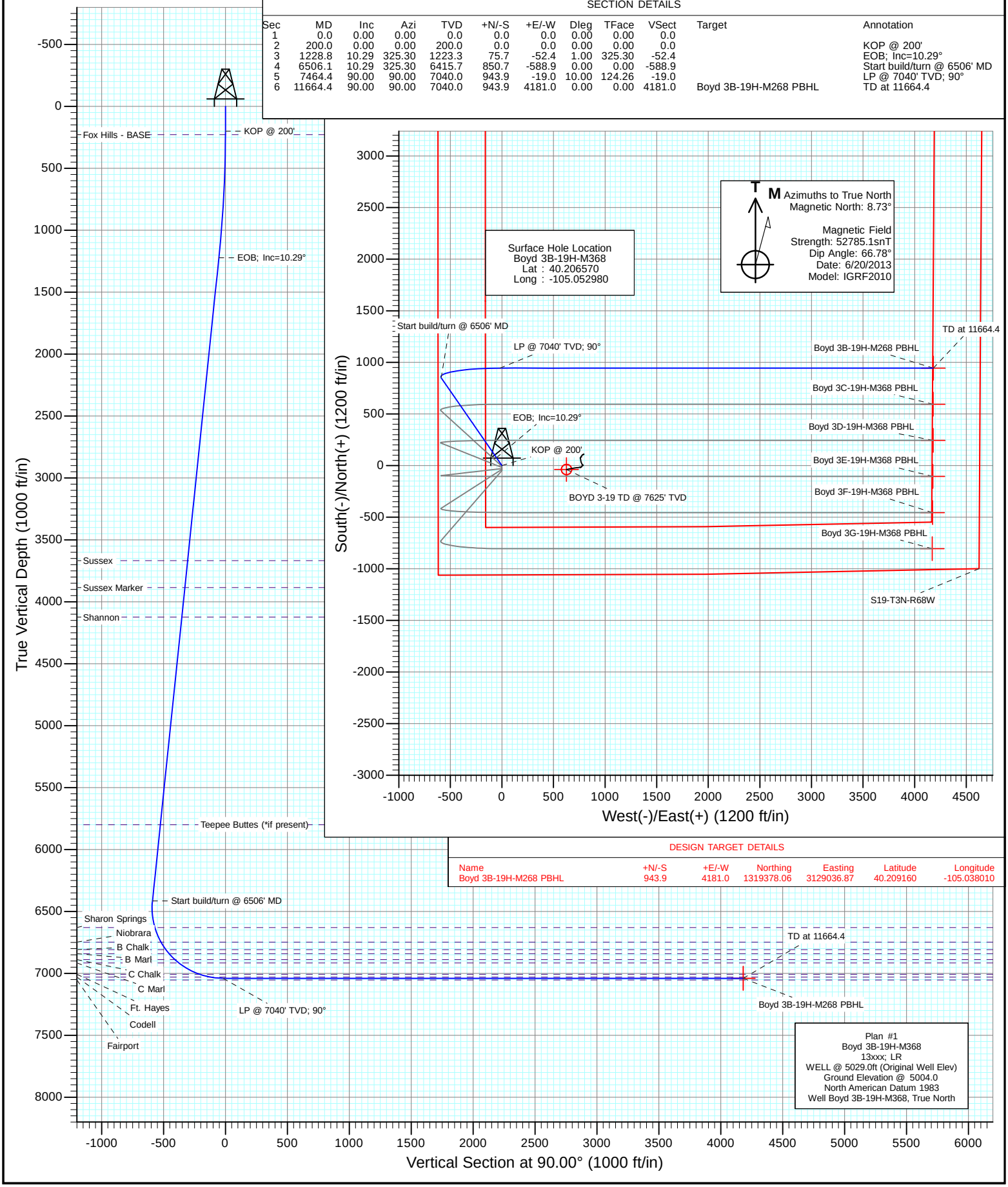
encana

Project: DJ Wattenberg
Site: S19-T3N-R68W (Boyd)
Well: Boyd 3B-19H-M368
Wellbore: Hz
Design: Plan #1

CATHEDRAL

SECTION DETAILS

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	200.0	0.00	0.00	200.0	0.0	0.0	0.00	0.00	0.0		KOP @ 200'
3	1228.8	10.29	325.30	1223.3	75.7	-52.4	1.00	325.30	-52.4		EOB; Inc=10.29°
4	6506.1	10.29	325.30	6415.7	850.7	-588.9	0.00	0.00	-588.9		Start build/turn @ 6506' MD
5	7464.4	90.00	90.00	7040.0	943.9	-19.0	10.00	124.26	-19.0		LP @ 7040' TVD; 90°
6	11664.4	90.00	90.00	7040.0	943.9	4181.0	0.00	0.00	4181.0	Boyd 3B-19H-M268 PBHL	TD at 11664.4



DESIGN TARGET DETAILS

Name	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
Boyd 3B-19H-M268 PBHL	943.9	4181.0	1319378.06	3129036.87	40.209160	-105.038010

Plan #1
Boyd 3B-19H-M368
13xxx; LR
WELL @ 5029.0ft (Original Well Elev)
Ground Elevation @ 5004.0
North American Datum 1983
Well Boyd 3B-19H-M368, True North

Planning Report

Database:	USA EDM 5000 Multi Users DB	**Local Co-ordinate Reference:**	Well Boyd 3B-19H-M368
Company:	EnCana Oil & Gas (USA) Inc	**TVD Reference:**	WELL @ 5029.0ft (Original Well Elev)
Project:	DJ Wattenberg	**MD Reference:**	WELL @ 5029.0ft (Original Well Elev)
Site:	S19-T3N-R68W (Boyd)	**North Reference:**	True
Well:	Boyd 3B-19H-M368	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Hz		
Design:	Plan #1		

Project DJ Wattenberg

Map System:	US State Plane 1983	**System Datum:**	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Northern Zone		

Site S19-T3N-R68W (Boyd)

Site Position:		**Northing:**	1,318,413.14 ft	**Latitude:**	40.206570
From:	Lat/Long	**Easting:**	3,124,860.64 ft	**Longitude:**	-105.052980
Position Uncertainty:	0.0 ft	**Slot Radius:**	13.200 in	**Grid Convergence:**	0.29 °

Well Boyd 3B-19H-M368

Well Position	**+N/-S**	0.0 ft	**Northing:**	1,318,413.14 ft	**Latitude:**	40.206570
	+E/-W	0.0 ft	**Easting:**	3,124,860.64 ft	**Longitude:**	-105.052980
Position Uncertainty		0.0 ft	**Wellhead Elevation:**	ft	**Ground Level:**	5,004.0 ft

Wellbore Hz

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	6/20/2013	8.73	66.78	52,785

Design Plan #1

Audit Notes:

Version:		**Phase:**	PLAN	**Tie On Depth:**	0.0

Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.0	0.0	0.0	90.00

Plan Sections

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
200.0	0.00	0.00	200.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,228.8	10.29	325.30	1,223.3	75.7	-52.4	1.00	1.00	0.00	325.30	
6,506.1	10.29	325.30	6,415.7	850.7	-588.9	0.00	0.00	0.00	0.00	
7,464.4	90.00	90.00	7,040.0	943.9	-19.0	10.00	8.32	13.01	124.26	
11,664.4	90.00	90.00	7,040.0	943.9	4,181.0	0.00	0.00	0.00	0.00	Boyd 3B-19H-M268 P

Database:	USA EDM 5000 Multi Users DB	**Local Co-ordinate Reference:**	Well Boyd 3B-19H-M368
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Project:	DJ Wattenberg	**MD Reference:**	WELL @ 5029.0ft (Original Well Elev)
Site:	S19-T3N-R68W (Boyd)	**North Reference:**	True
Well:	Boyd 3B-19H-M368	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Hz		
Design:	Plan #1		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Comments / Formations
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	KOP @ 200'
229.0	0.29	325.30	229.0	0.1	0.0	0.0	1.00	1.00	Fox Hills - BASE
300.0	1.00	325.30	300.0	0.7	-0.5	-0.5	1.00	1.00	
400.0	2.00	325.30	400.0	2.9	-2.0	-2.0	1.00	1.00	
500.0	3.00	325.30	499.9	6.5	-4.5	-4.5	1.00	1.00	
600.0	4.00	325.30	599.7	11.5	-7.9	-7.9	1.00	1.00	
700.0	5.00	325.30	699.4	17.9	-12.4	-12.4	1.00	1.00	
800.0	6.00	325.30	798.9	25.8	-17.9	-17.9	1.00	1.00	
900.0	7.00	325.30	898.3	35.1	-24.3	-24.3	1.00	1.00	
1,000.0	8.00	325.30	997.4	45.8	-31.7	-31.7	1.00	1.00	
1,100.0	9.00	325.30	1,096.3	58.0	-40.2	-40.2	1.00	1.00	
1,200.0	10.00	325.30	1,194.9	71.6	-49.5	-49.5	1.00	1.00	
1,228.8	10.29	325.30	1,223.3	75.7	-52.4	-52.4	1.00	1.00	EOB; Inc=10.29°
1,300.0	10.29	325.30	1,293.3	86.2	-59.7	-59.7	0.00	0.00	
1,400.0	10.29	325.30	1,391.7	100.9	-69.8	-69.8	0.00	0.00	
1,500.0	10.29	325.30	1,490.1	115.6	-80.0	-80.0	0.00	0.00	
1,600.0	10.29	325.30	1,588.5	130.2	-90.2	-90.2	0.00	0.00	
1,700.0	10.29	325.30	1,686.9	144.9	-100.3	-100.3	0.00	0.00	
1,800.0	10.29	325.30	1,785.3	159.6	-110.5	-110.5	0.00	0.00	
1,900.0	10.29	325.30	1,883.7	174.3	-120.7	-120.7	0.00	0.00	
2,000.0	10.29	325.30	1,982.1	189.0	-130.8	-130.8	0.00	0.00	
2,100.0	10.29	325.30	2,080.5	203.7	-141.0	-141.0	0.00	0.00	
2,200.0	10.29	325.30	2,178.9	218.4	-151.2	-151.2	0.00	0.00	
2,300.0	10.29	325.30	2,277.3	233.0	-161.3	-161.3	0.00	0.00	
2,400.0	10.29	325.30	2,375.6	247.7	-171.5	-171.5	0.00	0.00	
2,500.0	10.29	325.30	2,474.0	262.4	-181.7	-181.7	0.00	0.00	
2,600.0	10.29	325.30	2,572.4	277.1	-191.8	-191.8	0.00	0.00	
2,700.0	10.29	325.30	2,670.8	291.8	-202.0	-202.0	0.00	0.00	
2,800.0	10.29	325.30	2,769.2	306.5	-212.2	-212.2	0.00	0.00	
2,900.0	10.29	325.30	2,867.6	321.1	-222.3	-222.3	0.00	0.00	
3,000.0	10.29	325.30	2,966.0	335.8	-232.5	-232.5	0.00	0.00	
3,100.0	10.29	325.30	3,064.4	350.5	-242.7	-242.7	0.00	0.00	
3,200.0	10.29	325.30	3,162.8	365.2	-252.8	-252.8	0.00	0.00	
3,300.0	10.29	325.30	3,261.2	379.9	-263.0	-263.0	0.00	0.00	
3,400.0	10.29	325.30	3,359.6	394.6	-273.2	-273.2	0.00	0.00	
3,500.0	10.29	325.30	3,458.0	409.3	-283.3	-283.3	0.00	0.00	
3,600.0	10.29	325.30	3,556.4	423.9	-293.5	-293.5	0.00	0.00	
3,700.0	10.29	325.30	3,654.7	438.6	-303.7	-303.7	0.00	0.00	
3,713.5	10.29	325.30	3,668.0	440.6	-305.0	-305.0	0.00	0.00	Sussex
3,800.0	10.29	325.30	3,753.1	453.3	-313.8	-313.8	0.00	0.00	
3,900.0	10.29	325.30	3,851.5	468.0	-324.0	-324.0	0.00	0.00	
3,934.0	10.29	325.30	3,885.0	473.0	-327.5	-327.5	0.00	0.00	Sussex Marker
4,000.0	10.29	325.30	3,949.9	482.7	-334.2	-334.2	0.00	0.00	
4,100.0	10.29	325.30	4,048.3	497.4	-344.3	-344.3	0.00	0.00	
4,176.9	10.29	325.30	4,124.0	508.7	-352.2	-352.2	0.00	0.00	Shannon
4,200.0	10.29	325.30	4,146.7	512.0	-354.5	-354.5	0.00	0.00	
4,300.0	10.29	325.30	4,245.1	526.7	-364.7	-364.7	0.00	0.00	
4,400.0	10.29	325.30	4,343.5	541.4	-374.8	-374.8	0.00	0.00	
4,500.0	10.29	325.30	4,441.9	556.1	-385.0	-385.0	0.00	0.00	
4,600.0	10.29	325.30	4,540.3	570.8	-395.2	-395.2	0.00	0.00	

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Well:	Boyd 3B-19H-M368	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Hz		
Design:	Plan #1		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Comments / Formations
4,700.0	10.29	325.30	4,638.7	585.5	-405.3	-405.3	0.00	0.00	
4,800.0	10.29	325.30	4,737.1	600.2	-415.5	-415.5	0.00	0.00	
4,900.0	10.29	325.30	4,835.5	614.8	-425.7	-425.7	0.00	0.00	
5,000.0	10.29	325.30	4,933.8	629.5	-435.8	-435.8	0.00	0.00	
5,100.0	10.29	325.30	5,032.2	644.2	-446.0	-446.0	0.00	0.00	
5,200.0	10.29	325.30	5,130.6	658.9	-456.2	-456.2	0.00	0.00	
5,300.0	10.29	325.30	5,229.0	673.6	-466.3	-466.3	0.00	0.00	
5,400.0	10.29	325.30	5,327.4	688.3	-476.5	-476.5	0.00	0.00	
5,500.0	10.29	325.30	5,425.8	702.9	-486.7	-486.7	0.00	0.00	
5,600.0	10.29	325.30	5,524.2	717.6	-496.8	-496.8	0.00	0.00	
5,700.0	10.29	325.30	5,622.6	732.3	-507.0	-507.0	0.00	0.00	
5,800.0	10.29	325.30	5,721.0	747.0	-517.2	-517.2	0.00	0.00	
5,880.3	10.29	325.30	5,800.0	758.8	-525.3	-525.3	0.00	0.00	Teepee Buttes (*if present)
5,900.0	10.29	325.30	5,819.4	761.7	-527.3	-527.3	0.00	0.00	
6,000.0	10.29	325.30	5,917.8	776.4	-537.5	-537.5	0.00	0.00	
6,100.0	10.29	325.30	6,016.2	791.1	-547.7	-547.7	0.00	0.00	
6,200.0	10.29	325.30	6,114.5	805.7	-557.8	-557.8	0.00	0.00	
6,300.0	10.29	325.30	6,212.9	820.4	-568.0	-568.0	0.00	0.00	
6,400.0	10.29	325.30	6,311.3	835.1	-578.2	-578.2	0.00	0.00	
6,500.0	10.29	325.30	6,409.7	849.8	-588.3	-588.3	0.00	0.00	
6,506.1	10.29	325.30	6,415.7	850.7	-588.9	-588.9	0.00	0.00	Start build/turn @ 6506' MD
6,600.0	9.20	22.84	6,508.5	864.5	-590.8	-590.8	10.00	-1.16	
6,700.0	15.95	58.53	6,606.2	879.1	-575.9	-575.9	10.00	6.75	
6,724.9	18.10	62.84	6,630.0	882.7	-569.6	-569.6	10.00	8.63	Sharon Springs
6,800.0	24.96	71.30	6,699.8	893.1	-544.2	-544.2	10.00	9.13	
6,854.4	30.11	75.08	6,748.0	900.3	-520.1	-520.1	10.00	9.47	Niobrara
6,900.0	34.49	77.45	6,786.6	906.0	-496.4	-496.4	10.00	9.61	
6,927.7	37.17	78.65	6,809.0	909.4	-480.6	-480.6	10.00	9.68	B Chalk
6,969.0	41.18	80.18	6,841.0	914.2	-454.9	-454.9	10.00	9.72	B Marl
7,000.0	44.21	81.18	6,863.8	917.6	-434.2	-434.2	10.00	9.76	
7,036.3	47.76	82.21	6,889.0	921.3	-408.4	-408.4	10.00	9.79	C Chalk
7,078.1	51.87	83.27	6,916.0	925.3	-376.7	-376.7	10.00	9.81	C Marl
7,100.0	54.02	83.78	6,929.2	927.3	-359.3	-359.3	10.00	9.83	
7,200.0	63.87	85.80	6,980.7	935.0	-274.1	-274.1	10.00	9.85	
7,271.0	70.87	87.03	7,008.0	939.1	-208.8	-208.8	10.00	9.87	Ft. Hayes
7,300.0	73.74	87.51	7,016.8	940.4	-181.1	-181.1	10.00	9.88	
7,356.6	79.34	88.39	7,030.0	942.4	-126.1	-126.1	10.00	9.88	Codell
7,400.0	83.63	89.05	7,036.4	943.3	-83.2	-83.2	10.00	9.89	
7,464.4	90.00	90.00	7,040.0	943.9	-19.0	-19.0	10.00	9.89	LP @ 7040' TVD; 90°
7,500.0	90.00	90.00	7,040.0	943.9	16.6	16.6	0.00	0.00	
7,600.0	90.00	90.00	7,040.0	943.9	116.6	116.6	0.00	0.00	
7,700.0	90.00	90.00	7,040.0	943.9	216.6	216.6	0.00	0.00	
7,800.0	90.00	90.00	7,040.0	943.9	316.6	316.6	0.00	0.00	
7,900.0	90.00	90.00	7,040.0	943.9	416.6	416.6	0.00	0.00	
8,000.0	90.00	90.00	7,040.0	943.9	516.6	516.6	0.00	0.00	
8,100.0	90.00	90.00	7,040.0	943.9	616.6	616.6	0.00	0.00	
8,200.0	90.00	90.00	7,040.0	943.9	716.6	716.6	0.00	0.00	
8,300.0	90.00	90.00	7,040.0	943.9	816.6	816.6	0.00	0.00	
8,400.0	90.00	90.00	7,040.0	943.9	916.6	916.6	0.00	0.00	
8,500.0	90.00	90.00	7,040.0	943.9	1,016.6	1,016.6	0.00	0.00	
8,600.0	90.00	90.00	7,040.0	943.9	1,116.6	1,116.6	0.00	0.00	
8,700.0	90.00	90.00	7,040.0	943.9	1,216.6	1,216.6	0.00	0.00	

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Well:	Boyd 3B-19H-M368	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Hz		
Design:	Plan #1		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Comments / Formations
8,800.0	90.00	90.00	7,040.0	943.9	1,316.6	1,316.6	0.00	0.00	
8,900.0	90.00	90.00	7,040.0	943.9	1,416.6	1,416.6	0.00	0.00	
9,000.0	90.00	90.00	7,040.0	943.9	1,516.6	1,516.6	0.00	0.00	
9,100.0	90.00	90.00	7,040.0	943.9	1,616.6	1,616.6	0.00	0.00	
9,200.0	90.00	90.00	7,040.0	943.9	1,716.6	1,716.6	0.00	0.00	
9,300.0	90.00	90.00	7,040.0	943.9	1,816.6	1,816.6	0.00	0.00	
9,400.0	90.00	90.00	7,040.0	943.9	1,916.6	1,916.6	0.00	0.00	
9,500.0	90.00	90.00	7,040.0	943.9	2,016.6	2,016.6	0.00	0.00	
9,600.0	90.00	90.00	7,040.0	943.9	2,116.6	2,116.6	0.00	0.00	
9,700.0	90.00	90.00	7,040.0	943.9	2,216.6	2,216.6	0.00	0.00	
9,800.0	90.00	90.00	7,040.0	943.9	2,316.6	2,316.6	0.00	0.00	
9,900.0	90.00	90.00	7,040.0	943.9	2,416.6	2,416.6	0.00	0.00	
10,000.0	90.00	90.00	7,040.0	943.9	2,516.6	2,516.6	0.00	0.00	
10,100.0	90.00	90.00	7,040.0	943.9	2,616.6	2,616.6	0.00	0.00	
10,200.0	90.00	90.00	7,040.0	943.9	2,716.6	2,716.6	0.00	0.00	
10,300.0	90.00	90.00	7,040.0	943.9	2,816.6	2,816.6	0.00	0.00	
10,400.0	90.00	90.00	7,040.0	943.9	2,916.6	2,916.6	0.00	0.00	
10,500.0	90.00	90.00	7,040.0	943.9	3,016.6	3,016.6	0.00	0.00	
10,600.0	90.00	90.00	7,040.0	943.9	3,116.6	3,116.6	0.00	0.00	
10,700.0	90.00	90.00	7,040.0	943.9	3,216.6	3,216.6	0.00	0.00	
10,800.0	90.00	90.00	7,040.0	943.9	3,316.6	3,316.6	0.00	0.00	
10,900.0	90.00	90.00	7,040.0	943.9	3,416.6	3,416.6	0.00	0.00	
11,000.0	90.00	90.00	7,040.0	943.9	3,516.6	3,516.6	0.00	0.00	
11,100.0	90.00	90.00	7,040.0	943.9	3,616.6	3,616.6	0.00	0.00	
11,200.0	90.00	90.00	7,040.0	943.9	3,716.6	3,716.6	0.00	0.00	
11,300.0	90.00	90.00	7,040.0	943.9	3,816.6	3,816.6	0.00	0.00	
11,400.0	90.00	90.00	7,040.0	943.9	3,916.6	3,916.6	0.00	0.00	
11,500.0	90.00	90.00	7,040.0	943.9	4,016.6	4,016.6	0.00	0.00	
11,600.0	90.00	90.00	7,040.0	943.9	4,116.6	4,116.6	0.00	0.00	
11,664.4	90.00	90.00	7,040.0	943.9	4,181.0	4,181.0	0.00	0.00	TD at 11664.4

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
Boyd 3B-19H-M268 PBH - plan hits target center - Point	0.00	0.00	7,040.0	943.9	4,181.0	1,319,378.06	3,129,036.87	40.209160	-105.038010

Database:	USA EDM 5000 Multi Users DB	**Local Co-ordinate Reference:**	Well Boyd 3B-19H-M368
Company:	EnCana Oil & Gas (USA) Inc	**TVD Reference:**	WELL @ 5029.0ft (Original Well Elev)
Project:	DJ Wattenberg	**MD Reference:**	WELL @ 5029.0ft (Original Well Elev)
Site:	S19-T3N-R68W (Boyd)	**North Reference:**	True
Well:	Boyd 3B-19H-M368	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Hz		
Design:	Plan #1		

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
229.0	229.0	Fox Hills - BASE			
3,713.5	3,668.0	Sussex			
3,934.0	3,885.0	Sussex Marker			
4,176.9	4,124.0	Shannon			
5,880.3	5,800.0	Teepee Buttes (*if present)			
6,724.9	6,630.0	Sharon Springs			
6,854.4	6,748.0	Niobrara			
6,927.7	6,809.0	B Chalk			
6,969.0	6,841.0	B Marl			
7,036.3	6,889.0	C Chalk			
7,078.1	6,916.0	C Marl			
7,271.0	7,008.0	Ft. Hayes			
7,356.6	7,030.0	Codell			

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates +N/-S (ft)	Local Coordinates +E/-W (ft)	Comment
200.0	200.0	0.0	0.0	KOP @ 200'
1,228.8	1,223.3	75.7	-52.4	EOB; Inc=10.29°
6,506.1	6,415.7	850.7	-588.9	Start build/turn @ 6506' MD
7,464.4	7,040.0	943.9	-19.0	LP @ 7040' TVD; 90°
11,664.4	7,040.0	943.9	4,181.0	TD at 11664.4

EnCana Oil & Gas (USA) Inc

DJ Wattenberg
S19-T3N-R68W (Boyd)
Boyd 3B-19H-M368
Hz
Plan #1

Anticollision Report

20 June, 2013

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Boyd 3B-19H-M368
Project:	DJ Wattenberg	**TVD Reference:**	WELL @ 5029.0ft (Original Well Elev)
Reference Site:	S19-T3N-R68W (Boyd)	**MD Reference:**	WELL @ 5029.0ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Boyd 3B-19H-M368	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Hz	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Reference Plan #1

Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	MD Interval 100.0ft	**Error Model:**	Systematic Ellipse
Depth Range:	Unlimited	**Scan Method:**	Closest Approach 3D
Results Limited by:	Maximum center-center distance of 500.0ft	**Error Surface:**	Elliptical Conic
Warning Levels Evaluated at:	2.00 **Sigma**		

Survey Tool Program **Date** 6/20/2013

From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.0	11,664.4	Plan #1 (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
S19-T3N-R68W (Boyd)						
BOYD 3-19 (EXISTING) - ENCANA WELL - SURVEYS						Out of range
Boyd 3C-19H-M368 - Hz - Plan #1	200.0	200.0	7.3	6.7	11.934	CC, ES
Boyd 3C-19H-M368 - Hz - Plan #1	11,664.4	11,406.0	413.7	225.6	2.199	SF
Boyd 3D-19H-M368 - Hz - Plan #1	200.0	200.0	18.2	17.6	29.824	CC, ES
Boyd 3D-19H-M368 - Hz - Plan #1	700.0	700.4	33.6	31.2	14.120	SF
Boyd 3E-19H-M368 - Hz - Plan #1	200.0	200.0	29.1	28.5	47.714	CC, ES
Boyd 3E-19H-M368 - Hz - Plan #1	700.0	699.5	48.3	45.9	20.383	SF
Boyd 3F-19H-M368 - Hz - Plan #1	200.0	200.0	36.4	35.8	59.641	CC, ES
Boyd 3F-19H-M368 - Hz - Plan #1	700.0	698.1	58.8	56.5	24.712	SF
Boyd 3G-19H-M368 - Hz - Plan #1	200.0	200.0	47.4	46.8	77.531	CC, ES
Boyd 3G-19H-M368 - Hz - Plan #1	700.0	695.9	75.8	73.4	31.731	SF

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Boyd 3B-19H-M368
Project:	DJ Wattenberg	**TVD Reference:**	WELL @ 5029.0ft (Original Well Elev)
Reference Site:	S19-T3N-R68W (Boyd)	**MD Reference:**	WELL @ 5029.0ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Boyd 3B-19H-M368	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Hz	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design S19-T3N-R68W (Boyd) - Boyd 3C-19H-M368 - Hz - Plan #1

Offset Site Error: 0.0 ft

Survey Program: 0-Geolink MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	180.00	-7.3	0.0	7.3				
100.0	100.0	100.0	100.0	0.1	0.1	180.00	-7.3	0.0	7.3	7.0	0.26	27.845	
200.0	200.0	200.0	200.0	0.3	0.3	180.00	-7.3	0.0	7.3	6.7	0.61	11.934	CC, ES
300.0	300.0	300.0	300.0	0.5	0.5	-148.85	-7.3	0.0	8.0	7.1	0.96	8.356	
400.0	400.0	400.1	400.1	0.7	0.7	-153.28	-6.7	-0.6	9.7	8.4	1.31	7.375	
500.0	499.9	500.2	500.2	0.8	0.8	-154.71	-4.9	-2.6	11.5	9.9	1.66	6.943	
600.0	599.7	600.4	600.2	1.0	1.0	-154.30	-2.0	-5.8	13.6	11.6	2.02	6.748	
700.0	699.4	700.5	700.2	1.3	1.2	-152.81	2.1	-10.3	15.9	13.6	2.39	6.673	
800.0	798.9	800.7	800.1	1.5	1.4	-150.67	7.4	-16.2	18.5	15.7	2.77	6.663	
900.0	898.3	900.9	899.8	1.7	1.7	-148.21	13.9	-23.3	21.3	18.1	3.18	6.687	
1,000.0	997.4	1,001.2	999.4	2.0	1.9	-145.60	21.6	-31.7	24.3	20.7	3.62	6.724	
1,100.0	1,096.3	1,101.4	1,098.8	2.3	2.2	-142.97	30.4	-41.3	27.7	23.6	4.10	6.761	
1,200.0	1,194.9	1,201.4	1,197.8	2.6	2.5	-141.01	40.1	-52.0	31.7	27.1	4.61	6.873	
1,300.0	1,293.3	1,301.3	1,296.6	3.0	2.7	-140.73	49.9	-62.7	36.6	31.5	5.11	7.164	
1,400.0	1,391.7	1,401.2	1,395.4	3.3	3.0	-140.58	59.6	-73.3	41.6	36.0	5.62	7.405	
1,500.0	1,490.1	1,501.0	1,494.2	3.7	3.3	-140.46	69.3	-84.0	46.6	40.5	6.13	7.600	
1,600.0	1,588.5	1,600.9	1,593.1	4.0	3.6	-140.36	79.1	-94.7	51.6	44.9	6.65	7.761	
1,700.0	1,686.9	1,700.8	1,691.9	4.4	3.9	-140.28	88.8	-105.4	56.6	49.4	7.16	7.895	
1,800.0	1,785.3	1,800.7	1,790.7	4.7	4.2	-140.22	98.6	-116.1	61.6	53.9	7.69	8.009	
1,900.0	1,883.7	1,900.6	1,889.5	5.1	4.5	-140.16	108.3	-126.8	66.5	58.3	8.21	8.106	
2,000.0	1,982.1	2,000.4	1,988.4	5.4	4.8	-140.12	118.0	-137.4	71.5	62.8	8.73	8.190	
2,100.0	2,080.5	2,100.3	2,087.2	5.8	5.1	-140.07	127.8	-148.1	76.5	67.3	9.26	8.264	
2,200.0	2,178.9	2,200.2	2,186.0	6.1	5.4	-140.04	137.5	-158.8	81.5	71.7	9.79	8.329	
2,300.0	2,277.3	2,300.1	2,284.8	6.5	5.7	-140.00	147.3	-169.5	86.5	76.2	10.32	8.386	
2,400.0	2,375.6	2,399.9	2,383.7	6.8	6.0	-139.98	157.0	-180.2	91.5	80.7	10.84	8.437	
2,500.0	2,474.0	2,499.8	2,482.5	7.2	6.3	-139.95	166.7	-190.8	96.5	85.1	11.37	8.483	
2,600.0	2,572.4	2,599.7	2,581.3	7.5	6.7	-139.93	176.5	-201.5	101.5	89.6	11.90	8.524	
2,700.0	2,670.8	2,699.6	2,680.1	7.9	7.0	-139.91	186.2	-212.2	106.5	94.0	12.43	8.562	
2,800.0	2,769.2	2,799.4	2,779.0	8.3	7.3	-139.89	196.0	-222.9	111.5	98.5	12.97	8.596	
2,900.0	2,867.6	2,899.3	2,877.8	8.6	7.6	-139.87	205.7	-233.6	116.4	102.9	13.50	8.627	
3,000.0	2,966.0	2,999.2	2,976.6	9.0	7.9	-139.85	215.4	-244.3	121.4	107.4	14.03	8.656	
3,100.0	3,064.4	3,099.1	3,075.4	9.3	8.2	-139.84	225.2	-254.9	126.4	111.9	14.56	8.682	
3,200.0	3,162.8	3,198.9	3,174.2	9.7	8.5	-139.82	234.9	-265.6	131.4	116.3	15.09	8.706	
3,300.0	3,261.2	3,298.8	3,273.1	10.0	8.8	-139.81	244.7	-276.3	136.4	120.8	15.63	8.729	
3,400.0	3,359.6	3,398.7	3,371.9	10.4	9.1	-139.80	254.4	-287.0	141.4	125.2	16.16	8.750	
3,500.0	3,458.0	3,498.6	3,470.7	10.8	9.4	-139.79	264.1	-297.7	146.4	129.7	16.69	8.769	
3,600.0	3,556.4	3,598.4	3,569.5	11.1	9.7	-139.78	273.9	-308.3	151.4	134.1	17.23	8.787	
3,700.0	3,654.7	3,698.3	3,668.4	11.5	10.0	-139.77	283.6	-319.0	156.4	138.6	17.76	8.804	
3,800.0	3,753.1	3,798.2	3,767.2	11.8	10.3	-139.76	293.4	-329.7	161.4	143.1	18.29	8.820	
3,900.0	3,851.5	3,898.1	3,866.0	12.2	10.6	-139.75	303.1	-340.4	166.3	147.5	18.83	8.835	
4,000.0	3,949.9	3,997.9	3,964.8	12.5	10.9	-139.74	312.8	-351.1	171.3	152.0	19.36	8.849	
4,100.0	4,048.3	4,097.8	4,063.7	12.9	11.2	-139.73	322.6	-361.8	176.3	156.4	19.90	8.863	
4,200.0	4,146.7	4,197.7	4,162.5	13.3	11.6	-139.73	332.3	-372.4	181.3	160.9	20.43	8.875	
4,300.0	4,245.1	4,297.6	4,261.3	13.6	11.9	-139.72	342.1	-383.1	186.3	165.3	20.96	8.887	
4,400.0	4,343.5	4,397.4	4,360.1	14.0	12.2	-139.71	351.8	-393.8	191.3	169.8	21.50	8.898	
4,500.0	4,441.9	4,497.3	4,459.0	14.3	12.5	-139.71	361.5	-404.5	196.3	174.2	22.03	8.909	
4,600.0	4,540.3	4,597.2	4,557.8	14.7	12.8	-139.70	371.3	-415.2	201.3	178.7	22.57	8.919	
4,700.0	4,638.7	4,697.1	4,656.6	15.0	13.1	-139.70	381.0	-425.9	206.3	183.2	23.10	8.928	
4,800.0	4,737.1	4,796.9	4,755.4	15.4	13.4	-139.69	390.8	-436.5	211.3	187.6	23.64	8.938	
4,900.0	4,835.5	4,896.8	4,854.2	15.8	13.7	-139.69	400.5	-447.2	216.2	192.1	24.17	8.946	
5,000.0	4,933.8	4,996.7	4,953.1	16.1	14.0	-139.68	410.2	-457.9	221.2	196.5	24.71	8.955	
5,100.0	5,032.2	5,096.6	5,051.9	16.5	14.3	-139.68	420.0	-468.6	226.2	201.0	25.24	8.963	

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 Boyd 3B-19H-M368
Project:	DJ Wattenberg	**TVD Reference:**	WELL @ 5029.0ft (Original Well Elev)
Reference Site:	S19-T3N-R68W (Boyd)	**MD Reference:**	WELL @ 5029.0ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Boyd 3B-19H-M368	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Hz	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design S19-T3N-R68W (Boyd) - Boyd 3C-19H-M368 - Hz - Plan #1

Offset Site Error: 0.0 ft

Survey Program: 0-Geolink MWD

Offset Well Error: 0.0 ft

Reference		Offset		Semi Major Axis			Offset Wellbore Centre		Distance				
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	+N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
5,200.0	5,130.6	5,196.4	5,150.7	16.8	14.6	-139.67	429.7	-479.3	231.2	205.4	25.78	8.970	
5,300.0	5,229.0	5,296.3	5,249.5	17.2	14.9	-139.67	439.5	-489.9	236.2	209.9	26.31	8.977	
5,400.0	5,327.4	5,396.2	5,348.4	17.6	15.2	-139.67	449.2	-500.6	241.2	214.3	26.85	8.984	
5,500.0	5,425.8	5,496.1	5,447.2	17.9	15.5	-139.66	458.9	-511.3	246.2	218.8	27.38	8.991	
5,600.0	5,524.2	5,595.9	5,546.0	18.3	15.9	-139.66	468.7	-522.0	251.2	223.3	27.92	8.997	
5,700.0	5,622.6	5,695.8	5,644.8	18.6	16.2	-139.65	478.4	-532.7	256.2	227.7	28.45	9.004	
5,800.0	5,721.0	5,795.7	5,743.7	19.0	16.5	-139.65	488.2	-543.4	261.2	232.2	28.99	9.010	
5,900.0	5,819.4	5,895.6	5,842.5	19.3	16.8	-139.65	497.9	-554.0	266.1	236.6	29.52	9.015	
6,000.0	5,917.8	5,995.4	5,941.3	19.7	17.1	-139.64	507.6	-564.7	271.1	241.1	30.06	9.021	
6,100.0	6,016.2	6,095.3	6,040.1	20.1	17.4	-139.64	517.4	-575.4	276.1	245.5	30.59	9.026	
6,200.0	6,114.5	6,195.2	6,139.0	20.4	17.7	-139.64	527.1	-586.1	281.1	250.0	31.13	9.031	
6,300.0	6,212.9	6,297.6	6,240.5	20.8	18.0	-140.12	537.1	-594.6	285.9	254.4	31.48	9.082	
6,400.0	6,311.3	6,399.2	6,341.2	21.1	18.0	-143.72	547.0	-587.1	289.7	259.0	30.71	9.436	
6,500.0	6,409.7	6,492.0	6,430.7	21.5	18.0	-149.86	555.9	-564.7	295.6	266.6	28.98	10.200	
6,600.0	6,508.5	6,576.4	6,508.0	21.8	17.8	145.76	563.5	-532.0	306.7	279.9	26.80	11.444	
6,700.0	6,606.2	6,656.7	6,576.4	21.9	17.6	104.02	570.2	-490.6	321.8	296.7	25.13	12.806	
6,800.0	6,699.8	6,733.9	6,636.1	21.9	17.3	86.17	576.1	-442.2	339.0	314.9	24.12	14.053	
6,900.0	6,786.6	6,808.7	6,687.3	21.7	17.0	75.94	581.2	-387.9	356.6	333.0	23.62	15.097	
7,000.0	6,863.8	6,881.7	6,730.1	21.5	16.8	69.14	585.4	-328.9	373.2	349.8	23.41	15.946	
7,100.0	6,929.2	6,950.0	6,763.0	21.3	16.6	64.47	588.6	-269.2	387.9	364.5	23.33	16.625	
7,200.0	6,980.7	7,023.9	6,790.4	21.2	16.4	61.13	591.3	-200.7	399.6	376.1	23.49	17.014	
7,300.0	7,016.8	7,100.0	6,809.3	21.1	16.3	58.96	593.2	-127.1	408.1	384.2	23.93	17.054	
7,400.0	7,036.4	7,163.2	6,817.4	21.1	16.4	57.92	594.0	-64.4	412.7	388.0	24.69	16.714	
7,500.0	7,040.0	7,244.3	6,819.0	21.3	16.7	57.71	594.1	16.6	413.7	387.5	26.14	15.825	
7,600.0	7,040.0	7,344.3	6,819.0	21.7	17.6	57.71	594.1	116.6	413.7	385.3	28.36	14.589	
7,700.0	7,040.0	7,444.3	6,819.0	22.5	19.0	57.71	594.1	216.6	413.7	382.7	30.98	13.354	
7,800.0	7,040.0	7,544.3	6,819.0	23.6	20.7	57.71	594.1	316.6	413.7	379.8	33.92	12.197	
7,900.0	7,040.0	7,644.3	6,819.0	25.1	22.5	57.71	594.1	416.6	413.7	376.6	37.10	11.152	
8,000.0	7,040.0	7,744.3	6,819.0	26.7	24.4	57.71	594.1	516.6	413.7	373.2	40.46	10.225	
8,100.0	7,040.0	7,844.3	6,819.0	28.5	26.4	57.71	594.1	616.6	413.7	369.7	43.97	9.409	
8,200.0	7,040.0	7,944.3	6,819.0	30.4	28.5	57.71	594.1	716.6	413.7	366.1	47.58	8.694	
8,300.0	7,040.0	8,044.3	6,819.0	32.4	30.7	57.71	594.1	816.6	413.7	362.4	51.29	8.066	
8,400.0	7,040.0	8,144.3	6,819.0	34.5	32.9	57.71	594.1	916.6	413.7	358.6	55.06	7.513	
8,500.0	7,040.0	8,244.3	6,819.0	36.6	35.1	57.71	594.1	1,016.6	413.7	354.8	58.89	7.025	
8,600.0	7,040.0	8,344.3	6,819.0	38.8	37.4	57.71	594.1	1,116.6	413.7	350.9	62.77	6.591	
8,700.0	7,040.0	8,444.3	6,819.0	41.0	39.7	57.71	594.1	1,216.6	413.7	347.0	66.68	6.204	
8,800.0	7,040.0	8,544.3	6,819.0	43.2	42.0	57.71	594.1	1,316.6	413.7	343.1	70.63	5.857	
8,900.0	7,040.0	8,644.3	6,819.0	45.5	44.3	57.71	594.1	1,416.6	413.7	339.1	74.60	5.545	
9,000.0	7,040.0	8,744.3	6,819.0	47.8	46.6	57.71	594.1	1,516.6	413.7	335.1	78.59	5.264	
9,100.0	7,040.0	8,844.3	6,819.0	50.1	49.0	57.71	594.1	1,616.6	413.7	331.1	82.61	5.008	
9,200.0	7,040.0	8,944.3	6,819.0	52.4	51.3	57.71	594.1	1,716.6	413.7	327.1	86.64	4.775	
9,300.0	7,040.0	9,044.3	6,819.0	54.7	53.7	57.71	594.1	1,816.6	413.7	323.0	90.68	4.562	
9,400.0	7,040.0	9,144.3	6,819.0	57.0	56.1	57.71	594.1	1,916.6	413.7	319.0	94.74	4.367	
9,500.0	7,040.0	9,244.3	6,819.0	59.4	58.5	57.71	594.1	2,016.6	413.7	314.9	98.81	4.187	
9,600.0	7,040.0	9,344.3	6,819.0	61.8	60.9	57.71	594.1	2,116.6	413.7	310.8	102.89	4.021	
9,700.0	7,040.0	9,444.3	6,819.0	64.1	63.3	57.71	594.1	2,216.6	413.7	306.7	106.97	3.867	
9,800.0	7,040.0	9,544.3	6,819.0	66.5	65.7	57.71	594.1	2,316.6	413.7	302.6	111.07	3.725	
9,900.0	7,040.0	9,644.3	6,819.0	68.9	68.1	57.71	594.1	2,416.6	413.7	298.5	115.17	3.592	
10,000.0	7,040.0	9,744.3	6,819.0	71.3	70.5	57.71	594.1	2,516.6	413.7	294.4	119.28	3.468	
10,100.0	7,040.0	9,844.3	6,819.0	73.7	72.9	57.71	594.1	2,616.6	413.7	290.3	123.39	3.353	
10,200.0	7,040.0	9,944.3	6,819.0	76.1	75.3	57.71	594.1	2,716.6	413.7	286.2	127.51	3.244	
10,300.0	7,040.0	10,044.3	6,819.0	78.5	77.8	57.71	594.1	2,816.6	413.7	282.1	131.63	3.143	

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 Boyd 3B-19H-M368
Project:	DJ Wattenberg	**TVD Reference:**	WELL @ 5029.0ft (Original Well Elev)
Reference Site:	S19-T3N-R68W (Boyd)	**MD Reference:**	WELL @ 5029.0ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Boyd 3B-19H-M368	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Hz	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design S19-T3N-R68W (Boyd) - Boyd 3C-19H-M368 - Hz - Plan #1

Offset Site Error: 0.0 ft

Survey Program: 0-Geolink MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
10,400.0	7,040.0	10,144.3	6,819.0	80.9	80.2	57.71	594.1	2,916.6	413.7	277.9	135.75	3.047	
10,500.0	7,040.0	10,244.3	6,819.0	83.3	82.6	57.71	594.1	3,016.6	413.7	273.8	139.88	2.957	
10,600.0	7,040.0	10,344.3	6,819.0	85.7	85.0	57.71	594.1	3,116.6	413.7	269.7	144.02	2.873	
10,700.0	7,040.0	10,444.3	6,819.0	88.1	87.5	57.71	594.1	3,216.6	413.7	265.5	148.15	2.792	
10,800.0	7,040.0	10,544.3	6,819.0	90.6	89.9	57.71	594.1	3,316.6	413.7	261.4	152.29	2.716	
10,900.0	7,040.0	10,644.3	6,819.0	93.0	92.4	57.71	594.1	3,416.6	413.7	257.3	156.43	2.645	
11,000.0	7,040.0	10,744.3	6,819.0	95.4	94.8	57.71	594.1	3,516.6	413.7	253.1	160.58	2.576	
11,100.0	7,040.0	10,844.3	6,819.0	97.8	97.2	57.71	594.1	3,616.6	413.7	249.0	164.72	2.511	
11,200.0	7,040.0	10,944.3	6,819.0	100.3	99.7	57.71	594.1	3,716.6	413.7	244.8	168.87	2.450	
11,300.0	7,040.0	11,044.3	6,819.0	102.7	102.1	57.71	594.1	3,816.6	413.7	240.7	173.02	2.391	
11,400.0	7,040.0	11,144.3	6,819.0	105.1	104.6	57.71	594.1	3,916.6	413.7	236.5	177.18	2.335	
11,500.0	7,040.0	11,244.3	6,819.0	107.6	107.0	57.71	594.1	4,016.6	413.7	232.4	181.33	2.281	
11,600.0	7,040.0	11,344.3	6,819.0	110.0	109.5	57.71	594.1	4,116.6	413.7	228.2	185.49	2.230	
11,637.0	7,040.0	11,381.3	6,819.0	110.9	110.4	57.71	594.1	4,153.6	413.7	226.7	187.02	2.212	
11,664.4	7,040.0	11,406.0	6,819.0	111.6	111.0	57.71	594.1	4,178.3	413.7	225.6	188.11	2.199	SF

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Boyd 3B-19H-M368
Project:	DJ Wattenberg	**TVD Reference:**	WELL @ 5029.0ft (Original Well Elev)
Reference Site:	S19-T3N-R68W (Boyd)	**MD Reference:**	WELL @ 5029.0ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Boyd 3B-19H-M368	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Hz	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design S19-T3N-R68W (Boyd) - Boyd 3D-19H-M368 - Hz - Plan #1

Offset Site Error: 0.0 ft

Survey Program: 0-Geolink MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	-180.00	-18.2	0.0	18.2				
100.0	100.0	100.0	100.0	0.1	0.1	-180.00	-18.2	0.0	18.2	18.0	0.26	69.589	
200.0	200.0	200.0	200.0	0.3	0.3	-180.00	-18.2	0.0	18.2	17.6	0.61	29.824	CC, ES
300.0	300.0	300.0	300.0	0.5	0.5	-146.80	-18.2	0.0	18.9	18.0	0.96	19.728	
400.0	400.0	400.0	400.0	0.7	0.7	-150.67	-18.2	0.0	21.2	19.9	1.31	16.167	
500.0	499.9	500.1	500.1	0.8	0.8	-153.83	-17.9	-0.8	24.6	23.0	1.66	14.819	
600.0	599.7	600.2	600.2	1.0	1.0	-154.67	-16.9	-3.2	28.8	26.8	2.02	14.270	
700.0	699.4	700.4	700.3	1.3	1.2	-154.00	-15.3	-7.3	33.6	31.2	2.38	14.120	SF
800.0	798.9	800.6	800.2	1.5	1.4	-152.42	-13.0	-13.0	39.2	36.4	2.76	14.188	
900.0	898.3	900.7	900.1	1.7	1.6	-150.32	-10.1	-20.3	45.4	42.3	3.16	14.377	
1,000.0	997.4	1,000.8	999.7	2.0	1.8	-147.99	-6.5	-29.2	52.5	48.9	3.59	14.624	
1,100.0	1,096.3	1,100.6	1,098.9	2.3	2.1	-145.89	-2.5	-39.4	60.5	56.5	4.05	14.959	
1,200.0	1,194.9	1,200.1	1,197.8	2.6	2.3	-145.00	1.6	-49.7	70.0	65.5	4.51	15.508	
1,300.0	1,293.3	1,299.6	1,296.6	3.0	2.5	-144.89	5.8	-60.0	80.5	75.5	4.98	16.154	
1,400.0	1,391.7	1,399.0	1,395.5	3.3	2.8	-144.85	9.9	-70.3	91.1	85.6	5.46	16.681	
1,500.0	1,490.1	1,498.5	1,494.3	3.7	3.0	-144.81	14.0	-80.5	101.7	95.7	5.94	17.111	
1,600.0	1,588.5	1,597.9	1,593.1	4.0	3.3	-144.79	18.1	-90.8	112.3	105.8	6.43	17.469	
1,700.0	1,686.9	1,697.3	1,691.9	4.4	3.5	-144.76	22.2	-101.1	122.9	115.9	6.91	17.770	
1,800.0	1,785.3	1,796.8	1,790.7	4.7	3.8	-144.74	26.3	-111.4	133.4	126.0	7.40	18.026	
1,900.0	1,883.7	1,896.2	1,889.6	5.1	4.0	-144.73	30.4	-121.6	144.0	136.1	7.89	18.247	
2,000.0	1,982.1	1,995.7	1,988.4	5.4	4.3	-144.71	34.5	-131.9	154.6	146.2	8.39	18.440	
2,100.0	2,080.5	2,095.1	2,087.2	5.8	4.6	-144.70	38.6	-142.2	165.2	156.3	8.88	18.608	
2,200.0	2,178.9	2,194.5	2,186.0	6.1	4.8	-144.69	42.7	-152.5	175.8	166.4	9.37	18.757	
2,300.0	2,277.3	2,294.0	2,284.8	6.5	5.1	-144.68	46.8	-162.7	186.4	176.5	9.87	18.889	
2,400.0	2,375.6	2,393.4	2,383.7	6.8	5.3	-144.67	50.9	-173.0	197.0	186.6	10.36	19.008	
2,500.0	2,474.0	2,492.8	2,482.5	7.2	5.6	-144.66	55.0	-183.3	207.6	196.7	10.86	19.115	
2,600.0	2,572.4	2,592.3	2,581.3	7.5	5.8	-144.65	59.1	-193.6	218.1	206.8	11.35	19.211	
2,700.0	2,670.8	2,691.7	2,680.1	7.9	6.1	-144.65	63.2	-203.8	228.7	216.9	11.85	19.299	
2,800.0	2,769.2	2,791.2	2,779.0	8.3	6.4	-144.64	67.4	-214.1	239.3	227.0	12.35	19.379	
2,900.0	2,867.6	2,890.6	2,877.8	8.6	6.6	-144.64	71.5	-224.4	249.9	237.1	12.85	19.452	
3,000.0	2,966.0	2,990.0	2,976.6	9.0	6.9	-144.63	75.6	-234.7	260.5	247.1	13.35	19.519	
3,100.0	3,064.4	3,089.5	3,075.4	9.3	7.1	-144.63	79.7	-244.9	271.1	257.2	13.84	19.582	
3,200.0	3,162.8	3,188.9	3,174.2	9.7	7.4	-144.62	83.8	-255.2	281.7	267.3	14.34	19.639	
3,300.0	3,261.2	3,288.3	3,273.1	10.0	7.7	-144.62	87.9	-265.5	292.2	277.4	14.84	19.692	
3,400.0	3,359.6	3,387.8	3,371.9	10.4	7.9	-144.62	92.0	-275.8	302.8	287.5	15.34	19.742	
3,500.0	3,458.0	3,487.2	3,470.7	10.8	8.2	-144.61	96.1	-286.0	313.4	297.6	15.84	19.788	
3,600.0	3,556.4	3,586.7	3,569.5	11.1	8.4	-144.61	100.2	-296.3	324.0	307.7	16.34	19.831	
3,700.0	3,654.7	3,686.1	3,668.3	11.5	8.7	-144.61	104.3	-306.6	334.6	317.8	16.84	19.872	
3,800.0	3,753.1	3,785.5	3,767.2	11.8	8.9	-144.60	108.4	-316.9	345.2	327.8	17.34	19.910	
3,900.0	3,851.5	3,885.0	3,866.0	12.2	9.2	-144.60	112.5	-327.2	355.8	337.9	17.84	19.945	
4,000.0	3,949.9	3,984.4	3,964.8	12.5	9.5	-144.60	116.6	-337.4	366.4	348.0	18.34	19.979	
4,100.0	4,048.3	4,083.9	4,063.6	12.9	9.7	-144.60	120.7	-347.7	376.9	358.1	18.84	20.011	
4,200.0	4,146.7	4,183.3	4,162.4	13.3	10.0	-144.59	124.8	-358.0	387.5	368.2	19.34	20.041	
4,300.0	4,245.1	4,282.7	4,261.3	13.6	10.2	-144.59	129.0	-368.3	398.1	378.3	19.84	20.069	
4,400.0	4,343.5	4,382.2	4,360.1	14.0	10.5	-144.59	133.1	-378.5	408.7	388.4	20.34	20.096	
4,500.0	4,441.9	4,481.6	4,458.9	14.3	10.8	-144.59	137.2	-388.8	419.3	398.5	20.84	20.121	
4,600.0	4,540.3	4,581.0	4,557.7	14.7	11.0	-144.59	141.3	-399.1	429.9	408.5	21.34	20.146	
4,700.0	4,638.7	4,680.5	4,656.5	15.0	11.3	-144.58	145.4	-409.4	440.5	418.6	21.84	20.169	
4,800.0	4,737.1	4,779.9	4,755.4	15.4	11.5	-144.58	149.5	-419.6	451.1	428.7	22.34	20.191	
4,900.0	4,835.5	4,879.4	4,854.2	15.8	11.8	-144.58	153.6	-429.9	461.6	438.8	22.84	20.212	
5,000.0	4,933.8	4,978.8	4,953.0	16.1	12.1	-144.58	157.7	-440.2	472.2	448.9	23.34	20.232	
5,100.0	5,032.2	5,078.2	5,051.8	16.5	12.3	-144.58	161.8	-450.5	482.8	459.0	23.84	20.251	

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 Boyd 3B-19H-M368
Project:	DJ Wattenberg	**TVD Reference:**	WELL @ 5029.0ft (Original Well Elev)
Reference Site:	S19-T3N-R68W (Boyd)	**MD Reference:**	WELL @ 5029.0ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Boyd 3B-19H-M368	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Hz	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design S19-T3N-R68W (Boyd) - Boyd 3D-19H-M368 - Hz - Plan #1

Offset Site Error: 0.0 ft

Survey Program: 0-Geolink MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
5,200.0	5,130.6	5,177.7	5,150.6	16.8	12.6	-144.58	165.9	-460.7	493.4	469.1	24.34	20.269	

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Boyd 3B-19H-M368
Project:	DJ Wattenberg	**TVD Reference:**	WELL @ 5029.0ft (Original Well Elev)
Reference Site:	S19-T3N-R68W (Boyd)	**MD Reference:**	WELL @ 5029.0ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Boyd 3B-19H-M368	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Hz	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design S19-T3N-R68W (Boyd) - Boyd 3E-19H-M368 - Hz - Plan #1

Offset Site Error: 0.0 ft

Survey Program: 0-Geolink MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	-180.00	-29.1	0.0	29.1				
100.0	100.0	100.0	100.0	0.1	0.1	-180.00	-29.1	0.0	29.1	28.9	0.26	111.333	
200.0	200.0	200.0	200.0	0.3	0.3	-180.00	-29.1	0.0	29.1	28.5	0.61	47.714	CC, ES
300.0	300.0	300.0	300.0	0.5	0.5	-146.25	-29.1	0.0	29.9	28.9	0.96	31.108	
400.0	400.0	400.0	400.0	0.7	0.7	-148.84	-29.1	0.0	32.1	30.8	1.31	24.481	
500.0	499.9	499.9	499.9	0.8	0.8	-152.43	-29.1	0.0	35.9	34.2	1.66	21.600	
600.0	599.7	599.7	599.7	1.0	1.0	-155.12	-29.2	-0.9	41.3	39.3	2.01	20.529	
700.0	699.4	699.5	699.5	1.3	1.2	-155.92	-29.5	-3.5	48.3	45.9	2.37	20.383	SF
800.0	798.9	799.2	799.1	1.5	1.4	-155.45	-30.0	-7.8	56.8	54.0	2.74	20.741	
900.0	898.3	898.8	898.5	1.7	1.6	-154.23	-30.7	-13.8	66.7	63.6	3.12	21.388	
1,000.0	997.4	998.1	997.5	2.0	1.8	-152.61	-31.6	-21.5	78.2	74.6	3.52	22.193	
1,100.0	1,096.3	1,097.3	1,096.2	2.3	2.0	-150.82	-32.7	-30.9	91.2	87.2	3.95	23.075	
1,200.0	1,194.9	1,196.1	1,194.5	2.6	2.2	-149.21	-34.0	-41.6	105.8	101.4	4.41	24.023	
1,300.0	1,293.3	1,294.9	1,292.6	3.0	2.4	-148.31	-35.2	-52.3	121.6	116.7	4.87	24.968	
1,400.0	1,391.7	1,393.6	1,390.7	3.3	2.7	-147.65	-36.4	-63.1	137.5	132.1	5.35	25.720	
1,500.0	1,490.1	1,492.3	1,488.8	3.7	2.9	-147.13	-37.7	-73.9	153.4	147.6	5.83	26.324	
1,600.0	1,588.5	1,591.0	1,587.0	4.0	3.2	-146.70	-38.9	-84.6	169.3	163.0	6.31	26.818	
1,700.0	1,686.9	1,689.7	1,685.1	4.4	3.4	-146.35	-40.2	-95.4	185.2	178.4	6.80	27.228	
1,800.0	1,785.3	1,788.5	1,783.2	4.7	3.7	-146.05	-41.4	-106.2	201.1	193.8	7.29	27.572	
1,900.0	1,883.7	1,887.2	1,881.3	5.1	3.9	-145.80	-42.7	-116.9	217.0	209.2	7.79	27.865	
2,000.0	1,982.1	1,985.9	1,979.5	5.4	4.2	-145.58	-43.9	-127.7	232.9	224.6	8.28	28.117	
2,100.0	2,080.5	2,084.6	2,077.6	5.8	4.4	-145.39	-45.2	-138.5	248.9	240.1	8.78	28.335	
2,200.0	2,178.9	2,183.4	2,175.7	6.1	4.7	-145.22	-46.4	-149.2	264.8	255.5	9.28	28.526	
2,300.0	2,277.3	2,282.1	2,273.8	6.5	4.9	-145.07	-47.6	-160.0	280.7	270.9	9.78	28.694	
2,400.0	2,375.6	2,380.8	2,372.0	6.8	5.2	-144.94	-48.9	-170.8	296.6	286.4	10.28	28.843	
2,500.0	2,474.0	2,479.5	2,470.1	7.2	5.4	-144.82	-50.1	-181.5	312.6	301.8	10.79	28.977	
2,600.0	2,572.4	2,578.2	2,568.2	7.5	5.7	-144.71	-51.4	-192.3	328.5	317.2	11.29	29.096	
2,700.0	2,670.8	2,677.0	2,666.3	7.9	5.9	-144.62	-52.6	-203.1	344.4	332.6	11.79	29.204	
2,800.0	2,769.2	2,775.7	2,764.5	8.3	6.2	-144.53	-53.9	-213.8	360.4	348.1	12.30	29.301	
2,900.0	2,867.6	2,874.4	2,862.6	8.6	6.4	-144.44	-55.1	-224.6	376.3	363.5	12.80	29.390	
3,000.0	2,966.0	2,973.1	2,960.7	9.0	6.7	-144.37	-56.4	-235.3	392.2	378.9	13.31	29.472	
3,100.0	3,064.4	3,071.8	3,058.8	9.3	6.9	-144.30	-57.6	-246.1	408.2	394.4	13.81	29.546	
3,200.0	3,162.8	3,170.6	3,157.0	9.7	7.2	-144.24	-58.8	-256.9	424.1	409.8	14.32	29.615	
3,300.0	3,261.2	3,269.3	3,255.1	10.0	7.4	-144.18	-60.1	-267.6	440.0	425.2	14.83	29.678	
3,400.0	3,359.6	3,368.0	3,353.2	10.4	7.7	-144.12	-61.3	-278.4	456.0	440.6	15.33	29.736	
3,500.0	3,458.0	3,466.7	3,451.3	10.8	7.9	-144.07	-62.6	-289.2	471.9	456.1	15.84	29.791	
3,600.0	3,556.4	3,565.4	3,549.5	11.1	8.2	-144.02	-63.8	-299.9	487.8	471.5	16.35	29.841	

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Boyd 3B-19H-M368
Project:	DJ Wattenberg	**TVD Reference:**	WELL @ 5029.0ft (Original Well Elev)
Reference Site:	S19-T3N-R68W (Boyd)	**MD Reference:**	WELL @ 5029.0ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Boyd 3B-19H-M368	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Hz	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design S19-T3N-R68W (Boyd) - Boyd 3F-19H-M368 - Hz - Plan #1

Offset Site Error: 0.0 ft

Survey Program: 0-Geolink MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	180.00	-36.4	0.0	36.4				
100.0	100.0	100.0	100.0	0.1	0.1	180.00	-36.4	0.0	36.4	36.2	0.26	139.162	
200.0	200.0	200.0	200.0	0.3	0.3	180.00	-36.4	0.0	36.4	35.8	0.61	59.641	CC, ES
300.0	300.0	300.0	300.0	0.5	0.5	-146.07	-36.4	0.0	37.2	36.2	0.96	38.695	
400.0	400.0	400.0	400.0	0.7	0.7	-148.18	-36.4	0.0	39.4	38.0	1.31	30.031	
500.0	499.9	499.5	499.5	0.8	0.8	-150.19	-36.9	-0.7	43.5	41.9	1.66	26.187	
600.0	599.7	598.9	598.9	1.0	1.0	-150.99	-38.3	-2.9	50.0	48.0	2.02	24.797	
700.0	699.4	698.1	698.0	1.3	1.2	-150.89	-40.6	-6.5	58.8	56.5	2.38	24.712	SF
800.0	798.9	797.0	796.7	1.5	1.4	-150.23	-43.8	-11.6	70.0	67.2	2.76	25.374	
900.0	898.3	895.5	894.8	1.7	1.6	-149.29	-48.0	-18.0	83.4	80.2	3.15	26.480	
1,000.0	997.4	993.4	992.4	2.0	1.8	-148.24	-53.0	-25.9	99.1	95.6	3.56	27.843	
1,100.0	1,096.3	1,090.9	1,089.2	2.3	2.0	-147.19	-58.8	-35.1	117.2	113.2	3.99	29.340	
1,200.0	1,194.9	1,188.7	1,186.3	2.6	2.3	-146.39	-65.3	-45.1	137.2	132.8	4.44	30.884	
1,300.0	1,293.3	1,286.4	1,283.3	3.0	2.5	-146.12	-71.8	-55.2	158.3	153.4	4.90	32.295	
1,400.0	1,391.7	1,384.2	1,380.3	3.3	2.8	-145.94	-78.2	-65.3	179.5	174.1	5.37	33.432	
1,500.0	1,490.1	1,481.9	1,477.3	3.7	3.0	-145.81	-84.7	-75.4	200.7	194.9	5.84	34.362	
1,600.0	1,588.5	1,579.6	1,574.3	4.0	3.3	-145.70	-91.1	-85.5	221.9	215.6	6.32	35.134	
1,700.0	1,686.9	1,677.3	1,671.2	4.4	3.6	-145.61	-97.6	-95.6	243.1	236.3	6.79	35.785	
1,800.0	1,785.3	1,775.1	1,768.2	4.7	3.8	-145.53	-104.0	-105.7	264.2	257.0	7.27	36.339	
1,900.0	1,883.7	1,872.8	1,865.2	5.1	4.1	-145.47	-110.5	-115.8	285.4	277.7	7.75	36.817	
2,000.0	1,982.1	1,970.5	1,962.2	5.4	4.4	-145.41	-117.0	-125.9	306.6	298.4	8.24	37.232	
2,100.0	2,080.5	2,068.3	2,059.2	5.8	4.6	-145.36	-123.4	-136.0	327.8	319.1	8.72	37.597	
2,200.0	2,178.9	2,166.0	2,156.2	6.1	4.9	-145.32	-129.9	-146.1	349.0	339.8	9.20	37.918	
2,300.0	2,277.3	2,263.7	2,253.2	6.5	5.2	-145.28	-136.3	-156.2	370.2	360.5	9.69	38.205	
2,400.0	2,375.6	2,361.5	2,350.2	6.8	5.4	-145.25	-142.8	-166.3	391.4	381.2	10.18	38.461	
2,500.0	2,474.0	2,459.2	2,447.2	7.2	5.7	-145.22	-149.2	-176.4	412.6	401.9	10.66	38.691	
2,600.0	2,572.4	2,556.9	2,544.2	7.5	6.0	-145.19	-155.7	-186.5	433.7	422.6	11.15	38.900	
2,700.0	2,670.8	2,654.6	2,641.2	7.9	6.2	-145.16	-162.2	-196.6	454.9	443.3	11.64	39.089	
2,800.0	2,769.2	2,752.4	2,738.2	8.3	6.5	-145.14	-168.6	-206.7	476.1	464.0	12.13	39.262	
2,900.0	2,867.6	2,850.1	2,835.1	8.6	6.8	-145.12	-175.1	-216.8	497.3	484.7	12.62	39.420	

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Boyd 3B-19H-M368
Project:	DJ Wattenberg	**TVD Reference:**	WELL @ 5029.0ft (Original Well Elev)
Reference Site:	S19-T3N-R68W (Boyd)	**MD Reference:**	WELL @ 5029.0ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Boyd 3B-19H-M368	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Hz	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design S19-T3N-R68W (Boyd) - Boyd 3G-19H-M368 - Hz - Plan #1

Offset Site Error: 0.0 ft

Survey Program: 0-Geolink MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	180.00	-47.4	0.0	47.4				
100.0	100.0	100.0	100.0	0.1	0.1	180.00	-47.4	0.0	47.4	47.1	0.26	180.906	
200.0	200.0	200.0	200.0	0.3	0.3	180.00	-47.4	0.0	47.4	46.8	0.61	77.531	CC, ES
300.0	300.0	300.0	300.0	0.5	0.5	-145.89	-47.4	0.0	48.1	47.1	0.96	50.076	
400.0	400.0	399.3	399.3	0.7	0.7	-146.88	-48.0	-0.6	50.9	49.6	1.31	38.867	
500.0	499.9	498.5	498.4	0.8	0.8	-147.48	-50.0	-2.3	56.5	54.8	1.66	33.966	
600.0	599.7	597.4	597.2	1.0	1.0	-147.72	-53.2	-5.1	64.8	62.7	2.02	32.044	
700.0	699.4	695.9	695.6	1.3	1.2	-147.68	-57.7	-9.0	75.8	73.4	2.39	31.731	SF
800.0	798.9	793.9	793.3	1.5	1.4	-147.47	-63.4	-14.0	89.5	86.7	2.77	32.356	
900.0	898.3	891.4	890.3	1.7	1.6	-147.16	-70.4	-20.0	105.9	102.7	3.16	33.548	
1,000.0	997.4	988.1	986.4	2.0	1.9	-146.81	-78.5	-27.1	124.9	121.4	3.56	35.086	
1,100.0	1,096.3	1,084.0	1,081.6	2.3	2.1	-146.45	-87.8	-35.1	146.6	142.6	3.98	36.825	
1,200.0	1,194.9	1,179.1	1,175.7	2.6	2.4	-146.09	-98.2	-44.1	170.9	166.5	4.42	38.673	
1,300.0	1,293.3	1,274.1	1,269.4	3.0	2.7	-145.79	-109.7	-54.1	197.4	192.5	4.87	40.502	
1,400.0	1,391.7	1,370.4	1,364.5	3.3	3.0	-145.54	-121.6	-64.5	224.2	218.8	5.34	41.986	
1,500.0	1,490.1	1,466.8	1,459.5	3.7	3.3	-145.35	-133.5	-74.8	250.9	245.1	5.81	43.200	
1,600.0	1,588.5	1,563.1	1,554.5	4.0	3.6	-145.19	-145.4	-85.1	277.7	271.5	6.28	44.207	
1,700.0	1,686.9	1,659.5	1,649.6	4.4	3.9	-145.06	-157.3	-95.5	304.5	297.8	6.76	45.055	
1,800.0	1,785.3	1,755.8	1,744.6	4.7	4.2	-144.95	-169.2	-105.8	331.3	324.1	7.24	45.778	
1,900.0	1,883.7	1,852.1	1,839.7	5.1	4.5	-144.86	-181.1	-116.2	358.1	350.4	7.72	46.400	
2,000.0	1,982.1	1,948.5	1,934.7	5.4	4.9	-144.78	-193.0	-126.5	384.9	376.7	8.20	46.940	
2,100.0	2,080.5	2,044.8	2,029.8	5.8	5.2	-144.71	-204.9	-136.9	411.7	403.0	8.68	47.414	
2,200.0	2,178.9	2,141.2	2,124.8	6.1	5.5	-144.65	-216.8	-147.2	438.5	429.3	9.17	47.833	
2,300.0	2,277.3	2,237.5	2,219.8	6.5	5.8	-144.60	-228.7	-157.5	465.3	455.6	9.65	48.205	
2,400.0	2,375.6	2,333.8	2,314.9	6.8	6.1	-144.55	-240.6	-167.9	492.1	482.0	10.14	48.538	

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Boyd 3B-19H-M368
Project:	DJ Wattenberg	**TVD Reference:**	WELL @ 5029.0ft (Original Well Elev)
Reference Site:	S19-T3N-R68W (Boyd)	**MD Reference:**	WELL @ 5029.0ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Boyd 3B-19H-M368	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Hz	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Reference Depths are relative to WELL @ 5029.0ft (Original Well Elev)
Offset Depths are relative to Offset Datum
Central Meridian is -105.500000 °

Coordinates are relative to: Boyd 3B-19H-M368
Coordinate System is US State Plane 1983, Colorado Northern Zone
Grid Convergence at Surface is: 0.29°