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, 2009 to December 31, 2009

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:

0

Did you provide a copy of your annual report to all Designated Facilities you serve?
Yes [ ] No [ ]

Number of Interested Authorities you report to: 0

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
[ ] Public access/notice via a newspaper
[ ] Public access/notice via Public Request
[x] Public access/notice via a Public Library
[x] Public access/notice via other method: notice mailed with quarterly invoice

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	$ 19 000
Water Plant Equipment Maintenance/Repairs	$ 73 000
Water Plant Process Chemicals	$ 92 000
Water Quality Lab Testing	$ 17 000
Consulting/Operator Training	$ 24 000
Water Plant Utilities	$ 129 000
Water Distribution Materials/Supplies/Repairs	$ 156 000

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
09-06-22	Possible inadequate disinfection at treatment plant	<0.5		• Giardia log dropped below 0.5 due to failed automatic switchover from empty to full chlorine tank in chlorinating feed system, at the final treatment stage before the contact chamber. • Chlorine bottle switchover was made manually • Duration of exceedance was 21 minutes • AWQI 88668	09-06-22
09-06-23	Low chlorine residual in Distribution	0.00	mg/L	• No free available chlorine (FAC) measured at Second Street, between Levesque and Nipissing • Water main on Second was out-of-service for high pressure cleaning to remove iron deposits. • FAC measurements after restoring service showed no chlorine. All affected homes	09-06-23

Incident Date	Parameter	Result	Unit of Measure	Corrective Action	Corrective Action Date
				were already under boil water advisory issued by the Municipality for the cleaning. • A continuous blow-off was installed to restore FAC • Note water main was later replaced in October 2009. • AWQI 88731	
09-06-25	Low chlorine residual in Distribution	0.00	mg/L	• No free available chlorine (FAC) measured at Montreal Street (dead end near Abitibi) • Water main on Montreal was out-of-service for high pressure cleaning to remove iron deposits. • FAC measurements after restoring service showed no chlorine. All affected homes were already under boil water advisory issued by the Municipality for the cleaning. • A continuous blow-off was installed to restore and maintain FAC • AWQI 88759	09-06-25
09-07-01	Coliform measured in Distribution	3	Count per 100 mg/L	• Coliform was measured in a water sample collected from the public filling station on Coursol near John Street. • Filling station was re-sampled, plus upstream and downstream. All three samples showed non-detect. • AWQI 88919	09-07-06

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	6 - 60	20 - >2000	0	n/a
Treated	52	0 – 0	0 - 0	52	0 – 23
Distribution	214	0 – 0	0 - 3	52	0 – 16

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 - 0.277 NTU Instantaneous Max 1.57 NTU
Chlorine	8760	Daily Average 0.72 – 1.65 mg/L Instantaneous 0.00 – 4.80 mg/L
Fluoride (If the DWS provides fluoridation)	8760	Daily Average 0.00 - 0.69 mg/L Instantaneous 0.00 – 1.69 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	weekly	12.6	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	2009-07-13	< 0.0001	mg/L	No
Arsenic	2009-07-13	0.0003	mg/L	No
Barium	2009-07-13	0.013	mg/L	No
Boron	2009-07-13	<0.01	mg/L	No
Cadmium	2009-07-13	< 0.00002	mg/L	No
Chromium	2009-07-13	< 0.002	mg/L	No
Lead	2009-07-13	0.00049	mg/L	No
Mercury	2009-07-13	< 0.00002	mg/L	No
Selenium	2009-07-13	0.0002	mg/L	No
Sodium	2009-07-13	1.2	mg/L	No
Uranium	2009-07-13	< 0.00005	mg/L	No
Fluoride	2009-07-13	<0.1	mg/L	No
Nitrite	2009-01-14 2007-04-18 2009-07-13 2009-10-13	< 0.1 < 0.1 < 0.1 < 0.1	mg/L	No
Nitrate	2009-01-14	0.1	mg/L	No

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
	2009-04-14	0.2		
	2009-07-13	0.1		
	2009-10-13	0.1		

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	2009-07-13	< 0.3	µg/L	No
Aldicarb	2009-07-13	< 3	µg/L	No
Aldrin + Dieldrin	2009-07-13	< 0.02	µg/L	No
Atrazine + N-dealkylated metobolites	2009-07-13	< 0.5	µg/L	No
Azinphos-methyl	2009-07-13	< 1	µg/L	No
Bendiocarb	2009-07-13	< 3	µg/L	No
Benzene	2009-07-13	< 0.5	µg/L	No
Benzo(a)pyrene	2009-07-13	< 0.005	µg/L	No
Bromoxynil	2009-07-13	< 0.3	µg/L	No
Carbaryl	2009-07-13	< 3	µg/L	No
Carbofuran	2009-07-13	< 1	µg/L	No
Carbon Tetrachloride	2009-07-13	< 0.2	µg/L	No
Chlordane (Total)	2009-07-13	< 0.04	µg/L	No
Chlorpyrifos	2009-07-13	< 0.5	µg/L	No
Cyanazine	2009-07-13	< 0.5	µg/L	No
Diazinon	2009-07-13	< 1	µg/L	No
Dicamba	2009-07-13	< 5	µg/L	No
1,2-Dichlorobenzene	2009-07-13	< 0.1	µg/L	No
1,4-Dichlorobenzene	2009-07-13	< 0.2	µg/L	No
Dichlorodiphenyltrichloroethane (DDT) + metabolites	2009-07-13	< 0.1	µg/L	No
1,2-Dichloroethane	2009-07-13	< 0.1	µg/L	No
1,1-Dichloroethylene (vinylidene chloride)	2009-07-13	< 0.1	µg/L	No
Dichloromethane	2009-07-13	< 0.3	µg/L	No
2-4 Dichlorophenol	2009-07-13	< 0.1	µg/L	No
2,4-Dichlorophenoxy acetic acid (2,4-D)	2009-07-13	< 5	µg/L	No
Diclofop-methyl	2009-07-13	< 0.5	µg/L	No
Dimethoate	2009-07-13	< 1	µg/L	No
Dinoseb	2009-07-13	< 0.5	µg/L	No
Diquat	2009-07-13	< 5	µg/L	No
Diuron	2009-07-13	< 5	µg/L	No
Glyphosate	2009-07-13	< 25	µg/L	No
Heptachlor + Heptachlor Epoxide	2009-07-13	< 0.1	µg/L	No
Lindane (Total)	2009-07-13	< 0.1	µg/L	No
Malathion	2009-07-13	< 5	µg/L	No
Methoxychlor	2009-07-13	< 0.1	µg/L	No
Metolachlor	2009-07-13	< 3	µg/L	No
Metribuzin	2009-07-13	< 3	µg/L	No
Monochlorobenzene	2009-07-13	< 0.2	µg/L	No
Paraquat	2009-07-13	< 1	µg/L	No
Parathion	2009-07-13	< 3	µg/L	No
Pentachlorophenol	2009-07-13	< 0.1	µg/L	No

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Phorate	2009-07-13	< 0.3	µg/L	No
Picloram	2009-07-13	< 5	µg/L	No
Polychlorinated Biphenyls(PCB)	2009-07-13	< 0.05	µg/L	No
Prometryne	2009-07-13	< 0.1	µg/L	No
Simazine	2009-07-13	< 0.5	µg/L	No
THM (NOTE**:** show latest annual average**)**	2009-01-14 2009-04-14 2009-07-13 2009-10-13	44.6 22.2 57.0 46.0	µg/L	No
Temephos	2009-07-13	< 10	µg/L	No
Terbufos	2009-07-13	< 0.3	µg/L	No
Tetrachloroethylene	2009-07-13	< 0.2	µg/L	No
2,3,4,6-Tetrachlorophenol	2009-07-13	< 0.1	µg/L	No
Triallate	2009-07-13	< 10	µg/L	No
Trichloroethylene	2009-07-13	< 0.1	µg/L	No
2,4,6-Trichlorophenol	2009-07-13	< 0.1	µg/L	No
2,4,5-Trichlorophenoxy acetic acid (2,4,5-T)	2009-07-13	< 10	µg/L	No
Trifluralin	2009-07-13	< 0.5	µg/L	No
Vinyl Chloride	2009-07-13	< 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
Nil			

(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)