



**Ontario Clean Water Agency**  
**Agence Ontarienne Des Eaux**

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**2010 Annual Compliance/Summary Report**  
**for the**  
**Haileybury Water Treatment System**



Prepared by the Ontario Clean Water Agency  
on behalf of the Corporation of the City of Temiskaming Shores



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Section 11  
ANNUAL REPORT

<b>Drinking-Water System Name:</b>	<b>HAILEYBURY DRINKING WATER SYSTEM</b>
<b>Drinking-Water System Number:</b>	<b>210000309</b>
<b>Drinking-Water System Owner:</b>	The Corporation of the City of Temiskaming Shores
<b>Drinking-Water System Category:</b>	Large Municipal, Residential System
<b>Reporting Period:</b>	January 1, 2010 to December 31, 2010

1.0 INTRODUCTION

**Does your Drinking-Water System serve more than 10,000 people?** No

**Is your annual report available to the public at no charge on a web site on the Internet?** Yes

**Location where Report required under O. Reg. 170/03 Schedule 22 will be available for inspection:**

City of Temiskaming Shores  
 Temiskaming Shores Administration Office  
 325 Farr Drive, P.O. Box 2050  
 Haileybury, ON P0J 1K0

***Drinking-Water Systems that receive drinking water from the Haileybury Drinking Water System:***

The Haileybury Drinking Water System provides all drinking water to the Community of Haileybury.

***The Annual Report was not provided to any other Drinking Water System owners.***

The Ontario Clean Water Agency prepared the 2010 Annual Report for the Haileybury Drinking Water System and provided a copy to the system owner; the City of Temiskaming Shores. The Haileybury Drinking Water System is a stand-alone system that does not receive water from or send water to another system.

***Notification to system users that the Annual Report is available for viewing is accomplished through:***

- 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 – Municipal building posting**



## **2.0 DESCRIPTION OF THE DRINKING WATER SYSTEM**

The Haileybury Water Treatment System is owned by the Corporation of the City of Temiskaming Shores. It is a surface water system that services approximately 4 200 residents in the community of Haileybury. The Haileybury treatment system, located at 1 Browning Street, is operated by the Ontario Clean Water Agency (OCWA) and the distribution system is operated by the City of Temiskaming Shores Public Works Department. It is classified as a Large Municipal Residential Drinking Water System and has approximately 1 912 service connections.

The plant obtains its water from Lake Temiskaming. A 197 m long, 450 mm diameter raw water intake pipe extends 168 m into the lake and draws water at a rate of 15 840 m<sup>3</sup>/day. The intake structure is an upturned bell intake inside a cribbed structure. The intake is approximately 12.5 m below the low recorded water level and 2 m above the lake bottom. There are no critical upstream or downstream processes relied upon to ensure the provision of safe drinking water.

Water flows into the intake structure by gravity, through two removable inlet screens and is stored in the raw water wet well. The wet well contains a heated superstructure and has a storage volume of 37.2 m<sup>3</sup>. The low lift pumping station is equipped with three low lift submersible pumps; two duty pumps and one reserve pump. A magnetic water meter is located in the water treatment plant to monitor raw water flows.

Raw water is pumped to the water treatment building where it is injected with caustic soda or soda ash and aluminum sulphate. The process water undergoes rapid mixing, flows into two flocculation basins, where polymer is added, and then to a settling tank for clarification. The process water flows through one of three dual media filters consisting of anthracite and silica sand. The filter system is equipped with an automated backwash sequence, filter-to-waste capabilities, air compressors and an underdrain system. The backwash wastewater and the settled solids from the settling tank are discharged to the municipal sanitary system.

After filtration, the process water is chlorinated for primary disinfection and pH adjusted with soda ash or caustic soda before entering the dual-celled clearwell. Three submersible pumps direct water from the clearwell to an off-site reservoir on Niven Street. Three high lift pumps are located at the end of the clearwell, where a magnetic flow meter is used on the discharge main. In a separate room with outside access only, is the gas chlorine system equipped with automatic switchover for post-filtration chlorination in the clearwell.

The Niven Street reservoir is a baffled contact tank consisting of two chambers that provide sufficient chlorine contact time to meet CT requirements. An ammonia sulphate dosing system is used to chloramine the treated water before being gravity fed or pumped to the distribution system by three high lift pumps. The distribution system is comprised of three pressure zones. Zone 1 is gravity fed, Zone 2 is an intermediate pressure region and Zone 3 is a high-pressure zone.

A 175 kW diesel generator is available at the main plant and a 200 kW diesel engine generator is on hand at the reservoir for emergency purposes.



3.0 LIST OF WATER TREATMENT CHEMICALS USED OVER THE REPORTING PERIOD

The following chemicals were used in the water treatment process at the Haileybury Water Treatment Plant:

- Chlorine Gas – Disinfection
Ammonium Sulphate – Chloramination
Aluminum Sulphate (Alum) – Coagulation
Polymer – Coagulant Aid
Sodium Hydroxide (Soda Ash) – pH adjustment

4.0 SIGNIFICANT EXPENSES INCURRED TO THE DRINKING WATER SYSTEM

The following work was scheduled and completed in 2010:

Replaced the chlorine analyzer at the Reservoir to CL-17 from a Deplox.

Installed alarm system at the Reservoir.

Construction of Reservoir No. 3.

All routine maintenance functions were accomplished through OCWA's comprehensive Workplace Management computerized work order system.

5.0 DETAILS ON NOTICES OF ADVERSE TEST RESULTS AND OTHER PROBLEMS REPORTED TO & SUBMITTED TO THE SPILLS ACTION CENTER

Table with 6 columns: Incident Date, Parameter, Result, Units, Corrective Action, Corrective Action Date. Row 1: October 4, Loss of continuous monitoring, 0, mg/L, Online free chlorine analyzer at the reservoir malfunctioned on October 4 at 21:50. The dialer did not initiate the alarm. The alarm was noticed October 5, 2010 at 11:00. October 5 (AWQI 98469)



Incident Date	Parameter	Result	Units	Corrective Action	Corrective Action Date
				by 17:00. No further action required.	
October 27	Loss of continuous monitoring  Filter 3 Turbidity	0	NTU	<p>Turbidity analyzer on Filter 3 failed October 27 at 19:00 resulting in 0 NTU reading. The equipment initiated an alarm but the dialer failed to dial out. The alarm was discovered October 28 at 07:30. The alarm light was on for filter panel which is on the general alarm channel. The dialer was tested and everything worked properly. All low lifts and high lifts were shut off until the problem was rectified. The failure was determined to be a blown bulb in the analyzer. Replaced the bulb and verified analyzer operation to be good. The alarm circuit and call out function were also verified and all tests were good. Filter 3 was back online October 28 at 08:00.</p> <p>Trending information for chlorine residual in the clearwell and turbidity at the reservoir were reviewed for the time period when turbidity was not being monitored. The chlorine demand did not increase during this timeframe; as well there were no spikes in turbidity at the reservoir.</p> <p>The bulbs for the turbidity analyzer were put on a maintenance schedule. No further action required.</p>	October 28  (AWQI 98864)
November 2	Loss of continuous monitoring  Filter 3 Turbidity	0	NTU	<p>Turbidity analyzer failure on Filter 3 from November 2 at 20:23 to November 3 at 07:50 for a total of 11 hours 27 minutes. The filter ran 2 hours 12 minutes during this timeframe. The analyzer was stuck at 0.1 NTU which is the reason the alarm did not initiate. A grab sample was collected in the clearwell at approximately 07:50 with a result of 0.1 NTU.</p> <p>The operators originally expected the problem to be an electronic failure. After further inspection corrosion was noticed in the bulb circuit which caused resistance in the circuit. The connector was cleaned with chemical contact cleaner and the plug socket was manipulated to ensure proper</p>	November 4  (AWQI 98964)



Incident Date	Parameter	Result	Units	Corrective Action	Corrective Action Date
				<p>connection. Operations have been diligently monitoring the analyzer. Since the repair there have been no issues.</p> <p>The next scheduled maintenance on these analyzers will include chemical cleaning of the connectors with high quality contact cleaner. No further action required.</p>	
December 21	Turbidity	>1	NTU	<p>Turbidity &gt;1 NTU on Filter 1 and 3. Filter 1 from December 21, 2010 at 21:49 to 23:49. Filter 3 from December 21 at 23:35 to December 22 at 00:21. Exceedances were not continuous.</p> <p>There was a process upset at the Haileybury WTP caused by the improper dosage of aluminum sulphate dosed. The aluminum sulphate was placed back to its original settings and the process started to look better. The water was improving, but the level in the reservoir was getting too low so the filters were turned back on. This caused high turbidity water to be sent to the clearwell for a short period of time. The issue was resolved by December 22, 2010 at 00:25.</p> <p>The chlorine residual at the WTP increased during the incident from 1.24 mg/L to 1.91 mg/L. As well, turbidity was continuously monitored. No further action required.</p>	December 22  (AWQI 99488)

**6.0 SUMMARY OF INCIDENTS ISSUED DURING THE REPORTING PERIOD**

Incident Date	Details of Incident	Corrective Action	Corrective Action Date
June 1	Loss of Pressure	<p>Started generator at the reservoir to be inspected by Val Service. Trying to pinpoint possible reasons for generator stalling. Pressure dropped to as low as 11 psi for less than a minute.</p> <p>Reported incident to the MOH at 11:51. No further action required.</p>	June 1
December 7	Loss of Pressure	Watermain break in distribution system. Water shut off by Temiskaming Shores Public works at 10:00 to	December 7



Incident Date	Details of Incident	Corrective Action	Corrective Action Date
		complete the repair. Complaint received from resident on Cross Lake Road for loss of pressure. The MOH was contacted at 11:20. The watermain was repaired and the valve was open at 12:23. No further action required.	

## 7.0 MICROBIOLOGICAL TESTING PERFORMED DURING THE REPORTING PERIOD

Sample Type	Number of Samples	Range of <i>E. coli</i> Results (min to max)	Range of Total Coliform Results (min to max)	Number of HPC Samples	Range of HPC Results (min to max)
Raw	52	<2 to 112	<2 to 484	N/A	N/A
Treated	54	<1 to <1	<1 to <1	54	<10 to 430
Distribution	160	<1 to <1	<1 to <1	56	<10 to 230

Maximum Acceptable Concentration (MAC) for *E. coli* = 0 Counts/100 mL  
 MAC for Total Coliforms = 0 Counts/100 mL

Refer to *Appendix A* for a monthly summary of microbiological test results.

## 8.0 OPERATIONAL TESTING PERFORMED DURING THE REPORTING PERIOD

### *Continuous Flow Analyzers in Treatment Process*

Parameter	Number of Samples	Range of Results (min to max)	Unit of Measure
Turbidity (Filter 1)	8760	0 to 1	NTU
Turbidity (Filter 2)	8760	0 to 1	NTU
Turbidity (Filter 3)	8760	0 to 1	NTU
Free Chlorine	8760	0.07* to 4.989	mg/L

Note: For continuous monitors use 8760 as the number of samples for the year.

\* Free chlorine = 0.07 mg/L on December 10, 2010 during the commissioning of the new reservoir (No. 3). The MOE was contacted and CT was achieved.

Effective backwash procedures, including filter to waste are in place to ensure that the effluent turbidity requirements are met all times. The plant filters to waste whenever turbidity reaches 0.7 NTU. Thus, the maximum result of 1.0 NTU on Filter 1, 2 and 3 is not representative of the water entering the clearwell. This excludes the incident on December 21, 2010 when a turbidity exceedance was reported (AWQI 99488).

### *Summary of Chlorine Residual Data in the Distribution System*

	Number of Samples	Range of Results (min to max)	Unit of Measure	Standard
Combined Chlorine	315	0.49 to 2.16	mg/L	≤ 0.25
Free Chlorine *	49	0.24 to 2.5	mg/L	≤ 0.05

Note: Four (4) chlorine residual samples are collected one day and three (3) on a second day of each week. The sample sets must be collected at least 48-hours apart and samples collected on the same day must be from different locations.

\*Allowance has been given by the Ministry of the Environment to use free chlorine for secondary disinfection instead of chloramination during high flow event. This is mainly reserved to hydrant flushing activities. During 2010 hydrant flushing took place on: June 1 to June 28; October 3 to 18. Permission to use free chlorine as the secondary disinfectant was also granted during the commissioning of reservoir no. 3 from December 7-13.

**Summary of Nitrate & Nitrite Data at the Water Treatment Plant**

Date of Sample	Nitrate Result Value	Nitrite Result Value	Unit of Measure	Exceedance
January 11	<0.1	<0.05	mg/L	No
April 12	<0.1	<0.05	mg/L	No
July 12	0.18	<0.05	mg/L	No
October 25	0.22	<0.05	mg/L	No

MAC for Nitrate = 10 mg/L

MAC for Nitrite = 1.0 mg/L

**Summary of Total Trihalomethane Data in the Distribution System**

Date of Sample	Result Value	Unit of Measure	Annual Running Average	Exceedance
January 11	47.4	ug/L	71.05	No
April 12	45.0	ug/L		
July 12	89.8	ug/L		
October 25	102.0	ug/L		

MAC for Trihalomethanes = 100 ug/L (Four Quarter Running Average)

**Summary of Most Recent Lead Data**

(Applicable to the following drinking water systems; large municipal residential systems, small, municipal residential systems, and non-municipal year-round residential systems)

The Haileybury Drinking Water System qualified for reduced sampling as described in section 15.1-1 of Ontario Regulation 170/03. Therefore sampling and testing was not required in 2010. The next sample periods are scheduled for December 15, 2010 to April 15, 2011 and June 15, 2011 to October 15, 2011.

Location Type	Number of Samples	Range of Lead Results (mg/L) (min to max)	Number of Exceedances
Plumbing	44	<0.0005 to 0.0027	0
Distribution	3	<0.0005 to <0.0005	0

MAC for lead = 0.010 mg/L

Location Type	Number of Samples	Range of pH Results (min to max)	Range of Alkalinity Results (mg/L) (min to max)
Plumbing	22	7.79 to 8.03	N/A
Distribution	3	7.98 to 8.07	44 to 46

Lead testing was conducted by Story Environmental Services on April 8, 2009. The second round was not required since the system qualified for reduced sampling in the two sampling rounds in 2008.

**Summary of Schedule 23 Inorganic Data at the Water Treatment Plant**

(Samples required every 12 months)

Parameter	Result Value	Unit of Measure	MAC	Exceedance
Antimony	<0.5	ug/L	6	No
Arsenic	<1.0	ug/L	25	No
Barium	10.1	ug/L	1000	No
Boron	3.8	ug/L	5000	No
Cadmium	<0.1	ug/L	5	No
Chromium	<1.0	ug/L	50	No
Mercury	<0.01	ug/L	0.001	No

Parameter	Result Value	Unit of Measure	MAC	Exceedance
Selenium	<1.0	ug/L	10	No
Uranium	<1.0	ug/L	20	No

Sample Date: October 26, 2010

**Summary of Schedule 24 Organic Data at the Water Treatment Plant**

(Samples required every 12 months)

Parameter	Result Value	Unit of Measure	MAC	Exceedance
Alachlor	<0.44	ug/L	5	No
1,1-Dichloroethylene (vinylidene chloride)	<0.25	ug/L	14	No
1,2-Dichlorobenzene	<0.25	ug/L	200	No
1,2-Dichloroethane	<0.25	ug/L	5	No
1,4-Dichlorobenzene	<0.25	ug/L	5	No
2,3,4,6-Tetrachlorophenol	<0.054	ug/L	100	No
2,4,5-Trichlorophenoxy acetic acid (2,4,5-T)	<0.041	ug/L	280	No
2,4,6-Trichlorophenol	<0.054	ug/L	5	No
2,4-Dichlorophenoxy acetic acid (2,4-D)	<0.16	ug/L	100	No
2-4 Dichlorophenol	<0.054	ug/L	900	No
Aldicarb	<0.43	ug/L	9	No
Aldrin + Dieldrin	<0.004	ug/L	0.7	No
Atrazine + N-dealkylated metabolites	<0.9	ug/L	5	No
Azinphos-methyl	<0.33	ug/L	20	No
Bendiocarb	<0.86	ug/L	40	No
Benzene	<0.25	ug/L	5	No
Benzo(a)pyrene	<0.0062	ug/L	0.01	No
Bromoxynil	<0.41	ug/L	5	No
Carbaryl	<0.86	ug/L	90	No
Carbofuran	<0.86	ug/L	90	No
Carbon Tetrachloride	<0.25	ug/L	5	No
Chlordane (Total)	<0.004	ug/L	7	No
Chlorpyrifos	<0.33	ug/L	90	No
Cyanazine	<0.33	ug/L	10	No
Diazinon	<0.33	ug/L	20	No
Dicamba	<0.16	ug/L	120	No
Dichlorodiphenyl trichloroethane (DDT) + metabolites	<0.005	ug/L	30	No
Dichloromethane	<0.25	ug/L	50	No
Diclofop-methyl	<0.16	ug/L	9	No
Dimethoate	<0.33	ug/L	20	No
Dinoseb	<0.041	ug/L	10	No
Diquat	<7.0	ug/L	70	No
Diuron	<4.3	ug/L	150	No
Glyphosate	<20.0	ug/L	280	No
Heptachlor + Heptachlor Epoxide	<0.004	ug/L	3	No
Lindane (Total)	<0.0006	ug/L	4	No
Malathion	<0.33	ug/L	190	No
Methoxychlor	<0.0017	ug/L	900	No
Metolachlor	<0.22	ug/L	50	No



Parameter	Result Value	Unit of Measure	MAC	Exceedance
Metribuzin	<0.22	ug/L	80	No
Monochlorobenzene	<0.25	ug/L	80	No
Paraquat	<1.0	ug/L	10	No
Parathion	<0.22	ug/L	50	No
Pentachlorophenol	<0.054	ug/L	60	No
Phorate	<0.33	ug/L	2	No
Picloram	<0.041	ug/L	190	No
Polychlorinated Biphenyls (PCB)	<0.0053	ug/L	3	No
Prometryne	<0.22	ug/L	1	No
Simazine	<0.33	ug/L	10	No
Temephos	<12.0	ug/L	280	No
Terbufos	<0.22	ug/L	1	No
Tetrachloroethylene	<0.25	ug/L	30	No
Triallate	<0.22	ug/L	230	No
Trichloroethylene	<0.25	ug/L	50	No
Trifluralin	<0.22	ug/L	45	No
Vinyl Chloride	<0.25	ug/L	2	No

Sample Date: October 25, 2010

***Inorganic or Organic Parameter(s) that Exceeded Half the Standard Prescribed in Schedule 2 of Ontario Drinking Water Quality Standards***

(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). Small Municipal Non-Residential has been removed and Non Municipal Year Round Residential has been added.

Parameter	Result Value	Unit of Measure	Date of Sample
No inorganic or organic parameter(s) exceeded half the standard found in Schedule 2 of the ODWS during the reporting period.			

***Summary of Most Recent Sodium Data at the Water Treatment Plant***

(Sample required every 60 months)

Date of Sample	Number of Samples	Result Value	Unit of Measure	MAC	Exceedance
November 1, 2007	1	12.9	mg/L	20	No

***Summary of Most Recent Fluoride Data at the Water Treatment Plant***

(Sample required every 60 months)

Date of Sample	Number of Samples	Result Value	Unit of Measure	MAC	Exceedance
November 1, 2007	1	<0.1	mg/L	1.5	No

**HAILEYBURY WATER TREATMENT SYSTEM**  
**Large Municipal Residential Drinking Water System**

**SCHEDULE 22**

**SUMMARY REPORTS FOR MUNICIPALITIES**

For the period of

**JANUARY 2010 to DECEMBER 2010**

**Prepared by: The Ontario Clean Water Agency**

**Prepared for: The Corporation of the City of Temiskaming Shores**



**Ontario Clean Water Agency**  
**Agence Ontarienne Des Eaux**

**Schedule 22**
**SUMMARY REPORTS FOR MUNICIPALITIES**


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**1.0 INTRODUCTION**

The Summary Report is prepared in accordance with Schedule 22 of Ontario's Drinking Water Systems Regulation 170/03 for the reporting period of January 1, 2010 to December 31, 2010. The owner of the drinking water system must ensure that the report is provided to members of municipal council.

The report must list the requirements of the Safe Drinking Water Act, its regulations, the system's approval, drinking water works permit, municipal drinking water licence, and any Provincial Officer Order the system failed to meet during the reporting period. The report must also specify the duration of the failure, and for each failure referred to, describe the measures that were taken to correct the failure.

The Safe Drinking Water Act (2002) and the drinking water regulations can be viewed at the following website: <http://www.e-laws.gov.on.ca>.

To enable the owner of the system to assess the rated capacity of their system to meet existing and future planned water uses, the following information is also required in the report:

1. A summary of the quantities and flow rates of water supplied, including the monthly average and the maximum daily flows.
2. A comparison of the summary to the rated capacity and flow rates approved in the systems approval, permits and licence (where applicable).

**2.0 REQUIREMENTS THE SYSTEM FAILED TO MEET**

According to documentation available to the Ontario Clean Water Agency, the following table lists any requirements the system failed to meet during the 2010 reporting period.

<b>Drinking Water Legislation</b>	<b>Requirement(s) the System Failed to Meet</b>	<b>Duration</b>	<b>Corrective Actions</b>	<b>Status</b>
O. Reg. 170/03 Schedule 6-5(2)	Continuous monitoring as required by O. Reg. 170/03 for free chlorine residual required to achieve disinfection was not monitored according to the minimum testing and recording frequency of 5 minutes.  This non-compliance began October 4 at 21:50 to October 5 at 11:35. The instrument failed and the dialer did not initiate the alarm.	13.75 hours	This incident was reported to MOE SAC and the Health Unit on October 5, 2010.  The failed instrument was repaired on October 5, 2010 at 11:35.  See AWQI 98469 for further details.	Resolved

<b>Drinking Water Legislation</b>	<b>Requirement(s) the System Failed to Meet</b>	<b>Duration</b>	<b>Corrective Actions</b>	<b>Status</b>
O. Reg. 170/03 Schedule 6-5(2)	<p>Continuous monitoring as required by O. Reg. 170/03 for filter turbidity entering the clearwell was not monitored according to the minimum testing and recording frequency of 15 minutes.</p> <p>This non-compliance began October 27 at 19:00 to October 28 at 07:30 on Filter 3. The bulb on the turbidity analyzer burnt resulting in turbidity readings of 0 NTU.</p>	12.50 hours	<p>This incident was reported to MOE SAC and the Health Unit on October 28, 2010.</p> <p>Operations staff replaced the bulb and verified analyzer operation to be good. The alarm circuit and call out function were also verified and all tests were good. Filter 3 was back online October 28 at 08:00.</p> <p>The bulbs for the turbidity analyzer were put on a maintenance schedule.</p> <p>See AWQI 98864 for further details.</p>	Resolved
O. Reg. 170/03 Schedule 6-5(2)	<p>Continuous monitoring as required by O. Reg. 170/03 for filter turbidity entering the clearwell was not monitored according to the minimum testing and recording frequency of 15 minutes.</p> <p>This non-compliance began November 2 at 20:23 to November 3 at 07:50 on Filter 3. The filter ran 2 hours 12 minutes during this timeframe. The analyzer was stuck at 0.1 NTU which is the reason the alarm did not initiate.</p>	11.50 hours	<p>This incident was reported to MOE SAC and the Health Unit on November 3, 2010.</p> <p>After inspection corrosion was noticed in the bulb circuit which caused resistance in the circuit. The connector was cleaned with chemical contact cleaner and the plug socket was manipulated to ensure proper connection.</p> <p>The next scheduled maintenance on these analyzers will include chemical cleaning of the connectors with high quality contact cleaner.</p> <p>See AWQI 98964 for further details.</p>	Resolved

### 3.0 SUMMARY OF QUANTITIES & FLOW RATES

The following Water Usage Tables summarize the quantities and flow rates of water taken and produced during the 2010 reporting period, including average monthly volumes, maximum monthly volumes, total monthly volumes and maximum flow rates.

#### *Water Usage Tables*

##### **Raw Water - Monthly Usage for 2010**

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year to Date
Average Volume (m <sup>3</sup> /day)	2851	2905	2742	2706	3020	3295	3635	2992	2610	2660	2712	2688	2902
Maximum Volume (m <sup>3</sup> /day)	3415	4262	3112	3189	3973	4241	4687	3817	3174	3542	3812	3815	4687
Total Volume (m <sup>3</sup> )	88396	81354	84996	81177	93618	98853	112677	92753	78314	82475	81348	83343	1059304
Maximum Flow Rate (L/s)	68	67	68	66	68	68	72	69	69	71	69	78	78

##### **Treated Water - Monthly Usage for 2010**

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year to Date
Average Volume (m <sup>3</sup> /day)	2323	2297	2239	2176	2439	2695	3014	2597	2269	2316	2291	2222	2408
Maximum Volume (m <sup>3</sup> /day)	2607	2808	2498	2570	3312	3261	4028	3253	2655	2843	3359	3258	4028
Total Volume (m <sup>3</sup> )	72020	64327	69408	65284	75624	80838	93437	80498	68076	71807	68740	68893	878953
Maximum Flow Rate (L/s)	40	87	47	52	86	87	86	85	59	84	82	132	132

#### ***Comparison of Summary to the Rated Capacity & Flow Rates Approved in the Systems Approval***

In accordance with section 4.1 of Certificate of Approval No. 5340-7UVNF8 issued September 8, 2009, the Haileybury Water Treatment Plant shall not be operated to exceed a maximum flow rate of 6 820 m<sup>3</sup>/day into the treatment system. At no point during the reporting period did the plant exceed this rate.

The maximum daily flow rate of water entering the treatment system was measured at 78.2 L/s. The maximum daily flow entering into the distribution system was measured at 4 687 m<sup>3</sup>/day.

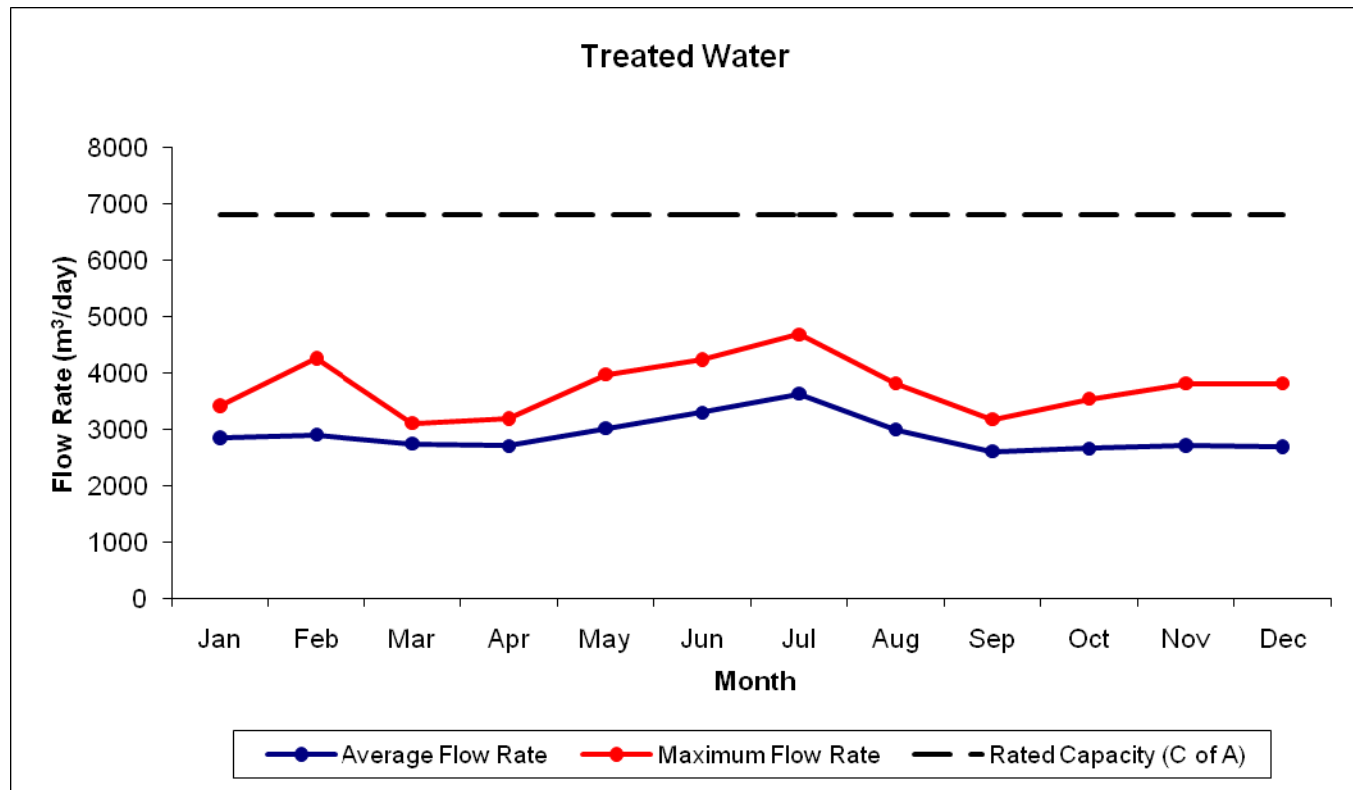
The following table and graph compares the treated water flows to the approved rated capacity of the system.



**2010 Treated Flow Summary**

Average Volume (m<sup>3</sup>/day)  
 Maximum Volume (m<sup>3</sup>/day)  
 Rated Capacity (C of A)  
 % Rated Capacity

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year to Date
Average Volume (m <sup>3</sup> /day)	2851	2905	2742	2706	3020	3295	3635	2992	2610	2660	2712	2688	2902
Maximum Volume (m <sup>3</sup> /day)	3415	4262	3112	3189	3973	4241	4687	3817	3174	3542	3812	3815	4687
Rated Capacity (C of A)	6820	6820	6820	6820	6820	6820	6820	6820	6820	6820	6820	6820	6820
% Rated Capacity	50	62	46	47	58	62	69	56	47	52	56	56	69



Certificate of Approval No. 5340-7UVNF8, issued September 8, 2009.

#### **4.0 CONCLUSION**

The Haileybury Water Treatment System was able to operate in accordance with the terms and conditions of Certificate of Approval No. 5340-7UVNF8, without exceeding the approved rated capacity while meeting the community's demand for water use.



# **APPENDIX A**

## Monthly Summary of Microbiological Test Results





## Ontario Clean Water Agency Monthly Process Data Report

Municipality: Town of Haileybury  
 Facility: [5752] - Haileybury Water Treatment Plant & Distribution System  
 Works: [210000309] - Haileybury Water Treatment Plant & Distribution System  
 Classification: Class 2 Water Distribution, Class 2 Water Treatment  
 Water Source: Lake Temiskaming

Period: 01/01/2010 to 12/31/2010  
 Serviced Population: 4,941  
 Total Design Capacity(m<sup>3</sup>/day): 6,820.0

	Jan/2010	Feb/2010	Mar/2010	Apr/2010	May/2010	Jun/2010	Jul/2010	Aug/2010	Sep/2010	Oct/2010	Nov/2010	Dec/2010	<-- Summary -->
Distribution System\Microbiological - Distribution System													
TC Samples (# collected)													
Sum	12.0	12.0	15.0	12.0	15.0	12.0	12.0	17.0	12.0	12.0	15.0	14.0	160.0
TC (cfu/100 mL): Minimum													
Min	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TC (cfu/100 mL): Maximum													
Avg	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Max	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
HPC Samples (# collected)													
Sum	4.0	4.0	5.0	4.0	5.0	4.0	4.0	7.0	4.0	4.0	5.0	6.0	56.0
HPC (cfu/mL): Minimum													
Min	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
HPC (cfu/mL): Maximum													
Avg	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	41.429	< 10.0	< 10.0	< 10.0	< 10.0	13.929
Max	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	230.0	< 10.0	< 10.0	< 10.0	< 10.0	230.0

Note: ? Calculation not verifiable. At least one result reported as < and at least one result reported >.



# **APPENDIX B**

## Monthly Summary of Operational Data



# Ontario Clean Water Agency Monthly Process Data Report

Municipality: Town of Haileybury  
 Facility: [5752] - Haileybury Water Treatment Plant & Distribution System  
 Works: [210000309] - Haileybury Water Treatment Plant & Distribution System  
 Classification: Class 2 Water Distribution, Class 2 Water Treatment  
 Water Source: Lake Temiskaming

Period: 01/01/2010 to 12/31/2010  
 Serviced Population: 4,941  
 Total Design Capacity(m<sup>3</sup>/day): 6,820.0

	Jan/2010	Feb/2010	Mar/2010	Apr/2010	May/2010	Jun/2010	Jul/2010	Aug/2010	Sep/2010	Oct/2010	Nov/2010	Dec/2010	<-- Summary -->
<b>Raw Water\Aesthetic Obj - Raw Water</b>													
<b>Colour (TCU)</b>													
Avg	70.0	62.5	73.0	77.5	77.0	65.0	63.75	73.333	58.75	80.0	> 79.5	68.75	> 70.688
Cnt	4.0	4.0	5.0	4.0	5.0	4.0	4.0	3.0	4.0	3.0	4.0	4.0	48.0
Max	80.0	65.0	80.0	90.0	85.0	70.0	80.0	80.0	60.0	80.0	> 80.0	70.0	90.0
Min	60.0	60.0	65.0	60.0	70.0	60.0	55.0	70.0	55.0	80.0	78.0	65.0	55.0
<b>Alkalinity (mg/L)</b>													
Avg	14.182	9.2	8.25	14.75	24.75	24.5	24.0		21.0		23.0	15.333	15.841
Cnt	11.0	5.0	4.0	4.0	4.0	4.0	1.0		1.0		1.0	9.0	44.0
Max	23.0	10.0	10.0	24.0	26.0	25.0	24.0		21.0		23.0	22.0	26.0
Min	10.0	9.0	7.0	11.0	24.0	24.0	24.0		21.0		23.0	10.0	7.0
<b>Raw Water\Raw Water - Raw Water</b>													
<b>Turbidity (Grab) NTU</b>													
Avg	6.454	4.392		16.805	13.644	8.817	7.723	10.167	16.202	7.463	27.447	21.518	12.463
Cnt	27.0	28.0		26.0	29.0	28.0	29.0	30.0	26.0	31.0	23.0	29.0	306.0
Max	9.5	9.49		23.0	27.2	11.5	9.7	18.51	26.7	7.7	36.44	50.3	50.3
Min	4.3	3.3		9.84	10.3	6.22	5.98	5.9	12.3	7.3	17.8	8.1	3.3
<b>Treated Water\Health - Reservoir</b>													
<b>Cl Residual: Free Min. (mg/L)</b>													
Min	0.69	0.612	1.09	1.05	1.4	1.089	1.006	0.903	1.133	0.924	1.46	0.07	0.07
<b>Cl Residual: Free Max. (mg/L)</b>													
Max	3.06	2.54	2.04	3.54	3.12	4.989	1.833	1.559	2.048	4.968	2.246	3.825	4.989
<b>Cl Residual: Free Mean (mg/L)</b>													
Avg	1.506	1.561	1.609	1.728	1.932	1.727	1.371	1.24	1.452	1.392	1.784	1.994	1.608
<b>Distribution System\Health - Distribution System</b>													
<b>Cl Res. Dist Samples (# collected)</b>													
Sum	28.0	28.0	32.0	31.0	32.0	4.0	31.0	32.0	31.0	10.0	32.0	24.0	315.0
<b>Cl Residual: Combined Min. (mg/L)</b>													
Min	1.18	0.62	1.25	1.27	0.88	1.28	0.9	0.49	0.74	1.24	1.16	0.54	0.49
<b>Cl Residual: Combined Max (mg/L)</b>													
Max	1.84	1.91	1.96	2.05	1.99	1.56	1.75	1.41	1.69	1.79	2.16	2.08	2.16
<b>Cl Residual: Combined Mean (mg/L)</b>													
Avg	1.56	1.59	1.713	1.74	1.683	1.45	1.347	1.027	1.25	1.557	1.68	1.544	1.512



**Ontario Clean Water Agency  
Monthly Process Data Report**

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 Served Population: 4,941  
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Distribution System\Health - Hydrant Flushing													
Cl Res. Dist Samples (# collected)													
Sum						24.0				18.0		7.0	49.0
Cl Res. in Dist.: Free Min. (mg/L)													
Min						0.76				0.24		0.9	0.24
Cl Res. in Dist.: Free.Max. (mg/L)													
Max						1.53				1.12		2.5	2.5
Cl Residual: Free Mean (mg/L)													
Avg						1.167				0.792		1.795	1.123

Note: ? Calculation not verifiable. At least one result reported as < and at least one result reported >.