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February 26, 2010

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

Attention: Jack McLachlan, Administrator, Clerk-Treasurer

**RE: Brussels Well Supply System
2009 Annual Report**

Dear Jack,

Please find attached the 2009 Annual Operations Report for the Brussels Well Supply 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 a copy of the report is given to the members of municipal council no later than March 31, 2010.

Finally, please ensure that a letter is sent to AW Canada 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,

AMERICAN WATER CANADA CORP.

Greg Prangley
Project Manager

- c. B. Mills, Municipality of Huron East;
AWC Huron East Operations
J. Wilson, AWC

2009 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, 2009

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:	N/A
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. South Seaforth, ON	Number of Designated Facilities served:	N/A
	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?

n/a

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

63 L/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

No major expenditures for this system in 2009

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
May 6/09	Chlorine residual (POE-well #2)	0.03	mg/L	Flushed lines; disinfectant restored	May 6/09
June 9/09	Chlorine residual (well #2)	<0.05	mg/L	Well shut off during duration of fire fighting activity. Flushed distribution system, residual restored	June 9/09

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)	53	0	0	0	n/a
Raw (well #2)	53	0	0	0	n/a
Treated (well #1)	53	0	0	53	0-<10
Treated (well #2)	53	0	0	53	0-8
Distribution	165	0	0	58	0-30

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)	127	0.10-0.25	NTU
Chlorine (treated)	8760	0.00*-2.0	mg/L
Well #2			
Turbidity (raw)	48	0.16-0.40	NTU
Chlorine (treated)	8760	<0.05-2.00	mg/L

*Note that 0.00 from well #1 was due to a pressure loss (water unable to go past chlorine analyzer)

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 issued	Parameter	Date Sampled	Result	Unit of Measure
March 2004	Radionuclides (well #1)	Feb 9/09	Gross alpha = 0.6 Gross beta = 0.2 Tritium <1000	Bq/L
March 2004	Radionuclides (well #2)	Feb 9/09	Gross alpha = 0.4 Gross beta = 0.4 Tritium <1000	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 12/09	<0.01	mg/L	No	<0.01	mg/L	No
Nitrate	Jan 12/09	<0.1	mg/L	No	<0.1	mg/L	No
Nitrite	Apr 6/09	<0.01	mg/L	No	<0.01	mg/L	No
Nitrate	Apr 6/09	<0.1	mg/L	No	<0.1	mg/L	No
Nitrite	July 6/09	<0.01	mg/L	No	<0.01	mg/L	No
Nitrate	July 6/09	<0.1	mg/L	No	<0.1	mg/L	No
Nitrite	Oct 5/09	<0.01	mg/L	No	<0.01	mg/L	No
Nitrate	Oct 5/09	<0.1	mg/L	No	<0.1	mg/L	No

Summary of Lead Results* during this reporting period (Winter: Dec. 15/08-April 15/09; Summer: June 15-Oct. 15/09)

Sampling Period	Range of Results (µg/L) from Residential Samples (# of locations sampled)	Non-residential locations	Distribution System	Any Adverse Water Quality Incidents?
Winter	0.04-1.87 (11)	0.47-0.59(1)	<0.02-0.28(2)	No
Summer	n/a	n/a	n/a	n/a

*Results received from Municipality

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)	2009	11.7 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 (taken from MOE Inspection Report dated May 20, 2009):

Requirement	Actions Required	Actions Taken
Records did not indicate that the treatment equipment was operated in a manner that achieved the design capabilities required under O. Reg. 170/03 or a Permit, License or Approval issued under Part V of the SWDA at all times that water was being supplied to consumers	Municipality should contemplate the need for potential changes to treatment, monitoring and alarms in Pumphouse #2 in preparation for their application for a drinking water works permit	Municipality has taken action such that a (draft) Drinking Water Works Permit has been issued

System Capability Assessment

Comparison of Flow Rates (m³/d):

Month	Average Flow Well #1	Maximum Flow Well #1	Average Flow Well #2*	Maximum Flow Well #2*	Maximum Flow Rate (L/s)
January	657	1012	48	197	12.7
February	661	858	4.2	5	12.7
March	652	777	5	7	12.7
April	659	870	17	71	12.7
May	732	975	4.8	7	12.7
June	708	901	6	18	12.7
July	635	924	4.5	5	12.7
August	576	676	8	19	12.7
September	558	696	12	50	12.7
October	574	799	5.5	7	12.7
November	599	801	5.3	7	12.7
December	547	685	5.6	7	12.7
AVERAGE	634	-	12	-	-
MAXIMUM	-	1012	-	197	-
RATED CAPACITY	1097	1097	1087	1087	12.7L/s
% CAPACITY	57.8%	92.3%	~1.1%	18.1%	-

* note that well #2 only runs 5-6 days/month on average