



Ontario Clean Water Agency
Agence Ontarienne Des Eaux

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Callery Carmelo

February 18, 2010

Mayor Michael King and Council
The Corporation of the Township of Terrace Bay
P.O. Box 40
TERRACE BAY, Ontario.
POT 2W0

*Agenda
Mar 22*

Re: O. Regulation 170 - 2009 Section 11 Annual Report for the Terrace Bay Drinking-Water System

Ontario's Drinking-Water Systems Regulation (O.Reg. 170/03), made under the *Safe Drinking Water Act, 2002*, requires that the owner of a drinking water system prepare an annual report on the operation of the system and the quality of its water.

The annual report must cover the period of 01st January to 31st December in a year and *must be prepared not later than 28th February* of the following year. Pursuant to the legislative requirements, enclosed for your records is the 2009 Annual Report for the Terrace Bay Drinking-Water System.

Pursuant to the legislative requirements, Section 11 (6): the annual report must:

- (a) contain a brief description of the drinking-water system, including a list of water treatment chemicals used by the system during the period covered by the report;
- (b) summarize any reports made to the Ministry under subsection 18 (1) of the Act or section 16-4 of Schedule 16 during the period covered by the report;
- (c) summarize the results of tests required under this Regulation, or an approval or order, including an OWRA order, during the period covered by the report and, if tests required under this Regulation in respect of a parameter were not required during that period, summarize the most recent results of tests of that parameter;
- (d) describe any corrective actions taken under Schedule 17 or 18 during the period covered by the report;
- (e) describe any major expenses incurred during the period covered by the report to install, repair or replace required equipment; and
- (f) in the case of a large municipal residential system or a small municipal residential system, include a statement of where a report prepared under Schedule 22 will be available for inspection under subsection 12 (4). O. Reg. 170/03, s. 11 (6)

2009 Section 11 Annual Report

Terrace Bay Drinking-Water System

February 2010

Prepared by the



Ontario Clean Water Agency
Agence Ontarienne Des Eaux



Section 11 ANNUAL REPORT

Drinking-Water System Number:	250001769
Drinking-Water System Name:	Terrace Bay Water Treatment Plant
Drinking-Water System Owner:	The Corporation of the Township of Terrace Bay
Drinking-Water System Category:	Large Municipal Residential Drinking Water-System
Period being reported:	January 1 – December 31, 2009

<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 Summary Report required under O. Reg. 170/03 Schedule 22 will be available for inspection.</p> <div style="border: 1px solid black; padding: 5px;"> <p>Township of Terrace Bay 1 Selkirk Ave. Terrace Bay, ON POT 2W0</p> </div>	<p><u>Complete for all other Categories.</u></p> <p>Number of Designated Facilities served: <div style="border: 1px solid black; padding: 2px; display: inline-block;">N/A</div> </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: <div style="border: 1px solid black; padding: 2px; display: inline-block;">N/A</div> </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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Note: For the following tables below, additional rows or columns may be added or an appendix may be attached to the report

List all Drinking-Water Systems (if any), which receive all of their drinking water from your system:

Drinking Water System Name	Drinking Water System Number
N/A	

Did you provide a copy of your annual report to all Drinking-Water System owners that are connected to you and to whom you provide all of its drinking water?
Yes [] No []



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

- 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 – Community Television Channel

Describe your Drinking-Water System

The raw water intake for the low lift pumping station is located in Jackfish Channel on Lake Superior. The intake line is a 170 m long, 300 mm diameter line located 75 m west of the intake for Terrace Bay Pulp.

The low lift-pump station houses three pumps and is located approximately 50 m west of the Terrace Bay Pulp pump house. The water is pumped to the Terrace Bay Water Treatment Plant via a 250 mm diameter pipe 2.5 km long.

There are 4 identical standby ground water wells located adjacent to the low lift pump station for emergency situations. Each well is 250 mm in diameter, 17 m deep and equipped with a submersible pump. The stand by wells discharge into the wet well of the low lift pump station.

The low lift pump station has a 150 kW propane powered generator for emergency standby power and is located as a stand alone unit in a weather proof enclosure.

Water Treatment Plant:

Raw water entering the plant is directed to four (4) slow sand filter units, each with a 1.2 m thickness of filter sand; 600 mm gravel and perforated pipe under drain system. Filtered water then passes through two (2) ultraviolet disinfection units (one duty, one standby) providing a minimum ultraviolet dosage of 40 millijoules/cm² at a peak flow rate of 45 L/s. UV water entering the reservoir feed pipe is injected with a sodium hypochlorite solution.

Chlorinated water is then directed to an underground 5193 m³ concrete reservoir, consisting of 4 interconnecting chambers, with baffles, providing chlorine contact time.

There is 1 standby propane powered generator for the distribution pumps.

List all water treatment chemicals used over this reporting period

- Sodium Hypochlorite



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

UV Units:

- Lamps and filters - \$2,419.11
- Processor - \$1,418.12
- PLC - \$593.38
- Yearly service and parts - \$2,530.74
- Install new drain system - \$517.50

Turbidity Units:

- Replace rotometer and drains - \$941.12
- Yearly service and report - \$1,500.00
- Portable Turbidimeter Calibration kit and Standard Gelex kit - \$ 327.66

Chlorine Analyzers:

- Membrane caps and electrolyte, pH buffer solutions - \$ 333.10
- Portable DR 890 Colorimeter yearly calibration, Secondary Standard Gelex kit, and DPD Free Chlorine reagent - \$ 559.08

Pallet Truck:

- repair wheels on truck - \$255.93

Disposal of Expired Chemical - \$3,618.89

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
Mar-25-2009	Loss of Pressure			Loss of distribution pressure due to ice storm power bumps and eventual power failure. Operated distribution pumps on manual-hand to regain and stabilize distribution pressure. Operated plant on generator until power was restored. Boil Water Advisory was issued. Distribution samples taken and Boil Water Advisor rescinded	Mar-30-2009
Sep-24-2009	Low pressure	17.73	psi	Momentary low	Sept-24-2009



				pressure at water treatment plant while town operated a hydrant. Chlorine residual samples taken in area of hydrant used by town. Not an adverse water condition according to SAC; no further recommendations given.	
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Microbiological testing done under the Schedule 10, 11 or 12 of Regulation 170/03, during this reporting period.

	Number of Samples	Range of E.Coli Or Fecal Results (min #)-(max #)	Range of Total Coliform Results (min #)-(max #)	Number of HPC Samples	Range of HPC Results (min #)-(max #)
Raw	52	< 1 – 25	< 1 – 88	N/A	N/A
Treated	54	0 – 0	0 – 0	54	0 – 36
Distribution	126	0 – 0	0 – 0	57	0 – 400

Operational testing done under Schedule 7, 8 or 9 of Regulation 170/03 during the period covered by this Annual Report.

	Number of Grab Samples	Range of Results (min #)-(max #)
Turbidity		
Filter #1	8760	0 – 10.238 NTU
Filter #2	8760	0 – 10.238 NTU
Filter #3	8760	0 – 10.238 NTU
Filter #4	8760	0 – 10.238 NTU
Chlorine		
Treated	8760	0 – 1.577 mg/L
Distribution	376	0.084 – 1.79 mg/L
Fluoride (If the DWS provides fluoridation)	N/A	N/A

NOTE: For continuous monitors use 8760 as the number of samples.

NOTE: Record the unit of measure if it is not milligrams per litre.

Summary of additional testing and sampling carried out in accordance with the requirement of an approval, order or other legal instrument.

Date of legal instrument issued	Parameter	Date Sampled	Result	Unit of Measure
N/A				



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	Feb-3-2009	<0.6	µg/L	No
Arsenic	Feb-3-2009	<1	µg/L	No
Barium	Feb-3-2009	<10	µg/L	No
Boron	Feb-3-2009	<50	µg/L	No
Cadmium	Feb-3-2009	<0.1	µg/L	No
Chromium	Feb-3-2009	<1	µg/L	No
*Lead	Refer to Summary Table Below			
Mercury	Feb-3-2009	<0.1	µg/L	No
Selenium	Feb-3-2009	<5	µg/L	No
Sodium	Feb-14-2006	2.65	mg/L	No
Uranium	Feb-3-2009	<5	µg/L	No
Fluoride	Feb-3-2009	<0.05	mg/L	No
Nitrite	Feb-3-2009	<0.020	mg/L	No
	Apr-14-2009	<0.020	mg/L	No
	Jul-13-2009	<0.020	mg/L	No
	Oct-6-2009	<0.020	mg/L	No
Nitrate	Feb-3-2009	0.35	mg/L	No
	Apr-14-2009	0.355	mg/L	No
	Jul-13-2009	0.402	mg/L	No
	Oct-6-2009	0.331	mg/L	No

*only for drinking water systems testing under Schedule 15.2; this includes large municipal non-residential systems, small municipal non-residential systems, non-municipal seasonal residential systems, large non-municipal non-residential systems, and small non-municipal non-residential systems

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	88	1 – 8.4 µg/L	0
Distribution	8	1 – 2.7 µg/L	0

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	Feb-3-2009	<0.1	µg/L	No
Aldicarb	Feb-3-2009	<1	µg/L	No
Aldrin + Dieldrin	Feb-3-2009	<0.04	µg/L	No
Atrazine + N-dealkylated metabolites	Feb-3-2009	<0.2	µg/L	No



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Azinphos-methyl	Feb-3-2009	<0.1	µg/L	No
Bendiocarb	Feb-3-2009	<0.2	µg/L	No
Benzene	Feb-3-2009	<0.5	µg/L	No
Benzo(a)pyrene	Feb-3-2009	<0.01	µg/L	No
Bromoxynil	Feb-3-2009	<0.2	µg/L	No
Carbaryl	Feb-3-2009	<0.2	µg/L	No
Carbofuran	Feb-3-2009	<0.2	µg/L	No
Carbon Tetrachloride	Feb-3-2009	<0.5	µg/L	No
Chlordane (Total)	Feb-3-2009	<0.3	µg/L	No
Chlorpyrifos	Feb-3-2009	<0.1	µg/L	No
Cyanazine	Feb-3-2009	<0.1	µg/L	No
Diazinon	Feb-3-2009	<0.1	µg/L	No
Dicamba	Feb-3-2009	<0.2	µg/L	No
1,2-Dichlorobenzene	Feb-3-2009	<0.5	µg/L	No
1,4-Dichlorobenzene	Feb-3-2009	<0.5	µg/L	No
Dichlorodiphenyltrichloroethane (DDT) + metabolites	Feb-3-2009	<0.4	µg/L	No
1,2-Dichloroethane	Feb-3-2009	<0.5	µg/L	No
1,1-Dichloroethylene (vinylidene chloride)	Feb-3-2009	<0.5	µg/L	No
Dichloromethane	Feb-3-2009	<0.5	µg/L	No
2,4 Dichlorophenol	Feb-3-2009	<0.5	µg/L	No
2,4-Dichlorophenoxy acetic acid (2,4-D)	Feb-3-2009	<0.2	µg/L	No
Diclofop-methyl	Feb-3-2009	<0.2	µg/L	No
Dimethoate	Feb-3-2009	<0.1	µg/L	No
Dinoseb	Feb-3-2009	<0.2	µg/L	No
Diquat	Feb-3-2009	<1.0	µg/L	No
Diuron	Feb-3-2009	<1	µg/L	No
Glyphosate	Feb-3-2009	<5	µg/L	No
Heptachlor + Heptachlor Epoxide	Feb-3-2009	<0.2	µg/L	No
Lindane (Total)	Feb-3-2009	<0.1	µg/L	No
Malathion	Feb-3-2009	<0.1	µg/L	No
Methoxychlor	Feb-3-2009	<0.1	µg/L	No
Metolachlor	Feb-3-2009	<0.1	µg/L	No
Metribuzin	Feb-3-2009	<0.1	µg/L	No
Monochlorobenzene	Feb-3-2009	<0.5	µg/L	No
Paraquat	Feb-3-2009	<1.0	µg/L	No
Parathion	Feb-3-2009	<0.1	µg/L	No
Pentachlorophenol	Feb-3-2009	<0.5	µg/L	No
Phorate	Feb-3-2009	<0.1	µg/L	No
Picloram	Feb-3-2009	<0.2	µg/L	No
Polychlorinated Biphenyls(PCB)	Feb-3-2009	<0.02	µg/L	No
Prometryne	Feb-3-2009	<0.1	µg/L	No
Simazine	Feb-3-2009	<0.1	µg/L	No
THM (NOTE: show latest annual average)	Oct-6-2009	30.1	µg/L	No
	2009 Average	(18.325)	µg/L	No



Temephos	Feb-3-2009	<0.1	µg/L	No
Terbufos	Feb-3-2009	<0.2	µg/L	No
Tetrachloroethylene	Feb-3-2009	<0.5	µg/L	No
2,3,4,6-Tetrachlorophenol	Feb-3-2009	<0.5	µg/L	No
Triallate	Feb-3-2009	<0.1	µg/L	No
Trichloroethylene	Feb-3-2009	<0.5	µg/L	No
2,4,6-Trichlorophenol	Feb-3-2009	<0.5	µg/L	No
2,4,5-Trichlorophenoxy acetic acid (2,4,5-T)	Feb-3-2009	<0.2	µg/L	No
Trifluralin	Feb-3-2009	<0.1	µg/L	No
Vinyl Chloride	Feb-3-2009	<0.5	µg/L	No

List any Inorganic or Organic parameter(s) that exceeded half the standard prescribed in Schedule 2 of Ontario Drinking Water Quality Standards.

Parameter	Result Value	Unit of Measure	Date of Sample