



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

---

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



Prepared by the Ontario Clean Water Agency  
on behalf of the Corporation of the Municipality of Temagami



**TABLE OF CONTENTS**

**Annual Report** ..... 2

    1.0 INTRODUCTION.....2

    2.0 DESCRIPTION OF THE DRINKING WATER SYSTEM .....3

    3.0 LIST OF WATER TREATMENT CHEMICALS USED OVER THE REPORTING PERIOD .....3

    4.0 SIGNIFICANT EXPENSES INCURRED TO THE DRINKING WATER SYSTEM.....4

    5.0 DETAILS ON NOTICES OF ADVERSE TEST RESULTS AND OTHER PROBLEMS REPORTED TO & SUBMITTED TO THE SPILLS ACTION CENTER .....4

    6.0 SUMMARY OF INCIDENTS ISSUED DURING THE REPORTING PERIOD.....4

    7.0. MICROBIOLOGICAL TESTING PERFORMED DURING THE REPORTING PERIOD .....5

    8.0 OPERATIONAL TESTING PERFORMED DURING THE REPORTING PERIOD..... 5

**Summary Report**..... 10

    1.0 INTRODUCTION..... 10

    2.0 REQUIREMENTS THE SYSTEM FAILED TO MEET ..... 10

    3.0 SUMMARY OF QUANTITIES & FLOW RATES ..... 12

    4.0 CONCLUSION ..... 14

**LIST OF APPENDICES**

**APPENDIX A** – Monthly Summary of Microbiological Test Results

**APPENDIX B** – Monthly Summary of Operational Data



Section 11  
ANNUAL REPORT

|  |   |
|--|---|
| <b>Drinking-Water System Name:</b>     | <b>TEMAGAMI SOUTH DRINKING WATER SYSTEM</b>     |
| <b>Drinking-Water System Number:</b>   | <b>220000424</b>                                |
| <b>Drinking-Water System Owner:</b>    | The Corporation of the Municipality of Temagami |
| <b>Drinking-Water System Category:</b> | Large Municipal, Residential System             |
| <b>Reporting Period:</b>               | January 1, 2010 to December 31, 2010            |

1.0 INTRODUCTION

|   |
|---|
| <p><b>Does your Drinking-Water System serve more than 10,000 people?</b> No</p> <p><b>Is your annual report available to the public at no charge on a web site on the Internet?</b> No</p> <p><b>Location where Report required under O. Reg. 170/03 Schedule 22 will be available for inspection:</b></p> <p>Temagami Municipal Office<br/>7 Lakeshore Drive,<br/>Temagami, ON P0H 2H0</p> |
|---|

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

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

***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 Temagami South Drinking Water System and provided a copy to the system owner; the Municipality of Temagami. The Temagami South 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 – Municipal Office and Post 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: \_\_\_\_\_



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

The Temagami South water treatment plant (WTP) is owned by the Corporation of the Municipality of Temagami. The Operating Authority for the Water Treatment Facility is the Ontario Clean Water Agency and the Temagami Public Works is the Operating Authority for the distribution.

Located on Lakeshore Road, the plant obtains its water from Lake Temagami. The water is drawn through a 20 m long, 200 mm diameter intake pipe that extends from a submerged intake structure 5.7 m below the average water level. The intake pipe directs water by gravity to a low lift pumping station consisting of a wet well and two submersible low lift pumps, each rated at 11 L/s (950 m<sup>3</sup>/day). These pumps are controlled by the treatments system PLC and discharge to the two package plants located with the WTP.

The two package plants are a BCA Pre-Fabricated package treatment plant and a Neptune Microfloc "Trident" package treatment plant. Each plant provides chemically assisted filtration through coagulation, flocculation, sedimentation and filtration operations. Aluminum sulphate and polymer are added to the raw water upstream of the static mixer for the coagulation/flocculation process. Sodium carbonate is injected for pH adjustment and sodium hypochlorite is used for disinfection. All chemicals are added using two metering pumps. The plant is equipped with an automated monitoring system that records various components of the process.

The treated water is then directed to two clearwells having a total capacity of 257 m<sup>3</sup>. Two high lift pumps rated at 916 m<sup>3</sup>/day direct finished water to the distribution system and an elevated tower, which maintains pressure to the distribution system. Alarmed chlorine and turbidity monitoring systems are in place to monitor water quality leaving the treatment facility.

Filter backwashes are initiated by head loss, turbidity levels, and timer or manually by the operator. Filter backwash and clarifier waste are stored in a wastewater holding tank before being pumped to the Municipal sewer system for disposal.

For emergency purposes, a 60 kW diesel generator set is available to provide emergency power to the entire facility in the event of a power outage.

Temagami South is classified as a Large Municipal Residential Drinking Water System and has 182 service connections serving a nominal population of 350 residents. The distribution system is equipped with an elevated storage reservoir known as the "South Tower" which has a working storage capacity of 570 m<sup>3</sup> and assists with maintaining water pressure in the system.

## **3.0 LIST OF WATER TREATMENT CHEMICALS USED OVER THE REPORTING PERIOD**

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



Sodium Hypochlorite - Disinfection  
 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:

Installed a positive displacement pump in place of the peristaltic pump for the analyzers.

Replaced high lift pumps with new pumps.

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**

| Incident Date | Parameter      | Result | Unit          | Corrective Action  | Corrective Action Date |
|---------------|----------------|--------|---------------|--|------------------------|
| May 25        | Total Coliform | 1      | counts/100 mL | <p>One Total Coliform detected in a sample collected on 61B Steven Road. This sample was taken May 25 at 11:05 with a free chlorine residual of 1.08 mg/L.</p> <p>The local Ministry of Health and MOE SAC were notified of this adverse incident.</p> <p>Re-samples were collected May 27. This included one at the point of adverse and two upstream since the adverse was at a dead end location.</p> <p>The results of the re-samples contained no detectable level of Total Coliforms or <i>E. coli</i> bacteria. No further action required.</p> | May 27 (AWQI 94982)    |

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

| Incident Date | Details of Incident          | Corrective Action            | Corrective Action Date |
|---------------|------------------------------|------------------------------|------------------------|
| July 12       | A small plane crashed into a | As a precaution, VOC samples | July 12                |



| Incident Date | Details of Incident   | Corrective Action  | Corrective Action Date |
|---------------|---|--|------------------------|
|               | <p>municipal dock on Lake Temagami at approximately 11:50 on July 12. A fuel spill resulted from the crash.</p> <p>The raw water pumps were shut off by the facility ORO, as this is the raw water source for the water treatment plant. The level in the water tower was monitored to ensure supply to the Municipality was not compromised.</p> <p>Direction and support was given by onsite emergency personnel including the OPP, EMS, MOH and MOE. Containment and fuel recovery services were contacted. The plane was removed from the lake by 20:00. The water treatment plant was put back online at that point.</p> | <p>were collected and sent for analysis. Low levels of hydrocarbon F2 were detected, which are part of the diesel/gasoline family. It is suspected these levels are normally occurring since it is a very active area of Lake Temagami for motorized marine traffic.</p> <p>These results were sent to the local MOE and MOH. As a follow up, the MOH requested re-samples in one week time.</p> <p>These samples were collected from treated water on July 20. All results were less than their detection limits. No further action was required.</p> |                        |

## 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 38                                    | 4 to 186                                     | N/A                   | N/A                               |
| Treated      | 52                | <1 to <1                                    | <1 to <1                                     | 52                    | <10 to 40                         |
| Distribution | 107               | <1 to <1                                    | <1 to <1                                     | 55                    | <10 to 20                         |

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 2) | 8760              | 0 to 2                        | NTU             |
| Free Chlorine        | 8760              | 0.7 to 5.0                    | mg/L            |

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



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

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 0.3 NTU. Thus, the maximum result of 2.0 NTU is not representative of the treated water entering the clearwell.

Chlorine residual < 0.9 mg/L (CT target): June 16 = 0.89 mg/L (CT met), July 1 = 0.83 mg/L (CT met), August 1 = 0.76 mg/L (CT met), August 14 = 0.7 (CT met), September 30 = 0.88 mg/L (CT met), October 1 = 0.87 mg/L (CT met)

## Summary of Chlorine Residual Data in the Distribution System

| Parameter     | Number of Samples | Range of Results (min to max) | Unit of Measure | Standard |
|---------------|-------------------|-------------------------------|-----------------|----------|
| Free Chlorine | 364               | 0.18 to 1.52                  | 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.

## 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 13       | <0.1                 | <0.05                | mg/L            | No         |
| July 22        | <0.1                 | <0.05                | mg/L            | No         |
| October 25     | <0.1                 | <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     | 15.8         | ug/L            | 29.5                   | No         |
| April 13       | 20.5         | ug/L            |                        |            |
| July 22        | 38.5         | ug/L            |                        |            |
| October 25     | 43.1         | 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 Temagami South 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 (ug/L) (min to max) | Number of Exceedances |
|---------------|-------------------|---|-----------------------|
| Plumbing      | 44                | <1 to 2.1                                 | 0                     |
| Distribution  | 4                 | <1 to 1.5                                 | 0                     |

MAC for lead = 10.0 ug/L

| Location Type | Number of Samples | Range of pH Results (min to max) | Range of Alkalinity Results (mg/L) (min to max) |
|---------------|-------------------|----------------------------------|---|
| Plumbing      | 22                | 6.94 to 7.23                     | N/A   |
| Distribution  | 4                 | 6.68 to 7.07                     | 36.9 to 48.3                                    |

Sample Dates: March 31, April 1, and September 17, 2009.

Lead testing samples were collected by the Municipality of Temagami's Public Works Department.

### 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    | 6.3          | ug/L            | 1000  | No         |
| Boron     | <2.0         | 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         |
| Selenium  | <1.0         | ug/L            | 10    | No         |
| Uranium   | <1.0         | ug/L            | 20    | No         |

Sample Date: October 25, 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   | <0.43        | 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)         | <0.07        | ug/L            | 280  | No         |
| 2,4,6-Trichlorophenol                                | <0.054       | ug/L            | 5    | No         |
| 2,4-Dichlorophenoxy acetic acid (2,4-D)              | <0.28        | ug/L            | 100  | No         |
| 2-4 Dichlorophenol                                   | <0.054       | ug/L            | 900  | No         |
| Aldicarb   | <0.49        | 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                                      | <0.32        | ug/L            | 20   | No         |
| Bendiocarb   | <0.99        | ug/L            | 40   | No         |
| Benzene  | <0.25        | ug/L            | 5    | No         |
| Benzo(a)pyrene                                       | <0.0062      | ug/L            | 0.01 | No         |
| Bromoxynil   | <0.7         | ug/L            | 5    | No         |
| Carbaryl   | <0.99        | ug/L            | 90   | No         |
| Carbofuran   | <0.99        | ug/L            | 90   | No         |
| Carbon Tetrachloride                                 | <0.25        | ug/L            | 5    | No         |
| Chlordane (Total)                                    | <0.004       | ug/L            | 7    | No         |
| Chlorpyrifos   | <0.32        | ug/L            | 90   | No         |
| Cyanazine  | <0.32        | ug/L            | 10   | No         |
| Diazinon   | <0.32        | ug/L            | 20   | No         |
| Dicamba  | <0.28        | ug/L            | 120  | No         |
| Dichlorodiphenyl trichloroethane (DDT) + metabolites | <0.005       | ug/L            | 30   | No         |
| Dichloromethane                                      | <0.25        | ug/L            | 50   | No         |

| Parameter                       | Result Value | Unit of Measure | MAC | Exceedance |
|---------------------------------|--------------|-----------------|-----|------------|
| Diclofop-methyl                 | <0.28        | ug/L            | 9   | No         |
| Dimethoate                      | <0.32        | ug/L            | 20  | No         |
| Dinoseb                         | <0.07        | ug/L            | 10  | No         |
| Diquat                          | <7.0         | ug/L            | 70  | No         |
| Diuron                          | <4.9         | 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                       | <0.32        | ug/L            | 190 | No         |
| Methoxychlor                    | <0.0015      | ug/L            | 900 | No         |
| Metolachlor                     | <0.22        | ug/L            | 50  | No         |
| 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                         | <0.32        | ug/L            | 2   | No         |
| Picloram                        | <0.07        | ug/L            | 190 | No         |
| Polychlorinated Biphenyls (PCB) | <0.0048      | ug/L            | 3   | No         |
| Prometryne                      | <0.22        | ug/L            | 1   | No         |
| Simazine                        | <0.32        | ug/L            | 10  | No         |
| Temephos                        | <14.0        | 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                 | 13300        | ug/L            | 20000 | 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         |

# **TEMAGAMI SOUTH 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 Municipality of Temagami**



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



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

---

**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(3)    | The 72 hour continuous analyzer review was surpassed between September 17-20, 2010 by 1.5 hours. | 1.5 hours       | This requirement, as outlined in O. Reg. 170/03 Schedule 6-5(3) was reviewed with operations staff on September 22, 2010.<br><br>When road or weather conditions may prevent access to the Municipality of Temagami within the 72 hour timeframe, the operators have been instructed to review the | Resolved      |



| Drinking Water Legislation                                 | Requirement(s) the System Failed to Meet   | Duration | Corrective Actions   | Status   |
|--|--|----------|--|----------|
|  |  |          | trends remotely on OCWA's Wonderware SCADA system.                               |          |
| Permit to Take Water No. 5203-7CGMGD, issued March 6, 2008 | Permit to Take Water No. 5203-7CGMGD allows the Temagami South WTP to take water from the source at a maximum rate of 700 L/min. This maximum rate of water taking was exceeded on 2 occasions for short periods of time on the following days:<br><br>March 23 = 745 L/min<br>November 23 = 712 L/min | 2 days   | These exceedances were momentary and did not impact the total usage for the day. | 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) | 292  | 313  | 307  | 274  | 309  | 313  | 395   | 417   | 329  | 260  | 252  | 265  | 311          |
| Maximum Volume (m <sup>3</sup> /day) | 340  | 394  | 364  | 305  | 418  | 498  | 477   | 513   | 412  | 308  | 388  | 304  | 513          |
| Total Volume (m <sup>3</sup> )       | 9037 | 8770 | 9531 | 8229 | 9573 | 9400 | 12245 | 12928 | 9867 | 8068 | 7555 | 8217 | 113421       |
| Maximum Flow Rate (L/s)              | 11   | 11   | 12   | 11   | 10   | 12   | 10    | 11    | 10   | 12   | 12   | 10   | 12           |

##### 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) | 257  | 278  | 280  | 249  | 288  | 290  | 371   | 390   | 297  | 228  | 221  | 239  | 283          |
| Maximum Volume (m <sup>3</sup> /day) | 284  | 290  | 307  | 270  | 354  | 388  | 424   | 473   | 384  | 260  | 325  | 293  | 473          |
| Total Volume (m <sup>3</sup> )       | 7968 | 7777 | 8688 | 7459 | 8925 | 8690 | 11499 | 12087 | 8921 | 7061 | 6634 | 7405 | 103114       |

#### 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. 4318-7M2MKT issued May 12, 2009, the Temagami South Water Treatment System shall not be operated to exceed a maximum flow rate of 950 m<sup>3</sup>/day into the distribution system. The maximum flow rate was not exceeded during the 2010 reporting period.

The maximum daily flow entering into the distribution system was measured at 473 m<sup>3</sup>/day on August 8, 2010.

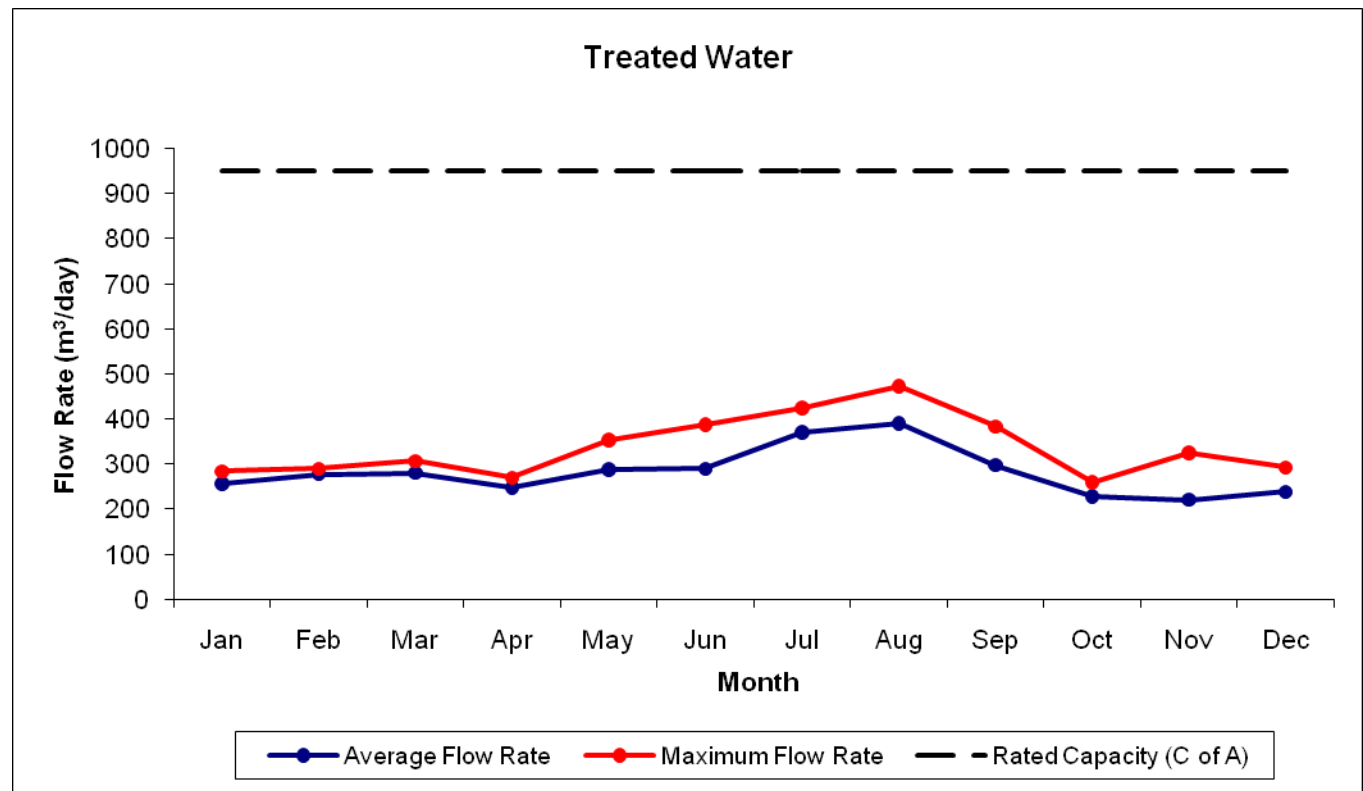
The following tables and graphs compare the raw and treated water flows to the approved rated capacity of the system.

### 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 |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 257 | 278 | 280 | 249 | 288 | 290 | 371 | 390 | 297 | 228 | 221 | 239 |
| 284 | 290 | 307 | 270 | 354 | 388 | 424 | 473 | 384 | 260 | 325 | 293 |
| 950 | 950 | 950 | 950 | 950 | 950 | 950 | 950 | 950 | 950 | 950 | 950 |
| 30  | 31  | 32  | 28  | 37  | 41  | 45  | 50  | 40  | 27  | 34  | 31  |

| Year to Date |
|--------------|
| 283          |
| 473          |
| 950          |
| 50           |



Certificate of Approval No. 4318-7M2MKT, issued May 12, 2009.

#### **4.0 CONCLUSION**

The Temagami South Water Treatment System was able to operate in accordance with the terms and conditions of Certificate of Approval No. 4318-7M2MKT, without exceeding the approved rated capacity while meeting the community's demand for water use.

The background of the page features four thick, light blue wavy lines that curve across the page from the left side towards the right. The lines are layered, with the top one being the most prominent and the others below it, creating a sense of depth and movement.

# **APPENDIX A**

Monthly Summary of Microbiological Test Results





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

Municipality: Town of Temagami South  
 Facility: [6028] - Temagami South Water Treatment Plant  
 Works: [220000424] - Temagami South Water Treatment Plant  
 Classification: Class 1 Water Distribution, Class 2 Water Treatment  
 Water Source: Lake Temagami

Period: 01/01/2010 to 12/31/2010  
 Serviced Population: 500  
 Total Design Capacity(m<sup>3</sup>/day): 950.0

|   | 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 |          |          |          |          |          |          |          |          |          |          |          |          |                 |
| E. Coli Samples (# collected)                             |          |          |          |          |          |          |          |          |          |          |          |          |                 |
| Sum   | 8.0      | 8.0      | 10.0     | 8.0      | 13.0     | 8.0      | 8.0      | 10.0     | 8.0      | 8.0      | 10.0     | 8.0      | 107.0           |
| E. Coli (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           |
| E. Coli (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      | 8.0      | 4.0      | 4.0      | 5.0      | 4.0      | 4.0      | 5.0      | 4.0      | 55.0            |
| 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   | 11.667   | < 10.0   | < 10.0   | < 10.0   | < 10.0   | < 10.0   | < 10.0   | < 10.0   | 10.189          |
| Max   | < 10.0   | < 10.0   | < 10.0   | < 10.0   | 20.0     | < 10.0   | < 10.0   | < 10.0   | < 10.0   | < 10.0   | < 10.0   | < 10.0   | 20.0            |

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 Temagami South  
 Facility: [6028] - Temagami South Water Treatment Plant  
 Works: [220000424] - Temagami South Water Treatment Plant  
 Classification: Class 1 Water Distribution, Class 2 Water Treatment  
 Water Source: Lake Temagami

Period: 01/01/2010 to 12/31/2010  
 Serviced Population: 500  
 Total Design Capacity(m<sup>3</sup>/day): 950.0

|   | 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\Raw Water - Raw water</b>      |          |          |          |          |          |          |          |          |          |          |          |          |                 |
| <b>Turbidity: Minimum (NTU)</b>             |          |          |          |          |          |          |          |          |          |          |          |          |                 |
| Cnt   | 29.0     | 26.0     | 29.0     | 30.0     | 31.0     | 28.0     | 31.0     | 29.0     | 30.0     | 28.0     | 22.0     | 31.0     | 344.0           |
| Min   | 0        | 0.31     | 0.37     | 0.41     | 0.47     | 0.51     | 0.42     | 0.27     | 0.47     | 0.04     | 0.52     | 0.02     | 0               |
| <b>Turbidity: Maximum (NTU)</b>             |          |          |          |          |          |          |          |          |          |          |          |          |                 |
| Max   | 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            |
| <b>Turbidity: Mean (NTU)</b>                |          |          |          |          |          |          |          |          |          |          |          |          |                 |
| Avg   | 0.514    | 0.528    | 1.087    | 0.74     | 0.788    | 0.956    | 0.83     | 0.763    | 0.754    | 0.79     | 0.771    | 0.659    | 0.766           |
| <b>Raw Water\Aesthetic Obj - Raw water</b>  |          |          |          |          |          |          |          |          |          |          |          |          |                 |
| <b>Colour (TCU)</b>                         |          |          |          |          |          |          |          |          |          |          |          |          |                 |
| Avg   | 2.5      | 5.5      | 5.4      | 4.0      | 5.0      | 10.0     | 12.5     | 3.2      | 5.0      | 4.0      | 5.0      | 4.25     | 5.5             |
| Cnt   | 4.0      | 4.0      | 5.0      | 3.0      | 4.0      | 4.0      | 4.0      | 5.0      | 4.0      | 4.0      | 5.0      | 4.0      | 50.0            |
| Max   | 3.0      | 7.0      | 7.0      | 5.0      | 5.0      | 10.0     | 15.0     | 5.0      | 5.0      | 5.0      | 5.0      | 5.0      | 15.0            |
| Min   | 2.0      | 5.0      | 3.0      | 2.0      | 5.0      | 10.0     | 10.0     | 2.0      | 5.0      | 3.0      | 5.0      | 3.0      | 2.0             |
| <b>Alkalinity (mg/L)</b>                    |          |          |          |          |          |          |          |          |          |          |          |          |                 |
| Avg   | 23.0     | 21.5     | 21.75    | 21.5     | 20.5     | 20.0     | 22.0     | 19.5     | 18.667   | 23.5     | 23.0     | 25.333   | 21.694          |
| Cnt   | 5.0      | 2.0      | 4.0      | 2.0      | 2.0      | 4.0      | 1.0      | 4.0      | 3.0      | 4.0      | 2.0      | 3.0      | 36.0            |
| Max   | 24.0     | 23.0     | 26.0     | 24.0     | 21.0     | 21.0     | 22.0     | 22.0     | 19.0     | 24.0     | 23.0     | 26.0     | 26.0            |
| Min   | 22.0     | 20.0     | 18.0     | 19.0     | 20.0     | 19.0     | 22.0     | 17.0     | 18.0     | 23.0     | 23.0     | 25.0     | 17.0            |
| <b>pH: Min.</b>                             |          |          |          |          |          |          |          |          |          |          |          |          |                 |
| Cnt   | 29.0     | 26.0     | 29.0     | 30.0     | 31.0     | 28.0     | 31.0     | 29.0     | 30.0     | 28.0     | 22.0     | 31.0     | 344.0           |
| Min   | 0        | 4.19     | 3.6      | 5.74     | 5.44     | 3.47     | 5.25     | 3.66     | 3.8      | 5.01     | 4.63     | 4.69     | 0               |
| <b>pH: Max.</b>                             |          |          |          |          |          |          |          |          |          |          |          |          |                 |
| Max   | 9.67     | 7.08     | 8.9      | 9.96     | 7.41     | 10.3     | 9.39     | 9.48     | 9.4      | 7.6      | 9.82     | 9.61     | 10.3            |
| <b>pH: Avg.</b>                             |          |          |          |          |          |          |          |          |          |          |          |          |                 |
| Avg   | 6.588    | 6.689    | 6.683    | 6.857    | 6.891    | 6.909    | 6.729    | 6.816    | 6.797    | 6.717    | 6.726    | 6.681    | 6.758           |
| <b>Treated Water\Health - Treated Water</b> |          |          |          |          |          |          |          |          |          |          |          |          |                 |
| <b>Cl Residual: Free Min. (mg/L)</b>        |          |          |          |          |          |          |          |          |          |          |          |          |                 |
| Min   | 1.18     | 1.24     | 1.27     | 1.22     | 1.07     | 0.89     | 0.83     | 0.7      | 0.88     | 0.87     | 1.38     | 1.24     | 0.7             |
| <b>Cl Residual: Free Max. (mg/L)</b>        |          |          |          |          |          |          |          |          |          |          |          |          |                 |
| Max   | 1.95     | 1.72     | 1.6      | 1.88     | 1.45     | 2.44     | 4.22     | 1.66     | 5.0      | 5.0      | 1.9      | 1.63     | 5.0             |
| <b>Cl Residual: Free Mean (mg/L)</b>        |          |          |          |          |          |          |          |          |          |          |          |          |                 |
| Avg   | 1.371    | 1.418    | 1.431    | 1.43     | 1.251    | 1.196    | 1.144    | 1.244    | 1.305    | 1.51     | 1.603    | 1.449    | 1.362           |



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

Municipality: Town of Temagami South  
 Facility: [6028] - Temagami South Water Treatment Plant  
 Works: [220000424] - Temagami South Water Treatment Plant  
 Classification: Class 1 Water Distribution, Class 2 Water Treatment  
 Water Source: Lake Temagami

Period: 01/01/2010 to 12/31/2010  
 Serviced Population: 500  
 Total Design Capacity(m<sup>3</sup>/day): 950.0

|  | 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\Health - Distribution System |          |          |          |          |          |          |          |          |          |          |          |          |                 |
| Cl Res. Dist Samples (# collected)               |          |          |          |          |          |          |          |          |          |          |          |          |                 |
| Sum  | 28.0     | 28.0     | 32.0     | 31.0     | 32.0     | 31.0     | 28.0     | 32.0     | 31.0     | 28.0     | 32.0     | 31.0     | 364.0           |
| Cl Res. in Dist.: Free Min. (mg/L)               |          |          |          |          |          |          |          |          |          |          |          |          |                 |
| Min  | 0.98     | 0.5      | 0.71     | 0.58     | 0.33     | 0.33     | 0.18     | 0.59     | 0.4      | 0.62     | 0.45     | 0.48     | 0.18            |
| Cl Res. in Dist.: Free.Max. (mg/L)               |          |          |          |          |          |          |          |          |          |          |          |          |                 |
| Max  | 1.44     | 1.44     | 1.52     | 1.4      | 1.27     | 1.23     | 1.11     | 1.21     | 1.1      | 1.37     | 1.45     | 1.44     | 1.52            |
| Cl Residual: Free Mean (mg/L)                    |          |          |          |          |          |          |          |          |          |          |          |          |                 |
| Avg  | 1.278    | 1.095    | 1.167    | 1.108    | 0.857    | 0.832    | 0.721    | 0.847    | 0.748    | 1.005    | 1.086    | 1.124    | 0.988           |

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