

**Part III Form 2**
**Section 11. ANNUAL REPORT.**

<b>Drinking-Water System Number:</b>	220001799
<b>Drinking-Water System Name:</b>	Richard H. Neath Water Purification Plant
<b>Drinking-Water System Owner:</b>	City of Owen Sound
<b>Drinking-Water System Category:</b>	Large Municipal Residential
<b>Period being reported:</b>	January 1, 2004 – December 31, 2004

<p><b><u>Complete if your Category is Large Municipal Residential or Small Municipal Residential</u></b></p> <p><b>Does your Drinking-Water System serve more than 10,000 people? Yes [X] No [ ]</b></p> <p><b>Is your annual report available to the public at no charge on a web site on the Internet? Yes [X] No [ ]</b></p> <p><b>Location where Report required under O. Reg. 170/03 Schedule 22 will be available for inspection.</b></p> <div style="border: 1px solid black; padding: 5px;">                 Owen Sound City Website, City Clerk's Office, Public Works Office             </div>	<p><b><u>Complete for all other Categories.</u></b></p> <p><b>Number of Designated Facilities served:</b></p> <div style="border: 1px solid black; padding: 2px; width: 100px; text-align: center;">n/a</div> <p><b>Did you provide a copy of your annual report to all Designated Facilities you serve? Yes [ ] No [X]</b></p> <p><b>Number of Interested Authorities you report to:</b></p> <div style="border: 1px solid black; padding: 2px; width: 100px; text-align: center;">n/a</div> <p><b>Did you provide a copy of your annual report to all Interested Authorities you report to for each Designated Facility? Yes [ ] No [X]</b></p>
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**List Drinking-Water Systems, which receive all of their drinking water from your system:**

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 [X]

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

- [X] Public access/notice via the web
- [ ] Public access/notice via Government Office
- [X] Public access/notice via a newspaper
- [X] 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 plant with direct filtration, serving a population of 21,000 people, that are divided up into 5 pressure zones. Our process includes raw water screening, prechlorination, zebra mussel control, flash mixing, coagulation/flocculation, post chlorination, UV disinfection, and Fluoridation. The City has a 5 million-gallon reservoir, with a booster station that provides addition pressure in the Southeast portion of the City and outskirts.

**List all water treatment chemicals used over this reporting period**

Gaseous Chlorine, Hydrofluosilicic Acid, SternPac, and SternPac 2300.

**Were any significant expenses incurred to?**

- Install required equipment
- Repair required equipment
- Replace required equipment

**Describe**

**[Installed components]**

- Four (4) UV reactors on the effluent pipes
- Installation of an 800 kW diesel generator.
- New chemical storage tanks were installed for SternPac 2300, and Hydrofluosilicic Acid with secondary containment.
- New chemical metering pumps for SternPac 2300 and Hydrofluosilicic Acid
- SCADA control updates for new equipment and monitoring.
- Four (4) new magnetic flow meters installed on filter effluent pipes.
- Stainless steel effluent piping on all four filters.
- Soft starts were installed on all municipal motors.
- Overhead crane upgrades (new controllers, main line contactor, and runway conductors).
- East Hill Pumping Station upgrades - 355kW Generator
- East Hill Pumping Station upgrades – Variable frequency drive – P2
- East Hill Pumping Station upgrades – Ventilation system upgrade

**[Repaired items]**

- Raw water Pump (P6) overhauled
- Concrete repairs in both cells at the Bay Reservoir

**[Replace items]**

- Converted to a high efficiency drive on Flocculator # 3

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? **Please see Appendix "A"**

**Microbiological testing done under section 8 (2) during this reporting period**

	Number of Samples	Range of E.Coli or Fecal Results (#-#)	Range of Total Coliform Results (#-#)	Number of HPC Samples	Range of HPC Results (#-#)
Raw	53	0-94	0-1700	n/a	n/a
Treated	58	0	0-10	12	<10-60
Distribution	457	0	0	107	10-60

**Operational testing done under Schedule 7, 8 or 9 during the period covered by this Annual Report.**

	Number of Grab Samples	Range of Results (#-#)
Turbidity	8760	.02-1.32 NTU
Chlorine	8760	1.04-1.59
Fluoride (If the DWS provides fluoridation)	558	.20-.79 mg/L

*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 or order.**

Date of order or C of A	Parameter	Date Sampled	Result	Unit of Measure
CofA# 9037-5WBLZX February 20 <sup>th</sup> , 2004	Aluminum	Feb 19	0.042	mg/L
CofA# 9037-5WBLZX February 20 <sup>th</sup> , 2004	Aluminum	Jun 23	.114	mg/L
CofA# 9037-5WBLZX February 20 <sup>th</sup> , 2004	Aluminum	Sep 16	.019	mg/L
CofA# 9037-5WBLZX February 20 <sup>th</sup> , 2004	Aluminum	Dec 9	.070	mg/L

Provincial Order # 4337-5KLW4T dated March 20, 2003	Total Suspended Solids	January 2004	39	mg/L
Provincial Order # 4337-5KLW4T dated March 20, 2003	Total Suspended Solids	February 2004	38	mg/L
Provincial Order # 4337-5KLW4T dated March 20, 2003	Total Suspended Solids	March 2004	86	mg/L
Provincial Order # 4337-5KLW4T dated March 20, 2003	Total Suspended Solids	April 2004	65	mg/L
Provincial Order # 4337-5KLW4T dated March 20, 2003	Total Suspended Solids	May 2004	145	mg/L
Provincial Order # 4337-5KLW4T dated March 20, 2003	Total Suspended Solids	June 2004	81	mg/L
Provincial Order # 4337-5KLW4T dated March 20, 2003	Total Suspended Solids	July 2004	102	mg/L
Provincial Order # 4337-5KLW4T dated March 20, 2003	Total Suspended Solids	August 2004	124	mg/L
Provincial Order # 4337-5KLW4T dated March 20, 2003	Total Suspended Solids	September 2004	66	mg/L
Provincial Order # 4337-5KLW4T dated March 20, 2003	Total Suspended Solids	October 2004	72	mg/L
Provincial Order # 4337-5KLW4T dated March 20, 2003	Total Suspended Solids	November 2004	29	mg/L

<b>Provincial Order # 4337-5KLW4T dated March 20, 2003</b>	<b>Total Suspended Solids</b>	<b>December 2004</b>	<b>184</b>	<b>mg/L</b>
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**Summary of Inorganic parameters tested during this reporting period or most recent**

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Antimony	Feb 19	<.001	mg/L	No
Arsenic	Feb 19	.001	mg/L	No
Barium	Feb 19	.012	mg/L	No
Boron	Feb 19	.011	mg/L	No
Cadmium	Feb 19	<.0001	mg/L	No
Chromium	Feb 19	<.001	mg/L	No
Lead	Feb 19	.0033	mg/L	No
Mercury	Feb 19	<.0001	mg/L	No
Selenium	Feb 19	<.001	mg/L	No
Uranium	Feb 19	.0001	mg/L	No
Fluoride	Dec 31	.46	mg/L	No
Nitrite	Dec 9	<.1	mg/L	No
Nitrate	Dec 9	.5	mg/L	No

**Summary of Organic parameters sampled during this reporting period or most recent**

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Alachlor	Feb 19	<.0003	mg/L	No
Aldicarb	Feb 19	<.003	mg/L	No
Aldrin + Dieldrin	Feb 19	<.0002	mg/L	No
Atrazine + N-dealkylated metabolites	Feb 19	<.0005	mg/L	No
Azinphos-methyl	Feb 19	<.001	mg/L	No
Bendiocarb	Feb 19	<.003	mg/L	No
Benzene	Feb 19	<.0005	mg/L	No
Benzo(a)pyrene	Feb 19	<.000005	mg/L	No
Bromoxynil	Feb 19	<.000094	mg/L	No
Carbaryl	Feb 19	<.003	mg/L	No
Carbofuran	Feb 19	<.001	mg/L	No
Carbon Tetrachloride	Feb 19	<.0002	mg/L	No
Chlordane (Total)	Feb 19	<.00011	mg/L	No
Chlorpyrifos	Feb 19	<.0005	mg/L	No
Cyanazine	Feb 19	<.0005	mg/L	No
Diazinon	Feb 19	<.001	mg/L	No
Dicamba	Feb 19	<.005	mg/L	No
1,2-Dichlorobenzene	Feb 19	<.0001	mg/L	No
1,4-Dichlorobenzene	Feb 19	<.0002	mg/L	No

Dichlorodiphenyltrichloroethane (DDT) + metabolites	Feb 19	<.001	mg/L	No
1,2-Dichloroethane	Feb 19	<.0001	mg/L	No
1,1-Dichloroethylene (vinylidene chloride)	Feb 19	<.0001	mg/L	No
Dichloromethane	Feb 19	<.0003	mg/L	No
2-4 Dichlorophenol	Feb 19	<.0001	mg/L	No
2,4-Dichlorophenoxy acetic acid (2,4-D)	Feb 19	<.005	mg/L	No
Diclofop-methyl	Feb 19	<.0005	mg/L	No
Dimethoate	Feb 19	<.001	mg/L	No
Dinoseb	Feb 19	<.001	mg/L	No
Diquat	Feb 19	<.005	mg/L	No
Diuron	Feb 19	<.005	mg/L	No
Glyphosate	Feb 19	<.025	mg/L	No
Heptachlor + Heptachlor Epoxide	Feb 19	<.0002	mg/L	No
Lindane (Total)	Feb 19	<.0001	mg/L	No
Malathion	Feb 19	<.005	mg/L	No
Methoxychlor	Feb 19	<.010	mg/L	No
Metolachlor	Feb 19	<.003	mg/L	No
Metribuzin	Feb 19	<.00012	mg/L	No
Monochlorobenzene	Feb 19	<.0002	mg/L	No
Paraquat	Feb 19	<.001	mg/L	No
Parathion	Feb 19	<.003	mg/L	No
Pentachlorophenol	Feb 19	<.0001	mg/L	No
Phorate	Feb 19	<.0003	mg/L	No
Picloram	Feb 19	<.005	mg/L	No
Polychlorinated Biphenyls(PCB)	Feb 19	<.00005	mg/L	No
Prometryne	Feb 19	<.0001	mg/L	No
Simazine	Feb 19	<.00015	mg/L	No
THM (NOTE: show latest quarterly average)	Dec 9	.0271	mg/L	No
Temphos	Feb 19	<.013	mg/L	No
Terbufos	Feb 19	<.0004	mg/L	No
Tetrachloroethylene	Feb 19	<.0002	mg/L	No
2,3,4,6-Tetrachlorophenol	Feb 19	<.00014	mg/L	No
Triallate	Feb 19	<.010	mg/L	No
Trichloroethylene	Feb 19	<.0001	mg/L	No
2,4,6-Trichlorophenol	Feb 19	<.0001	mg/L	No
2,4,5-Trichlorophenoxy acetic acid (2,4,5-T)	Feb 19	<.011	mg/L	No
Trifluralin	Feb 19	<.0005	mg/L	No
Vinyl Chloride	Feb 19	<.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			

(Only if category is large municipal residential, small municipal residential, large municipal non residential, small municipal non residential, large non municipal non residential)

**Appendix A**

Notification Date	AWQI #(s)	Adverse Location	Adverse Parameter	Adverse Result	Units	Remedial Action
2-Jan	22062	Filter # 3 Effluent	Turbidity	1.7	NTU	Optimize Dosage
	22063	Filter # 4 Effluent	Turbidity	1.51	NTU	Optimize dosage
7-Mar	23648	Filter Effluent	Turbidity	>1	NTU	Optimize dosage, increased pre Cl2
8-Mar	23669	Filter Effluent	Turbidity	>1	NTU	Optimize dosage, increased pre Cl2
9-Mar	23690	Filter Effluent	Turbidity	1.13	NTU	Optimize dosage, increased pre Cl2
10-Mar	n/a	Filter Effluent	Turbidity	1.13	NTU	Optimize dosage, increased pre Cl2
12-Mar	23833	Filter Effluent	Turbidity	1.15	NTU	Optimize dosage, backwash filters
20-Apr	25070	Hydrant - 16th Ave E between 16th & 17th St E	Free Cl <sub>2</sub>	0.03	mg/L	Flushed 30 minutes, end free Cl2 was 1.25 mg/L
	25071	Hydrant -1689 10th Street East	Free Cl <sub>2</sub>	0.01	mg/L	Flushed 30 minutes, end free Cl2 was 1.06 mg/L
	25072	Hydrant - 999 7th Street East	Free Cl <sub>2</sub>	0.02	mg/L	Flushed 30 minutes, end free Cl2 was .77 mg/L
13-May	26040	Municipal Header	Total Coliform	10.00	cfu/100 ml	resampled, and results were fine.
17-May	26150	3599 East Bayshore Road	Free Cl <sub>2</sub>	0.03	mg/L	Flushed hydrant for 36 minutes, end free Cl2 was .87 mg/L
31-May	26864	1052 8th Ave East	Free Cl <sub>2</sub>	0.00	mg/L	Flushed hydrant for 16 minutes, end free Cl2 was .46 mg/L
1-Jun	26901	1499 1st Ave West	Free Cl <sub>2</sub>	0.00	mg/L	Flushed hydrant for 18 minutes, end free Cl2 was 1.08 mg/L
7-Jun	27238	856 16th Street West	Free Cl <sub>2</sub>	0.01	mg/L	Flushed hydrant for 33 minutes, End Free Cl2 was .25 mg/L
11-Jun	27530	3054 3rd Ave West	Free Cl <sub>2</sub>	0.02	mg/L	Flushed hydrant for 21 minutes, End Free Cl2 was .87 mg/L
18-Jun	27920	905 9th Ave West	Free Cl <sub>2</sub>	0.02	mg/L	Flushed hydrant for 29 minutes, End Free Cl2 was .71 mg/L
29-Jun	28437	405 6th Ave West	Free Cl <sub>2</sub>	0.00	mg/L	Flushed hydrant for 27 minutes, End Free Cl2 was .53 mg/L
6-Jul	28798	250 1st Street West	Free Cl <sub>2</sub>	0.00	mg/L	Flushed hydrant for 40 minutes, End Free Cl2 was .29 mg/L

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

7-Jul	28894	Unit #5 Forest Height Dr.	Free Cl <sub>2</sub>	0.02	mg/L	Flushed hydrant for 138 minutes, End Free Cl <sub>2</sub> was .27 mg/L
9-Jul	29076	1300 1st Ave East	Free Cl <sub>2</sub>	0.01	mg/L	Flushed hydrant for 15 minutes, End Free Cl <sub>2</sub> was ..7 mg/L
3-Aug	30501	1689 10th St. East	Free Cl <sub>2</sub>	0.00	mg/L	Flushed hydrant for 23 minutes, End Free Cl <sub>2</sub> was .90 mg/L
4-Aug	30533	16th Ave West Hydrant 1-C-164	Free Cl <sub>2</sub>	0.02	mg/L	Flushed hydrant for 28 minutes, End Free Cl <sub>2</sub> was .80 mg/L
4-Aug	30541	Hydrant # 1-C-165	Free Cl <sub>2</sub>	0.02	mg/L	Flushed hydrant for 28 minutes, End Free Cl <sub>2</sub> was .25 mg/L
4-Aug	30542	Hydrant # 2-C-131	Free Cl <sub>2</sub>	0.01	mg/L	Flushed hydrant for 28 minutes, End Free Cl <sub>2</sub> was .85 mg/L
4-Aug	30543	Hydrant # 2-C-132	Free Cl <sub>2</sub>	0.00	mg/L	Flushed hydrant for 28 minutes, End Free Cl <sub>2</sub> was .82 mg/L
4-Aug	30569	Hydrant # 2-C-133	Free Cl <sub>2</sub>	0.03	mg/L	Flushed hydrant for 24 minutes, End Free Cl <sub>2</sub> was .84 mg/L
4-Aug	30570	Hydrant # 2-C-134	Free Cl <sub>2</sub>	0.03	mg/L	Flushed hydrant for 24 minutes, End Free Cl <sub>2</sub> was .87 mg/L
4-Aug	30571	Hydrant # 2-C-135	Free Cl <sub>2</sub>	0.03	mg/L	Flushed hydrant for 24 minutes, End Free Cl <sub>2</sub> was .90 mg/L
9-Aug	30896	Stone Tree Fitness Club	Free Cl <sub>2</sub>	0.04	mg/L	Flushed hydrant for 735 minutes, End Free Cl <sub>2</sub> was .23 mg/L
10-Aug	30945	903 10th St East	Free Cl <sub>2</sub>	0.02	mg/L	Flushed hydrant for 30 minutes, End Free Cl <sub>2</sub> was .25 mg/L
12-Aug	31097	951 7th St East	Free Cl <sub>2</sub>	0.04	mg/L	Flushed hydrant for 30 minutes, End Free Cl <sub>2</sub> was .27 mg/L
12-Aug	31098	999 7th St East	Free Cl <sub>2</sub>	0.00	mg/L	Flushed hydrant for 21 minutes, End Free Cl <sub>2</sub> was .22 mg/L
12-Aug	31194	1040 4th St. East	Free Cl <sub>2</sub>	0.02	mg/L	Flushed hydrant for 22 minutes, End Free Cl <sub>2</sub> was .26 mg/L
16-Aug	31323	Stone Tree Fitness Club	Free Cl <sub>2</sub>	0.04	mg/L	Flushed hydrant for 480 minutes, End Free Cl <sub>2</sub> was .36 mg/L
16-Aug	31324	Highfields Sampling Station	Free Cl <sub>2</sub>	0.03	mg/L	Flushed hydrant for 33minutes, End Free Cl <sub>2</sub> was .74 mg/L
16-Aug	31327	VLA Sampling Station	Free Cl <sub>2</sub>	0.03	mg/L	Flushed hydrant for 210minutes, End Free Cl <sub>2</sub> was .32 mg/L
18-Aug	31401	560 9th St East Hydrant 2E29	Free Cl <sub>2</sub>	0.04	mg/L	Flushed hydrant for 30 minutes, End Free Cl <sub>2</sub> was .22 mg/L
25-Aug	31760	285 8th Ave East Hydrant 2E95	Free Cl <sub>2</sub>	0.04	mg/L	Flushed hydrant for 46 minutes, End Free Cl <sub>2</sub> was .32 mg/L
30-Aug	31999	3599 East Bayshore Road	Free Cl <sub>2</sub>	0.01	mg/L	Flushed hydrant for 50 minutes, End Free Cl <sub>2</sub> was ..75 mg/L

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

3-Sep	32317	VLA Sampling Station	Free Cl <sub>2</sub>	0.00	mg/L	Flushed hydrant for 330 minutes, End Free Cl <sub>2</sub> was .228mg/L
3-Sep	32319	Highfields Sampling Station	Free Cl <sub>2</sub>	0.02	mg/L	Flushed hydrant for 45 minutes, End Free Cl <sub>2</sub> was .67mg/L
13-Sep	n/a	VLA Sampling Station	Free Cl <sub>2</sub>	0.01	mg/L	Flushed hydrant for 330 minutes, End Free Cl <sub>2</sub> was .33 mg/L
13-Sep	n/a	Highfields Sampling Station	Free Cl <sub>2</sub>	0.03	mg/L	Flushed hydrant for 30 minutes, End Free Cl <sub>2</sub> was .45 mg/L
13-Sep	n/a	Stone Tree Fitness Club	Free Cl <sub>2</sub>	0.03	mg/L	Flushed hydrant for 690 minutes, End Free Cl <sub>2</sub> was .21 mg/L
20-Sep	33118	Stone Tree Fitness Club	Free Cl <sub>2</sub>	0.04	mg/L	Flushed hydrant for 535 minutes, End Free Cl <sub>2</sub> was .27 mg/L
20-Sep	33119	VLA Sampling Station	Free Cl <sub>2</sub>	0.04	mg/L	Flushed hydrant for 255 minutes, End Free Cl <sub>2</sub> was .31 mg/L
20-Sep	33120	Highfields Sampling Station	Free Cl <sub>2</sub>	0.03	mg/L	Flushed hydrant for 30 minutes, End Free Cl <sub>2</sub> was .73mg/L
23-Sep	33284	Hydrant # 2D126	Free Cl <sub>2</sub>	0.01	mg/L	Flushed hydrant for 40 minutes, End Free Cl <sub>2</sub> was .34mg/L
27-Sep	33434	Highfields Sampling Station	Free Cl <sub>2</sub>	0.04	mg/L	Flushed hydrant for 20 minutes, End Free Cl <sub>2</sub> was .43mg/L
4-Oct	33799	Highfields Sampling Station	Free Cl <sub>2</sub>	0.02	mg/L	Flushed hydrant for 30 minutes, End Free Cl <sub>2</sub> was .58mg/L
7-Oct	33940	450 6th Ave West	Free Cl <sub>2</sub>	0.01	mg/L	Flushed hydrant for 35 minutes, End Free Cl <sub>2</sub> was .26mg/L
12-Oct	34074	Highfields Sampling Station	Free Cl <sub>2</sub>	0.03	mg/L	Flushed hydrant for 35 minutes, End Free Cl <sub>2</sub> was .75mg/L
14-Oct	34124	860 8th Ave A East	Free Cl <sub>2</sub>	0.00	mg/L	Flushed hydrant for 30 minutes, End Free Cl <sub>2</sub> was .22mg/L
15-Oct	34228	1050 Superior Street	Free Cl <sub>2</sub>	0.02	mg/L	Flushed hydrant for 15 minutes, End Free Cl <sub>2</sub> was .41mg/L
19-Oct	34347	Highfields Sampling Station	Free Cl <sub>2</sub>	0.01	mg/L	Flushed hydrant for 20 minutes, End Free Cl <sub>2</sub> was .37mg/L
29-Oct	34709	VLA Sampling Station	Free Cl <sub>2</sub>	0.01	mg/L	Flushed hydrant for 240 minutes, End Free Cl <sub>2</sub> was .62mg/L
2-Nov	34849	Highfields Sampling Station	Free Cl <sub>2</sub>	0.02	mg/L	Flushed hydrant for 30 minutes, End Free Cl <sub>2</sub> was .67mg/L
2-Nov	34850	VLA Sampling Station	Free Cl <sub>2</sub>	0.01	mg/L	Flushed hydrant for 210 minutes, End Free Cl <sub>2</sub> was .44mg/L
3-Nov	34907	VLA Sampling Station	Free Cl <sub>2</sub>	0.04	mg/L	Flushed hydrant for 255 minutes, End Free Cl <sub>2</sub> was .59mg/L
8-Nov	35130	Highfields Sampling Station	Free Cl <sub>2</sub>	0.02	mg/L	Flushed hydrant for 25 minutes, End Free Cl <sub>2</sub> was .47mg/L

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

9-Dec	50884	Filter #3	Turbidity	1.32	NTU	Coagulant dosage was increased
10-Dec	35130	Filter Effluent	Turbidity	1.22	NTU	Optimized coagulant dosage and backwashed filter