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, 2010 to Dec 31, 2010**

Complete if your Category is Large Municipal Residential or Small Municipal Residential

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

Complete for all other Categories.

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
[X] Public access/notice via a newspaper notice given via Sturgeon Falls Tribune 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 under went a 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, consisting 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 Debeau 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

Were any significant expenses incurred to?

[ ] Install required equipment
[X] Repair required equipment
[ ] Replace required equipment

Description of major repairs, equipment replacement or capital improvements

- Replaced pressure/level transmitter at elevated tank
- Replaced UPS at elevated tank
- Low lift pump #2 rebuilt/replaced twice in one year
- Replaced one UV ballast on UV #1
- Purchased 3 spare UV ballasts per P. Ming's request
- Replaced pre Na2CO3 chemical feed pump

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
23-Feb-10	Hexacloroethane	0.01	ug/L	Reported to the MOE and MOH as required. Re-sample collected and submitted on 23 Feb 2010. AWQI #93753	29-Apr-2010
28-Apr-10	Hexachlorocyclopentadiene	0.02	ug/L	Reported to the MOE and MOH as required. **Note!** Results less than 1 ug/L are considered to be a by-product of chlorine disinfection. Re-sample collected and submitted on 12 May 2010. AWQI #94498	20-May-2010
17-Aug-10	UV Disinfection	<40	mJ/cm^2	The control fuse for the UV reactor burnt causing the UV reactor shut off but also deactivating the alarm. Improperly disinfected water was permitted to enter the clearwell for	19-Aug-2010

				approximately 3.5 hrs. Reported to the MOE and MOH as required. Distribution system flushing carried out and bacteriological samples were collected per instructions from the Health Unit. The chlorine residual at the POE was maintained at 1.5 mg/L. Results of 5 distribution microbiological samples collected on 17 Aug 2010 came back good. AWQI #97293	
7-Sep-10	1, 4-Dichlorobenzene	0.0075	mg/L	Reported to MOE and MOH as required. Results from a THM sample in the distribution system came back as adverse. The THM sample was collected from the Men's washroom and 1, 4-Dichlorobenzene off-gasses from urinal pucks. Three re-samples were collected on 13 Sept. 2010: 1 from original location, 1 from the canteen in the same building, and 1 from a bleeder valve near the building. All results shown as "Not Detected" AWQI #97841	21-Sep-2010

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 GBP Background Samples	Range of GBP Background Results (min #)-(max #)	Number of HPC Samples	Range of HPC Results (min #)-(max #)
Raw	**52**	**10 - 610**	**50 - >2000**	**52**	**>1100 - >4000**	**NA**	**NA**
Treated	**53**	**0 - 0**	**0 - 0**	**53**	**0 - 0**	**53**	**0 - 2**
Distribution	**167**	**0 – 0**	**0- 10**	**161**	**0 – 26**	**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	**358**	**0.11– 0.25 NTU**

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

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POE Grabs

	Number of Grab Samples	Range of Results (min #)-(max #)
Turbidity	354	0.16– 29.0 NTU
Free Chlorine	316	1.02 – 2.02 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	426	0.3 – 1.56 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	0.04– 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	0.80 – 2.55 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
C of A 2349-86YQ7 issued 17 Sep 2010	UV Intensity Design dose 46mj/cm^2 = Min 12.7 W/m^2& UVT of 65.3 % at < 12.2 L/s; **or** At a flow max of 12.8 L/s, 18.2 W/m^2& UVT of 72.2 %	continuous when units operating	plant shut down interlock activates if dosage <13 W/m^2	W/m^2
	Flow Rate	continuous	min 401.7 – max 926.2 (4.65 L/s – 10.72 L/s)	m^3/d
	UV Transmittance	monthly	min 84- max 87	% UVT
	UV Sensor >/ = 0.8& </ = 1.2	annually	Calibration Ratio Range VN 004 0.98 – 1.02 VN 0028 0.96 – 0.99	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	23 Feb 10	<0.5	ug/L	No
Arsenic	23 Feb 10	<1	ug/L	No
Barium	23 Feb 10	13	ug/L	No
Boron	23 Feb 10	<10	ug/L	No
Cadmium	23 Feb 10	<0. 1	ug/L	No
Chromium	23 Feb 10	<5	ug/L	No
Mercury	23 Feb 10	<0.0001	mg/L	No
Selenium	23 Feb 10	<2	ug/L	No
Sodium	23 Feb 10	35000	ug/L	>20,000 notification to MOH - re-sample result
Uranium	23 Feb 10	<0.1	ug/L	No
Fluoride	01 Feb 2006	<0.1	mg/L	
Nitrite	23 Feb 10 18 May 10 30 Aug 10 17 Nov 10	<0.01 <0.01 <0.01 <0.01	mg/L mg/L mg/L mg/L	No No No No

Nitrate	23 Feb 10	0.1	mg/L	No
	18 May 10	0.1	mg/L	No
	30 Aug 10	<0.1	mg/L	No
	17 Nov 10	<0.1	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, 2007-April 15, 2008	Number of Lead Samples	Number of Adverse Results	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	4	0	< 1	< 1	7.25	7.46	55	66
Non-Residential	2	0	< 1	< 1	7.26	7.27	NA	NA
Residential	20	0	< 1	6	7.01	7.38	NA	NA
Round 2 **June 15, 2008 – October 15, 2008**	**Number of Lead Samples**	**Number of Adverse Results**	**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	4	0	< 1	3	7.21	7.43	64	68
Non-Residential	2	0	< 1	2	6.87	6.87	NA	NA
Residential	20	0	< 1	4	7.02	7.68	NA	NA

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

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Alachlor	09 Mar 10	<0.5	ug/L	No
Aldicarb	09 Mar 10	<5	ug/L	DL > ½ MAC
Aldrin + Dieldrin	23 Feb 10	<0.01	ug/L	no
Atrazine	09 Mar 10	<0.5	ug/L	No
Atrazine + N-dealkylated metobolites	09 Mar 10	<1	ug/L	No
Azinphos-methyl (Guthion)	23 Feb 10	<2	ug/L	no
Bendiocarb	09 Mar 10	<2	ug/L	No
Benzene	23 Feb 10	<0.1	ug/L	no

Benzo(a)pyrene	09 Mar 10	<0.009	ug/L	DL > ½ MAC
Bromoxynil	09 Mar 10	<0.5	ug/L	No
Carbaryl	09 Mar 10	<5	ug/L	No
Carbofuran	09 Mar 10	<5	ug/L	No
Carbon Tetrachloride	23 Feb 10	<0.1	ug/L	No
g-Clorodane	23 Feb 10	<0.006	ug/L	No
a-Chlorodane	23 Feb 10	<0.006	ug/L	No
Chlordane (Total)	23 Feb 10	<0.01	ug/L	no
Chlorpyrifos	09 Mar 10	<1	ug/L	No
Cyanazine	09 Mar 10	<1	ug/L	No
DDT + Metabolites	23 Feb 10	<0.02	ug/L	no
Diazinon	09 Mar 10	<1	ug/L	No
Dicamba	09 Mar 10	<1	ug/L	No
Dieldin	23 Feb 10	<0.006	ug/L	No
1,2-Dichlorobenzene	23 Feb 10	<0.2	ug/L	No
1,4-Dichlorobenzene	23 Feb 10	<0.2	ug/L	no
1,4-Dichlorobenzene	30 Aug 10	7.5	ug/L	YES > MAC
1,4-Dichlorobenzene	13 Sep 10	<0.2	ug/L	3 re-samples no
Dichlorodiphenyltrichloroethane(DDT)+metabolite	23 Feb 10		ug/L	no
1,2-Dichloroethane	23 Feb 10	<0.2	ug/L	No
1,1-Dichloroethylene (vinylidene chloride)	23 Feb 10	<0.1	ug/L	no
Dichloromethane	23 Feb 10	<0.5	ug/L	No
2-4 Dichlorophenol	09 Mar 10	<0.5	ug/L	No
2,4-Dichlorophenoxy acetic acid (2,4-D)	09 Mar 10	<1	ug/L	no
Diclofop-methyl	09 Mar 10	<0.9	ug/L	No
Dimethoate	09 Mar 10	<3	ug/L	No
Dinoseb	09 Mar 10	<1	ug/L	No
Diquat	23 Feb 10	<7	ug/L	No
Diuron	23 Feb 10	<10	ug/L	No
Glyphosate	23 Feb 10	<10	ug/L	No
Heptachlor Epoxide	23 Feb 10	<0.006	ug/L	No
Heptachlor + Heptachlor Epoxide	23 Feb 10	<0.01	ug/L	No
Hexachloroethane	23 Feb 10 21 Apr 10 12 May 10	0.006 <0.01 <0.01	ug/L ug/L ug/L	Trace value Not detected in re-sample Not detected in re-sample
Hexachlorocyclopentadiene	21 Apr 10 12 May 10	0.02 <0.02	ug/L ug/L	Trace value Not detected in re-sample
Lindane (Total)	23 Feb 10	<0.006	ug/L	No
Malathion	09 Mar 10	<5	ug/L	no
Methoxychlor	23 Feb 10	<0.02	ug/L	no
Metolachlor	09 Mar 10	<0.5	ug/L	No

Metribuzin	**09 Mar 10**	**<5**	**ug/L**	**No**
Monochlorobenzene	**23 Feb 10**	**<0.1**	**ug/L**	**no**
Oxychlorodane	**23 Feb 10**	**<0.006**	**ug/L**	**No**
p,p-DDE	**23 Feb 10**	**<0.006**	**ug/L**	**No**
p,p-DDD	**23 Feb 10**	**<0.006**	**ug/L**	**No**
o,p-DDT	**23 Feb 10**	**<0.006**	**ug/L**	**No**
p,p-DDT	**23 Feb 10**	**<0.006**	**ug/L**	**No**
Paraquat	**23 Feb 10**	**<1**	**ug/L**	**no**
Parathion	**09 Mar 10**	**<1**	**ug/L**	**No**
Pentachlorophenol	**09 Mar 10**	**<0.5**	**ug/L**	**No**
Phorate	**09 Mar 10**	**<0.5**	**ug/L**	**No**
Picloram	**09 Mar 10**	**<5**	**ug/L**	**No**
Polychlorinated Biphenyls(PCB)	**23 Feb 10**	**<0.05**	**ug/L**	**no**
Prometryn	**09 Mar 10**	**<0.3**	**ug/L**	**No**
Simazine	**09 Mar 10**	**<1**	**ug/L**	**No**
Temephos	**23 Feb 10**	**<10**	**ug/L**	**No**
Terbufos	**09 Mar 10**	**<0.5**	**ug/L**	**No**
Tetrachloroethylene	**23 Feb 10**	**<0.1**	**ug/L**	**No**
2,3,4,6-Tetrachlorophenol	**09 Mar 10**	**<0.5**	**ug/L**	**No**
Tolulene	**23 Feb 10**	**<0.2**	**ug/L**	**No**
Triallate	**09 Mar 10**	**<1**	**ug/L**	**No**
Trichloroethylene	**23 Feb 10**	**<0.1**	**ug/L**	**no**
2,4,6-Trichlorophenol	**09 Mar 10**	**<0.5**	**ug/L**	**No**
2,4,5-Trichlorophenoxy acetic acid(2,4,5-T)	**09 Mar 10**	**<1**	**ug/L**	**no**
Trifluralin	**09 Mar 10**	**<1**	**ug/L**	**no**
Vinyl Chloride	**23 Feb 10**	**<0.2**	**ug/L**	**no**

THM **Dist Sample Location** **80 Principal St. E** **(arena)** 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	**23 Feb 10**	**18 May 10**	**30 Aug 10**	**17 Nov 10**		
Bromodichloromethane	**1.0**	**2.8**	**5.5**	**1.5**	**ug/L**	**No**
Bromoform	**< 0.2**	**< 0.2**	**< 0.2**	**< 0.2**	**ug/L**	**No**

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Chloriform	23.9	66.7	51.6	52.3	ug/L	No
Dibromochloromethane	< 0.2	< 0.2	0.3	< 0.2	ug/L	No
Total Trihalomethanes	24.9	69.5	57.4	53.8	ug/L	No
Total Trihalomethanes 4 Quarter Average				51.4	ug/L	No

Extra THM Dist Samples 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	**Extra sample** 80 Principal St (mens washroom) **Result Value**	**Extra sample** 80 Principal St (canteen) **Result Value**	**Extra sample** Telephone & Gingras Ave. (Bleeder) **Result Value**		Unit of Measure	Exceedance
Date Sampled	13 Sep 10	13 Sep 10	13 Sep 10			
Bromodichloromethane	5.7	5.3	6.8		ug/L	No
Bromoform	< 0.2	< 0.2	< 0.2		ug/L	No
Chloriform	43.1	41.4	50.9		ug/L	No
Dibromochloromethane	0.4	0.4	0.4		ug/L	No
Total Trihalomethanes	49.2*	47.1*	58.1*		ug/L	No
Total Trihalomethanes					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
Aldicarb	<5 lab detection level	ug/L	4.5	9	09 Mar 10
Benzo(a)pyrene	<0.009 lab detection level	ug/L	0.005	0.01	09 Mar 10
1, 4-Dichlorobenzne	7.5	ug/L		5.0	30 Aug 10
Lead	6.0 (residential plumbing)	ug/L	5.0	10.0	Spring 08

Note! **With the exception of the lead & the 1,4-Dichlorobenzne result, in all of the cases above the analysis result value was less that the lab detection limit. However, the lab detection limit is above the ½ MAC value.**