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, 2006 to Dec 31, 2006**

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 [ ]

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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, commissioned in 1975 and under went a major upgrade 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 water works consists of a full surface water treatment facility, designed capacity of 1059 m^3/d, drawing water from the Veuve River that is part of the Nipissing watershed. The intake structure is located 12 km upstream of Lake Nipissing and 48 km downstream of the source. 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 consisting of chemically assisted filtration (through the use of an "Ecodyne Graver Monoplant" package treatment plant), primary disinfection & secondary disinfection. Conventional treatment is comprised of coagulation, flocculation, sedimentation & dual media rapid sand filtration. Furthermore, disinfection is achieved through the use of chlorine dioxide, UV and chlorine gas.

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. An elevated storage tank of composite steel/concrete construction, having a total storage capacity of 568 m^3 and about 40 m above ground equipped with low level alarm and an overflow is located approximately 23 meters.

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.

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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?

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

Describe

- **Quartz sleeves in UV reactor units were changed**
- **A low UV Intensity lockout was programmed that shuts the WTP down in the event of a low UV intensity alarm**
- **One (1) 4 inch check valve was replaced on the low lift pump header and one (1) 4 inch check valve was replaced on the high lift pump header**
- **Several ground fault interrupter electrical receptacles were installed at the facility where required**

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
16-Feb-06	Primary Disinfection UV dose	19	W/m^2	Turb spike due to loss of coagulant caused UV intensity to drop below 22 W/m^2 for approximately 21 minutes. Went down to approximately 19 W/m^2. We need to maintain 22 W/m^2 for the dose to be above 40 mj/cm^2. Restored coagulant, backwashed both filters twice. Plant back online to clearwells.	16/Feb/2006
20-Mar-06	Primary Disinfection UV dose	19	W/m^2	UV intensity dropped below 22 W/m^2 due to loss of pre-sodium carbonate chemical pump which caused low pH in pre-treatment which reduced the UV transmittance. Restored pre-sodium carbonate pump operation. Backwahsed both filters. Filtered water going into clearwell at approximately 02:20 after backwashing filters.	20/Mar/2006
22-Mar-06	Turbidity	2.0	ntu	Post filter turbidity > 1.0 ntu from 01:55 to 02:52 with peak at 2.0 ntu. Restored post filter turbidity < 1.0 ntu. Opened filter to waste 5 minutes and initiated backwash at approximately 02:45. Note: UV disinfection maintained and cl2 free residual at 1.57 mg/L. Bacti samples all clear.	22-Mar-06
21-Apr-06	Primary Disinfection UV dose	21.0	W/m^2	UV intensity dropped below 22 W/m^2 for approximately 35 minutes. UV dose < 40 MJ/cm^2. Switched over to standby unit. UV dose > 40 MJ/cm^2 at approximately 12:35. Secondary disinfection maintained 1.28 mg/L free cl_2. No further action required by MOE.	21/Apr/2006

20-May-2006	Primary Disinfection UV dose	21.0	W/m^2	UV intensity dropped below 22 W/m^2 for approximately 60 minutes. Cleaned dirty UV sleeve and adjusted/increased soda ash and poly chemicals. Free cl_2 residual maintained at 1.70 mg/L during UV adverse. 15:00 system back online. Turbidity 0.159 ntu, UV dose 26 W/m^2, Free cl_2 1.38 mg/L.	20-May-2006
25-May-2006	Primary Disinfection UV dose	18.5	W/m^2	UV intensity dropped below 22 W/m^2 for approximately 120 minutes. Free cl_2 maintained at 1.75 mg/L. Pre sodium carbonate system failed due to a plugged discharge line which caused the pH to drop before the filters. Restored pre sodium carbonate; readjust pH, backwashed both filters. UV dose > 40 MJ/cm^2 at approximately 16:55.	25-May-2006
23-Jun-2006	Primary Disinfection UV dose	< 40	MJ/cm^2	Primary disinfection low UV dos for approximately 20 minutes < 40 MJ/cm^2 @ 10:25 till 10:45. Secondary disinfection maintained approximately 1.88 mg/L free chlorine. Backwashed each filter once to avoid sending water to clearwell. Worked on treatment, increased alum dose. Water returning to clearwell at approximately 12:35; UV dose > 40 MJ/cm^2	23-Jun-2006
16-Sep-2006	UV Disinfection	< 40	MJ/cm^2	Low UV dose for a total of approximately 6 minutes. Secondary disinfection maintained approximately 1.5 mg/L free. Alum pump discharge tubing plugged up which caused low UV transmittance. Restored alum pumping. Backwashed filter #1 three times and backwashed filter #2 three times. Between backwash cycles low UV dose occurred for approximately 1 minute duration x 6 backwashes = 6 minutes.	16-Sep-2006

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**	**7 - 380**	**50 - >2000**	**52**	**1020 - >2000**	**NA**	**NA**
Treated	**52**	**0 - 0**	**0 - 0**	**52**	**0 - 0**	**28**	**0 - 2**
Distribution	**158**	**0 – 0**	**0- 0**	**158**	**0 - 1**	**28**	**0 - 4**

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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	352	0.04 – 0.80 NTU

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

POE Grabs

	Number of Grab Samples	Range of Results (min #)-(max #)
Turbidity	358	0.11– 1.55 NTU
Free Chlorine	333	1.14 – 2.34 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	472	0.27 – 1.78 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	0.05– 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 – 2.0 mg/L

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

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 7938-6T4JLY issued 28 Aug 2006	UV Intensity	continuous when units operating	plant shut down interlock activates if dosage <22 mJ/cm^2	mJ/cm^2
	Flow Rate	continuous	min 218 – max 785	m^3/d
	UV Transmittance	daily 5 days per wk	min 24 - max 48	% UVT
	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	01 Feb 2006	<0.001	mg/L	
Arsenic	01 Feb 2006	<0.001	mg/L	
Barium	01 Feb 2006	0.013	mg/L	
Boron	01 Feb 2006	<0.010	mg/L	
Cadmium	01 Feb 2006	<0.0001	mg/L	
Chromium	01 Feb 2006	<0.005	mg/L	
Lead Dist Sample 80 Principal St. E	01 Feb 2006	<0.005	mg/L	
Mercury	01 Feb 2006	<0.0001	mg/L	
Selenium	01 Feb 2006	<0.002	mg/L	
Sodium	01 Feb 2006	38	mg/L	Yes
Uranium	01 Feb 2006	<0.0002	mg/L	
Fluoride	01 Feb 2006	<0.1	mg/L	
Nitrite	01 Feb 2006 17 May 2006 15 Aug 2006 15 Nov 2006	<0.01 <0.01 <0.01 <0.01	mg/L mg/L mg/L mg/L	
Nitrate	01 Feb 2006 17 May 2006 15 Aug 2006 15 Nov 2006	0.1 <0.1 <0.1 0.1	mg/L mg/L mg/L mg/L	

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

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Alachlor	01 Feb 2006	<0.5	ug/L	
Aldicarb	01 Feb 2006	<5	ug/L	DL > ½ MAC
Aldrin + Dieldrin	01 Feb 2006	<0.012	ug/L	
Atrazine + N-dealkylated metobolites	01 Feb 2006	<1	ug/L	
Azinphos-methyl (Guthion)	01 Feb 2006	<2	ug/L	
Bendiocarb	01 Feb 2006	<2	ug/L	
Benzene	01 Feb 2006	<0.1	ug/L	
Benzo(a)pyrene	01 Feb 2006	<0.009	ug/L	DL > ½ MAC
Bromoxynil	01 Feb 2006	<0.5	ug/L	
Carbaryl	01 Feb 2006	<5	ug/L	
Carbofuran	01 Feb 2006	<5	ug/L	
Carbon Tetrachloride	01 Feb 2006	<0.1	ug/L	
Chlordane (Total)	01 Feb 2006	<0.012	ug/L	
Chlorpyrifos	01 Feb 2006	<1	ug/L	
Cyanazine	01 Feb 2006	<1	ug/L	
Diazinon	01 Feb 2006	<1	ug/L	
Dicamba	01 Feb 2006	<1	ug/L	

1,2-Dichlorobenzene	01 Feb 2006	<0.2	ug/L	
1,4-Dichlorobenzene	01 Feb 2006	<0.2	ug/L	
Dichlorodiphenyltrichloroethane(DDT)+metabolite	01 Feb 2006	<0.024	ug/L	
1,2-Dichloroethane	01 Feb 2006	<0.1	ug/L	
1,1-Dichloroethylene (vinylidene chloride)	01 Feb 2006	<0.1	ug/L	
Dichloromethane	01 Feb 2006	<0.5	ug/L	
2-4 Dichlorophenol	01 Feb 2006	<0.5	ug/L	
2,4-Dichlorophenoxy acetic acid (2,4-D)	01 Feb 2006	<1	ug/L	
Diclofop-methyl	01 Feb 2006	<0.9	ug/L	
Dimethoate	01 Feb 2006	<2.5	ug/L	
Dinoseb	01 Feb 2006	<1	ug/L	
Diquat	01 Feb 2006	<7	ug/L	
Diuron	01 Feb 2006	<10	ug/L	
Glyphosate	01 Feb 2006	<10	ug/L	
Heptachlor + Heptachlor Epoxide	01 Feb 2006	<0.012	ug/L	
Lindane (Total)	01 Feb 2006	<0.006	ug/L	
Malathion	01 Feb 2006	<5	ug/L	
Methoxychlor	01 Feb 2006	<0.024	ug/L	
Metolachlor	01 Feb 2006	<0.5	ug/L	
Metribuzin	01 Feb 2006	<5	ug/L	
Monochlorobenzene	01 Feb 2006	<0.1	ug/L	
Paraquat	01 Feb 2006	<1	ug/L	
Parathion	01 Feb 2006	<1	ug/L	
Pentachlorophenol	01 Feb 2006	<0.5	ug/L	
Phorate	01 Feb 2006	<0.5	ug/L	
Picloram	01 Feb 2006	<5	ug/L	
Polychlorinated Biphenyls(PCB)	01 Feb 2006	<0.05	ug/L	
Prometryn	01 Feb 2006	<0.25	ug/L	
Simazine	01 Feb 2006	<1	ug/L	
THM Dist Sample Location 80 Principal St. E	01 Feb 2006 17 May 2006 15 Aug 2006 15 Nov 2006 Ann Avg.	39.1 112 41 42.2 58.6	ug/L ug/L ug/L ug/L ug/L	
Temephos	01 Feb 2006	<10	ug/L	
Terbufos	01 Feb 2006	<0.7	ug/L	DL > ½ MAC
Tetrachloroethylene	01 Feb 2006	<0.1	ug/L	
2,3,4,6-Tetrachlorophenol	01 Feb 2006	<0.5	ug/L	
Triallate	01 Feb 2006	<1	ug/L	
Trichloroethylene	01 Feb 2006	<0.1	ug/L	
2,4,6-Trichlorophenol	01 Feb 2006	<0.5	ug/L	
2,4,5-Trichlorophenoxy acetic acid (2,4,5-T)	01 Feb 2006	<1	ug/L	
Trifluralin	01 Feb 2006	<1	ug/L	
Vinyl Chloride	01 Feb 2006	<0.2	ug/L	

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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	Date of Sample
Aldicarb	<5 (lab detection level)	ug/L	4.5 ug/L	01 Feb 2006
Benzo(a)pyrene	<0.01 (lab detection level)	ug/L	0.005 ug/L	01 Feb 2006
Tebufos	<0.7 (lab detection level)	ug/L	0.50 ug/L	01 Feb 2006

Note! In all three cases above the analysis result value was less that the lab detection limit. However the lab detection limit is above the ½ MAC value.