

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

Drinking-Water System Number:	210000568
Drinking-Water System Name:	Lakeview Water Treatment Plant
Drinking-Water System Owner:	Regional Municipality of Peel
Drinking-Water System Category:	Class IV / Large Municipal Residential
Period being reported:	January 1, 2004 – December 31, 2004

<p><u>Complete if your Category is Large Municipal Residential or Small Municipal Residential</u></p> <p>Does your Drinking-Water System serve more than 10,000 people? Yes [<input checked="" type="checkbox"/>] No []</p> <p>Is your annual report available to the public at no charge on a web site on the Internet? Yes [<input checked="" type="checkbox"/>] No []</p> <p>Location where Summary Report required under O. Reg. 170/03 Schedule 22 will be available for inspection.</p> <div style="border: 1px solid black; padding: 5px;"> Region of Peel 10 Peel Centre Drive, 4th Floor. Brampton, Ontario L6T 4B9 </div>	<p><u>Complete for all other Categories.</u></p> <p>Number of Designated Facilities served: <input style="width: 100px; height: 20px;" type="text"/></p> <p>Did you provide a copy of your annual report to all Designated Facilities you serve? Yes [] No []</p> <p>Number of Interested Authorities you report to: <input style="width: 100px; height: 20px;" type="text"/></p> <p>Did you provide a copy of your annual report to all Interested Authorities you report to for each Designated Facility? Yes [] No []</p>
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Note: For the following tables below, additional rows or columns may be added or an appendix may be attached to the report

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

Drinking Water System Name	Drinking Water System Number
None	

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

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

Public access/notice via the web

Public access/notice via Government Office

Public access/notice via a newspaper

Public access/notice via Public Request

Public access/notice via a Public Library

Public access/notice via other method _____

Describe your Drinking-Water System

The Lakeview Water Treatment Plant is one of two Class IV water treatment facilities that supply water to the South Peel Water System. The Lakeview WTP primarily provides safe drinking water to five (5) distribution system reservoirs and two elevated tanks on the eastern side of the water distribution system that serves an approximate population of 1,186,344 people in Brampton, Bolton and Mississauga. The Lakeview W.T.P is a conventional water treatment plant with a rated maximum production capacity of 560 ML/day. The intake draws water from Lake Ontario and is chlorinated year round using free chlorine to meet CT requirement with a minimum of 0.60 mg/L free chlorine (as well as for Zebra Mussel control when raw water temperature is greater than 12°C). Raw water is processed through traveling screens and pre-chlorinated using free chlorine. Low lifts pumps available in two lowlift facilities (LL2 and LL3) transfer water up to the filters. Aluminum sulphate is added in the lowlifts as the main coagulant. The water then follows a sequential process of flash mixing, flocculation, sedimentation, and filtration through dual media filters consisting of granular activated carbon (GAC), sand and gravel with Leopold block for the underdrain. Filtered water is collected in a clear well. Post free chlorine and fluoride is added. Treated water is pumped by high lift pumps to the distribution system. Filter backwash collects as wastewater in two equalization tanks where it is first dechlorinated. Wastewater is pumped to the clarifiers with the optional addition of a polymer to facilitate settling on the plate settlers. The cleaned supernatant or decant from the clarifier recirculates back to the holding tanks. Sludge that accumulates in the clarifier is regularly pumped into a truck for treatment in the sewage treatment plant.

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

List all water treatment chemicals used over this reporting period

Aluminum sulphate (Alum), chlorine gas, hydrofluosilicic acid, Flo Polymer and sulphur dioxide.

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

Lakeview Waterworks (Including Distribution & Bolton)

Significant Installations	Approximate Expenditure
Water Service Installations	\$115,000
Water Service Installations - Bolton	\$33,856
Security Improvements	\$15,000
Beckett-Sproule Pumping Station Expansion	\$3,000,000
Lakeview WTP New Highlift Pumping Station	\$36,200,000

Significant Repairs	Approximate Expenditure
Watermain Break Repairs	\$1,775,000
Watermain Break Repairs - Bolton	\$22,890
Fire Hydrant Repairs	\$242,000
Fire Hydrant Repairs - Bolton	\$19,335
Water Service Repairs	\$244,000
Water Distribution System Valve Repairs	\$110,000
Water Distribution System Valve Repairs - Bolton	\$17,700
North Brampton Reservoir Repairs	\$415,000
Beckett-Sproule Reservoir Repairs	\$584,000
Various Water Distribution System Pumps, Inspection & Repairs	\$300,000

Significant Replacements	Approximate Expenditure
Watermain replacement	\$18,000,000
Watermain replacement - Bolton	\$4,575,000
Fire Hydrant Replacement	\$37,000
Water Services Replaced	\$163,000
Hydraulic actuators for filter valve control	\$237,000
Lakeview WTP SCADA Computer Hardware	\$95,000
Backflow Prevention Valves	\$40,000
Lakeview WTP Clearwell Sluice Gates	\$71,000
Hanlan Pumping Station High Voltage Cable Replacement	\$60,000

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

Incident Date	Parameter	Result	Unit of Measure	Corrective Action	Corrective Action Date
31-Dec-03	Total coliform (1952 Mattawa Ave.)	44	cfu/100 ml	Re-sampled at the reported location.	05-Jan-04
12-Jan-04	Total coliform (147 Heart Lake Rd.)	1	cfu/100 ml	Re-sampled upstream, downstream & at the reported location.	19-Jan-04
23-Jan-04	Total coliform (1207 Gripsholm Rd.)	44	cfu/100 ml	Resample showed Total coliform of 7 cfu/100 ml and background of >200 cfu/100 ml.	25-Jan-04
25-Jan-04	Total coliform Background (1207 Gripsholm)	7 >200	cfu/100 ml cfu/100 ml	Mains flushed. 2 consecutive samples at the reported location. Samples taken upstream and downstream.	27-Jan-04
30-Jan-04	Total coliform (995 Peter Robertson Pkwy)	29	cfu/100 ml	Resampled upstream, downstream & at the reported location.	03-Feb-04
19-Feb-04	Background (Conc. 7 E, Lot 2 Intermodal Rd.)	>200	cfu/100 ml	Resampled upstream, downstream and at the reported location.	24-Feb-04
23-Feb-04	Total coliform (2590 Cliff Rd.)	6	cfu/100 ml	Resampled upstream, downstream and at the reported location.	27-Feb-04
08-April-04	Low free chlorine residual	<0.05	mg/L	High free NH ₃ . Chlorine dosage increased and plant flow rate decreased. Post Cl ₂ dosage line switched to address Cl ₂ odours.	08-April-04

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14-April-04	Background (3201 Elm Bank Rd.)	>200	cfu/100 ml	Resampled upstream and at the reported location.	19-April-04
16-April-04	Total coliform Background (6520 Mayfield Rd.)	2 >200	cfu/100 ml	Resampled upstream, downstream and at the reported location.	20-April-04
19-April-04	Total coliform (Lakeview WTP)	1	cfu/100 ml	Resampled at Lakeview WTP, & Silverthorn PS.	23-April-04
21-April-04	General Background Population (HPC) (7101 Goreway Dr.)	3700	HPC cfu/ml	Resampled as per Health Unit advice. Additional samples taken within WTP and Eastern Pumping stations. Laboratory indicated results were suspect and advised retesting be conducted.	26-April-04
	General Background Population (HPC) (3201 Elmbank Rd.)	3700	HPC cfu/ml		
	General Background Population (HPC) (7033 Telford Way)	4500	HPC cfu/ml		
	General Background Population (HPC) (1735 Britannia Rd. E)	4000	HPC cfu/ml		
	General Background Population (HPC) (75 Derry Rd. W)	2900	HPC cfu/ml		
	General Background Population (HPC) (6009 Hurontario St.)	3400	HPC cfu/ml		
	General Background Population (HPC) (5965 Coopers Ave.)	3100	HPC cfu/ml		
	General Background Population (HPC) (305 Bristol Rd.)	3000	HPC cfu/ml		
	General Background Population (HPC) (971 Burnhamthorpe Rd. Tomken Rd.)	2600	HPC cfu/ml		
	General Background Population (HPC) (334 Dundas St & Clifford)	2300	HPC cfu/ml		
	General Background Population (HPC) (3038 Hurontario St.)	3000	HPC cfu/ml		
	General Background Population (HPC) (170 Lakeshore Rd. E.)	>5700	HPC cfu/ml		
	General Background Population (HPC) (230 Lakeshore Rd. E.)	4300	HPC cfu/ml		
	General Background Population (HPC) (406 Lakeshore Rd. E.)	>5700	HPC cfu/ml		
	General Background Population (HPC) (1399 Cawthra Rd. & Arbor Rd.)	4600	HPC cfu/ml		
	General Background Population (HPC) (1000 Lakeshore Rd. E)	>5700	HPC cfu/ml		
	General Background Population (HPC) (Cormack Cres.)	>5700	HPC cfu/ml		
	General Background Population (HPC) (3461 Dixie Rd.)	>5700	HPC cfu/ml		
	General Background Population (HPC) (1891 Rathburn Rd.)	>5700	HPC cfu/ml		
21-April-04	Low fluoride residual (East distribution)	Not adverse 0.47	mg/L	Problems with speed/stroke of fluoride pump fixed. Resampled and tested at WTP and in E. Distribution	22-April-04
06-May-04	Total Coliform (2691 Sandalwood Pkwy)	1	cfu/100 ml	Resampled upstream, downstream & at reported location.	10-May-04
21-June-04	Total Coliform (7686 Darcel Ave.)	1	cfu/100 ml	Resampled upstream, downstream & at reported location. Downstream sample failed with 3 cfu/100 ml Total Coliform	22-June-04
	Total Coliform (3476 Glen Erin Drive)	4	cfu/100 ml		

22-June-04	Total Coliform (7626 Darcel , downstream sample)	3	cfu/100 ml	detected. Resampling initiated. Resampled upstream, downstream & at reported location. Two consecutive sets of samples taken 24 and 72 hours apart. MOH contacted.	25-June-04
07-July-04	Total coliform (1100 Central Pk. Dr.)	16	cfu/100 ml	Resampled upstream, downstream & at reported location.	12-July-04
15-July-04	Total coliform (10 Peel center Drive)	1	cfu/100 ml	Resampled upstream, downstream & at reported location.	19-July-04
14-Dec-04	High chlorine residual (Lakeview WTP) (distribution samples)	Not adverse 2.75 2.2	mg/L mg/L	High chlorine demand at WTP. Flushing of water mains took place. Residual monitored through SCADA system for all points in distribution. Resampled upstream, downstream & at reported location.	15-Dec-04
<p>Note: ¹Notifications listed above include distribution locations primarily serviced by Lorne Park WTP on the western side of the distribution system.</p> <p>²Incident date is represented by sampling date, corrective action date represents the date incidents were resolved by laboratory confirmation results.</p>					

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

	Number of Samples	Range of E.Coli Or Fecal Results (min #)-(max #)	Range of Total Coliform Results (min #)-(max #)	Number of HPC Samples	Range of HPC Results (min #)-(max #)
Raw	54	0	0 - 6	51	0 - 9
Treated	155	0	0 - 1	48	0
Distribution	3619*	0	0 - 1	2130*	0 - 3

*This value is 60% of the total distribution samples collected by the owner and operator. It reflects the ratio of distribution pumping stations directly supplied by the Lakeview WTP relative to those supplied by the Lorne Park WTP.

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

	Number of Grab Samples	Range of Results (min #)-(max #)
Turbidity	8760	0 - 0.92 NTU
Chlorine	8760	0.85 – 1.8 mg/L
Fluoride (If the DWS provides fluoridation)	8760	0.26 – 0.95 mg/L

NOTE: For continuous monitors use 8760 as the number of samples.

NOTE: Record the unit of measure if it is **not** milligrams per litre.

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

Date of legal instrument issued	Parameter	Date Sampled	Result	Unit of Measure
Point of Entrance to the distribution				
08-October-03	THMs	29-Jan-04	8.98	ug/L
08-October-03	THMs	12-Feb-04	12.3	ug/L
08-October-03	THMs	4-March-04	12.5	ug/L
08-October-03	THMs	15-April-04	20.9	ug/L
08-October-03	THMs	06-May-04	23.4	ug/L
21-May-04	THMs	03-June-04	10.9	ug/L
21-May-04	THMs	07-July-04	11.6	ug/L
21-May-04	THMs	05-Aug-04	20.3	ug/L
21-May-04	THMs	02-Sept-04	18.4	ug/L
21-May-04	THMs	07-Oct-04	17.0	ug/L
21-May-04	THMs	04-Nov-04	22.9	ug/L
21-May-04	THMs	02-Dec-04	14.2	ug/L
21-May-04	Sodium	29-Jan-04	13.0	mg/L
21-May-04	Sodium	15-April-04	16.8	mg/L
21-May-04	Sodium	07-July-04	13.7	mg/L
21-May-04	Sodium	07-Oct-04	12.7	mg/L
Chloramines				
08-October-03	Mono	29-Jan-04	0.08	mg/L
08-October-03	Di	29-Jan-04	0.10	mg/L
21-May-04	Mono	15-April-04	0.06	mg/L
21-May-04	Di	15-April-04	0.12	mg/L
21-May-04	Mono	08-July-04	0.03	mg/L
21-May-04	Di	08-July-04	0.14	mg/L
21-May-04	Mono	07-Oct-04	0.08	mg/L
21-May-04	Di	07-Oct-04	0.10	mg/L
Filter Influent				
08-October-03	pH	19-Feb-04	7.18	Standard Units
08-October-03	pH	15-April-04	7.62	Standard Units
21-May-04	pH	05-Aug-04	7.69*	Standard Units
21-May-04	pH	07-Oct-04	6.91	Standard Units
Filter Effluent				
08-October-03	pH	19-Feb-04	7.35	Standard Units
08-October-03	pH	15-April-04	7.64	Standard Units
21-May-04	pH	05-Aug-04	7.82*	Standard Units
21-May-04	pH	07-Oct-04	7.32	Standard Units
Filter Influent				
08-October-03	Free chlorine	19-Feb-04	0.74	mg/L
08-October-03	Total chlorine	19-Feb-04	0.90	mg/L
08-October-03	Free chlorine	15-April-04	0.78	mg/L
08-October-03	Total chlorine	15-April-04	1.05	mg/L
21-May-04	Free chlorine	05-Aug-04	0.76*	mg/L
21-May-04	Total chlorine	05-Aug-04	0.96*	mg/L
21-May-04	Free chlorine	07-Oct-04	0.98	mg/L
21-May-04	Total chlorine	07-Oct-04	1.15	mg/L
Filter Effluent				
08-October-03	Free chlorine	19-Feb-04	0.08	mg/L
08-October-03	Total chlorine	19-Feb-04	0.15	mg/L

*Note: For August 5, 2004 the filter influent and effluent pH were taken as the raw and treated pH respectively. The filter influent free chlorine (0.76 mg/L) represents the average settled water free chlorine residual. The total chlorine (0.96 mg/L) was estimated with mean difference of 0.2 mg/L. The free and total chlorine residuals at the filter effluent on August 5, 2004 could not be adequately estimated from the available data.

08-October-03	Free chlorine	15-April-04	0.24	mg/L
08-October-03	Total chlorine	15-April-04	0.43	mg/L
21-May-04	Free chlorine	05-Aug-04	*	mg/L
21-May-04	Total chlorine	05-Aug-04	*	mg/L
21-May-04	Free chlorine	07-Oct-04	0.08	mg/L
21-May-04	Total chlorine	07-Oct-04	0.16	mg/L
Filter Influent				
08-October-03	MIB	19-Feb-04	NA	ng/L
08-October-03	Geosmin	19-Feb-04	<1.63	ng/L
08-October-03	MIB	15-April-04	ND	ng/L
08-October-03	Geosmin	15-April-04	ND	ng/L
21-May-04	MIB	05-August-04	ND	ng/L
21-May-04	Geosmin	05-August-04	<1.75	ng/L
21-May-04	MIB	05-Oct-04	ND	ng/L
21-May-04	Geosmin	05-Oct-04	1.75	ng/L
Filter Effluent				
08-October-03	MIB	19-Feb-04	NA	ng/L
08-October-03	Geosmin	19-Feb-04	<1.63	ng/L
08-October-03	MIB	15-April-04	ND	ng/L
08-October-03	Geosmin	15-April-04	ND	ng/L
21-May-04	MIB	05-August-04	<1.19	ng/L
21-May-04	Geosmin	05-August-04	<1.75	ng/L
21-May-04	MIB	05-Oct-04	ND	ng/L
21-May-04	Geosmin	05-Oct-04	<1.75	ng/L
Backwash/Wastewater Treatment Facilities' Effluent				
08-October-03	Suspended Solids	29-Jan-04	3.67	mg/L
08-October-03	Suspended Solids	12-Feb-04	<3.6	mg/L
08-October-03	Suspended Solids	4-March-04	**	mg/L
08-October-03	Suspended Solids	15-April-04	<4.47	mg/L
08-October-03	Suspended Solids	06-May-04	<4.47	mg/L
21-May-04	Suspended Solids	03-June-04	<4.47	mg/L
21-May-04	Suspended Solids	07-July-04	<4.47	mg/L
21-May-04	Suspended Solids	05-August-04	4.1	mg/L
21-May-04	Suspended Solids	02-Sept-04	4.1	mg/L
21-May-04	Suspended Solids	07-Oct-04	11	mg/L
21-May-04	Suspended Solids	04-Nov-04	4.1	mg/L
21-May-04	Suspended Solids	02-Dec-04	<13.2	mg/L
08-October-03	Aluminum	29-Jan-04	3.69	mg/L
08-October-03	Aluminum	15-April-04	0.377	mg/L
21-May-04	Aluminum	07-July-04	0.399	mg/L
21-May-04	Aluminum	07-Oct-04	3.29	mg/L
08-October-03	Total Phosphorus	29-Jan-04	0.034	mg/L
08-October-03	Total Phosphorus	15-April-04	<0.019	mg/L
21-May-04	Total Phosphorus	07-July-04	<0.025	mg/L
21-May-04	Total Phosphorus	07-Oct-04	<0.025	mg/L
08-October-03	Total Cl ₂ residual	29-Jan-04	0	mg/L
08-October-03	Total Cl ₂ residual	15-April-04	0	mg/L
21-May-04	Total Cl ₂ residual	08-July-04	0	mg/L
21-May-04	Total Cl ₂ residual	07-Oct-04	0.85	mg/L

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

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

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Antimony	4-Nov-04	<0.485	ug/L	None
Arsenic	4-Nov-04	<0.427	ug/L	None
Barium	4-Nov-04	0.022	mg/L	None
Boron	4-Nov-04	0.026	mg/L	None
Cadmium	4-Nov-04	<0.0001	mg/L	None
Chromium	4-Nov-04	<0.003	mg/L	None
Lead	4-Nov-04	1.65	ug/L	None
Mercury	4-Nov-04	<0.0001	mg/L	None
Selenium	4-Nov-04	<0.404	ug/L	None
Sodium	7-Oct-04	12.7	mg/L	None
Uranium	4-Nov-04	0.0002	mg/L	None
Fluoride	31-Dec-04	0.73	mg/L	None
Nitrite	7-Oct-04	<0.017	mg/L as N	None
Nitrate	7-Oct-04	0.475	mg/L as N	None

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

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Alachlor	4-Nov-04	ND	ug/L	None
Aldicarb	4-Nov-04	ND	ug/L	None
Aldrin + Dieldrin	4-Nov-04	ND	ug/L	None
Atrazine + N-dealkylated metabolites	4-Nov-04	ND	ug/L	None
Azinphos-methyl	4-Nov-04	ND	ug/L	None
Bendiocarb	4-Nov-04	ND	ug/L	None
Benzene	4-Nov-04	ND	ug/L	None
Benzo(a)pyrene	4-Nov-04	ND	ug/L	None
Bromoxynil	4-Nov-04	ND	ug/L	None
Carbaryl	4-Nov-04	ND	ug/L	None
Carbofuran	4-Nov-04	ND	ug/L	None
Carbon Tetrachloride	4-Nov-04	ND	ug/L	None
Chlordane (Total)	4-Nov-04	ND	ug/L	None
Chlorpyrifos	4-Nov-04	ND	ug/L	None
Cyanazine	4-Nov-04	ND	ug/L	None
Diazinon	4-Nov-04	ND	ug/L	None
Dicamba	4-Nov-04	ND	ug/L	None
1,2-Dichlorobenzene	4-Nov-04	ND	ug/L	None
1,4-Dichlorobenzene	4-Nov-04	ND	ug/L	None
Dichlorodiphenyltrichloroethane (DDT) + metabolites	4-Nov-04	ND	ug/L	None
1,2-Dichloroethane	4-Nov-04	ND	ug/L	None
1,1-Dichloroethylene (vinylidene chloride)	4-Nov-04	ND	ug/L	None
Dichloromethane	4-Nov-04	0.22	ug/L	None
2-4 Dichlorophenol	4-Nov-04	ND	ug/L	None
2,4-Dichlorophenoxy acetic acid (2,4-D)	4-Nov-04	ND	ug/L	None
Diclofop-methyl	4-Nov-04	ND	ug/L	None
Dimethoate	4-Nov-04	ND	ug/L	None

Dinoseb	4-Nov-04	ND	ug/L	None
Diquat	4-Nov-04	ND	ppb	None
Diuron	4-Nov-04	ND	ug/L	None
Glyphosate	4-Nov-04	ND	ug/L	None
Heptachlor + Heptachlor Epoxide	4-Nov-04	ND	ug/L	None
Lindane (Total)	4-Nov-04	ND	ug/L	None
Malathion	4-Nov-04	ND	ug/L	None
Methoxychlor	4-Nov-04	ND	ug/L	None
Metolachlor	4-Nov-04	ND	ug/L	None
Metribuzin	4-Nov-04	ND	ug/L	None
Monochlorobenzene	4-Nov-04	ND	ug/L	None
Paraquat	4-Nov-04	ND	ppb	None
Parathion	4-Nov-04	ND	ug/L	None
Pentachlorophenol	4-Nov-04	ND	ug/L	None
Phorate	4-Nov-04	ND	ug/L	None
Picloram	4-Nov-04	ND	ug/L	None
Polychlorinated Biphenyls(PCB)	4-Nov-04	ND	ug/L	None
Prometryne	4-Nov-04	ND	ug/L	None
Simazine	4-Nov-04	ND	ug/L	None
THM (NOTE: show latest annual average)	Avg. as of 14-Oct-04	19.78 (Bolton)	ug/L	None
Temephos	4-Nov-04	ND	ug/L	None
Terbufos	4-Nov-04	ND	ug/L	None
Tetrachloroethylene	4-Nov-04	ND	ug/L	None
2,3,4,6-Tetrachlorophenol	4-Nov-04	ND	ug/L	None
Triallate	4-Nov-04	ND	ug/L	None
Trichloroethylene	4-Nov-04	ND	ug/L	None
2,4,6-Trichlorophenol	4-Nov-04	ND	ug/L	None
2,4,5-Trichlorophenoxy acetic acid (2,4,5-T)	4-Nov-04	ND	ug/L	None
Trifluralin	4-Nov-04	ND	ug/L	None
Vinyl Chloride	4-Nov-04	ND	ug/L	None

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

Parameter	Result Value	Unit of Measure	Date of Sample
None	N/A	N/A	N/A

(Only if DWS category is large municipal residential, small municipal residential, large municipal non residential, non municipal year round residential, large non municipal non residential)