

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

<b>Drinking-Water System Number:</b>	220004947
<b>Drinking-Water System Name:</b>	Caledon East 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 Caledon East is 5369

Caledon East Well Pump House No.2

A communal well water supply system consisting of one well supply and treatment system and associated appurtenances, located at 15897 Airport Road in Caledon East, Town of Caledon.

Well No.2 is a 254 mm diameter 30 m deep casing with a 6.0 m long well screen length drilled ground water production well, equipped with a submersible well water pump rated at 18.2 L/s at a Total Dynamic Head (TDH) of 91.4m.

The well is equipped with flow meter, air release valve, pump control and check valve, raw and treated water sample taps, a pressure relief as well as a manual by pass and all other fittings, online continuous chlorine analyzer with alarm and lockout capability and one online continuous turbidity analyzer measuring treated water turbidity at the point of entrance to the distribution system with alarm and lockout capability.

The disinfection system consists of:

- one metering pump with shelved stand-by chemical feed pump available on site
- sodium hypochlorite supplied from 204 L drums

The iron sequestration system consists of:

- one metering pump
- sodium silicate supplied from 204 L drums

A 50 kW stand-by diesel generator set complete with automatic transfer switch system, to provide stand-by power to the facility in the event of power failure is located in the pump house.

All instrumentation and equipment are compatible with the Region's SCADA system.

Caledon East Well Pump House No.3

A communal well water supply system consisting of one well supply and treatment system and associated appurtenances, located at 20 Robert Carson Drive in Caledon East, Town of Caledon.

Well No. 3 is a 300 mm diameter 48 m deep casing with a 7.6 m long well screen length drilled ground water production well equipped with a submersible well water pump rated at 30.3 L/s at a TDH of 111.0 m.

The well is equipped with flow meter, air release valve, pump control and check valve, raw and treated water sample taps, a pressure relief as well as a manual by pass, all other fittings, online continuous chlorine analyzer with alarm and lockout capability and one online continuous turbidity analyzer measuring treated water turbidity at the point of entrance to the distribution system with alarm and lockout capability.

The disinfection system consists of:

- one metering pump with shelved stand-by chemical feed pump available onsite.
- sodium hypochlorite supplied from 204 L drums.

All instrumentation and equipment compatible with the Region's SCADA system.

#### Caledon East Well Pump House No.4

A communal well water supply system consisting of one well supply and treatment system and associated appurtenances, located at 5612 The Granite Stones Drive in Caledon East, Town of Caledon.

Well No.4 is a 254 mm diameter 57 m deep casing with a 7.6 m long well screen length drilled ground water production well, equipped with a submersible well water pump rated at 45 L/s at a TDH of 75 m.

The well is equipped with 150 mm diameter magnetic flow meter, air release valve, pump control and check valve, raw and treated water sample taps, pressure relief as well as a manual by pass and all other fittings, online continuous chlorine analyzer with alarm and lockout capability and one online continuous turbidity analyzer measuring treated water turbidity at the point of entrance to the distribution system with alarm and lockout capability.

The disinfection system consists of:

- one metering pump with shelved stand-by chemical feed pump available onsite.
- sodium hypochlorite supplied from 204 L drums.

The iron sequestration system consists of:

- one metering pump
- sodium silicate supplied from 204 L drums.

A 125 kW stand-by diesel generator set complete with automatic transfer switch system to provide stand-by power to the facility in the event of a power failure is located in the pump house as well as a booster pumping system to supply a small sub-division.

All instrumentation and control system equipment compatible with the Region's SCADA system.

#### Caledon East Well Pump House No.5 (Works Previously Approved Under CofA No. 7562-4USS4E But Not Constructed)

An existing 150 mm diameter 39.6 m deep drilled groundwater well with a 300 mm diameter casing extending 27.6 m deep (Well No.5), located in Lot 23, Concession 1 at 16399 Airport Road, Caledon East, Town of Caledon, is equipped with a deep well submersible pump, rated at 30.3 L/s at a TDH of 73.4 m, with a 150 mm diameter discharge line connected to the well pump header in the pump house.

A well pump house, located over the well, housing treatment and control facilities, includes a 150 mm header with appurtenances, a chlorination system utilizing sodium hypochlorite, consisting of two 1,130 L polyethylene drums and two chemical feed pumps (one duty, one standby).

The feed line injects to the 150 mm header before the static mixer and a catalytic iron removal system, backwashing to an exterior subsurface cast-in place concrete storage structure of 70 m<sup>3</sup> total capacity for the settling of iron precipitate, equipped with two submersible pumps, capable of pumping at a rate of 2.5 L/s for the recirculation of supernatant to a point upstream of the chlorination point.

There is a 50 HP standby diesel generator located in an area contained by a 200 mm curb, with a 1135 L fuel tank contained in a 600 mm high containment area.

Note: Well No. 5 is not in use.

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

Sodium Hypochlorite Sodium Silicate
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**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
Water Service Installations	\$19,000

Significant Repairs	Approximate Expenditure
Caledon East Well 2 & Well 3 Performance Test	\$4,000
Watermain Breaks	\$0
Fire Hydrant Repairs	\$7,384
Water Distribution System Valve Repairs	\$168
Water Service Repairs	\$9,294

Significant Replacements	Approximate Expenditure
Fire Hydrant Replacements	\$0
Water Service Replacements	\$1,560

**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)
11/02/04	Sodium – Well #2	35.2	mg/L	Health authority notified	17/02/04

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

**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#)
Caledon East Well # 2 Raw	52	0	P (sample date 19/01/04)	52	0-5700
Caledon East Well # 2 Treated	52	0	0	40	0-10
Caledon East Well # 3 Raw	52	0	0	52	0-1
Caledon East Well # 3 Treated	52	0	0	40	0
Caledon East Well # 4 Raw	52	0	0	52	0-1
Caledon East Well # 4 Treated	52	0	0	40	0
Distribution	206	0	0	155	0-10

**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	Range of Results (min#)-(max#) Well # 4
Turbidity	155 152 174	0.01-0.41	0.01-0.70	0.01-0.28
Chlorine	181 173 177	1.07-1.65	1.10-1.56	0.91-1.68
Fluoride (If the DWS provides fluoridation)	N/A	N/A	N/A	N/A

*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, 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	Result Value Well # 4	Unit of Measure	Exceedance
Antimony	11/02/04	<0.0005	<0.0005	<0.0005	mg/L	No
Arsenic	11/02/04	<0.002	<0.002	<0.002	mg/L	No
Barium	11/02/04	0.118	0.109	0.139	mg/L	No
Boron	11/02/04	0.043	0.047	0.014	mg/L	No
Cadmium	11/02/04	<0.0001	<0.0001	<0.0001	mg/L	No
Chromium	11/02/04	<0.005	<0.005	<0.005	mg/L	No
Lead	11/02/04	<0.0005	<0.0005	<0.0005	mg/L	No
Mercury	11/02/04	<0.00005	<0.00005	<0.00005	mg/L	No
Selenium	11/02/04	<0.002	<0.002	<0.002	mg/L	No
Sodium	14/10/04	43.6	99.5	7.80	mg/L	Yes
Uranium	11/02/04	0.0007	0.0006	<0.0001	mg/L	No
Fluoride	14/10/04	<0.087	<0.087	<0.087	mg/L	No
Nitrite	13/12/04		<0.017		mg/L as N	No
	14/10/04	<0.017		<0.017	mg/L as N	No
Nitrate	13/12/04		6.44		mg/L as N	No
	14/10/04	6.48		<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 Caledon East Well # 2	Result Value Caledon East Well # 3	Result Value Caledon East Well # 4	Unit of Measure	Exceedance
Alachlor	22/09/04	ND	ND		ug/L	No
	28/09/04			ND		
Aldicarb	22/09/04	ND	ND		ug/L	No
	28/09/04			ND		
Aldrin + Dieldrin	22/09/04	ND	ND		ug/L	No
	28/09/04			ND		
Atrazine + N-dealkylated metabolites	22/09/04	ND	ND	ND	ug/L	No
Azinphos-methyl	22/09/04	ND	ND		ug/L	No
	28/09/04			ND		
Bendiocarb	22/09/04	ND	ND		ug/L	No
	28/09/04			ND		
Benzene	22/09/04	ND	ND	ND	ug/L	No
Benzo(a)pyrene	22/09/04	ND	<0.01		ug/L	No
	28/09/04			<0.01		
Bromoxynil	22/09/04	ND	ND		ug/L	No
	28/09/04			ND		
Carbaryl	22/09/04	ND	ND		ug/L	No
	28/09/04			ND		

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

Metribuzin	22/09/04 28/09/04	ND	ND	ND	ug/L	No
Monochlorobenzene	22/09/04	ND	ND	ND	ug/L	No
Paraquat	22/09/04	ND	ND	ND	ug/L	No
Parathion	22/09/04 28/09/04	<0.49	ND	ND	ppb	No
Pentachlorophenol	22/09/04 28/09/04	ND	ND	ND	ug/L	No
Phorate	22/09/04 28/09/04	ND	ND	ND	ug/L	No
Picloram	22/09/04 28/09/04	ND	ND	ND	ug/L	No
Polychlorinated Biphenyls(PCB)	22/09/04 28/09/04	ND	ND	ND	ug/L	No
Prometryne	22/09/04 28/09/04	ND	ND	ND	ug/L	No
Simazine	22/09/04 28/09/04	ND	ND	ND	ug/L	No
THM (NOTE: show latest annual average)	14/10/04	11.2 (distribution)			ug/L	No
Temephos	22/09/04 28/09/04	ND	ND	ND	ug/L	No
Terbufos	22/09/04 28/09/04	ND	ND	ND	ug/L	No
Tetrachloroethylene	22/09/04	ND	ND	ND	ug/L	No
2,3,4,6-Tetrachlorophenol	22/09/04 28/09/04	ND	ND	ND	ug/L	No
Triallate	22/09/04 28/09/04	ND	ND	ND	ug/L	No
Trichloroethylene	22/09/04	ND	ND	ND	ug/L	No
2,4,6-Trichlorophenol	22/09/04 28/09/04	ND	ND	ND	ug/L	No
2,4,5-Trichlorophenoxy acetic acid (2,4,5-T)	22/09/04 28/09/04	ND	ND	ND	ug/L	No
Trifluralin	22/09/04 28/09/04	ND	ND	ND	ug/L	No
Vinyl Chloride	22/09/04	ND	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)**