

# water quality report

**South Peel Water Supply System 2009  
(Mississauga, Bolton, Brampton)**



# water quality report

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# water quality report

## *Our Vision*

**“To be recognized as the Industry Leader in Public Works”**

The Regional Municipality of Peel takes pride in ensuring that its residents are provided with clean and safe drinking water.

The Region of Peel treats water to prevent contamination and regularly tests its quality. In the year 2009 Peel has provided its consumers with excellent quality water. A number of tests were performed on thousands of water samples collected throughout the year, including testing for microbiological, inorganic and organic parameters. The 2009 results of the tests performed by the Region of Peel confirm high quality of drinking water and have been consolidated in this annual report.

*If experiencing difficulty accessing or viewing the 2009 data results, please contact Water Quality Team at 905-791-7800 ext 4685 or at [WaterQualityInquiries@peelregion.ca](mailto:WaterQualityInquiries@peelregion.ca).*



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## **1. General Drinking Water System Information**

### **1.1 Where does the water come from?**

The Cities of Mississauga and Brampton and the Town of Bolton, a population of approximately 1.3 Million people, obtains their drinking water from Lake Ontario. Raw water from the lake is pumped into two surface water plants, Lakeview Water Treatment Plant (WTP) and Lorne Park Water Treatment Plant (WTP), from the intake pipes located about two kilometers off shore. The Lakeview and Lorne Park plants are owned by the Region of Peel and operated by the Ontario Clean Water Agency (OCWA). Each year, the plants produce approximately 212 million liters of water. The South Peel water system also supplies water to the Region of York.

The Lakeview Water Treatment Plant serves the eastern sections of Mississauga and Brampton, and the community of Bolton. The western parts of Mississauga and Brampton are serviced by the Lorne Park Water Treatment facility. Several watermains within the distribution system link the two areas, allowing water to flow from either east to west or west to east.

### **Distribution System/ Storage Facilities**

The South Peel distribution system includes pumping stations, water storage reservoirs, booster stations and a network of watermains ranging in size from 350mm to 900mm in diameter

The system consists of approximately 4,000 km of watermains, 43,700 water valves, 28,300 fire hydrants and over 281,000 water services

The distribution system operation, emergency and preventative maintenance activities include:

- water main break repairs
- hydrant maintenance and repairs
- valve maintenance and repairs
- water service line installation/replacement/repairs
- customer service calls (water quality/quantity, turn off/on, pressure testing, etc.)



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## 1.2 Expenditure Information:

Region of Peel staff determine capital spending priorities to eliminate unnecessary expenditures while maintaining its infrastructure. 2009 was a busy year for water projects and programs; the total expenses for South Peel drinking water infrastructure are shown in Tables 1 and 2:

**Table 1. Significant expenses for Lakeview Drinking Water System**

<b>Significant Repairs</b>	<b>Approximate Expenditure</b>
Watermain break repairs	\$1,600,039
Fire hydrant repairs	\$505,385
Water distribution system valve repairs	\$244,276
Water service repairs	\$431,999
Service box repairs	\$290,328
Permeate pump repairs	\$90,000
Filter gallery sump upgrades	\$44,000
Waste building sump upgrades	\$35,000
Improvements to ventilation system	\$18,000
Automation of stand-by power system	\$178,000
Membrane tank recoating	\$22,000
New pump installation	\$56,000

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<b>Significant Replacements</b>	<b>Approximate Expenditure</b>
Fire hydrant replacements	\$112,582
Water service replacements	\$27,156
Water distribution valve replacement	\$83,750
Service box replacement-Vactor	\$387,023
Replacement of Granulated Activated Carbon	\$1,390,000

**Table 2. Significant expenses for Lorne Park Drinking Water System**

<b>Significant Repairs</b>	<b>Approximate Expenditure</b>
Watermain break repairs	\$1,066,693
Fire hydrant repairs	\$336,923
Water distribution system valve repairs	\$162,850
Water service repairs	\$287,999
Service box repairs	\$193,552
HVAC repairs	\$16,000
Repair of drain gate on filters	\$125,000
Refurbishment of High Lift Pumps	\$90,000
Refurbishment of Low Lift Pumps	\$32,000

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## 2. How is Water Treated?

### 2.1 Lakeview Water Treatment Plant

(Drinking Water Works Number 210000568)

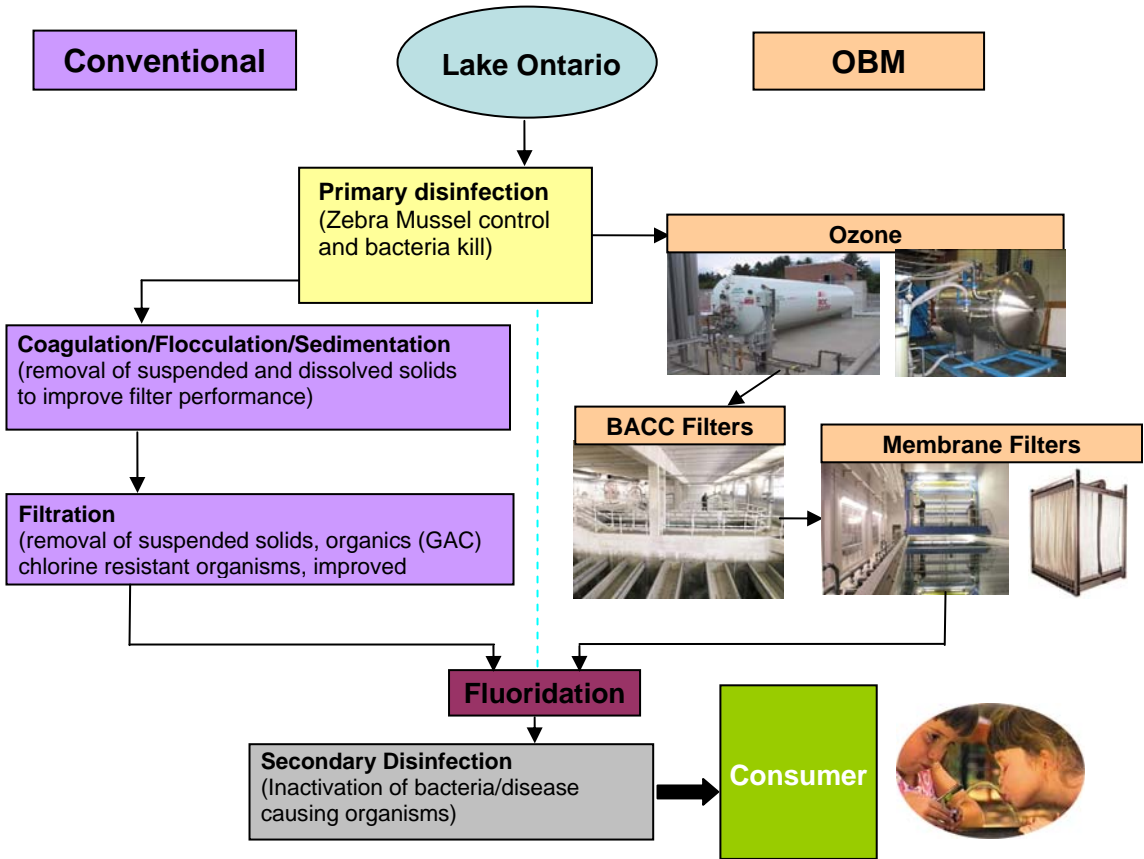


The Lakeview Water Treatment Plant (WTP) is divided into two treatment process types plants; conventional and advanced. The conventional treatment consists of raw water disinfection, coagulation, flocculation, sedimentation and filtration unit processes while advanced treatment includes Ozone application, Biologically activated and Membrane filtration (OBM). The water treated at the conventional and OBM plants is blended and undergoes the last treatment process; disinfection. The Lakeview WTP process flow is presented in Diagram 1.

Detailed description of the conventional water treatment and OMB treatment are presented in Sections 2.3 and 2.4 of this report.

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Diagram 1. Lakeview Water Treatment Plant process flow



The chemicals used at the Lakeveiw water treatment plant over the reporting period were aluminum sulphate (Alum), chlorine gas, hydrofluosilicic acid, polymer, sulphur dioxide, sulphuric acid, sodium hypochlorite, sodium hydroxide, sodium bisulphate and ozone gas.

In addition, aqua ammonia was applied at the Airport pumping station to supply chloraminated water to York.

<http://www.peelregion.ca/pw/water/water-trtmt/lakeview.htm>

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## 2.2 Lorne Park Water Treatment Plant

(Drinking Water Works Number 210001317)



The Lorne Park Water Treatment Drinking Water System is a conventional treatment plant and consists of raw water disinfection, coagulation, flocculation, sedimentation, and filtration and disinfection unit processes.

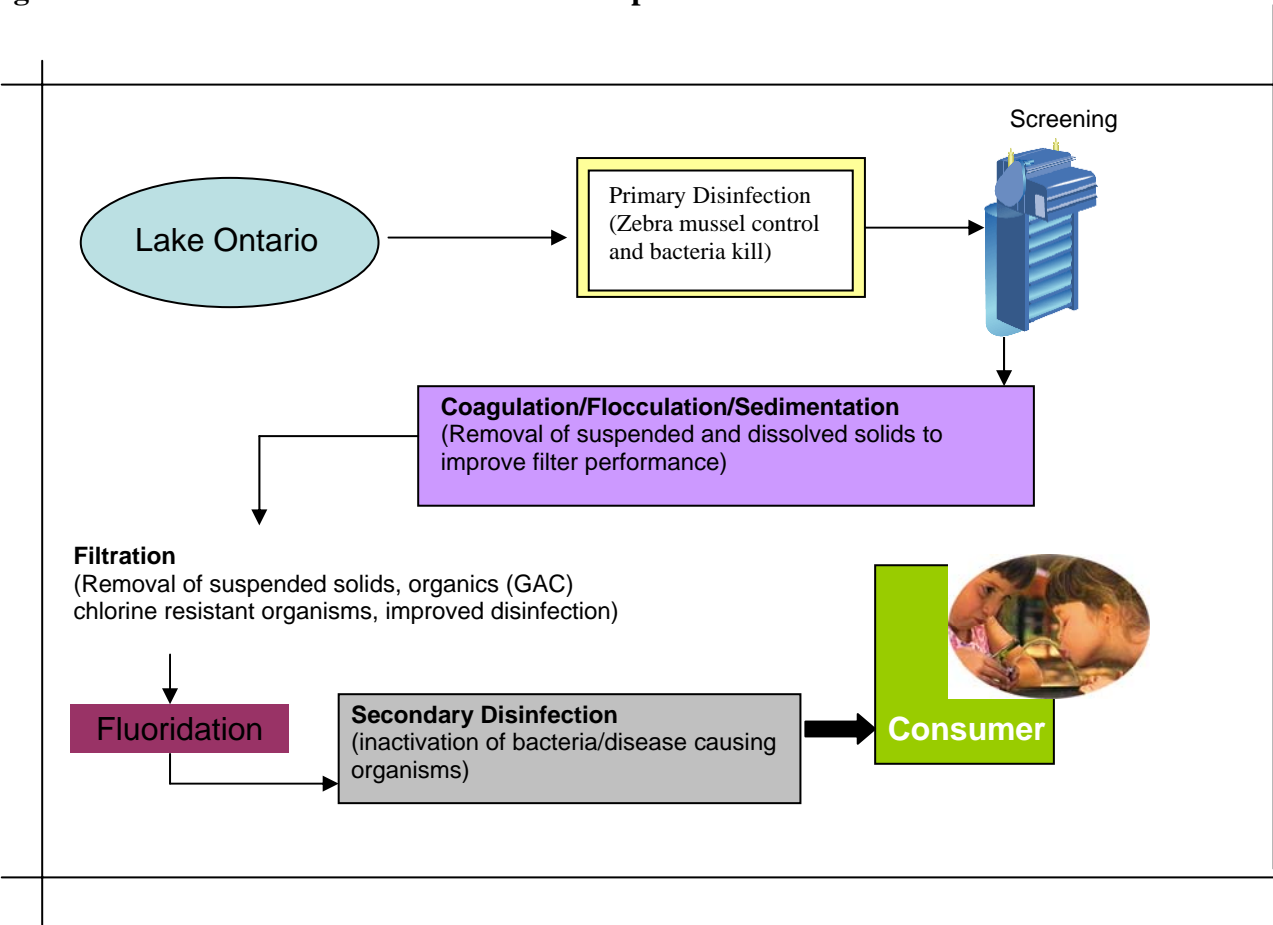
In 2009, construction began to enlarge the plant's capacity to 500 million liters to ensure an adequate supply of safe drinking water to an increasing population. The upgrades to the plant include installation of modern, state of the art, membrane filtration and an ultraviolet (UV) light treatment system to inactivate pathogens and control the taste and odors that are sometimes found in the water. Every effort has been taken to minimize impacts by implementing a design that uses existing foot print of the plant.

The Lorne Park WTP process flow is presented in Diagram 2.

Detailed description of the conventional water treatment is presented in Sections 2.3 of this report.

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Diagram 2. Lorne Park Water Treatment Plant process flow



The chemicals used at the Lorne Park plant during the reporting period were acidified aluminum sulphate (Alum), hydrofluosilicic acid, sodium hypochlorite and sodium bisulphate.

<http://www.peelregion.ca/pw/water/water-trtmt/lorne-park.htm>



### 2.3 Conventional Water Treatment Process description

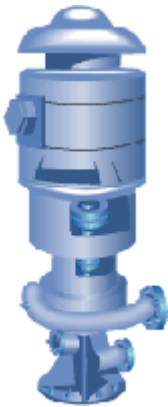


**Lake Ontario** is the source for the South Peel Water System. As the lake water enters the intake, it is chlorinated. The chlorine kills bacteria and prevents zebra mussels from growing in and around the intake pipe and obstructing the flow.

As the water enters the treatment facility, it passes through the **travelling screen**. The screen prevents larger items such as fish, sticks and aquatic plants from entering the treatment facility and damaging equipment.

**Low Lift, High Lift and backwash pumps** are located throughout the plant and in several Pumping Stations.

**Low Lift pumps** draw the lake water into the treatment plant.



**Coagulation** assists with the removal of turbidity and suspended matter (particles) in the water.

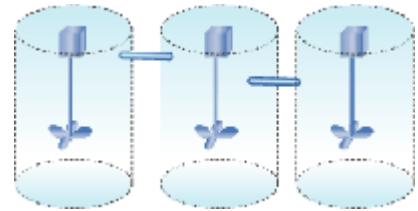
A coagulant (acidified aluminum sulphate) is added to water.



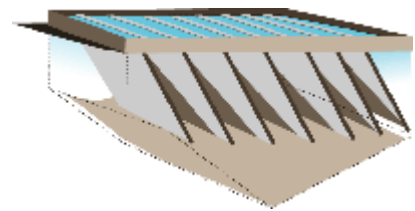
The **rapid mixer** thoroughly mixes the coagulant with water to help form sticky particles.

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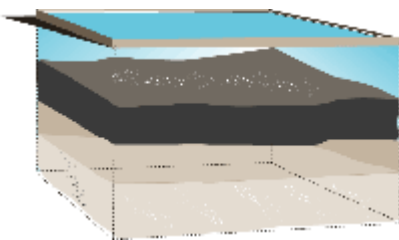
**Flocculation** is the process of slow mixing that helps the sticky particles collide with each other, forming larger and heavier particles called floc.



In the sedimentation process, floc particles are removed from the water by inclined plate settlers. The water flow is slowed down to allow heavy particles to settle to the bottom. The settled solids are removed and transferred to the [wastewater treatment facility](#).



**Filtration** removes remaining particles and chlorine-resistant bacteria and reduces the levels of compounds that can cause taste and odors. The water travels through layers of granular activated carbon, sand and gravel. Water starts at the top of the filter and moves down by gravity. Granular Activated Carbon filter is used to remove organic compounds that contribute to taste and odour in water by the process of adsorption.



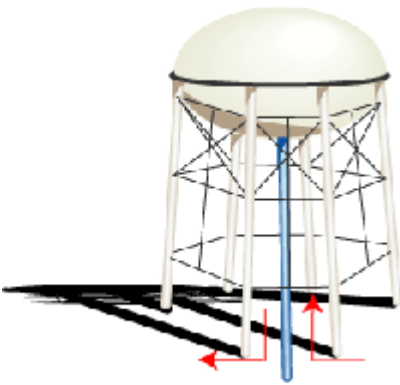
When needed, the filters are **backwashed** (cleaned) by reversing the water flow. Clean water is pumped through the filter media lifting and flushing out the floc particles that have accumulated in the filter. The backwash water is sent to the [backwash treatment facility](#) for treatment before it is discharged into the lake.

The process of **disinfection** destroys harmful, disease causing organisms such as *E. coli* and *Giardia*. Chlorine is the most common disinfectant used in water treatment. The treated water is allowed to remain in contact with chlorine for a period of time to ensure effective disinfection before serving the first consumer in the water distribution system.

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**Fluoride** is added to the finished water to prevent cavities in our teeth.

High Lift pumps transfer water into the distribution system. Water is transferred between different pressure zones by pumping and booster stations and stored in water **reservoirs**.



Diesel-powered generators provide auxiliary or standby power for the facilities. Standby power ensures water can be supplied in case of an emergency such as a massive power failure.

The water flows through a network of distribution **watermains** to houses, apartment buildings, schools, commercial and industrial premises.

*Note: Click onto this link [Water Treatment](#) to download a water treatment poster and to learn about the water treatment process.*



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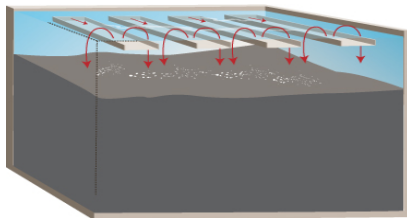
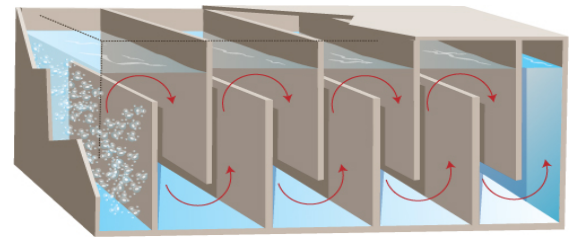
## 2.4 Ozone, Biologically Activated Carbon and Membrane Filtration (OBM)

### Water Treatment Process Description



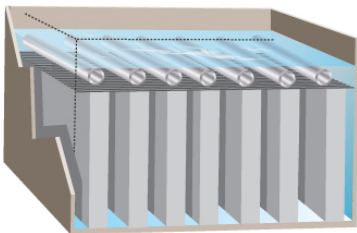
**Low lift pumps** draw water from Lake Ontario into the treatment plant.

Ozone gas is bubbled through the water as it resides in the **Ozone Contactors**. Ozone kills bacteria and also helps to break down substances that cause tastes and odors so that they are more easily removed in the next treatment step.



The water passes into the **Biologically Active Carbon Contactors (BACC)**. These specially designed filters remove the biodegradable organic matter produced by the activity of the ozone process. The BACC filters are very good at absorbing organic matter from the water and this removal process keeps the water stable after treatment by minimizing re-growth of bacteria in the distribution system.

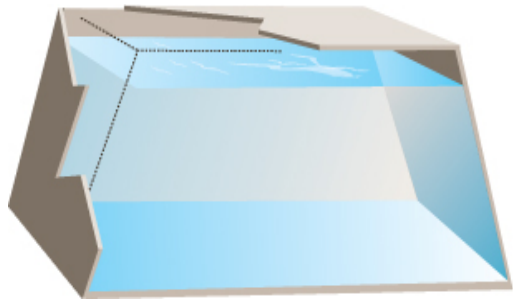
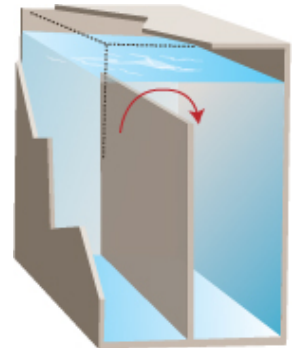
In the next treatment process water passes through the **Membrane Filtration** system. These are specially designed water filters with very small pores that the water is pulled through.



The membrane filters are very efficient and capable of removing micro-organisms that live in water, producing water with very little turbidity.

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Membrane Filtered water is directed to the **Weir Box**. The weir box is used to store water for cleaning the membranes and also is the location where chlorine and fluoride is added.



Treated water from both the conventional treatment and the OBM treatment process flows by gravity into the water **Storage Reservoir**.

The water remains in the storage reservoir to ensure adequate disinfection.

Water leaves the reservoir by way of **High Lift Pumps** and enters the distribution system.



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### **3. Ontario Drinking Water Compliance Information**

Drinking water quality in Peel is regulated by the Ontario government through the Ministry of the Environment (MOE). The Ontario drinking water legislation sets requirements for municipal system owners with regards to the operation, level of treatment, sampling and testing, licensing of staff and water quality notification.

#### **Water Quality Annual Reports**

To comply with the Ontario drinking water regulation under the Safe Drinking Water Act (SDWA), the Region prepares Water Quality Reports providing information on quality of water supplied and a Summary Report regarding the operation of the drinking water systems.

The Summary Report under Schedule 22 of the Ontario Regulation 170/03 includes a statement of compliance of the Region of Peel's drinking water systems with the terms and conditions of the drinking water regulations under the Safe Drinking Water Act and a summary of the quantities and flow rates of water supplied. This report is made available by March 31 of each year.

The Annual Reports are made available to the public to ensure Peel consumers are kept informed. Each year, the reports are posted on the regional web site and electronic or hard copies may be obtained upon request. The Region places an ad in the local newspapers to inform its consumers about the availability of the Annual Reports.

#### **Sampling and Testing**

In accordance with the drinking water legislation, drinking water systems are required to monitor their water quality to ensure it meets provincial standards.

Peel regularly samples and tests raw, treated and distribution system water for a number of microbiological, chemical and radiological parameters. The Region has always had an extensive water

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sampling and monitoring program, to better understand the quality of source water, ensure effective treatment processes and to diligently monitor and protect the drinking water supply.

Sampling and testing is conducted by trained and qualified operators, who collect water samples from various sampling sites throughout the Region and immediately test them for first water safety indicators. Samples are also collected for laboratory analysis for more than 150 health related and aesthetic parameters.

The MOE requires that all drinking water testing laboratories be accredited by the Standards Council of Canada (SCC) based on proficiency evaluation conducted by the Canadian Association for Laboratory Analysis (CALA) for all the drinking water tests it performs.

Peel operates its own laboratory for chemical analyses and also subcontracts analytical testing to other area laboratories. All laboratories used by the Region are accredited and licensed by the Ministry of the Environment and adhere to strict drinking water sample collection, handling and transport protocols and procedures.

## **Licensed Operators**

All treatment plant and maintenance operators and technical staff have appropriate Water Treatment, Water Distribution and Water Quality Analyst licenses, as required by Ontario drinking water legislation. The licensing and training program ensures that all operators are certified to industry recognized standards. Peel has established an ongoing continuing education program for all staff responsible for operating drinking water systems which helps operators to gain knowledge of the latest treatment technologies and advanced processes and to efficiently maintain system water quality and quantity.

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## **Water Quality Notification**

In compliance with the regulatory requirements, Peel reports every adverse water quality event to the Ministry of the Environment and Ministry of Health and immediately initiates corrective action to address the potential problem. Peel has established a notification protocol for reporting of adverse water quality and makes these reports and data publicly available in the annual reports.

A summary of water quality events can be found on page 20 of this report.



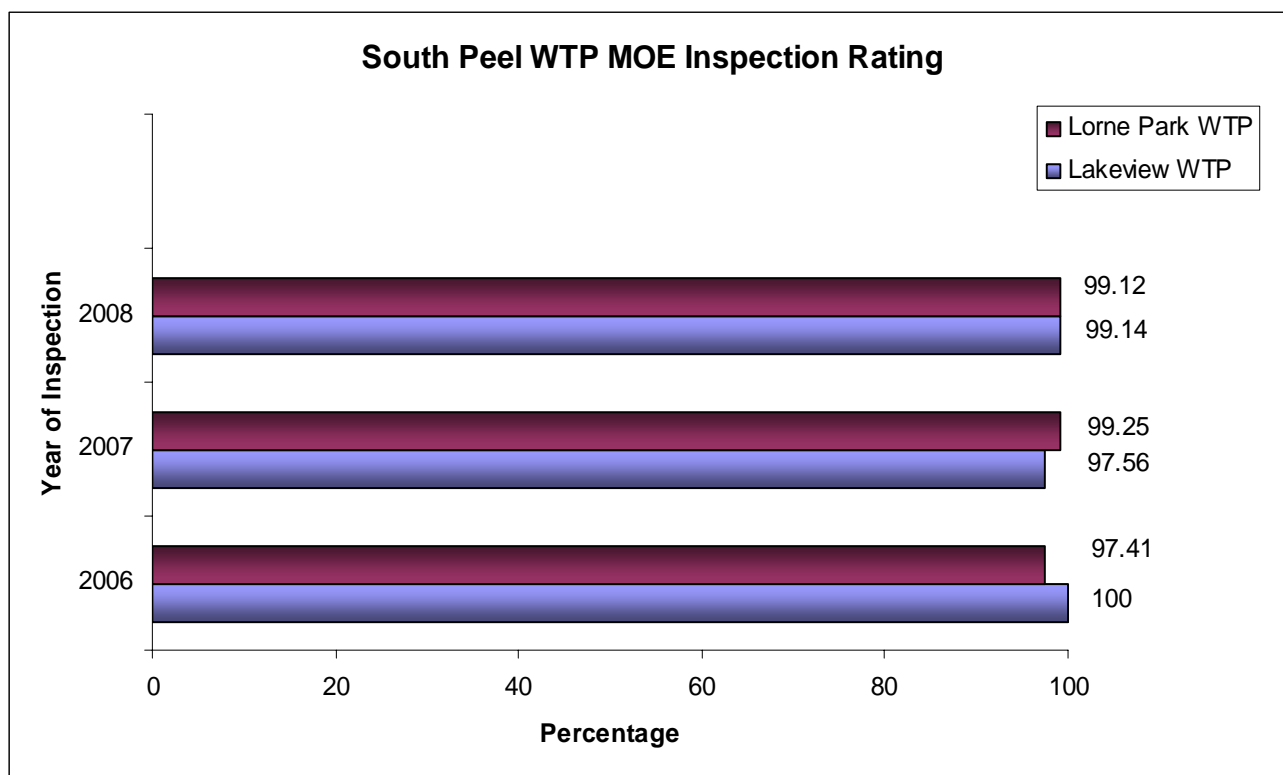
## **4. How well did we do?**

### **4.1 Operation**

To protect the health of the public and to ensure consumers receive clean and safe water, the Ministry of the Environment (MOE) has established the Ontario Drinking Water Quality Standards (ODWS). These standards are set to ensure the water is free of disease causing organisms and hazardous and radioactive chemicals. In 2009, the Region monitored water quality by undertaking over 85,000 process samples and tests to ensure a safe and clean water supply. Appendix A provides a full summary of the water quality results.

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The Region of Peel is proud to report that for the year 2009, all drinking water samples met (ODWS) The Ministry of the Environment performs annual inspections on all the water treatment plants. Based on the inspection outcomes the MOE issues score cards. The score is based on the questions posed by the Ministry Inspector during each inspection. The South Peel systems (Lakeview and Lorne Park) overall performance has been excellent and for the past three inspection years, has been in the high 90 percentile. MOE inspection of the Lakeview and Lorne Park systems was not conducted in 2009.



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During the period of January 1 through December 31, 2009, the **Lakeview Water Treatment** system met all the provincial requirements and ODWS except on ten occasions:

**TABLE 4.1.1 Summary of Exceedances - Lakeview Drinking Water System**

Event Date	Parameter / Process Upset	Result	Unit of Measure	Action Plan	Corrective Action Date
29-Jan-09	Total coliform	2	cfu/100ml	Re-sampled upstream and downstream of the reported location. Confirmatory sample results met the standard	03-Feb-09
2-Apr-09	Total coliform	5	cfu/100ml	Re-sampled upstream and downstream at the reported location. Confirmatory sample results met the standard	6-Apr-09
21-Apr-09	Total coliform and E. coli	1 and 1	cfu/100ml	Dirty tap appeared to have been the source of contamination. Three sets of samples were taken at site of adverse water. Confirmatory samples results met standard and chlorine residual levels were acceptable	28-Apr-09
23-Apr-09	Total coliform	29	cfu/100ml	Re-sampled upstream and downstream at the reported location. Confirmatory sample results met the standard	29-Apr-09
23-Jul-09	Total coliform and E. coli	1 and 1	cfu/100ml	Potential source of contamination - fire hydrant sample following a watermain break. Three sets of samples were taken at site of adverse water. Confirmatory samples results met standard and chlorine residual levels were acceptable	27-Jul-09
7-Aug-09	Bromate	mg/l	0.0140	Location of reportable condition was re-sampled as well as two locations downstream. All resample results were found to be below the standard	12-Aug-09
10-Aug-09	Bromate	mg/l	0.0159	Location of reportable condition was re-sampled as well as two locations downstream. All resample results were found to	25-Aug-09

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				be below the standard	
20-Aug-09	Total coliform	cfu/100ml	120	Re-sampled upstream and downstream of the reported location. Confirmatory sample results met the standard	24-Aug-09
22-Sept-09	Bromate	mg/l	0.0142	Location of reportable condition was re-sampled as well as two locations downstream. All resample results were found to be below the standard	2-Oct-09
22-Sep-09	Bromate	mg/l	0.0115	Location of reportable condition was re-sampled as well as two locations downstream. All resample results were found to be below the standard	23-Oct-09

cfu = colony forming units, NTU = Nephelometric Turbidity Units, ppm = parts per million, L = litres

During the period of January 1 through December 31, 2009, the **Lorne Park** Water Treatment Plant met all the provincial requirements and ODWS except on twenty occasions.

**TABLE 4.1.2 Summary of Exceedances - Lorne Park Drinking Water System**

Event Date	Parameter / Process Upset	Result	Unit of Measure	Action Plan	Corrective Action Date
9-Feb-09	Total coliform	OG (overgrowth) Lab could not positively identify total coliform bacteria	cfu/100 ml	Re-sampled upstream and downstream of the reported location. Confirmatory sample results met the standard	14-Feb-09
18-Feb-09	Total coliform	4	cfu/100 ml	Re-sampled upstream and downstream of the reported location. Confirmatory sample results met the standard	24-Feb-09
3-Mar-09	Total coliform	43	cfu/100 ml	Re-sampled upstream and downstream of the reported location. Confirmatory sample results met the standard	6-Mar-09

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3-Mar-09	Total coliform	17	cfu/100 ml	Re-sampled upstream and downstream of the reported location. Confirmatory sample results met the standard	6-Mar-09
6-Mar-09	Sodium	>20	mg/L	Adverse sodium reported every 60 months as per Regulation 170/03, site was re-sampled. Confirmatory sample results met the standard	9-Apr-09
7-Apr-09	Total coliform	OG (overgrowth) Lab could not positively identify total coliform bacteria	cfu/100 ml	Re-sampled upstream and downstream of the reported location. Confirmatory sample results met the standard	14-Apr-09
15-Apr-09	Total coliform	2	cfu/100 ml	Re-sampled upstream and downstream of the reported location. Confirmatory sample results met the standard	21-Apr-09
5-Jun-09	Total coliform	3	cfu/100 ml	Re-sampled upstream and downstream of the reported location. Confirmatory sample results met the standard	9-Jun-09
9-Jun-09	Total coliform	16	cfu/100 ml	Re-sampled upstream and downstream of the reported location. Confirmatory sample results met the standard	12-Jun-09
12-Jun-09	Total coliform	19	cfu/100 ml	Re-sampled upstream and downstream of the reported location. Confirmatory sample results met the standard	16-Jun-09
12-Jun-09	Total coliform	11	cfu/100 ml	Re-sampled upstream and downstream of the reported location. Confirmatory sample results met the standard	16-Jun-09

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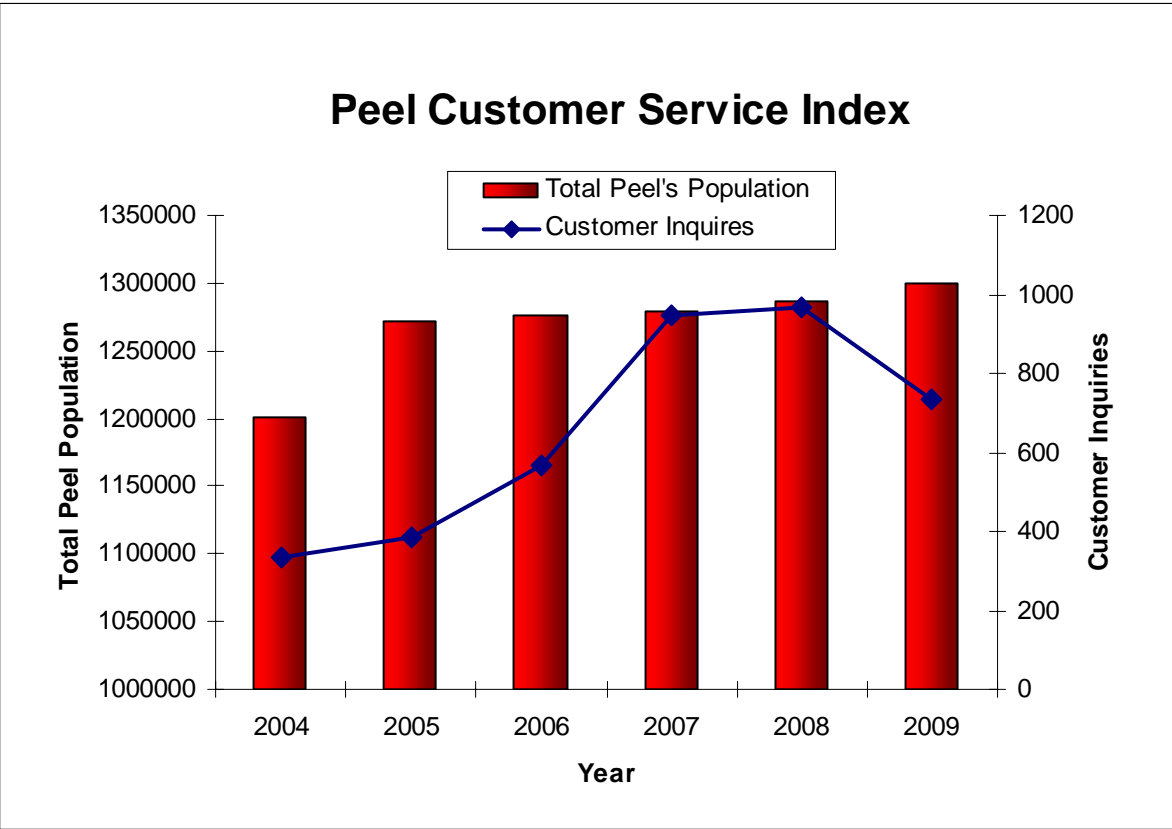
18-Jun-09	Total coliform	9	cfu/100 ml	Re-sampled upstream and downstream of the reported location. Confirmatory sample results met the standard	23-Jun-09
19-Jun-09	Total coliform	3	cfu/100 ml	Re-sampled upstream and downstream of the reported location. Confirmatory sample results met the standard	23-Jun-09
17-Jul-09	Total coliform	22	cfu/100 ml	Re-sampled upstream and downstream of the reported location. Confirmatory sample results met the standard	21-Jul-09
21-Jul-09	Total coliform	8	cfu/100 ml	Re-sampled upstream and downstream of the reported location. Confirmatory sample results met the standard	27-Jul-09
21-Aug-09	Turbidity of filter effluent >1NTU due to power outage	Filter turbidity >1.0	NTU	Filter in question was shut down, computer system reviewed before putting filter back into service	24-Aug-09
24-Sept-09	Total coliform	2	cfu/100 ml	Re-sampled upstream and downstream of the reported location. Confirmatory sample results met the standard	1-Oct-09
15-Oct-09	Total coliform	36	cfu/100 ml	Re-sampled upstream and downstream of the reported location. Confirmatory sample results met the standard	19-Oct-09
22-Oct-09	Total coliform	5	cfu/100 ml	Re-sampled upstream and downstream of the reported location. Confirmatory sample results met the standard	26-Oct-09
28-Nov-09	Loss of coagulant flow	Loss of alum	L/hour	Plant shut down, filter was backwashed, confirmed disinfection, collected bacteria samples and restored flow of alum	29-Nov-09
<b>cfu = colony forming units, NTU = Nephelometric Turbidity Units, ppm = parts per million, L = litres.</b>					



**4.2 Customer Service – Quality and Efficiency**

In 2009, all customer calls were responded to and resolved in a timely manner. Peel staff has made every effort to contact the consumers in person and satisfactorily address their questions. Records of water quality calls received by Peel is logged in the regional data base and kept on file.

The Community Lead testing program was initiated in 2007 and advertised in the local newspapers. This has accounted for an increased number of customer enquiries reflected for 2007 and 2008 in the following chart.



**Customer Service Enquiries Related to Water Quality**

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## **5. Drinking Water Quality Programs**

### **5.1 Municipal Drinking Water Licensing Program**

The Ontario government has developed the Municipal Drinking Water Licensing Program (MDWLP) in support of the *Safe Drinking Water Act 2002*. The MDWL Program requires municipalities of drinking water systems to obtain: a Drinking Water Works Permit, a Permit to Take Water, an accepted Operational Plan, accreditation of the Operating Authority, and a Financial Plan for the operations of the water system. The Ministry of the Environment's intent is to ensure a culture of commitment to quality, diligence and dedication to consumers in the provision of drinking water.

As required by Ontario Regulation 188/07 (Licensing of Drinking Water Systems), the Region of Peel submitted an Operational Plan and applications for the Drinking Water Works Permits and Licenses for all its drinking water system by January 1, 2009.

In late September 2009, the Region of Peel received accreditation by the Canadian General Standards Board (CGSB) for the desk top review of its Operational Plans ensuring conformance with the Drinking Water Quality Management Standard. The Region of Peel has since begun implementation of the quality management system, which must be completed within 12 months, followed by an on-site audit by CGSB to verify the Quality Management System's effectiveness.

In late November 2009, the Region of Peel received the Drinking Water Works Permits and Licenses for all of its drinking water systems.

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## **5.2 Source Water Protection**

In October 2006, the Ontario government passed, the *Clean Water Act, 2006*, to protect drinking water at the source as part of an overall commitment to human health and the environment. The *Clean Water Act* came into force on July 3, 2007 with the release of regulations which enabled the creation of multi-stakeholder Source Protection Committees.

*The Clean Water Act, 2006* requires the development of drinking water source protection plans to address drinking water threats to all ground water and surface water municipal drinking water systems. Through continued collaboration with our Conservation Authority partners and the Province of Ontario, Peel Region initiated a number of studies to assist Source Protection Committees to develop source protection plans for all the watersheds from where our drinking water is supplied.

### Groundwater Supply Protection

Peel was one of the first municipalities in Ontario to develop a Well Head Protection Area (WHPA) program for its municipal wells. This program focuses on identifying and protecting areas that replenish the municipal wells. As part of this program, the Region established a network of early warning wells in the vicinity of our municipal wells. Water level and water quality monitoring is conducted throughout the year at these early warning wells, which allows Peel Region to guard its groundwater supply against potential sources of contamination.

### Surface Water Supply Protection

In partnership with the Source Protection Committees for Source Protection Regions abutting Lake Ontario, work is underway to assess the Intake Protection Zones (IPZs) and drinking water threats for the drinking water supplies on Lake Ontario. The Collaborative Study to Protect Lake Ontario Drinking Water (Collaborative) is a Peel Region led initiative that includes 19 municipalities, from Niagara Region to Prince Edward County along the Lake Ontario shoreline.

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# water quality report

The Collaborative Project includes the following components:

- Lake wide models to evaluate physical processes in Lake Ontario and enable the delineation of Intake Protection Zones (IPZs) for municipal water treatment plants.
- Watershed pollutant loading studies to evaluate pollutant loading to Lake Ontario.
- Identification of drinking water threats (chemical or pathogen) for each drinking water intake.

### **5.3 Water Main Renewal Program**

The Region's overall infrastructure is aging, requiring more investment in preventive and planned maintenance. In response, Peel has established a comprehensive asset management program, which includes the water main assessment and renewal. The program is an ongoing plan of upgrading Peel's water main system to ensure long term integrity. The program involves repair of mains or replacement of existing mains to improve water flow, ensure good quality water and upsize if required to meet future planning needs; all to provide a higher level service to our consumers.

The Region determines priority of water mains replacement based on the following factors:

1. Water main age
2. Water quality trend
3. Water main size and material type
4. Water main breaks and leak history
5. Future municipal and city projects and road re-construction
6. Cost of replacement

The majority of the water main replacement projects are undertaken in partnership with road and sewer renewal projects for improved cost effectiveness and minimized public inconvenience. Using these criteria, Peel plans the water main renewal program in a financially responsible manner.

In 2009, the Federal and Provincial governments announced an Economic Action Plan that included an Infrastructure Stimulus Fund (ISF) to provide funding for construction-ready distribution projects.

Approximately 57.4 km of watermains were approved for ISF funding. These watermain replacements will be completed by March 31, 2011.

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# water quality report

## 5.4 Community Lead Testing Program

Under the Ministry of the Environment mandate, all large municipal residential water system owners such as Peel must have a specific number of private residences and non-residential premises tested for lead. To be eligible to participate in Peel's program and have water tested for lead, homes and buildings must meet the following conditions:

1. homes or buildings built prior to 1960
2. plumbing connected or suspected to be connected to lead service pipes
3. lead plumbing or suspected of being made of lead

The Community Lead Testing is a voluntary program, which is conducted semi-annually, between the dates of December 15 to April 15 and June 15 to October 15 each year.

Every sampling period, Peel staff recruits owners of homes and businesses that meet the program conditions, coordinates the collection of samples, provides test results to participants and assist in the interpretation of the results. The Region has advertised for volunteer sampling locations from both residents and businesses through local newspapers press releases, on mobile signs, at regional events, by contacting consumers directly, and the Region of Peel website. Peel is pleased with the community response and participation to the program.

**2009** testing revealed mostly non detected or low levels of lead in drinking water. The majority of residential homes and businesses sampled and tested throughout the Region met the standard for lead levels in drinking water which is 10 ug/L (parts per billion). Based on 2008 and 2009 test results and recent amendments to the lead testing requirements South Peel drinking water system qualified for reduced sampling regime. In addition to the provincially mandated water testing for lead, cast iron water mains with lead joints have become a priority for replacement to help minimize potential sources of lead in Peel's drinking water. This initiative is carried out under the asset management and water main renewal program.

Peel welcomes the public to participate in our lead testing program. To sign up and find out if you are eligible for free lead testing, contact us at **905-791-7800**, ext **4685** or visit our website

<http://www.peelregion.ca/pw/water/quality/lead-in-water.htm>

# water quality report

## **5.5 Water Main Flushing Program**

The goals of the water main flushing program are to maintain adequate chlorine residual in the system. Water main flushing is also conducted in response to a customer complaint. Flushing frequency is greater in areas where the chlorine residual tends to be lower than optimal.



## **5.6 Hydrant Inspection Program**

The Region of Peel has in place a hydrant inspection program designed to verify the functionality of each fire hydrant. During an inspection, the hydrant branch is flushed out and the valves are checked. Any hydrants identified as non-functional are repaired immediately.

# water quality report

## Appendix A

### Summary of Water Quality Testing

#### Terms you need to know

Term	Definition
MAC	Maximum Acceptable Concentration
IMAC	Interim Maximum Acceptable Concentration
Aesthetic Objectives(AO)	AO are established for substances that affect the taste, smell and color of water or interfere with water quality control practices. These substances do not affect health.
(HR) Health Related Parameter	Health related parameters are a concern for acute or and/or chronic exposure
(OG) Operational Guidelines	OG are established for substances that need to be controlled to ensure the efficient treatment and distribution of water.
AOC	The assimilable organic carbon (AOC) test is a standardized measure of the bacterial growth potential of treated water.
R2A test	R2A test includes use of sensitive medium for the determination of the heterotrophic total bacterial count in drinking water. R2A is especially suitable for the recovery of stressed and chlorine-tolerant bacteria from drinking water
NTU	Nephelometric Turbidity Unit
ND	Not Detected
TCU	True Colour Units
cfu/ml	Colony Forming Units/millilitre
$\mu\text{S/cm}$	micro Siemens per centimetre
L	Liter
$\mu\text{g/L}$	Micrograms per liter. This is a measure of concentration of a parameter in water, also called parts per billion (ppb)
mg/L	Milligrams per liter. This is a measure of concentration of a parameter in water, also called parts per million (ppm)



# water quality report

## Parameter info (E.coli/TC/HPC/AOC/R2A)

### ➤ **Escherichia coli (EC)**

Escherichia coli is a fecal coliform and can be detected using approved lab methods. Escherichia coli is present in fecal matter and prevalent in sewage, but is rapidly destroyed by chlorine. It is a strong indicator of recent fecal pollution. Presence of Ecoli bacteria in a sample of drinking water signifies potentially inadequate treatment. Corrective action needs to be taken and confirmatory samples collected.

### ➤ **Total Coliform (TC)**

Total Coliform bacteria are part of a family of bacteria called, Enterics. Coliform bacteria grow under the same conditions as disease causing bacteria. That allows us to use them as *indicator organisms*. Presence of coliform bacteria in a sample of drinking water signifies potentially inadequate treatment. Corrective action needs to be taken and confirmatory samples collected.

### ➤ **Heterotrophic Plate Count**

Heterotrophic plate count (HPC) results give an indication of overall water quality in drinking-water systems. HPC results are used as a tool for monitoring the overall quality of the water, both in post-treatment and in the distribution system. A HPC result is not an indicator of water safety but is used as an indicator of water integrity within the water system.

### ➤ **Assimilable Organic Carbon (AOC)**

Growth of bacteria in drinking water distribution and storage systems can lead to the deterioration of water quality, non-compliance with water quality standards, and increased operating costs. Growth or re-growth results from viable bacteria surviving the disinfection process and utilizing nutrients in the water and biofilm to sustain growth. Factors other than nutrients that influence regrowth include AOC. Not all organic compounds are equally susceptible to microbial decomposition; the fraction of dissolved organic carbon (DOC) that provides energy and carbon for bacterial growth is assimilable organic carbon (AOC). The Region of Peel monitors the levels of



AOC as an extra precautionary measure to ensure the water quality remains at its highest standard. Assimilable organic carbon is not a regulatory requirement.

➤ **R2A Media Testing**

It is a testing method used to obtain bacterial plate counts from treated potable water. R2A is very low in nutrients and when combined with low incubation temperature and long incubation period, it stimulates the growth of stressed and chlorine-tolerant bacteria. The Region of Peel monitors the levels of R2A media results as an extra precautionary measure to ensure the water quality remains at its highest standard.

➤ **Disinfection By-products**

Disinfection of drinking-water is essential to protect the public from waterborne infectious and parasitic diseases. Disinfection inactivates bacteria in the water and protects the water pipes from any subsequent contamination during storage or distribution. The most commonly used disinfectant is chlorine. The use of chlorine may lead to the formation of by-products, including trihalomethanes (THMs). THMs are formed when compounds left in the water after treatment combine with the chlorine.



# water quality report



## Summary of Microbiological Testing for Lakeview and Lorne Park Drinking Water System

	Number of Samples	Range of E. Coli Or Fecal Results (cfu/100 ml) (Min -Max)	Range of Total Coliform Results (cfu/100 ml) (Min - Max)	Number of HPC Samples	Range of HPC Results (cfu/ml) (Min - Max)
Raw Water	208	0-300	0-2,200	104	0-11,000
Treated Water	624	0-0	0-0	104	0-0
Distribution	9,239	0-1	0-120	572	0-300

\* Ontario Drinking Water Standard, TC = 0 cfu per 100 mL, EC= 0 cfu per 100 mL, HPC=<500 cfu per mL

# water quality report

**Summary of testing and sampling carried out in accordance with the requirement of an Approval, Order, Permit, License or other legal instrument.**

**Parameters tested under Certificate of Approval/Drinking Water Works Permit at Lakeview Drinking Water System**

<b>Parameter</b>	<b>Units</b>	<b>Standard or Requirement</b>	<b>Results Min #-Max #</b>
Total Suspended Solids(TSS)- (Backwash Wastewater)	mg/L	<15 averaged over the year	7.67
Monochloramine (Treated Water)	mg/L	3.0	0-0.17
Dichloramine (Treated Water)	mg/L	3.0	0-0.28

**Parameters tested under Certificate of Approval/Drinking Water Works Permit at Lorne Park Drinking Water System**

<b>Parameter</b>	<b>Units</b>	<b>Standard or Requirement</b>	<b>Results Min #-Max #</b>
Total Suspended Solids(TSS)- (Backwash Wastewater)	mg/L	<15 averaged over the year	10.23
Aluminum (Backwash Wastewater)	mg/L	(By-law – Sewer/Storm Water)	0.517-4.34
Total chlorine residual (Backwash Wastewater)	mg/L	0	0.00–0.04
Total phosphorus (Backwash Wastewater)	mg/L	(By-law – Sewer/Storm Water)	<0.008–0.05

# water quality report

## Summary of Inorganic parameters tested during the reporting period Jan 1 to Dec 31, 2009

Test Parameter	Units	Lakeview Result (Min-Max)	Lorne Park Result (Min-Max)	MAC	Parameter Information
Antimony, Sb	µg/l	ND	ND	6	Naturally occurring metalloid rarely detected in Ontario Drinking Water
Arsenic	µg/l	ND	ND	25	Sometimes found in high concentrations in ground water in hard rock areas through the natural dissolution of arsenic containing minerals
Barium	mg/l	0.018-0.023	0.020-0.033	1.0	Common in sedimentary rocks
Boron	mg/l	0.019-0.024	0.018-0.025	5.0	Normally found in very small levels in drinking water
Cadmium	mg/l	ND	ND	0.005	Rare element unlikely to be present as in drinking water
Chromium	mg/l	ND	ND	0.05	Trivalent chromium naturally occurs and is not considered toxic
Lead	µg/l	0.432-0.440	0.432-0.440	10	It is only present as a result of corrosion of lead solder, lead containing brass fittings or lead pipes
Mercury	mg/l	ND	ND	0.001	Sources in drinking water can be air pollution, waste incineration and metal refining operations
Selenium	mg/l	ND	ND	0.01	Naturally occurs in water at trace levels
Uranium	mg/l	ND-0.0003	ND-0.0002	0.02	Normally occurring in granite and other mineral deposits, leaches into water
Fluoride	mg/l	0.25-0.95	0.12-0.99	1.5	Added to water in optimum level for control of tooth decay
Nitrite	mg/l as N	ND	ND	1.0	Present in ground water, and is oxidized to Nitrate when chlorinated
Nitrate	mg/l as N	0.361-0.575	0.360-0.609	10.0	Present in ground water as a result of plant or animal material decay, fertilizers, sewage or treated wastewater

# water quality report

## Summary of Organic parameters tested during the reporting period Jan 1 to Dec 31, 2009

Organic parameters are present to some degree in all water supplies. Region of Peel tests the parameters and ensures the water meets all the standards of organic parameters.

Test Parameter (Schedule 24)	Units	Lakeview Result (Min-Max)	Lorne Park Result (Min-Max)	MAC	Parameter Information
Alachlor	µg/l	ND	ND	5	Herbicide for weeds control banned in 1985
Aldicarb	µg/l	ND	ND	9	Insecticide used in low quantities for control of specified insects. Banned in 1990s
Aldrin + Dieldrin	µg/l	ND	ND	0.7	Pesticides for insect control banned in 1969
Atrazine + N-dealkylated metabolites	µg/l	ND	ND	5	Herbicide on corn for annual grass control. It is highly persistent and moderately mobile in soil
Azinphos-methyl	µg/l	ND	ND	20	Insecticide against foliage-feeding insects
Bendiocarb	µg/l	ND	ND	40	Insecticide used in buildings and greenhouses
Benzene	µg/l	ND	ND	5	Present in gasoline and other refined petroleum products
Benzo(a)pyrene	µg/l	ND	ND	0.01	Formed during the incomplete burning of organic matter and poorly adjusted diesel exhaust
Bromoxynil	µg/l	ND	ND	5	Herbicide for control of specific weeds
Carbaryl	µg/l	ND	ND	90	Insecticide used in agriculture and forestry
Carbofuran	µg/l	ND	ND	90	Insecticide used in agriculture
Carbon Tetrachloride	µg/l	ND	ND	5	Only found in ground water from old chlorinated solvent industry sites
Chlordane (Total)	µg/l	ND	ND	7	Insecticide once used in agriculture, banned in 1994
Chlorpyrifos	µg/l	ND	ND	90	Common insecticide for insect control
Cyanazine	µg/l	ND	ND	10	Herbicide for control of weeds in crop and non-crop areas
Diazinon	µg/l	ND	ND	20	Insecticide for dwelling pests, flies, ants and cockroaches
Dicamba	µg/l	ND	ND	120	Herbicide for weed in grains
1,2-Dichlorobenzene	µg/l	ND	ND	200	Used in chemical blends
1,4-Dichlorobenzene	µg/l	ND	ND	5	Was widely used in toilet pucks and mothballs, banned in 1988
Dichlorodiphenyltrichloroe	mg/l	ND	ND	0.03	DDT use was banned in Ontario in

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thane (DDT) + metabolites					1998
1,2-Dichloroethane	µg/l	ND	ND	5	Used as a solvent and fumigant
1,1-Dichloroethylene (vinylidene chloride)	mg/l	ND	ND	0.014	Used in the food packaging industry and the textile industry for furniture and automotive upholstery
Dichloromethane	µg/l	ND	ND	50	Industrial solvent for paint and degreasing agent
2-4 Dichlorophenol	µg/l	ND	ND	900	Present in drinking water only as a result of industrial contamination
2,4-Dichlorophenoxy acetic acid (2,4-D)	µg/l	ND	ND	100	Herbicide for cereal crop and lawn weed control
Diclofop-methyl	µg/l	ND	ND	9	Herbicide grass control in grains and vegetables
Dimethoate	µg/l	ND	ND	20	Miticide and insecticide
Dinoseb	µg/l	ND-1.025	ND-1.025	10	Contact herbicide and desiccant. It is no longer used in Ontario
Diquat	ppb	ND	ND	70	Herbicide used as a crop desiccant in seed crops
Diuron	µg/l	ND	ND	150	Herbicide for control of vegetation in crop and non-crop areas
Glyphosate	µg/l	ND	ND	280	Herbicide for weed control
Heptachlor + Heptachlor Epoxide	µg/l	ND	ND	3	Insecticide once used in agriculture, banned in 1969
Lindane (Total)	µg/l	ND	ND	4	Insecticide used for seed treatment
Malathion	µg/l	ND	ND	190	Insecticide used in fruits and vegetables
Methoxychlor	µg/l	ND	ND	900	Insecticide
Metolachlor	µg/l	ND	ND	50	Selective herbicide for pre-emergence and pre-plant broad leaf weed control
Metribuzin	µg/l	ND	ND	80	Herbicide for control of weed and grasses
Monochlorobenzene	µg/l	ND	ND	80	Industrial solvent
Paraquat	ppb	ND	ND	10	Highly toxic herbicide used for desiccation of seed crops
Parathion	µg/l	ND	ND	50	Insecticide for foliar pests and adult stage of root maggots
Pentachlorophenol	µg/l	ND	ND	60	It is rarely found today but was extensively used as a pesticide and wood preservative
Phorate	µg/l	ND	ND	2	Insecticide for sucking insects and larvae's
Picloram	µg/l	ND	ND	190	Herbicide for broad leaf weed and brush control on roads
Polychlorinated Biphenyls(PCB)	µg/l	ND	ND	3	Primarily produced by the reaction of chlorine and natural organics
Prometryne	µg/l	ND	ND	1	Herbicide used on select grass and weeds
Simazine	µg/l	ND	ND	10	Herbicide for pre-emergence weed control

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Total, Trihalomethanes (NOTE: show latest annual average)	µg/l	11.8	12.6	100	Primarily produced by the reaction of chlorine and natural organics
Temephos	µg/l	ND	ND	280	Insecticide for mosquito and black fly larvae control
Terbufos	µg/l	ND	ND	1	Insecticide
Tetrachloroethylene	µg/l	ND	ND	30	Industrial solvent
2,3,4,6-Tetrachlorophenol	µg/l	ND	ND	100	Was normally used to preserve wood
Triallate	µg/l	ND	ND	230	Herbicide for wilds oat control in crops
Trichloroethylene	µg/l	ND	ND	50	Industrial solvent
2,4,6-Trichlorophenol	µg/l	ND	ND	5	Pesticide
2,4,5-Trichlorophenoxy acetic acid (2,4,5-T)	µg/l	ND-.500	ND-.500	280	Herbicide
Trifluralin	µg/l	ND	ND	45	Herbicide for summer weed control
Vinyl Chloride	µg/l	ND	ND	2	Synthetic chemical used in making PVC

**\*All organic parameters tested in 2009 met all Ontario Drinking Water Quality Standards**

## Operational Parameters monitored at the Lakeview and Lorne Park on raw and treated water

Parameter	Number of Samples	Unit of Measure	Standard or Guideline	Results (Min-Max)
Turbidity	8760*	NTU	1 NTU	0.01-1.28
Free Chlorine residual	8760*	mg/L	0.05-4.00	0.15-2.00
Temperature	8760*	°C	15	3.3-25
pH	8760*	NA	6.5-8.5	6.5-8.7

**\* 8760 -number of samples based on continuous monitoring**

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## Appendix B

### Water Quality At Home Tips

Water Quality Concern	Possible Cause	Suggested Solutions
<b>Chlorine Odor and Taste</b>	<ul style="list-style-type: none"> <li>Chlorine getting combined with organics</li> <li>Chlorination of new watermains</li> <li>Effects of new plumbing</li> <li>Change of residency as chlorine concentration varies from location to location</li> </ul>	<p>Chlorine is necessary to control disease-causing organisms. To minimize the chlorine taste and smell in water;</p> <ul style="list-style-type: none"> <li>Fill a pitcher and let it stand in the refrigerator overnight</li> <li>Blend the water for 5 minutes or pour between containers about 10 times</li> <li>Boil the water, let it cool down and then refrigerate</li> <li>Home plumbing may be flushed for a minute before water use (especially in the mornings, after water stands in the lines overnight)</li> </ul>
<b>Musty/Earthy /Sour/ Grassy/Foul Odor</b>	<ul style="list-style-type: none"> <li>Algae that bloom in the lake in the summer produces a metabolite called 'geosmin', which causes musty/earthy odor</li> <li>Dead-end watermains or areas with low water demand</li> <li>Poorly maintained hot water tanks</li> <li>Faucet Aerators/Screens and sink drains</li> </ul>	<ul style="list-style-type: none"> <li>The algae are harmless and although the water may not be aesthetically pleasing, it is safe.</li> <li>Clean faucet aerators and screens on frequent basis</li> <li>Hot water tanks should be flushed periodically (every 2 to 3 years) to remove rust and scale</li> <li>Refrain from flushing solids/organics down the drain; stagnant wastewater in the drain may generate foul odors and potentially plug the drain</li> </ul>
<b>Milky/Cloudy Water</b>	<ul style="list-style-type: none"> <li>Air trapped in water due to water main breaks, water temperature or pressure change, plumbing work, construction work in the area, water shut-offs</li> <li>Hot water tank temperature may be set for too high</li> </ul>	<ul style="list-style-type: none"> <li>Run all cold water taps at once for a couple of minutes to flush the lines and release the air</li> <li>Lower the hot water tank temperature if above 140F(60C)</li> </ul>
<b>Blue/Green Stains on Fixtures</b>	<ul style="list-style-type: none"> <li>Copper in water due to copper plumbing</li> </ul>	<ul style="list-style-type: none"> <li>Run water for 30 seconds to reduce the effects of local plumbing (metal concentration) prior to water consumption</li> <li>Keep fixtures dry and drip-free</li> </ul>
<b>Brown/Dirty Water</b>	<p>Change in water flow due to:</p> <ul style="list-style-type: none"> <li>Watermain break</li> <li>Hydrant use</li> <li>Local Fire</li> <li>Dead ends</li> <li>Poorly maintained hot water tanks</li> </ul>	<ul style="list-style-type: none"> <li>Open cold water faucets and flush water for 5 to 10 minutes, until clear</li> <li>Refrain from doing laundry to prevent clothes staining</li> <li>Hot water tank should be flushed periodically (every 2 to 3 years)</li> </ul>
<b>White Flakes/Particles</b>	<ul style="list-style-type: none"> <li>Flakes are scale caused by hardness</li> <li>Faulty or disintegrating hot water tank tubing or lining</li> </ul>	<ul style="list-style-type: none"> <li>Can be reduced by frequent cleaning of faucet aerators/screens and/or frequent flushing of hot water tanks</li> <li>Contact the hot water tank company</li> </ul>

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<b>Pink Staining on Fixtures</b>	<ul style="list-style-type: none"> <li>• Pink pigmented bacteria called <i>Serratia marcescens</i></li> <li>• Airborne bacteria not known to cause disease.</li> </ul>	<ul style="list-style-type: none"> <li>• Scrub surfaces with a brush</li> <li>• Disinfect with a strong bleach solution</li> <li>• Allow disinfectant to penetrate for 10-20 minutes</li> <li>• Rinse</li> </ul>
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## What are my water characteristics?

Water Parameters 2009	MAC	Lakeview Result Min-Max	Lorne Park Result Min-Max	Units	Parameter Information
Alkalinity	30-500	83.7-90.2	81.5-89.3	mg/l (CaCO <sub>3</sub> )	Water resistance to effects of acids added to water
Conductivity @25C	N/A	313-345	314-370	µS/cm	Related to inorganic's dissolved in water
Hardness	80-100	118-121	121-128 <b>7.07-7.48</b>	mg/l <b>grains/gallon</b>	Naturally occurring
Total Dissolved solids	500	185-190	181-200	mg/l	Refers mainly to inorganic substances dissolved in water
*Sodium	20	14.5-19.2	14.8-21.9	mg/l	Naturally occurring or water softening
Chloride	250	24.2-32.2	24.7-37	mg/l	Non-toxic material naturally present in drinking water.
Iron	.300	0.009-0.011	0.009-0.011	mg/l	In ground water as a result of mineral deposits and chemically reducing underground conditions
Manganese	0.05	0-0.002	0-0.002	mg/l	In ground water because of chemically reducing underground conditions coupled with presence of manganese mineral deposits
Fluoride	1.5	0.25-0.95	0.12-0.99	mg/l	Added to water in optimum level for control of tooth decay

**\*The Medical Officer of Health is notified when Sodium concentration exceeds 20 mg/l**



# water quality report

## **Frequently Asked Questions and Answers on Water Quality**

### ➤ **Is my water safe to drink?**

To protect public health, the Ministry of the Environment has established the Ontario Drinking Quality Water Standards (ODWS). These objectives help ensure that water used by the public is free from disease-causing organisms, hazardous amounts of toxic chemicals and radioactive materials.

### ➤ **Why do we use chlorine?**

Chlorine is used to kill bacteria, viruses and other organisms that can cause illness. We are regulated on the amount we can add to the water as per the standards in Ontario Regulation 170/03. The standard states that we must maintain chlorine residual at a minimum level of 0.05mg/L and cannot exceed a maximum level of 4 mg/L.

### ➤ **Is the water hard?**

Hardness is typically dissolved calcium and magnesium in the water measured as calcium carbonate. Upon heating, hard water has a tendency to form scale deposits or a white film and can form excessive scum with regular soaps. Conversely, soft water may result in accelerated corrosion of water pipes. The water in the South Peel system is considered to be moderately hard.

### ➤ **Should I buy a water softener?**

The purchase of a water softener is based mostly on personal preferences. Soapsuds are formed easier with soft water, therefore less detergent is used. The use of a water softener also reduces the formation of hardness scale in pipes and hot water tanks. Some consumers do not like the feel of soft water. For example, after rinsing you may still feel a soap film on your skin if you used soft water.



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➤ **Why does the water sometimes look “cloudy” or “milky”?**

Tiny bubbles of air in the water cause the cloudiness. Those bubbles may also cause the water to appear white or foamy, similar to the appearance of water in a rushing stream. This does not indicate any problem and clears when the water is left to sit for a few minutes. This is an aesthetic not a health concern. If cloudy water does persist, please notify the Region of Peel so that the matter can be investigated.

➤ **Is fluoride added to my water?**

Fluoride is added to the water supplied to the cities of Brampton, Mississauga and the town of Bolton. The amount is regulated and is maintained at an optimal level to prevent tooth decay.

➤ **Why is my kettle stained inside?**

The presence of calcium and manganese in water will stain a kettle. When water is boiled, calcium and manganese precipitates out of water and deposits on the element and the inner sides of the kettle. This does not pose a health risk. Staining can be prevented by regular rinsing with vinegar or lemon juice.

➤ **Why does the water sometimes look “rusty” yellow or Tea like?**

Yellow water is a common occurrence. Excessive levels of iron in drinking water may impart a brownish color, often seen on laundered clothes, plumbing fixtures and the water itself. Running your tap for a few minutes can clear the color. No health risks are associated with this discoloration. If you are experiencing problems and your neighbors are not, the hot water tank or the pipes in your home are likely causing the problem.



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➤ **Does the Region knock on the door to test water or leave a bottle to fill?**

Some of our water programs require testing on private premises, such as a residential homes or businesses. This would only be done by the Region with prior arrangements with the owner or tenant of the premise. Based on the stringent provincial guidelines, drinking water samples must be collected and handled by qualified persons and analysed at an accredited laboratory; therefore, Peel staff would not leave a bottle at the door requesting a sample of water for testing, and will always carry the Region of Peel identification card.

There are many responsible home water treatment businesses that offer products that live up to their claims. Unfortunately, some companies and salespersons resort to grabbing the public's attention and misinforming them about the safety of the municipal drinking water supplies in an effort to sell their products.

To ensure that you are informed about the water quality in Peel and less likely to become a target of the company trying to sell you costly and inappropriate water treatment equipment, or if you have questions or concerns, please contact our Water Quality Team at 905-791-7800 ext 4685 or via e-mail to [www.WaterQualityInquiries@peelregion.ca](mailto:www.WaterQualityInquiries@peelregion.ca).

➤ **Why is lead sometimes present in water?**

Lead is a metal that can dissolve in water. Traditionally, lead compounds were used in plumbing fittings and in solder to join pipes together in water distribution systems. If water stays in a piping system that contains lead for long periods of time, lead may dissolve into the water.

➤ **How does lead affect my health?**

For more information contact Peel Health at [www.peelregion.ca](http://www.peelregion.ca)

**To view our Lead in Water Pamphlet**, please click on [Additional facts about lead in drinking water](#)

# water quality report

## Report Accessibility

The 2009 Annual Reports can be viewed by the public on-line at:

<http://www.peelregion.ca/pw/water/quality/reports> or picked up at the Region of Peel Office at 10 Peel Centre Drive, 4th floor, Brampton.

## Other Sources from which you can get more information about drinking water and related issues:

<p> <b>Region of Peel</b> <i>Working for you</i></p> <p><b>For information on Water Quality</b></p> <p><b>Region of Peel</b> 10 Peel Centre Dr. Brampton ON L6T 4B9 Phone: 905-791-7800 Ext. 4685 Web site: <a href="http://www.peelregion.ca">www.peelregion.ca</a> E-mail: <a href="mailto:info@peelregion.ca">info@peelregion.ca</a></p>	<p> <b>Region of Peel</b> <i>Working for you</i></p> <p><b>For information on Lead Testing of Drinking Water</b></p> <p><b>Region of Peel</b> 10 Peel Centre Dr. Brampton ON L6T 4B9 Phone: 905-791-7800 Ext. 4409 Web site: <a href="http://www.peelregion.ca">www.peelregion.ca</a> E-mail: <a href="mailto:info@peelregion.ca">info@peelregion.ca</a></p>
<p> <b>Region of Peel</b> <i>Working for you</i></p> <p><b>Region of Peel Public Health</b> 44 Peel Centre Dr. Brampton, ON L6T 4B5 Phone: 905-799-7700 Web site: <a href="http://www.peelregion.ca/health">www.peelregion.ca/health</a></p>	<p> Smarter Today – Water Tomorrow</p> <p>10 Peel Centre Dr. Brampton, ON L6T 4B9 Phone: 905-791-7800 Ext. 4455 Web Site: <a href="http://www.watersmartpeel.ca">www.watersmartpeel.ca</a></p>
<p> <b>Ontario</b></p> <p><b>Ministry of the Environment</b> Phone: 416-325-4000 Toll-Free: 1-800-565-4923 Web site: <a href="http://www.ene.gov.on.ca">www.ene.gov.on.ca</a></p>	<p><b>Canada</b></p> <p><b>Environment Canada</b> Inquiry Centre Phone: 819-997-2800 Toll-Free: 1-800-668-6767 Web Site: <a href="http://www.ec.gc.ca">www.ec.gc.ca</a></p>