Ontario
Ministry of the Environment | Ministère de l'Environnement

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, 2013 to Dec 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? Yes [ ] No [X] **Is your annual report available to the public at no charge on a web site on the Internet? Yes [X] No [ ]** **Location where Summary Report required under O. Reg. 170/03 Schedule 22 will be available for inspection.** **Municipality of West Nipissing** **Sturgeon Falls Water Treatment Plant** **11 Nipissing Street** **Sturgeon Falls, Ontario P2B 1J4**	**Number of Designated Facilities served:** **Did you provide a copy of your annual report to all Designated Facilities you serve?** **Yes [ ] No [ ]** **Number of Interested Authorities you report to:** **Did you provide a copy of your annual report to all Interested Authorities you report to for each Designated Facility?** **Yes [ ] No [ ]**

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.

[X] 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
[X] 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 m^3/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 m^3 and 234 m^3 respectively. The high lift pumping station has a firm capacity of 1,090 m^3/d with three (3) identical vertical turbine high lift pumps each having a capacity of 545 m^3/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

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 m^3 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
[X] Repair required equipment
[X] Replace required equipment

Description of major repairs, equipment replacement or capital improvements

Annual extinguisher and emergency lighting maintenance – 753$
Engineering fees for plant optimization – 3100$
Semi-annual diesel maintenance – 725$
Contractor safety program – 865$
Various lab supplies – 1743$

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 16, 2013	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; notifications were handed out door to door.	Jan 26, 2013	109779
May 24, 2013	Total Coliform	1	CFU/100ml	resampled	May 30, 2013	111171
June 5, 2013	Pressure	0	PSI	Loss in pressure due to large fire at corner of principal and paquette. 2 sets of 8 samples were taken in the distribution 24 hours apart. A BWA was issued by the MOH.	June 8, 2013	111465

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Microbiological testing done under section 8-2during 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	50	43-10000	3 – 2320	NA	NA
Treated	57	0 - 0	0 - 0	55	0 - 4
Distribution	162	0 – 0	0 - 1	51	0 - 70

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	277	0.06– 0.34 NTU

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

POE Grabs

	Number of Grab Samples	Range of Results (min #)-(max #)
Turbidity	259	0.2– 1.32 NTU
Free Chlorine	315	0.98 – 2.0 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	366	0.32 – 2.19 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	0.01– 2.0 NTU

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

POE On-line Continuous Analyzers

	Number of Samples	Range of Results (min #)-(max #)
POE Free Chlorine	8760	0.23 – 3.19 mg/L

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

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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/m^2**	**W/m^2**
	Flow Rate	**continuous**	**min 297 – max 800.9 (4.36 L/s – 11.52 L/s)**	**m^3/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	**Mar 18, 2013**	**0.04**	**ug/L**	**No**
Arsenic	**Mar 18, 2013**	**0.3**	**ug/L**	**No**
Barium	**Mar 18, 2013**	**11**	**ug/L**	**No**
Boron	**Mar 18, 2013**	**5.2**	**ug/L**	**No**
Cadmium	**Mar 18, 2013**	**0.007**	**ug/L**	**No**
Chromium	**Mar 18, 2013**	**1.1**	**ug/L**	**No**
Mercury	**Mar 18, 2013**	**<0.01**	**ug/L**	**No**
Selenium	**Mar 18, 2013**	**<1**	**ug/L**	**No**
Sodium	**Feb 22, 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 months will be due during the next round of sampling in 2017.**
Uranium	**Mar 18, 2013**	**0.027**	**ug/L**	**No**
Fluoride	**Mar 22, 2011**	**<0.1**	**mg/L**	**No**

Nitrite	**Dec 5, 2013**	**<0.003**	**mg/L**	**No**
Nitrate	**Dec 5, 2013**	**0.104**	**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 2012 to Apr 15 2013	**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**	**7.05**	**7.06**	**58.7**	**64**
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 2013 to Oct 15 2013	**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**	**6.82**	**7.25**	**58.7**	**64**
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

Parameter	**Sample Date (mm/dd/yyyy)**	**Result Value**	**Unit of Measure**	**Exceedance**
Benzene	03/18/2013	<0.31	ug/L	No
Carbon Tetrachloride	03/18/2013	<0.16	ug/L	No
1,2-Dichlorobenzene	03/18/2013	<0.41	ug/L	No
1,4-Dichlorobenzene	03/18/2013	<0.36	ug/L	No
1,1-Dichloroethylene (vinylidene chloride)	03/18/2013	<0.33	ug/L	No
1,2-Dichloroethane	03/18/2013	<0.35	ug/L	No
Dichloromethane	03/18/2013	<0.35	ug/L	No
Monochlorobenzene	03/18/2013	<0.3	ug/L	No
Tetrachloroethylene	03/18/2013	<0.35	ug/L	No

Trichloroethylene	03/18/2013	<0.44	ug/L	No
Vinyl Chloride	03/18/2013	<0.17	ug/L	No
Diquat	03/18/2013	<1	ug/L	No
Paraquat	03/18/2013	<1	ug/L	No
Glyphosate	03/18/2013	<6	ug/L	No
Polychlorinated Biphenyls(PCB)	03/18/2013	<0.04	ug/L	No
Benzo(a)pyrene	03/18/2013	<0.004	ug/L	No
Alachlor	03/18/2013	<0.02	ug/L	No
Aldicarb	03/18/2013	<0.01	ug/L	No
Aldrin + Dieldrin	03/18/2013	<0.01	ug/L	No
Aldrin	03/18/2013	<0.01	ug/L	No
Dieldrin	03/18/2013	<0.01	ug/L	No
Atrazine + N-dealkylated metobolites	03/18/2013	<0.01	ug/L	No
Atrazine	03/18/2013	<0.01	ug/L	No
Desethyl atrazine	03/18/2013	<0.01	ug/L	No
Azinphos-methyl	03/18/2013	<0.02	ug/L	No
Bendiocarb	03/18/2013	<0.01	ug/L	No
Carbaryl	03/18/2013	<0.01	ug/L	No
Carbofuran	03/18/2013	<0.01	ug/L	No
Chlordane (Total)	03/18/2013	<0.01	ug/L	No
a-chlordane	03/18/2013	<0.01	ug/L	No
g-chlordane	03/18/2013	<0.01	ug/L	No
Oxychlordane	03/18/2013	<0.01	ug/L	No
Chlorpyrifos	03/18/2013	<0.02	ug/L	No
Cyanazine	03/18/2013	<0.03	ug/L	No
Diazinon	03/18/2013	<0.02	ug/L	No
Dichlorodiphenyltrichloroethane (DDT) + metabolites	03/18/2013	<0.01	ug/L	No
op-DDT	03/18/2013	<0.01	ug/L	No
pp-DDD	03/18/2013	<0.01	ug/L	No
pp-DDE	03/18/2013	<0.01	ug/L	No
pp-DDT	03/18/2013	<0.01	ug/L	No
Dimethoate	03/18/2013	<0.03	ug/L	No
Diuron	03/18/2013	<0.03	ug/L	No
Heptachlor + Heptachlor Epoxide	03/18/2013	<0.01	ug/L	No
Heptachlor	03/18/2013	<0.01	ug/L	No
Heptachlor epoxide	03/18/2013	<0.01	ug/L	No
Lindane (Total)	03/18/2013	<0.01	ug/L	No
Malathion	03/18/2013	<0.02	ug/L	No
Methoxychlor	03/18/2013	<0.01	ug/L	No
Metolachlor	03/18/2013	<0.01	ug/L	No
Metribuzin	03/18/2013	<0.02	ug/L	No
Parathion	03/18/2013	<0.02	ug/L	No
Phorate	03/18/2013	<0.01	ug/L	No
Prometryne	03/18/2013	<0.03	ug/L	No
Simazine	03/18/2013	<0.01	ug/L	No
Temephos	03/18/2013	<0.01	ug/L	No
Terbufos	03/18/2013	<0.01	ug/L	No
Triallate	03/18/2013	<0.01	ug/L	No
Trifluralin	03/18/2013	<0.02	ug/L	No
2,4-Dichlorophenoxy acetic acid (2,4-D)	03/18/2013	<0.19	ug/L	No

2,4,5-Trichlorophenoxy acetic acid (2,4,5-T)	03/18/2013	<0.22	ug/L	No
Bromoxynil	03/18/2013	<0.33	ug/L	No
Dicamba	03/18/2013	<0.20	ug/L	No
Diclofop-methyl	03/18/2013	<0.40	ug/L	No
Dinoseb	03/18/2013	<0.36	ug/L	No
Picloram	03/18/2013	<1	ug/L	No
2-4 Dichlorophenol	03/18/2013	<0.15	ug/L	No
2,4,6-Trichlorophenol	03/18/2013	<0.25	ug/L	No
2,3,4,6-Tetrachlorophenol	03/18/2013	<0.14	ug/L	No
Pentachlorophenol	03/18/2013	<0.15	ug/L	No

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	**18 Mar 13**	**27 May 13**	**12 Aug 13**	**05 Dec 13**		
Bromodichloromethane	**0.74**	**1.9**	**3.0**	**1.3**	**ug/L**	**No**
Bromoform	**<0.34**	**<0.34**	**<0.34**	**<0.34**	**ug/L**	**No**
Chloroform	**44**	**74**	**53**	**52**	**ug/L**	**No**
Dibromochloromethane	**<0.37**	**<0.37**	**<0.37**	**<0.37**	**ug/L**	**No**
Total Trihalomethanes	**45**	**76**	**56**	**54**	**ug/L**	**No**
Total Trihalomethanes 4 Quarter Average				**57.75**	**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**
THM	76	ug/L	50	100	27 May 13
THM	56	ug/L	50	100	12 Aug 13
THM	54	ug/L	50	100	05 Dec 13