

# water quality report

**South Peel Water Supply System 2010  
(Mississauga, Bolton, Brampton)**



# water quality report

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The header features a blue background with a white and blue wavy line representing water. In the upper left corner, there are several white bubbles of varying sizes. The text "water quality report" is centered, with "water quality" in white and "report" in orange.

# 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 2010 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 2010 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 2010 data results, please contact Water Quality Team at 905-791-7800 ext 4685 or at [WaterQualityInquiries@peelregion.ca](mailto:WaterQualityInquiries@peelregion.ca).**



# water quality report

## **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, obtain their drinking water from Lake Ontario. Raw water from the lake is pumped into two surface water treatment plants, Lakeview Water Treatment Plant (WTP) and Lorne Park Water Treatment Plant (WTP), from intake pipes located up to two kilometres 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 204 billion litres of water. A portion of water produced is also pumped into York Region. Both plants are classified as Class IV systems.

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

The distribution system carries water from the plants to the Cities of Brampton, Mississauga and Town of Bolton through a series of pipes ranging in size from 350mm to over 1200mm in diameter.

The South Peel water distribution system consists of 4,109 kilometres of water mains, 40,934 mainline valves, 24,907 fire hydrants and 299,856 water services.

*(2010 - South Peel Water Distribution System)*

There are a total of 12 reservoirs, 4 elevated tanks, and 2 standpipes in Brampton, Mississauga and Bolton that hold and store water.

Some of the maintenance activities performed at the South Peel distribution system include:

- water main break repairs
- hydrant maintenance and repairs
- valve maintenance and repairs
- water service line installation/replacement/repairs, and
- 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.

**Table 1.2.1: Significant Expenses for Lakeview Drinking Water System**

Activity Description	Activity Type	Approximate Expenditure
Water Main Break Repairs	Repair	\$1,672,000
Valve Repairs	Repair	\$256,000
Fire Hydrant Repairs	Repair	\$439,000
Water Service Repairs	Repair	\$429,000
Service Box Repairs	Repair	\$265,000
Water Main Renewal and Rehabilitation	Repair	\$33,737,000
19-26 Filter Basement	Repair	\$9,000
OBM Vacuum Pumps	Repair	\$1,000
LL3 WW Transfer Pumps & Motor #2	Repair	\$12,000
LL3 WW Transfer Pumps & Motor #3	Repair	\$11,000
Re-Coat Trains 42, 44, 45	Repair	\$42,000
Beckett Sproule Facility: Cells 1 and 2 Rehabilitation Projects	Repair	\$2,600,000
Chlorine Building - Regulators	Replacement	\$73,000
Fire Hydrant Replacements	Replacement	\$105,000
Water Service Replacements	Replacement	\$47,000
Valve Replacements	Replacement	\$121,000
Service Box Replacement-Vactor	Replacement	\$383,000
Granular Activated Carbon (GAC) Replacement	Replacement	\$44,000
Standby Power Optimization	Installation	\$5,000
HL3 - High Voltage Upgrades	Installation	\$10,000
Valve Installation	Installation	\$64,000
North Brampton – Pumping Station Upgrade Project	Installation	\$900,000
East Brampton – Pumping Station Upgrade Project	Installation	\$3,800,000
Mayfield West Elevated Tank and Feeder Main	Installation	\$7,980,000
Beckett Sproule 2100mm Feeder Main	Installation	\$59,000,000
Tullamore 1200mm Feeder Main (Contract 1)	Installation	\$4,835,000
Countryside Drive 600mm Feeder Main	Installation	\$8,750,000

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**Table 1.2.2: Significant Expenses for Lorne Park Drinking Water System**

<b>Activity Description</b>	<b>Activity Type</b>	<b>Approximate Expenditure</b>
Water Main Break Repairs	Repair	\$1,114,000
Valve Repairs	Repair	\$171,000
Fire Hydrant Repairs	Repair	\$293,000
Water Service Repairs	Repair	\$286,000
Service Box Repairs	Repair	\$177,000
Water Main Renewal and Rehabilitation	Repair	\$22,491,000
Major Pump Improvements	Repair	\$17,000
Settling Tanks 9-12 Inspection and Repair	Repair	\$61,000
Trac-Vac Improvements	Repair	\$6,000
HVAC Balancing	Repair	\$4,000
Filters 9-12 Gate Repairs	Repair	\$57,000
Holding Tanks 1 and 2 Inlet Gates	Replacement	\$39,000
Sludge Gallery Valves and Actuators	Replacement	\$62,000
Fire Hydrant Replacements	Replacement	\$70,000
Water Service Replacements	Replacement	\$31,000
Valve Install/Replacements	Replacement	\$80,000
Service Box Replacement-Vactor	Replacement	\$256,000
900 mm High Lift Discharge Valve Replacement	Replacement	\$31,000
West Brampton Pumping Station and Reservoir- Project	Installation	\$42,100,000
West Brampton 1500 mm Feeder Main	Installation	\$47,900,000

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## 2. How is Water Treated?

### 2.1 Lakeview Water Treatment Plant

(Drinking Water Works Number 210000568)



**Figure 1: Lakeview Water Treatment Plant**

The Lakeview Water Treatment Plant serves the Eastern sections of Mississauga and Brampton, and the community of Bolton. Operated as a conventional water treatment plant, Lakeview WTP also has an advanced treatment train consisting of ozone, biologically activated carbon contactors (BACC) and membrane filtration.

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## Conventional Treatment

Conventional treatment consists of the following steps: coagulation, flocculation, sedimentation, filtration, and disinfection.

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

The OBM treatment process consists of ozone, biologically active carbon contactor treatment and membrane filtration.

(Please refer to Figure 2 below for the Lakeview Water Treatment Plant Process Diagram)

The Western parts of Mississauga and Brampton are serviced by the Lorne Park Water Treatment facility. Several water mains link the two areas, allowing water to transfer from either east to west or west to east.

The chemicals used at the Lakeview Water Treatment Plant over the reporting period were aluminum sulphate (Alum), chlorine gas, hydrofluosilicic acid, polymer, sodium hypochlorite, sodium hydroxide, sodium bisulphite, citric acid, and ozone gas.

Aqua ammonia is applied at the Airport Road Pumping Station only, to supply chloraminated water to York Region.

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



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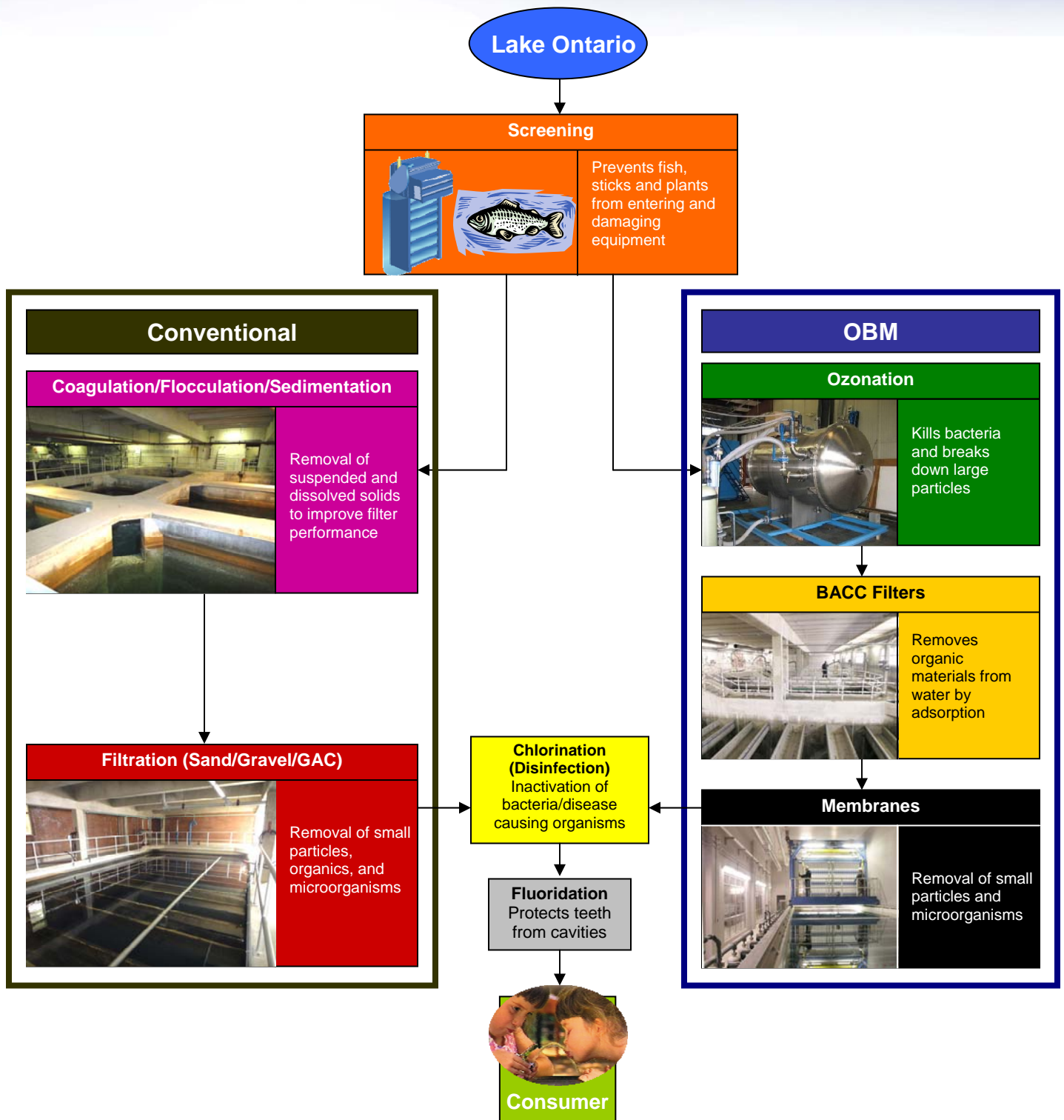


Figure 2: Lakeview Water Treatment Plant Process

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## 2.2 Lorne Park Water Treatment Plant

(Drinking Water Works Number 210001317)

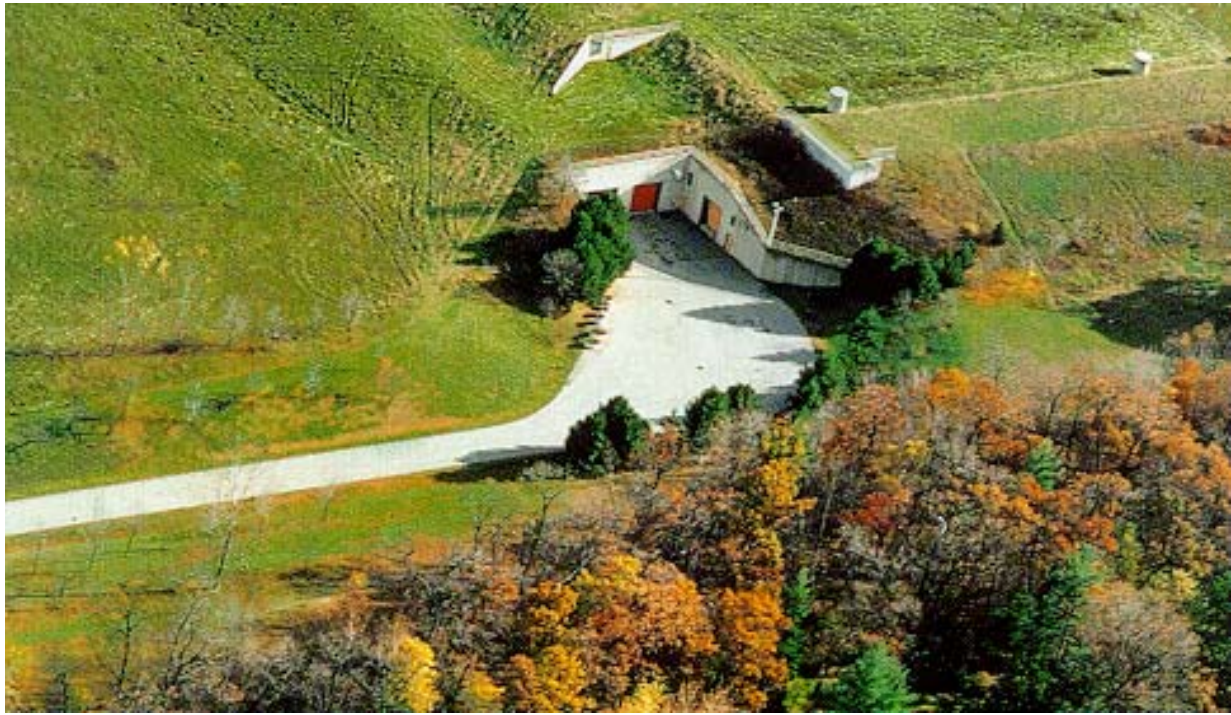


Figure 3: Lorne Park Water Treatment Plant

The Lorne Park Water Treatment Plant is located on the north shore of Lake Ontario and is a conventional treatment plant.

### Conventional Treatment

Conventional treatment consists of the following steps: coagulation, flocculation, sedimentation, filtration, and disinfection.

(Please refer Figure 4 below for the Lorne Park Water Treatment Process flow)

# water quality report

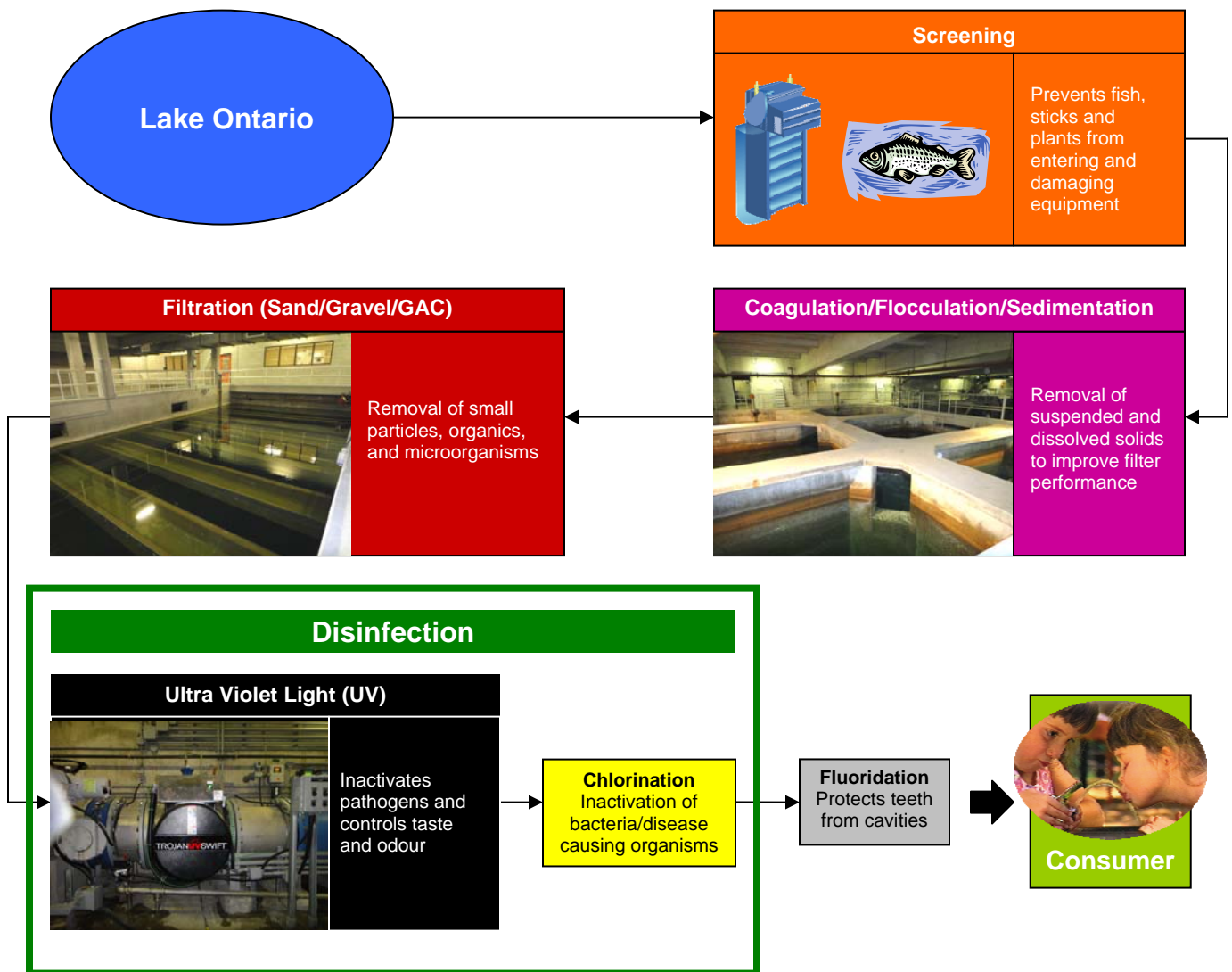


Figure 4: Lorne Park Water Treatment Plant Process

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To ensure an adequate supply of safe drinking water to an increasing population, in 2009, construction began to enlarge the plant's capacity to 500 million litres per day. 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 tastes and odours occasionally found in the water.

Every effort has been taken to minimize impacts by implementing a design that uses the existing footprint of the plant.

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

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

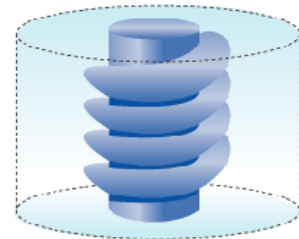
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## 2.3 Conventional Water Treatment Process Description

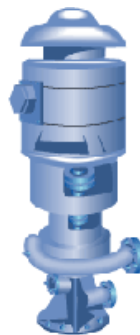


**Lake Ontario** is the source for the South Peel Drinking Water System. As the lake water enters the intake, it can be chlorinated. The chlorine kills bacteria and prevents zebra mussels from growing in the intake pipe and obstructing the flow. As the water enters the treatment facility, it passes through the **travelling screen**. The screen prevents items such as fish, sticks and aquatic plants from entering the treatment facility and damaging equipment.

**Low lift and backwash pumps** are located in several pump Stations. **Low lift pumps** draw the lake water into the treatment plant.

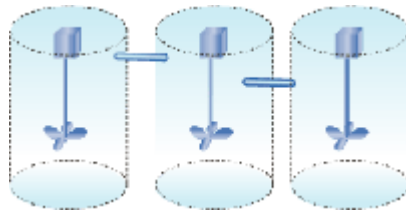


**Coagulation** assists with the removal of turbidity and suspended matter (particles) in the water. A coagulant (Alum or ACH) is added to the water. The **rapid mixer** thoroughly mixes the coagulant with the water to help form sticky particles.

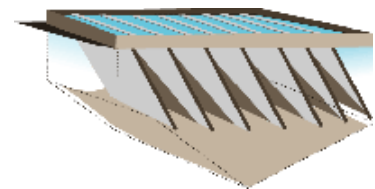


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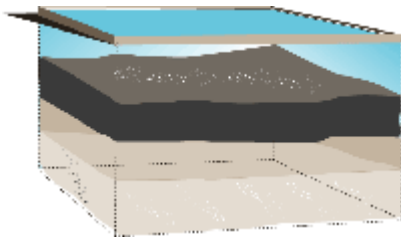
**Flocculation** is the process of slow mixing that helps the sticky particles collide with each other, forming larger and heavier particles called floc.



In the **sedimentation** process, floc particles are removed from the water by inclined plate settlers. The water is slowed down in large tanks to allow 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 tastes and odours. 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.



When needed, the filters are **backwashed** (cleaned). Clean water is pumped up and through the filter media, in a reverse flow, lifting and flushing out the floc particles that have accumulated in the filter. The backwash water is treated in the backwash treatment facility prior to being 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.

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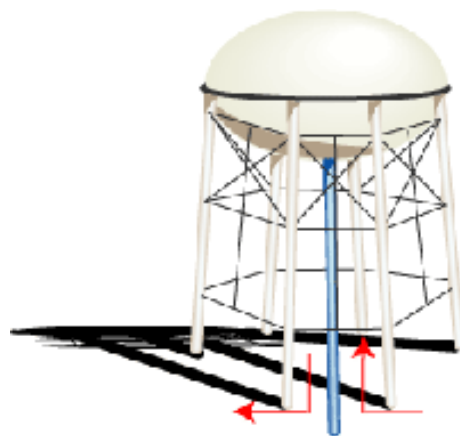
**Fluoride** is added to the finished water to prevent cavities in our teeth. The finished water is then stored in a **reservoir** and distributed into our communities through a series of pumps and reservoirs.

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

The water flows through **water mains** to houses, apartments, and schools, commercial and industrial premises.

Note: To download a water treatment poster and to learn about the water treatment process, visit:

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



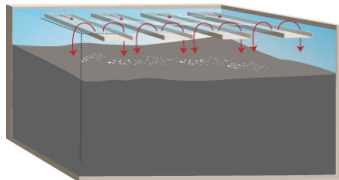
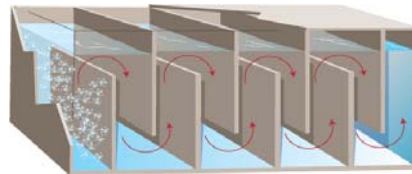
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## 2.4 Ozone, Biologically Activated Carbon and Membrane (OBM) Water Treatment Process Description

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

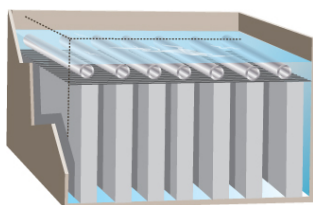


Ozone gas is then bubbled through the water in the **Ozone Contactors**. Ozone kills bacteria and also helps to break down substances that cause tastes and odours so that they are more easily removed in the next treatment step.



The water then passes into the **Biologically Active Carbon Contactors (BACC)**. These specially designed contactors remove the biodegradable organic matter produced by the activity of the ozone process. The BAC contactors are very good at adsorbing 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 Ultra Filtration** system. These are specially designed water filters with very small pores that the water is pulled through.

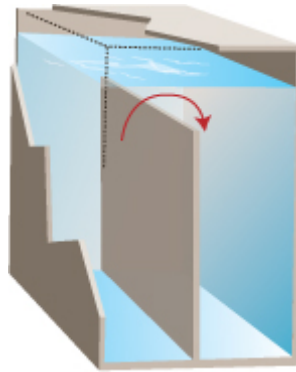


The membrane filters are so efficient that they are capable of removing microorganisms and producing water with very little turbidity.

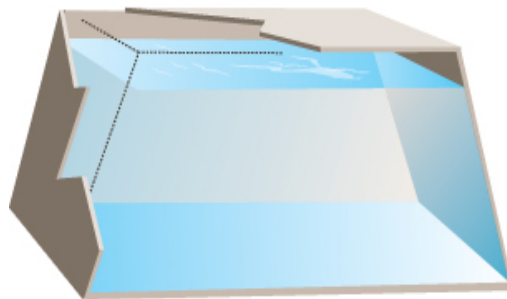


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Filtered water is directed to the **Weir Box**. The weir box stores water and is also the location where chlorine and fluoride are added.



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



The water must remain in the storage reservoir until adequate disinfection has occurred. Water leaves the reservoir by way of High Lift Pumps and enters the distribution system.

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# water quality report

## **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 operation, level of treatment, sampling and testing, licensing of staff and water quality notification.

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

To comply with the Ontario drinking water regulation under the *Safe Drinking Water Act, 2002*, the Region of Peel prepares Annual 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 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 regulations under the *Safe Drinking Water Act, 2002*, and a summary of the quantities and flow rates of water supplied. This report is made available to Regional Council by March 31 of each year.

The Annual Water Quality Reports and Summary Report 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 Water Quality Reports.

### **3.2 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.

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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 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 Ministry of the Environment (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 Accreditation (CALA) as well as licensed by the MOE for all drinking water tests performed.

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 by the SCC, licensed by the MOE, and adhere to strict drinking water sample collection, handling and transport protocols and procedures.

### **3.3 Licensed Operators**

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

The header features a blue background with a white and orange 'water quality report' title. The word 'water' is in white, 'quality' is in white with a blue shadow, and 'report' is in orange. The background includes a blue sky with a white moon and bubbles, and a white and blue wavy water surface.

# water quality report

## **3.4 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 events and makes these reports and data publicly available in the Annual Water Quality Reports.

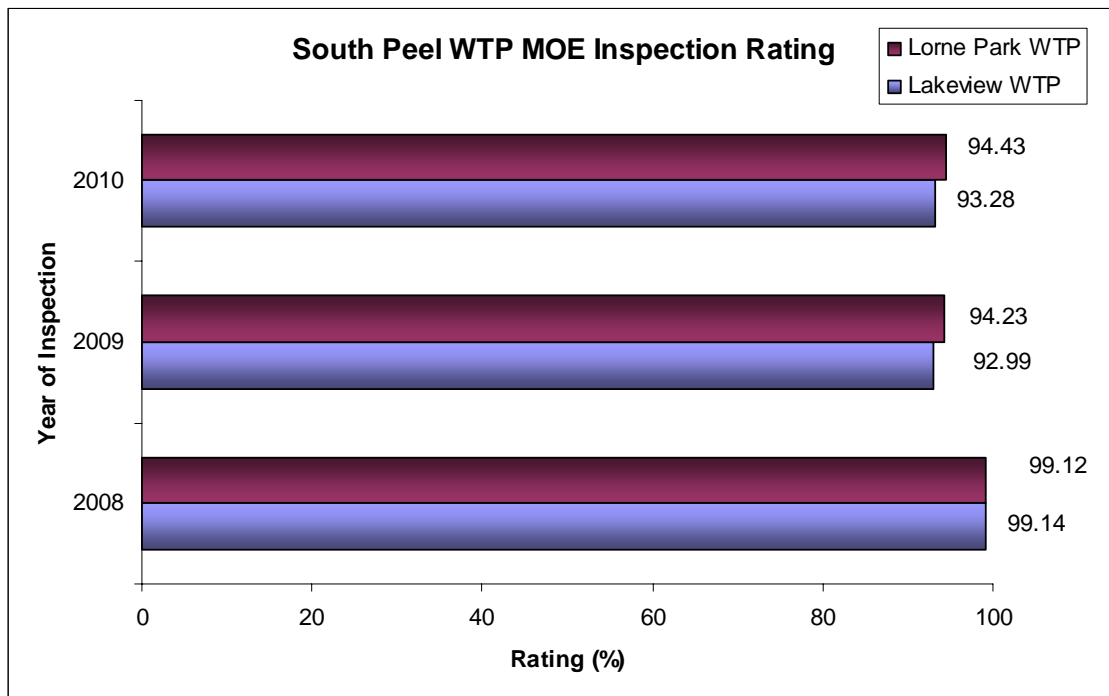
## **4. How well did we do?**

### **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 chemicals. In 2010, 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 test results.

The Region of Peel is proud to report that for the year 2010, all drinking water samples met ODWS. The MOE performs annual inspections on all municipal drinking water systems. Based on the inspection findings, the MOE issues score cards. The score is based upon the questions posed by the Ministry Inspector during each inspection. The South Peel drinking water systems' (Lakeview and Lorne Park) overall performance is excellent, and for the past three inspection years has been in the 90<sup>th</sup> percentile.

# water quality report



**Figure 5: South Peel WTP MOE Inspection Rating Graph**

# water quality report

During the period of January 1 through December 31, 2010, the **Lakeview Water Treatment** system met all the provincial requirements and ODWS except for the following occasions:

**TABLE 4.1.1 Summary of Adverse Events - Lakeview Drinking Water System - 2010**

Event Date	Event Location	Parameter/ Process Upset	Result	Unit of Measure	Corrective Action	Date Resolved
Mar 5	Lakeview WTP (TW)	Sodium	22	mg/L	Re-sample collected March 5 met Sodium standard	Mar 8
Jun 19	988 Burnhamthorpe Rd East	Free Chlorine Residual	0	mg/L	Samples collected June 19 met microbiological standards	Jun 21
Jun 23	Lakeview WTP	Alum Flow Interruption	N/A	N/A	Re-established coagulant flow manually. Samples collected on June 23 met microbiological standards	Jun 29
Jun 23	1109 Runningbrook Dr	Total Coliform	6	cfu/100 mL	Distribution system flushed June 23. Re-samples collected on June 23 met microbiological standards	Jun 26
Jun 29	Burnhamthorpe Rd E at Westminster	Total Coliform	2	cfu/100 mL	Water main was decommissioned; all service connections transferred to a new main. No re-samples taken.	Jun 29
Jun 29	Mayfield Elevated Tank	E. Coli and Total Coliform	1 and 1	cfu/100 mL	Re-samples collected on June 29 & 30 met microbiological standards	Jul 9
Jul 2	Burnhamthorpe Rd E & Corbet Dr	Total Coliform	2	cfu/100 mL	Re-samples collected July 2 met microbiological standards	Jul 5
Jul 5	49 Grand Valley, Brampton (hydrant ID # 2106619)	Lead	45.2	µg/L	Re-samples collected July 5 met Lead standard	Jul 13
Jul 19	Airport Rd. & Orlando Dr. Mississauga	Free Chlorine	0	mg/L	No service connections affected. Water main flushed daily until receipt of test results, which met microbiological standards.	Jul 26
Aug 11	Blow off North of Larson Peak	Total Coliform	3	cfu/100 mL	Re-samples collected August 11 met microbiological standards	Aug 16
Nov 5	HYD#2 -Elderwood Place	Total Coliform	3	cfu/100 mL	Re-samples collected November 8 met microbiological standards	Nov 8
Dec 5	3177 Corrigan Dr. Mississauga (hydrant)	Total Coliform	4	cfu/100 mL	Hydrant flushed and re-samples collected on December 5 met microbiological standards	Dec 9

**cfu = colony forming units**  
**mL = millilitres**  
**L = litres**

# water quality report

During the period of January 1 through December 31, 2010, the **Lorne Park Water Treatment Plant** met all the provincial requirements and ODWS except on the following occasions:

**TABLE 4.1.2 Summary of Adverse Events - Lorne Park Drinking Water System - 2010**

Event Date	Event Location	Parameter/ Process Upset	Result	Unit of Measure	Corrective Action	Date Resolved
Feb 6	Lorne Park WTP	Alum Flow Interruption	N/A	N/A	Alum flow meter maintenance was performed, and flow meter was subsequently replaced.	Mar 4
May 11	Meadowvale SPS (7005 Old Derry Rd, Mississauga)	Total Coliform	4	cfu/100 mL	Re-samples collected May 11 met microbiological standards	May 14
Jun 2	Commuter Drive, Brampton	Total Coliform	5	cfu/100 mL	Distribution system was flushed in affected area on June 2. Re-samples collected June 2 met microbiological standards	Jun 9
Jun 23	1238 Erinmore Dr	Total Coliform	5	cfu/100 mL	Distribution system was flushed in affected area on June 23. Re-samples collected on June 23 met microbiological standards	Jun 26
Sep 3	S of 2301 Derry Rd West Hydrant 2026255	Total Coliform	2	cfu/100 mL	Hydrant flushed on September 3. Re-samples collected September 3 met microbiological standards	Sep 7
Dec 22	Meadowvale area	Low Pressure	10	psi	Tested pressure and chlorine residuals at multiple distribution points. All results within acceptable range.	Dec 22

**cfu = colony forming units**

**mL = millilitres**

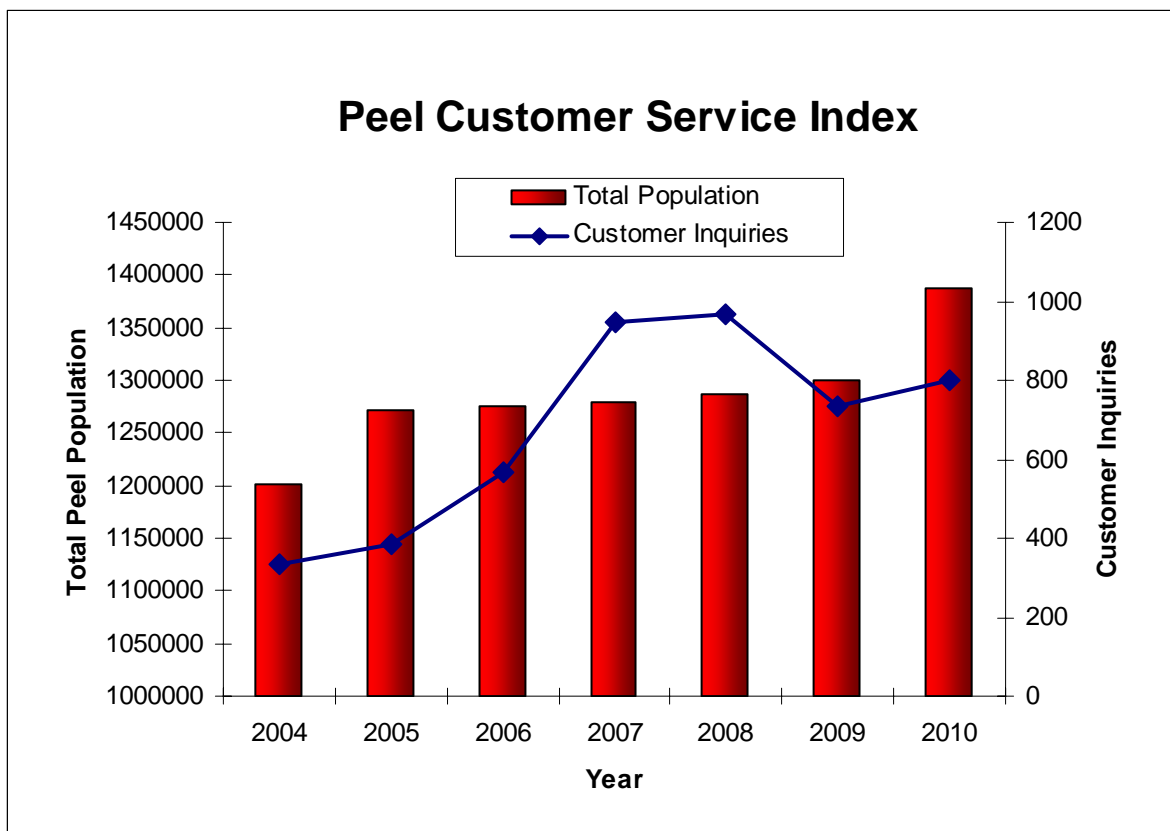
**L = litres**

**psi = pounds per square inch**

# water quality report

## 4.2 Customer Service – Quality and Efficiency

In 2010, 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 are logged in the regional database and kept on file.



**Figure 6: Peel Customer Service Index**

**Note:** The Community Lead Testing Program was initiated in 2007 and advertised in local newspapers. This may have accounted for the increased number of customer enquiries reflected for 2007 and 2008.



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# water quality report

## **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 MDWLP requires municipal drinking water systems owners to obtain: a Municipal Drinking Water Licence, Drinking Water Works Permit, Permit to Take Water, an accepted Operational Plan, accreditation of the Operating Authority, and a Financial Plan for the operation of the water systems. The Ministry of the Environment's (MOE) intent is to ensure a culture of commitment to quality, diligence and dedication to consumers in the provision of drinking water.

Ontario Regulation 188/07 (Licensing of Drinking Water Systems) required the Region of Peel to submit an Operational Plan and applications for the Drinking Water Works Permit and Licence for each drinking water system under its authority by January 1, 2009. The Region of Peel received Drinking Water Works Permits and Licences for each of its drinking water systems in late November 2009.

In late September 2009, the Region of Peel received accreditation by the Canadian General Standards Board (CGSB) for the systems audit conducted on the Operational Plan submitted. Implementation of the Operational Plan began shortly after receiving accreditation and took approximately 12 months to complete. The Region of Peel submitted an application for full accreditation in September 2010 and anticipates the verification audit to be conducted in the spring of 2011.

Ontario Regulation 453/07 (Financial Plans) required licensed drinking water system owners to submit an approved Financial Plan to the Ministry of Municipal Affairs and Housing by July 1, 2010. The Water Division's Financial Plan was endorsed by Regional Council in June 2010 and submitted to the Ministry of Municipal Affairs before the required date.

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# water quality report

## **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 the Region's Conservation Authority partners and the Province of Ontario, Peel Region is completing a number of studies that will allow Source Protection Committees to develop source protection plans for all the watersheds from where drinking water is supplied. These Source Protection Plans will include policies that will be designed to prevent contamination of drinking water sources. The Source Protection Plans are scheduled to be completed by the end of 2012.

### Groundwater Supply Protection

Peel was one of the first municipalities in Ontario to develop a Well Head Protection Area 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 its 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. Further, the Peel Region has undertaken studies for its municipal groundwater sources to meet the following objectives:

- Evaluate the vulnerability of municipal groundwater sources to surface or underground contaminants;
- Identification of drinking water threats for each of the municipal wellheads

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These studies were completed in 2010 and the results of these studies are being used to support the development of watershed based Source Protection Plans and associated source water protection policies.

## 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 and drinking water threats for the drinking water supplies from Lake Ontario. The Collaborative Study to Protect Lake Ontario Drinking Water is a Peel Region led initiative that includes 19 municipalities, from Niagara Region to Prince Edward County along the Lake Ontario shoreline.

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 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 municipal drinking water intake.

This study is on-going and is scheduled to be completed in 2011.

## **5.3 Private Well Abandonment Program**

The Region of Peel implemented a Private Well Abandonment Program for decommissioning of old, unused private wells in Caledon and rural Brampton and Mississauga. The Program intends to gradually eliminate potential pathways of groundwater contamination in areas where groundwater is the source for municipal drinking water. The Program is carried out on a first come, first serve basis, with each well decommissioning request being evaluated prior to the commencement of any decommissioning work. A total of 30 private wells around the Region were decommissioned under this program in 2010.

Please visit the following link for more information on Peel's Well Abandonment Program:

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

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## **5.4 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 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 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 main replacement based on the following factors:

1. Water main age
2. Water quality trends
3. Water main size and material type
4. Water main breaks and leakage 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 kilometres of water main in Peel were approved for ISF funding. These water main replacements are targeted to be completed by March 31, 2011.

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## **5.5 Community Lead Testing Program**

Created in 2007, Peel Region's Community Lead Testing Program fulfills the legislative requirements under Ontario Regulation 170/03, Schedule 15.1. This program requires the sampling and testing of drinking water of private residential and private non-residential locations as well as distribution hydrants for lead.

Peel's Community Lead Testing Program selects sampling locations based on the following criteria:

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

The Community Lead Testing Program is conducted semi-annually between the dates of December 15 to April 15 and June 15 to October 15 each year.

Every sampling period, the Region recruits volunteers of homes and businesses to participate in the program. Sampling appointments are booked with volunteers over the phone. Upon completion of the test results, the reports are mailed to their respective participants and assistance is provided in interpretation of the data.

Testing performed in 2010 revealed mostly non-detected or low levels of lead in drinking water. The majority of residences and businesses sampled met the standard for lead levels in drinking water of 10 parts per billion. Results of this program aid in the asset management and water main renewal program.

Peel welcomes the public to participate in our lead testing program. To request a free lead test of your drinking water, please contact us at **905-791-7800**, ext **4685** or visit our website:

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

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## **5.6 Water Main Flushing Program**

The Region of Peel's water main flushing program is another element of the multi-barrier approach to ensuring safe drinking water. The primary objective of the water main flushing program is to maintain adequate chlorine residuals in the water distribution system. Under the *Safe Drinking Water Act, 2002*, Ontario Regulation 170/03 stipulates the acceptable chlorine residual range. Certified Water Operators measure and record the chlorine residual at each flush. Flushing is conducted at locations where a low water demand may occur, such as dead-ends and new subdivisions. Flushing frequency is greater in areas where the water demand is lower. Flushing is also conducted following water system repairs and other situations where a check of chlorine residual is warranted.

## **5.7 Hydrant Inspection Program**

The Region of Peel hydrant inspection program fulfils a number of purposes. An annual inspection is necessary to determine the sustained functionality of each fire hydrant and hydrant branch valve. The flushing part of the inspection also serves to maintain chlorine residual at the hydrant. Fire hydrant components that are in need of repair are identified during the inspection. Deficiencies that affect the hydrant's operability are handled on a priority basis.

## **5.8 Drinking Water Sampling Station Program**

The Region installed a number of drinking water sampling stations throughout Peel to improve drinking water quality assessment and monitoring methods and to improve customer service. The installation of stations has decreased the need to enter homes and businesses to obtain water samples and allow Peel to meet its commitments to water quality with the least amount of impact to customers.



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## Appendix A

### Summary of Water Quality Parameters

#### Terms you need to know

<b>Term</b>	<b>Definition</b>
MAC	Maximum Acceptable Concentration
IMAC	Interim Maximum Acceptable Concentration
Aesthetic Objectives (AO)	AO are established for substances that affect the taste, smell and colour of water or interfere with water quality control practices. These substances do not affect health.
Health Related Parameter (HR)	Health related parameters are a concern for acute or and/or chronic exposure
Operational Guidelines (OG)	OG are established for substances that need to be controlled to ensure the efficient treatment and distribution of water
NTU	Nephelometric Turbidity Unit
ND	Not Detected
TCU	True Colour Units
cfu/ml	Colony Forming Units per Millilitre
$\mu\text{S/cm}$	MicroSiemens per Centimetre
L	Litre
$\mu\text{g/L}$	Micrograms per Litre. This is a measure of concentration of a substance in water, also called parts per billion (ppb).
mg/L	Milligrams per Litre. This is a measure of concentration of a substance in water, also called parts per million (ppm).



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## **Water Safety Parameter Information**

### ➤ ***Escherichia coli (E.coli)***

*Escherichia coli (E.coli)* is a fecal coliform and can be detected using approved lab methods. *E. 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 *E. coli* bacteria in a sample of drinking water signifies potentially inadequate treatment. Corrective action needs to be taken and confirmatory samples collected.

### ➤ **Total Coliform**

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 and is unacceptable. 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 immediately following treatment and in the distribution system. HPC is not an indicator of water safety but is used as an indicator of water integrity within the distribution system.

### ➤ **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 drinking water 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.



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

Sample Type	Number of Samples	Range of <i>E. coli</i> 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	104	0 - 20	0 - 70	102	0 - 40,000
Treated	304	0 - 0	0 - 0	102	0 - 0
Distribution	5,851	0 - 1	0 - 4	4,642	0 - 148

Ontario Drinking Water Standards: Total Coliform = 0 cfu/100 mL, *E. coli* = 0 cfu/100 mL

## Summary of Testing and Sampling Carried out in Accordance with the Requirement of an Approval, Order, Permit, Licence or Other Legal Instrument

### Parameters Tested Under the Municipal Drinking Water Licence at the Lakeview Water Treatment Plant

Parameter	Units	Standard or Requirement	Range of Results (Min -Max)
Total Suspended Solids (TSS) (Wastewater Supernatant)	mg/L	<15 averaged over the year	<2.38 – 100
Total Suspended Solids (TSS) (Membrane Backpulse)	mg/L	<15 averaged over the year	<2.38 - 7.33
Monochloramine (Treated Water)	mg/L	3.0	0 - 0.14
Dichloramine (Treated Water)	mg/L	3.0	0 - 0.23

### Parameters Tested Under the Municipal Drinking Water Licence at the Lorne Park Water Treatment Plant

Parameter	Units	Standard or Requirement	Range of Results (Min -Max)
Total Suspended Solids (TSS) (Wastewater Supernatant)	mg/L	<15 averaged over the year	<2.38 - 7.67
Monochloramine (Treated Water)	mg/L	3.0	0.02 - 0.16
Dichloramine (Treated Water)	mg/L	3.0	0.02 - 0.18

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## Summary of Inorganic Parameters Tested During the Reporting Period January 1 to December 31, 2010

Test Parameter	Units	Lakeview Result	Lorne Park Result	MAC	Parameter Information
Antimony	µg/l	1.32	1.29	6	Naturally occurring metalloid rarely detected in Ontario Drinking Water
Arsenic	µg/l	< 1.0	< 1.0	25	Sometimes found in high concentrations in ground water in hard rock areas through the natural dissolution of arsenic containing minerals
Barium	mg/l	< 0.015	< 0.014	1.0	Common in sedimentary rocks
Boron	mg/l	0.026	0.022	5.0	Normally found in very small levels in drinking water
Cadmium	mg/l	< 0.0001	< 0.0001	0.005	Rare element unlikely to be present as in drinking water
Chromium	mg/l	< 0.004	< 0.004	0.05	Trivalent chromium naturally occurs and is not considered toxic
Lead	µg/l	< 1.0	< 1.0	10	Only present as a result of corrosion of lead solder, lead containing brass fittings or lead pipes
Mercury	mg/l	< 0.000076	< 0.000076	0.001	Sources in drinking water can be air pollution, waste incineration and metal refining operations
Selenium	mg/l	< 0.005	< 0.005	0.01	Naturally occurs in water at trace levels
Uranium	mg/l	< 0.005	< 0.005	0.02	Normally occurring in granite and other mineral deposits, leaches into water
Fluoride	mg/l	0.337 0.353	0.397	1.5	Added to water in optimum level for control of tooth decay
Nitrite	mg/l as N	<0.015 <0.015 <0.015 <0.015	<0.015 <0.015 <0.015 <0.015	1.0	Present in ground water, and is oxidized to nitrate when chlorinated
Nitrate	mg/l as N	0.464 0.593 0.431 0.294	0.486 0.516 0.407 0.319	10.0	Present in ground water as a result of plant or animal material decay, fertilizers, sewage or treated wastewater

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## Summary of Organic Parameters Tested During the Reporting Period January 1 to December 31, 2010

Organic parameters are present to some degree in all water supplies. Region of Peel tests the parameters and ensures the water meets the Ontario Drinking Water Quality Standards.

Test Parameter	Units	Lakeview Result	Lorne Park Result	MAC	Parameter Information
Alachlor	µg/l	0	0	5	Herbicide for weeds control banned in 1985
Aldicarb	µg/l	0	0	9	Insecticide used in low quantities for control of specified insects. Banned in 1990s
Aldrin + Dieldrin	µg/l	0	0	0.7	Pesticides for insect control banned in 1969
Atrazine + N-dealkylated metabolites	µg/l	< 0.65	< 0.65	5	Herbicide on corn for annual grass control. It is highly persistent and moderately mobile in soil
Azinphos-methyl	µg/l	0	0	20	Insecticide against foliage-feeding insects
Bendiocarb	µg/l	0	0	40	Insecticide used in buildings and greenhouses
Benzene	µg/l	0	0	5	Present in gasoline and other refined petroleum products
Benzo(a)pyrene	µg/l	0	0	0.01	Formed during the incomplete burning of organic matter and poorly adjusted diesel exhaust
Bromoxynil	µg/l	0	0	5	Herbicide for control of specific weeds
Carbaryl	µg/l	0	0	90	Insecticide used in agriculture and forestry
Carbofuran	µg/l	0	0	90	Insecticide used in agriculture
Carbon Tetrachloride	µg/l	0	0	5	Only found in ground water from old chlorinated solvent industry sites
Chlordane (Total)	µg/l	0	0	7	Insecticide once used in agriculture, banned in 1994
Chlorpyrifos	µg/l	0	0	90	Common insecticide for insect control
Cyanazine	µg/l	0	0	10	Herbicide for control of weeds in crop and non-crop areas
Diazinon	µg/l	0	0	20	Insecticide for dwelling pests, flies, ants and cockroaches
Dicamba	µg/l	0	0	120	Herbicide for weed in grains
1,2-Dichlorobenzene	µg/l	0	0	200	Used in chemical blends
1,4-Dichlorobenzene	µg/l	0	0	5	Was widely used in toilet pucks and mothballs, banned in 1988

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Dichlorodiphenyltrichloroethane (DDT) + metabolites	mg/l	0	0	0.03	DDT use was banned in Ontario in 1998
1,2-Dichloroethane	µg/l	0	0	5	Used as a solvent and fumigant
1,1-Dichloroethylene (vinylidene chloride)	mg/l	0	0	0.014	Used in the food packaging industry and the textile industry for furniture and automotive upholstery
Dichloromethane	µg/l	0	0	50	Industrial solvent for paint and degreasing agent
2,4-Dichlorophenol	µg/l	< 0.12	< 0.1	900	Present in drinking water only as a result of industrial contamination
2,4-Dichlorophenoxy acetic acid (2,4-D)	µg/l	0	0	100	Herbicide for cereal crop and lawn weed control
Diclofop-methyl	µg/l	0	0	9	Herbicide grass control in grains and vegetables
Dimethoate	µg/l	0	0	20	Miticide and insecticide
Dinoseb	µg/l	0	0	10	Contact herbicide and desiccant. It is no longer used in Ontario
Diquat	ppb	0	0	70	Herbicide used as a crop desiccant in seed crops
Diuron	µg/l	0	0	150	Herbicide for control of vegetation in crop and non-crop areas
Glyphosate	µg/l	0	0	280	Herbicide for weed control
Heptachlor + Heptachlor Epoxide	µg/l	0	0	3	Insecticide once used in agriculture, banned in 1969
Lindane (Total)	µg/l	0	0	4	Insecticide used for seed treatment
Malathion	µg/l	0	0	190	Insecticide used in fruits and vegetables
Methoxychlor	µg/l	0	0	900	Insecticide
Metolachlor	µg/l	0	0	50	Selective herbicide for pre-emergence and pre-plant broad leaf weed control
Metribuzin	µg/l	0	0	80	Herbicide for control of weed and grasses
Monochlorobenzene	µg/l	< 0.42	< 0.26	80	Industrial solvent
Paraquat	ppb	0	0	10	Highly toxic herbicide used for desiccation of seed crops
Parathion	µg/l	< 0.43	0	50	Insecticide for foliar pests and adult stage of root maggots
Pentachlorophenol	µg/l	< 0.45	0	60	It is rarely found today but was extensively used as a pesticide and wood preservative
Phorate	µg/l	< 0.37	0	2	Insecticide for sucking insects and larvae's
Picloram	µg/l	0	0	190	Herbicide for broad leaf weed and brush control on roads

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Polychlorinated Biphenyls(PCB)	µg/l	0	0	3	Primarily produced by the reaction of chlorine and natural organics
Prometryne	µg/l	0	0	1	Herbicide used on select grass and weeds
Simazine	µg/l	0	0	10	Herbicide for pre-emergence weed control
Total, Trihalomethanes * (THM)	µg/l	12.0	13.4	100	Primarily produced by the reaction of chlorine and natural organics
Temephos	µg/l	0	0	280	Insecticide for mosquito and black fly larvae control
Terbufos	µg/l	0	0	1	Insecticide
Tetrachloroethylene	µg/l	0	0	30	Industrial solvent
2,3,4,6-Tetrachlorophenol	µg/l	0	0	100	Was normally used to preserve wood
Triallate	µg/l	0	0	230	Herbicide for wilds oat control in crops
Trichloroethylene	µg/l	0	0	50	Industrial solvent
2,4,6-Trichlorophenol	µg/l	0	0	5	Pesticide
2,4,5-Trichlorophenoxy acetic acid (2,4,5-T)	µg/l	< 0.020	< 0.020	280	Herbicide
Trifluralin	µg/l	0	0	45	Herbicide for summer weed control
Vinyl Chloride	µg/l	0	0	2	Synthetic chemical used in making PVC

\* THMs: Annual Running Average, distribution system samples

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## Operational Parameters Monitored at Lakeview and Lorne Park on Raw and Treated Water

Parameter	Number of Samples	Units	Standard or Guideline	Range of Results (Min-Max)	
				Lakeview	Lorne Park
Turbidity	8760*	NTU	1.0	0.01 – 0.79	0.01 – 0.83
Free chlorine residual	8760*	mg/L	0.05 - 4.00	0.28 – 2.61	0.48 – 1.95
Temperature	8760*	°C	N/A	2.45 – 22.37	3.57 – 23.35
pH	8760*	NA	6.5 - 8.5	6.51 – 7.80	6.61 – 8.02
Fluoride	8760*	mg/L	1.5	0.20 – 1.04	0.20 – 1.20

\* 8760 represents continuous monitoring

All validated data remained within specified limits, except where reported under Schedule 16 of Ontario Regulation 170/03. Occasional outlying results occur due to equipment maintenance, programming updates, or signal anomalies.

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## Appendix B Water Quality At Home Tips

Water Quality Concern	Possible Cause	Suggested Solutions
<b>Chlorine Odour and Taste</b>	<ul style="list-style-type: none"> <li>Chlorine getting combined with organics</li> <li>Chlorination of new water mains</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 Odour</b>	<ul style="list-style-type: none"> <li>Algae that bloom in the lake in the summer produce a metabolite called 'geosmin', which causes musty/earthy odour</li> <li>Dead-end water mains 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 odours 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 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>Water main 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>
<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 2010	MAC	Lakeview Result (Min-Max)	Lorne Park Result (Min-Max)	Units	Parameter Information
Alkalinity	30-500	83.9-90.6	85.9-91.7	mg/l	Water resistance to effects of acids added to water
Conductivity @25°C	N/A	312-348	321-354	µS/cm	Related to inorganics such as minerals dissolved in water
Hardness	80-100	119-128 <b>6.96-7.49</b>	115-128 <b>6.73-7.49</b>	mg/l (CaCO <sub>3</sub> ) <b>Grains/Gallon</b>	Naturally occurring; related to mineral content
Total Dissolved Solids	500	180-186	173-189	mg/l	Refers mainly to inorganic substances dissolved in water
Sodium*	20	12.9-22.0	14.8-24.1	mg/l	Naturally occurring or due to water softening
Chloride	250	25.1-32.0	25.1-33	mg/l	Non-toxic material naturally present in drinking water.
Iron	300	<0.001-0.034	< 0.00065-0.026	mg/l	In ground water as a result of mineral deposits and chemically reducing underground conditions
Manganese	0.05	<0.002-0.00038	0-0.000201	mg/l	In ground water as a result of mineral deposits and chemically reducing underground conditions
Fluoride	1.5	0.337-0.353	0.20-1.20	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





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## **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 0.05 mg/L and cannot exceed a maximum level of 4.0 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. Soap suds are formed more readily 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 that prevents 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 precipitate out of water and deposit on the element and inner surfaces 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 colour, often seen on laundered clothes, plumbing fixtures and the water itself. Running your tap for a few minutes can clear the colour. No health risks are associated with this discolouration. 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.



# water quality report

➤ **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 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 a 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 a 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 [WaterQualityInquiries@peelregion.ca](mailto: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 <http://www.peelregion.ca/health/>

**To view our Lead Pamphlet**, please visit:

<http://www.peelregion.ca/health/topics/injury/pdf/lead-july09.pdf>

# water quality report

## Report Accessibility

The 2010 Annual Reports can be viewed by the public online at:

<http://www.peelregion.ca/pw/water/quality/reports> or picked up at the Region of Peel office located at 10 Peel Centre Drive, Suite A, 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., Suite A 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:WaterQualityInquiries@peelregion.ca">WaterQualityInquiries@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., Suite A 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:WaterQualityInquiries@peelregion.ca">WaterQualityInquiries@peelregion.ca</a></p>
 <p><b>Region of Peel</b> <i>Working for you</i></p> <p><b>Region of Peel Public Health</b> 10 Peel Centre Drive, Suite B Brampton, ON L6T 4B9 Phone: 905-799-7700 Web site: <a href="http://www.peelregion.ca/health/">http://www.peelregion.ca/health/</a></p>	 <p>230 Advance Blvd. Brampton, ON L6T 4T6 Phone: 905-791-7800 Ext. 4409 Web Site: <a href="http://www.peelregion.ca/watersmartpeel/">http://www.peelregion.ca/watersmartpeel/</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/">http://www.ene.gov.on.ca/</a></p>	 <p><b>Environment Canada</b> Inquiry Centre Phone: 819-997-2800 Toll-Free: 1-800-668-6767 Web Site: <a href="http://www.canada.gc.ca/home.html">http://www.canada.gc.ca/home.html</a></p>