

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

<b>Drinking-Water System Number:</b>	210001317
<b>Drinking-Water System Name:</b>	Lorne Park Water Treatment Plant
<b>Drinking-Water System Owner:</b>	Regional Municipality of Peel
<b>Drinking-Water System Category:</b>	Class IV / 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>Does your Drinking-Water System serve more than 10,000 people? Yes [<input checked="" type="checkbox"/>] No [ ]</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 [ ]</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;">                 Region of Peel                  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:  <input style="width: 100px; height: 20px;" type="text"/></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: <input style="width: 100px; height: 20px;" type="text"/></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>
----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

**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
None	

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

Lorne Park Water Treatment Plant is one of two Class IV facilities that supply water to the South Peel Water System. Lorne Park WTP primarily provides safe drinking water to three (3) distribution system reservoirs and one elevated tank on the western side of the distribution system that serves an approximate population of 1,186,344 people in Brampton, Bolton and Mississauga. The Lorne Park W.T.P is a conventional water treatment plant with a rated maximum production capacity of 347 ML/day. Raw water from Lake Ontario is prechlorinated with sodium hypochlorite at the intake for zebra mussel control when the raw water temperatures are greater than 12<sup>0</sup>C. Chlorine is applied in the lowlift for pre-chlorination as well as after filtration for post disinfection. Raw water passes through traveling screens to remove larger debris and protect equipment. Lowlift pumps move water up to two groups of filters (1-8) and (9-12). Before filtration, acidified aluminum sulphate is added to the raw water which then goes through flash mixing, flocculation through upflow spiral wound floc tanks (1-8 filters) and 3 stage mechanical flocculation (9-12 filters), sedimentation through lamellae plate settlers and filtration through dual media filters (granular activated carbon (GAC), sand and gravel for 1-8 filters and GAC and sand for 9-12 filters). Filtered water is chlorinated and fluoridated and then collects in large baffled storage reservoir (22.7 ML) to meet CT requirements until it is pumped to distribution system using the highlift pumps. Filter backwash wastewater may be collected in any of three holding tanks from which it is pumped into a mixing tank for coagulation with alum. Wastewater is then transferred to 4 clarifiers where settled sludge is removed through a decant drain and enters a sanitary sewer system. While the supernatant from the clarifiers is dechlorinated with sodium bisulphate and discharged into a storm sewer where it then goes back to the lake.

**Note:** The serviced population of 1,186,344 was 1,015,000 prior to November 2004.

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

Acidified Aluminum sulphate (Alum), hydrofluosilicic acid, sodium hypochlorite and sodium bisulphite.

### 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

#### Lorne Park Waterworks (Including Distribution)

Significant Installations	Approximate Expenditure
Water Service Installation	\$55,000
Security Improvements	\$10,000
Streetsville Pumping Station Additional Pump	\$1,150,000

Significant Repairs	Approximate Expenditure
Watermain Break Repairs	\$850,000
Fire Hydrant Repairs	\$95,000
Water Service Repairs	\$75,000
Water Distribution System Valve Repairs	\$62,000
Meadowvale Reservoir Repairs	\$433,000
Lorne Park WTP Plate Settler Refurbishment	\$200,000
Various Water Distribution System Pumps, Inspection & Repairs	\$85,300

Significant Replacements	Approximate Expenditure
Lorne Park WTP Phone System	\$240,000
Watermain replacement	\$7,000,000
Valve Replacements	\$0
Water Service Replacements	\$8,000
Fire Hydrant Replacements	\$5,000

**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
26-Feb-04	Free chlorine residual (445 Indian Rd., Mississauga)	0	mg/L	Flushed hydrant and resampled.	26-Feb-04
04-March-04	Free chlorine residual (445 Indian Rd., Mississauga)	0	mg/L	Flushed hydrant, replaced valve and resampled.	04-March-04
17-March-04	Total coliform (Herridge PS)	1	cfu/100 ml	Re-sampled upstream, downstream & at point of adverse sample.	22-March-04
18-March-04	Total coliform (8 Pleasely Ave.)	1	cfu/100 ml	Re-sampled upstream, downstream & at point of adverse sample.	23-March-04
22-March-04	Total coliform Background (Mini Skool Day Care, 2488 Bromsgrove Rd.)	60 >200	cfu/100 ml cfu/100 ml	Re-sampled upstream, downstream & at point of adverse sample.	24-March-04
25-March-04	Fluoride (Lorne Park WTP)	Not adverse 1.23	mg/L	Fluoride pump and plant flow rate adjusted. Retested.	26-March-04
03-May-04	Background (39 Carlyle Cres.)	>200	cfu/100 ml	Re-sampled upstream, downstream & at point of adverse sample.	10-May-04
21-June-04	Total coliform (76 Darcel Ave.) Total coliform (3476 Glen Erin Dr.)	1 4	cfu/100 ml cfu/100 ml	Re-sampled upstream, downstream & at point of adverse sample.	24-June-04
25-July-04	Total coliform (3463 Ashrow Cres.)	2.5	cfu/100 ml	Re-sampled upstream, downstream & at point of adverse sample.	30-July-04
16-Sept-04	Free chlorine residual leaving the plant	0.1	mg/L	Water treatment plant shutdown, disinfection restored, distribution lines flushed and resampled.	17-July-04
17-Sept-04	Free chlorine residual leaving Lorne Park WTP	0.1	mg/L	Lorne Park WTP shut down. Hypochlorinators checked and cleared of airlocks. Plant restarted.	20-Sept-04

				Distribution lines flushed. Chlorine residuals and microbiological samples taken.	
15-Nov-04	Total coliform (Knightswood Cres.)	240	cfu/100 ml	Re-sampled upstream, downstream & at point of adverse sample.	17-Nov-04
<p><b>Note:</b> <sup>1</sup>Notifications listed above include distribution locations primarily serviced by Lorne Park WTP on the western side of the distribution system.  <sup>2</sup>Incident date is represented by sampling date, corrective action date represents the date incidents were resolved by laboratory confirmation results.</p>					

### 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 #)
<b>Raw</b>	54	0	0 – 16	51	0 – 23
<b>Treated</b>	159	0	0	50	0
<b>Distribution</b>	2427*	0	0	1416*	0 - 4

\*This value is 40% of the total distribution samples collected by the owner and operator. It reflects the ratio of distribution pumping stations directly supplied by the Lorne Park WTP relative to those supplied by the Lakeview WTP.

### 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 #)
<b>Turbidity</b>	8760	0.01- 0.75 NTU
<b>Chlorine</b>	8760	0.63 – 2.95 mg/L
<b>Fluoride</b> (If the DWS provides fluoridation)	8760	0.42 –1.33 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, order or other legal instrument.

Date of legal instrument issued	Parameter	Date Sampled	Result	Unit of Measure
<b>Point of Entrance to the distribution</b>				
20-Nov-02	THMs	29-Jan-04	12.0	ug/L
20-Nov-02	THMs	12-Feb-04	11.2	ug/L
20-Nov-02	THMs	04-Mar-04	12.7	ug/L
20-Nov-02	THMs	15-April-04	22.2	ug/L
20-Nov-02	THMs	06-May-04	22.9	ug/L

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

20-Nov-02	THMs	03-June-04	14.1	ug/L
20-Nov-02	THMs	07-July-04	12.8	ug/L
20-Nov-02	THMs	05-Aug-04	24.4	ug/L
20-Nov-02	THMs	02-Sept-04	21.3	ug/L
6-Oct-04	THMs	07-Oct-04	16.4	ug/L
6-Oct-04	THMs	04-Nov-04	19.7	ug/L
6-Oct-04	THMs	02-Dec-04	13.1	ug/L
20-Nov-02	Sodium	29-Jan-04	17.3	mg/L
20-Nov-02	Sodium	15-April-04	18.6	mg/L
20-Nov-02	Sodium	07-July-04	16.1	mg/L
6-Oct-04	Sodium	07-Oct-04	15.2	mg/L
<b>Chloramines</b>				
20-Nov-02	Mono	29-Jan-04	0.06	mg/L
20-Nov-02	Di	29-Jan-04	0.12	mg/L
20-Nov-02	Mono	15-April-04	0.04	mg/L
20-Nov-02	Di	15-April-04	0.12	mg/L
20-Nov-02	Mono	08-July-04	0.06	mg/L
20-Nov-02	Di	08-July-04	0.12	mg/L
6-Oct-04	Mono	07-Oct-04	0.06	mg/L
6-Oct-04	Di	07-Oct-04	0.08	mg/L
<b>Filter Influent</b>				
20-Nov-02	pH	19-Feb-04	7.64	Standard Units
20-Nov-02	pH	15-April-04	7.53	Standard Units
6-Oct-04	pH	05-Aug-04	7.85*	Standard Units
6-Oct-04	pH	07-Oct-04	7.19	Standard Units
<b>Filter Effluent</b>				
20-Nov-02	pH	19-Feb-04	7.63	Standard Units
20-Nov-02	pH	15-April-04	7.52	Standard Units
6-Oct-04	pH	05-Aug-04	7.17*	Standard Units
6-Oct-04	pH	07-Oct-04	7.08	Standard Units
<b>Filter Influent</b>				
20-Nov-02	Free chlorine	19-Feb-04	1.03	mg/L
20-Nov-02	Total chlorine	19-Feb-04	1.19	mg/L
20-Nov-02	Free chlorine	15-April-04	1.40	mg/L
20-Nov-02	Total chlorine	15-April-04	1.58	mg/L
6-Oct-04	Free chlorine	05-Aug-04	0.98*	mg/L
6-Oct-04	Total chlorine	05-Aug-04	1.23*	mg/L
6-Oct-04	Free chlorine	07-Oct-04	0.95	mg/L
6-Oct-04	Total chlorine	07-Oct-04	1.10	mg/L
<b>Filter Effluent</b>				
20-Nov-02	Free chlorine	19-Feb-04	0.06	mg/L
20-Nov-02	Total chlorine	19-Feb-04	0.11	mg/L
20-Nov-02	Free chlorine	15-April-04	0.04	mg/L
20-Nov-02	Total chlorine	15-April-04	0.15	mg/L
6-Oct-04	Free chlorine	05-Aug-04	*	mg/L
6-Oct-04	Total chlorine	05-Aug-04	*	mg/L
6-Oct-04	Free chlorine	07-Oct-04	0.02	mg/L
6-Oct-04	Total chlorine	07-Oct-04	0.09	mg/L
<b>Filter Influent</b>				
20-Nov-02	MIB	19-Feb-04	ND	ng/L
20-Nov-02	Geosmin	19-Feb-04	<1.63	ng/L

\*Note: For August 5, 2004 the filter influent and effluent pH are given as the raw and treated pH respectively. The filter influent free chlorine (0.98 mg/L) represents filters 1-8 settled water free chlorine residual at 14:00 hours. The total chlorine (1.23 mg/L) was estimated as nominally 0.15 mg/L greater than the free chlorine value. The free and total chlorine residuals at the filter effluent on August 5, 2004 could not be adequately estimated from the available data.

20-Nov-02	MIB	15-April-04	ND	ng/L
20-Nov-02	Geosmin	15-April-04	ND	ng/L
20-Nov-02	MIB	05-Aug-04	ND	ng/L
20-Nov-02	Geosmin	05-Aug-04	<1.75	ng/L
6-Oct-04	MIB	27-Sept-04	ND	ng/L
6-Oct-04	Geosmin	27-Sept-04	3.16	ng/L
<b>Filter Effluent</b>				
20-Nov-02	MIB	19-Feb-04	ND	ng/L
20-Nov-02	Geosmin	19-Feb-04	<1.63	ng/L
20-Nov-02	MIB	15-April-04	ND	ng/L
20-Nov-02	Geosmin	15-April-04	ND	ng/L
20-Nov-02	MIB	05-August-04	ND	ng/L
20-Nov-02	Geosmin	05-August-04	<1.75	ng/L
6-Oct-04	MIB	27-Sept-04	ND	ng/L
6-Oct-04	Geosmin	27-Sept-04	2.29	ng/L
<b>Backwash/Wastewater Treatment Facilities' Effluent</b>				
20-Nov-02	Suspended Solids	29-Jan-04	3.7	mg/L
20-Nov-02	Suspended Solids	12-Feb-04	5.7	mg/L
20-Nov-02	Suspended Solids	4-March-04	**	mg/L
20-Nov-02	Suspended Solids	15-April-04	7.0	mg/L
20-Nov-02	Suspended Solids	06-May-04	<4.47	mg/L
20-Nov-02	Suspended Solids	03-June-04	<4.47	mg/L
20-Nov-02	Suspended Solids	07-July-04	5.0	mg/L
20-Nov-02	Suspended Solids	05-August-04	5.17	mg/L
20-Nov-02	Suspended Solids	02-Sept-04	4.1	mg/L
6-Oct-04	Suspended Solids	07-Oct-04	5.67	mg/L
6-Oct-04	Suspended Solids	04-Nov-04	10.5	mg/L
6-Oct-04	Suspended Solids	02-Dec-04	6.0	mg/L
20-Nov-02	Aluminum	29-Jan-04	0.653	mg/L
20-Nov-02	Aluminum	15-April-04	1.42	mg/L
20-Nov-02	Aluminum	07-July-04	1.12	mg/L
6-Oct-04	Aluminum	07-Oct-04	1.16	mg/L
20-Nov-02	Total Phosphorus	29-Jan-04	0.028	mg/L
20-Nov-02	Total Phosphorus	15-April-04	0.028	mg/L
20-Nov-02	Total Phosphorus	07-July-04	<0.025	mg/L
6-Oct-04	Total Phosphorus	07-Oct-04	<0.025	mg/L
20-Nov-02	Total Cl <sub>2</sub> residual	29-Jan-04	0	mg/L
20-Nov-02	Total Cl <sub>2</sub> residual	15-April-04	0	mg/L
20-Nov-02	Total Cl <sub>2</sub> residual	08-July-04	0	mg/L
6-Oct-04	Total Cl <sub>2</sub> residual	07-Oct-04	0	mg/L

\*\* TSS sample for March 4, 2004 was not considered accredited.

### 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	4-Nov-04	<0.485	ug/L	None
Arsenic	4-Nov-04	<0.427	ug/L	None
Barium	4-Nov-04	0.023	mg/L	None
Boron	4-Nov-04	0.025	mg/L	None
Cadmium	4-Nov-04	<0.0001	mg/L	None

<b>Chromium</b>	4-Nov-04	<0.003	mg/L	None
<b>Lead</b>	4-Nov-04	1.63	ug/L	None
<b>Mercury</b>	4-Nov-04	<0.0001	mg/L	None
<b>Selenium</b>	4-Nov-04	0.740	ug/L	None
<b>Sodium</b>	4-Nov-04	15.2	mg/L	None
<b>Uranium</b>	4-Nov-04	0.0002	mg/L	None
<b>Fluoride</b>	31-Dec-04	0.7	mg/L	None
<b>Nitrite</b>	4-Nov-04	<0.017	mg/L as N	None
<b>Nitrate</b>	4-Nov-04	0.449	mg/L as N	None

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

<b>Parameter</b>	<b>Sample Date</b>	<b>Result Value</b>	<b>Unit of Measure</b>	<b>Exceedance</b>
<b>Alachlor</b>	4-Nov-04	ND	ug/L	None
<b>Aldicarb</b>	4-Nov-04	ND	ug/L	None
<b>Aldrin + Dieldrin</b>	4-Nov-04	ND	ug/L	None
<b>Atrazine + N-dealkylated metabolites</b>	4-Nov-04	ND	ug/L	None
<b>Azinphos-methyl</b>	4-Nov-04	ND	ug/L	None
<b>Bendiocarb</b>	4-Nov-04	ND	ug/L	None
<b>Benzene</b>	4-Nov-04	ND	ug/L	None
<b>Benzo(a)pyrene</b>	4-Nov-04	ND	ug/L	None
<b>Bromoxynil</b>	4-Nov-04	ND	ug/L	None
<b>Carbaryl</b>	4-Nov-04	ND	ug/L	None
<b>Carbofuran</b>	4-Nov-04	ND	ug/L	None
<b>Carbon Tetrachloride</b>	4-Nov-04	ND	ug/L	None
<b>Chlordane (Total)</b>	4-Nov-04	ND	ug/L	None
<b>Chlorpyrifos</b>	4-Nov-04	ND	ug/L	None
<b>Cyanazine</b>	4-Nov-04	ND	ug/L	None
<b>Diazinon</b>	4-Nov-04	ND	ug/L	None
<b>Dicamba</b>	4-Nov-04	ND	ug/L	None
<b>1,2-Dichlorobenzene</b>	4-Nov-04	ND	ug/L	None
<b>1,4-Dichlorobenzene</b>	4-Nov-04	ND	ug/L	None
<b>Dichlorodiphenyltrichloroethane (DDT) + metabolites</b>	4-Nov-04	ND	ug/L	None
<b>1,2-Dichloroethane</b>	4-Nov-04	ND	ug/L	None
<b>1,1-Dichloroethylene (vinylidene chloride)</b>	4-Nov-04	ND	ug/L	None
<b>Dichloromethane</b>	4-Nov-04	ND	ug/L	None
<b>2,4 Dichlorophenol</b>	4-Nov-04	ND	ug/L	None
<b>2,4-Dichlorophenoxy acetic acid (2,4-D)</b>	4-Nov-04	ND	ug/L	None
<b>Diclofop-methyl</b>	4-Nov-04	ND	ug/L	None
<b>Dimethoate</b>	4-Nov-04	ND	ug/L	None
<b>Dinoseb</b>	4-Nov-04	ND	ug/L	None
<b>Diquat</b>	4-Nov-04	ND	ppb	None
<b>Diuron</b>	4-Nov-04	ND	ug/L	None
<b>Glyphosate</b>	4-Nov-04	ND	ug/L	None
<b>Heptachlor + Heptachlor Epoxide</b>	4-Nov-04	ND	ug/L	None
<b>Lindane (Total)</b>	4-Nov-04	ND	ug/L	None
<b>Malathion</b>	4-Nov-04	ND	ug/L	None
<b>Methoxychlor</b>	4-Nov-04	ND	ug/L	None
<b>Metolachlor</b>	4-Nov-04	ND	ug/L	None

Metribuzin	4-Nov-04	ND	ug/L	None
Monochlorobenzene	4-Nov-04	ND	ug/L	None
Paraquat	4-Nov-04	ND	ppb	None
Parathion	4-Nov-04	ND	ug/L	None
Pentachlorophenol	4-Nov-04	ND	ug/L	None
Phorate	4-Nov-04	ND	ug/L	None
Picloram	4-Nov-04	ND	ug/L	None
Polychlorinated Biphenyls(PCB)	4-Nov-04	ND	ug/L	None
Prometryne	4-Nov-04	ND	ug/L	None
Simazine	4-Nov-04	ND	ug/L	None
THM (NOTE: show latest annual average)	Avg. as of 2-Dec-04	17.79	ug/L	None
Temephos	4-Nov-04	ND	ug/L	None
Terbufos	4-Nov-04	ND	ug/L	None
Tetrachloroethylene	4-Nov-04	ND	ug/L	None
2,3,4,6-Tetrachlorophenol	4-Nov-04	ND	ug/L	None
Triallate	4-Nov-04	ND	ug/L	None
Trichloroethylene	4-Nov-04	ND	ug/L	None
2,4,6-Trichlorophenol	4-Nov-04	ND	ug/L	None
2,4,5-Trichlorophenoxy acetic acid (2,4,5-T)	4-Nov-04	ND	ug/L	None
Trifluralin	4-Nov-04	ND	ug/L	None
Vinyl Chloride	4-Nov-04	ND	ug/L	None

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)**