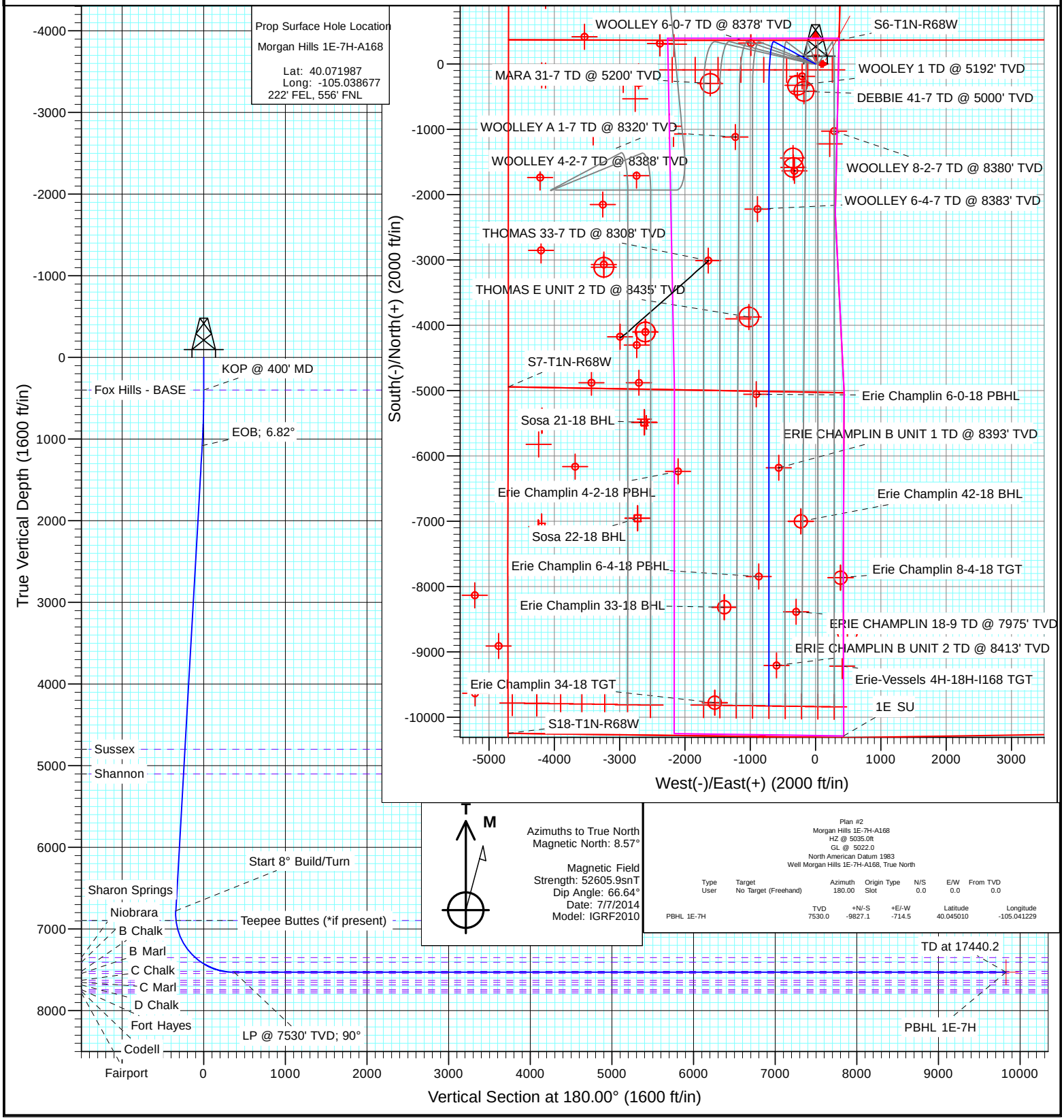
encana natural gas

Project: DJ Wattenberg
Site: S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)
Well: Morgan Hills 1E-7H-A168
Wellbore: HZ
Design: Plan #2

CATHEDRAL

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target	Annotation
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0		
2	400.0	0.00	0.00	400.0	0.0	0.0	0.00	0.00	0.0		KOP @ 400' MD
3	1082.1	6.82	298.36	1080.4	19.3	-35.7	1.00	298.36	-19.3		EOB; 6.82°
4	6819.8	6.82	298.36	6777.6	343.0	-635.3	0.00	0.00	-343.0		Start 8° Build/Turn
5	7985.2	90.00	180.00	7530.0	-372.1	-714.5	8.00	-118.19	372.1		LP @ 7530' TVD; 90°
6	17440.2	90.00	180.00	7530.0	-9827.1	-714.5	0.00	0.00	9827.1	PBHL 1E-7H	TD at 17440.2



Planning Report

Database:	USA EDM 5000 Multi Users DB	**Local Co-ordinate Reference:**	Well Morgan Hills 1E-7H-A168
Company:	EnCana Oil & Gas (USA) Inc	**TVD Reference:**	HZ @ 5035.0ft
Project:	DJ Wattenberg	**MD Reference:**	HZ @ 5035.0ft
Site:	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	**North Reference:**	True
Well:	Morgan Hills 1E-7H-A168	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	HZ		
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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 S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)

Site Position:		**Northing:**	1,265,219.42 ft	**Latitude:**	40.060530
From:	Lat/Long	**Easting:**	3,126,139.27 ft	**Longitude:**	-105.049370
Position Uncertainty:	0.0 ft	**Slot Radius:**	13.200 in	**Grid Convergence:**	0.29 °

Well Morgan Hills 1E-7H-A168

Well Position	**+N/-S**	0.0 ft	**Northing:**	1,269,408.27 ft	**Latitude:**	40.071987
	+E/-W	0.0 ft	**Easting:**	3,129,110.55 ft	**Longitude:**	-105.038677
Position Uncertainty		0.0 ft	**Wellhead Elevation:**	0.0 ft	**Ground Level:**	5,022.0 ft

Wellbore HZ

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	7/7/2014	8.57	66.64	52,606

Design Plan #2

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	
400.0	0.00	0.00	400.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,082.1	6.82	298.36	1,080.4	19.3	-35.7	1.00	1.00	0.00	298.36	
6,819.8	6.82	298.36	6,777.6	343.0	-635.3	0.00	0.00	0.00	0.00	
7,985.2	90.00	180.00	7,530.0	-372.1	-714.5	8.00	7.14	-10.16	-118.19	
17,440.2	90.00	180.00	7,530.0	-9,827.1	-714.5	0.00	0.00	0.00	0.00	PBHL 1E-7H

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Project:	DJ Wattenberg	**MD Reference:**	HZ @ 5035.0ft
Site:	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	**North Reference:**	True
Well:	Morgan Hills 1E-7H-A168	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	HZ		
Design:	Plan #2		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Comments / Formations
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	KOP @ 400' MD - Fox Hills - BASE
500.0	1.00	298.36	500.0	0.4	-0.8	-0.4	1.00	1.00	
600.0	2.00	298.36	600.0	1.7	-3.1	-1.7	1.00	1.00	
700.0	3.00	298.36	699.9	3.7	-6.9	-3.7	1.00	1.00	
800.0	4.00	298.36	799.7	6.6	-12.3	-6.6	1.00	1.00	
900.0	5.00	298.36	899.4	10.4	-19.2	-10.4	1.00	1.00	
1,000.0	6.00	298.36	998.9	14.9	-27.6	-14.9	1.00	1.00	
1,082.1	6.82	298.36	1,080.4	19.3	-35.7	-19.3	1.00	1.00	EOB; 6.82°
1,100.0	6.82	298.36	1,098.3	20.3	-37.6	-20.3	0.00	0.00	
1,200.0	6.82	298.36	1,197.6	25.9	-48.0	-25.9	0.00	0.00	
1,300.0	6.82	298.36	1,296.8	31.6	-58.5	-31.6	0.00	0.00	
1,400.0	6.82	298.36	1,396.1	37.2	-68.9	-37.2	0.00	0.00	
1,500.0	6.82	298.36	1,495.4	42.8	-79.4	-42.8	0.00	0.00	
1,600.0	6.82	298.36	1,594.7	48.5	-89.8	-48.5	0.00	0.00	
1,700.0	6.82	298.36	1,694.0	54.1	-100.3	-54.1	0.00	0.00	
1,800.0	6.82	298.36	1,793.3	59.8	-110.7	-59.8	0.00	0.00	
1,900.0	6.82	298.36	1,892.6	65.4	-121.2	-65.4	0.00	0.00	
2,000.0	6.82	298.36	1,991.9	71.1	-131.6	-71.1	0.00	0.00	
2,100.0	6.82	298.36	2,091.2	76.7	-142.1	-76.7	0.00	0.00	
2,200.0	6.82	298.36	2,190.5	82.3	-152.5	-82.3	0.00	0.00	
2,300.0	6.82	298.36	2,289.8	88.0	-163.0	-88.0	0.00	0.00	
2,400.0	6.82	298.36	2,389.1	93.6	-173.4	-93.6	0.00	0.00	
2,500.0	6.82	298.36	2,488.4	99.3	-183.9	-99.3	0.00	0.00	
2,600.0	6.82	298.36	2,587.6	104.9	-194.3	-104.9	0.00	0.00	
2,700.0	6.82	298.36	2,686.9	110.5	-204.8	-110.5	0.00	0.00	
2,800.0	6.82	298.36	2,786.2	116.2	-215.2	-116.2	0.00	0.00	
2,900.0	6.82	298.36	2,885.5	121.8	-225.7	-121.8	0.00	0.00	
3,000.0	6.82	298.36	2,984.8	127.5	-236.1	-127.5	0.00	0.00	
3,100.0	6.82	298.36	3,084.1	133.1	-246.6	-133.1	0.00	0.00	
3,200.0	6.82	298.36	3,183.4	138.8	-257.0	-138.8	0.00	0.00	
3,300.0	6.82	298.36	3,282.7	144.4	-267.5	-144.4	0.00	0.00	
3,400.0	6.82	298.36	3,382.0	150.0	-277.9	-150.0	0.00	0.00	
3,500.0	6.82	298.36	3,481.3	155.7	-288.4	-155.7	0.00	0.00	
3,600.0	6.82	298.36	3,580.6	161.3	-298.8	-161.3	0.00	0.00	
3,700.0	6.82	298.36	3,679.9	167.0	-309.3	-167.0	0.00	0.00	
3,800.0	6.82	298.36	3,779.2	172.6	-319.7	-172.6	0.00	0.00	
3,900.0	6.82	298.36	3,878.4	178.2	-330.2	-178.2	0.00	0.00	
4,000.0	6.82	298.36	3,977.7	183.9	-340.6	-183.9	0.00	0.00	
4,100.0	6.82	298.36	4,077.0	189.5	-351.1	-189.5	0.00	0.00	
4,200.0	6.82	298.36	4,176.3	195.2	-361.5	-195.2	0.00	0.00	
4,300.0	6.82	298.36	4,275.6	200.8	-372.0	-200.8	0.00	0.00	
4,400.0	6.82	298.36	4,374.9	206.5	-382.4	-206.5	0.00	0.00	
4,500.0	6.82	298.36	4,474.2	212.1	-392.9	-212.1	0.00	0.00	
4,600.0	6.82	298.36	4,573.5	217.7	-403.3	-217.7	0.00	0.00	
4,700.0	6.82	298.36	4,672.8	223.4	-413.8	-223.4	0.00	0.00	
4,800.0	6.82	298.36	4,772.1	229.0	-424.2	-229.0	0.00	0.00	
4,828.1	6.82	298.36	4,800.0	230.6	-427.2	-230.6	0.00	0.00	Sussex
4,900.0	6.82	298.36	4,871.4	234.7	-434.7	-234.7	0.00	0.00	

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Well:	Morgan Hills 1E-7H-A168	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	HZ		
Design:	Plan #2		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Comments / Formations
5,000.0	6.82	298.36	4,970.7	240.3	-445.1	-240.3	0.00	0.00	
5,100.0	6.82	298.36	5,070.0	246.0	-455.6	-246.0	0.00	0.00	
5,130.3	6.82	298.36	5,100.0	247.7	-458.7	-247.7	0.00	0.00	Shannon
5,200.0	6.82	298.36	5,169.2	251.6	-466.0	-251.6	0.00	0.00	
5,300.0	6.82	298.36	5,268.5	257.2	-476.5	-257.2	0.00	0.00	
5,400.0	6.82	298.36	5,367.8	262.9	-486.9	-262.9	0.00	0.00	
5,500.0	6.82	298.36	5,467.1	268.5	-497.4	-268.5	0.00	0.00	
5,600.0	6.82	298.36	5,566.4	274.2	-507.8	-274.2	0.00	0.00	
5,700.0	6.82	298.36	5,665.7	279.8	-518.3	-279.8	0.00	0.00	
5,800.0	6.82	298.36	5,765.0	285.4	-528.7	-285.4	0.00	0.00	
5,900.0	6.82	298.36	5,864.3	291.1	-539.2	-291.1	0.00	0.00	
6,000.0	6.82	298.36	5,963.6	296.7	-549.6	-296.7	0.00	0.00	
6,100.0	6.82	298.36	6,062.9	302.4	-560.1	-302.4	0.00	0.00	
6,200.0	6.82	298.36	6,162.2	308.0	-570.5	-308.0	0.00	0.00	
6,300.0	6.82	298.36	6,261.5	313.7	-581.0	-313.7	0.00	0.00	
6,400.0	6.82	298.36	6,360.8	319.3	-591.4	-319.3	0.00	0.00	
6,500.0	6.82	298.36	6,460.0	324.9	-601.9	-324.9	0.00	0.00	
6,600.0	6.82	298.36	6,559.3	330.6	-612.3	-330.6	0.00	0.00	
6,700.0	6.82	298.36	6,658.6	336.2	-622.8	-336.2	0.00	0.00	
6,800.0	6.82	298.36	6,757.9	341.9	-633.2	-341.9	0.00	0.00	
6,819.8	6.82	298.36	6,777.6	343.0	-635.3	-343.0	0.00	0.00	Start 8° Build/Turn
6,850.0	6.06	277.75	6,807.6	344.0	-638.5	-344.0	8.00	-2.51	
6,900.0	6.80	242.01	6,857.3	343.0	-643.7	-343.0	8.00	1.47	
6,939.1	8.70	223.44	6,896.0	339.8	-647.8	-339.8	8.00	4.88	Teepee Buttes (*if present)
6,950.0	9.36	219.71	6,906.8	338.5	-648.9	-338.5	8.00	5.96	
7,000.0	12.68	207.90	6,955.9	330.5	-654.1	-330.5	8.00	6.64	
7,050.0	16.30	201.09	7,004.3	319.1	-659.2	-319.1	8.00	7.25	
7,100.0	20.07	196.74	7,051.8	304.3	-664.2	-304.3	8.00	7.53	
7,150.0	23.91	193.73	7,098.1	286.3	-669.0	-286.3	8.00	7.68	
7,200.0	27.79	191.52	7,143.1	265.0	-673.8	-265.0	8.00	7.76	
7,250.0	31.70	189.81	7,186.5	240.6	-678.3	-240.6	8.00	7.82	
7,300.0	35.63	188.44	7,228.1	213.3	-682.7	-213.3	8.00	7.86	
7,350.0	39.57	187.32	7,267.8	183.1	-686.9	-183.1	8.00	7.88	
7,400.0	43.52	186.36	7,305.2	150.1	-690.8	-150.1	8.00	7.90	
7,450.0	47.48	185.54	7,340.2	114.7	-694.5	-114.7	8.00	7.91	
7,464.6	48.63	185.32	7,350.0	103.8	-695.5	-103.8	8.00	7.92	Sharon Springs
7,500.0	51.44	184.81	7,372.7	76.8	-697.9	-76.8	8.00	7.93	
7,550.0	55.40	184.16	7,402.5	36.8	-701.1	-36.8	8.00	7.93	
7,559.8	56.18	184.04	7,408.0	28.8	-701.6	-28.8	8.00	7.94	Niobrara
7,600.0	59.37	183.57	7,429.4	-5.2	-703.9	5.2	8.00	7.94	
7,650.0	63.34	183.03	7,453.4	-49.0	-706.4	49.0	8.00	7.94	
7,700.0	67.32	182.52	7,474.3	-94.4	-708.6	94.4	8.00	7.95	
7,750.0	71.29	182.04	7,491.9	-141.1	-710.5	141.1	8.00	7.95	
7,800.0	75.27	181.59	7,506.3	-188.9	-712.0	188.9	8.00	7.95	
7,850.0	79.24	181.15	7,517.3	-237.7	-713.1	237.7	8.00	7.95	
7,859.2	79.97	181.07	7,519.0	-246.7	-713.3	246.7	8.00	7.95	B Chalk
7,900.0	83.22	180.72	7,525.0	-287.1	-714.0	287.1	8.00	7.96	
7,950.0	87.20	180.29	7,529.1	-336.9	-714.4	336.9	8.00	7.96	
7,985.2	90.00	180.00	7,530.0	-372.1	-714.5	372.1	8.00	7.96	LP @ 7530' TVD; 90°
8,000.0	90.00	180.00	7,530.0	-386.9	-714.5	386.9	0.00	0.00	
8,100.0	90.00	180.00	7,530.0	-486.9	-714.5	486.9	0.00	0.00	
8,200.0	90.00	180.00	7,530.0	-586.9	-714.5	586.9	0.00	0.00	

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Wellbore:	HZ		
Design:	Plan #2		

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
8,300.0	90.00	180.00	7,530.0	-686.9	-714.5	686.9	0.00	0.00	
8,400.0	90.00	180.00	7,530.0	-786.9	-714.5	786.9	0.00	0.00	
8,500.0	90.00	180.00	7,530.0	-886.9	-714.5	886.9	0.00	0.00	
8,600.0	90.00	180.00	7,530.0	-986.9	-714.5	986.9	0.00	0.00	
8,700.0	90.00	180.00	7,530.0	-1,086.9	-714.5	1,086.9	0.00	0.00	
8,800.0	90.00	180.00	7,530.0	-1,186.9	-714.5	1,186.9	0.00	0.00	
8,900.0	90.00	180.00	7,530.0	-1,286.9	-714.5	1,286.9	0.00	0.00	
9,000.0	90.00	180.00	7,530.0	-1,386.9	-714.5	1,386.9	0.00	0.00	
9,100.0	90.00	180.00	7,530.0	-1,486.9	-714.5	1,486.9	0.00	0.00	
9,200.0	90.00	180.00	7,530.0	-1,586.9	-714.5	1,586.9	0.00	0.00	
9,300.0	90.00	180.00	7,530.0	-1,686.9	-714.5	1,686.9	0.00	0.00	
9,400.0	90.00	180.00	7,530.0	-1,786.9	-714.5	1,786.9	0.00	0.00	
9,500.0	90.00	180.00	7,530.0	-1,886.9	-714.5	1,886.9	0.00	0.00	
9,600.0	90.00	180.00	7,530.0	-1,986.9	-714.5	1,986.9	0.00	0.00	
9,700.0	90.00	180.00	7,530.0	-2,086.9	-714.5	2,086.9	0.00	0.00	
9,800.0	90.00	180.00	7,530.0	-2,186.9	-714.5	2,186.9	0.00	0.00	
9,900.0	90.00	180.00	7,530.0	-2,286.9	-714.5	2,286.9	0.00	0.00	
10,000.0	90.00	180.00	7,530.0	-2,386.9	-714.5	2,386.9	0.00	0.00	
10,100.0	90.00	180.00	7,530.0	-2,486.9	-714.5	2,486.9	0.00	0.00	
10,200.0	90.00	180.00	7,530.0	-2,586.9	-714.5	2,586.9	0.00	0.00	
10,300.0	90.00	180.00	7,530.0	-2,686.9	-714.5	2,686.9	0.00	0.00	
10,400.0	90.00	180.00	7,530.0	-2,786.9	-714.5	2,786.9	0.00	0.00	
10,500.0	90.00	180.00	7,530.0	-2,886.9	-714.5	2,886.9	0.00	0.00	
10,600.0	90.00	180.00	7,530.0	-2,986.9	-714.5	2,986.9	0.00	0.00	
10,700.0	90.00	180.00	7,530.0	-3,086.9	-714.5	3,086.9	0.00	0.00	
10,800.0	90.00	180.00	7,530.0	-3,186.9	-714.5	3,186.9	0.00	0.00	
10,900.0	90.00	180.00	7,530.0	-3,286.9	-714.5	3,286.9	0.00	0.00	
11,000.0	90.00	180.00	7,530.0	-3,386.9	-714.5	3,386.9	0.00	0.00	
11,100.0	90.00	180.00	7,530.0	-3,486.9	-714.5	3,486.9	0.00	0.00	
11,200.0	90.00	180.00	7,530.0	-3,586.9	-714.5	3,586.9	0.00	0.00	
11,300.0	90.00	180.00	7,530.0	-3,686.9	-714.5	3,686.9	0.00	0.00	
11,400.0	90.00	180.00	7,530.0	-3,786.9	-714.5	3,786.9	0.00	0.00	
11,500.0	90.00	180.00	7,530.0	-3,886.9	-714.5	3,886.9	0.00	0.00	
11,600.0	90.00	180.00	7,530.0	-3,986.9	-714.5	3,986.9	0.00	0.00	
11,700.0	90.00	180.00	7,530.0	-4,086.9	-714.5	4,086.9	0.00	0.00	
11,800.0	90.00	180.00	7,530.0	-4,186.9	-714.5	4,186.9	0.00	0.00	
11,900.0	90.00	180.00	7,530.0	-4,286.9	-714.5	4,286.9	0.00	0.00	
12,000.0	90.00	180.00	7,530.0	-4,386.9	-714.5	4,386.9	0.00	0.00	
12,100.0	90.00	180.00	7,530.0	-4,486.9	-714.5	4,486.9	0.00	0.00	
12,200.0	90.00	180.00	7,530.0	-4,586.9	-714.5	4,586.9	0.00	0.00	
12,300.0	90.00	180.00	7,530.0	-4,686.9	-714.5	4,686.9	0.00	0.00	
12,400.0	90.00	180.00	7,530.0	-4,786.9	-714.5	4,786.9	0.00	0.00	
12,500.0	90.00	180.00	7,530.0	-4,886.9	-714.5	4,886.9	0.00	0.00	
12,600.0	90.00	180.00	7,530.0	-4,986.9	-714.5	4,986.9	0.00	0.00	
12,700.0	90.00	180.00	7,530.0	-5,086.9	-714.5	5,086.9	0.00	0.00	
12,800.0	90.00	180.00	7,530.0	-5,186.9	-714.5	5,186.9	0.00	0.00	
12,900.0	90.00	180.00	7,530.0	-5,286.9	-714.5	5,286.9	0.00	0.00	
13,000.0	90.00	180.00	7,530.0	-5,386.9	-714.5	5,386.9	0.00	0.00	
13,100.0	90.00	180.00	7,530.0	-5,486.9	-714.5	5,486.9	0.00	0.00	
13,200.0	90.00	180.00	7,530.0	-5,586.9	-714.5	5,586.9	0.00	0.00	
13,300.0	90.00	180.00	7,530.0	-5,686.9	-714.5	5,686.9	0.00	0.00	
13,400.0	90.00	180.00	7,530.0	-5,786.9	-714.5	5,786.9	0.00	0.00	

Database:	USA EDM 5000 Multi Users DB	**Local Co-ordinate Reference:**	Well Morgan Hills 1E-7H-A168
Company:	EnCana Oil & Gas (USA) Inc	**TVD Reference:**	HZ @ 5035.0ft
Project:	DJ Wattenberg	**MD Reference:**	HZ @ 5035.0ft
Site:	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	**North Reference:**	True
Well:	Morgan Hills 1E-7H-A168	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	HZ		
Design:	Plan #2		

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
13,500.0	90.00	180.00	7,530.0	-5,886.9	-714.5	5,886.9	0.00	0.00	
13,600.0	90.00	180.00	7,530.0	-5,986.9	-714.5	5,986.9	0.00	0.00	
13,700.0	90.00	180.00	7,530.0	-6,086.9	-714.5	6,086.9	0.00	0.00	
13,800.0	90.00	180.00	7,530.0	-6,186.9	-714.5	6,186.9	0.00	0.00	
13,900.0	90.00	180.00	7,530.0	-6,286.9	-714.5	6,286.9	0.00	0.00	
14,000.0	90.00	180.00	7,530.0	-6,386.9	-714.5	6,386.9	0.00	0.00	
14,100.0	90.00	180.00	7,530.0	-6,486.9	-714.5	6,486.9	0.00	0.00	
14,200.0	90.00	180.00	7,530.0	-6,586.9	-714.5	6,586.9	0.00	0.00	
14,300.0	90.00	180.00	7,530.0	-6,686.9	-714.5	6,686.9	0.00	0.00	
14,400.0	90.00	180.00	7,530.0	-6,786.9	-714.5	6,786.9	0.00	0.00	
14,500.0	90.00	180.00	7,530.0	-6,886.9	-714.5	6,886.9	0.00	0.00	
14,600.0	90.00	180.00	7,530.0	-6,986.9	-714.5	6,986.9	0.00	0.00	
14,700.0	90.00	180.00	7,530.0	-7,086.9	-714.5	7,086.9	0.00	0.00	
14,800.0	90.00	180.00	7,530.0	-7,186.9	-714.5	7,186.9	0.00	0.00	
14,900.0	90.00	180.00	7,530.0	-7,286.9	-714.5	7,286.9	0.00	0.00	
15,000.0	90.00	180.00	7,530.0	-7,386.9	-714.5	7,386.9	0.00	0.00	
15,100.0	90.00	180.00	7,530.0	-7,486.9	-714.5	7,486.9	0.00	0.00	
15,200.0	90.00	180.00	7,530.0	-7,586.9	-714.5	7,586.9	0.00	0.00	
15,300.0	90.00	180.00	7,530.0	-7,686.9	-714.5	7,686.9	0.00	0.00	
15,400.0	90.00	180.00	7,530.0	-7,786.9	-714.5	7,786.9	0.00	0.00	
15,500.0	90.00	180.00	7,530.0	-7,886.9	-714.5	7,886.9	0.00	0.00	
15,600.0	90.00	180.00	7,530.0	-7,986.9	-714.5	7,986.9	0.00	0.00	
15,700.0	90.00	180.00	7,530.0	-8,086.9	-714.5	8,086.9	0.00	0.00	
15,800.0	90.00	180.00	7,530.0	-8,186.9	-714.5	8,186.9	0.00	0.00	
15,900.0	90.00	180.00	7,530.0	-8,286.9	-714.5	8,286.9	0.00	0.00	
16,000.0	90.00	180.00	7,530.0	-8,386.9	-714.5	8,386.9	0.00	0.00	
16,100.0	90.00	180.00	7,530.0	-8,486.9	-714.5	8,486.9	0.00	0.00	
16,200.0	90.00	180.00	7,530.0	-8,586.9	-714.5	8,586.9	0.00	0.00	
16,300.0	90.00	180.00	7,530.0	-8,686.9	-714.5	8,686.9	0.00	0.00	
16,400.0	90.00	180.00	7,530.0	-8,786.9	-714.5	8,786.9	0.00	0.00	
16,500.0	90.00	180.00	7,530.0	-8,886.9	-714.5	8,886.9	0.00	0.00	
16,600.0	90.00	180.00	7,530.0	-8,986.9	-714.5	8,986.9	0.00	0.00	
16,700.0	90.00	180.00	7,530.0	-9,086.9	-714.5	9,086.9	0.00	0.00	
16,800.0	90.00	180.00	7,530.0	-9,186.9	-714.5	9,186.9	0.00	0.00	
16,900.0	90.00	180.00	7,530.0	-9,286.9	-714.5	9,286.9	0.00	0.00	
17,000.0	90.00	180.00	7,530.0	-9,386.9	-714.5	9,386.9	0.00	0.00	
17,100.0	90.00	180.00	7,530.0	-9,486.9	-714.5	9,486.9	0.00	0.00	
17,200.0	90.00	180.00	7,530.0	-9,586.9	-714.5	9,586.9	0.00	0.00	
17,300.0	90.00	180.00	7,530.0	-9,686.9	-714.5	9,686.9	0.00	0.00	
17,400.0	90.00	180.00	7,530.0	-9,786.9	-714.5	9,786.9	0.00	0.00	
17,440.2	90.00	180.00	7,530.0	-9,827.1	-714.5	9,827.1	0.00	0.00	TD at 17440.2

Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
PBHL 1E-7H - plan hits target center - Point	0.00	0.00	7,530.0	-9,827.1	-714.5	1,259,577.61	3,128,447.20	40.045010	-105.041229

Database:	USA EDM 5000 Multi Users DB	**Local Co-ordinate Reference:**	Well Morgan Hills 1E-7H-A168
Company:	EnCana Oil & Gas (USA) Inc	**TVD Reference:**	HZ @ 5035.0ft
Project:	DJ Wattenberg	**MD Reference:**	HZ @ 5035.0ft
Site:	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	**North Reference:**	True
Well:	Morgan Hills 1E-7H-A168	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	HZ		
Design:	Plan #2		

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
400.0	400.0	Fox Hills - BASE			
4,828.1	4,800.0	Sussex			
5,130.3	5,100.0	Shannon			
6,939.1	6,896.0	Teepee Buttes (*if present)			
7,464.6	7,350.0	Sharon Springs			
7,559.8	7,408.0	Niobrara			
7,859.2	7,519.0	B Chalk			

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates +N/-S (ft)	Local Coordinates +E/-W (ft)	Comment
400.0	400.0	0.0	0.0	KOP @ 400' MD
1,082.1	1,080.4	19.3	-35.7	EOB; 6.82°
6,819.8	6,777.6	343.0	-635.3	Start 8° Build/Turn
7,985.2	7,530.0	-372.1	-714.5	LP @ 7530' TVD; 90°
17,440.2	7,530.0	-9,827.1	-714.5	TD at 17440.2

EnCana Oil & Gas (USA) Inc

DJ Wattenberg
S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)
Morgan Hills 1E-7H-A168
HZ
Plan #2

Anticollision Report

03 September, 2014

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Morgan Hills 1E-7H-A168
Project:	DJ Wattenberg	**TVD Reference:**	HZ @ 5035.0ft
Reference Site:	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	**MD Reference:**	HZ @ 5035.0ft
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Morgan Hills 1E-7H-A168	**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 #2	**Offset TVD Reference:**	Offset Datum

Reference	Plan #2

Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	Stations	**Error Model:**	Systematic Ellipse
Depth Range:	Unlimited	**Scan Method:**	Closest Approach 3D
Results Limited by:	Maximum center-center distance of 1,550.0ft	**Error Surface:**	Elliptical Conic
Warning Levels Evaluated at:	2.00 **Sigma**		

Survey Tool Program **Date** 9/3/2014

From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.0	17,440.2	Plan #2 (HZ)	Geolink 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
S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)						
ERIE CHAMPLIN B UNIT 1 - ENCANA WELL - NO SUR	13,793.8	7,565.0	151.0	26.9	1.217	Level 2, CC, ES
ERIE CHAMPLIN B UNIT 1 - ENCANA WELL - NO SUR	13,800.0	7,565.0	151.1	26.9	1.216	Level 2, SF
ERIE CHAMPLIN B UNIT 2 - ENCANA WELL - NO SUR	16,820.9	7,560.0	117.3	-59.6	0.663	Level 1, CC, ES, SF
Morgan Hills 1A-7H-A168 - HZ - Plan #2	166.3	167.3	40.0	39.5	74.532	CC
Morgan Hills 1A-7H-A168 - HZ - Plan #2	200.0	201.0	40.0	39.4	61.149	ES
Morgan Hills 1A-7H-A168 - HZ - Plan #2	17,440.2	17,589.7	1,000.1	651.2	2.866	SF
Morgan Hills 1B-7H-A168 - HZ - Plan #2	232.0	233.0	29.9	29.2	39.087	CC
Morgan Hills 1B-7H-A168 - HZ - Plan #2	300.0	300.7	30.2	29.2	30.071	ES
Morgan Hills 1B-7H-A168 - HZ - Plan #2	17,440.2	17,775.9	787.3	454.2	2.364	SF
Morgan Hills 1C-7H-A168 - HZ - Plan #2	300.0	300.0	19.9	18.9	19.834	CC, ES
Morgan Hills 1C-7H-A168 - HZ - Plan #2	17,440.2	17,490.0	500.1	151.0	1.433	Level 3, SF
Morgan Hills 1D-7H-A168 - HZ - Plan #2	333.4	333.4	10.1	9.0	9.007	CC
Morgan Hills 1D-7H-A168 - HZ - Plan #2	400.0	399.9	10.3	8.9	7.609	ES
Morgan Hills 1D-7H-A168 - HZ - Plan #2	17,440.2	17,701.3	346.6	91.4	1.358	Level 3, SF
Morgan Hills 1F-7H-A168 - HZ - Plan #2	400.0	400.0	10.1	8.7	7.458	CC, ES
Morgan Hills 1F-7H-A168 - HZ - Plan #2	17,440.2	17,660.0	346.6	91.1	1.357	Level 3, SF
Morgan Hills 1G-7H-A168 - HZ - Plan #2	400.0	400.0	20.1	18.8	14.916	CC, ES
Morgan Hills 1G-7H-A168 - HZ - Plan #2	17,440.2	17,408.2	500.1	150.8	1.432	Level 3, SF
Morgan Hills 1H-7H-A168 - HZ - Plan #2	400.0	400.0	29.9	28.6	22.167	CC, ES
Morgan Hills 1H-7H-A168 - HZ - Plan #2	17,440.2	17,642.8	787.5	454.3	2.364	SF
Morgan Hills 1I-7H-A168 - HZ - Plan #2	400.0	400.0	40.0	38.7	29.625	CC, ES
Morgan Hills 1I-7H-A168 - HZ - Plan #2	17,440.2	17,407.5	1,000.1	650.9	2.864	SF
THOMAS 33-7 (EXISTING) - ENCANA WELL - SURVEY	10,622.9	7,782.4	928.8	847.8	11.464	CC, ES
THOMAS 33-7 (EXISTING) - ENCANA WELL - SURVEY	10,800.0	7,782.8	945.5	861.5	11.251	SF
WOOLLEY 41-7 (EXISTING) - ENCANA WELL - NO SU	1,507.2	1,499.6	263.2	257.4	45.937	CC
WOOLLEY 41-7 (EXISTING) - ENCANA WELL - NO SU	1,600.0	1,591.7	263.4	257.3	42.964	ES
WOOLLEY 41-7 (EXISTING) - ENCANA WELL - NO SU	7,850.0	7,514.3	510.4	482.8	18.506	SF
WOOLLEY 42-7 ENCANA (EXISTING) - ENCANA - NO S	9,248.4	7,535.0	390.7	344.4	8.443	CC, ES
WOOLLEY 42-7 ENCANA (EXISTING) - ENCANA - NO S	9,300.0	7,535.0	394.1	347.0	8.366	SF
WOOLLEY A 1-7 (EXISTING) - ENCANA WELL - NO SU	8,729.6	7,551.0	513.3	475.1	13.435	CC, ES
WOOLLEY A 1-7 (EXISTING) - ENCANA WELL - NO SU	8,800.0	7,551.0	518.1	478.9	13.196	SF
Woolley-Becky 2H-7H-E168 - Hz - Plan #2	9,126.6	8,000.0	1,286.3	1,239.4	27.409	CC, ES
Woolley-Becky 2H-7H-E168 - Hz - Plan #2	9,900.0	7,675.2	1,415.4	1,358.7	24.952	SF
Woolley-Sosa 2F-7H-E168 - HZ - Plan #1						Out of range
Woolley-Sosa 2G-7H-E168 - HZ - Plan #1						Out of range

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Morgan Hills 1E-7H-A168
Project:	DJ Wattenberg	**TVD Reference:**	HZ @ 5035.0ft
Reference Site:	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	**MD Reference:**	HZ @ 5035.0ft
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Morgan Hills 1E-7H-A168	**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 #2	**Offset TVD Reference:**	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - ERIE CHAMPLIN B UNIT 1 - ENCANA WELL - NO

Offset Site Error: 0.0 ft

Survey Program: 8393-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
12,300.0	7,530.0	7,565.0	7,565.0	85.9	13.2	-90.00	-6,180.7	-563.5	1,501.4	1,403.3	98.15	15.297	
12,400.0	7,530.0	7,565.0	7,565.0	87.6	13.2	-90.00	-6,180.7	-563.5	1,402.0	1,302.1	99.89	14.036	
12,500.0	7,530.0	7,565.0	7,565.0	89.3	13.2	-90.00	-6,180.7	-563.5	1,302.6	1,201.0	101.62	12.818	
12,600.0	7,530.0	7,565.0	7,565.0	91.0	13.2	-90.00	-6,180.7	-563.5	1,203.3	1,100.0	103.36	11.642	
12,700.0	7,530.0	7,565.0	7,565.0	92.7	13.2	-90.00	-6,180.7	-563.5	1,104.2	999.1	105.09	10.507	
12,800.0	7,530.0	7,565.0	7,565.0	94.5	13.2	-90.00	-6,180.7	-563.5	1,005.2	898.4	106.83	9.410	
12,900.0	7,530.0	7,565.0	7,565.0	96.2	13.2	-90.00	-6,180.7	-563.5	906.5	797.9	108.56	8.350	
13,000.0	7,530.0	7,565.0	7,565.0	97.9	13.2	-90.00	-6,180.7	-563.5	808.0	697.7	110.30	7.326	
13,100.0	7,530.0	7,565.0	7,565.0	99.6	13.2	-90.00	-6,180.7	-563.5	710.0	598.0	112.04	6.337	
13,200.0	7,530.0	7,565.0	7,565.0	101.4	13.2	-90.00	-6,180.7	-563.5	612.7	498.9	113.78	5.385	
13,300.0	7,530.0	7,565.0	7,565.0	103.1	13.2	-90.00	-6,180.7	-563.5	516.4	400.8	115.52	4.470	
13,400.0	7,530.0	7,565.0	7,565.0	104.8	13.2	-90.00	-6,180.7	-563.5	421.8	304.5	117.26	3.597	
13,500.0	7,530.0	7,565.0	7,565.0	106.5	13.2	-90.00	-6,180.7	-563.5	330.3	211.3	119.00	2.776	
13,600.0	7,530.0	7,565.0	7,565.0	108.3	13.2	-90.00	-6,180.7	-563.5	245.7	124.9	120.74	2.035	
13,700.0	7,530.0	7,565.0	7,565.0	110.0	13.2	-90.00	-6,180.7	-563.5	177.8	55.3	122.48	1.451	Level 3
13,793.8	7,530.0	7,565.0	7,565.0	111.6	13.2	-90.00	-6,180.7	-563.5	151.0	26.9	124.11	1.217	Level 2, CC, ES
13,800.0	7,530.0	7,565.0	7,565.0	111.7	13.2	-90.00	-6,180.7	-563.5	151.1	26.9	124.22	1.216	Level 2, SF
13,900.0	7,530.0	7,565.0	7,565.0	113.5	13.2	-90.00	-6,180.7	-563.5	184.6	58.6	125.96	1.465	Level 3
14,000.0	7,530.0	7,565.0	7,565.0	115.2	13.2	-90.00	-6,180.7	-563.5	255.6	127.9	127.71	2.001	
14,100.0	7,530.0	7,565.0	7,565.0	116.9	13.2	-90.00	-6,180.7	-563.5	341.4	212.0	129.45	2.637	
14,200.0	7,530.0	7,565.0	7,565.0	118.7	13.2	-90.00	-6,180.7	-563.5	433.4	302.2	131.19	3.303	
14,300.0	7,530.0	7,565.0	7,565.0	120.4	13.2	-90.00	-6,180.7	-563.5	528.2	395.3	132.93	3.974	
14,400.0	7,530.0	7,565.0	7,565.0	122.1	13.2	-90.00	-6,180.7	-563.5	624.7	490.0	134.68	4.639	
14,500.0	7,530.0	7,565.0	7,565.0	123.9	13.2	-90.00	-6,180.7	-563.5	722.2	585.7	136.42	5.294	
14,600.0	7,530.0	7,565.0	7,565.0	125.6	13.2	-90.00	-6,180.7	-563.5	820.2	682.1	138.17	5.936	
14,700.0	7,530.0	7,565.0	7,565.0	127.3	13.2	-90.00	-6,180.7	-563.5	918.7	778.8	139.91	6.566	
14,800.0	7,530.0	7,565.0	7,565.0	129.1	13.2	-90.00	-6,180.7	-563.5	1,017.5	875.8	141.66	7.183	
14,900.0	7,530.0	7,565.0	7,565.0	130.8	13.2	-90.00	-6,180.7	-563.5	1,116.5	973.1	143.40	7.786	
15,000.0	7,530.0	7,565.0	7,565.0	132.5	13.2	-90.00	-6,180.7	-563.5	1,215.6	1,070.5	145.15	8.375	
15,100.0	7,530.0	7,565.0	7,565.0	134.3	13.2	-90.00	-6,180.7	-563.5	1,314.9	1,168.0	146.89	8.952	
15,200.0	7,530.0	7,565.0	7,565.0	136.0	13.2	-90.00	-6,180.7	-563.5	1,414.3	1,265.6	148.64	9.515	
15,300.0	7,530.0	7,565.0	7,565.0	137.8	13.2	-90.00	-6,180.7	-563.5	1,513.7	1,363.4	150.38	10.066	

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Morgan Hills 1E-7H-A168
Project:	DJ Wattenberg	**TVD Reference:**	HZ @ 5035.0ft
Reference Site:	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	**MD Reference:**	HZ @ 5035.0ft
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Morgan Hills 1E-7H-A168	**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 #2	**Offset TVD Reference:**	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - ERIE CHAMPLIN B UNIT 2 - ENCANA WELL - NO

Offset Site Error: 0.0 ft

Survey Program: 8413-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
15,300.0	7,530.0	7,560.0	7,560.0	137.8	13.2	-90.00	-9,207.8	-597.2	1,525.5	1,375.1	150.37	10.144	
15,400.0	7,530.0	7,560.0	7,560.0	139.5	13.2	-90.00	-9,207.8	-597.2	1,425.8	1,273.7	152.12	9.373	
15,500.0	7,530.0	7,560.0	7,560.0	141.2	13.2	-90.00	-9,207.8	-597.2	1,326.1	1,172.3	153.87	8.619	
15,600.0	7,530.0	7,560.0	7,560.0	143.0	13.2	-90.00	-9,207.8	-597.2	1,226.6	1,070.9	155.61	7.882	
15,700.0	7,530.0	7,560.0	7,560.0	144.7	13.2	-90.00	-9,207.8	-597.2	1,127.1	969.7	157.36	7.162	
15,800.0	7,530.0	7,560.0	7,560.0	146.5	13.2	-90.00	-9,207.8	-597.2	1,027.7	868.6	159.11	6.459	
15,900.0	7,530.0	7,560.0	7,560.0	148.2	13.2	-90.00	-9,207.8	-597.2	928.4	767.5	160.85	5.772	
16,000.0	7,530.0	7,560.0	7,560.0	149.9	13.2	-90.00	-9,207.8	-597.2	829.3	666.7	162.60	5.100	
16,100.0	7,530.0	7,560.0	7,560.0	151.7	13.2	-90.00	-9,207.8	-597.2	730.4	566.1	164.35	4.444	
16,200.0	7,530.0	7,560.0	7,560.0	153.4	13.2	-90.00	-9,207.8	-597.2	631.9	465.8	166.09	3.805	
16,300.0	7,530.0	7,560.0	7,560.0	155.2	13.2	-90.00	-9,207.8	-597.2	534.0	366.1	167.84	3.181	
16,400.0	7,530.0	7,560.0	7,560.0	156.9	13.2	-90.00	-9,207.8	-597.2	437.0	267.4	169.59	2.577	
16,500.0	7,530.0	7,560.0	7,560.0	158.6	13.2	-90.00	-9,207.8	-597.2	341.7	170.4	171.34	1.994	
16,600.0	7,530.0	7,560.0	7,560.0	160.4	13.2	-90.00	-9,207.8	-597.2	250.2	77.1	173.09	1.445	Level 3
16,700.0	7,530.0	7,560.0	7,560.0	162.1	13.2	-90.00	-9,207.8	-597.2	168.5	-6.3	174.83	0.964	Level 1
16,800.0	7,530.0	7,560.0	7,560.0	163.9	13.2	-90.00	-9,207.8	-597.2	119.2	-57.4	176.58	0.675	Level 1
16,820.9	7,530.0	7,560.0	7,560.0	164.2	13.2	-90.00	-9,207.8	-597.2	117.3	-59.6	176.95	0.663	Level 1, CC, ES, SF
16,900.0	7,530.0	7,560.0	7,560.0	165.6	13.2	-90.00	-9,207.8	-597.2	141.5	-36.9	178.33	0.793	Level 1
17,000.0	7,530.0	7,560.0	7,560.0	167.4	13.2	-90.00	-9,207.8	-597.2	214.1	34.0	180.08	1.189	Level 2
17,100.0	7,530.0	7,560.0	7,560.0	169.1	13.2	-90.00	-9,207.8	-597.2	302.7	120.9	181.83	1.665	
17,200.0	7,530.0	7,560.0	7,560.0	170.8	13.2	-90.00	-9,207.8	-597.2	396.8	213.2	183.58	2.162	
17,300.0	7,530.0	7,560.0	7,560.0	172.6	13.2	-90.00	-9,207.8	-597.2	493.2	307.9	185.33	2.661	
17,400.0	7,530.0	7,560.0	7,560.0	174.3	13.2	-90.00	-9,207.8	-597.2	590.8	403.8	187.07	3.158	
17,440.2	7,530.0	7,560.0	7,560.0	175.0	13.2	-90.00	-9,207.8	-597.2	630.3	442.5	187.78	3.356	

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Morgan Hills 1E-7H-A168
Project:	DJ Wattenberg	**TVD Reference:**	HZ @ 5035.0ft
Reference Site:	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	**MD Reference:**	HZ @ 5035.0ft
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Morgan Hills 1E-7H-A168	**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 #2	**Offset TVD Reference:**	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - Morgan Hills 1A-7H-A168 - HZ - Plan #2

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	1.0	1.0	0.0	0.0	-89.48	0.4	-40.0	40.0				
100.0	100.0	101.0	101.0	0.2	0.2	-89.48	0.4	-40.0	40.0	39.7	0.31	131.032	
166.3	166.3	167.3	167.3	0.3	0.3	-89.48	0.4	-40.0	40.0	39.5	0.54	74.532	CC
200.0	200.0	201.0	201.0	0.3	0.3	-89.48	0.4	-40.0	40.0	39.4	0.65	61.149	ES
300.0	300.0	300.0	300.0	0.5	0.5	-89.22	0.6	-40.9	40.9	39.9	1.00	40.790	
400.0	400.0	399.6	399.5	0.7	0.7	-88.49	1.1	-43.4	43.4	42.1	1.35	32.094	
500.0	500.0	498.7	498.6	0.9	0.9	-26.28	2.1	-47.6	46.9	45.2	1.70	27.631	
600.0	600.0	597.8	597.5	1.0	1.1	-26.28	3.5	-53.5	50.6	48.5	2.05	24.691	
700.0	699.9	696.9	696.3	1.2	1.3	-26.75	5.2	-61.0	54.3	51.9	2.40	22.646	
800.0	799.7	795.8	794.8	1.4	1.5	-27.58	7.3	-70.2	58.2	55.5	2.75	21.147	
900.0	899.4	894.7	893.0	1.6	1.8	-28.71	9.8	-81.0	62.3	59.2	3.11	20.003	
1,000.0	998.9	993.6	991.0	1.8	2.0	-30.07	12.6	-93.5	66.5	63.0	3.48	19.094	
1,082.1	1,080.4	1,074.6	1,071.2	2.0	2.3	-31.32	15.3	-105.0	70.1	66.3	3.80	18.471	
1,100.0	1,098.3	1,092.3	1,088.7	2.1	2.3	-31.60	15.9	-107.6	71.0	67.1	3.87	18.353	
1,200.0	1,197.6	1,190.9	1,186.0	2.3	2.6	-32.82	19.5	-123.3	76.6	72.4	4.26	17.977	
1,300.0	1,296.8	1,289.3	1,282.8	2.6	3.0	-33.50	23.5	-140.6	84.0	79.3	4.66	18.001	
1,400.0	1,396.1	1,387.5	1,379.0	2.8	3.4	-33.73	27.8	-159.5	92.9	87.8	5.07	18.337	
1,500.0	1,495.4	1,485.3	1,474.6	3.1	3.8	-33.62	32.5	-180.0	103.5	98.0	5.47	18.921	
1,600.0	1,594.7	1,582.8	1,569.4	3.4	4.2	-33.27	37.5	-201.9	115.6	109.8	5.87	19.709	
1,700.0	1,694.0	1,680.3	1,663.9	3.6	4.6	-32.77	42.9	-225.3	129.4	123.1	6.26	20.662	
1,800.0	1,793.3	1,779.3	1,759.7	3.9	5.1	-32.29	48.5	-249.7	143.6	137.0	6.66	21.573	
1,900.0	1,892.6	1,878.3	1,855.5	4.1	5.5	-31.90	54.0	-274.0	157.9	150.8	7.05	22.383	
2,000.0	1,991.9	1,977.2	1,951.2	4.4	6.0	-31.58	59.6	-298.3	172.2	164.7	7.45	23.107	
2,100.0	2,091.2	2,076.2	2,047.0	4.7	6.5	-31.30	65.2	-322.6	186.5	178.6	7.85	23.757	
2,200.0	2,190.5	2,175.2	2,142.8	4.9	6.9	-31.07	70.8	-346.9	200.7	192.5	8.25	24.344	
2,300.0	2,289.8	2,274.2	2,238.6	5.2	7.4	-30.86	76.4	-371.2	215.0	206.4	8.64	24.878	
2,400.0	2,389.1	2,373.1	2,334.4	5.5	7.9	-30.68	81.9	-395.5	229.3	220.3	9.04	25.364	
2,500.0	2,488.4	2,472.1	2,430.1	5.7	8.4	-30.52	87.5	-419.9	243.6	234.2	9.44	25.809	
2,600.0	2,587.6	2,571.1	2,525.9	6.0	8.8	-30.38	93.1	-444.2	257.9	248.0	9.84	26.219	
2,700.0	2,686.9	2,670.0	2,621.7	6.3	9.3	-30.26	98.7	-468.5	272.2	261.9	10.23	26.596	
2,800.0	2,786.2	2,769.0	2,717.5	6.6	9.8	-30.14	104.3	-492.8	286.5	275.8	10.63	26.945	
2,900.0	2,885.5	2,868.0	2,813.2	6.8	10.3	-30.04	109.8	-517.1	300.8	289.7	11.03	27.268	
3,000.0	2,984.8	2,967.0	2,909.0	7.1	10.7	-29.95	115.4	-541.4	315.1	303.6	11.43	27.569	
3,100.0	3,084.1	3,065.9	3,004.8	7.4	11.2	-29.86	121.0	-565.7	329.3	317.5	11.83	27.850	
3,200.0	3,183.4	3,164.9	3,100.6	7.6	11.7	-29.78	126.6	-590.0	343.6	331.4	12.22	28.112	
3,300.0	3,282.7	3,263.9	3,196.3	7.9	12.2	-29.71	132.2	-614.4	357.9	345.3	12.62	28.358	
3,400.0	3,382.0	3,362.8	3,292.1	8.2	12.6	-29.64	137.7	-638.7	372.2	359.2	13.02	28.589	
3,500.0	3,481.3	3,461.8	3,387.9	8.4	13.1	-29.58	143.3	-663.0	386.5	373.1	13.42	28.805	
3,600.0	3,580.6	3,560.8	3,483.7	8.7	13.6	-29.53	148.9	-687.3	400.8	387.0	13.82	29.010	
3,700.0	3,679.9	3,659.8	3,579.4	9.0	14.1	-29.47	154.5	-711.6	415.1	400.9	14.22	29.203	
3,800.0	3,779.2	3,758.7	3,675.2	9.3	14.5	-29.42	160.0	-735.9	429.4	414.8	14.61	29.385	
3,900.0	3,878.4	3,857.7	3,771.0	9.5	15.0	-29.38	165.6	-760.2	443.7	428.7	15.01	29.557	
4,000.0	3,977.7	3,956.7	3,866.8	9.8	15.5	-29.33	171.2	-784.6	458.0	442.6	15.41	29.721	
4,100.0	4,077.0	4,055.6	3,962.6	10.1	16.0	-29.29	176.8	-808.9	472.3	456.5	15.81	29.876	
4,200.0	4,176.3	4,154.6	4,058.3	10.3	16.5	-29.25	182.4	-833.2	486.6	470.4	16.21	30.024	
4,300.0	4,275.6	4,253.6	4,154.1	10.6	16.9	-29.22	187.9	-857.5	500.9	484.3	16.61	30.164	
4,400.0	4,374.9	4,352.6	4,249.9	10.9	17.4	-29.18	193.5	-881.8	515.2	498.2	17.00	30.298	
4,500.0	4,474.2	4,451.5	4,345.7	11.1	17.9	-29.15	199.1	-906.1	529.5	512.1	17.40	30.426	
4,600.0	4,573.5	4,550.5	4,441.4	11.4	18.4	-29.12	204.7	-930.4	543.8	526.0	17.80	30.548	
4,700.0	4,672.8	4,649.5	4,537.2	11.7	18.9	-29.09	210.3	-954.8	558.1	539.9	18.20	30.665	
4,800.0	4,772.1	4,748.5	4,633.0	12.0	19.3	-29.06	215.8	-979.1	572.4	553.8	18.60	30.776	
4,900.0	4,871.4	4,847.4	4,728.8	12.2	19.8	-29.04	221.4	-1,003.4	586.7	567.7	19.00	30.883	

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 Morgan Hills 1E-7H-A168
Project:	DJ Wattenberg	**TVD Reference:**	HZ @ 5035.0ft
Reference Site:	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	**MD Reference:**	HZ @ 5035.0ft
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Morgan Hills 1E-7H-A168	**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 #2	**Offset TVD Reference:**	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - Morgan Hills 1A-7H-A168 - HZ - Plan #2

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
5,000.0	4,970.7	4,946.4	4,824.5	12.5	20.3	-29.01	227.0	-1,027.7	601.0	581.6	19.40	30.986	
5,100.0	5,070.0	5,045.4	4,920.3	12.8	20.8	-28.99	232.6	-1,052.0	615.3	595.5	19.80	31.084	
5,200.0	5,169.2	5,144.3	5,016.1	13.0	21.3	-28.96	238.2	-1,076.3	629.6	609.4	20.19	31.178	
5,300.0	5,268.5	5,243.3	5,111.9	13.3	21.7	-28.94	243.7	-1,100.6	643.9	623.3	20.59	31.269	
5,400.0	5,367.8	5,342.3	5,207.6	13.6	22.2	-28.92	249.3	-1,125.0	658.2	637.2	20.99	31.357	
5,500.0	5,467.1	5,441.3	5,303.4	13.9	22.7	-28.90	254.9	-1,149.3	672.5	651.1	21.39	31.441	
5,600.0	5,566.4	5,540.2	5,399.2	14.1	23.2	-28.88	260.5	-1,173.6	686.8	665.0	21.79	31.522	
5,700.0	5,665.7	5,639.2	5,495.0	14.4	23.6	-28.86	266.0	-1,197.9	701.1	678.9	22.19	31.600	
5,800.0	5,765.0	5,738.2	5,590.8	14.7	24.1	-28.85	271.6	-1,222.2	715.4	692.8	22.59	31.675	
5,900.0	5,864.3	5,837.1	5,686.5	14.9	24.6	-28.83	277.2	-1,246.5	729.7	706.7	22.99	31.748	
6,000.0	5,963.6	5,936.1	5,782.3	15.2	25.1	-28.81	282.8	-1,270.8	744.0	720.6	23.38	31.818	
6,100.0	6,062.9	6,035.1	5,878.1	15.5	25.6	-28.80	288.4	-1,295.2	758.3	734.5	23.78	31.886	
6,200.0	6,162.2	6,134.1	5,973.9	15.8	26.0	-28.78	293.9	-1,319.5	772.6	748.5	24.18	31.951	
6,300.0	6,261.5	6,233.0	6,069.6	16.0	26.5	-28.77	299.5	-1,343.8	786.9	762.4	24.58	32.015	
6,400.0	6,360.8	6,332.0	6,165.4	16.3	27.0	-28.75	305.1	-1,368.1	801.2	776.3	24.98	32.076	
6,500.0	6,460.0	6,431.0	6,261.2	16.6	27.5	-28.74	310.7	-1,392.4	815.5	790.2	25.38	32.136	
6,600.0	6,559.3	6,529.9	6,357.0	16.8	28.0	-28.73	316.3	-1,416.7	829.8	804.1	25.78	32.193	
6,700.0	6,658.6	6,628.9	6,452.7	17.1	28.4	-28.71	321.8	-1,441.0	844.1	818.0	26.18	32.249	
6,800.0	6,757.9	6,727.9	6,548.5	17.4	28.9	-28.70	327.4	-1,465.4	858.4	831.9	26.57	32.303	
6,819.8	6,777.6	6,747.5	6,567.5	17.4	29.0	-28.70	328.5	-1,470.2	861.3	834.6	26.65	32.314	
6,850.0	6,807.6	6,777.4	6,596.4	17.5	29.2	-8.51	330.2	-1,477.5	865.6	838.7	26.86	32.231	
6,900.0	6,857.3	6,826.7	6,644.1	17.6	29.4	26.70	333.0	-1,489.6	872.7	845.6	27.11	32.192	
6,950.0	6,906.8	6,875.6	6,691.5	17.7	29.6	48.70	335.7	-1,501.6	879.8	852.5	27.26	32.268	
7,000.0	6,955.9	6,923.9	6,738.2	17.8	29.9	60.41	338.5	-1,513.5	886.9	859.5	27.33	32.450	
7,050.0	7,004.3	6,971.4	6,784.2	17.8	30.1	67.29	341.1	-1,525.2	894.1	866.8	27.32	32.727	
7,100.0	7,051.8	7,019.7	6,830.9	17.8	30.3	71.86	343.0	-1,537.0	901.5	874.2	27.24	33.098	
7,150.0	7,098.1	7,069.6	6,879.3	17.9	30.6	75.10	341.6	-1,549.3	909.0	881.9	27.12	33.521	
7,200.0	7,143.1	7,120.8	6,928.6	17.9	30.8	77.55	336.6	-1,561.9	916.7	889.7	26.98	33.978	
7,250.0	7,186.5	7,173.4	6,978.9	17.9	31.0	79.49	327.6	-1,574.6	924.3	897.5	26.83	34.457	
7,300.0	7,228.1	7,227.6	7,029.8	17.9	31.2	81.08	314.5	-1,587.5	932.0	905.4	26.67	34.942	
7,350.0	7,267.8	7,283.4	7,081.1	17.9	31.3	82.44	296.8	-1,600.6	939.7	913.1	26.53	35.415	
7,400.0	7,305.2	7,341.0	7,132.5	17.9	31.5	83.61	274.3	-1,613.6	947.2	920.7	26.42	35.854	
7,450.0	7,340.2	7,400.4	7,183.4	17.9	31.7	84.64	246.7	-1,626.5	954.5	928.1	26.34	36.239	
7,500.0	7,372.7	7,461.7	7,233.5	18.0	31.9	85.56	213.8	-1,639.3	961.5	935.2	26.31	36.539	
7,550.0	7,402.5	7,524.9	7,282.2	18.1	32.0	86.38	175.3	-1,651.6	968.2	941.8	26.36	36.732	
7,600.0	7,429.4	7,590.2	7,328.7	18.2	32.2	87.11	131.2	-1,663.4	974.5	948.0	26.48	36.796	
7,650.0	7,453.4	7,657.4	7,372.3	18.3	32.4	87.77	81.3	-1,674.5	980.2	953.5	26.71	36.705	
7,700.0	7,474.3	7,726.5	7,412.3	18.4	32.6	88.34	25.8	-1,684.6	985.4	958.4	27.05	36.431	
7,750.0	7,491.9	7,797.5	7,447.7	18.6	32.8	88.84	-35.0	-1,693.6	989.9	962.4	27.48	36.026	
7,800.0	7,506.3	7,870.0	7,477.7	18.9	33.0	89.24	-100.5	-1,701.2	993.6	965.6	28.05	35.423	
7,850.0	7,517.3	7,943.9	7,501.5	19.1	33.2	89.56	-170.2	-1,707.3	996.6	967.8	28.74	34.676	
7,900.0	7,525.0	8,018.9	7,518.4	19.4	33.5	89.79	-243.1	-1,711.6	998.6	969.1	29.55	33.793	
7,950.0	7,529.1	8,094.6	7,527.9	19.7	33.8	89.91	-318.1	-1,714.0	999.8	969.3	30.47	32.814	
7,985.2	7,530.0	8,148.0	7,530.0	20.0	34.0	89.94	-371.5	-1,714.5	1,000.0	968.9	31.17	32.081	
8,000.0	7,530.0	8,163.4	7,530.0	20.1	34.0	89.94	-386.9	-1,714.5	1,000.0	968.6	31.46	31.789	
8,100.0	7,530.0	8,263.4	7,530.0	20.9	34.5	89.94	-486.9	-1,714.5	1,000.0	966.5	33.50	29.852	
8,200.0	7,530.0	8,363.4	7,530.0	21.8	35.0	89.94	-586.9	-1,714.5	1,000.0	964.3	35.76	27.967	
8,300.0	7,530.0	8,463.4	7,530.0	22.8	35.7	89.94	-686.9	-1,714.5	1,000.0	961.8	38.21	26.175	
8,400.0	7,530.0	8,563.4	7,530.0	23.9	36.3	89.94	-786.9	-1,714.5	1,000.0	959.2	40.81	24.506	
8,500.0	7,530.0	8,663.4	7,530.0	25.1	37.1	89.94	-886.9	-1,714.5	1,000.0	956.5	43.54	22.969	
8,600.0	7,530.0	8,763.4	7,530.0	26.3	37.9	89.94	-986.9	-1,714.5	1,000.0	953.7	46.37	21.565	
8,700.0	7,530.0	8,863.4	7,530.0	27.6	38.8	89.94	-1,086.9	-1,714.5	1,000.0	950.7	49.29	20.287	

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 Morgan Hills 1E-7H-A168
Project:	DJ Wattenberg	**TVD Reference:**	HZ @ 5035.0ft
Reference Site:	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	**MD Reference:**	HZ @ 5035.0ft
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Morgan Hills 1E-7H-A168	**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 #2	**Offset TVD Reference:**	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - Morgan Hills 1A-7H-A168 - HZ - Plan #2

Offset Site Error: 0.0 ft

Survey Program: 0-Geolink MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
8,800.0	7,530.0	8,963.4	7,530.0	29.0	39.8	89.94	-1,186.9	-1,714.5	1,000.0	947.7	52.29	19.125	
8,900.0	7,530.0	9,063.4	7,530.0	30.3	40.8	89.94	-1,286.9	-1,714.5	1,000.0	944.7	55.34	18.070	
9,000.0	7,530.0	9,163.4	7,530.0	31.8	41.8	89.94	-1,386.9	-1,714.5	1,000.0	941.6	58.45	17.110	
9,100.0	7,530.0	9,263.4	7,530.0	33.2	42.9	89.94	-1,486.9	-1,714.5	1,000.0	938.4	61.60	16.235	
9,200.0	7,530.0	9,363.4	7,530.0	34.7	44.1	89.94	-1,586.9	-1,714.5	1,000.0	935.3	64.78	15.437	
9,300.0	7,530.0	9,463.4	7,530.0	36.2	45.3	89.94	-1,686.9	-1,714.5	1,000.0	932.0	68.00	14.706	
9,400.0	7,530.0	9,563.4	7,530.0	37.7	46.5	89.94	-1,786.9	-1,714.5	1,000.0	928.8	71.25	14.037	
9,500.0	7,530.0	9,663.4	7,530.0	39.3	47.7	89.94	-1,886.9	-1,714.5	1,000.0	925.5	74.51	13.421	
9,600.0	7,530.0	9,763.4	7,530.0	40.8	49.0	89.94	-1,986.9	-1,714.5	1,000.0	922.2	77.80	12.853	
9,700.0	7,530.0	9,863.4	7,530.0	42.4	50.3	89.94	-2,086.9	-1,714.5	1,000.0	918.9	81.11	12.329	
9,800.0	7,530.0	9,963.4	7,530.0	44.0	51.7	89.94	-2,186.9	-1,714.5	1,000.0	915.6	84.44	11.844	
9,900.0	7,530.0	10,063.4	7,530.0	45.6	53.0	89.94	-2,286.9	-1,714.5	1,000.0	912.3	87.77	11.393	
10,000.0	7,530.0	10,163.4	7,530.0	47.2	54.4	89.94	-2,386.9	-1,714.5	1,000.0	908.9	91.13	10.974	
10,100.0	7,530.0	10,263.4	7,530.0	48.8	55.8	89.94	-2,486.9	-1,714.5	1,000.0	905.5	94.49	10.584	
10,200.0	7,530.0	10,363.4	7,530.0	50.5	57.2	89.94	-2,586.9	-1,714.5	1,000.0	902.2	97.86	10.219	
10,300.0	7,530.0	10,463.4	7,530.0	52.1	58.7	89.94	-2,686.9	-1,714.5	1,000.0	898.8	101.24	9.878	
10,400.0	7,530.0	10,563.4	7,530.0	53.8	60.2	89.94	-2,786.9	-1,714.5	1,000.0	895.4	104.63	9.558	
10,500.0	7,530.0	10,663.4	7,530.0	55.4	61.6	89.94	-2,886.9	-1,714.5	1,000.0	892.0	108.03	9.257	
10,600.0	7,530.0	10,763.4	7,530.0	57.1	63.1	89.94	-2,986.9	-1,714.5	1,000.0	888.6	111.44	8.974	
10,700.0	7,530.0	10,863.4	7,530.0	58.7	64.6	89.94	-3,086.9	-1,714.5	1,000.0	885.2	114.85	8.708	
10,800.0	7,530.0	10,963.4	7,530.0	60.4	66.2	89.94	-3,186.9	-1,714.5	1,000.0	881.8	118.26	8.456	
10,900.0	7,530.0	11,063.4	7,530.0	62.1	67.7	89.94	-3,286.9	-1,714.5	1,000.0	878.4	121.69	8.218	
11,000.0	7,530.0	11,163.4	7,530.0	63.8	69.2	89.94	-3,386.9	-1,714.5	1,000.0	874.9	125.11	7.993	
11,100.0	7,530.0	11,263.4	7,530.0	65.5	70.8	89.94	-3,486.9	-1,714.5	1,000.0	871.5	128.54	7.780	
11,200.0	7,530.0	11,363.4	7,530.0	67.1	72.3	89.94	-3,586.9	-1,714.5	1,000.0	868.1	131.98	7.577	
11,300.0	7,530.0	11,463.4	7,530.0	68.8	73.9	89.94	-3,686.9	-1,714.5	1,000.0	864.6	135.42	7.385	
11,400.0	7,530.0	11,563.4	7,530.0	70.5	75.5	89.94	-3,786.9	-1,714.5	1,000.0	861.2	138.86	7.202	
11,500.0	7,530.0	11,663.4	7,530.0	72.2	77.1	89.94	-3,886.9	-1,714.5	1,000.0	857.7	142.30	7.027	
11,600.0	7,530.0	11,763.4	7,530.0	73.9	78.7	89.94	-3,986.9	-1,714.5	1,000.0	854.3	145.75	6.861	
11,700.0	7,530.0	11,863.4	7,530.0	75.6	80.3	89.94	-4,086.9	-1,714.5	1,000.0	850.8	149.20	6.703	
11,800.0	7,530.0	11,963.4	7,530.0	77.3	81.9	89.94	-4,186.9	-1,714.5	1,000.0	847.4	152.66	6.551	
11,900.0	7,530.0	12,063.4	7,530.0	79.0	83.5	89.94	-4,286.9	-1,714.5	1,000.0	843.9	156.11	6.406	
12,000.0	7,530.0	12,163.4	7,530.0	80.7	85.1	89.94	-4,386.9	-1,714.5	1,000.0	840.5	159.57	6.267	
12,100.0	7,530.0	12,263.4	7,530.0	82.4	86.7	89.94	-4,486.9	-1,714.5	1,000.0	837.0	163.03	6.134	
12,200.0	7,530.0	12,363.4	7,530.0	84.2	88.4	89.94	-4,586.9	-1,714.5	1,000.0	833.5	166.50	6.006	
12,300.0	7,530.0	12,463.4	7,530.0	85.9	90.0	89.94	-4,686.9	-1,714.5	1,000.0	830.1	169.96	5.884	
12,400.0	7,530.0	12,563.4	7,530.0	87.6	91.6	89.94	-4,786.9	-1,714.5	1,000.0	826.6	173.43	5.766	
12,500.0	7,530.0	12,663.4	7,530.0	89.3	93.3	89.94	-4,886.9	-1,714.5	1,000.0	823.1	176.89	5.653	
12,600.0	7,530.0	12,763.4	7,530.0	91.0	94.9	89.94	-4,986.9	-1,714.5	1,000.0	819.7	180.36	5.545	
12,700.0	7,530.0	12,863.4	7,530.0	92.7	96.6	89.94	-5,086.9	-1,714.5	1,000.0	816.2	183.83	5.440	
12,800.0	7,530.0	12,963.4	7,530.0	94.5	98.2	89.94	-5,186.9	-1,714.5	1,000.0	812.7	187.31	5.339	
12,900.0	7,530.0	13,063.4	7,530.0	96.2	99.9	89.94	-5,286.9	-1,714.5	1,000.0	809.3	190.78	5.242	
13,000.0	7,530.0	13,163.4	7,530.0	97.9	101.5	89.94	-5,386.9	-1,714.5	1,000.0	805.8	194.25	5.148	
13,100.0	7,530.0	13,263.4	7,530.0	99.6	103.2	89.94	-5,486.9	-1,714.5	1,000.0	802.3	197.73	5.058	
13,200.0	7,530.0	13,363.4	7,530.0	101.4	104.9	89.94	-5,586.9	-1,714.5	1,000.0	798.8	201.21	4.970	
13,300.0	7,530.0	13,463.4	7,530.0	103.1	106.5	89.94	-5,686.9	-1,714.5	1,000.0	795.4	204.69	4.886	
13,400.0	7,530.0	13,563.4	7,530.0	104.8	108.2	89.94	-5,786.9	-1,714.5	1,000.0	791.9	208.17	4.804	
13,500.0	7,530.0	13,663.4	7,530.0	106.5	109.9	89.94	-5,886.9	-1,714.5	1,000.0	788.4	211.65	4.725	
13,600.0	7,530.0	13,763.4	7,530.0	108.3	111.6	89.94	-5,986.9	-1,714.5	1,000.0	784.9	215.13	4.649	
13,700.0	7,530.0	13,863.4	7,530.0	110.0	113.2	89.94	-6,086.9	-1,714.5	1,000.0	781.4	218.61	4.575	
13,800.0	7,530.0	13,963.4	7,530.0	111.7	114.9	89.94	-6,186.9	-1,714.5	1,000.0	778.0	222.09	4.503	
13,900.0	7,530.0	14,063.4	7,530.0	113.5	116.6	89.94	-6,286.9	-1,714.5	1,000.0	774.5	225.57	4.433	

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 Morgan Hills 1E-7H-A168
Project:	DJ Wattenberg	**TVD Reference:**	HZ @ 5035.0ft
Reference Site:	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	**MD Reference:**	HZ @ 5035.0ft
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Morgan Hills 1E-7H-A168	**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 #2	**Offset TVD Reference:**	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - Morgan Hills 1A-7H-A168 - HZ - Plan #2

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
14,000.0	7,530.0	14,163.4	7,530.0	115.2	118.3	89.94	-6,386.9	-1,714.5	1,000.0	771.0	229.06	4.366	
14,100.0	7,530.0	14,263.4	7,530.0	116.9	120.0	89.94	-6,486.9	-1,714.5	1,000.0	767.5	232.54	4.300	
14,200.0	7,530.0	14,363.4	7,530.0	118.7	121.7	89.94	-6,586.9	-1,714.5	1,000.0	764.0	236.03	4.237	
14,300.0	7,530.0	14,463.4	7,530.0	120.4	123.4	89.94	-6,686.9	-1,714.5	1,000.0	760.5	239.52	4.175	
14,400.0	7,530.0	14,563.4	7,530.0	122.1	125.1	89.94	-6,786.9	-1,714.5	1,000.0	757.0	243.00	4.115	
14,500.0	7,530.0	14,663.4	7,530.0	123.9	126.7	89.94	-6,886.9	-1,714.5	1,000.0	753.6	246.49	4.057	
14,600.0	7,530.0	14,763.4	7,530.0	125.6	128.4	89.94	-6,986.9	-1,714.5	1,000.0	750.1	249.98	4.001	
14,700.0	7,530.0	14,863.4	7,530.0	127.3	130.1	89.94	-7,086.9	-1,714.5	1,000.0	746.6	253.47	3.945	
14,800.0	7,530.0	14,963.4	7,530.0	129.1	131.8	89.94	-7,186.9	-1,714.5	1,000.0	743.1	256.96	3.892	
14,900.0	7,530.0	15,063.4	7,530.0	130.8	133.5	89.94	-7,286.9	-1,714.5	1,000.0	739.6	260.45	3.840	
15,000.0	7,530.0	15,163.4	7,530.0	132.5	135.2	89.94	-7,386.9	-1,714.5	1,000.0	736.1	263.94	3.789	
15,100.0	7,530.0	15,263.4	7,530.0	134.3	136.9	89.94	-7,486.9	-1,714.5	1,000.0	732.6	267.43	3.740	
15,200.0	7,530.0	15,363.4	7,530.0	136.0	138.7	89.94	-7,586.9	-1,714.5	1,000.0	729.1	270.92	3.691	
15,300.0	7,530.0	15,463.4	7,530.0	137.8	140.4	89.94	-7,686.9	-1,714.5	1,000.0	725.6	274.41	3.644	
15,400.0	7,530.0	15,563.4	7,530.0	139.5	142.1	89.94	-7,786.9	-1,714.5	1,000.0	722.1	277.90	3.599	
15,500.0	7,530.0	15,663.4	7,530.0	141.2	143.8	89.94	-7,886.9	-1,714.5	1,000.0	718.7	281.39	3.554	
15,600.0	7,530.0	15,763.4	7,530.0	143.0	145.5	89.94	-7,986.9	-1,714.5	1,000.0	715.2	284.89	3.510	
15,700.0	7,530.0	15,863.4	7,530.0	144.7	147.2	89.94	-8,086.9	-1,714.5	1,000.0	711.7	288.38	3.468	
15,800.0	7,530.0	15,963.4	7,530.0	146.5	148.9	89.94	-8,186.9	-1,714.5	1,000.0	708.2	291.87	3.426	
15,900.0	7,530.0	16,063.4	7,530.0	148.2	150.6	89.94	-8,286.9	-1,714.5	1,000.0	704.7	295.37	3.386	
16,000.0	7,530.0	16,163.4	7,530.0	149.9	152.3	89.94	-8,386.9	-1,714.5	1,000.0	701.2	298.86	3.346	
16,100.0	7,530.0	16,263.4	7,530.0	151.7	154.0	89.94	-8,486.9	-1,714.5	1,000.0	697.7	302.36	3.308	
16,200.0	7,530.0	16,363.4	7,530.0	153.4	155.8	89.94	-8,586.9	-1,714.5	1,000.0	694.2	305.85	3.270	
16,300.0	7,530.0	16,463.4	7,530.0	155.2	157.5	89.94	-8,686.9	-1,714.5	1,000.0	690.7	309.35	3.233	
16,400.0	7,530.0	16,563.4	7,530.0	156.9	159.2	89.94	-8,786.9	-1,714.5	1,000.0	687.2	312.84	3.197	
16,500.0	7,530.0	16,663.4	7,530.0	158.6	160.9	89.94	-8,886.9	-1,714.5	1,000.0	683.7	316.34	3.161	
16,600.0	7,530.0	16,763.4	7,530.0	160.4	162.6	89.94	-8,986.9	-1,714.5	1,000.0	680.2	319.83	3.127	
16,700.0	7,530.0	16,863.4	7,530.0	162.1	164.3	89.94	-9,086.9	-1,714.5	1,000.0	676.7	323.33	3.093	
16,800.0	7,530.0	16,963.4	7,530.0	163.9	166.1	89.94	-9,186.9	-1,714.5	1,000.0	673.2	326.83	3.060	
16,900.0	7,530.0	17,063.4	7,530.0	165.6	167.8	89.94	-9,286.9	-1,714.5	1,000.0	669.7	330.32	3.027	
17,000.0	7,530.0	17,163.4	7,530.0	167.4	169.5	89.94	-9,386.9	-1,714.5	1,000.0	666.2	333.82	2.996	
17,100.0	7,530.0	17,263.4	7,530.0	169.1	171.2	89.94	-9,486.9	-1,714.5	1,000.0	662.7	337.32	2.965	
17,200.0	7,530.0	17,363.4	7,530.0	170.8	173.0	89.94	-9,586.9	-1,714.5	1,000.0	659.2	340.81	2.934	
17,300.0	7,530.0	17,463.4	7,530.0	172.6	174.7	89.94	-9,686.9	-1,714.5	1,000.0	655.7	344.31	2.904	
17,400.0	7,530.0	17,563.4	7,530.0	174.3	176.4	89.94	-9,786.9	-1,714.5	1,000.0	652.2	347.81	2.875	
17,414.2	7,530.0	17,577.6	7,530.0	174.6	176.6	89.94	-9,801.0	-1,714.5	1,000.0	651.7	348.30	2.871	
17,440.2	7,530.0	17,589.7	7,530.0	175.0	176.9	89.94	-9,813.2	-1,714.5	1,000.1	651.2	348.97	2.866	SF

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Morgan Hills 1E-7H-A168
Project:	DJ Wattenberg	**TVD Reference:**	HZ @ 5035.0ft
Reference Site:	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	**MD Reference:**	HZ @ 5035.0ft
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Morgan Hills 1E-7H-A168	**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 #2	**Offset TVD Reference:**	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - Morgan Hills 1B-7H-A168 - HZ - Plan #2

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	1.0	1.0	0.0	0.0	-89.30	0.4	-29.9	29.9				
100.0	100.0	101.0	101.0	0.2	0.2	-89.30	0.4	-29.9	29.9	29.6	0.31	98.048	
200.0	200.0	201.0	201.0	0.3	0.3	-89.30	0.4	-29.9	29.9	29.3	0.65	45.756	
232.0	232.0	233.0	233.0	0.4	0.4	-89.30	0.4	-29.9	29.9	29.2	0.77	39.087	CC
300.0	300.0	300.7	300.7	0.5	0.5	-89.20	0.4	-30.2	30.2	29.2	1.00	30.071	ES
400.0	400.0	400.0	400.0	0.7	0.7	-88.43	0.9	-31.8	31.9	30.5	1.35	23.571	
500.0	500.0	499.6	499.5	0.9	0.9	-26.09	1.8	-35.2	34.5	32.8	1.70	20.288	
600.0	600.0	599.0	598.7	1.0	1.0	-26.08	3.1	-40.2	37.2	35.2	2.05	18.169	
700.0	699.9	698.3	697.8	1.2	1.3	-26.62	4.9	-46.9	40.1	37.7	2.40	16.706	
800.0	799.7	797.5	796.7	1.4	1.5	-27.59	7.1	-55.2	43.1	40.3	2.76	15.644	
900.0	899.4	896.7	895.3	1.6	1.7	-28.90	9.8	-65.2	46.3	43.1	3.12	14.841	
1,000.0	998.9	995.9	993.8	1.8	2.0	-30.46	12.9	-76.8	49.6	46.1	3.49	14.211	
1,082.1	1,080.4	1,077.2	1,074.3	2.0	2.2	-31.90	15.8	-87.5	52.4	48.6	3.81	13.782	
1,100.0	1,098.3	1,094.9	1,091.9	2.1	2.2	-32.21	16.4	-90.0	53.1	49.2	3.88	13.704	
1,200.0	1,197.6	1,193.9	1,189.7	2.3	2.6	-33.48	20.4	-104.9	57.8	53.6	4.28	13.526	
1,300.0	1,296.8	1,292.7	1,287.0	2.6	2.9	-34.00	24.8	-121.3	64.2	59.5	4.68	13.717	
1,400.0	1,396.1	1,391.3	1,383.8	2.8	3.2	-33.94	29.7	-139.4	72.1	67.1	5.08	14.197	
1,500.0	1,495.4	1,490.0	1,480.3	3.1	3.6	-33.48	34.9	-159.0	81.6	76.2	5.48	14.898	
1,600.0	1,594.7	1,589.5	1,577.6	3.4	4.0	-33.02	40.3	-179.2	91.6	85.7	5.88	15.575	
1,700.0	1,694.0	1,689.0	1,674.9	3.6	4.4	-32.65	45.7	-199.4	101.5	95.2	6.28	16.165	
1,800.0	1,793.3	1,788.5	1,772.2	3.9	4.8	-32.35	51.1	-219.6	111.4	104.7	6.68	16.684	
1,900.0	1,892.6	1,888.0	1,869.5	4.1	5.2	-32.09	56.5	-239.8	121.4	114.3	7.08	17.144	
2,000.0	1,991.9	1,987.5	1,966.8	4.4	5.6	-31.88	61.9	-260.0	131.3	123.8	7.48	17.553	
2,100.0	2,091.2	2,087.0	2,064.0	4.7	6.0	-31.69	67.3	-280.1	141.2	133.4	7.88	17.921	
2,200.0	2,190.5	2,186.5	2,161.3	4.9	6.4	-31.53	72.7	-300.3	151.2	142.9	8.28	18.252	
2,300.0	2,289.8	2,286.0	2,258.6	5.2	6.8	-31.39	78.2	-320.5	161.1	152.4	8.68	18.553	
2,400.0	2,389.1	2,385.5	2,355.9	5.5	7.2	-31.26	83.6	-340.7	171.1	162.0	9.09	18.826	
2,500.0	2,488.4	2,485.0	2,453.2	5.7	7.6	-31.15	89.0	-360.9	181.0	171.5	9.49	19.076	
2,600.0	2,587.6	2,584.5	2,550.5	6.0	8.0	-31.05	94.4	-381.1	191.0	181.1	9.89	19.306	
2,700.0	2,686.9	2,684.0	2,647.7	6.3	8.4	-30.96	99.8	-401.3	200.9	190.6	10.29	19.517	
2,800.0	2,786.2	2,783.5	2,745.0	6.6	8.8	-30.88	105.2	-421.5	210.8	200.2	10.70	19.712	
2,900.0	2,885.5	2,883.0	2,842.3	6.8	9.2	-30.81	110.6	-441.7	220.8	209.7	11.10	19.893	
3,000.0	2,984.8	2,982.5	2,939.6	7.1	9.6	-30.74	116.0	-461.9	230.7	219.2	11.50	20.061	
3,100.0	3,084.1	3,082.0	3,036.9	7.4	10.0	-30.68	121.4	-482.1	240.7	228.8	11.90	20.218	
3,200.0	3,183.4	3,181.6	3,134.2	7.6	10.4	-30.62	126.8	-502.3	250.6	238.3	12.31	20.364	
3,300.0	3,282.7	3,281.1	3,231.4	7.9	10.9	-30.57	132.2	-522.5	260.6	247.9	12.71	20.501	
3,400.0	3,382.0	3,380.6	3,328.7	8.2	11.3	-30.52	137.6	-542.7	270.5	257.4	13.11	20.630	
3,500.0	3,481.3	3,480.1	3,426.0	8.4	11.7	-30.48	143.0	-562.8	280.5	267.0	13.52	20.750	
3,600.0	3,580.6	3,579.6	3,523.3	8.7	12.1	-30.43	148.4	-583.0	290.4	276.5	13.92	20.864	
3,700.0	3,679.9	3,679.1	3,620.6	9.0	12.5	-30.39	153.8	-603.2	300.4	286.0	14.32	20.971	
3,800.0	3,779.2	3,778.6	3,717.9	9.3	12.9	-30.36	159.2	-623.4	310.3	295.6	14.73	21.072	
3,900.0	3,878.4	3,878.1	3,815.1	9.5	13.3	-30.32	164.6	-643.6	320.3	305.1	15.13	21.168	
4,000.0	3,977.7	3,977.6	3,912.4	9.8	13.7	-30.29	170.0	-663.8	330.2	314.7	15.53	21.259	
4,100.0	4,077.0	4,077.1	4,009.7	10.1	14.1	-30.26	175.4	-684.0	340.2	324.2	15.94	21.345	
4,200.0	4,176.3	4,176.6	4,107.0	10.3	14.5	-30.23	180.8	-704.2	350.1	333.8	16.34	21.427	
4,300.0	4,275.6	4,276.1	4,204.3	10.6	14.9	-30.20	186.3	-724.4	360.1	343.3	16.74	21.505	
4,400.0	4,374.9	4,375.6	4,301.6	10.9	15.3	-30.18	191.7	-744.6	370.0	352.9	17.15	21.579	
4,500.0	4,474.2	4,475.1	4,398.8	11.1	15.8	-30.15	197.1	-764.8	380.0	362.4	17.55	21.649	
4,600.0	4,573.5	4,574.6	4,496.1	11.4	16.2	-30.13	202.5	-785.0	389.9	372.0	17.95	21.717	
4,700.0	4,672.8	4,674.1	4,593.4	11.7	16.6	-30.11	207.9	-805.2	399.9	381.5	18.36	21.782	
4,800.0	4,772.1	4,773.6	4,690.7	12.0	17.0	-30.09	213.3	-825.3	409.8	391.0	18.76	21.843	
4,900.0	4,871.4	4,873.1	4,788.0	12.2	17.4	-30.07	218.7	-845.5	419.8	400.6	19.16	21.902	

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 Morgan Hills 1E-7H-A168
Project:	DJ Wattenberg	**TVD Reference:**	HZ @ 5035.0ft
Reference Site:	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	**MD Reference:**	HZ @ 5035.0ft
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Morgan Hills 1E-7H-A168	**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 #2	**Offset TVD Reference:**	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - Morgan Hills 1B-7H-A168 - HZ - Plan #2

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
5,000.0	4,970.7	4,972.6	4,885.3	12.5	17.8	-30.05	224.1	-865.7	429.7	410.1	19.57	21.959	
5,100.0	5,070.0	5,072.1	4,982.5	12.8	18.2	-30.03	229.5	-885.9	439.7	419.7	19.97	22.013	
5,200.0	5,169.2	5,171.6	5,079.8	13.0	18.6	-30.01	234.9	-906.1	449.6	429.2	20.38	22.066	
5,300.0	5,268.5	5,271.1	5,177.1	13.3	19.0	-29.99	240.3	-926.3	459.6	438.8	20.78	22.116	
5,400.0	5,367.8	5,370.6	5,274.4	13.6	19.4	-29.98	245.7	-946.5	469.5	448.3	21.18	22.164	
5,500.0	5,467.1	5,470.1	5,371.7	13.9	19.9	-29.96	251.1	-966.7	479.5	457.9	21.59	22.210	
5,600.0	5,566.4	5,569.6	5,469.0	14.1	20.3	-29.95	256.5	-986.9	489.4	467.4	21.99	22.255	
5,700.0	5,665.7	5,669.1	5,566.2	14.4	20.7	-29.93	261.9	-1,007.1	499.4	477.0	22.39	22.298	
5,800.0	5,765.0	5,768.6	5,663.5	14.7	21.1	-29.92	267.3	-1,027.3	509.3	486.5	22.80	22.340	
5,900.0	5,864.3	5,868.2	5,760.8	14.9	21.5	-29.91	272.7	-1,047.5	519.3	496.0	23.20	22.380	
6,000.0	5,963.6	5,967.7	5,858.1	15.2	21.9	-29.90	278.1	-1,067.7	529.2	505.6	23.61	22.418	
6,100.0	6,062.9	6,067.2	5,955.4	15.5	22.3	-29.88	283.5	-1,087.9	539.1	515.1	24.01	22.456	
6,200.0	6,162.2	6,166.7	6,052.7	15.8	22.7	-29.87	289.0	-1,108.0	549.1	524.7	24.41	22.492	
6,300.0	6,261.5	6,266.2	6,149.9	16.0	23.1	-29.86	294.4	-1,128.2	559.0	534.2	24.82	22.527	
6,400.0	6,360.8	6,365.7	6,247.2	16.3	23.5	-29.85	299.8	-1,148.4	569.0	543.8	25.22	22.561	
6,500.0	6,460.0	6,465.2	6,344.5	16.6	24.0	-29.84	305.2	-1,168.6	578.9	553.3	25.62	22.593	
6,600.0	6,559.3	6,564.7	6,441.8	16.8	24.4	-29.83	310.6	-1,188.8	588.9	562.9	26.03	22.625	
6,700.0	6,658.6	6,664.2	6,539.1	17.1	24.8	-29.82	316.0	-1,209.0	598.8	572.4	26.43	22.656	
6,800.0	6,757.9	6,763.7	6,636.4	17.4	25.2	-29.81	321.4	-1,229.2	608.8	582.0	26.84	22.686	
6,819.8	6,777.6	6,783.4	6,655.6	17.4	25.3	-29.81	322.5	-1,233.2	610.8	583.8	26.92	22.691	
6,850.0	6,807.6	6,813.4	6,685.0	17.5	25.4	-9.50	324.1	-1,239.3	613.8	586.7	27.08	22.667	
6,900.0	6,857.3	6,863.0	6,733.5	17.6	25.6	26.00	326.8	-1,249.4	618.6	591.4	27.24	22.709	
6,950.0	6,906.8	6,912.2	6,781.6	17.7	25.8	48.38	329.5	-1,259.4	623.4	596.1	27.29	22.844	
7,000.0	6,955.9	6,960.8	6,829.1	17.8	26.0	60.54	332.1	-1,269.2	628.3	601.0	27.24	23.064	
7,050.0	7,004.3	7,008.6	6,875.8	17.8	26.2	67.95	334.7	-1,278.9	633.3	606.2	27.11	23.360	
7,100.0	7,051.8	7,055.2	6,921.4	17.8	26.4	73.11	337.2	-1,288.4	638.7	611.8	26.93	23.718	
7,150.0	7,098.1	7,100.6	6,965.7	17.9	26.6	77.07	339.7	-1,297.6	644.8	618.0	26.73	24.125	
7,200.0	7,143.1	7,144.4	7,008.5	17.9	26.8	80.33	342.1	-1,306.5	651.6	625.1	26.53	24.567	
7,250.0	7,186.5	7,189.7	7,052.9	17.9	26.9	83.25	344.2	-1,315.7	659.6	633.2	26.33	25.052	
7,300.0	7,228.1	7,239.8	7,102.0	17.9	27.1	85.97	343.5	-1,325.8	668.4	642.3	26.14	25.566	
7,350.0	7,267.8	7,292.4	7,153.3	17.9	27.3	88.45	339.1	-1,336.5	678.0	652.0	26.01	26.070	
7,400.0	7,305.2	7,347.8	7,206.8	17.9	27.5	90.74	330.3	-1,347.6	688.3	662.3	25.92	26.553	
7,450.0	7,340.2	7,406.4	7,262.5	17.9	27.6	92.89	316.5	-1,359.2	699.1	673.2	25.88	27.007	
7,500.0	7,372.7	7,468.6	7,320.2	18.0	27.8	94.94	296.7	-1,371.2	710.2	684.3	25.90	27.420	
7,550.0	7,402.5	7,535.0	7,379.7	18.1	28.0	96.90	270.1	-1,383.5	721.6	695.6	25.97	27.783	
7,600.0	7,429.4	7,606.0	7,440.4	18.2	28.1	98.78	235.5	-1,396.1	732.9	706.8	26.10	28.086	
7,650.0	7,453.4	7,682.1	7,501.4	18.3	28.2	100.57	191.8	-1,408.8	743.9	717.7	26.28	28.309	
7,700.0	7,474.3	7,763.9	7,561.5	18.4	28.4	102.26	137.8	-1,421.2	754.4	727.9	26.53	28.438	
7,750.0	7,491.9	7,851.5	7,618.7	18.6	28.6	103.81	72.5	-1,433.1	764.0	737.1	26.85	28.457	
7,800.0	7,506.3	7,945.1	7,670.7	18.9	28.8	105.17	-4.4	-1,443.9	772.3	745.0	27.25	28.344	
7,850.0	7,517.3	8,044.2	7,714.6	19.1	29.1	106.29	-92.8	-1,453.0	779.0	751.2	27.78	28.041	
7,900.0	7,525.0	8,148.0	7,747.3	19.4	29.4	107.11	-191.0	-1,459.8	783.9	755.5	28.43	27.573	
7,950.0	7,529.1	8,255.1	7,766.1	19.7	29.9	107.58	-296.2	-1,463.7	786.6	757.4	29.22	26.925	
7,985.2	7,530.0	8,331.1	7,770.0	20.0	30.2	107.67	-372.1	-1,464.5	787.2	757.3	29.85	26.375	
8,000.0	7,530.0	8,345.9	7,770.0	20.1	30.3	107.67	-386.9	-1,464.5	787.2	757.1	30.12	26.135	
8,100.0	7,530.0	8,445.9	7,770.0	20.9	30.8	107.67	-486.9	-1,464.5	787.2	755.1	32.08	24.535	
8,200.0	7,530.0	8,545.9	7,770.0	21.8	31.4	107.67	-586.9	-1,464.5	787.2	752.9	34.25	22.981	
8,300.0	7,530.0	8,645.9	7,770.0	22.8	32.1	107.67	-686.9	-1,464.5	787.2	750.6	36.60	21.507	
8,400.0	7,530.0	8,745.9	7,770.0	23.9	32.9	107.67	-786.9	-1,464.5	787.2	748.1	39.09	20.136	
8,500.0	7,530.0	8,845.9	7,770.0	25.1	33.7	107.67	-886.9	-1,464.5	787.2	745.5	41.71	18.875	
8,600.0	7,530.0	8,945.9	7,770.0	26.3	34.7	107.67	-986.9	-1,464.5	787.2	742.8	44.42	17.723	
8,700.0	7,530.0	9,045.9	7,770.0	27.6	35.6	107.67	-1,086.9	-1,464.5	787.2	740.0	47.21	16.674	

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 Morgan Hills 1E-7H-A168
Project:	DJ Wattenberg	**TVD Reference:**	HZ @ 5035.0ft
Reference Site:	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	**MD Reference:**	HZ @ 5035.0ft
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Morgan Hills 1E-7H-A168	**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 #2	**Offset TVD Reference:**	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - Morgan Hills 1B-7H-A168 - HZ - Plan #2

Offset Site Error: 0.0 ft

Survey Program: 0-Geolink MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
8,800.0	7,530.0	9,145.9	7,770.0	29.0	36.7	107.67	-1,186.9	-1,464.5	787.2	737.1	50.07	15.722	
8,900.0	7,530.0	9,245.9	7,770.0	30.3	37.8	107.67	-1,286.9	-1,464.5	787.2	734.2	52.99	14.856	
9,000.0	7,530.0	9,345.9	7,770.0	31.8	38.9	107.67	-1,386.9	-1,464.5	787.2	731.2	55.95	14.069	
9,100.0	7,530.0	9,445.9	7,770.0	33.2	40.1	107.67	-1,486.9	-1,464.5	787.2	728.2	58.96	13.352	
9,200.0	7,530.0	9,545.9	7,770.0	34.7	41.3	107.67	-1,586.9	-1,464.5	787.2	725.2	62.00	12.697	
9,300.0	7,530.0	9,645.9	7,770.0	36.2	42.6	107.67	-1,686.9	-1,464.5	787.2	722.1	65.07	12.098	
9,400.0	7,530.0	9,745.9	7,770.0	37.7	43.9	107.67	-1,786.9	-1,464.5	787.2	719.0	68.16	11.549	
9,500.0	7,530.0	9,845.9	7,770.0	39.3	45.2	107.67	-1,886.9	-1,464.5	787.2	715.9	71.28	11.043	
9,600.0	7,530.0	9,945.9	7,770.0	40.8	46.6	107.67	-1,986.9	-1,464.5	787.2	712.8	74.42	10.578	
9,700.0	7,530.0	10,045.9	7,770.0	42.4	48.0	107.67	-2,086.9	-1,464.5	787.2	709.6	77.57	10.147	
9,800.0	7,530.0	10,145.9	7,770.0	44.0	49.4	107.67	-2,186.9	-1,464.5	787.2	706.4	80.75	9.749	
9,900.0	7,530.0	10,245.9	7,770.0	45.6	50.8	107.67	-2,286.9	-1,464.5	787.2	703.3	83.93	9.379	
10,000.0	7,530.0	10,345.9	7,770.0	47.2	52.3	107.67	-2,386.9	-1,464.5	787.2	700.1	87.13	9.035	
10,100.0	7,530.0	10,445.9	7,770.0	48.8	53.8	107.67	-2,486.9	-1,464.5	787.2	696.9	90.33	8.714	
10,200.0	7,530.0	10,545.9	7,770.0	50.5	55.2	107.67	-2,586.9	-1,464.5	787.2	693.6	93.55	8.415	
10,300.0	7,530.0	10,645.9	7,770.0	52.1	56.7	107.67	-2,686.9	-1,464.5	787.2	690.4	96.77	8.134	
10,400.0	7,530.0	10,745.9	7,770.0	53.8	58.3	107.67	-2,786.9	-1,464.5	787.2	687.2	100.01	7.871	
10,500.0	7,530.0	10,845.9	7,770.0	55.4	59.8	107.67	-2,886.9	-1,464.5	787.2	683.9	103.25	7.624	
10,600.0	7,530.0	10,945.9	7,770.0	57.1	61.3	107.67	-2,986.9	-1,464.5	787.2	680.7	106.49	7.392	
10,700.0	7,530.0	11,045.9	7,770.0	58.7	62.9	107.67	-3,086.9	-1,464.5	787.2	677.4	109.75	7.173	
10,800.0	7,530.0	11,145.9	7,770.0	60.4	64.4	107.67	-3,186.9	-1,464.5	787.2	674.2	113.00	6.966	
10,900.0	7,530.0	11,245.9	7,770.0	62.1	66.0	107.67	-3,286.9	-1,464.5	787.2	670.9	116.27	6.770	
11,000.0	7,530.0	11,345.9	7,770.0	63.8	67.6	107.67	-3,386.9	-1,464.5	787.2	667.7	119.53	6.585	
11,100.0	7,530.0	11,445.9	7,770.0	65.5	69.2	107.67	-3,486.9	-1,464.5	787.2	664.4	122.81	6.410	
11,200.0	7,530.0	11,545.9	7,770.0	67.1	70.8	107.67	-3,586.9	-1,464.5	787.2	661.1	126.08	6.243	
11,300.0	7,530.0	11,645.9	7,770.0	68.8	72.4	107.67	-3,686.9	-1,464.5	787.2	657.8	129.36	6.085	
11,400.0	7,530.0	11,745.9	7,770.0	70.5	74.0	107.67	-3,786.9	-1,464.5	787.2	654.5	132.64	5.935	
11,500.0	7,530.0	11,845.9	7,770.0	72.2	75.6	107.67	-3,886.9	-1,464.5	787.2	651.3	135.93	5.791	
11,600.0	7,530.0	11,945.9	7,770.0	73.9	77.3	107.67	-3,986.9	-1,464.5	787.2	648.0	139.22	5.654	
11,700.0	7,530.0	12,045.9	7,770.0	75.6	78.9	107.67	-4,086.9	-1,464.5	787.2	644.7	142.51	5.524	
11,800.0	7,530.0	12,145.9	7,770.0	77.3	80.5	107.67	-4,186.9	-1,464.5	787.2	641.4	145.80	5.399	
11,900.0	7,530.0	12,245.9	7,770.0	79.0	82.2	107.67	-4,286.9	-1,464.5	787.2	638.1	149.10	5.280	
12,000.0	7,530.0	12,345.9	7,770.0	80.7	83.8	107.67	-4,386.9	-1,464.5	787.2	634.8	152.39	5.166	
12,100.0	7,530.0	12,445.9	7,770.0	82.4	85.5	107.67	-4,486.9	-1,464.5	787.2	631.5	155.69	5.056	
12,200.0	7,530.0	12,545.9	7,770.0	84.2	87.1	107.67	-4,586.9	-1,464.5	787.2	628.2	158.99	4.951	
12,300.0	7,530.0	12,645.9	7,770.0	85.9	88.8	107.67	-4,686.9	-1,464.5	787.2	624.9	162.30	4.850	
12,400.0	7,530.0	12,745.9	7,770.0	87.6	90.4	107.67	-4,786.9	-1,464.5	787.2	621.6	165.60	4.754	
12,500.0	7,530.0	12,845.9	7,770.0	89.3	92.1	107.67	-4,886.9	-1,464.5	787.2	618.3	168.91	4.660	
12,600.0	7,530.0	12,945.9	7,770.0	91.0	93.8	107.67	-4,986.9	-1,464.5	787.2	615.0	172.22	4.571	
12,700.0	7,530.0	13,045.9	7,770.0	92.7	95.4	107.67	-5,086.9	-1,464.5	787.2	611.7	175.53	4.485	
12,800.0	7,530.0	13,145.9	7,770.0	94.5	97.1	107.67	-5,186.9	-1,464.5	787.2	608.4	178.84	4.402	
12,900.0	7,530.0	13,245.9	7,770.0	96.2	98.8	107.67	-5,286.9	-1,464.5	787.2	605.0	182.15	4.322	
13,000.0	7,530.0	13,345.9	7,770.0	97.9	100.5	107.67	-5,386.9	-1,464.5	787.2	601.7	185.46	4.245	
13,100.0	7,530.0	13,445.9	7,770.0	99.6	102.1	107.67	-5,486.9	-1,464.5	787.2	598.4	188.77	4.170	
13,200.0	7,530.0	13,545.9	7,770.0	101.4	103.8	107.67	-5,586.9	-1,464.5	787.2	595.1	192.09	4.098	
13,300.0	7,530.0	13,645.9	7,770.0	103.1	105.5	107.67	-5,686.9	-1,464.5	787.2	591.8	195.41	4.028	
13,400.0	7,530.0	13,745.9	7,770.0	104.8	107.2	107.67	-5,786.9	-1,464.5	787.2	588.5	198.72	3.961	
13,500.0	7,530.0	13,845.9	7,770.0	106.5	108.9	107.67	-5,886.9	-1,464.5	787.2	585.1	202.04	3.896	
13,600.0	7,530.0	13,945.9	7,770.0	108.3	110.6	107.67	-5,986.9	-1,464.5	787.2	581.8	205.36	3.833	
13,700.0	7,530.0	14,045.9	7,770.0	110.0	112.3	107.67	-6,086.9	-1,464.5	787.2	578.5	208.68	3.772	
13,800.0	7,530.0	14,145.9	7,770.0	111.7	114.0	107.67	-6,186.9	-1,464.5	787.2	575.2	212.00	3.713	
13,900.0	7,530.0	14,245.9	7,770.0	113.5	115.7	107.67	-6,286.9	-1,464.5	787.2	571.9	215.32	3.656	

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 Morgan Hills 1E-7H-A168
Project:	DJ Wattenberg	**TVD Reference:**	HZ @ 5035.0ft
Reference Site:	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	**MD Reference:**	HZ @ 5035.0ft
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Morgan Hills 1E-7H-A168	**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 #2	**Offset TVD Reference:**	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - Morgan Hills 1B-7H-A168 - HZ - Plan #2

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
14,000.0	7,530.0	14,345.9	7,770.0	115.2	117.4	107.67	-6,386.9	-1,464.5	787.2	568.5	218.64	3.600	
14,100.0	7,530.0	14,445.9	7,770.0	116.9	119.1	107.67	-6,486.9	-1,464.5	787.2	565.2	221.97	3.546	
14,200.0	7,530.0	14,545.9	7,770.0	118.7	120.8	107.67	-6,586.9	-1,464.5	787.2	561.9	225.29	3.494	
14,300.0	7,530.0	14,645.9	7,770.0	120.4	122.5	107.67	-6,686.9	-1,464.5	787.2	558.6	228.61	3.443	
14,400.0	7,530.0	14,745.9	7,770.0	122.1	124.2	107.67	-6,786.9	-1,464.5	787.2	555.3	231.94	3.394	
14,500.0	7,530.0	14,845.9	7,770.0	123.9	125.9	107.67	-6,886.9	-1,464.5	787.2	551.9	235.26	3.346	
14,600.0	7,530.0	14,945.9	7,770.0	125.6	127.6	107.67	-6,986.9	-1,464.5	787.2	548.6	238.59	3.299	
14,700.0	7,530.0	15,045.9	7,770.0	127.3	129.3	107.67	-7,086.9	-1,464.5	787.2	545.3	241.92	3.254	
14,800.0	7,530.0	15,145.9	7,770.0	129.1	131.0	107.67	-7,186.9	-1,464.5	787.2	542.0	245.24	3.210	
14,900.0	7,530.0	15,245.9	7,770.0	130.8	132.7	107.67	-7,286.9	-1,464.5	787.2	538.6	248.57	3.167	
15,000.0	7,530.0	15,345.9	7,770.0	132.5	134.5	107.67	-7,386.9	-1,464.5	787.2	535.3	251.90	3.125	
15,100.0	7,530.0	15,445.9	7,770.0	134.3	136.2	107.67	-7,486.9	-1,464.5	787.2	532.0	255.22	3.084	
15,200.0	7,530.0	15,545.9	7,770.0	136.0	137.9	107.67	-7,586.9	-1,464.5	787.2	528.6	258.55	3.045	
15,300.0	7,530.0	15,645.9	7,770.0	137.8	139.6	107.67	-7,686.9	-1,464.5	787.2	525.3	261.88	3.006	
15,400.0	7,530.0	15,745.9	7,770.0	139.5	141.3	107.67	-7,786.9	-1,464.5	787.2	522.0	265.21	2.968	
15,500.0	7,530.0	15,845.9	7,770.0	141.2	143.0	107.67	-7,886.9	-1,464.5	787.2	518.7	268.54	2.931	
15,600.0	7,530.0	15,945.9	7,770.0	143.0	144.7	107.67	-7,986.9	-1,464.5	787.2	515.3	271.87	2.895	
15,700.0	7,530.0	16,045.9	7,770.0	144.7	146.5	107.67	-8,086.9	-1,464.5	787.2	512.0	275.20	2.860	
15,800.0	7,530.0	16,145.9	7,770.0	146.5	148.2	107.67	-8,186.9	-1,464.5	787.2	508.7	278.53	2.826	
15,900.0	7,530.0	16,245.9	7,770.0	148.2	149.9	107.67	-8,286.9	-1,464.5	787.2	505.3	281.86	2.793	
16,000.0	7,530.0	16,345.9	7,770.0	149.9	151.6	107.67	-8,386.9	-1,464.5	787.2	502.0	285.19	2.760	
16,100.0	7,530.0	16,445.9	7,770.0	151.7	153.4	107.67	-8,486.9	-1,464.5	787.2	498.7	288.53	2.728	
16,200.0	7,530.0	16,545.9	7,770.0	153.4	155.1	107.67	-8,586.9	-1,464.5	787.2	495.3	291.86	2.697	
16,300.0	7,530.0	16,645.9	7,770.0	155.2	156.8	107.67	-8,686.9	-1,464.5	787.2	492.0	295.19	2.667	
16,400.0	7,530.0	16,745.9	7,770.0	156.9	158.5	107.67	-8,786.9	-1,464.5	787.2	488.7	298.52	2.637	
16,500.0	7,530.0	16,845.9	7,770.0	158.6	160.3	107.67	-8,886.9	-1,464.5	787.2	485.3	301.86	2.608	
16,600.0	7,530.0	16,945.9	7,770.0	160.4	162.0	107.67	-8,986.9	-1,464.5	787.2	482.0	305.19	2.579	
16,700.0	7,530.0	17,045.9	7,770.0	162.1	163.7	107.67	-9,086.9	-1,464.5	787.2	478.7	308.52	2.552	
16,800.0	7,530.0	17,145.9	7,770.0	163.9	165.4	107.67	-9,186.9	-1,464.5	787.2	475.3	311.86	2.524	
16,900.0	7,530.0	17,245.9	7,770.0	165.6	167.2	107.67	-9,286.9	-1,464.5	787.2	472.0	315.19	2.498	
17,000.0	7,530.0	17,345.9	7,770.0	167.4	168.9	107.67	-9,386.9	-1,464.5	787.2	468.7	318.52	2.471	
17,100.0	7,530.0	17,445.9	7,770.0	169.1	170.6	107.67	-9,486.9	-1,464.5	787.2	465.3	321.86	2.446	
17,200.0	7,530.0	17,545.9	7,770.0	170.8	172.3	107.67	-9,586.9	-1,464.5	787.2	462.0	325.19	2.421	
17,300.0	7,530.0	17,645.9	7,770.0	172.6	174.1	107.67	-9,686.9	-1,464.5	787.2	458.7	328.53	2.396	
17,400.0	7,530.0	17,745.9	7,770.0	174.3	175.8	107.67	-9,786.9	-1,464.5	787.2	455.3	331.86	2.372	
17,416.7	7,530.0	17,762.6	7,770.0	174.6	176.1	107.67	-9,803.5	-1,464.5	787.2	454.8	332.42	2.368	
17,440.2	7,530.0	17,775.9	7,770.0	175.0	176.3	107.67	-9,816.8	-1,464.5	787.3	454.2	333.03	2.364	SF

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Morgan Hills 1E-7H-A168
Project:	DJ Wattenberg	**TVD Reference:**	HZ @ 5035.0ft
Reference Site:	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	**MD Reference:**	HZ @ 5035.0ft
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Morgan Hills 1E-7H-A168	**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 #2	**Offset TVD Reference:**	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - Morgan Hills 1C-7H-A168 - HZ - Plan #2

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	-90.00	0.0	-19.9	19.9				
100.0	100.0	100.0	100.0	0.2	0.2	-90.00	0.0	-19.9	19.9	19.6	0.30	65.429	
200.0	200.0	200.0	200.0	0.3	0.3	-90.00	0.0	-19.9	19.9	19.2	0.65	30.440	
300.0	300.0	300.0	300.0	0.5	0.5	-90.00	0.0	-19.9	19.9	18.9	1.00	19.834	CC, ES
400.0	400.0	399.7	399.7	0.7	0.7	-89.23	0.3	-20.7	20.7	19.3	1.35	15.323	
500.0	500.0	499.3	499.2	0.9	0.9	-26.58	1.1	-23.2	22.4	20.7	1.70	13.188	
600.0	600.0	598.9	598.7	1.0	1.0	-26.36	2.5	-27.3	24.2	22.2	2.05	11.825	
700.0	699.9	698.4	698.1	1.2	1.2	-26.78	4.4	-33.0	26.2	23.7	2.40	10.893	
800.0	799.7	798.0	797.3	1.4	1.4	-27.70	6.9	-40.4	28.2	25.4	2.76	10.222	
900.0	899.4	897.5	896.4	1.6	1.7	-29.00	9.9	-49.4	30.3	27.2	3.12	9.721	
1,000.0	998.9	996.9	995.2	1.8	1.9	-30.60	13.5	-60.0	32.6	29.1	3.49	9.332	
1,082.1	1,080.4	1,078.5	1,076.1	2.0	2.1	-32.08	16.9	-69.9	34.6	30.8	3.81	9.070	
1,100.0	1,098.3	1,096.3	1,093.8	2.1	2.2	-32.40	17.7	-72.2	35.1	31.2	3.88	9.025	
1,200.0	1,197.6	1,195.7	1,192.1	2.3	2.5	-33.40	22.3	-86.1	38.6	34.3	4.28	9.016	
1,300.0	1,296.8	1,294.9	1,289.9	2.6	2.8	-33.29	27.5	-101.5	43.8	39.1	4.68	9.350	
1,400.0	1,396.1	1,394.6	1,388.0	2.8	3.1	-32.66	33.1	-118.1	50.1	45.0	5.08	9.856	
1,500.0	1,495.4	1,494.4	1,486.2	3.1	3.5	-32.16	38.8	-134.8	56.4	50.9	5.48	10.294	
1,600.0	1,594.7	1,594.2	1,584.5	3.4	3.8	-31.75	44.4	-151.5	62.7	56.8	5.87	10.673	
1,700.0	1,694.0	1,694.0	1,682.7	3.6	4.1	-31.42	50.0	-168.2	69.0	62.7	6.27	11.003	
1,800.0	1,793.3	1,793.8	1,781.0	3.9	4.5	-31.15	55.6	-184.9	75.3	68.6	6.67	11.293	
1,900.0	1,892.6	1,893.6	1,879.2	4.1	4.8	-30.91	61.3	-201.5	81.6	74.5	7.06	11.550	
2,000.0	1,991.9	1,993.4	1,977.4	4.4	5.2	-30.72	66.9	-218.2	87.9	80.4	7.46	11.779	
2,100.0	2,091.2	2,093.2	2,075.7	4.7	5.5	-30.54	72.5	-234.9	94.2	86.4	7.86	11.985	
2,200.0	2,190.5	2,193.0	2,173.9	4.9	5.9	-30.39	78.1	-251.6	100.5	92.3	8.26	12.171	
2,300.0	2,289.8	2,292.8	2,272.1	5.2	6.2	-30.26	83.8	-268.3	106.9	98.2	8.66	12.339	
2,400.0	2,389.1	2,392.6	2,370.4	5.5	6.6	-30.14	89.4	-284.9	113.2	104.1	9.06	12.492	
2,500.0	2,488.4	2,492.4	2,468.6	5.7	6.9	-30.04	95.0	-301.6	119.5	110.0	9.46	12.633	
2,600.0	2,587.6	2,592.2	2,566.8	6.0	7.3	-29.94	100.6	-318.3	125.8	115.9	9.86	12.761	
2,700.0	2,686.9	2,692.0	2,665.1	6.3	7.6	-29.85	106.3	-335.0	132.1	121.9	10.26	12.880	
2,800.0	2,786.2	2,791.8	2,763.3	6.6	8.0	-29.78	111.9	-351.7	138.4	127.8	10.66	12.989	
2,900.0	2,885.5	2,891.6	2,861.5	6.8	8.3	-29.70	117.5	-368.3	144.8	133.7	11.06	13.091	
3,000.0	2,984.8	2,991.4	2,959.8	7.1	8.7	-29.64	123.1	-385.0	151.1	139.6	11.46	13.185	
3,100.0	3,084.1	3,091.2	3,058.0	7.4	9.0	-29.58	128.8	-401.7	157.4	145.5	11.86	13.273	
3,200.0	3,183.4	3,191.0	3,156.2	7.6	9.4	-29.52	134.4	-418.4	163.7	151.4	12.26	13.355	
3,300.0	3,282.7	3,290.8	3,254.5	7.9	9.7	-29.47	140.0	-435.1	170.0	157.4	12.66	13.432	
3,400.0	3,382.0	3,390.6	3,352.7	8.2	10.1	-29.43	145.6	-451.7	176.3	163.3	13.06	13.504	
3,500.0	3,481.3	3,490.4	3,451.0	8.4	10.5	-29.38	151.3	-468.4	182.7	169.2	13.46	13.572	
3,600.0	3,580.6	3,590.2	3,549.2	8.7	10.8	-29.34	156.9	-485.1	189.0	175.1	13.86	13.636	
3,700.0	3,679.9	3,690.0	3,647.4	9.0	11.2	-29.30	162.5	-501.8	195.3	181.0	14.26	13.696	
3,800.0	3,779.2	3,789.8	3,745.7	9.3	11.5	-29.26	168.1	-518.5	201.6	187.0	14.66	13.753	
3,900.0	3,878.4	3,889.6	3,843.9	9.5	11.9	-29.23	173.8	-535.2	207.9	192.9	15.06	13.807	
4,000.0	3,977.7	3,989.4	3,942.1	9.8	12.2	-29.20	179.4	-551.8	214.2	198.8	15.46	13.858	
4,100.0	4,077.0	4,089.2	4,040.4	10.1	12.6	-29.17	185.0	-568.5	220.6	204.7	15.86	13.907	
4,200.0	4,176.3	4,189.0	4,138.6	10.3	12.9	-29.14	190.6	-585.2	226.9	210.6	16.26	13.953	
4,300.0	4,275.6	4,288.8	4,236.8	10.6	13.3	-29.11	196.3	-601.9	233.2	216.5	16.66	13.996	
4,400.0	4,374.9	4,388.6	4,335.1	10.9	13.7	-29.09	201.9	-618.6	239.5	222.5	17.06	14.038	
4,500.0	4,474.2	4,488.4	4,433.3	11.1	14.0	-29.06	207.5	-635.2	245.8	228.4	17.46	14.078	
4,600.0	4,573.5	4,588.2	4,531.5	11.4	14.4	-29.04	213.1	-651.9	252.2	234.3	17.86	14.116	
4,700.0	4,672.8	4,688.0	4,629.8	11.7	14.7	-29.02	218.8	-668.6	258.5	240.2	18.26	14.152	
4,800.0	4,772.1	4,787.8	4,728.0	12.0	15.1	-29.00	224.4	-685.3	264.8	246.1	18.66	14.187	
4,900.0	4,871.4	4,887.6	4,826.3	12.2	15.4	-28.98	230.0	-702.0	271.1	252.0	19.07	14.220	
5,000.0	4,970.7	4,987.4	4,924.5	12.5	15.8	-28.96	235.6	-718.6	277.4	258.0	19.47	14.252	

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 Morgan Hills 1E-7H-A168
Project:	DJ Wattenberg	**TVD Reference:**	HZ @ 5035.0ft
Reference Site:	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	**MD Reference:**	HZ @ 5035.0ft
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Morgan Hills 1E-7H-A168	**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 #2	**Offset TVD Reference:**	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - Morgan Hills 1C-7H-A168 - HZ - Plan #2

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	5,070.0	5,087.2	5,022.7	12.8	16.1	-28.94	241.3	-735.3	283.8	263.9	19.87	14.283	
5,200.0	5,169.2	5,187.0	5,121.0	13.0	16.5	-28.92	246.9	-752.0	290.1	269.8	20.27	14.312	
5,300.0	5,268.5	5,286.8	5,219.2	13.3	16.9	-28.91	252.5	-768.7	296.4	275.7	20.67	14.340	
5,400.0	5,367.8	5,386.6	5,317.4	13.6	17.2	-28.89	258.1	-785.4	302.7	281.6	21.07	14.368	
5,500.0	5,467.1	5,486.4	5,415.7	13.9	17.6	-28.87	263.8	-802.0	309.0	287.6	21.47	14.394	
5,600.0	5,566.4	5,586.2	5,513.9	14.1	17.9	-28.86	269.4	-818.7	315.3	293.5	21.87	14.419	
5,700.0	5,665.7	5,686.0	5,612.1	14.4	18.3	-28.85	275.0	-835.4	321.7	299.4	22.27	14.443	
5,800.0	5,765.0	5,785.8	5,710.4	14.7	18.6	-28.83	280.6	-852.1	328.0	305.3	22.67	14.467	
5,900.0	5,864.3	5,885.6	5,808.6	14.9	19.0	-28.82	286.3	-868.8	334.3	311.2	23.07	14.489	
6,000.0	5,963.6	5,985.4	5,906.8	15.2	19.4	-28.81	291.9	-885.4	340.6	317.1	23.47	14.511	
6,100.0	6,062.9	6,085.2	6,005.1	15.5	19.7	-28.79	297.5	-902.1	346.9	323.1	23.87	14.532	
6,200.0	6,162.2	6,185.0	6,103.3	15.8	20.1	-28.78	303.1	-918.8	353.3	329.0	24.28	14.552	
6,300.0	6,261.5	6,284.8	6,201.5	16.0	20.4	-28.77	308.8	-935.5	359.6	334.9	24.68	14.572	
6,400.0	6,360.8	6,384.6	6,299.8	16.3	20.8	-28.76	314.4	-952.2	365.9	340.8	25.08	14.591	
6,500.0	6,460.0	6,484.4	6,398.0	16.6	21.1	-28.75	320.0	-968.9	372.2	346.7	25.48	14.610	
6,600.0	6,559.3	6,584.2	6,496.3	16.8	21.5	-28.74	325.6	-985.5	378.5	352.7	25.88	14.627	
6,700.0	6,658.6	6,684.0	6,594.5	17.1	21.8	-28.73	331.3	-1,002.2	384.9	358.6	26.28	14.645	
6,800.0	6,757.9	6,783.8	6,692.7	17.4	22.2	-28.72	336.9	-1,018.9	391.2	364.5	26.68	14.662	
6,819.8	6,777.6	6,803.5	6,712.1	17.4	22.3	-28.72	338.0	-1,022.2	392.4	365.7	26.76	14.665	
6,850.0	6,807.6	6,833.7	6,741.8	17.5	22.4	-8.29	339.7	-1,027.2	394.3	367.4	26.88	14.668	
6,900.0	6,857.3	6,883.4	6,790.8	17.6	22.6	27.54	342.5	-1,035.5	397.5	370.5	26.97	14.738	
6,950.0	6,906.8	6,933.0	6,839.7	17.7	22.7	50.12	343.1	-1,043.9	400.7	373.7	26.96	14.862	
7,000.0	6,955.9	6,983.0	6,888.9	17.8	22.9	62.19	340.3	-1,052.2	403.9	377.0	26.90	15.013	
7,050.0	7,004.3	7,033.4	6,938.1	17.8	23.0	69.25	334.0	-1,060.6	407.2	380.4	26.82	15.184	
7,100.0	7,051.8	7,084.1	6,987.1	17.8	23.1	73.84	324.0	-1,069.0	410.5	383.8	26.70	15.373	
7,150.0	7,098.1	7,135.2	7,035.7	17.9	23.2	77.07	310.5	-1,077.4	413.8	387.2	26.57	15.572	
7,200.0	7,143.1	7,186.7	7,083.6	17.9	23.3	79.48	293.3	-1,085.6	417.1	390.6	26.44	15.775	
7,250.0	7,186.5	7,238.6	7,130.4	17.9	23.4	81.37	272.6	-1,093.7	420.3	394.0	26.31	15.975	
7,300.0	7,228.1	7,290.9	7,176.0	17.9	23.5	82.90	248.2	-1,101.6	423.5	397.3	26.20	16.165	
7,350.0	7,267.8	7,343.6	7,220.0	17.9	23.5	84.16	220.4	-1,109.2	426.6	400.5	26.12	16.334	
7,400.0	7,305.2	7,396.6	7,262.2	17.9	23.6	85.21	189.0	-1,116.5	429.6	403.6	26.08	16.475	
7,450.0	7,340.2	7,450.0	7,302.2	17.9	23.7	86.11	154.4	-1,123.5	432.5	406.4	26.09	16.579	
7,500.0	7,372.7	7,503.8	7,339.8	18.0	23.8	86.88	116.6	-1,130.1	435.3	409.1	26.16	16.636	
7,550.0	7,402.5	7,557.9	7,374.7	18.1	23.8	87.54	75.7	-1,136.3	437.8	411.5	26.31	16.641	
7,600.0	7,429.4	7,612.3	7,406.7	18.2	24.0	88.10	32.0	-1,141.9	440.2	413.7	26.54	16.587	
7,650.0	7,453.4	7,667.0	7,435.4	18.3	24.1	88.58	-14.2	-1,147.1	442.4	415.5	26.83	16.486	
7,700.0	7,474.3	7,722.0	7,460.7	18.4	24.2	88.98	-62.9	-1,151.6	444.3	417.1	27.23	16.319	
7,750.0	7,491.9	7,777.2	7,482.3	18.6	24.4	89.31	-113.5	-1,155.6	446.0	418.3	27.71	16.099	
7,800.0	7,506.3	7,832.7	7,500.0	18.9	24.6	89.57	-165.9	-1,158.9	447.5	419.2	28.27	15.829	
7,850.0	7,517.3	7,888.3	7,513.8	19.1	24.8	89.77	-219.7	-1,161.5	448.7	419.8	28.92	15.516	
7,900.0	7,525.0	7,944.0	7,523.4	19.4	25.1	89.91	-274.6	-1,163.4	449.6	420.0	29.64	15.168	
7,950.0	7,529.1	7,999.9	7,528.8	19.7	25.4	89.98	-330.1	-1,164.6	450.3	419.8	30.44	14.791	
7,985.2	7,530.0	8,039.2	7,530.0	20.0	25.6	90.00	-369.4	-1,165.0	450.5	419.5	31.04	14.513	
8,000.0	7,530.0	8,054.3	7,530.0	20.1	25.7	90.00	-384.5	-1,165.1	450.6	419.3	31.33	14.384	
8,100.0	7,530.0	8,154.3	7,530.0	20.9	26.3	90.00	-484.5	-1,165.6	451.1	417.8	33.37	13.519	
8,200.0	7,530.0	8,254.3	7,530.0	21.8	27.0	90.00	-584.5	-1,166.1	451.7	416.0	35.63	12.676	
8,300.0	7,530.0	8,354.3	7,530.0	22.8	27.9	90.00	-684.5	-1,166.7	452.2	414.1	38.08	11.875	
8,400.0	7,530.0	8,454.3	7,530.0	23.9	28.8	90.00	-784.5	-1,167.2	452.7	412.0	40.68	11.127	
8,500.0	7,530.0	8,554.3	7,530.0	25.1	29.7	90.00	-884.5	-1,167.7	453.2	409.8	43.42	10.439	
8,600.0	7,530.0	8,654.3	7,530.0	26.3	30.8	90.00	-984.5	-1,168.2	453.8	407.5	46.25	9.810	
8,700.0	7,530.0	8,754.3	7,530.0	27.6	31.9	90.00	-1,084.5	-1,168.8	454.3	405.1	49.18	9.238	
8,800.0	7,530.0	8,854.3	7,530.0	29.0	33.1	90.00	-1,184.5	-1,169.3	454.8	402.6	52.17	8.717	

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 Morgan Hills 1E-7H-A168
Project:	DJ Wattenberg	**TVD Reference:**	HZ @ 5035.0ft
Reference Site:	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	**MD Reference:**	HZ @ 5035.0ft
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Morgan Hills 1E-7H-A168	**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 #2	**Offset TVD Reference:**	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - Morgan Hills 1C-7H-A168 - HZ - Plan #2

Offset Site Error: 0.0 ft

Survey Program: 0-Geolink MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
8,900.0	7,530.0	8,954.3	7,530.0	30.3	34.3	90.00	-1,284.5	-1,169.8	455.3	400.1	55.23	8.244	
9,000.0	7,530.0	9,054.3	7,530.0	31.8	35.6	90.00	-1,384.5	-1,170.3	455.9	397.5	58.34	7.814	
9,100.0	7,530.0	9,154.3	7,530.0	33.2	36.9	90.00	-1,484.5	-1,170.9	456.4	394.9	61.49	7.422	
9,200.0	7,530.0	9,254.3	7,530.0	34.7	38.2	90.00	-1,584.5	-1,171.4	456.9	392.2	64.68	7.065	
9,300.0	7,530.0	9,354.3	7,530.0	36.2	39.6	90.00	-1,684.5	-1,171.9	457.4	389.5	67.89	6.737	
9,400.0	7,530.0	9,454.3	7,530.0	37.7	41.0	90.00	-1,784.5	-1,172.4	457.9	386.8	71.14	6.437	
9,500.0	7,530.0	9,554.3	7,530.0	39.3	42.4	90.00	-1,884.5	-1,172.9	458.5	384.1	74.41	6.161	
9,600.0	7,530.0	9,654.3	7,530.0	40.8	43.9	90.00	-1,984.5	-1,173.5	459.0	381.3	77.70	5.907	
9,700.0	7,530.0	9,754.3	7,530.0	42.4	45.3	90.00	-2,084.5	-1,174.0	459.5	378.5	81.01	5.672	
9,800.0	7,530.0	9,854.3	7,530.0	44.0	46.8	90.00	-2,184.5	-1,174.5	460.0	375.7	84.34	5.455	
9,900.0	7,530.0	9,954.3	7,530.0	45.6	48.3	90.00	-2,284.5	-1,175.0	460.6	372.9	87.68	5.253	
10,000.0	7,530.0	10,054.3	7,530.0	47.2	49.9	90.00	-2,384.5	-1,175.6	461.1	370.1	91.03	5.065	
10,100.0	7,530.0	10,154.3	7,530.0	48.8	51.4	90.00	-2,484.5	-1,176.1	461.6	367.2	94.39	4.890	
10,200.0	7,530.0	10,254.3	7,530.0	50.5	53.0	90.00	-2,584.5	-1,176.6	462.1	364.4	97.77	4.727	
10,300.0	7,530.0	10,354.3	7,530.0	52.1	54.5	90.00	-2,684.5	-1,177.1	462.7	361.5	101.15	4.574	
10,400.0	7,530.0	10,454.3	7,530.0	53.8	56.1	90.00	-2,784.5	-1,177.7	463.2	358.6	104.54	4.431	
10,500.0	7,530.0	10,554.3	7,530.0	55.4	57.7	90.00	-2,884.5	-1,178.2	463.7	355.8	107.94	4.296	
10,600.0	7,530.0	10,654.3	7,530.0	57.1	59.3	90.00	-2,984.5	-1,178.7	464.2	352.9	111.34	4.169	
10,700.0	7,530.0	10,754.3	7,530.0	58.7	60.9	90.00	-3,084.4	-1,179.2	464.8	350.0	114.75	4.050	
10,800.0	7,530.0	10,854.3	7,530.0	60.4	62.5	90.00	-3,184.4	-1,179.8	465.3	347.1	118.17	3.937	
10,900.0	7,530.0	10,954.3	7,530.0	62.1	64.1	90.00	-3,284.4	-1,180.3	465.8	344.2	121.59	3.831	
11,000.0	7,530.0	11,054.3	7,530.0	63.8	65.8	90.00	-3,384.4	-1,180.8	466.3	341.3	125.02	3.730	
11,100.0	7,530.0	11,154.3	7,530.0	65.5	67.4	90.00	-3,484.4	-1,181.3	466.9	338.4	128.45	3.634	
11,200.0	7,530.0	11,254.3	7,530.0	67.1	69.0	90.00	-3,584.4	-1,181.9	467.4	335.5	131.89	3.544	
11,300.0	7,530.0	11,354.3	7,530.0	68.8	70.7	90.00	-3,684.4	-1,182.4	467.9	332.6	135.33	3.458	
11,400.0	7,530.0	11,454.2	7,530.0	70.5	72.3	90.00	-3,784.4	-1,182.9	468.4	329.7	138.77	3.376	
11,500.0	7,530.0	11,554.2	7,530.0	72.2	74.0	90.00	-3,884.4	-1,183.4	468.9	326.7	142.22	3.297	
11,600.0	7,530.0	11,654.2	7,530.0	73.9	75.7	90.00	-3,984.4	-1,183.9	469.5	323.8	145.66	3.223	
11,700.0	7,530.0	11,754.2	7,530.0	75.6	77.3	90.00	-4,084.4	-1,184.5	470.0	320.9	149.12	3.152	
11,800.0	7,530.0	11,854.2	7,530.0	77.3	79.0	90.00	-4,184.4	-1,185.0	470.5	317.9	152.57	3.084	
11,900.0	7,530.0	11,954.2	7,530.0	79.0	80.7	90.00	-4,284.4	-1,185.5	471.0	315.0	156.03	3.019	
12,000.0	7,530.0	12,054.2	7,530.0	80.7	82.3	90.00	-4,384.4	-1,186.0	471.6	312.1	159.49	2.957	
12,100.0	7,530.0	12,154.2	7,530.0	82.4	84.0	90.00	-4,484.4	-1,186.6	472.1	309.1	162.95	2.897	
12,200.0	7,530.0	12,254.2	7,530.0	84.2	85.7	90.00	-4,584.4	-1,187.1	472.6	306.2	166.41	2.840	
12,300.0	7,530.0	12,354.2	7,530.0	85.9	87.4	90.00	-4,684.4	-1,187.6	473.1	303.3	169.87	2.785	
12,400.0	7,530.0	12,454.2	7,530.0	87.6	89.1	90.00	-4,784.4	-1,188.1	473.7	300.3	173.34	2.733	
12,500.0	7,530.0	12,554.2	7,530.0	89.3	90.8	90.00	-4,884.4	-1,188.7	474.2	297.4	176.81	2.682	
12,600.0	7,530.0	12,654.2	7,530.0	91.0	92.4	90.00	-4,984.4	-1,189.2	474.7	294.4	180.28	2.633	
12,700.0	7,530.0	12,754.2	7,530.0	92.7	94.1	90.00	-5,084.4	-1,189.7	475.2	291.5	183.75	2.586	
12,800.0	7,530.0	12,854.2	7,530.0	94.5	95.8	90.00	-5,184.4	-1,190.2	475.8	288.5	187.22	2.541	
12,900.0	7,530.0	12,954.2	7,530.0	96.2	97.5	90.00	-5,284.4	-1,190.8	476.3	285.6	190.70	2.498	
13,000.0	7,530.0	13,054.2	7,530.0	97.9	99.2	90.00	-5,384.4	-1,191.3	476.8	282.6	194.17	2.456	
13,100.0	7,530.0	13,154.2	7,530.0	99.6	100.9	90.00	-5,484.4	-1,191.8	477.3	279.7	197.65	2.415	
13,200.0	7,530.0	13,254.2	7,530.0	101.4	102.6	90.00	-5,584.4	-1,192.3	477.8	276.7	201.13	2.376	
13,300.0	7,530.0	13,354.2	7,530.0	103.1	104.4	90.00	-5,684.4	-1,192.8	478.4	273.8	204.60	2.338	
13,400.0	7,530.0	13,454.2	7,530.0	104.8	106.1	90.00	-5,784.4	-1,193.4	478.9	270.8	208.08	2.301	
13,500.0	7,530.0	13,554.2	7,530.0	106.5	107.8	90.00	-5,884.4	-1,193.9	479.4	267.9	211.56	2.266	
13,600.0	7,530.0	13,654.2	7,530.0	108.3	109.5	90.00	-5,984.4	-1,194.4	479.9	264.9	215.04	2.232	
13,700.0	7,530.0	13,754.2	7,530.0	110.0	111.2	90.00	-6,084.4	-1,194.9	480.5	261.9	218.53	2.199	
13,800.0	7,530.0	13,854.2	7,530.0	111.7	112.9	90.00	-6,184.4	-1,195.5	481.0	259.0	222.01	2.167	
13,900.0	7,530.0	13,954.2	7,530.0	113.5	114.6	90.00	-6,284.4	-1,196.0	481.5	256.0	225.49	2.135	
14,000.0	7,530.0	14,054.2	7,530.0	115.2	116.3	90.00	-6,384.4	-1,196.5	482.0	253.1	228.98	2.105	

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 Morgan Hills 1E-7H-A168
Project:	DJ Wattenberg	**TVD Reference:**	HZ @ 5035.0ft
Reference Site:	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	**MD Reference:**	HZ @ 5035.0ft
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Morgan Hills 1E-7H-A168	**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 #2	**Offset TVD Reference:**	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - Morgan Hills 1C-7H-A168 - HZ - Plan #2

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
14,100.0	7,530.0	14,154.2	7,530.0	116.9	118.0	90.00	-6,484.4	-1,197.0	482.6	250.1	232.46	2.076	
14,200.0	7,530.0	14,254.2	7,530.0	118.7	119.8	90.00	-6,584.4	-1,197.6	483.1	247.1	235.95	2.047	
14,300.0	7,530.0	14,354.2	7,530.0	120.4	121.5	90.00	-6,684.3	-1,198.1	483.6	244.2	239.43	2.020	
14,400.0	7,530.0	14,454.2	7,530.0	122.1	123.2	90.00	-6,784.3	-1,198.6	484.1	241.2	242.92	1.993	
14,500.0	7,530.0	14,554.2	7,530.0	123.9	124.9	90.00	-6,884.3	-1,199.1	484.7	238.2	246.41	1.967	
14,600.0	7,530.0	14,654.2	7,530.0	125.6	126.6	90.00	-6,984.3	-1,199.7	485.2	235.3	249.90	1.942	
14,700.0	7,530.0	14,754.2	7,530.0	127.3	128.4	90.00	-7,084.3	-1,200.2	485.7	232.3	253.39	1.917	
14,800.0	7,530.0	14,854.2	7,530.0	129.1	130.1	90.00	-7,184.3	-1,200.7	486.2	229.4	256.88	1.893	
14,900.0	7,530.0	14,954.2	7,530.0	130.8	131.8	90.00	-7,284.3	-1,201.2	486.8	226.4	260.37	1.869	
15,000.0	7,530.0	15,054.2	7,530.0	132.5	133.5	90.00	-7,384.3	-1,201.8	487.3	223.4	263.86	1.847	
15,100.0	7,530.0	15,154.2	7,530.0	134.3	135.3	90.00	-7,484.3	-1,202.3	487.8	220.5	267.35	1.825	
15,200.0	7,530.0	15,254.2	7,530.0	136.0	137.0	90.00	-7,584.3	-1,202.8	488.3	217.5	270.84	1.803	
15,300.0	7,530.0	15,354.2	7,530.0	137.8	138.7	90.00	-7,684.3	-1,203.3	488.8	214.5	274.33	1.782	
15,400.0	7,530.0	15,454.2	7,530.0	139.5	140.4	90.00	-7,784.3	-1,203.8	489.4	211.5	277.82	1.761	
15,500.0	7,530.0	15,554.2	7,530.0	141.2	142.2	90.00	-7,884.3	-1,204.4	489.9	208.6	281.31	1.741	
15,600.0	7,530.0	15,654.2	7,530.0	143.0	143.9	90.00	-7,984.3	-1,204.9	490.4	205.6	284.81	1.722	
15,700.0	7,530.0	15,754.2	7,530.0	144.7	145.6	90.00	-8,084.3	-1,205.4	490.9	202.6	288.30	1.703	
15,800.0	7,530.0	15,854.2	7,530.0	146.5	147.4	90.00	-8,184.3	-1,205.9	491.5	199.7	291.79	1.684	
15,900.0	7,530.0	15,954.2	7,530.0	148.2	149.1	90.00	-8,284.3	-1,206.5	492.0	196.7	295.29	1.666	
16,000.0	7,530.0	16,054.2	7,530.0	149.9	150.8	90.00	-8,384.3	-1,207.0	492.5	193.7	298.78	1.648	
16,100.0	7,530.0	16,154.2	7,530.0	151.7	152.6	90.00	-8,484.3	-1,207.5	493.0	190.8	302.28	1.631	
16,200.0	7,530.0	16,254.2	7,530.0	153.4	154.3	90.00	-8,584.3	-1,208.0	493.6	187.8	305.77	1.614	
16,300.0	7,530.0	16,354.2	7,530.0	155.2	156.0	90.00	-8,684.3	-1,208.6	494.1	184.8	309.27	1.598	
16,400.0	7,530.0	16,454.2	7,530.0	156.9	157.8	90.00	-8,784.3	-1,209.1	494.6	181.8	312.76	1.581	
16,500.0	7,530.0	16,554.2	7,530.0	158.6	159.5	90.00	-8,884.3	-1,209.6	495.1	178.9	316.26	1.566	
16,600.0	7,530.0	16,654.2	7,530.0	160.4	161.2	90.00	-8,984.3	-1,210.1	495.7	175.9	319.75	1.550	
16,700.0	7,530.0	16,754.2	7,530.0	162.1	163.0	90.00	-9,084.3	-1,210.7	496.2	172.9	323.25	1.535	
16,800.0	7,530.0	16,854.2	7,530.0	163.9	164.7	90.00	-9,184.3	-1,211.2	496.7	170.0	326.75	1.520	
16,900.0	7,530.0	16,954.2	7,530.0	165.6	166.4	90.00	-9,284.3	-1,211.7	497.2	167.0	330.24	1.506	
17,000.0	7,530.0	17,054.2	7,530.0	167.4	168.2	90.00	-9,384.3	-1,212.2	497.7	164.0	333.74	1.491	Level 3
17,100.0	7,530.0	17,154.2	7,530.0	169.1	169.9	90.00	-9,484.3	-1,212.7	498.3	161.0	337.24	1.478	Level 3
17,200.0	7,530.0	17,254.2	7,530.0	170.8	171.6	90.00	-9,584.3	-1,213.3	498.8	158.1	340.73	1.464	Level 3
17,300.0	7,530.0	17,354.2	7,530.0	172.6	173.4	90.00	-9,684.3	-1,213.8	499.3	155.1	344.23	1.451	Level 3
17,400.0	7,530.0	17,454.2	7,530.0	174.3	175.1	90.00	-9,784.3	-1,214.3	499.8	152.1	347.73	1.437	Level 3
17,440.2	7,530.0	17,490.0	7,530.0	175.0	175.7	90.00	-9,820.1	-1,214.5	500.1	151.0	349.06	1.433	Level 3, SF

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Morgan Hills 1E-7H-A168
Project:	DJ Wattenberg	**TVD Reference:**	HZ @ 5035.0ft
Reference Site:	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	**MD Reference:**	HZ @ 5035.0ft
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Morgan Hills 1E-7H-A168	**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 #2	**Offset TVD Reference:**	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - Morgan Hills 1D-7H-A168 - HZ - Plan #2

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	-90.00	0.0	-10.1	10.1				
100.0	100.0	100.0	100.0	0.2	0.2	-90.00	0.0	-10.1	10.1	9.8	0.30	33.175	
200.0	200.0	200.0	200.0	0.3	0.3	-90.00	0.0	-10.1	10.1	9.4	0.65	15.434	
300.0	300.0	300.0	300.0	0.5	0.5	-90.00	0.0	-10.1	10.1	9.1	1.00	10.057	
333.4	333.4	333.4	333.4	0.6	0.6	-90.00	0.0	-10.1	10.1	9.0	1.12	9.007	CC
400.0	400.0	399.9	399.9	0.7	0.7	-89.55	0.1	-10.3	10.3	8.9	1.35	7.609	ES
500.0	500.0	499.7	499.7	0.9	0.9	-26.74	0.7	-11.9	11.1	9.4	1.70	6.549	
600.0	600.0	599.5	599.5	1.0	1.0	-26.61	2.0	-15.1	12.1	10.0	2.05	5.885	
700.0	699.9	699.3	699.1	1.2	1.2	-27.30	4.0	-20.0	13.1	10.7	2.40	5.442	
800.0	799.7	799.1	798.6	1.4	1.4	-28.63	6.5	-26.4	14.2	11.4	2.76	5.133	
900.0	899.4	898.9	898.0	1.6	1.6	-30.42	9.8	-34.5	15.3	12.2	3.12	4.911	
1,000.0	998.9	998.6	997.2	1.8	1.9	-32.56	13.6	-44.1	16.6	13.1	3.50	4.746	
1,082.1	1,080.4	1,080.4	1,078.5	2.0	2.1	-34.50	17.3	-53.2	17.8	13.9	3.83	4.640	
1,100.0	1,098.3	1,098.3	1,096.2	2.1	2.1	-34.89	18.2	-55.4	18.1	14.2	3.90	4.627	
1,200.0	1,197.6	1,198.0	1,194.9	2.3	2.4	-35.42	23.3	-68.2	20.5	16.2	4.31	4.767	
1,300.0	1,296.8	1,298.0	1,293.8	2.6	2.7	-35.05	28.7	-81.7	23.6	18.9	4.71	5.011	
1,400.0	1,396.1	1,397.9	1,392.7	2.8	3.0	-34.76	34.1	-95.2	26.7	21.5	5.11	5.214	
1,500.0	1,495.4	1,497.9	1,491.6	3.1	3.3	-34.53	39.5	-108.7	29.7	24.2	5.52	5.386	
1,600.0	1,594.7	1,597.8	1,590.5	3.4	3.6	-34.35	44.9	-122.1	32.8	26.9	5.93	5.533	
1,700.0	1,694.0	1,697.8	1,689.4	3.6	3.9	-34.20	50.3	-135.6	35.9	29.5	6.33	5.661	
1,800.0	1,793.3	1,797.8	1,788.3	3.9	4.2	-34.07	55.7	-149.1	38.9	32.2	6.74	5.772	
1,900.0	1,892.6	1,897.7	1,887.2	4.1	4.5	-33.96	61.1	-162.6	42.0	34.8	7.15	5.869	
2,000.0	1,991.9	1,997.7	1,986.1	4.4	4.8	-33.86	66.5	-176.1	45.0	37.5	7.56	5.956	
2,100.0	2,091.2	2,097.6	2,085.0	4.7	5.1	-33.78	71.9	-189.5	48.1	40.1	7.97	6.034	
2,200.0	2,190.5	2,197.6	2,183.9	4.9	5.4	-33.70	77.3	-203.0	51.2	42.8	8.39	6.103	
2,300.0	2,289.8	2,297.5	2,282.8	5.2	5.7	-33.64	82.7	-216.5	54.2	45.4	8.80	6.166	
2,400.0	2,389.1	2,397.5	2,381.7	5.5	6.0	-33.58	88.2	-230.0	57.3	48.1	9.21	6.223	
2,500.0	2,488.4	2,497.4	2,480.5	5.7	6.3	-33.53	93.6	-243.5	60.4	50.8	9.62	6.275	
2,600.0	2,587.6	2,597.4	2,579.4	6.0	6.6	-33.48	99.0	-256.9	63.4	53.4	10.03	6.322	
2,700.0	2,686.9	2,697.3	2,678.3	6.3	6.9	-33.44	104.4	-270.4	66.5	56.1	10.45	6.366	
2,800.0	2,786.2	2,797.3	2,777.2	6.6	7.2	-33.40	109.8	-283.9	69.6	58.7	10.86	6.406	
2,900.0	2,885.5	2,897.2	2,876.1	6.8	7.5	-33.36	115.2	-297.4	72.6	61.4	11.27	6.443	
3,000.0	2,984.8	2,997.2	2,975.0	7.1	7.8	-33.33	120.6	-310.9	75.7	64.0	11.69	6.477	
3,100.0	3,084.1	3,097.1	3,073.9	7.4	8.1	-33.30	126.0	-324.3	78.8	66.7	12.10	6.509	
3,200.0	3,183.4	3,197.1	3,172.8	7.6	8.4	-33.27	131.4	-337.8	81.8	69.3	12.51	6.539	
3,300.0	3,282.7	3,297.0	3,271.7	7.9	8.7	-33.25	136.8	-351.3	84.9	72.0	12.93	6.567	
3,400.0	3,382.0	3,397.0	3,370.6	8.2	9.0	-33.22	142.2	-364.8	88.0	74.6	13.34	6.593	
3,500.0	3,481.3	3,497.0	3,469.5	8.4	9.3	-33.20	147.6	-378.3	91.0	77.3	13.76	6.617	
3,600.0	3,580.6	3,596.9	3,568.4	8.7	9.7	-33.18	153.0	-391.7	94.1	79.9	14.17	6.640	
3,700.0	3,679.9	3,696.9	3,667.3	9.0	10.0	-33.16	158.4	-405.2	97.2	82.6	14.58	6.662	
3,800.0	3,779.2	3,796.8	3,766.1	9.3	10.3	-33.14	163.8	-418.7	100.2	85.2	15.00	6.682	
3,900.0	3,878.4	3,896.8	3,865.0	9.5	10.6	-33.12	169.2	-432.2	103.3	87.9	15.41	6.702	
4,000.0	3,977.7	3,996.7	3,963.9	9.8	10.9	-33.11	174.6	-445.7	106.4	90.5	15.83	6.720	
4,100.0	4,077.0	4,096.7	4,062.8	10.1	11.2	-33.09	180.0	-459.1	109.4	93.2	16.24	6.737	
4,200.0	4,176.3	4,196.6	4,161.7	10.3	11.5	-33.08	185.4	-472.6	112.5	95.8	16.66	6.753	
4,300.0	4,275.6	4,296.6	4,260.6	10.6	11.8	-33.06	190.8	-486.1	115.6	98.5	17.07	6.769	
4,400.0	4,374.9	4,396.5	4,359.5	10.9	12.1	-33.05	196.2	-499.6	118.6	101.1	17.49	6.784	
4,500.0	4,474.2	4,496.5	4,458.4	11.1	12.4	-33.04	201.6	-513.1	121.7	103.8	17.90	6.798	
4,600.0	4,573.5	4,596.4	4,557.3	11.4	12.7	-33.03	207.0	-526.5	124.8	106.4	18.31	6.812	
4,700.0	4,672.8	4,696.4	4,656.2	11.7	13.0	-33.01	212.4	-540.0	127.8	109.1	18.73	6.824	
4,800.0	4,772.1	4,796.3	4,755.1	12.0	13.4	-33.00	217.8	-553.5	130.9	111.7	19.14	6.837	
4,900.0	4,871.4	4,896.3	4,854.0	12.2	13.7	-32.99	223.3	-567.0	133.9	114.4	19.56	6.848	

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 Morgan Hills 1E-7H-A168
Project:	DJ Wattenberg	**TVD Reference:**	HZ @ 5035.0ft
Reference Site:	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	**MD Reference:**	HZ @ 5035.0ft
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Morgan Hills 1E-7H-A168	**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 #2	**Offset TVD Reference:**	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - Morgan Hills 1D-7H-A168 - HZ - Plan #2

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
5,000.0	4,970.7	4,996.2	4,952.8	12.5	14.0	-32.98	228.7	-580.5	137.0	117.0	19.97	6.860	
5,100.0	5,070.0	5,096.2	5,051.7	12.8	14.3	-32.97	234.1	-593.9	140.1	119.7	20.39	6.871	
5,200.0	5,169.2	5,196.2	5,150.6	13.0	14.6	-32.97	239.5	-607.4	143.1	122.3	20.80	6.881	
5,300.0	5,268.5	5,296.1	5,249.5	13.3	14.9	-32.96	244.9	-620.9	146.2	125.0	21.22	6.891	
5,400.0	5,367.8	5,396.1	5,348.4	13.6	15.2	-32.95	250.3	-634.4	149.3	127.6	21.63	6.900	
5,500.0	5,467.1	5,496.0	5,447.3	13.9	15.5	-32.94	255.7	-647.9	152.3	130.3	22.05	6.910	
5,600.0	5,566.4	5,596.0	5,546.2	14.1	15.8	-32.93	261.1	-661.4	155.4	132.9	22.46	6.918	
5,700.0	5,665.7	5,695.9	5,645.1	14.4	16.1	-32.93	266.5	-674.8	158.5	135.6	22.88	6.927	
5,800.0	5,765.0	5,795.9	5,744.0	14.7	16.4	-32.92	271.9	-688.3	161.5	138.2	23.29	6.935	
5,900.0	5,864.3	5,895.8	5,842.9	14.9	16.8	-32.91	277.3	-701.8	164.6	140.9	23.71	6.943	
6,000.0	5,963.6	5,995.8	5,941.8	15.2	17.1	-32.91	282.7	-715.3	167.7	143.5	24.12	6.951	
6,100.0	6,062.9	6,095.7	6,040.7	15.5	17.4	-32.90	288.1	-728.8	170.7	146.2	24.54	6.958	
6,200.0	6,162.2	6,195.7	6,139.6	15.8	17.7	-32.89	293.5	-742.2	173.8	148.9	24.95	6.965	
6,300.0	6,261.5	6,295.6	6,238.4	16.0	18.0	-32.89	298.9	-755.7	176.9	151.5	25.37	6.972	
6,400.0	6,360.8	6,395.6	6,337.3	16.3	18.3	-32.88	304.3	-769.2	179.9	154.2	25.78	6.979	
6,500.0	6,460.0	6,495.5	6,436.2	16.6	18.6	-32.88	309.7	-782.7	183.0	156.8	26.20	6.985	
6,600.0	6,559.3	6,595.5	6,535.1	16.8	18.9	-32.87	315.1	-796.2	186.1	159.5	26.61	6.992	
6,700.0	6,658.6	6,695.5	6,634.0	17.1	19.2	-32.87	320.5	-809.6	189.1	162.1	27.03	6.998	
6,800.0	6,757.9	6,795.4	6,732.9	17.4	19.5	-32.86	325.9	-823.1	192.2	164.8	27.44	7.003	
6,819.8	6,777.6	6,815.2	6,752.5	17.4	19.6	-32.86	327.0	-825.8	192.8	165.3	27.53	7.005	
6,850.0	6,807.6	6,845.4	6,782.3	17.5	19.7	-12.25	328.6	-829.9	193.7	166.1	27.61	7.014	
6,900.0	6,857.3	6,895.2	6,831.6	17.6	19.8	24.30	331.3	-836.6	194.9	167.4	27.55	7.077	
6,950.0	6,906.8	6,944.6	6,880.6	17.7	20.0	48.40	334.0	-843.2	196.2	168.9	27.25	7.198	
7,000.0	6,955.9	6,993.5	6,928.9	17.8	20.1	62.90	336.6	-849.8	197.7	170.9	26.79	7.381	
7,050.0	7,004.3	7,041.4	6,976.3	17.8	20.3	73.14	339.2	-856.3	200.1	173.9	26.24	7.626	
7,100.0	7,051.8	7,088.3	7,022.7	17.8	20.4	81.50	341.8	-862.6	204.1	178.3	25.72	7.935	
7,150.0	7,098.1	7,137.8	7,071.8	17.9	20.6	88.88	342.7	-869.3	209.7	184.5	25.28	8.296	
7,200.0	7,143.1	7,188.8	7,122.2	17.9	20.7	95.23	340.0	-876.2	216.9	191.9	25.03	8.667	
7,250.0	7,186.5	7,241.3	7,173.8	17.9	20.8	100.79	333.6	-883.2	225.3	200.4	24.91	9.045	
7,300.0	7,228.1	7,295.5	7,226.5	17.9	20.9	105.72	322.9	-890.4	234.8	209.9	24.90	9.431	
7,350.0	7,267.8	7,351.6	7,279.9	17.9	21.0	110.09	307.6	-897.7	245.2	220.2	24.94	9.831	
7,400.0	7,305.2	7,409.7	7,333.8	17.9	21.0	113.98	287.4	-905.0	256.1	231.1	24.99	10.246	
7,450.0	7,340.2	7,469.8	7,387.8	17.9	21.1	117.43	262.0	-912.4	267.3	242.2	25.02	10.680	
7,500.0	7,372.7	7,532.2	7,441.4	18.0	21.1	120.49	230.8	-919.7	278.6	253.5	25.02	11.131	
7,550.0	7,402.5	7,596.9	7,493.8	18.1	21.2	123.18	193.6	-926.8	289.7	264.7	24.98	11.596	
7,600.0	7,429.4	7,664.0	7,544.5	18.2	21.2	125.53	150.2	-933.7	300.4	275.5	24.91	12.060	
7,650.0	7,453.4	7,733.5	7,592.4	18.3	21.3	127.56	100.5	-940.3	310.4	285.6	24.80	12.515	
7,700.0	7,474.3	7,805.3	7,636.8	18.4	21.4	129.29	44.3	-946.3	319.6	294.9	24.71	12.936	
7,750.0	7,491.9	7,879.4	7,676.4	18.6	21.6	130.74	-17.9	-951.7	327.7	303.2	24.56	13.345	
7,800.0	7,506.3	7,955.4	7,710.3	18.9	21.8	131.90	-85.9	-956.4	334.6	310.1	24.49	13.659	
7,850.0	7,517.3	8,033.2	7,737.4	19.1	22.1	132.79	-158.7	-960.0	340.0	315.5	24.47	13.896	
7,900.0	7,525.0	8,112.4	7,756.7	19.4	22.4	133.41	-235.4	-962.7	343.9	319.3	24.51	14.029	
7,950.0	7,529.1	8,192.5	7,767.6	19.7	22.8	133.75	-314.7	-964.2	346.0	321.4	24.64	14.046	
7,985.2	7,530.0	8,249.2	7,770.0	20.0	23.2	133.83	-371.3	-964.5	346.6	321.8	24.79	13.982	
8,000.0	7,530.0	8,264.8	7,770.0	20.1	23.3	133.83	-386.9	-964.5	346.6	321.6	25.00	13.861	
8,100.0	7,530.0	8,364.8	7,770.0	20.9	24.0	133.83	-486.9	-964.5	346.6	320.0	26.53	13.064	
8,200.0	7,530.0	8,464.8	7,770.0	21.8	24.8	133.83	-586.9	-964.5	346.6	318.4	28.19	12.292	
8,300.0	7,530.0	8,564.8	7,770.0	22.8	25.7	133.83	-686.9	-964.5	346.6	316.6	29.98	11.559	
8,400.0	7,530.0	8,664.8	7,770.0	23.9	26.6	133.83	-786.9	-964.5	346.6	314.7	31.87	10.873	
8,500.0	7,530.0	8,764.8	7,770.0	25.1	27.7	133.83	-886.9	-964.5	346.6	312.7	33.85	10.237	
8,600.0	7,530.0	8,864.8	7,770.0	26.3	28.8	133.83	-986.9	-964.5	346.6	310.7	35.90	9.653	
8,700.0	7,530.0	8,964.8	7,770.0	27.6	30.0	133.83	-1,086.9	-964.5	346.6	308.5	38.01	9.117	

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 Morgan Hills 1E-7H-A168
Project:	DJ Wattenberg	**TVD Reference:**	HZ @ 5035.0ft
Reference Site:	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	**MD Reference:**	HZ @ 5035.0ft
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Morgan Hills 1E-7H-A168	**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 #2	**Offset TVD Reference:**	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - Morgan Hills 1D-7H-A168 - HZ - Plan #2

Offset Site Error: 0.0 ft

Survey Program: 0-Geolink MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
8,800.0	7,530.0	9,064.8	7,770.0	29.0	31.3	133.83	-1,186.9	-964.5	346.6	306.4	40.17	8.627	
8,900.0	7,530.0	9,164.8	7,770.0	30.3	32.5	133.83	-1,286.9	-964.5	346.6	304.2	42.37	8.179	
9,000.0	7,530.0	9,264.8	7,770.0	31.8	33.9	133.83	-1,386.9	-964.5	346.6	301.9	44.61	7.768	
9,100.0	7,530.0	9,364.8	7,770.0	33.2	35.2	133.83	-1,486.9	-964.5	346.6	299.7	46.88	7.392	
9,200.0	7,530.0	9,464.8	7,770.0	34.7	36.6	133.83	-1,586.9	-964.5	346.6	297.4	49.18	7.047	
9,300.0	7,530.0	9,564.8	7,770.0	36.2	38.1	133.83	-1,686.9	-964.5	346.6	295.1	51.50	6.729	
9,400.0	7,530.0	9,664.8	7,770.0	37.7	39.5	133.83	-1,786.9	-964.5	346.6	292.7	53.84	6.436	
9,500.0	7,530.0	9,764.8	7,770.0	39.3	41.0	133.83	-1,886.9	-964.5	346.6	290.4	56.20	6.166	
9,600.0	7,530.0	9,864.8	7,770.0	40.8	42.5	133.83	-1,986.9	-964.5	346.6	288.0	58.58	5.916	
9,700.0	7,530.0	9,964.8	7,770.0	42.4	44.0	133.83	-2,086.9	-964.5	346.6	285.6	60.96	5.685	
9,800.0	7,530.0	10,064.8	7,770.0	44.0	45.6	133.83	-2,186.9	-964.5	346.6	283.2	63.37	5.469	
9,900.0	7,530.0	10,164.8	7,770.0	45.6	47.1	133.83	-2,286.9	-964.5	346.6	280.8	65.78	5.269	
10,000.0	7,530.0	10,264.8	7,770.0	47.2	48.7	133.83	-2,386.9	-964.5	346.6	278.4	68.20	5.082	
10,100.0	7,530.0	10,364.8	7,770.0	48.8	50.3	133.83	-2,486.9	-964.5	346.6	275.9	70.63	4.907	
10,200.0	7,530.0	10,464.8	7,770.0	50.5	51.8	133.83	-2,586.9	-964.5	346.6	273.5	73.07	4.743	
10,300.0	7,530.0	10,564.8	7,770.0	52.1	53.4	133.83	-2,686.9	-964.5	346.6	271.1	75.51	4.590	
10,400.0	7,530.0	10,664.8	7,770.0	53.8	55.1	133.83	-2,786.9	-964.5	346.6	268.6	77.96	4.445	
10,500.0	7,530.0	10,764.8	7,770.0	55.4	56.7	133.83	-2,886.9	-964.5	346.6	266.1	80.42	4.309	
10,600.0	7,530.0	10,864.8	7,770.0	57.1	58.3	133.83	-2,986.9	-964.5	346.6	263.7	82.88	4.181	
10,700.0	7,530.0	10,964.8	7,770.0	58.7	59.9	133.83	-3,086.9	-964.5	346.6	261.2	85.35	4.061	
10,800.0	7,530.0	11,064.8	7,770.0	60.4	61.6	133.83	-3,186.9	-964.5	346.6	258.7	87.82	3.946	
10,900.0	7,530.0	11,164.8	7,770.0	62.1	63.2	133.83	-3,286.9	-964.5	346.6	256.3	90.30	3.838	
11,000.0	7,530.0	11,264.8	7,770.0	63.8	64.9	133.83	-3,386.9	-964.5	346.6	253.8	92.77	3.736	
11,100.0	7,530.0	11,364.8	7,770.0	65.5	66.5	133.83	-3,486.9	-964.5	346.6	251.3	95.26	3.638	
11,200.0	7,530.0	11,464.8	7,770.0	67.1	68.2	133.83	-3,586.9	-964.5	346.6	248.8	97.74	3.546	
11,300.0	7,530.0	11,564.8	7,770.0	68.8	69.9	133.83	-3,686.9	-964.5	346.6	246.3	100.23	3.458	
11,400.0	7,530.0	11,664.8	7,770.0	70.5	71.5	133.83	-3,786.9	-964.5	346.6	243.8	102.72	3.374	
11,500.0	7,530.0	11,764.8	7,770.0	72.2	73.2	133.83	-3,886.9	-964.5	346.6	241.3	105.22	3.294	
11,600.0	7,530.0	11,864.8	7,770.0	73.9	74.9	133.83	-3,986.9	-964.5	346.6	238.8	107.72	3.217	
11,700.0	7,530.0	11,964.8	7,770.0	75.6	76.6	133.83	-4,086.9	-964.5	346.6	236.3	110.21	3.144	
11,800.0	7,530.0	12,064.8	7,770.0	77.3	78.2	133.83	-4,186.9	-964.5	346.6	233.8	112.72	3.075	
11,900.0	7,530.0	12,164.8	7,770.0	79.0	79.9	133.83	-4,286.9	-964.5	346.6	231.3	115.22	3.008	
12,000.0	7,530.0	12,264.8	7,770.0	80.7	81.6	133.83	-4,386.9	-964.5	346.6	228.8	117.72	2.944	
12,100.0	7,530.0	12,364.8	7,770.0	82.4	83.3	133.83	-4,486.9	-964.5	346.6	226.3	120.23	2.882	
12,200.0	7,530.0	12,464.8	7,770.0	84.2	85.0	133.83	-4,586.9	-964.5	346.6	223.8	122.74	2.824	
12,300.0	7,530.0	12,564.8	7,770.0	85.9	86.7	133.83	-4,686.9	-964.5	346.6	221.3	125.25	2.767	
12,400.0	7,530.0	12,664.8	7,770.0	87.6	88.4	133.83	-4,786.9	-964.5	346.6	218.8	127.76	2.713	
12,500.0	7,530.0	12,764.8	7,770.0	89.3	90.1	133.83	-4,886.9	-964.5	346.6	216.3	130.27	2.660	
12,600.0	7,530.0	12,864.8	7,770.0	91.0	91.8	133.83	-4,986.9	-964.5	346.6	213.8	132.78	2.610	
12,700.0	7,530.0	12,964.8	7,770.0	92.7	93.5	133.83	-5,086.9	-964.5	346.6	211.3	135.30	2.561	
12,800.0	7,530.0	13,064.8	7,770.0	94.5	95.2	133.83	-5,186.9	-964.5	346.6	208.7	137.82	2.515	
12,900.0	7,530.0	13,164.8	7,770.0	96.2	96.9	133.83	-5,286.9	-964.5	346.6	206.2	140.33	2.470	
13,000.0	7,530.0	13,264.8	7,770.0	97.9	98.6	133.83	-5,386.9	-964.5	346.6	203.7	142.85	2.426	
13,100.0	7,530.0	13,364.8	7,770.0	99.6	100.4	133.83	-5,486.9	-964.5	346.6	201.2	145.37	2.384	
13,200.0	7,530.0	13,464.8	7,770.0	101.4	102.1	133.83	-5,586.9	-964.5	346.6	198.7	147.89	2.343	
13,300.0	7,530.0	13,564.8	7,770.0	103.1	103.8	133.83	-5,686.9	-964.5	346.6	196.2	150.41	2.304	
13,400.0	7,530.0	13,664.8	7,770.0	104.8	105.5	133.83	-5,786.9	-964.5	346.6	193.6	152.93	2.266	
13,500.0	7,530.0	13,764.8	7,770.0	106.5	107.2	133.83	-5,886.9	-964.5	346.6	191.1	155.45	2.229	
13,600.0	7,530.0	13,864.8	7,770.0	108.3	108.9	133.83	-5,986.9	-964.5	346.6	188.6	157.98	2.194	
13,700.0	7,530.0	13,964.8	7,770.0	110.0	110.7	133.83	-6,086.9	-964.5	346.6	186.1	160.50	2.159	
13,800.0	7,530.0	14,064.8	7,770.0	111.7	112.4	133.83	-6,186.9	-964.5	346.6	183.5	163.02	2.126	
13,900.0	7,530.0	14,164.8	7,770.0	113.5	114.1	133.83	-6,286.9	-964.5	346.6	181.0	165.55	2.093	

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Morgan Hills 1E-7H-A168
Project:	DJ Wattenberg	**TVD Reference:**	HZ @ 5035.0ft
Reference Site:	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	**MD Reference:**	HZ @ 5035.0ft
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Morgan Hills 1E-7H-A168	**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 #2	**Offset TVD Reference:**	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - Morgan Hills 1D-7H-A168 - HZ - Plan #2

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
14,000.0	7,530.0	14,264.8	7,770.0	115.2	115.8	133.83	-6,386.9	-964.5	346.6	178.5	168.07	2.062	
14,100.0	7,530.0	14,364.8	7,770.0	116.9	117.5	133.83	-6,486.9	-964.5	346.6	176.0	170.60	2.031	
14,200.0	7,530.0	14,464.8	7,770.0	118.7	119.3	133.83	-6,586.9	-964.5	346.6	173.4	173.13	2.002	
14,300.0	7,530.0	14,564.8	7,770.0	120.4	121.0	133.83	-6,686.9	-964.5	346.6	170.9	175.65	1.973	
14,400.0	7,530.0	14,664.8	7,770.0	122.1	122.7	133.83	-6,786.9	-964.5	346.6	168.4	178.18	1.945	
14,500.0	7,530.0	14,764.8	7,770.0	123.9	124.5	133.83	-6,886.9	-964.5	346.6	165.9	180.71	1.918	
14,600.0	7,530.0	14,864.8	7,770.0	125.6	126.2	133.83	-6,986.9	-964.5	346.6	163.3	183.24	1.891	
14,700.0	7,530.0	14,964.8	7,770.0	127.3	127.9	133.83	-7,086.9	-964.5	346.6	160.8	185.77	1.866	
14,800.0	7,530.0	15,064.8	7,770.0	129.1	129.6	133.83	-7,186.9	-964.5	346.6	158.3	188.30	1.841	
14,900.0	7,530.0	15,164.8	7,770.0	130.8	131.4	133.83	-7,286.9	-964.5	346.6	155.7	190.83	1.816	
15,000.0	7,530.0	15,264.8	7,770.0	132.5	133.1	133.83	-7,386.9	-964.5	346.6	153.2	193.36	1.792	
15,100.0	7,530.0	15,364.8	7,770.0	134.3	134.8	133.83	-7,486.9	-964.5	346.6	150.7	195.89	1.769	
15,200.0	7,530.0	15,464.8	7,770.0	136.0	136.6	133.83	-7,586.9	-964.5	346.6	148.1	198.42	1.747	
15,300.0	7,530.0	15,564.8	7,770.0	137.8	138.3	133.83	-7,686.9	-964.5	346.6	145.6	200.95	1.725	
15,400.0	7,530.0	15,664.8	7,770.0	139.5	140.0	133.83	-7,786.9	-964.5	346.6	143.1	203.48	1.703	
15,500.0	7,530.0	15,764.8	7,770.0	141.2	141.8	133.83	-7,886.9	-964.5	346.6	140.5	206.02	1.682	
15,600.0	7,530.0	15,864.8	7,770.0	143.0	143.5	133.83	-7,986.9	-964.5	346.6	138.0	208.55	1.662	
15,700.0	7,530.0	15,964.8	7,770.0	144.7	145.2	133.83	-8,086.9	-964.5	346.6	135.5	211.08	1.642	
15,800.0	7,530.0	16,064.8	7,770.0	146.5	147.0	133.83	-8,186.9	-964.5	346.6	132.9	213.61	1.622	
15,900.0	7,530.0	16,164.8	7,770.0	148.2	148.7	133.83	-8,286.9	-964.5	346.6	130.4	216.15	1.603	
16,000.0	7,530.0	16,264.8	7,770.0	149.9	150.4	133.83	-8,386.9	-964.5	346.6	127.9	218.68	1.585	
16,100.0	7,530.0	16,364.8	7,770.0	151.7	152.2	133.83	-8,486.9	-964.5	346.6	125.3	221.21	1.567	
16,200.0	7,530.0	16,464.8	7,770.0	153.4	153.9	133.83	-8,586.9	-964.5	346.6	122.8	223.75	1.549	
16,300.0	7,530.0	16,564.8	7,770.0	155.2	155.6	133.83	-8,686.9	-964.5	346.6	120.3	226.28	1.532	
16,400.0	7,530.0	16,664.8	7,770.0	156.9	157.4	133.83	-8,786.9	-964.5	346.6	117.7	228.82	1.515	
16,500.0	7,530.0	16,764.8	7,770.0	158.6	159.1	133.83	-8,886.9	-964.5	346.6	115.2	231.35	1.498	Level 3
16,600.0	7,530.0	16,864.8	7,770.0	160.4	160.9	133.83	-8,986.9	-964.5	346.6	112.7	233.89	1.482	Level 3
16,700.0	7,530.0	16,964.8	7,770.0	162.1	162.6	133.83	-9,086.9	-964.5	346.6	110.1	236.42	1.466	Level 3
16,800.0	7,530.0	17,064.8	7,770.0	163.9	164.3	133.83	-9,186.9	-964.5	346.6	107.6	238.96	1.450	Level 3
16,900.0	7,530.0	17,164.8	7,770.0	165.6	166.1	133.83	-9,286.9	-964.5	346.6	105.1	241.49	1.435	Level 3
17,000.0	7,530.0	17,264.8	7,770.0	167.4	167.8	133.83	-9,386.9	-964.5	346.6	102.5	244.03	1.420	Level 3
17,100.0	7,530.0	17,364.8	7,770.0	169.1	169.5	133.83	-9,486.9	-964.5	346.6	100.0	246.57	1.406	Level 3
17,200.0	7,530.0	17,464.8	7,770.0	170.8	171.3	133.83	-9,586.9	-964.5	346.6	97.5	249.10	1.391	Level 3
17,300.0	7,530.0	17,564.8	7,770.0	172.6	173.0	133.83	-9,686.9	-964.5	346.6	94.9	251.64	1.377	Level 3
17,400.0	7,530.0	17,664.8	7,770.0	174.3	174.8	133.83	-9,786.9	-964.5	346.6	92.4	254.18	1.363	Level 3
17,419.9	7,530.0	17,684.7	7,770.0	174.7	175.1	133.83	-9,806.8	-964.5	346.6	91.9	254.68	1.361	Level 3
17,440.2	7,530.0	17,701.3	7,770.0	175.0	175.4	133.83	-9,823.4	-964.5	346.6	91.4	255.15	1.358	Level 3, SF

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Morgan Hills 1E-7H-A168
Project:	DJ Wattenberg	**TVD Reference:**	HZ @ 5035.0ft
Reference Site:	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	**MD Reference:**	HZ @ 5035.0ft
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Morgan Hills 1E-7H-A168	**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 #2	**Offset TVD Reference:**	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - Morgan Hills 1F-7H-A168 - HZ - Plan #2

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	90.00	0.0	10.1	10.1				
100.0	100.0	100.0	100.0	0.2	0.2	90.00	0.0	10.1	10.1	9.8	0.30	33.175	
200.0	200.0	200.0	200.0	0.3	0.3	90.00	0.0	10.1	10.1	9.4	0.65	15.434	
300.0	300.0	300.0	300.0	0.5	0.5	90.00	0.0	10.1	10.1	9.1	1.00	10.057	
400.0	400.0	400.0	400.0	0.7	0.7	90.00	0.0	10.1	10.1	8.7	1.35	7.458	CC, ES
500.0	500.0	500.1	500.1	0.9	0.9	153.16	0.1	9.9	10.7	9.0	1.70	6.277	
600.0	600.0	600.2	600.2	1.0	1.0	153.99	1.2	8.5	11.6	9.5	2.05	5.651	
700.0	699.9	700.4	700.3	1.2	1.2	153.66	3.3	5.7	12.6	10.2	2.40	5.256	
800.0	799.7	800.6	800.4	1.4	1.4	152.44	6.4	1.5	13.8	11.0	2.76	5.002	
900.0	899.4	900.8	900.3	1.6	1.6	150.57	10.7	-4.1	15.1	12.0	3.13	4.838	
1,000.0	998.9	1,000.9	1,000.1	1.8	1.8	148.49	15.8	-11.0	16.7	13.2	3.51	4.759	
1,082.1	1,080.4	1,082.9	1,081.7	2.0	2.0	148.58	20.3	-16.9	18.9	15.0	3.82	4.935	
1,100.0	1,098.3	1,100.9	1,099.6	2.1	2.0	148.79	21.3	-18.2	19.4	15.6	3.89	4.998	
1,200.0	1,197.6	1,200.8	1,199.1	2.3	2.2	149.79	26.7	-25.4	22.7	18.4	4.27	5.312	
1,300.0	1,296.8	1,300.7	1,298.7	2.6	2.5	150.55	32.1	-32.6	26.0	21.3	4.66	5.575	
1,400.0	1,396.1	1,400.7	1,398.2	2.8	2.7	151.13	37.5	-39.8	29.2	24.2	5.04	5.797	
1,500.0	1,495.4	1,500.6	1,497.8	3.1	2.9	151.59	42.9	-47.0	32.5	27.1	5.43	5.988	
1,600.0	1,594.7	1,600.6	1,597.3	3.4	3.1	151.98	48.3	-54.1	35.8	29.9	5.81	6.153	
1,700.0	1,694.0	1,700.5	1,696.9	3.6	3.4	152.29	53.7	-61.3	39.0	32.8	6.20	6.297	
1,800.0	1,793.3	1,800.5	1,796.4	3.9	3.6	152.56	59.1	-68.5	42.3	35.7	6.58	6.424	
1,900.0	1,892.6	1,900.4	1,895.9	4.1	3.8	152.79	64.5	-75.7	45.6	38.6	6.97	6.537	
2,000.0	1,991.9	2,000.4	1,995.5	4.4	4.1	152.99	70.0	-82.9	48.8	41.5	7.36	6.638	
2,100.0	2,091.2	2,100.3	2,095.0	4.7	4.3	153.16	75.4	-90.1	52.1	44.4	7.75	6.729	
2,200.0	2,190.5	2,200.3	2,194.6	4.9	4.5	153.32	80.8	-97.3	55.4	47.3	8.13	6.811	
2,300.0	2,289.8	2,300.2	2,294.1	5.2	4.8	153.45	86.2	-104.5	58.7	50.1	8.52	6.885	
2,400.0	2,389.1	2,400.2	2,393.6	5.5	5.0	153.57	91.6	-111.7	61.9	53.0	8.91	6.953	
2,500.0	2,488.4	2,500.1	2,493.2	5.7	5.2	153.68	97.0	-118.9	65.2	55.9	9.29	7.015	
2,600.0	2,587.6	2,600.0	2,592.7	6.0	5.4	153.78	102.4	-126.1	68.5	58.8	9.68	7.072	
2,700.0	2,686.9	2,700.0	2,692.3	6.3	5.7	153.87	107.8	-133.3	71.8	61.7	10.07	7.125	
2,800.0	2,786.2	2,799.9	2,791.8	6.6	5.9	153.95	113.2	-140.4	75.0	64.6	10.46	7.174	
2,900.0	2,885.5	2,899.9	2,891.3	6.8	6.1	154.03	118.7	-147.6	78.3	67.5	10.85	7.219	
3,000.0	2,984.8	2,999.8	2,990.9	7.1	6.4	154.10	124.1	-154.8	81.6	70.3	11.23	7.261	
3,100.0	3,084.1	3,099.8	3,090.4	7.4	6.6	154.16	129.5	-162.0	84.9	73.2	11.62	7.301	
3,200.0	3,183.4	3,199.7	3,190.0	7.6	6.8	154.22	134.9	-169.2	88.1	76.1	12.01	7.337	
3,300.0	3,282.7	3,299.7	3,289.5	7.9	7.1	154.28	140.3	-176.4	91.4	79.0	12.40	7.372	
3,400.0	3,382.0	3,399.6	3,389.0	8.2	7.3	154.33	145.7	-183.6	94.7	81.9	12.79	7.404	
3,500.0	3,481.3	3,499.6	3,488.6	8.4	7.6	154.38	151.1	-190.8	98.0	84.8	13.18	7.434	
3,600.0	3,580.6	3,599.5	3,588.1	8.7	7.8	154.42	156.5	-198.0	101.2	87.7	13.56	7.463	
3,700.0	3,679.9	3,699.5	3,687.7	9.0	8.0	154.46	161.9	-205.2	104.5	90.6	13.95	7.490	
3,800.0	3,779.2	3,799.4	3,787.2	9.3	8.3	154.50	167.3	-212.4	107.8	93.4	14.34	7.516	
3,900.0	3,878.4	3,899.4	3,886.7	9.5	8.5	154.54	172.8	-219.6	111.1	96.3	14.73	7.540	
4,000.0	3,977.7	3,999.3	3,986.3	9.8	8.7	154.57	178.2	-226.7	114.3	99.2	15.12	7.563	
4,100.0	4,077.0	4,099.2	4,085.8	10.1	9.0	154.61	183.6	-233.9	117.6	102.1	15.51	7.585	
4,200.0	4,176.3	4,199.2	4,185.4	10.3	9.2	154.64	189.0	-241.1	120.9	105.0	15.89	7.605	
4,300.0	4,275.6	4,299.1	4,284.9	10.6	9.4	154.67	194.4	-248.3	124.2	107.9	16.28	7.625	
4,400.0	4,374.9	4,399.1	4,384.4	10.9	9.7	154.69	199.8	-255.5	127.4	110.8	16.67	7.644	
4,500.0	4,474.2	4,499.0	4,484.0	11.1	9.9	154.72	205.2	-262.7	130.7	113.6	17.06	7.662	
4,600.0	4,573.5	4,599.0	4,583.5	11.4	10.1	154.75	210.6	-269.9	134.0	116.5	17.45	7.679	
4,700.0	4,672.8	4,698.9	4,683.1	11.7	10.4	154.77	216.0	-277.1	137.3	119.4	17.84	7.695	
4,800.0	4,772.1	4,798.9	4,782.6	12.0	10.6	154.79	221.5	-284.3	140.5	122.3	18.23	7.711	
4,900.0	4,871.4	4,898.8	4,882.1	12.2	10.8	154.82	226.9	-291.5	143.8	125.2	18.61	7.726	
5,000.0	4,970.7	4,998.8	4,981.7	12.5	11.1	154.84	232.3	-298.7	147.1	128.1	19.00	7.740	

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 Morgan Hills 1E-7H-A168
Project:	DJ Wattenberg	**TVD Reference:**	HZ @ 5035.0ft
Reference Site:	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	**MD Reference:**	HZ @ 5035.0ft
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Morgan Hills 1E-7H-A168	**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 #2	**Offset TVD Reference:**	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - Morgan Hills 1F-7H-A168 - HZ - Plan #2

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	5,070.0	5,098.7	5,081.2	12.8	11.3	154.86	237.7	-305.9	150.4	131.0	19.39	7.754	
5,200.0	5,169.2	5,198.7	5,180.8	13.0	11.5	154.88	243.1	-313.1	153.6	133.9	19.78	7.767	
5,300.0	5,268.5	5,298.6	5,280.3	13.3	11.8	154.89	248.5	-320.2	156.9	136.7	20.17	7.780	
5,400.0	5,367.8	5,398.5	5,379.8	13.6	12.0	154.91	253.9	-327.4	160.2	139.6	20.56	7.792	
5,500.0	5,467.1	5,498.5	5,479.4	13.9	12.2	154.93	259.3	-334.6	163.5	142.5	20.95	7.804	
5,600.0	5,566.4	5,598.4	5,578.9	14.1	12.5	154.94	264.7	-341.8	166.7	145.4	21.33	7.816	
5,700.0	5,665.7	5,698.4	5,678.5	14.4	12.7	154.96	270.2	-349.0	170.0	148.3	21.72	7.827	
5,800.0	5,765.0	5,798.3	5,778.0	14.7	12.9	154.98	275.6	-356.2	173.3	151.2	22.11	7.837	
5,900.0	5,864.3	5,898.3	5,877.5	14.9	13.2	154.99	281.0	-363.4	176.6	154.1	22.50	7.847	
6,000.0	5,963.6	5,998.2	5,977.1	15.2	13.4	155.00	286.4	-370.6	179.8	157.0	22.89	7.857	
6,100.0	6,062.9	6,098.2	6,076.6	15.5	13.6	155.02	291.8	-377.8	183.1	159.8	23.28	7.867	
6,200.0	6,162.2	6,198.1	6,176.2	15.8	13.9	155.03	297.2	-385.0	186.4	162.7	23.67	7.876	
6,300.0	6,261.5	6,298.1	6,275.7	16.0	14.1	155.04	302.6	-392.2	189.7	165.6	24.05	7.885	
6,400.0	6,360.8	6,398.0	6,375.2	16.3	14.3	155.05	308.0	-399.4	192.9	168.5	24.44	7.894	
6,500.0	6,460.0	6,498.0	6,474.8	16.6	14.6	155.07	313.4	-406.5	196.2	171.4	24.83	7.902	
6,600.0	6,559.3	6,597.9	6,574.3	16.8	14.8	155.08	318.9	-413.7	199.5	174.3	25.22	7.910	
6,700.0	6,658.6	6,697.8	6,673.9	17.1	15.1	155.09	324.3	-420.9	202.8	177.2	25.61	7.918	
6,800.0	6,757.9	6,797.8	6,773.4	17.4	15.3	155.10	329.7	-428.1	206.0	180.0	26.00	7.926	
6,819.8	6,777.6	6,817.6	6,793.1	17.4	15.3	155.10	330.7	-429.5	206.7	180.6	26.07	7.927	
6,850.0	6,807.6	6,847.8	6,823.2	17.5	15.4	175.50	332.4	-431.7	207.6	181.4	26.20	7.926	
6,900.0	6,857.3	6,897.6	6,872.8	17.6	15.5	-149.90	335.1	-435.3	209.1	182.6	26.49	7.894	
6,950.0	6,906.8	6,947.0	6,922.0	17.7	15.6	-129.65	337.8	-438.9	210.6	183.7	26.88	7.834	
7,000.0	6,955.9	6,995.8	6,970.6	17.8	15.8	-120.71	340.4	-442.4	212.4	185.1	27.36	7.763	
7,050.0	7,004.3	7,043.9	7,018.5	17.8	15.9	-117.47	343.0	-445.8	215.1	187.2	27.90	7.711	
7,100.0	7,051.8	7,093.5	7,067.9	17.8	16.0	-117.05	343.8	-449.4	219.0	190.6	28.38	7.715	
7,150.0	7,098.1	7,144.3	7,118.5	17.9	16.0	-117.83	341.2	-453.0	223.8	195.1	28.72	7.792	
7,200.0	7,143.1	7,196.3	7,170.0	17.9	16.1	-119.24	334.7	-456.7	229.5	200.6	28.89	7.945	
7,250.0	7,186.5	7,249.6	7,222.2	17.9	16.1	-120.98	324.2	-460.4	236.1	207.2	28.89	8.171	
7,300.0	7,228.1	7,304.4	7,274.7	17.9	16.1	-122.86	309.4	-464.2	243.2	214.5	28.71	8.473	
7,350.0	7,267.8	7,360.6	7,327.4	17.9	16.1	-124.76	290.1	-467.9	250.9	222.5	28.37	8.845	
7,400.0	7,305.2	7,418.4	7,379.7	17.9	16.1	-126.62	265.9	-471.6	258.9	231.0	27.88	9.286	
7,450.0	7,340.2	7,477.7	7,431.3	17.9	16.1	-128.39	236.8	-475.2	267.0	239.8	27.28	9.788	
7,500.0	7,372.7	7,538.7	7,481.6	18.0	16.0	-130.05	202.6	-478.7	275.2	248.6	26.61	10.343	
7,550.0	7,402.5	7,601.4	7,530.1	18.1	16.0	-131.56	163.1	-482.1	283.1	257.3	25.89	10.936	
7,600.0	7,429.4	7,665.6	7,576.0	18.2	16.0	-132.93	118.3	-485.2	290.8	265.6	25.19	11.543	
7,650.0	7,453.4	7,731.5	7,618.8	18.3	16.1	-134.14	68.3	-488.1	297.9	273.4	24.55	12.134	
7,700.0	7,474.3	7,799.0	7,657.6	18.4	16.2	-135.18	13.2	-490.7	304.4	280.4	24.04	12.665	
7,750.0	7,491.9	7,867.8	7,691.7	18.6	16.4	-136.06	-46.5	-493.0	310.1	286.4	23.70	13.086	
7,800.0	7,506.3	7,937.9	7,720.5	18.9	16.6	-136.77	-110.3	-494.8	314.9	291.4	23.58	13.355	
7,850.0	7,517.3	8,009.0	7,743.1	19.1	16.9	-137.31	-177.7	-496.2	318.8	295.0	23.73	13.431	
7,900.0	7,525.0	8,080.9	7,759.1	19.4	17.3	-137.67	-247.8	-497.1	321.5	297.3	24.18	13.296	
7,950.0	7,529.1	8,153.4	7,768.1	19.7	17.8	-137.86	-319.7	-497.5	323.1	298.2	24.93	12.963	
7,985.2	7,530.0	8,204.6	7,770.0	20.0	18.2	-137.88	-370.8	-497.5	323.6	297.9	25.63	12.626	
8,000.0	7,530.0	8,219.9	7,770.0	20.1	18.3	-137.88	-386.1	-497.4	323.6	297.8	25.82	12.533	
8,100.0	7,530.0	8,319.9	7,770.0	20.9	19.2	-137.83	-486.1	-497.1	323.8	296.7	27.17	11.920	
8,200.0	7,530.0	8,419.9	7,770.0	21.8	20.2	-137.78	-586.1	-496.7	324.1	295.4	28.65	11.312	
8,300.0	7,530.0	8,519.9	7,770.0	22.8	21.3	-137.74	-686.1	-496.4	324.3	294.0	30.25	10.721	
8,400.0	7,530.0	8,619.9	7,770.0	23.9	22.5	-137.69	-786.1	-496.0	324.5	292.6	31.95	10.157	
8,500.0	7,530.0	8,719.9	7,770.0	25.1	23.7	-137.65	-886.1	-495.7	324.8	291.0	33.74	9.626	
8,600.0	7,530.0	8,819.9	7,770.0	26.3	25.0	-137.60	-986.1	-495.3	325.0	289.4	35.60	9.129	
8,700.0	7,530.0	8,919.9	7,770.0	27.6	26.4	-137.56	-1,086.1	-495.0	325.2	287.7	37.53	8.667	
8,800.0	7,530.0	9,019.9	7,770.0	29.0	27.8	-137.51	-1,186.1	-494.6	325.5	286.0	39.51	8.238	

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 Morgan Hills 1E-7H-A168
Project:	DJ Wattenberg	**TVD Reference:**	HZ @ 5035.0ft
Reference Site:	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	**MD Reference:**	HZ @ 5035.0ft
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Morgan Hills 1E-7H-A168	**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 #2	**Offset TVD Reference:**	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - Morgan Hills 1F-7H-A168 - HZ - Plan #2

Offset Site Error: 0.0 ft

Survey Program: 0-Geolink MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
8,900.0	7,530.0	9,119.9	7,770.0	30.3	29.2	-137.47	-1,286.1	-494.3	325.7	284.2	41.54	7.841	
9,000.0	7,530.0	9,219.9	7,770.0	31.8	30.7	-137.42	-1,386.1	-493.9	325.9	282.3	43.61	7.474	
9,100.0	7,530.0	9,319.9	7,770.0	33.2	32.2	-137.38	-1,486.1	-493.6	326.2	280.5	45.72	7.134	
9,200.0	7,530.0	9,419.9	7,770.0	34.7	33.7	-137.33	-1,586.1	-493.3	326.4	278.5	47.86	6.820	
9,300.0	7,530.0	9,519.9	7,770.0	36.2	35.3	-137.29	-1,686.1	-492.9	326.6	276.6	50.03	6.529	
9,400.0	7,530.0	9,619.9	7,770.0	37.7	36.8	-137.24	-1,786.1	-492.6	326.9	274.7	52.23	6.259	
9,500.0	7,530.0	9,719.9	7,770.0	39.3	38.4	-137.20	-1,886.1	-492.2	327.1	272.7	54.45	6.008	
9,600.0	7,530.0	9,819.9	7,770.0	40.8	40.0	-137.15	-1,986.1	-491.9	327.4	270.7	56.69	5.774	
9,700.0	7,530.0	9,919.9	7,770.0	42.4	41.6	-137.11	-2,086.1	-491.5	327.6	268.6	58.95	5.557	
9,800.0	7,530.0	10,019.9	7,770.0	44.0	43.2	-137.06	-2,186.1	-491.2	327.8	266.6	61.23	5.354	
9,900.0	7,530.0	10,119.9	7,770.0	45.6	44.9	-137.02	-2,286.1	-490.8	328.1	264.5	63.52	5.165	
10,000.0	7,530.0	10,219.8	7,770.0	47.2	46.5	-136.97	-2,386.1	-490.5	328.3	262.5	65.83	4.987	
10,100.0	7,530.0	10,319.8	7,770.0	48.8	48.2	-136.93	-2,486.1	-490.1	328.5	260.4	68.16	4.821	
10,200.0	7,530.0	10,419.8	7,770.0	50.5	49.8	-136.88	-2,586.1	-489.8	328.8	258.3	70.49	4.664	
10,300.0	7,530.0	10,519.8	7,770.0	52.1	51.5	-136.84	-2,686.1	-489.4	329.0	256.2	72.84	4.517	
10,400.0	7,530.0	10,619.8	7,770.0	53.8	53.1	-136.79	-2,786.1	-489.1	329.3	254.1	75.20	4.379	
10,500.0	7,530.0	10,719.8	7,770.0	55.4	54.8	-136.75	-2,886.1	-488.7	329.5	251.9	77.56	4.248	
10,600.0	7,530.0	10,819.8	7,770.0	57.1	56.5	-136.71	-2,986.1	-488.4	329.7	249.8	79.94	4.125	
10,700.0	7,530.0	10,919.8	7,770.0	58.7	58.2	-136.66	-3,086.1	-488.0	330.0	247.7	82.33	4.008	
10,800.0	7,530.0	11,019.8	7,770.0	60.4	59.9	-136.62	-3,186.1	-487.7	330.2	245.5	84.73	3.898	
10,900.0	7,530.0	11,119.8	7,770.0	62.1	61.5	-136.57	-3,286.1	-487.3	330.5	243.3	87.13	3.793	
11,000.0	7,530.0	11,219.8	7,770.0	63.8	63.2	-136.53	-3,386.1	-487.0	330.7	241.2	89.54	3.693	
11,100.0	7,530.0	11,319.8	7,770.0	65.5	64.9	-136.49	-3,486.1	-486.6	330.9	239.0	91.97	3.599	
11,200.0	7,530.0	11,419.8	7,770.0	67.1	66.6	-136.44	-3,586.1	-486.3	331.2	236.8	94.39	3.509	
11,300.0	7,530.0	11,519.8	7,770.0	68.8	68.3	-136.40	-3,686.1	-485.9	331.4	234.6	96.83	3.423	
11,400.0	7,530.0	11,619.8	7,770.0	70.5	70.0	-136.35	-3,786.1	-485.6	331.7	232.4	99.27	3.341	
11,500.0	7,530.0	11,719.8	7,770.0	72.2	71.8	-136.31	-3,886.1	-485.2	331.9	230.2	101.72	3.263	
11,600.0	7,530.0	11,819.8	7,770.0	73.9	73.5	-136.27	-3,986.1	-484.9	332.1	228.0	104.17	3.188	
11,700.0	7,530.0	11,919.8	7,770.0	75.6	75.2	-136.22	-4,086.1	-484.5	332.4	225.8	106.64	3.117	
11,800.0	7,530.0	12,019.8	7,770.0	77.3	76.9	-136.18	-4,186.1	-484.2	332.6	223.5	109.10	3.049	
11,900.0	7,530.0	12,119.8	7,770.0	79.0	78.6	-136.14	-4,286.1	-483.8	332.9	221.3	111.58	2.983	
12,000.0	7,530.0	12,219.8	7,770.0	80.7	80.3	-136.09	-4,386.1	-483.5	333.1	219.1	114.06	2.921	
12,100.0	7,530.0	12,319.8	7,770.0	82.4	82.0	-136.05	-4,486.1	-483.1	333.4	216.8	116.54	2.860	
12,200.0	7,530.0	12,419.8	7,770.0	84.2	83.8	-136.01	-4,586.1	-482.8	333.6	214.6	119.03	2.803	
12,300.0	7,530.0	12,519.8	7,770.0	85.9	85.5	-135.96	-4,686.1	-482.4	333.8	212.3	121.52	2.747	
12,400.0	7,530.0	12,619.8	7,770.0	87.6	87.2	-135.92	-4,786.1	-482.1	334.1	210.1	124.03	2.694	
12,500.0	7,530.0	12,719.8	7,770.0	89.3	88.9	-135.88	-4,886.1	-481.7	334.3	207.8	126.53	2.642	
12,600.0	7,530.0	12,819.8	7,770.0	91.0	90.7	-135.84	-4,986.1	-481.4	334.6	205.5	129.04	2.593	
12,700.0	7,530.0	12,919.8	7,770.0	92.7	92.4	-135.79	-5,086.1	-481.0	334.8	203.3	131.56	2.545	
12,800.0	7,530.0	13,019.8	7,770.0	94.5	94.1	-135.75	-5,186.1	-480.7	335.1	201.0	134.08	2.499	
12,900.0	7,530.0	13,119.8	7,770.0	96.2	95.8	-135.71	-5,286.1	-480.3	335.3	198.7	136.60	2.455	
13,000.0	7,530.0	13,219.8	7,770.0	97.9	97.6	-135.66	-5,386.1	-480.0	335.5	196.4	139.13	2.412	
13,100.0	7,530.0	13,319.8	7,770.0	99.6	99.3	-135.62	-5,486.1	-479.6	335.8	194.1	141.67	2.370	
13,200.0	7,530.0	13,419.8	7,770.0	101.4	101.0	-135.58	-5,586.1	-479.3	336.0	191.8	144.20	2.330	
13,300.0	7,530.0	13,519.8	7,770.0	103.1	102.8	-135.54	-5,686.1	-478.9	336.3	189.5	146.75	2.292	
13,400.0	7,530.0	13,619.8	7,770.0	104.8	104.5	-135.49	-5,786.1	-478.6	336.5	187.2	149.29	2.254	
13,500.0	7,530.0	13,719.8	7,770.0	106.5	106.2	-135.45	-5,886.1	-478.2	336.8	184.9	151.85	2.218	
13,600.0	7,530.0	13,819.8	7,770.0	108.3	108.0	-135.41	-5,986.1	-477.9	337.0	182.6	154.40	2.183	
13,700.0	7,530.0	13,919.8	7,770.0	110.0	109.7	-135.37	-6,086.1	-477.5	337.3	180.3	156.96	2.149	
13,800.0	7,530.0	14,019.8	7,770.0	111.7	111.4	-135.33	-6,186.1	-477.2	337.5	178.0	159.53	2.116	
13,900.0	7,530.0	14,119.8	7,770.0	113.5	113.2	-135.28	-6,286.1	-476.8	337.7	175.7	162.10	2.084	
14,000.0	7,530.0	14,219.8	7,770.0	115.2	114.9	-135.24	-6,386.1	-476.5	338.0	173.3	164.67	2.053	

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 Morgan Hills 1E-7H-A168
Project:	DJ Wattenberg	**TVD Reference:**	HZ @ 5035.0ft
Reference Site:	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	**MD Reference:**	HZ @ 5035.0ft
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Morgan Hills 1E-7H-A168	**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 #2	**Offset TVD Reference:**	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - Morgan Hills 1F-7H-A168 - HZ - Plan #2

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
14,100.0	7,530.0	14,319.8	7,770.0	116.9	116.6	-135.20	-6,486.1	-476.1	338.2	171.0	167.25	2.022	
14,200.0	7,530.0	14,419.8	7,770.0	118.7	118.4	-135.16	-6,586.0	-475.8	338.5	168.7	169.83	1.993	
14,300.0	7,530.0	14,519.8	7,770.0	120.4	120.1	-135.12	-6,686.0	-475.4	338.7	166.3	172.41	1.965	
14,400.0	7,530.0	14,619.8	7,770.0	122.1	121.8	-135.07	-6,786.0	-475.1	339.0	164.0	175.00	1.937	
14,500.0	7,530.0	14,719.8	7,770.0	123.9	123.6	-135.03	-6,886.0	-474.7	339.2	161.6	177.59	1.910	
14,600.0	7,530.0	14,819.8	7,770.0	125.6	125.3	-134.99	-6,986.0	-474.4	339.5	159.3	180.19	1.884	
14,700.0	7,530.0	14,919.8	7,770.0	127.3	127.1	-134.95	-7,086.0	-474.0	339.7	156.9	182.79	1.859	
14,800.0	7,530.0	15,019.8	7,770.0	129.1	128.8	-134.91	-7,186.0	-473.7	340.0	154.6	185.39	1.834	
14,900.0	7,530.0	15,119.8	7,770.0	130.8	130.5	-134.87	-7,286.0	-473.4	340.2	152.2	188.00	1.810	
15,000.0	7,530.0	15,219.8	7,770.0	132.5	132.3	-134.82	-7,386.0	-473.0	340.5	149.8	190.61	1.786	
15,100.0	7,530.0	15,319.8	7,770.0	134.3	134.0	-134.78	-7,486.0	-472.7	340.7	147.5	193.23	1.763	
15,200.0	7,530.0	15,419.8	7,770.0	136.0	135.8	-134.74	-7,586.0	-472.3	341.0	145.1	195.85	1.741	
15,300.0	7,530.0	15,519.8	7,770.0	137.8	137.5	-134.70	-7,686.0	-472.0	341.2	142.7	198.47	1.719	
15,400.0	7,530.0	15,619.8	7,770.0	139.5	139.3	-134.66	-7,786.0	-471.6	341.5	140.4	201.09	1.698	
15,500.0	7,530.0	15,719.8	7,770.0	141.2	141.0	-134.62	-7,886.0	-471.3	341.7	138.0	203.72	1.677	
15,600.0	7,530.0	15,819.8	7,770.0	143.0	142.7	-134.58	-7,986.0	-470.9	341.9	135.6	206.36	1.657	
15,700.0	7,530.0	15,919.8	7,770.0	144.7	144.5	-134.54	-8,086.0	-470.6	342.2	133.2	208.99	1.637	
15,800.0	7,530.0	16,019.8	7,770.0	146.5	146.2	-134.49	-8,186.0	-470.2	342.4	130.8	211.63	1.618	
15,900.0	7,530.0	16,119.8	7,770.0	148.2	148.0	-134.45	-8,286.0	-469.9	342.7	128.4	214.28	1.599	
16,000.0	7,530.0	16,219.8	7,770.0	149.9	149.7	-134.41	-8,386.0	-469.5	342.9	126.0	216.92	1.581	
16,100.0	7,530.0	16,319.8	7,770.0	151.7	151.5	-134.37	-8,486.0	-469.2	343.2	123.6	219.58	1.563	
16,200.0	7,530.0	16,419.8	7,770.0	153.4	153.2	-134.33	-8,586.0	-468.8	343.4	121.2	222.23	1.545	
16,300.0	7,530.0	16,519.8	7,770.0	155.2	154.9	-134.29	-8,686.0	-468.5	343.7	118.8	224.89	1.528	
16,400.0	7,530.0	16,619.8	7,770.0	156.9	156.7	-134.25	-8,786.0	-468.1	343.9	116.4	227.55	1.512	
16,500.0	7,530.0	16,719.8	7,770.0	158.6	158.4	-134.21	-8,886.0	-467.8	344.2	114.0	230.21	1.495	Level 3
16,600.0	7,530.0	16,819.8	7,770.0	160.4	160.2	-134.17	-8,986.0	-467.4	344.4	111.6	232.88	1.479	Level 3
16,700.0	7,530.0	16,919.8	7,770.0	162.1	161.9	-134.13	-9,086.0	-467.1	344.7	109.1	235.55	1.463	Level 3
16,800.0	7,530.0	17,019.8	7,770.0	163.9	163.7	-134.09	-9,186.0	-466.7	344.9	106.7	238.22	1.448	Level 3
16,900.0	7,530.0	17,119.8	7,770.0	165.6	165.4	-134.05	-9,286.0	-466.4	345.2	104.3	240.90	1.433	Level 3
17,000.0	7,530.0	17,219.8	7,770.0	167.4	167.2	-134.01	-9,386.0	-466.0	345.4	101.9	243.58	1.418	Level 3
17,100.0	7,530.0	17,319.8	7,770.0	169.1	168.9	-133.97	-9,486.0	-465.7	345.7	99.4	246.27	1.404	Level 3
17,200.0	7,530.0	17,419.8	7,770.0	170.8	170.6	-133.93	-9,586.0	-465.3	345.9	97.0	248.95	1.390	Level 3
17,300.0	7,530.0	17,519.8	7,770.0	172.6	172.4	-133.89	-9,686.0	-465.0	346.2	94.6	251.64	1.376	Level 3
17,400.0	7,530.0	17,619.8	7,770.0	174.3	174.1	-133.85	-9,786.0	-464.6	346.5	92.1	254.34	1.362	Level 3
17,440.2	7,530.0	17,660.0	7,770.0	175.0	174.8	-133.83	-9,826.2	-464.5	346.6	91.1	255.42	1.357	Level 3, SF

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Morgan Hills 1E-7H-A168
Project:	DJ Wattenberg	**TVD Reference:**	HZ @ 5035.0ft
Reference Site:	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	**MD Reference:**	HZ @ 5035.0ft
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Morgan Hills 1E-7H-A168	**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 #2	**Offset TVD Reference:**	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - Morgan Hills 1G-7H-A168 - HZ - Plan #2

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	90.00	0.0	20.1	20.1				
100.0	100.0	100.0	100.0	0.2	0.2	90.00	0.0	20.1	20.1	19.8	0.30	66.350	
200.0	200.0	200.0	200.0	0.3	0.3	90.00	0.0	20.1	20.1	19.5	0.65	30.869	
300.0	300.0	300.0	300.0	0.5	0.5	90.00	0.0	20.1	20.1	19.1	1.00	20.113	
400.0	400.0	400.0	400.0	0.7	0.7	90.00	0.0	20.1	20.1	18.8	1.35	14.916	CC, ES
500.0	500.0	500.0	500.0	0.9	0.8	152.77	0.0	20.1	20.9	19.2	1.70	12.307	
600.0	600.0	600.1	600.1	1.0	1.0	153.76	0.8	19.8	22.9	20.8	2.05	11.169	
700.0	699.9	700.3	700.2	1.2	1.2	152.76	3.2	18.8	25.7	23.3	2.40	10.694	
800.0	799.7	800.4	800.2	1.4	1.4	150.41	7.2	17.1	29.4	26.6	2.76	10.624	
900.0	899.4	900.4	900.0	1.6	1.6	147.72	12.7	14.8	34.0	30.9	3.14	10.856	
1,000.0	998.9	1,000.2	999.7	1.8	1.8	146.80	18.2	12.4	40.2	36.7	3.52	11.426	
1,082.1	1,080.4	1,082.0	1,081.3	2.0	1.9	147.11	22.8	10.5	46.3	42.5	3.83	12.085	
1,100.0	1,098.3	1,099.9	1,099.2	2.1	2.0	147.26	23.8	10.0	47.7	43.8	3.90	12.241	
1,200.0	1,197.6	1,199.6	1,198.7	2.3	2.2	147.94	29.4	7.7	55.8	51.5	4.29	13.015	
1,300.0	1,296.8	1,299.2	1,298.2	2.6	2.4	148.46	35.0	5.3	63.9	59.2	4.68	13.656	
1,400.0	1,396.1	1,398.9	1,397.7	2.8	2.6	148.85	40.6	2.9	71.9	66.9	5.07	14.195	
1,500.0	1,495.4	1,498.6	1,497.2	3.1	2.8	149.17	46.1	0.6	80.0	74.5	5.46	14.654	
1,600.0	1,594.7	1,598.2	1,596.6	3.4	3.0	149.43	51.7	-1.8	88.1	82.2	5.85	15.049	
1,700.0	1,694.0	1,697.9	1,696.1	3.6	3.2	149.64	57.3	-4.2	96.1	89.9	6.25	15.393	
1,800.0	1,793.3	1,797.6	1,795.6	3.9	3.4	149.83	62.9	-6.6	104.2	97.6	6.64	15.695	
1,900.0	1,892.6	1,897.3	1,895.1	4.1	3.6	149.98	68.5	-8.9	112.3	105.3	7.04	15.962	
2,000.0	1,991.9	1,996.9	1,994.6	4.4	3.8	150.12	74.0	-11.3	120.4	113.0	7.43	16.199	
2,100.0	2,091.2	2,096.6	2,094.1	4.7	4.0	150.23	79.6	-13.7	128.5	120.6	7.83	16.412	
2,200.0	2,190.5	2,196.3	2,193.6	4.9	4.2	150.34	85.2	-16.0	136.5	128.3	8.22	16.604	
2,300.0	2,289.8	2,296.0	2,293.1	5.2	4.4	150.43	90.8	-18.4	144.6	136.0	8.62	16.778	
2,400.0	2,389.1	2,395.6	2,392.5	5.5	4.6	150.51	96.4	-20.8	152.7	143.7	9.02	16.936	
2,500.0	2,488.4	2,495.3	2,492.0	5.7	4.8	150.59	101.9	-23.1	160.8	151.4	9.41	17.081	
2,600.0	2,587.6	2,595.0	2,591.5	6.0	5.0	150.65	107.5	-25.5	168.9	159.1	9.81	17.213	
2,700.0	2,686.9	2,694.6	2,691.0	6.3	5.2	150.72	113.1	-27.9	176.9	166.7	10.21	17.335	
2,800.0	2,786.2	2,794.3	2,790.5	6.6	5.4	150.77	118.7	-30.2	185.0	174.4	10.60	17.448	
2,900.0	2,885.5	2,894.0	2,890.0	6.8	5.6	150.82	124.2	-32.6	193.1	182.1	11.00	17.552	
3,000.0	2,984.8	2,993.7	2,989.5	7.1	5.8	150.87	129.8	-35.0	201.2	189.8	11.40	17.649	
3,100.0	3,084.1	3,093.3	3,089.0	7.4	6.0	150.91	135.4	-37.4	209.3	197.5	11.80	17.739	
3,200.0	3,183.4	3,193.0	3,188.5	7.6	6.2	150.95	141.0	-39.7	217.4	205.2	12.20	17.823	
3,300.0	3,282.7	3,292.7	3,287.9	7.9	6.4	150.99	146.6	-42.1	225.4	212.8	12.59	17.902	
3,400.0	3,382.0	3,392.4	3,387.4	8.2	6.6	151.02	152.1	-44.5	233.5	220.5	12.99	17.975	
3,500.0	3,481.3	3,492.0	3,486.9	8.4	6.8	151.06	157.7	-46.8	241.6	228.2	13.39	18.045	
3,600.0	3,580.6	3,591.7	3,586.4	8.7	7.0	151.09	163.3	-49.2	249.7	235.9	13.79	18.110	
3,700.0	3,679.9	3,691.4	3,685.9	9.0	7.2	151.12	168.9	-51.6	257.8	243.6	14.19	18.172	
3,800.0	3,779.2	3,791.0	3,785.4	9.3	7.4	151.14	174.5	-53.9	265.8	251.3	14.58	18.230	
3,900.0	3,878.4	3,890.7	3,884.9	9.5	7.6	151.17	180.0	-56.3	273.9	259.0	14.98	18.285	
4,000.0	3,977.7	3,990.4	3,984.4	9.8	7.8	151.19	185.6	-58.7	282.0	266.6	15.38	18.337	
4,100.0	4,077.0	4,090.1	4,083.8	10.1	8.0	151.21	191.2	-61.1	290.1	274.3	15.78	18.386	
4,200.0	4,176.3	4,189.7	4,183.3	10.3	8.2	151.23	196.8	-63.4	298.2	282.0	16.18	18.433	
4,300.0	4,275.6	4,289.4	4,282.8	10.6	8.4	151.25	202.4	-65.8	306.3	289.7	16.57	18.478	
4,400.0	4,374.9	4,389.1	4,382.3	10.9	8.6	151.27	207.9	-68.2	314.3	297.4	16.97	18.520	
4,500.0	4,474.2	4,488.8	4,481.8	11.1	8.8	151.29	213.5	-70.5	322.4	305.1	17.37	18.561	
4,600.0	4,573.5	4,588.4	4,581.3	11.4	9.0	151.31	219.1	-72.9	330.5	312.7	17.77	18.599	
4,700.0	4,672.8	4,688.1	4,680.8	11.7	9.2	151.32	224.7	-75.3	338.6	320.4	18.17	18.636	
4,800.0	4,772.1	4,787.8	4,780.3	12.0	9.4	151.34	230.3	-77.6	346.7	328.1	18.57	18.672	
4,900.0	4,871.4	4,887.4	4,879.8	12.2	9.6	151.35	235.8	-80.0	354.8	335.8	18.97	18.706	
5,000.0	4,970.7	4,987.1	4,979.2	12.5	9.8	151.37	241.4	-82.4	362.8	343.5	19.36	18.738	

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 Morgan Hills 1E-7H-A168
Project:	DJ Wattenberg	**TVD Reference:**	HZ @ 5035.0ft
Reference Site:	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	**MD Reference:**	HZ @ 5035.0ft
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Morgan Hills 1E-7H-A168	**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 #2	**Offset TVD Reference:**	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - Morgan Hills 1G-7H-A168 - HZ - Plan #2

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	5,070.0	5,086.8	5,078.7	12.8	10.0	151.38	247.0	-84.7	370.9	351.2	19.76	18.769	
5,200.0	5,169.2	5,186.5	5,178.2	13.0	10.2	151.40	252.6	-87.1	379.0	358.8	20.16	18.799	
5,300.0	5,268.5	5,286.1	5,277.7	13.3	10.4	151.41	258.1	-89.5	387.1	366.5	20.56	18.828	
5,400.0	5,367.8	5,385.8	5,377.2	13.6	10.7	151.42	263.7	-91.9	395.2	374.2	20.96	18.855	
5,500.0	5,467.1	5,485.5	5,476.7	13.9	10.9	151.43	269.3	-94.2	403.3	381.9	21.36	18.882	
5,600.0	5,566.4	5,585.2	5,576.2	14.1	11.1	151.44	274.9	-96.6	411.3	389.6	21.76	18.907	
5,700.0	5,665.7	5,684.8	5,675.7	14.4	11.3	151.45	280.5	-99.0	419.4	397.3	22.15	18.932	
5,800.0	5,765.0	5,784.5	5,775.1	14.7	11.5	151.46	286.0	-101.3	427.5	405.0	22.55	18.956	
5,900.0	5,864.3	5,884.2	5,874.6	14.9	11.7	151.47	291.6	-103.7	435.6	412.6	22.95	18.979	
6,000.0	5,963.6	5,983.8	5,974.1	15.2	11.9	151.48	297.2	-106.1	443.7	420.3	23.35	19.001	
6,100.0	6,062.9	6,083.5	6,073.6	15.5	12.1	151.49	302.8	-108.4	451.8	428.0	23.75	19.022	
6,200.0	6,162.2	6,183.2	6,173.1	15.8	12.3	151.50	308.4	-110.8	459.8	435.7	24.15	19.043	
6,300.0	6,261.5	6,282.9	6,272.6	16.0	12.5	151.51	313.9	-113.2	467.9	443.4	24.55	19.063	
6,400.0	6,360.8	6,382.5	6,372.1	16.3	12.7	151.52	319.5	-115.6	476.0	451.1	24.95	19.082	
6,500.0	6,460.0	6,482.2	6,471.6	16.6	12.9	151.52	325.1	-117.9	484.1	458.7	25.34	19.101	
6,600.0	6,559.3	6,581.9	6,571.1	16.8	13.1	151.53	330.7	-120.3	492.2	466.4	25.74	19.119	
6,700.0	6,658.6	6,681.6	6,670.5	17.1	13.3	151.54	336.3	-122.7	500.3	474.1	26.14	19.137	
6,800.0	6,757.9	6,781.2	6,770.0	17.4	13.5	151.55	341.8	-125.0	508.3	481.8	26.54	19.154	
6,819.8	6,777.6	6,801.0	6,789.8	17.4	13.5	151.57	342.8	-125.5	509.9	483.3	26.61	19.160	
6,850.0	6,807.6	6,831.3	6,820.0	17.5	13.6	172.33	343.2	-126.2	512.4	485.7	26.67	19.209	
6,900.0	6,857.3	6,881.2	6,869.9	17.6	13.6	-151.70	341.0	-127.5	516.4	489.7	26.73	19.318	
6,950.0	6,906.8	6,931.1	6,919.5	17.7	13.7	-129.16	335.4	-128.7	520.4	493.6	26.74	19.460	
7,000.0	6,955.9	6,981.0	6,968.5	17.8	13.7	-117.14	326.3	-129.9	524.3	497.6	26.71	19.630	
7,050.0	7,004.3	7,030.7	7,016.6	17.8	13.6	-110.12	313.9	-131.2	528.1	501.5	26.64	19.823	
7,100.0	7,051.8	7,080.4	7,063.8	17.8	13.6	-105.58	298.2	-132.4	531.9	505.3	26.55	20.033	
7,150.0	7,098.1	7,130.1	7,109.7	17.9	13.6	-102.40	279.3	-133.7	535.5	509.1	26.44	20.253	
7,200.0	7,143.1	7,179.7	7,154.1	17.9	13.5	-100.03	257.3	-134.9	539.0	512.7	26.33	20.474	
7,250.0	7,186.5	7,229.2	7,196.8	17.9	13.5	-98.18	232.3	-136.1	542.4	516.2	26.22	20.689	
7,300.0	7,228.1	7,278.7	7,237.7	17.9	13.4	-96.70	204.4	-137.3	545.6	519.4	26.12	20.886	
7,350.0	7,267.8	7,328.2	7,276.5	17.9	13.4	-95.48	173.8	-138.5	548.6	522.5	26.05	21.056	
7,400.0	7,305.2	7,377.6	7,313.0	17.9	13.3	-94.47	140.7	-139.6	551.4	525.4	26.02	21.188	
7,450.0	7,340.2	7,426.9	7,347.2	17.9	13.3	-93.61	105.1	-140.7	554.0	527.9	26.04	21.271	
7,500.0	7,372.7	7,476.2	7,378.8	18.0	13.4	-92.88	67.2	-141.7	556.4	530.2	26.12	21.296	
7,550.0	7,402.5	7,525.5	7,407.7	18.1	13.4	-92.26	27.4	-142.7	558.5	532.2	26.28	21.256	
7,600.0	7,429.4	7,574.8	7,433.8	18.2	13.5	-91.73	-14.4	-143.6	560.4	533.9	26.50	21.148	
7,650.0	7,453.4	7,624.0	7,457.0	18.3	13.7	-91.28	-57.8	-144.4	562.1	535.2	26.81	20.967	
7,700.0	7,474.3	7,673.2	7,477.1	18.4	13.9	-90.91	-102.7	-145.2	563.4	536.2	27.20	20.715	
7,750.0	7,491.9	7,722.4	7,494.1	18.6	14.1	-90.61	-148.8	-146.0	564.6	536.9	27.68	20.396	
7,800.0	7,506.3	7,771.5	7,507.8	18.9	14.4	-90.37	-196.0	-146.6	565.4	537.1	28.25	20.017	
7,850.0	7,517.3	7,820.6	7,518.3	19.1	14.7	-90.19	-244.0	-147.2	566.0	537.1	28.89	19.587	
7,900.0	7,525.0	7,869.7	7,525.5	19.4	15.1	-90.07	-292.5	-147.7	566.2	536.6	29.62	19.116	
7,950.0	7,529.1	7,918.8	7,529.3	19.7	15.5	-90.01	-341.4	-148.2	566.2	535.8	30.42	18.614	
7,985.2	7,530.0	7,953.4	7,530.0	20.0	15.8	-90.00	-376.0	-148.4	566.1	535.0	31.02	18.249	
8,000.0	7,530.0	7,968.2	7,530.0	20.1	15.9	-90.00	-390.8	-148.5	566.0	534.7	31.30	18.081	
8,100.0	7,530.0	8,068.2	7,530.0	20.9	17.0	-90.00	-490.8	-149.2	565.3	531.9	33.35	16.947	
8,200.0	7,530.0	8,168.2	7,530.0	21.8	18.1	-90.00	-590.8	-149.9	564.6	528.9	35.62	15.848	
8,300.0	7,530.0	8,268.2	7,530.0	22.8	19.3	-90.00	-690.8	-150.6	563.9	525.8	38.08	14.806	
8,400.0	7,530.0	8,368.2	7,530.0	23.9	20.6	-90.00	-790.8	-151.3	563.2	522.5	40.70	13.838	
8,500.0	7,530.0	8,468.2	7,530.0	25.1	21.9	-90.00	-890.8	-152.0	562.5	519.0	43.44	12.949	
8,600.0	7,530.0	8,568.2	7,530.0	26.3	23.4	-90.00	-990.8	-152.7	561.8	515.5	46.28	12.139	
8,700.0	7,530.0	8,668.2	7,530.0	27.6	24.8	-90.00	-1,090.8	-153.4	561.1	511.9	49.21	11.402	
8,800.0	7,530.0	8,768.2	7,530.0	29.0	26.3	-90.00	-1,190.8	-154.1	560.4	508.2	52.21	10.733	

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 Morgan Hills 1E-7H-A168
Project:	DJ Wattenberg	**TVD Reference:**	HZ @ 5035.0ft
Reference Site:	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	**MD Reference:**	HZ @ 5035.0ft
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Morgan Hills 1E-7H-A168	**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 #2	**Offset TVD Reference:**	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - Morgan Hills 1G-7H-A168 - HZ - Plan #2

Offset Site Error: 0.0 ft

Survey Program: 0-Geolink MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
8,900.0	7,530.0	8,868.2	7,530.0	30.3	27.8	-90.00	-1,290.8	-154.8	559.7	504.4	55.27	10.126	
9,000.0	7,530.0	8,968.2	7,530.0	31.8	29.4	-90.00	-1,390.8	-155.5	559.0	500.6	58.38	9.574	
9,100.0	7,530.0	9,068.2	7,530.0	33.2	30.9	-90.00	-1,490.8	-156.2	558.3	496.7	61.54	9.072	
9,200.0	7,530.0	9,168.2	7,530.0	34.7	32.5	-90.00	-1,590.8	-156.9	557.6	492.9	64.73	8.614	
9,300.0	7,530.0	9,268.2	7,530.0	36.2	34.1	-90.00	-1,690.8	-157.6	556.9	488.9	67.95	8.196	
9,400.0	7,530.0	9,368.2	7,530.0	37.7	35.8	-90.00	-1,790.8	-158.3	556.2	485.0	71.20	7.812	
9,500.0	7,530.0	9,468.2	7,530.0	39.3	37.4	-90.00	-1,890.8	-159.0	555.5	481.0	74.47	7.459	
9,600.0	7,530.0	9,568.2	7,530.0	40.8	39.0	-90.00	-1,990.8	-159.7	554.8	477.0	77.76	7.134	
9,700.0	7,530.0	9,668.2	7,530.0	42.4	40.7	-90.00	-2,090.8	-160.4	554.1	473.0	81.07	6.834	
9,800.0	7,530.0	9,768.2	7,530.0	44.0	42.3	-90.00	-2,190.7	-161.1	553.4	469.0	84.40	6.557	
9,900.0	7,530.0	9,868.2	7,530.0	45.6	44.0	-90.00	-2,290.7	-161.8	552.7	465.0	87.74	6.299	
10,000.0	7,530.0	9,968.2	7,530.0	47.2	45.7	-90.00	-2,390.7	-162.5	552.0	460.9	91.09	6.060	
10,100.0	7,530.0	10,068.2	7,530.0	48.8	47.4	-90.00	-2,490.7	-163.2	551.3	456.8	94.46	5.836	
10,200.0	7,530.0	10,168.2	7,530.0	50.5	49.1	-90.00	-2,590.7	-163.9	550.6	452.8	97.83	5.628	
10,300.0	7,530.0	10,268.2	7,530.0	52.1	50.7	-90.00	-2,690.7	-164.6	549.9	448.7	101.22	5.433	
10,400.0	7,530.0	10,368.1	7,530.0	53.8	52.4	-90.00	-2,790.7	-165.3	549.2	444.6	104.61	5.250	
10,500.0	7,530.0	10,468.1	7,530.0	55.4	54.1	-90.00	-2,890.7	-166.0	548.5	440.5	108.01	5.078	
10,600.0	7,530.0	10,568.1	7,530.0	57.1	55.8	-90.00	-2,990.7	-166.7	547.8	436.4	111.42	4.917	
10,700.0	7,530.0	10,668.1	7,530.0	58.7	57.5	-90.00	-3,090.7	-167.4	547.1	432.3	114.83	4.765	
10,800.0	7,530.0	10,768.1	7,530.0	60.4	59.2	-90.00	-3,190.7	-168.1	546.4	428.2	118.25	4.621	
10,900.0	7,530.0	10,868.1	7,530.0	62.1	61.0	-90.00	-3,290.7	-168.8	545.7	424.0	121.67	4.485	
11,000.0	7,530.0	10,968.1	7,530.0	63.8	62.7	-90.00	-3,390.7	-169.5	545.0	419.9	125.10	4.357	
11,100.0	7,530.0	11,068.1	7,530.0	65.5	64.4	-90.00	-3,490.7	-170.2	544.3	415.8	128.53	4.235	
11,200.0	7,530.0	11,168.1	7,530.0	67.1	66.1	-90.00	-3,590.7	-170.9	543.6	411.7	131.97	4.119	
11,300.0	7,530.0	11,268.1	7,530.0	68.8	67.8	-90.00	-3,690.7	-171.6	542.9	407.5	135.41	4.010	
11,400.0	7,530.0	11,368.1	7,530.0	70.5	69.5	-90.00	-3,790.7	-172.3	542.2	403.4	138.85	3.905	
11,500.0	7,530.0	11,468.1	7,530.0	72.2	71.3	-90.00	-3,890.7	-173.0	541.5	399.2	142.29	3.806	
11,600.0	7,530.0	11,568.1	7,530.0	73.9	73.0	-90.00	-3,990.7	-173.7	540.8	395.1	145.74	3.711	
11,700.0	7,530.0	11,668.1	7,530.0	75.6	74.7	-90.00	-4,090.7	-174.4	540.1	390.9	149.20	3.620	
11,800.0	7,530.0	11,768.1	7,530.0	77.3	76.4	-90.00	-4,190.6	-175.1	539.4	386.8	152.65	3.534	
11,900.0	7,530.0	11,868.1	7,530.0	79.0	78.2	-90.00	-4,290.6	-175.8	538.7	382.6	156.11	3.451	
12,000.0	7,530.0	11,968.1	7,530.0	80.7	79.9	-90.00	-4,390.6	-176.5	538.0	378.5	159.57	3.372	
12,100.0	7,530.0	12,068.1	7,530.0	82.4	81.6	-90.00	-4,490.6	-177.2	537.3	374.3	163.03	3.296	
12,200.0	7,530.0	12,168.1	7,530.0	84.2	83.3	-90.00	-4,590.6	-177.9	536.6	370.1	166.49	3.223	
12,300.0	7,530.0	12,268.1	7,530.0	85.9	85.1	-90.00	-4,690.6	-178.6	535.9	366.0	169.96	3.153	
12,400.0	7,530.0	12,368.1	7,530.0	87.6	86.8	-90.00	-4,790.6	-179.3	535.2	361.8	173.42	3.086	
12,500.0	7,530.0	12,468.1	7,530.0	89.3	88.5	-90.00	-4,890.6	-180.0	534.5	357.7	176.89	3.022	
12,600.0	7,530.0	12,568.1	7,530.0	91.0	90.3	-90.00	-4,990.6	-180.6	533.8	353.5	180.36	2.960	
12,700.0	7,530.0	12,668.1	7,530.0	92.7	92.0	-90.00	-5,090.6	-181.3	533.1	349.3	183.83	2.900	
12,800.0	7,530.0	12,768.1	7,530.0	94.5	93.8	-90.00	-5,190.6	-182.0	532.4	345.1	187.31	2.843	
12,900.0	7,530.0	12,868.1	7,530.0	96.2	95.5	-90.00	-5,290.6	-182.7	531.8	341.0	190.78	2.787	
13,000.0	7,530.0	12,968.1	7,530.0	97.9	97.2	-90.00	-5,390.6	-183.4	531.1	336.8	194.26	2.734	
13,100.0	7,530.0	13,068.1	7,530.0	99.6	99.0	-90.00	-5,490.6	-184.1	530.4	332.6	197.73	2.682	
13,200.0	7,530.0	13,168.1	7,530.0	101.4	100.7	-90.00	-5,590.6	-184.8	529.7	328.4	201.21	2.632	
13,300.0	7,530.0	13,268.1	7,530.0	103.1	102.4	-90.00	-5,690.6	-185.5	529.0	324.3	204.69	2.584	
13,400.0	7,530.0	13,368.1	7,530.0	104.8	104.2	-90.00	-5,790.6	-186.2	528.3	320.1	208.17	2.538	
13,500.0	7,530.0	13,468.1	7,530.0	106.5	105.9	-90.00	-5,890.6	-186.9	527.6	315.9	211.65	2.493	
13,600.0	7,530.0	13,568.1	7,530.0	108.3	107.7	-90.00	-5,990.6	-187.6	526.9	311.7	215.13	2.449	
13,700.0	7,530.0	13,668.1	7,530.0	110.0	109.4	-90.00	-6,090.6	-188.3	526.2	307.6	218.61	2.407	
13,800.0	7,530.0	13,768.1	7,530.0	111.7	111.1	-90.00	-6,190.6	-189.0	525.5	303.4	222.10	2.366	
13,900.0	7,530.0	13,868.1	7,530.0	113.5	112.9	-90.00	-6,290.5	-189.7	524.8	299.2	225.58	2.326	
14,000.0	7,530.0	13,968.1	7,530.0	115.2	114.6	-90.00	-6,390.5	-190.4	524.1	295.0	229.06	2.288	

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 Morgan Hills 1E-7H-A168
Project:	DJ Wattenberg	**TVD Reference:**	HZ @ 5035.0ft
Reference Site:	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	**MD Reference:**	HZ @ 5035.0ft
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Morgan Hills 1E-7H-A168	**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 #2	**Offset TVD Reference:**	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - Morgan Hills 1G-7H-A168 - HZ - Plan #2

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
14,100.0	7,530.0	14,068.1	7,530.0	116.9	116.4	-90.00	-6,490.5	-191.1	523.4	290.8	232.55	2.251	
14,200.0	7,530.0	14,168.1	7,530.0	118.7	118.1	-90.00	-6,590.5	-191.8	522.7	286.6	236.04	2.214	
14,300.0	7,530.0	14,268.1	7,530.0	120.4	119.8	-90.00	-6,690.5	-192.5	522.0	282.5	239.52	2.179	
14,400.0	7,530.0	14,368.1	7,530.0	122.1	121.6	-90.00	-6,790.5	-193.2	521.3	278.3	243.01	2.145	
14,500.0	7,530.0	14,468.0	7,530.0	123.9	123.3	-90.00	-6,890.5	-193.9	520.6	274.1	246.50	2.112	
14,600.0	7,530.0	14,568.0	7,530.0	125.6	125.1	-90.00	-6,990.5	-194.6	519.9	269.9	249.99	2.080	
14,700.0	7,530.0	14,668.0	7,530.0	127.3	126.8	-90.00	-7,090.5	-195.3	519.2	265.7	253.47	2.048	
14,800.0	7,530.0	14,768.0	7,530.0	129.1	128.6	-90.00	-7,190.5	-196.0	518.5	261.5	256.96	2.018	
14,900.0	7,530.0	14,868.0	7,530.0	130.8	130.3	-90.00	-7,290.5	-196.7	517.8	257.3	260.45	1.988	
15,000.0	7,530.0	14,968.0	7,530.0	132.5	132.1	-90.00	-7,390.5	-197.4	517.1	253.1	263.94	1.959	
15,100.0	7,530.0	15,068.0	7,530.0	134.3	133.8	-90.00	-7,490.5	-198.1	516.4	249.0	267.43	1.931	
15,200.0	7,530.0	15,168.0	7,530.0	136.0	135.5	-90.00	-7,590.5	-198.8	515.7	244.8	270.93	1.903	
15,300.0	7,530.0	15,268.0	7,530.0	137.8	137.3	-90.00	-7,690.5	-199.5	515.0	240.6	274.42	1.877	
15,400.0	7,530.0	15,368.0	7,530.0	139.5	139.0	-90.00	-7,790.5	-200.2	514.3	236.4	277.91	1.851	
15,500.0	7,530.0	15,468.0	7,530.0	141.2	140.8	-90.00	-7,890.5	-200.9	513.6	232.2	281.40	1.825	
15,600.0	7,530.0	15,568.0	7,530.0	143.0	142.5	-90.00	-7,990.5	-201.6	512.9	228.0	284.90	1.800	
15,700.0	7,530.0	15,668.0	7,530.0	144.7	144.3	-90.00	-8,090.5	-202.3	512.2	223.8	288.39	1.776	
15,800.0	7,530.0	15,768.0	7,530.0	146.5	146.0	-90.00	-8,190.5	-203.0	511.5	219.6	291.88	1.752	
15,900.0	7,530.0	15,868.0	7,530.0	148.2	147.8	-90.00	-8,290.4	-203.7	510.8	215.4	295.38	1.729	
16,000.0	7,530.0	15,968.0	7,530.0	149.9	149.5	-90.00	-8,390.4	-204.4	510.1	211.2	298.87	1.707	
16,100.0	7,530.0	16,068.0	7,530.0	151.7	151.3	-90.00	-8,490.4	-205.1	509.4	207.0	302.37	1.685	
16,200.0	7,530.0	16,168.0	7,530.0	153.4	153.0	-90.00	-8,590.4	-205.8	508.7	202.9	305.86	1.663	
16,300.0	7,530.0	16,268.0	7,530.0	155.2	154.8	-90.00	-8,690.4	-206.5	508.0	198.7	309.36	1.642	
16,400.0	7,530.0	16,368.0	7,530.0	156.9	156.5	-90.00	-8,790.4	-207.2	507.3	194.5	312.85	1.622	
16,500.0	7,530.0	16,468.0	7,530.0	158.6	158.3	-90.00	-8,890.4	-207.9	506.6	190.3	316.35	1.601	
16,600.0	7,530.0	16,568.0	7,530.0	160.4	160.0	-90.00	-8,990.4	-208.6	505.9	186.1	319.84	1.582	
16,700.0	7,530.0	16,668.0	7,530.0	162.1	161.7	-90.00	-9,090.4	-209.3	505.2	181.9	323.34	1.563	
16,800.0	7,530.0	16,768.0	7,530.0	163.9	163.5	-90.00	-9,190.4	-210.0	504.5	177.7	326.84	1.544	
16,900.0	7,530.0	16,868.0	7,530.0	165.6	165.2	-90.00	-9,290.4	-210.7	503.8	173.5	330.33	1.525	
17,000.0	7,530.0	16,968.0	7,530.0	167.4	167.0	-90.00	-9,390.4	-211.4	503.1	169.3	333.83	1.507	
17,100.0	7,530.0	17,068.0	7,530.0	169.1	168.7	-90.00	-9,490.4	-212.1	502.4	165.1	337.33	1.489	Level 3
17,200.0	7,530.0	17,168.0	7,530.0	170.8	170.5	-90.00	-9,590.4	-212.8	501.7	160.9	340.82	1.472	Level 3
17,300.0	7,530.0	17,268.0	7,530.0	172.6	172.2	-90.00	-9,690.4	-213.5	501.0	156.7	344.32	1.455	Level 3
17,400.0	7,530.0	17,368.0	7,530.0	174.3	174.0	-90.00	-9,790.4	-214.2	500.3	152.5	347.82	1.438	Level 3
17,440.2	7,530.0	17,408.2	7,530.0	175.0	174.7	-90.00	-9,830.6	-214.4	500.1	150.8	349.23	1.432	Level 3, SF

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Morgan Hills 1E-7H-A168
Project:	DJ Wattenberg	**TVD Reference:**	HZ @ 5035.0ft
Reference Site:	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	**MD Reference:**	HZ @ 5035.0ft
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Morgan Hills 1E-7H-A168	**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 #2	**Offset TVD Reference:**	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - Morgan Hills 1H-7H-A168 - HZ - Plan #2

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	90.00	0.0	29.9	29.9				
100.0	100.0	100.0	100.0	0.2	0.2	90.00	0.0	29.9	29.9	29.6	0.30	98.604	
200.0	200.0	200.0	200.0	0.3	0.3	90.00	0.0	29.9	29.9	29.3	0.65	45.875	
300.0	300.0	300.0	300.0	0.5	0.5	90.00	0.0	29.9	29.9	28.9	1.00	29.890	
400.0	400.0	400.0	400.0	0.7	0.7	90.00	0.0	29.9	29.9	28.6	1.35	22.167	CC, ES
500.0	500.0	500.0	500.0	0.9	0.8	152.41	0.0	29.9	30.7	29.0	1.70	18.069	
600.0	600.0	600.0	600.0	1.0	1.0	154.12	0.2	29.9	33.1	31.0	2.05	16.129	
700.0	699.9	699.9	699.9	1.2	1.2	154.35	2.0	30.0	36.9	34.5	2.40	15.384	
800.0	799.7	799.8	799.7	1.4	1.4	153.19	5.4	30.0	42.3	39.6	2.76	15.351	
900.0	899.4	899.5	899.3	1.6	1.6	151.34	10.5	30.1	49.3	46.2	3.12	15.785	
1,000.0	998.9	999.2	998.8	1.8	1.8	150.48	15.9	30.2	57.8	54.3	3.49	16.543	
1,082.1	1,080.4	1,080.8	1,080.3	2.0	1.9	150.50	20.4	30.2	65.9	62.1	3.80	17.335	
1,100.0	1,098.3	1,098.7	1,098.2	2.1	1.9	150.56	21.3	30.3	67.8	63.9	3.87	17.518	
1,200.0	1,197.6	1,198.1	1,197.4	2.3	2.1	150.87	26.7	30.3	78.3	74.1	4.25	18.418	
1,300.0	1,296.8	1,297.5	1,296.7	2.6	2.3	151.10	32.1	30.4	88.9	84.2	4.64	19.161	
1,400.0	1,396.1	1,397.0	1,396.0	2.8	2.5	151.28	37.5	30.5	99.4	94.4	5.02	19.783	
1,500.0	1,495.4	1,496.4	1,495.3	3.1	2.7	151.42	42.9	30.6	109.9	104.5	5.41	20.312	
1,600.0	1,594.7	1,595.9	1,594.6	3.4	2.9	151.55	48.3	30.6	120.5	114.7	5.80	20.766	
1,700.0	1,694.0	1,695.3	1,693.9	3.6	3.1	151.65	53.7	30.7	131.0	124.8	6.19	21.160	
1,800.0	1,793.3	1,794.8	1,793.2	3.9	3.3	151.73	59.1	30.8	141.5	134.9	6.58	21.505	
1,900.0	1,892.6	1,894.2	1,892.5	4.1	3.5	151.81	64.5	30.9	152.0	145.1	6.97	21.809	
2,000.0	1,991.9	1,993.6	1,991.8	4.4	3.7	151.87	69.9	31.0	162.6	155.2	7.36	22.080	
2,100.0	2,091.2	2,093.1	2,091.1	4.7	3.9	151.93	75.3	31.0	173.1	165.4	7.76	22.322	
2,200.0	2,190.5	2,192.5	2,190.4	4.9	4.1	151.98	80.7	31.1	183.6	175.5	8.15	22.540	
2,300.0	2,289.8	2,292.0	2,289.7	5.2	4.3	152.03	86.1	31.2	194.2	185.6	8.54	22.737	
2,400.0	2,389.1	2,391.4	2,389.0	5.5	4.5	152.07	91.5	31.3	204.7	195.8	8.93	22.915	
2,500.0	2,488.4	2,490.9	2,488.3	5.7	4.7	152.10	96.9	31.4	215.2	205.9	9.33	23.079	
2,600.0	2,587.6	2,590.3	2,587.6	6.0	4.9	152.14	102.3	31.4	225.8	216.0	9.72	23.228	
2,700.0	2,686.9	2,689.8	2,686.9	6.3	5.1	152.17	107.7	31.5	236.3	226.2	10.11	23.366	
2,800.0	2,786.2	2,789.2	2,786.2	6.6	5.2	152.19	113.1	31.6	246.8	236.3	10.51	23.493	
2,900.0	2,885.5	2,888.6	2,885.5	6.8	5.4	152.22	118.5	31.7	257.4	246.5	10.90	23.610	
3,000.0	2,984.8	2,988.1	2,984.8	7.1	5.6	152.24	123.9	31.8	267.9	256.6	11.29	23.719	
3,100.0	3,084.1	3,087.5	3,084.1	7.4	5.8	152.26	129.3	31.8	278.4	266.7	11.69	23.820	
3,200.0	3,183.4	3,187.0	3,183.4	7.6	6.0	152.28	134.6	31.9	288.9	276.9	12.08	23.915	
3,300.0	3,282.7	3,286.4	3,282.7	7.9	6.2	152.30	140.0	32.0	299.5	287.0	12.48	24.003	
3,400.0	3,382.0	3,385.9	3,382.0	8.2	6.4	152.32	145.4	32.1	310.0	297.1	12.87	24.086	
3,500.0	3,481.3	3,485.3	3,481.3	8.4	6.6	152.34	150.8	32.1	320.5	307.3	13.27	24.164	
3,600.0	3,580.6	3,584.8	3,580.6	8.7	6.8	152.35	156.2	32.2	331.1	317.4	13.66	24.237	
3,700.0	3,679.9	3,684.2	3,679.9	9.0	7.0	152.37	161.6	32.3	341.6	327.6	14.05	24.306	
3,800.0	3,779.2	3,783.6	3,779.2	9.3	7.2	152.38	167.0	32.4	352.1	337.7	14.45	24.371	
3,900.0	3,878.4	3,883.1	3,878.5	9.5	7.4	152.39	172.4	32.5	362.7	347.8	14.84	24.432	
4,000.0	3,977.7	3,982.5	3,977.8	9.8	7.6	152.40	177.8	32.5	373.2	358.0	15.24	24.491	
4,100.0	4,077.0	4,082.0	4,077.1	10.1	7.8	152.41	183.2	32.6	383.7	368.1	15.63	24.546	
4,200.0	4,176.3	4,181.4	4,176.4	10.3	8.0	152.42	188.6	32.7	394.3	378.2	16.03	24.598	
4,300.0	4,275.6	4,280.9	4,275.7	10.6	8.2	152.43	194.0	32.8	404.8	388.4	16.42	24.648	
4,400.0	4,374.9	4,380.3	4,375.0	10.9	8.4	152.44	199.4	32.9	415.3	398.5	16.82	24.696	
4,500.0	4,474.2	4,479.7	4,474.3	11.1	8.6	152.45	204.8	32.9	425.9	408.6	17.21	24.741	
4,600.0	4,573.5	4,579.2	4,573.6	11.4	8.8	152.46	210.2	33.0	436.4	418.8	17.61	24.784	
4,700.0	4,672.8	4,678.6	4,672.9	11.7	9.0	152.47	215.6	33.1	446.9	428.9	18.00	24.825	
4,800.0	4,772.1	4,778.1	4,772.2	12.0	9.2	152.48	221.0	33.2	457.5	439.1	18.40	24.864	
4,900.0	4,871.4	4,877.5	4,871.5	12.2	9.4	152.49	226.4	33.2	468.0	449.2	18.79	24.902	
5,000.0	4,970.7	4,977.0	4,970.7	12.5	9.6	152.49	231.8	33.3	478.5	459.3	19.19	24.938	

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 Morgan Hills 1E-7H-A168
Project:	DJ Wattenberg	**TVD Reference:**	HZ @ 5035.0ft
Reference Site:	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	**MD Reference:**	HZ @ 5035.0ft
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Morgan Hills 1E-7H-A168	**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 #2	**Offset TVD Reference:**	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - Morgan Hills 1H-7H-A168 - HZ - Plan #2

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	5,070.0	5,076.4	5,070.0	12.8	9.8	152.50	237.2	33.4	489.1	469.5	19.58	24.973	
5,200.0	5,169.2	5,175.9	5,169.3	13.0	10.0	152.51	242.6	33.5	499.6	479.6	19.98	25.006	
5,300.0	5,268.5	5,275.3	5,268.6	13.3	10.2	152.51	248.0	33.6	510.1	489.7	20.37	25.038	
5,400.0	5,367.8	5,374.7	5,367.9	13.6	10.4	152.52	253.4	33.6	520.6	499.9	20.77	25.069	
5,500.0	5,467.1	5,474.2	5,467.2	13.9	10.6	152.52	258.8	33.7	531.2	510.0	21.16	25.098	
5,600.0	5,566.4	5,573.6	5,566.5	14.1	10.8	152.53	264.1	33.8	541.7	520.1	21.56	25.127	
5,700.0	5,665.7	5,673.1	5,665.8	14.4	11.0	152.54	269.5	33.9	552.2	530.3	21.95	25.154	
5,800.0	5,765.0	5,772.5	5,765.1	14.7	11.2	152.54	274.9	34.0	562.8	540.4	22.35	25.180	
5,900.0	5,864.3	5,872.0	5,864.4	14.9	11.4	152.55	280.3	34.0	573.3	550.6	22.74	25.206	
6,000.0	5,963.6	5,971.4	5,963.7	15.2	11.6	152.55	285.7	34.1	583.8	560.7	23.14	25.230	
6,100.0	6,062.9	6,070.8	6,063.0	15.5	11.7	152.55	291.1	34.2	594.4	570.8	23.54	25.254	
6,200.0	6,162.2	6,170.3	6,162.3	15.8	11.9	152.56	296.5	34.3	604.9	581.0	23.93	25.277	
6,300.0	6,261.5	6,269.7	6,261.6	16.0	12.1	152.56	301.9	34.3	615.4	591.1	24.33	25.299	
6,400.0	6,360.8	6,369.2	6,360.9	16.3	12.3	152.57	307.3	34.4	626.0	601.2	24.72	25.321	
6,500.0	6,460.0	6,468.6	6,460.2	16.6	12.5	152.57	312.7	34.5	636.5	611.4	25.12	25.341	
6,600.0	6,559.3	6,568.1	6,559.5	16.8	12.7	152.58	318.1	34.6	647.0	621.5	25.51	25.362	
6,700.0	6,658.6	6,667.5	6,658.8	17.1	12.9	152.58	323.5	34.7	657.6	631.7	25.91	25.381	
6,800.0	6,757.9	6,767.0	6,758.1	17.4	13.1	152.58	328.9	34.7	668.1	641.8	26.30	25.400	
6,819.8	6,777.6	6,786.6	6,777.7	17.4	13.2	152.58	330.0	34.8	670.2	643.8	26.38	25.404	
6,850.0	6,807.6	6,816.7	6,807.7	17.5	13.2	173.28	331.6	34.8	673.3	646.9	26.47	25.434	
6,900.0	6,857.3	6,866.2	6,857.2	17.6	13.3	-151.10	334.3	34.8	678.6	651.9	26.62	25.488	
6,950.0	6,906.8	6,915.4	6,906.4	17.7	13.4	-129.19	337.0	34.9	683.8	657.0	26.77	25.543	
7,000.0	6,955.9	6,964.0	6,954.9	17.8	13.5	-118.04	339.6	34.9	689.0	662.1	26.91	25.605	
7,050.0	7,004.3	7,011.7	7,002.5	17.8	13.6	-112.12	342.2	34.9	694.5	667.4	27.04	25.685	
7,100.0	7,051.8	7,060.3	7,051.1	17.8	13.7	-108.84	343.9	35.0	700.2	673.1	27.14	25.801	
7,150.0	7,098.1	7,110.6	7,101.3	17.9	13.7	-106.91	342.3	35.0	706.3	679.1	27.19	25.978	
7,200.0	7,143.1	7,162.2	7,152.6	17.9	13.8	-105.77	337.1	35.1	712.5	685.3	27.19	26.210	
7,250.0	7,186.5	7,215.2	7,204.8	17.9	13.8	-105.13	327.8	35.1	719.0	691.8	27.14	26.494	
7,300.0	7,228.1	7,269.7	7,257.6	17.9	13.8	-104.83	314.3	35.1	725.5	698.5	27.05	26.824	
7,350.0	7,267.8	7,325.8	7,310.7	17.9	13.7	-104.75	296.3	35.2	732.1	705.2	26.93	27.190	
7,400.0	7,305.2	7,383.6	7,363.8	17.9	13.7	-104.83	273.4	35.2	738.7	712.0	26.79	27.580	
7,450.0	7,340.2	7,443.2	7,416.3	17.9	13.6	-105.03	245.4	35.3	745.3	718.6	26.64	27.977	
7,500.0	7,372.7	7,504.6	7,467.9	18.0	13.5	-105.30	212.0	35.3	751.6	725.1	26.50	28.359	
7,550.0	7,402.5	7,568.0	7,517.9	18.1	13.5	-105.62	173.2	35.3	757.8	731.4	26.41	28.696	
7,600.0	7,429.4	7,633.2	7,565.6	18.2	13.4	-105.97	128.7	35.4	763.5	737.2	26.37	28.958	
7,650.0	7,453.4	7,700.4	7,610.3	18.3	13.5	-106.32	78.6	35.4	768.9	742.5	26.41	29.112	
7,700.0	7,474.3	7,769.3	7,651.0	18.4	13.5	-106.66	23.0	35.4	773.7	747.1	26.58	29.111	
7,750.0	7,491.9	7,839.9	7,687.0	18.6	13.7	-106.98	-37.7	35.5	777.9	751.1	26.88	28.943	
7,800.0	7,506.3	7,912.0	7,717.5	18.9	14.0	-107.25	-103.0	35.5	781.5	754.1	27.34	28.580	
7,850.0	7,517.3	7,985.4	7,741.5	19.1	14.3	-107.47	-172.3	35.5	784.2	756.3	27.98	28.027	
7,900.0	7,525.0	8,059.8	7,758.5	19.4	14.8	-107.63	-244.7	35.5	786.2	757.4	28.80	27.302	
7,950.0	7,529.1	8,134.8	7,768.0	19.7	15.4	-107.72	-319.0	35.5	787.3	757.5	29.78	26.433	
7,985.2	7,530.0	8,187.7	7,770.0	20.0	15.8	-107.74	-372.0	35.5	787.5	756.9	30.57	25.762	
8,000.0	7,530.0	8,202.6	7,770.0	20.1	16.0	-107.74	-386.9	35.5	787.5	756.7	30.83	25.541	
8,100.0	7,530.0	8,302.6	7,770.0	20.9	17.0	-107.74	-486.9	35.5	787.5	754.7	32.75	24.049	
8,200.0	7,530.0	8,402.6	7,770.0	21.8	18.1	-107.74	-586.9	35.5	787.5	752.6	34.87	22.581	
8,300.0	7,530.0	8,502.6	7,770.0	22.8	19.3	-107.74	-686.9	35.5	787.5	750.3	37.18	21.179	
8,400.0	7,530.0	8,602.6	7,770.0	23.9	20.6	-107.74	-786.9	35.5	787.5	747.9	39.64	19.866	
8,500.0	7,530.0	8,702.6	7,770.0	25.1	22.0	-107.74	-886.9	35.5	787.5	745.3	42.22	18.653	
8,600.0	7,530.0	8,802.6	7,770.0	26.3	23.4	-107.74	-986.9	35.5	787.5	742.6	44.90	17.540	
8,700.0	7,530.0	8,902.6	7,770.0	27.6	24.8	-107.74	-1,086.9	35.5	787.5	739.8	47.66	16.523	
8,800.0	7,530.0	9,002.6	7,770.0	29.0	26.3	-107.74	-1,186.9	35.5	787.5	737.0	50.49	15.596	

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 Morgan Hills 1E-7H-A168
Project:	DJ Wattenberg	**TVD Reference:**	HZ @ 5035.0ft
Reference Site:	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	**MD Reference:**	HZ @ 5035.0ft
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Morgan Hills 1E-7H-A168	**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 #2	**Offset TVD Reference:**	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - Morgan Hills 1H-7H-A168 - HZ - Plan #2

Offset Site Error: 0.0 ft

Survey Program: 0-Geolink MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
8,900.0	7,530.0	9,102.6	7,770.0	30.3	27.8	-107.74	-1,286.9	35.5	787.5	734.1	53.39	14.751	
9,000.0	7,530.0	9,202.6	7,770.0	31.8	29.4	-107.74	-1,386.9	35.5	787.5	731.2	56.33	13.980	
9,100.0	7,530.0	9,302.6	7,770.0	33.2	30.9	-107.74	-1,486.9	35.5	787.5	728.2	59.31	13.277	
9,200.0	7,530.0	9,402.6	7,770.0	34.7	32.5	-107.74	-1,586.9	35.5	787.5	725.2	62.33	12.633	
9,300.0	7,530.0	9,502.6	7,770.0	36.2	34.1	-107.74	-1,686.9	35.5	787.5	722.1	65.39	12.044	
9,400.0	7,530.0	9,602.6	7,770.0	37.7	35.8	-107.74	-1,786.9	35.5	787.5	719.0	68.47	11.502	
9,500.0	7,530.0	9,702.6	7,770.0	39.3	37.4	-107.74	-1,886.9	35.5	787.5	715.9	71.57	11.003	
9,600.0	7,530.0	9,802.6	7,770.0	40.8	39.0	-107.74	-1,986.9	35.5	787.5	712.8	74.69	10.543	
9,700.0	7,530.0	9,902.6	7,770.0	42.4	40.7	-107.74	-2,086.9	35.5	787.5	709.7	77.84	10.117	
9,800.0	7,530.0	10,002.6	7,770.0	44.0	42.3	-107.74	-2,186.9	35.5	787.5	706.5	81.00	9.723	
9,900.0	7,530.0	10,102.6	7,770.0	45.6	44.0	-107.74	-2,286.9	35.5	787.5	703.3	84.17	9.356	
10,000.0	7,530.0	10,202.6	7,770.0	47.2	45.7	-107.74	-2,386.9	35.5	787.5	700.1	87.35	9.015	
10,100.0	7,530.0	10,302.6	7,770.0	48.8	47.3	-107.74	-2,486.9	35.5	787.5	696.9	90.55	8.697	
10,200.0	7,530.0	10,402.6	7,770.0	50.5	49.0	-107.74	-2,586.9	35.5	787.5	693.7	93.76	8.399	
10,300.0	7,530.0	10,502.6	7,770.0	52.1	50.7	-107.74	-2,686.9	35.5	787.5	690.5	96.97	8.121	
10,400.0	7,530.0	10,602.6	7,770.0	53.8	52.4	-107.74	-2,786.9	35.5	787.5	687.3	100.20	7.859	
10,500.0	7,530.0	10,702.6	7,770.0	55.4	54.1	-107.74	-2,886.9	35.5	787.5	684.1	103.43	7.614	
10,600.0	7,530.0	10,802.6	7,770.0	57.1	55.8	-107.74	-2,986.9	35.5	787.5	680.8	106.67	7.383	
10,700.0	7,530.0	10,902.6	7,770.0	58.7	57.5	-107.74	-3,086.9	35.5	787.5	677.6	109.91	7.165	
10,800.0	7,530.0	11,002.6	7,770.0	60.4	59.2	-107.74	-3,186.9	35.5	787.5	674.3	113.17	6.959	
10,900.0	7,530.0	11,102.6	7,770.0	62.1	60.9	-107.74	-3,286.9	35.5	787.5	671.1	116.42	6.764	
11,000.0	7,530.0	11,202.6	7,770.0	63.8	62.6	-107.74	-3,386.9	35.5	787.5	667.8	119.68	6.580	
11,100.0	7,530.0	11,302.6	7,770.0	65.5	64.4	-107.74	-3,486.9	35.5	787.5	664.5	122.95	6.405	
11,200.0	7,530.0	11,402.6	7,770.0	67.1	66.1	-107.74	-3,586.9	35.5	787.5	661.3	126.22	6.239	
11,300.0	7,530.0	11,502.6	7,770.0	68.8	67.8	-107.74	-3,686.9	35.5	787.5	658.0	129.49	6.081	
11,400.0	7,530.0	11,602.6	7,770.0	70.5	69.5	-107.74	-3,786.9	35.5	787.5	654.7	132.77	5.931	
11,500.0	7,530.0	11,702.6	7,770.0	72.2	71.2	-107.74	-3,886.9	35.5	787.5	651.4	136.05	5.788	
11,600.0	7,530.0	11,802.6	7,770.0	73.9	73.0	-107.74	-3,986.9	35.5	787.5	648.2	139.33	5.652	
11,700.0	7,530.0	11,902.6	7,770.0	75.6	74.7	-107.74	-4,086.9	35.5	787.5	644.9	142.62	5.522	
11,800.0	7,530.0	12,002.6	7,770.0	77.3	76.4	-107.74	-4,186.9	35.5	787.5	641.6	145.90	5.397	
11,900.0	7,530.0	12,102.6	7,770.0	79.0	78.1	-107.74	-4,286.9	35.5	787.5	638.3	149.20	5.278	
12,000.0	7,530.0	12,202.6	7,770.0	80.7	79.9	-107.74	-4,386.9	35.5	787.5	635.0	152.49	5.164	
12,100.0	7,530.0	12,302.6	7,770.0	82.4	81.6	-107.74	-4,486.9	35.5	787.5	631.7	155.78	5.055	
12,200.0	7,530.0	12,402.6	7,770.0	84.2	83.3	-107.74	-4,586.9	35.5	787.5	628.4	159.08	4.950	
12,300.0	7,530.0	12,502.6	7,770.0	85.9	85.0	-107.74	-4,686.9	35.5	787.5	625.1	162.38	4.850	
12,400.0	7,530.0	12,602.6	7,770.0	87.6	86.8	-107.74	-4,786.9	35.6	787.5	621.8	165.68	4.753	
12,500.0	7,530.0	12,702.6	7,770.0	89.3	88.5	-107.74	-4,886.9	35.6	787.5	618.5	168.98	4.660	
12,600.0	7,530.0	12,802.6	7,770.0	91.0	90.2	-107.74	-4,986.9	35.6	787.5	615.2	172.29	4.571	
12,700.0	7,530.0	12,902.6	7,770.0	92.7	92.0	-107.74	-5,086.9	35.6	787.5	611.9	175.59	4.485	
12,800.0	7,530.0	13,002.6	7,770.0	94.5	93.7	-107.74	-5,186.9	35.6	787.5	608.6	178.90	4.402	
12,900.0	7,530.0	13,102.6	7,770.0	96.2	95.5	-107.74	-5,286.9	35.6	787.5	605.3	182.21	4.322	
13,000.0	7,530.0	13,202.6	7,770.0	97.9	97.2	-107.74	-5,386.9	35.6	787.5	602.0	185.52	4.245	
13,100.0	7,530.0	13,302.6	7,770.0	99.6	98.9	-107.74	-5,486.9	35.6	787.5	598.7	188.83	4.170	
13,200.0	7,530.0	13,402.6	7,770.0	101.4	100.7	-107.74	-5,586.9	35.6	787.5	595.4	192.14	4.099	
13,300.0	7,530.0	13,502.6	7,770.0	103.1	102.4	-107.74	-5,686.9	35.6	787.5	592.0	195.45	4.029	
13,400.0	7,530.0	13,602.6	7,770.0	104.8	104.1	-107.74	-5,786.9	35.6	787.5	588.7	198.77	3.962	
13,500.0	7,530.0	13,702.6	7,770.0	106.5	105.9	-107.74	-5,886.9	35.6	787.5	585.4	202.08	3.897	
13,600.0	7,530.0	13,802.6	7,770.0	108.3	107.6	-107.74	-5,986.9	35.6	787.5	582.1	205.40	3.834	
13,700.0	7,530.0	13,902.6	7,770.0	110.0	109.4	-107.74	-6,086.9	35.6	787.5	578.8	208.72	3.773	
13,800.0	7,530.0	14,002.6	7,770.0	111.7	111.1	-107.74	-6,186.9	35.6	787.5	575.5	212.03	3.714	
13,900.0	7,530.0	14,102.6	7,770.0	113.5	112.8	-107.74	-6,286.9	35.6	787.5	572.1	215.35	3.657	
14,000.0	7,530.0	14,202.6	7,770.0	115.2	114.6	-107.74	-6,386.9	35.6	787.5	568.8	218.67	3.601	

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 Morgan Hills 1E-7H-A168
Project:	DJ Wattenberg	**TVD Reference:**	HZ @ 5035.0ft
Reference Site:	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	**MD Reference:**	HZ @ 5035.0ft
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Morgan Hills 1E-7H-A168	**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 #2	**Offset TVD Reference:**	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - Morgan Hills 1H-7H-A168 - HZ - Plan #2

Survey Program: 0-Geolink MWD

Offset Site Error: 0.0 ft

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
14,100.0	7,530.0	14,302.6	7,770.0	116.9	116.3	-107.74	-6,486.9	35.6	787.5	565.5	221.99	3.547	
14,200.0	7,530.0	14,402.6	7,770.0	118.7	118.1	-107.74	-6,586.9	35.6	787.5	562.2	225.31	3.495	
14,300.0	7,530.0	14,502.6	7,770.0	120.4	119.8	-107.74	-6,686.9	35.6	787.5	558.9	228.63	3.444	
14,400.0	7,530.0	14,602.6	7,770.0	122.1	121.6	-107.74	-6,786.9	35.6	787.5	555.5	231.95	3.395	
14,500.0	7,530.0	14,702.6	7,770.0	123.9	123.3	-107.74	-6,886.9	35.6	787.5	552.2	235.28	3.347	
14,600.0	7,530.0	14,802.6	7,770.0	125.6	125.0	-107.74	-6,986.9	35.6	787.5	548.9	238.60	3.300	
14,700.0	7,530.0	14,902.6	7,770.0	127.3	126.8	-107.74	-7,086.9	35.6	787.5	545.6	241.92	3.255	
14,800.0	7,530.0	15,002.6	7,770.0	129.1	128.5	-107.74	-7,186.9	35.6	787.5	542.2	245.25	3.211	
14,900.0	7,530.0	15,102.6	7,770.0	130.8	130.3	-107.74	-7,286.9	35.6	787.5	538.9	248.57	3.168	
15,000.0	7,530.0	15,202.6	7,770.0	132.5	132.0	-107.74	-7,386.9	35.6	787.5	535.6	251.90	3.126	
15,100.0	7,530.0	15,302.6	7,770.0	134.3	133.8	-107.74	-7,486.9	35.6	787.5	532.3	255.22	3.086	
15,200.0	7,530.0	15,402.6	7,770.0	136.0	135.5	-107.74	-7,586.9	35.6	787.5	528.9	258.55	3.046	
15,300.0	7,530.0	15,502.6	7,770.0	137.8	137.3	-107.74	-7,686.9	35.6	787.5	525.6	261.88	3.007	
15,400.0	7,530.0	15,602.6	7,770.0	139.5	139.0	-107.74	-7,786.9	35.6	787.5	522.3	265.20	2.969	
15,500.0	7,530.0	15,702.6	7,770.0	141.2	140.7	-107.74	-7,886.9	35.6	787.5	519.0	268.53	2.933	
15,600.0	7,530.0	15,802.6	7,770.0	143.0	142.5	-107.74	-7,986.9	35.6	787.5	515.6	271.86	2.897	
15,700.0	7,530.0	15,902.6	7,770.0	144.7	144.2	-107.74	-8,086.9	35.6	787.5	512.3	275.19	2.862	
15,800.0	7,530.0	16,002.6	7,770.0	146.5	146.0	-107.74	-8,186.9	35.6	787.5	509.0	278.51	2.827	
15,900.0	7,530.0	16,102.6	7,770.0	148.2	147.7	-107.74	-8,286.9	35.6	787.5	505.7	281.84	2.794	
16,000.0	7,530.0	16,202.6	7,770.0	149.9	149.5	-107.74	-8,386.9	35.6	787.5	502.3	285.17	2.761	
16,100.0	7,530.0	16,302.6	7,770.0	151.7	151.2	-107.74	-8,486.9	35.6	787.5	499.0	288.50	2.730	
16,200.0	7,530.0	16,402.6	7,770.0	153.4	153.0	-107.74	-8,586.9	35.6	787.5	495.7	291.83	2.698	
16,300.0	7,530.0	16,502.6	7,770.0	155.2	154.7	-107.74	-8,686.9	35.6	787.5	492.3	295.16	2.668	
16,400.0	7,530.0	16,602.6	7,770.0	156.9	156.5	-107.74	-8,786.9	35.6	787.5	489.0	298.49	2.638	
16,500.0	7,530.0	16,702.6	7,770.0	158.6	158.2	-107.74	-8,886.9	35.6	787.5	485.7	301.82	2.609	
16,600.0	7,530.0	16,802.6	7,770.0	160.4	160.0	-107.74	-8,986.9	35.6	787.5	482.3	305.15	2.581	
16,700.0	7,530.0	16,902.6	7,770.0	162.1	161.7	-107.74	-9,086.9	35.6	787.5	479.0	308.49	2.553	
16,800.0	7,530.0	17,002.6	7,770.0	163.9	163.5	-107.74	-9,186.9	35.6	787.5	475.7	311.82	2.526	
16,900.0	7,530.0	17,102.6	7,770.0	165.6	165.2	-107.74	-9,286.9	35.6	787.5	472.4	315.15	2.499	
17,000.0	7,530.0	17,202.6	7,770.0	167.4	167.0	-107.74	-9,386.9	35.6	787.5	469.0	318.48	2.473	
17,100.0	7,530.0	17,302.6	7,770.0	169.1	168.7	-107.74	-9,486.9	35.6	787.5	465.7	321.81	2.447	
17,200.0	7,530.0	17,402.6	7,770.0	170.8	170.5	-107.74	-9,586.9	35.6	787.5	462.4	325.15	2.422	
17,300.0	7,530.0	17,502.6	7,770.0	172.6	172.2	-107.74	-9,686.9	35.6	787.5	459.0	328.48	2.397	
17,400.0	7,530.0	17,602.6	7,770.0	174.3	174.0	-107.74	-9,786.9	35.6	787.5	455.7	331.81	2.373	
17,440.2	7,530.0	17,642.8	7,770.0	175.0	174.7	-107.74	-9,827.1	35.6	787.5	454.3	333.15	2.364	SF

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Morgan Hills 1E-7H-A168
Project:	DJ Wattenberg	**TVD Reference:**	HZ @ 5035.0ft
Reference Site:	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	**MD Reference:**	HZ @ 5035.0ft
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Morgan Hills 1E-7H-A168	**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 #2	**Offset TVD Reference:**	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - Morgan Hills 1I-7H-A168 - HZ - Plan #2

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	90.00	0.0	40.0	40.0				
100.0	100.0	100.0	100.0	0.2	0.2	90.00	0.0	40.0	40.0	39.7	0.30	131.779	
200.0	200.0	200.0	200.0	0.3	0.3	90.00	0.0	40.0	40.0	39.4	0.65	61.309	
300.0	300.0	300.0	300.0	0.5	0.5	90.00	0.0	40.0	40.0	39.0	1.00	39.947	
400.0	400.0	400.0	400.0	0.7	0.7	90.00	0.0	40.0	40.0	38.7	1.35	29.625	CC, ES
500.0	500.0	500.0	500.0	0.9	0.8	152.22	0.0	40.0	40.8	39.1	1.70	23.995	
600.0	600.0	600.0	600.0	1.0	1.0	153.83	0.0	40.0	43.1	41.1	2.05	21.044	
700.0	699.9	699.5	699.5	1.2	1.2	155.22	0.7	40.5	47.5	45.1	2.40	19.800	
800.0	799.7	798.8	798.8	1.4	1.4	155.49	2.9	41.9	54.3	51.5	2.75	19.740	
900.0	899.4	897.9	897.8	1.6	1.6	154.95	6.5	44.2	63.5	60.4	3.11	20.434	
1,000.0	998.9	996.7	996.4	1.8	1.7	153.97	11.6	47.4	75.1	71.6	3.47	21.630	
1,082.1	1,080.4	1,078.0	1,077.5	2.0	1.9	153.39	16.2	50.3	86.1	82.3	3.78	22.793	
1,100.0	1,098.3	1,095.8	1,095.2	2.1	1.9	153.33	17.2	51.0	88.7	84.8	3.85	23.048	
1,200.0	1,197.6	1,194.8	1,194.0	2.3	2.1	153.05	22.9	54.6	102.7	98.5	4.23	24.302	
1,300.0	1,296.8	1,293.8	1,292.8	2.6	2.3	152.84	28.6	58.2	116.8	112.1	4.61	25.332	
1,400.0	1,396.1	1,392.8	1,391.5	2.8	2.5	152.67	34.2	61.8	130.8	125.8	4.99	26.191	
1,500.0	1,495.4	1,491.8	1,490.3	3.1	2.7	152.54	39.9	65.4	144.9	139.5	5.38	26.917	
1,600.0	1,594.7	1,590.8	1,589.1	3.4	2.9	152.43	45.5	69.0	158.9	153.2	5.77	27.539	
1,700.0	1,694.0	1,689.8	1,687.9	3.6	3.1	152.33	51.2	72.6	173.0	166.8	6.16	28.076	
1,800.0	1,793.3	1,788.8	1,786.7	3.9	3.3	152.25	56.8	76.2	187.0	180.5	6.55	28.545	
1,900.0	1,892.6	1,887.8	1,885.4	4.1	3.5	152.19	62.5	79.8	201.1	194.2	6.94	28.958	
2,000.0	1,991.9	1,986.8	1,984.2	4.4	3.7	152.13	68.2	83.4	215.2	207.8	7.34	29.323	
2,100.0	2,091.2	2,085.8	2,083.0	4.7	3.9	152.07	73.8	87.0	229.2	221.5	7.73	29.649	
2,200.0	2,190.5	2,184.8	2,181.8	4.9	4.2	152.03	79.5	90.6	243.3	235.2	8.13	29.941	
2,300.0	2,289.8	2,283.8	2,280.6	5.2	4.4	151.99	85.1	94.2	257.3	248.8	8.52	30.205	
2,400.0	2,389.1	2,382.8	2,379.3	5.5	4.6	151.95	90.8	97.8	271.4	262.5	8.91	30.444	
2,500.0	2,488.4	2,481.8	2,478.1	5.7	4.8	151.92	96.4	101.4	285.5	276.1	9.31	30.662	
2,600.0	2,587.6	2,580.9	2,576.9	6.0	5.0	151.89	102.1	105.0	299.5	289.8	9.71	30.861	
2,700.0	2,686.9	2,679.9	2,675.7	6.3	5.2	151.86	107.8	108.6	313.6	303.5	10.10	31.044	
2,800.0	2,786.2	2,778.9	2,774.5	6.6	5.4	151.84	113.4	112.2	327.6	317.1	10.50	31.212	
2,900.0	2,885.5	2,877.9	2,873.2	6.8	5.6	151.81	119.1	115.8	341.7	330.8	10.89	31.367	
3,000.0	2,984.8	2,976.9	2,972.0	7.1	5.8	151.79	124.7	119.4	355.8	344.5	11.29	31.511	
3,100.0	3,084.1	3,075.9	3,070.8	7.4	6.0	151.77	130.4	123.0	369.8	358.1	11.69	31.645	
3,200.0	3,183.4	3,174.9	3,169.6	7.6	6.2	151.76	136.0	126.6	383.9	371.8	12.08	31.769	
3,300.0	3,282.7	3,273.9	3,268.4	7.9	6.4	151.74	141.7	130.2	397.9	385.5	12.48	31.885	
3,400.0	3,382.0	3,372.9	3,367.1	8.2	6.6	151.72	147.4	133.8	412.0	399.1	12.88	31.994	
3,500.0	3,481.3	3,471.9	3,465.9	8.4	6.8	151.71	153.0	137.4	426.1	412.8	13.27	32.096	
3,600.0	3,580.6	3,570.9	3,564.7	8.7	7.1	151.69	158.7	141.0	440.1	426.4	13.67	32.192	
3,700.0	3,679.9	3,669.9	3,663.5	9.0	7.3	151.68	164.3	144.6	454.2	440.1	14.07	32.282	
3,800.0	3,779.2	3,768.9	3,762.2	9.3	7.5	151.67	170.0	148.2	468.2	453.8	14.47	32.367	
3,900.0	3,878.4	3,867.9	3,861.0	9.5	7.7	151.66	175.7	151.8	482.3	467.4	14.86	32.447	
4,000.0	3,977.7	3,966.9	3,959.8	9.8	7.9	151.65	181.3	155.4	496.4	481.1	15.26	32.523	
4,100.0	4,077.0	4,066.0	4,058.6	10.1	8.1	151.64	187.0	159.0	510.4	494.8	15.66	32.595	
4,200.0	4,176.3	4,165.0	4,157.4	10.3	8.3	151.63	192.6	162.6	524.5	508.4	16.06	32.663	
4,300.0	4,275.6	4,264.0	4,256.1	10.6	8.5	151.62	198.3	166.2	538.5	522.1	16.45	32.728	
4,400.0	4,374.9	4,363.0	4,354.9	10.9	8.7	151.61	203.9	169.8	552.6	535.7	16.85	32.790	
4,500.0	4,474.2	4,462.0	4,453.7	11.1	8.9	151.60	209.6	173.4	566.7	549.4	17.25	32.849	
4,600.0	4,573.5	4,561.0	4,552.5	11.4	9.1	151.59	215.3	177.0	580.7	563.1	17.65	32.905	
4,700.0	4,672.8	4,660.0	4,651.3	11.7	9.3	151.59	220.9	180.6	594.8	576.7	18.05	32.958	
4,800.0	4,772.1	4,759.0	4,750.0	12.0	9.5	151.58	226.6	184.2	608.8	590.4	18.44	33.009	
4,900.0	4,871.4	4,858.0	4,848.8	12.2	9.8	151.57	232.2	187.8	622.9	604.1	18.84	33.058	
5,000.0	4,970.7	4,957.0	4,947.6	12.5	10.0	151.57	237.9	191.4	637.0	617.7	19.24	33.105	

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 Morgan Hills 1E-7H-A168
Project:	DJ Wattenberg	**TVD Reference:**	HZ @ 5035.0ft
Reference Site:	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	**MD Reference:**	HZ @ 5035.0ft
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Morgan Hills 1E-7H-A168	**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 #2	**Offset TVD Reference:**	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - Morgan Hills 1I-7H-A168 - HZ - Plan #2

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	5,070.0	5,056.0	5,046.4	12.8	10.2	151.56	243.5	195.0	651.0	631.4	19.64	33.150	
5,200.0	5,169.2	5,155.0	5,145.2	13.0	10.4	151.55	249.2	198.6	665.1	645.0	20.04	33.193	
5,300.0	5,268.5	5,254.0	5,243.9	13.3	10.6	151.55	254.9	202.2	679.1	658.7	20.44	33.234	
5,400.0	5,367.8	5,353.0	5,342.7	13.6	10.8	151.54	260.5	205.8	693.2	672.4	20.83	33.273	
5,500.0	5,467.1	5,452.0	5,441.5	13.9	11.0	151.54	266.2	209.4	707.3	686.0	21.23	33.312	
5,600.0	5,566.4	5,551.1	5,540.3	14.1	11.2	151.53	271.8	213.0	721.3	699.7	21.63	33.348	
5,700.0	5,665.7	5,650.1	5,639.1	14.4	11.4	151.53	277.5	216.6	735.4	713.4	22.03	33.384	
5,800.0	5,765.0	5,749.1	5,737.8	14.7	11.6	151.52	283.1	220.2	749.4	727.0	22.43	33.418	
5,900.0	5,864.3	5,848.1	5,836.6	14.9	11.8	151.52	288.8	223.8	763.5	740.7	22.82	33.450	
6,000.0	5,963.6	5,947.1	5,935.4	15.2	12.0	151.52	294.5	227.4	777.6	754.3	23.22	33.482	
6,100.0	6,062.9	6,046.1	6,034.2	15.5	12.3	151.51	300.1	231.0	791.6	768.0	23.62	33.512	
6,200.0	6,162.2	6,145.1	6,132.9	15.8	12.5	151.51	305.8	234.6	805.7	781.7	24.02	33.542	
6,300.0	6,261.5	6,244.1	6,231.7	16.0	12.7	151.50	311.4	238.2	819.7	795.3	24.42	33.570	
6,400.0	6,360.8	6,343.1	6,330.5	16.3	12.9	151.50	317.1	241.8	833.8	809.0	24.82	33.598	
6,500.0	6,460.0	6,442.1	6,429.3	16.6	13.1	151.50	322.8	245.4	847.9	822.6	25.22	33.625	
6,600.0	6,559.3	6,541.1	6,528.1	16.8	13.3	151.49	328.4	249.0	861.9	836.3	25.61	33.651	
6,700.0	6,658.6	6,640.1	6,626.8	17.1	13.5	151.49	334.1	252.6	876.0	850.0	26.01	33.676	
6,800.0	6,757.9	6,739.1	6,725.6	17.4	13.7	151.49	339.7	256.2	890.0	863.6	26.41	33.700	
6,819.8	6,777.6	6,758.7	6,745.2	17.4	13.8	151.48	340.8	256.9	892.8	866.3	26.49	33.705	
6,850.0	6,807.6	6,788.6	6,775.0	17.5	13.8	172.28	342.6	258.0	897.1	870.5	26.58	33.748	
6,900.0	6,857.3	6,838.0	6,824.4	17.6	13.9	-151.76	343.6	259.8	904.1	877.4	26.68	33.881	
6,950.0	6,906.8	6,887.6	6,873.8	17.7	13.9	-129.23	341.1	261.6	911.1	884.4	26.74	34.075	
7,000.0	6,955.9	6,937.3	6,923.2	17.8	14.0	-117.21	335.3	263.4	918.1	891.3	26.75	34.324	
7,050.0	7,004.3	6,987.2	6,972.2	17.8	14.0	-110.20	326.0	265.2	925.0	898.2	26.72	34.620	
7,100.0	7,051.8	7,037.3	7,020.5	17.8	14.0	-105.66	313.2	267.0	931.7	905.0	26.65	34.956	
7,150.0	7,098.1	7,087.5	7,068.1	17.9	13.9	-102.47	297.1	268.7	938.3	911.7	26.56	35.321	
7,200.0	7,143.1	7,138.0	7,114.5	17.9	13.9	-100.10	277.6	270.4	944.7	918.2	26.46	35.703	
7,250.0	7,186.5	7,188.6	7,159.7	17.9	13.8	-98.25	254.7	272.1	950.9	924.5	26.35	36.088	
7,300.0	7,228.1	7,239.4	7,203.2	17.9	13.8	-96.77	228.6	273.6	956.8	930.6	26.24	36.459	
7,350.0	7,267.8	7,290.5	7,245.0	17.9	13.7	-95.55	199.4	275.2	962.5	936.3	26.15	36.798	
7,400.0	7,305.2	7,341.7	7,284.8	17.9	13.7	-94.53	167.2	276.6	967.8	941.7	26.10	37.085	
7,450.0	7,340.2	7,393.1	7,322.2	17.9	13.7	-93.66	132.0	278.0	972.8	946.7	26.08	37.299	
7,500.0	7,372.7	7,444.7	7,357.2	18.0	13.7	-92.93	94.1	279.3	977.5	951.3	26.12	37.420	
7,550.0	7,402.5	7,496.4	7,389.5	18.1	13.7	-92.30	53.7	280.4	981.7	955.5	26.23	37.430	
7,600.0	7,429.4	7,548.4	7,418.8	18.2	13.8	-91.77	10.8	281.5	985.6	959.2	26.41	37.313	
7,650.0	7,453.4	7,600.5	7,445.1	18.3	13.9	-91.31	-34.1	282.5	989.0	962.3	26.69	37.060	
7,700.0	7,474.3	7,652.7	7,468.0	18.4	14.1	-90.94	-81.0	283.3	992.0	965.0	27.06	36.665	
7,750.0	7,491.9	7,705.1	7,487.6	18.6	14.3	-90.63	-129.6	284.0	994.6	967.0	27.52	36.135	
7,800.0	7,506.3	7,757.5	7,503.5	18.9	14.6	-90.38	-179.6	284.6	996.6	968.5	28.09	35.480	
7,850.0	7,517.3	7,810.1	7,515.8	19.1	14.9	-90.20	-230.6	285.0	998.2	969.5	28.75	34.717	
7,900.0	7,525.0	7,862.7	7,524.3	19.4	15.3	-90.08	-282.6	285.3	999.3	969.8	29.51	33.866	
7,950.0	7,529.1	7,915.3	7,529.0	19.7	15.7	-90.01	-335.0	285.5	999.9	969.6	30.35	32.947	
7,985.2	7,530.0	7,952.4	7,530.0	20.0	16.1	-90.00	-372.1	285.6	1,000.0	969.1	30.98	32.278	
8,000.0	7,530.0	7,967.3	7,530.0	20.1	16.2	-90.00	-386.9	285.6	1,000.0	968.8	31.26	31.986	
8,100.0	7,530.0	8,067.3	7,530.0	20.9	17.2	-90.00	-486.9	285.6	1,000.0	966.7	33.31	30.019	
8,200.0	7,530.0	8,167.3	7,530.0	21.8	18.3	-90.00	-586.9	285.6	1,000.0	964.5	35.58	28.107	
8,300.0	7,530.0	8,267.3	7,530.0	22.8	19.5	-90.00	-686.9	285.6	1,000.0	962.0	38.03	26.293	
8,400.0	7,530.0	8,367.3	7,530.0	23.9	20.8	-90.00	-786.9	285.6	1,000.0	959.4	40.64	24.604	
8,500.0	7,530.0	8,467.3	7,530.0	25.1	22.1	-90.00	-886.9	285.6	1,000.0	956.7	43.38	23.052	
8,600.0	7,530.0	8,567.3	7,530.0	26.3	23.5	-90.00	-986.9	285.6	1,000.0	953.8	46.22	21.635	
8,700.0	7,530.0	8,667.3	7,530.0	27.6	24.9	-90.00	-1,086.9	285.6	1,000.0	950.9	49.15	20.346	
8,800.0	7,530.0	8,767.3	7,530.0	29.0	26.4	-90.00	-1,186.9	285.6	1,000.0	947.9	52.15	19.176	

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 Morgan Hills 1E-7H-A168
Project:	DJ Wattenberg	**TVD Reference:**	HZ @ 5035.0ft
Reference Site:	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	**MD Reference:**	HZ @ 5035.0ft
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Morgan Hills 1E-7H-A168	**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 #2	**Offset TVD Reference:**	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - Morgan Hills 1I-7H-A168 - HZ - Plan #2

Offset Site Error: 0.0 ft

Survey Program: 0-Geolink MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
8,900.0	7,530.0	8,867.3	7,530.0	30.3	27.9	-90.00	-1,286.9	285.6	1,000.0	944.8	55.21	18.113	
9,000.0	7,530.0	8,967.3	7,530.0	31.8	29.5	-90.00	-1,386.9	285.6	1,000.0	941.7	58.32	17.147	
9,100.0	7,530.0	9,067.3	7,530.0	33.2	31.0	-90.00	-1,486.9	285.6	1,000.0	938.6	61.47	16.268	
9,200.0	7,530.0	9,167.3	7,530.0	34.7	32.6	-90.00	-1,586.9	285.6	1,000.0	935.4	64.66	15.465	
9,300.0	7,530.0	9,267.3	7,530.0	36.2	34.2	-90.00	-1,686.9	285.6	1,000.0	932.2	67.88	14.731	
9,400.0	7,530.0	9,367.3	7,530.0	37.7	35.8	-90.00	-1,786.9	285.6	1,000.0	928.9	71.13	14.059	
9,500.0	7,530.0	9,467.3	7,530.0	39.3	37.4	-90.00	-1,886.9	285.6	1,000.0	925.6	74.40	13.441	
9,600.0	7,530.0	9,567.3	7,530.0	40.8	39.1	-90.00	-1,986.9	285.6	1,000.0	922.3	77.70	12.871	
9,700.0	7,530.0	9,667.3	7,530.0	42.4	40.7	-90.00	-2,086.9	285.6	1,000.0	919.0	81.01	12.345	
9,800.0	7,530.0	9,767.3	7,530.0	44.0	42.4	-90.00	-2,186.9	285.6	1,000.0	915.7	84.33	11.858	
9,900.0	7,530.0	9,867.3	7,530.0	45.6	44.0	-90.00	-2,286.9	285.6	1,000.0	912.4	87.67	11.406	
10,000.0	7,530.0	9,967.3	7,530.0	47.2	45.7	-90.00	-2,386.9	285.6	1,000.0	909.0	91.03	10.986	
10,100.0	7,530.0	10,067.3	7,530.0	48.8	47.4	-90.00	-2,486.9	285.6	1,000.0	905.6	94.39	10.594	
10,200.0	7,530.0	10,167.3	7,530.0	50.5	49.1	-90.00	-2,586.9	285.6	1,000.0	902.3	97.77	10.229	
10,300.0	7,530.0	10,267.3	7,530.0	52.1	50.8	-90.00	-2,686.9	285.6	1,000.0	898.9	101.15	9.887	
10,400.0	7,530.0	10,367.3	7,530.0	53.8	52.4	-90.00	-2,786.9	285.6	1,000.0	895.5	104.54	9.566	
10,500.0	7,530.0	10,467.3	7,530.0	55.4	54.1	-90.00	-2,886.9	285.6	1,000.0	892.1	107.94	9.265	
10,600.0	7,530.0	10,567.3	7,530.0	57.1	55.8	-90.00	-2,986.9	285.6	1,000.0	888.7	111.35	8.981	
10,700.0	7,530.0	10,667.3	7,530.0	58.7	57.5	-90.00	-3,086.9	285.6	1,000.0	885.3	114.76	8.714	
10,800.0	7,530.0	10,767.3	7,530.0	60.4	59.2	-90.00	-3,186.9	285.6	1,000.0	881.9	118.18	8.462	
10,900.0	7,530.0	10,867.3	7,530.0	62.1	60.9	-90.00	-3,286.9	285.6	1,000.0	878.4	121.60	8.224	
11,000.0	7,530.0	10,967.3	7,530.0	63.8	62.7	-90.00	-3,386.9	285.6	1,000.0	875.0	125.03	7.998	
11,100.0	7,530.0	11,067.3	7,530.0	65.5	64.4	-90.00	-3,486.9	285.6	1,000.0	871.6	128.46	7.785	
11,200.0	7,530.0	11,167.3	7,530.0	67.1	66.1	-90.00	-3,586.9	285.6	1,000.0	868.1	131.90	7.582	
11,300.0	7,530.0	11,267.3	7,530.0	68.8	67.8	-90.00	-3,686.9	285.6	1,000.0	864.7	135.34	7.389	
11,400.0	7,530.0	11,367.3	7,530.0	70.5	69.5	-90.00	-3,786.9	285.6	1,000.0	861.3	138.78	7.206	
11,500.0	7,530.0	11,467.3	7,530.0	72.2	71.2	-90.00	-3,886.9	285.6	1,000.0	857.8	142.23	7.031	
11,600.0	7,530.0	11,567.3	7,530.0	73.9	73.0	-90.00	-3,986.9	285.6	1,000.0	854.4	145.68	6.865	
11,700.0	7,530.0	11,667.3	7,530.0	75.6	74.7	-90.00	-4,086.9	285.6	1,000.0	850.9	149.13	6.706	
11,800.0	7,530.0	11,767.3	7,530.0	77.3	76.4	-90.00	-4,186.9	285.6	1,000.0	847.5	152.58	6.554	
11,900.0	7,530.0	11,867.3	7,530.0	79.0	78.1	-90.00	-4,286.9	285.6	1,000.0	844.0	156.04	6.409	
12,000.0	7,530.0	11,967.3	7,530.0	80.7	79.9	-90.00	-4,386.9	285.6	1,000.0	840.5	159.50	6.270	
12,100.0	7,530.0	12,067.3	7,530.0	82.4	81.6	-90.00	-4,486.9	285.6	1,000.0	837.1	162.96	6.137	
12,200.0	7,530.0	12,167.3	7,530.0	84.2	83.3	-90.00	-4,586.9	285.6	1,000.0	833.6	166.42	6.009	
12,300.0	7,530.0	12,267.3	7,530.0	85.9	85.0	-90.00	-4,686.9	285.6	1,000.0	830.2	169.89	5.886	
12,400.0	7,530.0	12,367.3	7,530.0	87.6	86.8	-90.00	-4,786.9	285.6	1,000.0	826.7	173.36	5.769	
12,500.0	7,530.0	12,467.3	7,530.0	89.3	88.5	-90.00	-4,886.9	285.6	1,000.0	823.2	176.82	5.656	
12,600.0	7,530.0	12,567.3	7,530.0	91.0	90.2	-90.00	-4,986.9	285.6	1,000.0	819.7	180.29	5.547	
12,700.0	7,530.0	12,667.3	7,530.0	92.7	92.0	-90.00	-5,086.9	285.6	1,000.0	816.3	183.77	5.442	
12,800.0	7,530.0	12,767.3	7,530.0	94.5	93.7	-90.00	-5,186.9	285.6	1,000.0	812.8	187.24	5.341	
12,900.0	7,530.0	12,867.3	7,530.0	96.2	95.4	-90.00	-5,286.9	285.6	1,000.0	809.3	190.71	5.244	
13,000.0	7,530.0	12,967.3	7,530.0	97.9	97.2	-90.00	-5,386.9	285.6	1,000.0	805.9	194.19	5.150	
13,100.0	7,530.0	13,067.3	7,530.0	99.6	98.9	-90.00	-5,486.9	285.6	1,000.0	802.4	197.66	5.059	
13,200.0	7,530.0	13,167.3	7,530.0	101.4	100.7	-90.00	-5,586.9	285.6	1,000.0	798.9	201.14	4.972	
13,300.0	7,530.0	13,267.3	7,530.0	103.1	102.4	-90.00	-5,686.9	285.6	1,000.0	795.4	204.62	4.887	
13,400.0	7,530.0	13,367.3	7,530.0	104.8	104.1	-90.00	-5,786.9	285.6	1,000.0	791.9	208.10	4.806	
13,500.0	7,530.0	13,467.3	7,530.0	106.5	105.9	-90.00	-5,886.9	285.6	1,000.0	788.5	211.58	4.727	
13,600.0	7,530.0	13,567.3	7,530.0	108.3	107.6	-90.00	-5,986.9	285.6	1,000.0	785.0	215.06	4.650	
13,700.0	7,530.0	13,667.3	7,530.0	110.0	109.4	-90.00	-6,086.9	285.6	1,000.0	781.5	218.54	4.576	
13,800.0	7,530.0	13,767.3	7,530.0	111.7	111.1	-90.00	-6,186.9	285.6	1,000.0	778.0	222.03	4.504	
13,900.0	7,530.0	13,867.3	7,530.0	113.5	112.8	-90.00	-6,286.9	285.6	1,000.0	774.5	225.51	4.435	
14,000.0	7,530.0	13,967.3	7,530.0	115.2	114.6	-90.00	-6,386.9	285.6	1,000.0	771.0	229.00	4.367	

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Morgan Hills 1E-7H-A168
Project:	DJ Wattenberg	**TVD Reference:**	HZ @ 5035.0ft
Reference Site:	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	**MD Reference:**	HZ @ 5035.0ft
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Morgan Hills 1E-7H-A168	**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 #2	**Offset TVD Reference:**	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - Morgan Hills 1I-7H-A168 - HZ - Plan #2

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
14,100.0	7,530.0	14,067.3	7,530.0	116.9	116.3	-90.00	-6,486.9	285.6	1,000.0	767.6	232.48	4.302	
14,200.0	7,530.0	14,167.3	7,530.0	118.7	118.1	-90.00	-6,586.9	285.6	1,000.0	764.1	235.97	4.238	
14,300.0	7,530.0	14,267.3	7,530.0	120.4	119.8	-90.00	-6,686.9	285.6	1,000.0	760.6	239.45	4.176	
14,400.0	7,530.0	14,367.3	7,530.0	122.1	121.5	-90.00	-6,786.9	285.6	1,000.0	757.1	242.94	4.116	
14,500.0	7,530.0	14,467.3	7,530.0	123.9	123.3	-90.00	-6,886.9	285.6	1,000.0	753.6	246.43	4.058	
14,600.0	7,530.0	14,567.3	7,530.0	125.6	125.0	-90.00	-6,986.9	285.6	1,000.0	750.1	249.92	4.002	
14,700.0	7,530.0	14,667.3	7,530.0	127.3	126.8	-90.00	-7,086.9	285.6	1,000.0	746.6	253.41	3.946	
14,800.0	7,530.0	14,767.3	7,530.0	129.1	128.5	-90.00	-7,186.9	285.6	1,000.0	743.2	256.90	3.893	
14,900.0	7,530.0	14,867.3	7,530.0	130.8	130.3	-90.00	-7,286.9	285.6	1,000.0	739.7	260.39	3.841	
15,000.0	7,530.0	14,967.3	7,530.0	132.5	132.0	-90.00	-7,386.9	285.6	1,000.0	736.2	263.88	3.790	
15,100.0	7,530.0	15,067.3	7,530.0	134.3	133.7	-90.00	-7,486.9	285.6	1,000.0	732.7	267.37	3.740	
15,200.0	7,530.0	15,167.3	7,530.0	136.0	135.5	-90.00	-7,586.9	285.6	1,000.0	729.2	270.86	3.692	
15,300.0	7,530.0	15,267.3	7,530.0	137.8	137.2	-90.00	-7,686.9	285.6	1,000.0	725.7	274.35	3.645	
15,400.0	7,530.0	15,367.3	7,530.0	139.5	139.0	-90.00	-7,786.9	285.6	1,000.0	722.2	277.84	3.599	
15,500.0	7,530.0	15,467.3	7,530.0	141.2	140.7	-90.00	-7,886.9	285.6	1,000.0	718.7	281.34	3.555	
15,600.0	7,530.0	15,567.3	7,530.0	143.0	142.5	-90.00	-7,986.9	285.6	1,000.0	715.2	284.83	3.511	
15,700.0	7,530.0	15,667.3	7,530.0	144.7	144.2	-90.00	-8,086.9	285.6	1,000.0	711.7	288.32	3.469	
15,800.0	7,530.0	15,767.3	7,530.0	146.5	146.0	-90.00	-8,186.9	285.6	1,000.0	708.2	291.82	3.427	
15,900.0	7,530.0	15,867.3	7,530.0	148.2	147.7	-90.00	-8,286.9	285.6	1,000.0	704.7	295.31	3.386	
16,000.0	7,530.0	15,967.3	7,530.0	149.9	149.5	-90.00	-8,386.9	285.6	1,000.0	701.2	298.80	3.347	
16,100.0	7,530.0	16,067.3	7,530.0	151.7	151.2	-90.00	-8,486.9	285.6	1,000.0	697.7	302.30	3.308	
16,200.0	7,530.0	16,167.3	7,530.0	153.4	153.0	-90.00	-8,586.9	285.6	1,000.0	694.3	305.79	3.270	
16,300.0	7,530.0	16,267.3	7,530.0	155.2	154.7	-90.00	-8,686.9	285.6	1,000.0	690.8	309.29	3.233	
16,400.0	7,530.0	16,367.3	7,530.0	156.9	156.4	-90.00	-8,786.9	285.6	1,000.0	687.3	312.78	3.197	
16,500.0	7,530.0	16,467.3	7,530.0	158.6	158.2	-90.00	-8,886.9	285.6	1,000.0	683.8	316.28	3.162	
16,600.0	7,530.0	16,567.3	7,530.0	160.4	159.9	-90.00	-8,986.9	285.6	1,000.0	680.3	319.78	3.127	
16,700.0	7,530.0	16,667.3	7,530.0	162.1	161.7	-90.00	-9,086.9	285.6	1,000.0	676.8	323.27	3.094	
16,800.0	7,530.0	16,767.3	7,530.0	163.9	163.4	-90.00	-9,186.9	285.6	1,000.0	673.3	326.77	3.060	
16,900.0	7,530.0	16,867.3	7,530.0	165.6	165.2	-90.00	-9,286.9	285.6	1,000.0	669.8	330.27	3.028	
17,000.0	7,530.0	16,967.3	7,530.0	167.4	166.9	-90.00	-9,386.9	285.6	1,000.0	666.3	333.76	2.996	
17,100.0	7,530.0	17,067.3	7,530.0	169.1	168.7	-90.00	-9,486.9	285.6	1,000.0	662.8	337.26	2.965	
17,200.0	7,530.0	17,167.3	7,530.0	170.8	170.4	-90.00	-9,586.9	285.6	1,000.0	659.3	340.76	2.935	
17,300.0	7,530.0	17,267.3	7,530.0	172.6	172.2	-90.00	-9,686.9	285.6	1,000.1	655.8	344.26	2.905	
17,400.0	7,530.0	17,367.3	7,530.0	174.3	173.9	-90.00	-9,786.9	285.6	1,000.1	652.3	347.75	2.876	
17,440.2	7,530.0	17,407.5	7,530.0	175.0	174.6	-90.00	-9,827.1	285.6	1,000.1	650.9	349.16	2.864	SF

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Morgan Hills 1E-7H-A168
Project:	DJ Wattenberg	**TVD Reference:**	HZ @ 5035.0ft
Reference Site:	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	**MD Reference:**	HZ @ 5035.0ft
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Morgan Hills 1E-7H-A168	**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 #2	**Offset TVD Reference:**	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - THOMAS 33-7 (EXISTING) - ENCANA WELL - SU

Offset Site Error: 0.0 ft

Survey Program: 59-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
9,400.0	7,530.0	7,780.0	7,508.7	37.7	34.7	89.80	-3,009.7	-1,643.3	1,535.6	1,475.1	60.52	25.375	
9,500.0	7,530.0	7,780.2	7,508.9	39.3	34.7	89.81	-3,009.7	-1,643.3	1,457.2	1,395.1	62.15	23.446	
9,600.0	7,530.0	7,780.4	7,509.1	40.8	34.7	89.82	-3,009.7	-1,643.3	1,381.6	1,317.8	63.80	21.656	
9,700.0	7,530.0	7,780.6	7,509.3	42.4	34.7	89.83	-3,009.7	-1,643.3	1,309.3	1,243.9	65.46	20.003	
9,800.0	7,530.0	7,780.8	7,509.5	44.0	34.7	89.85	-3,009.7	-1,643.3	1,240.9	1,173.8	67.12	18.488	
9,900.0	7,530.0	7,781.0	7,509.7	45.6	34.7	89.86	-3,009.7	-1,643.3	1,176.9	1,108.2	68.79	17.109	
10,000.0	7,530.0	7,781.2	7,509.9	47.2	34.7	89.87	-3,009.7	-1,643.3	1,118.3	1,047.8	70.47	15.870	
10,100.0	7,530.0	7,781.4	7,510.1	48.8	34.7	89.88	-3,009.7	-1,643.3	1,065.9	993.7	72.15	14.773	
10,200.0	7,530.0	7,781.6	7,510.3	50.5	34.7	89.89	-3,009.8	-1,643.3	1,020.5	946.7	73.84	13.822	
10,300.0	7,530.0	7,781.8	7,510.5	52.1	34.7	89.91	-3,009.8	-1,643.3	983.3	907.8	75.53	13.019	
10,400.0	7,530.0	7,782.0	7,510.7	53.8	34.7	89.92	-3,009.8	-1,643.3	955.2	877.9	77.22	12.369	
10,500.0	7,530.0	7,782.2	7,510.9	55.4	34.7	89.93	-3,009.8	-1,643.3	936.9	858.0	78.92	11.871	
10,600.0	7,530.0	7,782.4	7,511.1	57.1	34.7	89.94	-3,009.8	-1,643.3	929.1	848.4	80.63	11.523	
10,622.9	7,530.0	7,782.4	7,511.1	57.5	34.7	89.94	-3,009.8	-1,643.3	928.8	847.8	81.02	11.464	CC, ES
10,700.0	7,530.0	7,782.6	7,511.3	58.7	34.7	89.95	-3,009.8	-1,643.3	932.0	849.7	82.33	11.320	
10,800.0	7,530.0	7,782.8	7,511.4	60.4	34.7	89.97	-3,009.8	-1,643.3	945.5	861.5	84.04	11.251	SF
10,900.0	7,530.0	7,782.9	7,511.6	62.1	34.7	89.98	-3,009.8	-1,643.3	969.3	883.5	85.75	11.303	
11,000.0	7,530.0	7,783.1	7,511.8	63.8	34.7	89.99	-3,009.8	-1,643.3	1,002.4	915.0	87.47	11.461	
11,100.0	7,530.0	7,783.3	7,512.0	65.5	34.7	90.00	-3,009.8	-1,643.3	1,044.2	955.0	89.18	11.708	
11,200.0	7,530.0	7,783.5	7,512.2	67.1	34.7	90.01	-3,009.8	-1,643.3	1,093.5	1,002.6	90.90	12.029	
11,300.0	7,530.0	7,783.7	7,512.4	68.8	34.7	90.02	-3,009.8	-1,643.3	1,149.4	1,056.8	92.62	12.410	
11,400.0	7,530.0	7,783.9	7,512.6	70.5	34.7	90.03	-3,009.8	-1,643.3	1,211.0	1,116.7	94.34	12.836	
11,500.0	7,530.0	7,784.0	7,512.7	72.2	34.7	90.04	-3,009.8	-1,643.3	1,277.5	1,181.4	96.07	13.298	
11,600.0	7,530.0	7,784.2	7,512.9	73.9	34.7	90.06	-3,009.8	-1,643.3	1,348.1	1,250.3	97.79	13.785	
11,700.0	7,530.0	7,784.4	7,513.1	75.6	34.7	90.07	-3,009.8	-1,643.3	1,422.3	1,322.8	99.52	14.291	
11,800.0	7,530.0	7,784.6	7,513.3	77.3	34.7	90.08	-3,009.8	-1,643.3	1,499.4	1,398.2	101.25	14.810	

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Morgan Hills 1E-7H-A168
Project:	DJ Wattenberg	**TVD Reference:**	HZ @ 5035.0ft
Reference Site:	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	**MD Reference:**	HZ @ 5035.0ft
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Morgan Hills 1E-7H-A168	**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 #2	**Offset TVD Reference:**	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - WOOLLEY 41-7 (EXISTING) - ENCANA WELL - N

Offset Site Error: 0.0 ft

Survey Program: 8370-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	-132.55	-188.3	-205.1	278.5				
100.0	100.0	97.0	97.0	0.2	0.2	-132.55	-188.3	-205.1	278.5	278.2	0.32	866.619	
200.0	200.0	197.0	197.0	0.3	0.3	-132.55	-188.3	-205.1	278.5	277.8	0.67	415.389	
300.0	300.0	297.0	297.0	0.5	0.5	-132.55	-188.3	-205.1	278.5	277.5	1.02	273.161	
400.0	400.0	397.0	397.0	0.7	0.7	-132.55	-188.3	-205.1	278.5	277.1	1.37	203.487	
500.0	500.0	497.0	497.0	0.9	0.9	-71.09	-188.3	-205.1	278.2	276.5	1.72	161.924	
600.0	600.0	597.0	597.0	1.0	1.0	-71.61	-188.3	-205.1	277.4	275.3	2.07	133.977	
700.0	699.9	696.9	696.9	1.2	1.2	-72.48	-188.3	-205.1	276.0	273.6	2.43	113.682	
800.0	799.7	796.7	796.7	1.4	1.4	-73.71	-188.3	-205.1	274.2	271.4	2.79	98.124	
900.0	899.4	896.4	896.4	1.6	1.6	-75.31	-188.3	-205.1	272.1	269.0	3.17	85.729	
1,000.0	998.9	995.9	995.9	1.8	1.7	-77.30	-188.3	-205.1	269.9	266.3	3.57	75.581	
1,082.1	1,080.4	1,077.4	1,077.4	2.0	1.9	-79.21	-188.3	-205.1	268.0	264.1	3.91	68.550	
1,100.0	1,098.3	1,095.3	1,095.3	2.1	1.9	-79.66	-188.3	-205.1	267.6	263.6	3.98	67.162	
1,200.0	1,197.6	1,194.6	1,194.6	2.3	2.1	-82.16	-188.3	-205.1	265.7	261.3	4.41	60.300	
1,300.0	1,296.8	1,293.8	1,293.8	2.6	2.3	-84.70	-188.3	-205.1	264.3	259.5	4.83	54.683	
1,400.0	1,396.1	1,393.1	1,393.1	2.8	2.4	-87.25	-188.3	-205.1	263.5	258.2	5.26	50.046	
1,500.0	1,495.4	1,492.4	1,492.4	3.1	2.6	-89.81	-188.3	-205.1	263.2	257.5	5.70	46.190	
1,507.2	1,502.6	1,499.6	1,499.6	3.1	2.6	-90.00	-188.3	-205.1	263.2	257.4	5.73	45.937	CC
1,600.0	1,594.7	1,591.7	1,591.7	3.4	2.8	-92.38	-188.3	-205.1	263.4	257.3	6.13	42.964	ES
1,700.0	1,694.0	1,691.0	1,691.0	3.6	3.0	-94.94	-188.3	-205.1	264.2	257.6	6.56	40.252	
1,800.0	1,793.3	1,790.3	1,790.3	3.9	3.1	-97.47	-188.3	-205.1	265.5	258.5	6.99	37.964	
1,900.0	1,892.6	1,889.6	1,889.6	4.1	3.3	-99.98	-188.3	-205.1	267.3	259.9	7.42	36.026	
2,000.0	1,991.9	1,988.9	1,988.9	4.4	3.5	-102.45	-188.3	-205.1	269.6	261.8	7.84	34.382	
2,100.0	2,091.2	2,088.2	2,088.2	4.7	3.6	-104.87	-188.3	-205.1	272.4	264.2	8.26	32.986	
2,200.0	2,190.5	2,187.5	2,187.5	4.9	3.8	-107.24	-188.3	-205.1	275.7	267.1	8.67	31.799	
2,300.0	2,289.8	2,286.8	2,286.8	5.2	4.0	-109.56	-188.3	-205.1	279.5	270.4	9.08	30.790	
2,400.0	2,389.1	2,386.1	2,386.1	5.5	4.2	-111.80	-188.3	-205.1	283.7	274.3	9.48	29.933	
2,500.0	2,488.4	2,485.4	2,485.4	5.7	4.3	-113.98	-188.3	-205.1	288.4	278.5	9.87	29.206	
2,600.0	2,587.6	2,584.6	2,584.6	6.0	4.5	-116.09	-188.3	-205.1	293.4	283.2	10.26	28.591	
2,700.0	2,686.9	2,683.9	2,683.9	6.3	4.7	-118.12	-188.3	-205.1	298.9	288.2	10.65	28.072	
2,800.0	2,786.2	2,783.2	2,783.2	6.6	4.9	-120.08	-188.3	-205.1	304.7	293.7	11.03	27.635	
2,900.0	2,885.5	2,882.5	2,882.5	6.8	5.0	-121.97	-188.3	-205.1	310.8	299.4	11.40	27.271	
3,000.0	2,984.8	2,981.8	2,981.8	7.1	5.2	-123.78	-188.3	-205.1	317.3	305.6	11.77	26.968	
3,100.0	3,084.1	3,081.1	3,081.1	7.4	5.4	-125.51	-188.3	-205.1	324.1	312.0	12.13	26.718	
3,200.0	3,183.4	3,180.4	3,180.4	7.6	5.6	-127.18	-188.3	-205.1	331.2	318.7	12.49	26.514	
3,300.0	3,282.7	3,279.7	3,279.7	7.9	5.7	-128.77	-188.3	-205.1	338.5	325.7	12.85	26.351	
3,400.0	3,382.0	3,379.0	3,379.0	8.2	5.9	-130.30	-188.3	-205.1	346.1	332.9	13.20	26.222	
3,500.0	3,481.3	3,478.3	3,478.3	8.4	6.1	-131.76	-188.3	-205.1	353.9	340.4	13.55	26.123	
3,600.0	3,580.6	3,577.6	3,577.6	8.7	6.2	-133.16	-188.3	-205.1	362.0	348.1	13.90	26.050	
3,700.0	3,679.9	3,676.9	3,676.9	9.0	6.4	-134.49	-188.3	-205.1	370.2	356.0	14.24	25.999	
3,800.0	3,779.2	3,776.2	3,776.2	9.3	6.6	-135.77	-188.3	-205.1	378.7	364.1	14.58	25.968	
3,900.0	3,878.4	3,875.4	3,875.4	9.5	6.8	-136.99	-188.3	-205.1	387.3	372.4	14.92	25.953	
4,000.0	3,977.7	3,974.7	3,974.7	9.8	6.9	-138.16	-188.3	-205.1	396.1	380.8	15.26	25.953	
4,100.0	4,077.0	4,074.0	4,074.0	10.1	7.1	-139.28	-188.3	-205.1	405.1	389.5	15.60	25.965	
4,200.0	4,176.3	4,173.3	4,173.3	10.3	7.3	-140.35	-188.3	-205.1	414.2	398.2	15.94	25.988	
4,300.0	4,275.6	4,272.6	4,272.6	10.6	7.5	-141.37	-188.3	-205.1	423.4	407.1	16.27	26.020	
4,400.0	4,374.9	4,371.9	4,371.9	10.9	7.6	-142.35	-188.3	-205.1	432.8	416.2	16.61	26.060	
4,500.0	4,474.2	4,471.2	4,471.2	11.1	7.8	-143.29	-188.3	-205.1	442.3	425.3	16.94	26.106	
4,600.0	4,573.5	4,570.5	4,570.5	11.4	8.0	-144.18	-188.3	-205.1	451.9	434.6	17.27	26.158	
4,700.0	4,672.8	4,669.8	4,669.8	11.7	8.2	-145.05	-188.3	-205.1	461.6	443.9	17.61	26.215	
4,800.0	4,772.1	4,769.1	4,769.1	12.0	8.3	-145.87	-188.3	-205.1	471.4	453.4	17.94	26.275	
4,900.0	4,871.4	4,868.4	4,868.4	12.2	8.5	-146.66	-188.3	-205.1	481.3	463.0	18.27	26.339	

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 Morgan Hills 1E-7H-A168
Project:	DJ Wattenberg	**TVD Reference:**	HZ @ 5035.0ft
Reference Site:	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	**MD Reference:**	HZ @ 5035.0ft
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Morgan Hills 1E-7H-A168	**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 #2	**Offset TVD Reference:**	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - WOOLLEY 41-7 (EXISTING) - ENCANA WELL - N

Offset Site Error: 0.0 ft

Survey Program: 8370-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	4,970.7	4,967.7	4,967.7	12.5	8.7	-147.42	-188.3	-205.1	491.2	472.6	18.60	26.406	
5,100.0	5,070.0	5,067.0	5,067.0	12.8	8.8	-148.15	-188.3	-205.1	501.3	482.4	18.94	26.475	
5,200.0	5,169.2	5,166.2	5,166.2	13.0	9.0	-148.85	-188.3	-205.1	511.5	492.2	19.27	26.546	
5,300.0	5,268.5	5,265.5	5,265.5	13.3	9.2	-149.53	-188.3	-205.1	521.7	502.1	19.60	26.618	
5,400.0	5,367.8	5,364.8	5,364.8	13.6	9.4	-150.17	-188.3	-205.1	532.0	512.0	19.93	26.691	
5,500.0	5,467.1	5,464.1	5,464.1	13.9	9.5	-150.80	-188.3	-205.1	542.3	522.1	20.26	26.765	
5,600.0	5,566.4	5,563.4	5,563.4	14.1	9.7	-151.40	-188.3	-205.1	552.7	532.1	20.59	26.839	
5,700.0	5,665.7	5,662.7	5,662.7	14.4	9.9	-151.97	-188.3	-205.1	563.2	542.3	20.93	26.914	
5,800.0	5,765.0	5,762.0	5,762.0	14.7	10.1	-152.53	-188.3	-205.1	573.7	552.5	21.26	26.988	
5,900.0	5,864.3	5,861.3	5,861.3	14.9	10.2	-153.07	-188.3	-205.1	584.3	562.7	21.59	27.063	
6,000.0	5,963.6	5,960.6	5,960.6	15.2	10.4	-153.58	-188.3	-205.1	594.9	573.0	21.92	27.137	
6,100.0	6,062.9	6,059.9	6,059.9	15.5	10.6	-154.08	-188.3	-205.1	605.6	583.4	22.26	27.211	
6,200.0	6,162.2	6,159.2	6,159.2	15.8	10.7	-154.56	-188.3	-205.1	616.3	593.7	22.59	27.284	
6,300.0	6,261.5	6,258.5	6,258.5	16.0	10.9	-155.03	-188.3	-205.1	627.1	604.2	22.92	27.357	
6,400.0	6,360.8	6,357.8	6,357.8	16.3	11.1	-155.48	-188.3	-205.1	637.9	614.6	23.26	27.429	
6,500.0	6,460.0	6,457.0	6,457.0	16.6	11.3	-155.91	-188.3	-205.1	648.7	625.1	23.59	27.501	
6,600.0	6,559.3	6,556.3	6,556.3	16.8	11.4	-156.34	-188.3	-205.1	659.6	635.7	23.92	27.572	
6,700.0	6,658.6	6,655.6	6,655.6	17.1	11.6	-156.74	-188.3	-205.1	670.5	646.2	24.26	27.642	
6,800.0	6,757.9	6,754.9	6,754.9	17.4	11.8	-157.14	-188.3	-205.1	681.4	656.8	24.59	27.711	
6,819.8	6,777.6	6,774.6	6,774.6	17.4	11.8	-157.21	-188.3	-205.1	683.6	658.9	24.66	27.724	
6,850.0	6,807.6	6,804.6	6,804.6	17.5	11.9	-136.73	-188.3	-205.1	686.4	661.6	24.79	27.687	
6,900.0	6,857.3	6,854.3	6,854.3	17.6	12.0	-101.46	-188.3	-205.1	688.9	664.0	24.96	27.599	
6,950.0	6,906.8	6,903.8	6,903.8	17.7	12.0	-79.95	-188.3	-205.1	688.8	663.7	25.06	27.482	
7,000.0	6,955.9	6,952.9	6,952.9	17.8	12.1	-69.24	-188.3	-205.1	686.1	661.0	25.10	27.331	
7,050.0	7,004.3	7,001.3	7,001.3	17.8	12.2	-63.85	-188.3	-205.1	680.9	655.8	25.09	27.137	
7,100.0	7,051.8	7,048.8	7,048.8	17.8	12.3	-61.26	-188.3	-205.1	673.4	648.3	25.04	26.890	
7,150.0	7,098.1	7,095.1	7,095.1	17.9	12.4	-60.34	-188.3	-205.1	663.7	638.7	24.97	26.575	
7,200.0	7,143.1	7,140.1	7,140.1	17.9	12.5	-60.57	-188.3	-205.1	652.0	627.1	24.91	26.177	
7,250.0	7,186.5	7,183.5	7,183.5	17.9	12.5	-61.65	-188.3	-205.1	638.7	613.8	24.87	25.683	
7,300.0	7,228.1	7,225.1	7,225.1	17.9	12.6	-63.42	-188.3	-205.1	624.0	599.1	24.88	25.084	
7,350.0	7,267.8	7,264.8	7,264.8	17.9	12.7	-65.74	-188.3	-205.1	608.3	583.3	24.95	24.385	
7,400.0	7,305.2	7,302.2	7,302.2	17.9	12.7	-68.50	-188.3	-205.1	592.0	566.9	25.08	23.600	
7,450.0	7,340.2	7,337.2	7,337.2	17.9	12.8	-71.58	-188.3	-205.1	575.6	550.3	25.29	22.763	
7,500.0	7,372.7	7,369.7	7,369.7	18.0	12.9	-74.85	-188.3	-205.1	559.6	534.1	25.54	21.913	
7,550.0	7,402.5	7,399.5	7,399.5	18.1	12.9	-78.17	-188.3	-205.1	544.6	518.8	25.82	21.096	
7,600.0	7,429.4	7,426.4	7,426.4	18.2	13.0	-81.37	-188.3	-205.1	531.3	505.2	26.10	20.354	
7,650.0	7,453.4	7,450.4	7,450.4	18.3	13.0	-84.32	-188.3	-205.1	520.3	493.9	26.39	19.718	
7,700.0	7,474.3	7,471.3	7,471.3	18.4	13.0	-86.88	-188.3	-205.1	512.2	485.5	26.66	19.209	
7,750.0	7,491.9	7,488.9	7,488.9	18.6	13.1	-88.94	-188.3	-205.1	507.5	480.6	26.95	18.836	
7,783.5	7,501.9	7,498.9	7,498.9	18.8	13.1	-90.00	-188.3	-205.1	506.6	479.5	27.15	18.661	
7,800.0	7,506.3	7,503.3	7,503.3	18.9	13.1	-90.42	-188.3	-205.1	506.9	479.6	27.25	18.602	
7,850.0	7,517.3	7,514.3	7,514.3	19.1	13.1	-91.25	-188.3	-205.1	510.4	482.8	27.58	18.506	SF
7,900.0	7,525.0	7,522.0	7,522.0	19.4	13.1	-91.40	-188.3	-205.1	518.3	490.4	27.95	18.542	
7,950.0	7,529.1	7,526.1	7,526.1	19.7	13.1	-90.83	-188.3	-205.1	530.5	502.1	28.36	18.708	
7,985.2	7,530.0	7,527.0	7,527.0	20.0	13.1	-90.00	-188.3	-205.1	541.5	512.8	28.64	18.904	
8,000.0	7,530.0	7,527.0	7,527.0	20.1	13.1	-90.00	-188.3	-205.1	546.7	517.9	28.78	18.993	
8,100.0	7,530.0	7,527.0	7,527.0	20.9	13.1	-90.00	-188.3	-205.1	590.4	560.6	29.80	19.810	
8,200.0	7,530.0	7,527.0	7,527.0	21.8	13.1	-90.00	-188.3	-205.1	646.7	615.8	30.94	20.906	
8,300.0	7,530.0	7,527.0	7,527.0	22.8	13.1	-90.00	-188.3	-205.1	712.7	680.6	32.16	22.160	
8,400.0	7,530.0	7,527.0	7,527.0	23.9	13.1	-90.00	-188.3	-205.1	785.9	752.5	33.47	23.483	
8,500.0	7,530.0	7,527.0	7,527.0	25.1	13.1	-90.00	-188.3	-205.1	864.5	829.7	34.84	24.816	
8,600.0	7,530.0	7,527.0	7,527.0	26.3	13.1	-90.00	-188.3	-205.1	947.2	910.9	36.26	26.123	

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 Morgan Hills 1E-7H-A168
Project:	DJ Wattenberg	**TVD Reference:**	HZ @ 5035.0ft
Reference Site:	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	**MD Reference:**	HZ @ 5035.0ft
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Morgan Hills 1E-7H-A168	**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 #2	**Offset TVD Reference:**	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - WOOLLEY 41-7 (EXISTING) - ENCANA WELL - N

Survey Program: 8370-Geolink MWD

Offset Site Error: 0.0 ft

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
8,700.0	7,530.0	7,527.0	7,527.0	27.6	13.1	-90.00	-188.3	-205.1	1,032.9	995.2	37.72	27.381	
8,800.0	7,530.0	7,527.0	7,527.0	29.0	13.1	-90.00	-188.3	-205.1	1,121.0	1,081.7	39.22	28.580	
8,900.0	7,530.0	7,527.0	7,527.0	30.3	13.1	-90.00	-188.3	-205.1	1,210.9	1,170.1	40.75	29.714	
9,000.0	7,530.0	7,527.0	7,527.0	31.8	13.1	-90.00	-188.3	-205.1	1,302.3	1,260.0	42.31	30.783	
9,100.0	7,530.0	7,527.0	7,527.0	33.2	13.1	-90.00	-188.3	-205.1	1,394.9	1,351.0	43.88	31.787	
9,200.0	7,530.0	7,527.0	7,527.0	34.7	13.1	-90.00	-188.3	-205.1	1,488.4	1,442.9	45.48	32.729	

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Morgan Hills 1E-7H-A168
Project:	DJ Wattenberg	**TVD Reference:**	HZ @ 5035.0ft
Reference Site:	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	**MD Reference:**	HZ @ 5035.0ft
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Morgan Hills 1E-7H-A168	**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 #2	**Offset TVD Reference:**	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - WOOLLEY 42-7 ENCANA (EXISTING) - ENCANA

Offset Site Error: 0.0 ft

Survey Program: 8381-Geolink MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
7,750.0	7,491.9	7,496.9	7,496.9	18.6	13.1	-42.82	-1,635.2	-323.8	1,543.4	1,520.6	22.74	67.862	
7,800.0	7,506.3	7,511.3	7,511.3	18.9	13.1	-49.55	-1,635.2	-323.8	1,497.5	1,473.8	23.71	63.169	
7,850.0	7,517.3	7,522.3	7,522.3	19.1	13.1	-58.14	-1,635.2	-323.8	1,450.8	1,425.7	25.08	57.837	
7,900.0	7,525.0	7,530.0	7,530.0	19.4	13.1	-68.72	-1,635.2	-323.8	1,403.5	1,376.8	26.67	52.622	
7,950.0	7,529.1	7,534.1	7,534.1	19.7	13.1	-80.94	-1,635.2	-323.8	1,355.8	1,327.8	28.05	48.332	
7,985.2	7,530.0	7,535.0	7,535.0	20.0	13.2	-90.00	-1,635.2	-323.8	1,322.2	1,293.5	28.66	46.137	
8,000.0	7,530.0	7,535.0	7,535.0	20.1	13.2	-90.00	-1,635.2	-323.8	1,308.1	1,279.3	28.80	45.422	
8,100.0	7,530.0	7,535.0	7,535.0	20.9	13.2	-90.00	-1,635.2	-323.8	1,213.0	1,183.2	29.82	40.682	
8,200.0	7,530.0	7,535.0	7,535.0	21.8	13.2	-90.00	-1,635.2	-323.8	1,118.8	1,087.8	30.95	36.148	
8,300.0	7,530.0	7,535.0	7,535.0	22.8	13.2	-90.00	-1,635.2	-323.8	1,025.7	993.5	32.18	31.875	
8,400.0	7,530.0	7,535.0	7,535.0	23.9	13.2	-90.00	-1,635.2	-323.8	934.0	900.5	33.48	27.895	
8,500.0	7,530.0	7,535.0	7,535.0	25.1	13.2	-90.00	-1,635.2	-323.8	844.2	809.3	34.85	24.223	
8,600.0	7,530.0	7,535.0	7,535.0	26.3	13.2	-90.00	-1,635.2	-323.8	757.0	720.7	36.27	20.869	
8,700.0	7,530.0	7,535.0	7,535.0	27.6	13.2	-90.00	-1,635.2	-323.8	673.3	635.5	37.74	17.842	
8,800.0	7,530.0	7,535.0	7,535.0	29.0	13.2	-90.00	-1,635.2	-323.8	594.7	555.4	39.24	15.157	
8,900.0	7,530.0	7,535.0	7,535.0	30.3	13.2	-90.00	-1,635.2	-323.8	523.4	482.7	40.76	12.840	
9,000.0	7,530.0	7,535.0	7,535.0	31.8	13.2	-90.00	-1,635.2	-323.8	462.9	420.6	42.32	10.939	
9,100.0	7,530.0	7,535.0	7,535.0	33.2	13.2	-90.00	-1,635.2	-323.8	417.9	374.0	43.90	9.520	
9,200.0	7,530.0	7,535.0	7,535.0	34.7	13.2	-90.00	-1,635.2	-323.8	393.6	348.2	45.49	8.653	
9,248.4	7,530.0	7,535.0	7,535.0	35.4	13.2	-90.00	-1,635.2	-323.8	390.7	344.4	46.27	8.443	CC, ES
9,300.0	7,530.0	7,535.0	7,535.0	36.2	13.2	-90.00	-1,635.2	-323.8	394.1	347.0	47.10	8.366	SF
9,400.0	7,530.0	7,535.0	7,535.0	37.7	13.2	-90.00	-1,635.2	-323.8	419.1	370.3	48.73	8.601	
9,500.0	7,530.0	7,535.0	7,535.0	39.3	13.2	-90.00	-1,635.2	-323.8	464.7	414.3	50.36	9.227	
9,600.0	7,530.0	7,535.0	7,535.0	40.8	13.2	-90.00	-1,635.2	-323.8	525.6	473.6	52.01	10.107	
9,700.0	7,530.0	7,535.0	7,535.0	42.4	13.2	-90.00	-1,635.2	-323.8	597.2	543.5	53.66	11.128	
9,800.0	7,530.0	7,535.0	7,535.0	44.0	13.2	-90.00	-1,635.2	-323.8	676.0	620.6	55.33	12.218	
9,900.0	7,530.0	7,535.0	7,535.0	45.6	13.2	-90.00	-1,635.2	-323.8	759.8	702.8	57.00	13.330	
10,000.0	7,530.0	7,535.0	7,535.0	47.2	13.2	-90.00	-1,635.2	-323.8	847.1	788.4	58.67	14.438	
10,100.0	7,530.0	7,535.0	7,535.0	48.8	13.2	-90.00	-1,635.2	-323.8	937.0	876.6	60.35	15.525	
10,200.0	7,530.0	7,535.0	7,535.0	50.5	13.2	-90.00	-1,635.2	-323.8	1,028.7	966.7	62.04	16.581	
10,300.0	7,530.0	7,535.0	7,535.0	52.1	13.2	-90.00	-1,635.2	-323.8	1,121.9	1,058.1	63.73	17.603	
10,400.0	7,530.0	7,535.0	7,535.0	53.8	13.2	-90.00	-1,635.2	-323.8	1,216.1	1,150.7	65.43	18.587	
10,500.0	7,530.0	7,535.0	7,535.0	55.4	13.2	-90.00	-1,635.2	-323.8	1,311.2	1,244.1	67.13	19.533	
10,600.0	7,530.0	7,535.0	7,535.0	57.1	13.2	-90.00	-1,635.2	-323.8	1,407.0	1,338.1	68.83	20.441	
10,700.0	7,530.0	7,535.0	7,535.0	58.7	13.2	-90.00	-1,635.2	-323.8	1,503.3	1,432.8	70.54	21.312	

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Morgan Hills 1E-7H-A168
Project:	DJ Wattenberg	**TVD Reference:**	HZ @ 5035.0ft
Reference Site:	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	**MD Reference:**	HZ @ 5035.0ft
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Morgan Hills 1E-7H-A168	**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 #2	**Offset TVD Reference:**	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - WOOLLEY A 1-7 (EXISTING) - ENCANA WELL - N

Offset Site Error: 0.0 ft

Survey Program: 8320-Geolink MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
7,050.0	7,004.3	7,025.3	7,025.3	17.8	12.3	0.54	-1,116.5	-1,227.8	1,544.1	1,515.0	29.11	53.048	
7,100.0	7,051.8	7,072.8	7,072.8	17.8	12.3	5.21	-1,116.5	-1,227.8	1,528.5	1,499.8	28.78	53.114	
7,150.0	7,098.1	7,119.1	7,119.1	17.9	12.4	8.72	-1,116.5	-1,227.8	1,510.0	1,481.6	28.35	53.262	
7,200.0	7,143.1	7,164.1	7,164.1	17.9	12.5	11.65	-1,116.5	-1,227.8	1,488.4	1,460.6	27.83	53.487	
7,250.0	7,186.5	7,207.5	7,207.5	17.9	12.6	14.29	-1,116.5	-1,227.8	1,464.1	1,436.9	27.22	53.779	
7,300.0	7,228.1	7,249.1	7,249.1	17.9	12.7	16.87	-1,116.5	-1,227.8	1,437.1	1,410.6	26.55	54.120	
7,350.0	7,267.8	7,288.8	7,288.8	17.9	12.7	19.52	-1,116.5	-1,227.8	1,407.6	1,381.8	25.84	54.479	
7,400.0	7,305.2	7,326.2	7,326.2	17.9	12.8	22.36	-1,116.5	-1,227.8	1,375.7	1,350.6	25.10	54.801	
7,450.0	7,340.2	7,361.2	7,361.2	17.9	12.8	25.52	-1,116.5	-1,227.8	1,341.7	1,317.3	24.40	54.997	
7,500.0	7,372.7	7,393.7	7,393.7	18.0	12.9	29.09	-1,116.5	-1,227.8	1,305.7	1,281.9	23.77	54.931	
7,550.0	7,402.5	7,423.5	7,423.5	18.1	13.0	33.20	-1,116.5	-1,227.8	1,267.9	1,244.6	23.30	54.419	
7,600.0	7,429.4	7,450.4	7,450.4	18.2	13.0	37.95	-1,116.5	-1,227.8	1,228.6	1,205.5	23.07	53.244	
7,650.0	7,453.4	7,474.4	7,474.4	18.3	13.0	43.42	-1,116.5	-1,227.8	1,188.0	1,164.8	23.19	51.240	
7,700.0	7,474.3	7,495.3	7,495.3	18.4	13.1	49.64	-1,116.5	-1,227.8	1,146.4	1,122.7	23.68	48.408	
7,750.0	7,491.9	7,512.9	7,512.9	18.6	13.1	56.55	-1,116.5	-1,227.8	1,104.1	1,079.5	24.54	44.991	
7,800.0	7,506.3	7,527.3	7,527.3	18.9	13.1	63.96	-1,116.5	-1,227.8	1,061.3	1,035.7	25.63	41.414	
7,850.0	7,517.3	7,538.3	7,538.3	19.1	13.2	71.54	-1,116.5	-1,227.8	1,018.4	991.7	26.74	38.082	
7,900.0	7,525.0	7,546.0	7,546.0	19.4	13.2	78.91	-1,116.5	-1,227.8	975.7	948.0	27.69	35.230	
7,950.0	7,529.1	7,550.1	7,550.1	19.7	13.2	85.71	-1,116.5	-1,227.8	933.5	905.1	28.38	32.897	
7,985.2	7,530.0	7,551.0	7,551.0	20.0	13.2	90.00	-1,116.5	-1,227.8	904.2	875.5	28.69	31.522	
8,000.0	7,530.0	7,551.0	7,551.0	20.1	13.2	90.00	-1,116.5	-1,227.8	892.1	863.3	28.83	30.947	
8,100.0	7,530.0	7,551.0	7,551.0	20.9	13.2	90.00	-1,116.5	-1,227.8	812.3	782.5	29.84	27.219	
8,200.0	7,530.0	7,551.0	7,551.0	21.8	13.2	90.00	-1,116.5	-1,227.8	737.5	706.6	30.98	23.809	
8,300.0	7,530.0	7,551.0	7,551.0	22.8	13.2	90.00	-1,116.5	-1,227.8	669.4	637.2	32.21	20.784	
8,400.0	7,530.0	7,551.0	7,551.0	23.9	13.2	90.00	-1,116.5	-1,227.8	610.0	576.5	33.51	18.204	
8,500.0	7,530.0	7,551.0	7,551.0	25.1	13.2	90.00	-1,116.5	-1,227.8	562.3	527.4	34.88	16.122	
8,600.0	7,530.0	7,551.0	7,551.0	26.3	13.2	90.00	-1,116.5	-1,227.8	529.4	493.1	36.30	14.585	
8,700.0	7,530.0	7,551.0	7,551.0	27.6	13.2	90.00	-1,116.5	-1,227.8	514.2	476.4	37.76	13.615	
8,729.6	7,530.0	7,551.0	7,551.0	28.0	13.2	90.00	-1,116.5	-1,227.8	513.3	475.1	38.21	13.435	CC, ES
8,800.0	7,530.0	7,551.0	7,551.0	29.0	13.2	90.00	-1,116.5	-1,227.8	518.1	478.9	39.26	13.196	SF
8,900.0	7,530.0	7,551.0	7,551.0	30.3	13.2	90.00	-1,116.5	-1,227.8	540.9	500.1	40.79	13.259	
9,000.0	7,530.0	7,551.0	7,551.0	31.8	13.2	90.00	-1,116.5	-1,227.8	580.2	537.8	42.35	13.700	
9,100.0	7,530.0	7,551.0	7,551.0	33.2	13.2	90.00	-1,116.5	-1,227.8	633.0	589.1	43.92	14.411	
9,200.0	7,530.0	7,551.0	7,551.0	34.7	13.2	90.00	-1,116.5	-1,227.8	696.3	650.7	45.52	15.296	
9,300.0	7,530.0	7,551.0	7,551.0	36.2	13.2	90.00	-1,116.5	-1,227.8	767.4	720.2	47.13	16.282	
9,400.0	7,530.0	7,551.0	7,551.0	37.7	13.2	90.00	-1,116.5	-1,227.8	844.4	795.6	48.75	17.319	
9,500.0	7,530.0	7,551.0	7,551.0	39.3	13.2	90.00	-1,116.5	-1,227.8	925.7	875.4	50.39	18.372	
9,600.0	7,530.0	7,551.0	7,551.0	40.8	13.2	90.00	-1,116.5	-1,227.8	1,010.5	958.5	52.03	19.420	
9,700.0	7,530.0	7,551.0	7,551.0	42.4	13.2	90.00	-1,116.5	-1,227.8	1,097.8	1,044.1	53.69	20.447	
9,800.0	7,530.0	7,551.0	7,551.0	44.0	13.2	90.00	-1,116.5	-1,227.8	1,187.1	1,131.8	55.35	21.446	
9,900.0	7,530.0	7,551.0	7,551.0	45.6	13.2	90.00	-1,116.5	-1,227.8	1,278.0	1,221.0	57.02	22.412	
10,000.0	7,530.0	7,551.0	7,551.0	47.2	13.2	90.00	-1,116.5	-1,227.8	1,370.2	1,311.5	58.70	23.342	
10,100.0	7,530.0	7,551.0	7,551.0	48.8	13.2	90.00	-1,116.5	-1,227.8	1,463.4	1,403.0	60.38	24.235	

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

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Morgan Hills 1E-7H-A168
Project:	DJ Wattenberg	**TVD Reference:**	HZ @ 5035.0ft
Reference Site:	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	**MD Reference:**	HZ @ 5035.0ft
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Morgan Hills 1E-7H-A168	**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 #2	**Offset TVD Reference:**	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - Woolley-Becky 2H-7H-E168 - Hz - Plan #2

Offset Site Error: 0.0 ft

Survey Program: 0-Geolink MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
7,200.0	7,143.1	9,646.0	7,550.0	17.9	52.0	82.45	123.1	-2,150.3	1,541.6	1,486.2	55.39	27.834	
7,250.0	7,186.5	9,622.2	7,550.0	17.9	51.7	84.64	99.4	-2,148.0	1,523.7	1,468.5	55.17	27.617	
7,300.0	7,228.1	9,595.3	7,550.0	17.9	51.4	86.29	72.7	-2,145.5	1,507.2	1,452.4	54.81	27.497	
7,350.0	7,267.8	9,565.7	7,550.0	17.9	51.1	87.52	43.1	-2,142.6	1,492.0	1,437.6	54.32	27.465	
7,400.0	7,305.2	9,533.3	7,550.0	17.9	50.7	88.42	10.9	-2,139.5	1,478.1	1,424.3	53.73	27.509	
7,450.0	7,340.2	9,498.3	7,550.0	17.9	50.3	89.07	-23.9	-2,136.2	1,465.4	1,412.3	53.05	27.621	
7,500.0	7,372.7	9,461.0	7,550.0	18.0	49.9	89.52	-61.1	-2,132.6	1,453.8	1,401.5	52.32	27.787	
7,550.0	7,402.5	9,421.5	7,550.0	18.1	49.5	89.82	-100.4	-2,128.8	1,443.3	1,391.8	51.55	27.999	
7,600.0	7,429.4	9,379.9	7,550.0	18.2	49.0	90.01	-141.8	-2,124.9	1,433.7	1,383.0	50.76	28.246	
7,650.0	7,453.4	9,336.6	7,550.0	18.3	48.6	90.14	-184.9	-2,120.7	1,425.0	1,375.1	49.97	28.516	
7,700.0	7,474.3	9,291.6	7,550.0	18.4	48.1	90.24	-229.7	-2,116.4	1,417.1	1,367.9	49.20	28.802	
7,750.0	7,491.9	9,245.3	7,550.0	18.6	47.6	90.33	-275.8	-2,112.0	1,409.8	1,361.3	48.45	29.094	
7,800.0	7,506.3	9,197.8	7,550.0	18.9	47.2	90.45	-323.1	-2,107.4	1,403.0	1,355.3	47.74	29.390	
7,850.0	7,517.3	9,149.4	7,550.0	19.1	46.7	90.61	-371.3	-2,102.8	1,396.8	1,349.7	47.05	29.685	
7,900.0	7,525.0	9,100.3	7,550.0	19.4	46.2	90.83	-420.1	-2,098.1	1,391.0	1,344.7	46.39	29.984	
7,950.0	7,529.1	9,050.7	7,550.0	19.7	45.8	91.12	-469.5	-2,093.4	1,385.7	1,340.0	45.75	30.287	
7,985.2	7,530.0	9,015.7	7,550.0	20.0	45.4	91.37	-504.3	-2,090.0	1,382.3	1,337.0	45.31	30.510	
8,000.0	7,530.0	9,001.0	7,550.0	20.1	45.3	91.38	-519.0	-2,088.6	1,380.8	1,335.6	45.21	30.542	
8,100.0	7,530.0	8,901.4	7,550.0	20.9	44.5	91.39	-618.1	-2,079.1	1,371.3	1,326.6	44.67	30.697	
8,200.0	7,530.0	8,801.9	7,550.0	21.8	43.7	91.40	-717.1	-2,069.5	1,361.7	1,317.4	44.27	30.760	
8,300.0	7,530.0	8,702.4	7,550.0	22.8	42.9	91.40	-816.2	-2,060.0	1,352.1	1,308.2	43.99	30.739	
8,400.0	7,530.0	8,602.8	7,550.0	23.9	42.2	91.41	-915.3	-2,050.5	1,342.6	1,298.8	43.82	30.641	
8,500.0	7,530.0	8,503.3	7,550.0	25.1	41.6	91.43	-1,014.4	-2,041.0	1,333.0	1,289.3	43.75	30.469	
8,600.0	7,530.0	8,403.7	7,550.0	26.3	41.0	91.44	-1,113.5	-2,031.5	1,323.5	1,279.7	43.78	30.229	
8,700.0	7,530.0	8,304.2	7,550.0	27.6	40.5	91.45	-1,212.6	-2,021.9	1,313.9	1,270.0	43.91	29.920	
8,800.0	7,530.0	8,204.6	7,550.0	29.0	40.1	91.46	-1,311.6	-2,012.4	1,304.3	1,260.2	44.15	29.541	
8,900.0	7,530.0	8,131.3	7,548.5	30.3	39.8	91.40	-1,384.7	-2,005.8	1,295.4	1,250.6	44.81	28.911	
9,000.0	7,530.0	8,070.5	7,541.2	31.8	39.6	91.08	-1,444.9	-2,002.3	1,289.4	1,243.7	45.68	28.229	
9,100.0	7,530.0	8,011.5	7,528.3	33.2	39.4	90.50	-1,502.4	-2,000.9	1,286.5	1,239.9	46.63	27.591	
9,126.6	7,530.0	8,000.0	7,525.1	33.6	39.4	90.36	-1,513.5	-2,000.8	1,286.3	1,239.4	46.93	27.409	CC, ES
9,200.0	7,530.0	7,950.0	7,508.9	34.7	39.2	89.64	-1,560.8	-2,001.3	1,287.1	1,239.5	47.61	27.033	
9,300.0	7,530.0	7,900.0	7,488.9	36.2	39.0	88.75	-1,606.5	-2,003.2	1,291.5	1,242.8	48.76	26.488	
9,400.0	7,530.0	7,850.0	7,465.1	37.7	38.8	87.70	-1,650.4	-2,006.4	1,300.2	1,250.2	49.94	26.034	
9,500.0	7,530.0	7,800.0	7,437.9	39.3	38.6	86.51	-1,692.0	-2,011.0	1,313.4	1,262.3	51.15	25.677	
9,600.0	7,530.0	7,771.9	7,421.1	40.8	38.5	85.78	-1,714.3	-2,014.1	1,331.3	1,278.8	52.57	25.327	
9,700.0	7,530.0	7,736.2	7,398.3	42.4	38.4	84.80	-1,741.5	-2,018.6	1,354.3	1,300.4	53.92	25.117	
9,800.0	7,530.0	7,700.0	7,373.6	44.0	38.3	83.75	-1,767.4	-2,023.8	1,382.4	1,327.1	55.27	25.011	
9,900.0	7,530.0	7,675.2	7,355.9	45.6	38.2	83.01	-1,784.2	-2,027.8	1,415.4	1,358.7	56.72	24.952	SF
10,000.0	7,530.0	7,650.0	7,337.2	47.2	38.1	82.23	-1,800.6	-2,032.1	1,453.3	1,395.2	58.17	24.986	
10,100.0	7,530.0	7,626.0	7,318.7	48.8	38.0	81.47	-1,815.3	-2,036.4	1,495.9	1,436.3	59.62	25.091	
10,200.0	7,530.0	7,600.0	7,298.1	50.5	37.8	80.63	-1,830.4	-2,041.4	1,543.0	1,482.0	61.05	25.277	

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 Morgan Hills 1E-7H-A168
Project:	DJ Wattenberg	**TVD Reference:**	HZ @ 5035.0ft
Reference Site:	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	**MD Reference:**	HZ @ 5035.0ft
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Morgan Hills 1E-7H-A168	**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 #2	**Offset TVD Reference:**	Offset Datum

Reference Depths are relative to HZ @ 5035.0ft
Offset Depths are relative to Offset Datum
Central Meridian is -105.500000 °

Coordinates are relative to: Morgan Hills 1E-7H-A168
Coordinate System is US State Plane 1983, Colorado Northern Zone
Grid Convergence at Surface is: 0.30°