



2012 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, 2012 – December 31, 2012

<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 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 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 (mixing of coagulant), 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), PAX XL-6, PAX-XL1900, Sodium Bisulphite (dechlorination chemical), and Zetag 3930 (polymer addition to residue management tank for sludge settling)

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

Rehabilitation to Raw water piping – \$12,300, Installed new Flow meter – Industrial Header \$6,500, installed new Rotork Actuator on Filter 4 \$6,000, Purchased new Cl₂ Analyzers for

Chlorine control at the Water Plant \$20,800, Purchased new Rotork Actuator for Industrial Clearwell \$7,400, Service to P4 and P5 raw water pumps \$38,600, Rehabilitation to Industrial Piping (still ongoing), other planned Capital work was deferred to deal with the Industrial piping.

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 - 1180	0 - 5000	n/a	n/a
Treated	52	0 - 0	0 - 0	52	<10 - 140
Distribution	459	0 - 0	0 - 0	459	<10 - 180

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 1 Turbidity	8760	0.02 – 4.90 * Max Turbidity over 1 NTU for 5.5 minutes, caused by bulb failure on turbidimeter.
Filter 2 Turbidity	8760	0.02 – 1.05 * Over 1 NTU for 2 minutes only.
Filter 3 Turbidity	8760	0.02 – 0.53
Filter 4 Turbidity	8760	0.01 – 0.78
Post 1 Chlorine	8760	0.00 – 4.95 * Low residual caused by Cl2 analyzer issue

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



		with cell block, not an accurate reading. High residual caused by Cl2 Analyzer buffer feed issue, Cl2 spiked to max range, but not an accurate value. Problem in July.
Post 2 Chlorine	8760	0.00 – 4.95 * Low residual caused by Cl2 analyzer buffer pump failure, Cl2 was not 0.00, High residual caused by Cl2 Analyzer buffer feed issue, Cl2 spiked to max range, but not an accurate value. Problem in July and September
Municipal Chlorine	8760	0.62 – 1.86
Industrial Chlorine	8760	0.79 – 2.00
Municipal Fluoride	8760	0.27 – 0.80
Industrial Fluoride	8760	0.00 – 47.98 * Minimum caused by electrical work being done at unit and high was a signal wire issue, Fluoride residual was reading a flow value, this was corrected within a minute. Next recorded high was 0.90 mg/L

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 3	0.00	mg/L
Municipal License # 092-101	Chlorine – Wastewater System	Feb 2	0.00	mg/L
Municipal License # 092-101	Total Suspended Solids	Feb 27	4	mg/L
Municipal License # 092-101	Chlorine – Wastewater System	March 8	0.00	mg/L
Municipal License # 092-101	Chlorine – Wastewater System	April 5	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 24	5	mg/L
Municipal License # 092-101	Chlorine – Wastewater System	June 5	0.00	mg/L
Municipal License # 092-101	Chlorine – Wastewater System	July 4	0.00	mg/L
Municipal License # 092-101	Chlorine – Wastewater System	August 7	0.00	mg/L
Municipal License # 092-101	Total Suspended Solids	August 24	10	mg/L
Municipal License # 092-101	Chlorine – Wastewater System	Sep 6	0.00	mg/L
Municipal License # 092-101	Chlorine – Wastewater System	Oct 2	0.00	mg/L



Municipal License # 092-101	Chlorine – Wastewater System	Nov 5	0.00	mg/L
Municipal License # 092-101	Total Suspended Solids	Nov 21	3	mg/L
Municipal License # 092-101	Chlorine – Wastewater System	Dec 3	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 25	<0.0001	mg/L	No
Arsenic	January 25	0.0005	mg/L	No
Barium	January 25	0.013	mg/L	No
Boron	January 25	0.016	mg/L	No
Cadmium	January 25	<0.00002	mg/L	No
Chromium	January 25	<0.002	mg/L	No
*Lead	n/a	n/a	n/a	n/a
Mercury	January 25	<0.00002	mg/L	No
Selenium	January 25	<0.001	mg/L	No
Sodium	February 2013	5.6	mg/L	No
Uranium	January 25	0.00007	mg/L	No
Fluoride – Municipal	December 31	0.50	mg/L	No
Fluoride - Industrial	December 31	0.52	mg/L	No
Nitrite	October 22	<0.1	mg/L	No
Nitrate	October 22	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	0.00003 – 0.0144	1
Distribution	8	<0.00002 – 0.00119	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 25	<0.0003	mg/L	No
Aldicarb	Jan 25	<0.003	mg/L	No
Aldrin + Dieldrin	Jan 25	<0.00002	mg/L	No
Atrazine + N-dealkylated metabolites	Jan 25	<0.0005	mg/L	No
Azinphos-methyl	Jan 25	<0.001	mg/L	No
Bendiocarb	Jan 25	<0.003	mg/L	No
Benzene	Jan 25	<0.0005	mg/L	No
Benzo(a)pyrene	Jan 25	<0.000005	mg/L	No
Bromoxynil	Jan 25	<0.0003	mg/L	No
Carbaryl	Jan 25	<0.003	mg/L	No
Carbofuran	Jan 25	<0.001	mg/L	No
Carbon Tetrachloride	Jan 25	<0.0002	mg/L	No
Chlordane (Total)	Jan 25	<0.00004	mg/L	No
Chlorpyrifos	Jan 25	<0.0005	mg/L	No
Cyanazine	Jan 25	<0.0005	mg/L	No
Diazinon	Jan 25	<0.001	mg/L	No
Dicamba	Jan 25	<0.005	mg/L	No
1,2-Dichlorobenzene	Jan 25	<0.0001	mg/L	No
1,4-Dichlorobenzene	Jan 25	<0.0002	mg/L	No
Dichlorodiphenyltrichloroethane (DDT) + metabolites	Jan 25	<0.00001	mg/L	No
1,2-Dichloroethane	Jan 25	<0.0001	mg/L	No
1,1-Dichloroethylene (vinylidene chloride)	Jan 25	<0.0001	mg/L	No
Dichloromethane	Jan 25	<0.0003	mg/L	No
2-4 Dichlorophenol	Jan 25	<0.0001	mg/L	No
2,4-Dichlorophenoxy acetic acid (2,4-D)	Jan 25	<0.005	mg/L	No
Diclofop-methyl	Jan 25	<0.0005	mg/L	No
Dimethoate	Jan 25	<0.001	mg/L	No
Dinoseb	Jan 25	<0.0005	mg/L	No
Diquat	Jan 25	<0.005	mg/L	No
Diuron	Jan 25	<0.005	mg/L	No
Glyphosate	Jan 25	<0.025	mg/L	No
Heptachlor + Heptachlor Epoxide	Jan 25	<0.0001	mg/L	No
Lindane (Total)	Jan 25	<0.0001	mg/L	No
Malathion	Jan 25	<0.005	mg/L	No
Methoxychlor	Jan 25	<0.0001	mg/L	No
Metolachlor	Jan 25	<0.003	mg/L	No
Metribuzin	Jan 25	<0.003	mg/L	No
Monochlorobenzene	Jan 25	<0.0002	mg/L	No



Paraquat	Jan 25	<0.001	mg/L	No
Parathion	Jan 25	<0.003	mg/L	No
Pentachlorophenol	Jan 25	<0.0001	mg/L	No
Phorate	Jan 25	<0.0003	mg/L	No
Picloram	Jan 25	<0.005	mg/L	No
Polychlorinated Biphenyls(PCB)	Jan 25	<0.00005	mg/L	No
Prometryne	Jan 25	<0.0001	mg/L	No
Simazine	Jan 25	<0.0005	mg/L	No
THM (NOTE: show latest annual average)	2012	0.034	mg/L	No
Temephos	Jan 25	<0.010	mg/L	No
Terbufos	Jan 25	<0.0003	mg/L	No
Tetrachloroethylene	Jan 25	<0.0002	mg/L	No
2,3,4,6-Tetrachlorophenol	Jan 25	<0.0001	mg/L	No
Triallate	Jan 25	<0.010	mg/L	No
Trichloroethylene	Jan 25	<0.0001	mg/L	No
2,4,6-Trichlorophenol	Jan 25	<0.0001	mg/L	No
2,4,5-Trichlorophenoxy acetic acid (2,4,5-T)	Jan 25	<0.010	mg/L	No
Trifluralin	Jan 25	<0.0005	mg/L	No
Vinyl Chloride	Jan 25	<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	02-Feb	104927	Industrial Zone	Pressure	<20	psi	Problem with signal to run pump. Restored normal pressure within 10 minutes.
2	02-Feb	104935	1598 18th Ave East Hyd # 1-C-178	Free Cl ₂	0.04	mg/L	Hydrant flushed for 12 minutes, end Free Cl ₂ was 0.76 mg/L
3	04-May	105854	Water Plant	Turbidity	0.00	NTU	Filter # 1 Turbidimeter bulb failed, bulb replaced
4	01-Jun	106220	EHPS Zone	Pressure	<20	psi	Failure of 24V power supply caused EHPS to shut down. Restored pressure in 17 minutes.
5	26-Sep	108624	Beattie Zone - Inglis Falls Road	Pressure	<20	psi	Flushing in another zone starved this area, pressure restored within 10 minutes
6	17-Oct	108953	Beattie Zone - Inglis Falls Road	Pressure	<20	psi	Flushing in another zone starved this area, pressure restored within 1 minute