

O. Reg. 170 SECTION 11 ANNUAL REPORT
**Part III Form 2
Section 11. ANNUAL REPORT.**

Drinking-Water System Number:	210000951
Drinking-Water System Name:	Verner WTP
Drinking-Water System Owner:	The Corporation of the Municipality of West Nipissing
Drinking-Water System Category:	Large Municipal Residential
Period being reported:	Jan 01, 2014 to Dec 31, 2014

<p><u>Complete if your Category is Large Municipal Residential or Small Municipal Residential</u></p> <p>Does your Drinking-Water System serve more than 10,000 people? Yes [] No [X]</p> <p>Is your annual report available to the public at no charge on a web site on the Internet? Yes [X] No []</p> <p>Location where Summary Report required under O. Reg. 170/03 Schedule 22 will be available for inspection.</p> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p>Municipality of West Nipissing Sturgeon Falls Water Treatment Plant 11 Nipissing Street Sturgeon Falls, Ontario P2B 1J4</p> </div>	<p><u>Complete for all other Categories.</u></p> <p>Number of Designated Facilities served: <input style="width: 100px; height: 20px;" type="text"/></p> <p>Did you provide a copy of your annual report to all Designated Facilities you serve? Yes [] No []</p> <p>Number of Interested Authorities you report to: <input style="width: 100px; height: 20px;" type="text"/></p> <p>Did you provide a copy of your annual report to all Interested Authorities you report to for each Designated Facility? Yes [] No []</p>
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Note: For the following tables below, additional rows or columns may be added or an appendix may be attached to the report

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
NA	

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?
Yes [] No []

Indicate how you notified system users that your annual report is available, and is free of charge.

Public access/notice via the web <http://www.westnipissingouest.ca/pop/dep-utilities.html>

Public access/notice via Government Office

Public access/notice via a newspaper

Public access/notice via Public Request

Public access/notice via a Public Library copies placed at West Nipissing Library

Public access/notice via other method

Describe your Drinking-Water System

The Verner WTP was originally commissioned in 1975 and underwent major regulatory upgrades in 2005 which included replacement of all chemical feed system equipment and tanks; replacement of the plant instrumentation and controls; installation of a UV system for primary disinfection; installation of piping and valves to provide treatment-to-waste functionality; new raw water and treated water magnetic flow meters; and the installation of a 125 kW standby diesel generator. Also radio telemetry equipment was installed at the elevated storage tank to permit treatment plant-elevated tank communication and control.

The Verner Municipal Water System is a surface water system that draws water from the Veuve River which is part of the Lake Nipissing watershed. The intake structure is located 12 km upstream of Lake Nipissing and 48 km downstream of the source. The Veuve River, upstream from the intake, has a catchment area of approximately 92,000 ha. This area is well developed and includes: Hwy 17 corridor; CPR railway tracks; housing and cottage development.

The water treatment plant's intake facility consists of an intake structure located 5 m below the low river level, connected to a raw water wet well by a 42.7 m long, 250 mm ductile iron pipe. The intake structure is approximately 20 m from the riverbank.

The Verner Water Treatment Plant (WTP) is a conventional treatment facility, with a designed capacity of 1059 m³/d. Conventional treatment is comprised of coagulation, flocculation, sedimentation & dual media rapid sand filtration, primary disinfection & secondary disinfection. Furthermore, disinfection is achieved through the use of chlorine dioxide, UV and chlorine gas. Chemically assisted filtration is through the use of an "Ecodyne Graver Monoplant" package treatment plant.

The Ecodyne Graver Monoplant package treatment plant, consists of a Mixing Zone; Flocculation Zone; Settling Compartment and flock barriers; Blowdown valve and rapid flow by gravity sand and anthracite filters.

Chemical treatment includes the addition of polymer, aluminum sulfate, pre and post soda ash, chlorine for disinfection and chlorine dioxide for iron and manganese removal to control taste and odour.

There are four (4) below grade clear wells connected in series having a total area, total capacity and useable capacity of 134 m², 269 m³ and 234 m³ respectively. The high lift pumping station has a firm capacity of 1,090 m³/d with three (3) identical vertical turbine high lift pumps each having a capacity of 545 m³/d at a TDH of 53.3 m.

Standby emergency power is supplied at this plant by a 125 kW standby diesel generator with automatic switchover controls installed as part of the 2005 plant upgrades

The Verner Water Distribution System consists of approximately eight kilometers of watermain. The system includes an off site water storage facility located on the west side of

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Dubeau Street (192 m north of the intersection of Dubeau Street and Vercheres Avenue). The facility is a steel and concrete elevated storage tank, having a total storage capacity of 568 m³ and about 40 m above ground equipped with low level alarm and an overflow. The system has approximately 50 hydrants, and serves approximately 1,100 consumers. The Distribution system is classified as a Class I system.

List all water treatment chemicals used over this reporting period

Chlorine Gas
 Sodium Chlorite
 Sodium Carbonate
 Aluminum Sulfate (ALUM)
 Magnafloc LT20 Poly Acrylamide Polymer
 Chlorine dioxide is produced on site by combining Chlorine solution with sodium chlorite.

Were any significant expenses incurred to?

- Install required equipment
 Repair required equipment
 Replace required equipment

Description of major repairs, equipment replacement or capital improvements

Drinking Quality Management Standard Audit \$1,270
 UV light 2 – lamps, sleeve nut, bolt cap, etc. \$6,413
 Blanket PO \$2,520
 Washer and dryer set \$1,571

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	Unit of Measure	Corrective Action	Corrective Action Date	AWQI#
Jan 20, 2014	Pressure	0	PSI	A major line break caused a drop in pressure. The watermain was repaired, system was flushed and 8 sets of samples were taken throughout the distribution sample. A BWA was issued by the MOH; samples came back non-detect.	Jan 24, 2014	115792
Feb 27, 2014	Pressure	0	PSI	A major line break caused a loss of pressure. The watermain was repaired, system was flushed and 8 sets of samples were taken throughout the distribution sample. A BWA and partial DWA was issued by the MOH; samples came back non-detect.	Mar 24, 2014	116209

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Mar 31, 2014	Pressure	0	PSI	Loss in pressure due to water main break. 2 sets of 3 samples were taken in the distribution 24 hours apart. A BWA was issued by the MOH.	Apr 15, 2014	116573
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Microbiological testing done under section 8-2 during this reporting period.

	Number of EC & TC Samples	Range of E.Coli Results (min #)-(max #)	Range of Total Coli form Results (min #)-(max #)	Number of HPC Samples	Range of HPC Results (min #)-(max #)
Raw	52	0-740	0-9300	NA	NA
Treated	57	0 - 0	0 - 0	5	0 - 1
Distribution	156	0 - 0	0 - 0	52	0 - 2

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

Filter Grabs

	Number of Grab Samples	Range of Results (min #)-(max #)
Post Filter Turbidity	246	0.12– 0.28 NTU

NOTE: For continuous monitors use 8760 as the number of samples.

POE Grabs

	Number of Grab Samples	Range of Results (min #)-(max #)
Turbidity	232	0.0– 2.06 NTU
Free Chlorine	250	0.82 – 2.2 mg/L

NOTE: For continuous monitors use 8760 as the number of samples.

Distribution Grabs

	Number of Grab Samples	Range of Results (min #)-(max #)
Free Chlorine	367	0.26 – 5.2 mg/L

NOTE: For continuous monitors use 8760 as the number of samples.

Filter On-line Continuous Analyzers

	Number of Samples	Range of Results (min #)-(max #)
Post Filter Turbidity	8760	0.02– 2.0 NTU

NOTE: For continuous monitors use 8760 as the number of samples.

POE On-line Continuous Analyzers

NOTE: For continuous monitors use 8760 as the number of samples.

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	Number of Samples	Range of Results (min #)-(max #)
POE Free Chlorine	8760	0.0 – 2.95 mg/L

Summary of additional testing and sampling carried out in accordance with the requirement of an approval or order.

Date of legal instrument issued	Parameter	Sampling Frequency	Range of Result	Unit of Measure
Municipal Drinking Water Licence 202-101 issued May 25, 2011	UV Intensity Design dose 40mj/cm2 = Min 12.7 W/m2 & Min UVT 65.3% & Max flow of 12.2 L/ OR Min 18.2 W/m2 & Min UVT of 72.2% & Max flow of 12.	continuous when units operating	plant shut down interlock activates if dosage <13 W/m²	W/m²
	Flow Rate	continuous	min 297 – max 800.9 (4.36 L/s – 11.52 L/s)	m³/d
	UV Transmittance	monthly	min 87- max 88	% UVT
	UV Sensor >/ = 0.8& </ = 1.2	annually	Calibration Ratio Range VN 004 0.96 – 1.01 VN 0028 0.95 – 1.01	calibration ratio
	UV Lamp Status	continuous	plant shut down interlock on lamp failure	on or off

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

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Antimony	10 Mar 2014	<0.02	ug/L	No
Arsenic	10 Mar 2014	0.4	ug/L	No
Barium	10 Mar 2014	12.6	ug/L	No
Boron	10 Mar 2014	5.6	ug/L	No
Cadmium	10 Mar 2014	0.005	ug/L	No
Chromium	10 Mar 2014	0.6	ug/L	No
Mercury	10 Mar 2014	<0.001	mg/L	No
Selenium	10 Mar 2014	1	ug/L	No
Sodium	22 Feb 2012	46	mg/L	YES –Notification to the MOH was made in 2008; Sampling takes place every 5 year. Notifications which are required every 57

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				months will be due during the next round of sampling in 2017.
Uranium	10 Mar 2014	0.006	ug/L	No
Fluoride	22 Mar 2011	<0.1	mg/L	No
Nitrite	12 Feb 2014	<0.003	mg/L	No
	20 May 2014	<0.003	mg/L	No
	21 Aug 2014	<0.003	mg/L	No
	24 Nov 2014	<0.003	mg/L	No
Nitrate	12 Feb 2014	0.212	mg/L	No
	20 May 2014	0.074	mg/L	No
	21 Aug 2014	0.102	mg/L	No
	24 Nov 2014	0.103	mg/L	No

Summary of lead testing under O. Reg. 170/03 Schedule 15.1 during this reporting period
 (applicable to the following drinking water systems; large municipal residential systems, small municipal residential systems, and non-municipal year-round residential systems)

Round 1 Dec 15 2013 to Apr 15 2014	Number of Lead Samples	Number of Adverse Results	Number of Hydrants Sampled	Range of Lead Samples (ug/L)		Range of PH Sample Results		Range of Alkalinity Sample Results (mg/L as CaCO ₃)	
				MIN	MAX	MIN	MAX	MIN	MAX
Distribution	0	0	2	0.05	0.1	7.03	7.06	65.5	66.9
Non-Residential	0	0	N/A	N/A	N/A	N/A	N/A	NA	NA
Residential	0	0	N/A	N/A	N/A	N/A	N/A	NA	NA
Round 2 June 15 2014 to Oct 15 2014	Number of Lead Samples	Number of Adverse Results	Number of Hydrants Sampled	Range of Lead Samples (ug/L)		Range of PH Sample Results		Range of Alkalinity Sample Results (mg/L as CaCO ₃)	
				MIN	MAX	MIN	MAX	MIN	MAX
Distribution	0	0	2	<0.05	0.1	7.10	7.22	71.9	72.8
Non-Residential	0	0	N/A	N/A	N/A	N/A	N/A	NA	NA
Residential	0	0	N/A	N/A	N/A	N/A	N/A	NA	NA

Summary of Organic parameters sampled during this reporting period or the most recent

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Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Benzene	10 Mar 2014	<0.32	ug/L	No
Carbon tetrachloride	10 Mar 2014	<0.16	ug/L	No
1,2-Dichlorobenzene	10 Mar 2014	<0.41	ug/L	No
1,4-Dichlorobenzene	10 Mar 2014	<0.36	ug/L	No
1,1-Dichloroethylene (vinylidene chloride)	10 Mar 2014	<0.33	ug/L	No
1,2-Dichloroethane [10 Mar 2014	<0.35	ug/L	No
Dichloromethane	10 Mar 2014	<0.35	ug/L	No
Monochlorobenzene	10 Mar 2014	<0.3	ug/L	YES
Tetrachloroethylene (perchloroethylene)	10 Mar 2014	<0.35	ug/L	No
Trichloroethylene	10 Mar 2014	<0.44	ug/L	
Vinyl Chloride	10 Mar 2014	<0.17	ug/L	No
Diquat	10 Mar 2014	<1	ug/L	No
Paraquat	10 Mar 2014	<1	ug/L	No
Glyphosate	10 Mar 2014	<1	ug/L	No
Polychlorinated Biphenyls (PCBs) - Total	10 Mar 2014	<0.04	ug/L	No
Benzo(a)pyrene	10 Mar 2014	<0.004	ug/L	No
Alachlor	10 Mar 2014	<0.02	ug/L	No
Aldicarb	10 Mar 2014	<0.01	ug/L	No
Aldrin + Dieldrin	10 Mar 2014	<0.01	ug/L	No
Aldrin	10 Mar 2014	<0.01	ug/L	No
Dieldrin	10 Mar 2014	<0.01	ug/L	No
Atrazine + N-dealkylated metabolites	10 Mar 2014	<0.01	ug/L	No
Atrazine	10 Mar 2014	<0.01	ug/L	No
Desethyl atrazine	10 Mar 2014	<0.01	ug/L	No
Azinphos-methyl	10 Mar 2014	<0.02	ug/L	No
Bendiocarb	10 Mar 2014	<0.01	ug/L	No
Carbaryl	10 Mar 2014	<0.01	ug/L	No
Carbofuran	10 Mar 2014	<0.01	ug/L	No
Chlordane (total)	10 Mar 2014	<0.01	ug/L	No
a-chlordane	10 Mar 2014	<0.01	ug/L	No
g-chlordane	10 Mar 2014	<0.01	ug/L	No
Oxychlordane	10 Mar 2014	<0.01	ug/L	No
Chlorpyrifos	10 Mar 2014	<0.02	ug/L	No
Cyanazine	10 Mar 2014	<0.03	ug/L	No
Diazinon	10 Mar 2014	<0.02	ug/L	No
(DDT) + Metabolites	10 Mar 2014	<0.01	ug/L	No
op-DDT	10 Mar 2014	<0.01	ug/L	No
pp-DDD	10 Mar 2014	<0.01	ug/L	No
pp-DDE	10 Mar 2014	<0.01	ug/L	No
pp-DDT	10 Mar 2014	<0.01	ug/L	No
Dimethoate	10 Mar 2014	<0.03	ug/L	No
Diuron	10 Mar 2014	<0.03	ug/L	No

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Heptachlor + Heptachlor Epoxide	10 Mar 2014	<0.01	ug/L	No
Heptachlor	10 Mar 2014	<0.01	ug/L	No
Heptachlor epoxide	10 Mar 2014	<0.01	ug/L	No
Lindane	10 Mar 2014	<0.01	ug/L	No
Malathion	10 Mar 2014	<0.02	ug/L	No
Methoxychlor	10 Mar 2014	<0.01	ug/L	No
Metolachlor	10 Mar 2014	<0.01	ug/L	No
Metribuzin	10 Mar 2014	<0.02	ug/L	No
Parathion	10 Mar 2014	<0.02	ug/L	No
Phorate	10 Mar 2014	<0.01	ug/L	No
Prometryne	10 Mar 2014	<0.03	ug/L	No
Simazine	10 Mar 2014	<0.01	ug/L	No
Temephos	10 Mar 2014	<0.01	ug/L	No
Terbufos	10 Mar 2014	<0.01	ug/L	No
Triallate	10 Mar 2014	<0.01	ug/L	No
Trifluralin	10 Mar 2014	<0.02	ug/L	No
2,4-dichlorophenoxyacetic acid (2,4-D)	10 Mar 2014	<0.19	ug/L	No
2,4,5-trichlorophenoxyacetic acid (2,4,5-T)	10 Mar 2014	<0.22	ug/L	No
Bromoxynil	10 Mar 2014	<0.33	ug/L	No
Dicamba	10 Mar 2014	<0.20	ug/L	No
Diclofop-methyl	10 Mar 2014	<0.40	ug/L	No
Dinoseb	10 Mar 2014	<0.36	ug/L	No
Picloram	10 Mar 2014	<1	ug/L	No
2,4-dichlorophenol	10 Mar 2014	<0.15	ug/L	No
2,4,6-trichlorophenol	10 Mar 2014	<0.25	ug/L	No
2,3,4,6-tetrachloropheno	10 Mar 2014	<0.14	ug/L	No
Pentachlorophenol	10 Mar 2014	<0.15	ug/L	No
	10 Mar 2014			

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THM Result marked with * not used in calculating the annual average. The regulation requires that the highest result from each quarter be used to calculate the average	1 st Quarter Result Value	2 nd Quarter Result Value	3 rd Quarter Result Value	4th Quarter Result Value	Unit of Measure	Exceedance
Date Sampled	25 Feb 14	20 May14	28 Jul 14	24 Nov 14		
Bromodichloromethane	2.0	1.4	3.3	1.8	ug/L	No
Bromoform	<0.34	<0.34	<0.34	<0.34	ug/L	No
Chloroform	37	67	99	56	ug/L	No
Dibromochloromethane	<0.37	<0.37	<0.37	<0.37	ug/L	No
Total Trihalomethanes	39	68	102	58	ug/L	Yes
Total Trihalomethanes 4 Quarter Average				66.75	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	Result Value	Unit of Measure	½ MAC VALUE	MAC Value	Date of Sample
Sodium	46	mg/L	10	20	22 Feb 12
THM	68	ug/L	50	100	20 May14
THM	102	ug/L	50	100	28 Jul 14
THM	58	ug/L	50	100	24 Nov 14