



2011 ANNUAL REPORT

Drinking-Water System Number:	220001799
Drinking-Water System Name:	Owen Sound Drinking Water System
Drinking-Water System Owner:	City of Owen Sound
Drinking-Water System Category:	Large Municipal Residential
Period being reported:	January 1, 2011 – December 31, 2011

<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 [<input checked="" type="checkbox"/>] No [<input type="checkbox"/>]</p> <p>Is your annual report available to the public at no charge on a web site on the Internet? Yes [<input checked="" type="checkbox"/>] No [<input type="checkbox"/>]</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;"> <ul style="list-style-type: none"> • Owen Sound City Website http://www.owensound.ca • City Clerk’s Office, City Hall • Public Works Office • Water Treatment Plant • Library </div>	<p><u>Complete for all other Categories.</u></p> <p>Number of Designated Facilities served: <input style="width: 100px;" type="text" value="n/a"/></p> <p>Did you provide a copy of your annual report to all Designated Facilities you serve? Yes [<input type="checkbox"/>] No [<input checked="" type="checkbox"/>]</p> <p>Number of Interested Authorities you report to: <input style="width: 100px;" type="text" value="n/a"/></p> <p>Did you provide a copy of your annual report to all Interested Authorities you report to for each Designated Facility? Yes [<input type="checkbox"/>] No [<input checked="" type="checkbox"/>]</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
Leith Water Distribution System	260065312

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 Richard H. Neath Water Purification plant is a surface water treatment plant that draws its water from Georgian Bay. This plant uses direct filtration, and serves a population of 22,000 people. The City's distribution network is divided into 6 pressure zones with approximately 150 km of water main.

The Water Treatment Plant comprises of the following processes; raw water screening, prechlorination, zebra mussel control (chlorination at Intake), flash mixing (initial mixing of coagulant), coagulation/flocculation, UV disinfection, post chlorination, Fluoridation, and a residue management tank for treating backwash water.

The City has a 22,000 m³ reservoir, with two booster stations that provides addition pressure in the Southeast and southwest portions of the City and outskirts.

List all water treatment chemicals used over this reporting period

Gaseous Chlorine, Hydrofluorosilicic Acid (HFS), SternPAC, PAX-XL1900, Sodium Bisulphite (dechlorination), and MagnaFloc 110L (polymer addition to residue management tank)

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

SCADA System Hardware Upgrade – replacement of older equipment - \$270,000

Raw Water Pump (P6) – Pump shaft broke at impeller. New pump installed and shaft modification. \$17,700

Lowlift Underground Tank removal – Due to regulatory requirements from a TSSA inspection/order, this tank was removed and a new above ground tank and associated piping was installed. \$21,500

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

Please see Appendix “A”

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	0-110	0-4400	n/a	n/a
Treated	54	0-1	0-3	54	<10-30
Distribution	460	0-0	0-0	114	<10->2000

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 #)
Filter Turbidity	8760	0.03 – 1.11 NTU, no reportables as turbidity over 1 NTU was < 15 minutes
Post 1 Chlorine	8760	0.01 – 4.35 * peak residual was momentary & caused by service to analyzer. Minimum caused by rotameter issue.
Post 2 Chlorine	8760	0.16 – 2.33
Municipal Chlorine	8760	0.45 – 1.85

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



Industrial Chlorine	8760	0.99 – 1.44
Municipal Fluoride	8760	0.30 – 0.73
Industrial Fluoride	8760	0.28 – 0.80

***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
Municipal License # 092-101	Chlorine – Wastewater System	January 4,21,24,31	0.00	mg/L
Municipal License # 092-101	Chlorine – Wastewater System	Feb 7, 15, 24	0.00	mg/L
Municipal License # 092-101	Total Suspended Solids	March 1	1	mg/L
Municipal License # 092-101	Chlorine – Wastewater System	March 4	0.00	mg/L
Municipal License # 092-101	Chlorine – Wastewater System	April 6	0.00	mg/L
Municipal License # 092-101	Chlorine – Wastewater System	May 3	0.00	mg/L
Municipal License # 092-101	Total Suspended Solids	May 25	4	mg/L
Municipal License # 092-101	Chlorine – Wastewater System	June 13	0.00	mg/L
Municipal License # 092-101	Chlorine – Wastewater System	July 7	0.00	mg/L
Municipal License # 092-101	Chlorine – Wastewater System	August 1	0.00	mg/L
Municipal License # 092-101	Total Suspended Solids	August 30	3	mg/L



Municipal License # 092-101	Chlorine – Wastewater System	Sep 7	0.00	mg/L
Municipal License # 092-101	Chlorine – Wastewater System	Oct 4	0.00	mg/L
Municipal License # 092-101	Chlorine – Wastewater System	Nov 7	0.00	mg/L
Municipal License # 092-101	Total Suspended Solids	Nov 28	6	mg/L
Municipal License # 092-101	Chlorine – Wastewater System	Dec 2	0.00	mg/L

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	January 31	<0.0001	mg/L	NO
Arsenic	January 31	0.0002	mg/L	NO
Barium	January 31	0.012	mg/L	NO
Boron	January 31	<0.005	mg/L	NO
Cadmium	January 31	<0.00002	mg/L	NO
Chromium	January 31	<0.002	mg/L	NO
*Lead	n/a	n/a	n/a	n/a
Mercury	January 31	<0.00002	mg/L	NO
Selenium	January 31	<0.001	mg/L	NO
Sodium	n/a	n/a	n/a	n/a
Uranium	January 31	0.00011	mg/L	NO
Fluoride – Municipal	December 31	0.59	mg/L	NO
Fluoride - Industrial	December 31	0.58	mg/L	NO
Nitrite	October 26	<0.1	mg/L	NO
Nitrate	October 26	0.3	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	132	0.00006 – 0.09920	3
Distribution	8	0.00003 – 0.00157	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	Jan 31	<0.0003	mg/L	NO
Aldicarb	Jan 31	<0.003	mg/L	NO
Aldrin + Dieldrin	Jan 31	<0.00002	mg/L	NO
Atrazine + N-dealkylated metabolites	Jan 31	<0.0005	mg/L	NO
Azinphos-methyl	Jan 31	<0.001	mg/L	NO
Bendiocarb	Jan 31	<0.003	mg/L	NO
Benzene	Jan 31	<0.0005	mg/L	NO
Benzo(a)pyrene	Jan 31	<0.000005	mg/L	NO
Bromoxynil	Jan 31	<0.0003	mg/L	NO
Carbaryl	Jan 31	<0.003	mg/L	NO
Carbofuran	Jan 31	<0.001	mg/L	NO
Carbon Tetrachloride	Jan 31	<0.0002	mg/L	NO
Chlordane (Total)	Jan 31	<0.00004	mg/L	NO
Chlorpyrifos	Jan 31	<0.0005	mg/L	NO
Cyanazine	Jan 31	<0.0005	mg/L	NO
Diazinon	Jan 31	<0.001	mg/L	NO
Dicamba	Jan 31	<0.005	mg/L	NO
1,2-Dichlorobenzene	Jan 31	<0.0001	mg/L	NO
1,4-Dichlorobenzene	Jan 31	<0.0002	mg/L	NO
Dichlorodiphenyltrichloroethane (DDT) + metabolites	Jan 31	<0.0001	mg/L	NO
1,2-Dichloroethane	Jan 31	<0.0001	mg/L	NO
1,1-Dichloroethylene (vinylidene chloride)	Jan 31	<0.0001	mg/L	NO
Dichloromethane	Jan 31	<0.0003	mg/L	NO
2-4 Dichlorophenol	Jan 31	<0.0001	mg/L	NO
2,4-Dichlorophenoxy acetic acid (2,4-D)	Jan 31	<0.005	mg/L	NO
Diclofop-methyl	Jan 31	<0.0005	mg/L	NO
Dimethoate	Jan 31	<0.001	mg/L	NO



Dinoseb	Jan 31	<0.0005	mg/L	NO
Diquat	Jan 31	<0.005	mg/L	NO
Diuron	Jan 31	<0.005	mg/L	NO
Glyphosate	Jan 31	<0.025	mg/L	NO
Heptachlor + Heptachlor Epoxide	Jan 31	<0.0001	mg/L	NO
Lindane (Total)	Jan 31	<0.0001	mg/L	NO
Malathion	Jan 31	<0.005	mg/L	NO
Methoxychlor	Jan 31	<0.0001	mg/L	NO
Metolachlor	Jan 31	<0.003	mg/L	NO
Metribuzin	Jan 31	<0.003	mg/L	NO
Monochlorobenzene	Jan 31	<0.0002	mg/L	NO
Paraquat	Jan 31	<0.001	mg/L	NO
Parathion	Jan 31	<0.003	mg/L	NO
Pentachlorophenol	Jan 31	<0.0001	mg/L	NO
Phorate	Jan 31	<0.0003	mg/L	NO
Picloram	Jan 31	<0.005	mg/L	NO
Polychlorinated Biphenyls(PCB)	Jan 31	<0.00006	mg/L	NO
Prometryne	Jan 31	<0.0001	mg/L	NO
Simazine	Jan 31	<0.0005	mg/L	NO
THM (NOTE: show latest annual average)	2011	0.0439	mg/L	NO
Temephos	Jan 31	<0.010	mg/L	NO
Terbufos	Jan 31	<0.0003	mg/L	NO
Tetrachloroethylene	Jan 31	<0.0002	mg/L	NO
2,3,4,6-Tetrachlorophenol	Jan 31	<0.0001	mg/L	NO
Triallate	Jan 31	<0.010	mg/L	NO
Trichloroethylene	Jan 31	<0.0001	mg/L	NO
2,4,6-Trichlorophenol	Jan 31	<0.0001	mg/L	NO
2,4,5-Trichlorophenoxy acetic acid (2,4,5-T)	Jan 31	<0.010	mg/L	NO
Trifluralin	Jan 31	<0.0005	mg/L	NO
Vinyl Chloride	Jan 31	<0.0002	mg/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
none			

APPENDIX “A”

#	Notification Date	AWQI #(s)	Adverse Location	Adverse Parameter	Adverse Result	Units	Remedial Action
1	05-Jan	99600	Fire #318332 3rd Avenue West	Free Cl ²	0.03	mg/L	Internal flushing unit off, restarted unit, and hydrant was flushed. Free Chlorine was 0.94 mg/L at end of flush, and 0.61 mg/L in house.
2	19-Jan	99725	Stone Tree Hwy 6&10	Low pressure	6	psi	Caused by broken water main on 9th Avenue East, pressure restored to 20 psi at 7:10 am
3	26-Jan	99798	Municipal Header	E. Coli	1	cfu/100ml	Resampled and had 2 clear resamples.
				Total Coliform	3	cfu/100ml	Bottle mixup with raw and treated.
4	12-Sep	103261	Keppel Sarawak School	Free Cl ²	0.03	mg/L	Low residual in school, hydrant flushed, end Cl ² residual was 0.48 mg/L