

A photograph of large blue industrial pumps or valves in a water treatment facility, arranged in a row.

# DRINKING WATER SYSTEM

Annual  
Report  
**2019**



**CITY OF TORONTO DRINKING WATER SYSTEM ANNUAL REPORT**

<b>Drinking-Water System Number:</b>	<b>220002262</b>
<b>Drinking-Water System Name:</b>	City of Toronto Drinking Water System (R. C. Harris)
<b>Drinking-Water System Owner:</b>	City of Toronto
<b>Drinking-Water System Category:</b>	Large Municipal Residential
<b>Period being reported:</b>	January 1, 2019 to December 31, 2019

<p><b><u>Complete if your Category is Large Municipal Residential or Small Municipal Residential</u></b></p> <p><b>Does your Drinking-Water System serve more than 10,000 people? Yes [X ] No [ ]</b></p> <p><b>Is your annual report available to the public at no charge on a web site on the Internet? Yes [ X ] No [ ]</b></p> <p><b>Location where Summary Report required under O. Reg. 170/03 Schedule 22 will be available for inspection.</b></p> <div style="border: 1px solid black; padding: 5px;"> Metro Hall  55 John Street  Toronto, Ontario  M5V 3C6 </div>	<p><b><u>Complete for all other Categories.</u></b></p> <p><b>Number of Designated Facilities served:</b></p> <div style="border: 1px solid black; height: 20px; width: 100%;"></div> <p><b>Did you provide a copy of your annual report to all Designated Facilities you serve? Yes [ ] No [ ]</b></p> <p><b>Number of Interested Authorities you report to:</b></p> <div style="border: 1px solid black; height: 20px; width: 100%;"></div> <p><b>Did you provide a copy of your annual report to all Interested Authorities you report to for each Designated Facility? Yes [ ] No [ ]</b></p>
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**NOTE: For the following tables below, additional rows or columns may be added or an appendix may be attached to the report**

**List all Drinking-Water Systems (if any), which receive all of their drinking water from your system:**

<b>Drinking Water System Name</b>	<b>Drinking Water System Number</b>
Region of York - receives some of their water from Toronto	260001929

**Did you provide a copy of your annual report to all Drinking-Water System owners that are connected to you and to whom you provide all of its drinking water? Yes [X] No [ ]**

**Indicate how you notified system users that your annual report is available, and is free of charge.**

- [X] Public access/notice via the web
- [X] Public access/notice via Government Office
- [ ] Public access/notice via a newspaper
- [ ] Public access/notice via Public Request
- [ ] Public access/notice via a Public Library
- [ ] Public access/notice via other method \_\_\_\_\_

**Describe your Drinking-Water System**

Toronto Water Supply System consists of four water treatment plants, 18 pumping stations, 10 major underground storage reservoirs, four elevated storage tanks and approximately 540 kilometers of trunk watermains and 5,551 kilometers of distribution watermains.

The R.C. Harris Water Treatment Plant is a conventional water treatment plant, has a rated capacity of 950,000 m<sup>3</sup>/day and is located at 2701 Queen Street East, Toronto.

The other three (3) Toronto Water Treatment plants are as follows:

- R.L. Clark Water Treatment Plant (Rated Capacity of 615,000 m<sup>3</sup>/day) and is located at 45 Twenty Third Street, Toronto
- F.J. Horgan Water Treatment Plant (Rated Capacity of 800,000 m<sup>3</sup>/day) and is located at 201 Copperfield Road, Toronto
- Island Water Treatment Plant (Rated Capacity of 410,000 m<sup>3</sup>/day) and is located on Centre Island, Toronto

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

Alum (Aluminum sulphate)  
Chlorine  
Sulphur dioxide  
Sodium bisulphite  
Hydrofluosilicic acid  
Aqueous Ammonia  
Phosphoric Acid

**Were any significant expenses incurred to?**

- ☒ [X] Install required equipment  
☒ [X] Repair required equipment  
☒ [X] Replace required equipment

**Please provide a brief description and a breakdown of monetary expenses incurred**

**Capital Projects** - The following amounts relate to various projects during 2019 and do not represent the total project costs. These numbers do not include the normal operating and maintenance costs.

No.	Project Name	Description	Monetary Expense
1.	Effluent Tank Cleaning	Removal of accumulated sludge from the RMF effluent tank	\$150,000
2.	Upgrade of Natural Gas Supply	Upgrade of natural gas service to accommodate HVAC/stand-by power	\$150,000
3.	Reservoir Improvements	Structural rehabilitation of the plant reservoir, installation of baffles to improve ammonia mixing	\$1,500,000
4.	Rehabilitation of Mechanical Equipment	Replacement of mechanical fasteners, lead paint removal and re-coating of piping, pumps and mechanical equipment	\$1,000,000

Provide details on the notices submitted in accordance with subsection 18(1) of the Safe Drinking-Water Act or section 16-4 of Schedule 16 of O.Reg.170/03 and reported to Spills Action Centre

**NOTE:** "Incident date" is the date adverse result was reported to MECP-SAC. "Corrective action date" is the date the location was resampled.

Incident Date	Parameter	Result	Unit of Measure	Corrective Action	Corrective Action Date
NONE REPORTED					

Microbiological testing done under the Schedule 10, 11 or 12 of Regulation 170/03, during this reporting period.

	Number of Samples	Range of E.Coli Or Fecal Results (min.) - (max.)	Range of Total Coliform Results (min.) - (max.)	Number of HPC Samples	Range of HPC Results (min.) - (max.)
Raw	329	0 - 1	0 - 9	329	0 - 1397
Treated	1316	1316 A (100%A)	1316 A (100%A)	1316	0 - 19

Operational testing done under Schedule 7, 8 or 9 of Regulation 170/03 during the period covered by this Annual Report.

Parameter	Number of Grab Samples	Range of Results (min.) - (max.)	Unit of Measure
Turbidity	7920**	0.02-0.17	NTU
Chlorine	7920**	1.32-2.83	mg/L
*Fluoride (If the DWS provides fluoridation)	307	0.52 – 0.69	mg/L

**NOTE:** For Continuous Monitoring (zero days offline):

Number of Grab Samples = 24 samples/day x 365 days/year (or 366 days/leap year) = 8760 (or 8784)

\*\*Plant out of service for 35 days

\*Fluoride Grab Sample numbers and range of results are reported using data from days when fluoridation was in service

Summary of additional testing and sampling carried out in accordance with the requirement of an approval, order or other legal instrument.

Date Of Legal Instrument Issued	Parameter	Date Sampled	Result (Annual Average)	Unit of Measure
May 18, 2019 Municipal Drinking Water Licence	Total Suspended Solids (Residue Management)	Jan 01-Dec 31, 2019	6.67	mg/L
	Total Chlorine (Residue Management)	Jan 01-Dec 31, 2019	0	mg/L

**NOTE:** A result of zero indicates that the result obtained was below the method detection/reporting limit

Summary of Inorganic parameters tested during this reporting period or the most recent sample results

Parameter	Sample Date	Result Value (min.) - (max.)	Unit of Measure	Exceedance
Antimony	Jan – Dec 2019	0.0002 – 0.0002	mg/L	No
Arsenic	Jan – Dec 2019	0.0005 – 0.0006	mg/L	No
Barium	Jan – Dec 2019	0.0208 – 0.0230	mg/L	No
Boron	Jan – Dec 2019	0.0228 – 0.0239	mg/L	No
Cadmium	Jan – Dec 2019	0 – 0	mg/L	No
Chromium	Jan – Dec 2019	0.0003 – 0.0004	mg/L	No
Lead	Jan – Dec 2019	0 – 0	mg/L	No
Mercury	Jan – Dec 2019	0 – 0	mg/L	No
Selenium	Jan – Dec 2019	0 – 0.0007	mg/L	No
Sodium	Jan – Dec 2019	13.3 – 16.6	mg/L	No
Uranium	Jan – Dec 2019	0.0003 – 0.0004	mg/L	No
Nitrite	Jan – Dec 2019	0 – 0.002	mg/L	No
Nitrate	Jan – Dec 2019	0.19 – 0.45	mg/L	No

**NOTE:** A result of zero indicates that the result obtained was below the method detection/reporting limit.

Summary of Lead (Pb) testing under Schedule 15.1 during this reporting period

Location Type	Number of Samples	Range of Lead Results (min.) - (max.)	Unit of Measure	Number of Exceedances
*Plumbing	*	*	*	*
*Distribution	*	*	*	*

**\*NOTE:** Refer to Toronto DS (Distribution System) Annual Report for Lead (Pb) testing data



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

Parameter	Sample Date	Result Value (min.) - (max.)	Unit of Measure	Exceedance
Alachlor	Jan – Dec 2019	0 – 0	µg/L	No
Atrazine + N-dealkylated metabolites	Jan – Dec 2019	0.0910 – 0.1060	µg/L	No
Azinphos-methyl	Jan – Dec 2019	0 – 0	µg/L	No
Benzene	Jan – Dec 2019	0 – 0	µg/L	No
Benzo(a)pyrene	Jan – Dec 2019	0 – 0	µg/L	No
Bromoxynil	Jan – Dec 2019	0 – 0	µg/L	No
Carbaryl	Jan – Dec 2019	0 – 0	µg/L	No
Carbofuran	Jan – Dec 2019	0 – 0	µg/L	No
Carbon Tetrachloride	Jan – Dec 2019	0 – 0	µg/L	No
Chlorpyrifos	Jan – Dec 2019	0 – 0	µg/L	No
Diazinon	Jan – Dec 2019	0 – 0	µg/L	No
Dicamba	Jan – Dec 2019	0 – 0	µg/L	No
1,2-Dichlorobenzene	Jan – Dec 2019	0 – 0	µg/L	No
1,4-Dichlorobenzene	Jan – Dec 2019	0 – 0	µg/L	No
1,2-Dichloroethane	Jan – Dec 2019	0 – 0	µg/L	No
1,1-Dichloroethylene (vinylidene chloride)	Jan – Dec 2019	0 – 0	µg/L	No
Dichloromethane	Jan – Dec 2019	0 – 1.000	µg/L	No
2,4-Dichlorophenol	Jan – Dec 2019	0 – 0	µg/L	No
2,4-Dichlorophenoxy acetic acid (2,4-D)	Jan – Dec 2019	0 – 0	µg/L	No
Diclofop-methyl	Jan – Dec 2019	0 – 0	µg/L	No
Dimethoate	Jan – Dec 2019	0 – 0	µg/L	No
Diquat	Jan – Dec 2019	0	µg/L	No
Diuron	Jan – Dec 2019	0 – 0	µg/L	No
Glyphosate	Jan – Dec 2019	0	µg/L	No
Malathion	Jan – Dec 2019	0 – 0	µg/L	No
Metolachlor	Jan – Dec 2019	0.0065 – 0.0100	µg/L	No
Metribuzin	Jan – Dec 2019	0 – 0	µg/L	No
Monochlorobenzene	Jan – Dec 2019	0 – 0	µg/L	No
Paraquat	Jan – Dec 2019	0	µg/L	No
Pentachlorophenol	Jan – Dec 2019	0 – 0	µg/L	No
Phorate	Jan – Dec 2019	0 – 0	µg/L	No
Picloram	Jan – Dec 2019	0 – 0	µg/L	No
Polychlorinated Biphenyls(PCB)	Jan – Dec 2019	0 – 0	µg/L	No
Prometryne	Jan – Dec 2019	0 – 0	µg/L	No
Simazine	Jan – Dec 2019	0.0042 – 0.0055	µg/L	No
THM (Note: Show latest annual average)	Jan – Dec 2019	9.34	µg/L	No



Terbufos	Jan – Dec 2019	0 – 0	µg/L	No
Tetrachloroethylene	Jan – Dec 2019	0 – 0	µg/L	No
2,3,4,6-Tetrachlorophenol	Jan – Dec 2019	0 – 0	µg/L	No
Triallate	Jan – Dec 2019	0 – 0	µg/L	No
Trichloroethylene	Jan – Dec 2019	0 – 0	µg/L	No
2,4,6-Trichlorophenol	Jan – Dec 2019	0 – 0	µg/L	No
Trifluralin	Jan – Dec 2019	0 – 0	µg/L	No
Vinyl Chloride	Jan – Dec 2019	0 – 0	µg/L	No

**NOTE:** A result of zero indicates that the result obtained was below the method detection/reporting limit.

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

Parameter	Result Value (min.) - (max.)	Unit of Measure	Date of Sample
NONE	NONE	NONE	NONE

**CITY OF TORONTO DRINKING WATER SYSTEM ANNUAL REPORT**

<b>Drinking-Water System Number:</b>	<b>220002244</b>
<b>Drinking-Water System Name:</b>	City of Toronto Drinking Water System (Island)
<b>Drinking-Water System Owner:</b>	City of Toronto
<b>Drinking-Water System Category:</b>	Large Municipal Residential
<b>Period being reported:</b>	January 1, 2019 to December 31, 2019

<p><b><u>Complete if your Category is Large Municipal Residential or Small Municipal Residential</u></b></p> <p><b>Does your Drinking-Water System serve more than 10,000 people? Yes [X ] No [ ]</b></p> <p><b>Is your annual report available to the public at no charge on a web site on the Internet? Yes [ X ] No [ ]</b></p> <p><b>Location where Summary Report required under O. Reg. 170/03 Schedule 22 will be available for inspection.</b></p> <div style="border: 1px solid black; padding: 5px;"> Metro Hall  55 John Street  Toronto, Ontario  M5V 3C6 </div>	<p><b><u>Complete for all other Categories.</u></b></p> <p><b>Number of Designated Facilities served:</b></p> <div style="border: 1px solid black; height: 20px; width: 100%;"></div> <p><b>Did you provide a copy of your annual report to all Designated Facilities you serve? Yes [ ] No [ ]</b></p> <p><b>Number of Interested Authorities you report to:</b></p> <div style="border: 1px solid black; height: 20px; width: 100%;"></div> <p><b>Did you provide a copy of your annual report to all Interested Authorities you report to for each Designated Facility? Yes [ ] No [ ]</b></p>
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**List all Drinking-Water Systems (if any), which receive all of their drinking water from your system:**

<b>Drinking Water System Name</b>	<b>Drinking Water System Number</b>
Region of York - receives some of their water from Toronto	260001929

**Did you provide a copy of your annual report to all Drinking-Water System owners that are connected to you and to whom you provide all of its drinking water? Yes [X] No [ ]**

**Indicate how you notified system users that your annual report is available, and is free of charge.**

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**Describe your Drinking-Water System**

Toronto Water Supply System consists of four water treatment plants, 18 pumping stations, 10 major underground storage reservoirs, four elevated storage tanks and approximately 540 kilometers of trunk watermains and 5,551 kilometers of distribution watermains.

The Island Water Treatment Plant is a direct filtration water treatment plant, has a rated capacity of 410,000 m<sup>3</sup>/day and is located at Toronto Centre Island, Toronto.

The other three (3) Toronto Water Treatment plants are as follows:

- R.L. Clark Water Treatment Plant (Rated Capacity of 615,000 m<sup>3</sup>/day) and is located at 45 Twenty Third Street, Toronto
- R.C. Harris Water Treatment Plant (Rated Capacity of 950,000 m<sup>3</sup>/day) and is located at 2701 Queen Street East, Toronto
- F.J. Horgan Water Treatment Plant (Rated Capacity of 800,000 m<sup>3</sup>/day) and is located at 201 Copperfield Road, Toronto

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

Chlorine  
Sulphur dioxide  
Sodium bisulphite  
Hydrofluosilicic acid  
Aqua ammonia  
Polyaluminum Chloride (PACL)  
Phosphoric Acid

**Were any significant expenses incurred to?**

- ☒ Install required equipment  
☒ Repair required equipment  
☒ Replace required equipment

**Please provide a brief description and a breakdown of monetary expenses incurred**

**Capital Projects** - The following amounts relate to various projects during 2019 and do not represent the total project costs. These numbers do not include the normal operating and maintenance costs.

No.	Project Description	Monetary Expense
1.	Design & Construction of Ammonia & Fluoride System Upgrades	\$2,077,000
2.	Design & Construction of Marine Yard Rehabilitation	\$1,449,000
3.	Design-Build Intake Cleaning	\$614,000
4.	Design of UV Treatment, Residuals Dewatering, & Electrical Upgrades	\$441,000
5.	Inspection & Design of Treated Water Tunnel Rehabilitation	\$255,000

6.	Design & Construction of Residuals Management System	\$147,000
7.	Design of Scrubber Upgrades	\$93,000
8.	Engineering Study of WTP Re-rating	\$36,000
9.	Design of Plant-wide HVAC Upgrades	\$17,000
10.	Design & Construction of Cross Connection Upgrades	\$11,000
11.	Design & Construction of Flume Relining and Machine Shop Floor Structural Upgrade Design	\$3,000

**Provide details on the notices submitted in accordance with subsection 18(1) of the Safe Drinking-Water Act or section 16-4 of Schedule 16 of O.Reg.170/03 and reported to Spills Action Centre**

**NOTE:** "Incident date" is the date adverse result was reported to MECP-SAC. "Corrective action date" is the date the location was resampled.

Incident Date	Parameter	Result	Unit of Measure	Corrective Action	Corrective Action Date
30-December-19	Total Coliform	Present	P-A/100 mL	Resample (taken 6 hr after) free of TC. Additional samples taken on Dec 30 & 31 all free of TC	30-Dec-19

**Microbiological testing done under the Schedule 10, 11 or 12 of Regulation 170/03, during this reporting period.**

	Number of Samples	Range of E.Coli Or Fecal Results (min.) - (max.)	Range of Total Coliform Results (min.) - (max.)	Number of HPC Samples	Range of HPC Results (min.) - (max.)
Raw	323	0 - 3	0 - 43	323	0 - 655
Treated	1291	1291 A (100%A)	1290 A (99.9%A)	1284	0 - 26

**Operational testing done under Schedule 7, 8 or 9 of Regulation 170/03 during the period covered by this Annual Report.**

Parameter	Number of Grab Samples	Range of Results (min.) - (max.)	Unit of Measure
Turbidity	7749	0.03 – 0.11	NTU
Chlorine	7749	1.03 – 2.10	mg/L
*Fluoride (If the DWS provides fluoridation)	295	0.42 – 0.87	mg/L

**NOTE:** For Continuous Monitoring (zero days offline):

Number of Grab Samples = 24 samples/day x 365 days/year (or 366 days/leap year) = 8760 (or 8784)

\*Fluoride Grab Sample numbers and range of results are reported using data from days when fluoridation was in service

Summary of additional testing and sampling carried out in accordance with the requirement of an approval, order or other legal instrument.

Date Of Legal Instrument Issued	Parameter	Date Sampled	Result (Annual Average)	Unit of Measure
18-May 2018 & 3-May 2019 Municipal Drinking Water Licence	Total Suspended Solids (Residue Management) *	Jan. 1, 2019 – Feb. 21, 2019	2.6	mg/L
	Total Chlorine (Residue Management) **	Jan. 1, 2019 – Feb. 21, 2019	0.006	mg/L

Date Of Legal Instrument Issued	Parameter	Date Sampled	Result (Monthly Average)	Unit of Measure
18-May 2018 & 3-May 2019 Municipal Drinking Water Licence	Total Suspended Solids (Residue Management) *	Feb 22, 2019 - Dec. 31, 2019	Feb. 21-28 = 1.8 March = 4.0 April = 3.1 May = 3.2 June = 2.9 July = 2.1 August = 1.8 September = 1.8 October = 3.1 November = 3.8 December = 5.7	mg/L

Date Of Legal Instrument Issued	Parameter	Date Sampled	Result (Maximum Concentration as: <u>Condition A</u> : single sample > 0.2 mg/L, or <u>Condition B</u> : any 120-min average of all 5-min averaged samples > 0.02 mg/L)	Unit of Measure
18-May 2018 & 3-May 2019 Municipal Drinking Water Licence	Total Chlorine (Residue Management) **	Feb 22, 2019 - Dec. 31, 2019	Feb. 26 = 0.21 (as Condition A)  March 1 = 0.022 (as Condition B)	date & mg/L

Notes:

\* Starting February 22, 2019, for RMF effluent, the Total Suspended Solids limit changed from an annual average concentration to a monthly average concentration.

\*\* Starting February 22, 2019, for RMF effluent, the Total Chlorine Residual limit changed from an annual average to a maximum concentration of 0.02 mg/L (120-min average concentration of all 5-min averaged samples) or 0.2 mg/L (single 5-min averaged sample) as applicable.

**Summary of Inorganic parameters tested during this reporting period or the most recent sample results**

Parameter	Sample Date	Result Value (min.) - (max.)	Unit of Measure	Exceedance
Antimony	Jan – Dec 2019	0.0002 – 0.0002	mg/L	No
Arsenic	Jan – Dec 2019	0.0009 – 0.0009	mg/L	No
Barium	Jan – Dec 2019	0.0215 – 0.0233	mg/L	No
Boron	Jan – Dec 2019	0.0227– 0.0234	mg/L	No
Cadmium	Jan – Dec 2019	0 – 0	mg/L	No
Chromium	Jan – Dec 2019	0.0002 – 0.0004	mg/L	No
Lead	Jan – Dec 2019	0 – 0.00007	mg/L	No
Mercury	Jan – Dec 2019	0 – 0	mg/L	No
Selenium	Jan – Dec 2019	0 – 0.0005	mg/L	No
Sodium	Jan – Dec 2019	12.6 – 20.0	mg/L	No
Uranium	Jan – Dec 2019	0.0003 – 0.0004	mg/L	No
Nitrite	Jan – Dec 2019	0 – 0.003	mg/L	No
Nitrate	Jan – Dec 2019	0.35 – 0.40	mg/L	No

**NOTE:** A result of zero indicates that the result obtained was below the method detection/reporting limit.

**Summary of Lead (Pb) testing under Schedule 15.1 during this reporting period**

Location Type	Number of Samples	Range of Lead Results (min.) - (max.)	Unit of Measure	Number of Exceedances
*Plumbing	*	*	*	*
*Distribution	*	*	*	*

**\*NOTE:** Refer to Toronto DS (Distribution System) Annual Report for Lead (Pb) testing data



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

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

Parameter	Sample Date	Result Value (min.) - (max.)	Unit of Measure	Exceedance
Alachlor	Jan – Dec 2019	0 – 0	µg/L	No
Atrazine + N-dealkylated metabolites	Jan – Dec 2019	0.0950 – 0.1000	µg/L	No
Azinphos-methyl	Jan – Dec 2019	0 – 0	µg/L	No
Benzene	Jan – Dec 2019	0 – 0	µg/L	No
Benzo(a)pyrene	Jan – Dec 2019	0 – 0	µg/L	No
Bromoxynil	Jan – Dec 2019	0 – 0	µg/L	No
Carbaryl	Jan – Dec 2019	0 – 0	µg/L	No
Carbofuran	Jan – Dec 2019	0 – 0	µg/L	No
Carbon Tetrachloride	Jan – Dec 2019	0 – 0	µg/L	No
Chlorpyrifos	Jan – Dec 2019	0 – 0	µg/L	No
Diazinon	Jan – Dec 2019	0 – 0	µg/L	No
Dicamba	Jan – Dec 2019	0 – 0	µg/L	No
1,2-Dichlorobenzene	Jan – Dec 2019	0 – 0	µg/L	No
1,4-Dichlorobenzene	Jan – Dec 2019	0 – 0	µg/L	No
1,2-Dichloroethane	Jan – Dec 2019	0 – 0	µg/L	No
1,1-Dichloroethylene (vinylidene chloride)	Jan – Dec 2019	0 – 0	µg/L	No
Dichloromethane	Jan – Dec 2019	0 – 2.400	µg/L	No
2,4-Dichlorophenol	Jan – Dec 2019	0 – 0	µg/L	No
2,4-Dichlorophenoxy acetic acid (2,4-D)	Jan – Dec 2019	0 – 0	µg/L	No
Diclofop-methyl	Jan – Dec 2019	0 – 0	µg/L	No
Dimethoate	Jan – Dec 2019	0 – 0	µg/L	No
Diquat	Jan – Dec 2019	0	µg/L	No
Diuron	Jan – Dec 2019	0 – 0	µg/L	No
Glyphosate	Jan – Dec 2019	0	µg/L	No
Malathion	Jan – Dec 2019	0 – 0	µg/L	No
Metolachlor	Jan – Dec 2019	0.0057 – 0.0082	µg/L	No
Metribuzin	Jan – Dec 2019	0 – 0	µg/L	No
Monochlorobenzene	Jan – Dec 2019	0 – 0	µg/L	No
Paraquat	Jan – Dec 2019	0	µg/L	No
Pentachlorophenol	Jan – Dec 2019	0 – 0	µg/L	No
Phorate	Jan – Dec 2019	0 – 0	µg/L	No
Picloram	Jan – Dec 2019	0 – 0	µg/L	No
Polychlorinated Biphenyls (PCB)	Jan – Dec 2019	0 – 0	µg/L	No
Prometryne	Jan – Dec 2019	0 – 0	µg/L	No
Simazine	Jan – Dec 2019	0.0044 – 0.0053	µg/L	No
THM (Note: Show latest annual average)	Jan – Dec 2019	9.02	µg/L	No



Terbufos	Jan – Dec 2019	0 – 0	µg/L	No
Tetrachloroethylene	Jan – Dec 2019	0 – 0	µg/L	No
2,3,4,6-Tetrachlorophenol	Jan – Dec 2019	0 – 0	µg/L	No
Triallate	Jan – Dec 2019	0 – 0	µg/L	No
Trichloroethylene	Jan – Dec 2019	0 – 0	µg/L	No
2,4,6-Trichlorophenol	Jan – Dec 2019	0 – 0	µg/L	No
Trifluralin	Jan – Dec 2019	0 – 0	µg/L	No
Vinyl Chloride	Jan – Dec 2019	0 – 0	µg/L	No

**NOTE:** A result of zero indicates that the result obtained was below the method detection/reporting limit.

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

Parameter	Result Value (min.) - (max.)	Unit of Measure	Date of Sample
NONE	NONE	NONE	NONE



**CITY OF TORONTO DRINKING WATER SYSTEM ANNUAL REPORT**

<b>Drinking-Water System Number:</b>	220002253
<b>Drinking-Water System Name:</b>	City of Toronto Drinking Water System (R. L. Clark)
<b>Drinking-Water System Owner:</b>	City of Toronto
<b>Drinking-Water System Category:</b>	Large Municipal Residential
<b>Period being reported:</b>	January 1, 2019 to December 31, 2019

<p><b><u>Complete if your Category is Large Municipal Residential or Small Municipal Residential</u></b></p> <p><b>Does your Drinking-Water System serve more than 10,000 people? Yes [X ] No [ ]</b></p> <p><b>Is your annual report available to the public at no charge on a web site on the Internet? Yes [ X ] No [ ]</b></p> <p><b>Location where Summary Report required under O. Reg. 170/03 Schedule 22 will be available for inspection.</b></p> <div style="border: 1px solid black; padding: 5px;"> Metro Hall  55 John Street  Toronto, Ontario  M5V 3C6 </div>	<p><b><u>Complete for all other Categories.</u></b></p> <p><b>Number of Designated Facilities served:</b></p> <div style="border: 1px solid black; height: 20px; width: 100%;"></div> <p><b>Did you provide a copy of your annual report to all Designated Facilities you serve? Yes [ ] No [ ]</b></p> <p><b>Number of Interested Authorities you report to:</b></p> <div style="border: 1px solid black; height: 20px; width: 100%;"></div> <p><b>Did you provide a copy of your annual report to all Interested Authorities you report to for each Designated Facility? Yes [ ] No [ ]</b></p>
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**List all Drinking-Water Systems (if any), which receive all of their drinking water from your system:**

<b>Drinking Water System Name</b>	<b>Drinking Water System Number</b>
Region of York - receives some of their water from Toronto	260001929

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**Indicate how you notified system users that your annual report is available, and is free of charge.**

- [X] Public access/notice via the web
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- [ ] Public access/notice via a newspaper
- [ ] Public access/notice via Public Request
- [ ] Public access/notice via a Public Library
- [ ] Public access/notice via other method \_\_\_\_\_

**Describe your Drinking-Water System**

Toronto Water Supply System consists of four water treatment plants, 18 pumping stations, 10 major underground storage reservoirs, four elevated storage tanks and approximately 540 kilometers of trunk watermains and 5,551 kilometers of distribution watermains.

The R.L. Clark Water Treatment Plant is a conventional water treatment plant, has a rated capacity of 615,000 m<sup>3</sup>/day and is located at 45 Twenty Third Street, Toronto.

The other three (3) Toronto Water Treatment plants are as follows:

- R.C. Harris Water Treatment Plant (Rated Capacity of 950,000 m<sup>3</sup>/day) and is located at 2701 Queen Street East, Toronto
- F.J. Horgan Water Treatment Plant (Rated Capacity of 800,000 m<sup>3</sup>/day) and is located at 201 Copperfield Road, Toronto
- Island Water Treatment Plant (Rated Capacity of 410,000 m<sup>3</sup>/day) and is located on Centre Island, Toronto

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

Alum (Aluminum Sulphate)

Chlorine

Sulphur Dioxide

Hydrofluosilic Acid

Aqua Ammonia

Phosphoric Acid

Cationic polymer was used for residuals treatment.

**Were any significant expenses incurred to?**

☒ Install required equipment

☒ Repair required equipment

☒ Replace required equipment

**Please provide a brief description and a breakdown of monetary expenses incurred**

**Capital Projects** - The following amounts relate to various projects during 2019 and do not represent the total project costs. These numbers do not include the normal operating and maintenance costs.

No.	Project Name	Description	Monetary Expense
1.	RMF Modification and Optimization	Residue Management Facility Upgrades	\$1,380,000
2.	Architectural and Security Upgrades	Building Envelope Rehabilitation	\$5,300,000

3.	Zebra Mussel Control System Replacement	System Engineering Design	\$150,000
4.	Gaseous Systems Upgrade	System Engineering Design	\$90,000
5.	Misc. Plant Projects	Various plant equipment rehabilitation	\$230,000
6.	Filter 2 Rehabilitation	Filter rehabilitation	\$600,000
7.	Standby Power	System Engineering Design	\$360,000

**Provide details on the notices submitted in accordance with subsection 18(1) of the Safe Drinking-Water Act or section 16-4 of Schedule 16 of O.Reg.170/03 and reported to Spills Action Centre**

**NOTE:** "Incident date" is the date adverse result was reported to MECP-SAC. "Corrective action date" is the date the location was resampled.

Incident Date	Parameter	Result	Unit of Measure	Corrective Action	Corrective Action Date
NONE REPORTED	--	--	--	--	--

**Microbiological testing done under the Schedule 10, 11 or 12 of Regulation 170/03, during this reporting period.**

	Number of Samples	Range of E.Coli Or Fecal Results (min.) - (max.)	Range of Total Coliform Results (min.) - (max.)	Number of HPC Samples	Range of HPC Results (min.) - (max.)
Raw	156	0 - >200	0 - 415	156	0 - 584
Treated	1454	1454 A (100%A)	1454 A (100%A)	1447	0 - 7

**Operational testing done under Schedule 7, 8 or 9 of Regulation 170/03 during the period covered by this Annual Report.**

Parameter	Number of Grab Samples	Range of Results (min.) - (max.)	Unit of Measure
Turbidity	8760	0.03 – 0.16	NTU
Chlorine	8760	1.30 – 2.30	mg/L
*Fluoride (If the DWS provides fluoridation)	333	0.26 – 0.97	mg/L

**NOTE:** For Continuous Monitoring (zero days offline):

Number of Grab Samples = 24 samples/day x 365 days/year (or 366 days/leap year) = 8760 (or 8784)

\* Fluoride Grab Sample numbers and range of results are reported using data from days when fluoridation was in service.

Summary of additional testing and sampling carried out in accordance with the requirement of an approval, order or other legal instrument.

Date of legal instrument issued	Parameter	Date Sampled	Result	Unit of Measure
Not Applicable	N/A	N/A	N/A	N/A

Summary of Inorganic parameters tested during this reporting period or the most recent sample results

Parameter	Sample Date	Result Value (min.) - (max.)	Unit of Measure	Exceedance
Antimony	Jan – Dec 2019	0.0002 – 0.0003	mg/L	No
Arsenic	Jan – Dec 2019	0.0005 – 0.0008	mg/L	No
Barium	Jan – Dec 2019	0.0210 – 0.0229	mg/L	No
Boron	Jan – Dec 2019	0.0228 – 0.0244	mg/L	No
Cadmium	Jan – Dec 2019	0 – 0	mg/L	No
Chromium	Jan – Dec 2019	0 – 0.0003	mg/L	No
Lead	Jan – Dec 2019	0 – 0.0002	mg/L	No
Mercury	Jan – Dec 2019	0 – 0	mg/L	No
Selenium	Jan – Dec 2019	0 – 0	mg/L	No
Sodium	Jan – Dec 2019	13.8 – 27.3	mg/L	YES
Uranium	Jan – Dec 2019	0.0003 – 0.0004	mg/L	No
Nitrite	Jan – Dec 2019	0 – 0.003	mg/L	No
Nitrate	Jan – Dec 2019	0.26 – 0.50	mg/L	No

**NOTE:** A result of zero indicates that the result obtained was below the method detection/reporting limit.

Summary of Lead (Pb) testing under Schedule 15.1 during this reporting period

Location Type	Number of Samples	Range of Lead Results (min.) - (max.)	Unit of Measure	Number of Exceedances
*Plumbing	*	*	*	*
*Distribution	*	*	*	*

**\*NOTE:** Refer to Toronto DS (Distribution System) Annual Report for Lead (Pb) testing data

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

Parameter	Sample Date	Result Value (min.) - (max.)	Unit of Measure	Exceedance
Alachlor	Jan – Dec 2019	0 – 0	µg/L	No
Atrazine + N-dealkylated metabolites	Jan – Dec 2019	0.0860 – 0.1000	µg/L	No
Azinphos-methyl	Jan – Dec 2019	0 – 0	µg/L	No
Benzene	Jan – Dec 2019	0 – 0	µg/L	No
Benzo(a)pyrene	Jan – Dec 2019	0 – 0	µg/L	No



Bromoxynil	Jan – Dec 2019	0 – 0	µg/L	No
Carbaryl	Jan – Dec 2019	0 – 0.0055	µg/L	No
Carbofuran	Jan – Dec 2019	0 – 0	µg/L	No
Carbon Tetrachloride	Jan – Dec 2019	0 – 0	µg/L	No
Chlorpyrifos	Jan – Dec 2019	0 – 0	µg/L	No
Diazinon	Jan – Dec 2019	0 – 0	µg/L	No
Dicamba	Jan – Dec 2019	0 – 0	µg/L	No
1,2-Dichlorobenzene	Jan – Dec 2019	0 – 0	µg/L	No
1,4-Dichlorobenzene	Jan – Dec 2019	0 – 0	µg/L	No
1,2-Dichloroethane	Jan – Dec 2019	0 – 0	µg/L	No
1,1-Dichloroethylene (vinylidene chloride)	Jan – Dec 2019	0 – 0	µg/L	No
Dichloromethane	Jan – Dec 2019	0 – 0.8300	µg/L	No
2,4 Dichlorophenol	Jan – Dec 2019	0 – 0	µg/L	No
2,4-Dichlorophenoxy acetic acid (2,4-D)	Jan – Dec 2019	0 – 0	µg/L	No
Diclofop-methyl	Jan – Dec 2019	0 – 0	µg/L	No
Dimethoate	Jan – Dec 2019	0 – 0	µg/L	No
Diquat	Jan – Dec 2019	0	µg/L	No
Diuron	Jan – Dec 2019	0 – 0	µg/L	No
Glyphosate	Jan – Dec 2019	0	µg/L	No
Malathion	Jan – Dec 2019	0 – 0	µg/L	No
Metolachlor	Jan – Dec 2019	0.0019 – 0.0101	µg/L	No
Metribuzin	Jan – Dec 2019	0 – 0	µg/L	No
Monochlorobenzene	Jan – Dec 2019	0 – 0	µg/L	No
Paraquat	Jan – Dec 2019	0	µg/L	No
Pentachlorophenol	Jan – Dec 2019	0 – 0	µg/L	No
Phorate	Jan – Dec 2019	0 – 0	µg/L	No
Picloram	Jan – Dec 2019	0 – 0.2584	µg/L	No
Polychlorinated Biphenyls (PCB)	Jan – Dec 2019	0 – 0	µg/L	No
Prometryne	Jan – Dec 2019	0 – 0	µg/L	No
Simazine	Jan – Dec 2019	0.0038 – 0.0051	µg/L	No
THM (Note: showing latest annual average)	Jan – Dec 2019	10.5	µg/L	No
Terbufos	Jan – Dec 2019	0 – 0	µg/L	No
Tetrachloroethylene	Jan – Dec 2019	0 – 0	µg/L	No
2,3,4,6-Tetrachlorophenol	Jan – Dec 2019	0 – 0	µg/L	No
Triallate	Jan – Dec 2019	0 – 0	µg/L	No
Trichloroethylene	Jan – Dec 2019	0 – 0	µg/L	No
2,4,6-Trichlorophenol	Jan – Dec 2019	0 – 0	µg/L	No
Trifluralin	Jan – Dec 2019	0 – 0	µg/L	No
Vinyl Chloride	Jan – Dec 2019	0 – 0	µg/L	No

**NOTE:** A result of zero indicates that the result obtained was below the method detection/reporting limit.



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

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

Parameter	Result Value (min.) - (max.)	Unit of Measure	Date of Sample
NONE	NONE	NONE	NONE



**CITY OF TORONTO DRINKING WATER SYSTEM ANNUAL REPORT**

<b>Drinking-Water System Number:</b>	<b>220004536</b>
<b>Drinking-Water System Name:</b>	City of Toronto Drinking Water System (F. J. Horgan)
<b>Drinking-Water System Owner:</b>	City of Toronto
<b>Drinking-Water System Category:</b>	Large Municipal Residential
<b>Period being reported:</b>	January 1, 2019 to December 31, 2019

<p><b><u>Complete if your Category is Large Municipal Residential or Small Municipal Residential</u></b></p> <p><b>Does your Drinking-Water System serve more than 10,000 people? Yes [X ] No [ ]</b></p> <p><b>Is your annual report available to the public at no charge on a web site on the Internet? Yes [ X ] No [ ]</b></p> <p><b>Location where Summary Report required under O. Reg. 170/03 Schedule 22 will be available for inspection.</b></p> <div style="border: 1px solid black; padding: 5px;"> Metro Hall  55 John Street  Toronto, Ontario  M5V 3C6 </div>	<p><b><u>Complete for all other Categories.</u></b></p> <p><b>Number of Designated Facilities served:</b></p> <div style="border: 1px solid black; height: 20px; width: 100%;"></div> <p><b>Did you provide a copy of your annual report to all Designated Facilities you serve? Yes [ ] No [ ]</b></p> <p><b>Number of Interested Authorities you report to:</b></p> <div style="border: 1px solid black; height: 20px; width: 100%;"></div> <p><b>Did you provide a copy of your annual report to all Interested Authorities you report to for each Designated Facility? Yes [ ] No [ ]</b></p>
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**NOTE: For the following tables below, additional rows or columns may be added or an appendix may be attached to the report**

**List all Drinking-Water Systems (if any), which receive all of their drinking water from your system:**

<b>Drinking Water System Name</b>	<b>Drinking Water System Number</b>
Region of York - receives some of their water from Toronto	260001929

**Did you provide a copy of your annual report to all Drinking-Water System owners that are connected to you and to whom you provide all of its drinking water? Yes [X] No [ ]**

**Indicate how you notified system users that your annual report is available, and is free of charge.**

- [X] Public access/notice via the web
- [X] Public access/notice via Government Office
- [ ] Public access/notice via a newspaper
- [ ] Public access/notice via Public Request
- [ ] Public access/notice via a Public Library
- [ ] Public access/notice via other method \_\_\_\_\_

**Describe your Drinking-Water System**

Toronto Water Supply System consists of four water treatment plants, 18 pumping stations, 10 major underground storage reservoirs, four elevated storage tanks and approximately 540 kilometers of trunk watermains and 5,551 kilometers of distribution watermains.

The F.J. Horgan Water Treatment Plant is a direct water treatment plant, has a rated capacity of 800,000 m<sup>3</sup>/day and is located at 201 Copperfield Road, Toronto.

The other three (3) Toronto Water Treatment plants are as follows:

- R.L. Clark Water Treatment Plant (Rated Capacity of 615,000 m<sup>3</sup>/day) and is located at 45 Twenty Third Street, Toronto
- R.C. Harris Water Treatment Plant (Rated Capacity of 950,000 m<sup>3</sup>/day) and is located at 2701 Queen Street East, Toronto
- Island Water Treatment Plant (Rated Capacity of 410,000 m<sup>3</sup>/day) and is located on Centre Island, Toronto

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

Polyaluminum Chloride (PACL)  
 Chlorine  
 Sulphur dioxide  
 Hydrofluosilicic acid  
 Aqua ammonia  
 Liquid Oxygen  
 Ozone  
 Sodium bisulphite (SBS)  
 Phosphoric acid  
 Polymer - Anionic (FLO AF340) for waste residuals treatment  
 Polymer - Cationic (Magnaflow LT 7996)

**Were any significant expenses incurred to?**

- ☒ Install required equipment  
☒ Repair required equipment  
☒ Replace required equipment

**Please provide a brief description and a breakdown of monetary expenses incurred**

**Capital Projects** - The following amounts relate to various projects during 2019 and do not represent the total project costs. These numbers do not include the normal operating and maintenance costs.

No.	Project Description	Monetary Expense
1.	Facility and Process Upgrades	\$185,000
2.	Replacement of MCCs	\$326,000
3.	Standby Power Optimization	\$100,000
4.	Treated Water Pump Upgrades	\$117,000

**Provide details on the notices submitted in accordance with subsection 18(1) of the Safe Drinking-Water Act or section 16-4 of Schedule 16 of O.Reg.170/03 and reported to Spills Action Centre**

**NOTE:** "Incident date" is the date adverse result was reported to MECP-SAC. "Corrective action date" is the date the location was resampled.

Incident Date	Parameter	Result	Unit of Measure	Corrective Action	Corrective Action Date
Feb 16/19	Filter Effluent Turbidity	1.00	NTU	Filter removed from service and backwashed	Feb 16/19
Oct 22/19	Fluoride residual	1.53	mg/L	Fluoridate waters in exceedance of the regulations were removed from the drinking water system	Oct 23/19

**Microbiological testing done under the Schedule 10, 11 or 12 of Regulation 170/03, during this reporting period.**

	Number of Samples	Range of E.Coli Or Fecal Results (min.) - (max.)	Range of Total Coliform Results (min.) - (max.)	Number of HPC Samples	Range of HPC Results (min.) - (max.)
Raw	355	0 - 5	0 - 13	355	0 - 100
Treated	1417	1417 A (100%A)	1417 A (100%A)	1410	0 - 350

Operational testing done under Schedule 7, 8 or 9 of Regulation 170/03 during the period covered by this Annual Report.

Parameter	Number of Grab Samples	Range of Results (min.) - (max.)	Unit of Measure
Turbidity	8760	0.03 – 0.47	NTU
Chlorine	8760	0.00 – 2.71	mg/L
*Fluoride (If the DWS provides fluoridation)	321	0.23 – 0.86	mg/L

**NOTE:** For Continuous Monitoring (zero days offline):

Number of Grab Samples = 24 samples/day x 365 days/year (or 366 days/leap year) = 8760 (or 8784)

\*Fluoride Grab Sample numbers and range of results are reported using data from days when fluoridation was in service.

**Summary of additional testing and sampling carried out in accordance with the requirement of an approval, order or other legal instrument.**

Date Of Legal Instrument Issued	Parameter	Date Sampled	Result (Annual Average)	Unit of Measure
11-Feb-2015 & 7-June 2016 Municipal Drinking Water Licence	Total Suspended Solids (Residue Management)	Jan. 1, 2019 - Dec. 31, 2019	13.9	mg/L

**Summary of Inorganic parameters tested during this reporting period or the most recent sample results**

Parameter	Sample Date	Result Value (min.) - (max.)	Unit of Measure	Exceedance
Antimony	Jan – Dec 2019	0.0002 – 0.0002	mg/L	No
Arsenic	Jan – Dec 2019	0.0007 – 0.0009	mg/L	No
Barium	Jan – Dec 2019	0.0189 – 0.0235	mg/L	No
Boron	Jan – Dec 2019	0.0224 – 0.0240	mg/L	No
Cadmium	Jan – Dec 2019	0 – 0	mg/L	No
Chromium	Jan – Dec 2019	0 – 0.0003	mg/L	No
Lead	Jan – Dec 2019	0 – 0	mg/L	No
Mercury	Jan – Dec 2019	0 – 0	mg/L	No
Selenium	Jan – Dec 2019	0 – 0	mg/L	No
Sodium	Jan – Dec 2019	12.5 – 17.3	mg/L	No
Uranium	Jan – Dec 2019	0.0002 – 0.0004	mg/L	No
Nitrite	Jan – Dec 2019	0 – 0.003	mg/L	No
Nitrate	Jan – Dec 2019	0.23 – 0.45	mg/L	No

**NOTE:** A result of zero indicates that the result obtained was below the method detection/reporting limit.

**Summary of Lead (Pb) testing under Schedule 15.1 during this reporting period**

Location Type	Number of Samples	Range of Lead Results (min.) - (max.)	Unit of Measure	Number of Exceedances
*Plumbing	*	*	*	*
*Distribution	*	*	*	*

**\*NOTE:** Refer to Toronto DS (Distribution System) Annual Report for Lead (Pb) testing data

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

Parameter	Sample Date	Result Value (min.) - (max.)	Unit of Measure	Exceedance
Alachlor	Jan – Dec 2019	0 – 0	µg/L	No
Atrazine + N-dealkylated metabolites	Jan – Dec 2019	0.0610 – 0.0710	µg/L	No
Azinphos-methyl	Jan – Dec 2019	0 – 0	µg/L	No
Benzene	Jan – Dec 2019	0 – 0	µg/L	No
Benzo(a)pyrene	Jan – Dec 2019	0 – 0	µg/L	No
Bromoxynil	Jan – Dec 2019	0 – 0	µg/L	No
Carbaryl	Jan – Dec 2019	0 – 0	µg/L	No
Carbofuran	Jan – Dec 2019	0 – 0	µg/L	No
Carbon Tetrachloride	Jan – Dec 2019	0 – 0	µg/L	No
Chlorpyrifos	Jan – Dec 2019	0 – 0	µg/L	No
Diazinon	Jan – Dec 2019	0 – 0	µg/L	No
Dicamba	Jan – Dec 2019	0 – 0	µg/L	No
1,2-Dichlorobenzene	Jan – Dec 2019	0 – 0	µg/L	No
1,4-Dichlorobenzene	Jan – Dec 2019	0 – 0	µg/L	No
1,2-Dichloroethane	Jan – Dec 2019	0 – 0	µg/L	No
1,1-Dichloroethylene (vinylidene chloride)	Jan – Dec 2019	0 – 0	µg/L	No
Dichloromethane	Jan – Dec 2019	0 – 0.9900	µg/L	No
2,4-Dichlorophenol	Jan – Dec 2019	0 – 0	µg/L	No
2,4-Dichlorophenoxy acetic acid (2,4-D)	Jan – Dec 2019	0 – 0	µg/L	No
Diclofop-methyl	Jan – Dec 2019	0 – 0	µg/L	No
Dimethoate	Jan – Dec 2019	0 – 0	µg/L	No
Diquat	Jan – Dec 2019	0	µg/L	No
Diuron	Jan – Dec 2019	0 – 0	µg/L	No
Glyphosate	Jan – Dec 2019	0	µg/L	No
Malathion	Jan – Dec 2019	0 – 0	µg/L	No
Metolachlor	Jan – Dec 2019	0.0038 – 0.0053	µg/L	No
Metribuzin	Jan – Dec 2019	0 – 0	µg/L	No
Monochlorobenzene	Jan – Dec 2019	0 – 0	µg/L	No



Paraquat	Jan – Dec 2019	0	µg/L	No
Pentachlorophenol	Jan – Dec 2019	0 – 0	µg/L	No
Phorate	Jan – Dec 2019	0 – 0	µg/L	No
Picloram	Jan – Dec 2019	0 – 0	µg/L	No
Polychlorinated Biphenyls(PCB)	Jan – Dec 2019	0 – 0	µg/L	No
Prometryne	Jan – Dec 2019	0 – 0	µg/L	No
Simazine	Jan – Dec 2019	0.0018 – 0.0024	µg/L	No
THM (Note: Show latest annual average)	Jan – Dec 2019	7.97	µg/L	No
Terbufos	Jan – Dec 2019	0 – 0	µg/L	No
Tetrachloroethylene	Jan – Dec 2019	0 – 0	µg/L	No
2,3,4,6-Tetrachlorophenol	Jan – Dec 2019	0 – 0	µg/L	No
Triallate	Jan – Dec 2019	0 – 0	µg/L	No
Trichloroethylene	Jan – Dec 2019	0 – 0	µg/L	No
2,4,6-Trichlorophenol	Jan – Dec 2019	0 – 0	µg/L	No
Trifluralin	Jan – Dec 2019	0 – 0	µg/L	No
Vinyl Chloride	Jan – Dec 2019	0 – 0	µg/L	No

**NOTE:** A result of zero indicates that the result obtained was below the method detection/reporting limit.

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

Parameter	Result Value (min.) - (max.)	Unit of Measure	Date of Sample
NONE	NONE	NONE	NONE



**CITY OF TORONTO DRINKING WATER SYSTEM ANNUAL REPORT**

<b>Drinking-Water System Number:</b>	<b>260090363</b>
<b>Drinking-Water System Name:</b>	City of Toronto Drinking Water System – Toronto DS
<b>Drinking-Water System Owner:</b>	City of Toronto
<b>Drinking-Water System Category:</b>	Large Municipal Residential
<b>Period being reported:</b>	January 1, 2019 to December 31, 2019

<p><b><u>Complete if your Category is Large Municipal Residential or Small Municipal Residential</u></b></p> <p><b>Does your Drinking-Water System serve more than 10,000 people? Yes [ X ] No [ ]</b></p> <p><b>Is your annual report available to the public at no charge on a web site on the Internet? Yes [ X ] No [ ]</b></p> <p><b>Location where Summary Report required under O. Reg. 170/03 Schedule 22 will be available for inspection.</b></p> <div style="border: 1px solid black; padding: 5px;"> Metro Hall  55 John Street  Toronto, Ontario  M5V 3C6 </div>	<p><b><u>Complete for all other Categories.</u></b></p> <p><b>Number of Designated Facilities served:</b></p> <div style="border: 1px solid black; height: 20px; width: 100%;"></div> <p><b>Did you provide a copy of your annual report to all Designated Facilities you serve? Yes [ ] No [ ]</b></p> <p><b>Number of Interested Authorities you report to:</b></p> <div style="border: 1px solid black; height: 20px; width: 100%;"></div> <p><b>Did you provide a copy of your annual report to all Interested Authorities you report to for each Designated Facility? Yes [ ] No [ ]</b></p>
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**NOTE: For the following tables below, additional rows or columns may be added or an appendix may be attached to the report**

**List all Drinking-Water Systems (if any), which receive all of their drinking water from your system:**

<b>Drinking Water System Name</b>	<b>Drinking Water System Number</b>
Region of York – receives some of their water from Toronto	260001929

**Did you provide a copy of your annual report to all Drinking-Water System owners that are connected to you and to whom you provide all of its drinking water? Yes [X] No [ ]**

**Indicate how you notified system users that your annual report is available, and is free of charge.**

- [X] Public access/notice via the web
- [X] Public access/notice via Government Office
- [ ] Public access/notice via a newspaper
- [ ] Public access/notice via Public Request
- [ ] Public access/notice via a Public Library
- [ ] Public access/notice via other method \_\_\_\_\_

**Describe your Drinking-Water System**

Toronto Water Supply System consists of four water treatment plants, 18 pumping stations, 10 major underground storage reservoirs, four elevated storage tanks and approximately 540 kilometers of trunk watermains and 5,551 kilometers of distribution watermains.

Working from eight facilities across the city, District Operations staff inspects, operate and maintain the existing water distribution and wastewater collection systems as well as stormwater management facilities.

There are four (4) Toronto Water Treatment plants:

- R.L. Clark Water Treatment Plant (Rated Capacity of 615,000 m<sup>3</sup>/day) and is located at 45 Twenty Third Street, Toronto
- R.C. Harris Water Treatment Plant (Rated Capacity of 950,000 m<sup>3</sup>/day) and is located at 2701 Queen Street East, Toronto
- F.J. Horgan Water Treatment Plant (Rated Capacity of 800,000 m<sup>3</sup>/day) and is located at 201 Copperfield Road, Toronto
- Island Water Treatment Plant (Rated Capacity of 410,000 m<sup>3</sup>/day) and is located on Centre Island, Toronto

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

N/A

**Were any significant expenses incurred to?**

- ☒ Install required equipment
- ☒ Repair required equipment
- ☒ Replace required equipment

**Please provide a brief description and a breakdown of monetary expenses incurred**

Please note that the following amounts relate to various projects during the reporting year and do not represent the total project costs. These numbers do not include normal operating and maintenance costs.

**Distribution System:**

Watermain Replacement	\$ 67.3 million
Water Service Replacement	\$ 5.1 million
Watermain Rehabilitation	\$ 56.0 million

**Water Supply:**

Transmission Facility Rehabilitation	\$ 27.4 million
Transmission Main Construction/Rehabilitation	\$ 9.9 million

**Provide details on the notices submitted in accordance with subsection 18(1) of the Safe Drinking-Water Act or section 16-4 of Schedule 16 of O.Reg.170/03 and reported to Spills Action Centre**

**NOTE:** "Incident date" is the date adverse result was reported to MECP-SAC. "Corrective action date" is the date the location was resampled.

<b>Incident Date</b>	<b>Parameter</b>	<b>Result</b>	<b>Unit of Measure</b>	<b>Corrective Action</b>	<b>Corrective Action Date</b>
17-Jan-19	Total Coliform	Presence	Result in 100 mL sample	Flushed watermain. Resampled. Results acceptable.	17-Jan-19
18-Jan-19	Total Coliform	Presence	Result in 100 mL sample	Flushed watermain. Resampled. Results acceptable.	18-Jan-19
19-Jan-19	Total Coliform	Presence	Result in 100 mL sample	Flushed watermain. Resampled. Results acceptable.	19-Jan-19
24-Feb-19	Total Coliform	Presence	Result in 100 mL sample	Flushed watermain. Resampled. Results acceptable.	24-Feb-19
24-Feb-19	Total Coliform	Presence	Result in 100 mL sample	Flushed watermain. Resampled. Results acceptable.	24-Feb-19
27-Feb-19	Total Coliform	Presence	Result in 100 mL sample	Flushed watermain. Resampled. Results acceptable.	28-Feb-19
22-Mar-19	Total Coliform	Presence	Result in 100 mL sample	Flushed watermain. Resampled. Results acceptable.	22-Mar-19
6-Apr-19	Total Coliform	Presence	Result in 100 mL sample	Flushed watermain. Resampled. Results acceptable.	6-Apr-19
9-May-19	Total Coliform	Presence	Result in 100 mL sample	Flushed watermain. Resampled. Results acceptable.	9-May-19
12-May-19	Total Coliform	Presence	Result in 100 mL sample	Flushed watermain. Resampled. Results acceptable.	13-May-19
20-Jun-19	Total Coliform	Presence	Result in 100 mL sample	Flushed watermain. Resampled. Results acceptable.	21-Jun-19
28-Jun-19	Total Coliform	Presence	Result in 100 mL sample	Flushed watermain. Resampled. Results acceptable.	28-Jun-19
28-Jun-19	Total Coliform	Presence	Result in 100 mL sample	Flushed watermain. Resampled. Results acceptable.	28-Jun-19
28-Jun-19	Total chlorine	<0.25	mg/L	Flushed watermain. Resampled. Results acceptable.	28-Jun-19



28-Jun-19	Total chlorine	<0.25	mg/L	Flushed watermain. Resampled. Results acceptable.	28-Jun-19
29-Jun-19	Total Coliform	Presence	Result in 100 mL sample	Flushed watermain. Resampled. Results acceptable.	29-Jun-19
29-Jun-19	Total Coliform	Presence	Result in 100 mL sample	Flushed watermain. Resampled. Results acceptable.	29-Jun-19
29-Jun-19	Total Coliform	Presence	Result in 100 mL sample	Flushed watermain. Resampled. Results acceptable.	29-Jun-19
30-Jun-19	Total Coliform	1	cfu/100 mL	Flushed watermain. Resampled. Results acceptable.	30-Jun-19
2-Jul-19	Total Coliform	1	cfu/100 mL	Flushed watermain. Resampled. Results acceptable.	4-Jul-19
2-Jul-19	Total Coliform	1	cfu/100 mL	Flushed watermain. Resampled. Results acceptable.	2-Jul-19
4-Jul-19	Total Coliform	1	cfu/100 mL	Flushed watermain. Resampled. Results acceptable.	5-Jul-19
4-Jul-19	Total Coliform	2	cfu/100 mL	Flushed watermain. Resampled. Results acceptable.	5-Jul-19
4-Jul-19	Total Coliform	Presence	Result in 100 mL sample	Flushed watermain. Resampled. Results acceptable.	10-Jul-19
4-Jul-19	Total Coliform	Presence	Result in 100 mL sample	Flushed watermain. Resampled. Results acceptable.	10-Jul-19
6-Jul-19	Total Coliform	Presence	Result in 100 mL sample	Flushed watermain. Resampled. Results acceptable.	6-Jul-19
6-Jul-19	Total Coliform	2	cfu/100 mL	Flushed watermain. Resampled. Results acceptable.	6-Jul-19
8-Jul-19	Total Coliform	1	cfu/100 mL	Flushed watermain. Resampled. Results acceptable.	8-Jul-19
7-Jul-19	Total Coliform	Presence	Result in 100 mL sample	Flushed watermain. Resampled. Results acceptable.	8-Jul-19
11-Jul-19	Total Coliform	Presence	Result in 100 mL sample	Flushed watermain. Resampled. Results acceptable.	11-Jul-19



12-Jul-19	Total Coliform	1	cfu/100 mL	Flushed watermain. Resampled. Results acceptable.	12-Jul-19
12-Jul-19	Total Coliform	1	cfu/100 mL	Flushed watermain. Resampled. Results acceptable.	13-Jul-19
13-Jul-19	Total Coliform	Presence	Result in 100 mL sample	Flushed watermain. Resampled. Results acceptable.	14-Jul-19
19-Jul-19	Total Coliform	Presence	Result in 100 mL sample	Flushed watermain. Resampled. Results acceptable.	22-Jul-19
20-Jul-19	Total Coliform	Presence	Result in 100 mL sample	Flushed watermain. Resampled. Results acceptable.	22-Jul-19
21-Jul-19	Total Coliform	Presence	Result in 100 mL sample	Flushed watermain. Resampled. Results acceptable.	22-Jul-19
21-Jul-19	Total Coliform	Presence	Result in 100 mL sample	Flushed watermain. Resampled. Results acceptable.	22-Jul-19
27-Jul-19	Total Coliform	Presence	Result in 100 mL sample	Flushed watermain. Resampled. Results acceptable.	29-Jul-19
28-Jul-19	Total Coliform	Presence	Result in 100 mL sample	Flushed watermain. Resampled. Results acceptable.	29-Jul-19
28-Jul-19	Total Coliform	Presence	Result in 100 mL sample	Flushed watermain. Resampled. Results acceptable.	29-Jul-19
2-Aug-19	Total Coliform	Presence	Result in 100 mL sample	Flushed watermain. Resampled. Results acceptable.	2-Aug-19
2-Aug-19	Total Coliform	Presence	Result in 100 mL sample	Flushed watermain. Resampled. Results acceptable.	2-Aug-19
3-Aug-19	Total Coliform	Presence	Result in 100 mL sample	Flushed watermain. Resampled. Results acceptable.	3-Aug-19
3-Aug-19	Total Coliform	Presence	Result in 100 mL sample	Flushed watermain. Resampled. Results acceptable.	3-Aug-19
3-Aug-19	Total Coliform	Presence	Result in 100 mL sample	Flushed watermain. Resampled. Results acceptable.	5-Aug-19
5-Aug-19	Total Coliform	6	cfu/100 mL	Flushed watermain. Resampled. Results acceptable.	6-Aug-19

5-Aug-19	Total Coliform	4	cfu/100 mL	Flushed watermain. Resampled. Results acceptable.	6-Aug-19
5-Aug-19	Total Coliform	9	cfu/100 mL	Flushed watermain. Resampled. Results acceptable.	6-Aug-19
7-Aug-19	Total Coliform	1	cfu/100 mL	Flushed watermain. Resampled. Results acceptable.	7-Aug-19
7-Aug-19	Total Coliform	1	cfu/100 mL	Flushed watermain. Resampled. Results acceptable.	7-Aug-19
9-Aug-19	Total Coliform	6	cfu/100 mL	Flushed watermain. Resampled. Results acceptable.	9-Aug-19
9-Aug-19	Total Coliform	3	cfu/100 mL	Flushed watermain. Resampled. Results acceptable.	9-Aug-19
9-Aug-19	Total Coliform	34	cfu/100 mL	Flushed watermain. Resampled. Results acceptable.	12-Aug-19
9-Aug-19	Total Coliform	9	cfu/100 mL	Flushed watermain. Resampled. Results acceptable.	10-Aug-19
10-Aug-19	Total Coliform	Presence	Result in 100 mL sample	Flushed watermain. Resampled. Results acceptable.	10-Aug-19
12-Aug-19	Total Coliform	2	cfu/100 mL	Flushed watermain. Resampled. Results acceptable.	10-Aug-19
12-Aug-19	Total Coliform	1	cfu/100 mL	Flushed watermain. Resampled. Results acceptable.	12-Aug-19
12-Aug-19	Total Coliform	139	cfu/100 mL	Flushed watermain. Resampled. Results acceptable.	12-Aug-19
13-Aug-19	Total Coliform	4	cfu/100 mL	Flushed watermain. Resampled. Results acceptable.	13-Aug-19
13-Aug-19	Total Coliform	10	cfu/100 mL	Flushed watermain. Resampled. Results acceptable.	13-Aug-19
15-Aug-19	Total Coliform	118	cfu/100 mL	Flushed watermain. Resampled. Results acceptable.	17-Aug-19
17-Aug-19	Total Coliform	Presence	Result in 100 mL sample	Flushed watermain. Resampled. Results acceptable.	17-Aug-19



15-Aug-19	Total Coliform	40	cfu/100 mL	Flushed watermain. Resampled. Results acceptable.	15-Aug-19
15-Aug-19	Total Coliform	30	cfu/100 mL	Flushed watermain. Resampled. Results acceptable.	15-Aug-19
15-Aug-19	Total Coliform	22	cfu/100 mL	Flushed watermain. Resampled. Results acceptable.	15-Aug-19
18-Aug-19	Total Coliform	Presence	Result in 100 mL sample	Flushed watermain. Resampled. Results acceptable.	19-Aug-19
18-Aug-19	Total Coliform	Presence	Result in 100 mL sample	Flushed watermain. Resampled. Results acceptable.	19-Aug-19
20-Aug-19	Total Coliform	3	cfu/100 mL	Flushed watermain. Resampled. Results acceptable.	19-Aug-19
21-Aug-19	Total Coliform	Presence	Result in 100 mL sample	Flushed watermain. Resampled. Results acceptable.	23-Aug-19
21-Aug-19	Total Coliform	57	cfu/100 mL	Flushed watermain. Resampled. Results acceptable.	23-Aug-19
21-Aug-19	Total Coliform	26	cfu/100 mL	Flushed watermain. Resampled. Results acceptable.	21-Aug-19
21-Aug-19	Total Coliform	9	cfu/100 mL	Flushed watermain. Resampled. Results acceptable.	24-Aug-19
21-Aug-19	Total Coliform	5	cfu/100 mL	Flushed watermain. Resampled. Results acceptable.	24-Aug-19
21-Aug-19	Total Coliform	21	cfu/100 mL	Flushed watermain. Resampled. Results acceptable.	21-Aug-19
22-Aug-19	Total Coliform	Presence	Result in 100 mL sample	Flushed watermain. Resampled. Results acceptable.	23-Aug-19
23-Aug-19	Total Coliform	Presence	Result in 100 mL sample	Flushed watermain. Resampled. Results acceptable.	24-Aug-19
23-Aug-19	Total Coliform	2	cfu/100 mL	Flushed watermain. Resampled. Results acceptable.	23-Aug-19
23-Aug-19	Total Coliform	Presence	Result in 100 mL sample	Flushed watermain. Resampled. Results acceptable.	23-Aug-19

23-Aug-19	Total Coliform	3	cfu/100 mL	Flushed watermain. Resampled. Results acceptable.	23-Aug-19
24-Aug-19	Total Coliform	Presence	Result in 100 mL sample	Flushed watermain. Resampled. Results acceptable.	26-Aug-19
25-Aug-19	Total Coliform	1	cfu/100 mL	Flushed watermain. Resampled. Results acceptable.	27-Aug-19
25-Aug-19	Total Coliform	11	cfu/100 mL	Flushed watermain. Resampled. Results acceptable.	27-Aug-19
25-Aug-19	Total Coliform	4	cfu/100 mL	Flushed watermain. Resampled. Results acceptable.	27-Aug-19
26-Aug-19	Total Coliform	11	cfu/100 mL	Flushed watermain. Resampled. Results acceptable.	28-Aug-19
26-Aug-19	Total Coliform	5	cfu/100 mL	Flushed watermain. Resampled. Results acceptable.	28-Aug-19
29-Aug-19	Total Coliform	1	cfu/100 mL	Flushed watermain. Resampled. Results acceptable.	28-Aug-19
29-Aug-19	Total Coliform	1	cfu/100 mL	Flushed watermain. Resampled. Results acceptable.	30-Aug-19
30-Aug-19	Total Coliform	2	cfu/100 mL	Flushed watermain. Resampled. Results acceptable.	30-Aug-19
30-Aug-19	Total Coliform	Presence	Result in 100 mL sample	Flushed watermain. Resampled. Results acceptable.	31-Aug-19
30-Aug-19	Total Coliform	Presence	Result in 100 mL sample	Flushed watermain. Resampled. Results acceptable.	31-Aug-19
30-Aug-19	Total Coliform	Presence	Result in 100 mL sample	Flushed watermain. Resampled. Results acceptable.	31-Aug-19
30-Aug-19	Total Coliform	Presence	Result in 100 mL sample	Watermain Decomissioned	30-Aug-19
30-Aug-19	Total Coliform	Presence	Result in 100 mL sample	Flushed watermain. Resampled. Results acceptable.	31-Aug-19
30-Aug-19	Total Coliform	Presence	Result in 100 mL sample	Flushed watermain. Resampled. Results acceptable.	31-Aug-19
31-Aug-19	Total Coliform	2	cfu/100 mL	Flushed watermain. Resampled. Results acceptable.	1-Sep-19



31-Aug-19	Total Coliform	1	cfu/100 mL	Flushed watermain. Resampled. Results acceptable.	1-Sep-19
1-Sep-19	Total Coliform	Presence	Result in 100 mL sample	Flushed watermain. Resampled. Results acceptable.	2-Sep-19
7-Sep-19	Total Coliform	Presence	Result in 100 mL sample	Flushed watermain. Resampled. Results acceptable.	9-Sep-19
7-Sep-19	Total Coliform	Presence	Result in 100 mL sample	Flushed watermain. Resampled. Results acceptable.	9-Sep-19
7-Sep-19	Total Coliform	Presence	Result in 100 mL sample	Flushed watermain. Resampled. Results acceptable.	9-Sep-19
8-Sep-19	Total Coliform	Presence	Result in 100 mL sample	Flushed watermain. Resampled. Results acceptable.	9-Sep-19
11-Sep-19	Total Coliform	4	cfu/100 mL	Flushed watermain. Resampled. Results acceptable.	11-Sep-19
11-Sep-19	Total Coliform	12	cfu/100 mL	Flushed watermain. Resampled. Results acceptable.	11-Sep-19
11-Sep-19	Total Coliform	64	cfu/100 mL	Flushed watermain. Resampled. Results acceptable.	11-Sep-19
12-Sep-19	Total Coliform	Presence	Result in 100 mL sample	Flushed watermain. Resampled. Results acceptable.	13-Sep-19
13-Sep-19	Total Coliform	Presence	Result in 100 mL sample	Flushed watermain. Resampled. Results acceptable.	13-Sep-19
13-Sep-19	Total Coliform	1	cfu/100 mL	Flushed watermain. Resampled. Results acceptable.	13-Sep-19
13-Sep-19	Total Coliform	1	cfu/100 mL	Flushed watermain. Resampled. Results acceptable.	13-Sep-19
15-Sep-19	Total Coliform	1	cfu/100 mL	Flushed watermain. Resampled. Results acceptable.	15-Sep-19
15-Sep-19	Total Coliform	1	cfu/100 mL	Flushed watermain. Resampled. Results acceptable.	16-Sep-19
15-Sep-19	Total Coliform	80	cfu/100 mL	Flushed watermain. Resampled. Results acceptable.	16-Sep-19



15-Sep-19	Total Coliform	Presence	Result in 100 mL sample	Flushed watermain. Resampled. Results acceptable.	16-Sep-19
15-Sep-19	Total Coliform	Presence	Result in 100 mL sample	Flushed watermain. Resampled. Results acceptable.	16-Sep-19
16-Sep-19	Total Coliform	Presence	Result in 100 mL sample	Flushed watermain. Resampled. Results acceptable.	17-Sep-19
18-Sep-19	Total Coliform	1	cfu/100 mL	Flushed watermain. Resampled. Results acceptable.	20-Sep-19
21-Sep-19	Total Coliform	Presence	Result in 100 mL sample	Flushed watermain. Resampled. Results acceptable.	21-Sep-19
21-Sep-19	Total Coliform	1	cfu/100 mL	Flushed watermain. Resampled. Results acceptable.	21-Sep-19
25-Sep-19	Total Coliform	Presence	Result in 100 mL sample	Flushed watermain. Resampled. Results acceptable.	26-Sep-19
25-Sep-19	Total Coliform	Presence	Result in 100 mL sample	Flushed watermain. Resampled. Results acceptable.	26-Sep-19
25-Sep-19	Total Coliform	Presence	Result in 100 mL sample	Flushed watermain. Resampled. Results acceptable.	26-Sep-19
5-Oct-19	Total Coliform	Presence	Result in 100 mL sample	Flushed watermain. Resampled. Results acceptable.	7-Oct-19
7-Oct-19	Total Coliform	Presence	Result in 100 mL sample	Flushed watermain. Resampled. Results acceptable.	8-Oct-19
7-Oct-19	Total Coliform	Presence	Result in 100 mL sample	Flushed watermain. Resampled. Results acceptable.	8-Oct-19
9-Oct-19	Total Coliform	4	cfu/100 mL	Flushed watermain. Resampled. Results acceptable.	10-Oct-19
9-Oct-19	Total Coliform	2	cfu/100 mL	Flushed watermain. Resampled. Results acceptable.	10-Oct-19
11-Oct-19	Total Coliform	4	cfu/100 mL	Flushed watermain. Resampled. Results acceptable.	12-Oct-19
11-Oct-19	Total Coliform	4	cfu/100 mL	Flushed watermain. Resampled. Results acceptable.	12-Oct-19



11-Oct-19	Total Coliform	Presence	Result in 100 mL sample	Flushed watermain. Resampled. Results acceptable.	12-Oct-19
12-Oct-19	Total Coliform	Presence	Result in 100 mL sample	Flushed watermain. Resampled. Results acceptable.	13-Oct-19
14-Oct-19	Total Coliform	3	cfu/100 mL	Flushed watermain. Resampled. Results acceptable.	15-Oct-19
14-Oct-19	Total Coliform	3	cfu/100 mL	Flushed watermain. Resampled. Results acceptable.	15-Oct-19
15-Oct-19	Total Coliform	200	cfu/100 mL	Flushed watermain. Resampled. Results acceptable.	16-Oct-19
15-Oct-19	Total Coliform	41	cfu/100 mL	Flushed watermain. Resampled. Results acceptable.	16-Oct-19
17-Oct-19	Total Coliform	1	cfu/100 mL	Flushed watermain. Resampled. Results acceptable.	16-Oct-19
18-Oct-19	Total Coliform	5	cfu/100 mL	Flushed watermain. Resampled. Results acceptable.	17-Oct-19
18-Oct-19	Total Coliform	1	cfu/100 mL	Flushed watermain. Resampled. Results acceptable.	22-Oct-19
19-Oct-19	Total Coliform	Presence	Result in 100 mL sample	Flushed watermain. Resampled. Results acceptable.	19-Oct-19
19-Oct-19	Total Coliform	3	cfu/100 mL	Flushed watermain. Resampled. Results acceptable.	19-Oct-19
19-Oct-19	Total Coliform	6	cfu/100 mL	Flushed watermain. Resampled. Results acceptable.	24-Oct-19
20-Oct-19	Total Coliform	5	cfu/100 mL	Flushed watermain. Resampled. Results acceptable.	19-Oct-19
20-Oct-19	Total Coliform	4	cfu/100 mL	Flushed watermain. Resampled. Results acceptable.	24-Oct-19
21-Oct-19	Total Coliform	3	cfu/100 mL	Flushed watermain. Resampled. Results acceptable.	24-Oct-19
21-Oct-19	Total Coliform	35	cfu/100 mL	Flushed watermain. Resampled. Results acceptable.	21-Oct-19



22-Oct-19	Total Coliform	60	cfu/100 mL	Flushed watermain. Resampled. Results acceptable.	24-Oct-19
22-Oct-19	Total Coliform	10	cfu/100 mL	Flushed watermain. Resampled. Results acceptable.	24-Oct-19
24-Oct-19	Total Coliform	1	cfu/100 mL	Flushed watermain. Resampled. Results acceptable.	25-Oct-19
24-Oct-19	Total Coliform	Presence	Result in 100 mL sample	Flushed watermain. Resampled. Results acceptable.	25-Oct-19
26-Oct-19	Total Coliform	6	cfu/100 mL	Flushed watermain. Resampled. Results acceptable.	28-Oct-19
26-Oct-19	Total Coliform	Presence	Result in 100 mL sample	Flushed watermain. Resampled. Results acceptable.	28-Oct-19
26-Oct-19	Total Coliform	5	cfu/100 mL	Flushed watermain. Resampled. Results acceptable.	25-Oct-19
26-Oct-19	Total Coliform	22	cfu/100 mL	Flushed watermain. Resampled. Results acceptable.	28-Oct-19
26-Oct-19	Total Coliform	4	cfu/100 mL	Flushed watermain. Resampled. Results acceptable.	25-Oct-19
26-Oct-19	Total Coliform	Presence	Result in 100 mL sample	Flushed watermain. Resampled. Results acceptable.	28-Oct-19
26-Oct-19	Total Coliform	2	cfu/100 mL	Flushed watermain. Resampled. Results acceptable.	29-Oct-19
27-Oct-19	Total Coliform	14	cfu/100 mL	Flushed watermain. Resampled. Results acceptable.	28-Oct-19
28-Oct-19	Total Coliform	Presence	Result in 100 mL sample	Flushed watermain. Resampled. Results acceptable.	29-Oct-19
30-Oct-19	Total Coliform	11	cfu/100 mL	Flushed watermain. Resampled. Results acceptable.	29-Oct-19
30-Oct-19	Total Coliform	1	cfu/100 mL	Flushed watermain. Resampled. Results acceptable.	29-Oct-19
30-Oct-19	Total Coliform	3	cfu/100 mL	Flushed watermain. Resampled. Results acceptable.	31-Oct-19



30-Oct-19	Total Coliform	40	cfu/100 mL	Flushed watermain. Resampled. Results acceptable.	29-Oct-19
30-Oct-19	Total Coliform	2	cfu/100 mL	Flushed watermain. Resampled. Results acceptable.	31-Oct-19
30-Oct-19	Total Coliform	2	cfu/100 mL	Flushed watermain. Resampled. Results acceptable.	31-Oct-19
30-Oct-19	Total Coliform	Presence	Result in 100 mL sample	Flushed watermain. Resampled. Results acceptable.	30-Oct-19
30-Oct-19	Total Coliform	Presence	Result in 100 mL sample	Flushed watermain. Resampled. Results acceptable.	1-Nov-19
30-Oct-19	Total Coliform	17	cfu/100 mL	Flushed watermain. Resampled. Results acceptable.	31-Oct-19
31-Oct-19	Total Coliform	13	cfu/100 mL	Flushed watermain. Resampled. Results acceptable.	2-Nov-19
31-Oct-19	Total Coliform	1	cfu/100 mL	Flushed watermain. Resampled. Results acceptable.	2-Nov-19
1-Nov-19	Total Chlorine	<0.25	mg/L	Flushed watermain. Resampled. Results acceptable.	1-Nov-19
2-Nov-19	E.coli / Total Coliform	22 / 25	cfu/100 mL	Flushed watermain. Resampled. Results acceptable.	1-Nov-19
3-Nov-19	Total Coliform	1	cfu/100 mL	Flushed watermain. Resampled. Results acceptable.	1-Nov-19
3-Nov-19	Total Coliform	15	cfu/100 mL	Flushed watermain. Resampled. Results acceptable.	4-Nov-19
5-Nov-19	Total Coliform	3	cfu/100 mL	Flushed watermain. Resampled. Results acceptable.	5-Nov-19
5-Nov-19	Total Coliform	5	cfu/100 mL	Flushed watermain. Resampled. Results acceptable.	5-Nov-19
5-Nov-19	Total Coliform	Presence	Result in 100 mL sample	Flushed watermain. Resampled. Results acceptable.	6-Nov-19
6-Nov-19	Total Chlorine	<0.25	mg/L	Flushed watermain. Resampled. Results acceptable.	7-Nov-19



7-Nov-19	Total Coliform	Presence	Result in 100 mL sample	Flushed watermain. Resampled. Results acceptable.	8-Nov-19
7-Nov-19	Total Chlorine	<0.25	mg/L	Flushed watermain. Resampled. Results acceptable.	8-Nov-19
7-Nov-19	Total Coliform	4	cfu/100 mL	Flushed watermain. Resampled. Results acceptable.	8-Nov-19
8-Nov-19	Total Coliform	1	cfu/100 mL	Flushed watermain. Resampled. Results acceptable.	6-Nov-19
9-Nov-19	Total Coliform	1	cfu/100 mL	Flushed watermain. Resampled. Results acceptable.	8-Nov-19
9-Nov-19	Total Coliform	Presence	Result in 100 mL sample	Flushed watermain. Resampled. Results acceptable.	10-Nov-19
9-Nov-19	Total Coliform	5	cfu/100 mL	Flushed watermain. Resampled. Results acceptable.	8-Nov-19
9-Nov-19	Total Coliform	Presence	Result in 100 mL sample	Flushed watermain. Resampled. Results acceptable.	10-Nov-19
10-Nov-19	Total Coliform	1	cfu/100 mL	Flushed watermain. Resampled. Results acceptable.	10-Nov-19
11-Nov-19	Total Coliform	Presence	Result in 100 mL sample	Flushed watermain. Resampled. Results acceptable.	12-Nov-19
13-Nov-19	Total Coliform	3	cfu/100 mL	Flushed watermain. Resampled.	14-Nov-19
15-Nov-19	Total Coliform	1	cfu/100 mL	Flushed watermain. Resampled. Results acceptable.	15-Nov-19
16-Nov-19	Total Coliform	Presence	Result in 100 mL sample	Flushed watermain. Resampled. Results acceptable.	18-Nov-19
17-Nov-19	Total Coliform	Presence	Result in 100 mL sample	Flushed watermain. Resampled. Results acceptable.	18-Nov-19
20-Nov-19	Total Coliform	10	cfu/100 mL	Flushed watermain. Resampled. Results acceptable.	21-Nov-09
20-Nov-19	Total Coliform	1	cfu/100 mL	Flushed watermain. Resampled. Results acceptable.	21-Nov-19
23-Nov-19	Total Coliform	1	cfu/100 mL	Flushed watermain. Resampled. Results acceptable.	22-Nov-19



26-Nov-19	Total Coliform	Presence	Result in 100 mL sample	Flushed watermain. Resampled. Results acceptable.	27-Nov-19
28-Nov-19	Total Coliform	1	cfu/100 mL	Flushed watermain. Resampled. Results acceptable.	28-Nov-19
29-Nov-19	Total Chlorine	<0.25	mg/L	Flushed watermain. Resampled. Results acceptable.	29-Nov-19
29-Nov-19	Total Chlorine	<0.25	mg/L	Flushed watermain. Resampled. Results acceptable.	29-Nov-19
30-Nov-19	Total Coliform	Presence	Result in 100 mL sample	Flushed watermain. Resampled. Results acceptable.	2-Dec-19
6-Dec-19	Total Coliform	Presence	Result in 100 mL sample	Flushed watermain. Resampled. Results acceptable.	7-Dec-19
8-Dec-19	Total Coliform	Presence	Result in 100 mL sample	Flushed watermain. Resampled. Results acceptable.	9-Dec-19
8-Dec-19	Total Coliform	Presence	Result in 100 mL sample	Flushed watermain. Resampled.	9-Dec-19
8-Dec-19	Total Coliform	Presence	Result in 100 mL sample	Flushed watermain. Resampled. Results acceptable.	9-Dec-19
10-Dec-19	Total Coliform	50	cfu/100 mL	Flushed watermain. Resampled.	11-Dec-19
10-Dec-19	Total Coliform	53	cfu/100 mL	Flushed watermain. Resampled. Results acceptable.	11-Dec-19
10-Dec-19	Total Coliform	15	cfu/100 mL	Flushed watermain. Resampled. Results acceptable.	11-Dec-19
11-Dec-19	Total Chlorine	<0.25	mg/L	Watermain isolated. Valve repaired. Resampled live side of main. Results acceptable.	11-Dec-19
12-Dec-19	Total Coliform	53	cfu/100 mL	Flushed watermain. Resampled.	12-Dec-19
12-Dec-19	Total Coliform	43	cfu/100 mL	Flushed watermain. Resampled.	12-Dec-19
14-Dec-19	Total Coliform	14	cfu/100 mL	Flushed watermain. Resampled.	17-Dec-19
14-Dec-19	Total Coliform	3	cfu/100 mL	Flushed watermain. Resampled.	17-Dec-19
14-Dec-19	Total Coliform	1	cfu/100 mL	Flushed watermain. Resampled.	17-Dec-19
14-Dec-19	Total Coliform	15	cfu/100 mL	Flushed watermain. Resampled.	17-Dec-19



14-Dec-19	Total Coliform	21	cfu/100 mL	Flushed watermain. Resampled.	13-Dec-19
18-Dec-19	Total Coliform	1	cfu/100 mL	Flushed watermain. Resampled.	18-Dec-19
18-Dec-19	Total Coliform	1	cfu/100 mL	Flushed watermain. Resampled.	18-Dec-19
18-Dec-19	Total Coliform	11	cfu/100 mL	Flushed watermain. Resampled.	18-Dec-19
19-Dec-19	Cl <sub>2</sub>	>3.00	mg/L	Sample and Recalibrate Transmitter	20-Dec-19
19-Dec-19	Total Coliform	1	cfu/100 mL	Flushed watermain. Resampled.	19-Dec-19
19-Dec-19	Total Coliform	3	cfu/100 mL	Flushed watermain. Resampled.	19-Dec-19
19-Dec-19	Total Coliform	1	cfu/100 mL	Flushed watermain. Resampled. Results acceptable.	19-Dec-19
20-Dec-19	Total Coliform	3	cfu/100 mL	Flushed watermain. Resampled. Results acceptable.	23-Dec-19
20-Dec-19	Total Coliform	9	cfu/100 mL	Flushed watermain. Resampled.	23-Dec-19
20-Dec-19	Total Coliform	1	cfu/100 mL	Flushed watermain. Resampled. Results acceptable.	23-Dec-19
25-Dec-19	Total Coliform	22	cfu/100 mL	Flushed watermain. Resampled. Results acceptable.	26-Dec-19
25-Dec-19	Total Coliform	5	cfu/100 mL	Flushed watermain. Resampled. Results acceptable.	24-Dec-19
25-Dec-19	Total Coliform	1	cfu/100 mL	Flushed watermain. Resampled. Results acceptable.	31-Dec-19
25-Dec-19	Total Coliform	1	cfu/100 mL	Flushed watermain. Resampled. Results acceptable.	24-Dec-19
28-Dec-19	Total Coliform	1	cfu/100 mL	Flushed watermain. Resampled.	31-Dec-19
28-Dec-19	Total Coliform	1	cfu/100 mL	Flushed watermain. Resampled. Results acceptable.	31-Dec-19
29-Dec-19	Total Coliform	1	cfu/100 mL	Flushed watermain. Resampled. Results acceptable.	31-Dec-19
29-Dec-19	Total Coliform	1	cfu/100 mL	Flushed watermain. Resampled. Results acceptable.	31-Dec-19

29-Dec-19	Total Coliform	Presence	Result in 100 mL sample	Flushed watermain. Resampled. Results acceptable.	30-Dec-19
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**Microbiological testing done under the Schedule 10, 11 or 12 of Regulation 170/03, during this reporting period.**

	Number of Samples	Range of E.Coli Or Fecal Results (min.) - (max.) or P/A	Range of Total Coliform Results (min.) - (max.) or P/A	Number of HPC Samples	Range of HPC Results (min.) - (max.)
*Distribution	3532	3532A (100% A)	3528A (99.9% A)	3525	0 - >5700
Transmission	1497	1497A (100% A)	1497A (100% A)	1488	0 - >5700
Main Work	1576	1576A (100% A)	1491A (94.6% A)	1576	0 - >5700
Resample and vicinity	716	715 (99.9% Compliance) (0) – (22)	583 ( 81.4% Compliance) (0) – (200)	703	0 - 1183

**\*NOTE:** "Distribution" includes samples submitted for Water Quality Inquiry as well as distribution samples.

**Operational testing done under Schedule 7, 8 or 9 of Regulation 170/03 during the period covered by this Annual Report.**

#### For Distribution

	Number of Grab Samples	Range of Results (min.) - (max.)
Turbidity	3501	<0.1 – 14.80 NTU
Chlorine	3537	<0.25 – 2.34 mg/L

#### For Transmission

	Number of Grab Samples	Range of Results (min.) - (max.)
Turbidity	1500	<0.1 – 1.85 NTU
Chlorine	1501	0.46 – 2.40 mg/L

#### For Main Work

	Number of Grab Samples	Range of Results (min.) - (max.)
Turbidity	1584	0.06 – 2.56 NTU
Chlorine	1584	<0.25 – 2.20 mg/L

#### For Resample/Vicinity

	Number of Grab Samples	Range of Results (min.) - (max.)
Turbidity	721	<0.1 – 2.87 NTU
Chlorine	721	1.05 – 2.20 mg/L

Summary of additional testing and sampling carried out in accordance with the requirement of an approval, order or other legal instrument.

Date of legal instrument issued	Parameter	Date Sampled	Result	Unit of Measure
NONE	NONE	NONE	NONE	NONE

Summary of Inorganic parameters tested during this reporting period or the most recent sample results for Transmission samples.

Parameter	Sample Date	Result Value (min.) - (max.)	Unit of Measure	Exceedance
Sodium	Jan-Dec 2019	12.9 – 19.7	mg/L	No
Nitrite	Jan-Dec 2019	<0.002 – 0.004	mg/L	No
Nitrate	Jan-Dec 2019	0.16 – 0.55	mg/L	No

Summary of Inorganic parameters tested during this reporting period or the most recent sample results for Distribution samples.

Parameter	Sample Date	Result Value (min.) - (max.)	Unit of Measure	Exceedance
Sodium	Jan-Dec 2019	13.6 – 14.0	mg/L	No
Nitrite	Jan-Dec 2019	<0.002 – 0.006	mg/L	No
Nitrate	Jan-Dec 2019	0.35 – 0.38	mg/L	No

Summary of Lead (Pb) testing under Schedule 15.1 during this reporting period

Location Type	Number of Samples	Range of Lead Results (min.) - (max.)	Unit of Measure	Number of Exceedances
Plumbing	116	<0.00005 – 0.00943	mg/L	None
Distribution	20	<0.00005 – 0.00120	mg/L	None

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

Parameter	Sample Date	Result Value (min.) - (max.)	Unit of Measure	Exceedance
Benzene	Jan-Dec 2019	0 - 0	µg/L	No
Carbon Tetrachloride	Jan-Dec 2019	0 - 0	µg/L	No
1,2-Dichlorobenzene	Jan-Dec 2019	0 - 0	µg/L	No
1,4-Dichlorobenzene	Jan-Dec 2019	0 - 0	µg/L	No
1,2-Dichloroethane	Jan-Dec 2019	0 - 0	µg/L	No
1,1-Dichloroethylene (vinylidene chloride)	Jan-Dec 2008	0 - 0	µg/L	No
Dichloromethane	Jan-Dec 2019	0 – 0.98	µg/L	No
Monochlorobenzene	Jan-Dec 2019	0 - 0	µg/L	No



THM (NOTE: show latest annual average)	Jan-Dec 2019	11.0	µg/L	No
Tetrachloroethylene	Jan-Dec 2019	0 - 0	µg/L	No
Trichloroethylene	Jan-Dec 2019	0 - 0	µg/L	No
Vinyl Chloride	Jan-Dec 2019	0 - 0	µg/L	No

**NOTE:** A result of zero indicates that the result obtained was below the method detection/reporting limit.

**Summary of Organic parameters sampled during this reporting period or the most recent sample results for TRANSMISSION (SUPPLY) samples.**

Parameter	Sample Date	Result Value (min.) - (max.)	Unit of Measure	Exceedance
Benzene	Jan-Dec 2019	0 - 0	µg/L	No
Carbon Tetrachloride	Jan-Dec 2019	0 - 0	µg/L	No
1,2-Dichlorobenzene	Jan-Dec 2019	0 - 0	µg/L	No
1,4-Dichlorobenzene	Jan-Dec 2019	0 - 0	µg/L	No
1,2-Dichloroethane	Jan-Dec 2019	0 - 0	µg/L	No
1,1-Dichloroethylene (vinylidene chloride)	Jan-Dec 2019	0 - 0	µg/L	No
Dichloromethane	Jan-Dec 2019	0 – 0.84	µg/L	No
Monochlorobenzene	Jan-Dec 2019	0 - 0	µg/L	No
THM (NOTE: show latest annual average)	Jan-Dec 2019	11.7	µg/L	No
Tetrachloroethylene	Jan-Dec 2019	0 - 0	µg/L	No
Trichloroethylene	Jan-Dec 2019	0 - 0	µg/L	No
Vinyl Chloride	Jan-Dec 2019	0 - 0	µg/L	No

**NOTE:** A result of zero indicates that the result obtained was below the method detection/reporting limit.

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

Parameter	Result Value	Unit of Measure	Date of Sample
NONE			