



Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well lone 1C-8H
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	WELL @ 4917.0ft (Original Well Elev)
Project:	DJ Wattenberg	MD Reference:	WELL @ 4917.0ft (Original Well Elev)
Site:	S8-T2N-R66W (lone)	North Reference:	True
Well:	lone 1C-8H	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		S8-T2N-R66W (lone)			
Site Position:		Northing:	1,297,444.41 ft	Latitude:	40.147740
From:	Lat/Long	Easting:	3,196,240.52 ft	Longitude:	-104.798020
Position Uncertainty:	0.0 ft	Slot Radius:	13.200 in	Grid Convergence:	0.45 °

Well	lone 1C-8H					
Well Position	+N/-S	0.0 ft	Northing:	1,301,630.45 ft	Latitude:	40.159220
	+E/-W	0.0 ft	Easting:	3,196,738.45 ft	Longitude:	-104.796120
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,904.0 ft

Wellbore	Hz				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	6/6/2012	8.73	66.82	52,898

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	180.00

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
4,000.0	0.00	0.00	4,000.0	0.0	0.0	0.00	0.00	0.00	0.00	
4,144.0	4.32	356.17	4,143.8	5.4	-0.4	3.00	3.00	0.00	356.17	
6,719.0	4.32	356.17	6,711.6	198.9	-13.3	0.00	0.00	0.00	0.00	
7,766.9	90.00	180.00	7,396.0	-435.9	-16.8	9.00	8.18	-16.81	-176.16	
11,920.9	90.00	180.00	7,396.0	-4,589.9	-16.8	0.00	0.00	0.00	0.00	lone 1C-8H PBHL

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Project:	DJ Wattenberg	MD Reference:	WELL @ 4917.0ft (Original Well Elev)
Site:	S8-T2N-R66W (lone)	North Reference:	True
Well:	lone 1C-8H	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	
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.00	0.00	
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	
1,100.0	0.00	0.00	1,100.0	0.0	0.0	0.0	0.00	0.00	
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.0	0.00	0.00	
1,300.0	0.00	0.00	1,300.0	0.0	0.0	0.0	0.00	0.00	
1,400.0	0.00	0.00	1,400.0	0.0	0.0	0.0	0.00	0.00	
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.0	0.00	0.00	
1,600.0	0.00	0.00	1,600.0	0.0	0.0	0.0	0.00	0.00	
1,700.0	0.00	0.00	1,700.0	0.0	0.0	0.0	0.00	0.00	
1,800.0	0.00	0.00	1,800.0	0.0	0.0	0.0	0.00	0.00	
1,900.0	0.00	0.00	1,900.0	0.0	0.0	0.0	0.00	0.00	
2,000.0	0.00	0.00	2,000.0	0.0	0.0	0.0	0.00	0.00	
2,100.0	0.00	0.00	2,100.0	0.0	0.0	0.0	0.00	0.00	
2,200.0	0.00	0.00	2,200.0	0.0	0.0	0.0	0.00	0.00	
2,300.0	0.00	0.00	2,300.0	0.0	0.0	0.0	0.00	0.00	
2,400.0	0.00	0.00	2,400.0	0.0	0.0	0.0	0.00	0.00	
2,500.0	0.00	0.00	2,500.0	0.0	0.0	0.0	0.00	0.00	
2,600.0	0.00	0.00	2,600.0	0.0	0.0	0.0	0.00	0.00	
2,700.0	0.00	0.00	2,700.0	0.0	0.0	0.0	0.00	0.00	
2,800.0	0.00	0.00	2,800.0	0.0	0.0	0.0	0.00	0.00	
2,900.0	0.00	0.00	2,900.0	0.0	0.0	0.0	0.00	0.00	
3,000.0	0.00	0.00	3,000.0	0.0	0.0	0.0	0.00	0.00	
3,100.0	0.00	0.00	3,100.0	0.0	0.0	0.0	0.00	0.00	
3,200.0	0.00	0.00	3,200.0	0.0	0.0	0.0	0.00	0.00	
3,300.0	0.00	0.00	3,300.0	0.0	0.0	0.0	0.00	0.00	
3,400.0	0.00	0.00	3,400.0	0.0	0.0	0.0	0.00	0.00	
3,500.0	0.00	0.00	3,500.0	0.0	0.0	0.0	0.00	0.00	
3,600.0	0.00	0.00	3,600.0	0.0	0.0	0.0	0.00	0.00	
3,700.0	0.00	0.00	3,700.0	0.0	0.0	0.0	0.00	0.00	
3,800.0	0.00	0.00	3,800.0	0.0	0.0	0.0	0.00	0.00	
3,900.0	0.00	0.00	3,900.0	0.0	0.0	0.0	0.00	0.00	
4,000.0	0.00	0.00	4,000.0	0.0	0.0	0.0	0.00	0.00	KOP @ 4000'
4,100.0	3.00	356.17	4,100.0	2.6	-0.2	-2.6	3.00	3.00	
4,144.0	4.32	356.17	4,143.8	5.4	-0.4	-5.4	3.00	3.00	EOB; Inc=4.32°
4,200.0	4.32	356.17	4,199.7	9.6	-0.6	-9.6	0.00	0.00	
4,300.0	4.32	356.17	4,299.4	17.1	-1.1	-17.1	0.00	0.00	
4,394.8	4.32	356.17	4,394.0	24.3	-1.6	-24.3	0.00	0.00	Sussex
4,400.0	4.32	356.17	4,399.1	24.6	-1.7	-24.6	0.00	0.00	
4,500.0	4.32	356.17	4,498.9	32.2	-2.2	-32.2	0.00	0.00	
4,600.0	4.32	356.17	4,598.6	39.7	-2.7	-39.7	0.00	0.00	
4,681.7	4.32	356.17	4,680.0	45.8	-3.1	-45.8	0.00	0.00	Sussex Marker
4,700.0	4.32	356.17	4,698.3	47.2	-3.2	-47.2	0.00	0.00	
4,800.0	4.32	356.17	4,798.0	54.7	-3.7	-54.7	0.00	0.00	

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Site:	S8-T2N-R66W (lone)	North Reference:	True
Well:	lone 1C-8H	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
4,900.0	4.32	356.17	4,897.7	62.2	-4.2	-62.2	0.00	0.00	
4,987.5	4.32	356.17	4,985.0	68.8	-4.6	-68.8	0.00	0.00	Shannon
5,000.0	4.32	356.17	4,997.4	69.7	-4.7	-69.7	0.00	0.00	
5,100.0	4.32	356.17	5,097.1	77.2	-5.2	-77.2	0.00	0.00	
5,200.0	4.32	356.17	5,196.9	84.8	-5.7	-84.8	0.00	0.00	
5,300.0	4.32	356.17	5,296.6	92.3	-6.2	-92.3	0.00	0.00	
5,400.0	4.32	356.17	5,396.3	99.8	-6.7	-99.8	0.00	0.00	
5,500.0	4.32	356.17	5,496.0	107.3	-7.2	-107.3	0.00	0.00	
5,600.0	4.32	356.17	5,595.7	114.8	-7.7	-114.8	0.00	0.00	
5,700.0	4.32	356.17	5,695.4	122.3	-8.2	-122.3	0.00	0.00	
5,800.0	4.32	356.17	5,795.2	129.8	-8.7	-129.8	0.00	0.00	
5,900.0	4.32	356.17	5,894.9	137.3	-9.2	-137.3	0.00	0.00	
6,000.0	4.32	356.17	5,994.6	144.9	-9.7	-144.9	0.00	0.00	
6,100.0	4.32	356.17	6,094.3	152.4	-10.2	-152.4	0.00	0.00	
6,200.0	4.32	356.17	6,194.0	159.9	-10.7	-159.9	0.00	0.00	
6,300.0	4.32	356.17	6,293.7	167.4	-11.2	-167.4	0.00	0.00	
6,400.0	4.32	356.17	6,393.5	174.9	-11.7	-174.9	0.00	0.00	
6,500.0	4.32	356.17	6,493.2	182.4	-12.2	-182.4	0.00	0.00	
6,600.0	4.32	356.17	6,592.9	189.9	-12.7	-189.9	0.00	0.00	
6,700.0	4.32	356.17	6,692.6	197.5	-13.2	-197.5	0.00	0.00	
6,719.0	4.32	356.17	6,711.6	198.9	-13.3	-198.9	0.00	0.00	Start 9° build @ 6719' MD
6,800.0	2.99	185.54	6,792.5	199.8	-13.7	-199.8	9.00	-1.63	
6,900.0	11.98	181.36	6,891.5	186.8	-14.2	-186.8	9.00	8.99	
7,000.0	20.98	180.75	6,987.3	158.5	-14.7	-158.5	9.00	9.00	
7,061.9	26.56	180.58	7,044.0	133.5	-15.0	-133.5	9.00	9.00	Sharon Springs
7,100.0	29.98	180.50	7,077.5	115.5	-15.2	-115.5	9.00	9.00	
7,166.2	35.94	180.40	7,133.0	79.5	-15.4	-79.5	9.00	9.00	Niobrara
7,200.0	38.98	180.36	7,159.9	58.9	-15.6	-58.9	9.00	9.00	
7,229.0	41.59	180.33	7,182.0	40.2	-15.7	-40.2	9.00	9.00	B Chalk
7,300.0	47.98	180.26	7,232.3	-9.8	-15.9	9.8	9.00	9.00	
7,400.0	56.98	180.19	7,293.2	-89.0	-16.3	89.0	9.00	9.00	
7,500.0	65.98	180.13	7,340.9	-176.8	-16.5	176.8	9.00	9.00	
7,587.9	73.89	180.08	7,371.0	-259.3	-16.6	259.3	9.00	9.00	Ft. Hayes
7,600.0	74.98	180.08	7,374.3	-271.0	-16.7	271.0	9.00	9.00	
7,687.0	82.81	180.04	7,391.0	-356.3	-16.7	356.3	9.00	9.00	Codell
7,700.0	83.98	180.03	7,392.5	-369.2	-16.8	369.2	9.00	9.00	
7,766.9	90.00	180.00	7,396.0	-435.9	-16.8	435.9	9.00	9.00	Landing Pt @ 7766' MD; 90°
7,800.0	90.00	180.00	7,396.0	-469.1	-16.8	469.1	0.00	0.00	
7,900.0	90.00	180.00	7,396.0	-569.1	-16.8	569.1	0.00	0.00	
8,000.0	90.00	180.00	7,396.0	-669.1	-16.8	669.1	0.00	0.00	
8,100.0	90.00	180.00	7,396.0	-769.1	-16.8	769.1	0.00	0.00	
8,200.0	90.00	180.00	7,396.0	-869.1	-16.8	869.1	0.00	0.00	
8,300.0	90.00	180.00	7,396.0	-969.1	-16.8	969.1	0.00	0.00	
8,400.0	90.00	180.00	7,396.0	-1,069.1	-16.8	1,069.1	0.00	0.00	
8,500.0	90.00	180.00	7,396.0	-1,169.1	-16.8	1,169.1	0.00	0.00	
8,600.0	90.00	180.00	7,396.0	-1,269.1	-16.8	1,269.1	0.00	0.00	
8,700.0	90.00	180.00	7,396.0	-1,369.1	-16.8	1,369.1	0.00	0.00	
8,800.0	90.00	180.00	7,396.0	-1,469.1	-16.8	1,469.1	0.00	0.00	
8,900.0	90.00	180.00	7,396.0	-1,569.1	-16.8	1,569.1	0.00	0.00	
9,000.0	90.00	180.00	7,396.0	-1,669.1	-16.8	1,669.1	0.00	0.00	
9,100.0	90.00	180.00	7,396.0	-1,769.1	-16.8	1,769.1	0.00	0.00	
9,200.0	90.00	180.00	7,396.0	-1,869.1	-16.8	1,869.1	0.00	0.00	

Planning Report

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Project:	DJ Wattenberg	MD Reference:	WELL @ 4917.0ft (Original Well Elev)
Site:	S8-T2N-R66W (lone)	North Reference:	True
Well:	lone 1C-8H	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
9,300.0	90.00	180.00	7,396.0	-1,969.1	-16.8	1,969.1	0.00	0.00	
9,400.0	90.00	180.00	7,396.0	-2,069.1	-16.8	2,069.1	0.00	0.00	
9,500.0	90.00	180.00	7,396.0	-2,169.1	-16.8	2,169.1	0.00	0.00	
9,600.0	90.00	180.00	7,396.0	-2,269.1	-16.8	2,269.1	0.00	0.00	
9,700.0	90.00	180.00	7,396.0	-2,369.1	-16.8	2,369.1	0.00	0.00	
9,800.0	90.00	180.00	7,396.0	-2,469.1	-16.8	2,469.1	0.00	0.00	
9,900.0	90.00	180.00	7,396.0	-2,569.1	-16.8	2,569.1	0.00	0.00	
10,000.0	90.00	180.00	7,396.0	-2,669.1	-16.8	2,669.1	0.00	0.00	
10,100.0	90.00	180.00	7,396.0	-2,769.1	-16.8	2,769.1	0.00	0.00	
10,200.0	90.00	180.00	7,396.0	-2,869.1	-16.8	2,869.1	0.00	0.00	
10,300.0	90.00	180.00	7,396.0	-2,969.1	-16.8	2,969.1	0.00	0.00	
10,400.0	90.00	180.00	7,396.0	-3,069.1	-16.8	3,069.1	0.00	0.00	
10,500.0	90.00	180.00	7,396.0	-3,169.1	-16.8	3,169.1	0.00	0.00	
10,600.0	90.00	180.00	7,396.0	-3,269.1	-16.8	3,269.1	0.00	0.00	
10,700.0	90.00	180.00	7,396.0	-3,369.1	-16.8	3,369.1	0.00	0.00	
10,800.0	90.00	180.00	7,396.0	-3,469.1	-16.8	3,469.1	0.00	0.00	
10,900.0	90.00	180.00	7,396.0	-3,569.1	-16.8	3,569.1	0.00	0.00	
11,000.0	90.00	180.00	7,396.0	-3,669.1	-16.8	3,669.1	0.00	0.00	
11,100.0	90.00	180.00	7,396.0	-3,769.1	-16.8	3,769.1	0.00	0.00	
11,200.0	90.00	180.00	7,396.0	-3,869.1	-16.8	3,869.1	0.00	0.00	
11,300.0	90.00	180.00	7,396.0	-3,969.1	-16.8	3,969.1	0.00	0.00	
11,400.0	90.00	180.00	7,396.0	-4,069.1	-16.8	4,069.1	0.00	0.00	
11,500.0	90.00	180.00	7,396.0	-4,169.1	-16.8	4,169.1	0.00	0.00	
11,600.0	90.00	180.00	7,396.0	-4,269.1	-16.8	4,269.1	0.00	0.00	
11,700.0	90.00	180.00	7,396.0	-4,369.1	-16.8	4,369.1	0.00	0.00	
11,800.0	90.00	180.00	7,396.0	-4,469.1	-16.8	4,469.1	0.00	0.00	
11,900.0	90.00	180.00	7,396.0	-4,569.1	-16.8	4,569.1	0.00	0.00	
11,920.9	90.00	180.00	7,396.0	-4,589.9	-16.8	4,589.9	0.00	0.00	TD at 11920.9 - lone 1C-8H PBHL

Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
lone 1C-8H PBHL - plan hits target center - Point	0.00	0.00	7,396.0	-4,589.9	-16.8	1,297,040.52	3,196,758.11	40.146620	-104.796180

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Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	WELL @ 4917.0ft (Original Well Elev)
Project:	DJ Wattenberg	MD Reference:	WELL @ 4917.0ft (Original Well Elev)
Site:	S8-T2N-R66W (lone)	North Reference:	True
Well:	lone 1C-8H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Hz		
Design:	Plan #1		

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
4,394.8	4,394.0	Sussex				
4,681.7	4,680.0	Sussex Marker				
4,987.5	4,985.0	Shannon				
7,061.9	7,044.0	Sharon Springs				
7,166.2	7,133.0	Niobrara				
7,229.0	7,182.0	B Chalk				
7,587.9	7,371.0	Ft. Hayes				
7,687.0	7,391.0	Codell				

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
4,000.0	4,000.0	0.0	0.0	KOP @ 4000'	
4,144.0	4,143.8	5.4	-0.4	EOB; Inc=4.32°	
6,719.0	6,711.6	198.9	-13.3	Start 9° build @ 6719' MD	
7,766.9	7,396.0	-435.9	-16.8	Landing Pt @ 7766' MD; 90°	
11,920.9	7,396.0	-4,589.9	-16.8	TD at 11920.9	

EnCana Oil & Gas (USA) Inc

DJ Wattenberg

S8-T2N-R66W (lone)

lone 1C-8H

Hz

Plan #1

Anticollision Report

12 June, 2012

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well lone 1C-8H
Project:	DJ Wattenberg	TVD Reference:	WELL @ 4917.0ft (Original Well Elev)
Reference Site:	S8-T2N-R66W (lone)	MD Reference:	WELL @ 4917.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	lone 1C-8H	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	6/12/2012		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
0.0	11,920.9	Plan #1 (Hz)	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						
S8-T2N-R66W (lone)						
Albert Herman #1 (Existing) - Existing - Existing						Out of range
Albert Herman #2 (Existing) - Existing - Existing						Out of range
Carl Mason #1 (Existing) - Existing - Existing						Out of range
Herman 33-8 (Existing) - Existing - Existing						Out of range
Herman 34-8 (existing) - DD - DD						Out of range
lone #31-8 (Existing) - Existing - Existing						Out of range
lone #32-8 (Existing) - Existing - Existing						Out of range
lone #42-8 (Existing) - Existing - Existing						Out of range
lone #4-6-8 - DD - Plan #1	10,860.8	7,361.0	279.5	201.9	3.598	CC, ES, SF
lone #5 (Existing) - Existing - Existing						Out of range
lone #6 (Existing) - Existing - Existing						Out of range
lone #6-0-8 - DD - Plan #1	3,576.9	3,755.1	162.2	135.3	6.026	CC
lone #6-0-8 - DD - Plan #1	3,600.0	3,776.8	162.4	135.2	5.984	ES, SF
lone #6-4-8 (Existing) - Existing - Existing	9,741.3	7,496.7	70.1	16.9	1.317	Level 3, CC, ES, SF
lone #6-8-8 (Existing) - DD - DD	11,920.9	7,433.7	398.3	296.3	3.907	CC, ES, SF
lone #6-8-8 (Existing) - DD - Plan #1	11,920.9	7,437.2	424.2	321.7	4.138	CC, ES, SF
lone #7 (Existing) - Existing - Existing						Out of range
lone #8 (Existing) - Existing - Existing						Out of range
lone #8 J 1-A (Existing) - Existing - Existing	8,539.3	7,363.0	155.4	116.4	3.985	CC, ES, SF
lone #8-0-8 - DD - Plan #1						Out of range
lone #8-2-8 - DD - Plan #1						Out of range
lone #9 (Existing) - Existing - Existing						Out of range
lone 1A-8H - Hz - Plan #1	200.0	200.0	19.6	18.9	29.973	CC, ES
lone 1A-8H - Hz - Plan #1	400.0	397.3	29.7	28.4	22.058	SF
lone 1B-8H - Hz - Plan #1	300.0	300.0	8.4	7.4	8.370	CC, ES
lone 1B-8H - Hz - Plan #1	11,920.9	11,739.3	395.4	247.5	2.673	SF
lone 1D-8H - Hz - Plan #1	300.0	300.0	11.2	10.2	11.160	CC, ES
lone 1D-8H - Hz - Plan #1	11,920.9	11,722.0	407.0	262.0	2.806	SF
lone 1E-8H - Hz - Plan #1	200.0	200.0	22.4	21.7	34.255	CC, ES
lone 1E-8H - Hz - Plan #1	400.0	397.0	32.5	31.2	24.166	SF
Mason #2 (Existing) - Existing - Existing						Out of range
Mason #43-8 (Existing) - Existing - Existing						Out of range
Mason #44-8 (Existing) - Existing - Existing						Out of range
Mason Gas Unit #3-8 (Existing) - Existing - Existing	10,900.5	7,361.0	244.3	166.0	3.118	CC, ES, SF

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

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well lone 1C-8H
Project:	DJ Wattenberg	TVD Reference:	WELL @ 4917.0ft (Original Well Elev)
Reference Site:	S8-T2N-R66W (lone)	MD Reference:	WELL @ 4917.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	lone 1C-8H	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 S8-T2N-R66W (lone) - lone #4-6-8 - DD - Plan #1												Offset Site Error:	0.0 ft
Survey Program: 0-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	
10,500.0	7,396.0	7,361.0	7,361.0	58.6	12.8	-90.00	-3,529.9	262.8	456.5	385.0	71.49	6.385	
10,600.0	7,396.0	7,361.0	7,361.0	60.4	12.8	-90.00	-3,529.9	262.8	382.3	309.1	73.20	5.223	
10,700.0	7,396.0	7,361.0	7,361.0	62.1	12.8	-90.00	-3,529.9	262.8	322.5	247.6	74.92	4.305	
10,800.0	7,396.0	7,361.0	7,361.0	63.8	12.8	-90.00	-3,529.9	262.8	286.1	209.4	76.64	3.733	
10,860.8	7,396.0	7,361.0	7,361.0	64.8	12.8	-90.00	-3,529.9	262.8	279.5	201.9	77.68	3.598	CC, ES, SF
10,900.0	7,396.0	7,361.0	7,361.0	65.5	12.8	-90.00	-3,529.9	262.8	282.3	203.9	78.36	3.602	
11,000.0	7,396.0	7,361.0	7,361.0	67.2	12.8	-90.00	-3,529.9	262.8	312.3	232.2	80.08	3.899	
11,100.0	7,396.0	7,361.0	7,361.0	69.0	12.8	-90.00	-3,529.9	262.8	367.9	286.1	81.80	4.497	
11,200.0	7,396.0	7,361.0	7,361.0	70.7	12.8	-90.00	-3,529.9	262.8	439.5	356.0	83.53	5.262	

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well lone 1C-8H
Project:	DJ Wattenberg	TVD Reference:	WELL @ 4917.0ft (Original Well Elev)
Reference Site:	S8-T2N-R66W (lone)	MD Reference:	WELL @ 4917.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	lone 1C-8H	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 S8-T2N-R66W (lone) - lone #6-0-8 - DD - Plan #1													Offset Site Error:	0.0 ft
Survey Program: 0-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)				
2,300.0	2,300.0	2,556.7	2,453.1	4.0	12.8	73.62	125.3	426.3	469.7	460.0	9.69	48.470		
2,400.0	2,400.0	2,650.6	2,541.2	4.2	13.5	71.98	128.2	394.0	437.4	427.1	10.33	42.347		
2,500.0	2,500.0	2,744.4	2,629.3	4.3	14.1	70.09	131.0	361.7	405.6	394.5	11.04	36.732		
2,600.0	2,600.0	2,838.3	2,717.4	4.5	14.7	67.89	133.8	329.5	374.2	362.3	11.84	31.596		
2,700.0	2,700.0	2,932.1	2,805.5	4.7	15.3	65.30	136.7	297.2	343.4	330.6	12.76	26.919		
2,800.0	2,800.0	3,026.0	2,893.6	4.9	15.9	62.23	139.5	264.9	313.4	299.6	13.81	22.693		
2,900.0	2,900.0	3,119.8	2,981.7	5.0	16.5	58.54	142.4	232.6	284.4	269.4	15.03	18.918		
3,000.0	3,000.0	3,213.7	3,069.7	5.2	17.2	54.07	145.2	200.4	256.8	240.4	16.46	15.601		
3,100.0	3,100.0	3,307.5	3,157.8	5.4	17.8	48.63	148.0	168.1	231.1	213.0	18.12	12.755		
3,200.0	3,200.0	3,401.4	3,245.9	5.6	18.4	42.00	150.9	135.8	207.9	187.9	20.00	10.395		
3,300.0	3,300.0	3,495.3	3,334.0	5.7	19.0	33.97	153.7	103.6	188.2	166.2	22.05	8.536		
3,400.0	3,400.0	3,589.1	3,422.1	5.9	19.6	24.49	156.5	71.3	173.3	149.2	24.11	7.186		
3,500.0	3,500.0	3,683.0	3,510.2	6.1	20.3	13.76	159.4	39.0	164.3	138.4	25.91	6.343		
3,576.9	3,576.9	3,755.1	3,577.9	6.2	20.7	5.02	161.5	14.2	162.2	135.3	26.91	6.026 CC		
3,600.0	3,600.0	3,776.8	3,598.2	6.3	20.9	2.38	162.2	6.7	162.4	135.2	27.13	5.984 ES, SF		
3,700.0	3,700.0	3,871.6	3,687.5	6.4	21.5	-8.67	165.0	-25.2	167.5	139.8	27.61	6.064		
3,800.0	3,800.0	3,968.7	3,779.9	6.6	22.0	-18.14	167.6	-54.9	177.6	150.2	27.49	6.461		
3,900.0	3,900.0	4,067.8	3,875.2	6.8	22.5	-25.77	170.0	-82.1	190.5	163.5	27.08	7.036		
4,000.0	4,000.0	4,168.9	3,973.2	7.0	22.9	-31.71	172.1	-106.3	204.2	177.6	26.60	7.678		
4,100.0	4,100.0	4,271.6	4,073.7	7.1	23.3	-32.60	174.0	-127.5	215.2	190.0	25.25	8.523		
4,200.0	4,199.7	4,375.6	4,176.1	7.3	23.6	-37.02	175.5	-145.2	221.4	196.8	24.59	9.004		
4,300.0	4,299.4	4,480.6	4,280.2	7.5	23.9	-40.73	176.8	-159.3	225.6	201.6	24.02	9.394		
4,400.0	4,399.1	4,586.5	4,385.6	7.7	24.1	-43.74	177.7	-169.7	227.8	204.2	23.56	9.668		
4,500.0	4,498.9	4,693.0	4,491.8	7.9	24.2	-46.13	178.3	-176.2	227.4	204.2	23.22	9.795		
4,600.0	4,598.6	4,799.6	4,598.5	8.0	24.3	-48.00	178.5	-178.8	224.3	201.3	22.99	9.757		
4,700.0	4,698.3	4,900.4	4,699.3	8.2	24.4	-49.48	178.5	-178.9	219.4	196.5	22.86	9.595		
4,800.0	4,798.0	5,000.2	4,799.0	8.4	24.4	-51.00	178.5	-178.9	214.5	191.8	22.73	9.439		
4,900.0	4,897.7	5,099.9	4,898.7	8.6	24.5	-52.60	178.5	-178.9	209.9	187.3	22.59	9.292		
5,000.0	4,997.4	5,199.6	4,998.4	8.8	24.6	-54.26	178.5	-178.9	205.4	182.9	22.44	9.153		
5,100.0	5,097.1	5,299.3	5,098.1	9.0	24.6	-56.00	178.5	-178.9	201.1	178.8	22.28	9.023		
5,200.0	5,196.9	5,399.0	5,197.9	9.2	24.7	-57.82	178.5	-178.9	196.9	174.8	22.13	8.899		
5,300.0	5,296.6	5,498.7	5,297.6	9.4	24.8	-59.70	178.5	-178.9	193.0	171.1	21.98	8.782		
5,400.0	5,396.3	5,598.5	5,397.3	9.6	24.8	-61.67	178.5	-178.9	189.3	167.5	21.84	8.668		
5,500.0	5,496.0	5,698.2	5,497.0	9.8	24.9	-63.71	178.5	-178.9	185.9	164.2	21.72	8.557		
5,600.0	5,595.7	5,797.9	5,596.7	10.0	25.0	-65.82	178.5	-178.9	182.7	161.0	21.63	8.445		
5,700.0	5,695.4	5,897.6	5,696.4	10.2	25.0	-68.01	178.5	-178.9	179.7	158.1	21.57	8.329		
5,800.0	5,795.2	5,997.3	5,796.2	10.4	25.1	-70.26	178.5	-178.9	177.0	155.4	21.57	8.208		
5,900.0	5,894.9	6,097.0	5,895.9	10.6	25.2	-72.58	178.5	-178.9	174.6	153.0	21.62	8.077		
6,000.0	5,994.6	6,196.8	5,995.6	10.8	25.3	-74.96	178.5	-178.9	172.5	150.7	21.74	7.934		
6,100.0	6,094.3	6,296.5	6,095.3	11.0	25.3	-77.40	178.5	-178.9	170.7	148.7	21.94	7.779		
6,200.0	6,194.0	6,396.2	6,195.0	11.2	25.4	-79.88	178.5	-178.9	169.2	147.0	22.23	7.611		
6,300.0	6,293.7	6,495.9	6,294.7	11.4	25.5	-82.40	178.5	-178.9	168.0	145.4	22.61	7.432		
6,400.0	6,393.5	6,595.6	6,394.5	11.6	25.6	-84.95	178.5	-178.9	167.2	144.1	23.08	7.245		
6,500.0	6,493.2	6,695.3	6,494.2	11.8	25.6	-87.52	178.5	-178.9	166.7	143.1	23.63	7.055		
6,595.9	6,588.8	6,791.0	6,589.8	12.0	25.7	-90.00	178.5	-178.9	166.6	142.3	24.23	6.874		
6,600.0	6,592.9	6,795.1	6,593.9	12.0	25.7	-90.11	178.5	-178.9	166.6	142.3	24.26	6.866		
6,700.0	6,692.6	6,894.8	6,693.6	12.2	25.8	-92.69	178.5	-178.9	166.7	141.8	24.95	6.682		
6,800.0	6,792.5	6,994.7	6,793.5	12.4	25.9	-95.13	178.5	-178.9	166.5	141.1	25.41	6.552		
6,900.0	6,891.5	7,093.7	6,892.5	12.4	26.0	-97.54	178.5	-178.9	164.9	139.7	25.11	6.565		
6,946.0	6,936.2	7,138.4	6,937.2	12.5	26.0	-99.00	178.5	-178.9	164.5	139.5	24.91	6.602		
7,000.0	6,987.3	7,189.5	6,988.3	12.5	26.0	-99.79	178.5	-178.9	165.4	140.5	24.85	6.655		
7,100.0	7,077.5	7,279.7	7,078.5	12.5	26.1	-107.99	178.5	-178.9	175.4	150.0	25.42	6.902		

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

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well lone 1C-8H
Project:	DJ Wattenberg	TVD Reference:	WELL @ 4917.0ft (Original Well Elev)
Reference Site:	S8-T2N-R66W (lone)	MD Reference:	WELL @ 4917.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	lone 1C-8H	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													S8-T2N-R66W (lone) - lone #6-0-8 - DD - Plan #1		Offset Site Error:		0.0 ft	
Survey Program:													0-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							
Depth (ft)	Depth (ft)	Depth (ft)	Depth (ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)								
7,200.0	7,159.9	7,362.0	7,160.9	12.6	26.2	119.32	178.5	-178.9	202.4	176.4	26.00	7.783						
7,300.0	7,232.3	7,434.5	7,233.3	12.7	26.3	127.47	178.5	-178.9	249.0	223.4	25.65	9.709						
7,400.0	7,293.2	7,495.3	7,294.2	13.0	26.3	131.66	178.5	-178.9	313.1	288.6	24.49	12.786						
7,500.0	7,340.9	7,543.0	7,341.9	13.5	26.3	131.52	178.5	-178.9	390.7	367.3	23.39	16.705						
7,600.0	7,374.3	7,576.4	7,375.3	14.2	26.4	125.56	178.5	-178.9	477.8	454.1	23.70	20.163						

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Ione 1C-8H
Project:	DJ Wattenberg	TVD Reference:	WELL @ 4917.0ft (Original Well Elev)
Reference Site:	S8-T2N-R66W (Ione)	MD Reference:	WELL @ 4917.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Ione 1C-8H	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													S8-T2N-R66W (Ione) - Ione #6-4-8 (Existing) - Existing - Existing		Offset Site Error:		0.0 ft
Survey Program: 889-Gyro															Offset Well Error:		0.0 ft
Reference		Offset		Semi Major Axis				Distance									
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	Warning				
9,300.0	7,396.0	7,491.9	7,338.9	38.4	11.8	85.04	-2,410.3	-86.8	446.8	401.0	45.75	9.765					
9,400.0	7,396.0	7,493.0	7,340.0	40.0	11.8	85.93	-2,410.3	-86.8	348.4	300.9	47.45	7.342					
9,500.0	7,396.0	7,494.1	7,341.1	41.7	11.8	86.81	-2,410.3	-86.8	251.2	202.1	49.14	5.112					
9,600.0	7,396.0	7,495.2	7,342.2	43.4	11.8	87.69	-2,410.3	-86.8	157.7	106.8	50.84	3.101					
9,700.0	7,396.0	7,496.2	7,343.2	45.0	11.8	88.56	-2,410.3	-86.8	81.3	28.8	52.54	1.548					
9,741.3	7,396.0	7,496.7	7,343.7	45.7	11.8	88.91	-2,410.3	-86.9	70.1	16.9	53.24	1.317	Level 3, CC, ES, SF				
9,800.0	7,396.0	7,497.3	7,344.3	46.7	11.8	89.42	-2,410.3	-86.9	91.5	37.2	54.23	1.686					
9,900.0	7,396.0	7,498.3	7,345.3	48.4	11.8	90.27	-2,410.3	-86.9	173.5	117.6	55.92	3.103					
10,000.0	7,396.0	7,499.4	7,346.4	50.1	11.8	91.12	-2,410.3	-86.9	268.1	210.4	57.61	4.653					
10,100.0	7,396.0	7,500.4	7,347.4	51.8	11.8	91.96	-2,410.3	-86.9	365.5	306.2	59.29	6.165					
10,200.0	7,396.0	7,501.4	7,348.4	53.5	11.8	92.79	-2,410.4	-86.9	464.0	403.1	60.95	7.613					

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well lone 1C-8H
Project:	DJ Wattenberg	TVD Reference:	WELL @ 4917.0ft (Original Well Elev)
Reference Site:	S8-T2N-R66W (lone)	MD Reference:	WELL @ 4917.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	lone 1C-8H	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 S8-T2N-R66W (lone) - lone #6-8-8 (Existing) - DD - DD													Offset Site Error: 0.0 ft
Survey Program: 782-MWD													Offset Well Error: 0.0 ft
Reference		Offset		Semi Major Axis				Distance					
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	Warning
11,900.0	7,396.0	7,433.4	7,356.1	82.8	20.3	86.79	-4,974.1	-121.8	418.5	316.9	101.58	4.120	
11,920.9	7,396.0	7,433.7	7,356.4	83.2	20.3	86.96	-4,974.1	-121.8	398.3	296.3	101.95	3.907 CC, ES, SF	

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well lone 1C-8H
Project:	DJ Wattenberg	TVD Reference:	WELL @ 4917.0ft (Original Well Elev)
Reference Site:	S8-T2N-R66W (lone)	MD Reference:	WELL @ 4917.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	lone 1C-8H	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												S8-T2N-R66W (lone) - lone #6-8-8 (Existing) - DD - Plan #1		Offset Site Error:		0.0 ft	
Survey Program: 0-MWD														Offset Well Error:		0.0 ft	
Reference		Offset		Semi Major Axis			Distance										
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Total Uncertainty	Separation	Warning				
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)			Axis	Factor					
11,900.0	7,396.0	7,437.2	7,362.0	82.8	20.8	90.00	-5,005.2	-103.4	444.7	342.5	102.16	4.353					
11,920.9	7,396.0	7,437.2	7,362.0	83.2	20.8	90.00	-5,005.2	-103.4	424.2	321.7	102.52	4.138	CC, ES, SF				

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Ione 1C-8H
Project:	DJ Wattenberg	TVD Reference:	WELL @ 4917.0ft (Original Well Elev)
Reference Site:	S8-T2N-R66W (Ione)	MD Reference:	WELL @ 4917.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Ione 1C-8H	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 S8-T2N-R66W (Ione) - Ione #8 J 1-A (Existing) - Existing - Existing													Offset Site Error: 0.0 ft
Survey Program: 0-MWD													Offset Well Error: 0.0 ft
Reference		Offset		Semi Major Axis		Distance							
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	Warning
8,100.0	7,396.0	7,363.0	7,363.0	19.8	12.9	90.00	-1,208.3	-172.2	466.0	433.3	32.61	14.290	
8,200.0	7,396.0	7,363.0	7,363.0	21.1	12.9	90.00	-1,208.3	-172.2	373.2	339.2	33.98	10.981	
8,300.0	7,396.0	7,363.0	7,363.0	22.6	12.9	90.00	-1,208.3	-172.2	285.3	249.9	35.41	8.057	
8,400.0	7,396.0	7,363.0	7,363.0	24.0	12.9	90.00	-1,208.3	-172.2	208.7	171.8	36.88	5.658	
8,500.0	7,396.0	7,363.0	7,363.0	25.5	12.9	90.00	-1,208.3	-172.2	160.3	121.9	38.39	4.175	
8,539.3	7,396.0	7,363.0	7,363.0	26.1	12.9	90.00	-1,208.3	-172.2	155.4	116.4	38.99	3.985 CC, ES, SF	
8,600.0	7,396.0	7,363.0	7,363.0	27.1	12.9	90.00	-1,208.3	-172.2	166.9	126.9	39.93	4.179	
8,700.0	7,396.0	7,363.0	7,363.0	28.6	12.9	90.00	-1,208.3	-172.2	223.6	182.1	41.49	5.389	
8,800.0	7,396.0	7,363.0	7,363.0	30.2	12.9	90.00	-1,208.3	-172.2	303.5	260.5	43.07	7.047	
8,900.0	7,396.0	7,363.0	7,363.0	31.8	12.9	90.00	-1,208.3	-172.2	392.8	348.1	44.67	8.792	
9,000.0	7,396.0	7,363.0	7,363.0	33.4	12.9	90.00	-1,208.3	-172.2	486.2	439.9	46.29	10.504	

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Ione 1C-8H
Project:	DJ Wattenberg	TVD Reference:	WELL @ 4917.0ft (Original Well Elev)
Reference Site:	S8-T2N-R66W (Ione)	MD Reference:	WELL @ 4917.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Ione 1C-8H	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 S8-T2N-R66W (Ione) - Ione 1A-8H - Hz - Plan #1													Offset Site Error:	0.0 ft
Survey Program: 0-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		
0.0	0.0	0.0	0.0	0.0	0.0	90.02	0.0	19.6	19.6					
100.0	100.0	100.0	100.0	0.2	0.2	90.02	0.0	19.6	19.6	19.3	0.30	64.425		
200.0	200.0	200.0	200.0	0.3	0.3	90.02	0.0	19.6	19.6	18.9	0.65	29.973 CC, ES		
300.0	300.0	298.9	298.9	0.5	0.5	88.60	0.5	22.1	22.1	21.1	1.00	22.091		
400.0	400.0	397.3	397.0	0.7	0.7	85.80	2.2	29.5	29.7	28.4	1.35	22.058 SF		
500.0	500.0	494.9	493.7	0.8	1.0	83.38	4.8	41.7	42.5	40.8	1.70	25.059		
600.0	600.0	593.7	591.5	1.0	1.3	81.90	8.0	56.1	57.3	55.3	2.04	28.061		
700.0	700.0	692.6	689.2	1.2	1.6	81.02	11.1	70.6	72.2	69.8	2.39	30.203		
800.0	800.0	791.5	787.0	1.4	1.9	80.45	14.3	85.0	87.1	84.4	2.74	31.807		
900.0	900.0	890.4	884.8	1.5	2.2	80.04	17.4	99.4	102.0	98.9	3.09	33.053		
1,000.0	1,000.0	989.3	982.6	1.7	2.5	79.74	20.6	113.8	116.9	113.5	3.43	34.049		
1,100.0	1,100.0	1,088.1	1,080.3	1.9	2.8	79.50	23.7	128.2	131.8	128.1	3.78	34.863		
1,200.0	1,200.0	1,187.0	1,178.1	2.1	3.1	79.32	26.9	142.6	146.7	142.6	4.13	35.541		
1,300.0	1,300.0	1,285.9	1,275.9	2.2	3.4	79.16	30.0	157.0	161.7	157.2	4.48	36.114		
1,400.0	1,400.0	1,384.8	1,373.7	2.4	3.7	79.04	33.2	171.4	176.6	171.7	4.82	36.605		
1,500.0	1,500.0	1,483.7	1,471.4	2.6	4.0	78.93	36.4	185.8	191.5	186.3	5.17	37.031		
1,600.0	1,600.0	1,582.6	1,569.2	2.8	4.4	78.84	39.5	200.2	206.4	200.9	5.52	37.402		
1,700.0	1,700.0	1,681.4	1,667.0	2.9	4.7	78.76	42.7	214.6	221.3	215.4	5.87	37.731		
1,800.0	1,800.0	1,780.3	1,764.8	3.1	5.0	78.69	45.8	229.0	236.2	230.0	6.21	38.022		
1,900.0	1,900.0	1,879.2	1,862.6	3.3	5.3	78.63	49.0	243.4	251.1	244.6	6.56	38.283		
2,000.0	2,000.0	1,978.1	1,960.3	3.5	5.6	78.58	52.1	257.8	266.0	259.1	6.91	38.517		
2,100.0	2,100.0	2,077.0	2,058.1	3.6	5.9	78.53	55.3	272.3	280.9	273.7	7.25	38.729		
2,200.0	2,200.0	2,175.8	2,155.9	3.8	6.2	78.48	58.4	286.7	295.9	288.3	7.60	38.922		
2,300.0	2,300.0	2,274.7	2,253.7	4.0	6.5	78.44	61.6	301.1	310.8	302.8	7.95	39.098		
2,400.0	2,400.0	2,373.6	2,351.4	4.2	6.8	78.41	64.7	315.5	325.7	317.4	8.30	39.260		
2,500.0	2,500.0	2,472.5	2,449.2	4.3	7.2	78.38	67.9	329.9	340.6	332.0	8.64	39.408		
2,600.0	2,600.0	2,571.4	2,547.0	4.5	7.5	78.35	71.0	344.3	355.5	346.5	8.99	39.545		
2,700.0	2,700.0	2,670.3	2,644.8	4.7	7.8	78.32	74.2	358.7	370.4	361.1	9.34	39.672		
2,800.0	2,800.0	2,769.1	2,742.5	4.9	8.1	78.29	77.3	373.1	385.3	375.7	9.68	39.789		
2,900.0	2,900.0	2,868.0	2,840.3	5.0	8.4	78.27	80.5	387.5	400.3	390.2	10.03	39.899		
3,000.0	3,000.0	2,966.9	2,938.1	5.2	8.7	78.25	83.6	401.9	415.2	404.8	10.38	40.001		
3,100.0	3,100.0	3,065.8	3,035.9	5.4	9.0	78.23	86.8	416.3	430.1	419.4	10.73	40.097		
3,200.0	3,200.0	3,164.7	3,133.6	5.6	9.3	78.21	89.9	430.7	445.0	433.9	11.07	40.187		
3,300.0	3,300.0	3,263.5	3,231.4	5.7	9.7	78.19	93.1	445.1	459.9	448.5	11.42	40.271		
3,400.0	3,400.0	3,362.4	3,329.2	5.9	10.0	78.17	96.2	459.6	474.8	463.1	11.77	40.350		
3,500.0	3,500.0	3,461.3	3,427.0	6.1	10.3	78.16	99.4	474.0	489.7	477.6	12.11	40.425		

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well lone 1C-8H
Project:	DJ Wattenberg	TVD Reference:	WELL @ 4917.0ft (Original Well Elev)
Reference Site:	S8-T2N-R66W (lone)	MD Reference:	WELL @ 4917.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	lone 1C-8H	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 S8-T2N-R66W (lone) - lone 1B-8H - Hz - Plan #1														Offset Site Error:	0.0 ft
Survey Program: 0-MWD														Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis		Distance									
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	Warning		
0.0	0.0	0.0	0.0	0.0	0.0	90.11	0.0	8.4	8.4						
100.0	100.0	100.0	100.0	0.2	0.2	90.11	0.0	8.4	8.4	8.1	0.30	27.611			
200.0	200.0	200.0	200.0	0.3	0.3	90.11	0.0	8.4	8.4	7.7	0.65	12.846			
300.0	300.0	300.0	300.0	0.5	0.5	90.11	0.0	8.4	8.4	7.4	1.00	8.370	CC, ES		
400.0	400.0	399.5	399.5	0.7	0.7	82.17	1.4	10.5	10.6	9.3	1.35	7.867			
500.0	500.0	499.3	499.1	0.8	0.9	73.00	4.7	15.2	15.9	14.2	1.70	9.365			
600.0	600.0	599.2	598.8	1.0	1.1	68.44	7.9	19.9	21.5	19.4	2.05	10.465			
700.0	700.0	699.0	698.5	1.2	1.3	65.76	11.1	24.6	27.1	24.7	2.40	11.279			
800.0	800.0	798.8	798.1	1.4	1.5	64.01	14.3	29.4	32.7	30.0	2.75	11.902			
900.0	900.0	898.7	897.8	1.5	1.7	62.77	17.5	34.1	38.4	35.3	3.10	12.391			
1,000.0	1,000.0	998.5	997.5	1.7	1.9	61.85	20.8	38.8	44.1	40.6	3.45	12.785			
1,100.0	1,100.0	1,098.4	1,097.2	1.9	2.1	61.14	24.0	43.5	49.8	46.0	3.80	13.109			
1,200.0	1,200.0	1,198.2	1,196.8	2.1	2.3	60.57	27.2	48.2	55.5	51.3	4.14	13.380			
1,300.0	1,300.0	1,298.0	1,296.5	2.2	2.5	60.11	30.4	52.9	61.2	56.7	4.49	13.610			
1,400.0	1,400.0	1,397.9	1,396.2	2.4	2.7	59.73	33.6	57.6	66.9	62.0	4.84	13.808			
1,500.0	1,500.0	1,497.7	1,495.9	2.6	2.9	59.41	36.9	62.4	72.6	67.4	5.19	13.979			
1,600.0	1,600.0	1,597.5	1,595.5	2.8	3.1	59.14	40.1	67.1	78.3	72.7	5.54	14.130			
1,700.0	1,700.0	1,697.4	1,695.2	2.9	3.3	58.90	43.3	71.8	84.0	78.1	5.89	14.262			
1,800.0	1,800.0	1,797.2	1,794.9	3.1	3.5	58.69	46.5	76.5	89.7	83.5	6.24	14.380			
1,900.0	1,900.0	1,897.0	1,894.6	3.3	3.7	58.51	49.8	81.2	95.4	88.8	6.59	14.486			
2,000.0	2,000.0	1,996.9	1,994.2	3.5	3.9	58.35	53.0	85.9	101.1	94.2	6.93	14.581			
2,100.0	2,100.0	2,096.7	2,093.9	3.6	4.1	58.20	56.2	90.6	106.8	99.5	7.28	14.667			
2,200.0	2,200.0	2,196.6	2,193.6	3.8	4.3	58.07	59.4	95.4	112.5	104.9	7.63	14.746			
2,300.0	2,300.0	2,296.4	2,293.2	4.0	4.5	57.96	62.6	100.1	118.3	110.3	7.98	14.817			
2,400.0	2,400.0	2,396.2	2,392.9	4.2	4.7	57.85	65.9	104.8	124.0	115.6	8.33	14.883			
2,500.0	2,500.0	2,496.1	2,492.6	4.3	4.9	57.75	69.1	109.5	129.7	121.0	8.68	14.943			
2,600.0	2,600.0	2,595.9	2,592.3	4.5	5.1	57.67	72.3	114.2	135.4	126.4	9.03	14.999			
2,700.0	2,700.0	2,695.7	2,691.9	4.7	5.3	57.58	75.5	118.9	141.1	131.7	9.38	15.051			
2,800.0	2,800.0	2,795.6	2,791.6	4.9	5.5	57.51	78.7	123.6	146.8	137.1	9.72	15.099			
2,900.0	2,900.0	2,895.4	2,891.3	5.0	5.7	57.44	82.0	128.4	152.5	142.5	10.07	15.143			
3,000.0	3,000.0	2,895.2	2,891.0	5.2	5.9	57.38	85.2	133.1	158.3	147.8	10.42	15.185			
3,100.0	3,100.0	3,095.1	3,090.6	5.4	6.1	57.32	88.4	137.8	164.0	153.2	10.77	15.224			
3,200.0	3,200.0	3,194.9	3,190.3	5.6	6.3	57.26	91.6	142.5	169.7	158.6	11.12	15.261			
3,300.0	3,300.0	3,294.8	3,290.0	5.7	6.5	57.21	94.8	147.2	175.4	163.9	11.47	15.295			
3,400.0	3,400.0	3,394.6	3,389.6	5.9	6.7	57.16	98.1	151.9	181.1	169.3	11.82	15.327			
3,500.0	3,500.0	3,494.4	3,489.3	6.1	6.9	57.11	101.3	156.6	186.8	174.7	12.17	15.358			
3,600.0	3,600.0	3,594.3	3,589.0	6.3	7.1	57.07	104.5	161.4	192.6	180.0	12.51	15.387			
3,700.0	3,700.0	3,694.1	3,688.7	6.4	7.3	57.03	107.7	166.1	198.3	185.4	12.86	15.414			
3,800.0	3,800.0	3,793.9	3,788.3	6.6	7.5	56.99	111.0	170.8	204.0	190.8	13.21	15.440			
3,900.0	3,900.0	3,893.8	3,888.0	6.8	7.7	56.95	114.2	175.5	209.7	196.2	13.56	15.464			
4,000.0	4,000.0	3,993.6	3,987.7	7.0	7.9	56.92	117.4	180.2	215.4	201.5	13.91	15.488			
4,100.0	4,100.0	4,093.5	4,087.4	7.1	8.1	61.20	120.6	184.9	219.9	205.6	14.26	15.424			
4,200.0	4,199.7	4,193.3	4,187.0	7.3	8.3	62.70	123.8	189.6	222.3	207.7	14.61	15.217			
4,300.0	4,299.4	4,293.0	4,286.6	7.5	8.5	64.33	127.1	194.4	224.6	209.7	14.97	15.010			
4,400.0	4,399.1	4,392.8	4,386.2	7.7	8.7	65.91	130.3	199.1	227.2	211.9	15.33	14.822			
4,500.0	4,498.9	4,492.6	4,485.8	7.9	8.9	67.46	133.5	203.8	229.9	214.2	15.69	14.650			
4,600.0	4,598.6	4,592.4	4,585.4	8.0	9.1	68.97	136.7	208.5	232.7	216.7	16.06	14.492			
4,700.0	4,698.3	4,692.1	4,685.1	8.2	9.3	70.45	139.9	213.2	235.8	219.3	16.43	14.349			
4,800.0	4,798.0	4,791.9	4,784.7	8.4	9.5	71.89	143.2	217.9	238.9	222.1	16.81	14.218			
4,900.0	4,897.7	4,891.7	4,884.3	8.6	9.7	73.29	146.4	222.6	242.3	225.1	17.18	14.098			
5,000.0	4,997.4	4,991.4	4,983.9	8.8	9.9	74.65	149.6	227.3	245.7	228.2	17.57	13.990			
5,100.0	5,097.1	5,091.2	5,083.5	9.0	10.1	75.97	152.8	232.0	249.3	231.4	17.95	13.891			

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

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well lone 1C-8H
Project:	DJ Wattenberg	TVD Reference:	WELL @ 4917.0ft (Original Well Elev)
Reference Site:	S8-T2N-R66W (lone)	MD Reference:	WELL @ 4917.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	lone 1C-8H	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 S8-T2N-R66W (lone) - lone 1B-8H - Hz - Plan #1													Offset Site Error:	0.0 ft
Survey Program: 0-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)				
5,200.0	5,196.9	5,191.0	5,183.1	9.2	10.3	77.25	156.0	236.8	253.1	234.7	18.34	13.802		
5,300.0	5,296.6	5,290.8	5,282.7	9.4	10.5	78.50	159.2	241.5	256.9	238.2	18.72	13.721		
5,400.0	5,396.3	5,390.5	5,382.3	9.6	10.7	79.71	162.5	246.2	260.9	241.8	19.12	13.648		
5,500.0	5,496.0	5,490.3	5,481.9	9.8	10.9	80.88	165.7	250.9	265.0	245.5	19.51	13.582		
5,600.0	5,595.7	5,590.1	5,581.5	10.0	11.1	82.02	168.9	255.6	269.2	249.3	19.90	13.523		
5,700.0	5,695.4	5,689.8	5,681.1	10.2	11.3	83.12	172.1	260.3	273.5	253.2	20.30	13.470		
5,800.0	5,795.2	5,789.6	5,780.7	10.4	11.5	84.18	175.3	265.0	277.8	257.1	20.70	13.423		
5,900.0	5,894.9	5,889.4	5,880.4	10.6	11.7	85.22	178.6	269.7	282.3	261.2	21.10	13.381		
6,000.0	5,994.6	5,989.2	5,980.0	10.8	11.9	86.22	181.8	274.4	286.9	265.4	21.50	13.344		
6,100.0	6,094.3	6,088.9	6,079.6	11.0	12.1	87.19	185.0	279.2	291.6	269.7	21.90	13.312		
6,200.0	6,194.0	6,188.7	6,179.2	11.2	12.3	88.13	188.2	283.9	296.3	274.0	22.31	13.284		
6,300.0	6,293.7	6,288.5	6,278.8	11.4	12.5	89.03	191.4	288.6	301.1	278.4	22.71	13.259		
6,400.0	6,393.5	6,388.2	6,378.4	11.6	12.7	89.91	194.7	293.3	306.0	282.9	23.12	13.239		
6,500.0	6,493.2	6,488.0	6,478.0	11.8	12.9	90.77	197.9	298.0	311.0	287.4	23.52	13.221		
6,600.0	6,592.9	6,588.2	6,578.0	12.0	13.1	91.67	200.7	302.7	316.0	292.1	23.92	13.208		
6,700.0	6,692.6	6,687.4	6,676.6	12.2	13.2	94.49	192.5	307.4	321.1	296.7	24.30	13.210		
6,800.0	6,792.5	6,781.3	6,767.8	12.4	13.3	-90.20	170.7	311.7	327.7	303.0	24.62	13.311		
6,900.0	6,891.5	6,872.0	6,851.9	12.4	13.3	-81.57	137.2	315.7	336.0	311.2	24.78	13.558		
7,000.0	6,987.3	6,960.0	6,928.1	12.5	13.4	-76.93	93.6	319.3	345.4	320.5	24.82	13.917		
7,100.0	7,077.5	7,045.7	6,996.0	12.5	13.5	-73.15	41.3	322.5	355.2	330.4	24.76	14.344		
7,200.0	7,159.9	7,129.6	7,054.9	12.6	13.6	-69.99	-18.2	325.3	364.9	340.2	24.70	14.770		
7,300.0	7,232.3	7,212.0	7,104.8	12.7	13.9	-67.40	-83.7	327.6	373.9	349.2	24.71	15.131		
7,400.0	7,293.2	7,293.1	7,145.2	13.0	14.2	-65.34	-154.0	329.6	381.7	356.8	24.91	15.322		
7,500.0	7,340.9	7,373.4	7,176.1	13.5	14.7	-63.81	-228.0	331.0	388.0	362.6	25.42	15.261		
7,600.0	7,374.3	7,450.0	7,196.7	14.2	15.3	-62.78	-301.7	332.0	392.5	366.2	26.30	14.923		
7,700.0	7,392.5	7,532.3	7,208.8	15.1	16.0	-62.21	-383.1	332.6	394.9	367.3	27.66	14.279		
7,800.0	7,396.0	7,618.4	7,211.0	16.1	16.8	-62.10	-469.1	332.7	395.4	366.0	29.41	13.444		
7,900.0	7,396.0	7,718.4	7,211.0	17.2	17.9	-62.10	-569.1	332.7	395.4	364.0	31.42	12.585		
8,000.0	7,396.0	7,818.4	7,211.0	18.4	19.1	-62.10	-669.1	332.7	395.4	361.8	33.59	11.770		
8,100.0	7,396.0	7,918.4	7,211.0	19.8	20.4	-62.10	-769.1	332.7	395.4	359.5	35.91	11.012		
8,200.0	7,396.0	8,018.4	7,211.0	21.1	21.7	-62.10	-869.1	332.7	395.4	357.1	38.33	10.315		
8,300.0	7,396.0	8,118.4	7,211.0	22.6	23.1	-62.10	-969.1	332.7	395.4	354.5	40.85	9.679		
8,400.0	7,396.0	8,218.4	7,211.0	24.0	24.5	-62.10	-1,069.1	332.7	395.4	351.9	43.44	9.101		
8,500.0	7,396.0	8,318.4	7,211.0	25.5	26.0	-62.10	-1,169.1	332.7	395.4	349.3	46.10	8.577		
8,600.0	7,396.0	8,418.4	7,211.0	27.1	27.5	-62.10	-1,269.1	332.7	395.4	346.6	48.81	8.101		
8,700.0	7,396.0	8,518.4	7,211.0	28.6	29.0	-62.10	-1,369.1	332.7	395.4	343.8	51.56	7.668		
8,800.0	7,396.0	8,618.4	7,211.0	30.2	30.6	-62.10	-1,469.1	332.7	395.4	341.0	54.36	7.274		
8,900.0	7,396.0	8,718.4	7,211.0	31.8	32.2	-62.10	-1,569.1	332.7	395.4	338.2	57.18	6.914		
9,000.0	7,396.0	8,818.4	7,211.0	33.4	33.8	-62.10	-1,669.1	332.7	395.4	335.4	60.04	6.586		
9,100.0	7,396.0	8,918.4	7,211.0	35.1	35.4	-62.10	-1,769.1	332.7	395.4	332.5	62.91	6.285		
9,200.0	7,396.0	9,018.4	7,211.0	36.7	37.0	-62.10	-1,869.1	332.7	395.4	329.6	65.81	6.008		
9,300.0	7,396.0	9,118.4	7,211.0	38.4	38.7	-62.10	-1,969.1	332.7	395.4	326.7	68.73	5.753		
9,400.0	7,396.0	9,218.4	7,211.0	40.0	40.3	-62.10	-2,069.1	332.7	395.4	323.7	71.66	5.518		
9,500.0	7,396.0	9,318.4	7,211.0	41.7	42.0	-62.10	-2,169.1	332.7	395.4	320.8	74.60	5.300		
9,600.0	7,396.0	9,418.4	7,211.0	43.4	43.6	-62.10	-2,269.1	332.7	395.4	317.8	77.56	5.098		
9,700.0	7,396.0	9,518.4	7,211.0	45.0	45.3	-62.10	-2,369.1	332.7	395.4	314.9	80.53	4.910		
9,800.0	7,396.0	9,618.4	7,211.0	46.7	47.0	-62.10	-2,469.1	332.7	395.4	311.9	83.51	4.735		
9,900.0	7,396.0	9,718.4	7,211.0	48.4	48.6	-62.10	-2,569.1	332.7	395.4	308.9	86.50	4.571		
10,000.0	7,396.0	9,818.4	7,211.0	50.1	50.3	-62.10	-2,669.1	332.7	395.4	305.9	89.49	4.418		
10,100.0	7,396.0	9,918.4	7,211.0	51.8	52.0	-62.10	-2,769.1	332.7	395.4	302.9	92.50	4.275		
10,200.0	7,396.0	10,018.4	7,211.0	53.5	53.7	-62.10	-2,869.1	332.7	395.4	299.9	95.51	4.140		
10,300.0	7,396.0	10,118.4	7,211.0	55.2	55.4	-62.10	-2,969.1	332.7	395.4	296.9	98.52	4.013		

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

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Ione 1C-8H
Project:	DJ Wattenberg	TVD Reference:	WELL @ 4917.0ft (Original Well Elev)
Reference Site:	S8-T2N-R66W (Ione)	MD Reference:	WELL @ 4917.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Ione 1C-8H	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 S8-T2N-R66W (Ione) - Ione 1B-8H - Hz - Plan #1													Offset Site Error:	0.0 ft
Survey Program: 0-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		
10,400.0	7,396.0	10,218.4	7,211.0	56.9	57.1	-62.10	-3,069.1	332.7	395.4	293.8	101.55	3.894		
10,500.0	7,396.0	10,318.4	7,211.0	58.6	58.8	-62.10	-3,169.1	332.7	395.4	290.8	104.57	3.781		
10,600.0	7,396.0	10,418.4	7,211.0	60.4	60.5	-62.10	-3,269.1	332.7	395.4	287.8	107.60	3.675		
10,700.0	7,396.0	10,518.4	7,211.0	62.1	62.2	-62.10	-3,369.1	332.7	395.4	284.8	110.64	3.574		
10,800.0	7,396.0	10,618.4	7,211.0	63.8	64.0	-62.10	-3,469.1	332.7	395.4	281.7	113.68	3.478		
10,900.0	7,396.0	10,718.4	7,211.0	65.5	65.7	-62.10	-3,569.1	332.7	395.4	278.7	116.72	3.388		
11,000.0	7,396.0	10,818.4	7,211.0	67.2	67.4	-62.10	-3,669.1	332.7	395.4	275.6	119.76	3.301		
11,100.0	7,396.0	10,918.4	7,211.0	69.0	69.1	-62.10	-3,769.1	332.7	395.4	272.6	122.81	3.219		
11,200.0	7,396.0	11,018.4	7,211.0	70.7	70.8	-62.10	-3,869.1	332.7	395.4	269.5	125.86	3.141		
11,300.0	7,396.0	11,118.4	7,211.0	72.4	72.5	-62.10	-3,969.1	332.7	395.4	266.5	128.92	3.067		
11,400.0	7,396.0	11,218.4	7,211.0	74.1	74.3	-62.10	-4,069.1	332.7	395.4	263.4	131.97	2.996		
11,500.0	7,396.0	11,318.4	7,211.0	75.9	76.0	-62.10	-4,169.1	332.7	395.4	260.4	135.03	2.928		
11,600.0	7,396.0	11,418.4	7,211.0	77.6	77.7	-62.10	-4,269.1	332.7	395.4	257.3	138.09	2.863		
11,700.0	7,396.0	11,518.4	7,211.0	79.3	79.5	-62.10	-4,369.1	332.7	395.4	254.2	141.16	2.801		
11,800.0	7,396.0	11,618.4	7,211.0	81.1	81.2	-62.10	-4,469.1	332.7	395.4	251.2	144.22	2.742		
11,900.0	7,396.0	11,718.4	7,211.0	82.8	82.9	-62.10	-4,569.1	332.7	395.4	248.1	147.29	2.684		
11,907.8	7,396.0	11,726.1	7,211.0	82.9	83.0	-62.10	-4,576.8	332.7	395.4	247.9	147.53	2.680		
11,920.9	7,396.0	11,739.3	7,211.0	83.2	83.3	-62.10	-4,589.9	332.7	395.4	247.5	147.93	2.673 SF		

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Ione 1C-8H
Project:	DJ Wattenberg	TVD Reference:	WELL @ 4917.0ft (Original Well Elev)
Reference Site:	S8-T2N-R66W (Ione)	MD Reference:	WELL @ 4917.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Ione 1C-8H	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 S8-T2N-R66W (Ione) - Ione 1D-8H - Hz - Plan #1													Offset Site Error:	0.0 ft
Survey Program: 0-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	0.0	0.0	0.0	0.0	-90.13	0.0	-11.2	11.2					
100.0	100.0	100.0	100.0	0.2	0.2	-90.13	0.0	-11.2	11.2	10.9	0.30	36.814		
200.0	200.0	200.0	200.0	0.3	0.3	-90.13	0.0	-11.2	11.2	10.5	0.65	17.127		
300.0	300.0	300.0	300.0	0.5	0.5	-90.13	0.0	-11.2	11.2	10.2	1.00	11.160 CC, ES		
400.0	400.0	399.4	399.4	0.7	0.7	-84.29	1.3	-13.4	13.5	12.1	1.35	9.965		
500.0	500.0	499.1	498.9	0.8	0.9	-76.28	4.5	-18.5	19.1	17.4	1.70	11.233		
600.0	600.0	598.9	598.5	1.0	1.1	-71.91	7.8	-23.7	25.0	23.0	2.05	12.211		
700.0	700.0	698.7	698.1	1.2	1.3	-69.22	11.0	-29.0	31.0	28.6	2.40	12.942		
800.0	800.0	798.5	797.7	1.4	1.5	-67.41	14.2	-34.2	37.1	34.3	2.75	13.505		
900.0	900.0	898.4	897.4	1.5	1.7	-66.11	17.4	-39.4	43.2	40.1	3.09	13.950		
1,000.0	1,000.0	998.2	997.0	1.7	1.9	-65.13	20.7	-44.6	49.3	45.8	3.44	14.309		
1,100.0	1,100.0	1,098.0	1,096.6	1.9	2.1	-64.36	23.9	-49.8	55.4	51.6	3.79	14.605		
1,200.0	1,200.0	1,197.8	1,196.2	2.1	2.3	-63.75	27.1	-55.0	61.5	57.3	4.14	14.853		
1,300.0	1,300.0	1,297.6	1,295.9	2.2	2.5	-63.25	30.4	-60.3	67.6	63.1	4.49	15.064		
1,400.0	1,400.0	1,397.4	1,395.5	2.4	2.7	-62.83	33.6	-65.5	73.7	68.9	4.84	15.245		
1,500.0	1,500.0	1,497.2	1,495.1	2.6	2.9	-62.47	36.8	-70.7	79.9	74.7	5.18	15.403		
1,600.0	1,600.0	1,597.0	1,594.7	2.8	3.1	-62.17	40.1	-75.9	86.0	80.5	5.53	15.541		
1,700.0	1,700.0	1,696.8	1,694.3	2.9	3.3	-61.91	43.3	-81.1	92.1	86.2	5.88	15.663		
1,800.0	1,800.0	1,796.7	1,794.0	3.1	3.5	-61.68	46.5	-86.3	98.3	92.0	6.23	15.771		
1,900.0	1,900.0	1,896.5	1,893.6	3.3	3.7	-61.47	49.8	-91.6	104.4	97.8	6.58	15.868		
2,000.0	2,000.0	1,996.3	1,993.2	3.5	3.9	-61.29	53.0	-96.8	110.5	103.6	6.93	15.956		
2,100.0	2,100.0	2,096.1	2,092.8	3.6	4.1	-61.13	56.2	-102.0	116.7	109.4	7.28	16.035		
2,200.0	2,200.0	2,195.9	2,192.5	3.8	4.3	-60.99	59.5	-107.2	122.8	115.2	7.63	16.107		
2,300.0	2,300.0	2,295.7	2,292.1	4.0	4.5	-60.85	62.7	-112.4	129.0	121.0	7.97	16.173		
2,400.0	2,400.0	2,395.5	2,391.7	4.2	4.7	-60.73	65.9	-117.6	135.1	126.8	8.32	16.234		
2,500.0	2,500.0	2,495.3	2,491.3	4.3	4.9	-60.62	69.2	-122.9	141.2	132.6	8.67	16.289		
2,600.0	2,600.0	2,595.1	2,590.9	4.5	5.1	-60.52	72.4	-128.1	147.4	138.4	9.02	16.341		
2,700.0	2,700.0	2,695.0	2,690.6	4.7	5.3	-60.43	75.6	-133.3	153.5	144.2	9.37	16.388		
2,800.0	2,800.0	2,794.8	2,790.2	4.9	5.5	-60.35	78.8	-138.5	159.7	150.0	9.72	16.432		
2,900.0	2,900.0	2,894.6	2,889.8	5.0	5.7	-60.27	82.1	-143.7	165.8	155.8	10.07	16.474		
3,000.0	3,000.0	2,894.4	2,889.4	5.2	5.9	-60.20	85.3	-148.9	172.0	161.6	10.41	16.512		
3,100.0	3,100.0	3,094.2	3,089.1	5.4	6.2	-60.13	88.5	-154.2	178.1	167.3	10.76	16.548		
3,200.0	3,200.0	3,194.0	3,188.7	5.6	6.4	-60.06	91.8	-159.4	184.3	173.1	11.11	16.582		
3,300.0	3,300.0	3,293.8	3,288.3	5.7	6.6	-60.00	95.0	-164.6	190.4	178.9	11.46	16.613		
3,400.0	3,400.0	3,393.6	3,387.9	5.9	6.8	-59.95	98.2	-169.8	196.5	184.7	11.81	16.643		
3,500.0	3,500.0	3,493.4	3,487.5	6.1	7.0	-59.90	101.5	-175.0	202.7	190.5	12.16	16.671		
3,600.0	3,600.0	3,593.2	3,587.2	6.3	7.2	-59.85	104.7	-180.2	208.8	196.3	12.51	16.698		
3,700.0	3,700.0	3,693.1	3,686.8	6.4	7.4	-59.80	107.9	-185.5	215.0	202.1	12.86	16.723		
3,800.0	3,800.0	3,792.9	3,786.4	6.6	7.6	-59.76	111.2	-190.7	221.1	207.9	13.20	16.747		
3,900.0	3,900.0	3,892.7	3,886.0	6.8	7.8	-59.71	114.4	-195.9	227.3	213.7	13.55	16.769		
4,000.0	4,000.0	3,992.5	3,985.7	7.0	8.0	-59.68	117.6	-201.1	233.4	219.5	13.90	16.791		
4,100.0	4,100.0	4,092.3	4,085.3	7.1	8.2	-56.21	120.9	-206.3	238.1	223.9	14.25	16.705		
4,200.0	4,199.7	4,192.2	4,184.9	7.3	8.4	-57.53	124.1	-211.5	240.4	225.8	14.61	16.460		
4,300.0	4,299.4	4,292.0	4,284.6	7.5	8.6	-58.94	127.3	-216.8	242.6	227.6	14.96	16.212		
4,400.0	4,399.1	4,391.8	4,384.2	7.7	8.8	-60.33	130.6	-222.0	244.9	229.6	15.32	15.983		
4,500.0	4,498.9	4,491.6	4,483.8	7.9	9.0	-61.70	133.8	-227.2	247.4	231.7	15.69	15.769		
4,600.0	4,598.6	4,591.4	4,583.4	8.0	9.2	-63.04	137.0	-232.4	250.0	233.9	16.05	15.571		
4,700.0	4,698.3	4,691.1	4,683.0	8.2	9.4	-64.35	140.3	-237.6	252.7	236.3	16.42	15.387		
4,800.0	4,798.0	4,790.9	4,782.6	8.4	9.6	-65.63	143.5	-242.8	255.6	238.8	16.80	15.216		
4,900.0	4,897.7	4,890.7	4,882.2	8.6	9.8	-66.88	146.7	-248.1	258.6	241.4	17.17	15.057		
5,000.0	4,997.4	4,990.5	4,981.8	8.8	10.0	-68.10	149.9	-253.3	261.7	244.1	17.55	14.908		
5,100.0	5,097.1	5,090.3	5,081.4	9.0	10.2	-69.29	153.2	-258.5	264.9	247.0	17.94	14.771		

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

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well lone 1C-8H
Project:	DJ Wattenberg	TVD Reference:	WELL @ 4917.0ft (Original Well Elev)
Reference Site:	S8-T2N-R66W (lone)	MD Reference:	WELL @ 4917.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	lone 1C-8H	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 S8-T2N-R66W (lone) - lone 1D-8H - Hz - Plan #1													Offset Site Error:	0.0 ft
Survey Program: 0-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)				
5,200.0	5,196.9	5,190.1	5,181.0	9.2	10.4	-70.46	156.4	-263.7	268.3	249.9	18.32	14.643		
5,300.0	5,296.6	5,289.9	5,280.6	9.4	10.6	-71.59	159.6	-268.9	271.7	253.0	18.71	14.524		
5,400.0	5,396.3	5,389.7	5,380.2	9.6	10.9	-72.70	162.9	-274.1	275.3	256.2	19.10	14.414		
5,500.0	5,496.0	5,489.5	5,479.9	9.8	11.1	-73.78	166.1	-279.3	278.9	259.4	19.49	14.311		
5,600.0	5,595.7	5,589.3	5,579.5	10.0	11.3	-74.83	169.3	-284.6	282.7	262.8	19.88	14.216		
5,700.0	5,695.4	5,689.1	5,679.1	10.2	11.5	-75.85	172.6	-289.8	286.5	266.2	20.28	14.127		
5,800.0	5,795.2	5,788.9	5,778.7	10.4	11.7	-76.85	175.8	-295.0	290.4	269.8	20.68	14.045		
5,900.0	5,894.9	5,888.7	5,878.3	10.6	11.9	-77.81	179.0	-300.2	294.5	273.4	21.08	13.969		
6,000.0	5,994.6	5,988.5	5,977.9	10.8	12.1	-78.76	182.3	-305.4	298.5	277.1	21.48	13.899		
6,100.0	6,094.3	6,088.3	6,077.5	11.0	12.3	-79.67	185.5	-310.6	302.7	280.8	21.88	13.833		
6,200.0	6,194.0	6,188.1	6,177.1	11.2	12.5	-80.56	188.7	-315.9	307.0	284.7	22.29	13.773		
6,300.0	6,293.7	6,287.9	6,276.7	11.4	12.7	-81.43	192.0	-321.1	311.3	288.6	22.69	13.717		
6,400.0	6,393.5	6,387.7	6,376.3	11.6	12.9	-82.27	195.2	-326.3	315.7	292.6	23.10	13.666		
6,500.0	6,493.2	6,487.5	6,475.9	11.8	13.1	-83.09	198.4	-331.5	320.2	296.6	23.51	13.618		
6,600.0	6,592.9	6,588.0	6,576.3	12.0	13.3	-84.12	200.4	-336.8	324.6	300.7	23.91	13.576		
6,700.0	6,692.6	6,686.5	6,673.9	12.2	13.4	-84.79	189.7	-341.9	329.3	305.0	24.30	13.549		
6,800.0	6,792.5	6,779.2	6,763.4	12.4	13.5	-78.41	166.0	-346.6	335.8	311.2	24.63	13.634		
6,900.0	6,891.5	6,868.5	6,845.4	12.4	13.5	-77.88	131.0	-350.9	344.3	319.5	24.80	13.882		
7,000.0	6,987.3	6,955.0	6,919.4	12.5	13.6	-74.25	86.6	-354.7	354.1	329.3	24.83	14.259		
7,100.0	7,077.5	7,039.2	6,985.1	12.5	13.7	-70.78	34.1	-358.2	364.5	339.7	24.75	14.724		
7,200.0	7,159.9	7,121.5	7,042.0	12.6	13.9	-67.74	-25.2	-361.2	374.7	350.0	24.64	15.204		
7,300.0	7,232.3	7,200.0	7,088.7	12.7	14.1	-65.24	-88.1	-363.6	384.2	359.6	24.58	15.632		
7,400.0	7,293.2	7,281.8	7,128.9	13.0	14.5	-63.16	-159.4	-365.7	392.5	367.8	24.71	15.883		
7,500.0	7,340.9	7,360.5	7,158.5	13.5	14.9	-61.63	-232.1	-367.3	399.2	374.0	25.15	15.874		
7,600.0	7,374.3	7,438.5	7,178.9	14.2	15.5	-60.59	-307.4	-368.3	403.9	377.9	25.99	15.542		
7,700.0	7,392.5	7,516.1	7,189.9	15.1	16.2	-60.03	-384.2	-368.9	406.5	379.2	27.29	14.897		
7,800.0	7,396.0	7,601.1	7,192.0	16.1	17.0	-59.92	-469.1	-369.0	407.0	378.0	29.02	14.027		
7,900.0	7,396.0	7,701.1	7,192.0	17.2	18.1	-59.92	-569.1	-369.0	407.0	376.1	30.98	13.137		
8,000.0	7,396.0	7,801.1	7,192.0	18.4	19.2	-59.92	-669.1	-369.0	407.0	373.9	33.11	12.292		
8,100.0	7,396.0	7,901.1	7,192.0	19.8	20.5	-59.92	-769.1	-369.0	407.0	371.7	35.38	11.506		
8,200.0	7,396.0	8,001.1	7,192.0	21.1	21.8	-59.92	-869.1	-369.0	407.0	369.3	37.75	10.783		
8,300.0	7,396.0	8,101.1	7,192.0	22.6	23.2	-59.92	-969.1	-369.0	407.0	366.8	40.21	10.122		
8,400.0	7,396.0	8,201.1	7,192.0	24.0	24.6	-59.92	-1,069.1	-369.0	407.0	364.3	42.75	9.521		
8,500.0	7,396.0	8,301.1	7,192.0	25.5	26.1	-59.92	-1,169.1	-369.0	407.0	361.7	45.35	8.975		
8,600.0	7,396.0	8,401.1	7,192.0	27.1	27.6	-59.92	-1,269.1	-369.0	407.0	359.0	48.00	8.480		
8,700.0	7,396.0	8,501.1	7,192.0	28.6	29.2	-59.92	-1,369.1	-369.0	407.0	356.3	50.70	8.029		
8,800.0	7,396.0	8,601.1	7,192.0	30.2	30.7	-59.92	-1,469.1	-369.0	407.0	353.6	53.43	7.618		
8,900.0	7,396.0	8,701.1	7,192.0	31.8	32.3	-59.92	-1,569.1	-369.0	407.0	350.8	56.20	7.243		
9,000.0	7,396.0	8,801.1	7,192.0	33.4	33.9	-59.92	-1,669.1	-369.0	407.0	348.1	58.99	6.901		
9,100.0	7,396.0	8,901.1	7,192.0	35.1	35.5	-59.92	-1,769.1	-369.0	407.0	345.2	61.80	6.586		
9,200.0	7,396.0	9,001.1	7,192.0	36.7	37.1	-59.92	-1,869.1	-369.0	407.0	342.4	64.64	6.297		
9,300.0	7,396.0	9,101.1	7,192.0	38.4	38.7	-59.92	-1,969.1	-369.0	407.0	339.6	67.49	6.031		
9,400.0	7,396.0	9,201.1	7,192.0	40.0	40.4	-59.92	-2,069.1	-369.0	407.0	336.7	70.36	5.785		
9,500.0	7,396.0	9,301.1	7,192.0	41.7	42.0	-59.92	-2,169.1	-369.0	407.0	333.8	73.25	5.557		
9,600.0	7,396.0	9,401.1	7,192.0	43.4	43.7	-59.92	-2,269.1	-369.0	407.0	330.9	76.14	5.346		
9,700.0	7,396.0	9,501.1	7,192.0	45.0	45.4	-59.92	-2,369.1	-369.0	407.0	328.0	79.05	5.149		
9,800.0	7,396.0	9,601.1	7,192.0	46.7	47.0	-59.92	-2,469.1	-369.0	407.0	325.1	81.97	4.966		
9,900.0	7,396.0	9,701.1	7,192.0	48.4	48.7	-59.92	-2,569.1	-369.0	407.0	322.2	84.89	4.795		
10,000.0	7,396.0	9,801.1	7,192.0	50.1	50.4	-59.92	-2,669.1	-369.0	407.0	319.2	87.83	4.635		
10,100.0	7,396.0	9,901.1	7,192.0	51.8	52.1	-59.92	-2,769.1	-369.0	407.0	316.3	90.77	4.485		
10,200.0	7,396.0	10,001.1	7,192.0	53.5	53.8	-59.92	-2,869.1	-369.0	407.0	313.3	93.71	4.344		
10,300.0	7,396.0	10,101.1	7,192.0	55.2	55.5	-59.92	-2,969.1	-369.0	407.0	310.4	96.67	4.211		

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

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Ione 1C-8H
Project:	DJ Wattenberg	TVD Reference:	WELL @ 4917.0ft (Original Well Elev)
Reference Site:	S8-T2N-R66W (Ione)	MD Reference:	WELL @ 4917.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Ione 1C-8H	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 S8-T2N-R66W (Ione) - Ione 1D-8H - Hz - Plan #1													Offset Site Error: 0.0 ft	
Survey Program: 0-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		
10,400.0	7,396.0	10,201.1	7,192.0	56.9	57.2	59.92	-3,069.1	-369.0	407.0	307.4	99.62	4.086		
10,500.0	7,396.0	10,301.1	7,192.0	58.6	58.9	59.92	-3,169.1	-369.0	407.0	304.5	102.59	3.968		
10,600.0	7,396.0	10,401.1	7,192.0	60.4	60.6	59.92	-3,269.1	-369.0	407.0	301.5	105.55	3.856		
10,700.0	7,396.0	10,501.1	7,192.0	62.1	62.3	59.92	-3,369.1	-369.0	407.0	298.5	108.53	3.751		
10,800.0	7,396.0	10,601.1	7,192.0	63.8	64.0	59.92	-3,469.1	-369.0	407.0	295.5	111.50	3.651		
10,900.0	7,396.0	10,701.1	7,192.0	65.5	65.7	59.92	-3,569.1	-369.0	407.0	292.6	114.48	3.556		
11,000.0	7,396.0	10,801.1	7,192.0	67.2	67.4	59.92	-3,669.1	-369.0	407.0	289.6	117.46	3.465		
11,100.0	7,396.0	10,901.1	7,192.0	69.0	69.2	59.92	-3,769.1	-369.0	407.0	286.6	120.45	3.379		
11,200.0	7,396.0	11,001.1	7,192.0	70.7	70.9	59.92	-3,869.1	-369.0	407.0	283.6	123.44	3.298		
11,300.0	7,396.0	11,101.1	7,192.0	72.4	72.6	59.92	-3,969.1	-369.0	407.0	280.6	126.43	3.220		
11,400.0	7,396.0	11,201.1	7,192.0	74.1	74.3	59.92	-4,069.1	-369.0	407.0	277.6	129.42	3.145		
11,500.0	7,396.0	11,301.1	7,192.0	75.9	76.0	59.92	-4,169.1	-369.0	407.0	274.6	132.42	3.074		
11,600.0	7,396.0	11,401.1	7,192.0	77.6	77.8	59.92	-4,269.1	-369.0	407.0	271.6	135.41	3.006		
11,700.0	7,396.0	11,501.1	7,192.0	79.3	79.5	59.92	-4,369.1	-369.0	407.0	268.6	138.41	2.941		
11,800.0	7,396.0	11,601.1	7,192.0	81.1	81.2	59.92	-4,469.1	-369.0	407.0	265.6	141.41	2.878		
11,900.0	7,396.0	11,701.1	7,192.0	82.8	83.0	59.92	-4,569.1	-369.0	407.0	262.6	144.42	2.819		
11,907.7	7,396.0	11,708.8	7,192.0	82.9	83.1	59.92	-4,576.7	-369.0	407.0	262.4	144.65	2.814		
11,920.9	7,396.0	11,722.0	7,192.0	83.2	83.3	59.92	-4,589.9	-369.0	407.0	262.0	145.04	2.806 SF		

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well lone 1C-8H
Project:	DJ Wattenberg	TVD Reference:	WELL @ 4917.0ft (Original Well Elev)
Reference Site:	S8-T2N-R66W (lone)	MD Reference:	WELL @ 4917.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	lone 1C-8H	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 S8-T2N-R66W (lone) - lone 1E-8H - Hz - Plan #1													Offset Site Error:	0.0 ft
Survey Program: 0-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	0.0	0.0	0.0	0.0	-90.09	0.0	-22.4	22.4					
100.0	100.0	100.0	100.0	0.2	0.2	-90.09	0.0	-22.4	22.4	22.1	0.30	73.628		
200.0	200.0	200.0	200.0	0.3	0.3	-90.09	0.0	-22.4	22.4	21.7	0.65	34.255 CC, ES		
300.0	300.0	298.8	298.7	0.5	0.5	-88.86	0.5	-24.9	24.9	23.9	1.00	24.900		
400.0	400.0	397.0	396.7	0.7	0.7	-86.33	2.1	-32.3	32.5	31.2	1.35	24.166 SF		
500.0	500.0	494.3	493.1	0.8	1.0	-84.03	4.7	-44.5	45.3	43.6	1.69	26.781		
600.0	600.0	593.0	590.7	1.0	1.3	-82.51	7.8	-59.4	60.6	58.6	2.04	29.772		
700.0	700.0	691.8	688.3	1.2	1.6	-81.60	11.0	-74.3	76.0	73.6	2.38	31.904		
800.0	800.0	790.6	785.9	1.4	1.9	-81.00	14.1	-89.2	91.4	88.7	2.73	33.498		
900.0	900.0	889.4	883.5	1.5	2.2	-80.58	17.3	-104.1	106.8	103.8	3.08	34.734		
1,000.0	1,000.0	988.2	981.2	1.7	2.5	-80.26	20.4	-119.1	122.3	118.8	3.42	35.720		
1,100.0	1,100.0	1,087.0	1,078.8	1.9	2.8	-80.01	23.6	-134.0	137.7	133.9	3.77	36.525		
1,200.0	1,200.0	1,185.8	1,176.4	2.1	3.2	-79.81	26.8	-148.9	153.1	149.0	4.12	37.195		
1,300.0	1,300.0	1,284.6	1,274.0	2.2	3.5	-79.65	29.9	-163.8	168.5	164.1	4.46	37.760		
1,400.0	1,400.0	1,383.4	1,371.6	2.4	3.8	-79.51	33.1	-178.7	183.9	179.1	4.81	38.244		
1,500.0	1,500.0	1,482.2	1,469.2	2.6	4.1	-79.40	36.2	-193.6	199.4	194.2	5.16	38.663		
1,600.0	1,600.0	1,581.0	1,566.9	2.8	4.4	-79.30	39.4	-208.5	214.8	209.3	5.50	39.029		
1,700.0	1,700.0	1,679.8	1,664.5	2.9	4.8	-79.22	42.6	-223.4	230.2	224.4	5.85	39.351		
1,800.0	1,800.0	1,778.6	1,762.1	3.1	5.1	-79.14	45.7	-238.4	245.6	239.4	6.20	39.638		
1,900.0	1,900.0	1,877.5	1,859.7	3.3	5.4	-79.08	48.9	-253.3	261.1	254.5	6.54	39.894		
2,000.0	2,000.0	1,976.3	1,957.3	3.5	5.7	-79.02	52.0	-268.2	276.5	269.6	6.89	40.124		
2,100.0	2,100.0	2,075.1	2,055.0	3.6	6.0	-78.97	55.2	-283.1	291.9	284.7	7.24	40.332		
2,200.0	2,200.0	2,173.9	2,152.6	3.8	6.3	-78.92	58.3	-298.0	307.3	299.8	7.58	40.521		
2,300.0	2,300.0	2,272.7	2,250.2	4.0	6.7	-78.88	61.5	-312.9	322.8	314.8	7.93	40.694		
2,400.0	2,400.0	2,371.5	2,347.8	4.2	7.0	-78.84	64.7	-327.8	338.2	329.9	8.28	40.852		
2,500.0	2,500.0	2,470.3	2,445.4	4.3	7.3	-78.81	67.8	-342.8	353.6	345.0	8.63	40.997		
2,600.0	2,600.0	2,569.1	2,543.1	4.5	7.6	-78.78	71.0	-357.7	369.1	360.1	8.97	41.131		
2,700.0	2,700.0	2,667.9	2,640.7	4.7	7.9	-78.75	74.1	-372.6	384.5	375.2	9.32	41.255		
2,800.0	2,800.0	2,766.7	2,738.3	4.9	8.3	-78.72	77.3	-387.5	399.9	390.2	9.67	41.370		
2,900.0	2,900.0	2,865.5	2,835.9	5.0	8.6	-78.69	80.5	-402.4	415.3	405.3	10.01	41.477		
3,000.0	3,000.0	2,964.3	2,933.5	5.2	8.9	-78.67	83.6	-417.3	430.8	420.4	10.36	41.577		
3,100.0	3,100.0	3,063.1	3,031.2	5.4	9.2	-78.65	86.8	-432.2	446.2	435.5	10.71	41.671		
3,200.0	3,200.0	3,161.9	3,128.8	5.6	9.5	-78.63	89.9	-447.1	461.6	450.6	11.05	41.758		
3,300.0	3,300.0	3,260.7	3,226.4	5.7	9.9	-78.61	93.1	-462.1	477.1	465.7	11.40	41.841		
3,400.0	3,400.0	3,359.5	3,324.0	5.9	10.2	-78.59	96.2	-477.0	492.5	480.7	11.75	41.918		

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Ione 1C-8H
Project:	DJ Wattenberg	TVD Reference:	WELL @ 4917.0ft (Original Well Elev)
Reference Site:	S8-T2N-R66W (Ione)	MD Reference:	WELL @ 4917.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Ione 1C-8H	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 S8-T2N-R66W (Ione) - Mason Gas Unit #3-8 (Existing) - Existing - Existing												Offset Site Error:	0.0 ft
Survey Program: 0-MWD												Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis		Distance							
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	Warning
10,500.0	7,396.0	7,361.0	7,361.0	58.6	12.8	-90.00	-3,569.6	227.5	469.2	397.7	71.49	6.563	
10,600.0	7,396.0	7,361.0	7,361.0	60.4	12.8	-90.00	-3,569.6	227.5	387.3	314.1	73.20	5.291	
10,700.0	7,396.0	7,361.0	7,361.0	62.1	12.8	-90.00	-3,569.6	227.5	316.1	241.2	74.92	4.219	
10,800.0	7,396.0	7,361.0	7,361.0	63.8	12.8	-90.00	-3,569.6	227.5	264.2	187.6	76.64	3.447	
10,900.0	7,396.0	7,361.0	7,361.0	65.5	12.8	-90.00	-3,569.6	227.5	244.3	166.0	78.36	3.118	
10,900.5	7,396.0	7,361.0	7,361.0	65.5	12.8	-90.00	-3,569.6	227.5	244.3	166.0	78.37	3.118	CC, ES, SF
11,000.0	7,396.0	7,361.0	7,361.0	67.2	12.8	-90.00	-3,569.6	227.5	263.8	183.7	80.08	3.294	
11,100.0	7,396.0	7,361.0	7,361.0	69.0	12.8	-90.00	-3,569.6	227.5	315.4	233.6	81.80	3.856	
11,200.0	7,396.0	7,361.0	7,361.0	70.7	12.8	-90.00	-3,569.6	227.5	386.5	303.0	83.53	4.627	
11,300.0	7,396.0	7,361.0	7,361.0	72.4	12.8	-90.00	-3,569.6	227.5	468.3	383.0	85.25	5.492	

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

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well lone 1C-8H
Project:	DJ Wattenberg	TVD Reference:	WELL @ 4917.0ft (Original Well Elev)
Reference Site:	S8-T2N-R66W (lone)	MD Reference:	WELL @ 4917.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	lone 1C-8H	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 @ 4917.0ft (Original Well Elev)

Offset Depths are relative to Offset Datum

Central Meridian is -105.500000 °

Coordinates are relative to: lone 1C-8H

Coordinate System is US State Plane 1983, Colorado Northern Zone

Grid Convergence at Surface is: 0.45°

