



January 27, 2014

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
2013 Annual Report**

Dear Brad,

Please find attached the 2013 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, 2014.

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;

2013 ANNUAL REPORT FOR WATER SYSTEMS

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

Drinking-Water System Number:	220001487
Drinking-Water System Name:	Brussels Well Supply System
Drinking-Water System Owner:	The Corporation of the Municipality of Huron East
Drinking-Water System Category:	Large Municipal Residential
Period being reported:	January 1-December 31, 2013

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. Town Office 72 Main St. S. Seaforth, ON	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?

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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 m³. 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
August 27-13	Total Coliforms	15	Cfu/100ml	resample	Aug 28-13
Oct 21/13	Fluoride (well #1)	2.12	mg/L	public notification	N/A

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	<10-120
Treated (well #2)	52	0	0	52	<10-30
Distribution	156	0	0-15	52	<10-110

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)	12	0.16-0.45	NTU
Chlorine (treated)	8760	0.96-1.98	mg/L
Well #2			
Turbidity (raw)	51	0.31-0.53	NTU
Chlorine (treated)	8760	0.30-2.10	mg/L

Summary of additional testing and sampling carried out in accordance with the requirement of an approval, order or other legal instrument

None during this period

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	May-22-12	<MDL	ug/L	No	<MDL	ug/L	No
Arsenic	May-22-12	0.3	ug/L	No	0.4	ug/L	No
Barium	May-22-12	20.3	ug/L	No	204	ug/L	No
Boron	May-22-12	40	ug/L	No	7.1	ug/L	No
Cadmium	May-22-12	0.029	ug/L	No	0.027	ug/L	No
Chromium	May-22-12	<MDL	ug/L	No	<MDL	ug/L	No
Lead-sampling conducted by Municipality							
Mercury	May-22-12	<MDL	ug/L	No	<MDL	ug/L	No
Selenium	May-22-12	<MDL	ug/L	No	<MDL	ug/L	No
Sodium	Oct-21-13	16.7	mg/L	No	6.23	mg/L	No
Uranium	May-22-12	0.358	ug/L	No	0.672	ug/L	No
Fluoride	Oct-21-13	2.12	mg/L	YES	1.30	mg/L	No
Nitrite	Jan-28-13	<0.005	ug/L	No	<0.005	ug/L	No
Nitrate	Jan-28-13	<0.013	ug/L	No	<0.013	ug/L	No
Nitrite	Apr-02-13	<0.003	ug/L	No	<0.003	ug/L	No
Nitrate	Apr-02-13	<0.006	ug/L	No	<0.006	ug/L	No
Nitrite	July-2-13	<0.003	ug/L	No	<0.003	ug/L	No
Nitrate	July-2-13	<0.006	ug/L	No	<0.006	ug/L	No
Nitrite	Oct-21-13	<0.003	ug/L	No	<0.003	ug/L	No
Nitrate	Oct-21-13	<0.006	ug/L	No	<0.006	ug/L	No

Summary of Lead Results* Sampled by Municipal Staff

Sampling Period	Range of Results (µg/L)	Non-residential	Distribution	Adverse Incidents?
Dec-11-12-Apr-15-13	0.06-0.07	N/A	2	No
Jun-15-13-Oct-15-13	0.09-0.18	N/A	2	No

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	May-22-12	<MDL	ug/L	No	<MDL	ug/L	No
Aldicarb	May-22-12	<MDL	ug/L	No	<MDL	ug/L	No
Aldrin + Dieldrin	May-22-12	<MDL	ug/L	No	<MDL	ug/L	No
Atrazine + N-dealkylated metabolites	May-22-12	<MDL	ug/L	No	<MDL	ug/L	No
Azinphos-methyl	May-22-12	<MDL	ug/L	No	<MDL	ug/L	No
Bendiocarb	May-22-12	<MDL	ug/L	No	<MDL	ug/L	No
Benzene	May-22-12	<MDL	ug/L	No	<MDL	ug/L	No
Benzo(a)pyrene	May-22-12	<MDL	ug/L	No	<MDL	ug/L	No
Bromoxynil	May-22-12	<MDL	ug/L	No	<MDL	ug/L	No
Carbaryl	May-22-12	<MDL	ug/L	No	<MDL	ug/L	No
Carbofuran	May-22-12	<MDL	ug/L	No	<MDL	ug/L	No
Carbon Tetrachloride	May-22-12	<MDL	ug/L	No	<MDL	ug/L	No
Chlordane (Total)	May-22-12	<MDL	ug/L	No	<MDL	ug/L	No
Chlorpyrifos	May-22-12	<MDL	ug/L	No	<MDL	ug/L	No
Cyanazine	May-22-12	<MDL	ug/L	No	<MDL	ug/L	No
Diazinon	May-22-12	<MDL	ug/L	No	<MDL	ug/L	No
Dicamba	May-22-12	<MDL	ug/L	No	<MDL	ug/L	No
1,2-Dichlorobenzene	May-22-12	<MDL	ug/L	No	<MDL	ug/L	No
1,4-Dichlorobenzene	May-22-12	<MDL	ug/L	No	<MDL	ug/L	No
Dichlorodiphenyltrichloroethane (DDT) + metabolites	May-22-12	<MDL	ug/L	No	<MDL	ug/L	No
1,2-Dichloroethane	May-22-12	<MDL	ug/L	No	<MDL	ug/L	No
1,1-Dichloroethylene (vinylidene chloride)	May-22-12	<MDL	ug/L	No	<MDL	ug/L	No
Dichloromethane	May-22-12	<MDL	ug/L	No	<MDL	ug/L	No
2,4 Dichlorophenol	May-22-12	<MDL	ug/L	No	<MDL	ug/L	No
2,4-Dichlorophenoxy acetic acid (2,4-D)	May-22-12	<MDL	ug/L	No	<MDL	ug/L	No
Diclofop-methyl	May-22-12	<MDL	ug/L	No	<MDL	ug/L	No
Dimethoate	May-22-12	<MDL	ug/L	No	<MDL	ug/L	No
Dinoseb	May-22-12	<MDL	ug/L	No	<MDL	ug/L	No
Diquat	May-22-12	<MDL	ug/L	No	<MDL	ug/L	No
Diuron	May-22-12	<MDL	ug/L	No	<MDL	ug/L	No
Glyphosate	May-22-12	<MDL	ug/L	No	<MDL	ug/L	No
Heptachlor + Heptachlor Epoxide	May-22-12	<MDL	ug/L	No	<MDL	ug/L	No
Lindane (Total)	May-22-12	<MDL	ug/L	No	<MDL	ug/L	No
Malathion	May-22-12	<MDL	ug/L	No	<MDL	ug/L	No
Methoxychlor	May-22-12	<MDL	ug/L	No	<MDL	ug/L	No
Metolachlor	May-22-12	<MDL	ug/L	No	<MDL	ug/L	No
Metribuzin	May-22-12	<MDL	ug/L	No	<MDL	ug/L	No
Monochlorobenzene	May-22-12	<MDL	ug/L	No	<MDL	ug/L	No

Paraquat	May-22-12	<MDL	ug/L	No	<MDL	ug/L	No
Parathion	May-22-12	<MDL	ug/L	No	<MDL	ug/L	No
Pentachlorophenol	May-22-12	<MDL	ug/L	No	<MDL	ug/L	No
Phorate	May-22-12	<MDL	ug/L	No	<MDL	ug/L	No
Picloram	May-22-12	<MDL	ug/L	No	<MDL	ug/L	No
Polychlorinated Biphenyls(PCB)	May-22-12	<MDL	ug/L	No	<MDL	ug/L	No
Prometryne	May-22-12	<MDL	ug/L	No	<MDL	ug/L	No
Simazine	May-22-12	<MDL	ug/L	No	<MDL	ug/L	No
THM (NOTE: show latest annual average)	2013	14 µg/L (No)					
Temephos	May-22-12	<MDL	ug/L	No	<MDL	ug/L	No
Terbufos	May-22-12	<MDL	ug/L	No	<MDL	ug/L	No
Tetrachloroethylene	May-22-12	<MDL	ug/L	No	<MDL	ug/L	No
2,3,4,6-Tetrachlorophenol	May-22-12	<MDL	ug/L	No	<MDL	ug/L	No
Triallate	May-22-12	<MDL	ug/L	No	<MDL	ug/L	No
Trichloroethylene	May-22-12	<MDL	ug/L	No	<MDL	ug/L	No
2,4,6-Trichlorophenol	May-22-12	<MDL	ug/L	No	<MDL	ug/L	No
2,4,5-Trichlorophenoxy acetic acid (2,4,5-T)	May-22-12	<MDL	ug/L	No	<MDL	ug/L	No
Trifluralin	May-22-12	<MDL	ug/L	No	<MDL	ug/L	No
Vinyl Chloride	May-22-12	<MDL	ug/L	No	<MDL	ug/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 21/13	2.12	mg/L	1.5
Fluoride (well #2)	Oct 21/13	1.3	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 2013		

System Capability Assessment					
Comparison of Flow Rates (m ³ /d):					
Month	Avg. Flow Well 1	Max. Flow Well 1	Avg. Flow Well 2	Max. Flow Well 2	Combined Max Flow Rate
January	611	978	7	102	1080
February	610	661	1	6	667
March	607	634	1	7	641
April	627	893	1	6	899
May	613	760	3	60	820
June	618	714	1	7	721
July	528	711	1	7	718
August	624	722	1	7	729
September	681	944	1	11	955
October	655	708	1	5	713
November	576	758	58	577	1335
December	655	731	1	6	737
AVERAGE	617	768	6	67	834
MAXIMUM	681	978	58	577	1080
Total Rated CAPACITY	1097	1097	1097	1097	1097
%CAPACITY	56.3	89.2	0.5	52.6	98.45