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February 26, 2015

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  
2014 Annual Report**

Ken,

Please find attached the 2014 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, 2015.

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, Canadian Contract Services Group

cc. AWC West Grey Operations

## 2014 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, 2014

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
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#### 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>
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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**

Water tower inspection: \$2,556

**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	52	0	0	n/a	n/a
Raw Well #2	51*	0	0-4	n/a	n/a
Raw Well #3	52	0	0-5	n/a	n/a
Treated (POE)	52	0	0	52	0-1
Distribution	104	0	0	52	0-36

\*Well #2 was off line during the week of May 12 (pump replacement)

**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	0.04-0.64	NTU
Chlorine-Treated	4860	0.50-1.52	mg/L
Chlorine - Distribution	388	0.69-1.23	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	2014 (monthly)	96.0-99.0	% 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 11/14	ND	-	mg/L	NO
Arsenic	Aug 11/14	0.0036	-	mg/L	NO
Barium	Aug 11/14	0.11	-	mg/L	NO
Boron	Aug 11/14	0.024	-	mg/L	NO
Cadmium	Aug 11/14	ND	-	mg/L	NO
Chromium	Aug 11/14	ND	-	mg/L	NO
Lead-see results below					
Mercury	Aug 11/14	ND	-	mg/L	NO
Selenium	Aug 11/14	ND	-	mg/L	NO
Sodium	Aug 11/14	7.2	-	mg/L	NO
Uranium	Aug 11/14	0.00053	-	mg/L	NO
Fluoride	Nov. 14/11	1.2	-	mg/L	NO
Nitrite	Feb 3/14	<0.01	-	mg/L	NO
Nitrate	Feb 3/14	<0.1	-	mg/L	NO
Nitrite	May 6/14	<0.02	-	mg/L	NO
Nitrate	May 6/14	<0.2	-	mg/L	NO
Nitrite	Aug 11/14	<0.01	-	mg/L	NO
Nitrate	Aug 11/14	<0.1	-	mg/L	NO
Nitrite	Nov. 24/14	<0.02	-	mg/L	NO
Nitrate	Nov. 24/14	<0.2	-	mg/L	NO

**Summary of Lead Results during this reporting period (Winter: Dec. 15/13-April 15/14; Summer: June 15-Oct. 15/14)**

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	0.58 (1)	NO
Summer	n/a	n/a	1.2 (1)	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 11/14	ND	µg/L	NO
Aldicarb	Aug 11/14	ND	µg/L	NO
Aldrin + Dieldrin	Aug 11/14	ND	µg/L	NO
Atrazine + N-dealkylated metabolites	Aug 11/14	ND	µg/L	NO
Azinphos-methyl	Aug 11/14	ND	µg/L	NO
Bendiocarb	Aug 11/14	ND	µg/L	NO
Benzene	Aug 11/14	ND	µg/L	NO

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

Benzo(a)pyrene	Aug 11/14	ND	µg/L	NO
Bromoxynil	Aug 11/14	ND	µg/L	NO
Carbaryl	Aug 11/14	ND	µg/L	NO
Carbofuran	Aug 11/14	ND	µg/L	NO
Carbon Tetrachloride	Aug 11/14	ND	µg/L	NO
Chlordane (Total)	Aug 11/14	ND	µg/L	NO
Chlorpyrifos	Aug 11/14	ND	µg/L	NO
Cyanazine	Aug 11/14	ND	µg/L	NO
Diazinon	Aug 11/14	ND	µg/L	NO
Dicamba	Aug 11/14	ND	µg/L	NO
1,2-Dichlorobenzene	Aug 11/14	ND	µg/L	NO
1,4-Dichlorobenzene	Aug 11/14	ND	µg/L	NO
Dichlorodiphenyltrichloroethane (DDT) + metabolites	Aug 11/14	ND	µg/L	NO
1,2-Dichloroethane	Aug 11/14	ND	µg/L	NO
1,1-Dichloroethylene (vinylidene chloride)	Aug 11/14	ND	µg/L	NO
Dichloromethane	Aug 11/14	ND	µg/L	NO
2,4 Dichlorophenol	Aug 11/14	ND	µg/L	NO
2,4-Dichlorophenoxy acetic acid (2,4-D)	Aug 11/14	ND	µg/L	NO
Diclofop-methyl	Aug 11/14	ND	µg/L	NO
Dimethoate	Aug 11/14	ND	µg/L	NO
Dinoseb	Aug 11/14	ND	µg/L	NO
Diquat	Aug 11/14	ND	µg/L	NO
Diuron	Aug 11/14	ND	µg/L	NO
Glyphosate	Aug 11/14	ND	µg/L	NO
Heptachlor + Heptachlor Epoxide	Aug 11/14	ND	µg/L	NO
Lindane (Total)	Aug 11/14	ND	µg/L	NO
Malathion	Aug 11/14	ND	µg/L	NO
Methoxychlor	Aug 11/14	ND	µg/L	NO
Metolachlor	Aug 11/14	ND	µg/L	NO
Metribuzin	Aug 11/14	ND	µg/L	NO
(Mono)chlorobenzene	Aug 11/14	ND	µg/L	NO
Paraquat	Aug 11/14	ND	µg/L	NO
Parathion	Aug 11/14	ND	µg/L	NO
Pentachlorophenol	Aug 11/14	ND	µg/L	NO
Phorate	Aug 11/14	ND	µg/L	NO
Picloram	Aug 11/14	ND	µg/L	NO
Polychlorinated Biphenyls(PCB)	Aug 11/14	ND	µg/L	NO
Prometryne	Aug 11/14	ND	µg/L	NO
Simazine	Aug 11/14	ND	µg/L	NO
THM (NOTE: show latest annual average)	Q1 - Q4 2014	9.4	µg/L	NO
Temephos	Aug 11/14	ND	µg/L	NO
Terbufos	Aug 11/14	ND	µg/L	NO
Tetrachloroethylene	Aug 11/14	ND	µg/L	NO
2,3,4,6-Tetrachlorophenol	Aug 11/14	ND	µg/L	NO
Triallate	Aug 11/14	ND	µg/L	NO
Trichloroethylene	Aug 11/14	ND	µg/L	NO
2,4,6-Trichlorophenol	Aug 11/14	ND	µg/L	NO
2,4,5-Trichlorophenoxy acetic acid (2,4,5-T)	Aug 11/14	ND	µg/L	NO

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

Trifluralin	Aug 11/14	ND	µg/L	NO
Vinyl Chloride	Aug 11/14	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 2014

System Capability Assessment								
Comparison of Flow Rates (m <sup>3</sup> /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	120.6	161	19.7	47.0	58.9	161	42.0	102
February	116.3	159	19.4	48.0	53.9	145	42.7	111
March	121.8	169	15.0	44.0	72.4	169	34.4	107
April	104.1	135	19.7	46.0	45.9	119	38.6	91.0
May	105.1	206	35.9	71.0	2.6	75.0	66.6	143
June	140.7	278	7.5	40.0	115.4	278	17.8	97.0
July	117.6	156	23.9	50.0	41.9	130	51.7	106
August	114.5	153	15.0	50.0	65.8	144	33.7	102
September	107.4	139	12.6	39.0	66.2	135	28.3	85.0
October	99.8	133	15.3	40.0	55.8	133	28.7	76.0
November	112.3	138	0	0	112.2	138	0	0
December	114.4	150	16.9	85.0	63.8	128	31.4	102
<b>AVERAGE</b>	114.5		16.8		62.7		34.8	
<b>MAXIMUM</b>	-	278	-	85.0	-	278	-	143
<b>SYSTEM CAPACITY</b>	916	916						
<b>% CAPACITY</b>	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