

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

<b>Drinking-Water System Number:</b>	220004037
<b>Drinking-Water System Name:</b>	Inglewood Well Supply
<b>Drinking-Water System Owner:</b>	Region of Peel
<b>Drinking-Water System Category:</b>	Large Municipal Residential
<b>Period being reported:</b>	January 1, 2004 to December 31, 2004

<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;">                 10 Peel Centre Drive, 4<sup>th</sup> floor                  Brampton, Ontario                  L6T 4B9             </div>	<p><b><u>Complete for all other Categories.</u></b></p> <p>Number of Designated Facilities served:  <div style="border: 1px solid black; padding: 2px; width: 100px; text-align: center;">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; width: 100px; text-align: center;">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 Drinking-Water Systems, which receive all of their drinking water from your system:

Drinking Water System Name	Drinking Water System Number
None	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.**

**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 population served in Inglewood is 1055

#### General System Description

The Inglewood well supply consists of three groundwater wells of the screened overburden type. Well Nos.1 and 2 comprise one source of supply and Well No.3 the other. Both supplies deliver to a single distribution system.

Well Nos.1 and 2 are located on Lot 2, Concession 1, WHS Caledon, Region of Peel, in close proximity to one another and outside a common treatment plant building. The building houses sodium hypochlorite disinfection facilities, standby power, instruments, controls and appurtenances.

Well No.3 is located on Lot 3, Concession 1, WHS Caledon, Region of Peel, outside a treatment plant building. The building houses sodium hypochlorite disinfection facilities, standby power, instruments, controls and appurtenances.

#### Well No. 1 and Well No.2 Supply System

Two wells, one production and one standby consisting of the following:

Well No. 1 (standby): located in a concrete chamber exterior to the water treatment plant building, east of McLaughlin Road, Town of Caledon, with a 254 mm dia. steel casing extending to a depth of 13.1m, with a screen length of 2.1m. The well is equipped with a submersible deep well pump rated at 7.5 L/s at a total dynamic head (TDH) of 85m. The well chamber is fitted with a flood alarm and lockout feature.

Well No. 2 (production) is located in a concrete chamber exterior to the water treatment plant building, east of McLaughlin Road, Town of Caledon, with a 254 mm dia. steel casing extending to a depth of 9.4m, with a screen length of 2.1m. The well is equipped with a submersible deep well pump rated at 15.1 L/s at a TDH of 58m. The well chamber is fitted with a flood alarm and lockout feature.

#### Treatment Plant Building:

The treatment plant building is a 12.8 m by 4.8 m brick structure housing a sodium hypochlorite feed system, piping, valves and appurtenances, two 5 m<sup>3</sup> pressure ballast tanks, a static chemical mixer, instruments and controls, connected to the Region of Peel SCADA system, and standby power.

A microfiltration system, comprising of a 20 micron cartridge pre-filter followed by a 1 micron absolute membrane filter equipped with ten 152mm OD by 1020mm long membrane modules (8 duty, 2 standby), each module capable of treating a peak flow of 2.12 L/s, provide minimum 2.5 log reduction of giardia cysts, and satisfy NSF 53 and 61 criteria;

The well is equipped with the following:

One particle counter with size range 2 to 300 micrometer, complete with communications hardware and software to communicate directly to the Region's SCADA / RTU;

One magnetic flow meter to monitor instantaneous and total flow

One electronic control valve, slaved to above flow meter to limit the flow through the treatment plant to 15.1 L/s;  
 One differential pressure indicating transmitter;  
 One chlorine contact simulator designed for a flow of 1 L/min, installed in the 13mm diameter treated water sample line upstream of the existing chlorine residual analyzer, and consisting of 25 m of 38 mm diameter "Food Grade" braided tubing; and  
 One online continuous turbidity analyzer measuring treated water turbidity at the point of entrance to the distribution system with alarm and lockout capability.

Disinfection System:

Disinfection is provided by a sodium hypochlorite dosing system, to maintain a minimum of 1.1 mg/L free residual chlorine at the end of 405 meters of 300 mm diameter transmission main from the treatment works, dedicated for chlorine contact time, and consisting of:

- two installed metering pumps
- one shelved spare metering pump
- one 170 L sodium hypochlorite tank;
- on-line chlorine residual analyzer with alarm and lockout capability.

Standby Power:

Standby power supply is provided by an 80 kW diesel generator, complete with automatic transfer switch and one 1,100 Litre capacity fuel storage tank, with spill containment.

Well No. 3 Supply System

One production well located in a 3 m by 3 m by 5 m deep concrete vault exterior to the water treatment plant building, on the west side of Highway 10 between Grange Sideroad and Olde Baseline Road with a 305 mm dia. steel casing extending to a depth of 54.9m, with a screen length of 6.1 m. The well is equipped with a submersible deep well pump rated at 20.0 L/s at a TDH of 116.96 m. The well vault is equipped with a sump pump and a flood alarm connected to the Region of Peel SCADA system.

Treatment Plant Building:

The treatment plant building is a 9.0 m by 8.8 m concrete block structure housing a sodium hypochlorite feed system, a sodium silicate feed system, piping, valves and appurtenances, instruments and controls, connected to the Region of Peel SCADA system, and standby power in a separate room.

Disinfection System:

Disinfection is provided by a sodium hypochlorite dosing system consisting of:

- one metering pump
- one shelved spare metering pump
- sodium hypochlorite supplied from 204 L drums
- on-line chlorine residual analyzer with alarm and lockout capability.

Online continuous turbidity analyzer measuring treated water turbidity at the point of entrance to the distribution system with alarm and lockout capability.

Iron Sequestering System:

Iron sequestering is provided by sodium silicate dosing system consisting of:

- one metering pump
- sodium silicate supplied from 200 L drums.

Standby Power:

Standby power supply is provided by a 125 kW diesel generator, complete with automatic transfer switch and one 1,100 Litre capacity fuel storage tank, with spill containment.

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

Sodium Hypochlorite
Sodium Silicate

**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**

Significant Installations	Approximate Expenditure
Inglewood Well 1 & 2 Membrane Filtration (to meet new regulatory requirements)	\$195,000
Water Service Installations	\$0

Significant Repairs	Approximate Expenditure
Inglewood Well 3 Check Valve	\$7,745
Watermain Breaks	\$0
Fire Hydrant Repairs	\$388
Water Distribution System Valve Repairs	\$0
Water Service Repairs	\$0

Significant Replacements	Approximate Expenditure
Fire Hydrant Replacements	\$0
Water Service Replacements	\$0

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

**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 (dd/mm/yy)	Parameter	Result	Unit of Measure	Corrective Action	Corrective Action Date (dd/mm/yy)
17/05/04	Background - Reservoir	>200	CFU/100ml	Re-sampled upstream, downstream and the reported location	19/05/04
17/06/04	Sodium – Well # 2	25.6	mg/L	Re-sampled, Health authority notified	29/06/04
09/08/04	Positive P/A test			Re-sampled upstream, downstream and the reported location	16/08/04
14/10/04	Sodium Well # 2 Reservoir System Max	32.8 21.1 20.5	mg/L mg/L mg/L	Re-sampled, Health authority notified	28/10/04

**Note:** Incident date represents the sampling date, corrective action date represents the date incident was resolved.

**Microbiological testing done under 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#)
<b>Inglewood Well # 2 Raw</b>	29	0	0-3	29	0-12
<b>Inglewood Well # 2 Treated</b>	29	0	0	28	0-2
<b>Inglewood Well # 3 Raw</b>	51	0	0	51	0
<b>Inglewood Well # 3 Treated</b>	51	0	0	39	0
<b>Distribution</b>	156	0	0	117	0-1

**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#) Well # 2	Range of Results (min#)-(max#) Well # 3	<i>NOTE: For continuous monitors use 8760 as the number of samples.</i>
<b>Turbidity</b>	185 176	0.01-0.07	0.01-0.27	
<b>Chlorine</b>	187 188	0.74-1.82	0.28-3.45	
<b>Fluoride</b> (If the DWS provides fluoridation)	N/A	N/A	N/A	

*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

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

Parameter	Sample Date (dd/mm/yy)	Result Value Well # 2	Result Value Well # 3	Unit of Measure	Exceedance
<b>Antimony</b>	04/02/04		<0.0005	mg/L	No
	17/06/04	<0.485		ug/L	
<b>Arsenic</b>	04/02/04		<0.002	mg/L	No
	17/06/04	<0.427		ug/L	
<b>Barium</b>	04/02/04		0.238	mg/L	No
	17/06/04	0.100		mg/L	
<b>Boron</b>	04/02/04		0.062	mg/L	No
	17/06/04	0.036		mg/L	
<b>Cadmium</b>	04/02/04		<0.0001	mg/L	No
	17/06/04	<0.0001		mg/L	
<b>Chromium</b>	04/02/04		<0.005	mg/L	No
	17/06/04	<0.009		mg/L	
<b>Lead</b>	04/02/04		0.0006	mg/L	No
	17/04/04	2.19		ug/L	
<b>Mercury</b>	18/02/04		<0.00005	mg/L	No
	17/06/04	<0.0001		mg/L	
<b>Selenium</b>	04/02/04		<0.002	mg/L	No
	17/06/04	0.497		ug/L	
<b>Sodium</b>	14/10/04		19.9	mg/L	No Yes
	22/10/04	26.5		mg/L	

Uranium	04/02/04 17/06/04	0.0005	<0.0001	mg/L mg/L	No
Fluoride	14/10/04	<0.087	0.108	mg/L	No
Nitrite	14/10/04	<0.017	<0.017	mg/L as N	No
Nitrate	14/10/04	0.524	<0.044	mg/L as N	No

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

Parameter	Sample Date (dd/mm/yy)	Result Value Well # 2	Result Value Well # 3	Unit of Measure	Exceedance
Alachlor	22/09/04 28/09/04	ND	ND	ug/L	No
Aldicarb	22/09/04 28/09/04	ND	ND	ug/L	No
Aldrin + Dieldrin	22/09/04 28/09/04	ND	ND	ug/L	No
Atrazine + N-dealkylated metabolites	22/09/04 28/09/04	ND	ND	ug/L	No
Azinphos-methyl	22/09/04 28/09/04	ND	ND	ug/L	No
Bendiocarb	22/09/04 28/09/04	ND	ND	ug/L	No
Benzene	22/09/04 28/09/04	ND	ND	ug/L	No
Benzo(a)pyrene	22/09/04 28/09/04	<0.01	ND	ug/L	No
Bromoxynil	22/09/04 28/09/04	ND	ND	ug/L	No
Carbaryl	22/09/04 28/09/04	ND	ND	ug/L	No
Carbofuran	22/09/04 28/09/04	ND	ND	ug/L	No
Carbon Tetrachloride	22/09/04 28/09/04	ND	ND	ug/L	No
Chlordane (Total)	22/09/04 28/09/04	ND	ND	ug/L	No
Chlorpyrifos	22/09/04 28/09/04	ND	ND	ug/L	No
Cyanazine	22/09/04 28/09/04	ND	ND	ug/L	No
Diazinon	22/09/04 28/09/04	ND	ND	ug/L	No
Dicamba	22/09/04 28/09/04	ND	ND	ug/L	No

<b>1,2-Dichlorobenzene</b>	22/09/04 28/09/04	ND	ND	ug/L	No
<b>1,4-Dichlorobenzene</b>	22/09/04 28/09/04	ND	ND	ug/L	No
<b>Dichlorodiphenyltrichloroethane (DDT) + metabolites</b>	22/09/04 28/09/04	ND	ND	ug/L	No
<b>1,2-Dichloroethane</b>	22/09/04 28/09/04	ND	ND	ug/L	No
<b>1,1-Dichloroethylene (vinylidene chloride)</b>	22/09/04 28/09/04	ND	ND	ug/L	No
<b>Dichloromethane</b>	22/09/04 28/09/04	ND	ND	ug/L	No
<b>2-4 Dichlorophenol</b>	22/09/04 28/09/04	ND	ND	ug/L	No
<b>2,4-Dichlorophenoxy acetic acid (2,4-D)</b>	22/09/04 28/09/04	ND	ND	ug/L	No
<b>Diclofop-methyl</b>	22/09/04 28/09/04	ND	ND	ug/L	No
<b>Dimethoate</b>	22/09/04 28/09/04	ND	ND	ug/L	No
<b>Dinoseb</b>	22/09/04 28/09/04	ND	ND	ug/L	No
<b>Diquat</b>	22/09/04 28/09/04	ND	ND	ppb	No
<b>Diuron</b>	22/09/04 28/09/04	ND	ND	ug/L	No
<b>Glyphosate</b>	22/09/04 28/09/04	ND	ND	ug/L	No
<b>Heptachlor + Heptachlor Epoxide</b>	22/09/04 28/09/04	ND	ND	ug/L	No
<b>Linadane (Total)</b>	22/09/04 28/09/04	ND	ND	ug/L	No
<b>Malathion</b>	22/09/04 28/09/04	ND	ND	ug/L	No
<b>Methoxychlor</b>	22/09/04 28/09/04	ND	ND	ug/L	No
<b>Metolachlor</b>	22/09/04 28/09/04	ND	ND	ug/L	No
<b>Metribuzin</b>	22/09/04 28/09/04	ND	ND	ug/L	No
<b>Monochlorobenzene</b>	22/09/04 28/09/04	ND	ND	ug/L	No
<b>Paraquat</b>	22/09/04 28/09/04	ND	ND	ppb	No

<b>Parathion</b>	22/09/04 28/09/04	ND	ND	ug/L	No
<b>Pentachlorophenol</b>	22/09/04 28/09/04	ND	ND	ug/L	No
<b>Phorate</b>	22/09/04 28/09/04	ND	ND	ug/L	No
<b>Picloram</b>	22/09/04 28/09/04	ND	ND	ug/L	No
<b>Polychlorinated Biphenyls(PCB)</b>	22/09/04 28/09/04	ND	ND	ug/L	No
<b>Prometryne</b>	22/09/04 28/09/04	ND	ND	ug/L	No
<b>Simazine</b>	22/09/04 28/09/04	ND	ND	ug/L	No
<b>THM</b> (NOTE: show latest annual average)	14/10/04	34.6 (distribution)		ug/L	No
<b>Temephos</b>	22/09/04 28/09/04	ND	ND	ug/L	No
<b>Terbufos</b>	22/09/04 28/09/04	ND	ND	ug/L	No
<b>Tetrachloroethylene</b>	22/09/04 28/09/04	ND	ND	ug/L	No
<b>2,3,4,6-Tetrachlorophenol</b>	22/09/04 28/09/04	ND	ND	ug/L	No
<b>Triallate</b>	22/09/04 28/09/04	ND	ND	ug/L	No
<b>Trichloroethylene</b>	22/09/04 28/09/04	ND	ND	ug/L	No
<b>2,4,6-Trichlorophenol</b>	22/09/04 28/09/04	ND	ND	ug/L	No
<b>2,4,5-Trichlorophenoxy acetic acid (2,4,5-T)</b>	22/09/04 28/09/04	ND	ND	ug/L	No
<b>Trifluralin</b>	22/09/04 28/09/04	ND	ND	ug/L	No
<b>Vinyl Chloride</b>	22/09/04 28/09/04	ND	ND	ug/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	N/A	N/A	N/A

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