



February 28, 2023

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

**Attention: Geoff Aitken, Public Works Manager**

**RE: Neustadt Drinking Water System  
2022 Annual Report**

Geoff,

Please find attached the 2022 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, 2023.

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

Sincerely,

VEOLIA WATER CANADA INC.

A handwritten signature in black ink, appearing to read 'G Prangley', written over a white background.

Greg Prangley  
Project Manager

**Veolia North America**

555 Rene-Levesque Blvd W  
Montreal, QC H2Z 1B1

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## 2022 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, 2022

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. <b>Municipality of West Grey</b> <b>Grey Road #4</b> <b>Durham, ON N0G 1R0</b>	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 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 other method

#### Describe your Drinking Water System

<p>Three GUDI wells: Well No. 2 with a capacity of delivering 10.6 L/s (well pump does not meet that capacity); 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 turbidity analyzers, low level alarms and auto dialer.</p> <p>There is a water tower with a volume of 1200m<sup>3</sup>. It is equipped with an on-line chlorine analyzer. Post</p>
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chlorinators are in place to booster chlorine levels leaving the tower, if required.

**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 (costs approximate)**  
Calibrations \$4,514  
UV parts \$2,481  
Replacement filters \$9,734  
New flow meter for water tower \$9,182  
Well #2 pump (and well) maintenance \$10,202  
New SCADA reporting package \$6,667  
Well #2 replacement pump, material, equipment \$17,446  
New auto flusher \$7,003  
SCADA upgrades \$11,914

**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
September 26, 2022	UV disinfection	Brief loss of UV while system was running	n/a	None. Water was still safe to use	Sept. 26, 2023

**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	49	0	0	n/a	n/a
Raw Well #2	35	0	0-5	n/a	n/a
Raw Well #3	49	0	0-6	n/a	n/a
Treated (POE)	52	0	0	52	<10 - 20
Distribution	104	0	0	52	<10 - 10

Well #1 and #3 off line from mid-September to mid-October  
Well #2 off from late Feb to mid-June

**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	0.04-5.00*	NTU
Chlorine-Treated	4860	0.46-2.00	mg/L
Chlorine - Distribution	415	0.77-1.53	mg/L
Fluoride (If the DWS provides fluoridation)	NA	NA	

\*high turbidity incidents were either too short to be reportable (<15min) or occurred when system was off

**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	2021 (monthly)	98.0-100	% 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 8/22	ND	-	mg/L	NO
Arsenic	Aug 8/22	2.9	-	µg/L	NO
Barium	Aug 8/22	0.153	-	mg/L	NO
Boron	Aug 8/22	0.039	-	mg/L	NO
Cadmium	Aug 8/22	0.016	-	mg/L	NO
Chromium	Aug 8/22	0.15	-	µg/L	NO
Lead-see results below					
Mercury	Aug 8/22	0.02	-	µg/L	NO
Selenium	Aug 8/22	ND	-	mg/L	NO
Sodium	Aug 4/20	5.3	-	mg/L	NO
Uranium	Aug 8/22	0.499	-	µg/L	NO
Fluoride	Aug 30/21	1.08	-	mg/L	NO
Nitrite	Feb 14/22	<0.003	-	mg/L	NO
Nitrate	Feb 14/22	0.006	-	mg/L	NO
Nitrite	May 2/22	<0.003	-	mg/L	NO
Nitrate	May 2/22	<0.006	-	mg/L	NO
Nitrite	Aug 8/22	<0.003	-	mg/L	NO
Nitrate	Aug 8/22	<0.006	-	mg/L	NO
Nitrite	Nov. 7/22	<0.003	-	mg/L	NO
Nitrate	Nov. 7/22	<0.006	-	mg/L	NO

**Summary of Lead Results during this reporting period (Winter: Dec. 15/21-April 15/22; Summer: June 15-Oct. 15/22)**

Sampling Period	Range of Results (µg/L) from Residential Samples (# of Samples taken)	Non-residential locations (µg/L)	Distribution System (µg/L)	Any Adverse Water Quality Incidents?
Winter	n/a	n/a	0.14(1)	NO
Summer	n/a	n/a	0.24(1)	NO

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

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Achlor	Aug 8/22	ND	µg/L	NO
Atrazine + N-dealkylated metabolites	Aug 8/22	ND	µg/L	NO

Azinphos-methyl (Guthion)	Aug 8/22	ND	µg/L	NO
Benzene	Aug 8/22	ND	µg/L	NO
Benzo(a)pyrene	Aug 8/22	ND	µg/L	NO
Bromoxynil	Aug 8/22	ND	µg/L	NO
Carbaryl	Aug 8/22	ND	µg/L	NO
Carbofuran	Aug 8/22	ND	µg/L	NO
Carbon Tetrachloride	Aug 8/22	ND	µg/L	NO
Chlorpyrifos	Aug 8/22	ND	µg/L	NO
Diazinon	Aug 8/22	ND	µg/L	NO
Dicamba	Aug 8/22	ND	µg/L	NO
1,2-Dichlorobenzene	Aug 8/22	ND	µg/L	NO
1,4-Dichlorobenzene	Aug 8/22	ND	µg/L	NO
1,2-Dichloroethane	Aug 8/22	ND	µg/L	NO
1,1-Dichloroethylene (vinylidene chloride)	Aug 8/22	ND	µg/L	NO
Dichloromethane	Aug 8/22	ND	µg/L	NO
2-4 Dichlorophenol	Aug 8/22	ND	µg/L	NO
2,4-Dichlorophenoxy acetic acid (2,4-D)	Aug 8/22	ND	µg/L	NO
Diclofop-methyl	Aug 8/22	ND	µg/L	NO
Dimethoate	Aug 8/22	ND	µg/L	NO
Diquat	Aug 8/22	ND	µg/L	NO
Diuron	Aug 8/22	ND	µg/L	NO
Glyphosate	Aug 8/22	ND	µg/L	NO
HAA (four quarter average)	Q1 – Q4 2022	<5.3	µg/L	NO
Malathion	Aug 8/22	ND	µg/L	NO
MCPA	Aug 8/22			
Metolachlor	Aug 8/22	ND	µg/L	NO
Metribuzin	Aug 8/22	ND	µg/L	NO
(Mono)chlorobenzene	Aug 8/22	ND	µg/L	NO
Paraquat	Aug 8/22	ND	µg/L	NO
Pentachlorophenol	Aug 8/22	ND	µg/L	NO
Phorate	Aug 8/22	ND	µg/L	NO
Picloram	Aug 8/22	ND	µg/L	NO
Polychlorinated Biphenyls(PCB)	Aug 8/22	ND	µg/L	NO
Prometryne	Aug 8/22	ND	µg/L	NO
Simazine	Aug 8/22	ND	µg/L	NO
THM (NOTE: show latest annual average)	Q1 – Q4 2022	11.6	µg/L	NO
Terbufos	Aug 8/22	ND	µg/L	NO
Tetrachloroethylene	Aug 8/22	ND	µg/L	NO
2,3,4,6-Tetrachlorophenol	Aug 8/22	ND	µg/L	NO
Triallate	Aug 8/22	ND	µg/L	NO
Trichloroethylene	Aug 8/22	ND	µg/L	NO
2,4,6-Trichlorophenol	Aug 8/22	ND	µg/L	NO
Trifluralin	Aug 8/22	ND	µg/L	NO
Vinyl Chloride	Aug 8/22	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	Aug. 30/21	1.08	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:

No non-compliances in 2022

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	98.3	182	12.6	72.6	77.4	175	26.4	141
February	114	439	29.5	151	37.3	136	61.0	309
March	95.4	139	36.8	51.7	0.18	5.5	73.3	105
April	132	415	51.1	163	0	0	103	294
May	114	164	44.2	67.6	0	0	84.6	121
June	122	207	30.9	61.7	56.5	246	57.3	123
July	129	210	16.3	78.5	102	241	32.9	165
August	115	216	23.3	71.8	57.4	186	53.6	179
September	161	652	20.0	114	114	652	47.8	279
October	106	165	6.6	31.8	80.2	156	36.0	153
November	97.1	114	8.0	19.7	59.6	135	47.4	118
December	96.1	242	4.7	16.6	75.2	291	35.1	133
<b>AVERAGE</b>	115		23.6		55.1		54.7	
<b>MAXIMUM</b>	-	652	-	163	-	652	-	309
<b>SYSTEM (PTTW) CAPACITY</b>	916	916		276		916		527
<b>% CAPACITY</b>	12.5%	71.2%		59.1%		71.2%		58.6%