Drinking-Water Systems Regulation O. Reg. 170/03

Part III Form 2
Section 11. ANNUAL REPORT.

Drinking-Water System Number:	220000442
Drinking-Water System Name:	Sturgeon Falls Water Treatment Plant
Drinking-Water System Owner:	The Corporation of the Municipality of West Nipissing
Drinking-Water System Category:	Large Municipal Residential
Period being reported:	January 1, 2006 to December 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.

Sturgeon Falls Water Treatment Plant
11 Nipissing Street
Sturgeon Falls ON 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
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?
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
[ ] Public access/notice via Government Office
[x] Public access/notice via a newspaper
[ ] Public access/notice via Public Request
[x] Public access/notice via a Public Library
[ ] Public access/notice via other method _____

Describe your Drinking-Water System

The Sturgeon Falls WTP commissioned in 1991, consists of a full surface water treatment facility, with a design capacity of 14 200 m^3/day, drawing water from the Sturgeon River. The process consists of:

- Intake from the Sturgeon River, equipped with manually removable screens
- Four vertical turbine raw water pumps
- Two up-flow pre-treatment tanks for flash mixing; flocculating chemicals consist of powdered limestone and aluminum sulphate, and activated silica as a coagulant aid
- Four sets of three-cells-in-series flocculation tanks
- Two rectangular settling tanks, each with an inclined plate settling system
- Three dual media (anthracite/sand) gravity filters
- Continuous filtered turbidity monitoring for each filter
- Filtered effluent discharge to the post-filtration chlorine contact tanks with optional filter-to-waste capability return to the Sturgeon River (unchlorinated)
- Chlorine gas addition points located before filters and after filter-to-waste valve
- One chlorine contact tank equipped with baffle walls, with an overflow pipe and discharge line to the underground reservoir
- Continuous Giardia Log removal calculations to monitor adequacy of disinfection
- Hydrated lime (calcium hydroxide) addition after the chlorine contact chamber for pH and alkalinity control
- Two cell in-ground treated water storage reservoir, equipped with valves to enhance flow through circulation
- A two-chamber high lift pump well located below the high lift pumping station
- Five vertical turbine type high lift pumps
- Post-chlorine gas addition to Distribution with continuous feed-back monitoring
- Hydrofluosilicic acid (fluoride) addition to Distribution with continuous feed-back monitoring
- Filter backwash system consisting of two filter backwash pumps, serving all filters
- Backwash wastewater discharge to the backwash settling tanks
- Three backwash settling tanks; supernatant return to Sturgeon River; settled sludge to sludge thickening tanks
- Two square sludge thickening tanks; sludge discharge to municipal sewage collection system; supernatant return to the Sturgeon River
- Back-up diesel powered generator servicing entire plant

List all water treatment chemicals used over this reporting period

- Alum (aluminum sulphate)
- Activated silica (sodium silicate and alum)
- Chlorine (gas)
- Limestone
- Hydrated lime (calcium hydroxide)
- Hydrofluosilicic acid (fluoride)

Were any significant expenses incurred to?

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

Please provide a brief description and a breakdown of monetary expenses incurred

Water Plant Material/Supplies/Rentals	$14 000
Water Plant Equipment Maintenance/Repairs	$25 000
Water Plant Process Chemicals	$44 000
Water Quality Lab Testing	$9 000
Consulting/Operator Training	$59 000
Water Plant Utilities	$116 000
Water Distribution Materials/Supplies/Repairs	$70 000

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
06-06-04	Low chlorine residual to Distribution (false readings)	<0.20	mg/L	• False readings on pump starts showing chlorine residual dropping below 0.20mg/L • MOE and Health Unit notified • Health Unit requested 8 distribution samples be collected and tested • All samples had adequate chlorine residual and negative bacti test results • Chlorination at the Water Treatment Plant was always maintained • The post chlorinator was shut off on June 5 for a test, and the residual chlorine dropped to 0.90mg/L, the low spikes for the pump starts were non-representative • AWQI 64600	06-06-06
06-07-12	Total Coliform in Distribution sample	6	CFU/100mL	• Sampling bleed at end of Champange was submerged in ditch • Pipe was thoroughly cleaned and disinfected with alcohol before re-sampling • Sample also collected at closest hydrant • Both samples were negative for bacti • Double check valve added to bleed • AWQI 65785	06-07-17

Incident Date	Parameter	Result	Unit of Measure	Corrective Action	Corrective Action Date
06-07-20	Total Coliform in Distribution sample	7	CFU/100mL	• Sample was collected from continuous bleed off of hydrant at end of Cache Bay Road • Re-sampled and re-tested; results were negative for bacti • Bleed already equipped with air gap protection • AWQI 66162	06-07-22
06-08-12	Total Coliform in Distribution sample	1	CFU/100mL	• Watermain was closed and isolated for high pressure cleaning on August 9 and 10 • Affected residences were under boil water advisory when water service is restored • Samples collected on August 11 after the cleaning had 1 CFU/100mL Total Coliform • MOE and Health Unit notified; boil water stayed in effect • Samples collected August 12 were negative • Boil water advisory was lifted August 13. • AWQI 66944	05-09-06
06-10-30	Low chlorine residual in Distribution	0.0	mg/L	• Dirty water complaint at 139 John Street • Flushed hydrant at John and Arthur, but dirty water was not clearing • Discovered watermain valve at John and Arthur was closed • Opened valve and • Note, sealants on the hydrant joints are made of lead • Re-sampled according to protocol by collecting running water • Re-sampled results were non-detect (<0.001mg/L) • AWQI 60646	05-11-08

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 Or Fecal Results (min #)-(max #)	Range of Total Coliform Results (min #)-(max #)	Number of HPC Samples	Range of HPC Results (min #)-(max #)
Raw	52	10 - 1320	< 5 - 40	0	
Treated	52	0 - 0	0 - 0	11	0 - 1
Distribution	212	0 – 0	0 - 7	14	0 - 52

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 #)
Turbidity	8760	Daily Average 0.028 - 0.220 NTU Instantaneous 0.028 – 4.647 NTU
Chlorine	8760	Daily Average 0.64 - 1.63 mg/L Instantaneous 0.00 – 2.73 mg/L
Fluoride (If the DWS provides fluoridation)	8760	Daily Average 0.02 - 0.80 mg/L Instantaneous 0.00 – 2.00 mg/L

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

***NOTE**: Record the unit of measure if it is **not** milligrams per litre.*

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	Result	Unit of Measure
7618-6QXP8Z (July 7/06)	Backwash SS	monthly	16.7	mg/L (annual average)

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

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Antimony	2006-10-11	< 0.0001	mg/L	no
Arsenic	2006-10-11	0.001	mg/L	no
Barium	2006-10-11	0.012	mg/L	no
Boron	2006-10-11	< 0.005	mg/L	no
Cadmium	2006-10-11	< 0.0001	mg/L	no
Chromium	2006-10-11	< 0.002	mg/L	no
Lead	2006-10-11	0.0003	mg/L	no
Mercury	2006-10-11	< 0.0001	mg/L	no
Selenium	2006-10-11	0.0018	mg/L	no
Sodium	2006-10-11	1.4	mg/L	no
Uranium	2006-10-11	< 0.00005	mg/L	no
Fluoride	2006-10-11	0.6	mg/L	no
Nitrite	2006-02-15 2006-05-16 2006-08-24 2006-10-11	< 0.1 < 0.1 < 0.1 < 0.1	mg/L	no
Nitrate	2006-02-15 2006-05-16 2006-08-24 2006-10-11	0.2 0.1 0.1 0.1	mg/L	no

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

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Alachlor	2006-10-11	< 0.3	µg/L	no
Aldicarb	2006-10-11	< 3	µg/L	no
Aldrin + Dieldrin	2006-10-11	< 0.02	µg/L	no
Atrazine + N-dealkylated metobolites	2006-10-11	< 0.5	µg/L	no
Azinphos-methyl	2006-10-11	< 1	µg/L	no
Bendiocarb	2006-10-11	< 3	µg/L	no
Benzene	2006-10-11	< 0.5	µg/L	no
Benzo(a)pyrene	2006-10-11	< 0.005	µg/L	no
Bromoxynil	2006-10-11	< 0.3	µg/L	no
Carbaryl	2006-10-11	< 3	µg/L	no
Carbofuran	2006-10-11	< 1	µg/L	no
Carbon Tetrachloride	2006-10-11	< 0.2	µg/L	no
Chlordane (Total)	2006-10-11	< 0.04	µg/L	no
Chlorpyrifos	2006-10-11	< 0.5	µg/L	no
Cyanazine	2006-10-11	< 0.5	µg/L	no
Diazinon	2006-10-11	< 1	µg/L	no
Dicamba	2006-10-11	< 5	µg/L	no
1,2-Dichlorobenzene	2006-10-11	< 0.1	µg/L	no
1,4-Dichlorobenzene	2006-10-11	< 0.2	µg/L	no
Dichlorodiphenyltrichloroethane (DDT) + metabolites	2006-10-11	< 0.1	µg/L	no
1,2-Dichloroethane	2006-10-11	< 0.1	µg/L	no
1,1-Dichloroethylene (vinylidene chloride)	2006-10-11	< 0.1	µg/L	no
Dichloromethane	2006-10-11	< 0.3	µg/L	no
2-4 Dichlorophenol	2006-10-11	< 0.1	µg/L	no
2,4-Dichlorophenoxy acetic acid (2,4-D)	2006-10-11	< 5	µg/L	no
Diclofop-methyl	2006-10-11	< 0.4	µg/L	no
Dimethoate	2006-10-11	< 1	µg/L	no
Dinoseb	2006-10-11	< 0.5	µg/L	no
Diquat	2006-10-11	< 5	µg/L	no
Diuron	2006-10-11	< 5	µg/L	no
Glyphosate	2006-10-11	< 25	µg/L	no
Heptachlor + Heptachlor Epoxide	2006-10-11	< 0.1	µg/L	no
Lindane (Total)	2006-10-11	< 0.1	µg/L	no
Malathion	2006-10-11	< 5	µg/L	no
Methoxychlor	2006-10-11	< 0.1	µg/L	no
Metolachlor	2006-10-11	< 3	µg/L	no
Metribuzin	2006-10-11	< 3	µg/L	no
Monochlorobenzene	2006-10-11	< 0.2	µg/L	no
Paraquat	2006-10-11	< 1	µg/L	no
Parathion	2006-10-11	< 3	µg/L	no
Pentachlorophenol	2006-10-11	< 0.1	µg/L	no
Phorate	2006-10-11	< 0.3	µg/L	no
Picloram	2006-10-11	< 5	µg/L	no
Polychlorinated Biphenyls(PCB)	2006-10-11	< 0.05	µg/L	no
Prometryne	2006-10-11	< 0.1	µg/L	no
Simazine	2006-10-11	< 0.5	µg/L	no

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
THM (NOTE**:** show latest annual average**)**	2006-02-15 2006-05-16 2006-08-24 2006-10-11	26.2 96.7 99.4 61.5	µg/L	no
Temephos	2006-10-11	< 10	µg/L	no
Terbufos	2006-10-11	< 0.3	µg/L	no
Tetrachloroethylene	2006-10-11	< 0.2	µg/L	no
2,3,4,6-Tetrachlorophenol	2006-10-11	< 0.1	µg/L	no
Triallate	2006-10-11	< 10	µg/L	no
Trichloroethylene	2006-10-11	< 0.1	µg/L	no
2,4,6-Trichlorophenol	2006-10-11	< 0.1	µg/L	no
2,4,5-Trichlorophenoxy acetic acid (2,4,5-T)	2006-10-11	< 10	µg/L	no
Trifluralin	2006-10-11	< 0.5	µg/L	no
Vinyl Chloride	2006-10-11	< 0.2	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	Result Value	Unit of Measure	Date of Sample

(Only if DWS category is large municipal residential, small municipal residential, large municipal non residential, non municipal year round residential, large non municipal non residential)