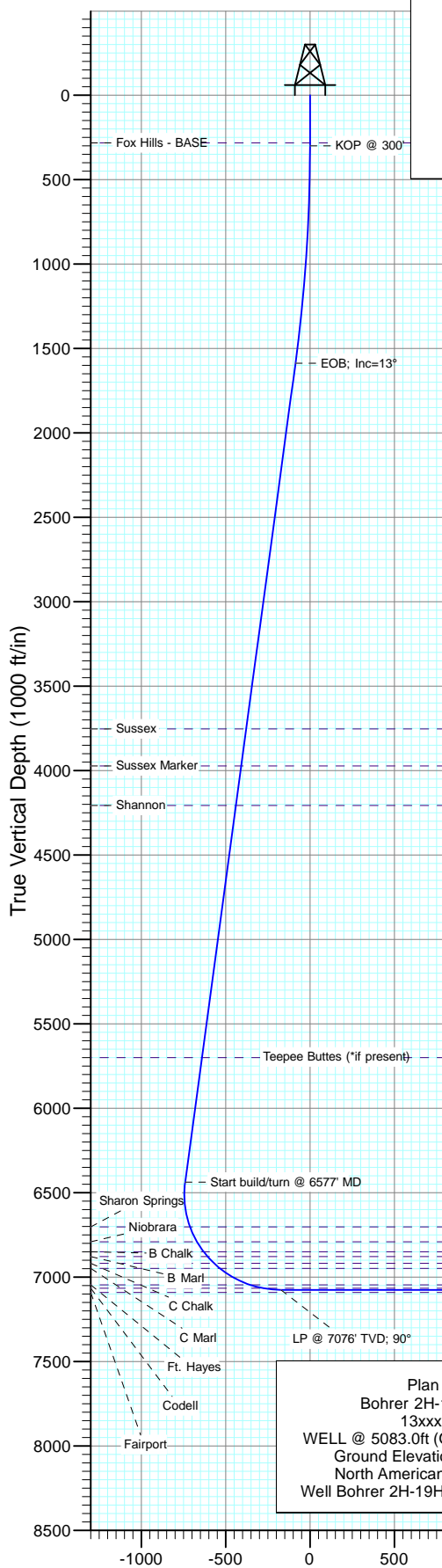


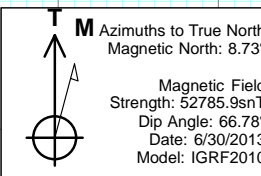
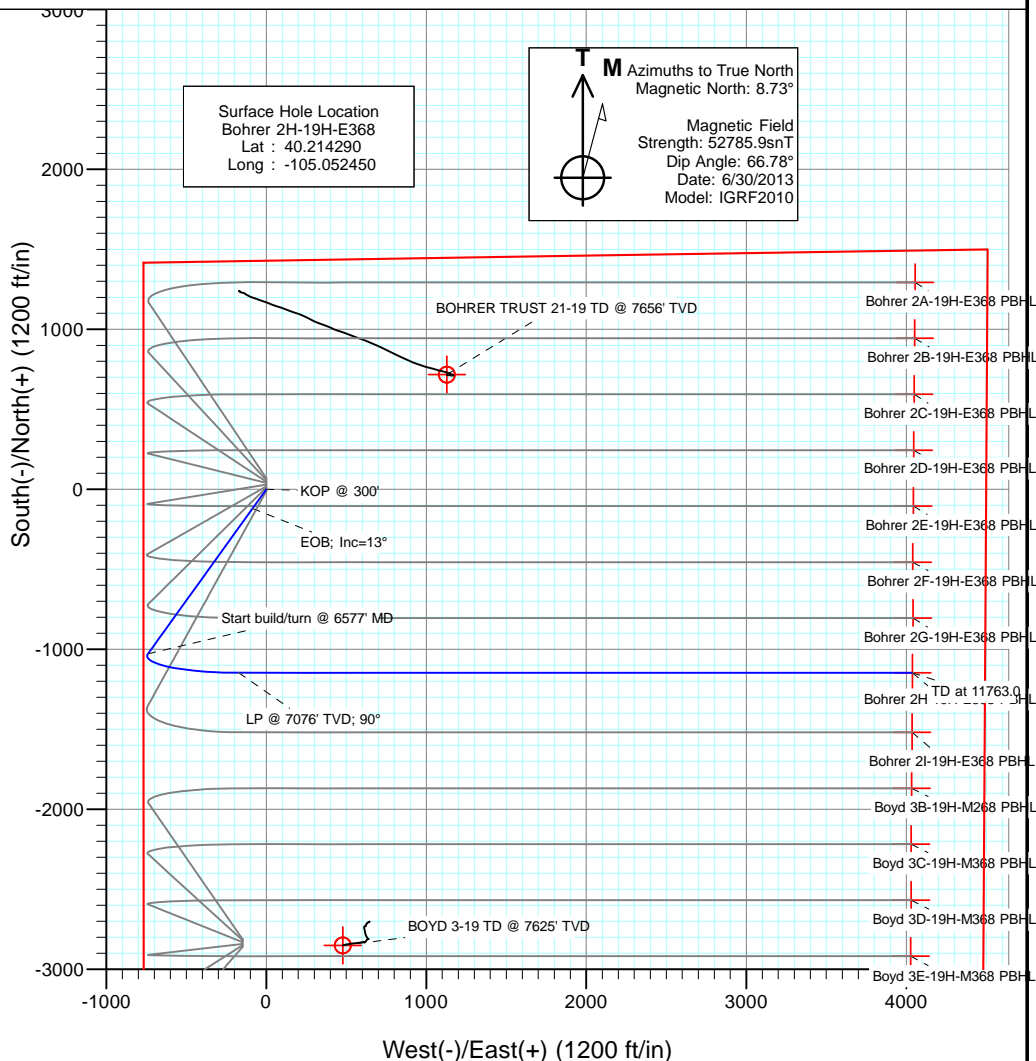


Project: DJ Wattenberg  
Site: S19-T3N-R68W (Bohrer)  
Well: Bohrer 2H-19H-E368  
Wellbore: Hz  
Design: Plan #1



#### SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	300.0	0.00	0.00	300.0	0.0	0.0	0.00	0.00	0.0	
3	1599.6	13.00	215.74	1588.5	-119.1	-85.7	1.00	215.74	-85.7	
4	6577.5	13.00	215.74	6438.9	-1027.8	-739.5	0.00	0.00	-739.5	
5	7553.0	90.00	90.00	7076.0	-1147.2	-171.5	10.00	-125.03	-171.5	
6	11763.0	90.00	90.00	7076.0	-1147.2	4038.5	0.00	0.00	4038.5	Bohrer 2H-19H-E368 PBHL



Surface Hole Location  
Bohrer 2H-19H-E368  
Lat : 40.214290  
Long : -105.052450

BOHRER TRUST 21-19 TD @ 7656' TVD

Bohrer 2A-19H-E368 PBHL

Bohrer 2B-19H-E368 PBHL

Bohrer 2C-19H-E368 PBHL

Bohrer 2D-19H-E368 PBHL

Bohrer 2E-19H-E368 PBHL

Bohrer 2F-19H-E368 PBHL

Bohrer 2G-19H-E368 PBHL

Bohrer 2H-19H-E368 PBHL

Bohrer 2I-19H-E368 PBHL

Boyd 3B-19H-M268 PBHL

Boyd 3C-19H-M368 PBHL

Boyd 3D-19H-M368 PBHL

Boyd 3E-19H-M368 PBHL

#### DESIGN TARGET DETAILS

Name	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
Bohrer 2H-19H-E368 PBHL	-1147.2	4038.5	1320099.36	3129038.70	40.211140	-105.037990

#### FORMATION TOP DETAILS

TVDPath	MDPath	Formation
283.0	283.0	Fox Hills - BASE
3754.0	3822.0	Sussex
3973.0	4046.8	Sussex Marker
4207.0	4286.9	Shannon
5700.0	5819.2	Teepee Buttes (*if present)
6703.0	6850.3	Sharon Springs
6791.0	6949.0	Niobrara
6850.0	7020.7	B Chalk
6879.0	7058.5	B Marl
6919.0	7114.5	C Chalk
6949.0	7160.5	C Marl
7046.0	7365.1	Ft. Hayes
7066.0	7444.8	Codell

Plan #1  
Bohrer 2H-19H-E368  
13xxx; LR  
WELL @ 5083.0ft (Original Well Elev)  
Ground Elevation @ 5058.0  
North American Datum 1983  
Well Bohrer 2H-19H-E368, True North



# Cathedral Energy Services

## Planning Report

<b>Database:</b>	USA EDM 5000 Multi Users DB	<b>Local Co-ordinate Reference:</b>	Well Bohrer 2H-19H-E368
<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>TVD Reference:</b>	WELL @ 5083.0ft (Original Well Elev)
<b>Project:</b>	DJ Wattenberg	<b>MD Reference:</b>	WELL @ 5083.0ft (Original Well Elev)
<b>Site:</b>	S19-T3N-R68W (Bohrer)	<b>North Reference:</b>	True
<b>Well:</b>	Bohrer 2H-19H-E368	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Hz		
<b>Design:</b>	Plan #1		

<b>Project</b>	DJ Wattenberg		
<b>Map System:</b>	US State Plane 1983	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	North American Datum 1983		
<b>Map Zone:</b>	Colorado Northern Zone		

Site		S19-T3N-R68W (Bohrer)			
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	Bohrer 2H-19H-E368					
Well Position	+N/-S	0.0 ft	Northing:	1,321,226.12 ft	Latitude:	40.214290
	+E/-W	0.0 ft	Easting:	3,124,994.48 ft	Longitude:	-105.052450
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	5,058.0 ft

<b>Wellbore</b>	Hz				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2010	6/30/2013	8.73	66.78	52,786

<b>Design</b>	Plan #1			
<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b>	PLAN	<b>Tie On Depth:</b>	0.0
<b>Vertical Section:</b>	<b>Depth From (TVD) (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>
	0.0	0.0	0.0	90.00

<b>Plan Sections</b>										
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	
300.0	0.00	0.00	300.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,599.6	13.00	215.74	1,588.5	-119.1	-85.7	1.00	1.00	0.00	215.74	
6,577.5	13.00	215.74	6,438.9	-1,027.8	-739.5	0.00	0.00	0.00	0.00	
7,553.0	90.00	90.00	7,076.0	-1,147.2	-171.5	10.00	7.89	-12.89	-125.03	
11,763.0	90.00	90.00	7,076.0	-1,147.2	4,038.5	0.00	0.00	0.00	0.00	Bohrer 2H-19H-E368



# Cathedral Energy Services

## Planning Report

<b>Database:</b>	USA EDM 5000 Multi Users DB	<b>Local Co-ordinate Reference:</b>	Well Bohrer 2H-19H-E368
<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>TVD Reference:</b>	WELL @ 5083.0ft (Original Well Elev)
<b>Project:</b>	DJ Wattenberg	<b>MD Reference:</b>	WELL @ 5083.0ft (Original Well Elev)
<b>Site:</b>	S19-T3N-R68W (Bohrer)	<b>North Reference:</b>	True
<b>Well:</b>	Bohrer 2H-19H-E368	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Hz		
<b>Design:</b>	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	
283.0	0.00	0.00	283.0	0.0	0.0	0.0	0.00	0.00	Fox Hills - BASE
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	KOP @ 300'
400.0	1.00	215.74	400.0	-0.7	-0.5	-0.5	1.00	1.00	
500.0	2.00	215.74	500.0	-2.8	-2.0	-2.0	1.00	1.00	
600.0	3.00	215.74	599.9	-6.4	-4.6	-4.6	1.00	1.00	
700.0	4.00	215.74	699.7	-11.3	-8.2	-8.2	1.00	1.00	
800.0	5.00	215.74	799.4	-17.7	-12.7	-12.7	1.00	1.00	
900.0	6.00	215.74	898.9	-25.5	-18.3	-18.3	1.00	1.00	
1,000.0	7.00	215.74	998.3	-34.7	-24.9	-24.9	1.00	1.00	
1,100.0	8.00	215.74	1,097.4	-45.3	-32.6	-32.6	1.00	1.00	
1,200.0	9.00	215.74	1,196.3	-57.3	-41.2	-41.2	1.00	1.00	
1,300.0	10.00	215.74	1,294.9	-70.7	-50.8	-50.8	1.00	1.00	
1,400.0	11.00	215.74	1,393.3	-85.4	-61.5	-61.5	1.00	1.00	
1,500.0	12.00	215.74	1,491.2	-101.6	-73.1	-73.1	1.00	1.00	
1,599.6	13.00	215.74	1,588.5	-119.1	-85.7	-85.7	1.00	1.00	EOB; Inc=13°
1,600.0	13.00	215.74	1,588.9	-119.2	-85.8	-85.8	0.00	0.00	
1,700.0	13.00	215.74	1,686.3	-137.5	-98.9	-98.9	0.00	0.00	
1,800.0	13.00	215.74	1,783.8	-155.7	-112.0	-112.0	0.00	0.00	
1,900.0	13.00	215.74	1,881.2	-174.0	-125.2	-125.2	0.00	0.00	
2,000.0	13.00	215.74	1,978.6	-192.2	-138.3	-138.3	0.00	0.00	
2,100.0	13.00	215.74	2,076.1	-210.5	-151.4	-151.4	0.00	0.00	
2,200.0	13.00	215.74	2,173.5	-228.7	-164.6	-164.6	0.00	0.00	
2,300.0	13.00	215.74	2,270.9	-247.0	-177.7	-177.7	0.00	0.00	
2,400.0	13.00	215.74	2,368.4	-265.2	-190.8	-190.8	0.00	0.00	
2,500.0	13.00	215.74	2,465.8	-283.5	-204.0	-204.0	0.00	0.00	
2,600.0	13.00	215.74	2,563.3	-301.7	-217.1	-217.1	0.00	0.00	
2,700.0	13.00	215.74	2,660.7	-320.0	-230.2	-230.2	0.00	0.00	
2,800.0	13.00	215.74	2,758.1	-338.2	-243.4	-243.4	0.00	0.00	
2,900.0	13.00	215.74	2,855.6	-356.5	-256.5	-256.5	0.00	0.00	
3,000.0	13.00	215.74	2,953.0	-374.8	-269.6	-269.6	0.00	0.00	
3,100.0	13.00	215.74	3,050.5	-393.0	-282.8	-282.8	0.00	0.00	
3,200.0	13.00	215.74	3,147.9	-411.3	-295.9	-295.9	0.00	0.00	
3,300.0	13.00	215.74	3,245.3	-429.5	-309.0	-309.0	0.00	0.00	
3,400.0	13.00	215.74	3,342.8	-447.8	-322.2	-322.2	0.00	0.00	
3,500.0	13.00	215.74	3,440.2	-466.0	-335.3	-335.3	0.00	0.00	
3,600.0	13.00	215.74	3,537.6	-484.3	-348.4	-348.4	0.00	0.00	
3,700.0	13.00	215.74	3,635.1	-502.5	-361.6	-361.6	0.00	0.00	
3,800.0	13.00	215.74	3,732.5	-520.8	-374.7	-374.7	0.00	0.00	
3,822.0	13.00	215.74	3,754.0	-524.8	-377.6	-377.6	0.00	0.00	Sussex
3,900.0	13.00	215.74	3,830.0	-539.0	-387.8	-387.8	0.00	0.00	
4,000.0	13.00	215.74	3,927.4	-557.3	-401.0	-401.0	0.00	0.00	
4,046.8	13.00	215.74	3,973.0	-565.8	-407.1	-407.1	0.00	0.00	Sussex Marker
4,100.0	13.00	215.74	4,024.8	-575.6	-414.1	-414.1	0.00	0.00	
4,200.0	13.00	215.74	4,122.3	-593.8	-427.2	-427.2	0.00	0.00	
4,286.9	13.00	215.74	4,207.0	-609.7	-438.7	-438.7	0.00	0.00	Shannon
4,300.0	13.00	215.74	4,219.7	-612.1	-440.4	-440.4	0.00	0.00	
4,400.0	13.00	215.74	4,317.2	-630.3	-453.5	-453.5	0.00	0.00	
4,500.0	13.00	215.74	4,414.6	-648.6	-466.7	-466.7	0.00	0.00	
4,600.0	13.00	215.74	4,512.0	-666.8	-479.8	-479.8	0.00	0.00	



# Cathedral Energy Services

## Planning Report

<b>Database:</b>	USA EDM 5000 Multi Users DB	<b>Local Co-ordinate Reference:</b>	Well Bohrer 2H-19H-E368
<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>TVD Reference:</b>	WELL @ 5083.0ft (Original Well Elev)
<b>Project:</b>	DJ Wattenberg	<b>MD Reference:</b>	WELL @ 5083.0ft (Original Well Elev)
<b>Site:</b>	S19-T3N-R68W (Bohrer)	<b>North Reference:</b>	True
<b>Well:</b>	Bohrer 2H-19H-E368	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Hz		
<b>Design:</b>	Plan #1		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Comments / Formations
4,700.0	13.00	215.74	4,609.5	-685.1	-492.9	-492.9	0.00	0.00	
4,800.0	13.00	215.74	4,706.9	-703.3	-506.1	-506.1	0.00	0.00	
4,900.0	13.00	215.74	4,804.3	-721.6	-519.2	-519.2	0.00	0.00	
5,000.0	13.00	215.74	4,901.8	-739.8	-532.3	-532.3	0.00	0.00	
5,100.0	13.00	215.74	4,999.2	-758.1	-545.5	-545.5	0.00	0.00	
5,200.0	13.00	215.74	5,096.7	-776.3	-558.6	-558.6	0.00	0.00	
5,300.0	13.00	215.74	5,194.1	-794.6	-571.7	-571.7	0.00	0.00	
5,400.0	13.00	215.74	5,291.5	-812.9	-584.9	-584.9	0.00	0.00	
5,500.0	13.00	215.74	5,389.0	-831.1	-598.0	-598.0	0.00	0.00	
5,600.0	13.00	215.74	5,486.4	-849.4	-611.1	-611.1	0.00	0.00	
5,700.0	13.00	215.74	5,583.9	-867.6	-624.3	-624.3	0.00	0.00	
5,800.0	13.00	215.74	5,681.3	-885.9	-637.4	-637.4	0.00	0.00	
5,819.2	13.00	215.74	5,700.0	-889.4	-639.9	-639.9	0.00	0.00	Teepee Buttes (*if present)
5,900.0	13.00	215.74	5,778.7	-904.1	-650.5	-650.5	0.00	0.00	
6,000.0	13.00	215.74	5,876.2	-922.4	-663.7	-663.7	0.00	0.00	
6,100.0	13.00	215.74	5,973.6	-940.6	-676.8	-676.8	0.00	0.00	
6,200.0	13.00	215.74	6,071.1	-958.9	-689.9	-689.9	0.00	0.00	
6,300.0	13.00	215.74	6,168.5	-977.1	-703.1	-703.1	0.00	0.00	
6,400.0	13.00	215.74	6,265.9	-995.4	-716.2	-716.2	0.00	0.00	
6,500.0	13.00	215.74	6,363.4	-1,013.7	-729.3	-729.3	0.00	0.00	
6,577.5	13.00	215.74	6,438.9	-1,027.8	-739.5	-739.5	0.00	0.00	Start build/turn @ 6577' MD
6,600.0	11.85	206.72	6,460.9	-1,031.9	-742.0	-742.0	10.00	-5.11	
6,700.0	11.60	155.92	6,559.0	-1,050.3	-742.5	-742.5	10.00	-0.25	
6,800.0	18.06	125.06	6,655.8	-1,068.4	-725.7	-725.7	10.00	6.47	
6,850.3	22.31	117.17	6,703.0	-1,077.3	-710.8	-710.8	10.00	8.43	Sharon Springs
6,900.0	26.75	111.81	6,748.2	-1,085.7	-692.0	-692.0	10.00	8.95	
6,949.0	31.28	107.96	6,791.0	-1,093.8	-669.7	-669.7	10.00	9.25	Niobrara
7,000.0	36.09	104.89	6,833.5	-1,101.7	-642.5	-642.5	10.00	9.43	
7,020.7	38.07	103.84	6,850.0	-1,104.8	-630.4	-630.4	10.00	9.52	B Chalk
7,058.5	41.69	102.14	6,879.0	-1,110.2	-606.8	-606.8	10.00	9.58	B Marl
7,100.0	45.69	100.54	6,909.0	-1,115.9	-578.7	-578.7	10.00	9.64	
7,114.5	47.09	100.03	6,919.0	-1,117.7	-568.4	-568.4	10.00	9.67	C Chalk
7,160.5	51.55	98.55	6,949.0	-1,123.4	-534.0	-534.0	10.00	9.70	C Marl
7,200.0	55.39	97.43	6,972.5	-1,127.8	-502.6	-502.6	10.00	9.73	
7,300.0	65.17	94.97	7,022.0	-1,137.0	-416.3	-416.3	10.00	9.77	
7,365.1	71.55	93.58	7,046.0	-1,141.5	-356.0	-356.0	10.00	9.80	Ft. Hayes
7,400.0	74.97	92.88	7,056.1	-1,143.4	-322.7	-322.7	10.00	9.81	
7,444.8	79.37	92.01	7,066.0	-1,145.3	-279.0	-279.0	10.00	9.82	Codell
7,500.0	84.79	90.98	7,073.6	-1,146.7	-224.4	-224.4	10.00	9.83	
7,553.0	90.00	90.00	7,076.0	-1,147.2	-171.5	-171.5	10.00	9.83	LP @ 7076' TVD; 90°
7,600.0	90.00	90.00	7,076.0	-1,147.2	-124.5	-124.5	0.00	0.00	
7,700.0	90.00	90.00	7,076.0	-1,147.2	-24.5	-24.5	0.00	0.00	
7,800.0	90.00	90.00	7,076.0	-1,147.2	75.5	75.5	0.00	0.00	
7,900.0	90.00	90.00	7,076.0	-1,147.2	175.5	175.5	0.00	0.00	
8,000.0	90.00	90.00	7,076.0	-1,147.2	275.5	275.5	0.00	0.00	
8,100.0	90.00	90.00	7,076.0	-1,147.2	375.5	375.5	0.00	0.00	
8,200.0	90.00	90.00	7,076.0	-1,147.2	475.5	475.5	0.00	0.00	
8,300.0	90.00	90.00	7,076.0	-1,147.2	575.5	575.5	0.00	0.00	
8,400.0	90.00	90.00	7,076.0	-1,147.2	675.5	675.5	0.00	0.00	
8,500.0	90.00	90.00	7,076.0	-1,147.2	775.5	775.5	0.00	0.00	
8,600.0	90.00	90.00	7,076.0	-1,147.2	875.5	875.5	0.00	0.00	
8,700.0	90.00	90.00	7,076.0	-1,147.2	975.5	975.5	0.00	0.00	



# Cathedral Energy Services

## Planning Report

<b>Database:</b>	USA EDM 5000 Multi Users DB	<b>Local Co-ordinate Reference:</b>	Well Bohrer 2H-19H-E368
<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>TVD Reference:</b>	WELL @ 5083.0ft (Original Well Elev)
<b>Project:</b>	DJ Wattenberg	<b>MD Reference:</b>	WELL @ 5083.0ft (Original Well Elev)
<b>Site:</b>	S19-T3N-R68W (Bohrer)	<b>North Reference:</b>	True
<b>Well:</b>	Bohrer 2H-19H-E368	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Hz		
<b>Design:</b>	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	7,076.0	-1,147.2	1,075.5	1,075.5	0.00	0.00	
8,900.0	90.00	90.00	7,076.0	-1,147.2	1,175.5	1,175.5	0.00	0.00	
9,000.0	90.00	90.00	7,076.0	-1,147.2	1,275.5	1,275.5	0.00	0.00	
9,100.0	90.00	90.00	7,076.0	-1,147.2	1,375.5	1,375.5	0.00	0.00	
9,200.0	90.00	90.00	7,076.0	-1,147.2	1,475.5	1,475.5	0.00	0.00	
9,300.0	90.00	90.00	7,076.0	-1,147.2	1,575.5	1,575.5	0.00	0.00	
9,400.0	90.00	90.00	7,076.0	-1,147.2	1,675.5	1,675.5	0.00	0.00	
9,500.0	90.00	90.00	7,076.0	-1,147.2	1,775.5	1,775.5	0.00	0.00	
9,600.0	90.00	90.00	7,076.0	-1,147.2	1,875.5	1,875.5	0.00	0.00	
9,700.0	90.00	90.00	7,076.0	-1,147.2	1,975.5	1,975.5	0.00	0.00	
9,800.0	90.00	90.00	7,076.0	-1,147.2	2,075.5	2,075.5	0.00	0.00	
9,900.0	90.00	90.00	7,076.0	-1,147.2	2,175.5	2,175.5	0.00	0.00	
10,000.0	90.00	90.00	7,076.0	-1,147.2	2,275.5	2,275.5	0.00	0.00	
10,100.0	90.00	90.00	7,076.0	-1,147.2	2,375.5	2,375.5	0.00	0.00	
10,200.0	90.00	90.00	7,076.0	-1,147.2	2,475.5	2,475.5	0.00	0.00	
10,300.0	90.00	90.00	7,076.0	-1,147.2	2,575.5	2,575.5	0.00	0.00	
10,400.0	90.00	90.00	7,076.0	-1,147.2	2,675.5	2,675.5	0.00	0.00	
10,500.0	90.00	90.00	7,076.0	-1,147.2	2,775.5	2,775.5	0.00	0.00	
10,600.0	90.00	90.00	7,076.0	-1,147.2	2,875.5	2,875.5	0.00	0.00	
10,700.0	90.00	90.00	7,076.0	-1,147.2	2,975.5	2,975.5	0.00	0.00	
10,800.0	90.00	90.00	7,076.0	-1,147.2	3,075.5	3,075.5	0.00	0.00	
10,900.0	90.00	90.00	7,076.0	-1,147.2	3,175.5	3,175.5	0.00	0.00	
11,000.0	90.00	90.00	7,076.0	-1,147.2	3,275.5	3,275.5	0.00	0.00	
11,100.0	90.00	90.00	7,076.0	-1,147.2	3,375.5	3,375.5	0.00	0.00	
11,200.0	90.00	90.00	7,076.0	-1,147.2	3,475.5	3,475.5	0.00	0.00	
11,300.0	90.00	90.00	7,076.0	-1,147.2	3,575.5	3,575.5	0.00	0.00	
11,400.0	90.00	90.00	7,076.0	-1,147.2	3,675.5	3,675.5	0.00	0.00	
11,500.0	90.00	90.00	7,076.0	-1,147.2	3,775.5	3,775.5	0.00	0.00	
11,600.0	90.00	90.00	7,076.0	-1,147.2	3,875.5	3,875.5	0.00	0.00	
11,700.0	90.00	90.00	7,076.0	-1,147.2	3,975.5	3,975.5	0.00	0.00	
11,763.0	90.00	90.00	7,076.0	-1,147.2	4,038.5	4,038.5	0.00	0.00	TD at 11763.0

Targets									
Target Name									
- hit/miss target	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
- Shape									
Bohrer 2H-19H-E368 PE	0.00	0.00	7,076.0	-1,147.2	4,038.5	1,320,099.36	3,129,038.70	40.211140	-105.037990
- plan hits target center									
- Point									



# Cathedral Energy Services

## Planning Report

<b>Database:</b>	USA EDM 5000 Multi Users DB	<b>Local Co-ordinate Reference:</b>	Well Bohrer 2H-19H-E368
<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>TVD Reference:</b>	WELL @ 5083.0ft (Original Well Elev)
<b>Project:</b>	DJ Wattenberg	<b>MD Reference:</b>	WELL @ 5083.0ft (Original Well Elev)
<b>Site:</b>	S19-T3N-R68W (Bohrer)	<b>North Reference:</b>	True
<b>Well:</b>	Bohrer 2H-19H-E368	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Hz		
<b>Design:</b>	Plan #1		

### Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
283.0	283.0	Fox Hills - BASE			
3,822.0	3,754.0	Sussex			
4,046.8	3,973.0	Sussex Marker			
4,286.9	4,207.0	Shannon			
5,819.2	5,700.0	Teepee Buttes (*if present)			
6,850.3	6,703.0	Sharon Springs			
6,949.0	6,791.0	Niobrara			
7,020.7	6,850.0	B Chalk			
7,058.5	6,879.0	B Marl			
7,114.5	6,919.0	C Chalk			
7,160.5	6,949.0	C Marl			
7,365.1	7,046.0	Ft. Hayes			
7,444.8	7,066.0	Codell			

### Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
300.0	300.0	0.0	0.0	KOP @ 300'
1,599.6	1,588.5	-119.1	-85.7	EOB; Inc=13°
6,577.5	6,438.9	-1,027.8	-739.5	Start build/turn @ 6577' MD
7,553.0	7,076.0	-1,147.2	-171.5	LP @ 7076' TVD; 90°
11,763.0	7,076.0	-1,147.2	4,038.5	TD at 11763.0



# **EnCana Oil & Gas (USA) Inc**

**DJ Wattenberg**

**S19-T3N-R68W (Bohrer)**

**Bohrer 2H-19H-E368**

**Hz**

**Plan #1**

## **Anticollision Report**

**30 June, 2013**



# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Bohrer 2H-19H-E368
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	WELL @ 5083.0ft (Original Well Elev)
<b>Reference Site:</b>	S19-T3N-R68W (Bohrer)	<b>MD Reference:</b>	WELL @ 5083.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Bohrer 2H-19H-E368	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Hz	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	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	6/30/2013		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
0.0	11,763.0	Plan #1 (Hz)	Geolink MWD	Geolink MWD	

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
S19-T3N-R68W (Bohrer)						
Bohrer 2A-19H-E368 - Hz - Plan #1	166.0	168.0	69.2	68.7	139.650	CC
Bohrer 2A-19H-E368 - Hz - Plan #1	200.0	202.0	69.2	68.6	112.667	ES
Bohrer 2A-19H-E368 - Hz - Plan #1	800.0	792.5	112.9	110.1	40.965	SF
Bohrer 2B-19H-E368 - Hz - Plan #1	266.0	268.0	58.3	57.4	68.997	CC
Bohrer 2B-19H-E368 - Hz - Plan #1	300.0	302.0	58.3	57.3	60.496	ES
Bohrer 2B-19H-E368 - Hz - Plan #1	800.0	796.0	92.0	89.2	33.386	SF
Bohrer 2C-19H-E368 - Hz - Plan #1	300.0	301.0	47.4	46.4	49.244	CC, ES
Bohrer 2C-19H-E368 - Hz - Plan #1	800.0	798.0	72.7	70.0	26.479	SF
Bohrer 2D-19H-E368 - Hz - Plan #1	300.0	301.0	40.1	39.1	41.668	CC, ES
Bohrer 2D-19H-E368 - Hz - Plan #1	800.0	800.0	59.9	57.1	21.905	SF
Bohrer 2E-19H-E368 - Hz - Plan #1	300.0	301.0	29.1	28.2	30.304	CC, ES
Bohrer 2E-19H-E368 - Hz - Plan #1	700.0	700.9	41.0	38.6	17.342	SF
Bohrer 2F-19H-E368 - Hz - Plan #1	300.0	301.0	18.2	17.3	18.940	CC, ES
Bohrer 2F-19H-E368 - Hz - Plan #1	800.0	801.6	32.5	29.8	11.932	SF
Bohrer 2G-19H-E368 - Hz - Plan #1	300.0	301.0	10.9	10.0	11.364	CC, ES
Bohrer 2G-19H-E368 - Hz - Plan #1	11,763.0	11,498.0	405.4	220.7	2.195	SF
Bohrer 2I-19H-E368 - Hz - Plan #1	200.0	200.0	10.9	10.3	17.890	CC, ES
Bohrer 2I-19H-E368 - Hz - Plan #1	11,763.0	11,628.6	429.8	240.5	2.271	SF
BOHRER TRUST 21-19 (EXISTING) - ENCANA WELL - S						Out of range
BOYD 3-19 (EXISTING) - ENCANA WELL - SURVEYS						Out of range
Boyd 3B-19H-M368 - Hz - Plan #1						Out of range
Boyd 3C-19H-M368 - Hz - Plan #1						Out of range
Boyd 3D-19H-M368 - Hz - Plan #1						Out of range
Boyd 3E-19H-M368 - Hz - Plan #1						Out of range
Boyd 3F-19H-M368 - Hz - Plan #1						Out of range
Boyd 3G-19H-M368 - Hz - Plan #1						Out of range



# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Bohrer 2H-19H-E368
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	WELL @ 5083.0ft (Original Well Elev)
<b>Reference Site:</b>	S19-T3N-R68W (Bohrer)	<b>MD Reference:</b>	WELL @ 5083.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Bohrer 2H-19H-E368	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Hz	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	Offset Datum

<b>Offset Design</b> S19-T3N-R68W (Bohrer) - Bohrer 2A-19H-E368 - 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		Highside Toolface (°)	Distance		Total Uncertainty Axis	Separation Factor	Warning			
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)						
0.0	0.0	2.0	2.0	0.0	0.0	0.00	69.2	0.0	69.2					
100.0	100.0	102.0	102.0	0.1	0.1	0.00	69.2	0.0	69.2	68.9	0.27	260.899		
166.0	166.0	168.0	168.0	0.2	0.2	0.00	69.2	0.0	69.2	68.7	0.50	139.650 CC		
200.0	200.0	202.0	202.0	0.3	0.3	0.00	69.2	0.0	69.2	68.6	0.61	112.667 ES		
300.0	300.0	301.0	301.0	0.5	0.5	-0.41	70.0	-0.5	70.0	69.0	0.96	72.753		
400.0	400.0	400.0	400.0	0.7	0.7	143.12	72.1	-1.9	72.9	71.6	1.31	55.579		
500.0	500.0	498.6	498.5	0.8	0.8	142.52	75.7	-4.3	78.6	77.0	1.66	47.288		
600.0	599.9	597.0	596.7	1.0	1.0	142.10	80.6	-7.7	87.2	85.2	2.02	43.193		
700.0	699.7	695.0	694.4	1.2	1.3	141.83	87.0	-11.9	98.6	96.3	2.38	41.396		
800.0	799.4	792.5	791.4	1.4	1.5	141.69	94.6	-17.0	112.9	110.1	2.75	40.965 SF		
900.0	898.9	889.3	887.6	1.7	1.7	141.63	103.6	-23.1	129.9	126.7	3.14	41.387		
1,000.0	998.3	985.3	982.9	1.9	2.0	141.63	113.9	-29.9	149.6	146.1	3.53	42.355		
1,100.0	1,097.4	1,080.5	1,077.0	2.2	2.3	141.65	125.3	-37.6	172.1	168.2	3.94	43.675		
1,200.0	1,196.3	1,174.7	1,170.0	2.5	2.6	141.69	137.9	-46.0	197.3	192.9	4.36	45.217		
1,300.0	1,294.9	1,267.8	1,261.7	2.8	2.9	141.72	151.6	-55.2	225.1	220.3	4.80	46.893		
1,400.0	1,393.3	1,359.8	1,351.9	3.1	3.2	141.75	166.4	-65.1	255.6	250.3	5.25	48.643		
1,500.0	1,491.2	1,450.6	1,440.6	3.5	3.6	141.76	182.1	-75.7	288.6	282.9	5.72	50.424		
1,600.0	1,588.9	1,540.0	1,527.8	3.9	4.0	141.75	198.8	-86.8	324.2	318.0	6.21	52.210		
1,700.0	1,686.3	1,630.4	1,615.6	4.3	4.3	141.91	216.6	-98.8	361.5	354.8	6.72	53.812		
1,800.0	1,783.8	1,723.1	1,705.6	4.7	4.7	142.03	235.1	-111.2	399.0	391.7	7.24	55.130		
1,900.0	1,881.2	1,815.8	1,795.6	5.1	5.2	142.12	253.6	-123.6	436.4	428.7	7.76	56.239		
2,000.0	1,978.6	1,908.5	1,885.6	5.6	5.6	142.20	272.1	-136.0	473.9	465.6	8.29	57.184		



# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Bohrer 2H-19H-E368
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	WELL @ 5083.0ft (Original Well Elev)
<b>Reference Site:</b>	S19-T3N-R68W (Bohrer)	<b>MD Reference:</b>	WELL @ 5083.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Bohrer 2H-19H-E368	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Hz	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S19-T3N-R68W (Bohrer) - Bohrer 2B-19H-E368 - 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			Distance				Total Uncertainty Axis	Separation Factor	Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)				
0.0	0.0	2.0	2.0	0.0	0.0	0.00	58.3	0.0	58.3					
100.0	100.0	102.0	102.0	0.1	0.1	0.00	58.3	0.0	58.3	58.0	0.27	219.689		
200.0	200.0	202.0	202.0	0.3	0.3	0.00	58.3	0.0	58.3	57.7	0.61	94.866		
266.0	266.0	268.0	268.0	0.4	0.4	0.00	58.3	0.0	58.3	57.4	0.84	68.997 CC		
300.0	300.0	302.0	302.0	0.5	0.5	0.00	58.3	0.0	58.3	57.3	0.96	60.496 ES		
400.0	400.0	401.2	401.2	0.7	0.7	144.16	58.9	-0.6	59.7	58.3	1.31	45.479		
500.0	500.0	500.0	500.0	0.8	0.8	143.91	60.8	-2.4	63.7	62.0	1.66	38.341		
600.0	599.9	599.3	599.1	1.0	1.0	143.57	64.0	-5.3	70.5	68.4	2.02	34.913		
700.0	699.7	697.9	697.5	1.2	1.2	143.20	68.4	-9.4	79.9	77.5	2.38	33.543		
800.0	799.4	796.0	795.4	1.4	1.4	142.82	74.0	-14.6	92.0	89.2	2.75	33.386 SF		
900.0	898.9	893.7	892.6	1.7	1.6	142.47	80.9	-20.9	106.7	103.5	3.14	33.979		
1,000.0	998.3	990.7	989.0	1.9	1.9	142.15	88.8	-28.2	124.0	120.5	3.54	35.046		
1,100.0	1,097.4	1,087.0	1,084.5	2.2	2.1	141.86	97.9	-36.6	144.0	140.1	3.96	36.410		
1,200.0	1,196.3	1,182.4	1,178.9	2.5	2.4	141.59	108.1	-46.0	166.6	162.2	4.39	37.951		
1,300.0	1,294.9	1,277.0	1,272.3	2.8	2.7	141.35	119.3	-56.4	191.6	186.8	4.84	39.590		
1,400.0	1,393.3	1,370.6	1,364.3	3.1	3.0	141.13	131.5	-67.7	219.3	213.9	5.31	41.273		
1,500.0	1,491.2	1,465.3	1,457.3	3.5	3.4	140.98	144.7	-79.9	249.0	243.2	5.80	42.910		
1,600.0	1,588.9	1,560.3	1,550.6	3.9	3.7	141.04	158.0	-92.1	280.2	273.8	6.31	44.397		
1,700.0	1,686.3	1,655.1	1,643.7	4.3	4.0	141.36	171.2	-104.3	311.9	305.1	6.83	45.661		
1,800.0	1,783.8	1,749.9	1,736.8	4.7	4.4	141.61	184.5	-116.6	343.7	336.3	7.36	46.716		
1,900.0	1,881.2	1,844.7	1,829.9	5.1	4.7	141.83	197.7	-128.8	375.5	367.6	7.89	47.608		
2,000.0	1,978.6	1,939.5	1,922.9	5.6	5.1	142.01	210.9	-141.0	407.3	398.8	8.42	48.371		
2,100.0	2,076.1	2,034.3	2,016.0	6.0	5.4	142.16	224.2	-153.3	439.1	430.1	8.95	49.029		
2,200.0	2,173.5	2,129.1	2,109.1	6.4	5.8	142.30	237.4	-165.5	470.8	461.4	9.49	49.603		



# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Bohrer 2H-19H-E368
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	WELL @ 5083.0ft (Original Well Elev)
<b>Reference Site:</b>	S19-T3N-R68W (Bohrer)	<b>MD Reference:</b>	WELL @ 5083.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Bohrer 2H-19H-E368	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Hz	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design		S19-T3N-R68W (Bohrer) - Bohrer 2C-19H-E368 - 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			Distance							Warning	
Measured Depth Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference  (ft)	Offset  (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor			
0.0	0.0	1.0	1.0	0.0	0.0	0.00	47.4	0.0	47.4						
100.0	100.0	101.0	101.0	0.1	0.1	0.00	47.4	0.0	47.4	47.1	0.26	179.692			
200.0	200.0	201.0	201.0	0.3	0.3	0.00	47.4	0.0	47.4	46.7	0.61	77.304			
300.0	300.0	301.0	301.0	0.5	0.5	0.00	47.4	0.0	47.4	46.4	0.96	49.244	CC, ES		
400.0	400.0	401.0	401.0	0.7	0.7	144.87	47.4	0.0	48.1	46.8	1.31	36.669			
500.0	500.0	500.5	500.5	0.8	0.8	145.71	47.8	-0.7	50.7	49.0	1.66	30.529			
600.0	599.9	600.0	600.0	1.0	1.0	145.92	49.3	-2.9	55.7	53.7	2.01	27.646			
700.0	699.7	699.1	698.9	1.2	1.2	145.63	51.7	-6.5	63.0	60.7	2.37	26.541			
800.0	799.4	798.0	797.6	1.4	1.4	145.01	55.0	-11.5	72.7	70.0	2.75	26.479	SF		
900.0	898.9	896.5	895.9	1.7	1.6	144.21	59.2	-17.9	84.8	81.6	3.13	27.061			
1,000.0	998.3	994.6	993.5	1.9	1.8	143.37	64.3	-25.7	99.2	95.6	3.54	28.044			
1,100.0	1,097.4	1,092.1	1,090.4	2.2	2.0	142.53	70.4	-34.8	115.9	112.0	3.96	29.268			
1,200.0	1,196.3	1,189.1	1,186.6	2.5	2.3	141.74	77.3	-45.3	135.0	130.6	4.41	30.628			
1,300.0	1,294.9	1,285.3	1,281.8	2.8	2.6	141.01	85.0	-57.0	156.4	151.5	4.88	32.052			
1,400.0	1,393.3	1,381.5	1,376.8	3.1	2.9	140.38	93.5	-69.9	180.0	174.6	5.37	33.499			
1,500.0	1,491.2	1,478.3	1,472.3	3.5	3.2	140.10	102.2	-83.1	205.1	199.2	5.89	34.844			
1,600.0	1,588.9	1,574.8	1,567.4	3.9	3.5	140.12	110.9	-96.2	231.4	225.0	6.41	36.099			
1,700.0	1,686.3	1,671.1	1,662.4	4.3	3.8	140.40	119.6	-109.3	258.4	251.5	6.95	37.190			
1,800.0	1,783.8	1,767.3	1,757.4	4.7	4.1	140.64	128.2	-122.5	285.5	278.0	7.49	38.099			
1,900.0	1,881.2	1,863.6	1,852.4	5.1	4.4	140.83	136.9	-135.6	312.5	304.4	8.04	38.865			
2,000.0	1,978.6	1,959.9	1,947.3	5.6	4.7	140.99	145.6	-148.7	339.5	330.9	8.59	39.520			
2,100.0	2,076.1	2,056.2	2,042.3	6.0	5.0	141.12	154.3	-161.9	366.5	357.4	9.14	40.084			
2,200.0	2,173.5	2,152.4	2,137.3	6.4	5.3	141.24	162.9	-175.0	393.6	383.9	9.70	40.574			
2,300.0	2,270.9	2,248.7	2,232.3	6.8	5.6	141.34	171.6	-188.1	420.6	410.3	10.26	41.004			
2,400.0	2,368.4	2,345.0	2,327.3	7.2	6.0	141.44	180.3	-201.3	447.6	436.8	10.82	41.384			
2,500.0	2,465.8	2,441.3	2,422.2	7.7	6.3	141.52	189.0	-214.4	474.7	463.3	11.38	41.722			



# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Bohrer 2H-19H-E368
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	WELL @ 5083.0ft (Original Well Elev)
<b>Reference Site:</b>	S19-T3N-R68W (Bohrer)	<b>MD Reference:</b>	WELL @ 5083.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Bohrer 2H-19H-E368	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Hz	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S19-T3N-R68W (Bohrer) - Bohrer 2D-19H-E368 - 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			Distance							Warning
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Total Uncertainty	Separation		
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	Axis	Factor		
0.0	0.0	1.0	1.0	0.0	0.0	0.00	40.1	0.0	40.1					
100.0	100.0	101.0	101.0	0.1	0.1	0.00	40.1	0.0	40.1	39.8	0.26	152.047		
200.0	200.0	201.0	201.0	0.3	0.3	0.00	40.1	0.0	40.1	39.5	0.61	65.411		
300.0	300.0	301.0	301.0	0.5	0.5	0.00	40.1	0.0	40.1	39.1	0.96	41.668	CC, ES	
400.0	400.0	401.0	401.0	0.7	0.7	144.98	40.1	0.0	40.8	39.5	1.31	31.111		
500.0	500.0	501.0	501.0	0.8	0.8	146.97	40.1	0.0	43.0	41.3	1.66	25.862		
600.0	599.9	600.7	600.7	1.0	1.0	148.79	40.3	-0.9	46.8	44.8	2.01	23.261		
700.0	699.7	700.4	700.4	1.2	1.2	149.39	40.9	-3.4	52.5	50.1	2.37	22.150		
800.0	799.4	800.0	799.9	1.4	1.4	149.05	42.0	-7.6	59.9	57.1	2.73	21.905	SF	
900.0	898.9	899.4	899.1	1.7	1.6	148.09	43.4	-13.5	69.1	66.0	3.11	22.188		
1,000.0	998.3	998.5	997.9	1.9	1.8	146.80	45.3	-21.0	80.1	76.6	3.51	22.797		
1,100.0	1,097.4	1,097.4	1,096.3	2.2	2.0	145.36	47.6	-30.2	92.9	89.0	3.94	23.601		
1,200.0	1,196.3	1,195.9	1,194.2	2.5	2.2	143.90	50.2	-41.0	107.6	103.2	4.39	24.510		
1,300.0	1,294.9	1,294.0	1,291.5	2.8	2.5	142.49	53.3	-53.3	124.1	119.2	4.87	25.476		
1,400.0	1,393.3	1,392.4	1,388.9	3.1	2.7	141.57	56.5	-66.3	142.2	136.8	5.37	26.463		
1,500.0	1,491.2	1,490.5	1,486.1	3.5	3.0	141.21	59.7	-79.2	161.6	155.7	5.89	27.449		
1,600.0	1,588.9	1,588.3	1,583.0	3.9	3.3	141.25	62.9	-92.1	182.4	176.0	6.41	28.434		
1,700.0	1,686.3	1,686.0	1,679.8	4.3	3.5	141.55	66.1	-104.9	203.8	196.9	6.95	29.325		
1,800.0	1,783.8	1,783.6	1,776.6	4.7	3.8	141.78	69.3	-117.8	225.3	217.8	7.49	30.069		
1,900.0	1,881.2	1,881.3	1,873.3	5.1	4.1	141.98	72.5	-130.7	246.7	238.7	8.04	30.698		
2,000.0	1,978.6	1,979.0	1,970.1	5.6	4.4	142.14	75.7	-143.5	268.2	259.6	8.59	31.236		
2,100.0	2,076.1	2,076.6	2,066.8	6.0	4.6	142.28	78.9	-156.4	289.6	280.5	9.14	31.700		
2,200.0	2,173.5	2,174.3	2,163.6	6.4	4.9	142.40	82.1	-169.3	311.1	301.4	9.69	32.105		
2,300.0	2,270.9	2,272.0	2,260.4	6.8	5.2	142.51	85.3	-182.1	332.5	322.3	10.24	32.461		
2,400.0	2,368.4	2,369.6	2,357.1	7.2	5.5	142.60	88.5	-195.0	354.0	343.2	10.80	32.775		
2,500.0	2,465.8	2,467.3	2,453.9	7.7	5.8	142.68	91.7	-207.9	375.4	364.1	11.36	33.055		
2,600.0	2,563.3	2,565.0	2,550.7	8.1	6.0	142.76	94.9	-220.7	396.9	385.0	11.92	33.306		
2,700.0	2,660.7	2,662.6	2,647.4	8.5	6.3	142.82	98.1	-233.6	418.4	405.9	12.48	33.531		
2,800.0	2,758.1	2,760.3	2,744.2	8.9	6.6	142.88	101.3	-246.5	439.8	426.8	13.04	33.736		
2,900.0	2,855.6	2,858.0	2,841.0	9.4	6.9	142.93	104.5	-259.3	461.3	447.7	13.60	33.921		
3,000.0	2,953.0	2,955.7	2,937.7	9.8	7.2	142.98	107.7	-272.2	482.7	468.6	14.16	34.091		



# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Bohrer 2H-19H-E368
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	WELL @ 5083.0ft (Original Well Elev)
<b>Reference Site:</b>	S19-T3N-R68W (Bohrer)	<b>MD Reference:</b>	WELL @ 5083.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Bohrer 2H-19H-E368	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Hz	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S19-T3N-R68W (Bohrer) - Bohrer 2E-19H-E368 - 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		Highside Toolface (°)	Distance		Total Uncertainty Axis	Separation Factor	Warning			
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)						
0.0	0.0	1.0	1.0	0.0	0.0	0.00	29.1	0.0	29.1					
100.0	100.0	101.0	101.0	0.1	0.1	0.00	29.1	0.0	29.1	28.9	0.26	110.580		
200.0	200.0	201.0	201.0	0.3	0.3	0.00	29.1	0.0	29.1	28.5	0.61	47.571		
300.0	300.0	301.0	301.0	0.5	0.5	0.00	29.1	0.0	29.1	28.2	0.96	30.304 CC, ES		
400.0	400.0	401.0	401.0	0.7	0.7	145.24	29.1	0.0	29.1	28.5	1.31	22.775		
500.0	500.0	501.0	501.0	0.8	0.8	147.90	29.1	0.0	32.0	30.4	1.66	19.293		
600.0	599.9	600.9	600.9	1.0	1.0	151.59	29.1	0.0	35.8	33.8	2.01	17.805		
700.0	699.7	700.9	700.9	1.2	1.2	154.44	29.0	-0.9	41.0	38.6	2.36	17.342 SF		
800.0	799.4	801.0	800.9	1.4	1.4	155.52	28.6	-3.5	47.2	44.5	2.72	17.359		
900.0	898.9	901.0	900.9	1.7	1.5	155.35	27.9	-7.8	54.4	51.3	3.08	17.645		
1,000.0	998.3	1,001.0	1,000.7	1.9	1.7	154.38	26.9	-13.8	62.6	59.1	3.46	18.086		
1,100.0	1,097.4	1,101.0	1,100.3	2.2	1.9	152.92	25.6	-21.6	71.8	67.9	3.86	18.609		
1,200.0	1,196.3	1,200.8	1,199.7	2.5	2.2	151.19	24.1	-31.1	82.0	77.8	4.28	19.165		
1,300.0	1,294.9	1,300.5	1,298.8	2.8	2.4	149.33	22.3	-42.2	93.4	88.7	4.74	19.717		
1,400.0	1,393.3	1,400.1	1,397.5	3.1	2.6	147.44	20.2	-55.1	105.9	100.7	5.23	20.240		
1,500.0	1,491.2	1,499.2	1,495.6	3.5	2.9	145.86	18.0	-69.0	119.7	114.0	5.76	20.797		
1,600.0	1,588.9	1,598.0	1,593.4	3.9	3.2	145.00	15.7	-82.9	135.0	128.7	6.29	21.449		
1,700.0	1,686.3	1,696.7	1,691.1	4.3	3.5	144.57	13.5	-96.7	151.0	144.2	6.84	22.065		
1,800.0	1,783.8	1,795.4	1,788.8	4.7	3.7	144.23	11.2	-110.6	167.0	159.6	7.40	22.567		
1,900.0	1,881.2	1,894.1	1,886.5	5.1	4.0	143.95	9.0	-124.5	183.0	175.1	7.96	22.980		
2,000.0	1,978.6	1,992.8	1,984.2	5.6	4.3	143.71	6.8	-138.4	199.0	190.5	8.53	23.324		
2,100.0	2,076.1	2,091.5	2,081.9	6.0	4.6	143.51	4.5	-152.3	215.0	205.9	9.11	23.615		
2,200.0	2,173.5	2,190.2	2,179.6	6.4	4.9	143.33	2.3	-166.2	231.1	221.4	9.68	23.864		
2,300.0	2,270.9	2,289.0	2,277.3	6.8	5.2	143.18	0.0	-180.0	247.1	236.8	10.26	24.077		
2,400.0	2,368.4	2,387.7	2,375.0	7.2	5.5	143.05	-2.2	-193.9	263.1	252.2	10.84	24.263		
2,500.0	2,465.8	2,486.4	2,472.7	7.7	5.8	142.93	-4.5	-207.8	279.1	267.7	11.43	24.425		
2,600.0	2,563.3	2,585.1	2,570.4	8.1	6.0	142.83	-6.7	-221.7	295.1	283.1	12.01	24.569		
2,700.0	2,660.7	2,683.8	2,668.1	8.5	6.3	142.73	-9.0	-235.6	311.1	298.5	12.60	24.696		
2,800.0	2,758.1	2,782.5	2,765.8	8.9	6.6	142.65	-11.2	-249.4	327.2	314.0	13.19	24.809		
2,900.0	2,855.6	2,881.2	2,863.5	9.4	6.9	142.57	-13.4	-263.3	343.2	329.4	13.78	24.910		
3,000.0	2,953.0	2,979.9	2,961.2	9.8	7.2	142.50	-15.7	-277.2	359.2	344.8	14.37	25.002		
3,100.0	3,050.5	3,078.6	3,058.9	10.2	7.5	142.44	-17.9	-291.1	375.2	360.3	14.96	25.085		
3,200.0	3,147.9	3,177.3	3,156.6	10.7	7.8	142.38	-20.2	-305.0	391.3	375.7	15.55	25.160		
3,300.0	3,245.3	3,276.0	3,254.3	11.1	8.1	142.32	-22.4	-318.9	407.3	391.1	16.14	25.229		
3,400.0	3,342.8	3,374.7	3,352.0	11.5	8.4	142.27	-24.7	-332.7	423.3	406.6	16.74	25.291		
3,500.0	3,440.2	3,473.4	3,449.7	11.9	8.7	142.23	-26.9	-346.6	439.3	422.0	17.33	25.349		
3,600.0	3,537.6	3,572.1	3,547.4	12.4	9.0	142.18	-29.2	-360.5	455.4	437.4	17.93	25.402		
3,700.0	3,635.1	3,670.9	3,645.1	12.8	9.3	142.14	-31.4	-374.4	471.4	452.9	18.52	25.452		
3,800.0	3,732.5	3,769.6	3,742.8	13.2	9.6	142.10	-33.7	-388.3	487.4	468.3	19.12	25.497		



# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Bohrer 2H-19H-E368
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	WELL @ 5083.0ft (Original Well Elev)
<b>Reference Site:</b>	S19-T3N-R68W (Bohrer)	<b>MD Reference:</b>	WELL @ 5083.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Bohrer 2H-19H-E368	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Hz	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S19-T3N-R68W (Bohrer) - Bohrer 2F-19H-E368 - Hz - Plan #1													Offset Site Error:	0.0 ft
Survey Program: O-Geolink MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance				Total Uncertainty Axis	Separation Factor	Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)				
0.0	0.0	1.0	1.0	0.0	0.0	0.00	18.2	0.0	18.2					
100.0	100.0	101.0	101.0	0.1	0.1	0.00	18.2	0.0	18.2	18.0	0.26	69.112		
200.0	200.0	201.0	201.0	0.3	0.3	0.00	18.2	0.0	18.2	17.6	0.61	29.732		
300.0	300.0	301.0	301.0	0.5	0.5	0.00	18.2	0.0	18.2	17.3	0.96	18.940 CC, ES		
400.0	400.0	401.0	401.0	0.7	0.7	145.80	18.2	0.0	18.9	17.6	1.31	14.440		
500.0	500.0	501.0	501.0	0.8	0.8	149.78	18.2	0.0	21.1	19.5	1.66	12.734		
600.0	599.9	601.1	601.1	1.0	1.0	153.22	17.8	-0.8	24.4	22.4	2.01	12.152		
700.0	699.7	701.4	701.3	1.2	1.2	154.61	16.5	-3.1	28.3	25.9	2.37	11.945		
800.0	799.4	801.6	801.5	1.4	1.4	154.60	14.3	-6.9	32.5	29.8	2.73	11.932 SF		
900.0	898.9	901.9	901.6	1.7	1.6	153.69	11.2	-12.2	37.2	34.2	3.10	12.028		
1,000.0	998.3	1,002.2	1,001.5	1.9	1.8	152.19	7.3	-19.1	42.4	39.0	3.48	12.183		
1,100.0	1,097.4	1,102.5	1,101.4	2.2	2.0	150.34	2.5	-27.5	48.2	44.3	3.89	12.362		
1,200.0	1,196.3	1,202.8	1,201.0	2.5	2.2	148.30	-3.1	-37.4	54.4	50.1	4.34	12.543		
1,300.0	1,294.9	1,303.1	1,300.4	2.8	2.5	146.18	-9.6	-48.8	61.2	56.4	4.82	12.709		
1,400.0	1,393.3	1,403.2	1,399.5	3.1	2.8	144.09	-17.0	-61.7	68.7	63.3	5.34	12.858		
1,500.0	1,491.2	1,502.9	1,497.9	3.5	3.1	142.81	-24.6	-75.0	77.3	71.4	5.88	13.141		
1,600.0	1,588.9	1,602.4	1,596.2	3.9	3.4	142.47	-32.2	-88.3	87.3	80.9	6.42	13.588		
1,700.0	1,686.3	1,701.8	1,694.5	4.3	3.7	142.57	-39.7	-101.6	98.0	91.0	6.97	14.057		
1,800.0	1,783.8	1,801.2	1,792.7	4.7	4.0	142.64	-47.3	-114.9	108.7	101.2	7.52	14.447		
1,900.0	1,881.2	1,900.6	1,891.0	5.1	4.3	142.70	-54.9	-128.1	119.4	111.3	8.08	14.775		
2,000.0	1,978.6	2,000.1	1,989.2	5.6	4.6	142.76	-62.5	-141.4	130.1	121.5	8.64	15.055		
2,100.0	2,076.1	2,099.5	2,087.5	6.0	4.9	142.80	-70.1	-154.7	140.8	131.6	9.21	15.295		
2,200.0	2,173.5	2,198.9	2,185.7	6.4	5.2	142.84	-77.7	-168.0	151.5	141.8	9.77	15.504		
2,300.0	2,270.9	2,298.3	2,283.9	6.8	5.5	142.87	-85.2	-181.3	162.2	151.9	10.34	15.687		
2,400.0	2,368.4	2,397.8	2,382.2	7.2	5.8	142.90	-92.8	-194.6	172.9	162.0	10.91	15.848		
2,500.0	2,465.8	2,497.2	2,480.4	7.7	6.1	142.93	-100.4	-207.8	183.6	172.2	11.48	15.991		
2,600.0	2,563.3	2,596.6	2,578.7	8.1	6.4	142.95	-108.0	-221.1	194.3	182.3	12.06	16.119		
2,700.0	2,660.7	2,696.0	2,676.9	8.5	6.7	142.97	-115.6	-234.4	205.0	192.4	12.63	16.233		
2,800.0	2,758.1	2,795.5	2,775.2	8.9	7.1	142.99	-123.1	-247.7	215.7	202.5	13.21	16.337		
2,900.0	2,855.6	2,894.9	2,873.4	9.4	7.4	143.00	-130.7	-261.0	226.5	212.7	13.78	16.431		
3,000.0	2,953.0	2,994.3	2,971.6	9.8	7.7	143.02	-138.3	-274.3	237.2	222.8	14.36	16.517		
3,100.0	3,050.5	3,093.7	3,069.9	10.2	8.0	143.03	-145.9	-287.5	247.9	232.9	14.94	16.595		
3,200.0	3,147.9	3,193.2	3,168.1	10.7	8.3	143.04	-153.5	-300.8	258.6	243.1	15.51	16.667		
3,300.0	3,245.3	3,292.6	3,266.4	11.1	8.6	143.06	-161.0	-314.1	269.3	253.2	16.09	16.733		
3,400.0	3,342.8	3,392.0	3,364.6	11.5	9.0	143.07	-168.6	-327.4	280.0	263.3	16.67	16.794		
3,500.0	3,440.2	3,491.4	3,462.8	11.9	9.3	143.08	-176.2	-340.7	290.7	273.4	17.25	16.850		
3,600.0	3,537.6	3,590.9	3,561.1	12.4	9.6	143.09	-183.8	-354.0	301.4	283.6	17.83	16.903		
3,700.0	3,635.1	3,690.3	3,659.3	12.8	9.9	143.09	-191.4	-367.2	312.1	293.7	18.41	16.952		
3,800.0	3,732.5	3,789.7	3,757.6	13.2	10.2	143.10	-198.9	-380.5	322.8	303.8	18.99	16.998		
3,900.0	3,830.0	3,889.1	3,855.8	13.7	10.5	143.11	-206.5	-393.8	333.5	313.9	19.57	17.040		
4,000.0	3,927.4	3,988.6	3,954.1	14.1	10.9	143.12	-214.1	-407.1	344.2	324.0	20.15	17.080		
4,100.0	4,024.8	4,088.0	4,052.3	14.5	11.2	143.12	-221.7	-420.4	354.9	334.2	20.73	17.118		
4,200.0	4,122.3	4,187.4	4,150.5	15.0	11.5	143.13	-229.3	-433.7	365.6	344.3	21.31	17.153		
4,300.0	4,219.7	4,286.8	4,248.8	15.4	11.8	143.14	-236.9	-446.9	376.3	354.4	21.90	17.187		
4,400.0	4,317.2	4,386.3	4,347.0	15.8	12.1	143.14	-244.4	-460.2	387.0	364.5	22.48	17.218		
4,500.0	4,414.6	4,485.7	4,445.3	16.2	12.5	143.15	-252.0	-473.5	397.7	374.7	23.06	17.248		
4,600.0	4,512.0	4,585.1	4,543.5	16.7	12.8	143.15	-259.6	-486.8	408.4	384.8	23.64	17.276		
4,700.0	4,609.5	4,684.5	4,641.8	17.1	13.1	143.16	-267.2	-500.1	419.1	394.9	24.22	17.303		
4,800.0	4,706.9	4,784.0	4,740.0	17.5	13.4	143.16	-274.8	-513.4	429.8	405.0	24.81	17.328		
4,900.0	4,804.3	4,883.4	4,838.2	18.0	13.7	143.17	-282.3	-526.6	440.5	415.2	25.39	17.352		
5,000.0	4,901.8	4,982.8	4,936.5	18.4	14.1	143.17	-289.9	-539.9	451.2	425.3	25.97	17.375		
5,100.0	4,999.2	5,082.2	5,034.7	18.8	14.4	143.17	-297.5	-553.2	462.0	435.4	26.55	17.397		

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



# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Bohrer 2H-19H-E368
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	WELL @ 5083.0ft (Original Well Elev)
<b>Reference Site:</b>	S19-T3N-R68W (Bohrer)	<b>MD Reference:</b>	WELL @ 5083.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Bohrer 2H-19H-E368	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Hz	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													S19-T3N-R68W (Bohrer) - Bohrer 2F-19H-E368 - 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			Distance							Warning				
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Total Uncertainty Axis	Separation Factor						
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)								
5,200.0	5,096.7	5,181.7	5,133.0	19.3	14.7	143.18	-305.1	-566.5	472.7	445.5	27.14	17.418						
5,300.0	5,194.1	5,281.1	5,231.2	19.7	15.0	143.18	-312.7	-579.8	483.4	455.6	27.72	17.438						
5,400.0	5,291.5	5,380.5	5,329.4	20.1	15.3	143.18	-320.2	-593.1	494.1	465.8	28.30	17.457						



# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Bohrer 2H-19H-E368
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	WELL @ 5083.0ft (Original Well Elev)
<b>Reference Site:</b>	S19-T3N-R68W (Bohrer)	<b>MD Reference:</b>	WELL @ 5083.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Bohrer 2H-19H-E368	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Hz	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S19-T3N-R68W (Bohrer) - Bohrer 2G-19H-E368 - Hz - Plan #1													Offset Site Error:	0.0 ft
Survey Program: O-Geolink MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance				Total Uncertainty Axis	Separation Factor	Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)				
0.0	0.0	1.0	1.0	0.0	0.0	0.00	10.9	0.0	10.9					
100.0	100.0	101.0	101.0	0.1	0.1	0.00	10.9	0.0	10.9	10.7	0.26	41.467		
200.0	200.0	201.0	201.0	0.3	0.3	0.00	10.9	0.0	10.9	10.3	0.61	17.839		
300.0	300.0	301.0	301.0	0.5	0.5	0.00	10.9	0.0	10.9	10.0	0.96	11.364 CC, ES		
400.0	400.0	401.0	401.0	0.7	0.7	146.77	10.9	0.0	11.6	10.3	1.31	8.886		
500.0	500.0	501.1	501.1	0.8	0.8	150.36	10.3	-0.6	13.2	11.5	1.66	7.953		
600.0	599.9	601.3	601.3	1.0	1.0	152.22	8.4	-2.5	15.0	13.0	2.01	7.433		
700.0	699.7	701.5	701.4	1.2	1.2	152.82	5.4	-5.6	16.9	14.5	2.37	7.125		
800.0	799.4	801.8	801.4	1.4	1.4	152.54	1.0	-10.0	19.0	16.2	2.73	6.935		
900.0	898.9	902.0	901.4	1.7	1.6	151.63	-4.5	-15.6	21.2	18.1	3.11	6.816		
1,000.0	998.3	1,002.3	1,001.2	1.9	1.8	150.29	-11.3	-22.5	23.6	20.1	3.50	6.737		
1,100.0	1,097.4	1,102.6	1,100.8	2.2	2.1	148.67	-19.3	-30.6	26.2	22.2	3.92	6.680		
1,200.0	1,196.3	1,202.9	1,200.3	2.5	2.3	146.87	-28.5	-40.0	28.9	24.6	4.36	6.631		
1,300.0	1,294.9	1,303.2	1,299.5	2.8	2.6	144.97	-39.0	-50.6	31.9	27.0	4.84	6.582		
1,400.0	1,393.3	1,403.6	1,398.5	3.1	2.9	143.03	-50.6	-62.4	35.1	29.7	5.37	6.527		
1,500.0	1,491.2	1,504.0	1,497.1	3.5	3.3	141.09	-63.5	-75.5	38.5	32.5	5.95	6.465		
1,600.0	1,588.9	1,603.9	1,595.2	3.9	3.6	139.92	-77.1	-89.2	42.6	36.0	6.55	6.503		
1,700.0	1,686.3	1,703.8	1,693.2	4.3	4.0	139.66	-90.6	-102.9	47.4	40.2	7.14	6.636		
1,800.0	1,783.8	1,803.7	1,791.2	4.7	4.3	139.45	-104.2	-116.7	52.1	44.4	7.73	6.742		
1,900.0	1,881.2	1,903.6	1,889.2	5.1	4.7	139.28	-117.7	-130.4	56.9	48.6	8.34	6.827		
2,000.0	1,978.6	2,003.5	1,987.2	5.6	5.1	139.13	-131.3	-144.1	61.7	52.8	8.95	6.897		
2,100.0	2,076.1	2,103.3	2,085.2	6.0	5.4	139.01	-144.8	-157.9	66.5	56.9	9.56	6.956		
2,200.0	2,173.5	2,203.2	2,183.2	6.4	5.8	138.90	-158.4	-171.6	71.3	61.1	10.17	7.005		
2,300.0	2,270.9	2,303.1	2,281.3	6.8	6.2	138.80	-171.9	-185.3	76.0	65.2	10.79	7.046		
2,400.0	2,368.4	2,403.0	2,379.3	7.2	6.6	138.72	-185.4	-199.0	80.8	69.4	11.41	7.082		
2,500.0	2,465.8	2,502.9	2,477.3	7.7	6.9	138.64	-199.0	-212.8	85.6	73.6	12.03	7.112		
2,600.0	2,563.3	2,602.8	2,575.3	8.1	7.3	138.57	-212.5	-226.5	90.4	77.7	12.66	7.139		
2,700.0	2,660.7	2,702.7	2,673.3	8.5	7.7	138.51	-226.1	-240.2	95.1	81.9	13.28	7.163		
2,800.0	2,758.1	2,802.5	2,771.3	8.9	8.1	138.46	-239.6	-254.0	99.9	86.0	13.91	7.183		
2,900.0	2,855.6	2,902.4	2,869.3	9.4	8.4	138.41	-253.2	-267.7	104.7	90.2	14.54	7.202		
3,000.0	2,953.0	3,002.3	2,967.3	9.8	8.8	138.36	-266.7	-281.4	109.5	94.3	15.17	7.218		
3,100.0	3,050.5	3,102.2	3,065.3	10.2	9.2	138.32	-280.3	-295.1	114.3	98.5	15.80	7.233		
3,200.0	3,147.9	3,202.1	3,163.3	10.7	9.6	138.29	-293.8	-308.9	119.0	102.6	16.43	7.246		
3,300.0	3,245.3	3,302.0	3,261.3	11.1	9.9	138.25	-307.4	-322.6	123.8	106.8	17.06	7.258		
3,400.0	3,342.8	3,401.9	3,359.3	11.5	10.3	138.22	-320.9	-336.3	128.6	110.9	17.69	7.269		
3,500.0	3,440.2	3,501.7	3,457.3	11.9	10.7	138.19	-334.4	-350.1	133.4	115.1	18.32	7.279		
3,600.0	3,537.6	3,601.6	3,555.3	12.4	11.1	138.16	-348.0	-363.8	138.2	119.2	18.96	7.288		
3,700.0	3,635.1	3,701.5	3,653.3	12.8	11.5	138.13	-361.5	-377.5	142.9	123.4	19.59	7.296		
3,800.0	3,732.5	3,801.4	3,751.3	13.2	11.8	138.11	-375.1	-391.3	147.7	127.5	20.22	7.304		
3,900.0	3,830.0	3,901.3	3,849.4	13.7	12.2	138.09	-388.6	-405.0	152.5	131.6	20.86	7.311		
4,000.0	3,927.4	4,001.2	3,947.4	14.1	12.6	138.06	-402.2	-418.7	157.3	135.8	21.49	7.318		
4,100.0	4,024.8	4,101.1	4,045.4	14.5	13.0	138.04	-415.7	-432.4	162.1	139.9	22.13	7.324		
4,200.0	4,122.3	4,200.9	4,143.4	15.0	13.4	138.02	-429.3	-446.2	166.8	144.1	22.76	7.329		
4,300.0	4,219.7	4,300.8	4,241.4	15.4	13.7	138.01	-442.8	-459.9	171.6	148.2	23.40	7.335		
4,400.0	4,317.2	4,400.7	4,339.4	15.8	14.1	137.99	-456.4	-473.6	176.4	152.4	24.03	7.340		
4,500.0	4,414.6	4,500.6	4,437.4	16.2	14.5	137.97	-469.9	-487.4	181.2	156.5	24.67	7.344		
4,600.0	4,512.0	4,600.5	4,535.4	16.7	14.9	137.96	-483.4	-501.1	186.0	160.7	25.31	7.349		
4,700.0	4,609.5	4,700.4	4,633.4	17.1	15.3	137.94	-497.0	-514.8	190.7	164.8	25.94	7.353		
4,800.0	4,706.9	4,800.3	4,731.4	17.5	15.6	137.93	-510.5	-528.5	195.5	168.9	26.58	7.356		
4,900.0	4,804.3	4,900.1	4,829.4	18.0	16.0	137.92	-524.1	-542.3	200.3	173.1	27.21	7.360		
5,000.0	4,901.8	5,000.0	4,927.4	18.4	16.4	137.90	-537.6	-556.0	205.1	177.2	27.85	7.363		
5,100.0	4,999.2	5,099.9	5,025.4	18.8	16.8	137.89	-551.2	-569.7	209.9	181.4	28.49	7.367		

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



# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Bohrer 2H-19H-E368
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	WELL @ 5083.0ft (Original Well Elev)
<b>Reference Site:</b>	S19-T3N-R68W (Bohrer)	<b>MD Reference:</b>	WELL @ 5083.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Bohrer 2H-19H-E368	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Hz	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S19-T3N-R68W (Bohrer) - Bohrer 2G-19H-E368 - Hz - Plan #1													Offset Site Error:	0.0 ft
Survey Program: O-Geolink MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance				Total		Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Uncertainty Axis	Separation Factor		
5,200.0	5,096.7	5,199.8	5,123.4	19.3	17.2	137.88	-564.7	-583.5	214.6	185.5	29.13	7.370		
5,300.0	5,194.1	5,299.7	5,221.4	19.7	17.5	137.87	-578.3	-597.2	219.4	189.7	29.76	7.372		
5,400.0	5,291.5	5,399.6	5,319.4	20.1	17.9	137.86	-591.8	-610.9	224.2	193.8	30.40	7.375		
5,500.0	5,389.0	5,499.5	5,417.4	20.6	18.3	137.85	-605.4	-624.7	229.0	197.9	31.04	7.378		
5,600.0	5,486.4	5,599.3	5,515.5	21.0	18.7	137.84	-618.9	-638.4	233.8	202.1	31.67	7.380		
5,700.0	5,583.9	5,699.2	5,613.5	21.4	19.1	137.83	-632.4	-652.1	238.5	206.2	32.31	7.382		
5,800.0	5,681.3	5,799.1	5,711.5	21.9	19.4	137.82	-646.0	-665.8	243.3	210.4	32.95	7.385		
5,900.0	5,778.7	5,899.0	5,809.5	22.3	19.8	137.81	-659.5	-679.6	248.1	214.5	33.59	7.387		
6,000.0	5,876.2	5,998.9	5,907.5	22.7	20.2	137.80	-673.1	-693.3	252.9	218.7	34.22	7.389		
6,100.0	5,973.6	6,098.8	6,005.5	23.2	20.6	137.80	-686.6	-707.0	257.7	222.8	34.86	7.391		
6,200.0	6,071.1	6,198.7	6,103.5	23.6	21.0	137.79	-700.2	-720.8	262.4	226.9	35.50	7.393		
6,300.0	6,168.5	6,298.5	6,201.5	24.0	21.4	137.78	-713.7	-734.5	267.2	231.1	36.14	7.394		
6,400.0	6,265.9	6,402.8	6,304.4	24.4	21.6	139.29	-727.9	-741.6	271.3	235.2	36.05	7.524		
6,500.0	6,363.4	6,502.3	6,402.3	24.9	21.7	144.29	-741.5	-730.9	274.8	240.5	34.27	8.020		
6,600.0	6,460.9	6,591.6	6,487.4	25.3	21.6	160.44	-753.2	-706.9	282.1	250.8	31.24	9.028		
6,700.0	6,559.0	6,674.1	6,561.8	25.6	21.4	-141.78	-763.5	-673.1	295.1	267.1	28.02	10.531		
6,800.0	6,655.8	6,750.0	6,625.5	25.7	21.2	-105.07	-772.3	-632.7	311.9	286.2	25.79	12.094		
6,900.0	6,748.2	6,828.7	6,685.2	25.7	20.9	-86.74	-780.6	-582.4	330.5	306.1	24.46	13.515		
7,000.0	6,833.5	6,900.0	6,733.1	25.5	20.6	-76.10	-787.2	-529.9	349.1	325.3	23.82	14.655		
7,100.0	6,909.0	6,974.2	6,775.6	25.3	20.3	-68.93	-793.1	-469.4	366.4	342.9	23.50	15.592		
7,200.0	6,972.5	7,050.0	6,810.6	25.0	19.9	-63.95	-797.9	-402.5	381.2	357.9	23.32	16.349		
7,300.0	7,022.0	7,114.6	6,833.4	24.7	19.7	-60.77	-801.1	-342.1	392.9	369.5	23.35	16.823		
7,400.0	7,056.1	7,183.7	6,850.1	24.5	19.5	-58.73	-803.4	-275.1	400.9	377.1	23.75	16.877		
7,500.0	7,073.6	7,250.0	6,858.6	24.3	19.4	-57.76	-804.5	-209.5	404.9	380.3	24.62	16.447		
7,600.0	7,076.0	7,335.0	6,860.0	24.3	19.3	-57.64	-804.7	-124.5	405.4	379.5	25.95	15.625		
7,700.0	7,076.0	7,435.0	6,860.0	24.4	19.5	-57.64	-804.7	-24.5	405.4	377.8	27.64	14.665		
7,800.0	7,076.0	7,535.0	6,860.0	24.8	20.1	-57.64	-804.7	75.5	405.4	375.6	29.84	13.587		
7,900.0	7,076.0	7,635.0	6,860.0	25.4	21.2	-57.64	-804.7	175.5	405.4	373.0	32.42	12.503		
8,000.0	7,076.0	7,735.0	6,860.0	26.3	22.6	-57.64	-804.7	275.5	405.4	370.1	35.32	11.478		
8,100.0	7,076.0	7,835.0	6,860.0	27.6	24.3	-57.64	-804.7	375.5	405.4	366.9	38.45	10.542		
8,200.0	7,076.0	7,935.0	6,860.0	29.0	26.1	-57.64	-804.7	475.5	405.4	363.6	41.77	9.705		
8,300.0	7,076.0	8,035.0	6,860.0	30.7	28.1	-57.64	-804.7	575.5	405.4	360.2	45.24	8.962		
8,400.0	7,076.0	8,135.0	6,860.0	32.4	30.1	-57.64	-804.7	675.5	405.4	356.6	48.81	8.305		
8,500.0	7,076.0	8,235.0	6,860.0	34.3	32.2	-57.64	-804.7	775.5	405.4	352.9	52.48	7.725		
8,600.0	7,076.0	8,335.0	6,860.0	36.3	34.3	-57.64	-804.7	875.5	405.4	349.2	56.22	7.211		
8,700.0	7,076.0	8,435.0	6,860.0	38.4	36.5	-57.64	-804.7	975.5	405.4	345.4	60.02	6.754		
8,800.0	7,076.0	8,535.0	6,860.0	40.5	38.7	-57.64	-804.7	1,075.5	405.4	341.5	63.87	6.348		
8,900.0	7,076.0	8,635.0	6,860.0	42.6	40.9	-57.64	-804.7	1,175.5	405.4	337.6	67.75	5.983		
9,000.0	7,076.0	8,735.0	6,860.0	44.8	43.2	-57.64	-804.7	1,275.5	405.4	333.7	71.67	5.656		
9,100.0	7,076.0	8,835.0	6,860.0	47.0	45.5	-57.64	-804.7	1,375.5	405.4	329.8	75.62	5.361		
9,200.0	7,076.0	8,935.0	6,860.0	49.2	47.8	-57.64	-804.7	1,475.5	405.4	325.8	79.60	5.093		
9,300.0	7,076.0	9,035.0	6,860.0	51.5	50.1	-57.64	-804.7	1,575.5	405.4	321.8	83.59	4.850		
9,400.0	7,076.0	9,135.0	6,860.0	53.8	52.4	-57.64	-804.7	1,675.5	405.4	317.8	87.60	4.628		
9,500.0	7,076.0	9,235.0	6,860.0	56.1	54.8	-57.64	-804.7	1,775.5	405.4	313.8	91.63	4.424		
9,600.0	7,076.0	9,335.0	6,860.0	58.4	57.1	-57.64	-804.7	1,875.5	405.4	309.7	95.67	4.237		
9,700.0	7,076.0	9,435.0	6,860.0	60.7	59.5	-57.64	-804.7	1,975.5	405.4	305.7	99.72	4.065		
9,800.0	7,076.0	9,535.0	6,860.0	63.0	61.9	-57.64	-804.7	2,075.5	405.4	301.6	103.79	3.906		
9,900.0	7,076.0	9,635.0	6,860.0	65.4	64.2	-57.64	-804.7	2,175.5	405.4	297.5	107.86	3.759		
10,000.0	7,076.0	9,735.0	6,860.0	67.7	66.6	-57.64	-804.7	2,275.5	405.4	293.5	111.94	3.622		
10,100.0	7,076.0	9,835.0	6,860.0	70.1	69.0	-57.64	-804.7	2,375.5	405.4	289.4	116.03	3.494		
10,200.0	7,076.0	9,935.0	6,860.0	72.4	71.4	-57.64	-804.7	2,475.5	405.4	285.3	120.13	3.375		
10,300.0	7,076.0	10,035.0	6,860.0	74.8	73.8	-57.64	-804.7	2,575.5	405.4	281.2	124.23	3.263		

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



# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Bohrer 2H-19H-E368
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	WELL @ 5083.0ft (Original Well Elev)
<b>Reference Site:</b>	S19-T3N-R68W (Bohrer)	<b>MD Reference:</b>	WELL @ 5083.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Bohrer 2H-19H-E368	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Hz	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design												S19-T3N-R68W (Bohrer) - Bohrer 2G-19H-E368 - 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			Distance							Warning		
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre	Between Centres	Between Ellipses	Total Uncertainty	Separation Factor					
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	Axis					
10,400.0	7,076.0	10,135.0	6,860.0	77.2	76.2	-57.64	-804.7	2,675.5	405.4	277.1	128.33	3.159				
10,500.0	7,076.0	10,235.0	6,860.0	79.6	78.6	-57.64	-804.7	2,775.5	405.4	273.0	132.44	3.061				
10,600.0	7,076.0	10,335.0	6,860.0	82.0	81.0	-57.64	-804.7	2,875.5	405.4	268.8	136.56	2.969				
10,700.0	7,076.0	10,435.0	6,860.0	84.4	83.5	-57.64	-804.7	2,975.5	405.4	264.7	140.68	2.882				
10,800.0	7,076.0	10,535.0	6,860.0	86.8	85.9	-57.64	-804.7	3,075.5	405.4	260.6	144.80	2.800				
10,900.0	7,076.0	10,635.0	6,860.0	89.2	88.3	-57.64	-804.7	3,175.5	405.4	256.5	148.93	2.722				
11,000.0	7,076.0	10,735.0	6,860.0	91.6	90.7	-57.64	-804.7	3,275.5	405.4	252.3	153.06	2.649				
11,100.0	7,076.0	10,835.0	6,860.0	94.0	93.2	-57.64	-804.7	3,375.5	405.4	248.2	157.20	2.579				
11,200.0	7,076.0	10,935.0	6,860.0	96.4	95.6	-57.64	-804.7	3,475.5	405.4	244.1	161.33	2.513				
11,300.0	7,076.0	11,035.0	6,860.0	98.8	98.0	-57.64	-804.7	3,575.5	405.4	239.9	165.47	2.450				
11,400.0	7,076.0	11,135.0	6,860.0	101.2	100.5	-57.64	-804.7	3,675.5	405.4	235.8	169.61	2.390				
11,500.0	7,076.0	11,235.0	6,860.0	103.7	102.9	-57.64	-804.7	3,775.5	405.4	231.6	173.75	2.333				
11,600.0	7,076.0	11,335.0	6,860.0	106.1	105.3	-57.64	-804.7	3,875.5	405.4	227.5	177.90	2.279				
11,700.0	7,076.0	11,435.0	6,860.0	108.5	107.8	-57.64	-804.7	3,975.5	405.4	223.3	182.05	2.227				
11,763.0	7,076.0	11,498.0	6,860.0	110.0	109.3	-57.64	-804.7	4,038.5	405.4	220.7	184.66	2.195 SF				



# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Bohrer 2H-19H-E368
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	WELL @ 5083.0ft (Original Well Elev)
<b>Reference Site:</b>	S19-T3N-R68W (Bohrer)	<b>MD Reference:</b>	WELL @ 5083.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Bohrer 2H-19H-E368	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Hz	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S19-T3N-R68W (Bohrer) - Bohrer 2I-19H-E368 - 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			Distance							Warning
Measured Depth	Vertical	Measured	Vertical	Reference	Offset	Highside	Offset Wellbore Centre		Between	Between	Total	Separation		
Depth (ft)	Depth (ft)	Depth (ft)	Depth (ft)	(ft)	(ft)	Toolface (°)	+N/-S (ft)	+E/-W (ft)	Centres (ft)	Ellipses (ft)	Uncertainty Axis	Factor		
0.0	0.0	0.0	0.0	0.0	0.0	-180.00	-10.9	0.0	10.9					
100.0	100.0	100.0	100.0	0.1	0.1	-180.00	-10.9	0.0	10.9	10.7	0.26	41.744		
200.0	200.0	200.0	200.0	0.3	0.3	-180.00	-10.9	0.0	10.9	10.3	0.61	17.890 CC, ES		
300.0	300.0	299.8	299.8	0.5	0.5	-177.94	-11.7	-0.4	11.7	10.7	0.96	12.181		
400.0	400.0	399.6	399.6	0.7	0.7	-30.68	-14.0	-1.7	13.3	12.0	1.31	10.174		
500.0	500.0	499.4	499.2	0.8	0.8	-29.07	-17.8	-3.8	15.1	13.4	1.66	9.068		
600.0	599.9	599.1	598.8	1.0	1.0	-28.43	-23.1	-6.7	16.9	14.9	2.01	8.382		
700.0	699.7	698.8	698.2	1.2	1.3	-28.50	-29.9	-10.5	18.8	16.4	2.37	7.921		
800.0	799.4	798.4	797.4	1.4	1.5	-29.08	-38.3	-15.1	20.8	18.1	2.74	7.591		
900.0	898.9	898.1	896.3	1.7	1.7	-30.02	-48.1	-20.5	22.9	19.8	3.12	7.341		
1,000.0	998.3	997.7	995.1	1.9	2.0	-31.23	-59.5	-26.8	25.1	21.6	3.51	7.140		
1,100.0	1,097.4	1,097.2	1,093.6	2.2	2.3	-32.63	-72.3	-33.9	27.4	23.4	3.93	6.967		
1,200.0	1,196.3	1,196.8	1,191.7	2.5	2.6	-34.16	-86.7	-41.8	29.8	25.4	4.37	6.810		
1,300.0	1,294.9	1,296.2	1,289.6	2.8	3.0	-35.77	-102.5	-50.5	32.3	27.4	4.85	6.660		
1,400.0	1,393.3	1,395.7	1,387.0	3.1	3.4	-37.43	-119.8	-60.0	34.9	29.6	5.36	6.510		
1,500.0	1,491.2	1,495.1	1,484.1	3.5	3.8	-39.11	-138.6	-70.4	37.7	31.8	5.93	6.359		
1,600.0	1,588.9	1,594.5	1,580.8	3.9	4.2	-40.79	-158.8	-81.6	40.6	34.1	6.55	6.205		
1,700.0	1,686.3	1,693.8	1,677.0	4.3	4.6	-41.72	-180.5	-93.5	44.4	37.2	7.17	6.183		
1,800.0	1,783.8	1,793.0	1,772.6	4.7	5.1	-41.33	-203.6	-106.3	49.5	41.8	7.75	6.387		
1,900.0	1,881.2	1,892.4	1,868.0	5.1	5.6	-40.13	-228.0	-119.8	55.9	47.7	8.27	6.761		
2,000.0	1,978.6	1,992.2	1,963.7	5.6	6.1	-39.05	-252.8	-133.4	62.6	53.8	8.79	7.122		
2,100.0	2,076.1	2,092.0	2,059.4	6.0	6.7	-38.18	-277.5	-147.1	69.2	59.9	9.30	7.443		
2,200.0	2,173.5	2,191.7	2,155.0	6.4	7.2	-37.47	-302.3	-160.7	75.9	66.1	9.82	7.730		
2,300.0	2,270.9	2,291.5	2,250.7	6.8	7.7	-36.87	-327.0	-174.4	82.6	72.3	10.34	7.989		
2,400.0	2,368.4	2,391.3	2,346.4	7.2	8.2	-36.36	-351.7	-188.0	89.3	78.4	10.86	8.222		
2,500.0	2,465.8	2,491.1	2,442.1	7.7	8.7	-35.92	-376.5	-201.7	96.0	84.6	11.38	8.435		
2,600.0	2,563.3	2,590.8	2,537.8	8.1	9.2	-35.54	-401.2	-215.3	102.7	90.8	11.90	8.628		
2,700.0	2,660.7	2,690.6	2,633.5	8.5	9.8	-35.21	-426.0	-228.9	109.4	97.0	12.43	8.805		
2,800.0	2,758.1	2,790.4	2,729.2	8.9	10.3	-34.91	-450.7	-242.6	116.1	103.2	12.95	8.968		
2,900.0	2,855.6	2,890.2	2,824.9	9.4	10.8	-34.65	-475.4	-256.2	122.8	109.4	13.47	9.118		
3,000.0	2,953.0	2,989.9	2,920.6	9.8	11.3	-34.41	-500.2	-269.9	129.6	115.6	14.00	9.256		
3,100.0	3,050.5	3,089.7	3,016.2	10.2	11.8	-34.20	-524.9	-283.5	136.3	121.8	14.52	9.385		
3,200.0	3,147.9	3,189.5	3,111.9	10.7	12.4	-34.00	-549.7	-297.2	143.0	128.0	15.05	9.504		
3,300.0	3,245.3	3,289.2	3,207.6	11.1	12.9	-33.83	-574.4	-310.8	149.7	134.2	15.57	9.615		
3,400.0	3,342.8	3,389.0	3,303.3	11.5	13.4	-33.67	-599.1	-324.5	156.4	140.4	16.10	9.719		
3,500.0	3,440.2	3,488.8	3,399.0	11.9	13.9	-33.52	-623.9	-338.1	163.2	146.6	16.62	9.816		
3,600.0	3,537.6	3,588.6	3,494.7	12.4	14.5	-33.39	-648.6	-351.8	169.9	152.8	17.15	9.908		
3,700.0	3,635.1	3,688.3	3,590.4	12.8	15.0	-33.26	-673.4	-365.4	176.6	159.0	17.67	9.993		
3,800.0	3,732.5	3,788.1	3,686.1	13.2	15.5	-33.14	-698.1	-379.1	183.4	165.2	18.20	10.074		
3,900.0	3,830.0	3,887.9	3,781.7	13.7	16.0	-33.04	-722.8	-392.7	190.1	171.4	18.73	10.150		
4,000.0	3,927.4	3,987.7	3,877.4	14.1	16.6	-32.94	-747.6	-406.4	196.8	177.6	19.25	10.222		
4,100.0	4,024.8	4,087.4	3,973.1	14.5	17.1	-32.84	-772.3	-420.0	203.5	183.8	19.78	10.290		
4,200.0	4,122.3	4,187.2	4,068.8	15.0	17.6	-32.75	-797.1	-433.7	210.3	190.0	20.31	10.354		
4,300.0	4,219.7	4,287.0	4,164.5	15.4	18.1	-32.67	-821.8	-447.3	217.0	196.2	20.83	10.416		
4,400.0	4,317.2	4,386.7	4,260.2	15.8	18.7	-32.59	-846.5	-461.0	223.7	202.4	21.36	10.474		
4,500.0	4,414.6	4,486.5	4,355.9	16.2	19.2	-32.52	-871.3	-474.6	230.5	208.6	21.89	10.529		
4,600.0	4,512.0	4,586.3	4,451.6	16.7	19.7	-32.45	-896.0	-488.3	237.2	214.8	22.42	10.582		
4,700.0	4,609.5	4,686.1	4,547.3	17.1	20.2	-32.39	-920.8	-501.9	243.9	221.0	22.94	10.632		
4,800.0	4,706.9	4,785.8	4,642.9	17.5	20.8	-32.33	-945.5	-515.5	250.7	227.2	23.47	10.680		
4,900.0	4,804.3	4,885.6	4,738.6	18.0	21.3	-32.27	-970.2	-529.2	257.4	233.4	24.00	10.725		
5,000.0	4,901.8	4,985.4	4,834.3	18.4	21.8	-32.21	-995.0	-542.8	264.1	239.6	24.53	10.769		
5,100.0	4,999.2	5,085.2	4,930.0	18.8	22.3	-32.16	-1,019.7	-556.5	270.9	245.8	25.05	10.811		

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



# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Bohrer 2H-19H-E368
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	WELL @ 5083.0ft (Original Well Elev)
<b>Reference Site:</b>	S19-T3N-R68W (Bohrer)	<b>MD Reference:</b>	WELL @ 5083.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Bohrer 2H-19H-E368	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Hz	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S19-T3N-R68W (Bohrer) - Bohrer 2I-19H-E368 - 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			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor		
5,200.0	5,096.7	5,184.9	5,025.7	19.3	22.9	-32.11	-1,044.5	-570.1	277.6	252.0	25.58	10.851		
5,300.0	5,194.1	5,284.7	5,121.4	19.7	23.4	-32.06	-1,069.2	-583.8	284.3	258.2	26.11	10.890		
5,400.0	5,291.5	5,384.5	5,217.1	20.1	23.9	-32.02	-1,093.9	-597.4	291.1	264.4	26.64	10.927		
5,500.0	5,389.0	5,484.2	5,312.8	20.6	24.4	-31.97	-1,118.7	-611.1	297.8	270.6	27.17	10.962		
5,600.0	5,486.4	5,584.0	5,408.4	21.0	25.0	-31.93	-1,143.4	-624.7	304.5	276.8	27.69	10.997		
5,700.0	5,583.9	5,683.8	5,504.1	21.4	25.5	-31.89	-1,168.2	-638.4	311.3	283.0	28.22	11.029		
5,800.0	5,681.3	5,783.6	5,599.8	21.9	26.0	-31.85	-1,192.9	-652.0	318.0	289.2	28.75	11.061		
5,900.0	5,778.7	5,883.3	5,695.5	22.3	26.5	-31.82	-1,217.6	-665.7	324.7	295.5	29.28	11.092		
6,000.0	5,876.2	5,983.1	5,791.2	22.7	27.1	-31.78	-1,242.4	-679.3	331.5	301.7	29.81	11.121		
6,100.0	5,973.6	6,082.9	5,886.9	23.2	27.6	-31.75	-1,267.1	-693.0	338.2	307.9	30.33	11.149		
6,200.0	6,071.1	6,182.7	5,982.6	23.6	28.1	-31.72	-1,291.9	-706.6	344.9	314.1	30.86	11.177		
6,300.0	6,168.5	6,282.4	6,078.3	24.0	28.7	-31.69	-1,316.6	-720.3	351.7	320.3	31.39	11.203		
6,400.0	6,265.9	6,382.2	6,174.0	24.4	29.2	-31.66	-1,341.3	-733.9	358.4	326.5	31.92	11.229		
6,500.0	6,363.4	6,483.3	6,271.1	24.9	29.7	-31.88	-1,366.5	-746.1	365.1	332.5	32.54	11.217		
6,600.0	6,460.9	6,583.6	6,368.1	25.3	30.1	-25.64	-1,391.5	-743.5	371.4	337.2	34.25	10.844		
6,700.0	6,559.0	6,679.9	6,459.4	25.6	30.3	20.55	-1,415.1	-724.7	378.6	342.5	36.17	10.468		
6,800.0	6,655.8	6,773.2	6,543.7	25.7	30.4	47.05	-1,437.0	-691.6	386.7	349.3	37.35	10.354		
6,900.0	6,748.2	6,864.0	6,619.8	25.7	30.4	56.23	-1,456.6	-646.2	395.1	357.5	37.59	10.511		
7,000.0	6,833.5	6,950.0	6,684.6	25.5	30.4	59.49	-1,473.4	-592.3	403.5	366.6	36.86	10.946		
7,100.0	6,909.0	7,039.6	6,743.0	25.3	30.2	60.42	-1,488.5	-526.2	411.3	376.0	35.24	11.669		
7,200.0	6,972.5	7,125.2	6,788.8	25.0	30.1	60.53	-1,500.3	-455.0	418.1	385.1	33.03	12.658		
7,300.0	7,022.0	7,209.7	6,823.5	24.7	30.0	60.32	-1,509.3	-378.6	423.5	392.9	30.67	13.810		
7,400.0	7,056.1	7,293.5	6,846.8	24.5	29.9	60.06	-1,515.3	-298.4	427.4	398.6	28.78	14.852		
7,500.0	7,073.6	7,376.9	6,858.5	24.3	29.8	59.88	-1,518.3	-216.0	429.5	401.5	27.99	15.344		
7,600.0	7,076.0	7,468.4	6,860.0	24.3	29.8	59.83	-1,518.7	-124.5	429.8	401.0	28.75	14.951		
7,700.0	7,076.0	7,568.4	6,860.0	24.4	29.9	59.83	-1,518.7	-24.5	429.8	399.4	30.38	14.149		
7,800.0	7,076.0	7,668.4	6,860.0	24.8	30.1	59.83	-1,518.7	75.5	429.8	397.3	32.49	13.230		
7,900.0	7,076.0	7,768.4	6,860.0	25.4	30.6	59.83	-1,518.7	175.5	429.8	394.8	34.99	12.282		
8,000.0	7,076.0	7,868.4	6,860.0	26.3	31.2	59.83	-1,518.7	275.5	429.8	392.0	37.82	11.363		
8,100.0	7,076.0	7,968.4	6,860.0	27.6	32.1	59.83	-1,518.7	375.5	429.8	388.9	40.91	10.507		
8,200.0	7,076.0	8,068.4	6,860.0	29.0	33.2	59.83	-1,518.7	475.5	429.8	385.6	44.19	9.726		
8,300.0	7,076.0	8,168.4	6,860.0	30.7	34.4	59.83	-1,518.7	575.5	429.8	382.2	47.63	9.023		
8,400.0	7,076.0	8,268.4	6,860.0	32.4	35.9	59.83	-1,518.7	675.5	429.8	378.6	51.20	8.394		
8,500.0	7,076.0	8,368.4	6,860.0	34.3	37.5	59.83	-1,518.7	775.5	429.8	374.9	54.87	7.832		
8,600.0	7,076.0	8,468.4	6,860.0	36.3	39.2	59.83	-1,518.7	875.5	429.8	371.2	58.63	7.331		
8,700.0	7,076.0	8,568.4	6,860.0	38.4	41.0	59.83	-1,518.7	975.5	429.8	367.3	62.45	6.882		
8,800.0	7,076.0	8,668.4	6,860.0	40.5	42.9	59.83	-1,518.7	1,075.5	429.8	363.5	66.33	6.479		
8,900.0	7,076.0	8,768.4	6,860.0	42.6	44.9	59.83	-1,518.7	1,175.5	429.8	359.5	70.26	6.117		
9,000.0	7,076.0	8,868.4	6,860.0	44.8	46.9	59.83	-1,518.7	1,275.5	429.8	355.6	74.23	5.790		
9,100.0	7,076.0	8,968.4	6,860.0	47.0	49.0	59.83	-1,518.7	1,375.5	429.8	351.6	78.22	5.494		
9,200.0	7,076.0	9,068.4	6,860.0	49.2	51.1	59.83	-1,518.7	1,475.5	429.8	347.5	82.25	5.225		
9,300.0	7,076.0	9,168.4	6,860.0	51.5	53.3	59.83	-1,518.7	1,575.5	429.8	343.5	86.31	4.980		
9,400.0	7,076.0	9,268.4	6,860.0	53.8	55.5	59.83	-1,518.7	1,675.5	429.8	339.4	90.38	4.755		
9,500.0	7,076.0	9,368.4	6,860.0	56.1	57.7	59.83	-1,518.7	1,775.5	429.8	335.3	94.47	4.549		
9,600.0	7,076.0	9,468.4	6,860.0	58.4	59.9	59.83	-1,518.7	1,875.5	429.8	331.2	98.58	4.360		
9,700.0	7,076.0	9,568.4	6,860.0	60.7	62.2	59.83	-1,518.7	1,975.5	429.8	327.1	102.70	4.185		
9,800.0	7,076.0	9,668.4	6,860.0	63.0	64.5	59.83	-1,518.7	2,075.5	429.8	323.0	106.84	4.023		
9,900.0	7,076.0	9,768.4	6,860.0	65.4	66.8	59.83	-1,518.7	2,175.5	429.8	318.8	110.98	3.873		
10,000.0	7,076.0	9,868.4	6,860.0	67.7	69.1	59.83	-1,518.7	2,275.5	429.8	314.7	115.14	3.733		
10,100.0	7,076.0	9,968.4	6,860.0	70.1	71.4	59.83	-1,518.7	2,375.5	429.8	310.5	119.31	3.602		
10,200.0	7,076.0	10,068.4	6,860.0	72.4	73.7	59.83	-1,518.7	2,475.5	429.8	306.3	123.48	3.481		
10,300.0	7,076.0	10,168.4	6,860.0	74.8	76.0	59.83	-1,518.7	2,575.5	429.8	302.1	127.66	3.367		

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



# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Bohrer 2H-19H-E368
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	WELL @ 5083.0ft (Original Well Elev)
<b>Reference Site:</b>	S19-T3N-R68W (Bohrer)	<b>MD Reference:</b>	WELL @ 5083.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Bohrer 2H-19H-E368	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Hz	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design												S19-T3N-R68W (Bohrer) - Bohrer 2I-19H-E368 - 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		Distance											
Measured Depth Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning				
10,400.0	7,076.0	10,268.4	6,860.0	77.2	78.4	59.83	-1,518.7	2,675.5	429.8	297.9	131.85	3.260					
10,500.0	7,076.0	10,368.4	6,860.0	79.6	80.7	59.83	-1,518.7	2,775.5	429.8	293.7	136.04	3.159					
10,600.0	7,076.0	10,468.4	6,860.0	82.0	83.1	59.83	-1,518.7	2,875.5	429.8	289.6	140.24	3.065					
10,700.0	7,076.0	10,568.4	6,860.0	84.4	85.4	59.83	-1,518.7	2,975.5	429.8	285.3	144.44	2.975					
10,800.0	7,076.0	10,668.4	6,860.0	86.8	87.8	59.83	-1,518.7	3,075.5	429.8	281.1	148.65	2.891					
10,900.0	7,076.0	10,768.4	6,860.0	89.2	90.2	59.83	-1,518.7	3,175.5	429.8	276.9	152.86	2.812					
11,000.0	7,076.0	10,868.4	6,860.0	91.6	92.6	59.83	-1,518.7	3,275.5	429.8	272.7	157.08	2.736					
11,100.0	7,076.0	10,968.4	6,860.0	94.0	95.0	59.83	-1,518.7	3,375.5	429.8	268.5	161.30	2.665					
11,200.0	7,076.0	11,068.4	6,860.0	96.4	97.3	59.83	-1,518.7	3,475.5	429.8	264.3	165.52	2.597					
11,300.0	7,076.0	11,168.4	6,860.0	98.8	99.7	59.83	-1,518.7	3,575.5	429.8	260.0	169.75	2.532					
11,400.0	7,076.0	11,268.4	6,860.0	101.2	102.1	59.83	-1,518.7	3,675.5	429.8	255.8	173.98	2.470					
11,500.0	7,076.0	11,368.4	6,860.0	103.7	104.5	59.83	-1,518.7	3,775.5	429.8	251.6	178.21	2.412					
11,600.0	7,076.0	11,468.4	6,860.0	106.1	106.9	59.83	-1,518.7	3,875.5	429.8	247.3	182.44	2.356					
11,700.0	7,076.0	11,568.4	6,860.0	108.5	109.3	59.83	-1,518.7	3,975.5	429.8	243.1	186.68	2.302					
11,743.0	7,076.0	11,611.4	6,860.0	109.6	110.4	59.83	-1,518.7	4,018.5	429.8	241.3	188.50	2.280					
11,763.0	7,076.0	11,628.6	6,860.0	110.0	110.8	59.83	-1,518.7	4,035.8	429.8	240.5	189.29	2.271 SF					



# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Bohrer 2H-19H-E368
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	WELL @ 5083.0ft (Original Well Elev)
<b>Reference Site:</b>	S19-T3N-R68W (Bohrer)	<b>MD Reference:</b>	WELL @ 5083.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Bohrer 2H-19H-E368	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Hz	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	Offset Datum

Reference Depths are relative to WELL @ 5083.0ft (Original Well Elev)  
Offset Depths are relative to Offset Datum  
Central Meridian is -105.500000 °

Coordinates are relative to: Bohrer 2H-19H-E368  
Coordinate System is US State Plane 1983, Colorado Northern Zone  
Grid Convergence at Surface is: 0.29°

