

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

Drinking-Water System Number:	210001317
Drinking-Water System Name:	Lorne Park Water Treatment Plant
Drinking-Water System Owner:	Regional Municipality of Peel
Drinking-Water System Category:	Class IV / Large Municipal Residential
Period being reported:	January 1, 2005 – December 31, 2005

<p><u>Complete if your Category is Large Municipal Residential or Small Municipal Residential</u></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, 4th Floor. Brampton, Ontario L6T 4B9 </div>	<p><u>Complete for all other Categories.</u></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>
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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 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 [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

Lorne Park Water Treatment Plant (WTP) is one of two Class IV facilities that supply water to the South Peel Water System. The Lorne Park WTP primarily provides safe drinking water to a population of 502609 (representing 40% of the 1,256,522) via three (3) distribution system reservoirs (that include Herridge, Streetsville, and Meadowvale P.S.) and one (1) elevated tank (at North Streetsville) on the western side of the water distribution system that serves people in Brampton and Mississauga. The Lorne Park WTP is a conventional water treatment plant with a rated maximum production capacity of 347 ML/day. Raw water from Lake Ontario is pre-chlorinated with sodium hypochlorite at the intake for zebra mussel control when the raw water temperatures are greater than 12⁰C. 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 flocculation tanks (1-8 filters) and three (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. It 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 collects in any of three (3) holding tanks from which it is pumped into a mixing tank for coagulation with alum. Wastewater is then transferred to four (4) clarifiers where settled sludge is removed through a decant drain and enters a sanitary sewer system. The supernatant from the clarifiers is de-chlorinated with sodium bisulphite and discharged into a storm sewer where it then goes back to the lake.

Note: The serviced population of 1,256,522 was 1,186,344 prior to 2005.

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	\$120,623
Meadowvale Transmission Watermain	\$9.9 million
Water Distribution New Feeder mains	\$3.3 million
Energy Monitoring Meters (Pumping Stations and Lorne Park WTP)	\$24,000

Significant Repairs	Approximate Expenditure
Watermain Break Repairs	\$ 872,630
Water Hydrant Repairs	\$ 192,455
Water Service Repairs	\$ 486,938
Lorne Park Water Treatment Plant Pump and Motor Refurbishment/Repairs	\$275,000
Various Water Distribution System Pumps and Motor Refurbishment/Repairs	\$248,800

Significant Replacements	Approximate Expenditure
Watermain Replacement	\$12.4 million
Valve Replacements	\$ 41,026
Water Service Replacements	\$ 17,295
Water Hydrant Replacements	\$ 33,394
Lorne Park WTP Zebra Mussel Chlorine Solution Lines (Intake)	\$81,900

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
6-Jan-05	Total Sodium (Na) (Meadowvale P.S., Western Distribution)	31	mg/L	Re-sampled at the reported location. Re-sampled 26 mg/L. Peel Health officer requested no further actions.	21-Jan-05 AWQI= 51912
19-Jan-05	Fluoride (Meadowvale PS, Western Distribution)	0.45	mg/L	Not adverse. Low residuals in distribution. Initiated resampling and monitoring. Report prepared for MOE, Summary of Resolution to non-compliant fluoride results.	24-Jan-05 AWQI=52005
06-Jun-05	Total Coliforms (3221 Derry Rd.)	8	cfu/100 ml	Re-sampled upstream, downstream & at the reported location.	10-June-05 AWQI= 55285
12-July-05	Total coliforms Background (1690 Mazo Crescent)	720	cfu/100 ml	Re-sampled upstream, downstream & at the reported location.. Flushing of mains/pipes.	18-July-05 AWQI= 56762
08-Aug-05	Total coliforms (7005 Old Derry Rd.)	1	cfu/100 ml	Re-sampled upstream, downstream & at the reported location.	12-August-05 AWQI= 57940
07-Nov-05	Total Coliforms (6500 Mississauga Rd.)	18	cfu/100 ml	Re-sampled upstream, downstream & at the reported location.	12-Nov-05 AWQI= 60880
<p>Note: ¹Notifications listed above include distribution locations primarily serviced by Lorne Park WTP on the western side of the distribution system. ²Incident 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 #)
Raw	52	0	0 – 2	52	0 – 480
Treated	154	0	0	52	0
Distribution	1872*	0	0-18	1414*	0 - 180

*This value is 40% of the total distribution samples collected by the owner and operator (total samples collected 4681). 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 #)
Turbidity	8760	0- 0.38 NTU
Chlorine	8760	0.39 – 2.0 mg/L
Fluoride (If the DWS provides fluoridation)	8760	0.3 –0.89 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
Point of Entrance to the distribution				
6-Oct-04	THMs	06-Jan-05	16.6	ug/L
6-Oct-04	THMs	04-Feb-05	<11.2	ug/L
6-Oct-04	THMs	24-Mar-05	14.8	ug/L
6-Oct-04	THMs	07-April-05	20.7	ug/L
6-Oct-04	THMs	05-May-05	12.8	ug/L
6-Oct-04	THMs	09-June-05	19.4	ug/L
6-Oct-04	THMs	07-July-05	22.5	ug/L
6-Oct-04	THMs	04-Aug-05	21.0	ug/L
6-Oct-04	THMs	08-Sept-05	16.0	ug/L
6-Oct-04	THMs	06-Oct-05	19.9	ug/L
31-Oct-05	THMs	03-Nov-05	12.0	ug/L
31-Oct-05	THMs	01-Dec-05	15.8	ug/L
6-Oct-04	Sodium	06-Jan-05	27.0	mg/L
6-Oct-04	Sodium	07-April-05	24.0	mg/L
6-Oct-04	Sodium	07-July-05	19.6	mg/L
6-Oct-04	Sodium	06-Oct-05	16.7	mg/L
6-Oct-04	Chloramines	10-Feb-05	0.10	mg/L
6-Oct-04	Chloramines	06-April-05	0.20	mg/L
6-Oct-04	Chloramines	18-July-05	0.20	mg/L
6-Oct-04	Chloramines	06-Oct-05	0.13	mg/L

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

Filter Influent				
6-Oct-04	pH	10-Feb-2005	6.70	Standard Units
6-Oct-04	pH	03-March-05	6.87	Standard Units
6-Oct-04	pH	06-April-05	6.97	Standard Units
6-Oct-04	pH	07-July-05	7.12	Standard Units
6-Oct-04	pH	04-Aug-05	7.21	Standard Units
6-Oct-04	pH	06-Oct-05	7.32	Standard Units
Filter Effluent				
6-Oct-04	pH	10-Feb-2005	6.86	Standard Units
6-Oct-04	pH	03-March-05	6.92	Standard Units
6-Oct-04	pH	06-April-05	6.97	Standard Units
6-Oct-04	pH	07-July-05	7.08	Standard Units
6-Oct-04	pH	04-Aug-05	7.26	Standard Units
6-Oct-04	pH	06-Oct-05	7.10	Standard Units
Filter Influent				
6-Oct-04	Free chlorine	10-Feb-2005	0.80	mg/L
6-Oct-04	Free chlorine	03-March-05	1.33	mg/L
6-Oct-04	Free chlorine	06-April-05	1.10	mg/L
6-Oct-04	Free chlorine	07-July-05	1.00	mg/L
6-Oct-04	Free chlorine	04-Aug-05	0.98	mg/L
6-Oct-04	Free chlorine	06-Oct-05	0.98	mg/L
6-Oct-04	Total chlorine	10-Feb-2005	0.95	mg/L
6-Oct-04	Total chlorine	03-March-05	1.40	mg/L
6-Oct-04	Total chlorine	06-April-05	1.28	mg/L
6-Oct-04	Total chlorine	07-July-05	1.23	mg/L
6-Oct-04	Total chlorine	04-Aug-05	1.30	mg/L
6-Oct-04	Total chlorine	06-Oct-05	1.18	mg/L
Filter Effluent				
6-Oct-04	Free chlorine	10-Feb-2005	0.04	mg/L
6-Oct-04	Free chlorine	03-March-05	0.00	mg/L
6-Oct-04	Free chlorine	06-April-05	0.07	mg/L
6-Oct-04	Free chlorine	07-July-05	0.07	mg/L
6-Oct-04	Free chlorine	04-Aug-05	0.02	mg/L
6-Oct-04	Free chlorine	06-Oct-05	0.06	mg/L
6-Oct-04	Total chlorine	10-Feb-2005	0.12	mg/L
6-Oct-04	Total chlorine	03-March-05	0.00	mg/L
6-Oct-04	Total chlorine	06-April-05	0.14	mg/L
6-Oct-04	Total chlorine	07-July-05	0.15	mg/L
6-Oct-04	Total chlorine	04-Aug-05	0.09	mg/L
6-Oct-04	Total chlorine	06-Oct-05	0.08	mg/L
Filter Influent				
6-Oct-04	MIB	10-Feb-05	ND	ng/L
6-Oct-04	MIB	03-March-05	ND	ng/L
6-Oct-04	MIB	07-April-05	ND	ng/L
6-Oct-04	MIB	05-May-05	ND	ng/L
6-Oct-04	MIB	09-June-05	ND	ng/L
6-Oct-04	MIB	07-July-05	ND	ng/L
6-Oct-04	MIB	04-Aug-05	ND	ng/L
6-Oct-04	MIB	08-Sept-05	ND	ng/L
6-Oct-04	MIB	06-Oct-05	ND	ng/L
31-Oct-05	MIB	03-Nov-05	ND	ng/L

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31-Oct-05	MIB	01-Dec-05	ND	ng/L
6-Oct-04	Geosmin	10-Feb-05	<1.75	ng/L
6-Oct-04	Geosmin	03-March-05	<1.75	ng/L
6-Oct-04	Geosmin	07-April-05	<1.75	ng/L
6-Oct-04	Geosmin	05-May-05	<1.75	ng/L
6-Oct-04	Geosmin	09-June-05	<1.75	ng/L
6-Oct-04	Geosmin	07-July-05	<1.75	ng/L
6-Oct-04	Geosmin	04-Aug-05	<1.75	ng/L
6-Oct-04	Geosmin	08-Sept-05	2.80	ng/L
6-Oct-04	Geosmin	06-Oct-05	<1.75	ng/L
31-Oct-05	Geosmin	03-Nov-05	<1.75	ng/L
31-Oct-05	Geosmin	01-Dec-05	<1.75	ng/L
Filter Effluent				
6-Oct-04	MIB	10-Feb-05	ND	ng/L
6-Oct-04	MIB	03-March-05	ND	ng/L
6-Oct-04	MIB	07-April-05	ND	ng/L
6-Oct-04	MIB	05-May-05	ND	ng/L
6-Oct-04	MIB	09-June-05	ND	ng/L
6-Oct-04	MIB	07-July-05	ND	ng/L
6-Oct-04	MIB	04-Aug-05	ND	ng/L
6-Oct-04	MIB	08-Sept-05	ND	ng/L
6-Oct-04	MIB	06-Oct-05	ND	ng/L
31-Oct-05	MIB	03-Nov-05	ND	ng/L
31-Oct-05	MIB	01-Dec-05	ND	ng/L
6-Oct-04	Geosmin	10-Feb-05	<1.75	ng/L
6-Oct-04	Geosmin	03-March-05	<1.75	ng/L
6-Oct-04	Geosmin	07-April-05	<1.75	ng/L
6-Oct-04	Geosmin	05-May-05	<1.75	ng/L
6-Oct-04	Geosmin	09-June-05	<1.75	ng/L
6-Oct-04	Geosmin	07-July-05	<1.75	ng/L
6-Oct-04	Geosmin	04-Aug-05	<1.75	ng/L
6-Oct-04	Geosmin	08-Sept-05	<1.75	ng/L
6-Oct-04	Geosmin	06-Oct-05	<1.75	ng/L
31-Oct-05	Geosmin	03-Nov-05	<1.75	ng/L
31-Oct-05	Geosmin	01-Dec-05	<1.75	ng/L
Backwash/Wastewater Treatment Facilities' Effluent				
6-Oct-04	Suspended Solids	06-Jan-05	9.33	mg/L
6-Oct-04	Suspended Solids	09-Feb-05	8.4	mg/L
6-Oct-04	Suspended Solids	03-March-05	8.33	mg/L
6-Oct-04	Suspended Solids	07-April-05	6.83	mg/L
6-Oct-04	Suspended Solids	05-May-05	8.0	mg/L
6-Oct-04	Suspended Solids	09-June-05	14.0	mg/L
6-Oct-04	Suspended Solids	07-July-05	14.0	mg/L
6-Oct-04	Suspended Solids	04-August-05	10.3	mg/L
6-Oct-04	Suspended Solids	08-Sept-05	11	mg/L
6-Oct-04	Suspended Solids	06-Oct-05	9.2	mg/L
31-Oct-05	Suspended Solids	03-Nov-05	12	mg/L
31-Oct-05	Suspended Solids	01-Dec-05	14	mg/L
6-Oct-04	Aluminum	06-Jan-05	1.08	mg/L
6-Oct-04	Aluminum	07-April-05	1.4	mg/L
6-Oct-04	Aluminum	07-July-05	3.0	mg/L
6-Oct-04	Aluminum	06-Oct-05	1.94	mg/L

6-Oct-04	Total Phosphorus	06-Jan-05	<0.025	mg/L
6-Oct-04	Total Phosphorus	07-April-05	0.026	mg/L
6-Oct-04	Total Phosphorus	07-July-05	0.034	mg/L
6-Oct-04	Total Phosphorus	06-Oct-05	0.062	mg/L
6-Oct-04	Total Cl ₂ residual	06-Jan-05	0	mg/L
6-Oct-04	Total Cl ₂ residual	07-April-05	0	mg/L
6-Oct-04	Total Cl ₂ residual	07-July-05	0	mg/L
6-Oct-04	Total Cl ₂ residual	06-Oct-05	0.01	mg/L

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	3-Nov-05	ND	mg/L	None
Arsenic	3-Nov-05	ND	mg/L	None
Barium	3-Nov-05	0.021	mg/L	None
Boron	3-Nov-05	0.021	mg/L	None
Cadmium	3-Nov-05	ND	mg/L	None
Chromium	3-Nov-05	ND	mg/L	None
Lead	3-Nov-05	ND (Meadowvale PS)	mg/L	None
Mercury	3-Nov-05	ND	mg/L	None
Selenium	3-Nov-05	ND	mg/L	None
Sodium	3-Nov-05	16.7	mg/L	None
Uranium	3-Nov-05	<0.0008	mg/L	None
Fluoride	3-Nov-05	0.65	mg/L	None
Nitrite	6-Oct-05	<0.017	mg/L as N	None
Nitrate	6-Oct-05	0.436	mg/L as N	None

ND indicates Not detectable, < indicates below Method Detection Limit. (MDL).

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

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Alachlor	3-Nov-05	ND	ug/L	None
Aldicarb	3-Nov-05	ND	ug/L	None
Aldrin + Dieldrin	3-Nov-05	ND	ug/L	None
Atrazine + N-dealkylated metabolites	3-Nov-05	ND	ug/L	None
Azinphos-methyl	3-Nov-05	ND	ug/L	None
Bendiocarb	3-Nov-05	ND	ug/L	None
Benzene	3-Nov-05	ND	ug/L	None
Benzo(a)pyrene	3-Nov-05	ND	ug/L	None
Bromoxynil	3-Nov-05	ND	ug/L	None
Carbaryl	3-Nov-05	ND	ug/L	None
Carbofuran	3-Nov-05	ND	ug/L	None
Carbon Tetrachloride	3-Nov-05	ND	ug/L	None
Chlordane (Total)	3-Nov-05	ND	ug/L	None
Chlorpyrifos	3-Nov-05	ND	ug/L	None
Cyanazine	3-Nov-05	ND	ug/L	None
Diazinon	3-Nov-05	ND	ug/L	None

Dicamba	3-Nov-05	ND	ug/L	None
1,2-Dichlorobenzene	3-Nov-05	ND	ug/L	None
1,4-Dichlorobenzene	3-Nov-05	ND	ug/L	None
Dichlorodiphenyltrichloroethane (DDT) + metabolites	3-Nov-05	ND	ug/L	None
1,2-Dichloroethane	3-Nov-05	ND	ug/L	None
1,1-Dichloroethylene (vinylidene chloride)	3-Nov-05	ND	ug/L	None
Dichloromethane	3-Nov-05	ND	ug/L	None
2,4 Dichlorophenol	3-Nov-05	ND	ug/L	None
2,4-Dichlorophenoxy acetic acid (2,4-D)	3-Nov-05	ND	ug/L	None
Diclofop-methyl	3-Nov-05	ND	ug/L	None
Dimethoate	3-Nov-05	ND	ug/L	None
Dinoseb	3-Nov-05	ND	ug/L	None
Diquat	3-Nov-05	ND	ppb	None
Diuron	3-Nov-05	ND	ug/L	None
Glyphosate	3-Nov-05	ND	ug/L	None
Heptachlor + Heptachlor Epoxide	3-Nov-05	ND	ug/L	None
Lindane (Total)	3-Nov-05	ND	ug/L	None
Malathion	3-Nov-05	ND	ug/L	None
Methoxychlor	3-Nov-05	ND	ug/L	None
Metolachlor	3-Nov-05	ND	ug/L	None
Metribuzin	3-Nov-05	ND	ug/L	None
Monochlorobenzene	3-Nov-05	ND	ug/L	None
Paraquat	3-Nov-05	ND	ppb	None
Parathion	3-Nov-05	ND	ug/L	None
Pentachlorophenol	3-Nov-05	ND	ug/L	None
Phorate	3-Nov-05	ND	ug/L	None
Picloram	3-Nov-05	ND	ug/L	None
Polychlorinated Biphenyls(PCB)	3-Nov-05	ND	ug/L	None
Prometryne	3-Nov-05	ND	ug/L	None
Simazine	3-Nov-05	ND	ug/L	None
THM (NOTE: show latest annual average)	Avg. as of 1-Dec-05	17.3 (Meadow vale PS, Western Distributi on)	ug/L	None
Temphos	3-Nov-05	ND	ug/L	None
Terbufos	3-Nov-05	ND	ug/L	None
Tetrachloroethylene	3-Nov-05	ND	ug/L	None
2,3,4,6-Tetrachlorophenol	3-Nov-05	ND	ug/L	None
Triallate	3-Nov-05	ND	ug/L	None
Trichloroethylene	3-Nov-05	ND	ug/L	None
2,4,6-Trichlorophenol	3-Nov-05	ND	ug/L	None
2,4,5-Trichlorophenoxy acetic acid (2,4,5-T)	3-Nov-05	ND	ug/L	None
Trifluralin	3-Nov-05	ND	ug/L	None
Vinyl Chloride	3-Nov-05	ND	ug/L	None

ND indicates Not detectable, < indicates below Method Detection Limit. (MDL).

List any Inorganic or Organic parameter(s) that exceeded half the standard prescribed in Schedule 2 of Ontario Drinking Water Quality Standards.

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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)