0	8,735.8	7,061.0	43.5	42.0	57.80	-695.5	-1,352.6	412.9	342.7	70.23	5.879	
9,100.0	7,281.0	8,835.8	7,061.0	45.7	44.3	57.81	-695.5	-1,452.6	412.9	338.7	74.21	5.564	
9,200.0	7,281.0	8,935.8	7,061.0	48.0	46.6	57.81	-695.5	-1,552.6	412.9	334.7	78.21	5.280	
9,300.0	7,281.0	9,035.8	7,061.0	50.2	48.9	57.81	-695.5	-1,652.6	412.9	330.7	82.23	5.022	
9,400.0	7,281.0	9,135.8	7,061.0	52.5	51.3	57.81	-695.5	-1,752.6	412.9	326.7	86.27	4.787	
9,500.0	7,281.0	9,235.8	7,061.0	54.8	53.6	57.81	-695.5	-1,852.6	413.0	322.6	90.32	4.572	
9,600.0	7,281.0	9,335.8	7,061.0	57.2	56.0	57.81	-695.5	-1,952.6	413.0	318.6	94.38	4.375	
9,700.0	7,281.0	9,435.8	7,061.0	59.5	58.4	57.81	-695.5	-2,052.6	413.0	314.5	98.46	4.194	
9,800.0	7,281.0	9,535.8	7,061.0	61.8	60.7	57.81	-695.5	-2,152.6	413.0	310.4	102.54	4.027	
9,900.0	7,281.0	9,635.8	7,061.0	64.2	63.1	57.81	-695.5	-2,252.6	413.0	306.4	106.63	3.873	
10,000.0	7,281.0	9,735.8	7,061.0	66.6	65.5	57.81	-695.5	-2,352.6	413.0	302.3	110.73	3.730	
10,100.0	7,281.0	9,835.8	7,061.0	68.9	67.9	57.81	-695.5	-2,452.6	413.0	298.2	114.84	3.596	
10,200.0	7,281.0	9,935.8	7,061.0	71.3	70.3	57.81	-695.5	-2,552.6	413.0	294.1	118.96	3.472	

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 Drieth 4G-6H-I368
Project:	DJ Wattenberg	**TVD Reference:**	WELL @ 5124.0ft (Original Well Elev)
Reference Site:	S6-T3N-R68W (Zisch/Drieth 1)	**MD Reference:**	WELL @ 5124.0ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Drieth 4G-6H-I368	**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 S6-T3N-R68W (Zisch/Drieth 1) - Drieth 4F-6H-I368 - Hz - Plan #1

Offset Site Error: 0.0 ft

Survey Program: 0-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	7,281.0	10,035.8	7,061.0	73.7	72.7	57.81	-695.5	-2,652.6	413.0	290.0	123.07	3.356	
10,400.0	7,281.0	10,135.8	7,061.0	76.1	75.2	57.82	-695.5	-2,752.6	413.0	285.8	127.20	3.247	
10,500.0	7,281.0	10,235.8	7,061.0	78.5	77.6	57.82	-695.5	-2,852.6	413.0	281.7	131.33	3.145	
10,600.0	7,281.0	10,335.8	7,061.0	80.9	80.0	57.82	-695.5	-2,952.6	413.1	277.6	135.46	3.049	
10,700.0	7,281.0	10,435.8	7,061.0	83.3	82.4	57.82	-695.5	-3,052.6	413.1	273.5	139.60	2.959	
10,800.0	7,281.0	10,535.8	7,061.0	85.7	84.9	57.82	-695.5	-3,152.6	413.1	269.3	143.74	2.874	
10,900.0	7,281.0	10,635.8	7,061.0	88.1	87.3	57.82	-695.5	-3,252.6	413.1	265.2	147.88	2.793	
11,000.0	7,281.0	10,735.8	7,061.0	90.5	89.7	57.82	-695.5	-3,352.6	413.1	261.1	152.03	2.717	
11,100.0	7,281.0	10,835.8	7,061.0	93.0	92.2	57.82	-695.5	-3,452.6	413.1	256.9	156.17	2.645	
11,200.0	7,281.0	10,935.8	7,061.0	95.4	94.6	57.82	-695.5	-3,552.6	413.1	252.8	160.33	2.577	
11,300.0	7,281.0	11,035.8	7,061.0	97.8	97.0	57.82	-695.4	-3,652.6	413.1	248.6	164.48	2.512	
11,400.0	7,281.0	11,135.8	7,061.0	100.2	99.5	57.82	-695.4	-3,752.6	413.1	244.5	168.63	2.450	
11,500.0	7,281.0	11,235.8	7,061.0	102.7	101.9	57.82	-695.4	-3,852.6	413.1	240.3	172.79	2.391	
11,600.0	7,281.0	11,335.8	7,061.0	105.1	104.4	57.83	-695.4	-3,952.6	413.1	236.2	176.95	2.335	
11,700.0	7,281.0	11,435.8	7,061.0	107.5	106.8	57.83	-695.4	-4,052.6	413.2	232.0	181.11	2.281	
11,800.0	7,281.0	11,535.8	7,061.0	110.0	109.3	57.83	-695.4	-4,152.6	413.2	227.9	185.28	2.230	
11,803.5	7,281.0	11,539.2	7,061.0	110.0	109.3	57.83	-695.4	-4,156.1	413.2	227.7	185.42	2.228	SF

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Drieth 4G-6H-I368
Project:	DJ Wattenberg	**TVD Reference:**	WELL @ 5124.0ft (Original Well Elev)
Reference Site:	S6-T3N-R68W (Zisch/Drieth 1)	**MD Reference:**	WELL @ 5124.0ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Drieth 4G-6H-I368	**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 S6-T3N-R68W (Zisch/Drieth 1) - Zisch 3A-6H-M368 - HZ - Plan #1

Offset Site Error: 0.0 ft

Survey Program: 0-MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
7,000.0	6,848.3	11,551.0	7,041.0	23.5	108.7	-39.09	-1,271.4	106.1	453.4	369.5	83.84	5.408	
7,100.0	6,937.1	11,551.0	7,041.0	23.3	108.7	-42.81	-1,271.4	106.1	395.6	307.4	88.17	4.487	
7,200.0	7,018.6	11,551.0	7,041.0	23.0	108.7	-45.90	-1,271.4	106.1	347.3	255.9	91.36	3.801	
7,300.0	7,091.3	11,551.0	7,041.0	22.8	108.7	-47.98	-1,271.4	106.1	313.9	220.8	93.09	3.372	
7,400.0	7,153.8	11,551.0	7,041.0	22.7	108.7	-48.75	-1,271.4	106.1	301.3	208.0	93.27	3.230	ES, SF
7,403.9	7,156.0	11,551.0	7,041.0	22.7	108.7	-48.75	-1,271.4	106.1	301.3	208.0	93.25	3.231	CC
7,500.0	7,204.7	11,551.0	7,041.0	22.6	108.7	-48.09	-1,271.4	106.1	312.1	220.2	91.97	3.394	
7,600.0	7,243.3	11,488.2	7,041.0	22.6	107.2	-43.58	-1,271.3	43.2	338.3	253.4	84.85	3.987	
7,700.0	7,268.6	11,391.5	7,041.0	22.8	104.8	-39.80	-1,271.3	-53.4	357.5	278.8	78.72	4.541	
7,800.0	7,280.2	11,292.3	7,041.0	23.3	102.4	-38.19	-1,271.3	-152.7	366.5	289.9	76.60	4.785	
7,900.0	7,281.0	11,192.3	7,041.0	23.9	100.0	-38.08	-1,271.3	-252.6	367.2	290.8	76.32	4.811	
8,000.0	7,281.0	11,092.3	7,041.0	24.9	97.5	-38.08	-1,271.3	-352.6	367.1	291.4	75.77	4.845	
8,100.0	7,281.0	10,992.3	7,041.0	26.1	95.1	-38.08	-1,271.3	-452.6	367.1	291.8	75.31	4.875	
8,200.0	7,281.0	10,892.3	7,041.0	27.6	92.7	-38.08	-1,271.3	-552.6	367.1	292.2	74.93	4.900	
8,300.0	7,281.0	10,792.3	7,041.0	29.2	90.2	-38.07	-1,271.3	-652.6	367.1	292.5	74.61	4.921	
8,400.0	7,281.0	10,692.3	7,041.0	31.0	87.8	-38.07	-1,271.3	-752.6	367.1	292.8	74.34	4.939	
8,500.0	7,281.0	10,592.3	7,041.0	32.9	85.4	-38.07	-1,271.3	-852.6	367.1	293.0	74.10	4.954	
8,600.0	7,281.0	10,492.3	7,041.0	34.9	83.0	-38.07	-1,271.3	-952.6	367.1	293.2	73.90	4.967	
8,700.0	7,281.0	10,392.3	7,041.0	37.0	80.5	-38.07	-1,271.3	-1,052.6	367.1	293.3	73.74	4.978	
8,800.0	7,281.0	10,292.3	7,041.0	39.1	78.1	-38.06	-1,271.3	-1,152.6	367.1	293.5	73.59	4.988	
8,900.0	7,281.0	10,192.3	7,041.0	41.3	75.7	-38.06	-1,271.2	-1,252.6	367.1	293.6	73.47	4.996	
9,000.0	7,281.0	10,092.3	7,041.0	43.5	73.3	-38.06	-1,271.2	-1,352.6	367.1	293.7	73.36	5.004	
9,100.0	7,281.0	9,992.3	7,041.0	45.7	70.9	-38.06	-1,271.2	-1,452.6	367.0	293.8	73.27	5.010	
9,200.0	7,281.0	9,892.3	7,041.0	48.0	68.5	-38.06	-1,271.2	-1,552.6	367.0	293.8	73.19	5.015	
9,300.0	7,281.0	9,792.3	7,041.0	50.2	66.1	-38.06	-1,271.2	-1,652.6	367.0	293.9	73.13	5.019	
9,400.0	7,281.0	9,692.3	7,041.0	52.5	63.7	-38.05	-1,271.2	-1,752.6	367.0	293.9	73.08	5.022	
9,500.0	7,281.0	9,592.3	7,041.0	54.8	61.3	-38.05	-1,271.2	-1,852.6	367.0	294.0	73.04	5.025	
9,600.0	7,281.0	9,492.3	7,041.0	57.2	59.0	-38.05	-1,271.2	-1,952.6	367.0	294.0	73.01	5.027	
9,700.0	7,281.0	9,392.3	7,041.0	59.5	56.6	-38.05	-1,271.2	-2,052.6	367.0	294.0	72.99	5.028	
9,800.0	7,281.0	9,292.3	7,041.0	61.8	54.3	-38.05	-1,271.2	-2,152.6	367.0	294.0	72.98	5.028	
9,900.0	7,281.0	9,192.3	7,041.0	64.2	51.9	-38.05	-1,271.2	-2,252.6	367.0	294.0	72.98	5.028	
10,000.0	7,281.0	9,092.3	7,041.0	66.6	49.6	-38.04	-1,271.2	-2,352.6	367.0	294.0	73.00	5.027	
10,100.0	7,281.0	8,992.3	7,041.0	68.9	47.3	-38.04	-1,271.2	-2,452.6	367.0	293.9	73.02	5.026	
10,200.0	7,281.0	8,892.3	7,041.0	71.3	45.0	-38.04	-1,271.1	-2,552.6	366.9	293.9	73.05	5.023	
10,300.0	7,281.0	8,792.3	7,041.0	73.7	42.7	-38.04	-1,271.1	-2,652.6	366.9	293.8	73.10	5.020	
10,400.0	7,281.0	8,692.3	7,041.0	76.1	40.4	-38.04	-1,271.1	-2,752.6	366.9	293.8	73.16	5.015	
10,500.0	7,281.0	8,592.3	7,041.0	78.5	38.2	-38.03	-1,271.1	-2,852.6	366.9	293.7	73.24	5.010	
10,600.0	7,281.0	8,492.3	7,041.0	80.9	36.0	-38.03	-1,271.1	-2,952.6	366.9	293.6	73.33	5.003	
10,700.0	7,281.0	8,392.3	7,041.0	83.3	33.9	-38.03	-1,271.1	-3,052.6	366.9	293.5	73.45	4.995	
10,800.0	7,281.0	8,292.3	7,041.0	85.7	31.7	-38.03	-1,271.1	-3,152.6	366.9	293.3	73.59	4.986	
10,900.0	7,281.0	8,192.3	7,041.0	88.1	29.7	-38.03	-1,271.1	-3,252.6	366.9	293.1	73.76	4.974	
11,000.0	7,281.0	8,092.3	7,041.0	90.5	27.7	-38.03	-1,271.1	-3,352.6	366.9	292.9	73.96	4.960	
11,100.0	7,281.0	7,992.3	7,041.0	93.0	25.8	-38.02	-1,271.1	-3,452.6	366.9	292.7	74.21	4.944	
11,200.0	7,281.0	7,892.3	7,041.0	95.4	24.1	-38.02	-1,271.1	-3,552.6	366.9	292.3	74.51	4.923	
11,300.0	7,281.0	7,792.3	7,041.0	97.8	22.6	-38.02	-1,271.1	-3,652.6	366.8	292.0	74.88	4.899	
11,400.0	7,281.0	7,692.3	7,041.0	100.2	21.3	-38.02	-1,271.1	-3,752.6	366.8	291.5	75.34	4.869	
11,500.0	7,281.0	7,592.3	7,041.0	102.7	20.4	-38.02	-1,271.1	-3,852.6	366.8	290.9	75.91	4.833	
11,505.5	7,281.0	7,586.8	7,041.0	102.8	20.4	-38.02	-1,271.1	-3,858.1	366.8	290.9	75.94	4.830	
11,600.0	7,281.0	7,514.6	7,038.9	105.1	20.0	-37.81	-1,271.0	-3,930.3	369.2	292.7	76.48	4.827	
11,700.0	7,281.0	7,450.0	7,031.1	107.5	19.7	-37.08	-1,271.0	-3,994.4	379.2	302.8	76.42	4.962	
11,800.0	7,281.0	7,376.8	7,015.2	110.0	19.6	-35.67	-1,271.0	-4,065.9	397.0	321.7	75.32	5.271	
11,803.5	7,281.0	7,374.5	7,014.6	110.0	19.6	-35.61	-1,271.0	-4,068.1	397.8	322.5	75.28	5.284	

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 Drieth 4G-6H-I368
Project:	DJ Wattenberg	**TVD Reference:**	WELL @ 5124.0ft (Original Well Elev)
Reference Site:	S6-T3N-R68W (Zisch/Drieth 1)	**MD Reference:**	WELL @ 5124.0ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Drieth 4G-6H-I368	**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 WELL @ 5124.0ft (Original Well Elev)
Offset Depths are relative to Offset Datum
Central Meridian is -105.500000 °

Coordinates are relative to: Drieth 4G-6H-I368
Coordinate System is US State Plane 1983, Colorado Northern Zone
Grid Convergence at Surface is: 0.30°