

# O.Reg 170 SECTION 11 ANNUAL REPORT

<b>Drinking-Water System Number:</b>	220002707
<b>Drinking-Water System Name:</b>	Port Elgin Water Supply System
<b>Drinking-Water System Owner:</b>	Town of Saugeen Shores
<b>Drinking-Water System Category:</b>	Large Municipal Residential
<b>Period being reported:</b>	January 1 to December 31, 2006

<p><b><u>Complete if your Category is Large Municipal Residential or Small Municipal Residential</u></b></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 [X] No [ ]</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; margin-top: 5px;">             Town of Saugeen Shores              600 Tomlinson Drive              Port Elgin, Ontario              N0H 2C0              (519) 832-2008         </div>	<p><b><u>Complete for all other Categories.</u></b></p> <p>Number of Designated Facilities served:  <div style="border: 1px solid black; width: 100px; height: 20px; margin: 5px 0;"></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; width: 100px; height: 20px; margin: 5px 0;"></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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**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 [ ] N/A [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
- [X] 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 \_\_\_\_\_

# O.Reg 170 SECTION 11 ANNUAL REPORT

## Describe your Drinking-Water System

Class 2 Water Distribution, Class 3 Water Treatment
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The Port Elgin Water Treatment Plant draws its raw water from Lake Huron through a raw water intake consisting of 200 m of 50.8 cm diameter steel welded intake pipe connected to an intake crib. The intake crib is an upturned steel intake bell with an inside diameter of approximately 100 cm and a circular steel cover plate with an outside diameter of 315 cm. The intake crib is located at a depth of approximately 2.74 to 4.11 meters, depending upon cyclical variations in lake levels.

The Port Elgin Water Treatment Plant is a surface water treatment plant servicing the community of Port Elgin located at 194 Harbour Street rated at a maximum daily flow of 7855 m<sup>3</sup>/day. The low lift pumping station draws its water from Lake Huron through one of two (one working and one standby) vertical turbine low lift pumps each with a rated capacity of 106 L/s. From there the water is directed to the plant through a 400 mm diameter pipe. When the raw water enters the water treatment plant, a flow measurement is taken utilizing a venture flow meter. When the lake water temperature goes above 12 degrees Celsius the raw water is prechlorinated at the intake to provide zebra mussel control. This chlorine dosage is monitored by a total chlorine analyzer upon entering the water treatment plant.

Coagulation is provided by injecting alum in the low lift piping. The alum feed system is comprised of a 24 m<sup>3</sup> storage tank complete with two chemical feed pumps each having a capacity of 1.3 L/hr. Polymer (polyelectrolyte) is also added once the water enters the clariflocculator. The clariflocculator is a prepackaged Ecodyne unit with a central flocculation zone and a clarifier utilizing a sludge blanket. The polymer feed system is comprised of a 2270 L storage tank complete with a mixer, a dry polymer feed hopper and two chemical feed pumps each having a capacity of 340 L/hr.

The water is then filtered through one of two individual dual, media filter beds, composed of 430 mm of anthracite over a 254 mm thick layer of sand. Once filtered, the water is chlorinated utilizing a sodium hypochlorite solution fed through one of two pumps having a capacity of 9.5 L/hr. The water is then stored in a clearwell comprised of two cells with a combined capacity of 380 m<sup>3</sup>. The finished water is then pumped into the distribution system via one of three high lift pumps, two of which are electric having a capacity of 53 L/s and one standby diesel pump with a capacity of 136.4 L/s.

The filter backwash waste treatment system comprises of a surge tank and one constant speed, horizontal, end suction, centrifugal pump having a capacity of 6.31 L/s at 7.6 m TDH to pump the filter backwash wastewater from the surge tank into the clariflocculator inlet for recycling of the wastewater in the plant. Two constant speed horizontal, end suction sludge pumps, (1 working, 1 standby), each having a capacity of 4.9 L/s at 4.6 m TDH, pump clarifier waste sludge into the sanitary sewer.

The Port Elgin distribution system services approximately 6800 year-round residents and during the summer months the population is said to double.

Storage capacity for the system is provided by a 2000 m<sup>3</sup> steel standpipe and a 4546 m<sup>3</sup> capacity in-ground cement water reservoir.

# O.Reg 170 SECTION 11 ANNUAL REPORT

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

- Aluminum sulphate
- Polyelectrolytes Cytec A-100
- Sodium hypochlorite 12%
- Acidic Alum

**Were any significant expenses incurred to?**

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

**Describe**

- Repaired high lift pump #1
- Repaired low lift pump #1
- Repaired generator at the reservoir

**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
01/16/06 AWQI #62068	Turbidity	1.07	NTU	Resample	01/16/06 Sample Results OK.

**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 Or Background Colony Counts	Range of HPC Results (#-#) Or Background Colony Counts
<b>Raw</b>	55	0-132	0-1180	0	0-0
<b>Treated</b>	55	0-0	0-0	55	0-1
<b>Distribution</b>	248	0-0	0-0	89	0-1

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

	Number of Grab Samples	Range of Results (#-#)
<b>Turbidity</b>	8760	0.08-1.46
<b>Chlorine</b>	8760	0.70-1.60
<b>Chlorine Residual Distribution System</b>	612	0.46-1.50

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

## O.Reg 170 SECTION 11 ANNUAL REPORT

*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	C of A Limit	Units
N/A					

**Summary of Inorganic parameters tested during this reporting period or most recent**

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Antimony	01/10/06	<0.6	ug/L	No
Arsenic	01/10/06	<2	ug/L	No
Barium	01/10/06	14	ug/L	No
Boron	01/10/06	16	ug/L	No
Cadmium	01/10/06	<0.1	ug/L	No
Chromium	01/10/06	<3	ug/L	No
Lead	01/10/06	<0.1	ug/L	No
Mercury	01/10/06	0.02	ug/L	No
Selenium	01/10/06	<3	ug/L	No
Sodium	04/13/04	5.2	mg/L	No
Uranium	01/10/06	0.07	ug/L	No
Fluoride	04/13/04	0.07	mg/L	No
Nitrite	01/10/06	<0.005	mg/L	No
	04/04/06	<0.005	mg/L	No
	07/18/06	<0.005	mg/L	No
	10/10/06	<0.005	mg/L	No
Nitrate	01/16/06	0.822	mg/L	No
	04/04/06	0.382	mg/L	No
	07/18/06	0.274	mg/L	No
	10/10/06	0.307	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	01/10/06	<0.11	ug/L	No
Aldicarb	01/10/06	<0.30	ug/L	No
Aldrin + Dieldrin	01/10/06	<0.067	ug/L	No
Atrazine + N-dealkylated metabolites	01/10/06	<0.12	ug/L	No
Azinphos-methyl	01/10/06	<0.21	ug/L	No
Bendiocarb	01/10/06	<0.13	ug/L	No
Benzene	01/10/06	<0.36	ug/L	No
Benzo(a)pyrene	01/10/06	<0.004	ug/L	No
Bromoxynil	01/10/06	<0.094	ug/L	No
Carbaryl	01/10/06	<0.16	ug/L	No
Carbofuran	01/10/06	<0.37	ug/L	No
Carbon Tetrachloride	01/10/06	<0.34	ug/L	No
Chlordane (Total)	01/10/06	<0.11	ug/L	No

## O.Reg 170 SECTION 11 ANNUAL REPORT

Chlorpyrifos	01/10/06	<0.18	ug/L	No
Cyanazine	01/10/06	<0.18	ug/L	No
Diazinon	01/10/06	<0.081	ug/L	No
Dicamba	01/10/06	<0.17	ug/L	No
1,2-Dichlorobenzene	01/10/06	<0.56	ug/L	No
1,4-Dichlorobenzene	01/10/06	<0.25	ug/L	No
Dichlorodiphenyltrichloroethane (DDT) + metabolites	01/10/06	<0.14	ug/L	No
1,2-Dichloroethane	01/10/06	<0.32	ug/L	No
1,1-Dichloroethylene (vinylidene chloride)	01/10/06	<0.52	ug/L	No
Dichloromethane	01/10/06	<1.17	ug/L	No
2-4 Dichlorophenol	01/10/06	<0.15	ug/L	No
2,4-Dichlorophenoxy acetic acid (2,4-D)	01/10/06	<0.19	ug/L	No
Diclofop-methyl	01/10/06	<0.13	ug/L	No
Dimethoate	01/10/06	<0.12	ug/L	No
Dinoseb	01/10/06	<0.084	ug/L	No
Diquat	01/10/06	<1	ug/L	No
Diuron	01/10/06	<0.087	ug/L	No
Glyphosate	01/10/06	<6	ug/L	No
Heptachlor + Heptachlor Epoxide	01/10/06	<0.11	ug/L	No
Linadane (Total)	01/10/06	<0.056	ug/L	No
Malathion	01/10/06	<0.091	ug/L	No
Methoxychlor	01/10/06	<0.14	ug/L	No
Metolachlor	01/10/06	<0.092	ug/L	No
Metribuzin	01/10/06	<0.12	ug/L	No
Monochlorobenzene	01/10/06	<0.46	ug/L	No
Paraquat	01/10/06	<1	ug/L	No
Parathion	01/10/06	<0.18	ug/L	No
Pentachlorophenol	01/10/06	<0.15	ug/L	No
Phorate	01/10/06	<0.11	ug/L	No
Picloram	01/10/06	<0.20	ug/L	No
Polychlorinated Biphenyls(PCB)	01/10/06	<0.04	ug/L	No
Prometryne	01/10/06	<0.23	ug/L	No
Simazine	01/10/06	<0.15	ug/L	No
***THM	2006 average	17	ug/L	No
Temephos	01/10/06	<0.31	ug/L	No
Terbufos	01/10/06	<0.12	ug/L	No
Tetrachloroethylene	01/10/06	<0.48	ug/L	No
2,3,4,6-Tetrachlorophenol	01/10/06	<0.14	ug/L	No
Triallate	01/10/06	<0.10	ug/L	No
Trichloroethylene	01/10/06	<0.54	ug/L	No
2,4,6-Trichlorophenol	01/10/06	<0.25	ug/L	No
2,4,5-Trichlorophenoxy acetic acid (2,4,5-T)	01/10/06	<0.14	ug/L	No
Trifluralin	01/10/06	<0.12	ug/L	No
Vinyl Chloride	01/10/06	<0.08	ug/L	No

\*\*\* Annual running quarter average

## O.Reg 170 SECTION 11 ANNUAL REPORT

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
N/A			

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