

TOWN OF SMITHS FALLS
MUNICIPAL WATER TREATMENT PLANT

Sensational!



2008 ANNUAL REPORT

February 26, 2009

Drinking-Water Systems Regulation O. Reg. 170/03 Section 11 Annual Reports

Drinking-Water System Number:	220001307
Drinking-Water System Name:	Smiths Falls Water Treatment Plant
Drinking-Water System Owner:	Corporation of the Town of Smiths Falls
Drinking-Water System Category:	Large Municipal Drinking Water System
Period being reported:	January 1 st to December 31 st , 2008

<u><i>Complete if your Category is Large Municipal Residential or Small Municipal Residential</i></u>	<u><i>Complete for all other Categories.</i></u>
<p>Does your Drinking-Water System serve more than 10,000 people? Yes [] No [✓]</p> <p>Is your annual report available to the public at no charge on a web site on the Internet? Yes [✓] No []</p> <p>Location where Summary Report required under O. Reg. 170/03 Schedule 22 will be available for inspection.</p> <p>Smiths Falls Town Hall Complex 77 Beckwith St. N Smiths Falls, ON K7A 4T6</p> <p>Smiths Falls Water Treatment Plant 25 Old Mill Road Smiths Falls, ON K7A 1Z2</p> <p>www.smithsfalls.ca</p>	<p>Number of Designated Facilities served: N/A</p> <p>Did you provide a copy of your annual report to all Designated Facilities you serve? N/A</p> <p>Number of Interested Authorities you report to: N/A</p> <p>Did you provide a copy of your annual report to all Interested Authorities you report to for each Designated Facility? N/A</p>

Note: For the following tables below, additional rows or columns may be added or an appendix may be attached to the report

Drinking-Water Systems Regulation O. Reg. 170/03 Section 11 Annual Reports

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
Part of Montague Township	260006828

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.

Public access/notice via the web

Public access/notice via Government Office

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 Smiths Falls Water Treatment Plant (WTP) is a Class III Conventional Surface Water Plant, taking water from the Rideau River. The raw water intake is located upstream of the WTP, off the dam and west of Abbott Street. It consists of a concrete intake structure and a 762 millimeter diameter pipe extending approximately 40 meters into the river. The raw water flows by gravity through the treatment plant.

The treatment process includes various units including flash mixing, coagulation, flocculation, clarification (settling), filtration, disinfection by chlorine gas and fluoridation.

The Distribution system is a Class I subsystem, consisting of 62.23 kilometers (km) of mains, 1096 valves, 332 hydrants and 3010 house services. With a 49.2 meter (m) high water tower that contains 945.75 cubic meters (m³) of storage.

Currently construction is under way for a new WTP with a completion date of July, 2009. The NWTP will consist of AquaDAF system; dual media filtration; UV disinfection; chlorination with chlorine gas; corrosion control; fluoridation; residue management and dechlorination.

List all water treatment chemicals used over this reporting period

CHEMICAL NAME	USE	SUPPLIER
Chlorine Gas	Disinfection	Brenntag
PAX XL6 - aluminum chloride hydroxide sulfate	Coagulant	Kemira
Hydrofluorosilic Acid	Fluoride	Univar

Drinking-Water Systems Regulation O. Reg. 170/03 Section 11 Annual Reports

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

- High Lift Pump #3 rebuild – \$15,000
- Roof Patching - \$22,000
- Safety equipment upgrades - \$2500
- Water Plant pipe & valve repairs - \$1,500
- Repairs to street valves, hydrants, mains and services

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
Feb. 15, 2008 AWQI 77920	Lead (Hydrant)	0.0135	mg/L	Re-sample & flush	Feb. 15, 2008
March 26, 2008 AWQI 78497	Coagulant dose interruption pump failure	N/A	N/A	Check hoses, re-start pump & run hot water through the pump	March 26, 2008
Aug. 26, 2008 AWQI 83173	Lead (Hydrant)	0.013	mg/L	Re-sample & flush	Aug. 26, 2008
Sept. 25, 2008 AWQI 84154	3 rd quarter rolling annual average trihalomethane (TTHM)	100.15	ug/L	Re-sample & flush	Sept. 29, 2008
Nov. 12, 2008 AWQI 85360	4 th quarter rolling annual average trihalomethane (TTHM)	102.7	ug/L	Re-sample & flush	Nov. 17, 2008
Nov. 18, 2008 AWQI 85444 MOE lab services	4 th quarter rolling annual average trihalomethane (TTHM)	101.3	ug/L	This was reported on November 12 (only report once in the quarter for TTHM rolling annual average)	Nov. 17, 2008
Nov. 14, 2008	Tower Overflow chlorinated water discharger to storm sewer	N/A	N/A	De-chlorinator installed on tower overflow pipe	Nov. 14, 2008
Dec. 4, 2008 AWQI 85694	4 th quarter rolling annual average trihalomethane	106	ug/L	This was reported on November 12 (only report once in the	Nov. 17, 2008

Drinking-Water Systems Regulation O. Reg. 170/03 Section 11 Annual Reports

	(TTHM)			quarter for TTHM rolling annual average)	
Dec. 8, 2008 AWQI 85726	Filter effluent turbidity > 1 NTU	1.003	NTU	Filter effluent shut off & backwashed	Dec. 8, 2008

Microbiological testing completed under Schedule 10, 11 or 12 of Regulation 170/03 during this reporting period.

	Number of Samples	Range of E.Coli Results (min #)-(max #) Colony forming units (CFU)	Range of Total Coliform Results (min #)-(max #) counts/100mL	Number of HPC Samples	Range of HPC Results (min #)-(max #) counts/100mL
Raw	53	<2 - 90	16 - 766	N/A	N/A
Treated	55	Absent	Absent	55	<10 - 1280
Distribution	344	Absent	Absent	344	<10 - 470

Operational testing completed 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 *:		
Filter #1	8760	0.01 - 21.89 NTU
Filter #2	8760	0.002 - 1.12 NTU
Filter #3	8760	0.01 - 4.605 NTU
Filter #4	8760	0.02 - 1.218 NTU
Filter #5	8760	0.01 - 2.24 NTU
Raw Water	765	0.34 - 4.15 NTU
Finished Water	765	0.06 - 1.40 NTU
Free Chlorine (online)	8760	1.40 - 3.80 mg/L
Free Chlorine (bench)	365	1.75 - 3.00 mg/L
Fluoride (bench) (equipment failure & problems resulting in fluoride being offline)	178	0.18 - 1.99 mg/L

Notes:

* High filter turbidity results are from calibration of online meters; & filter weight adjustments.

Drinking-Water Systems Regulation O. Reg. 170/03 Section 11 Annual Reports

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 (ug/L)	Highest value in Quarter	Rolling Annual Average (Quarter)		
December 10, 2007 Certificate of Approval # 4159-78CKKA	THM	January 2, 2008	75.2	75.2	85.8		
		February 4, 2008	73.1				
		March 3, 2008	53.3				
		April 7, 2008	59.1	102.0	81.8		
		May 5, 2008	102.0				
		June 2, 2008	81.9				
		July 7, 2008	156.0				
		August 5, 2008	141.0	156.0	100.15		
		September 2, 2008	77.4				
		September 29, 2008*	69.0				
		October 6, 2008	51.8				
		November 3, 2008	77.6				
				November 17, 2008*	91.2	91.2	106.1
				December 1, 2008	90.0		
		December 10, 2008*	76.4				

Notes:

* indicates re-sample results

1. Maximum Allowable Concentration (MAC) for THM is based on a four quarter rolling annual average of 0.100 mg/L or 100.0 ug/L
2. MAC will be reduced to 0.080 mg/L or 80.0 ug/L in the spring of 2009

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	March 25, 2008	<0.0001	mg/L	
Arsenic	March 25, 2008	0.0008	mg/L	
Barium	March 25, 2008	0.035	mg/L	
Boron	March 25, 2008	0.007	mg/L	
Cadmium	March 25, 2008	<0.00002	mg/L	
Chromium	March 25, 2008	<0.002	mg/L	
Mercury	March 25, 2008	<0.00002	mg/L	
Selenium	March 25, 2008	0.0008	mg/L	
Uranium	March 25, 2008	<0.00005	mg/L	
1 st Quarter Nitrite	January 2, 2008	<0.1		
2 nd Quarter Nitrite	April 7, 2008	<0.1		
3 rd Quarter Nitrite	July 7, 2008	<0.1		
4 th Quarter Nitrite	October 6, 2008	<0.1		

Drinking-Water Systems Regulation O. Reg. 170/03 Section 11 Annual Reports

1 st Quarter Nitrate	January 2, 2008	0.2		
2 nd Quarter Nitrate	April 7, 2008	0.3		
3rdQuarter Nitrate	July 7, 2008	0.1		
4 th Quarter Nitrate	October 6, 2008	<0.1		

Summary of lead testing under 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)

Location Type	Number of Samples	Range of Lead Results (min#) – (max #)	Number of Exceedances
Plumbing	175	<0.00002 – 0.0493 mg/L	50
Distribution	25	<0.00002 – 0.0135 mg/L	2

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	March 25, 2008	<0.3	µg/L	
Aldicarb	March 25, 2008	<3	µg/L	
Aldrin + Dieldrin	March 25, 2008	<0.02	µg/L	
Atrazine + metabolites	March 25, 2008	<0.5	µg/L	
Azinphos-methyl	March 25, 2008	<1	µg/L	
Bendiocarb	March 25, 2008	<3	µg/L	
Benzene	March 25, 2008	<0.5	µg/L	
Benzo(a)pyrene	March 25, 2008	<0.005	µg/L	
Bromoxynil	March 25, 2008	<0.3	µg/L	
Carbaryl	March 25, 2008	<3	µg/L	
Carbofuran	March 25, 2008	<1	µg/L	
Carbon Tetrachloride	March 25, 2008	<0.2	µg/L	
Chlordane (Total)	March 25, 2008	<0.04	µg/L	
Chlorpyrifos	March 25, 2008	<0.5	µg/L	
Cyanazine	March 25, 2008	<0.5	µg/L	
Diazinon	March 25, 2008	<1	µg/L	
Dicamba	March 25, 2008	<5	µg/L	
1,2-Dichlorobenzene	March 25, 2008	<0.1	µg/L	
1,4-Dichlorobenzene	March 25, 2008	<0.2	µg/L	
Dichlorodiphenyltrichloroethane (DDT) + metabolites	March 25, 2008	<0.1	µg/L	
1,2-Dichloroethane	March 25, 2008	<0.1	µg/L	
1,1-Dichloroethylene (vinylidene chloride)	March 25, 2008	<0.1	µg/L	
Dichloromethane	March 25, 2008	<0.3	µg/L	
2-4 Dichlorophenol	March 25, 2008	<0.1	µg/L	
2,4-Dichlorophenoxy acetic acid (2,4-D)	March 25, 2008	<5	µg/L	

**Drinking-Water Systems Regulation O. Reg. 170/03
Section 11 Annual Reports**

Diclofop-methyl	March 25, 2008	<0.5	µg/L	
Dimethoate	March 25, 2008	<1	µg/L	
Dinoseb	March 25, 2008	<0.5	µg/L	
Diquat	March 25, 2008	<5	µg/L	
Diuron	March 25, 2008	<5	µg/L	
Glyphosate	March 25, 2008	<25	µg/L	
Heptachlor + Heptachlor Epoxide	March 25, 2008	<0.1	µg/L	
Lindane (Total)	March 25, 2008	<0.1	µg/L	
Malathion	March 25, 2008	<5	µg/L	
Methoxychlor	March 25, 2008	<0.1	µg/L	
Metolachlor	March 25, 2008	<3	µg/L	
Metribuzin	March 25, 2008	<3	µg/L	
Monochlorobenzene	March 25, 2008	<0.2	µg/L	
Paraquat	March 25, 2008	<1	µg/L	
Parathion	March 25, 2008	<3	µg/L	
Pentachlorophenol	March 25, 2008	<0.1	µg/L	
Phorate	March 25, 2008	<0.3	µg/L	
Picloram	March 25, 2008	<5	µg/L	
Polychlorinated Biphenyls(PCB)	March 25, 2008	<0.05	µg/L	
Prometryne	March 25, 2008	<0.1	µg/L	
Simazine	March 25, 2008	<0.5	µg/L	
Temephos	March 25, 2008	<10	µg/L	
Terbufos	March 25, 2008	<0.3	µg/L	
Tetrachloroethylene	March 25, 2008	<0.2	µg/L	
2,3,4,6-Tetrachlorophenol	March 25, 2008	<0.1	µg/L	
Triallate	March 25, 2008	<10	µg/L	
Trichloroethylene	March 25, 2008	<0.1	µg/L	
2,4,6-Trichlorophenol	March 25, 2008	<0.1	µg/L	
2,4,5-Trichlorophenoxy acetic acid (2,4,5-T)	March 25, 2008	<10	µg/L	
Trifluralin	March 25, 2008	<0.5	µg/L	
Vinyl Chloride	March 25, 2008	<0.2	µg/L	

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

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

Section 11 Annual Reports

Glossary

AWQI = adverse water quality indicator

CFU = colony forming units

mg/L = milligrams per liter

THM = trihalomethane

ug/L = micrograms per liter