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February 20, 2014

Municipality of West Grey
402813 Grey Road 4
RR#2
Durham, ON
N0G 1R0

Attention: Ken Gould, Public Works Manager

**RE: Neustadt Drinking Water System
2013 Annual Report**

Ken,

Please find attached the 2013 Annual Operations Report for the Neustadt Drinking 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.

Finally, 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.

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, Ontario Regional Projects

cc. AWC West Grey Operations

2013 ANNUAL REPORT FOR WATER SYSTEMS

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

Drinking-Water System Number:	220002147
Drinking-Water System Name:	Neustadt Drinking Water System
Drinking-Water System Owner:	Municipality of West Grey
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: n/a
Is your annual report available to the public at no charge on a web site on the Internet? <input type="checkbox"/> Yes <input checked="" 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. Municipality of West Grey Grey Road #4 Durham, ON N0G 2V0	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
n/a	

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 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 checked="" type="checkbox"/> Public access/notice via other method
INCLUDED WITH TAX NOTICE		

Describe your Drinking Water System

<p>Three GUDI wells: Well No. 2 with a submersible pump capable of delivering 10.6 L/s; Well No. 3 with a submersible pump capable of delivering 6.1 L/s; and Well No. 1 with a submersible pump capable of delivering 3.2 L/s. Pumping station No. 2 transfers flow monitored raw water from Well No. 2 and Well No. 3 (each well with online turbidity meters) to Well No. 1 pumphouse. Well No. 1 pumphouse contains the treatment equipment, including, but not limited to, flow meters, sodium hypochlorite disinfection system (primary disinfection), UV disinfection system, cartridge filters, online chlorine and</p>

turbidity analyzers, low level alarms and auto dialer.

List all water treatment chemicals used over this reporting period

Sodium Hypochlorite 12%

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

No significant expenses in 2013

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
None					

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	45*	0	0	n/a	n/a
Raw Well #2	53	0	0-1	n/a	n/a
Raw Well #3	52**	0	0	n/a	n/a
Treated (POE)	53	0	0	53	0-2
Distribution	106	0	0	53	0-4

*Please note that well #1 was out of service at times during 2013

**Well #3 was off line during the week of Feb. 25

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

	Number of Grab Samples	Range of Results (min #) - (max #)	Units
Turbidity - Treated	4860	0.04-0.60	NTU
Chlorine-Treated	4860	0.50-1.98	mg/L
Chlorine - Distribution	420	0.70-1.15	mg/L
Fluoride (If the DWS provides fluoridation)	NA	NA	

*

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	Range of Results	Unit of Measure
December 1, 2009	UV transmittance	2013 (monthly)	97.0-99.0	% transmittance

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

Parameter	Sample Date	Result Value POE	Distribution	Unit of Measure	Exceedance
Antimony	Aug 6/13	ND	-	mg/L	NO
Arsenic	Aug 6/13	0.0017	-	mg/L	NO
Barium	Aug 6/13	0.13	-	mg/L	NO
Boron	Aug 6/13	0.025	-	mg/L	NO
Cadmium	Aug 6/13	ND	-	mg/L	NO
Chromium	Aug 6/13	ND	-	mg/L	NO
Lead-see results below					
Mercury	Aug 6/13	ND	-	mg/L	NO
Selenium	Aug 6/13	ND	-	mg/L	NO
Sodium	Aug 6/13	4.6	-	mg/L	NO
Uranium	Aug 6/13	0.00025	-	mg/L	NO
Fluoride	Nov. 14/11	1.2	-	mg/L	NO
Nitrite	Feb 5/13	ND	-	mg/L	NO
Nitrate	Feb 5/13	ND	-	mg/L	NO
Nitrite	May 6/13	ND	-	mg/L	NO
Nitrate	May 6/13	ND	-	mg/L	NO
Nitrite	Aug 6/13	ND	-	mg/L	NO
Nitrate	Aug 6/13	ND	-	mg/L	NO
Nitrite	Nov. 4/13	ND	-	mg/L	NO
Nitrate	Nov. 4/13	ND	-	mg/L	NO

Summary of Lead Results during this reporting period (Winter: Dec. 15/12-April 15/13; Summer: June 15-Oct. 15/13)

Sampling Period	Range of Results (µg/L) from Residential Samples (# of Samples taken)	Non-residential locations	Distribution System	Any Adverse Water Quality Incidents?
Winter	n/a	n/a	n/a	NO
Summer	n/a	n/a	n/a	NO

As per O. Reg 170/03 Schedule 15.1-5, residential lead sampling is no longer required

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

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Alachlor	Aug 6/13	ND	µg/L	NO
Aldicarb	Aug 6/13	ND	µg/L	NO
Aldrin + Dieldrin	Aug 6/13	ND	µg/L	NO
Atrazine + N-dealkylated metabolites	Aug 6/13	ND	µg/L	NO
Azinphos-methyl	Aug 6/13	ND	µg/L	NO
Bendiocarb	Aug 6/13	ND	µg/L	NO
Benzene	Aug 6/13	ND	µg/L	NO

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

Benzo(a)pyrene	Aug 6/13	ND	µg/L	NO
Bromoxynil	Aug 6/13	ND	µg/L	NO
Carbaryl	Aug 6/13	ND	µg/L	NO
Carbofuran	Aug 6/13	ND	µg/L	NO
Carbon Tetrachloride	Aug 6/13	ND	µg/L	NO
Chlordane (Total)	Aug 6/13	ND	µg/L	NO
Chlorpyrifos	Aug 6/13	ND	µg/L	NO
Cyanazine	Aug 6/13	ND	µg/L	NO
Diazinon	Aug 6/13	ND	µg/L	NO
Dicamba	Aug 6/13	ND	µg/L	NO
1,2-Dichlorobenzene	Aug 6/13	ND	µg/L	NO
1,4-Dichlorobenzene	Aug 6/13	ND	µg/L	NO
Dichlorodiphenyltrichloroethane (DDT) + metabolites	Aug 6/13	ND	µg/L	NO
1,2-Dichloroethane	Aug 6/13	ND	µg/L	NO
1,1-Dichloroethylene (vinylidene chloride)	Aug 6/13	ND	µg/L	NO
Dichloromethane	Aug 6/13	ND	µg/L	NO
2,4 Dichlorophenol	Aug 6/13	ND	µg/L	NO
2,4-Dichlorophenoxy acetic acid (2,4-D)	Aug 6/13	ND	µg/L	NO
Diclofop-methyl	Aug 6/13	ND	µg/L	NO
Dimethoate	Aug 6/13	ND	µg/L	NO
Dinoseb	Aug 6/13	ND	µg/L	NO
Diquat	Aug 6/13	ND	µg/L	NO
Diuron	Aug 6/13	ND	µg/L	NO
Glyphosate	Aug 6/13	ND	µg/L	NO
Heptachlor + Heptachlor Epoxide	Aug 6/13	ND	µg/L	NO
Lindane (Total)	Aug 6/13	ND	µg/L	NO
Malathion	Aug 6/13	ND	µg/L	NO
Methoxychlor	Aug 6/13	ND	µg/L	NO
Metolachlor	Aug 6/13	ND	µg/L	NO
Metribuzin	Aug 6/13	ND	µg/L	NO
(Mono)chlorobenzene	Aug 6/13	ND	µg/L	NO
Paraquat	Aug 6/13	ND	µg/L	NO
Parathion	Aug 6/13	ND	µg/L	NO
Pentachlorophenol	Aug 6/13	ND	µg/L	NO
Phorate	Aug 6/13	ND	µg/L	NO
Picloram	Aug 6/13	ND	µg/L	NO
Polychlorinated Biphenyls(PCB)	Aug 6/13	ND	µg/L	NO
Prometryne	Aug 6/13	ND	µg/L	NO
Simazine	Aug 6/13	ND	µg/L	NO
THM (NOTE: show latest annual average)	Q1 - Q4 2013	9.4	µg/L	NO
Temephos	Aug 6/13	ND	µg/L	NO
Terbufos	Aug 6/13	ND	µg/L	NO
Tetrachloroethylene	Aug 6/13	ND	µg/L	NO
2,3,4,6-Tetrachlorophenol	Aug 6/13	ND	µg/L	NO
Triallate	Aug 6/13	ND	µg/L	NO
Trichloroethylene	Aug 6/13	ND	µg/L	NO
2,4,6-Trichlorophenol	Aug 6/13	ND	µg/L	NO
2,4,5-Trichlorophenoxy acetic acid (2,4,5-T)	Aug 6/13	ND	µg/L	NO

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

Trifluralin	Aug 6/13	ND	µg/L	NO
Vinyl Chloride	Aug 6/13	ND	µg/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	Nov. 14/11	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:

None during 2013

System Capability Assessment								
Comparison of Flow Rates (m ³ /d):								
Month	Average Flow	Maximum Flow	Well 1 Avg Flow	Well 1 Max Flow	Well 2 Avg Flow	Well 2 Max Flow	Well 3 Avg Flow	Well 3 Max Flow
January	106.8	179	14.6	53.0	56.7	122	35.6	126
February	125.5	166	13.4	43.0	82.5	166	29.7	97.0
March	109.6	164	8.4	47.0	85.0	164	16.5	101
April	119.9	206	22.1	67.0	55.0	149	42.9	139
May	123.0	185	18.2	48.0	68.1	185	36.7	131
June	140.8	256	18.9	50.0	81.0	256	40.8	99.0
July	157.0	332	20.3	66.0	96.5	331	40.1	137
August	127.1	172	17.1	48.0	67.4	157	40.0	107
September	116.3	186	6.2	42.0	93.6	186	16.5	109
October	115.2	141	0	0	115.2	141	0	0
November	105.6	168	7.9	48.0	83.8	142	17.4	120
December	108.3	177	14.7	44.0	61.0	174	32.5	103
AVERAGE	121		13.5		78.8		29.0	
MAXIMUM	-	332	-	67.0	-	331	-	139
SYSTEM CAPACITY	916	916						
% CAPACITY	13.2%	36.2%						

*Due to rounding, the sum of the monthly well average totals may not equal the total average flow

Each well pump is set to a certain flow rate to maintain compliance with C of A and PTTW. The Maximum Instantaneous flow rates (L/s) for each well pump are as follows:

Well	Max flow rate (L/s)	Approved limit (L/s)
Well #1	2.2	3.2
Well #2	9.0	10.6
Well #3	6.0	6.1