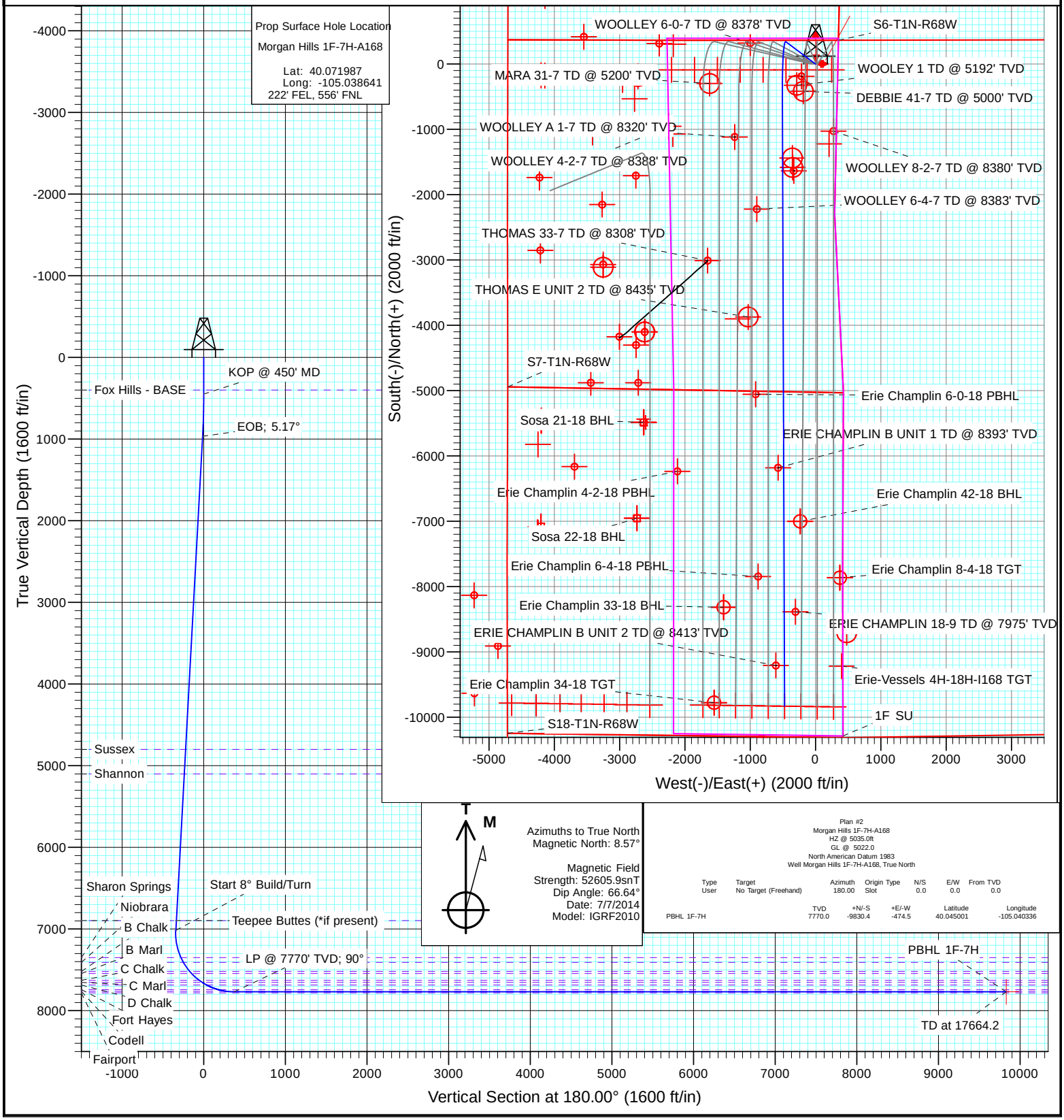
encana natural gas

Project: DJ Wattenberg
Site: S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)
Well: Morgan Hills 1F-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	450.0	0.00	0.00	450.0	0.0	0.0	0.00	0.00	0.0		KOP @ 450' MD
3	966.6	5.17	306.96	965.9	14.0	-18.6	1.00	306.96	-14.0		EOB; 5.17°
4	7042.2	5.17	306.96	7016.8	342.9	-455.8	0.00	0.00	-342.9		Start 8° Build/Turn
5	8206.2	90.00	179.80	7770.0	-372.4	-507.6	8.00	-127.04	372.4		LP @ 7770' TVD; 90°
6	17664.2	90.00	179.80	7770.0	-9830.4	-474.5	0.00	0.00	9830.4	PBHL 1F-7H	TD at 17664.2



Planning Report

Database:	USA EDM 5000 Multi Users DB	**Local Co-ordinate Reference:**	Well Morgan Hills 1F-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 1F-7H-A168	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	HZ		
Design:	Plan #2		

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 1F-7H-A168

Well Position	**+N/-S**	0.0 ft	**Northing:**	1,269,408.32 ft	**Latitude:**	40.071987
	+E/-W	0.0 ft	**Easting:**	3,129,120.62 ft	**Longitude:**	-105.038641
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	
450.0	0.00	0.00	450.0	0.0	0.0	0.00	0.00	0.00	0.00	
966.6	5.17	306.96	965.9	14.0	-18.6	1.00	1.00	0.00	306.96	
7,042.2	5.17	306.96	7,016.8	342.9	-455.8	0.00	0.00	0.00	0.00	
8,206.2	90.00	179.80	7,770.0	-372.4	-507.6	8.00	7.29	-10.92	-127.04	
17,664.2	90.00	179.80	7,770.0	-9,830.4	-474.5	0.00	0.00	0.00	0.00	PBHL 1F-7H

Database:	USA EDM 5000 Multi Users DB	**Local Co-ordinate Reference:**	Well Morgan Hills 1F-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 1F-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	Fox Hills - BASE
450.0	0.00	0.00	450.0	0.0	0.0	0.0	0.00	0.00	KOP @ 450' MD
500.0	0.50	306.96	500.0	0.1	-0.2	-0.1	1.00	1.00	
600.0	1.50	306.96	600.0	1.2	-1.6	-1.2	1.00	1.00	
700.0	2.50	306.96	699.9	3.3	-4.4	-3.3	1.00	1.00	
800.0	3.50	306.96	799.8	6.4	-8.5	-6.4	1.00	1.00	
900.0	4.50	306.96	899.5	10.6	-14.1	-10.6	1.00	1.00	
966.6	5.17	306.96	965.9	14.0	-18.6	-14.0	1.00	1.00	EOB; 5.17°
1,000.0	5.17	306.96	999.2	15.8	-21.0	-15.8	0.00	0.00	
1,100.0	5.17	306.96	1,098.8	21.2	-28.2	-21.2	0.00	0.00	
1,200.0	5.17	306.96	1,198.4	26.6	-35.4	-26.6	0.00	0.00	
1,300.0	5.17	306.96	1,297.9	32.0	-42.6	-32.0	0.00	0.00	
1,400.0	5.17	306.96	1,397.5	37.5	-49.8	-37.5	0.00	0.00	
1,500.0	5.17	306.96	1,497.1	42.9	-57.0	-42.9	0.00	0.00	
1,600.0	5.17	306.96	1,596.7	48.3	-64.2	-48.3	0.00	0.00	
1,700.0	5.17	306.96	1,696.3	53.7	-71.4	-53.7	0.00	0.00	
1,800.0	5.17	306.96	1,795.9	59.1	-78.6	-59.1	0.00	0.00	
1,900.0	5.17	306.96	1,895.5	64.5	-85.8	-64.5	0.00	0.00	
2,000.0	5.17	306.96	1,995.1	69.9	-93.0	-69.9	0.00	0.00	
2,100.0	5.17	306.96	2,094.7	75.4	-100.2	-75.4	0.00	0.00	
2,200.0	5.17	306.96	2,194.3	80.8	-107.4	-80.8	0.00	0.00	
2,300.0	5.17	306.96	2,293.9	86.2	-114.5	-86.2	0.00	0.00	
2,400.0	5.17	306.96	2,393.5	91.6	-121.7	-91.6	0.00	0.00	
2,500.0	5.17	306.96	2,493.1	97.0	-128.9	-97.0	0.00	0.00	
2,600.0	5.17	306.96	2,592.7	102.4	-136.1	-102.4	0.00	0.00	
2,700.0	5.17	306.96	2,692.3	107.8	-143.3	-107.8	0.00	0.00	
2,800.0	5.17	306.96	2,791.9	113.2	-150.5	-113.2	0.00	0.00	
2,900.0	5.17	306.96	2,891.4	118.7	-157.7	-118.7	0.00	0.00	
3,000.0	5.17	306.96	2,991.0	124.1	-164.9	-124.1	0.00	0.00	
3,100.0	5.17	306.96	3,090.6	129.5	-172.1	-129.5	0.00	0.00	
3,200.0	5.17	306.96	3,190.2	134.9	-179.3	-134.9	0.00	0.00	
3,300.0	5.17	306.96	3,289.8	140.3	-186.5	-140.3	0.00	0.00	
3,400.0	5.17	306.96	3,389.4	145.7	-193.7	-145.7	0.00	0.00	
3,500.0	5.17	306.96	3,489.0	151.1	-200.9	-151.1	0.00	0.00	
3,600.0	5.17	306.96	3,588.6	156.6	-208.1	-156.6	0.00	0.00	
3,700.0	5.17	306.96	3,688.2	162.0	-215.3	-162.0	0.00	0.00	
3,800.0	5.17	306.96	3,787.8	167.4	-222.5	-167.4	0.00	0.00	
3,900.0	5.17	306.96	3,887.4	172.8	-229.7	-172.8	0.00	0.00	
4,000.0	5.17	306.96	3,987.0	178.2	-236.9	-178.2	0.00	0.00	
4,100.0	5.17	306.96	4,086.6	183.6	-244.1	-183.6	0.00	0.00	
4,200.0	5.17	306.96	4,186.2	189.0	-251.3	-189.0	0.00	0.00	
4,300.0	5.17	306.96	4,285.8	194.5	-258.5	-194.5	0.00	0.00	
4,400.0	5.17	306.96	4,385.4	199.9	-265.7	-199.9	0.00	0.00	
4,500.0	5.17	306.96	4,484.9	205.3	-272.9	-205.3	0.00	0.00	
4,600.0	5.17	306.96	4,584.5	210.7	-280.0	-210.7	0.00	0.00	
4,700.0	5.17	306.96	4,684.1	216.1	-287.2	-216.1	0.00	0.00	
4,800.0	5.17	306.96	4,783.7	221.5	-294.4	-221.5	0.00	0.00	
4,817.3	5.17	306.96	4,801.0	222.5	-295.7	-222.5	0.00	0.00	Sussex

Database:	USA EDM 5000 Multi Users DB	**Local Co-ordinate Reference:**	Well Morgan Hills 1F-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 1F-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
4,900.0	5.17	306.96	4,883.3	226.9	-301.6	-226.9	0.00	0.00	
5,000.0	5.17	306.96	4,982.9	232.3	-308.8	-232.3	0.00	0.00	
5,100.0	5.17	306.96	5,082.5	237.8	-316.0	-237.8	0.00	0.00	
5,118.6	5.17	306.96	5,101.0	238.8	-317.4	-238.8	0.00	0.00	Shannon
5,200.0	5.17	306.96	5,182.1	243.2	-323.2	-243.2	0.00	0.00	
5,300.0	5.17	306.96	5,281.7	248.6	-330.4	-248.6	0.00	0.00	
5,400.0	5.17	306.96	5,381.3	254.0	-337.6	-254.0	0.00	0.00	
5,500.0	5.17	306.96	5,480.9	259.4	-344.8	-259.4	0.00	0.00	
5,600.0	5.17	306.96	5,580.5	264.8	-352.0	-264.8	0.00	0.00	
5,700.0	5.17	306.96	5,680.1	270.2	-359.2	-270.2	0.00	0.00	
5,800.0	5.17	306.96	5,779.7	275.7	-366.4	-275.7	0.00	0.00	
5,900.0	5.17	306.96	5,879.3	281.1	-373.6	-281.1	0.00	0.00	
6,000.0	5.17	306.96	5,978.9	286.5	-380.8	-286.5	0.00	0.00	
6,100.0	5.17	306.96	6,078.4	291.9	-388.0	-291.9	0.00	0.00	
6,200.0	5.17	306.96	6,178.0	297.3	-395.2	-297.3	0.00	0.00	
6,300.0	5.17	306.96	6,277.6	302.7	-402.4	-302.7	0.00	0.00	
6,400.0	5.17	306.96	6,377.2	308.1	-409.6	-308.1	0.00	0.00	
6,500.0	5.17	306.96	6,476.8	313.6	-416.8	-313.6	0.00	0.00	
6,600.0	5.17	306.96	6,576.4	319.0	-424.0	-319.0	0.00	0.00	
6,700.0	5.17	306.96	6,676.0	324.4	-431.2	-324.4	0.00	0.00	
6,800.0	5.17	306.96	6,775.6	329.8	-438.4	-329.8	0.00	0.00	
6,900.0	5.17	306.96	6,875.2	335.2	-445.6	-335.2	0.00	0.00	
6,921.9	5.17	306.96	6,897.0	336.4	-447.1	-336.4	0.00	0.00	Teepee Buttes (*if present)
7,000.0	5.17	306.96	6,974.8	340.6	-452.7	-340.6	0.00	0.00	
7,042.2	5.17	306.96	7,016.8	342.9	-455.8	-342.9	0.00	0.00	Start 8° Build/Turn
7,050.0	4.82	301.00	7,024.6	343.3	-456.3	-343.3	8.00	-4.49	
7,100.0	4.39	249.69	7,074.4	343.7	-459.9	-343.7	8.00	-0.85	
7,150.0	6.88	216.50	7,124.2	340.6	-463.5	-340.6	8.00	4.97	
7,200.0	10.35	203.03	7,173.6	334.1	-467.1	-334.1	8.00	6.96	
7,250.0	14.11	196.46	7,222.5	324.1	-470.5	-324.1	8.00	7.51	
7,300.0	17.97	192.64	7,270.6	310.7	-474.0	-310.7	8.00	7.72	
7,350.0	21.88	190.14	7,317.5	294.0	-477.3	-294.0	8.00	7.82	
7,386.4	24.75	188.79	7,351.0	279.8	-479.6	-279.8	8.00	7.87	Sharon Springs
7,400.0	25.82	188.37	7,363.3	274.1	-480.5	-274.1	8.00	7.89	
7,450.0	29.77	187.04	7,407.5	251.0	-483.6	-251.0	8.00	7.90	
7,451.7	29.91	187.00	7,409.0	250.1	-483.7	-250.1	8.00	7.92	Niobrara
7,500.0	33.73	186.00	7,450.0	224.8	-486.6	-224.8	8.00	7.93	
7,550.0	37.70	185.15	7,490.6	195.8	-489.4	-195.8	8.00	7.94	
7,588.0	40.72	184.60	7,520.0	171.9	-491.4	-171.9	8.00	7.95	B Chalk
7,600.0	41.67	184.44	7,529.1	164.0	-492.1	-164.0	8.00	7.95	
7,623.0	43.50	184.15	7,546.0	148.5	-493.2	-148.5	8.00	7.95	B Marl
7,650.0	45.65	183.84	7,565.2	129.6	-494.6	-129.6	8.00	7.96	
7,700.0	49.63	183.31	7,598.9	92.7	-496.9	-92.7	8.00	7.96	
7,748.4	53.49	182.86	7,629.0	54.8	-498.9	-54.8	8.00	7.97	C Chalk
7,750.0	53.62	182.84	7,629.9	53.5	-499.0	-53.5	8.00	7.97	
7,794.1	57.13	182.47	7,655.0	17.3	-500.6	-17.3	8.00	7.97	C Marl
7,800.0	57.60	182.42	7,658.2	12.3	-500.8	-12.3	8.00	7.97	
7,850.0	61.59	182.03	7,683.5	-30.7	-502.5	30.7	8.00	7.97	
7,855.3	62.01	181.99	7,686.0	-35.4	-502.7	35.4	8.00	7.97	D Chalk
7,900.0	65.57	181.68	7,705.7	-75.5	-504.0	75.5	8.00	7.97	
7,950.0	69.56	181.34	7,724.8	-121.7	-505.2	121.7	8.00	7.98	
8,000.0	73.55	181.02	7,740.6	-169.1	-506.2	169.1	8.00	7.98	

Database:	USA EDM 5000 Multi Users DB	**Local Co-ordinate Reference:**	Well Morgan Hills 1F-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 1F-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
8,008.6	74.24	180.97	7,743.0	-177.4	-506.3	177.4	8.00	7.98	Fort Hayes
8,050.0	77.54	180.71	7,753.1	-217.5	-506.9	217.5	8.00	7.98	
8,100.0	81.53	180.41	7,762.2	-266.6	-507.4	266.6	8.00	7.98	
8,105.8	81.99	180.38	7,763.0	-272.4	-507.4	272.4	8.00	7.98	Codell
8,150.0	85.52	180.12	7,767.8	-316.3	-507.6	316.3	8.00	7.98	
8,200.0	89.51	179.84	7,770.0	-366.3	-507.6	366.3	8.00	7.98	
8,206.2	90.00	179.80	7,770.0	-372.4	-507.6	372.4	8.00	7.98	LP @ 7770' TVD; 90°
8,300.0	90.00	179.80	7,770.0	-466.3	-507.2	466.3	0.00	0.00	
8,400.0	90.00	179.80	7,770.0	-566.3	-506.9	566.3	0.00	0.00	
8,500.0	90.00	179.80	7,770.0	-666.3	-506.5	666.3	0.00	0.00	
8,600.0	90.00	179.80	7,770.0	-766.3	-506.2	766.3	0.00	0.00	
8,700.0	90.00	179.80	7,770.0	-866.3	-505.8	866.3	0.00	0.00	
8,800.0	90.00	179.80	7,770.0	-966.3	-505.5	966.3	0.00	0.00	
8,900.0	90.00	179.80	7,770.0	-1,066.3	-505.1	1,066.3	0.00	0.00	
9,000.0	90.00	179.80	7,770.0	-1,166.3	-504.8	1,166.3	0.00	0.00	
9,100.0	90.00	179.80	7,770.0	-1,266.3	-504.4	1,266.3	0.00	0.00	
9,200.0	90.00	179.80	7,770.0	-1,366.3	-504.1	1,366.3	0.00	0.00	
9,300.0	90.00	179.80	7,770.0	-1,466.3	-503.7	1,466.3	0.00	0.00	
9,400.0	90.00	179.80	7,770.0	-1,566.3	-503.4	1,566.3	0.00	0.00	
9,500.0	90.00	179.80	7,770.0	-1,666.3	-503.0	1,666.3	0.00	0.00	
9,600.0	90.00	179.80	7,770.0	-1,766.3	-502.7	1,766.3	0.00	0.00	
9,700.0	90.00	179.80	7,770.0	-1,866.3	-502.3	1,866.3	0.00	0.00	
9,800.0	90.00	179.80	7,770.0	-1,966.3	-502.0	1,966.3	0.00	0.00	
9,900.0	90.00	179.80	7,770.0	-2,066.3	-501.6	2,066.3	0.00	0.00	
10,000.0	90.00	179.80	7,770.0	-2,166.3	-501.3	2,166.3	0.00	0.00	
10,100.0	90.00	179.80	7,770.0	-2,266.3	-501.0	2,266.3	0.00	0.00	
10,200.0	90.00	179.80	7,770.0	-2,366.3	-500.6	2,366.3	0.00	0.00	
10,300.0	90.00	179.80	7,770.0	-2,466.3	-500.3	2,466.3	0.00	0.00	
10,400.0	90.00	179.80	7,770.0	-2,566.2	-499.9	2,566.2	0.00	0.00	
10,500.0	90.00	179.80	7,770.0	-2,666.2	-499.6	2,666.2	0.00	0.00	
10,600.0	90.00	179.80	7,770.0	-2,766.2	-499.2	2,766.2	0.00	0.00	
10,700.0	90.00	179.80	7,770.0	-2,866.2	-498.9	2,866.2	0.00	0.00	
10,800.0	90.00	179.80	7,770.0	-2,966.2	-498.5	2,966.2	0.00	0.00	
10,900.0	90.00	179.80	7,770.0	-3,066.2	-498.2	3,066.2	0.00	0.00	
11,000.0	90.00	179.80	7,770.0	-3,166.2	-497.8	3,166.2	0.00	0.00	
11,100.0	90.00	179.80	7,770.0	-3,266.2	-497.5	3,266.2	0.00	0.00	
11,200.0	90.00	179.80	7,770.0	-3,366.2	-497.1	3,366.2	0.00	0.00	
11,300.0	90.00	179.80	7,770.0	-3,466.2	-496.8	3,466.2	0.00	0.00	
11,400.0	90.00	179.80	7,770.0	-3,566.2	-496.4	3,566.2	0.00	0.00	
11,500.0	90.00	179.80	7,770.0	-3,666.2	-496.1	3,666.2	0.00	0.00	
11,600.0	90.00	179.80	7,770.0	-3,766.2	-495.7	3,766.2	0.00	0.00	
11,700.0	90.00	179.80	7,770.0	-3,866.2	-495.4	3,866.2	0.00	0.00	
11,800.0	90.00	179.80	7,770.0	-3,966.2	-495.0	3,966.2	0.00	0.00	
11,900.0	90.00	179.80	7,770.0	-4,066.2	-494.7	4,066.2	0.00	0.00	
12,000.0	90.00	179.80	7,770.0	-4,166.2	-494.3	4,166.2	0.00	0.00	
12,100.0	90.00	179.80	7,770.0	-4,266.2	-494.0	4,266.2	0.00	0.00	
12,200.0	90.00	179.80	7,770.0	-4,366.2	-493.6	4,366.2	0.00	0.00	
12,300.0	90.00	179.80	7,770.0	-4,466.2	-493.3	4,466.2	0.00	0.00	
12,400.0	90.00	179.80	7,770.0	-4,566.2	-492.9	4,566.2	0.00	0.00	
12,500.0	90.00	179.80	7,770.0	-4,666.2	-492.6	4,666.2	0.00	0.00	
12,600.0	90.00	179.80	7,770.0	-4,766.2	-492.2	4,766.2	0.00	0.00	
12,700.0	90.00	179.80	7,770.0	-4,866.2	-491.9	4,866.2	0.00	0.00	

Database:	USA EDM 5000 Multi Users DB	**Local Co-ordinate Reference:**	Well Morgan Hills 1F-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 1F-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
12,800.0	90.00	179.80	7,770.0	-4,966.2	-491.5	4,966.2	0.00	0.00	
12,900.0	90.00	179.80	7,770.0	-5,066.2	-491.2	5,066.2	0.00	0.00	
13,000.0	90.00	179.80	7,770.0	-5,166.2	-490.8	5,166.2	0.00	0.00	
13,100.0	90.00	179.80	7,770.0	-5,266.2	-490.5	5,266.2	0.00	0.00	
13,200.0	90.00	179.80	7,770.0	-5,366.2	-490.1	5,366.2	0.00	0.00	
13,300.0	90.00	179.80	7,770.0	-5,466.2	-489.8	5,466.2	0.00	0.00	
13,400.0	90.00	179.80	7,770.0	-5,566.2	-489.4	5,566.2	0.00	0.00	
13,500.0	90.00	179.80	7,770.0	-5,666.2	-489.1	5,666.2	0.00	0.00	
13,600.0	90.00	179.80	7,770.0	-5,766.2	-488.7	5,766.2	0.00	0.00	
13,700.0	90.00	179.80	7,770.0	-5,866.2	-488.4	5,866.2	0.00	0.00	
13,800.0	90.00	179.80	7,770.0	-5,966.2	-488.0	5,966.2	0.00	0.00	
13,900.0	90.00	179.80	7,770.0	-6,066.2	-487.7	6,066.2	0.00	0.00	
14,000.0	90.00	179.80	7,770.0	-6,166.2	-487.3	6,166.2	0.00	0.00	
14,100.0	90.00	179.80	7,770.0	-6,266.2	-487.0	6,266.2	0.00	0.00	
14,200.0	90.00	179.80	7,770.0	-6,366.2	-486.6	6,366.2	0.00	0.00	
14,300.0	90.00	179.80	7,770.0	-6,466.2	-486.3	6,466.2	0.00	0.00	
14,400.0	90.00	179.80	7,770.0	-6,566.2	-485.9	6,566.2	0.00	0.00	
14,500.0	90.00	179.80	7,770.0	-6,666.2	-485.6	6,666.2	0.00	0.00	
14,600.0	90.00	179.80	7,770.0	-6,766.2	-485.2	6,766.2	0.00	0.00	
14,700.0	90.00	179.80	7,770.0	-6,866.2	-484.9	6,866.2	0.00	0.00	
14,800.0	90.00	179.80	7,770.0	-6,966.2	-484.5	6,966.2	0.00	0.00	
14,900.0	90.00	179.80	7,770.0	-7,066.2	-484.2	7,066.2	0.00	0.00	
15,000.0	90.00	179.80	7,770.0	-7,166.2	-483.8	7,166.2	0.00	0.00	
15,100.0	90.00	179.80	7,770.0	-7,266.2	-483.5	7,266.2	0.00	0.00	
15,200.0	90.00	179.80	7,770.0	-7,366.2	-483.1	7,366.2	0.00	0.00	
15,300.0	90.00	179.80	7,770.0	-7,466.2	-482.8	7,466.2	0.00	0.00	
15,400.0	90.00	179.80	7,770.0	-7,566.2	-482.5	7,566.2	0.00	0.00	
15,500.0	90.00	179.80	7,770.0	-7,666.2	-482.1	7,666.2	0.00	0.00	
15,600.0	90.00	179.80	7,770.0	-7,766.2	-481.8	7,766.2	0.00	0.00	
15,700.0	90.00	179.80	7,770.0	-7,866.2	-481.4	7,866.2	0.00	0.00	
15,800.0	90.00	179.80	7,770.0	-7,966.2	-481.1	7,966.2	0.00	0.00	
15,900.0	90.00	179.80	7,770.0	-8,066.2	-480.7	8,066.2	0.00	0.00	
16,000.0	90.00	179.80	7,770.0	-8,166.2	-480.4	8,166.2	0.00	0.00	
16,100.0	90.00	179.80	7,770.0	-8,266.2	-480.0	8,266.2	0.00	0.00	
16,200.0	90.00	179.80	7,770.0	-8,366.2	-479.7	8,366.2	0.00	0.00	
16,300.0	90.00	179.80	7,770.0	-8,466.2	-479.3	8,466.2	0.00	0.00	
16,400.0	90.00	179.80	7,770.0	-8,566.2	-479.0	8,566.2	0.00	0.00	
16,500.0	90.00	179.80	7,770.0	-8,666.2	-478.6	8,666.2	0.00	0.00	
16,600.0	90.00	179.80	7,770.0	-8,766.2	-478.3	8,766.2	0.00	0.00	
16,700.0	90.00	179.80	7,770.0	-8,866.2	-477.9	8,866.2	0.00	0.00	
16,800.0	90.00	179.80	7,770.0	-8,966.2	-477.6	8,966.2	0.00	0.00	
16,900.0	90.00	179.80	7,770.0	-9,066.2	-477.2	9,066.2	0.00	0.00	
17,000.0	90.00	179.80	7,770.0	-9,166.2	-476.9	9,166.2	0.00	0.00	
17,100.0	90.00	179.80	7,770.0	-9,266.2	-476.5	9,266.2	0.00	0.00	
17,200.0	90.00	179.80	7,770.0	-9,366.2	-476.2	9,366.2	0.00	0.00	
17,300.0	90.00	179.80	7,770.0	-9,466.2	-475.8	9,466.2	0.00	0.00	
17,400.0	90.00	179.80	7,770.0	-9,566.2	-475.5	9,566.2	0.00	0.00	
17,500.0	90.00	179.80	7,770.0	-9,666.2	-475.1	9,666.2	0.00	0.00	
17,600.0	90.00	179.80	7,770.0	-9,766.2	-474.8	9,766.2	0.00	0.00	
17,664.2	90.00	179.80	7,770.0	-9,830.4	-474.5	9,830.4	0.00	0.00	TD at 17664.2

Database:	USA EDM 5000 Multi Users DB	**Local Co-ordinate Reference:**	Well Morgan Hills 1F-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 1F-7H-A168	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	HZ		
Design:	Plan #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 1F-7H - plan hits target center - Point	0.00	0.00	7,770.0	-9,830.4	-474.5	1,259,575.62	3,128,697.23	40.045001	-105.040336

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
400.0	400.0	Fox Hills - BASE			
4,817.3	4,801.0	Sussex			
5,118.6	5,101.0	Shannon			
6,921.9	6,897.0	Teepee Buttes (*if present)			
7,386.4	7,351.0	Sharon Springs			
7,451.7	7,409.0	Niobrara			
7,588.0	7,520.0	B Chalk			
7,623.0	7,546.0	B Marl			
7,748.4	7,629.0	C Chalk			
7,794.1	7,655.0	C Marl			
7,855.3	7,686.0	D Chalk			
8,008.6	7,743.0	Fort Hayes			
8,105.8	7,763.0	Codell			

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates +N/-S (ft)	Local Coordinates +E/-W (ft)	Comment
450.0	450.0	0.0	0.0	KOP @ 450' MD
966.6	965.9	14.0	-18.6	EOB; 5.17°
7,042.2	7,016.8	342.9	-455.8	Start 8° Build/Turn
8,206.2	7,770.0	-372.4	-507.6	LP @ 7770' TVD; 90°
17,664.2	7,770.0	-9,830.4	-474.5	TD at 17664.2

EnCana Oil & Gas (USA) Inc

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

Anticollision Report

03 September, 2014

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Morgan Hills 1F-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 1F-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	17,664.2	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	14,014.2	7,805.0	86.3	-38.3	0.693	Level 1, CC, ES, SF
ERIE CHAMPLIN B UNIT 2 - ENCANA WELL - NO SUR	17,041.2	7,800.0	130.5	-46.9	0.736	Level 1, CC, ES, SF
Morgan Hills 1A-7H-A168 - HZ - Plan #2	166.3	167.3	50.1	49.6	93.294	CC
Morgan Hills 1A-7H-A168 - HZ - Plan #2	200.0	201.0	50.1	49.4	76.542	ES
Morgan Hills 1A-7H-A168 - HZ - Plan #2	17,664.2	17,589.7	1,273.2	930.3	3.713	SF
Morgan Hills 1B-7H-A168 - HZ - Plan #2	232.0	233.0	40.0	39.3	52.237	CC
Morgan Hills 1B-7H-A168 - HZ - Plan #2	300.0	300.7	40.2	39.2	40.120	ES
Morgan Hills 1B-7H-A168 - HZ - Plan #2	17,664.2	17,775.9	1,000.1	651.0	2.865	SF
Morgan Hills 1C-7H-A168 - HZ - Plan #2	300.0	300.0	29.9	28.9	29.890	CC, ES
Morgan Hills 1C-7H-A168 - HZ - Plan #2	17,664.2	17,490.0	787.6	454.5	2.365	SF
Morgan Hills 1D-7H-A168 - HZ - Plan #2	333.4	333.4	20.1	19.0	18.017	CC
Morgan Hills 1D-7H-A168 - HZ - Plan #2	400.0	399.8	20.4	19.0	15.069	ES
Morgan Hills 1D-7H-A168 - HZ - Plan #2	17,664.2	17,701.3	500.1	150.8	1.432	Level 3, SF
Morgan Hills 1E-7H-A168 - HZ - Plan #2	400.0	400.0	10.1	8.7	7.458	CC, ES
Morgan Hills 1E-7H-A168 - HZ - Plan #2	17,664.2	17,440.2	346.6	91.2	1.357	Level 3, SF
Morgan Hills 1G-7H-A168 - HZ - Plan #2	450.0	450.0	10.1	8.5	6.605	CC, ES
Morgan Hills 1G-7H-A168 - HZ - Plan #2	17,664.2	17,409.7	346.6	91.2	1.357	Level 3, SF
Morgan Hills 1H-7H-A168 - HZ - Plan #2	450.0	450.0	19.9	18.3	13.026	CC, ES
Morgan Hills 1H-7H-A168 - HZ - Plan #2	17,664.2	17,646.1	500.0	150.6	1.431	Level 3, SF
Morgan Hills 1I-7H-A168 - HZ - Plan #2	450.0	450.0	29.9	28.4	19.631	CC, ES
Morgan Hills 1I-7H-A168 - HZ - Plan #2	17,664.2	17,410.7	787.5	454.3	2.363	SF
THOMAS 33-7 (EXISTING) - ENCANA WELL - SURVEY	10,839.6	8,027.7	1,154.6	1,073.4	14.214	CC, ES
THOMAS 33-7 (EXISTING) - ENCANA WELL - SURVEY	11,100.0	8,027.2	1,183.6	1,097.9	13.816	SF
WOOLLEY 41-7 (EXISTING) - ENCANA WELL - NO SU	1,360.6	1,355.3	279.9	274.9	56.406	CC
WOOLLEY 41-7 (EXISTING) - ENCANA WELL - NO SU	8,015.1	7,741.7	291.2	263.3	10.414	ES
WOOLLEY 41-7 (EXISTING) - ENCANA WELL - NO SU	8,050.0	7,750.1	293.1	264.9	10.401	SF
WOOLLEY 42-7 ENCANA (EXISTING) - ENCANA - NO S	9,469.6	7,775.0	169.3	122.4	3.611	CC, ES, SF
WOOLLEY A 1-7 (EXISTING) - ENCANA WELL - NO SU	8,947.7	7,791.0	732.9	694.1	18.883	CC, ES
WOOLLEY A 1-7 (EXISTING) - ENCANA WELL - NO SU	9,200.0	7,791.0	775.1	732.5	18.178	SF
Woolley-Sosa 2G-7H-E168 - HZ - Plan #1						Out of range

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Morgan Hills 1F-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 1F-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
12,500.0	7,770.0	7,805.0	7,805.0	85.1	13.6	90.00	-6,180.7	-573.6	1,516.6	1,418.3	98.29	15.430	
12,600.0	7,770.0	7,805.0	7,805.0	86.9	13.6	90.00	-6,180.7	-573.6	1,416.8	1,316.8	100.02	14.164	
12,700.0	7,770.0	7,805.0	7,805.0	88.6	13.6	90.00	-6,180.7	-573.6	1,317.0	1,215.2	101.76	12.942	
12,800.0	7,770.0	7,805.0	7,805.0	90.3	13.6	90.00	-6,180.7	-573.6	1,217.2	1,113.7	103.49	11.762	
12,900.0	7,770.0	7,805.0	7,805.0	92.0	13.6	90.00	-6,180.7	-573.6	1,117.5	1,012.3	105.22	10.620	
13,000.0	7,770.0	7,805.0	7,805.0	93.8	13.6	90.00	-6,180.7	-573.6	1,017.8	910.9	106.96	9.516	
13,100.0	7,770.0	7,805.0	7,805.0	95.5	13.6	90.00	-6,180.7	-573.6	918.2	809.5	108.70	8.448	
13,200.0	7,770.0	7,805.0	7,805.0	97.2	13.6	90.00	-6,180.7	-573.6	818.7	708.3	110.43	7.414	
13,300.0	7,770.0	7,805.0	7,805.0	99.0	13.6	90.00	-6,180.7	-573.6	719.3	607.2	112.17	6.413	
13,400.0	7,770.0	7,805.0	7,805.0	100.7	13.6	90.00	-6,180.7	-573.6	620.2	506.3	113.91	5.445	
13,500.0	7,770.0	7,805.0	7,805.0	102.4	13.6	90.00	-6,180.7	-573.6	521.3	405.7	115.65	4.508	
13,600.0	7,770.0	7,805.0	7,805.0	104.1	13.6	90.00	-6,180.7	-573.6	423.0	305.7	117.38	3.604	
13,700.0	7,770.0	7,805.0	7,805.0	105.9	13.6	90.00	-6,180.7	-573.6	325.8	206.7	119.12	2.735	
13,800.0	7,770.0	7,805.0	7,805.0	107.6	13.6	90.00	-6,180.7	-573.6	230.9	110.0	120.86	1.910	
13,900.0	7,770.0	7,805.0	7,805.0	109.3	13.6	90.00	-6,180.7	-573.6	143.1	20.5	122.60	1.167	Level 2
14,000.0	7,770.0	7,805.0	7,805.0	111.1	13.6	90.00	-6,180.7	-573.6	87.4	-36.9	124.34	0.703	Level 1
14,014.2	7,770.0	7,805.0	7,805.0	111.3	13.6	90.00	-6,180.7	-573.6	86.3	-38.3	124.59	0.693	Level 1, CC, ES, SF
14,100.0	7,770.0	7,805.0	7,805.0	112.8	13.6	90.00	-6,180.7	-573.6	121.7	-4.4	126.09	0.965	Level 1
14,200.0	7,770.0	7,805.0	7,805.0	114.6	13.6	90.00	-6,180.7	-573.6	204.9	77.1	127.83	1.603	
14,300.0	7,770.0	7,805.0	7,805.0	116.3	13.6	90.00	-6,180.7	-573.6	298.6	169.0	129.57	2.304	
14,400.0	7,770.0	7,805.0	7,805.0	118.0	13.6	90.00	-6,180.7	-573.6	395.4	264.1	131.31	3.011	
14,500.0	7,770.0	7,805.0	7,805.0	119.8	13.6	90.00	-6,180.7	-573.6	493.4	360.4	133.05	3.709	
14,600.0	7,770.0	7,805.0	7,805.0	121.5	13.6	90.00	-6,180.7	-573.6	592.2	457.4	134.80	4.393	
14,700.0	7,770.0	7,805.0	7,805.0	123.2	13.6	90.00	-6,180.7	-573.6	691.3	554.7	136.54	5.063	
14,800.0	7,770.0	7,805.0	7,805.0	125.0	13.6	90.00	-6,180.7	-573.6	790.6	652.3	138.28	5.717	
14,900.0	7,770.0	7,805.0	7,805.0	126.7	13.6	90.00	-6,180.7	-573.6	890.0	750.0	140.03	6.356	
15,000.0	7,770.0	7,805.0	7,805.0	128.5	13.6	90.00	-6,180.7	-573.6	989.6	847.8	141.77	6.980	
15,100.0	7,770.0	7,805.0	7,805.0	130.2	13.6	90.00	-6,180.7	-573.6	1,089.3	945.8	143.52	7.590	
15,200.0	7,770.0	7,805.0	7,805.0	131.9	13.6	90.00	-6,180.7	-573.6	1,189.0	1,043.7	145.26	8.185	
15,300.0	7,770.0	7,805.0	7,805.0	133.7	13.6	90.00	-6,180.7	-573.6	1,288.7	1,141.7	147.01	8.767	
15,400.0	7,770.0	7,805.0	7,805.0	135.4	13.6	90.00	-6,180.7	-573.6	1,388.5	1,239.8	148.75	9.335	
15,500.0	7,770.0	7,805.0	7,805.0	137.2	13.6	90.00	-6,180.7	-573.6	1,488.3	1,337.9	150.50	9.890	

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Morgan Hills 1F-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 1F-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
15,500.0	7,770.0	7,800.0	7,800.0	137.2	13.6	90.00	-9,207.8	-607.2	1,546.7	1,396.2	150.49	10.278	
15,600.0	7,770.0	7,800.0	7,800.0	138.9	13.6	90.00	-9,207.8	-607.2	1,447.1	1,294.8	152.23	9.506	
15,700.0	7,770.0	7,800.0	7,800.0	140.6	13.6	90.00	-9,207.8	-607.2	1,347.5	1,193.5	153.98	8.751	
15,800.0	7,770.0	7,800.0	7,800.0	142.4	13.6	90.00	-9,207.8	-607.2	1,248.0	1,092.3	155.72	8.014	
15,900.0	7,770.0	7,800.0	7,800.0	144.1	13.6	90.00	-9,207.8	-607.2	1,148.6	991.1	157.47	7.294	
16,000.0	7,770.0	7,800.0	7,800.0	145.9	13.6	90.00	-9,207.8	-607.2	1,049.3	890.1	159.22	6.590	
16,100.0	7,770.0	7,800.0	7,800.0	147.6	13.6	90.00	-9,207.8	-607.2	950.2	789.2	160.96	5.903	
16,200.0	7,770.0	7,800.0	7,800.0	149.4	13.6	90.00	-9,207.8	-607.2	851.2	688.5	162.71	5.232	
16,300.0	7,770.0	7,800.0	7,800.0	151.1	13.6	90.00	-9,207.8	-607.2	752.6	588.1	164.46	4.576	
16,400.0	7,770.0	7,800.0	7,800.0	152.9	13.6	90.00	-9,207.8	-607.2	654.3	488.1	166.20	3.937	
16,500.0	7,770.0	7,800.0	7,800.0	154.6	13.6	90.00	-9,207.8	-607.2	556.7	388.7	167.95	3.314	
16,600.0	7,770.0	7,800.0	7,800.0	156.3	13.6	90.00	-9,207.8	-607.2	460.1	290.4	169.70	2.711	
16,700.0	7,770.0	7,800.0	7,800.0	158.1	13.6	90.00	-9,207.8	-607.2	365.3	193.8	171.45	2.131	
16,800.0	7,770.0	7,800.0	7,800.0	159.8	13.6	90.00	-9,207.8	-607.2	274.2	101.0	173.19	1.583	
16,900.0	7,770.0	7,800.0	7,800.0	161.6	13.6	90.00	-9,207.8	-607.2	192.2	17.3	174.94	1.099	Level 2
17,000.0	7,770.0	7,800.0	7,800.0	163.3	13.6	90.00	-9,207.8	-607.2	136.9	-39.8	176.69	0.775	Level 1
17,041.2	7,770.0	7,800.0	7,800.0	164.0	13.6	90.00	-9,207.8	-607.2	130.5	-46.9	177.41	0.736	Level 1, CC, ES, SF
17,100.0	7,770.0	7,800.0	7,800.0	165.1	13.6	90.00	-9,207.8	-607.2	143.2	-35.3	178.44	0.802	Level 1
17,200.0	7,770.0	7,800.0	7,800.0	166.8	13.6	90.00	-9,207.8	-607.2	205.6	25.4	180.19	1.141	Level 2
17,300.0	7,770.0	7,800.0	7,800.0	168.6	13.6	90.00	-9,207.8	-607.2	289.9	108.0	181.93	1.593	
17,400.0	7,770.0	7,800.0	7,800.0	170.3	13.6	90.00	-9,207.8	-607.2	381.8	198.2	183.68	2.079	
17,500.0	7,770.0	7,800.0	7,800.0	172.0	13.6	90.00	-9,207.8	-607.2	477.0	291.6	185.43	2.573	
17,600.0	7,770.0	7,800.0	7,800.0	173.8	13.6	90.00	-9,207.8	-607.2	573.9	386.7	187.18	3.066	
17,664.2	7,770.0	7,800.0	7,800.0	174.9	13.6	90.00	-9,207.8	-607.2	636.5	448.2	188.30	3.380	

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Morgan Hills 1F-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 1F-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	-89.58	0.4	-50.1	50.1				
100.0	100.0	101.0	101.0	0.2	0.2	-89.58	0.4	-50.1	50.1	49.8	0.31	164.016	
166.3	166.3	167.3	167.3	0.3	0.3	-89.58	0.4	-50.1	50.1	49.6	0.54	93.294	CC
200.0	200.0	201.0	201.0	0.3	0.3	-89.58	0.4	-50.1	50.1	49.4	0.65	76.542	ES
300.0	300.0	300.0	300.0	0.5	0.5	-89.37	0.6	-50.9	51.0	50.0	1.00	50.846	
400.0	400.0	399.2	399.2	0.7	0.7	-88.78	1.1	-53.5	53.5	52.2	1.35	39.575	
450.0	450.0	448.7	448.6	0.8	0.8	-88.37	1.6	-55.4	55.4	53.9	1.53	36.253	
500.0	500.0	498.2	498.1	0.9	0.9	-34.98	2.1	-57.7	57.6	55.9	1.70	33.926	
600.0	600.0	597.1	596.8	1.0	1.1	-34.82	3.4	-63.5	62.1	60.1	2.05	30.361	
700.0	699.9	695.9	695.2	1.2	1.3	-35.24	5.2	-71.0	66.9	64.5	2.40	27.921	
800.0	799.8	794.6	793.5	1.4	1.5	-36.13	7.3	-80.1	72.0	69.2	2.75	26.164	
900.0	899.5	893.2	891.5	1.6	1.8	-37.38	9.7	-90.9	77.3	74.2	3.11	24.848	
966.6	965.9	958.8	956.6	1.7	1.9	-38.37	11.6	-99.0	81.1	77.7	3.36	24.142	
1,000.0	999.2	991.6	989.1	1.8	2.0	-38.88	12.6	-103.3	83.1	79.6	3.48	23.853	
1,100.0	1,098.8	1,089.9	1,086.3	2.0	2.3	-40.05	15.8	-117.3	90.3	86.4	3.86	23.364	
1,200.0	1,198.4	1,188.0	1,183.1	2.2	2.6	-40.77	19.4	-132.9	99.1	94.9	4.25	23.326	
1,300.0	1,297.9	1,285.7	1,279.2	2.5	3.0	-41.10	23.3	-150.1	109.6	105.0	4.64	23.631	
1,400.0	1,397.5	1,383.1	1,374.7	2.7	3.3	-41.14	27.6	-168.7	121.7	116.7	5.03	24.204	
1,500.0	1,497.1	1,480.1	1,469.5	2.9	3.7	-40.96	32.2	-188.9	135.4	130.0	5.42	24.992	
1,600.0	1,596.7	1,576.6	1,563.4	3.1	4.1	-40.63	37.2	-210.5	150.7	144.9	5.81	25.954	
1,700.0	1,696.3	1,673.0	1,656.8	3.4	4.6	-40.20	42.5	-233.6	167.6	161.4	6.19	27.060	
1,800.0	1,795.9	1,771.4	1,752.1	3.6	5.0	-39.78	48.0	-257.8	185.1	178.5	6.58	28.114	
1,900.0	1,895.5	1,869.9	1,847.3	3.8	5.5	-39.44	53.6	-282.0	202.6	195.6	6.97	29.050	
2,000.0	1,995.1	1,968.3	1,942.6	4.1	6.0	-39.16	59.1	-306.2	220.1	212.7	7.36	29.887	
2,100.0	2,094.7	2,066.8	2,037.9	4.3	6.4	-38.91	64.7	-330.3	237.6	229.8	7.75	30.640	
2,200.0	2,194.3	2,165.2	2,133.2	4.5	6.9	-38.70	70.2	-354.5	255.1	246.9	8.14	31.320	
2,300.0	2,293.9	2,263.7	2,228.4	4.8	7.4	-38.52	75.8	-378.7	272.6	264.1	8.54	31.939	
2,400.0	2,393.5	2,362.1	2,323.7	5.0	7.8	-38.35	81.3	-402.9	290.1	281.2	8.93	32.503	
2,500.0	2,493.1	2,460.6	2,419.0	5.2	8.3	-38.21	86.9	-427.1	307.6	298.3	9.32	33.019	
2,600.0	2,592.7	2,559.0	2,514.2	5.4	8.8	-38.08	92.4	-451.3	325.2	315.4	9.71	33.494	
2,700.0	2,692.3	2,657.5	2,609.5	5.7	9.2	-37.97	98.0	-475.5	342.7	332.6	10.10	33.932	
2,800.0	2,791.9	2,755.9	2,704.8	5.9	9.7	-37.86	103.5	-499.7	360.2	349.7	10.49	34.337	
2,900.0	2,891.4	2,854.4	2,800.1	6.1	10.2	-37.77	109.1	-523.8	377.7	366.8	10.88	34.713	
3,000.0	2,991.0	2,952.8	2,895.3	6.4	10.7	-37.68	114.6	-548.0	395.2	384.0	11.27	35.063	
3,100.0	3,090.6	3,051.3	2,990.6	6.6	11.1	-37.61	120.2	-572.2	412.8	401.1	11.66	35.389	
3,200.0	3,190.2	3,149.7	3,085.9	6.8	11.6	-37.53	125.7	-596.4	430.3	418.2	12.05	35.694	
3,300.0	3,289.8	3,248.2	3,181.2	7.1	12.1	-37.47	131.3	-620.6	447.8	435.4	12.45	35.980	
3,400.0	3,389.4	3,346.6	3,276.4	7.3	12.6	-37.41	136.8	-644.8	465.3	452.5	12.84	36.248	
3,500.0	3,489.0	3,445.1	3,371.7	7.6	13.0	-37.35	142.4	-669.0	482.9	469.6	13.23	36.501	
3,600.0	3,588.6	3,543.5	3,467.0	7.8	13.5	-37.30	147.9	-693.1	500.4	486.8	13.62	36.739	
3,700.0	3,688.2	3,642.0	3,562.2	8.0	14.0	-37.25	153.5	-717.3	517.9	503.9	14.01	36.963	
3,800.0	3,787.8	3,740.4	3,657.5	8.3	14.5	-37.20	159.0	-741.5	535.4	521.0	14.40	37.175	
3,900.0	3,887.4	3,838.9	3,752.8	8.5	14.9	-37.16	164.6	-765.7	553.0	538.2	14.79	37.376	
4,000.0	3,987.0	3,937.3	3,848.1	8.7	15.4	-37.12	170.1	-789.9	570.5	555.3	15.19	37.567	
4,100.0	4,086.6	4,035.8	3,943.3	9.0	15.9	-37.08	175.7	-814.1	588.0	572.4	15.58	37.748	
4,200.0	4,186.2	4,134.2	4,038.6	9.2	16.4	-37.04	181.2	-838.3	605.5	589.6	15.97	37.920	
4,300.0	4,285.8	4,232.7	4,133.9	9.4	16.8	-37.01	186.8	-862.4	623.1	606.7	16.36	38.084	
4,400.0	4,385.4	4,331.1	4,229.2	9.7	17.3	-36.98	192.3	-886.6	640.6	623.9	16.75	38.240	
4,500.0	4,484.9	4,429.6	4,324.4	9.9	17.8	-36.95	197.9	-910.8	658.1	641.0	17.14	38.389	
4,600.0	4,584.5	4,528.0	4,419.7	10.1	18.3	-36.92	203.4	-935.0	675.7	658.1	17.54	38.531	
4,700.0	4,684.1	4,626.5	4,515.0	10.4	18.7	-36.89	209.0	-959.2	693.2	675.3	17.93	38.667	
4,800.0	4,783.7	4,724.9	4,610.2	10.6	19.2	-36.87	214.5	-983.4	710.7	692.4	18.32	38.798	

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 1F-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 1F-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
4,900.0	4,883.3	4,823.4	4,705.5	10.8	19.7	-36.84	220.1	-1,007.6	728.2	709.5	18.71	38.922	
5,000.0	4,982.9	4,921.8	4,800.8	11.1	20.2	-36.82	225.6	-1,031.7	745.8	726.7	19.10	39.042	
5,100.0	5,082.5	5,020.3	4,896.1	11.3	20.6	-36.79	231.2	-1,055.9	763.3	743.8	19.49	39.157	
5,200.0	5,182.1	5,118.7	4,991.3	11.5	21.1	-36.77	236.7	-1,080.1	780.8	761.0	19.89	39.267	
5,300.0	5,281.7	5,217.2	5,086.6	11.8	21.6	-36.75	242.3	-1,104.3	798.4	778.1	20.28	39.373	
5,400.0	5,381.3	5,315.7	5,181.9	12.0	22.1	-36.73	247.8	-1,128.5	815.9	795.2	20.67	39.475	
5,500.0	5,480.9	5,414.1	5,277.1	12.2	22.6	-36.71	253.4	-1,152.7	833.4	812.4	21.06	39.573	
5,600.0	5,580.5	5,512.6	5,372.4	12.5	23.0	-36.70	258.9	-1,176.9	851.0	829.5	21.45	39.668	
5,700.0	5,680.1	5,611.0	5,467.7	12.7	23.5	-36.68	264.5	-1,201.0	868.5	846.6	21.84	39.759	
5,800.0	5,779.7	5,709.5	5,563.0	12.9	24.0	-36.66	270.0	-1,225.2	886.0	863.8	22.24	39.847	
5,900.0	5,879.3	5,807.9	5,658.2	13.2	24.5	-36.65	275.6	-1,249.4	903.5	880.9	22.63	39.932	
6,000.0	5,978.9	5,906.4	5,753.5	13.4	24.9	-36.63	281.1	-1,273.6	921.1	898.1	23.02	40.014	
6,100.0	6,078.4	6,004.8	5,848.8	13.6	25.4	-36.62	286.7	-1,297.8	938.6	915.2	23.41	40.093	
6,200.0	6,178.0	6,103.3	5,944.1	13.9	25.9	-36.60	292.2	-1,322.0	956.1	932.3	23.80	40.170	
6,300.0	6,277.6	6,201.7	6,039.3	14.1	26.4	-36.59	297.8	-1,346.2	973.7	949.5	24.19	40.244	
6,400.0	6,377.2	6,300.2	6,134.6	14.4	26.9	-36.57	303.3	-1,370.4	991.2	966.6	24.59	40.316	
6,500.0	6,476.8	6,398.6	6,229.9	14.6	27.3	-36.56	308.9	-1,394.5	1,008.7	983.7	24.98	40.385	
6,600.0	6,576.4	6,497.1	6,325.1	14.8	27.8	-36.55	314.4	-1,418.7	1,026.3	1,000.9	25.37	40.453	
6,700.0	6,676.0	6,595.5	6,420.4	15.1	28.3	-36.54	320.0	-1,442.9	1,043.8	1,018.0	25.76	40.518	
6,800.0	6,775.6	6,694.0	6,515.7	15.3	28.8	-36.53	325.5	-1,467.1	1,061.3	1,035.2	26.15	40.581	
6,900.0	6,875.2	6,792.4	6,611.0	15.5	29.2	-36.51	331.1	-1,491.3	1,078.8	1,052.3	26.54	40.643	
7,000.0	6,974.8	6,890.9	6,706.2	15.8	29.7	-36.50	336.6	-1,515.5	1,096.4	1,069.4	26.94	40.702	
7,042.2	7,016.8	6,932.4	6,746.4	15.9	29.9	-36.50	338.9	-1,525.7	1,103.8	1,076.7	27.10	40.727	
7,050.0	7,024.6	6,940.1	6,753.9	15.9	30.0	-30.68	339.4	-1,527.6	1,105.1	1,078.0	27.16	40.689	
7,100.0	7,074.4	6,989.2	6,801.4	16.0	30.2	19.90	342.1	-1,539.6	1,113.9	1,086.4	27.49	40.523	
7,150.0	7,124.2	7,038.3	6,849.0	16.0	30.4	52.43	342.9	-1,551.7	1,122.7	1,095.0	27.74	40.467	
7,200.0	7,173.6	7,087.7	6,896.8	16.1	30.6	65.25	340.2	-1,563.8	1,131.5	1,103.5	27.94	40.490	
7,250.0	7,222.5	7,137.4	6,944.5	16.1	30.8	71.18	334.2	-1,576.0	1,140.1	1,112.0	28.09	40.593	
7,300.0	7,270.6	7,187.3	6,992.0	16.1	31.0	74.36	324.6	-1,588.0	1,148.7	1,120.5	28.17	40.777	
7,350.0	7,317.5	7,237.6	7,039.1	16.1	31.2	76.24	311.6	-1,600.0	1,157.1	1,128.9	28.20	41.038	
7,400.0	7,363.3	7,288.2	7,085.5	16.1	31.4	77.40	295.1	-1,611.7	1,165.3	1,137.1	28.17	41.371	
7,450.0	7,407.5	7,339.1	7,130.9	16.1	31.5	78.13	275.1	-1,623.3	1,173.2	1,145.1	28.09	41.770	
7,500.0	7,450.0	7,390.5	7,175.1	16.1	31.7	78.60	251.6	-1,634.5	1,180.9	1,152.9	27.97	42.221	
7,550.0	7,490.6	7,442.1	7,217.9	16.0	31.8	78.89	224.8	-1,645.4	1,188.3	1,160.4	27.82	42.709	
7,600.0	7,529.1	7,494.2	7,258.9	16.0	32.0	79.06	194.6	-1,655.8	1,195.3	1,167.6	27.66	43.212	
7,650.0	7,565.2	7,546.6	7,298.0	16.0	32.1	79.14	161.2	-1,665.7	1,201.9	1,174.4	27.50	43.703	
7,700.0	7,598.9	7,599.3	7,334.9	16.1	32.2	79.17	124.6	-1,675.1	1,208.1	1,180.7	27.36	44.149	
7,750.0	7,629.9	7,652.4	7,369.3	16.1	32.4	79.16	85.1	-1,683.8	1,213.8	1,186.5	27.27	44.512	
7,800.0	7,658.2	7,705.9	7,400.9	16.2	32.5	79.13	42.8	-1,691.8	1,219.0	1,191.8	27.23	44.768	
7,850.0	7,683.5	7,759.6	7,429.5	16.3	32.6	79.08	-2.1	-1,699.1	1,223.8	1,196.4	27.31	44.809	
7,900.0	7,705.7	7,813.7	7,455.0	16.5	32.8	79.03	-49.3	-1,705.5	1,227.9	1,200.5	27.48	44.687	
7,950.0	7,724.8	7,868.0	7,477.0	16.6	33.0	78.98	-98.6	-1,711.1	1,231.6	1,203.8	27.78	44.340	
8,000.0	7,740.6	7,922.5	7,495.3	16.9	33.1	78.93	-149.7	-1,715.8	1,234.6	1,206.4	28.21	43.763	
8,050.0	7,753.1	7,977.2	7,510.0	17.1	33.3	78.88	-202.3	-1,719.5	1,237.0	1,208.2	28.79	42.963	
8,100.0	7,762.2	8,032.1	7,520.7	17.4	33.5	78.84	-256.1	-1,722.2	1,238.9	1,209.3	29.52	41.964	
8,150.0	7,767.8	8,087.1	7,527.3	17.8	33.7	78.82	-310.6	-1,723.9	1,240.1	1,209.7	30.39	40.804	
8,200.0	7,770.0	8,142.1	7,530.0	18.2	33.9	78.80	-365.6	-1,724.6	1,240.6	1,209.2	31.39	39.526	
8,206.2	7,770.0	8,148.9	7,530.0	18.2	34.0	78.80	-372.3	-1,724.6	1,240.7	1,209.1	31.52	39.365	
8,300.0	7,770.0	8,242.8	7,530.0	19.0	34.4	78.80	-466.3	-1,724.6	1,241.0	1,207.7	33.31	37.252	
8,400.0	7,770.0	8,342.8	7,530.0	20.0	34.9	78.81	-566.3	-1,724.6	1,241.3	1,205.9	35.44	35.030	
8,500.0	7,770.0	8,442.8	7,530.0	21.1	35.5	78.81	-666.3	-1,724.6	1,241.7	1,203.9	37.75	32.888	
8,600.0	7,770.0	8,542.8	7,530.0	22.2	36.2	78.81	-766.3	-1,724.6	1,242.0	1,201.8	40.23	30.870	

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 1F-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 1F-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
8,700.0	7,770.0	8,642.8	7,530.0	23.4	36.9	78.81	-866.3	-1,724.6	1,242.4	1,199.5	42.85	28.996	
8,800.0	7,770.0	8,742.8	7,530.0	24.7	37.8	78.82	-966.3	-1,724.6	1,242.7	1,197.1	45.57	27.270	
8,900.0	7,770.0	8,842.8	7,530.0	26.1	38.6	78.82	-1,066.3	-1,724.6	1,243.0	1,194.7	48.39	25.691	
9,000.0	7,770.0	8,942.8	7,530.0	27.5	39.6	78.82	-1,166.3	-1,724.6	1,243.4	1,192.1	51.28	24.248	
9,100.0	7,770.0	9,042.8	7,530.0	28.9	40.6	78.83	-1,266.3	-1,724.6	1,243.7	1,189.5	54.23	22.933	
9,200.0	7,770.0	9,142.8	7,530.0	30.4	41.6	78.83	-1,366.3	-1,724.6	1,244.1	1,186.8	57.24	21.732	
9,300.0	7,770.0	9,242.8	7,530.0	31.9	42.7	78.83	-1,466.3	-1,724.6	1,244.4	1,184.1	60.30	20.636	
9,400.0	7,770.0	9,342.8	7,530.0	33.4	43.8	78.84	-1,566.3	-1,724.6	1,244.8	1,181.4	63.40	19.633	
9,500.0	7,770.0	9,442.8	7,530.0	35.0	45.0	78.84	-1,666.3	-1,724.6	1,245.1	1,178.6	66.53	18.715	
9,600.0	7,770.0	9,542.8	7,530.0	36.5	46.2	78.84	-1,766.3	-1,724.6	1,245.4	1,175.7	69.69	17.871	
9,700.0	7,770.0	9,642.8	7,530.0	38.1	47.5	78.85	-1,866.3	-1,724.6	1,245.8	1,172.9	72.88	17.094	
9,800.0	7,770.0	9,742.8	7,530.0	39.7	48.7	78.85	-1,966.3	-1,724.6	1,246.1	1,170.0	76.09	16.378	
9,900.0	7,770.0	9,842.8	7,530.0	41.3	50.0	78.85	-2,066.3	-1,724.6	1,246.5	1,167.1	79.32	15.715	
10,000.0	7,770.0	9,942.8	7,530.0	42.9	51.4	78.85	-2,166.2	-1,724.6	1,246.8	1,164.2	82.56	15.102	
10,100.0	7,770.0	10,042.8	7,530.0	44.5	52.7	78.86	-2,266.2	-1,724.6	1,247.1	1,161.3	85.82	14.532	
10,200.0	7,770.0	10,142.8	7,530.0	46.2	54.1	78.86	-2,366.2	-1,724.6	1,247.5	1,158.4	89.10	14.001	
10,300.0	7,770.0	10,242.8	7,530.0	47.8	55.5	78.86	-2,466.2	-1,724.6	1,247.8	1,155.4	92.39	13.507	
10,400.0	7,770.0	10,342.8	7,530.0	49.5	57.0	78.87	-2,566.2	-1,724.6	1,248.2	1,152.5	95.68	13.045	
10,500.0	7,770.0	10,442.8	7,530.0	51.1	58.4	78.87	-2,666.2	-1,724.6	1,248.5	1,149.5	98.99	12.612	
10,600.0	7,770.0	10,542.8	7,530.0	52.8	59.9	78.87	-2,766.2	-1,724.6	1,248.9	1,146.6	102.31	12.207	
10,700.0	7,770.0	10,642.8	7,530.0	54.5	61.3	78.88	-2,866.2	-1,724.6	1,249.2	1,143.6	105.64	11.826	
10,800.0	7,770.0	10,742.8	7,530.0	56.2	62.8	78.88	-2,966.2	-1,724.6	1,249.5	1,140.6	108.97	11.467	
10,900.0	7,770.0	10,842.8	7,530.0	57.8	64.3	78.88	-3,066.2	-1,724.6	1,249.9	1,137.6	112.31	11.129	
11,000.0	7,770.0	10,942.8	7,530.0	59.5	65.8	78.89	-3,166.2	-1,724.6	1,250.2	1,134.6	115.66	10.810	
11,100.0	7,770.0	11,042.8	7,530.0	61.2	67.4	78.89	-3,266.2	-1,724.6	1,250.6	1,131.6	119.01	10.508	
11,200.0	7,770.0	11,142.8	7,530.0	62.9	68.9	78.89	-3,366.2	-1,724.6	1,250.9	1,128.6	122.36	10.223	
11,300.0	7,770.0	11,242.8	7,530.0	64.6	70.5	78.90	-3,466.2	-1,724.6	1,251.3	1,125.5	125.73	9.952	
11,400.0	7,770.0	11,342.8	7,530.0	66.3	72.0	78.90	-3,566.2	-1,724.6	1,251.6	1,122.5	129.09	9.695	
11,500.0	7,770.0	11,442.8	7,530.0	68.0	73.6	78.90	-3,666.2	-1,724.6	1,251.9	1,119.5	132.46	9.451	
11,600.0	7,770.0	11,542.8	7,530.0	69.7	75.2	78.90	-3,766.2	-1,724.6	1,252.3	1,116.5	135.84	9.219	
11,700.0	7,770.0	11,642.8	7,530.0	71.4	76.7	78.91	-3,866.2	-1,724.6	1,252.6	1,113.4	139.21	8.998	
11,800.0	7,770.0	11,742.8	7,530.0	73.1	78.3	78.91	-3,966.2	-1,724.6	1,253.0	1,110.4	142.59	8.787	
11,900.0	7,770.0	11,842.8	7,530.0	74.8	79.9	78.91	-4,066.2	-1,724.6	1,253.3	1,107.3	145.98	8.586	
12,000.0	7,770.0	11,942.8	7,530.0	76.5	81.5	78.92	-4,166.2	-1,724.6	1,253.7	1,104.3	149.37	8.393	
12,100.0	7,770.0	12,042.8	7,530.0	78.3	83.2	78.92	-4,266.2	-1,724.6	1,254.0	1,101.2	152.75	8.209	
12,200.0	7,770.0	12,142.8	7,530.0	80.0	84.8	78.92	-4,366.2	-1,724.6	1,254.3	1,098.2	156.15	8.033	
12,300.0	7,770.0	12,242.8	7,530.0	81.7	86.4	78.93	-4,466.2	-1,724.6	1,254.7	1,095.1	159.54	7.864	
12,400.0	7,770.0	12,342.8	7,530.0	83.4	88.0	78.93	-4,566.2	-1,724.6	1,255.0	1,092.1	162.94	7.703	
12,500.0	7,770.0	12,442.8	7,530.0	85.1	89.7	78.93	-4,666.2	-1,724.6	1,255.4	1,089.0	166.34	7.547	
12,600.0	7,770.0	12,542.8	7,530.0	86.9	91.3	78.93	-4,766.2	-1,724.6	1,255.7	1,086.0	169.74	7.398	
12,700.0	7,770.0	12,642.8	7,530.0	88.6	92.9	78.94	-4,866.2	-1,724.6	1,256.1	1,082.9	173.14	7.255	
12,800.0	7,770.0	12,742.8	7,530.0	90.3	94.6	78.94	-4,966.2	-1,724.6	1,256.4	1,079.9	176.54	7.117	
12,900.0	7,770.0	12,842.8	7,530.0	92.0	96.2	78.94	-5,066.2	-1,724.6	1,256.7	1,076.8	179.95	6.984	
13,000.0	7,770.0	12,942.8	7,530.0	93.8	97.9	78.95	-5,166.2	-1,724.6	1,257.1	1,073.7	183.36	6.856	
13,100.0	7,770.0	13,042.8	7,530.0	95.5	99.5	78.95	-5,266.2	-1,724.6	1,257.4	1,070.7	186.76	6.733	
13,200.0	7,770.0	13,142.8	7,530.0	97.2	101.2	78.95	-5,366.2	-1,724.6	1,257.8	1,067.6	190.18	6.614	
13,300.0	7,770.0	13,242.8	7,530.0	99.0	102.9	78.96	-5,466.2	-1,724.6	1,258.1	1,064.5	193.59	6.499	
13,400.0	7,770.0	13,342.8	7,530.0	100.7	104.5	78.96	-5,566.2	-1,724.6	1,258.5	1,061.5	197.00	6.388	
13,500.0	7,770.0	13,442.8	7,530.0	102.4	106.2	78.96	-5,666.2	-1,724.6	1,258.8	1,058.4	200.41	6.281	
13,600.0	7,770.0	13,542.8	7,530.0	104.1	107.9	78.97	-5,766.2	-1,724.6	1,259.1	1,055.3	203.83	6.177	
13,700.0	7,770.0	13,642.8	7,530.0	105.9	109.5	78.97	-5,866.2	-1,724.6	1,259.5	1,052.2	207.24	6.077	
13,800.0	7,770.0	13,742.8	7,530.0	107.6	111.2	78.97	-5,966.2	-1,724.6	1,259.8	1,049.2	210.66	5.980	

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Morgan Hills 1F-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 1F-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
13,900.0	7,770.0	13,842.8	7,530.0	109.3	112.9	78.97	-6,066.2	-1,724.6	1,260.2	1,046.1	214.08	5.886	
14,000.0	7,770.0	13,942.8	7,530.0	111.1	114.6	78.98	-6,166.2	-1,724.6	1,260.5	1,043.0	217.50	5.796	
14,100.0	7,770.0	14,042.8	7,530.0	112.8	116.3	78.98	-6,266.2	-1,724.6	1,260.9	1,039.9	220.92	5.707	
14,200.0	7,770.0	14,142.8	7,530.0	114.6	117.9	78.98	-6,366.2	-1,724.6	1,261.2	1,036.9	224.34	5.622	
14,300.0	7,770.0	14,242.8	7,530.0	116.3	119.6	78.99	-6,466.2	-1,724.6	1,261.5	1,033.8	227.76	5.539	
14,400.0	7,770.0	14,342.8	7,530.0	118.0	121.3	78.99	-6,566.2	-1,724.6	1,261.9	1,030.7	231.18	5.458	
14,500.0	7,770.0	14,442.8	7,530.0	119.8	123.0	78.99	-6,666.2	-1,724.6	1,262.2	1,027.6	234.61	5.380	
14,600.0	7,770.0	14,542.8	7,530.0	121.5	124.7	79.00	-6,766.2	-1,724.6	1,262.6	1,024.5	238.03	5.304	
14,700.0	7,770.0	14,642.8	7,530.0	123.2	126.4	79.00	-6,866.2	-1,724.6	1,262.9	1,021.5	241.46	5.230	
14,800.0	7,770.0	14,742.8	7,530.0	125.0	128.1	79.00	-6,966.2	-1,724.6	1,263.3	1,018.4	244.88	5.159	
14,900.0	7,770.0	14,842.8	7,530.0	126.7	129.8	79.00	-7,066.2	-1,724.6	1,263.6	1,015.3	248.31	5.089	
15,000.0	7,770.0	14,942.8	7,530.0	128.5	131.5	79.01	-7,166.2	-1,724.6	1,263.9	1,012.2	251.74	5.021	
15,100.0	7,770.0	15,042.8	7,530.0	130.2	133.2	79.01	-7,266.2	-1,724.6	1,264.3	1,009.1	255.16	4.955	
15,200.0	7,770.0	15,142.8	7,530.0	131.9	134.9	79.01	-7,366.2	-1,724.6	1,264.6	1,006.0	258.59	4.890	
15,300.0	7,770.0	15,242.8	7,530.0	133.7	136.6	79.02	-7,466.2	-1,724.6	1,265.0	1,003.0	262.02	4.828	
15,400.0	7,770.0	15,342.8	7,530.0	135.4	138.3	79.02	-7,566.2	-1,724.6	1,265.3	999.9	265.45	4.767	
15,500.0	7,770.0	15,442.8	7,530.0	137.2	140.0	79.02	-7,666.2	-1,724.6	1,265.7	996.8	268.88	4.707	
15,600.0	7,770.0	15,542.8	7,530.0	138.9	141.7	79.03	-7,766.2	-1,724.6	1,266.0	993.7	272.31	4.649	
15,700.0	7,770.0	15,642.8	7,530.0	140.6	143.4	79.03	-7,866.2	-1,724.6	1,266.3	990.6	275.74	4.593	
15,800.0	7,770.0	15,742.8	7,530.0	142.4	145.1	79.03	-7,966.2	-1,724.6	1,266.7	987.5	279.17	4.537	
15,900.0	7,770.0	15,842.8	7,530.0	144.1	146.8	79.03	-8,066.2	-1,724.6	1,267.0	984.4	282.60	4.483	
16,000.0	7,770.0	15,942.8	7,530.0	145.9	148.6	79.04	-8,166.2	-1,724.6	1,267.4	981.3	286.03	4.431	
16,100.0	7,770.0	16,042.8	7,530.0	147.6	150.3	79.04	-8,266.2	-1,724.6	1,267.7	978.3	289.47	4.380	
16,200.0	7,770.0	16,142.8	7,530.0	149.4	152.0	79.04	-8,366.2	-1,724.6	1,268.1	975.2	292.90	4.329	
16,300.0	7,770.0	16,242.8	7,530.0	151.1	153.7	79.05	-8,466.2	-1,724.6	1,268.4	972.1	296.33	4.280	
16,400.0	7,770.0	16,342.8	7,530.0	152.9	155.4	79.05	-8,566.2	-1,724.6	1,268.7	969.0	299.77	4.232	
16,500.0	7,770.0	16,442.8	7,530.0	154.6	157.1	79.05	-8,666.2	-1,724.6	1,269.1	965.9	303.20	4.186	
16,600.0	7,770.0	16,542.8	7,530.0	156.3	158.8	79.06	-8,766.2	-1,724.6	1,269.4	962.8	306.63	4.140	
16,700.0	7,770.0	16,642.8	7,530.0	158.1	160.6	79.06	-8,866.2	-1,724.6	1,269.8	959.7	310.07	4.095	
16,800.0	7,770.0	16,742.8	7,530.0	159.8	162.3	79.06	-8,966.2	-1,724.6	1,270.1	956.6	313.50	4.051	
16,900.0	7,770.0	16,842.8	7,530.0	161.6	164.0	79.06	-9,066.2	-1,724.6	1,270.5	953.5	316.94	4.009	
17,000.0	7,770.0	16,942.8	7,530.0	163.3	165.7	79.07	-9,166.2	-1,724.6	1,270.8	950.4	320.38	3.967	
17,100.0	7,770.0	17,042.8	7,530.0	165.1	167.4	79.07	-9,266.2	-1,724.6	1,271.1	947.3	323.81	3.926	
17,200.0	7,770.0	17,142.8	7,530.0	166.8	169.2	79.07	-9,366.2	-1,724.6	1,271.5	944.2	327.25	3.885	
17,300.0	7,770.0	17,242.8	7,530.0	168.6	170.9	79.08	-9,466.2	-1,724.6	1,271.8	941.1	330.69	3.846	
17,400.0	7,770.0	17,342.8	7,530.0	170.3	172.6	79.08	-9,566.2	-1,724.6	1,272.2	938.1	334.12	3.808	
17,500.0	7,770.0	17,442.8	7,530.0	172.0	174.3	79.08	-9,666.2	-1,724.6	1,272.5	935.0	337.56	3.770	
17,600.0	7,770.0	17,542.8	7,530.0	173.8	176.0	79.09	-9,766.2	-1,724.6	1,272.9	931.9	341.00	3.733	
17,664.2	7,770.0	17,589.7	7,530.0	174.9	176.9	79.09	-9,813.2	-1,724.6	1,273.2	930.3	342.91	3.713	SF

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Morgan Hills 1F-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 1F-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	-89.48	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	
200.0	200.0	201.0	201.0	0.3	0.3	-89.48	0.4	-40.0	40.0	39.4	0.65	61.148	
232.0	232.0	233.0	233.0	0.4	0.4	-89.48	0.4	-40.0	40.0	39.3	0.77	52.237	CC
300.0	300.0	300.7	300.7	0.5	0.5	-89.40	0.4	-40.2	40.2	39.2	1.00	40.120	ES
400.0	400.0	400.0	400.0	0.7	0.7	-88.81	0.9	-41.9	41.9	40.6	1.35	31.025	
450.0	450.0	449.6	449.5	0.8	0.8	-88.33	1.3	-43.4	43.4	41.9	1.53	28.431	
500.0	500.0	499.2	499.1	0.9	0.9	-34.87	1.8	-45.3	45.1	43.4	1.70	26.573	
600.0	600.0	598.3	598.1	1.0	1.0	-34.65	3.1	-50.2	48.8	46.8	2.05	23.830	
700.0	699.9	697.4	696.9	1.2	1.3	-35.13	4.9	-56.9	52.7	50.3	2.40	21.973	
800.0	799.8	796.4	795.5	1.4	1.5	-36.14	7.1	-65.2	56.9	54.1	2.75	20.654	
900.0	899.5	895.3	893.9	1.6	1.7	-37.56	9.7	-75.1	61.3	58.2	3.12	19.683	
966.6	965.9	961.1	959.3	1.7	1.9	-38.68	11.8	-82.6	64.5	61.1	3.36	19.170	
1,000.0	999.2	994.1	992.0	1.8	2.0	-39.25	12.8	-86.6	66.2	62.7	3.49	18.969	
1,100.0	1,098.8	1,092.7	1,089.7	2.0	2.2	-40.48	16.4	-99.8	72.4	68.6	3.87	18.710	
1,200.0	1,198.4	1,191.2	1,187.0	2.2	2.5	-41.11	20.3	-114.5	80.3	76.1	4.26	18.862	
1,300.0	1,297.9	1,289.4	1,283.7	2.5	2.9	-41.26	24.7	-130.8	89.9	85.2	4.65	19.327	
1,400.0	1,397.5	1,387.2	1,379.7	2.7	3.2	-41.06	29.5	-148.7	101.0	95.9	5.04	20.037	
1,500.0	1,497.1	1,485.1	1,475.5	2.9	3.6	-40.62	34.6	-168.1	113.7	108.2	5.43	20.937	
1,600.0	1,596.7	1,584.2	1,572.4	3.1	4.0	-40.20	40.0	-188.2	126.8	121.0	5.82	21.793	
1,700.0	1,696.3	1,683.3	1,669.4	3.4	4.4	-39.86	45.4	-208.3	140.0	133.8	6.21	22.540	
1,800.0	1,795.9	1,782.4	1,766.3	3.6	4.8	-39.57	50.8	-228.4	153.2	146.6	6.60	23.198	
1,900.0	1,895.5	1,881.6	1,863.2	3.8	5.2	-39.33	56.2	-248.5	166.4	159.4	7.00	23.781	
2,000.0	1,995.1	1,980.7	1,960.1	4.1	5.6	-39.13	61.6	-268.6	179.5	172.1	7.39	24.301	
2,100.0	2,094.7	2,079.8	2,057.0	4.3	6.0	-38.95	66.9	-288.8	192.7	184.9	7.78	24.769	
2,200.0	2,194.3	2,178.9	2,153.9	4.5	6.4	-38.80	72.3	-308.9	205.9	197.7	8.17	25.191	
2,300.0	2,293.9	2,278.1	2,250.8	4.8	6.8	-38.67	77.7	-329.0	219.1	210.5	8.57	25.574	
2,400.0	2,393.5	2,377.2	2,347.8	5.0	7.2	-38.55	83.1	-349.1	232.3	223.3	8.96	25.923	
2,500.0	2,493.1	2,476.3	2,444.7	5.2	7.6	-38.44	88.5	-369.2	245.5	236.1	9.35	26.243	
2,600.0	2,592.7	2,575.4	2,541.6	5.4	8.0	-38.34	93.9	-389.3	258.7	248.9	9.75	26.536	
2,700.0	2,692.3	2,674.6	2,638.5	5.7	8.4	-38.26	99.3	-409.5	271.8	261.7	10.14	26.806	
2,800.0	2,791.9	2,773.7	2,735.4	5.9	8.8	-38.18	104.6	-429.6	285.0	274.5	10.53	27.056	
2,900.0	2,891.4	2,872.8	2,832.3	6.1	9.2	-38.11	110.0	-449.7	298.2	287.3	10.93	27.288	
3,000.0	2,991.0	2,971.9	2,929.2	6.4	9.6	-38.04	115.4	-469.8	311.4	300.1	11.32	27.504	
3,100.0	3,090.6	3,071.1	3,026.1	6.6	10.0	-37.98	120.8	-489.9	324.6	312.9	11.72	27.705	
3,200.0	3,190.2	3,170.2	3,123.1	6.8	10.4	-37.92	126.2	-510.0	337.8	325.7	12.11	27.892	
3,300.0	3,289.8	3,269.3	3,220.0	7.1	10.8	-37.87	131.6	-530.2	351.0	338.5	12.50	28.068	
3,400.0	3,389.4	3,368.5	3,316.9	7.3	11.2	-37.83	137.0	-550.3	364.2	351.3	12.90	28.233	
3,500.0	3,489.0	3,467.6	3,413.8	7.6	11.6	-37.78	142.3	-570.4	377.4	364.1	13.29	28.388	
3,600.0	3,588.6	3,566.7	3,510.7	7.8	12.0	-37.74	147.7	-590.5	390.6	376.9	13.69	28.534	
3,700.0	3,688.2	3,665.8	3,607.6	8.0	12.4	-37.70	153.1	-610.6	403.8	389.7	14.08	28.672	
3,800.0	3,787.8	3,765.0	3,704.5	8.3	12.8	-37.66	158.5	-630.7	416.9	402.5	14.48	28.802	
3,900.0	3,887.4	3,864.1	3,801.5	8.5	13.2	-37.63	163.9	-650.9	430.1	415.3	14.87	28.925	
4,000.0	3,987.0	3,963.2	3,898.4	8.7	13.7	-37.60	169.3	-671.0	443.3	428.1	15.27	29.042	
4,100.0	4,086.6	4,062.3	3,995.3	9.0	14.1	-37.57	174.6	-691.1	456.5	440.9	15.66	29.153	
4,200.0	4,186.2	4,161.5	4,092.2	9.2	14.5	-37.54	180.0	-711.2	469.7	453.7	16.05	29.259	
4,300.0	4,285.8	4,260.6	4,189.1	9.4	14.9	-37.51	185.4	-731.3	482.9	466.5	16.45	29.359	
4,400.0	4,385.4	4,359.7	4,286.0	9.7	15.3	-37.49	190.8	-751.4	496.1	479.3	16.84	29.455	
4,500.0	4,484.9	4,458.8	4,382.9	9.9	15.7	-37.46	196.2	-771.5	509.3	492.1	17.24	29.546	
4,600.0	4,584.5	4,558.0	4,479.9	10.1	16.1	-37.44	201.6	-791.7	522.5	504.9	17.63	29.633	
4,700.0	4,684.1	4,657.1	4,576.8	10.4	16.5	-37.42	207.0	-811.8	535.7	517.7	18.03	29.716	
4,800.0	4,783.7	4,756.2	4,673.7	10.6	16.9	-37.40	212.3	-831.9	548.9	530.5	18.42	29.796	

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 1F-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 1F-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
4,900.0	4,883.3	4,855.3	4,770.6	10.8	17.3	-37.38	217.7	-852.0	562.1	543.3	18.82	29.872	
5,000.0	4,982.9	4,954.5	4,867.5	11.1	17.7	-37.36	223.1	-872.1	575.3	556.1	19.21	29.945	
5,100.0	5,082.5	5,053.6	4,964.4	11.3	18.1	-37.34	228.5	-892.2	588.5	568.9	19.61	30.016	
5,200.0	5,182.1	5,152.7	5,061.3	11.5	18.5	-37.32	233.9	-912.4	601.7	581.7	20.00	30.083	
5,300.0	5,281.7	5,251.8	5,158.2	11.8	19.0	-37.31	239.3	-932.5	614.9	594.5	20.39	30.148	
5,400.0	5,381.3	5,351.0	5,255.2	12.0	19.4	-37.29	244.6	-952.6	628.0	607.3	20.79	30.210	
5,500.0	5,480.9	5,450.1	5,352.1	12.2	19.8	-37.28	250.0	-972.7	641.2	620.1	21.18	30.270	
5,600.0	5,580.5	5,549.2	5,449.0	12.5	20.2	-37.26	255.4	-992.8	654.4	632.9	21.58	30.328	
5,700.0	5,680.1	5,648.3	5,545.9	12.7	20.6	-37.25	260.8	-1,012.9	667.6	645.7	21.97	30.384	
5,800.0	5,779.7	5,747.5	5,642.8	12.9	21.0	-37.24	266.2	-1,033.1	680.8	658.5	22.37	30.437	
5,900.0	5,879.3	5,846.6	5,739.7	13.2	21.4	-37.22	271.6	-1,053.2	694.0	671.3	22.76	30.489	
6,000.0	5,978.9	5,945.7	5,836.6	13.4	21.8	-37.21	277.0	-1,073.3	707.2	684.1	23.16	30.539	
6,100.0	6,078.4	6,044.8	5,933.6	13.6	22.2	-37.20	282.3	-1,093.4	720.4	696.9	23.55	30.588	
6,200.0	6,178.0	6,144.0	6,030.5	13.9	22.6	-37.19	287.7	-1,113.5	733.6	709.7	23.95	30.634	
6,300.0	6,277.6	6,243.1	6,127.4	14.1	23.0	-37.18	293.1	-1,133.6	746.8	722.5	24.34	30.680	
6,400.0	6,377.2	6,342.2	6,224.3	14.4	23.4	-37.16	298.5	-1,153.7	760.0	735.3	24.74	30.723	
6,500.0	6,476.8	6,441.3	6,321.2	14.6	23.9	-37.15	303.9	-1,173.9	773.2	748.1	25.13	30.766	
6,600.0	6,576.4	6,540.5	6,418.1	14.8	24.3	-37.14	309.3	-1,194.0	786.4	760.9	25.53	30.807	
6,700.0	6,676.0	6,639.6	6,515.0	15.1	24.7	-37.13	314.6	-1,214.1	799.6	773.7	25.92	30.847	
6,800.0	6,775.6	6,738.7	6,612.0	15.3	25.1	-37.13	320.0	-1,234.2	812.8	786.5	26.32	30.885	
6,900.0	6,875.2	6,837.8	6,708.9	15.5	25.5	-37.12	325.4	-1,254.3	826.0	799.3	26.71	30.923	
7,000.0	6,974.8	6,937.0	6,805.8	15.8	25.9	-37.11	330.8	-1,274.4	839.2	812.1	27.11	30.959	
7,042.2	7,016.8	6,978.8	6,846.7	15.9	26.1	-37.10	333.1	-1,282.9	844.7	817.5	27.27	30.974	
7,050.0	7,024.6	6,986.5	6,854.2	15.9	26.1	-31.25	333.5	-1,284.5	845.8	818.4	27.32	30.956	
7,100.0	7,074.4	7,036.0	6,902.6	16.0	26.3	19.54	336.2	-1,294.5	852.3	824.8	27.58	30.907	
7,150.0	7,124.2	7,085.3	6,950.7	16.0	26.5	52.44	338.9	-1,304.5	858.9	831.2	27.75	30.949	
7,200.0	7,173.6	7,133.9	6,998.4	16.1	26.7	65.85	341.5	-1,314.4	865.5	837.7	27.85	31.079	
7,250.0	7,222.5	7,182.3	7,045.6	16.1	26.9	72.53	344.0	-1,324.2	872.2	844.4	27.87	31.294	
7,300.0	7,270.6	7,231.9	7,094.2	16.1	27.1	76.52	343.9	-1,334.3	879.1	851.2	27.84	31.577	
7,350.0	7,317.5	7,282.5	7,143.6	16.1	27.3	79.19	340.3	-1,344.6	886.0	858.2	27.77	31.904	
7,400.0	7,363.3	7,334.1	7,193.6	16.1	27.4	81.12	332.9	-1,354.9	892.9	865.2	27.67	32.267	
7,450.0	7,407.5	7,386.9	7,244.1	16.1	27.6	82.61	321.6	-1,365.4	899.8	872.2	27.55	32.655	
7,500.0	7,450.0	7,440.8	7,294.7	16.1	27.7	83.81	306.2	-1,375.9	906.6	879.2	27.43	33.056	
7,550.0	7,490.6	7,496.0	7,345.1	16.0	27.9	84.81	286.4	-1,386.4	913.4	886.1	27.30	33.455	
7,600.0	7,529.1	7,552.4	7,395.0	16.0	28.0	85.66	262.1	-1,396.7	919.9	892.8	27.19	33.834	
7,650.0	7,565.2	7,610.2	7,443.9	16.0	28.1	86.39	233.2	-1,406.9	926.3	899.2	27.11	34.172	
7,700.0	7,598.9	7,669.3	7,491.5	16.1	28.2	87.03	199.6	-1,416.8	932.4	905.4	27.07	34.447	
7,750.0	7,629.9	7,729.7	7,537.1	16.1	28.3	87.60	161.2	-1,426.2	938.2	911.1	27.09	34.637	
7,800.0	7,658.2	7,791.5	7,580.3	16.2	28.5	88.10	118.0	-1,435.2	943.6	916.4	27.18	34.721	
7,850.0	7,683.5	7,854.6	7,620.5	16.3	28.6	88.53	70.2	-1,443.6	948.6	921.2	27.36	34.676	
7,900.0	7,705.7	7,918.9	7,657.1	16.5	28.7	88.91	17.8	-1,451.1	953.1	925.4	27.64	34.484	
7,950.0	7,724.8	7,984.3	7,689.5	16.6	28.9	89.23	-38.6	-1,457.9	957.0	929.0	28.02	34.148	
8,000.0	7,740.6	8,050.7	7,717.0	16.9	29.1	89.49	-98.8	-1,463.6	960.3	931.8	28.53	33.665	
8,050.0	7,753.1	8,118.0	7,739.3	17.1	29.3	89.70	-162.1	-1,468.2	963.0	933.9	29.16	33.031	
8,100.0	7,762.2	8,186.0	7,755.7	17.4	29.6	89.84	-228.0	-1,471.6	965.1	935.2	29.90	32.281	
8,150.0	7,767.8	8,254.5	7,766.0	17.8	29.9	89.92	-295.6	-1,473.8	966.4	935.6	30.74	31.434	
8,200.0	7,770.0	8,323.2	7,770.0	18.2	30.2	89.94	-364.2	-1,474.6	967.0	935.3	31.69	30.511	
8,206.2	7,770.0	8,331.5	7,770.0	18.2	30.2	89.94	-372.4	-1,474.6	967.0	935.2	31.81	30.396	
8,300.0	7,770.0	8,425.3	7,770.0	19.0	30.7	89.94	-466.3	-1,474.6	967.3	933.7	33.65	28.747	
8,400.0	7,770.0	8,525.3	7,770.0	20.0	31.3	89.94	-566.3	-1,474.6	967.7	931.9	35.82	27.012	
8,500.0	7,770.0	8,625.3	7,770.0	21.1	32.0	89.94	-666.3	-1,474.6	968.0	929.8	38.20	25.343	
8,600.0	7,770.0	8,725.3	7,770.0	22.2	32.7	89.94	-766.3	-1,474.6	968.4	927.7	40.74	23.773	

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 1F-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 1F-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
8,700.0	7,770.0	8,825.3	7,770.0	23.4	33.6	89.94	-866.3	-1,474.6	968.7	925.3	43.41	22.317	
8,800.0	7,770.0	8,925.3	7,770.0	24.7	34.5	89.94	-966.3	-1,474.6	969.1	922.9	46.19	20.979	
8,900.0	7,770.0	9,025.3	7,770.0	26.1	35.4	89.94	-1,066.3	-1,474.6	969.4	920.4	49.07	19.756	
9,000.0	7,770.0	9,125.3	7,770.0	27.5	36.5	89.94	-1,166.3	-1,474.6	969.8	917.8	52.03	18.640	
9,100.0	7,770.0	9,225.3	7,770.0	28.9	37.6	89.94	-1,266.3	-1,474.6	970.1	915.1	55.05	17.624	
9,200.0	7,770.0	9,325.3	7,770.0	30.4	38.7	89.94	-1,366.3	-1,474.6	970.5	912.4	58.12	16.697	
9,300.0	7,770.0	9,425.3	7,770.0	31.9	39.9	89.94	-1,466.3	-1,474.6	970.8	909.6	61.24	15.852	
9,400.0	7,770.0	9,525.3	7,770.0	33.4	41.1	89.94	-1,566.3	-1,474.6	971.2	906.8	64.41	15.079	
9,500.0	7,770.0	9,625.3	7,770.0	35.0	42.3	89.94	-1,666.3	-1,474.6	971.5	903.9	67.60	14.371	
9,600.0	7,770.0	9,725.3	7,770.0	36.5	43.6	89.94	-1,766.3	-1,474.6	971.9	901.1	70.83	13.722	
9,700.0	7,770.0	9,825.3	7,770.0	38.1	45.0	89.94	-1,866.3	-1,474.6	972.2	898.2	74.08	13.124	
9,800.0	7,770.0	9,925.3	7,770.0	39.7	46.3	89.94	-1,966.3	-1,474.6	972.6	895.2	77.35	12.574	
9,900.0	7,770.0	10,025.3	7,770.0	41.3	47.7	89.94	-2,066.3	-1,474.6	972.9	892.3	80.65	12.064	
10,000.0	7,770.0	10,125.3	7,770.0	42.9	49.1	89.94	-2,166.3	-1,474.6	973.3	889.3	83.96	11.593	
10,100.0	7,770.0	10,225.3	7,770.0	44.5	50.5	89.94	-2,266.2	-1,474.6	973.6	886.4	87.28	11.155	
10,200.0	7,770.0	10,325.3	7,770.0	46.2	52.0	89.94	-2,366.2	-1,474.6	974.0	883.4	90.62	10.748	
10,300.0	7,770.0	10,425.3	7,770.0	47.8	53.4	89.94	-2,466.2	-1,474.6	974.3	880.4	93.97	10.368	
10,400.0	7,770.0	10,525.3	7,770.0	49.5	54.9	89.94	-2,566.2	-1,474.6	974.7	877.3	97.34	10.013	
10,500.0	7,770.0	10,625.3	7,770.0	51.1	56.4	89.94	-2,666.2	-1,474.6	975.0	874.3	100.71	9.682	
10,600.0	7,770.0	10,725.3	7,770.0	52.8	57.9	89.94	-2,766.2	-1,474.6	975.4	871.3	104.09	9.370	
10,700.0	7,770.0	10,825.3	7,770.0	54.5	59.5	89.94	-2,866.2	-1,474.6	975.7	868.2	107.48	9.078	
10,800.0	7,770.0	10,925.3	7,770.0	56.2	61.0	89.94	-2,966.2	-1,474.6	976.1	865.2	110.88	8.803	
10,900.0	7,770.0	11,025.3	7,770.0	57.8	62.6	89.94	-3,066.2	-1,474.6	976.4	862.1	114.28	8.544	
11,000.0	7,770.0	11,125.3	7,770.0	59.5	64.1	89.94	-3,166.2	-1,474.6	976.8	859.1	117.69	8.299	
11,100.0	7,770.0	11,225.3	7,770.0	61.2	65.7	89.94	-3,266.2	-1,474.6	977.1	856.0	121.11	8.068	
11,200.0	7,770.0	11,325.3	7,770.0	62.9	67.3	89.94	-3,366.2	-1,474.6	977.5	852.9	124.53	7.849	
11,300.0	7,770.0	11,425.3	7,770.0	64.6	68.9	89.94	-3,466.2	-1,474.6	977.8	849.9	127.96	7.642	
11,400.0	7,770.0	11,525.3	7,770.0	66.3	70.5	89.94	-3,566.2	-1,474.6	978.2	846.8	131.39	7.445	
11,500.0	7,770.0	11,625.3	7,770.0	68.0	72.1	89.94	-3,666.2	-1,474.6	978.5	843.7	134.82	7.258	
11,600.0	7,770.0	11,725.3	7,770.0	69.7	73.7	89.94	-3,766.2	-1,474.6	978.9	840.6	138.26	7.080	
11,700.0	7,770.0	11,825.3	7,770.0	71.4	75.3	89.94	-3,866.2	-1,474.6	979.2	837.5	141.70	6.911	
11,800.0	7,770.0	11,925.3	7,770.0	73.1	76.9	89.94	-3,966.2	-1,474.6	979.6	834.4	145.14	6.749	
11,900.0	7,770.0	12,025.3	7,770.0	74.8	78.5	89.94	-4,066.2	-1,474.6	979.9	831.3	148.59	6.595	
12,000.0	7,770.0	12,125.3	7,770.0	76.5	80.2	89.94	-4,166.2	-1,474.6	980.3	828.2	152.04	6.447	
12,100.0	7,770.0	12,225.3	7,770.0	78.3	81.8	89.94	-4,266.2	-1,474.6	980.6	825.1	155.49	6.307	
12,200.0	7,770.0	12,325.3	7,770.0	80.0	83.5	89.94	-4,366.2	-1,474.6	981.0	822.0	158.95	6.172	
12,300.0	7,770.0	12,425.3	7,770.0	81.7	85.1	89.94	-4,466.2	-1,474.6	981.3	818.9	162.41	6.042	
12,400.0	7,770.0	12,525.3	7,770.0	83.4	86.8	89.94	-4,566.2	-1,474.6	981.7	815.8	165.87	5.918	
12,500.0	7,770.0	12,625.3	7,770.0	85.1	88.4	89.94	-4,666.2	-1,474.6	982.0	812.7	169.33	5.800	
12,600.0	7,770.0	12,725.3	7,770.0	86.9	90.1	89.94	-4,766.2	-1,474.6	982.4	809.6	172.79	5.685	
12,700.0	7,770.0	12,825.3	7,770.0	88.6	91.7	89.94	-4,866.2	-1,474.6	982.7	806.5	176.26	5.576	
12,800.0	7,770.0	12,925.3	7,770.0	90.3	93.4	89.94	-4,966.2	-1,474.6	983.1	803.3	179.72	5.470	
12,900.0	7,770.0	13,025.3	7,770.0	92.0	95.1	89.94	-5,066.2	-1,474.6	983.4	800.2	183.19	5.368	
13,000.0	7,770.0	13,125.3	7,770.0	93.8	96.8	89.94	-5,166.2	-1,474.6	983.8	797.1	186.66	5.270	
13,100.0	7,770.0	13,225.3	7,770.0	95.5	98.4	89.94	-5,266.2	-1,474.6	984.1	794.0	190.13	5.176	
13,200.0	7,770.0	13,325.3	7,770.0	97.2	100.1	89.94	-5,366.2	-1,474.6	984.5	790.9	193.60	5.085	
13,300.0	7,770.0	13,425.3	7,770.0	99.0	101.8	89.94	-5,466.2	-1,474.6	984.8	787.7	197.08	4.997	
13,400.0	7,770.0	13,525.3	7,770.0	100.7	103.5	89.94	-5,566.2	-1,474.6	985.2	784.6	200.55	4.912	
13,500.0	7,770.0	13,625.3	7,770.0	102.4	105.2	89.94	-5,666.2	-1,474.6	985.5	781.5	204.03	4.830	
13,600.0	7,770.0	13,725.3	7,770.0	104.1	106.9	89.94	-5,766.2	-1,474.6	985.9	778.4	207.51	4.751	
13,700.0	7,770.0	13,825.3	7,770.0	105.9	108.5	89.94	-5,866.2	-1,474.6	986.2	775.2	210.99	4.674	
13,800.0	7,770.0	13,925.3	7,770.0	107.6	110.2	89.94	-5,966.2	-1,474.6	986.6	772.1	214.46	4.600	

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 1F-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 1F-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
13,900.0	7,770.0	14,025.3	7,770.0	109.3	111.9	89.94	-6,066.2	-1,474.6	986.9	769.0	217.94	4.528	
14,000.0	7,770.0	14,125.3	7,770.0	111.1	113.6	89.94	-6,166.2	-1,474.6	987.3	765.8	221.43	4.459	
14,100.0	7,770.0	14,225.3	7,770.0	112.8	115.3	89.94	-6,266.2	-1,474.6	987.6	762.7	224.91	4.391	
14,200.0	7,770.0	14,325.3	7,770.0	114.6	117.0	89.94	-6,366.2	-1,474.6	988.0	759.6	228.39	4.326	
14,300.0	7,770.0	14,425.3	7,770.0	116.3	118.7	89.94	-6,466.2	-1,474.6	988.3	756.4	231.87	4.262	
14,400.0	7,770.0	14,525.3	7,770.0	118.0	120.4	89.94	-6,566.2	-1,474.6	988.7	753.3	235.36	4.201	
14,500.0	7,770.0	14,625.3	7,770.0	119.8	122.1	89.94	-6,666.2	-1,474.6	989.0	750.2	238.84	4.141	
14,600.0	7,770.0	14,725.3	7,770.0	121.5	123.8	89.94	-6,766.2	-1,474.6	989.3	747.0	242.33	4.083	
14,700.0	7,770.0	14,825.3	7,770.0	123.2	125.5	89.94	-6,866.2	-1,474.6	989.7	743.9	245.81	4.026	
14,800.0	7,770.0	14,925.3	7,770.0	125.0	127.3	89.94	-6,966.2	-1,474.6	990.0	740.7	249.30	3.971	
14,900.0	7,770.0	15,025.3	7,770.0	126.7	129.0	89.94	-7,066.2	-1,474.6	990.4	737.6	252.79	3.918	
15,000.0	7,770.0	15,125.3	7,770.0	128.5	130.7	89.94	-7,166.2	-1,474.6	990.7	734.5	256.28	3.866	
15,100.0	7,770.0	15,225.3	7,770.0	130.2	132.4	89.94	-7,266.2	-1,474.6	991.1	731.3	259.77	3.815	
15,200.0	7,770.0	15,325.3	7,770.0	131.9	134.1	89.94	-7,366.2	-1,474.6	991.4	728.2	263.25	3.766	
15,300.0	7,770.0	15,425.3	7,770.0	133.7	135.8	89.94	-7,466.2	-1,474.6	991.8	725.1	266.74	3.718	
15,400.0	7,770.0	15,525.3	7,770.0	135.4	137.5	89.94	-7,566.2	-1,474.6	992.1	721.9	270.23	3.671	
15,500.0	7,770.0	15,625.3	7,770.0	137.2	139.2	89.94	-7,666.2	-1,474.6	992.5	718.8	273.72	3.626	
15,600.0	7,770.0	15,725.3	7,770.0	138.9	141.0	89.94	-7,766.2	-1,474.6	992.8	715.6	277.22	3.581	
15,700.0	7,770.0	15,825.3	7,770.0	140.6	142.7	89.94	-7,866.2	-1,474.6	993.2	712.5	280.71	3.538	
15,800.0	7,770.0	15,925.3	7,770.0	142.4	144.4	89.94	-7,966.2	-1,474.6	993.5	709.3	284.20	3.496	
15,900.0	7,770.0	16,025.3	7,770.0	144.1	146.1	89.94	-8,066.2	-1,474.6	993.9	706.2	287.69	3.455	
16,000.0	7,770.0	16,125.3	7,770.0	145.9	147.8	89.94	-8,166.2	-1,474.6	994.2	703.1	291.18	3.414	
16,100.0	7,770.0	16,225.3	7,770.0	147.6	149.6	89.94	-8,266.2	-1,474.6	994.6	699.9	294.68	3.375	
16,200.0	7,770.0	16,325.3	7,770.0	149.4	151.3	89.94	-8,366.2	-1,474.6	994.9	696.8	298.17	3.337	
16,300.0	7,770.0	16,425.3	7,770.0	151.1	153.0	89.94	-8,466.2	-1,474.6	995.3	693.6	301.66	3.299	
16,400.0	7,770.0	16,525.3	7,770.0	152.9	154.7	89.94	-8,566.2	-1,474.6	995.6	690.5	305.16	3.263	
16,500.0	7,770.0	16,625.3	7,770.0	154.6	156.4	89.94	-8,666.2	-1,474.6	996.0	687.3	308.65	3.227	
16,600.0	7,770.0	16,725.3	7,770.0	156.3	158.2	89.94	-8,766.2	-1,474.6	996.3	684.2	312.15	3.192	
16,700.0	7,770.0	16,825.3	7,770.0	158.1	159.9	89.94	-8,866.2	-1,474.6	996.7	681.0	315.64	3.158	
16,800.0	7,770.0	16,925.3	7,770.0	159.8	161.6	89.94	-8,966.2	-1,474.6	997.0	677.9	319.14	3.124	
16,900.0	7,770.0	17,025.3	7,770.0	161.6	163.3	89.94	-9,066.2	-1,474.6	997.4	674.8	322.63	3.091	
17,000.0	7,770.0	17,125.3	7,770.0	163.3	165.1	89.94	-9,166.2	-1,474.6	997.7	671.6	326.13	3.059	
17,100.0	7,770.0	17,225.3	7,770.0	165.1	166.8	89.94	-9,266.2	-1,474.6	998.1	668.5	329.62	3.028	
17,200.0	7,770.0	17,325.3	7,770.0	166.8	168.5	89.94	-9,366.2	-1,474.6	998.4	665.3	333.12	2.997	
17,300.0	7,770.0	17,425.3	7,770.0	168.6	170.3	89.94	-9,466.2	-1,474.6	998.8	662.2	336.62	2.967	
17,400.0	7,770.0	17,525.3	7,770.0	170.3	172.0	89.94	-9,566.2	-1,474.6	999.1	659.0	340.11	2.938	
17,500.0	7,770.0	17,625.3	7,770.0	172.0	173.7	89.94	-9,666.2	-1,474.6	999.5	655.9	343.61	2.909	
17,600.0	7,770.0	17,725.3	7,770.0	173.8	175.4	89.94	-9,766.2	-1,474.6	999.8	652.7	347.11	2.880	
17,664.2	7,770.0	17,775.9	7,770.0	174.9	176.3	89.94	-9,816.8	-1,474.6	1,000.1	651.0	349.11	2.865	SF

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Morgan Hills 1F-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 1F-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	-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	CC, ES
400.0	400.0	399.5	399.5	0.7	0.7	-89.49	0.3	-30.8	30.8	29.4	1.35	22.788	
450.0	450.0	449.2	449.2	0.8	0.8	-88.88	0.6	-31.8	31.8	30.3	1.53	20.852	
500.0	500.0	498.9	498.9	0.9	0.9	-35.26	1.1	-33.2	33.1	31.4	1.70	19.473	
600.0	600.0	598.3	598.2	1.0	1.0	-34.84	2.5	-37.3	35.8	33.8	2.05	17.484	
700.0	699.9	697.7	697.3	1.2	1.2	-35.21	4.4	-43.0	38.8	36.4	2.40	16.156	
800.0	799.8	796.9	796.3	1.4	1.4	-36.21	6.9	-50.4	42.0	39.2	2.76	15.229	
900.0	899.5	896.2	895.1	1.6	1.7	-37.68	9.9	-59.3	45.4	42.3	3.12	14.561	
966.6	965.9	962.2	960.8	1.7	1.8	-38.86	12.2	-66.2	47.9	44.5	3.37	14.214	
1,000.0	999.2	995.3	993.6	1.8	1.9	-39.43	13.5	-69.9	49.2	45.7	3.50	14.088	
1,100.0	1,098.8	1,094.3	1,091.8	2.0	2.2	-40.51	17.6	-82.0	54.4	50.5	3.88	14.024	
1,200.0	1,198.4	1,193.2	1,189.6	2.2	2.5	-40.77	22.2	-95.8	61.2	56.9	4.27	14.334	
1,300.0	1,297.9	1,291.8	1,286.9	2.5	2.8	-40.44	27.4	-111.1	69.5	64.9	4.66	14.933	
1,400.0	1,397.5	1,391.1	1,384.6	2.7	3.1	-39.84	32.9	-127.6	79.0	74.0	5.05	15.668	
1,500.0	1,497.1	1,490.6	1,482.6	2.9	3.4	-39.36	38.6	-144.3	88.6	83.2	5.43	16.304	
1,600.0	1,596.7	1,590.2	1,580.5	3.1	3.8	-38.97	44.2	-160.9	98.2	92.3	5.82	16.854	
1,700.0	1,696.3	1,689.7	1,678.5	3.4	4.1	-38.65	49.8	-177.5	107.7	101.5	6.21	17.335	
1,800.0	1,795.9	1,789.2	1,776.5	3.6	4.5	-38.38	55.4	-194.2	117.3	110.7	6.60	17.758	
1,900.0	1,895.5	1,888.8	1,874.5	3.8	4.8	-38.15	61.0	-210.8	126.9	119.9	7.00	18.133	
2,000.0	1,995.1	1,988.3	1,972.5	4.1	5.2	-37.95	66.6	-227.5	136.4	129.0	7.39	18.468	
2,100.0	2,094.7	2,087.9	2,070.4	4.3	5.5	-37.78	72.2	-244.1	146.0	138.2	7.78	18.770	
2,200.0	2,194.3	2,187.4	2,168.4	4.5	5.8	-37.63	77.8	-260.7	155.6	147.4	8.17	19.042	
2,300.0	2,293.9	2,286.9	2,266.4	4.8	6.2	-37.50	83.4	-277.4	165.1	156.6	8.56	19.288	
2,400.0	2,393.5	2,386.5	2,364.4	5.0	6.5	-37.39	89.0	-294.0	174.7	165.8	8.95	19.513	
2,500.0	2,493.1	2,486.0	2,462.4	5.2	6.9	-37.28	94.7	-310.6	184.3	174.9	9.35	19.719	
2,600.0	2,592.7	2,585.6	2,560.3	5.4	7.3	-37.19	100.3	-327.3	193.9	184.1	9.74	19.909	
2,700.0	2,692.3	2,685.1	2,658.3	5.7	7.6	-37.10	105.9	-343.9	203.4	193.3	10.13	20.083	
2,800.0	2,791.9	2,784.6	2,756.3	5.9	8.0	-37.02	111.5	-360.5	213.0	202.5	10.52	20.244	
2,900.0	2,891.4	2,884.2	2,854.3	6.1	8.3	-36.95	117.1	-377.2	222.6	211.7	10.91	20.394	
3,000.0	2,991.0	2,983.7	2,952.2	6.4	8.7	-36.88	122.7	-393.8	232.2	220.9	11.31	20.533	
3,100.0	3,090.6	3,083.3	3,050.2	6.6	9.0	-36.82	128.3	-410.5	241.8	230.1	11.70	20.663	
3,200.0	3,190.2	3,182.8	3,148.2	6.8	9.4	-36.77	133.9	-427.1	251.3	239.2	12.09	20.784	
3,300.0	3,289.8	3,282.3	3,246.2	7.1	9.7	-36.72	139.5	-443.7	260.9	248.4	12.49	20.897	
3,400.0	3,389.4	3,381.9	3,344.2	7.3	10.1	-36.67	145.1	-460.4	270.5	257.6	12.88	21.004	
3,500.0	3,489.0	3,481.4	3,442.1	7.6	10.4	-36.62	150.8	-477.0	280.1	266.8	13.27	21.104	
3,600.0	3,588.6	3,581.0	3,540.1	7.8	10.8	-36.58	156.4	-493.6	289.6	276.0	13.66	21.198	
3,700.0	3,688.2	3,680.5	3,638.1	8.0	11.1	-36.54	162.0	-510.3	299.2	285.2	14.06	21.287	
3,800.0	3,787.8	3,780.0	3,736.1	8.3	11.5	-36.51	167.6	-526.9	308.8	294.3	14.45	21.372	
3,900.0	3,887.4	3,879.6	3,834.1	8.5	11.8	-36.47	173.2	-543.6	318.4	303.5	14.84	21.451	
4,000.0	3,987.0	3,979.1	3,932.0	8.7	12.2	-36.44	178.8	-560.2	328.0	312.7	15.23	21.527	
4,100.0	4,086.6	4,078.7	4,030.0	9.0	12.6	-36.41	184.4	-576.8	337.5	321.9	15.63	21.598	
4,200.0	4,186.2	4,178.2	4,128.0	9.2	12.9	-36.38	190.0	-593.5	347.1	331.1	16.02	21.667	
4,300.0	4,285.8	4,277.7	4,226.0	9.4	13.3	-36.35	195.6	-610.1	356.7	340.3	16.41	21.732	
4,400.0	4,385.4	4,377.3	4,324.0	9.7	13.6	-36.33	201.2	-626.7	366.3	349.5	16.81	21.793	
4,500.0	4,484.9	4,476.8	4,421.9	9.9	14.0	-36.30	206.9	-643.4	375.8	358.7	17.20	21.852	
4,600.0	4,584.5	4,576.4	4,519.9	10.1	14.3	-36.28	212.5	-660.0	385.4	367.8	17.59	21.909	
4,700.0	4,684.1	4,675.9	4,617.9	10.4	14.7	-36.26	218.1	-676.7	395.0	377.0	17.99	21.962	
4,800.0	4,783.7	4,775.4	4,715.9	10.6	15.0	-36.24	223.7	-693.3	404.6	386.2	18.38	22.014	
4,900.0	4,883.3	4,875.0	4,813.9	10.8	15.4	-36.22	229.3	-709.9	414.2	395.4	18.77	22.063	

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

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Morgan Hills 1F-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 1F-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
5,000.0	4,982.9	4,974.5	4,911.8	11.1	15.7	-36.20	234.9	-726.6	423.7	404.6	19.16	22.111	
5,100.0	5,082.5	5,074.1	5,009.8	11.3	16.1	-36.18	240.5	-743.2	433.3	413.8	19.56	22.156	
5,200.0	5,182.1	5,173.6	5,107.8	11.5	16.5	-36.16	246.1	-759.8	442.9	423.0	19.95	22.200	
5,300.0	5,281.7	5,273.1	5,205.8	11.8	16.8	-36.14	251.7	-776.5	452.5	432.1	20.34	22.242	
5,400.0	5,381.3	5,372.7	5,303.8	12.0	17.2	-36.13	257.4	-793.1	462.1	441.3	20.74	22.282	
5,500.0	5,480.9	5,472.2	5,401.7	12.2	17.5	-36.11	263.0	-809.8	471.6	450.5	21.13	22.321	
5,600.0	5,580.5	5,571.8	5,499.7	12.5	17.9	-36.10	268.6	-826.4	481.2	459.7	21.52	22.358	
5,700.0	5,680.1	5,671.3	5,597.7	12.7	18.2	-36.08	274.2	-843.0	490.8	468.9	21.92	22.394	
5,800.0	5,779.7	5,770.8	5,695.7	12.9	18.6	-36.07	279.8	-859.7	500.4	478.1	22.31	22.429	
5,900.0	5,879.3	5,870.4	5,793.6	13.2	18.9	-36.05	285.4	-876.3	510.0	487.3	22.70	22.462	
6,000.0	5,978.9	5,969.9	5,891.6	13.4	19.3	-36.04	291.0	-892.9	519.5	496.4	23.10	22.495	
6,100.0	6,078.4	6,069.5	5,989.6	13.6	19.7	-36.03	296.6	-909.6	529.1	505.6	23.49	22.526	
6,200.0	6,178.0	6,169.0	6,087.6	13.9	20.0	-36.02	302.2	-926.2	538.7	514.8	23.88	22.556	
6,300.0	6,277.6	6,268.5	6,185.6	14.1	20.4	-36.01	307.8	-942.9	548.3	524.0	24.28	22.586	
6,400.0	6,377.2	6,368.1	6,283.5	14.4	20.7	-36.00	313.5	-959.5	557.9	533.2	24.67	22.614	
6,500.0	6,476.8	6,467.6	6,381.5	14.6	21.1	-35.98	319.1	-976.1	567.4	542.4	25.06	22.642	
6,600.0	6,576.4	6,567.2	6,479.5	14.8	21.4	-35.97	324.7	-992.8	577.0	551.6	25.46	22.668	
6,700.0	6,676.0	6,666.7	6,577.5	15.1	21.8	-35.96	330.3	-1,009.4	586.6	560.8	25.85	22.694	
6,800.0	6,775.6	6,766.2	6,675.5	15.3	22.1	-35.95	335.9	-1,026.0	596.2	569.9	26.24	22.719	
6,900.0	6,875.2	6,865.8	6,773.4	15.5	22.5	-35.94	341.5	-1,042.7	605.8	579.1	26.63	22.743	
7,000.0	6,974.8	6,965.3	6,871.5	15.8	22.8	-36.44	341.7	-1,059.3	615.3	588.3	27.06	22.736	
7,042.2	7,016.8	7,006.5	6,911.9	15.9	22.9	-37.01	337.8	-1,066.2	619.4	592.1	27.29	22.699	
7,050.0	7,024.6	7,014.1	6,919.3	15.9	22.9	-31.27	336.8	-1,067.5	620.2	592.9	27.34	22.683	
7,100.0	7,074.4	7,062.1	6,966.0	16.0	23.1	18.72	328.8	-1,075.5	625.2	597.6	27.65	22.609	
7,150.0	7,124.2	7,109.6	7,011.5	16.0	23.2	50.62	317.7	-1,083.3	630.4	602.5	27.91	22.587	
7,200.0	7,173.6	7,156.6	7,055.7	16.1	23.2	62.83	303.8	-1,090.9	635.6	607.5	28.10	22.618	
7,250.0	7,222.5	7,203.1	7,098.5	16.1	23.3	68.16	287.2	-1,098.3	640.9	612.7	28.23	22.702	
7,300.0	7,270.6	7,250.0	7,140.5	16.1	23.4	70.78	267.6	-1,105.5	646.2	617.9	28.30	22.839	
7,350.0	7,317.5	7,294.9	7,179.4	16.1	23.5	72.13	246.2	-1,112.2	651.6	623.3	28.29	23.027	
7,400.0	7,363.3	7,340.2	7,217.2	16.1	23.5	72.78	222.3	-1,118.8	656.8	628.6	28.23	23.263	
7,450.0	7,407.5	7,385.1	7,253.2	16.1	23.6	73.04	196.1	-1,125.0	662.0	633.9	28.12	23.542	
7,500.0	7,450.0	7,429.7	7,287.3	16.1	23.6	73.06	167.9	-1,131.0	667.1	639.1	27.96	23.856	
7,550.0	7,490.6	7,474.0	7,319.3	16.0	23.7	72.93	137.9	-1,136.6	672.0	644.2	27.77	24.197	
7,600.0	7,529.1	7,518.0	7,349.3	16.0	23.8	72.71	106.1	-1,141.9	676.7	649.1	27.56	24.551	
7,650.0	7,565.2	7,561.8	7,377.1	16.0	23.9	72.44	72.6	-1,146.8	681.2	653.8	27.35	24.905	
7,700.0	7,598.9	7,605.4	7,402.8	16.1	23.9	72.14	37.7	-1,151.3	685.4	658.3	27.15	25.243	
7,750.0	7,629.9	7,650.0	7,426.8	16.1	24.0	71.83	0.4	-1,155.6	689.4	662.4	27.02	25.514	
7,800.0	7,658.2	7,692.0	7,447.3	16.2	24.2	71.55	-36.1	-1,159.3	693.1	666.1	26.95	25.720	
7,850.0	7,683.5	7,735.0	7,466.1	16.3	24.3	71.27	-74.6	-1,162.7	696.4	669.5	26.95	25.841	
7,900.0	7,705.7	7,778.0	7,482.5	16.5	24.4	71.01	-114.2	-1,165.7	699.4	672.3	27.06	25.847	
7,950.0	7,724.8	7,820.8	7,496.6	16.6	24.6	70.79	-154.5	-1,168.3	702.0	674.8	27.29	25.724	
8,000.0	7,740.6	7,863.5	7,508.2	16.9	24.7	70.60	-195.6	-1,170.5	704.3	676.6	27.66	25.463	
8,050.0	7,753.1	7,906.2	7,517.3	17.1	24.9	70.44	-237.2	-1,172.2	706.2	678.0	28.17	25.066	
8,100.0	7,762.2	7,950.0	7,524.2	17.4	25.1	70.33	-280.5	-1,173.6	707.6	678.8	28.84	24.538	
8,150.0	7,767.8	7,991.4	7,528.2	17.8	25.3	70.26	-321.6	-1,174.5	708.7	679.0	29.64	23.912	
8,200.0	7,770.0	8,033.9	7,530.0	18.2	25.6	70.22	-364.2	-1,175.1	709.3	678.7	30.57	23.202	
8,206.2	7,770.0	8,042.0	7,530.0	18.2	25.6	70.22	-372.3	-1,175.1	709.4	678.7	30.72	23.093	
8,300.0	7,770.0	8,132.5	7,530.0	19.0	26.2	70.25	-462.8	-1,175.6	710.1	677.7	32.41	21.913	
8,400.0	7,770.0	8,232.5	7,530.0	20.0	26.9	70.27	-562.8	-1,176.1	711.0	676.5	34.44	20.643	
8,500.0	7,770.0	8,332.5	7,530.0	21.1	27.7	70.29	-662.8	-1,176.6	711.8	675.1	36.66	19.416	
8,600.0	7,770.0	8,432.5	7,530.0	22.2	28.6	70.32	-762.7	-1,177.1	712.6	673.6	39.03	18.256	
8,700.0	7,770.0	8,532.5	7,530.0	23.4	29.5	70.34	-862.7	-1,177.7	713.4	671.9	41.54	17.175	

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 1F-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 1F-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
8,800.0	7,770.0	8,632.5	7,530.0	24.7	30.6	70.36	-962.7	-1,178.2	714.2	670.1	44.15	16.178	
8,900.0	7,770.0	8,732.5	7,530.0	26.1	31.7	70.39	-1,062.7	-1,178.7	715.1	668.2	46.85	15.264	
9,000.0	7,770.0	8,832.5	7,530.0	27.5	32.8	70.41	-1,162.7	-1,179.2	715.9	666.3	49.62	14.427	
9,100.0	7,770.0	8,932.5	7,530.0	28.9	34.0	70.44	-1,262.7	-1,179.8	716.7	664.3	52.46	13.662	
9,200.0	7,770.0	9,032.5	7,530.0	30.4	35.3	70.46	-1,362.7	-1,180.3	717.5	662.2	55.35	12.963	
9,300.0	7,770.0	9,132.5	7,530.0	31.9	36.6	70.48	-1,462.7	-1,180.8	718.4	660.1	58.29	12.324	
9,400.0	7,770.0	9,232.5	7,530.0	33.4	37.9	70.51	-1,562.7	-1,181.3	719.2	657.9	61.27	11.738	
9,500.0	7,770.0	9,332.5	7,530.0	35.0	39.3	70.53	-1,662.7	-1,181.9	720.0	655.7	64.28	11.201	
9,600.0	7,770.0	9,432.5	7,530.0	36.5	40.7	70.55	-1,762.7	-1,182.4	720.8	653.5	67.32	10.708	
9,700.0	7,770.0	9,532.5	7,530.0	38.1	42.1	70.57	-1,862.7	-1,182.9	721.6	651.3	70.39	10.253	
9,800.0	7,770.0	9,632.5	7,530.0	39.7	43.5	70.60	-1,962.7	-1,183.4	722.5	649.0	73.48	9.833	
9,900.0	7,770.0	9,732.5	7,530.0	41.3	45.0	70.62	-2,062.7	-1,184.0	723.3	646.7	76.58	9.444	
10,000.0	7,770.0	9,832.5	7,530.0	42.9	46.5	70.64	-2,162.7	-1,184.5	724.1	644.4	79.71	9.084	
10,100.0	7,770.0	9,932.5	7,530.0	44.5	48.0	70.67	-2,262.7	-1,185.0	724.9	642.1	82.86	8.749	
10,200.0	7,770.0	10,032.5	7,530.0	46.2	49.5	70.69	-2,362.7	-1,185.5	725.8	639.8	86.01	8.438	
10,300.0	7,770.0	10,132.5	7,530.0	47.8	51.1	70.71	-2,462.7	-1,186.1	726.6	637.4	89.18	8.147	
10,400.0	7,770.0	10,232.5	7,530.0	49.5	52.6	70.73	-2,562.7	-1,186.6	727.4	635.0	92.37	7.875	
10,500.0	7,770.0	10,332.5	7,530.0	51.1	54.2	70.76	-2,662.6	-1,187.1	728.2	632.7	95.56	7.621	
10,600.0	7,770.0	10,432.4	7,530.0	52.8	55.8	70.78	-2,762.6	-1,187.6	729.1	630.3	98.76	7.382	
10,700.0	7,770.0	10,532.4	7,530.0	54.5	57.3	70.80	-2,862.6	-1,188.1	729.9	627.9	101.97	7.158	
10,800.0	7,770.0	10,632.4	7,530.0	56.2	58.9	70.82	-2,962.6	-1,188.7	730.7	625.5	105.19	6.947	
10,900.0	7,770.0	10,732.4	7,530.0	57.8	60.5	70.85	-3,062.6	-1,189.2	731.5	623.1	108.42	6.747	
11,000.0	7,770.0	10,832.4	7,530.0	59.5	62.2	70.87	-3,162.6	-1,189.7	732.4	620.7	111.65	6.559	
11,100.0	7,770.0	10,932.4	7,530.0	61.2	63.8	70.89	-3,262.6	-1,190.2	733.2	618.3	114.89	6.382	
11,200.0	7,770.0	11,032.4	7,530.0	62.9	65.4	70.91	-3,362.6	-1,190.8	734.0	615.9	118.14	6.213	
11,300.0	7,770.0	11,132.4	7,530.0	64.6	67.0	70.94	-3,462.6	-1,191.3	734.8	613.4	121.39	6.054	
11,400.0	7,770.0	11,232.4	7,530.0	66.3	68.7	70.96	-3,562.6	-1,191.8	735.7	611.0	124.64	5.902	
11,500.0	7,770.0	11,332.4	7,530.0	68.0	70.3	70.98	-3,662.6	-1,192.3	736.5	608.6	127.90	5.758	
11,600.0	7,770.0	11,432.4	7,530.0	69.7	72.0	71.00	-3,762.6	-1,192.9	737.3	606.1	131.17	5.621	
11,700.0	7,770.0	11,532.4	7,530.0	71.4	73.6	71.03	-3,862.6	-1,193.4	738.1	603.7	134.44	5.490	
11,800.0	7,770.0	11,632.4	7,530.0	73.1	75.3	71.05	-3,962.6	-1,193.9	739.0	601.2	137.71	5.366	
11,900.0	7,770.0	11,732.4	7,530.0	74.8	77.0	71.07	-4,062.6	-1,194.4	739.8	598.8	140.99	5.247	
12,000.0	7,770.0	11,832.4	7,530.0	76.5	78.6	71.09	-4,162.6	-1,195.0	740.6	596.3	144.27	5.133	
12,100.0	7,770.0	11,932.4	7,530.0	78.3	80.3	71.11	-4,262.6	-1,195.5	741.4	593.9	147.55	5.025	
12,200.0	7,770.0	12,032.4	7,530.0	80.0	82.0	71.13	-4,362.6	-1,196.0	742.3	591.4	150.84	4.921	
12,300.0	7,770.0	12,132.4	7,530.0	81.7	83.6	71.16	-4,462.6	-1,196.5	743.1	589.0	154.13	4.821	
12,400.0	7,770.0	12,232.4	7,530.0	83.4	85.3	71.18	-4,562.5	-1,197.0	743.9	586.5	157.43	4.725	
12,500.0	7,770.0	12,332.4	7,530.0	85.1	87.0	71.20	-4,662.5	-1,197.6	744.7	584.0	160.72	4.634	
12,600.0	7,770.0	12,432.4	7,530.0	86.9	88.7	71.22	-4,762.5	-1,198.1	745.6	581.5	164.02	4.546	
12,700.0	7,770.0	12,532.4	7,530.0	88.6	90.4	71.24	-4,862.5	-1,198.6	746.4	579.1	167.32	4.461	
12,800.0	7,770.0	12,632.4	7,530.0	90.3	92.1	71.26	-4,962.5	-1,199.1	747.2	576.6	170.63	4.379	
12,900.0	7,770.0	12,732.4	7,530.0	92.0	93.8	71.29	-5,062.5	-1,199.7	748.0	574.1	173.93	4.301	
13,000.0	7,770.0	12,832.4	7,530.0	93.8	95.5	71.31	-5,162.5	-1,200.2	748.9	571.6	177.24	4.225	
13,100.0	7,770.0	12,932.4	7,530.0	95.5	97.2	71.33	-5,262.5	-1,200.7	749.7	569.1	180.55	4.152	
13,200.0	7,770.0	13,032.4	7,530.0	97.2	98.9	71.35	-5,362.5	-1,201.2	750.5	566.7	183.86	4.082	
13,300.0	7,770.0	13,132.3	7,530.0	99.0	100.6	71.37	-5,462.5	-1,201.8	751.4	564.2	187.18	4.014	
13,400.0	7,770.0	13,232.3	7,530.0	100.7	102.3	71.39	-5,562.5	-1,202.3	752.2	561.7	190.49	3.949	
13,500.0	7,770.0	13,332.3	7,530.0	102.4	104.0	71.41	-5,662.5	-1,202.8	753.0	559.2	193.81	3.885	
13,600.0	7,770.0	13,432.3	7,530.0	104.1	105.7	71.43	-5,762.5	-1,203.3	753.8	556.7	197.13	3.824	
13,700.0	7,770.0	13,532.3	7,530.0	105.9	107.4	71.46	-5,862.5	-1,203.9	754.7	554.2	200.45	3.765	
13,800.0	7,770.0	13,632.3	7,530.0	107.6	109.1	71.48	-5,962.5	-1,204.4	755.5	551.7	203.78	3.707	
13,900.0	7,770.0	13,732.3	7,530.0	109.3	110.8	71.50	-6,062.5	-1,204.9	756.3	549.2	207.10	3.652	

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 1F-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 1F-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
14,000.0	7,770.0	13,832.3	7,530.0	111.1	112.5	71.52	-6,162.5	-1,205.4	757.1	546.7	210.43	3.598	
14,100.0	7,770.0	13,932.3	7,530.0	112.8	114.2	71.54	-6,262.5	-1,206.0	758.0	544.2	213.76	3.546	
14,200.0	7,770.0	14,032.3	7,530.0	114.6	116.0	71.56	-6,362.5	-1,206.5	758.8	541.7	217.09	3.495	
14,300.0	7,770.0	14,132.3	7,530.0	116.3	117.7	71.58	-6,462.5	-1,207.0	759.6	539.2	220.42	3.446	
14,400.0	7,770.0	14,232.3	7,530.0	118.0	119.4	71.60	-6,562.4	-1,207.5	760.5	536.7	223.75	3.399	
14,500.0	7,770.0	14,332.3	7,530.0	119.8	121.1	71.62	-6,662.4	-1,208.0	761.3	534.2	227.08	3.352	
14,600.0	7,770.0	14,432.3	7,530.0	121.5	122.8	71.64	-6,762.4	-1,208.6	762.1	531.7	230.42	3.308	
14,700.0	7,770.0	14,532.3	7,530.0	123.2	124.5	71.66	-6,862.4	-1,209.1	762.9	529.2	233.76	3.264	
14,800.0	7,770.0	14,632.3	7,530.0	125.0	126.3	71.68	-6,962.4	-1,209.6	763.8	526.7	237.09	3.221	
14,900.0	7,770.0	14,732.3	7,530.0	126.7	128.0	71.71	-7,062.4	-1,210.1	764.6	524.2	240.43	3.180	
15,000.0	7,770.0	14,832.3	7,530.0	128.5	129.7	71.73	-7,162.4	-1,210.7	765.4	521.7	243.77	3.140	
15,100.0	7,770.0	14,932.3	7,530.0	130.2	131.4	71.75	-7,262.4	-1,211.2	766.3	519.1	247.12	3.101	
15,200.0	7,770.0	15,032.3	7,530.0	131.9	133.2	71.77	-7,362.4	-1,211.7	767.1	516.6	250.46	3.063	
15,300.0	7,770.0	15,132.3	7,530.0	133.7	134.9	71.79	-7,462.4	-1,212.2	767.9	514.1	253.80	3.026	
15,400.0	7,770.0	15,232.3	7,530.0	135.4	136.6	71.81	-7,562.4	-1,212.8	768.7	511.6	257.15	2.989	
15,500.0	7,770.0	15,332.3	7,530.0	137.2	138.3	71.83	-7,662.4	-1,213.3	769.6	509.1	260.49	2.954	
15,600.0	7,770.0	15,432.3	7,530.0	138.9	140.1	71.85	-7,762.4	-1,213.8	770.4	506.6	263.84	2.920	
15,700.0	7,770.0	15,532.3	7,530.0	140.6	141.8	71.87	-7,862.4	-1,214.3	771.2	504.0	267.19	2.886	
15,800.0	7,770.0	15,632.3	7,530.0	142.4	143.5	71.89	-7,962.4	-1,214.9	772.1	501.5	270.54	2.854	
15,900.0	7,770.0	15,732.2	7,530.0	144.1	145.3	71.91	-8,062.4	-1,215.4	772.9	499.0	273.89	2.822	
16,000.0	7,770.0	15,832.2	7,530.0	145.9	147.0	71.93	-8,162.4	-1,215.9	773.7	496.5	277.24	2.791	
16,100.0	7,770.0	15,932.2	7,530.0	147.6	148.7	71.95	-8,262.4	-1,216.4	774.5	494.0	280.60	2.760	
16,200.0	7,770.0	16,032.2	7,530.0	149.4	150.4	71.97	-8,362.4	-1,217.0	775.4	491.4	283.95	2.731	
16,300.0	7,770.0	16,132.2	7,530.0	151.1	152.2	71.99	-8,462.3	-1,217.5	776.2	488.9	287.30	2.702	
16,400.0	7,770.0	16,232.2	7,530.0	152.9	153.9	72.01	-8,562.3	-1,218.0	777.0	486.4	290.66	2.673	
16,500.0	7,770.0	16,332.2	7,530.0	154.6	155.6	72.03	-8,662.3	-1,218.5	777.9	483.9	294.02	2.646	
16,600.0	7,770.0	16,432.2	7,530.0	156.3	157.4	72.05	-8,762.3	-1,219.0	778.7	481.3	297.37	2.619	
16,700.0	7,770.0	16,532.2	7,530.0	158.1	159.1	72.07	-8,862.3	-1,219.6	779.5	478.8	300.73	2.592	
16,800.0	7,770.0	16,632.2	7,530.0	159.8	160.8	72.09	-8,962.3	-1,220.1	780.4	476.3	304.09	2.566	
16,900.0	7,770.0	16,732.2	7,530.0	161.6	162.6	72.11	-9,062.3	-1,220.6	781.2	473.7	307.45	2.541	
17,000.0	7,770.0	16,832.2	7,530.0	163.3	164.3	72.13	-9,162.3	-1,221.1	782.0	471.2	310.81	2.516	
17,100.0	7,770.0	16,932.2	7,530.0	165.1	166.1	72.15	-9,262.3	-1,221.7	782.9	468.7	314.18	2.492	
17,200.0	7,770.0	17,032.2	7,530.0	166.8	167.8	72.17	-9,362.3	-1,222.2	783.7	466.1	317.54	2.468	
17,300.0	7,770.0	17,132.2	7,530.0	168.6	169.5	72.19	-9,462.3	-1,222.7	784.5	463.6	320.90	2.445	
17,400.0	7,770.0	17,232.2	7,530.0	170.3	171.3	72.21	-9,562.3	-1,223.2	785.3	461.1	324.27	2.422	
17,500.0	7,770.0	17,332.2	7,530.0	172.0	173.0	72.22	-9,662.3	-1,223.8	786.2	458.5	327.63	2.400	
17,600.0	7,770.0	17,432.2	7,530.0	173.8	174.7	72.24	-9,762.3	-1,224.3	787.0	456.0	331.00	2.378	
17,664.2	7,770.0	17,490.0	7,530.0	174.9	175.7	72.26	-9,820.1	-1,224.6	787.6	454.5	333.05	2.365	SF

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Morgan Hills 1F-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 1F-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	-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	
333.4	333.4	333.4	333.4	0.6	0.6	-90.00	0.0	-20.1	20.1	19.0	1.12	18.017	CC
400.0	400.0	399.8	399.8	0.7	0.7	-89.77	0.1	-20.4	20.4	19.0	1.35	15.069	ES
450.0	450.0	449.7	449.7	0.8	0.8	-89.12	0.3	-21.0	21.0	19.4	1.53	13.743	
500.0	500.0	499.5	499.5	0.9	0.9	-35.39	0.7	-22.0	21.8	20.1	1.70	12.829	
600.0	600.0	599.1	599.0	1.0	1.0	-34.91	2.0	-25.2	23.6	21.6	2.05	11.540	
700.0	699.9	698.7	698.5	1.2	1.2	-35.41	3.9	-30.0	25.7	23.3	2.40	10.701	
800.0	799.8	798.2	797.8	1.4	1.4	-36.66	6.5	-36.4	27.9	25.2	2.76	10.137	
900.0	899.5	897.7	896.9	1.6	1.6	-38.47	9.7	-44.4	30.4	27.3	3.12	9.750	
966.6	965.9	964.0	962.8	1.7	1.8	-39.90	12.2	-50.7	32.3	28.9	3.37	9.560	
1,000.0	999.2	997.2	995.8	1.8	1.9	-40.56	13.6	-54.0	33.3	29.8	3.50	9.505	
1,100.0	1,098.8	1,096.5	1,094.4	2.0	2.1	-41.52	18.1	-65.2	37.4	33.5	3.89	9.621	
1,200.0	1,198.4	1,195.8	1,192.7	2.2	2.4	-41.25	23.2	-78.0	43.1	38.8	4.28	10.075	
1,300.0	1,297.9	1,295.6	1,291.5	2.5	2.7	-40.68	28.6	-91.4	49.4	44.7	4.67	10.586	
1,400.0	1,397.5	1,395.4	1,390.2	2.7	3.0	-40.24	34.0	-104.9	55.7	50.7	5.06	11.017	
1,500.0	1,497.1	1,495.2	1,489.0	2.9	3.3	-39.89	39.4	-118.4	62.0	56.6	5.45	11.385	
1,600.0	1,596.7	1,595.0	1,587.7	3.1	3.6	-39.61	44.8	-131.8	68.3	62.5	5.84	11.702	
1,700.0	1,696.3	1,694.8	1,686.4	3.4	3.8	-39.37	50.2	-145.3	74.7	68.4	6.23	11.978	
1,800.0	1,795.9	1,794.6	1,785.2	3.6	4.1	-39.17	55.6	-158.7	81.0	74.3	6.63	12.220	
1,900.0	1,895.5	1,894.4	1,883.9	3.8	4.4	-39.00	61.0	-172.2	87.3	80.3	7.02	12.435	
2,000.0	1,995.1	1,994.2	1,982.7	4.1	4.8	-38.85	66.3	-185.7	93.6	86.2	7.41	12.626	
2,100.0	2,094.7	2,094.0	2,081.4	4.3	5.1	-38.72	71.7	-199.1	99.9	92.1	7.81	12.798	
2,200.0	2,194.3	2,193.8	2,180.1	4.5	5.4	-38.61	77.1	-212.6	106.2	98.0	8.20	12.953	
2,300.0	2,293.9	2,293.6	2,278.9	4.8	5.7	-38.51	82.5	-226.0	112.6	104.0	8.60	13.093	
2,400.0	2,393.5	2,393.4	2,377.6	5.0	6.0	-38.42	87.9	-239.5	118.9	109.9	8.99	13.221	
2,500.0	2,493.1	2,493.2	2,476.4	5.2	6.3	-38.34	93.3	-253.0	125.2	115.8	9.39	13.338	
2,600.0	2,592.7	2,593.0	2,575.1	5.4	6.6	-38.26	98.7	-266.4	131.5	121.7	9.78	13.445	
2,700.0	2,692.3	2,692.8	2,673.8	5.7	6.9	-38.20	104.1	-279.9	137.8	127.7	10.18	13.543	
2,800.0	2,791.9	2,792.6	2,772.6	5.9	7.2	-38.14	109.5	-293.3	144.2	133.6	10.57	13.634	
2,900.0	2,891.4	2,892.4	2,871.3	6.1	7.5	-38.08	114.9	-306.8	150.5	139.5	10.97	13.719	
3,000.0	2,991.0	2,992.2	2,970.1	6.4	7.8	-38.03	120.3	-320.3	156.8	145.4	11.36	13.797	
3,100.0	3,090.6	3,092.0	3,068.8	6.6	8.1	-37.98	125.7	-333.7	163.1	151.4	11.76	13.871	
3,200.0	3,190.2	3,191.8	3,167.6	6.8	8.4	-37.94	131.1	-347.2	169.4	157.3	12.16	13.939	
3,300.0	3,289.8	3,291.6	3,266.3	7.1	8.7	-37.90	136.5	-360.6	175.8	163.2	12.55	14.003	
3,400.0	3,389.4	3,391.4	3,365.0	7.3	9.0	-37.86	141.9	-374.1	182.1	169.1	12.95	14.063	
3,500.0	3,489.0	3,491.2	3,463.8	7.6	9.3	-37.82	147.3	-387.6	188.4	175.1	13.34	14.119	
3,600.0	3,588.6	3,591.0	3,562.5	7.8	9.6	-37.79	152.7	-401.0	194.7	181.0	13.74	14.172	
3,700.0	3,688.2	3,690.8	3,661.3	8.0	9.9	-37.76	158.1	-414.5	201.0	186.9	14.14	14.222	
3,800.0	3,787.8	3,790.6	3,760.0	8.3	10.3	-37.73	163.5	-427.9	207.4	192.8	14.53	14.269	
3,900.0	3,887.4	3,890.4	3,858.7	8.5	10.6	-37.70	168.9	-441.4	213.7	198.8	14.93	14.314	
4,000.0	3,987.0	3,990.2	3,957.5	8.7	10.9	-37.68	174.3	-454.9	220.0	204.7	15.32	14.356	
4,100.0	4,086.6	4,090.0	4,056.2	9.0	11.2	-37.65	179.7	-468.3	226.3	210.6	15.72	14.397	
4,200.0	4,186.2	4,189.8	4,155.0	9.2	11.5	-37.63	185.1	-481.8	232.6	216.5	16.12	14.435	
4,300.0	4,285.8	4,289.6	4,253.7	9.4	11.8	-37.61	190.4	-495.2	239.0	222.5	16.51	14.471	
4,400.0	4,385.4	4,389.4	4,352.4	9.7	12.1	-37.59	195.8	-508.7	245.3	228.4	16.91	14.506	
4,500.0	4,484.9	4,489.2	4,451.2	9.9	12.4	-37.57	201.2	-522.2	251.6	234.3	17.31	14.539	
4,600.0	4,584.5	4,589.0	4,549.9	10.1	12.7	-37.55	206.6	-535.6	257.9	240.2	17.70	14.570	
4,700.0	4,684.1	4,688.8	4,648.7	10.4	13.0	-37.53	212.0	-549.1	264.3	246.2	18.10	14.600	
4,800.0	4,783.7	4,788.6	4,747.4	10.6	13.3	-37.52	217.4	-562.5	270.6	252.1	18.50	14.629	

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 1F-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 1F-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
4,900.0	4,883.3	4,888.4	4,846.1	10.8	13.6	-37.50	222.8	-576.0	276.9	258.0	18.89	14.657	
5,000.0	4,982.9	4,988.2	4,944.9	11.1	13.9	-37.48	228.2	-589.5	283.2	263.9	19.29	14.683	
5,100.0	5,082.5	5,088.0	5,043.6	11.3	14.3	-37.47	233.6	-602.9	289.5	269.9	19.69	14.709	
5,200.0	5,182.1	5,187.8	5,142.4	11.5	14.6	-37.46	239.0	-616.4	295.9	275.8	20.08	14.733	
5,300.0	5,281.7	5,287.6	5,241.1	11.8	14.9	-37.44	244.4	-629.8	302.2	281.7	20.48	14.756	
5,400.0	5,381.3	5,387.4	5,339.8	12.0	15.2	-37.43	249.8	-643.3	308.5	287.6	20.87	14.779	
5,500.0	5,480.9	5,487.2	5,438.6	12.2	15.5	-37.42	255.2	-656.8	314.8	293.6	21.27	14.801	
5,600.0	5,580.5	5,587.0	5,537.3	12.5	15.8	-37.40	260.6	-670.2	321.2	299.5	21.67	14.821	
5,700.0	5,680.1	5,686.8	5,636.1	12.7	16.1	-37.39	266.0	-683.7	327.5	305.4	22.06	14.842	
5,800.0	5,779.7	5,786.6	5,734.8	12.9	16.4	-37.38	271.4	-697.1	333.8	311.3	22.46	14.861	
5,900.0	5,879.3	5,886.4	5,833.6	13.2	16.7	-37.37	276.8	-710.6	340.1	317.3	22.86	14.880	
6,000.0	5,978.9	5,986.2	5,932.3	13.4	17.0	-37.36	282.2	-724.1	346.4	323.2	23.25	14.898	
6,100.0	6,078.4	6,086.0	6,031.0	13.6	17.3	-37.35	287.6	-737.5	352.8	329.1	23.65	14.915	
6,200.0	6,178.0	6,185.8	6,129.8	13.9	17.7	-37.34	293.0	-751.0	359.1	335.0	24.05	14.932	
6,300.0	6,277.6	6,285.6	6,228.5	14.1	18.0	-37.33	298.4	-764.4	365.4	341.0	24.44	14.948	
6,400.0	6,377.2	6,385.4	6,327.3	14.4	18.3	-37.32	303.8	-777.9	371.7	346.9	24.84	14.964	
6,500.0	6,476.8	6,485.2	6,426.0	14.6	18.6	-37.32	309.2	-791.4	378.0	352.8	25.24	14.979	
6,600.0	6,576.4	6,585.0	6,524.7	14.8	18.9	-37.31	314.6	-804.8	384.4	358.7	25.63	14.994	
6,700.0	6,676.0	6,684.8	6,623.5	15.1	19.2	-37.30	319.9	-818.3	390.7	364.7	26.03	15.009	
6,800.0	6,775.6	6,784.6	6,722.2	15.3	19.5	-37.29	325.3	-831.7	397.0	370.6	26.43	15.022	
6,900.0	6,875.2	6,884.4	6,821.0	15.5	19.8	-37.28	330.7	-845.2	403.3	376.5	26.82	15.036	
7,000.0	6,974.8	6,984.2	6,919.7	15.8	20.1	-37.28	336.1	-858.7	409.7	382.4	27.22	15.049	
7,042.2	7,016.8	7,026.3	6,961.4	15.9	20.3	-37.27	338.4	-864.3	412.3	384.9	27.39	15.055	
7,050.0	7,024.6	7,034.1	6,969.1	15.9	20.3	-31.37	338.8	-865.4	412.8	385.4	27.42	15.053	
7,100.0	7,074.4	7,083.9	7,018.4	16.0	20.4	19.86	341.5	-872.1	416.0	388.4	27.58	15.082	
7,150.0	7,124.2	7,133.7	7,067.6	16.0	20.6	53.23	342.7	-878.8	419.1	391.5	27.64	15.165	
7,200.0	7,173.6	7,183.7	7,117.1	16.1	20.7	66.89	340.5	-885.6	422.4	394.7	27.65	15.276	
7,250.0	7,222.5	7,234.0	7,166.6	16.1	20.8	73.64	334.7	-892.3	425.6	398.0	27.62	15.410	
7,300.0	7,270.6	7,284.6	7,215.9	16.1	20.9	77.62	325.4	-899.0	428.8	401.3	27.55	15.565	
7,350.0	7,317.5	7,335.6	7,264.7	16.1	21.0	80.27	312.4	-905.7	432.0	404.6	27.46	15.735	
7,400.0	7,363.3	7,386.8	7,312.8	16.1	21.0	82.18	295.9	-912.2	435.2	407.9	27.35	15.915	
7,450.0	7,407.5	7,438.4	7,359.9	16.1	21.1	83.64	275.8	-918.7	438.3	411.1	27.23	16.099	
7,500.0	7,450.0	7,490.3	7,405.7	16.1	21.1	84.79	252.3	-924.9	441.4	414.3	27.11	16.279	
7,550.0	7,490.6	7,542.5	7,449.9	16.0	21.1	85.73	225.2	-930.9	444.4	417.3	27.02	16.448	
7,600.0	7,529.1	7,595.0	7,492.3	16.0	21.2	86.51	194.8	-936.7	447.2	420.3	26.94	16.598	
7,650.0	7,565.2	7,647.8	7,532.6	16.0	21.2	87.16	161.1	-942.2	449.9	423.0	26.91	16.718	
7,700.0	7,598.9	7,700.9	7,570.6	16.1	21.3	87.72	124.4	-947.4	452.5	425.6	26.94	16.800	
7,750.0	7,629.9	7,754.3	7,605.9	16.1	21.4	88.20	84.6	-952.2	454.9	427.9	27.02	16.836	
7,800.0	7,658.2	7,808.0	7,638.3	16.2	21.4	88.60	42.2	-956.6	457.2	430.0	27.19	16.816	
7,850.0	7,683.5	7,861.8	7,667.6	16.3	21.6	88.95	-2.8	-960.6	459.2	431.8	27.42	16.746	
7,900.0	7,705.7	7,915.9	7,693.6	16.5	21.7	89.24	-50.1	-964.1	461.0	433.3	27.75	16.611	
7,950.0	7,724.8	7,970.2	7,716.0	16.6	21.9	89.48	-99.4	-967.2	462.6	434.5	28.18	16.419	
8,000.0	7,740.6	8,024.6	7,734.7	16.9	22.0	89.67	-150.5	-969.8	464.0	435.3	28.69	16.171	
8,050.0	7,753.1	8,079.2	7,749.6	17.1	22.3	89.81	-203.0	-971.8	465.1	435.8	29.30	15.874	
8,100.0	7,762.2	8,133.9	7,760.5	17.4	22.5	89.92	-256.5	-973.3	466.0	436.0	30.00	15.535	
8,150.0	7,767.8	8,188.7	7,767.3	17.8	22.8	89.98	-310.8	-974.2	466.6	435.8	30.78	15.161	
8,200.0	7,770.0	8,243.5	7,770.0	18.2	23.1	90.00	-365.6	-974.6	467.0	435.3	31.63	14.762	
8,206.2	7,770.0	8,250.2	7,770.0	18.2	23.2	90.00	-372.3	-974.6	467.0	435.3	31.74	14.713	
8,300.0	7,770.0	8,344.2	7,770.0	19.0	23.8	90.00	-466.3	-974.6	467.3	433.7	33.59	13.914	
8,400.0	7,770.0	8,444.2	7,770.0	20.0	24.6	90.00	-566.3	-974.6	467.7	431.9	35.77	13.076	
8,500.0	7,770.0	8,544.2	7,770.0	21.1	25.5	90.00	-666.3	-974.6	468.0	429.9	38.14	12.270	
8,600.0	7,770.0	8,644.2	7,770.0	22.2	26.4	90.00	-766.3	-974.6	468.4	427.7	40.69	11.512	

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 1F-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 1F-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
8,700.0	7,770.0	8,744.2	7,770.0	23.4	27.5	90.00	-866.3	-974.6	468.7	425.4	43.36	10.810	
8,800.0	7,770.0	8,844.2	7,770.0	24.7	28.6	90.00	-966.3	-974.6	469.1	422.9	46.15	10.164	
8,900.0	7,770.0	8,944.2	7,770.0	26.1	29.8	90.00	-1,066.3	-974.6	469.4	420.4	49.03	9.574	
9,000.0	7,770.0	9,044.2	7,770.0	27.5	31.0	90.00	-1,166.3	-974.6	469.8	417.8	51.99	9.036	
9,100.0	7,770.0	9,144.2	7,770.0	28.9	32.3	90.00	-1,266.3	-974.6	470.1	415.1	55.01	8.546	
9,200.0	7,770.0	9,244.2	7,770.0	30.4	33.6	90.00	-1,366.3	-974.6	470.5	412.4	58.09	8.099	
9,300.0	7,770.0	9,344.2	7,770.0	31.9	35.0	90.00	-1,466.3	-974.6	470.8	409.6	61.21	7.691	
9,400.0	7,770.0	9,444.2	7,770.0	33.4	36.4	90.00	-1,566.3	-974.6	471.2	406.8	64.38	7.319	
9,500.0	7,770.0	9,544.2	7,770.0	35.0	37.8	90.00	-1,666.3	-974.6	471.5	403.9	67.58	6.978	
9,600.0	7,770.0	9,644.2	7,770.0	36.5	39.2	90.00	-1,766.3	-974.6	471.9	401.1	70.80	6.665	
9,700.0	7,770.0	9,744.2	7,770.0	38.1	40.7	90.00	-1,866.3	-974.6	472.2	398.2	74.06	6.377	
9,800.0	7,770.0	9,844.2	7,770.0	39.7	42.2	90.00	-1,966.3	-974.6	472.6	395.2	77.33	6.111	
9,900.0	7,770.0	9,944.2	7,770.0	41.3	43.7	90.00	-2,066.3	-974.6	472.9	392.3	80.62	5.866	
10,000.0	7,770.0	10,044.2	7,770.0	42.9	45.2	90.00	-2,166.3	-974.6	473.3	389.3	83.94	5.638	
10,100.0	7,770.0	10,144.2	7,770.0	44.5	46.8	90.00	-2,266.3	-974.6	473.6	386.4	87.26	5.427	
10,200.0	7,770.0	10,244.2	7,770.0	46.2	48.4	90.00	-2,366.3	-974.6	474.0	383.4	90.60	5.231	
10,300.0	7,770.0	10,344.2	7,770.0	47.8	49.9	90.00	-2,466.2	-974.6	474.3	380.4	93.96	5.048	
10,400.0	7,770.0	10,444.2	7,770.0	49.5	51.5	90.00	-2,566.2	-974.6	474.7	377.3	97.32	4.877	
10,500.0	7,770.0	10,544.2	7,770.0	51.1	53.1	90.00	-2,666.2	-974.6	475.0	374.3	100.70	4.717	
10,600.0	7,770.0	10,644.2	7,770.0	52.8	54.7	90.00	-2,766.2	-974.6	475.4	371.3	104.08	4.567	
10,700.0	7,770.0	10,744.2	7,770.0	54.5	56.3	90.00	-2,866.2	-974.6	475.7	368.2	107.47	4.426	
10,800.0	7,770.0	10,844.2	7,770.0	56.2	58.0	90.00	-2,966.2	-974.6	476.1	365.2	110.87	4.294	
10,900.0	7,770.0	10,944.2	7,770.0	57.8	59.6	90.00	-3,066.2	-974.6	476.4	362.1	114.27	4.169	
11,000.0	7,770.0	11,044.2	7,770.0	59.5	61.2	90.00	-3,166.2	-974.6	476.8	359.1	117.68	4.051	
11,100.0	7,770.0	11,144.2	7,770.0	61.2	62.9	90.00	-3,266.2	-974.6	477.1	356.0	121.10	3.940	
11,200.0	7,770.0	11,244.2	7,770.0	62.9	64.5	90.00	-3,366.2	-974.6	477.5	352.9	124.52	3.834	
11,300.0	7,770.0	11,344.2	7,770.0	64.6	66.2	90.00	-3,466.2	-974.6	477.8	349.9	127.95	3.734	
11,400.0	7,770.0	11,444.2	7,770.0	66.3	67.8	90.00	-3,566.2	-974.6	478.2	346.8	131.38	3.640	
11,500.0	7,770.0	11,544.1	7,770.0	68.0	69.5	90.00	-3,666.2	-974.6	478.5	343.7	134.81	3.549	
11,600.0	7,770.0	11,644.1	7,770.0	69.7	71.2	90.00	-3,766.2	-974.6	478.9	340.6	138.25	3.464	
11,700.0	7,770.0	11,744.1	7,770.0	71.4	72.9	90.00	-3,866.2	-974.6	479.2	337.5	141.69	3.382	
11,800.0	7,770.0	11,844.1	7,770.0	73.1	74.5	90.00	-3,966.2	-974.6	479.6	334.4	145.14	3.304	
11,900.0	7,770.0	11,944.1	7,770.0	74.8	76.2	90.00	-4,066.2	-974.6	479.9	331.3	148.58	3.230	
12,000.0	7,770.0	12,044.1	7,770.0	76.5	77.9	90.00	-4,166.2	-974.6	480.2	328.2	152.03	3.159	
12,100.0	7,770.0	12,144.1	7,770.0	78.3	79.6	90.00	-4,266.2	-974.6	480.6	325.1	155.49	3.091	
12,200.0	7,770.0	12,244.1	7,770.0	80.0	81.3	90.00	-4,366.2	-974.6	480.9	322.0	158.94	3.026	
12,300.0	7,770.0	12,344.1	7,770.0	81.7	83.0	90.00	-4,466.2	-974.6	481.3	318.9	162.40	2.964	
12,400.0	7,770.0	12,444.1	7,770.0	83.4	84.7	90.00	-4,566.2	-974.6	481.6	315.8	165.86	2.904	
12,500.0	7,770.0	12,544.1	7,770.0	85.1	86.4	90.00	-4,666.2	-974.6	482.0	312.7	169.32	2.847	
12,600.0	7,770.0	12,644.1	7,770.0	86.9	88.1	90.00	-4,766.2	-974.6	482.3	309.6	172.79	2.792	
12,700.0	7,770.0	12,744.1	7,770.0	88.6	89.8	90.00	-4,866.2	-974.6	482.7	306.4	176.25	2.739	
12,800.0	7,770.0	12,844.1	7,770.0	90.3	91.5	90.00	-4,966.2	-974.6	483.0	303.3	179.72	2.688	
12,900.0	7,770.0	12,944.1	7,770.0	92.0	93.2	90.00	-5,066.2	-974.6	483.4	300.2	183.19	2.639	
13,000.0	7,770.0	13,044.1	7,770.0	93.8	94.9	90.00	-5,166.2	-974.6	483.7	297.1	186.66	2.592	
13,100.0	7,770.0	13,144.1	7,770.0	95.5	96.6	90.00	-5,266.2	-974.6	484.1	294.0	190.13	2.546	
13,200.0	7,770.0	13,244.1	7,770.0	97.2	98.3	90.00	-5,366.2	-974.6	484.4	290.8	193.60	2.502	
13,300.0	7,770.0	13,344.1	7,770.0	99.0	100.0	90.00	-5,466.2	-974.6	484.8	287.7	197.08	2.460	
13,400.0	7,770.0	13,444.1	7,770.0	100.7	101.7	90.00	-5,566.2	-974.6	485.1	284.6	200.55	2.419	
13,500.0	7,770.0	13,544.1	7,770.0	102.4	103.4	90.00	-5,666.2	-974.6	485.5	281.5	204.03	2.380	
13,600.0	7,770.0	13,644.1	7,770.0	104.1	105.1	90.00	-5,766.2	-974.6	485.8	278.3	207.51	2.341	
13,700.0	7,770.0	13,744.1	7,770.0	105.9	106.9	90.00	-5,866.2	-974.6	486.2	275.2	210.98	2.304	
13,800.0	7,770.0	13,844.1	7,770.0	107.6	108.6	90.00	-5,966.2	-974.6	486.5	272.1	214.46	2.269	

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 1F-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 1F-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
13,900.0	7,770.0	13,944.1	7,770.0	109.3	110.3	90.00	-6,066.2	-974.6	486.9	268.9	217.94	2.234	
14,000.0	7,770.0	14,044.1	7,770.0	111.1	112.0	90.00	-6,166.2	-974.6	487.2	265.8	221.42	2.200	
14,100.0	7,770.0	14,144.1	7,770.0	112.8	113.7	90.00	-6,266.2	-974.6	487.6	262.7	224.91	2.168	
14,200.0	7,770.0	14,244.1	7,770.0	114.6	115.5	90.00	-6,366.2	-974.6	487.9	259.5	228.39	2.136	
14,300.0	7,770.0	14,344.1	7,770.0	116.3	117.2	90.00	-6,466.2	-974.6	488.3	256.4	231.87	2.106	
14,400.0	7,770.0	14,444.1	7,770.0	118.0	118.9	90.00	-6,566.2	-974.6	488.6	253.3	235.36	2.076	
14,500.0	7,770.0	14,544.1	7,770.0	119.8	120.6	90.00	-6,666.2	-974.6	489.0	250.1	238.84	2.047	
14,600.0	7,770.0	14,644.1	7,770.0	121.5	122.4	90.00	-6,766.2	-974.6	489.3	247.0	242.33	2.019	
14,700.0	7,770.0	14,744.1	7,770.0	123.2	124.1	90.00	-6,866.2	-974.6	489.7	243.9	245.81	1.992	
14,800.0	7,770.0	14,844.1	7,770.0	125.0	125.8	90.00	-6,966.2	-974.6	490.0	240.7	249.30	1.966	
14,900.0	7,770.0	14,944.1	7,770.0	126.7	127.5	90.00	-7,066.2	-974.6	490.4	237.6	252.79	1.940	
15,000.0	7,770.0	15,044.1	7,770.0	128.5	129.3	90.00	-7,166.2	-974.6	490.7	234.4	256.28	1.915	
15,100.0	7,770.0	15,144.1	7,770.0	130.2	131.0	90.00	-7,266.2	-974.6	491.1	231.3	259.77	1.890	
15,200.0	7,770.0	15,244.1	7,770.0	131.9	132.7	90.00	-7,366.2	-974.6	491.4	228.2	263.26	1.867	
15,300.0	7,770.0	15,344.1	7,770.0	133.7	134.5	90.00	-7,466.2	-974.6	491.8	225.0	266.75	1.844	
15,400.0	7,770.0	15,444.1	7,770.0	135.4	136.2	90.00	-7,566.2	-974.6	492.1	221.9	270.24	1.821	
15,500.0	7,770.0	15,544.1	7,770.0	137.2	137.9	90.00	-7,666.2	-974.6	492.5	218.7	273.73	1.799	
15,600.0	7,770.0	15,644.1	7,770.0	138.9	139.7	90.00	-7,766.2	-974.6	492.8	215.6	277.22	1.778	
15,700.0	7,770.0	15,744.1	7,770.0	140.6	141.4	90.00	-7,866.2	-974.6	493.2	212.5	280.71	1.757	
15,800.0	7,770.0	15,844.1	7,770.0	142.4	143.1	90.00	-7,966.2	-974.6	493.5	209.3	284.20	1.737	
15,900.0	7,770.0	15,944.1	7,770.0	144.1	144.9	90.00	-8,066.2	-974.6	493.9	206.2	287.69	1.717	
16,000.0	7,770.0	16,044.1	7,770.0	145.9	146.6	90.00	-8,166.2	-974.6	494.2	203.0	291.18	1.697	
16,100.0	7,770.0	16,144.1	7,770.0	147.6	148.3	90.00	-8,266.2	-974.6	494.6	199.9	294.68	1.678	
16,200.0	7,770.0	16,244.1	7,770.0	149.4	150.1	90.00	-8,366.2	-974.6	494.9	196.7	298.17	1.660	
16,300.0	7,770.0	16,344.1	7,770.0	151.1	151.8	90.00	-8,466.2	-974.6	495.3	193.6	301.66	1.642	
16,400.0	7,770.0	16,444.1	7,770.0	152.9	153.5	90.00	-8,566.2	-974.6	495.6	190.5	305.16	1.624	
16,500.0	7,770.0	16,544.1	7,770.0	154.6	155.3	90.00	-8,666.2	-974.6	496.0	187.3	308.65	1.607	
16,600.0	7,770.0	16,644.1	7,770.0	156.3	157.0	90.00	-8,766.2	-974.6	496.3	184.2	312.15	1.590	
16,700.0	7,770.0	16,744.1	7,770.0	158.1	158.8	90.00	-8,866.2	-974.6	496.7	181.0	315.64	1.573	
16,800.0	7,770.0	16,844.1	7,770.0	159.8	160.5	90.00	-8,966.2	-974.6	497.0	177.9	319.14	1.557	
16,900.0	7,770.0	16,944.1	7,770.0	161.6	162.2	90.00	-9,066.2	-974.6	497.4	174.7	322.63	1.542	
17,000.0	7,770.0	17,044.1	7,770.0	163.3	164.0	90.00	-9,166.2	-974.6	497.7	171.6	326.13	1.526	
17,100.0	7,770.0	17,144.1	7,770.0	165.1	165.7	90.00	-9,266.2	-974.6	498.1	168.4	329.63	1.511	
17,200.0	7,770.0	17,244.1	7,770.0	166.8	167.5	90.00	-9,366.2	-974.6	498.4	165.3	333.12	1.496	Level 3
17,300.0	7,770.0	17,344.1	7,770.0	168.6	169.2	90.00	-9,466.2	-974.6	498.8	162.1	336.62	1.482	Level 3
17,400.0	7,770.0	17,444.1	7,770.0	170.3	170.9	90.00	-9,566.2	-974.6	499.1	159.0	340.12	1.467	Level 3
17,500.0	7,770.0	17,544.1	7,770.0	172.0	172.7	90.00	-9,666.2	-974.6	499.5	155.8	343.61	1.454	Level 3
17,600.0	7,770.0	17,644.1	7,770.0	173.8	174.4	90.00	-9,766.2	-974.6	499.8	152.7	347.11	1.440	Level 3
17,664.2	7,770.0	17,701.3	7,770.0	174.9	175.4	90.00	-9,823.4	-974.6	500.1	150.8	349.23	1.432	Level 3, SF

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Morgan Hills 1F-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 1F-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 1E-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
450.0	450.0	449.9	449.9	0.8	0.8	-89.42	0.1	-10.3	10.3	8.7	1.53	6.731	
500.0	500.0	499.8	499.8	0.9	0.9	-35.44	0.4	-10.8	10.7	9.0	1.70	6.278	
600.0	600.0	599.7	599.6	1.0	1.0	-34.60	1.7	-13.1	11.6	9.5	2.05	5.651	
700.0	699.9	699.5	699.3	1.2	1.2	-34.92	3.7	-17.0	12.6	10.2	2.40	5.256	
800.0	799.8	799.3	798.9	1.4	1.4	-36.13	6.6	-22.3	13.8	11.0	2.76	5.001	
900.0	899.5	899.0	898.4	1.6	1.6	-37.98	10.3	-29.2	15.1	12.0	3.13	4.837	
966.6	965.9	965.5	964.6	1.7	1.8	-39.46	13.2	-34.6	16.1	12.7	3.38	4.761	
1,000.0	999.2	998.8	997.7	1.8	1.8	-40.05	14.9	-37.6	16.7	13.2	3.51	4.755	
1,100.0	1,098.8	1,098.5	1,096.8	2.0	2.1	-39.77	20.2	-47.5	19.4	15.5	3.89	4.988	
1,200.0	1,198.4	1,198.5	1,196.0	2.2	2.3	-38.76	25.8	-57.9	22.7	18.4	4.27	5.303	
1,300.0	1,297.9	1,298.4	1,295.3	2.5	2.6	-38.01	31.5	-68.4	25.9	21.3	4.66	5.567	
1,400.0	1,397.5	1,398.4	1,394.5	2.7	2.8	-37.42	37.1	-78.8	29.2	24.1	5.04	5.789	
1,500.0	1,497.1	1,498.3	1,493.7	2.9	3.1	-36.96	42.7	-89.3	32.5	27.0	5.43	5.980	
1,600.0	1,596.7	1,598.2	1,593.0	3.1	3.3	-36.57	48.4	-99.7	35.7	29.9	5.81	6.146	
1,700.0	1,696.3	1,698.2	1,692.2	3.4	3.6	-36.26	54.0	-110.1	39.0	32.8	6.20	6.291	
1,800.0	1,795.9	1,798.1	1,791.5	3.6	3.9	-35.99	59.7	-120.6	42.3	35.7	6.58	6.418	
1,900.0	1,895.5	1,898.1	1,890.7	3.8	4.1	-35.76	65.3	-131.0	45.5	38.6	6.97	6.531	
2,000.0	1,995.1	1,998.0	1,989.9	4.1	4.4	-35.56	70.9	-141.5	48.8	41.4	7.36	6.632	
2,100.0	2,094.7	2,098.0	2,089.2	4.3	4.7	-35.39	76.6	-151.9	52.1	44.3	7.75	6.723	
2,200.0	2,194.3	2,197.9	2,188.4	4.5	4.9	-35.23	82.2	-162.4	55.3	47.2	8.13	6.806	
2,300.0	2,293.9	2,297.9	2,287.7	4.8	5.2	-35.10	87.9	-172.8	58.6	50.1	8.52	6.880	
2,400.0	2,393.5	2,397.8	2,386.9	5.0	5.5	-34.97	93.5	-183.3	61.9	53.0	8.91	6.949	
2,500.0	2,493.1	2,497.8	2,486.1	5.2	5.7	-34.86	99.1	-193.7	65.2	55.9	9.30	7.011	
2,600.0	2,592.7	2,597.7	2,585.4	5.4	6.0	-34.76	104.8	-204.1	68.4	58.8	9.68	7.068	
2,700.0	2,692.3	2,697.7	2,684.6	5.7	6.3	-34.67	110.4	-214.6	71.7	61.6	10.07	7.121	
2,800.0	2,791.9	2,797.6	2,783.9	5.9	6.5	-34.59	116.1	-225.0	75.0	64.5	10.46	7.170	
2,900.0	2,891.4	2,897.5	2,883.1	6.1	6.8	-34.52	121.7	-235.5	78.3	67.4	10.85	7.216	
3,000.0	2,991.0	2,997.5	2,982.3	6.4	7.1	-34.45	127.3	-245.9	81.5	70.3	11.23	7.258	
3,100.0	3,090.6	3,097.4	3,081.6	6.6	7.4	-34.38	133.0	-256.4	84.8	73.2	11.62	7.297	
3,200.0	3,190.2	3,197.4	3,180.8	6.8	7.6	-34.32	138.6	-266.8	88.1	76.1	12.01	7.334	
3,300.0	3,289.8	3,297.3	3,280.0	7.1	7.9	-34.27	144.2	-277.3	91.4	79.0	12.40	7.369	
3,400.0	3,389.4	3,397.3	3,379.3	7.3	8.2	-34.22	149.9	-287.7	94.6	81.9	12.79	7.401	
3,500.0	3,489.0	3,497.2	3,478.5	7.6	8.4	-34.17	155.5	-298.1	97.9	84.7	13.18	7.431	
3,600.0	3,588.6	3,597.2	3,577.8	7.8	8.7	-34.13	161.2	-308.6	101.2	87.6	13.56	7.460	
3,700.0	3,688.2	3,697.1	3,677.0	8.0	9.0	-34.08	166.8	-319.0	104.5	90.5	13.95	7.487	
3,800.0	3,787.8	3,797.1	3,776.2	8.3	9.2	-34.04	172.4	-329.5	107.7	93.4	14.34	7.513	
3,900.0	3,887.4	3,897.0	3,875.5	8.5	9.5	-34.01	178.1	-339.9	111.0	96.3	14.73	7.537	
4,000.0	3,987.0	3,997.0	3,974.7	8.7	9.8	-33.97	183.7	-350.4	114.3	99.2	15.12	7.560	
4,100.0	4,086.6	4,096.9	4,074.0	9.0	10.1	-33.94	189.4	-360.8	117.6	102.1	15.51	7.582	
4,200.0	4,186.2	4,196.8	4,173.2	9.2	10.3	-33.91	195.0	-371.3	120.8	104.9	15.89	7.603	
4,300.0	4,285.8	4,296.8	4,272.4	9.4	10.6	-33.88	200.6	-381.7	124.1	107.8	16.28	7.623	
4,400.0	4,385.4	4,396.7	4,371.7	9.7	10.9	-33.85	206.3	-392.1	127.4	110.7	16.67	7.641	
4,500.0	4,484.9	4,496.7	4,470.9	9.9	11.1	-33.82	211.9	-402.6	130.7	113.6	17.06	7.659	
4,600.0	4,584.5	4,596.6	4,570.2	10.1	11.4	-33.80	217.6	-413.0	133.9	116.5	17.45	7.677	
4,700.0	4,684.1	4,696.6	4,669.4	10.4	11.7	-33.78	223.2	-423.5	137.2	119.4	17.84	7.693	
4,800.0	4,783.7	4,796.5	4,768.6	10.6	12.0	-33.75	228.8	-433.9	140.5	122.3	18.23	7.709	
4,900.0	4,883.3	4,896.5	4,867.9	10.8	12.2	-33.73	234.5	-444.4	143.8	125.2	18.61	7.724	

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 1F-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 1F-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 1E-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	4,982.9	4,996.4	4,967.1	11.1	12.5	-33.71	240.1	-454.8	147.0	128.0	19.00	7.738	
5,100.0	5,082.5	5,096.4	5,066.3	11.3	12.8	-33.69	245.7	-465.3	150.3	130.9	19.39	7.752	
5,200.0	5,182.1	5,196.3	5,165.6	11.5	13.0	-33.67	251.4	-475.7	153.6	133.8	19.78	7.765	
5,300.0	5,281.7	5,296.3	5,264.8	11.8	13.3	-33.65	257.0	-486.2	156.9	136.7	20.17	7.778	
5,400.0	5,381.3	5,396.2	5,364.1	12.0	13.6	-33.63	262.7	-496.6	160.1	139.6	20.56	7.790	
5,500.0	5,480.9	5,496.2	5,463.3	12.2	13.8	-33.62	268.3	-507.0	163.4	142.5	20.95	7.802	
5,600.0	5,580.5	5,596.1	5,562.5	12.5	14.1	-33.60	273.9	-517.5	166.7	145.4	21.33	7.814	
5,700.0	5,680.1	5,696.0	5,661.8	12.7	14.4	-33.59	279.6	-527.9	170.0	148.3	21.72	7.825	
5,800.0	5,779.7	5,796.0	5,761.0	12.9	14.7	-33.57	285.2	-538.4	173.2	151.1	22.11	7.835	
5,900.0	5,879.3	5,895.9	5,860.3	13.2	14.9	-33.56	290.9	-548.8	176.5	154.0	22.50	7.846	
6,000.0	5,978.9	5,995.9	5,959.5	13.4	15.2	-33.54	296.5	-559.3	179.8	156.9	22.89	7.856	
6,100.0	6,078.4	6,095.8	6,058.7	13.6	15.5	-33.53	302.1	-569.7	183.1	159.8	23.28	7.865	
6,200.0	6,178.0	6,195.8	6,158.0	13.9	15.7	-33.52	307.8	-580.2	186.4	162.7	23.67	7.874	
6,300.0	6,277.6	6,295.7	6,257.2	14.1	16.0	-33.50	313.4	-590.6	189.6	165.6	24.05	7.883	
6,400.0	6,377.2	6,395.7	6,356.5	14.4	16.3	-33.49	319.1	-601.0	192.9	168.5	24.44	7.892	
6,500.0	6,476.8	6,495.6	6,455.7	14.6	16.6	-33.48	324.7	-611.5	196.2	171.3	24.83	7.900	
6,600.0	6,576.4	6,595.6	6,554.9	14.8	16.8	-33.47	330.3	-621.9	199.5	174.2	25.22	7.908	
6,700.0	6,676.0	6,695.5	6,654.2	15.1	17.1	-33.46	336.0	-632.4	202.7	177.1	25.61	7.916	
6,800.0	6,775.6	6,795.5	6,753.4	15.3	17.4	-33.45	341.6	-642.8	206.0	180.0	26.00	7.924	
6,900.0	6,875.2	6,896.4	6,853.7	15.5	17.6	-34.56	343.2	-653.4	209.1	182.6	26.50	7.889	
7,000.0	6,974.8	6,994.8	6,950.9	15.8	17.8	-39.18	331.5	-663.6	212.4	185.0	27.42	7.746	
7,042.2	7,016.8	7,034.7	6,989.5	15.9	17.8	-42.00	323.0	-667.7	214.6	186.6	27.92	7.685	
7,050.0	7,024.6	7,041.9	6,996.5	15.9	17.8	-36.67	321.2	-668.4	215.1	187.0	28.03	7.674	
7,100.0	7,074.4	7,087.8	7,040.3	16.0	17.8	10.77	308.3	-673.0	218.7	190.1	28.62	7.641	
7,150.0	7,124.2	7,132.9	7,082.5	16.0	17.8	40.26	292.8	-677.5	223.2	194.0	29.11	7.665	
7,200.0	7,173.6	7,177.3	7,122.9	16.1	17.9	50.24	275.1	-681.7	228.3	198.8	29.48	7.744	
7,250.0	7,222.5	7,221.0	7,161.6	16.1	17.9	53.53	255.1	-685.8	234.1	204.4	29.72	7.877	
7,300.0	7,270.6	7,264.2	7,198.5	16.1	17.9	54.30	233.2	-689.7	240.3	210.5	29.81	8.060	
7,350.0	7,317.5	7,306.7	7,233.6	16.1	17.9	53.96	209.4	-693.4	246.8	217.0	29.76	8.293	
7,400.0	7,363.3	7,350.0	7,267.8	16.1	17.9	53.07	183.1	-697.0	253.5	223.9	29.57	8.572	
7,450.0	7,407.5	7,390.3	7,298.1	16.1	17.9	52.06	156.7	-700.2	260.3	231.0	29.25	8.897	
7,500.0	7,450.0	7,431.5	7,327.5	16.1	17.9	50.91	128.1	-703.2	267.0	238.2	28.82	9.265	
7,550.0	7,490.6	7,472.2	7,355.0	16.0	18.0	49.76	98.1	-706.1	273.7	245.4	28.29	9.672	
7,600.0	7,529.1	7,512.6	7,380.5	16.0	18.0	48.65	66.9	-708.8	280.1	252.4	27.69	10.116	
7,650.0	7,565.2	7,550.0	7,402.5	16.0	18.1	47.67	36.8	-711.1	286.3	259.3	27.06	10.580	
7,700.0	7,598.9	7,592.5	7,425.6	16.1	18.1	46.64	1.2	-713.6	292.2	265.8	26.42	11.059	
7,750.0	7,629.9	7,632.0	7,445.1	16.1	18.2	45.77	-33.0	-715.6	297.6	271.9	25.75	11.561	
7,800.0	7,658.2	7,671.3	7,462.7	16.2	18.3	45.00	-68.1	-717.5	302.7	277.6	25.13	12.045	
7,850.0	7,683.5	7,710.4	7,478.2	16.3	18.5	44.32	-104.0	-719.1	307.3	282.7	24.59	12.495	
7,900.0	7,705.7	7,750.0	7,491.9	16.5	18.6	43.72	-141.1	-720.6	311.3	287.1	24.16	12.885	
7,950.0	7,724.8	7,788.1	7,503.2	16.6	18.8	43.23	-177.5	-721.7	314.8	290.9	23.89	13.178	
8,000.0	7,740.6	7,826.8	7,512.7	16.9	19.0	42.83	-215.0	-722.7	317.8	294.0	23.79	13.356	
8,050.0	7,753.1	7,865.4	7,520.1	17.1	19.2	42.52	-252.8	-723.5	320.1	296.2	23.89	13.398	
8,100.0	7,762.2	7,900.0	7,525.0	17.4	19.4	42.31	-287.1	-724.0	321.9	297.7	24.20	13.304	
8,150.0	7,767.8	7,942.3	7,528.7	17.8	19.7	42.16	-329.2	-724.4	323.0	298.3	24.75	13.049	
8,200.0	7,770.0	7,980.7	7,530.0	18.2	19.9	42.12	-367.6	-724.6	323.5	298.0	25.51	12.681	
8,206.2	7,770.0	7,985.5	7,530.0	18.2	20.0	42.12	-372.4	-724.6	323.6	297.9	25.62	12.628	
8,300.0	7,770.0	8,079.4	7,530.0	19.0	20.7	42.16	-466.3	-724.6	323.8	296.9	26.86	12.053	
8,400.0	7,770.0	8,179.4	7,530.0	20.0	21.6	42.21	-566.3	-724.6	324.0	295.7	28.32	11.443	
8,500.0	7,770.0	8,279.4	7,530.0	21.1	22.6	42.25	-666.3	-724.6	324.2	294.4	29.89	10.847	
8,600.0	7,770.0	8,379.4	7,530.0	22.2	23.7	42.30	-766.3	-724.6	324.5	292.9	31.57	10.278	
8,700.0	7,770.0	8,479.4	7,530.0	23.4	24.8	42.34	-866.3	-724.6	324.7	291.4	33.34	9.739	

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 1F-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 1F-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 1E-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	7,770.0	8,579.4	7,530.0	24.7	26.1	42.39	-966.3	-724.6	324.9	289.8	35.19	9.235	
8,900.0	7,770.0	8,679.4	7,530.0	26.1	27.3	42.43	-1,066.3	-724.6	325.2	288.1	37.10	8.765	
9,000.0	7,770.0	8,779.4	7,530.0	27.5	28.7	42.48	-1,166.3	-724.6	325.4	286.3	39.07	8.329	
9,100.0	7,770.0	8,879.4	7,530.0	28.9	30.1	42.53	-1,266.3	-724.6	325.7	284.6	41.09	7.925	
9,200.0	7,770.0	8,979.4	7,530.0	30.4	31.5	42.57	-1,366.3	-724.6	325.9	282.7	43.15	7.552	
9,300.0	7,770.0	9,079.4	7,530.0	31.9	32.9	42.62	-1,466.3	-724.6	326.1	280.9	45.25	7.207	
9,400.0	7,770.0	9,179.4	7,530.0	33.4	34.4	42.66	-1,566.3	-724.6	326.4	279.0	47.39	6.887	
9,500.0	7,770.0	9,279.4	7,530.0	35.0	35.9	42.71	-1,666.3	-724.6	326.6	277.0	49.55	6.591	
9,600.0	7,770.0	9,379.4	7,530.0	36.5	37.4	42.75	-1,766.3	-724.6	326.8	275.1	51.75	6.316	
9,700.0	7,770.0	9,479.4	7,530.0	38.1	39.0	42.80	-1,866.3	-724.6	327.1	273.1	53.96	6.061	
9,800.0	7,770.0	9,579.4	7,530.0	39.7	40.5	42.84	-1,966.3	-724.6	327.3	271.1	56.20	5.824	
9,900.0	7,770.0	9,679.4	7,530.0	41.3	42.1	42.89	-2,066.3	-724.6	327.5	269.1	58.45	5.604	
10,000.0	7,770.0	9,779.4	7,530.0	42.9	43.7	42.93	-2,166.3	-724.6	327.8	267.1	60.73	5.398	
10,100.0	7,770.0	9,879.4	7,530.0	44.5	45.3	42.97	-2,266.3	-724.6	328.0	265.0	63.02	5.205	
10,200.0	7,770.0	9,979.4	7,530.0	46.2	46.9	43.02	-2,366.3	-724.6	328.3	262.9	65.32	5.025	
10,300.0	7,770.0	10,079.4	7,530.0	47.8	48.5	43.06	-2,466.2	-724.6	328.5	260.9	67.64	4.856	
10,400.0	7,770.0	10,179.4	7,530.0	49.5	50.1	43.11	-2,566.2	-724.6	328.7	258.8	69.98	4.698	
10,500.0	7,770.0	10,279.4	7,530.0	51.1	51.8	43.15	-2,666.2	-724.6	329.0	256.7	72.32	4.549	
10,600.0	7,770.0	10,379.4	7,530.0	52.8	53.4	43.20	-2,766.2	-724.6	329.2	254.5	74.68	4.409	
10,700.0	7,770.0	10,479.4	7,530.0	54.5	55.1	43.24	-2,866.2	-724.6	329.5	252.4	77.04	4.276	
10,800.0	7,770.0	10,579.4	7,530.0	56.2	56.7	43.29	-2,966.2	-724.6	329.7	250.3	79.42	4.151	
10,900.0	7,770.0	10,679.4	7,530.0	57.8	58.4	43.33	-3,066.2	-724.6	329.9	248.1	81.80	4.033	
11,000.0	7,770.0	10,779.4	7,530.0	59.5	60.1	43.37	-3,166.2	-724.6	330.2	246.0	84.20	3.921	
11,100.0	7,770.0	10,879.4	7,530.0	61.2	61.7	43.42	-3,266.2	-724.6	330.4	243.8	86.60	3.815	
11,200.0	7,770.0	10,979.4	7,530.0	62.9	63.4	43.46	-3,366.2	-724.6	330.7	241.6	89.01	3.715	
11,300.0	7,770.0	11,079.4	7,530.0	64.6	65.1	43.51	-3,466.2	-724.6	330.9	239.5	91.43	3.619	
11,400.0	7,770.0	11,179.4	7,530.0	66.3	66.8	43.55	-3,566.2	-724.6	331.1	237.3	93.86	3.528	
11,500.0	7,770.0	11,279.4	7,530.0	68.0	68.5	43.59	-3,666.2	-724.6	331.4	235.1	96.29	3.441	
11,600.0	7,770.0	11,379.4	7,530.0	69.7	70.2	43.64	-3,766.2	-724.6	331.6	232.9	98.73	3.359	
11,700.0	7,770.0	11,479.4	7,530.0	71.4	71.9	43.68	-3,866.2	-724.6	331.9	230.7	101.18	3.280	
11,800.0	7,770.0	11,579.4	7,530.0	73.1	73.6	43.72	-3,966.2	-724.6	332.1	228.5	103.63	3.205	
11,900.0	7,770.0	11,679.4	7,530.0	74.8	75.3	43.77	-4,066.2	-724.6	332.3	226.2	106.09	3.133	
12,000.0	7,770.0	11,779.4	7,530.0	76.5	77.0	43.81	-4,166.2	-724.6	332.6	224.0	108.56	3.064	
12,100.0	7,770.0	11,879.4	7,530.0	78.3	78.7	43.85	-4,266.2	-724.6	332.8	221.8	111.03	2.998	
12,200.0	7,770.0	11,979.4	7,530.0	80.0	80.4	43.90	-4,366.2	-724.6	333.1	219.6	113.51	2.934	
12,300.0	7,770.0	12,079.4	7,530.0	81.7	82.1	43.94	-4,466.2	-724.6	333.3	217.3	115.99	2.874	
12,400.0	7,770.0	12,179.4	7,530.0	83.4	83.8	43.98	-4,566.2	-724.6	333.5	215.1	118.48	2.815	
12,500.0	7,770.0	12,279.4	7,530.0	85.1	85.5	44.03	-4,666.2	-724.6	333.8	212.8	120.97	2.759	
12,600.0	7,770.0	12,379.4	7,530.0	86.9	87.2	44.07	-4,766.2	-724.6	334.0	210.6	123.47	2.705	
12,700.0	7,770.0	12,479.4	7,530.0	88.6	88.9	44.11	-4,866.2	-724.6	334.3	208.3	125.98	2.653	
12,800.0	7,770.0	12,579.4	7,530.0	90.3	90.7	44.16	-4,966.2	-724.6	334.5	206.0	128.49	2.604	
12,900.0	7,770.0	12,679.4	7,530.0	92.0	92.4	44.20	-5,066.2	-724.6	334.8	203.8	131.00	2.555	
13,000.0	7,770.0	12,779.4	7,530.0	93.8	94.1	44.24	-5,166.2	-724.6	335.0	201.5	133.52	2.509	
13,100.0	7,770.0	12,879.4	7,530.0	95.5	95.8	44.28	-5,266.2	-724.6	335.3	199.2	136.04	2.464	
13,200.0	7,770.0	12,979.4	7,530.0	97.2	97.6	44.33	-5,366.2	-724.6	335.5	196.9	138.57	2.421	
13,300.0	7,770.0	13,079.3	7,530.0	99.0	99.3	44.37	-5,466.2	-724.6	335.7	194.6	141.11	2.379	
13,400.0	7,770.0	13,179.3	7,530.0	100.7	101.0	44.41	-5,566.2	-724.6	336.0	192.3	143.64	2.339	
13,500.0	7,770.0	13,279.3	7,530.0	102.4	102.7	44.45	-5,666.2	-724.6	336.2	190.0	146.19	2.300	
13,600.0	7,770.0	13,379.3	7,530.0	104.1	104.5	44.50	-5,766.2	-724.6	336.5	187.7	148.73	2.262	
13,700.0	7,770.0	13,479.3	7,530.0	105.9	106.2	44.54	-5,866.2	-724.6	336.7	185.4	151.28	2.226	
13,800.0	7,770.0	13,579.3	7,530.0	107.6	107.9	44.58	-5,966.2	-724.6	337.0	183.1	153.84	2.190	
13,900.0	7,770.0	13,679.3	7,530.0	109.3	109.6	44.62	-6,066.2	-724.6	337.2	180.8	156.40	2.156	

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 1F-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 1F-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 1E-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	7,770.0	13,779.3	7,530.0	111.1	111.4	44.67	-6,166.2	-724.6	337.5	178.5	158.96	2.123	
14,100.0	7,770.0	13,879.3	7,530.0	112.8	113.1	44.71	-6,266.2	-724.6	337.7	176.2	161.53	2.091	
14,200.0	7,770.0	13,979.3	7,530.0	114.6	114.8	44.75	-6,366.2	-724.6	337.9	173.8	164.10	2.059	
14,300.0	7,770.0	14,079.3	7,530.0	116.3	116.6	44.79	-6,466.2	-724.6	338.2	171.5	166.68	2.029	
14,400.0	7,770.0	14,179.3	7,530.0	118.0	118.3	44.83	-6,566.2	-724.6	338.4	169.2	169.26	2.000	
14,500.0	7,770.0	14,279.3	7,530.0	119.8	120.0	44.88	-6,666.2	-724.6	338.7	166.8	171.84	1.971	
14,600.0	7,770.0	14,379.3	7,530.0	121.5	121.8	44.92	-6,766.2	-724.6	338.9	164.5	174.43	1.943	
14,700.0	7,770.0	14,479.3	7,530.0	123.2	123.5	44.96	-6,866.2	-724.6	339.2	162.2	177.02	1.916	
14,800.0	7,770.0	14,579.3	7,530.0	125.0	125.2	45.00	-6,966.2	-724.6	339.4	159.8	179.62	1.890	
14,900.0	7,770.0	14,679.3	7,530.0	126.7	127.0	45.04	-7,066.2	-724.6	339.7	157.5	182.22	1.864	
15,000.0	7,770.0	14,779.3	7,530.0	128.5	128.7	45.08	-7,166.2	-724.6	339.9	155.1	184.82	1.839	
15,100.0	7,770.0	14,879.3	7,530.0	130.2	130.4	45.13	-7,266.2	-724.6	340.2	152.7	187.43	1.815	
15,200.0	7,770.0	14,979.3	7,530.0	131.9	132.2	45.17	-7,366.2	-724.6	340.4	150.4	190.04	1.791	
15,300.0	7,770.0	15,079.3	7,530.0	133.7	133.9	45.21	-7,466.2	-724.6	340.7	148.0	192.65	1.768	
15,400.0	7,770.0	15,179.3	7,530.0	135.4	135.7	45.25	-7,566.2	-724.6	340.9	145.6	195.27	1.746	
15,500.0	7,770.0	15,279.3	7,530.0	137.2	137.4	45.29	-7,666.2	-724.6	341.2	143.3	197.89	1.724	
15,600.0	7,770.0	15,379.3	7,530.0	138.9	139.1	45.33	-7,766.2	-724.6	341.4	140.9	200.51	1.703	
15,700.0	7,770.0	15,479.3	7,530.0	140.6	140.9	45.37	-7,866.2	-724.6	341.6	138.5	203.14	1.682	
15,800.0	7,770.0	15,579.3	7,530.0	142.4	142.6	45.42	-7,966.2	-724.6	341.9	136.1	205.78	1.662	
15,900.0	7,770.0	15,679.3	7,530.0	144.1	144.4	45.46	-8,066.2	-724.6	342.1	133.7	208.41	1.642	
16,000.0	7,770.0	15,779.3	7,530.0	145.9	146.1	45.50	-8,166.2	-724.6	342.4	131.3	211.05	1.622	
16,100.0	7,770.0	15,879.3	7,530.0	147.6	147.8	45.54	-8,266.2	-724.6	342.6	129.0	213.69	1.603	
16,200.0	7,770.0	15,979.3	7,530.0	149.4	149.6	45.58	-8,366.2	-724.6	342.9	126.6	216.34	1.585	
16,300.0	7,770.0	16,079.3	7,530.0	151.1	151.3	45.62	-8,466.2	-724.6	343.1	124.2	218.99	1.567	
16,400.0	7,770.0	16,179.3	7,530.0	152.9	153.1	45.66	-8,566.2	-724.6	343.4	121.7	221.64	1.549	
16,500.0	7,770.0	16,279.3	7,530.0	154.6	154.8	45.70	-8,666.2	-724.6	343.6	119.3	224.30	1.532	
16,600.0	7,770.0	16,379.3	7,530.0	156.3	156.5	45.74	-8,766.2	-724.6	343.9	116.9	226.96	1.515	
16,700.0	7,770.0	16,479.3	7,530.0	158.1	158.3	45.78	-8,866.2	-724.6	344.1	114.5	229.62	1.499	Level 3
16,800.0	7,770.0	16,579.3	7,530.0	159.8	160.0	45.82	-8,966.2	-724.6	344.4	112.1	232.29	1.483	Level 3
16,900.0	7,770.0	16,679.3	7,530.0	161.6	161.8	45.86	-9,066.2	-724.6	344.6	109.7	234.96	1.467	Level 3
17,000.0	7,770.0	16,779.3	7,530.0	163.3	163.5	45.90	-9,166.2	-724.6	344.9	107.3	237.63	1.451	Level 3
17,100.0	7,770.0	16,879.3	7,530.0	165.1	165.3	45.94	-9,266.2	-724.6	345.1	104.8	240.31	1.436	Level 3
17,200.0	7,770.0	16,979.3	7,530.0	166.8	167.0	45.98	-9,366.2	-724.6	345.4	102.4	242.99	1.421	Level 3
17,300.0	7,770.0	17,079.3	7,530.0	168.6	168.7	46.02	-9,466.2	-724.6	345.6	100.0	245.67	1.407	Level 3
17,400.0	7,770.0	17,179.3	7,530.0	170.3	170.5	46.06	-9,566.2	-724.6	345.9	97.5	248.36	1.393	Level 3
17,500.0	7,770.0	17,279.3	7,530.0	172.0	172.2	46.10	-9,666.2	-724.6	346.2	95.1	251.05	1.379	Level 3
17,600.0	7,770.0	17,379.3	7,530.0	173.8	174.0	46.14	-9,766.2	-724.6	346.4	92.7	253.74	1.365	Level 3
17,664.2	7,770.0	17,440.2	7,530.0	174.9	175.0	46.17	-9,827.1	-724.6	346.6	91.2	255.43	1.357	Level 3, SF

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Morgan Hills 1F-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 1F-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	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	
450.0	450.0	450.0	450.0	0.8	0.8	90.00	0.0	10.1	10.1	8.5	1.53	6.605	CC, ES
500.0	500.0	500.0	500.0	0.9	0.8	143.78	0.0	10.1	10.3	8.6	1.70	6.030	
600.0	600.0	600.1	600.1	1.0	1.0	144.95	0.8	9.7	11.3	9.3	2.05	5.517	
700.0	699.9	700.1	700.1	1.2	1.2	143.31	3.2	8.7	13.1	10.7	2.40	5.438	
800.0	799.8	800.2	800.1	1.4	1.4	140.04	7.2	7.0	15.6	12.8	2.77	5.629	
900.0	899.5	900.2	899.9	1.6	1.6	136.86	12.6	4.7	18.9	15.8	3.14	6.030	
966.6	965.9	966.8	966.3	1.7	1.7	136.74	16.4	3.1	21.9	18.5	3.39	6.441	
1,000.0	999.2	1,000.1	999.6	1.8	1.8	137.03	18.2	2.3	23.5	19.9	3.52	6.664	
1,100.0	1,098.8	1,100.0	1,099.3	2.0	2.0	137.69	23.8	0.0	28.3	24.4	3.91	7.240	
1,200.0	1,198.4	1,199.8	1,199.0	2.2	2.2	138.16	29.4	-2.4	33.1	28.8	4.29	7.708	
1,300.0	1,297.9	1,299.7	1,298.7	2.5	2.4	138.50	35.0	-4.8	37.9	33.2	4.68	8.094	
1,400.0	1,397.5	1,399.6	1,398.4	2.7	2.6	138.77	40.6	-7.2	42.7	37.7	5.08	8.419	
1,500.0	1,497.1	1,499.5	1,498.1	2.9	2.8	138.99	46.2	-9.5	47.6	42.1	5.47	8.695	
1,600.0	1,596.7	1,599.4	1,597.8	3.1	3.0	139.16	51.8	-11.9	52.4	46.5	5.86	8.932	
1,700.0	1,696.3	1,699.3	1,697.5	3.4	3.2	139.31	57.4	-14.3	57.2	50.9	6.26	9.139	
1,800.0	1,795.9	1,799.1	1,797.2	3.6	3.4	139.43	63.0	-16.7	62.0	55.4	6.66	9.319	
1,900.0	1,895.5	1,899.0	1,896.9	3.8	3.6	139.54	68.6	-19.0	66.9	59.8	7.05	9.479	
2,000.0	1,995.1	1,998.9	1,996.6	4.1	3.8	139.63	74.1	-21.4	71.7	64.2	7.45	9.621	
2,100.0	2,094.7	2,098.8	2,096.3	4.3	4.0	139.71	79.7	-23.8	76.5	68.7	7.85	9.749	
2,200.0	2,194.3	2,198.7	2,196.0	4.5	4.2	139.78	85.3	-26.2	81.3	73.1	8.25	9.863	
2,300.0	2,293.9	2,298.6	2,295.7	4.8	4.4	139.84	90.9	-28.5	86.2	77.5	8.64	9.967	
2,400.0	2,393.5	2,398.4	2,395.4	5.0	4.6	139.90	96.5	-30.9	91.0	81.9	9.04	10.061	
2,500.0	2,493.1	2,498.3	2,495.1	5.2	4.8	139.95	102.1	-33.3	95.8	86.4	9.44	10.147	
2,600.0	2,592.7	2,598.2	2,594.8	5.4	5.0	139.99	107.7	-35.7	100.6	90.8	9.84	10.226	
2,700.0	2,692.3	2,698.1	2,694.5	5.7	5.2	140.04	113.3	-38.0	105.5	95.2	10.24	10.299	
2,800.0	2,791.9	2,798.0	2,794.2	5.9	5.4	140.07	118.9	-40.4	110.3	99.6	10.64	10.366	
2,900.0	2,891.4	2,897.9	2,893.9	6.1	5.6	140.11	124.5	-42.8	115.1	104.1	11.04	10.428	
3,000.0	2,991.0	2,997.7	2,993.6	6.4	5.8	140.14	130.1	-45.2	119.9	108.5	11.44	10.485	
3,100.0	3,090.6	3,097.6	3,093.3	6.6	6.0	140.17	135.6	-47.5	124.8	112.9	11.84	10.539	
3,200.0	3,190.2	3,197.5	3,193.0	6.8	6.2	140.20	141.2	-49.9	129.6	117.3	12.24	10.589	
3,300.0	3,289.8	3,297.4	3,292.7	7.1	6.4	140.22	146.8	-52.3	134.4	121.8	12.64	10.636	
3,400.0	3,389.4	3,397.3	3,392.4	7.3	6.6	140.24	152.4	-54.7	139.2	126.2	13.04	10.679	
3,500.0	3,489.0	3,497.2	3,492.0	7.6	6.8	140.27	158.0	-57.0	144.1	130.6	13.44	10.721	
3,600.0	3,588.6	3,597.0	3,591.7	7.8	7.0	140.29	163.6	-59.4	148.9	135.0	13.84	10.759	
3,700.0	3,688.2	3,696.9	3,691.4	8.0	7.2	140.31	169.2	-61.8	153.7	139.5	14.24	10.796	
3,800.0	3,787.8	3,796.8	3,791.1	8.3	7.4	140.32	174.8	-64.2	158.5	143.9	14.64	10.830	
3,900.0	3,887.4	3,896.7	3,890.8	8.5	7.6	140.34	180.4	-66.5	163.4	148.3	15.04	10.863	
4,000.0	3,987.0	3,996.6	3,990.5	8.7	7.8	140.36	186.0	-68.9	168.2	152.7	15.44	10.894	
4,100.0	4,086.6	4,096.5	4,090.2	9.0	8.0	140.37	191.6	-71.3	173.0	157.2	15.84	10.923	
4,200.0	4,186.2	4,196.4	4,189.9	9.2	8.2	140.39	197.1	-73.7	177.8	161.6	16.24	10.951	
4,300.0	4,285.8	4,296.2	4,289.6	9.4	8.4	140.40	202.7	-76.0	182.7	166.0	16.64	10.977	
4,400.0	4,385.4	4,396.1	4,389.3	9.7	8.6	140.41	208.3	-78.4	187.5	170.4	17.04	11.002	
4,500.0	4,484.9	4,496.0	4,489.0	9.9	8.8	140.42	213.9	-80.8	192.3	174.9	17.44	11.026	
4,600.0	4,584.5	4,595.9	4,588.7	10.1	9.0	140.44	219.5	-83.2	197.1	179.3	17.84	11.049	
4,700.0	4,684.1	4,695.8	4,688.4	10.4	9.2	140.45	225.1	-85.5	202.0	183.7	18.24	11.071	
4,800.0	4,783.7	4,795.7	4,788.1	10.6	9.4	140.46	230.7	-87.9	206.8	188.1	18.64	11.092	
4,900.0	4,883.3	4,895.5	4,887.8	10.8	9.7	140.47	236.3	-90.3	211.6	192.6	19.04	11.112	

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 1F-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 1F-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
5,000.0	4,982.9	4,995.4	4,987.5	11.1	9.9	140.48	241.9	-92.6	216.4	197.0	19.44	11.131	
5,100.0	5,082.5	5,095.3	5,087.2	11.3	10.1	140.49	247.5	-95.0	221.3	201.4	19.85	11.150	
5,200.0	5,182.1	5,195.2	5,186.9	11.5	10.3	140.49	253.1	-97.4	226.1	205.8	20.25	11.167	
5,300.0	5,281.7	5,295.1	5,286.6	11.8	10.5	140.50	258.6	-99.8	230.9	210.3	20.65	11.184	
5,400.0	5,381.3	5,395.0	5,386.3	12.0	10.7	140.51	264.2	-102.1	235.7	214.7	21.05	11.201	
5,500.0	5,480.9	5,494.8	5,486.0	12.2	10.9	140.52	269.8	-104.5	240.6	219.1	21.45	11.216	
5,600.0	5,580.5	5,594.7	5,585.7	12.5	11.1	140.53	275.4	-106.9	245.4	223.5	21.85	11.231	
5,700.0	5,680.1	5,694.6	5,685.4	12.7	11.3	140.53	281.0	-109.3	250.2	228.0	22.25	11.246	
5,800.0	5,779.7	5,794.5	5,785.1	12.9	11.5	140.54	286.6	-111.6	255.0	232.4	22.65	11.260	
5,900.0	5,879.3	5,894.4	5,884.8	13.2	11.7	140.55	292.2	-114.0	259.9	236.8	23.05	11.273	
6,000.0	5,978.9	5,994.3	5,984.5	13.4	11.9	140.55	297.8	-116.4	264.7	241.2	23.45	11.286	
6,100.0	6,078.4	6,094.1	6,084.2	13.6	12.1	140.56	303.4	-118.8	269.5	245.7	23.85	11.299	
6,200.0	6,178.0	6,194.0	6,183.9	13.9	12.3	140.56	309.0	-121.1	274.3	250.1	24.25	11.311	
6,300.0	6,277.6	6,293.9	6,283.6	14.1	12.5	140.57	314.6	-123.5	279.2	254.5	24.66	11.323	
6,400.0	6,377.2	6,393.8	6,383.3	14.4	12.7	140.58	320.1	-125.9	284.0	258.9	25.06	11.334	
6,500.0	6,476.8	6,493.7	6,483.0	14.6	12.9	140.58	325.7	-128.3	288.8	263.4	25.46	11.346	
6,600.0	6,576.4	6,593.6	6,582.7	14.8	13.1	140.59	331.3	-130.6	293.7	267.8	25.86	11.356	
6,700.0	6,676.0	6,693.4	6,682.4	15.1	13.3	140.59	336.9	-133.0	298.5	272.2	26.26	11.367	
6,800.0	6,775.6	6,793.5	6,782.3	15.3	13.5	140.61	342.5	-135.4	303.3	276.6	26.66	11.377	
6,900.0	6,875.2	6,894.7	6,883.3	15.5	13.6	142.15	339.8	-137.9	307.8	281.0	26.85	11.467	
7,000.0	6,974.8	6,991.7	6,978.9	15.8	13.7	146.03	324.0	-140.3	312.9	286.2	26.74	11.702	
7,042.2	7,016.8	7,030.6	7,016.5	15.9	13.6	148.19	314.0	-141.3	315.8	289.2	26.63	11.860	
7,050.0	7,024.6	7,037.7	7,023.3	15.9	13.6	154.60	311.9	-141.4	316.5	289.9	26.61	11.894	
7,100.0	7,074.4	7,082.4	7,065.6	16.0	13.6	-151.29	297.5	-142.6	320.8	294.4	26.42	12.142	
7,150.0	7,124.2	7,126.4	7,106.2	16.0	13.6	-115.41	280.9	-143.7	325.9	299.6	26.24	12.418	
7,200.0	7,173.6	7,169.5	7,145.1	16.1	13.5	-99.39	262.1	-144.7	331.5	305.4	26.08	12.713	
7,250.0	7,222.5	7,212.0	7,182.1	16.1	13.5	-90.41	241.3	-145.8	337.6	311.6	25.93	13.019	
7,300.0	7,270.6	7,253.8	7,217.4	16.1	13.4	-84.34	218.8	-146.8	344.0	318.2	25.80	13.330	
7,350.0	7,317.5	7,295.1	7,250.8	16.1	13.4	-79.74	194.6	-147.8	350.6	324.9	25.70	13.641	
7,400.0	7,363.3	7,335.9	7,282.3	16.1	13.4	-76.02	168.8	-148.7	357.4	331.8	25.62	13.947	
7,450.0	7,407.5	7,376.1	7,312.0	16.1	13.3	-72.91	141.7	-149.6	364.2	338.6	25.56	14.245	
7,500.0	7,450.0	7,416.0	7,339.8	16.1	13.3	-70.23	113.2	-150.5	370.9	345.4	25.52	14.533	
7,550.0	7,490.6	7,455.4	7,365.8	16.0	13.3	-67.90	83.5	-151.3	377.5	352.0	25.49	14.810	
7,600.0	7,529.1	7,494.5	7,389.9	16.0	13.4	-65.86	52.7	-152.1	383.8	358.4	25.47	15.070	
7,650.0	7,565.2	7,533.3	7,412.0	16.0	13.4	-64.07	20.9	-152.9	389.9	364.4	25.47	15.309	
7,700.0	7,598.9	7,571.8	7,432.3	16.1	13.5	-62.49	-11.8	-153.6	395.6	370.1	25.47	15.531	
7,750.0	7,629.9	7,610.0	7,450.7	16.1	13.6	-61.10	-45.3	-154.3	400.9	375.4	25.50	15.722	
7,800.0	7,658.2	7,650.0	7,468.0	16.2	13.8	-59.86	-81.4	-155.0	405.7	380.1	25.55	15.880	
7,850.0	7,683.5	7,685.8	7,481.8	16.3	13.9	-58.85	-114.4	-155.5	410.0	384.4	25.62	16.005	
7,900.0	7,705.7	7,723.5	7,494.4	16.5	14.1	-57.97	-149.9	-156.1	413.8	388.1	25.72	16.087	
7,950.0	7,724.8	7,761.0	7,505.1	16.6	14.3	-57.22	-185.8	-156.6	417.0	391.1	25.86	16.125	
8,000.0	7,740.6	7,800.0	7,514.3	16.9	14.6	-56.60	-223.7	-157.1	419.6	393.5	26.05	16.108	
8,050.0	7,753.1	7,835.6	7,520.9	17.1	14.8	-56.14	-258.8	-157.5	421.6	395.3	26.27	16.045	
8,100.0	7,762.2	7,872.9	7,525.8	17.4	15.1	-55.80	-295.6	-157.8	422.9	396.4	26.56	15.924	
8,150.0	7,767.8	7,910.0	7,528.9	17.8	15.4	-55.58	-332.7	-158.2	423.6	396.7	26.90	15.750	
8,200.0	7,770.0	7,950.2	7,530.0	18.2	15.8	-55.49	-372.9	-158.5	423.7	396.4	27.32	15.510	
8,206.2	7,770.0	7,952.2	7,530.0	18.2	15.8	-55.49	-374.9	-158.5	423.6	396.3	27.35	15.488	
8,300.0	7,770.0	8,046.1	7,530.0	19.0	16.7	-55.41	-468.7	-159.2	422.8	393.9	28.90	14.631	
8,400.0	7,770.0	8,146.1	7,530.0	20.0	17.8	-55.33	-568.7	-159.9	421.9	391.2	30.71	13.741	
8,500.0	7,770.0	8,246.1	7,530.0	21.1	19.0	-55.25	-668.7	-160.6	421.1	388.4	32.67	12.890	
8,600.0	7,770.0	8,346.1	7,530.0	22.2	20.3	-55.17	-768.7	-161.3	420.2	385.5	34.75	12.092	
8,700.0	7,770.0	8,446.0	7,530.0	23.4	21.6	-55.09	-868.7	-162.0	419.4	382.4	36.94	11.354	

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 1F-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 1F-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
8,800.0	7,770.0	8,546.0	7,530.0	24.7	23.0	-55.01	-968.7	-162.6	418.5	379.3	39.21	10.675	
8,900.0	7,770.0	8,646.0	7,530.0	26.1	24.5	-54.92	-1,068.6	-163.3	417.6	376.1	41.54	10.054	
9,000.0	7,770.0	8,746.0	7,530.0	27.5	26.0	-54.84	-1,168.6	-164.0	416.8	372.9	43.94	9.486	
9,100.0	7,770.0	8,846.0	7,530.0	28.9	27.5	-54.76	-1,268.6	-164.7	415.9	369.6	46.37	8.969	
9,200.0	7,770.0	8,946.0	7,530.0	30.4	29.0	-54.67	-1,368.6	-165.4	415.1	366.2	48.85	8.497	
9,300.0	7,770.0	9,046.0	7,530.0	31.9	30.6	-54.59	-1,468.6	-166.1	414.2	362.9	51.36	8.065	
9,400.0	7,770.0	9,146.0	7,530.0	33.4	32.2	-54.51	-1,568.6	-166.8	413.4	359.5	53.90	7.670	
9,500.0	7,770.0	9,246.0	7,530.0	35.0	33.8	-54.42	-1,668.6	-167.5	412.5	356.1	56.46	7.307	
9,600.0	7,770.0	9,346.0	7,530.0	36.5	35.4	-54.34	-1,768.6	-168.2	411.7	352.6	59.03	6.974	
9,700.0	7,770.0	9,446.0	7,530.0	38.1	37.0	-54.25	-1,868.6	-168.9	410.8	349.2	61.62	6.667	
9,800.0	7,770.0	9,546.0	7,530.0	39.7	38.7	-54.17	-1,968.6	-169.6	410.0	345.7	64.22	6.383	
9,900.0	7,770.0	9,646.0	7,530.0	41.3	40.3	-54.08	-2,068.6	-170.3	409.1	342.3	66.84	6.121	
10,000.0	7,770.0	9,746.0	7,530.0	42.9	42.0	-53.99	-2,168.6	-171.0	408.3	338.8	69.46	5.878	
10,100.0	7,770.0	9,846.0	7,530.0	44.5	43.6	-53.91	-2,268.5	-171.7	407.4	335.3	72.08	5.652	
10,200.0	7,770.0	9,946.0	7,530.0	46.2	45.3	-53.82	-2,368.5	-172.4	406.6	331.9	74.72	5.442	
10,300.0	7,770.0	10,046.0	7,530.0	47.8	47.0	-53.73	-2,468.5	-173.1	405.7	328.4	77.35	5.245	
10,400.0	7,770.0	10,146.0	7,530.0	49.5	48.7	-53.65	-2,568.5	-173.8	404.9	324.9	79.99	5.062	
10,500.0	7,770.0	10,245.9	7,530.0	51.1	50.4	-53.56	-2,668.5	-174.5	404.0	321.4	82.63	4.890	
10,600.0	7,770.0	10,345.9	7,530.0	52.8	52.1	-53.47	-2,768.5	-175.2	403.2	317.9	85.27	4.729	
10,700.0	7,770.0	10,445.9	7,530.0	54.5	53.8	-53.38	-2,868.5	-175.9	402.4	314.5	87.91	4.577	
10,800.0	7,770.0	10,545.9	7,530.0	56.2	55.5	-53.29	-2,968.5	-176.6	401.5	311.0	90.55	4.434	
10,900.0	7,770.0	10,645.9	7,530.0	57.8	57.2	-53.20	-3,068.5	-177.3	400.7	307.5	93.18	4.300	
11,000.0	7,770.0	10,745.9	7,530.0	59.5	58.9	-53.11	-3,168.5	-178.0	399.8	304.0	95.82	4.173	
11,100.0	7,770.0	10,845.9	7,530.0	61.2	60.6	-53.02	-3,268.5	-178.7	399.0	300.6	98.45	4.053	
11,200.0	7,770.0	10,945.9	7,530.0	62.9	62.3	-52.93	-3,368.5	-179.4	398.2	297.1	101.08	3.939	
11,300.0	7,770.0	11,045.9	7,530.0	64.6	64.0	-52.84	-3,468.5	-180.1	397.3	293.6	103.71	3.831	
11,400.0	7,770.0	11,145.9	7,530.0	66.3	65.7	-52.75	-3,568.4	-180.8	396.5	290.2	106.33	3.729	
11,500.0	7,770.0	11,245.9	7,530.0	68.0	67.4	-52.66	-3,668.4	-181.5	395.7	286.7	108.95	3.632	
11,600.0	7,770.0	11,345.9	7,530.0	69.7	69.2	-52.57	-3,768.4	-182.2	394.8	283.3	111.57	3.539	
11,700.0	7,770.0	11,445.9	7,530.0	71.4	70.9	-52.47	-3,868.4	-182.9	394.0	279.8	114.18	3.451	
11,800.0	7,770.0	11,545.9	7,530.0	73.1	72.6	-52.38	-3,968.4	-183.6	393.2	276.4	116.78	3.367	
11,900.0	7,770.0	11,645.9	7,530.0	74.8	74.3	-52.29	-4,068.4	-184.3	392.4	273.0	119.38	3.286	
12,000.0	7,770.0	11,745.9	7,530.0	76.5	76.0	-52.19	-4,168.4	-185.0	391.5	269.5	121.98	3.210	
12,100.0	7,770.0	11,845.9	7,530.0	78.3	77.8	-52.10	-4,268.4	-185.7	390.7	266.1	124.57	3.136	
12,200.0	7,770.0	11,945.9	7,530.0	80.0	79.5	-52.00	-4,368.4	-186.4	389.9	262.7	127.15	3.066	
12,300.0	7,770.0	12,045.8	7,530.0	81.7	81.2	-51.91	-4,468.4	-187.1	389.0	259.3	129.73	2.999	
12,400.0	7,770.0	12,145.8	7,530.0	83.4	83.0	-51.81	-4,568.4	-187.8	388.2	255.9	132.30	2.934	
12,500.0	7,770.0	12,245.8	7,530.0	85.1	84.7	-51.72	-4,668.4	-188.5	387.4	252.5	134.87	2.872	
12,600.0	7,770.0	12,345.8	7,530.0	86.9	86.4	-51.62	-4,768.4	-189.2	386.6	249.2	137.42	2.813	
12,700.0	7,770.0	12,445.8	7,530.0	88.6	88.2	-51.53	-4,868.3	-189.9	385.8	245.8	139.98	2.756	
12,800.0	7,770.0	12,545.8	7,530.0	90.3	89.9	-51.43	-4,968.3	-190.6	384.9	242.4	142.52	2.701	
12,900.0	7,770.0	12,645.8	7,530.0	92.0	91.6	-51.33	-5,068.3	-191.3	384.1	239.1	145.06	2.648	
13,000.0	7,770.0	12,745.8	7,530.0	93.8	93.4	-51.23	-5,168.3	-192.0	383.3	235.7	147.59	2.597	
13,100.0	7,770.0	12,845.8	7,530.0	95.5	95.1	-51.13	-5,268.3	-192.7	382.5	232.4	150.11	2.548	
13,200.0	7,770.0	12,945.8	7,530.0	97.2	96.8	-51.04	-5,368.3	-193.4	381.7	229.0	152.63	2.501	
13,300.0	7,770.0	13,045.8	7,530.0	99.0	98.6	-50.94	-5,468.3	-194.1	380.9	225.7	155.13	2.455	
13,400.0	7,770.0	13,145.8	7,530.0	100.7	100.3	-50.84	-5,568.3	-194.8	380.0	222.4	157.63	2.411	
13,500.0	7,770.0	13,245.8	7,530.0	102.4	102.0	-50.74	-5,668.3	-195.5	379.2	219.1	160.13	2.368	
13,600.0	7,770.0	13,345.8	7,530.0	104.1	103.8	-50.64	-5,768.3	-196.2	378.4	215.8	162.61	2.327	
13,700.0	7,770.0	13,445.8	7,530.0	105.9	105.5	-50.54	-5,868.3	-196.9	377.6	212.5	165.09	2.287	
13,800.0	7,770.0	13,545.8	7,530.0	107.6	107.3	-50.44	-5,968.3	-197.6	376.8	209.3	167.55	2.249	
13,900.0	7,770.0	13,645.8	7,530.0	109.3	109.0	-50.33	-6,068.2	-198.2	376.0	206.0	170.01	2.212	

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 1F-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 1F-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
14,000.0	7,770.0	13,745.8	7,530.0	111.1	110.7	-50.23	-6,168.2	-198.9	375.2	202.7	172.46	2.176	
14,100.0	7,770.0	13,845.7	7,530.0	112.8	112.5	-50.13	-6,268.2	-199.6	374.4	199.5	174.90	2.141	
14,200.0	7,770.0	13,945.7	7,530.0	114.6	114.2	-50.03	-6,368.2	-200.3	373.6	196.3	177.34	2.107	
14,300.0	7,770.0	14,045.7	7,530.0	116.3	116.0	-49.92	-6,468.2	-201.0	372.8	193.0	179.76	2.074	
14,400.0	7,770.0	14,145.7	7,530.0	118.0	117.7	-49.82	-6,568.2	-201.7	372.0	189.8	182.18	2.042	
14,500.0	7,770.0	14,245.7	7,530.0	119.8	119.5	-49.71	-6,668.2	-202.4	371.2	186.6	184.58	2.011	
14,600.0	7,770.0	14,345.7	7,530.0	121.5	121.2	-49.61	-6,768.2	-203.1	370.4	183.4	186.98	1.981	
14,700.0	7,770.0	14,445.7	7,530.0	123.2	122.9	-49.50	-6,868.2	-203.8	369.6	180.2	189.37	1.952	
14,800.0	7,770.0	14,545.7	7,530.0	125.0	124.7	-49.40	-6,968.2	-204.5	368.8	177.1	191.74	1.923	
14,900.0	7,770.0	14,645.7	7,530.0	126.7	126.4	-49.29	-7,068.2	-205.2	368.0	173.9	194.11	1.896	
15,000.0	7,770.0	14,745.7	7,530.0	128.5	128.2	-49.19	-7,168.2	-205.9	367.2	170.7	196.47	1.869	
15,100.0	7,770.0	14,845.7	7,530.0	130.2	129.9	-49.08	-7,268.2	-206.6	366.4	167.6	198.82	1.843	
15,200.0	7,770.0	14,945.7	7,530.0	131.9	131.7	-48.97	-7,368.1	-207.3	365.6	164.5	201.16	1.818	
15,300.0	7,770.0	15,045.7	7,530.0	133.7	133.4	-48.86	-7,468.1	-208.0	364.8	161.4	203.49	1.793	
15,400.0	7,770.0	15,145.7	7,530.0	135.4	135.2	-48.76	-7,568.1	-208.7	364.1	158.2	205.81	1.769	
15,500.0	7,770.0	15,245.7	7,530.0	137.2	136.9	-48.65	-7,668.1	-209.4	363.3	155.1	208.11	1.746	
15,600.0	7,770.0	15,345.7	7,530.0	138.9	138.6	-48.54	-7,768.1	-210.1	362.5	152.1	210.41	1.723	
15,700.0	7,770.0	15,445.7	7,530.0	140.6	140.4	-48.43	-7,868.1	-210.8	361.7	149.0	212.70	1.700	
15,800.0	7,770.0	15,545.7	7,530.0	142.4	142.1	-48.32	-7,968.1	-211.5	360.9	145.9	214.98	1.679	
15,900.0	7,770.0	15,645.7	7,530.0	144.1	143.9	-48.21	-8,068.1	-212.2	360.1	142.9	217.24	1.658	
16,000.0	7,770.0	15,745.6	7,530.0	145.9	145.6	-48.10	-8,168.1	-212.9	359.3	139.9	219.50	1.637	
16,100.0	7,770.0	15,845.6	7,530.0	147.6	147.4	-47.98	-8,268.1	-213.6	358.6	136.8	221.74	1.617	
16,200.0	7,770.0	15,945.6	7,530.0	149.4	149.1	-47.87	-8,368.1	-214.3	357.8	133.8	223.97	1.597	
16,300.0	7,770.0	16,045.6	7,530.0	151.1	150.9	-47.76	-8,468.1	-215.0	357.0	130.8	226.20	1.578	
16,400.0	7,770.0	16,145.6	7,530.0	152.9	152.6	-47.65	-8,568.1	-215.7	356.2	127.8	228.41	1.560	
16,500.0	7,770.0	16,245.6	7,530.0	154.6	154.4	-47.53	-8,668.0	-216.4	355.5	124.9	230.61	1.541	
16,600.0	7,770.0	16,345.6	7,530.0	156.3	156.1	-47.42	-8,768.0	-217.1	354.7	121.9	232.79	1.524	
16,700.0	7,770.0	16,445.6	7,530.0	158.1	157.9	-47.30	-8,868.0	-217.8	353.9	119.0	234.97	1.506	
16,800.0	7,770.0	16,545.6	7,530.0	159.8	159.6	-47.19	-8,968.0	-218.5	353.2	116.0	237.13	1.489	Level 3
16,900.0	7,770.0	16,645.6	7,530.0	161.6	161.4	-47.07	-9,068.0	-219.2	352.4	113.1	239.29	1.473	Level 3
17,000.0	7,770.0	16,745.6	7,530.0	163.3	163.1	-46.96	-9,168.0	-219.9	351.6	110.2	241.43	1.456	Level 3
17,100.0	7,770.0	16,845.6	7,530.0	165.1	164.9	-46.84	-9,268.0	-220.6	350.9	107.3	243.55	1.441	Level 3
17,200.0	7,770.0	16,945.6	7,530.0	166.8	166.6	-46.72	-9,368.0	-221.3	350.1	104.4	245.67	1.425	Level 3
17,300.0	7,770.0	17,045.6	7,530.0	168.6	168.4	-46.60	-9,468.0	-222.0	349.3	101.6	247.77	1.410	Level 3
17,400.0	7,770.0	17,145.6	7,530.0	170.3	170.1	-46.49	-9,568.0	-222.7	348.6	98.7	249.87	1.395	Level 3
17,500.0	7,770.0	17,245.6	7,530.0	172.0	171.8	-46.37	-9,668.0	-223.4	347.8	95.9	251.94	1.381	Level 3
17,600.0	7,770.0	17,345.6	7,530.0	173.8	173.6	-46.25	-9,768.0	-224.1	347.1	93.1	254.01	1.366	Level 3
17,664.2	7,770.0	17,409.7	7,530.0	174.9	174.7	-46.17	-9,832.1	-224.5	346.6	91.2	255.33	1.357	Level 3, SF

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Morgan Hills 1F-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 1F-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	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	
400.0	400.0	400.0	400.0	0.7	0.7	90.00	0.0	19.9	19.9	18.5	1.35	14.709	
450.0	450.0	450.0	450.0	0.8	0.8	90.00	0.0	19.9	19.9	18.3	1.53	13.026	CC, ES
500.0	500.0	500.0	500.0	0.9	0.8	143.42	0.0	19.9	20.0	18.3	1.70	11.791	
600.0	600.0	600.0	600.0	1.0	1.0	145.61	0.2	19.9	21.5	19.4	2.05	10.474	
700.0	699.9	700.0	699.9	1.2	1.2	146.13	2.0	19.9	24.3	21.9	2.40	10.120	
800.0	799.8	799.9	799.8	1.4	1.4	144.96	5.4	19.9	28.5	25.7	2.76	10.336	
900.0	899.5	899.7	899.5	1.6	1.6	143.09	10.5	20.0	34.1	31.0	3.12	10.925	
966.6	965.9	966.2	965.9	1.7	1.7	142.70	14.1	20.1	38.7	35.3	3.37	11.465	
1,000.0	999.2	999.5	999.1	1.8	1.8	142.72	16.0	20.1	41.1	37.6	3.50	11.748	
1,100.0	1,098.8	1,099.2	1,098.7	2.0	1.9	142.75	21.4	20.2	48.4	44.5	3.88	12.475	
1,200.0	1,198.4	1,199.0	1,198.3	2.2	2.1	142.78	26.8	20.3	55.7	51.4	4.26	13.063	
1,300.0	1,297.9	1,298.7	1,297.9	2.5	2.3	142.80	32.2	20.3	62.9	58.3	4.64	13.548	
1,400.0	1,397.5	1,398.4	1,397.5	2.7	2.5	142.81	37.6	20.4	70.2	65.2	5.03	13.953	
1,500.0	1,497.1	1,498.2	1,497.1	2.9	2.7	142.82	43.0	20.5	77.5	72.1	5.42	14.296	
1,600.0	1,596.7	1,597.9	1,596.7	3.1	2.9	142.84	48.4	20.6	84.8	78.9	5.81	14.591	
1,700.0	1,696.3	1,697.6	1,696.2	3.4	3.1	142.84	53.8	20.7	92.0	85.8	6.20	14.847	
1,800.0	1,795.9	1,797.4	1,795.8	3.6	3.3	142.85	59.2	20.7	99.3	92.7	6.59	15.070	
1,900.0	1,895.5	1,897.1	1,895.4	3.8	3.5	142.86	64.7	20.8	106.6	99.6	6.98	15.267	
2,000.0	1,995.1	1,996.8	1,995.0	4.1	3.7	142.86	70.1	20.9	113.9	106.5	7.37	15.442	
2,100.0	2,094.7	2,096.6	2,094.6	4.3	3.9	142.87	75.5	21.0	121.1	113.4	7.77	15.599	
2,200.0	2,194.3	2,196.3	2,194.2	4.5	4.1	142.87	80.9	21.0	128.4	120.2	8.16	15.739	
2,300.0	2,293.9	2,296.0	2,293.8	4.8	4.3	142.88	86.3	21.1	135.7	127.1	8.55	15.867	
2,400.0	2,393.5	2,395.8	2,393.4	5.0	4.5	142.88	91.7	21.2	142.9	134.0	8.94	15.982	
2,500.0	2,493.1	2,495.5	2,492.9	5.2	4.7	142.88	97.1	21.3	150.2	140.9	9.34	16.087	
2,600.0	2,592.7	2,595.2	2,592.5	5.4	4.9	142.89	102.5	21.4	157.5	147.8	9.73	16.184	
2,700.0	2,692.3	2,695.0	2,692.1	5.7	5.1	142.89	107.9	21.4	164.8	154.6	10.13	16.272	
2,800.0	2,791.9	2,794.7	2,791.7	5.9	5.3	142.89	113.4	21.5	172.0	161.5	10.52	16.354	
2,900.0	2,891.4	2,894.4	2,891.3	6.1	5.5	142.89	118.8	21.6	179.3	168.4	10.91	16.429	
3,000.0	2,991.0	2,994.2	2,990.9	6.4	5.7	142.90	124.2	21.7	186.6	175.3	11.31	16.499	
3,100.0	3,090.6	3,093.9	3,090.5	6.6	5.8	142.90	129.6	21.8	193.9	182.2	11.70	16.564	
3,200.0	3,190.2	3,193.7	3,190.1	6.8	6.0	142.90	135.0	21.8	201.1	189.0	12.10	16.625	
3,300.0	3,289.8	3,293.4	3,289.6	7.1	6.2	142.90	140.4	21.9	208.4	195.9	12.49	16.682	
3,400.0	3,389.4	3,393.1	3,389.2	7.3	6.4	142.90	145.8	22.0	215.7	202.8	12.89	16.735	
3,500.0	3,489.0	3,492.9	3,488.8	7.6	6.6	142.90	151.2	22.1	223.0	209.7	13.28	16.785	
3,600.0	3,588.6	3,592.6	3,588.4	7.8	6.8	142.90	156.7	22.2	230.2	216.6	13.68	16.832	
3,700.0	3,688.2	3,692.3	3,688.0	8.0	7.0	142.91	162.1	22.2	237.5	223.4	14.07	16.876	
3,800.0	3,787.8	3,792.1	3,787.6	8.3	7.2	142.91	167.5	22.3	244.8	230.3	14.47	16.918	
3,900.0	3,887.4	3,891.8	3,887.2	8.5	7.4	142.91	172.9	22.4	252.1	237.2	14.87	16.957	
4,000.0	3,987.0	3,991.5	3,986.8	8.7	7.6	142.91	178.3	22.5	259.3	244.1	15.26	16.994	
4,100.0	4,086.6	4,091.3	4,086.4	9.0	7.8	142.91	183.7	22.5	266.6	251.0	15.66	17.030	
4,200.0	4,186.2	4,191.0	4,185.9	9.2	8.0	142.91	189.1	22.6	273.9	257.8	16.05	17.063	
4,300.0	4,285.8	4,290.7	4,285.5	9.4	8.2	142.91	194.5	22.7	281.2	264.7	16.45	17.095	
4,400.0	4,385.4	4,390.5	4,385.1	9.7	8.4	142.91	199.9	22.8	288.4	271.6	16.84	17.126	
4,500.0	4,484.9	4,490.2	4,484.7	9.9	8.6	142.91	205.4	22.9	295.7	278.5	17.24	17.155	
4,600.0	4,584.5	4,589.9	4,584.3	10.1	8.8	142.91	210.8	22.9	303.0	285.4	17.63	17.182	
4,700.0	4,684.1	4,689.7	4,683.9	10.4	9.0	142.92	216.2	23.0	310.3	292.2	18.03	17.209	
4,800.0	4,783.7	4,789.4	4,783.5	10.6	9.2	142.92	221.6	23.1	317.5	299.1	18.43	17.234	
4,900.0	4,883.3	4,889.1	4,883.1	10.8	9.4	142.92	227.0	23.2	324.8	306.0	18.82	17.258	

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

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Morgan Hills 1F-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 1F-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
5,000.0	4,982.9	4,988.9	4,982.6	11.1	9.6	142.92	232.4	23.3	332.1	312.9	19.22	17.281	
5,100.0	5,082.5	5,088.6	5,082.2	11.3	9.8	142.92	237.8	23.3	339.4	319.8	19.61	17.303	
5,200.0	5,182.1	5,188.4	5,181.8	11.5	10.0	142.92	243.2	23.4	346.6	326.6	20.01	17.324	
5,300.0	5,281.7	5,288.1	5,281.4	11.8	10.2	142.92	248.7	23.5	353.9	333.5	20.40	17.345	
5,400.0	5,381.3	5,387.8	5,381.0	12.0	10.4	142.92	254.1	23.6	361.2	340.4	20.80	17.364	
5,500.0	5,480.9	5,487.6	5,480.6	12.2	10.6	142.92	259.5	23.7	368.5	347.3	21.20	17.383	
5,600.0	5,580.5	5,587.3	5,580.2	12.5	10.8	142.92	264.9	23.7	375.7	354.1	21.59	17.401	
5,700.0	5,680.1	5,687.0	5,679.8	12.7	11.0	142.92	270.3	23.8	383.0	361.0	21.99	17.419	
5,800.0	5,779.7	5,786.8	5,779.4	12.9	11.2	142.92	275.7	23.9	390.3	367.9	22.38	17.436	
5,900.0	5,879.3	5,886.5	5,878.9	13.2	11.4	142.92	281.1	24.0	397.6	374.8	22.78	17.452	
6,000.0	5,978.9	5,986.2	5,978.5	13.4	11.6	142.92	286.5	24.0	404.8	381.7	23.18	17.468	
6,100.0	6,078.4	6,086.0	6,078.1	13.6	11.8	142.92	291.9	24.1	412.1	388.5	23.57	17.483	
6,200.0	6,178.0	6,185.7	6,177.7	13.9	12.0	142.92	297.4	24.2	419.4	395.4	23.97	17.498	
6,300.0	6,277.6	6,285.4	6,277.3	14.1	12.2	142.92	302.8	24.3	426.7	402.3	24.36	17.512	
6,400.0	6,377.2	6,385.2	6,376.9	14.4	12.4	142.92	308.2	24.4	433.9	409.2	24.76	17.525	
6,500.0	6,476.8	6,484.9	6,476.5	14.6	12.6	142.92	313.6	24.4	441.2	416.1	25.16	17.539	
6,600.0	6,576.4	6,584.6	6,576.1	14.8	12.8	142.92	319.0	24.5	448.5	422.9	25.55	17.551	
6,700.0	6,676.0	6,684.4	6,675.6	15.1	13.0	142.93	324.4	24.6	455.8	429.8	25.95	17.564	
6,800.0	6,775.6	6,784.1	6,775.2	15.3	13.2	142.93	329.8	24.7	463.0	436.7	26.34	17.576	
6,900.0	6,875.2	6,883.8	6,874.8	15.5	13.4	142.93	335.2	24.8	470.3	443.6	26.74	17.588	
7,000.0	6,974.8	6,983.6	6,974.4	15.8	13.6	142.93	340.7	24.8	477.6	450.4	27.14	17.599	
7,042.2	7,016.8	7,025.7	7,016.4	15.9	13.6	142.93	342.9	24.9	480.7	453.4	27.30	17.604	
7,050.0	7,024.6	7,033.5	7,024.2	15.9	13.7	148.91	343.3	24.9	481.2	453.9	27.33	17.608	
7,100.0	7,074.4	7,083.3	7,074.1	16.0	13.7	-159.63	343.6	24.9	484.9	457.4	27.45	17.666	
7,150.0	7,124.2	7,133.2	7,123.8	16.0	13.8	-126.28	340.5	25.0	488.5	461.0	27.51	17.754	
7,200.0	7,173.6	7,183.0	7,173.2	16.1	13.8	-112.66	333.9	25.0	492.1	464.5	27.53	17.871	
7,250.0	7,222.5	7,232.9	7,222.1	16.1	13.8	-105.95	323.9	25.0	495.6	468.1	27.51	18.012	
7,300.0	7,270.6	7,282.8	7,270.1	16.1	13.8	-101.99	310.5	25.1	499.0	471.6	27.46	18.175	
7,350.0	7,317.5	7,332.6	7,317.1	16.1	13.7	-99.37	293.8	25.1	502.4	475.0	27.37	18.353	
7,400.0	7,363.3	7,382.5	7,362.8	16.1	13.7	-97.49	273.8	25.1	505.7	478.4	27.27	18.540	
7,450.0	7,407.5	7,432.4	7,407.0	16.1	13.6	-96.07	250.8	25.2	508.8	481.6	27.16	18.730	
7,500.0	7,450.0	7,482.3	7,449.5	16.1	13.6	-94.95	224.7	25.2	511.8	484.7	27.06	18.915	
7,550.0	7,490.6	7,532.2	7,490.1	16.0	13.5	-94.04	195.7	25.2	514.7	487.7	26.97	19.084	
7,600.0	7,529.1	7,582.1	7,528.6	16.0	13.5	-93.28	163.9	25.3	517.4	490.4	26.90	19.230	
7,650.0	7,565.2	7,632.0	7,564.8	16.0	13.4	-92.65	129.5	25.3	519.9	493.0	26.88	19.341	
7,700.0	7,598.9	7,682.0	7,598.5	16.1	13.5	-92.12	92.7	25.3	522.2	495.3	26.91	19.408	
7,750.0	7,629.9	7,731.9	7,629.6	16.1	13.5	-91.66	53.6	25.4	524.3	497.3	27.00	19.423	
7,800.0	7,658.2	7,781.9	7,657.9	16.2	13.6	-91.28	12.4	25.4	526.2	499.1	27.16	19.377	
7,850.0	7,683.5	7,831.9	7,683.3	16.3	13.7	-90.95	-30.6	25.4	527.9	500.5	27.40	19.267	
7,900.0	7,705.7	7,881.9	7,705.6	16.5	13.8	-90.68	-75.4	25.4	529.4	501.7	27.73	19.089	
7,950.0	7,724.8	7,931.9	7,724.7	16.6	14.1	-90.46	-121.6	25.4	530.6	502.5	28.15	18.847	
8,000.0	7,740.6	7,981.9	7,740.5	16.9	14.3	-90.28	-169.0	25.4	531.6	502.9	28.67	18.542	
8,050.0	7,753.1	8,031.9	7,753.1	17.1	14.6	-90.15	-217.4	25.5	532.3	503.1	29.28	18.183	
8,100.0	7,762.2	8,082.0	7,762.2	17.4	15.0	-90.06	-266.6	25.5	532.8	502.9	29.97	17.778	
8,150.0	7,767.8	8,132.0	7,767.8	17.8	15.4	-90.01	-316.3	25.5	533.1	502.3	30.75	17.335	
8,200.0	7,770.0	8,182.0	7,770.0	18.2	15.8	-90.00	-366.3	25.5	533.1	501.5	31.60	16.868	
8,206.2	7,770.0	8,188.2	7,770.0	18.2	15.9	-90.00	-372.4	25.5	533.0	501.3	31.71	16.810	
8,300.0	7,770.0	8,282.0	7,770.0	19.0	16.8	-90.00	-466.3	25.5	532.7	499.1	33.56	15.875	
8,400.0	7,770.0	8,382.0	7,770.0	20.0	17.9	-90.00	-566.3	25.5	532.4	496.6	35.74	14.895	
8,500.0	7,770.0	8,482.0	7,770.0	21.1	19.1	-90.00	-666.3	25.5	532.0	493.9	38.13	13.954	
8,600.0	7,770.0	8,582.0	7,770.0	22.2	20.3	-90.00	-766.3	25.5	531.7	491.0	40.67	13.071	
8,700.0	7,770.0	8,682.0	7,770.0	23.4	21.7	-90.00	-866.3	25.5	531.3	488.0	43.36	12.255	

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 1F-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 1F-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
8,800.0	7,770.0	8,782.0	7,770.0	24.7	23.1	-90.00	-966.3	25.5	531.0	484.8	46.15	11.505	
8,900.0	7,770.0	8,882.0	7,770.0	26.1	24.5	-90.00	-1,066.3	25.5	530.6	481.6	49.03	10.821	
9,000.0	7,770.0	8,982.0	7,770.0	27.5	26.0	-90.00	-1,166.3	25.5	530.3	478.3	52.00	10.198	
9,100.0	7,770.0	9,082.0	7,770.0	28.9	27.5	-90.00	-1,266.3	25.5	529.9	474.9	55.02	9.631	
9,200.0	7,770.0	9,182.0	7,770.0	30.4	29.1	-90.00	-1,366.3	25.5	529.6	471.5	58.10	9.114	
9,300.0	7,770.0	9,282.0	7,770.0	31.9	30.6	-90.00	-1,466.3	25.5	529.2	468.0	61.23	8.643	
9,400.0	7,770.0	9,382.0	7,770.0	33.4	32.2	-90.00	-1,566.3	25.5	528.9	464.5	64.39	8.213	
9,500.0	7,770.0	9,482.0	7,770.0	35.0	33.8	-90.00	-1,666.3	25.5	528.5	460.9	67.59	7.819	
9,600.0	7,770.0	9,582.0	7,770.0	36.5	35.4	-90.00	-1,766.3	25.5	528.2	457.3	70.82	7.458	
9,700.0	7,770.0	9,682.0	7,770.0	38.1	37.0	-90.00	-1,866.3	25.5	527.8	453.7	74.08	7.125	
9,800.0	7,770.0	9,782.0	7,770.0	39.7	38.7	-90.00	-1,966.3	25.5	527.5	450.1	77.35	6.819	
9,900.0	7,770.0	9,882.0	7,770.0	41.3	40.3	-90.00	-2,066.3	25.5	527.1	446.5	80.65	6.536	
10,000.0	7,770.0	9,982.0	7,770.0	42.9	42.0	-90.00	-2,166.3	25.5	526.8	442.8	83.96	6.274	
10,100.0	7,770.0	10,082.0	7,770.0	44.5	43.7	-90.00	-2,266.3	25.5	526.4	439.1	87.29	6.031	
10,200.0	7,770.0	10,182.0	7,770.0	46.2	45.3	-90.00	-2,366.3	25.5	526.1	435.4	90.63	5.804	
10,300.0	7,770.0	10,282.0	7,770.0	47.8	47.0	-90.00	-2,466.2	25.5	525.7	431.7	93.99	5.594	
10,400.0	7,770.0	10,382.0	7,770.0	49.5	48.7	-90.00	-2,566.2	25.5	525.4	428.0	97.35	5.397	
10,500.0	7,770.0	10,482.0	7,770.0	51.1	50.4	-90.00	-2,666.2	25.5	525.0	424.3	100.73	5.212	
10,600.0	7,770.0	10,582.0	7,770.0	52.8	52.1	-90.00	-2,766.2	25.5	524.7	420.6	104.11	5.040	
10,700.0	7,770.0	10,682.0	7,770.0	54.5	53.8	-90.00	-2,866.2	25.5	524.3	416.8	107.50	4.877	
10,800.0	7,770.0	10,782.0	7,770.0	56.2	55.5	-90.00	-2,966.2	25.5	524.0	413.1	110.90	4.725	
10,900.0	7,770.0	10,882.0	7,770.0	57.8	57.2	-90.00	-3,066.2	25.5	523.6	409.3	114.31	4.581	
11,000.0	7,770.0	10,982.0	7,770.0	59.5	58.9	-90.00	-3,166.2	25.5	523.3	405.6	117.72	4.445	
11,100.0	7,770.0	11,082.0	7,770.0	61.2	60.6	-90.00	-3,266.2	25.5	522.9	401.8	121.13	4.317	
11,200.0	7,770.0	11,182.0	7,770.0	62.9	62.3	-90.00	-3,366.2	25.5	522.6	398.0	124.56	4.196	
11,300.0	7,770.0	11,282.0	7,770.0	64.6	64.0	-90.00	-3,466.2	25.5	522.2	394.3	127.98	4.081	
11,400.0	7,770.0	11,382.0	7,770.0	66.3	65.7	-90.00	-3,566.2	25.5	521.9	390.5	131.41	3.971	
11,500.0	7,770.0	11,482.0	7,770.0	68.0	67.4	-90.00	-3,666.2	25.5	521.5	386.7	134.85	3.868	
11,600.0	7,770.0	11,582.0	7,770.0	69.7	69.2	-90.00	-3,766.2	25.5	521.2	382.9	138.29	3.769	
11,700.0	7,770.0	11,682.0	7,770.0	71.4	70.9	-90.00	-3,866.2	25.5	520.8	379.1	141.73	3.675	
11,800.0	7,770.0	11,782.0	7,770.0	73.1	72.6	-90.00	-3,966.2	25.5	520.5	375.3	145.17	3.585	
11,900.0	7,770.0	11,882.0	7,770.0	74.8	74.3	-90.00	-4,066.2	25.5	520.1	371.5	148.62	3.500	
12,000.0	7,770.0	11,982.0	7,770.0	76.5	76.0	-90.00	-4,166.2	25.5	519.8	367.7	152.07	3.418	
12,100.0	7,770.0	12,082.0	7,770.0	78.3	77.8	-90.00	-4,266.2	25.5	519.4	363.9	155.53	3.340	
12,200.0	7,770.0	12,182.0	7,770.0	80.0	79.5	-90.00	-4,366.2	25.5	519.1	360.1	158.98	3.265	
12,300.0	7,770.0	12,282.0	7,770.0	81.7	81.2	-90.00	-4,466.2	25.5	518.7	356.3	162.44	3.193	
12,400.0	7,770.0	12,382.0	7,770.0	83.4	83.0	-90.00	-4,566.2	25.5	518.4	352.5	165.90	3.125	
12,500.0	7,770.0	12,482.0	7,770.0	85.1	84.7	-90.00	-4,666.2	25.5	518.0	348.7	169.36	3.059	
12,600.0	7,770.0	12,582.0	7,770.0	86.9	86.4	-90.00	-4,766.2	25.5	517.7	344.9	172.83	2.995	
12,700.0	7,770.0	12,682.0	7,770.0	88.6	88.2	-90.00	-4,866.2	25.5	517.3	341.1	176.29	2.935	
12,800.0	7,770.0	12,782.0	7,770.0	90.3	89.9	-90.00	-4,966.2	25.5	517.0	337.2	179.76	2.876	
12,900.0	7,770.0	12,882.0	7,770.0	92.0	91.6	-90.00	-5,066.2	25.5	516.7	333.4	183.23	2.820	
13,000.0	7,770.0	12,982.0	7,770.0	93.8	93.4	-90.00	-5,166.2	25.5	516.3	329.6	186.70	2.765	
13,100.0	7,770.0	13,082.0	7,770.0	95.5	95.1	-90.00	-5,266.2	25.5	516.0	325.8	190.17	2.713	
13,200.0	7,770.0	13,182.0	7,770.0	97.2	96.8	-90.00	-5,366.2	25.5	515.6	322.0	193.64	2.663	
13,300.0	7,770.0	13,282.0	7,770.0	99.0	98.6	-90.00	-5,466.2	25.5	515.3	318.1	197.12	2.614	
13,400.0	7,770.0	13,382.0	7,770.0	100.7	100.3	-90.00	-5,566.2	25.5	514.9	314.3	200.59	2.567	
13,500.0	7,770.0	13,482.0	7,770.0	102.4	102.0	-90.00	-5,666.2	25.5	514.6	310.5	204.07	2.521	
13,600.0	7,770.0	13,582.0	7,770.0	104.1	103.8	-90.00	-5,766.2	25.5	514.2	306.7	207.55	2.478	
13,700.0	7,770.0	13,682.0	7,770.0	105.9	105.5	-90.00	-5,866.2	25.5	513.9	302.8	211.03	2.435	
13,800.0	7,770.0	13,782.0	7,770.0	107.6	107.3	-90.00	-5,966.2	25.5	513.5	299.0	214.51	2.394	
13,900.0	7,770.0	13,882.0	7,770.0	109.3	109.0	-90.00	-6,066.2	25.5	513.2	295.2	217.99	2.354	

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 1F-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 1F-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
14,000.0	7,770.0	13,982.0	7,770.0	111.1	110.7	-90.00	-6,166.2	25.5	512.8	291.3	221.47	2.316	
14,100.0	7,770.0	14,082.0	7,770.0	112.8	112.5	-90.00	-6,266.2	25.5	512.5	287.5	224.95	2.278	
14,200.0	7,770.0	14,182.0	7,770.0	114.6	114.2	-90.00	-6,366.2	25.5	512.1	283.7	228.43	2.242	
14,300.0	7,770.0	14,282.0	7,770.0	116.3	116.0	-90.00	-6,466.2	25.5	511.8	279.8	231.92	2.207	
14,400.0	7,770.0	14,382.0	7,770.0	118.0	117.7	-90.00	-6,566.2	25.5	511.4	276.0	235.40	2.173	
14,500.0	7,770.0	14,482.0	7,770.0	119.8	119.5	-90.00	-6,666.2	25.5	511.1	272.2	238.89	2.139	
14,600.0	7,770.0	14,582.0	7,770.0	121.5	121.2	-90.00	-6,766.2	25.5	510.7	268.3	242.37	2.107	
14,700.0	7,770.0	14,682.0	7,770.0	123.2	122.9	-90.00	-6,866.2	25.5	510.4	264.5	245.86	2.076	
14,800.0	7,770.0	14,782.0	7,770.0	125.0	124.7	-90.00	-6,966.2	25.5	510.0	260.7	249.35	2.045	
14,900.0	7,770.0	14,882.0	7,770.0	126.7	126.4	-90.00	-7,066.2	25.5	509.7	256.8	252.83	2.016	
15,000.0	7,770.0	14,982.0	7,770.0	128.5	128.2	-90.00	-7,166.2	25.5	509.3	253.0	256.32	1.987	
15,100.0	7,770.0	15,082.0	7,770.0	130.2	129.9	-90.00	-7,266.2	25.5	509.0	249.2	259.81	1.959	
15,200.0	7,770.0	15,182.0	7,770.0	131.9	131.7	-90.00	-7,366.2	25.5	508.6	245.3	263.30	1.932	
15,300.0	7,770.0	15,282.0	7,770.0	133.7	133.4	-90.00	-7,466.2	25.5	508.3	241.5	266.79	1.905	
15,400.0	7,770.0	15,382.0	7,770.0	135.4	135.2	-90.00	-7,566.2	25.5	507.9	237.6	270.28	1.879	
15,500.0	7,770.0	15,482.0	7,770.0	137.2	136.9	-90.00	-7,666.2	25.5	507.6	233.8	273.77	1.854	
15,600.0	7,770.0	15,582.0	7,770.0	138.9	138.6	-90.00	-7,766.2	25.5	507.2	230.0	277.26	1.829	
15,700.0	7,770.0	15,682.0	7,770.0	140.6	140.4	-90.00	-7,866.2	25.5	506.9	226.1	280.75	1.805	
15,800.0	7,770.0	15,782.0	7,770.0	142.4	142.1	-90.00	-7,966.2	25.5	506.5	222.3	284.24	1.782	
15,900.0	7,770.0	15,882.0	7,770.0	144.1	143.9	-90.00	-8,066.2	25.5	506.2	218.4	287.74	1.759	
16,000.0	7,770.0	15,982.0	7,770.0	145.9	145.6	-90.00	-8,166.2	25.5	505.8	214.6	291.23	1.737	
16,100.0	7,770.0	16,082.0	7,770.0	147.6	147.4	-90.00	-8,266.2	25.5	505.5	210.8	294.72	1.715	
16,200.0	7,770.0	16,182.0	7,770.0	149.4	149.1	-90.00	-8,366.2	25.5	505.1	206.9	298.22	1.694	
16,300.0	7,770.0	16,282.0	7,770.0	151.1	150.9	-90.00	-8,466.2	25.5	504.8	203.1	301.71	1.673	
16,400.0	7,770.0	16,382.0	7,770.0	152.9	152.6	-90.00	-8,566.2	25.5	504.4	199.2	305.20	1.653	
16,500.0	7,770.0	16,482.0	7,770.0	154.6	154.4	-90.00	-8,666.2	25.5	504.1	195.4	308.70	1.633	
16,600.0	7,770.0	16,582.0	7,770.0	156.3	156.1	-90.00	-8,766.2	25.5	503.7	191.5	312.19	1.614	
16,700.0	7,770.0	16,682.0	7,770.0	158.1	157.9	-90.00	-8,866.2	25.5	503.4	187.7	315.69	1.595	
16,800.0	7,770.0	16,782.0	7,770.0	159.8	159.6	-90.00	-8,966.2	25.5	503.0	183.9	319.18	1.576	
16,900.0	7,770.0	16,882.0	7,770.0	161.6	161.4	-90.00	-9,066.2	25.5	502.7	180.0	322.68	1.558	
17,000.0	7,770.0	16,982.0	7,770.0	163.3	163.1	-90.00	-9,166.2	25.5	502.3	176.2	326.17	1.540	
17,100.0	7,770.0	17,082.0	7,770.0	165.1	164.8	-90.00	-9,266.2	25.5	502.0	172.3	329.67	1.523	
17,200.0	7,770.0	17,182.0	7,770.0	166.8	166.6	-90.00	-9,366.2	25.5	501.6	168.5	333.17	1.506	
17,300.0	7,770.0	17,282.0	7,770.0	168.6	168.3	-90.00	-9,466.2	25.5	501.3	164.6	336.66	1.489	Level 3
17,400.0	7,770.0	17,382.0	7,770.0	170.3	170.1	-90.00	-9,566.2	25.5	500.9	160.8	340.16	1.473	Level 3
17,500.0	7,770.0	17,482.0	7,770.0	172.0	171.8	-90.00	-9,666.2	25.5	500.6	156.9	343.66	1.457	Level 3
17,600.0	7,770.0	17,582.0	7,770.0	173.8	173.6	-90.00	-9,766.2	25.5	500.2	153.1	347.15	1.441	Level 3
17,664.2	7,770.0	17,646.1	7,770.0	174.9	174.7	-90.00	-9,830.4	25.5	500.0	150.6	349.40	1.431	Level 3, SF

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Morgan Hills 1F-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 1F-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	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	
450.0	450.0	450.0	450.0	0.8	0.8	90.00	0.0	29.9	29.9	28.4	1.53	19.631	CC, ES
500.0	500.0	500.0	500.0	0.9	0.8	143.29	0.0	29.9	30.1	28.4	1.70	17.718	
600.0	600.0	600.0	600.0	1.0	1.0	145.18	0.0	29.9	31.5	29.5	2.05	15.390	
700.0	699.9	699.6	699.6	1.2	1.2	147.20	0.7	30.4	34.9	32.5	2.40	14.533	
800.0	799.8	799.2	799.1	1.4	1.4	147.93	2.9	31.8	40.5	37.7	2.75	14.718	
900.0	899.5	898.5	898.4	1.6	1.6	147.72	6.6	34.1	48.4	45.3	3.11	15.564	
966.6	965.9	964.5	964.3	1.7	1.7	147.25	9.8	36.2	55.0	51.6	3.36	16.377	
1,000.0	999.2	997.6	997.3	1.8	1.7	146.94	11.6	37.3	58.5	55.0	3.48	16.820	
1,100.0	1,098.8	1,097.0	1,096.5	2.0	1.9	146.07	17.3	41.0	69.3	65.4	3.86	17.973	
1,200.0	1,198.4	1,196.4	1,195.6	2.2	2.1	145.44	23.0	44.6	80.1	75.9	4.24	18.906	
1,300.0	1,297.9	1,295.8	1,294.8	2.5	2.3	144.96	28.7	48.2	90.9	86.3	4.62	19.673	
1,400.0	1,397.5	1,395.2	1,394.0	2.7	2.5	144.58	34.4	51.8	101.7	96.7	5.01	20.315	
1,500.0	1,497.1	1,494.7	1,493.2	2.9	2.7	144.27	40.0	55.4	112.5	107.1	5.39	20.858	
1,600.0	1,596.7	1,594.1	1,592.4	3.1	2.9	144.02	45.7	59.0	123.3	117.5	5.78	21.323	
1,700.0	1,696.3	1,693.5	1,691.6	3.4	3.1	143.81	51.4	62.7	134.1	128.0	6.17	21.726	
1,800.0	1,795.9	1,792.9	1,790.8	3.6	3.3	143.63	57.1	66.3	144.9	138.4	6.57	22.078	
1,900.0	1,895.5	1,892.3	1,889.9	3.8	3.5	143.47	62.8	69.9	155.8	148.8	6.96	22.387	
2,000.0	1,995.1	1,991.7	1,989.1	4.1	3.8	143.34	68.4	73.5	166.6	159.2	7.35	22.662	
2,100.0	2,094.7	2,091.1	2,088.3	4.3	4.0	143.22	74.1	77.1	177.4	169.6	7.74	22.907	
2,200.0	2,194.3	2,190.5	2,187.5	4.5	4.2	143.11	79.8	80.7	188.2	180.1	8.14	23.127	
2,300.0	2,293.9	2,290.0	2,286.7	4.8	4.4	143.02	85.5	84.3	199.0	190.5	8.53	23.326	
2,400.0	2,393.5	2,389.4	2,385.9	5.0	4.6	142.94	91.2	88.0	209.8	200.9	8.93	23.506	
2,500.0	2,493.1	2,488.8	2,485.0	5.2	4.8	142.86	96.8	91.6	220.7	211.3	9.32	23.671	
2,600.0	2,592.7	2,588.2	2,584.2	5.4	5.0	142.79	102.5	95.2	231.5	221.8	9.72	23.821	
2,700.0	2,692.3	2,687.6	2,683.4	5.7	5.2	142.73	108.2	98.8	242.3	232.2	10.11	23.959	
2,800.0	2,791.9	2,787.0	2,782.6	5.9	5.4	142.67	113.9	102.4	253.1	242.6	10.51	24.086	
2,900.0	2,891.4	2,886.4	2,881.8	6.1	5.6	142.62	119.6	106.0	263.9	253.0	10.91	24.203	
3,000.0	2,991.0	2,985.8	2,981.0	6.4	5.8	142.57	125.2	109.7	274.8	263.5	11.30	24.312	
3,100.0	3,090.6	3,085.3	3,080.1	6.6	6.0	142.53	130.9	113.3	285.6	273.9	11.70	24.413	
3,200.0	3,190.2	3,184.7	3,179.3	6.8	6.2	142.49	136.6	116.9	296.4	284.3	12.09	24.507	
3,300.0	3,289.8	3,284.1	3,278.5	7.1	6.5	142.45	142.3	120.5	307.2	294.7	12.49	24.595	
3,400.0	3,389.4	3,383.5	3,377.7	7.3	6.7	142.41	148.0	124.1	318.0	305.2	12.89	24.677	
3,500.0	3,489.0	3,482.9	3,476.9	7.6	6.9	142.38	153.7	127.7	328.9	315.6	13.28	24.754	
3,600.0	3,588.6	3,582.3	3,576.1	7.8	7.1	142.35	159.3	131.3	339.7	326.0	13.68	24.827	
3,700.0	3,688.2	3,681.7	3,675.3	8.0	7.3	142.32	165.0	135.0	350.5	336.4	14.08	24.895	
3,800.0	3,787.8	3,781.1	3,774.4	8.3	7.5	142.29	170.7	138.6	361.3	346.8	14.48	24.960	
3,900.0	3,887.4	3,880.6	3,873.6	8.5	7.7	142.26	176.4	142.2	372.1	357.3	14.87	25.020	
4,000.0	3,987.0	3,980.0	3,972.8	8.7	7.9	142.24	182.1	145.8	383.0	367.7	15.27	25.078	
4,100.0	4,086.6	4,079.4	4,072.0	9.0	8.1	142.22	187.7	149.4	393.8	378.1	15.67	25.133	
4,200.0	4,186.2	4,178.8	4,171.2	9.2	8.3	142.19	193.4	153.0	404.6	388.5	16.07	25.184	
4,300.0	4,285.8	4,278.2	4,270.4	9.4	8.5	142.17	199.1	156.7	415.4	399.0	16.46	25.234	
4,400.0	4,385.4	4,377.6	4,369.5	9.7	8.7	142.15	204.8	160.3	426.3	409.4	16.86	25.280	
4,500.0	4,484.9	4,477.0	4,468.7	9.9	9.0	142.13	210.5	163.9	437.1	419.8	17.26	25.325	
4,600.0	4,584.5	4,576.5	4,567.9	10.1	9.2	142.12	216.1	167.5	447.9	430.2	17.66	25.367	
4,700.0	4,684.1	4,675.9	4,667.1	10.4	9.4	142.10	221.8	171.1	458.7	440.7	18.05	25.408	
4,800.0	4,783.7	4,775.3	4,766.3	10.6	9.6	142.08	227.5	174.7	469.5	451.1	18.45	25.447	
4,900.0	4,883.3	4,874.7	4,865.5	10.8	9.8	142.07	233.2	178.3	480.4	461.5	18.85	25.484	

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 1F-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 1F-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
5,000.0	4,982.9	4,974.1	4,964.7	11.1	10.0	142.05	238.9	182.0	491.2	471.9	19.25	25.519	
5,100.0	5,082.5	5,073.5	5,063.8	11.3	10.2	142.04	244.5	185.6	502.0	482.4	19.65	25.553	
5,200.0	5,182.1	5,172.9	5,163.0	11.5	10.4	142.02	250.2	189.2	512.8	492.8	20.04	25.586	
5,300.0	5,281.7	5,272.3	5,262.2	11.8	10.6	142.01	255.9	192.8	523.6	503.2	20.44	25.617	
5,400.0	5,381.3	5,371.8	5,361.4	12.0	10.8	142.00	261.6	196.4	534.5	513.6	20.84	25.648	
5,500.0	5,480.9	5,471.2	5,460.6	12.2	11.0	141.99	267.3	200.0	545.3	524.1	21.24	25.677	
5,600.0	5,580.5	5,570.6	5,559.8	12.5	11.3	141.98	272.9	203.7	556.1	534.5	21.63	25.704	
5,700.0	5,680.1	5,670.0	5,658.9	12.7	11.5	141.96	278.6	207.3	566.9	544.9	22.03	25.731	
5,800.0	5,779.7	5,769.4	5,758.1	12.9	11.7	141.95	284.3	210.9	577.8	555.3	22.43	25.757	
5,900.0	5,879.3	5,868.8	5,857.3	13.2	11.9	141.94	290.0	214.5	588.6	565.7	22.83	25.782	
6,000.0	5,978.9	5,968.2	5,956.5	13.4	12.1	141.93	295.7	218.1	599.4	576.2	23.23	25.806	
6,100.0	6,078.4	6,067.6	6,055.7	13.6	12.3	141.92	301.4	221.7	610.2	586.6	23.63	25.829	
6,200.0	6,178.0	6,167.1	6,154.9	13.9	12.5	141.91	307.0	225.4	621.0	597.0	24.02	25.852	
6,300.0	6,277.6	6,266.5	6,254.0	14.1	12.7	141.91	312.7	229.0	631.9	607.4	24.42	25.873	
6,400.0	6,377.2	6,365.9	6,353.2	14.4	12.9	141.90	318.4	232.6	642.7	617.9	24.82	25.894	
6,500.0	6,476.8	6,465.3	6,452.4	14.6	13.1	141.89	324.1	236.2	653.5	628.3	25.22	25.915	
6,600.0	6,576.4	6,564.7	6,551.6	14.8	13.3	141.88	329.8	239.8	664.3	638.7	25.62	25.934	
6,700.0	6,676.0	6,664.1	6,650.8	15.1	13.6	141.87	335.4	243.4	675.2	649.1	26.01	25.953	
6,800.0	6,775.6	6,763.5	6,750.0	15.3	13.8	141.86	341.1	247.0	686.0	659.6	26.41	25.972	
6,900.0	6,875.2	6,863.9	6,850.2	15.5	13.9	142.20	342.7	250.7	696.7	670.0	26.75	26.047	
7,000.0	6,974.8	6,961.8	6,947.2	15.8	14.0	143.58	331.2	254.2	707.6	680.6	26.94	26.261	
7,042.2	7,016.8	7,001.4	6,985.9	15.9	14.0	144.43	322.7	255.6	712.4	685.4	26.99	26.392	
7,050.0	7,024.6	7,008.6	6,992.9	15.9	14.0	150.60	321.0	255.9	713.3	686.3	26.99	26.424	
7,100.0	7,074.4	7,054.2	7,036.7	16.0	14.0	-156.70	308.2	257.5	719.3	692.3	26.99	26.654	
7,150.0	7,124.2	7,100.0	7,079.7	16.0	13.9	-122.15	292.6	259.1	725.5	698.6	26.94	26.927	
7,200.0	7,173.6	7,143.4	7,119.4	16.1	13.9	-107.40	275.3	260.5	731.9	705.1	26.88	27.232	
7,250.0	7,222.5	7,186.9	7,158.2	16.1	13.8	-99.58	255.5	261.9	738.5	711.7	26.79	27.563	
7,300.0	7,270.6	7,229.9	7,195.2	16.1	13.8	-94.56	233.7	263.3	745.1	718.4	26.69	27.910	
7,350.0	7,317.5	7,272.4	7,230.5	16.1	13.8	-90.93	210.1	264.6	751.6	725.0	26.59	28.265	
7,400.0	7,363.3	7,314.4	7,263.9	16.1	13.7	-88.08	184.7	265.8	758.2	731.7	26.49	28.618	
7,450.0	7,407.5	7,355.9	7,295.4	16.1	13.7	-85.75	157.7	266.9	764.6	738.2	26.40	28.960	
7,500.0	7,450.0	7,400.0	7,327.1	16.1	13.7	-83.73	127.1	268.1	770.8	744.5	26.32	29.285	
7,550.0	7,490.6	7,437.8	7,352.7	16.0	13.7	-82.06	99.3	269.0	776.9	750.6	26.27	29.567	
7,600.0	7,529.1	7,478.2	7,378.4	16.0	13.7	-80.57	68.1	270.0	782.7	756.4	26.25	29.813	
7,650.0	7,565.2	7,518.4	7,402.2	16.0	13.8	-79.26	35.8	270.8	788.1	761.9	26.26	30.016	
7,700.0	7,598.9	7,558.2	7,424.0	16.1	13.8	-78.10	2.5	271.6	793.3	766.9	26.33	30.131	
7,750.0	7,629.9	7,600.0	7,444.8	16.1	13.9	-77.06	-33.7	272.4	798.0	771.6	26.43	30.193	
7,800.0	7,658.2	7,637.3	7,461.6	16.2	14.1	-76.18	-67.0	273.0	802.3	775.8	26.59	30.171	
7,850.0	7,683.5	7,676.5	7,477.4	16.3	14.2	-75.41	-103.0	273.6	806.2	779.4	26.82	30.065	
7,900.0	7,705.7	7,715.6	7,491.1	16.5	14.4	-74.75	-139.5	274.1	809.6	782.5	27.10	29.876	
7,950.0	7,724.8	7,750.0	7,501.5	16.6	14.6	-74.22	-172.3	274.4	812.6	785.1	27.43	29.628	
8,000.0	7,740.6	7,793.4	7,512.3	16.9	14.8	-73.75	-214.3	274.8	814.9	787.1	27.87	29.239	
8,050.0	7,753.1	7,832.1	7,519.8	17.1	15.1	-73.40	-252.3	275.1	816.8	788.4	28.37	28.794	
8,100.0	7,762.2	7,870.8	7,525.3	17.4	15.4	-73.16	-290.6	275.3	818.1	789.2	28.93	28.281	
8,150.0	7,767.8	7,909.5	7,528.7	17.8	15.7	-73.01	-329.1	275.4	818.8	789.3	29.55	27.706	
8,200.0	7,770.0	7,952.9	7,530.0	18.2	16.1	-72.96	-372.6	275.5	819.0	788.7	30.29	27.042	
8,206.2	7,770.0	7,952.9	7,530.0	18.2	16.1	-72.96	-372.6	275.5	819.0	788.7	30.34	26.998	
8,300.0	7,770.0	8,046.6	7,530.0	19.0	17.0	-72.95	-466.3	275.5	818.7	786.6	32.12	25.485	
8,400.0	7,770.0	8,146.6	7,530.0	20.0	18.1	-72.95	-566.3	275.5	818.3	784.1	34.23	23.905	
8,500.0	7,770.0	8,246.6	7,530.0	21.1	19.2	-72.94	-666.3	275.5	818.0	781.5	36.53	22.394	
8,600.0	7,770.0	8,346.6	7,530.0	22.2	20.5	-72.93	-766.3	275.5	817.7	778.7	38.98	20.978	
8,700.0	7,770.0	8,446.6	7,530.0	23.4	21.8	-72.92	-866.3	275.5	817.3	775.8	41.55	19.670	

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 1F-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 1F-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
8,800.0	7,770.0	8,546.6	7,530.0	24.7	23.2	-72.92	-966.3	275.5	817.0	772.8	44.23	18.470	
8,900.0	7,770.0	8,646.6	7,530.0	26.1	24.6	-72.91	-1,066.3	275.5	816.7	769.7	47.00	17.376	
9,000.0	7,770.0	8,746.6	7,530.0	27.5	26.1	-72.90	-1,166.3	275.5	816.3	766.5	49.84	16.380	
9,100.0	7,770.0	8,846.6	7,530.0	28.9	27.6	-72.90	-1,266.3	275.5	816.0	763.3	52.74	15.473	
9,200.0	7,770.0	8,946.6	7,530.0	30.4	29.2	-72.89	-1,366.3	275.5	815.7	760.0	55.69	14.647	
9,300.0	7,770.0	9,046.6	7,530.0	31.9	30.7	-72.88	-1,466.3	275.5	815.3	756.7	58.68	13.894	
9,400.0	7,770.0	9,146.6	7,530.0	33.4	32.3	-72.87	-1,566.3	275.5	815.0	753.3	61.71	13.207	
9,500.0	7,770.0	9,246.6	7,530.0	35.0	33.9	-72.87	-1,666.3	275.5	814.7	749.9	64.77	12.578	
9,600.0	7,770.0	9,346.6	7,530.0	36.5	35.5	-72.86	-1,766.3	275.5	814.3	746.5	67.86	12.000	
9,700.0	7,770.0	9,446.6	7,530.0	38.1	37.1	-72.85	-1,866.3	275.5	814.0	743.0	70.97	11.469	
9,800.0	7,770.0	9,546.6	7,530.0	39.7	38.7	-72.84	-1,966.3	275.5	813.7	739.6	74.11	10.980	
9,900.0	7,770.0	9,646.6	7,530.0	41.3	40.4	-72.84	-2,066.3	275.5	813.3	736.1	77.26	10.528	
10,000.0	7,770.0	9,746.6	7,530.0	42.9	42.0	-72.83	-2,166.3	275.5	813.0	732.6	80.43	10.109	
10,100.0	7,770.0	9,846.6	7,530.0	44.5	43.7	-72.82	-2,266.3	275.5	812.7	729.1	83.61	9.720	
10,200.0	7,770.0	9,946.6	7,530.0	46.2	45.4	-72.82	-2,366.2	275.5	812.3	725.5	86.80	9.359	
10,300.0	7,770.0	10,046.6	7,530.0	47.8	47.0	-72.81	-2,466.2	275.5	812.0	722.0	90.01	9.022	
10,400.0	7,770.0	10,146.6	7,530.0	49.5	48.7	-72.80	-2,566.2	275.5	811.7	718.5	93.22	8.707	
10,500.0	7,770.0	10,246.6	7,530.0	51.1	50.4	-72.79	-2,666.2	275.5	811.3	714.9	96.44	8.413	
10,600.0	7,770.0	10,346.6	7,530.0	52.8	52.1	-72.79	-2,766.2	275.5	811.0	711.3	99.68	8.136	
10,700.0	7,770.0	10,446.6	7,530.0	54.5	53.8	-72.78	-2,866.2	275.5	810.7	707.8	102.92	7.877	
10,800.0	7,770.0	10,546.6	7,530.0	56.2	55.5	-72.77	-2,966.2	275.5	810.3	704.2	106.16	7.633	
10,900.0	7,770.0	10,646.6	7,530.0	57.8	57.2	-72.76	-3,066.2	275.5	810.0	700.6	109.41	7.403	
11,000.0	7,770.0	10,746.6	7,530.0	59.5	58.9	-72.76	-3,166.2	275.5	809.7	697.0	112.67	7.186	
11,100.0	7,770.0	10,846.6	7,530.0	61.2	60.6	-72.75	-3,266.2	275.5	809.3	693.4	115.93	6.981	
11,200.0	7,770.0	10,946.6	7,530.0	62.9	62.3	-72.74	-3,366.2	275.5	809.0	689.8	119.20	6.787	
11,300.0	7,770.0	11,046.6	7,530.0	64.6	64.0	-72.74	-3,466.2	275.5	808.7	686.2	122.47	6.603	
11,400.0	7,770.0	11,146.6	7,530.0	66.3	65.7	-72.73	-3,566.2	275.5	808.3	682.6	125.74	6.429	
11,500.0	7,770.0	11,246.6	7,530.0	68.0	67.4	-72.72	-3,666.2	275.5	808.0	679.0	129.02	6.263	
11,600.0	7,770.0	11,346.6	7,530.0	69.7	69.2	-72.71	-3,766.2	275.5	807.7	675.4	132.30	6.105	
11,700.0	7,770.0	11,446.6	7,530.0	71.4	70.9	-72.71	-3,866.2	275.5	807.3	671.8	135.59	5.954	
11,800.0	7,770.0	11,546.6	7,530.0	73.1	72.6	-72.70	-3,966.2	275.5	807.0	668.1	138.87	5.811	
11,900.0	7,770.0	11,646.6	7,530.0	74.8	74.3	-72.69	-4,066.2	275.5	806.7	664.5	142.16	5.674	
12,000.0	7,770.0	11,746.6	7,530.0	76.5	76.1	-72.68	-4,166.2	275.5	806.3	660.9	145.46	5.544	
12,100.0	7,770.0	11,846.6	7,530.0	78.3	77.8	-72.68	-4,266.2	275.5	806.0	657.3	148.75	5.419	
12,200.0	7,770.0	11,946.6	7,530.0	80.0	79.5	-72.67	-4,366.2	275.5	805.7	653.6	152.05	5.299	
12,300.0	7,770.0	12,046.6	7,530.0	81.7	81.2	-72.66	-4,466.2	275.5	805.3	650.0	155.34	5.184	
12,400.0	7,770.0	12,146.6	7,530.0	83.4	83.0	-72.65	-4,566.2	275.5	805.0	646.4	158.64	5.074	
12,500.0	7,770.0	12,246.6	7,530.0	85.1	84.7	-72.65	-4,666.2	275.5	804.7	642.7	161.94	4.969	
12,600.0	7,770.0	12,346.6	7,530.0	86.9	86.4	-72.64	-4,766.2	275.5	804.3	639.1	165.25	4.868	
12,700.0	7,770.0	12,446.6	7,530.0	88.6	88.2	-72.63	-4,866.2	275.5	804.0	635.5	168.55	4.770	
12,800.0	7,770.0	12,546.6	7,530.0	90.3	89.9	-72.62	-4,966.2	275.5	803.7	631.8	171.85	4.677	
12,900.0	7,770.0	12,646.6	7,530.0	92.0	91.6	-72.62	-5,066.2	275.5	803.3	628.2	175.16	4.586	
13,000.0	7,770.0	12,746.6	7,530.0	93.8	93.4	-72.61	-5,166.2	275.5	803.0	624.5	178.47	4.500	
13,100.0	7,770.0	12,846.6	7,530.0	95.5	95.1	-72.60	-5,266.2	275.5	802.7	620.9	181.78	4.416	
13,200.0	7,770.0	12,946.6	7,530.0	97.2	96.8	-72.60	-5,366.2	275.5	802.4	617.3	185.09	4.335	
13,300.0	7,770.0	13,046.6	7,530.0	99.0	98.6	-72.59	-5,466.2	275.5	802.0	613.6	188.40	4.257	
13,400.0	7,770.0	13,146.6	7,530.0	100.7	100.3	-72.58	-5,566.2	275.5	801.7	610.0	191.71	4.182	
13,500.0	7,770.0	13,246.6	7,530.0	102.4	102.0	-72.57	-5,666.2	275.5	801.4	606.3	195.02	4.109	
13,600.0	7,770.0	13,346.6	7,530.0	104.1	103.8	-72.57	-5,766.2	275.5	801.0	602.7	198.33	4.039	
13,700.0	7,770.0	13,446.6	7,530.0	105.9	105.5	-72.56	-5,866.2	275.5	800.7	599.0	201.64	3.971	
13,800.0	7,770.0	13,546.6	7,530.0	107.6	107.3	-72.55	-5,966.2	275.5	800.4	595.4	204.96	3.905	
13,900.0	7,770.0	13,646.6	7,530.0	109.3	109.0	-72.54	-6,066.2	275.5	800.0	591.7	208.27	3.841	

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Morgan Hills 1F-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 1F-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
14,000.0	7,770.0	13,746.6	7,530.0	111.1	110.7	-72.54	-6,166.2	275.5	799.7	588.1	211.59	3.779	
14,100.0	7,770.0	13,846.6	7,530.0	112.8	112.5	-72.53	-6,266.2	275.5	799.4	584.5	214.90	3.720	
14,200.0	7,770.0	13,946.6	7,530.0	114.6	114.2	-72.52	-6,366.2	275.5	799.0	580.8	218.22	3.662	
14,300.0	7,770.0	14,046.6	7,530.0	116.3	116.0	-72.51	-6,466.2	275.5	798.7	577.2	221.54	3.605	
14,400.0	7,770.0	14,146.6	7,530.0	118.0	117.7	-72.51	-6,566.2	275.5	798.4	573.5	224.85	3.551	
14,500.0	7,770.0	14,246.6	7,530.0	119.8	119.4	-72.50	-6,666.2	275.5	798.0	569.9	228.17	3.497	
14,600.0	7,770.0	14,346.6	7,530.0	121.5	121.2	-72.49	-6,766.2	275.5	797.7	566.2	231.49	3.446	
14,700.0	7,770.0	14,446.6	7,530.0	123.2	122.9	-72.48	-6,866.2	275.5	797.4	562.6	234.81	3.396	
14,800.0	7,770.0	14,546.6	7,530.0	125.0	124.7	-72.48	-6,966.2	275.5	797.0	558.9	238.12	3.347	
14,900.0	7,770.0	14,646.6	7,530.0	126.7	126.4	-72.47	-7,066.2	275.5	796.7	555.3	241.44	3.300	
15,000.0	7,770.0	14,746.6	7,530.0	128.5	128.2	-72.46	-7,166.2	275.5	796.4	551.6	244.76	3.254	
15,100.0	7,770.0	14,846.6	7,530.0	130.2	129.9	-72.45	-7,266.2	275.5	796.0	547.9	248.08	3.209	
15,200.0	7,770.0	14,946.6	7,530.0	131.9	131.6	-72.44	-7,366.2	275.5	795.7	544.3	251.40	3.165	
15,300.0	7,770.0	15,046.6	7,530.0	133.7	133.4	-72.44	-7,466.2	275.5	795.4	540.6	254.72	3.123	
15,400.0	7,770.0	15,146.6	7,530.0	135.4	135.1	-72.43	-7,566.2	275.5	795.0	537.0	258.04	3.081	
15,500.0	7,770.0	15,246.6	7,530.0	137.2	136.9	-72.42	-7,666.2	275.5	794.7	533.3	261.36	3.041	
15,600.0	7,770.0	15,346.6	7,530.0	138.9	138.6	-72.41	-7,766.2	275.5	794.4	529.7	264.68	3.001	
15,700.0	7,770.0	15,446.6	7,530.0	140.6	140.4	-72.41	-7,866.2	275.5	794.0	526.0	268.00	2.963	
15,800.0	7,770.0	15,546.6	7,530.0	142.4	142.1	-72.40	-7,966.2	275.5	793.7	522.4	271.32	2.925	
15,900.0	7,770.0	15,646.6	7,530.0	144.1	143.9	-72.39	-8,066.2	275.5	793.4	518.7	274.64	2.889	
16,000.0	7,770.0	15,746.6	7,530.0	145.9	145.6	-72.38	-8,166.2	275.5	793.0	515.1	277.96	2.853	
16,100.0	7,770.0	15,846.6	7,530.0	147.6	147.4	-72.38	-8,266.2	275.5	792.7	511.4	281.28	2.818	
16,200.0	7,770.0	15,946.6	7,530.0	149.4	149.1	-72.37	-8,366.2	275.5	792.4	507.8	284.60	2.784	
16,300.0	7,770.0	16,046.6	7,530.0	151.1	150.8	-72.36	-8,466.2	275.5	792.0	504.1	287.92	2.751	
16,400.0	7,770.0	16,146.6	7,530.0	152.9	152.6	-72.35	-8,566.2	275.5	791.7	500.5	291.24	2.718	
16,500.0	7,770.0	16,246.6	7,530.0	154.6	154.3	-72.35	-8,666.2	275.5	791.4	496.8	294.56	2.687	
16,600.0	7,770.0	16,346.6	7,530.0	156.3	156.1	-72.34	-8,766.2	275.5	791.0	493.2	297.88	2.656	
16,700.0	7,770.0	16,446.6	7,530.0	158.1	157.8	-72.33	-8,866.2	275.5	790.7	489.5	301.20	2.625	
16,800.0	7,770.0	16,546.6	7,530.0	159.8	159.6	-72.32	-8,966.2	275.5	790.4	485.9	304.52	2.596	
16,900.0	7,770.0	16,646.6	7,530.0	161.6	161.3	-72.32	-9,066.2	275.5	790.0	482.2	307.84	2.566	
17,000.0	7,770.0	16,746.6	7,530.0	163.3	163.1	-72.31	-9,166.2	275.5	789.7	478.6	311.16	2.538	
17,100.0	7,770.0	16,846.6	7,530.0	165.1	164.8	-72.30	-9,266.2	275.5	789.4	474.9	314.48	2.510	
17,200.0	7,770.0	16,946.6	7,530.0	166.8	166.6	-72.29	-9,366.2	275.5	789.0	471.2	317.80	2.483	
17,300.0	7,770.0	17,046.6	7,530.0	168.6	168.3	-72.28	-9,466.2	275.5	788.7	467.6	321.12	2.456	
17,400.0	7,770.0	17,146.6	7,530.0	170.3	170.1	-72.28	-9,566.2	275.5	788.4	463.9	324.43	2.430	
17,500.0	7,770.0	17,246.6	7,530.0	172.0	171.8	-72.27	-9,666.2	275.5	788.0	460.3	327.75	2.404	
17,600.0	7,770.0	17,346.6	7,530.0	173.8	173.6	-72.26	-9,766.2	275.5	787.7	456.6	331.07	2.379	
17,664.2	7,770.0	17,410.7	7,530.0	174.9	174.7	-72.26	-9,830.4	275.5	787.5	454.3	333.20	2.363	SF

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Morgan Hills 1F-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 1F-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
9,900.0	7,770.0	8,029.5	7,758.2	41.3	34.9	90.31	-3,009.9	-1,653.0	1,488.6	1,423.2	65.43	22.750	
10,000.0	7,770.0	8,029.3	7,758.0	42.9	34.9	90.30	-3,009.9	-1,653.0	1,427.6	1,360.5	67.09	21.279	
10,100.0	7,770.0	8,029.1	7,757.8	44.5	34.9	90.29	-3,009.9	-1,653.0	1,371.2	1,302.4	68.75	19.944	
10,200.0	7,770.0	8,028.9	7,757.6	46.2	34.9	90.28	-3,009.9	-1,653.0	1,319.9	1,249.5	70.42	18.743	
10,300.0	7,770.0	8,028.7	7,757.4	47.8	34.9	90.27	-3,009.9	-1,653.0	1,274.5	1,202.4	72.10	17.677	
10,400.0	7,770.0	8,028.5	7,757.2	49.5	34.9	90.26	-3,009.9	-1,653.0	1,235.5	1,161.7	73.78	16.745	
10,500.0	7,770.0	8,028.3	7,757.0	51.1	34.9	90.25	-3,009.9	-1,653.0	1,203.5	1,128.1	75.47	15.947	
10,600.0	7,770.0	8,028.1	7,756.8	52.8	34.9	90.24	-3,009.9	-1,653.0	1,179.2	1,102.1	77.16	15.283	
10,700.0	7,770.0	8,028.0	7,756.7	54.5	34.9	90.23	-3,009.9	-1,653.0	1,163.0	1,084.2	78.86	14.749	
10,800.0	7,770.0	8,027.8	7,756.5	56.2	34.9	90.22	-3,009.9	-1,653.0	1,155.3	1,074.7	80.56	14.342	
10,839.6	7,770.0	8,027.7	7,756.4	56.8	34.9	90.22	-3,009.9	-1,653.0	1,154.6	1,073.4	81.23	14.214	CC, ES
10,900.0	7,770.0	8,027.6	7,756.3	57.8	34.9	90.21	-3,009.9	-1,653.0	1,156.2	1,073.9	82.26	14.056	
11,000.0	7,770.0	8,027.4	7,756.1	59.5	34.9	90.20	-3,009.9	-1,653.0	1,165.7	1,081.7	83.96	13.884	
11,100.0	7,770.0	8,027.2	7,755.9	61.2	34.9	90.19	-3,009.9	-1,653.0	1,183.6	1,097.9	85.67	13.816	SF
11,200.0	7,770.0	8,027.1	7,755.8	62.9	34.9	90.19	-3,009.9	-1,653.0	1,209.6	1,122.2	87.38	13.842	
11,300.0	7,770.0	8,026.9	7,755.6	64.6	34.9	90.18	-3,009.9	-1,653.0	1,243.0	1,153.9	89.09	13.952	
11,400.0	7,770.0	8,026.7	7,755.4	66.3	34.9	90.17	-3,009.9	-1,653.0	1,283.4	1,192.6	90.81	14.133	
11,500.0	7,770.0	8,026.6	7,755.2	68.0	34.9	90.16	-3,009.9	-1,653.0	1,330.1	1,237.6	92.53	14.376	
11,600.0	7,770.0	8,026.4	7,755.1	69.7	34.9	90.15	-3,009.9	-1,653.0	1,382.5	1,288.3	94.25	14.669	
11,700.0	7,770.0	8,026.2	7,754.9	71.4	34.9	90.14	-3,009.9	-1,653.0	1,439.9	1,344.0	95.97	15.004	
11,800.0	7,770.0	8,026.1	7,754.8	73.1	34.9	90.14	-3,009.9	-1,653.0	1,501.8	1,404.1	97.69	15.374	

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Morgan Hills 1F-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 1F-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	-131.19	-188.3	-215.2	286.0				
100.0	100.0	97.0	97.0	0.2	0.2	-131.19	-188.3	-215.2	286.0	285.7	0.32	889.967	
200.0	200.0	197.0	197.0	0.3	0.3	-131.19	-188.3	-215.2	286.0	285.3	0.67	426.581	
300.0	300.0	297.0	297.0	0.5	0.5	-131.19	-188.3	-215.2	286.0	285.0	1.02	280.520	
400.0	400.0	397.0	397.0	0.7	0.7	-131.19	-188.3	-215.2	286.0	284.6	1.37	208.969	
450.0	450.0	447.0	447.0	0.8	0.8	-131.19	-188.3	-215.2	286.0	284.4	1.54	185.333	
500.0	500.0	497.0	497.0	0.9	0.9	-78.19	-188.3	-215.2	285.9	284.2	1.72	166.472	
600.0	600.0	597.0	597.0	1.0	1.0	-78.53	-188.3	-215.2	285.6	283.5	2.07	138.101	
700.0	699.9	696.9	696.9	1.2	1.2	-79.23	-188.3	-215.2	284.9	282.5	2.42	117.621	
800.0	799.8	796.8	796.8	1.4	1.4	-80.27	-188.3	-215.2	284.0	281.2	2.78	102.007	
900.0	899.5	896.5	896.5	1.6	1.6	-81.67	-188.3	-215.2	282.9	279.7	3.16	89.621	
966.6	965.9	962.9	962.9	1.7	1.7	-82.80	-188.3	-215.2	282.1	278.7	3.41	82.698	
1,000.0	999.2	996.2	996.2	1.8	1.7	-83.41	-188.3	-215.2	281.8	278.2	3.54	79.586	
1,100.0	1,098.8	1,095.8	1,095.8	2.0	1.9	-85.23	-188.3	-215.2	280.9	276.9	3.93	71.467	
1,200.0	1,198.4	1,195.4	1,195.4	2.2	2.1	-87.05	-188.3	-215.2	280.3	275.9	4.32	64.817	
1,300.0	1,297.9	1,294.9	1,294.9	2.5	2.3	-88.89	-188.3	-215.2	279.9	275.2	4.72	59.303	
1,360.6	1,358.3	1,355.3	1,355.3	2.6	2.4	-90.00	-188.3	-215.2	279.9	274.9	4.96	56.406	CC
1,400.0	1,397.5	1,394.5	1,394.5	2.7	2.4	-90.72	-188.3	-215.2	279.9	274.8	5.12	54.680	
1,500.0	1,497.1	1,494.1	1,494.1	2.9	2.6	-92.56	-188.3	-215.2	280.2	274.6	5.52	50.769	
1,600.0	1,596.7	1,593.7	1,593.7	3.1	2.8	-94.39	-188.3	-215.2	280.7	274.8	5.92	47.430	
1,700.0	1,696.3	1,693.3	1,693.3	3.4	3.0	-96.21	-188.3	-215.2	281.5	275.2	6.32	44.561	
1,800.0	1,795.9	1,792.9	1,792.9	3.6	3.1	-98.01	-188.3	-215.2	282.7	275.9	6.72	42.080	
1,900.0	1,895.5	1,892.5	1,892.5	3.8	3.3	-99.81	-188.3	-215.2	284.1	276.9	7.12	39.922	
2,000.0	1,995.1	1,992.1	1,992.1	4.1	3.5	-101.58	-188.3	-215.2	285.7	278.2	7.51	38.037	
2,100.0	2,094.7	2,091.7	2,091.7	4.3	3.7	-103.33	-188.3	-215.2	287.7	279.8	7.91	36.383	
2,200.0	2,194.3	2,191.3	2,191.3	4.5	3.8	-105.05	-188.3	-215.2	289.9	281.6	8.30	34.927	
2,300.0	2,293.9	2,290.9	2,290.9	4.8	4.0	-106.75	-188.3	-215.2	292.4	283.7	8.69	33.640	
2,400.0	2,393.5	2,390.5	2,390.5	5.0	4.2	-108.42	-188.3	-215.2	295.1	286.0	9.08	32.501	
2,500.0	2,493.1	2,490.1	2,490.1	5.2	4.3	-110.06	-188.3	-215.2	298.1	288.6	9.47	31.489	
2,600.0	2,592.7	2,589.7	2,589.7	5.4	4.5	-111.66	-188.3	-215.2	301.3	291.5	9.85	30.588	
2,700.0	2,692.3	2,689.3	2,689.3	5.7	4.7	-113.23	-188.3	-215.2	304.8	294.5	10.23	29.785	
2,800.0	2,791.9	2,788.9	2,788.9	5.9	4.9	-114.76	-188.3	-215.2	308.4	297.8	10.61	29.068	
2,900.0	2,891.4	2,888.4	2,888.4	6.1	5.0	-116.26	-188.3	-215.2	312.3	301.3	10.99	28.426	
3,000.0	2,991.0	2,988.0	2,988.0	6.4	5.2	-117.71	-188.3	-215.2	316.4	305.1	11.36	27.852	
3,100.0	3,090.6	3,087.6	3,087.6	6.6	5.4	-119.13	-188.3	-215.2	320.7	309.0	11.73	27.336	
3,200.0	3,190.2	3,187.2	3,187.2	6.8	5.6	-120.51	-188.3	-215.2	325.2	313.1	12.10	26.874	
3,300.0	3,289.8	3,286.8	3,286.8	7.1	5.7	-121.86	-188.3	-215.2	329.9	317.4	12.47	26.458	
3,400.0	3,389.4	3,386.4	3,386.4	7.3	5.9	-123.16	-188.3	-215.2	334.7	321.9	12.83	26.085	
3,500.0	3,489.0	3,486.0	3,486.0	7.6	6.1	-124.43	-188.3	-215.2	339.8	326.6	13.20	25.749	
3,600.0	3,588.6	3,585.6	3,585.6	7.8	6.3	-125.66	-188.3	-215.2	345.0	331.4	13.56	25.447	
3,700.0	3,688.2	3,685.2	3,685.2	8.0	6.4	-126.86	-188.3	-215.2	350.3	336.4	13.91	25.175	
3,800.0	3,787.8	3,784.8	3,784.8	8.3	6.6	-128.01	-188.3	-215.2	355.8	341.5	14.27	24.929	
3,900.0	3,887.4	3,884.4	3,884.4	8.5	6.8	-129.14	-188.3	-215.2	361.4	346.8	14.63	24.709	
4,000.0	3,987.0	3,984.0	3,984.0	8.7	7.0	-130.22	-188.3	-215.2	367.2	352.2	14.98	24.510	
4,100.0	4,086.6	4,083.6	4,083.6	9.0	7.1	-131.28	-188.3	-215.2	373.1	357.7	15.33	24.331	
4,200.0	4,186.2	4,183.2	4,183.2	9.2	7.3	-132.30	-188.3	-215.2	379.1	363.4	15.68	24.170	
4,300.0	4,285.8	4,282.8	4,282.8	9.4	7.5	-133.29	-188.3	-215.2	385.2	369.2	16.03	24.025	
4,400.0	4,385.4	4,382.4	4,382.4	9.7	7.6	-134.24	-188.3	-215.2	391.5	375.1	16.38	23.895	
4,500.0	4,484.9	4,481.9	4,481.9	9.9	7.8	-135.17	-188.3	-215.2	397.8	381.1	16.73	23.778	
4,600.0	4,584.5	4,581.5	4,581.5	10.1	8.0	-136.07	-188.3	-215.2	404.3	387.2	17.08	23.673	
4,700.0	4,684.1	4,681.1	4,681.1	10.4	8.2	-136.94	-188.3	-215.2	410.8	393.4	17.42	23.578	
4,800.0	4,783.7	4,780.7	4,780.7	10.6	8.3	-137.78	-188.3	-215.2	417.4	399.7	17.77	23.494	

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 1F-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 1F-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
4,900.0	4,883.3	4,880.3	4,880.3	10.8	8.5	-138.60	-188.3	-215.2	424.2	406.0	18.11	23.418	
5,000.0	4,982.9	4,979.9	4,979.9	11.1	8.7	-139.39	-188.3	-215.2	431.0	412.5	18.46	23.351	
5,100.0	5,082.5	5,079.5	5,079.5	11.3	8.9	-140.15	-188.3	-215.2	437.9	419.1	18.80	23.291	
5,200.0	5,182.1	5,179.1	5,179.1	11.5	9.0	-140.89	-188.3	-215.2	444.8	425.7	19.14	23.238	
5,300.0	5,281.7	5,278.7	5,278.7	11.8	9.2	-141.61	-188.3	-215.2	451.9	432.4	19.48	23.191	
5,400.0	5,381.3	5,378.3	5,378.3	12.0	9.4	-142.31	-188.3	-215.2	459.0	439.1	19.83	23.149	
5,500.0	5,480.9	5,477.9	5,477.9	12.2	9.6	-142.99	-188.3	-215.2	466.1	446.0	20.17	23.113	
5,600.0	5,580.5	5,577.5	5,577.5	12.5	9.7	-143.64	-188.3	-215.2	473.4	452.8	20.51	23.081	
5,700.0	5,680.1	5,677.1	5,677.1	12.7	9.9	-144.28	-188.3	-215.2	480.6	459.8	20.85	23.053	
5,800.0	5,779.7	5,776.7	5,776.7	12.9	10.1	-144.89	-188.3	-215.2	488.0	466.8	21.19	23.030	
5,900.0	5,879.3	5,876.3	5,876.3	13.2	10.3	-145.49	-188.3	-215.2	495.4	473.9	21.53	23.010	
6,000.0	5,978.9	5,975.9	5,975.9	13.4	10.4	-146.07	-188.3	-215.2	502.9	481.0	21.87	22.993	
6,100.0	6,078.4	6,075.4	6,075.4	13.6	10.6	-146.64	-188.3	-215.2	510.4	488.1	22.21	22.978	
6,200.0	6,178.0	6,175.0	6,175.0	13.9	10.8	-147.18	-188.3	-215.2	517.9	495.4	22.55	22.967	
6,300.0	6,277.6	6,274.6	6,274.6	14.1	11.0	-147.71	-188.3	-215.2	525.5	502.6	22.89	22.958	
6,400.0	6,377.2	6,374.2	6,374.2	14.4	11.1	-148.23	-188.3	-215.2	533.2	509.9	23.23	22.951	
6,500.0	6,476.8	6,473.8	6,473.8	14.6	11.3	-148.73	-188.3	-215.2	540.8	517.3	23.57	22.947	
6,600.0	6,576.4	6,573.4	6,573.4	14.8	11.5	-149.22	-188.3	-215.2	548.6	524.7	23.91	22.944	
6,700.0	6,676.0	6,673.0	6,673.0	15.1	11.6	-149.69	-188.3	-215.2	556.3	532.1	24.25	22.942	
6,800.0	6,775.6	6,772.6	6,772.6	15.3	11.8	-150.16	-188.3	-215.2	564.1	539.5	24.59	22.943	
6,900.0	6,875.2	6,872.2	6,872.2	15.5	12.0	-150.60	-188.3	-215.2	572.0	547.0	24.93	22.945	
7,000.0	6,974.8	6,971.8	6,971.8	15.8	12.2	-151.04	-188.3	-215.2	579.8	554.6	25.27	22.948	
7,042.2	7,016.8	7,013.8	7,013.8	15.9	12.2	-151.22	-188.3	-215.2	583.2	557.8	25.41	22.949	
7,050.0	7,024.6	7,021.6	7,021.6	15.9	12.3	-145.31	-188.3	-215.2	583.7	558.3	25.44	22.942	
7,100.0	7,074.4	7,071.4	7,071.4	16.0	12.3	-94.38	-188.3	-215.2	585.6	560.0	25.62	22.859	
7,150.0	7,124.2	7,121.2	7,121.2	16.0	12.4	-61.82	-188.3	-215.2	584.3	558.6	25.71	22.727	
7,200.0	7,173.6	7,170.6	7,170.6	16.1	12.5	-49.23	-188.3	-215.2	580.0	554.2	25.73	22.542	
7,250.0	7,222.5	7,219.5	7,219.5	16.1	12.6	-43.82	-188.3	-215.2	572.5	546.8	25.67	22.301	
7,300.0	7,270.6	7,267.6	7,267.6	16.1	12.7	-41.46	-188.3	-215.2	562.1	536.6	25.56	21.996	
7,350.0	7,317.5	7,314.5	7,314.5	16.1	12.8	-40.76	-188.3	-215.2	548.9	523.6	25.39	21.617	
7,400.0	7,363.3	7,360.3	7,360.3	16.1	12.8	-41.17	-188.3	-215.2	533.1	507.9	25.21	21.149	
7,450.0	7,407.5	7,404.5	7,404.5	16.1	12.9	-42.46	-188.3	-215.2	514.8	489.8	25.02	20.575	
7,500.0	7,450.0	7,447.0	7,447.0	16.1	13.0	-44.54	-188.3	-215.2	494.3	469.4	24.87	19.876	
7,550.0	7,490.6	7,487.6	7,487.6	16.0	13.1	-47.36	-188.3	-215.2	471.9	447.2	24.79	19.037	
7,600.0	7,529.1	7,526.1	7,526.1	16.0	13.1	-50.92	-188.3	-215.2	448.1	423.3	24.82	18.049	
7,650.0	7,565.2	7,562.2	7,562.2	16.0	13.2	-55.18	-188.3	-215.2	423.2	398.2	25.00	16.928	
7,700.0	7,598.9	7,595.9	7,595.9	16.1	13.3	-60.08	-188.3	-215.2	397.9	372.5	25.32	15.714	
7,750.0	7,629.9	7,626.9	7,626.9	16.1	13.3	-65.45	-188.3	-215.2	372.8	347.1	25.76	14.475	
7,800.0	7,658.2	7,655.2	7,655.2	16.2	13.4	-71.04	-188.3	-215.2	349.1	322.8	26.26	13.294	
7,850.0	7,683.5	7,680.5	7,680.5	16.3	13.4	-76.54	-188.3	-215.2	327.7	300.9	26.75	12.250	
7,900.0	7,705.7	7,702.7	7,702.7	16.5	13.4	-81.59	-188.3	-215.2	310.0	282.8	27.18	11.405	
7,950.0	7,724.8	7,721.8	7,721.8	16.6	13.5	-85.90	-188.3	-215.2	297.5	270.0	27.55	10.801	
8,000.0	7,740.6	7,737.6	7,737.6	16.9	13.5	-89.22	-188.3	-215.2	291.6	263.7	27.87	10.464	
8,015.1	7,744.7	7,741.7	7,741.7	16.9	13.5	-90.00	-188.3	-215.2	291.2	263.3	27.96	10.414	ES
8,050.0	7,753.1	7,750.1	7,750.1	17.1	13.5	-91.39	-188.3	-215.2	293.1	264.9	28.18	10.401	SF
8,100.0	7,762.2	7,759.2	7,759.2	17.4	13.5	-92.33	-188.3	-215.2	302.5	273.9	28.53	10.600	
8,150.0	7,767.8	7,764.8	7,764.8	17.8	13.6	-91.97	-188.3	-215.2	319.2	290.2	28.94	11.030	
8,200.0	7,770.0	7,767.0	7,767.0	18.2	13.6	-90.30	-188.3	-215.2	342.3	312.9	29.36	11.657	
8,206.2	7,770.0	7,767.0	7,767.0	18.2	13.6	-90.00	-188.3	-215.2	345.5	316.1	29.41	11.746	
8,300.0	7,770.0	7,767.0	7,767.0	19.0	13.6	-90.00	-188.3	-215.2	403.1	372.8	30.33	13.292	
8,400.0	7,770.0	7,767.0	7,767.0	20.0	13.6	-90.00	-188.3	-215.2	477.4	446.0	31.42	15.193	
8,500.0	7,770.0	7,767.0	7,767.0	21.1	13.6	-90.00	-188.3	-215.2	559.7	527.1	32.61	17.162	

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 1F-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 1F-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
8,600.0	7,770.0	7,767.0	7,767.0	22.2	13.6	-90.00	-188.3	-215.2	647.0	613.2	33.89	19.094	
8,700.0	7,770.0	7,767.0	7,767.0	23.4	13.6	-90.00	-188.3	-215.2	737.6	702.4	35.23	20.938	
8,800.0	7,770.0	7,767.0	7,767.0	24.7	13.6	-90.00	-188.3	-215.2	830.3	793.7	36.62	22.672	
8,900.0	7,770.0	7,767.0	7,767.0	26.1	13.6	-90.00	-188.3	-215.2	924.6	886.5	38.07	24.288	
9,000.0	7,770.0	7,767.0	7,767.0	27.5	13.6	-90.00	-188.3	-215.2	1,019.9	980.4	39.55	25.790	
9,100.0	7,770.0	7,767.0	7,767.0	28.9	13.6	-90.00	-188.3	-215.2	1,116.1	1,075.0	41.06	27.182	
9,200.0	7,770.0	7,767.0	7,767.0	30.4	13.6	-90.00	-188.3	-215.2	1,212.8	1,170.2	42.60	28.471	
9,300.0	7,770.0	7,767.0	7,767.0	31.9	13.6	-90.00	-188.3	-215.2	1,310.1	1,265.9	44.16	29.666	
9,400.0	7,770.0	7,767.0	7,767.0	33.4	13.6	-90.00	-188.3	-215.2	1,407.7	1,362.0	45.74	30.774	
9,500.0	7,770.0	7,767.0	7,767.0	35.0	13.6	-90.00	-188.3	-215.2	1,505.7	1,458.3	47.34	31.803	

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Morgan Hills 1F-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 1F-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
7,950.0	7,724.8	7,729.8	7,729.8	16.6	13.5	-21.41	-1,635.2	-333.9	1,523.2	1,503.3	19.92	76.475	
8,000.0	7,740.6	7,745.6	7,745.6	16.9	13.5	-25.58	-1,635.2	-333.9	1,476.2	1,456.1	20.12	73.379	
8,050.0	7,753.1	7,758.1	7,758.1	17.1	13.5	-31.97	-1,635.2	-333.9	1,428.3	1,407.3	20.97	68.121	
8,100.0	7,762.2	7,767.2	7,767.2	17.4	13.6	-42.32	-1,635.2	-333.9	1,379.5	1,356.6	22.91	60.222	
8,150.0	7,767.8	7,772.8	7,772.8	17.8	13.6	-59.74	-1,635.2	-333.9	1,330.3	1,304.0	26.27	50.635	
8,200.0	7,770.0	7,775.0	7,775.0	18.2	13.6	-86.34	-1,635.2	-333.9	1,280.8	1,251.5	29.30	43.712	
8,206.2	7,770.0	7,775.0	7,775.0	18.2	13.6	-90.00	-1,635.2	-333.9	1,274.7	1,245.3	29.43	43.318	
8,300.0	7,770.0	7,775.0	7,775.0	19.0	13.6	-90.00	-1,635.2	-333.9	1,181.8	1,151.4	30.34	38.946	
8,400.0	7,770.0	7,775.0	7,775.0	20.0	13.6	-90.00	-1,635.2	-333.9	1,082.9	1,051.4	31.44	34.447	
8,500.0	7,770.0	7,775.0	7,775.0	21.1	13.6	-90.00	-1,635.2	-333.9	984.2	951.6	32.63	30.166	
8,600.0	7,770.0	7,775.0	7,775.0	22.2	13.6	-90.00	-1,635.2	-333.9	885.9	852.0	33.90	26.132	
8,700.0	7,770.0	7,775.0	7,775.0	23.4	13.6	-90.00	-1,635.2	-333.9	788.0	752.7	35.24	22.359	
8,800.0	7,770.0	7,775.0	7,775.0	24.7	13.6	-90.00	-1,635.2	-333.9	690.6	654.0	36.64	18.850	
8,900.0	7,770.0	7,775.0	7,775.0	26.1	13.6	-90.00	-1,635.2	-333.9	594.2	556.1	38.08	15.604	
9,000.0	7,770.0	7,775.0	7,775.0	27.5	13.6	-90.00	-1,635.2	-333.9	499.1	459.6	39.56	12.617	
9,100.0	7,770.0	7,775.0	7,775.0	28.9	13.6	-90.00	-1,635.2	-333.9	406.5	365.4	41.07	9.897	
9,200.0	7,770.0	7,775.0	7,775.0	30.4	13.6	-90.00	-1,635.2	-333.9	318.3	275.7	42.61	7.470	
9,300.0	7,770.0	7,775.0	7,775.0	31.9	13.6	-90.00	-1,635.2	-333.9	239.6	195.4	44.18	5.424	
9,400.0	7,770.0	7,775.0	7,775.0	33.4	13.6	-90.00	-1,635.2	-333.9	183.0	137.2	45.76	3.999	
9,469.6	7,770.0	7,775.0	7,775.0	34.5	13.6	-90.00	-1,635.2	-333.9	169.3	122.4	46.87	3.611	CC, ES, SF
9,500.0	7,770.0	7,775.0	7,775.0	35.0	13.6	-90.00	-1,635.2	-333.9	172.0	124.6	47.36	3.631	
9,600.0	7,770.0	7,775.0	7,775.0	36.5	13.6	-90.00	-1,635.2	-333.9	213.7	164.7	48.97	4.363	
9,700.0	7,770.0	7,775.0	7,775.0	38.1	13.6	-90.00	-1,635.2	-333.9	285.9	235.3	50.60	5.650	
9,800.0	7,770.0	7,775.0	7,775.0	39.7	13.6	-90.00	-1,635.2	-333.9	371.3	319.0	52.24	7.107	
9,900.0	7,770.0	7,775.0	7,775.0	41.3	13.6	-90.00	-1,635.2	-333.9	462.5	408.6	53.89	8.583	
10,000.0	7,770.0	7,775.0	7,775.0	42.9	13.6	-90.00	-1,635.2	-333.9	556.8	501.2	55.54	10.025	
10,100.0	7,770.0	7,775.0	7,775.0	44.5	13.6	-90.00	-1,635.2	-333.9	652.8	595.5	57.21	11.411	
10,200.0	7,770.0	7,775.0	7,775.0	46.2	13.6	-90.00	-1,635.2	-333.9	749.8	690.9	58.88	12.735	
10,300.0	7,770.0	7,775.0	7,775.0	47.8	13.6	-90.00	-1,635.2	-333.9	847.5	786.9	60.55	13.996	
10,400.0	7,770.0	7,775.0	7,775.0	49.5	13.6	-90.00	-1,635.2	-333.9	945.7	883.5	62.24	15.195	
10,500.0	7,770.0	7,775.0	7,775.0	51.1	13.6	-90.00	-1,635.2	-333.9	1,044.2	980.3	63.92	16.336	
10,600.0	7,770.0	7,775.0	7,775.0	52.8	13.6	-90.00	-1,635.2	-333.9	1,143.0	1,077.4	65.61	17.420	
10,700.0	7,770.0	7,775.0	7,775.0	54.5	13.6	-90.00	-1,635.2	-333.9	1,242.0	1,174.7	67.31	18.452	
10,800.0	7,770.0	7,775.0	7,775.0	56.2	13.6	-90.00	-1,635.2	-333.9	1,341.1	1,272.1	69.01	19.434	
10,900.0	7,770.0	7,775.0	7,775.0	57.8	13.6	-90.00	-1,635.2	-333.9	1,440.4	1,369.7	70.71	20.370	
11,000.0	7,770.0	7,775.0	7,775.0	59.5	13.6	-90.00	-1,635.2	-333.9	1,539.8	1,467.3	72.42	21.262	

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 1F-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 1F-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

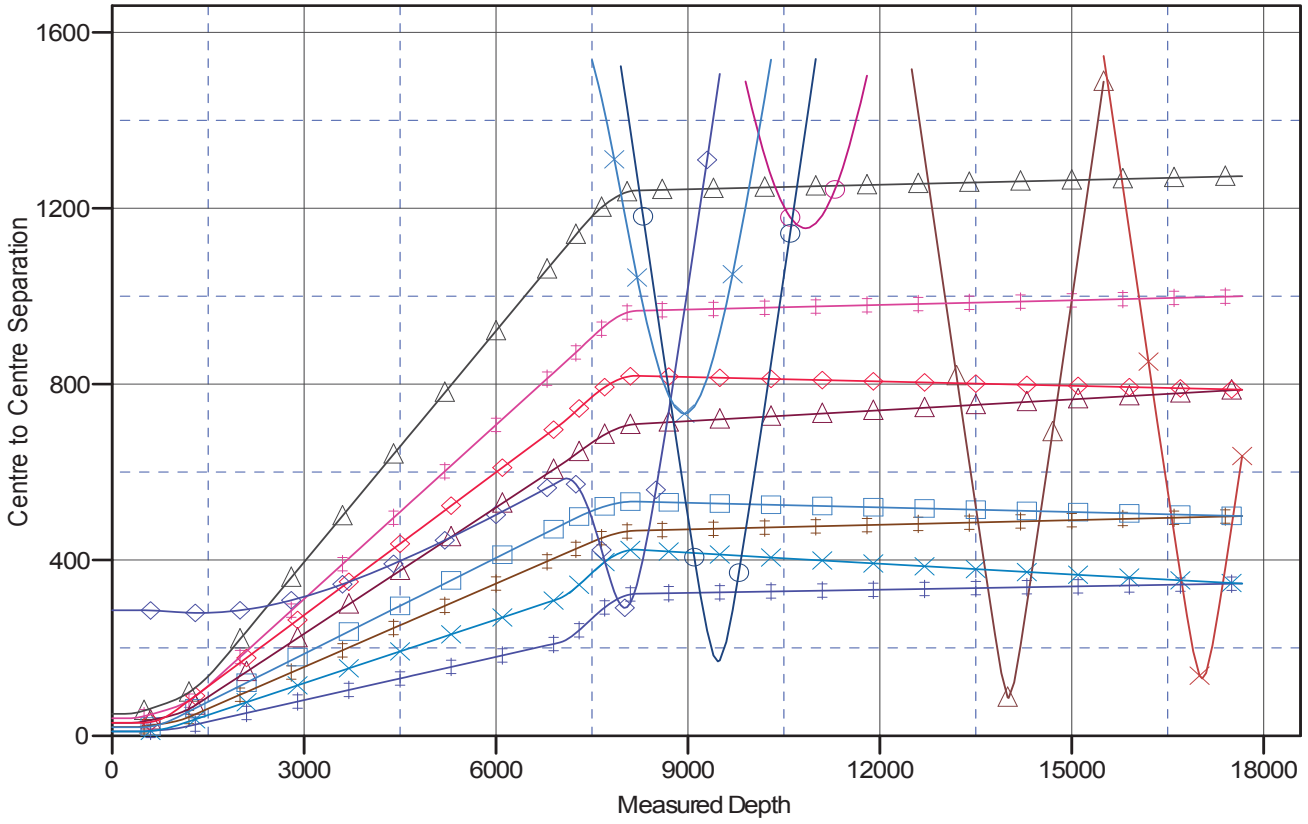
Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
7,500.0	7,450.0	7,471.0	7,471.0	16.1	13.0	27.33	-1,116.5	-1,237.9	1,537.4	1,511.1	26.30	58.457	
7,550.0	7,490.6	7,511.6	7,511.6	16.0	13.1	30.00	-1,116.5	-1,237.9	1,510.7	1,484.9	25.82	58.517	
7,600.0	7,529.1	7,550.1	7,550.1	16.0	13.2	32.88	-1,116.5	-1,237.9	1,481.8	1,456.5	25.35	58.451	
7,650.0	7,565.2	7,586.2	7,586.2	16.0	13.2	36.06	-1,116.5	-1,237.9	1,450.9	1,426.0	24.94	58.165	
7,700.0	7,598.9	7,619.9	7,619.9	16.1	13.3	39.61	-1,116.5	-1,237.9	1,418.2	1,393.5	24.64	57.548	
7,750.0	7,629.9	7,650.9	7,650.9	16.1	13.4	43.56	-1,116.5	-1,237.9	1,383.8	1,359.3	24.50	56.489	
7,800.0	7,658.2	7,679.2	7,679.2	16.2	13.4	47.96	-1,116.5	-1,237.9	1,348.1	1,323.6	24.55	54.906	
7,850.0	7,683.5	7,704.5	7,704.5	16.3	13.4	52.79	-1,116.5	-1,237.9	1,311.3	1,286.5	24.84	52.795	
7,900.0	7,705.7	7,726.7	7,726.7	16.5	13.5	58.01	-1,116.5	-1,237.9	1,273.7	1,248.3	25.35	50.250	
7,950.0	7,724.8	7,745.8	7,745.8	16.6	13.5	63.52	-1,116.5	-1,237.9	1,235.5	1,209.5	26.03	47.456	
8,000.0	7,740.6	7,761.6	7,761.6	16.9	13.5	69.17	-1,116.5	-1,237.9	1,197.1	1,170.2	26.82	44.632	
8,050.0	7,753.1	7,774.1	7,774.1	17.1	13.6	74.77	-1,116.5	-1,237.9	1,158.7	1,131.1	27.61	41.961	
8,100.0	7,762.2	7,783.2	7,783.2	17.4	13.6	80.14	-1,116.5	-1,237.9	1,120.6	1,092.3	28.33	39.554	
8,150.0	7,767.8	7,788.8	7,788.8	17.8	13.6	85.09	-1,116.5	-1,237.9	1,083.3	1,054.4	28.93	37.443	
8,200.0	7,770.0	7,791.0	7,791.0	18.2	13.6	89.50	-1,116.5	-1,237.9	1,047.0	1,017.6	29.40	35.606	
8,206.2	7,770.0	7,791.0	7,791.0	18.2	13.6	90.00	-1,116.5	-1,237.9	1,042.6	1,013.1	29.45	35.396	
8,300.0	7,770.0	7,791.0	7,791.0	19.0	13.6	90.00	-1,116.5	-1,237.9	978.1	947.7	30.37	32.203	
8,400.0	7,770.0	7,791.0	7,791.0	20.0	13.6	90.00	-1,116.5	-1,237.9	914.9	883.5	31.46	29.078	
8,500.0	7,770.0	7,791.0	7,791.0	21.1	13.6	90.00	-1,116.5	-1,237.9	858.8	826.1	32.66	26.299	
8,600.0	7,770.0	7,791.0	7,791.0	22.2	13.6	90.00	-1,116.5	-1,237.9	811.2	777.2	33.93	23.908	
8,700.0	7,770.0	7,791.0	7,791.0	23.4	13.6	90.00	-1,116.5	-1,237.9	773.6	738.3	35.27	21.934	
8,800.0	7,770.0	7,791.0	7,791.0	24.7	13.6	90.00	-1,116.5	-1,237.9	747.6	711.0	36.67	20.390	
8,900.0	7,770.0	7,791.0	7,791.0	26.1	13.6	90.00	-1,116.5	-1,237.9	734.4	696.3	38.11	19.273	
8,947.7	7,770.0	7,791.0	7,791.0	26.8	13.6	90.00	-1,116.5	-1,237.9	732.9	694.1	38.81	18.883	CC, ES
9,000.0	7,770.0	7,791.0	7,791.0	27.5	13.6	90.00	-1,116.5	-1,237.9	734.8	695.2	39.59	18.560	
9,100.0	7,770.0	7,791.0	7,791.0	28.9	13.6	90.00	-1,116.5	-1,237.9	748.6	707.5	41.10	18.213	
9,200.0	7,770.0	7,791.0	7,791.0	30.4	13.6	90.00	-1,116.5	-1,237.9	775.1	732.5	42.64	18.178	SF
9,300.0	7,770.0	7,791.0	7,791.0	31.9	13.6	90.00	-1,116.5	-1,237.9	813.2	769.0	44.20	18.396	
9,400.0	7,770.0	7,791.0	7,791.0	33.4	13.6	90.00	-1,116.5	-1,237.9	861.2	815.5	45.79	18.810	
9,500.0	7,770.0	7,791.0	7,791.0	35.0	13.6	90.00	-1,116.5	-1,237.9	917.7	870.3	47.39	19.367	
9,600.0	7,770.0	7,791.0	7,791.0	36.5	13.6	90.00	-1,116.5	-1,237.9	981.2	932.2	49.00	20.024	
9,700.0	7,770.0	7,791.0	7,791.0	38.1	13.6	90.00	-1,116.5	-1,237.9	1,050.3	999.7	50.63	20.746	
9,800.0	7,770.0	7,791.0	7,791.0	39.7	13.6	90.00	-1,116.5	-1,237.9	1,124.1	1,071.8	52.27	21.508	
9,900.0	7,770.0	7,791.0	7,791.0	41.3	13.6	90.00	-1,116.5	-1,237.9	1,201.7	1,147.8	53.91	22.290	
10,000.0	7,770.0	7,791.0	7,791.0	42.9	13.6	90.00	-1,116.5	-1,237.9	1,282.4	1,226.8	55.57	23.077	
10,100.0	7,770.0	7,791.0	7,791.0	44.5	13.6	90.00	-1,116.5	-1,237.9	1,365.7	1,308.4	57.23	23.861	
10,200.0	7,770.0	7,791.0	7,791.0	46.2	13.6	90.00	-1,116.5	-1,237.9	1,451.0	1,392.1	58.90	24.634	
10,300.0	7,770.0	7,791.0	7,791.0	47.8	13.6	90.00	-1,116.5	-1,237.9	1,538.2	1,477.6	60.58	25.390	

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Morgan Hills 1F-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 1F-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 1F-7H-A168
Coordinate System is US State Plane 1983, Colorado Northern Zone
Grid Convergence at Surface is: 0.30°

Ladder Plot



L E G E N D

1, ENCANA WELL, NO SURVEYS V0
2, ENCANA WELL, NO SURVEYS V0
3, HZ, Plan #2 V0
3, HZ, Plan #2 V0
3, HZ, Plan #2 V0
Morgan Hills 1D-7H-A168, HZ, Plan #2 V0
Morgan Hills 1E-7H-A168, HZ, Plan #2 V0
Morgan Hills 1G-7H-A168, HZ, Plan #2 V0
Morgan Hills 1H-7H-A168, HZ, Plan #2 V0
Morgan Hills 1I-7H-A168, HZ, Plan #2 V0
THOMAS 33-7 (EXISTING), ENCANA
WOOLLEY 41-7 (EXISTING), ENCAN
WOOLLEY 42-7 ENCANA (EXISTING
WOOLLEY A 1-7 (EXISTING), ENCAN