



February 1, 2012

The Corporation of the Municipality of Huron East  
72 Main St. S  
P.O. Box 610  
Seaford, ON  
N0K 1W0

**Attention: Brad Knight, Administrator, Clerk-Treasurer**

**RE: Brussels Well Supply System  
2011 Annual Report**

Dear Brad,

Please find attached the 2011 Annual Operations Report for the Brussels Water System, in accordance with Section 11(1) of O. Reg. 170/03. This report covers the period from January 1 to December 31 and meets the requirement of being prepared by February 28 of this year.

Please ensure that a copy of this report is given, without charge, to every person who requests a copy. In addition, please make certain that effective steps are taken to advise residents that copies of the report are available, and of how a copy can be obtained.

As per Schedule 22 of O. Reg. 170/03, please ensure that at least a copy of the Summary Report is given to the members of municipal council no later than March 31, 2012.

Finally, please ensure that a letter is sent to OMI Canada Inc verifying that this report has been received and accepted by Council.

If you have any questions regarding the report, we would be pleased to address them and you should contact the undersigned accordingly.

Sincerely,

OMI Canada Inc.

A handwritten signature in black ink, appearing to read "Joe Arnold".

Joe Arnold  
Project Manager  
Huron East  
Project  
519 490 5586

cc. B. Mills, Municipality of Huron East;

## 2011 ANNUAL REPORT FOR WATER SYSTEMS

### Part 1 – ANNUAL REPORT (as required by O. Reg. 170/03, Section 11)

<b>Drinking-Water System Number:</b>	220001487
<b>Drinking-Water System Name:</b>	Brussels Well Supply System
<b>Drinking-Water System Owner:</b>	The Corporation of the Municipality of Huron East
<b>Drinking-Water System Category:</b>	Large Municipal Residential
<b>Period being reported:</b>	January 1-December 31, 2011

Complete if your Category is Large Municipal Residential or Small Municipal Residential	Complete for all other Categories
Does your Drinking-Water System serve more than 10,000 people? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Number of Designated Facilities served:
Is your annual report available to the public at no charge on a web site on the Internet? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Did you provide a copy of your annual report to all Designated Facilities you serve? <input type="checkbox"/> Yes <input type="checkbox"/> No
Location where Summary Report required under O. Reg. 170/03 Schedule 22 will be available for inspection. <b>Town Office 72 Main St. S. Seaforth, ON</b>	Number of Designated Facilities served: Did you provide a copy of your annual report to all Interested Authorities you report to for each Designated Facility? <input type="checkbox"/> Yes <input type="checkbox"/> No

#### List all Drinking-Water Systems (if any), which receive all of their drinking water from your system:

Drinking Water System Name	Drinking Water System Number

**Did you provide a copy of your annual report to all Drinking-Water System owners that are connected to you and to whom you provide all of its drinking water?**

#### Indicate how you notified system users that your annual report is available, and is free of charge.

<input checked="" type="checkbox"/> Public access/notice via the web	<input checked="" type="checkbox"/> Public access/notice via Government Office	<input type="checkbox"/> Public access/notice via a newspaper
<input type="checkbox"/> Public access/notice via Public Request	<input type="checkbox"/> Public access/notice via a Public Library	<input type="checkbox"/> Public access/notice via a Public Library

#### Describe your Drinking Water System

**Water Distribution System Class 2 including 2 wells and one underground reservoir.**  
 Brussels Well #1 pump house located at 66 McCutcheon Street Brussels contains a 60 m deep, 250 mm dia. steel casing well with a submersible pump rated for 12.6 L/s. After chlorination by sodium hypochlorite injection this well discharges to a single cell reservoir with a capacity of 568 m<sup>3</sup>.  
 Distribution pumps include an electric centrifugal rated at 12.6 L/s and a fire duty electric pump rated at 63L/s at 21.3 m TDH

Brussels Well #2 pump house located at 238 Turnberry Street Brussels contains a 60 m deep, 250 mm dia. steel casing well with a vertical line shaft pump rated for 12.7 L/s. Primary disinfection is accomplished by an ultraviolet reactor, secondary disinfection by sodium hypochlorite injection. This well discharges directly to the distribution system.

**List all water treatment chemicals used over this reporting period**

12% Sodium hypochlorite solution

**Please provide a brief description and a breakdown of monetary expenses incurred**

**Provide details on the notices submitted in accordance with subsection 18(1) of the Safe Drinking-Water Act or section 16-4 of Schedule 16 of O.Reg.170/03 and reported to Spills Action Centre**

Incident Date	Parameter	Result	Units	Corrective Action	Corrective Action Date

**Microbiological testing done under the Schedule 10, 11 or 12 of Regulation 170/03, during this reporting period**

	Number of Samples	Range of E.Coli Results (min #) - (max #)	Range of Total Coliform Results (min #) - (max #)	Number of HPC Samples	Range of HPC Results (min #) - (max #)
Raw (well #1)	52	0	0	0	n/a
Raw (well #2)	52	0	0	0	n/a
Treated (well #1)	52	0	0	52	0-20
Treated (well #2)	52	0	0-1	52	0-2000
Distribution	156	0	0-4	52	0-20

**Operational testing done under Schedule 7, 8 or 9 of Regulation 170/03 during the period covered by this Annual Report**

Well #1	Number of Grab Samples	Range of Results (min #) – (max #)	Units
Turbidity (raw)	14	0.16-0.30	NTU
Chlorine (treated)	8760	0..96-2.00	mg/L
Well #2			
Turbidity (raw)	48	0..19-0.48	NTU
Chlorine (treated)	8760	0.28-2.00	mg/L

Summary of additional testing and sampling carried out in accordance with the requirement of an approval, order or other legal instrument				
Date of legal instrument	Parameter	Date Sampled	Result	Unit of Measure
March 2004	Radionuclides (well #1)	Jan 17 2011	Gross alpha = 1.0 Gross beta = 0.3 Tritium <15	Bq/L
March 2004	Radionuclides (well #2)	Jan 17 2011	Gross alpha = 0.5 Gross beta = 0.3 Tritium <15	Bq/L

Summary of Inorganic parameters tested during this reporting period or the most recent sample results							
Parameter	Sample Date	Result Value Well #1	Unit of Measure	Exceedance	Result Value Well #2	Unit of Measure	Exceedance
Antimony	June 16/09	ND	mg/L	No	ND	mg/L	No
Arsenic	June 16/09	ND	mg/L	No	ND	mg/L	No
Barium	June 16/09	0.018	mg/L	No	0.2	mg/L	No
Boron	June 16/09	0.04	mg/L	No	ND	mg/L	No
Cadmium	June 16/09	ND	mg/L	No	ND	mg/L	No
Chromium	June 16/09	ND	mg/L	No	ND	mg/L	No
Lead-sampling conducted by Municipality							
Mercury	June 16/09	ND	mg/L	No	ND	mg/L	No
Selenium	June 16/09	ND	mg/L	No	ND	mg/L	No
Sodium	June 16/09	16	mg/L	No	4.2	mg/L	No
Uranium	June 16/09	0.0003	mg/L	No	0.0007	mg/L	No
Fluoride	Oct 6/08	2.0	mg/L	YES	1.2	mg/L	No
Nitrite	Jan 17/11	<0.005	mg/L	No	<0.01	mg/L	No
Nitrate	Jan 17/11	<0.13	mg/L	No	<0.1	mg/L	No
Nitrite	Apr26/11	<0.005	mg/L	No	<0.01	mg/L	No
Nitrate	Apr26/11	<0.13	mg/L	No	<0.1	mg/L	No
Nitrite	July 18/11	<0.005	mg/L	No	<0.005	mg/L	No
Nitrate	July 18/11	<0.13	mg/L	No	<0.13	mg/L	No
Nitrite	Oct 11/11	<0.005	mg/L	No	<0.005	mg/L	No
Nitrate	Oct 11/11	<0.13	mg/L	No	<0.3	mg/L	No

Summary of Lead Results* <u>None during this reporting period</u>				
Sampling Period	Range of Results (µg/L) from Residential Samples (# of locations sampled)	Non-residential locations	Distribution System	Any Adverse Water Quality Incidents?

**Summary of Organic parameters tested during this reporting period or the most recent sample results**

Parameter	Sample Date	Result Value Well #1	Unit of Measure	Exceedance	Result Value Well #2	Unit of Measure	Exceedance
Alachlor	June 16/09	ND	mg/L	No	ND	mg/L	No
Aldicarb	June 16/09	ND	mg/L	No	ND	mg/L	No
Aldrin + Dieldrin	June 16/09	ND	mg/L	No	ND	mg/L	No
Atrazine + N-dealkylated metabolites	June 16/09	ND	mg/L	No	ND	mg/L	No
Azinphos-methyl	June 16/09	ND	mg/L	No	ND	mg/L	No
Bendiocarb	June 16/09	ND	mg/L	No	ND	mg/L	No
Benzene	June 16/09	ND	mg/L	No	ND	mg/L	No
Benzo(a)pyrene	June 16/09	ND	mg/L	No	ND	mg/L	No
Bromoxynil	June 16/09	ND	mg/L	No	ND	mg/L	No
Carbaryl	June 16/09	ND	mg/L	No	ND	mg/L	No
Carbofuran	June 16/09	ND	mg/L	No	ND	mg/L	No
Carbon Tetrachloride	June 16/09	ND	mg/L	No	ND	mg/L	No
Chlordane (Total)	June 16/09	ND	mg/L	No	ND	mg/L	No
Chlorpyrifos	June 16/09	ND	mg/L	No	ND	mg/L	No
Cyanazine	June 16/09	ND	mg/L	No	ND	mg/L	No
Diazinon	June 16/09	ND	mg/L	No	ND	mg/L	No
Dicamba	June 16/09	ND	mg/L	No	ND	mg/L	No
1,2-Dichlorobenzene	June 16/09	ND	mg/L	No	ND	mg/L	No
1,4-Dichlorobenzene	June 16/09	ND	mg/L	No	ND	mg/L	No
Dichlorodiphenyltrichloroethane (DDT) + metabolites	June 16/09	ND	mg/L	No	ND	mg/L	No
1,2-Dichloroethane	June 16/09	ND	mg/L	No	ND	mg/L	No
1,1-Dichloroethylene (vinylidene chloride)	June 16/09	ND	mg/L	No	ND	mg/L	No
Dichloromethane	June 16/09	ND	mg/L	No	ND	mg/L	No
2,4 Dichlorophenol	June 16/09	ND	mg/L	No	ND	mg/L	No
2,4-Dichlorophenoxy acetic acid (2,4-D)	June 16/09	ND	mg/L	No	ND	mg/L	No
Diclofop-methyl	June 16/09	ND	mg/L	No	ND	mg/L	No
Dimethoate	June 16/09	ND	mg/L	No	ND	mg/L	No
Dinoseb	June 16/09	ND	mg/L	No	ND	mg/L	No
Diquat	June 16/09	ND	mg/L	No	ND	mg/L	No
Diuron	June 16/09	ND	mg/L	No	ND	mg/L	No
Glyphosate	June 16/09	ND	mg/L	No	ND	mg/L	No
Heptachlor + Heptachlor Epoxide	June 16/09	ND	mg/L	No	ND	mg/L	No
Lindane (Total)	June 16/09	ND	mg/L	No	ND	mg/L	No
Malathion	June 16/09	ND	mg/L	No	ND	mg/L	No
Methoxychlor	June 16/09	ND	mg/L	No	ND	mg/L	No
Metolachlor	June 16/09	ND	mg/L	No	ND	mg/L	No
Metribuzin	June 16/09	ND	mg/L	No	ND	mg/L	No
Monochlorobenzene	June 16/09	ND	mg/L	No	ND	mg/L	No

Paraquat	June 16/09	ND	mg/L	No	ND	mg/L	No
Parathion	June 16/09	ND	mg/L	No	ND	mg/L	No
Pentachlorophenol	June 16/09	ND	mg/L	No	ND	mg/L	No
Phorate	June 16/09	ND	mg/L	No	ND	mg/L	No
Picloram	June 16/09	ND	mg/L	No	ND	mg/L	No
Polychlorinated Biphenyls(PCB)	June 16/09	ND	mg/L	No	ND	mg/L	No
Prometryne	June 16/09	ND	mg/L	No	ND	mg/L	No
Simazine	June 16/09	ND	mg/L	No	ND	mg/L	No
THM (NOTE: show latest annual average)	2011	13 µg/L (No)					
Temephos	June 16/09	ND	mg/L	No	ND	mg/L	No
Terbufos	June 16/09	ND	mg/L	No	ND	mg/L	No
Tetrachloroethylene	June 16/09	ND	mg/L	No	ND	mg/L	No
2,3,4,6-Tetrachlorophenol	June 16/09	ND	mg/L	No	ND	mg/L	No
Triallate	June 16/09	ND	mg/L	No	ND	mg/L	No
Trichloroethylene	June 16/09	ND	mg/L	No	ND	mg/L	No
2,4,6-Trichlorophenol	June 16/09	ND	mg/L	No	ND	mg/L	No
2,4,5-Trichlorophenoxy acetic acid (2,4,5-T)	June 16/09	ND	mg/L	No	ND	mg/L	No
Trifluralin	June 16/09	ND	mg/L	No	ND	mg/L	No
Vinyl Chloride	June 16/09	ND	mg/L	No	ND	mg/L	No

**List any Inorganic or Organic parameter(s) that exceeded half the standard prescribed in Schedule 2 of Ontario Drinking Water Quality Standards.**

Parameter	Sample Date	Result Value	Unit of Measure	ODWS Criteria
Fluoride (well #1)	Oct 6/08	2.0	mg/L	1.5
Fluoride (well #2)	Oct 6/08	1.2	mg/L	1.5

## Part 2 – SUMMARY REPORT (as required by O. Reg. 170/03, Schedule 22)

Non-Compliance with Legislations, Regulations, Approvals & Orders		
During this period, the Facility was operated in full compliance with the Act, the regulations and the Facility's approval, save and except for the following		
Requirement	Actions Required	Actions Taken
No non - compliances in 2011		

System Capability Assessment					
Comparison of Flow Rates (m <sup>3</sup> /d):					
Month	Avg. Flow Well 1	Max. Flow Well 1	Avg. Flow Well 2	Max. Flow Well 2	Max Flow (L/s)
January	780	842	1	5	12.7
February	820	981	3	34	12.7
March	760	871	2	19	12.7
April	709	863	3	52	12.7
May	739	1032	1	7	12.7
June	724	823	1	5	12.7
July	774	927	1	5	12.7
August	717	834	1	9	12.7
September	710	884	1	6	12.7
October	678	867	1	15	12.7
November	640	819	1	5	12.7
December	570	669	1	5	12.7
<b>AVERAGE</b>	<b>718</b>		<b>&lt;.1</b>		
<b>MAXIMUM</b>	<b>-</b>	<b>1032</b>	<b>-</b>	<b>52</b>	<b>-</b>
Total Rated CAPACITY	<b>2180</b>	<b>2180</b>	<b>2180</b>	<b>2180</b>	<b>12.7L/s</b>
%CAPACITY	<b>32.9</b>	<b>47.3</b>	<b>&lt;1%</b>	<b>2.4</b>	