

**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, 2003 to December 31, 2003

<p><u>Complete if your Category is Large Municipal Residential or Small Municipal Residential</u></p> <p>Does your Drinking-Water System serve more than 10,000 people? Yes [] No [x]</p> <p>Is your annual report available to the public at no charge on a web site on the Internet? Yes [] No [x]</p> <p>Location where Report required under O. Reg. 170/03 Schedule 22 will be available for inspection.</p> <div style="border: 1px solid black; padding: 5px;"> West Nipissing Public Utilities Office 30 Front Street Unit D Sturgeon Falls ON </div>	<p><u>Complete for all other Categories.</u></p> <p>Number of Designated Facilities served: <input style="width: 100px; height: 20px;" type="text"/></p> <p>Did you provide a copy of your annual report to all Designated Facilities you serve? Yes [] No []</p> <p>Number of Interested Authorities you report to: <input style="width: 100px; height: 20px;" type="text"/></p> <p>Did you provide a copy of your annual report to all Interested Authorities you report to for each Designated Facility? Yes [] No []</p>
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List Drinking-Water Systems, which receive all of their drinking water from your system:

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 [**x**]

Indicate how you notified system users that your annual report is available, and is free of charge.

- [] 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
 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 m³/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 (powdered limestone, activated silica, and aluminum sulphate coagulant pre-treatment)
- 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
- Filtered effluent discharge to the post-filtration chlorine contact tanks, and turbidity system
- Backwash wastewater discharge to the backwash settling tanks
- Filter backwash system consisting of two filter backwash pumps, serving all filters
- One chlorine contact tank equipped with baffle walls, with an overflow pipe and discharge line to the underground reservoir
- A two-chamber high lift pump well located below the high lift pumping station
- Five vertical turbine type high lift pumps
- Two cell in-ground treated water storage reservoir, equipped with valves to enhance flow through circulation
- Three backwash settling tanks
- Two square sludge thickening tanks
- Sludge discharge to municipal sewage collection system
- Supernatant returned to the Sturgeon River

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

Describe

- Installed filter-to-waste system, in order to waste water to the river, after backwashing the sand filters
- Installed online fluoride analyzer
- Installed online chlorine analyzer
- Installed two turbidity analyzers

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
03-02-05	Turbidity	4.67	NTU	<ul style="list-style-type: none"> • Calibration of instrument caused false reading 	03-02-05
03-03-20	Turbidity	2.10	NTU	<ul style="list-style-type: none"> • Restarting a different high lift pump caused turbidity spike 	03-03-20
03-04-11	Turbidity	1.69	NTU	<ul style="list-style-type: none"> • Starting high lift pump 	03-04-11
03-05-05	Turbidity	1.05	NTU	<ul style="list-style-type: none"> • Starting high lift pump 	03-05-05
03-05-08	Turbidity	4.67	NTU	<ul style="list-style-type: none"> • Starting high lift pump 	03-05-08
03-05-12	Turbidity	4.67	NTU	<ul style="list-style-type: none"> • Starting high lift pump 	03-05-12
03-05-13	Turbidity	1.94	NTU	<ul style="list-style-type: none"> • Starting high lift pump 	03-05-13
03-05-13	Chlorine	0.05	mg/L	<ul style="list-style-type: none"> • On-line analyzer maintenance – actual was 0.95mg/L 	03-05-13
03-05-15	Turbidity	10.03	NTU	<ul style="list-style-type: none"> • Starting high lift pump 	03-05-15
03-05-21	Turbidity	2.36	NTU	<ul style="list-style-type: none"> • Starting high lift pump 	03-05-21
03-05-22	Fluoride	2.0	mg/L	<ul style="list-style-type: none"> • New online analyzer showed high reading • Stop fluoride pump • Actual grab was 0.3mg/L 	03-05-22
03-05-29	Fluoride	2.0	mg/L	<ul style="list-style-type: none"> • New online analyzer showed high reading • Stop fluoride pump • Actual grab was 0.4mg/L 	03-05-29
03-06-12	Chlorine	0.03	mg/L	<ul style="list-style-type: none"> • On-line analyzer read a false low when testing diesel backup generator. Grab sample read 1.15mg/L. 	03-06-12

03-06-26	Chlorine	0.00	mg/L	<ul style="list-style-type: none"> • On 03-06-26, initiated by a dirty water complaint at 95 Bay St. (business location) • Low Free Cl₂ reading at the 95 Bay Street only • Posted signs not to drink water from this location • Flushed line, Free Cl₂ reading was 0.19mg/L • Instructed owner to leave water tap on • TC, EC were 0, GBP was 4 • Retested on 03-06-30, low Free Cl₂ reading at 95 Bay St., owner had shut off water • Posted signs not to drink water from this location • Samples for TC, EC and GBP were all 0 • Retested on 03-07-02, low Free Cl₂ resulted with decision to install new service line • 03-07-03 Free Cl₂ reading was 0.49mg/L, continued to instructed owner not to drink water until a new service line is installed • 03-07-07 new service line installed, Free Cl₂ reading was 0.70mg/L • Not to drink signs removed • 03-07-08 Health Officer advised to repost signs and test for bacteria • 03-07-09 Bacteria results 0, Free Cl₂ was 0.80mg/L, removed warning signs 	03-06-26 to 03-07-09
03-06-30	Chlorine	0.03			
03-07-02	Chlorine	0.01			
03-07-14	Turbidity pH Chlorine	15.08 9.6 0.0	NTU mg/L	<ul style="list-style-type: none"> • Overdosed with lime • Shut lime addition off • False low Free Cl₂ reading due to high pH • Opened hydrants to purge water from clear wells 	03-07-14

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03-09-02	Chlorine	0.00	mg/L	<ul style="list-style-type: none"> • No residual chlorine measured at Jenesse Active School • Informed principal, posted signs, flushed fire hydrants before and after location • Collected sample for bacteria, TC, EC and GBP were all 0 • Low Free Cl₂ due to work on distribution system on 03-08-29. • Bottled water provided for school • 03-09-04 – drinking restriction removed 	03-09-02 to 03-09-04
03-09-19	Turbidity	5.00	NTU	<ul style="list-style-type: none"> • High turbidity probably due to air bubbles (other filters not affected) • Effluent line to turbidity meter was flushed 	03-09-19
03-09-25	Turbidity	1.69	NTU	<ul style="list-style-type: none"> • Backwash filter caused turbidity spike 	03-09-25
03-10-14	Chlorine	0.00	mg/L	<ul style="list-style-type: none"> • No residual chlorine measured at Jenesse Active School • Flushed fire hydrant, restored Free Cl₂ residual to 0.33mg/L • Collected sample for bacteria, TC, EC and GBP were all 0 	03-10-14
03-10-30	Turbidity Turbidity	1.78 3.70	NTU	<ul style="list-style-type: none"> • Upgrading filter system; opened filter effluent valve too quickly, causing turbidity spike 	03-10-30
03-10-31	Turbidity	1.61	NTU	<ul style="list-style-type: none"> • Final adjustments on turbidity analyzer sample line caused spike 	03-10-31

Microbiological testing done under section 8 (2) during this reporting period

	Number of Samples	Range of E.Coli or Fecal Results (#-#)	Range of Total Coliform Results (#-#)	Number of HPC Samples (GBP)	Range of HPC Results (#-#) (GBP)
Raw	52	0-360	8-560	52	120-72000
Treated	52	0	0	52	0
Distribution	260	0	0	260	0-1

Operational testing done under Schedule 7, 8 or 9 during the period covered by this Annual Report.

	Number of Grab Samples	Range of Results (#-#)
Turbidity	8760	0.06-5.00 NTU
Chlorine	8760	0.83-1.45 mg/L
Fluoride (If the DWS provides fluoridation)	8760	0.00-0.98 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 or order.

Date of order or C of A	Parameter	Date Sampled	Result	Unit of Measure
May 15, 2003	Backwash SS	monthly	3-38	mg/L

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

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Antimony	03-12-16	<0.001	mg/L	
Arsenic	03-07-23	0.001	mg/L	
	03-12-16	<0.001		
Barium	03-07-23	0.015	mg/L	
	03-12-16	0.015		
Boron	03-07-23	< 0.005	mg/L	
	03-12-16	< 0.005		
Cadmium	03-07-23	< 0.0001	mg/L	
	03-12-16	< 0.0001		
Chromium	03-07-23	< 0.001	mg/L	
	03-12-16	< 0.001		
Lead	03-07-23	< 0.0002	mg/L	
	03-12-16	< 0.0002		
Mercury	03-07-23	< 0.0001	mg/L	
	03-12-16	< 0.0001		
Selenium	03-07-23	< 0.001	mg/L	
	03-12-16	< 0.001		
Uranium	03-07-23	< 0.001	mg/L	
	03-12-16	< 0.001		
Fluoride	03-01-01 to 03-12-31	0.00 to 0.98	mg/L	
Nitrite	03-01-15	< 0.1	mg/L	
	03-04-16	< 0.1		
	03-07-23	< 0.1		
	03-12-16	< 0.1		
Nitrate	03-01-15	0.2	mg/L	
	03-04-16	0.2		
	03-07-23	0.1		
	03-12-16	0.2		

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

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Alachlor	03-07-23	< 0.5	µg/L	
Aldicarb	03-07-23	< 6	µg/L	
Aldrin + Dieldrin	03-07-23	< 0.05	µg/L	
	03-12-16	< 0.05		
Atrazine + N-dealkylated metabolites	03-07-23	< 1	µg/L	
Azinphos-methyl	03-07-23	< 2	µg/L	
Bendiocarb	03-07-23	< 5	µg/L	
Benzene	03-07-23	< 0.1	µg/L	
	03-12-16	< 0.5		

Benzo(a)pyrene	03-07-23	< 0.01	µg/L	
Bromoxynil	03-07-23	< 0.5	µg/L	
Carbaryl	03-07-23	< 5	µg/L	
Carbofuran	03-07-23	< 2	µg/L	
Carbon Tetrachloride	03-07-23	< 0.3	µg/L	
	03-12-16	< 0.2		
Chlordane (Total)	03-07-23	< 0.6	µg/L	
	03-12-16	< 0.6		
Chlorpyrifos	03-07-23	< 1	µg/L	
Cyanazine	03-07-23	< 1	µg/L	
Diazinon	03-07-23	< 2	µg/L	
Dicamba	03-07-23	< 10	µg/L	
1,2-Dichlorobenzene	03-07-23	< 0.4	µg/L	
	03-12-16	< 0.1		
1,4-Dichlorobenzene	03-07-23	< 0.4	µg/L	
	03-12-16	< 0.2		
Dichlorodiphenyltrichloroethane (DDT) + metabolites	03-07-23	< 1	µg/L	
	03-12-16	< 1		
1,2-Dichloroethane	03-07-23	< 0.1	µg/L	
	03-12-16	< 0.1		
1,1-Dichloroethylene (vinylidene chloride)	03-07-23	< 0.3	µg/L	
	03-12-16	< 0.1		
Dichloromethane	03-07-23	< 0.3	µg/L	
	03-12-16	< 0.3		
2,4-Dichlorophenol	03-07-23	< 0.2	µg/L	
2,4-Dichlorophenoxy acetic acid (2,4-D)	03-07-23	< 10	µg/L	
	03-12-16	< 10		
Diclofop-methyl	03-07-23	< 0.9	µg/L	
Dimethoate	03-07-23	< 2	µg/L	
Dinoseb	03-07-23	< 1	µg/L	
Diquat	03-07-23	< 5	µg/L	
	03-12-16	< 5		
Diuron	03-07-23	< 10	µg/L	
Glyphosate	03-07-23	< 25	µg/L	
	03-12-16	< 25		
Heptachlor + Heptachlor Epoxide	03-07-23	< 0.1	µg/L	
	03-12-16	< 0.1		
Linadane (Total)	03-07-23	< 0.1	µg/L	
	03-12-16	< 0.1		
Malathion	03-07-23	< 10	µg/L	
Methoxychlor	03-07-23	< 10	µg/L	
	03-12-16	< 10		
Metolachlor	03-07-23	< 5	µg/L	
Metribuzin	03-07-23	< 5	µg/L	

Monochlorobenzene	03-07-23	< 0.1	µg/L	
	03-12-16	< 0.2		
Paraquat	03-07-23	< 1	µg/L	
	03-12-16	< 1		
Parathion	03-07-23	< 5	µg/L	
Pentachlorophenol	03-07-23	< 0.2	µg/L	
Phorate	03-07-23	< 0.5	µg/L	
Picloram	03-07-23	< 10	µg/L	
Polychlorinated Biphenyls(PCB)	03-07-23	< 0.05	µg/L	
	03-12-16	< 0.05		
Prometryne	03-07-23	< 0.2	µg/L	
Simazine	03-07-23	< 1	µg/L	
THM (NOTE: show latest quarterly average)	03-12-16	23	µg/L	
Temephos	03-07-23	< 25	µg/L	
Terbufos	03-07-23	< 0.7	µg/L	
Tetrachloroethylene	03-07-23	< 0.2	µg/L	
	03-12-16	< 0.2		
2,3,4,6-Tetrachlorophenol	03-07-23	< 0.1	µg/L	
Triallate	03-07-23	< 20	µg/L	
Trichloroethylene	03-07-23	< 0.3	µg/L	
	03-12-16	< 0.1		
2,4,6-Trichlorophenol	03-07-23	< 0.2	µg/L	
2,4,5-Trichlorophenoxy acetic acid (2,4,5-T)	03-07-23	< 22	µg/L	
Trifluralin	03-07-23	< 1	µg/L	
Vinyl Chloride	03-07-23	< 0.4	µg/L	
	03-12-16	< 0.3		

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 category is large municipal residential, small municipal residential, large municipal non residential, small municipal non residential, large non municipal non residential)