2023 Annual Drinking Water System Quality Report for Ansnorveldt DWS

Prepared by The Regional Municipality of York pursuant to Section 11 of O. Reg. 170/03.

Drinking Water System Number: 260002213
Drinking Water System Name: Ansnorveldt DWS
Drinking Water System Owner: The Regional Municipality of York
Drinking Water System Category: Large Municipal Residential
Drinking Water System Classification: Water Distribution and Supply II
Reporting period: Jan 1, 2023 - Dec 31, 2023

The Ansnorveldt DWS serves approximately 120 people.
(Population is the most recent available estimate based on Statistics Canada census data and building permits)

List all Drinking Water Systems which receive their drinking water from the Ansnorveldt DWS:
Ansnorveldt Distribution System (260034372)

This annual report is available to the public at no charge on York Region's website (york.ca/drinkingwater) and upon request. Accessible formats or communication supports are also available upon request. Please contact AccessYork@york.ca or call 1-877-464-9675.

A copy of York Region's annual report was provided to all Drinking Water System owners that are connected to and receive drinking water from York Region.

System users were notified that York Region's annual report is available free of charge by public access and notice through:

- Media (internet, social media)
- Public requests at any time

Summary report required under O. Reg. 170/03 Schedule 22 will be available for inspection at:

The Regional Municipality of York
Administrative Centre
Public Works Department
17250 Yonge Street, Newmarket ON L3Y 6Z1

Description of the Ansnorveldt DWS

Introduction:
Ansnorveldt is located in King Township. The residential community served by the Ansnorveldt Drinking Water System is centred on Dufferin Street, north of Highway 9. Local groundwater is naturally high in minerals. York Region operates the water supply, while the Township of King maintains water quality and distributes it to users. The Province governs York Region's operations with Acts and Regulations, a Permit to Take Water, a Municipal Drinking Water License and an operating Permit.

Raw water source:
Groundwater

Profile of water in distribution system:
Groundwater

Water treatment description:
Two wells share one pumphouse. Water is disinfected with chlorine. No other treatment chemicals are used. Raw water test results show the good health of the aquifer and help staff confirm optimal treatment. Water is stored and kept fresh on site for high demand times. Operators test the water and inspect the process regularly. Online analyzers continuously monitor treatment and water flow. When analyzers detect an issue, the system pauses operation until an operator takes action.

List of water treatment chemicals used in this system:
Chlorine (Sodium Hypochlorite)

Brief description and breakdown of monetary expenses incurred:
$128,500 for general maintenance and repairs.

Notices submitted under Section 18(1) of the *Safe Drinking Water Act* or Section 16-4 of Schedule 16 of O. Reg. 170/03 and reported to MECP Spills Action Centre

Not Applicable

Intentionally blank. No notices were submitted for this report period.

Microbiological testing completed under Schedule 10 of O. Reg. 170/03

For additional distribution samples collected under Schedule 10, refer to the local municipality.

Raw Samples

Test Parameter	Count of Samples	Count of Presence
E. Coli	104	0
Total Coliforms	104	0

Treated Samples

Test Parameter	Count of Samples	Count of Presence
E. Coli	52	0
Heterotrophic Plate Count	52	10
Total Coliforms	52	0

Operational testing completed under Schedule 7 of O. Reg. 170/03 during this reporting period

Test Parameter	Test Unit	No. of Samples [1]	Average	Minimum	Maximum
Free Chlorine	mg/L	8,760	1.56	0.89	2.51
Turbidity (Treated)	NTU	8,760	0.20	0.12	5.00

[1] 8,760 is used as the number of samples for continuous analyzers.

Summary of testing pursuant to Schedule 13 of O. Reg. 170/03 and sampling carried out in accordance with the requirement of an approval, order or other legal instrument

Values with a less than sign ("<") indicate that the test result is below the method detection limit from the accredited laboratory (i.e. non-detect). Average results include values which were returned as non-detect (i.e. the "<" is omitted) and are rounded to three decimals. For a complete set of results, see the open dataset available at york.ca/drinkingwater.

Test Parameter [2] [3]	Test Unit	No. of Samples [1]	Average	Minimum	Maximum
Fluoride	mg/L	4	0.260	0.25	0.27
Haloacetic Acids (Treated)	ug/L	4	10.950	9.80	14
Nitrate (Treated)	mg/L	4	0.500	<0.5	<0.5
Nitrite (Treated)	mg/L	4	0.050	<0.05	<0.05
Sodium	mg/L	1	41.700	41.7	41.7
Trihalomethanes (Treated)	ug/L	4	43.800	36.30	48

*Lead testing under Schedule 15.1 is conducted by the local municipality - refer to local municipality reports for results. York Region occasionally collects samples tested for lead for non-regulatory research purposes.

[1] 8,760 is used as the number of samples for continuous analyzers.

[2] The Average for Haloacetic Acids and Trihalomethanes is calculated as the running annual average of quarterly results in accordance with O. Reg 170/03. The Minimum and Maximum values reflect individual test results.

[3] Where sampling for 'N-Nitrosodimethylamine (NDMA)' is required, locations were selected to represent the farthest points in the distribution system. For York DWS and sub-systems, representative sample locations were selected from across the interconnected sub-systems and include at least one facility from every subsystem.

Organic and inorganic parameter(s), from Schedule 23 and 24, that exceeded half the standard prescribed in Schedule 2 of O. Reg. 169/03 Ontario Drinking Water Quality Standards

Not Applicable
Intentionally blank. There were no applicable test results.

Summary of inorganic parameters tested pursuant to Schedule 23 of O. Reg. 170/03

Values with a less than sign ("<") indicate that the test result is below the method detection limit from the accredited laboratory (i.e. non-detect). Average results include values which were returned as non-detect and are rounded to four decimals. For a complete set of results, see the open dataset available at york.ca/drinkingwater.

Test Parameter	Test Unit	No. of Samples	Average	Minimum	Maximum	ODWS Limit
Antimony	mg/L	1	0.0005	<0.0005	<0.0005	0.0060
Arsenic	mg/L	1	0.0005	<0.0005	<0.0005	0.01
Barium	mg/L	1	0.1180	0.118	0.118	1
Boron	mg/L	1	0.1700	0.17	0.17	5
Cadmium	mg/L	1	0.0005	<0.0005	<0.0005	0.0050
Chromium	mg/L	1	0.0005	<0.0005	<0.0005	0.05
Mercury	ug/L	1	0.0500	<0.05	<0.05	1
Selenium	mg/L	1	0.0005	<0.0005	<0.0005	0.05
Uranium	mg/L	1	0.0005	<0.0005	<0.0005	0.02

Summary of organic parameters tested pursuant to Schedule 24 of O. Reg. 170/03

Values with a less than sign ("<") indicate that the test result is below the method detection limit from the accredited laboratory (i.e. non-detect). Average results include values which were returned as non-detect and are rounded to three decimals. For a complete set of results, see the open dataset available at york.ca/drinkingwater.

Test Parameter	Test Unit	No. of Samples	Average	Minimum	Maximum	ODWS Limit
1,1-dichloroethylene (vinylidene chloride)	ug/L	1	0.300	<0.3	<0.3	14
1,2-(o-dcb) Dichlorobenzene	ug/L	1	0.100	<0.1	<0.1	200
1,2-Dichloroethane	ug/L	1	0.100	<0.1	<0.1	5
1,4-(p-dcb) Dichlorobenzene	ug/L	1	0.100	<0.1	<0.1	5
2,3,4,6-Tetrachlorophenol	ug/L	1	0.500	<0.5	<0.5	100
2,4,6-Trichlorophenol	ug/L	1	0.500	<0.5	<0.5	5
2,4-Dichlorophenol	ug/L	1	0.700	<0.7	<0.7	900
2,4-dichlorophenoxyacetic acid (2,4-D)	ug/L	1	0.800	<0.8	<0.8	100
2-methyl-4-chlorophenoxyacetic acid	ug/L	1	5.000	<5	<5	100
Alachlor	ug/L	1	0.400	<0.4	<0.4	5
Atrazine + N-dealkylated metabolites	ug/L	1	0.200	<0.2	<0.2	5
Azinphos-methyl	ug/L	1	0.300	<0.3	<0.3	20
Benzene	ug/L	1	0.100	<0.1	<0.1	1
Benzo(a)pyrene	ug/L	1	0.010	<0.01	<0.01	0.01
Bromoxynil	ug/L	1	0.400	<0.4	<0.4	5
Carbaryl	ug/L	1	3.000	<3	<3	90
Carbofuran	ug/L	1	3.000	<3	<3	90
Carbon Tetrachloride	ug/L	1	0.200	<0.2	<0.2	2
Chlorpyrifos	ug/L	1	0.200	<0.2	<0.2	90
Diazinon	ug/L	1	0.200	<0.2	<0.2	20
Dicamba	ug/L	1	0.400	<0.4	<0.4	120
Dichloromethane	ug/L	1	4.000	<4	<4	50
Diclofop-methyl	ug/L	1	0.400	<0.4	<0.4	9
Dimethoate	ug/L	1	0.300	<0.3	<0.3	20
Diquat	ug/L	1	1.000	<1	<1	70
Diuron	ug/L	1	3.000	<3	<3	150
Glyphosate	ug/L	1	25.000	<25	<25	280
Malathion	ug/L	1	0.200	<0.2	<0.2	190
Metolachlor	ug/L	1	0.200	<0.2	<0.2	50
Metribuzin	ug/L	1	0.300	<0.3	<0.3	80
Monochlorobenzene	ug/L	1	0.100	<0.1	<0.1	80
Paraquat	ug/L	1	1.000	<1	<1	10
Pentachlorophenol	ug/L	1	0.400	<0.4	<0.4	60
Phorate	ug/L	1	0.200	<0.2	<0.2	2
Picloram	ug/L	1	0.700	<0.7	<0.7	190
Polychlorinated Biphenyls (PCBs)	ug/L	1	0.100	<0.1	<0.1	3
Prometryne	ug/L	1	0.200	<0.2	<0.2	1
Simazine	ug/L	1	0.200	<0.2	<0.2	10
Terbufos	ug/L	1	0.200	<0.2	<0.2	1
Tetrachloroethylene (perchloroethylene)	ug/L	1	0.300	<0.3	<0.3	10
Triallate	ug/L	1	4.000	<4	<4	230
Trichloroethylene	ug/L	1	0.100	<0.1	<0.1	5
Trifluralin	ug/L	1	0.006	<0.006	<0.006	45
Vinyl Chloride	ug/L	1	0.200	<0.2	<0.2	1

2023 Annual Drinking Water System Quality Report for Aurora DWS

Prepared by The Regional Municipality of York pursuant to Section 11 of O. Reg. 170/03.

Drinking Water System Number: 220002440
Drinking Water System Name: Aurora DWS
Drinking Water System Owner: The Regional Municipality of York
Drinking Water System Category: Large Municipal Residential
Drinking Water System Classification: Water Distribution and Supply III
Reporting period: Jan 1, 2023 - Dec 31, 2023

The Aurora DWS serves approximately 63,460 people.
(Population is the most recent available estimate based on Statistics Canada census data and building permits)

List all Drinking Water Systems which receive their drinking water from the Aurora DWS:
Town of Aurora Distribution System (260003227); Newmarket Distribution System (260003188)

This annual report is available to the public at no charge on York Region's website (york.ca/drinkingwater) and upon request. Accessible formats or communication supports are also available upon request. Please contact AccessYork@york.ca or call 1-877-464-9675.

A copy of York Region's annual report was provided to all Drinking Water System owners that are connected to and receive drinking water from York Region.

System users were notified that York Region's annual report is available free of charge by public access and notice through:

- Media (internet, social media)
- Public requests at any time

Summary report required under O. Reg. 170/03 Schedule 22 will be available for inspection at:

The Regional Municipality of York
Administrative Centre
Public Works Department
17250 Yonge Street, Newmarket ON L3Y 6Z1

Description of the Aurora DWS

Introduction:
The Town of Aurora is located in the centre of York Region. Local groundwater is naturally high in minerals, and is blended with Lake Ontario water from the York DWS. York Region operates the water supply, while the Town of Aurora maintains water quality and distributes it to users. The Province governs York Region's operations with Acts and Regulations, a Permit to Take Water, a Municipal Drinking Water License and an operating Permit. Lake Ontario water is purchased with supply agreements.

Raw water source:
Groundwater

Profile of water in distribution system:
Blended - Lake and Groundwater

Water treatment description:
Aurora DWS includes six wells, six storage facilities, and three booster pumping stations. Chlorine provides disinfection, and chloramine provides a secondary residual. Two facilities also re-chloraminate to boost the residual. Sodium silicate is added to sequester naturally occurring iron and manganese. Storage facilities hold treated water and help booster stations maintain pressure. Operators test the water and inspect the process. Online analyzers continuously monitor the facilities. When a significant process or water quality issue is detected, the system automatically pauses operation until an operator takes action.

List of water treatment chemicals used in this system:
Chlorine gas; Ammonia solution (Ammonium Sulphate); Sodium Silicate

Brief description and breakdown of monetary expenses incurred:
$14,178,940 for standby power generator replacement, watermain replacement, treatment facility and pumping stations upgrades, valve chamber rehabilitation, well rehabilitation, pump rehabilitation, general maintenance and repairs.

Notices submitted under Section 18(1) of the *Safe Drinking Water Act* or Section 16-4 of Schedule 16 of O. Reg. 170/03 and reported to MECP Spills Action Centre

Not Applicable

Intentionally blank. No notices were submitted for this report period.

Microbiological testing completed under Schedule 10 of O. Reg. 170/03

For additional distribution samples collected under Schedule 10, refer to the local municipality.

Raw Samples

Test Parameter	Count of Samples	Count of Presence
E. Coli	242	0
Total Coliforms	242	6

Treated Samples

Test Parameter	Count of Samples	Count of Presence
E. Coli	97	0
Heterotrophic Plate Count	97	16
Total Coliforms	97	0

Operational testing completed under Schedule 7 of O. Reg. 170/03 during this reporting period

Test Parameter	Test Unit	No. of Samples [1]	Average	Minimum	Maximum
Combined Chlorine	mg/L	8,760	2.49	0.00	4.00
Turbidity (Treated)	NTU	8,760	0.04	0.02	5.00

[1] 8,760 is used as the number of samples for continuous analyzers.

Summary of testing pursuant to Schedule 13 of O. Reg. 170/03 and sampling carried out in accordance with the requirement of an approval, order or other legal instrument

Values with a less than sign ("<") indicate that the test result is below the method detection limit from the accredited laboratory (i.e. non-detect). Average results include values which were returned as non-detect (i.e. the "<" is omitted) and are rounded to three decimals. For a complete set of results, see the open dataset available at york.ca/drinkingwater.

Test Parameter [2] [3]	Test Unit	No. of Samples [1]	Average	Minimum	Maximum
Fluoride	mg/L	60	0.558	0.14	0.71
Haloacetic Acids (Distribution)	ug/L	24	8.429	<8	11
Nitrate (Treated)	mg/L	7	0.380	<0.08	<0.5
Nitrate (Distribution)	mg/L	54	0.485	0.33	<0.5
Nitrite (Treated)	mg/L	7	0.038	<0.003	<0.05
Nitrite (Distribution)	mg/L	54	0.041	<0.003	<0.05
N-Nitrosodimethylamine (NDMA) (Treated)	ug/L	2	0.001	<0.0009	<0.0009
N-Nitrosodimethylamine (NDMA) (Distribution)	ug/L	4	0.001	<0.0009	0.001
Sodium	mg/L	8	18.925	12.3	24.4
Trihalomethanes (Treated)	ug/L	2	6.150	3.80	8.50
Trihalomethanes (Distribution)	ug/L	26	16.850	11.20	22.20

*Lead testing under Schedule 15.1 is conducted by the local municipality - refer to local municipality reports for results. York Region occasionally collects samples tested for lead for non-regulatory research purposes.

[1] 8,760 is used as the number of samples for continuous analyzers.

[2] The Average for Haloacetic Acids and Trihalomethanes is calculated as the running annual average of quarterly results in accordance with O. Reg 170/03. The Minimum and Maximum values reflect individual test results.

[3] Where sampling for 'N-Nitrosodimethylamine (NDMA)' is required, locations were selected to represent the farthest points in the distribution system. For York DWS and sub-systems, representative sample locations were selected from across the interconnected sub-systems and include at least one facility from every subsystem.

Organic and inorganic parameter(s), from Schedule 23 and 24, that exceeded half the standard prescribed in Schedule 2 of O. Reg. 169/03 Ontario Drinking Water Quality Standards

Not Applicable
Intentionally blank. There were no applicable test results.

Summary of inorganic parameters tested pursuant to Schedule 23 of O. Reg. 170/03

Values with a less than sign ("<") indicate that the test result is below the method detection limit from the accredited laboratory (i.e. non-detect). Average results include values which were returned as non-detect and are rounded to four decimals. For a complete set of results, see the open dataset available at york.ca/drinkingwater.

Test Parameter	Test Unit	No. of Samples	Average	Minimum	Maximum	ODWS Limit
Antimony	mg/L	8	0.0005	<0.0005	<0.0005	0.0060
Arsenic	mg/L	8	0.0006	<0.0005	0.0007	0.01
Barium	mg/L	8	0.0396	0.0216	0.0989	1
Boron	mg/L	8	0.0303	0.0272	0.0401	5
Cadmium	mg/L	8	0.0005	<0.0005	<0.0005	0.0050
Chromium	mg/L	8	0.0005	<0.0005	<0.0005	0.05
Mercury	ug/L	8	0.0500	<0.05	<0.05	1
Selenium	mg/L	8	0.0005	<0.0005	<0.0005	0.05
Uranium	mg/L	8	0.0005	<0.0005	<0.0005	0.02

Summary of organic parameters tested pursuant to Schedule 24 of O. Reg. 170/03

Values with a less than sign ("<") indicate that the test result is below the method detection limit from the accredited laboratory (i.e. non-detect). Average results include values which were returned as non-detect and are rounded to three decimals. For a complete set of results, see the open dataset available at york.ca/drinkingwater.

Test Parameter	Test Unit	No. of Samples	Average	Minimum	Maximum	ODWS Limit
1,1-dichloroethylene (vinylidene chloride)	ug/L	2	0.300	<0.3	<0.3	14
1,2-(o-dcb) Dichlorobenzene	ug/L	2	0.100	<0.1	<0.1	200
1,2-Dichloroethane	ug/L	2	0.100	<0.1	<0.1	5
1,4-(p-dcb) Dichlorobenzene	ug/L	2	0.100	<0.1	<0.1	5
2,3,4,6-Tetrachlorophenol	ug/L	2	0.500	<0.5	<0.5	100
2,4,6-Trichlorophenol	ug/L	2	0.500	<0.5	<0.5	5
2,4-Dichlorophenol	ug/L	2	0.700	<0.7	<0.7	900
2,4-dichlorophenoxyacetic acid (2,4-D)	ug/L	2	0.800	<0.8	<0.8	100
2-methyl-4-chlorophenoxyacetic acid	ug/L	2	5.000	<5	<5	100
Alachlor	ug/L	2	0.400	<0.4	<0.4	5
Atrazine + N-dealkylated metabolites	ug/L	2	0.200	<0.2	<0.2	5
Azinphos-methyl	ug/L	2	0.300	<0.3	<0.3	20
Benzene	ug/L	2	0.100	<0.1	<0.1	1
Benzo(a)pyrene	ug/L	2	0.010	<0.01	<0.01	0.01
Bromoxynil	ug/L	2	0.400	<0.4	<0.4	5
Carbaryl	ug/L	2	3.000	<3	<3	90
Carbofuran	ug/L	2	3.000	<3	<3	90
Carbon Tetrachloride	ug/L	2	0.200	<0.2	<0.2	2
Chlorpyrifos	ug/L	2	0.200	<0.2	<0.2	90
Diazinon	ug/L	2	0.200	<0.2	<0.2	20
Dicamba	ug/L	2	0.400	<0.4	<0.4	120
Dichloromethane	ug/L	2	10.000	<10	<10	50
Diclofop-methyl	ug/L	2	0.400	<0.4	<0.4	9
Dimethoate	ug/L	2	0.300	<0.3	<0.3	20
Diquat	ug/L	2	1.000	<1	<1	70
Diuron	ug/L	2	3.000	<3	<3	150
Glyphosate	ug/L	2	25.000	<25	<25	280
Malathion	ug/L	2	0.200	<0.2	<0.2	190
Metolachlor	ug/L	2	0.200	<0.2	<0.2	50
Metribuzin	ug/L	2	0.300	<0.3	<0.3	80
Monochlorobenzene	ug/L	2	0.100	<0.1	<0.1	80
Paraquat	ug/L	2	1.000	<1	<1	10
Pentachlorophenol	ug/L	2	0.400	<0.4	<0.4	60
Phorate	ug/L	2	0.200	<0.2	<0.2	2
Picloram	ug/L	2	0.700	<0.7	<0.7	190
Polychlorinated Biphenyls (PCBs)	ug/L	2	0.100	<0.1	<0.1	3
Prometryne	ug/L	2	0.200	<0.2	<0.2	1
Simazine	ug/L	2	0.200	<0.2	<0.2	10
Terbufos	ug/L	2	0.200	<0.2	<0.2	1
Tetrachloroethylene (perchloroethylene)	ug/L	2	0.300	<0.3	<0.3	10
Triallate	ug/L	2	4.000	<4	<4	230
Trichloroethylene	ug/L	2	0.100	<0.1	<0.1	5
Trifluralin	ug/L	2	0.006	<0.006	<0.006	45
Vinyl Chloride	ug/L	2	0.200	<0.2	<0.2	1

2023 Annual Drinking Water System Quality Report for Ballantrae/Musselman's Lake DWS

Prepared by The Regional Municipality of York pursuant to Section 11 of O. Reg. 170/03.

Drinking Water System Number: 220008658
Drinking Water System Name: Ballantrae/Musselman's Lake DWS
Drinking Water System Owner: The Regional Municipality of York
Drinking Water System Category: Large Municipal Residential
Drinking Water System Classification: Water Distribution and Supply II
Reporting period: Jan 1, 2023 - Dec 31, 2023

The Ballantrae/Musselman's Lake DWS serves approximately 4,600 people.
(Population is the most recent available estimate based on Statistics Canada census data and building permits)

List all Drinking Water Systems which receive their drinking water from the Ballantrae/Musselman's Lake DWS:
Ballantrae-Musselman's Lake Distribution System (260006737)

This annual report is available to the public at no charge on York Region's website (york.ca/drinkingwater) and upon request. Accessible formats or communication supports are also available upon request. Please contact AccessYork@york.ca or call 1-877-464-9675.

A copy of York Region's annual report was provided to all Drinking Water System owners that are connected to and receive drinking water from York Region.

System users were notified that York Region's annual report is available free of charge by public access and notice through:

- Media (internet, social media)
- Public requests at any time

Summary report required under O. Reg. 170/03 Schedule 22 will be available for inspection at:

The Regional Municipality of York
Administrative Centre
Public Works Department
17250 Yonge Street, Newmarket ON L3Y 6Z1

Description of the Ballantrae/Musselman's Lake DWS

Introduction:
The communities of Ballantrae and Musselman’s Lake are centered on Aurora Road and Highway 48 in Whitchurch-Stouffville. Local groundwater is naturally high in minerals. York Region operates the water supply, while the Town of Whitchurch-Stouffville maintains water quality and distributes it to users. The Province governs York Region’s operations with Acts and Regulations, a Permit to Take Water, a Municipal Drinking Water License and an operating Permit.

Raw water source:
Groundwater

Profile of water in distribution system:
Groundwater

Water treatment description:
Ballantrae-Musselman’s Lake system includes three wells and one storage facility. Chlorine provides disinfection and maintains a secondary residual. Sodium silicate is added to sequester naturally occurring iron and manganese. The storage facility holds treated water and maintains pressure. Tests confirm good ground water quality. Operators test the water and inspect the process. Online analyzers continuously monitor treatment and water flow. When a significant process or water quality issue is detected, the system automatically pauses operation until an operator takes action.

List of water treatment chemicals used in this system:
Chlorine (Sodium Hypochlorite and Chlorine gas); Sodium Silicate

Brief description and breakdown of monetary expenses incurred:
$270,819 for storage facility rehabilitation and upgrades, valve chamber rehabilitation, general maintenance and repairs.

Notices submitted under Section 18(1) of the *Safe Drinking Water Act* or Section 16-4 of Schedule 16 of O. Reg. 170/03 and reported to MECP Spills Action Centre

Not Applicable

Intentionally blank. No notices were submitted for this report period.

Microbiological testing completed under Schedule 10 of O. Reg. 170/03

For additional distribution samples collected under Schedule 10, refer to the local municipality.

Raw Samples

Test Parameter	Count of Samples	Count of Presence
E. Coli	150	0
Total Coliforms	150	0

Treated Samples

Test Parameter	Count of Samples	Count of Presence
E. Coli	104	0
Heterotrophic Plate Count	104	29
Total Coliforms	104	0

Operational testing completed under Schedule 7 of O. Reg. 170/03 during this reporting period

Test Parameter	Test Unit	No. of Samples [1]	Average	Minimum	Maximum
Free Chlorine	mg/L	8,760	1.57	0.00	4.15
Turbidity (Treated)	NTU	8,760	0.06	0.01	5.32

[1] 8,760 is used as the number of samples for continuous analyzers.

Summary of testing pursuant to Schedule 13 of O. Reg. 170/03 and sampling carried out in accordance with the requirement of an approval, order or other legal instrument

Values with a less than sign ("<") indicate that the test result is below the method detection limit from the accredited laboratory (i.e. non-detect). Average results include values which were returned as non-detect (i.e. the "<" is omitted) and are rounded to three decimals. For a complete set of results, see the open dataset available at york.ca/drinkingwater.

Test Parameter [2] [3]	Test Unit	No. of Samples [1]	Average	Minimum	Maximum
Fluoride	mg/L	12	0.081	<0.05	0.12
Haloacetic Acids (Distribution)	ug/L	4	20.000	16	26
Nitrate (Treated)	mg/L	8	0.290	<0.08	<0.5
Nitrate (Distribution)	mg/L	4	0.290	<0.08	<0.5
Nitrite (Treated)	mg/L	8	0.027	<0.003	<0.05
Nitrite (Distribution)	mg/L	4	0.027	<0.003	<0.05
Sodium	mg/L	3	11.733	10.2	13.5
Trihalomethanes (Treated)	ug/L	2	5.800	5.30	6.30
Trihalomethanes (Distribution)	ug/L	4	26.200	19.10	38

*Lead testing under Schedule 15.1 is conducted by the local municipality - refer to local municipality reports for results. York Region occasionally collects samples tested for lead for non-regulatory research purposes.

[1] 8,760 is used as the number of samples for continuous analyzers.

[2] The Average for Haloacetic Acids and Trihalomethanes is calculated as the running annual average of quarterly results in accordance with O. Reg 170/03. The Minimum and Maximum values reflect individual test results.

[3] Where sampling for 'N-Nitrosodimethylamine (NDMA)' is required, locations were selected to represent the farthest points in the distribution system. For York DWS and sub-systems, representative sample locations were selected from across the interconnected sub-systems and include at least one facility from every subsystem.

Organic and inorganic parameter(s), from Schedule 23 and 24, that exceeded half the standard prescribed in Schedule 2 of O. Reg. 169/03 Ontario Drinking Water Quality Standards

Not Applicable
Intentionally blank. There were no applicable test results.

Summary of inorganic parameters tested pursuant to Schedule 23 of O. Reg. 170/03

Values with a less than sign ("<") indicate that the test result is below the method detection limit from the accredited laboratory (i.e. non-detect). Average results include values which were returned as non-detect and are rounded to four decimals. For a complete set of results, see the open dataset available at york.ca/drinkingwater.

Test Parameter	Test Unit	No. of Samples	Average	Minimum	Maximum	ODWS Limit
Antimony	mg/L	3	0.0005	<0.0005	<0.0005	0.0060
Arsenic	mg/L	3	0.0006	<0.0005	0.0007	0.01
Barium	mg/L	3	0.0848	0.0657	0.107	1
Boron	mg/L	3	0.0147	0.0059	0.0224	5
Cadmium	mg/L	3	0.0005	<0.0005	<0.0005	0.0050
Chromium	mg/L	3	0.0005	<0.0005	<0.0005	0.05
Mercury	ug/L	3	0.0500	<0.05	<0.05	1
Selenium	mg/L	3	0.0005	<0.0005	<0.0005	0.05
Uranium	mg/L	3	0.0005	<0.0005	<0.0005	0.02

Summary of organic parameters tested pursuant to Schedule 24 of O. Reg. 170/03

Values with a less than sign ("<") indicate that the test result is below the method detection limit from the accredited laboratory (i.e. non-detect). Average results include values which were returned as non-detect and are rounded to three decimals. For a complete set of results, see the open dataset available at york.ca/drinkingwater.

Test Parameter	Test Unit	No. of Samples	Average	Minimum	Maximum	ODWS Limit
1,1-dichloroethylene (vinylidene chloride)	ug/L	2	0.300	<0.3	<0.3	14
1,2-(o-dcb) Dichlorobenzene	ug/L	2	0.100	<0.1	<0.1	200
1,2-Dichloroethane	ug/L	2	0.100	<0.1	<0.1	5
1,4-(p-dcb) Dichlorobenzene	ug/L	2	0.100	<0.1	<0.1	5
2,3,4,6-Tetrachlorophenol	ug/L	2	0.500	<0.5	<0.5	100
2,4,6-Trichlorophenol	ug/L	2	0.500	<0.5	<0.5	5
2,4-Dichlorophenol	ug/L	2	0.700	<0.7	<0.7	900
2,4-dichlorophenoxyacetic acid (2,4-D)	ug/L	2	0.800	<0.8	<0.8	100
2-methyl-4-chlorophenoxyacetic acid	ug/L	2	5.000	<5	<5	100
Alachlor	ug/L	2	0.400	<0.4	<0.4	5
Atrazine + N-dealkylated metabolites	ug/L	2	0.200	<0.2	<0.2	5
Azinphos-methyl	ug/L	2	0.300	<0.3	<0.3	20
Benzene	ug/L	2	0.100	<0.1	<0.1	1
Benzo(a)pyrene	ug/L	2	0.010	<0.01	<0.01	0.01
Bromoxynil	ug/L	2	0.400	<0.4	<0.4	5
Carbaryl	ug/L	2	3.000	<3	<3	90
Carbofuran	ug/L	2	3.000	<3	<3	90
Carbon Tetrachloride	ug/L	2	0.200	<0.2	<0.2	2
Chlorpyrifos	ug/L	2	0.200	<0.2	<0.2	90
Diazinon	ug/L	2	0.200	<0.2	<0.2	20
Dicamba	ug/L	2	0.400	<0.4	<0.4	120
Dichloromethane	ug/L	2	4.000	<4	<4	50
Diclofop-methyl	ug/L	2	0.400	<0.4	<0.4	9
Dimethoate	ug/L	2	0.300	<0.3	<0.3	20
Diquat	ug/L	2	1.000	<1	<1	70
Diuron	ug/L	2	3.000	<3	<3	150
Glyphosate	ug/L	2	25.000	<25	<25	280
Malathion	ug/L	2	0.200	<0.2	<0.2	190
Metolachlor	ug/L	2	0.200	<0.2	<0.2	50
Metribuzin	ug/L	2	0.300	<0.3	<0.3	80
Monochlorobenzene	ug/L	2	0.100	<0.1	<0.1	80
Paraquat	ug/L	2	1.000	<1	<1	10
Pentachlorophenol	ug/L	2	0.400	<0.4	<0.4	60
Phorate	ug/L	2	0.200	<0.2	<0.2	2
Picloram	ug/L	2	0.700	<0.7	<0.7	190
Polychlorinated Biphenyls (PCBs)	ug/L	2	0.100	<0.1	<0.1	3
Prometryne	ug/L	2	0.200	<0.2	<0.2	1
Simazine	ug/L	2	0.200	<0.2	<0.2	10
Terbufos	ug/L	2	0.200	<0.2	<0.2	1
Tetrachloroethylene (perchloroethylene)	ug/L	2	0.300	<0.3	<0.3	10
Triallate	ug/L	2	4.000	<4	<4	230
Trichloroethylene	ug/L	2	0.100	<0.1	<0.1	5
Trifluralin	ug/L	2	0.006	<0.006	<0.006	45
Vinyl Chloride	ug/L	2	0.200	<0.2	<0.2	1

2023 Annual Drinking Water System Quality Report for Georgina DWS

Prepared by The Regional Municipality of York pursuant to Section 11 of O. Reg. 170/03.

Drinking Water System Number: 260026156
Drinking Water System Name: Georgina DWS
Drinking Water System Owner: The Regional Municipality of York
Drinking Water System Category: Large Municipal Residential
Drinking Water System Classification: Water Treatment III
Reporting period: Jan 1, 2023 - Dec 31, 2023

The Georgina DWS serves approximately 8,620 people.
(Population is the most recent available estimate based on Statistics Canada census data and building permits)

List all Drinking Water Systems which receive their drinking water from the Georgina DWS:
Keswick-Sutton Distribution System (260062686)

This annual report is available to the public at no charge on York Region's website (york.ca/drinkingwater) and upon request. Accessible formats or communication supports are also available upon request. Please contact AccessYork@york.ca or call 1-877-464-9675.

A copy of York Region's annual report was provided to all Drinking Water System owners that are connected to and receive drinking water from York Region.

System users were notified that York Region's annual report is available free of charge by public access and notice through:

- Media (internet, social media)
- Public requests at any time

Summary report required under O. Reg. 170/03 Schedule 22 will be available for inspection at:

The Regional Municipality of York
Administrative Centre
Public Works Department
17250 Yonge Street, Newmarket ON L3Y 6Z1

Description of the Georgina DWS

Introduction:
The communities of Keswick and Sutton, and other lakeshore communities are located on the south shore of Lake Simcoe. Surface water from Lake Simcoe supplies these communities. The Keswick sub-system supplies the other half of this larger system. York Region operates the water supply, while the Town of Georgina maintains water quality and distributes it to users. The Province governs York Region's operations with Acts and Regulations, a Permit to Take Water, a Municipal Drinking Water License and an operating Permit.

Raw water source:
Lake Simcoe

Profile of water in distribution system:
Lake Simcoe

Water treatment description:
The Georgina DWS includes one water treatment plant and one storage facility. Incoming water is screened and chlorine addition prevents mussel growth. Membrane filtration removes particles. Granular activated carbon improves taste and controls odour. UV light and chlorine are used for disinfection. Fluoride is added at levels recommended by Ontario's Chief Medical Officer of Health. Operators test the water and inspect the process. Online analyzers continuously monitor treatment and water flow. When a significant process or water quality issue is detected, the system automatically pauses operation until an operator takes action.

List of water treatment chemicals used in this system:
Chlorine gas (for disinfection); Granular activated carbon; Non water treatment chemical: Hydrofluosilicic Acid applied; Filtration membranes cleaned with sodium hypochlorite, citric acid, sodium hydroxide, sodium bisulfite; Dechlorination of membrane filter and GAC washwater with sulphur dioxide.

Brief description and breakdown of monetary expenses incurred:
$4,042,103 for treatment facility rehabilitation and upgrades, standby power generator upgrades, valve chamber rehabilitation, general maintenance and repairs.

Notices submitted under Section 18(1) of the *Safe Drinking Water Act* or Section 16-4 of Schedule 16 of O. Reg. 170/03 and reported to MECP Spills Action Centre

Incident Description	Incident Date	Adverse Test Result	Corrective Action	Corrective Action Date
Fluoride > 1.5 mg/L	May 15, 2023	1.58 mg/L	Flow halted upon alarm and prevented water from entering the distribution system. Operator attended site. Facility returned to normal operation. Compliant grab sample taken.	May 15, 2023

Microbiological testing completed under Schedule 10 of O. Reg. 170/03

For additional distribution samples collected under Schedule 10, refer to the local municipality.

Raw Samples

Test Parameter	Count of Samples	Count of Presence
E. Coli	53	0
Total Coliforms	53	8

Treated Samples

Test Parameter	Count of Samples	Count of Presence
E. Coli	52	0
Heterotrophic Plate Count	52	7
Total Coliforms	52	0

Operational testing completed under Schedule 7 of O. Reg. 170/03 during this reporting period

Test Parameter	Test Unit	No. of Samples [1]	Average	Minimum	Maximum
Fluoride	mg/L	8,760	0.69	0.20	1.58
Free Chlorine	mg/L	8,760	1.67	0.00	2.50
Turbidity (Raw)	NTU	8,760	0.42	0.00	10.00
Turbidity (Treated)	NTU	8,760	0.03	0.00	5.00

[1] 8,760 is used as the number of samples for continuous analyzers.

Summary of testing pursuant to Schedule 13 of O. Reg. 170/03 and sampling carried out in accordance with the requirement of an approval, order or other legal instrument

Values with a less than sign ("<") indicate that the test result is below the method detection limit from the accredited laboratory (i.e. non-detect). Average results include values which were returned as non-detect (i.e. the "<" is omitted) and are rounded to three decimals. For a complete set of results, see the open dataset available at york.ca/drinkingwater.

Test Parameter [2] [3]	Test Unit	No. of Samples [1]	Average	Minimum	Maximum
Free Chlorine Backwash	mg/L	8,760	0.006	0	0.173
Haloacetic Acids (Distribution)	ug/L	4**	27.750	23	36
Microcystin (Raw)	ug/L	35	0.150	<0.15	<0.15
Microcystin (Treated)	ug/L	35	0.150	<0.15	<0.15
Nitrate (Treated)	mg/L	4	0.298	0.09	<0.5
Nitrate (Distribution)	mg/L	3	0.367	0.1	<0.5
Nitrite (Treated)	mg/L	4	0.027	<0.003	<0.05
Nitrite (Distribution)	mg/L	3	0.034	<0.003	<0.05
Sodium	mg/L	2	34.600	34.5	34.7
Total Suspended Solids Backwash	mg/L	8,760	1.682	0	40
Trihalomethanes (Treated)	ug/L	13	24.385	10.30	35.90
Trihalomethanes (Distribution)	ug/L	13	42.794	21	57.70

*Lead testing under Schedule 15.1 is conducted by the local municipality - refer to local municipality reports for results. York Region occasionally collects samples tested for lead for non-regulatory research purposes.

[1] 8,760 is used as the number of samples for continuous analyzers.

[2] The Average for Haloacetic Acids and Trihalomethanes is calculated as the running annual average of quarterly results in accordance with O. Reg 170/03. The Minimum and Maximum values reflect individual test results.

[3] Where sampling for 'N-Nitrosodimethylamine (NDMA)' is required, locations were selected to represent the farthest points in the distribution system. For York DWS and sub-systems, representative sample locations were selected from across the interconnected sub-systems and include at least one facility from every subsystem.

**Q4 2022 results were used for the running annual average per the Ministry's "Trihalomethane and haloacetic acid sampling and reporting requirements" guidance document as there were no samples in Q4 2023.

Organic and inorganic parameter(s), from Schedule 23 and 24, that exceeded half the standard prescribed in Schedule 2 of O. Reg. 169/03 Ontario Drinking Water Quality Standards

Not Applicable
Intentionally blank. There were no applicable test results.

Summary of inorganic parameters tested pursuant to Schedule 23 of O. Reg. 170/03

Values with a less than sign ("<") indicate that the test result is below the method detection limit from the accredited laboratory (i.e. non-detect). Average results include values which were returned as non-detect and are rounded to four decimals. For a complete set of results, see the open dataset available at york.ca/drinkingwater.

Test Parameter	Test Unit	No. of Samples	Average	Minimum	Maximum	ODWS Limit
Antimony	mg/L	2	0.0005	<0.0005	<0.0005	0.0060
Arsenic	mg/L	2	0.0005	<0.0005	<0.0005	0.01
Barium	mg/L	2	0.0272	0.0263	0.028	1
Boron	mg/L	2	0.0256	0.0247	0.0265	5
Cadmium	mg/L	2	0.0005	<0.0005	<0.0005	0.0050
Chromium	mg/L	2	0.0005	<0.0005	<0.0005	0.05
Mercury	ug/L	2	0.0500	<0.05	<0.05	1
Selenium	mg/L	2	0.0005	<0.0005	<0.0005	0.05
Uranium	mg/L	2	0.0005	<0.0005	0.0005	0.02

Summary of organic parameters tested pursuant to Schedule 24 of O. Reg. 170/03

Values with a less than sign ("<") indicate that the test result is below the method detection limit from the accredited laboratory (i.e. non-detect). Average results include values which were returned as non-detect and are rounded to three decimals. For a complete set of results, see the open dataset available at york.ca/drinkingwater.

Test Parameter	Test Unit	No. of Samples	Average	Minimum	Maximum	ODWS Limit
1,1-dichloroethylene (vinylidene chloride)	ug/L	1	0.300	<0.3	<0.3	14
1,2-(o-dcb) Dichlorobenzene	ug/L	1	0.100	<0.1	<0.1	200
1,2-Dichloroethane	ug/L	1	0.100	<0.1	<0.1	5
1,4-(p-dcb) Dichlorobenzene	ug/L	1	0.100	<0.1	<0.1	5
2,3,4,6-Tetrachlorophenol	ug/L	1	0.500	<0.5	<0.5	100
2,4,6-Trichlorophenol	ug/L	1	0.500	<0.5	<0.5	5
2,4-Dichlorophenol	ug/L	1	0.700	<0.7	<0.7	900
2,4-dichlorophenoxyacetic acid (2,4-D)	ug/L	1	0.800	<0.8	<0.8	100
2-methyl-4-chlorophenoxyacetic acid	ug/L	1	5.000	<5	<5	100
Alachlor	ug/L	1	0.400	<0.4	<0.4	5
Atrazine + N-dealkylated metabolites	ug/L	1	0.200	<0.2	<0.2	5
Azinphos-methyl	ug/L	1	0.300	<0.3	<0.3	20
Benzene	ug/L	1	0.100	<0.1	<0.1	1
Benzo(a)pyrene	ug/L	1	0.010	<0.01	<0.01	0.01
Bromoxynil	ug/L	1	0.400	<0.4	<0.4	5
Carbaryl	ug/L	1	3.000	<3	<3	90
Carbofuran	ug/L	1	3.000	<3	<3	90
Carbon Tetrachloride	ug/L	1	0.200	<0.2	<0.2	2
Chlorpyrifos	ug/L	1	0.200	<0.2	<0.2	90
Diazinon	ug/L	1	0.200	<0.2	<0.2	20
Dicamba	ug/L	1	0.400	<0.4	<0.4	120
Dichloromethane	ug/L	1	4.000	<4	<4	50
Diclofop-methyl	ug/L	1	0.400	<0.4	<0.4	9
Dimethoate	ug/L	1	0.300	<0.3	<0.3	20
Diquat	ug/L	1	1.000	<1	<1	70
Diuron	ug/L	1	3.000	<3	<3	150
Glyphosate	ug/L	1	25.000	<25	<25	280
Malathion	ug/L	1	0.200	<0.2	<0.2	190
Metolachlor	ug/L	1	0.200	<0.2	<0.2	50
Metribuzin	ug/L	1	0.300	<0.3	<0.3	80
Monochlorobenzene	ug/L	1	0.100	<0.1	<0.1	80
Paraquat	ug/L	1	1.000	<1	<1	10
Pentachlorophenol	ug/L	1	0.400	<0.4	<0.4	60
Phorate	ug/L	1	0.200	<0.2	<0.2	2
Picloram	ug/L	1	0.700	<0.7	<0.7	190
Polychlorinated Biphenyls (PCBs)	ug/L	1	0.100	<0.1	<0.1	3
Prometryne	ug/L	1	0.190	<0.19	<0.19	1
Simazine	ug/L	1	0.200	<0.2	<0.2	10
Terbufos	ug/L	1	0.200	<0.2	<0.2	1
Tetrachloroethylene (perchloroethylene)	ug/L	1	0.300	<0.3	<0.3	10
Triallate	ug/L	1	4.000	<4	<4	230
Trichloroethylene	ug/L	1	0.100	<0.1	<0.1	5
Trifluralin	ug/L	1	0.006	<0.006	<0.006	45
Vinyl Chloride	ug/L	1	0.200	<0.2	<0.2	1

2023 Annual Drinking Water System Quality Report for Holland Landing DWS

Prepared by The Regional Municipality of York pursuant to Section 11 of O. Reg. 170/03.

Drinking Water System Number: 220004046
Drinking Water System Name: Holland Landing DWS
Drinking Water System Owner: The Regional Municipality of York
Drinking Water System Category: Large Municipal Residential
Drinking Water System Classification: Water Distribution and Supply III
Reporting period: Jan 1, 2023 - Dec 31, 2023

The Holland Landing DWS serves approximately 11,540 people.
(Population is the most recent available estimate based on Statistics Canada census data and building permits)

List all Drinking Water Systems which receive their drinking water from the Holland Landing DWS:
Holland Landing/Queensville/Sharon Distribution System (260001747)

This annual report is available to the public at no charge on York Region's website (york.ca/drinkingwater) and upon request. Accessible formats or communication supports are also available upon request. Please contact AccessYork@york.ca or call 1-877-464-9675.

A copy of York Region's annual report was provided to all Drinking Water System owners that are connected to and receive drinking water from York Region.

System users were notified that York Region's annual report is available free of charge by public access and notice through:

- Media (internet, social media)
- Public requests at any time

Summary report required under O. Reg. 170/03 Schedule 22 will be available for inspection at:

The Regional Municipality of York
Administrative Centre
Public Works Department
17250 Yonge Street, Newmarket ON L3Y 6Z1

Description of the Holland Landing DWS

Introduction:
Holland Landing is located in western East Gwillimbury. Local groundwater is naturally high in minerals, and is blended with Lake Ontario water and connected groundwater systems from the York DWS. York Region operates the water supply, and the Town of East Gwillimbury maintains water quality and distributes it to users. The Province governs York Region's operations with Acts and Regulations, a Permit to Take Water, a Municipal Drinking Water License and an operating Permit. Lake Ontario water is purchased with supply agreements.

Raw water source:
Groundwater

Profile of water in distribution system:
Blended - Lake and Groundwater

Water treatment description:
Holland Landing DWS includes two wells, two storage facilities (elevated tanks), and one booster pumping station. Chlorine provides disinfection, and chloramine provides a secondary residual. Sodium silicate is added to sequester naturally occurring iron and manganese. Storage facilities hold treated water and help booster stations maintain pressure. Operators test the water and inspect the process. Online analyzers continuously monitor treatment and water flow. When analyzers detect a significant process or water quality issue, the system automatically pauses operation until an operator takes action.

List of water treatment chemicals used in this system:
Chlorine gas; Ammonia solution (Ammonium Sulphate); Sodium Silicate

Brief description and breakdown of monetary expenses incurred:
$1,448,170 for new facility design, hydro installation, valve chamber rehabilitation and upgrades, new watermain design, general maintenance and repairs.

Notices submitted under Section 18(1) of the *Safe Drinking Water Act* or Section 16-4 of Schedule 16 of O. Reg. 170/03 and reported to MECP Spills Action Centre

Not Applicable

Intentionally blank. No notices were submitted for this report period.

Microbiological testing completed under Schedule 10 of O. Reg. 170/03

For additional distribution samples collected under Schedule 10, refer to the local municipality.

Raw Samples

Test Parameter	Count of Samples	Count of Presence
E. Coli	103	0
Total Coliforms	103	0

Treated Samples

Test Parameter	Count of Samples	Count of Presence
E. Coli	101	0
Heterotrophic Plate Count	101	28
Total Coliforms	101	0

Operational testing completed under Schedule 7 of O. Reg. 170/03 during this reporting period

Test Parameter	Test Unit	No. of Samples [1]	Average	Minimum	Maximum
Combined Chlorine	mg/L	8,760	2.52	0.00	4.06
Turbidity (Treated)	NTU	8,760	0.06	0.02	5.00

[1] 8,760 is used as the number of samples for continuous analyzers.

Summary of testing pursuant to Schedule 13 of O. Reg. 170/03 and sampling carried out in accordance with the requirement of an approval, order or other legal instrument

Values with a less than sign ("<") indicate that the test result is below the method detection limit from the accredited laboratory (i.e. non-detect). Average results include values which were returned as non-detect (i.e. the "<" is omitted) and are rounded to three decimals. For a complete set of results, see the open dataset available at york.ca/drinkingwater.

Test Parameter [2] [3]	Test Unit	No. of Samples [1]	Average	Minimum	Maximum
Fluoride	mg/L	13	0.222	0.21	0.24
Haloacetic Acids (Distribution)	ug/L	5	8.038	<8	8.10
Nitrate (Treated)	mg/L	8	0.500	<0.5	<0.5
Nitrate (Distribution)	mg/L	5	0.500	<0.5	<0.5
Nitrite (Treated)	mg/L	8	0.050	<0.05	<0.05
Nitrite (Distribution)	mg/L	5	0.050	<0.05	<0.05
N-Nitrosodimethylamine (NDMA) (Treated)	ug/L	2	0.001	<0.001	<0.001
N-Nitrosodimethylamine (NDMA) (Distribution)	ug/L	4	0.001	<0.0009	<0.0009
Sodium	mg/L	3	20.867	19.8	22
Trihalomethanes (Treated)	ug/L	2	9.100	7.80	10.40
Trihalomethanes (Distribution)	ug/L	5	15.613	12.60	17.70

*Lead testing under Schedule 15.1 is conducted by the local municipality - refer to local municipality reports for results. York Region occasionally collects samples tested for lead for non-regulatory research purposes.

[1] 8,760 is used as the number of samples for continuous analyzers.

[2] The Average for Haloacetic Acids and Trihalomethanes is calculated as the running annual average of quarterly results in accordance with O. Reg 170/03. The Minimum and Maximum values reflect individual test results.

[3] Where sampling for 'N-Nitrosodimethylamine (NDMA)' is required, locations were selected to represent the farthest points in the distribution system. For York DWS and sub-systems, representative sample locations were selected from across the interconnected sub-systems and include at least one facility from every subsystem.

Organic and inorganic parameter(s), from Schedule 23 and 24, that exceeded half the standard prescribed in Schedule 2 of O. Reg. 169/03 Ontario Drinking Water Quality Standards

Not Applicable
Intentionally blank. There were no applicable test results.

Summary of inorganic parameters tested pursuant to Schedule 23 of O. Reg. 170/03

Values with a less than sign ("<") indicate that the test result is below the method detection limit from the accredited laboratory (i.e. non-detect). Average results include values which were returned as non-detect and are rounded to four decimals. For a complete set of results, see the open dataset available at york.ca/drinkingwater.

Test Parameter	Test Unit	No. of Samples	Average	Minimum	Maximum	ODWS Limit
Antimony	mg/L	3	0.0005	<0.0005	<0.0005	0.0060
Arsenic	mg/L	3	0.0005	<0.0005	<0.0005	0.01
Barium	mg/L	3	0.1527	0.133	0.176	1
Boron	mg/L	3	0.0653	0.0625	0.07	5
Cadmium	mg/L	3	0.0005	<0.0005	<0.0005	0.0050
Chromium	mg/L	3	0.0005	<0.0005	<0.0005	0.05
Mercury	ug/L	3	0.0500	<0.05	<0.05	1
Selenium	mg/L	3	0.0005	<0.0005	<0.0005	0.05
Uranium	mg/L	3	0.0005	<0.0005	<0.0005	0.02

Summary of organic parameters tested pursuant to Schedule 24 of O. Reg. 170/03

Values with a less than sign ("<") indicate that the test result is below the method detection limit from the accredited laboratory (i.e. non-detect). Average results include values which were returned as non-detect and are rounded to three decimals. For a complete set of results, see the open dataset available at york.ca/drinkingwater.

Test Parameter	Test Unit	No. of Samples	Average	Minimum	Maximum	ODWS Limit
1,1-dichloroethylene (vinylidene chloride)	ug/L	2	0.300	<0.3	<0.3	14
1,2-(o-dcb) Dichlorobenzene	ug/L	2	0.100	<0.1	<0.1	200
1,2-Dichloroethane	ug/L	2	0.100	<0.1	<0.1	5
1,4-(p-dcb) Dichlorobenzene	ug/L	2	0.100	<0.1	<0.1	5
2,3,4,6-Tetrachlorophenol	ug/L	2	0.500	<0.5	<0.5	100
2,4,6-Trichlorophenol	ug/L	2	0.500	<0.5	<0.5	5
2,4-Dichlorophenol	ug/L	2	0.700	<0.7	<0.7	900
2,4-dichlorophenoxyacetic acid (2,4-D)	ug/L	2	0.800	<0.8	<0.8	100
2-methyl-4-chlorophenoxyacetic acid	ug/L	2	5.000	<5	<5	100
Alachlor	ug/L	2	0.400	<0.4	<0.4	5
Atrazine + N-dealkylated metabolites	ug/L	2	0.200	<0.2	<0.2	5
Azinphos-methyl	ug/L	2	0.300	<0.3	<0.3	20
Benzene	ug/L	2	0.100	<0.1	<0.1	1
Benzo(a)pyrene	ug/L	2	0.010	<0.01	<0.01	0.01
Bromoxynil	ug/L	2	0.400	<0.4	<0.4	5
Carbaryl	ug/L	2	3.000	<3	<3	90
Carbofuran	ug/L	2	3.000	<3	<3	90
Carbon Tetrachloride	ug/L	2	0.200	<0.2	<0.2	2
Chlorpyrifos	ug/L	2	0.200	<0.2	<0.2	90
Diazinon	ug/L	2	0.200	<0.2	<0.2	20
Dicamba	ug/L	2	0.400	<0.4	<0.4	120
Dichloromethane	ug/L	2	4.000	<4	<4	50
Diclofop-methyl	ug/L	2	0.400	<0.4	<0.4	9
Dimethoate	ug/L	2	0.300	<0.3	<0.3	20
Diquat	ug/L	2	1.000	<1	<1	70
Diuron	ug/L	2	3.000	<3	<3	150
Glyphosate	ug/L	2	25.000	<25	<25	280
Malathion	ug/L	2	0.200	<0.2	<0.2	190
Metolachlor	ug/L	2	0.200	<0.2	<0.2	50
Metribuzin	ug/L	2	0.300	<0.3	<0.3	80
Monochlorobenzene	ug/L	2	0.100	<0.1	<0.1	80
Paraquat	ug/L	2	1.000	<1	<1	10
Pentachlorophenol	ug/L	2	0.400	<0.4	<0.4	60
Phorate	ug/L	2	0.200	<0.2	<0.2	2
Picloram	ug/L	2	0.700	<0.7	<0.7	190
Polychlorinated Biphenyls (PCBs)	ug/L	2	0.100	<0.1	<0.1	3
Prometryne	ug/L	2	0.200	<0.2	<0.2	1
Simazine	ug/L	2	0.200	<0.2	<0.2	10
Terbufos	ug/L	2	0.200	<0.2	<0.2	1
Tetrachloroethylene (perchloroethylene)	ug/L	2	0.300	<0.3	<0.3	10
Triallate	ug/L	2	4.000	<4	<4	230
Trichloroethylene	ug/L	2	0.100	<0.1	<0.1	5
Trifluralin	ug/L	2	0.006	<0.006	<0.006	45
Vinyl Chloride	ug/L	2	0.200	<0.2	<0.2	1

2023 Annual Drinking Water System Quality Report for Keswick DWS

Prepared by The Regional Municipality of York pursuant to Section 11 of O. Reg. 170/03.

Drinking Water System Number: 210003280
Drinking Water System Name: Keswick DWS
Drinking Water System Owner: The Regional Municipality of York
Drinking Water System Category: Large Municipal Residential
Drinking Water System Classification: Water Treatment III
Reporting period: Jan 1, 2023 - Dec 31, 2023

The Keswick DWS serves approximately 31,080 people.
(Population is the most recent available estimate based on Statistics Canada census data and building permits)

List all Drinking Water Systems which receive their drinking water from the Keswick DWS:
Keswick-Sutton Distribution System (260062686)

This annual report is available to the public at no charge on York Region's website (york.ca/drinkingwater) and upon request. Accessible formats or communication supports are also available upon request. Please contact AccessYork@york.ca or call 1-877-464-9675.

A copy of York Region's annual report was provided to all Drinking Water System owners that are connected to and receive drinking water from York Region.

System users were notified that York Region's annual report is available free of charge by public access and notice through:

- Media (internet, social media)
- Public requests at any time

Summary report required under O. Reg. 170/03 Schedule 22 will be available for inspection at:

The Regional Municipality of York
Administrative Centre
Public Works Department
17250 Yonge Street, Newmarket ON L3Y 6Z1

Description of the Keswick DWS

Introduction:
The community of Keswick is located on the east shore of Cook's Bay in the Town of Georgina. The Keswick sub-system is part of the larger Georgina DWS. Surface water from Lake Simcoe and Cook's Bay supplies this community. York Region operates the water supply, and the Town of Georgina maintains water quality and distributes it to users. The Province governs York Region's operations with Acts and Regulations, a Permit to Take Water, a Municipal Drinking Water License and an operating Permit.

Raw water source:
Lake Simcoe

Profile of water in distribution system:
Lake Simcoe

Water treatment description:
The Keswick DWS includes one Water Treatment Plant and three storage/rechlorination facilities. Lake water is screened and chlorine prevents mussel growth on the intake pipe. Filtration removes particles. Granular activated carbon improves water taste, and chlorine disinfects it. Fluoride is added at levels recommended by Ontario's Chief Medical Officer of Health. Operators test the water and inspect the process. Online analyzers continuously monitor the facilities and automatically pause operation if an issue is detected.

List of water treatment chemicals used in this system:
Chlorine gas; Carbon Dioxide (pH control); Polyaluminum Chloride (coagulation); Granular activated carbon (filtration); Non water treatment chemical: Hydrofluosilicic Acid applied

Brief description and breakdown of monetary expenses incurred:
$296,792 for facility upgrades design, valve chamber rehabilitation, general maintenance and repairs.

Notices submitted under Section 18(1) of the *Safe Drinking Water Act* or Section 16-4 of Schedule 16 of O. Reg. 170/03 and reported to MECP Spills Action Centre

Incident Description	Incident Date	Adverse Test Result	Corrective Action	Corrective Action Date
Filter Performance	Apr 17, 2023	No Coagulant	Operator attended site, restored facility to normal operation.	Apr 18, 2023
Fluoride > 1.5 mg/L	May 15, 2023	1.63 mg/L	Flow halted upon alarm and prevented water from entering the distribution system. Operator attended site. Facility returned to normal operation. Compliant grab sample taken.	May 15, 2023

Microbiological testing completed under Schedule 10 of O. Reg. 170/03

For additional distribution samples collected under Schedule 10, refer to the local municipality.

Raw Samples

Test Parameter	Count of Samples	Count of Presence
E. Coli	52	3
Total Coliforms	52	26

Treated Samples

Test Parameter	Count of Samples	Count of Presence
E. Coli	52	0
Heterotrophic Plate Count	52	9
Total Coliforms	52	0

Operational testing completed under Schedule 7 of O. Reg. 170/03 during this reporting period

Test Parameter	Test Unit	No. of Samples [1]	Average	Minimum	Maximum
Fluoride	mg/L	8,760	0.69	0.20	1.63
Free Chlorine	mg/L	8,760	1.42	0.00	5.00
Turbidity (Raw)	NTU	8,760	0.54	0.10	25.00
Turbidity (Treated)	NTU	8,760	0.09	0.00	3.00

[1] 8,760 is used as the number of samples for continuous analyzers.

Summary of testing pursuant to Schedule 13 of O. Reg. 170/03 and sampling carried out in accordance with the requirement of an approval, order or other legal instrument

Values with a less than sign ("<") indicate that the test result is below the method detection limit from the accredited laboratory (i.e. non-detect). Average results include values which were returned as non-detect (i.e. the "<" is omitted) and are rounded to three decimals. For a complete set of results, see the open dataset available at york.ca/drinkingwater.

Test Parameter [2] [3]	Test Unit	No. of Samples [1]	Average	Minimum	Maximum
Haloacetic Acids (Distribution)	ug/L	11	38.625	22	66
Microcystin (Raw)	ug/L	35	0.150	<0.15	<0.15
Microcystin (Treated)	ug/L	35	0.150	<0.15	<0.15
Nitrate (Treated)	mg/L	4	0.413	0.15	<0.5
Nitrate (Distribution)	mg/L	10	0.299	0.09	<0.5
Nitrite (Treated)	mg/L	4	0.038	<0.003	<0.05
Nitrite (Distribution)	mg/L	11	0.026	<0.003	<0.05
Sodium	mg/L	4	35.900	34.7	38.3
Total Suspended Solids Backwash	mg/L	12	14.183	6.3	71.9
Trihalomethanes (Treated)	ug/L	13	23.877	8	45.10
Trihalomethanes (Distribution)	ug/L	35	49.461	20.80	88.70

*Lead testing under Schedule 15.1 is conducted by the local municipality - refer to local municipality reports for results. York Region occasionally collects samples tested for lead for non-regulatory research purposes.

[1] 8,760 is used as the number of samples for continuous analyzers.

[2] The Average for Haloacetic Acids and Trihalomethanes is calculated as the running annual average of quarterly results in accordance with O. Reg 170/03. The Minimum and Maximum values reflect individual test results.

[3] Where sampling for 'N-Nitrosodimethylamine (NDMA)' is required, locations were selected to represent the farthest points in the distribution system. For York DWS and sub-systems, representative sample locations were selected from across the interconnected sub-systems and include at least one facility from every subsystem.

Organic and inorganic parameter(s), from Schedule 23 and 24, that exceeded half the standard prescribed in Schedule 2 of O. Reg. 169/03 Ontario Drinking Water Quality Standards

Not Applicable
Intentionally blank. There were no applicable test results.

Summary of inorganic parameters tested pursuant to Schedule 23 of O. Reg. 170/03

Values with a less than sign ("<") indicate that the test result is below the method detection limit from the accredited laboratory (i.e. non-detect). Average results include values which were returned as non-detect and are rounded to four decimals. For a complete set of results, see the open dataset available at york.ca/drinkingwater.

Test Parameter	Test Unit	No. of Samples	Average	Minimum	Maximum	ODWS Limit
Antimony	mg/L	4	0.0005	<0.0005	<0.0005	0.0060
Arsenic	mg/L	4	0.0005	<0.0005	<0.0005	0.01
Barium	mg/L	4	0.0285	0.0275	0.0298	1
Boron	mg/L	4	0.0246	0.0192	0.0278	5
Cadmium	mg/L	4	0.0005	<0.0005	<0.0005	0.0050
Chromium	mg/L	4	0.0007	<0.0005	0.0013	0.05
Mercury	ug/L	4	0.0500	<0.05	<0.05	1
Selenium	mg/L	4	0.0005	<0.0005	<0.0005	0.05
Uranium	mg/L	4	0.0005	<0.0005	<0.0005	0.02

Summary of organic parameters tested pursuant to Schedule 24 of O. Reg. 170/03

Values with a less than sign ("<") indicate that the test result is below the method detection limit from the accredited laboratory (i.e. non-detect). Average results include values which were returned as non-detect and are rounded to three decimals. For a complete set of results, see the open dataset available at york.ca/drinkingwater.

Test Parameter	Test Unit	No. of Samples	Average	Minimum	Maximum	ODWS Limit
1,1-dichloroethylene (vinylidene chloride)	ug/L	1	0.300	<0.3	<0.3	14
1,2-(o-dcb) Dichlorobenzene	ug/L	1	0.100	<0.1	<0.1	200
1,2-Dichloroethane	ug/L	1	0.100	<0.1	<0.1	5
1,4-(p-dcb) Dichlorobenzene	ug/L	1	0.100	<0.1	<0.1	5
2,3,4,6-Tetrachlorophenol	ug/L	1	0.500	<0.5	<0.5	100
2,4,6-Trichlorophenol	ug/L	1	0.500	<0.5	<0.5	5
2,4-Dichlorophenol	ug/L	1	0.700	<0.7	<0.7	900
2,4-dichlorophenoxyacetic acid (2,4-D)	ug/L	1	0.800	<0.8	<0.8	100
2-methyl-4-chlorophenoxyacetic acid	ug/L	1	5.000	<5	<5	100
Alachlor	ug/L	1	0.400	<0.4	<0.4	5
Atrazine + N-dealkylated metabolites	ug/L	1	0.200	<0.2	<0.2	5
Azinphos-methyl	ug/L	1	0.300	<0.3	<0.3	20
Benzene	ug/L	1	0.100	<0.1	<0.1	1
Benzo(a)pyrene	ug/L	1	0.010	<0.01	<0.01	0.01
Bromoxynil	ug/L	1	0.400	<0.4	<0.4	5
Carbaryl	ug/L	1	3.000	<3	<3	90
Carbofuran	ug/L	1	3.000	<3	<3	90
Carbon Tetrachloride	ug/L	1	0.200	<0.2	<0.2	2
Chlorpyrifos	ug/L	1	0.200	<0.2	<0.2	90
Diazinon	ug/L	1	0.200	<0.2	<0.2	20
Dicamba	ug/L	1	0.400	<0.4	<0.4	120
Dichloromethane	ug/L	1	4.000	<4	<4	50
Diclofop-methyl	ug/L	1	0.400	<0.4	<0.4	9
Dimethoate	ug/L	1	0.300	<0.3	<0.3	20
Diquat	ug/L	1	1.000	<1	<1	70
Diuron	ug/L	1	3.000	<3	<3	150
Glyphosate	ug/L	1	25.000	<25	<25	280
Malathion	ug/L	1	0.200	<0.2	<0.2	190
Metolachlor	ug/L	1	0.200	<0.2	<0.2	50
Metribuzin	ug/L	1	0.300	<0.3	<0.3	80
Monochlorobenzene	ug/L	1	0.100	<0.1	<0.1	80
Paraquat	ug/L	1	1.000	<1	<1	10
Pentachlorophenol	ug/L	1	0.400	<0.4	<0.4	60
Phorate	ug/L	1	0.200	<0.2	<0.2	2
Picloram	ug/L	1	0.700	<0.7	<0.7	190
Polychlorinated Biphenyls (PCBs)	ug/L	1	0.100	<0.1	<0.1	3
Prometryne	ug/L	1	0.200	<0.2	<0.2	1
Simazine	ug/L	1	0.200	<0.2	<0.2	10
Terbufos	ug/L	1	0.200	<0.2	<0.2	1
Tetrachloroethylene (perchloroethylene)	ug/L	1	0.300	<0.3	<0.3	10
Triallate	ug/L	1	4.000	<4	<4	230
Trichloroethylene	ug/L	1	0.100	<0.1	<0.1	5
Trifluralin	ug/L	1	0.006	<0.006	<0.006	45
Vinyl Chloride	ug/L	1	0.200	<0.2	<0.2	1

2023 Annual Drinking Water System Quality Report for King City DWS

Prepared by The Regional Municipality of York pursuant to Section 11 of O. Reg. 170/03.

Drinking Water System Number: 220002299
Drinking Water System Name: King City DWS
Drinking Water System Owner: The Regional Municipality of York
Drinking Water System Category: Large Municipal Residential
Drinking Water System Classification: Water Distribution and Supply II
Reporting period: Jan 1, 2023 - Dec 31, 2023

The King City DWS serves approximately 8,500 people.
(Population is the most recent available estimate based on Statistics Canada census data and building permits)

List all Drinking Water Systems which receive their drinking water from the King City DWS:
King City Distribution System (260005138)

This annual report is available to the public at no charge on York Region's website (york.ca/drinkingwater) and upon request. Accessible formats or communication supports are also available upon request. Please contact AccessYork@york.ca or call 1-877-464-9675.

A copy of York Region's annual report was provided to all Drinking Water System owners that are connected to and receive drinking water from York Region.

System users were notified that York Region's annual report is available free of charge by public access and notice through:

- Media (internet, social media)
- Public requests at any time

Summary report required under O. Reg. 170/03 Schedule 22 will be available for inspection at:

The Regional Municipality of York
Administrative Centre
Public Works Department
17250 Yonge Street, Newmarket ON L3Y 6Z1

Description of the King City DWS

Introduction:
King City is a community in south-eastern King Township. King City DWS provides water from Lake Ontario through the York DWS. Two wells are installed but are currently offline. York Region operates the water supply, and King Township maintains and distributes water to users. The Province governs York Region's operations with Acts and Regulations, a Permit to Take Water, a Municipal Drinking Water License and an operating Permit. Lake Ontario water is purchased with supply agreements.

Raw water source:
Groundwater

Profile of water in distribution system:
Blended - Lake and Groundwater

Water treatment description:
King City DWS includes two wells, one pumping station, and two storage facilities. If the wells are used for supply, chlorine provides disinfection, and chloramine provides a secondary residual. Sodium silicate can be added to sequester naturally occurring iron and manganese. Wells are currently offline. Storage facilities hold treated water and maintain pressure. Operators test the water and inspect the process. Online analyzers continuously monitor treatment and water flow. When analyzers detect a significant process or water quality issue, the system automatically pauses operation until an operator takes action.

List of water treatment chemicals used in this system:
Water in King City comes pre-treated from the York DWS. Well facilities were not run for supply, but can apply Chlorine gas and Ammonia solution (Ammonium Sulphate) for chloramination and Sodium Silicate. Wells are currently offline.

Brief description and breakdown of monetary expenses incurred:
$283,224 for valve chamber rehabilitation, well rehabilitation, pump maintenance, general maintenance and repairs.

Notices submitted under Section 18(1) of the *Safe Drinking Water Act* or Section 16-4 of Schedule 16 of O. Reg. 170/03 and reported to MECP Spills Action Centre

Not Applicable

Intentionally blank. No notices were submitted for this report period.

Microbiological testing completed under Schedule 10 of O. Reg. 170/03

For additional distribution samples collected under Schedule 10, refer to the local municipality.

Raw Samples

Test Parameter	Count of Samples	Count of Presence
E. Coli	6	0
Total Coliforms	6	0

Treated Samples

Note: no treated results are available for the reporting period as the wells were not operational.

Operational testing completed under Schedule 7 of O. Reg. 170/03 during this reporting period

Test Parameter	Test Unit	No. of Samples [1]	Average	Minimum	Maximum
Combined Chlorine	mg/L	8,760	1.77	0.00	2.38

[1] 8,760 is used as the number of samples for continuous analyzers.

Summary of testing pursuant to Schedule 13 of O. Reg. 170/03 and sampling carried out in accordance with the requirement of an approval, order or other legal instrument

Values with a less than sign ("<") indicate that the test result is below the method detection limit from the accredited laboratory (i.e. non-detect). Average results include values which were returned as non-detect (i.e. the "<" is omitted) and are rounded to three decimals. For a complete set of results, see the open dataset available at york.ca/drinkingwater.

Test Parameter [2] [3]	Test Unit	No. of Samples [1]	Average	Minimum	Maximum
Fluoride	mg/L	8	0.631	0.61	0.67
Haloacetic Acids (Distribution)	ug/L	8	9.125	<8	11
Nitrate (Distribution)	mg/L	8	0.500	<0.5	<0.5
Nitrite (Distribution)	mg/L	8	0.050	<0.05	<0.05
N-Nitrosodimethylamine (NDMA) (Distribution)	ug/L	4	0.001	<0.0009	0.001
Sodium	mg/L	2	27.700	26.1	29.3
Trihalomethanes (Distribution)	ug/L	8	19.488	12.90	26.80

*Lead testing under Schedule 15.1 is conducted by the local municipality - refer to local municipality reports for results. York Region occasionally collects samples tested for lead for non-regulatory research purposes.

[1] 8,760 is used as the number of samples for continuous analyzers.

[2] The Average for Haloacetic Acids and Trihalomethanes is calculated as the running annual average of quarterly results in accordance with O. Reg 170/03. The Minimum and Maximum values reflect individual test results.

[3] Where sampling for 'N-Nitrosodimethylamine (NDMA)' is required, locations were selected to represent the farthest points in the distribution system. For York DWS and sub-systems, representative sample locations were selected from across the interconnected sub-systems and include at least one facility from every subsystem.

Organic and inorganic parameter(s), from Schedule 23 and 24, that exceeded half the standard prescribed in Schedule 2 of O. Reg. 169/03 Ontario Drinking Water Quality Standards

Not Applicable
Intentionally blank. There were no applicable test results.

Summary of inorganic parameters tested pursuant to Schedule 23 of O. Reg. 170/03

Values with a less than sign ("<") indicate that the test result is below the method detection limit from the accredited laboratory (i.e. non-detect). Average results include values which were returned as non-detect and are rounded to four decimals. For a complete set of results, see the open dataset available at york.ca/drinkingwater.

Test Parameter	Test Unit	No. of Samples	Average	Minimum	Maximum	ODWS Limit
Antimony	mg/L	2	0.0005	<0.0005	<0.0005	0.0060
Arsenic	mg/L	2	0.0006	0.0006	0.0006	0.01
Barium	mg/L	2	0.0214	0.021	0.0218	1
Boron	mg/L	2	0.0293	0.0269	0.0317	5
Cadmium	mg/L	2	0.0005	<0.0005	<0.0005	0.0050
Chromium	mg/L	2	0.0005	<0.0005	<0.0005	0.05
Mercury	ug/L	2	0.0500	<0.05	<0.05	1
Selenium	mg/L	2	0.0005	<0.0005	<0.0005	0.05
Uranium	mg/L	2	0.0005	<0.0005	<0.0005	0.02

Summary of organic parameters tested pursuant to Schedule 24 of O. Reg. 170/03

Values with a less than sign ("<") indicate that the test result is below the method detection limit from the accredited laboratory (i.e. non-detect). Average results include values which were returned as non-detect and are rounded to three decimals. For a complete set of results, see the open dataset available at york.ca/drinkingwater.

Not Applicable

Schedule 24 sampling is not applicable to the King City DWS as the wells were offline.

2023 Annual Drinking Water System Quality Report for Kleinburg DWS

Prepared by The Regional Municipality of York pursuant to Section 11 of O. Reg. 170/03.

Drinking Water System Number: 220002360
Drinking Water System Name: Kleinburg DWS
Drinking Water System Owner: The Regional Municipality of York
Drinking Water System Category: Large Municipal Residential
Drinking Water System Classification: Water Distribution and Supply II
Reporting period: Jan 1, 2023 - Dec 31, 2023

The Kleinburg DWS serves approximately 7,480 people.
(Population is the most recent available estimate based on Statistics Canada census data and building permits)

List all Drinking Water Systems which receive their drinking water from the Kleinburg DWS:
Vaughan Distribution System (260003097)

This annual report is available to the public at no charge on York Region's website (york.ca/drinkingwater) and upon request. Accessible formats or communication supports are also available upon request. Please contact AccessYork@york.ca or call 1-877-464-9675.

A copy of York Region's annual report was provided to all Drinking Water System owners that are connected to and receive drinking water from York Region.

System users were notified that York Region's annual report is available free of charge by public access and notice through:

- Media (internet, social media)
- Public requests at any time

Summary report required under O. Reg. 170/03 Schedule 22 will be available for inspection at:

The Regional Municipality of York
Administrative Centre
Public Works Department
17250 Yonge Street, Newmarket ON L3Y 6Z1

Description of the Kleinburg DWS

Introduction:
Kleinburg is a village in the City of Vaughan. Kleinburg DWS provides water from Lake Ontario through the York DWS. Two wells are maintained as an emergency backup water source. York Region operates the water supply, and the City of Vaughan maintains and distributes water to users. The Province governs York Region's operations with Acts and Regulations, a Permit to Take Water, a Municipal Drinking Water License and an operating Permit. Lake Ontario water is purchased with supply agreements.

Raw water source:
Groundwater

Profile of water in distribution system:
Blended - Lake and Groundwater

Water treatment description:
Kleinburg DWS includes two wells, one storage facility and two booster pumping stations. Chlorine provides disinfection, and chloramine provides a secondary residual. Sodium silicate is added to sequester naturally occurring iron and manganese. The storage facility holds treated water and helps the booster stations maintain pressure. Operators test the water and inspect the process. Online analyzers continuously monitor treatment and water flow. When analyzers detect a significant process or water quality issue, the system automatically pauses operation until an operator takes action.

List of water treatment chemicals used in this system:
Water in Kleinburg comes pre-treated from the York DWS. Well facilities were not run for supply, but can apply Chlorine gas and Ammonia solution (Ammonium Sulphate) for chloramination and Sodium Silicate. Treatment systems and well performance are tested regularly in case they are ever needed for backup capacity.

Brief description and breakdown of monetary expenses incurred:
$131,550 for well rehabilitation, pump maintenance, general maintenance and repairs.

Notices submitted under Section 18(1) of the *Safe Drinking Water Act* or Section 16-4 of Schedule 16 of O. Reg. 170/03 and reported to MECP Spills Action Centre

Not Applicable

Intentionally blank. No notices were submitted for this report period.

Microbiological testing completed under Schedule 10 of O. Reg. 170/03

For additional distribution samples collected under Schedule 10, refer to the local municipality.

Raw Samples

Test Parameter	Count of Samples	Count of Presence
E. Coli	103	0
Total Coliforms	103	2

Treated Samples

Note: no treated results are available for the reporting period as the wells were not operational.

Operational testing completed under Schedule 7 of O. Reg. 170/03 during this reporting period

Test Parameter	Test Unit	No. of Samples [1]	Average	Minimum	Maximum
Combined Chlorine	mg/L	8,760	1.83	0.25	2.99

[1] 8,760 is used as the number of samples for continuous analyzers.

Summary of testing pursuant to Schedule 13 of O. Reg. 170/03 and sampling carried out in accordance with the requirement of an approval, order or other legal instrument

Values with a less than sign ("<") indicate that the test result is below the method detection limit from the accredited laboratory (i.e. non-detect). Average results include values which were returned as non-detect (i.e. the "<" is omitted) and are rounded to three decimals. For a complete set of results, see the open dataset available at york.ca/drinkingwater.

Test Parameter [2] [3]	Test Unit	No. of Samples [1]	Average	Minimum	Maximum
Fluoride	mg/L	4	0.620	0.61	0.63
Haloacetic Acids (Distribution)	ug/L	4	8.500	<8	9.60
Nitrate (Distribution)	mg/L	4	0.500	<0.5	<0.5
Nitrite (Distribution)	mg/L	4	0.050	<0.05	<0.05
N-Nitrosodimethylamine (NDMA) (Distribution)	ug/L	4	0.001	<0.0009	0.002
Sodium	mg/L	1	18.300	18.3	18.3
Trihalomethanes (Distribution)	ug/L	4	17.550	12.20	25.20

*Lead testing under Schedule 15.1 is conducted by the local municipality - refer to local municipality reports for results. York Region occasionally collects samples tested for lead for non-regulatory research purposes.

[1] 8,760 is used as the number of samples for continuous analyzers.

[2] The Average for Haloacetic Acids and Trihalomethanes is calculated as the running annual average of quarterly results in accordance with O. Reg 170/03. The Minimum and Maximum values reflect individual test results.

[3] Where sampling for 'N-Nitrosodimethylamine (NDMA)' is required, locations were selected to represent the farthest points in the distribution system. For York DWS and sub-systems, representative sample locations were selected from across the interconnected sub-systems and include at least one facility from every subsystem.

Organic and inorganic parameter(s), from Schedule 23 and 24, that exceeded half the standard prescribed in Schedule 2 of O. Reg. 169/03 Ontario Drinking Water Quality Standards

Not Applicable
Intentionally blank. There were no applicable test results.

Summary of inorganic parameters tested pursuant to Schedule 23 of O. Reg. 170/03

Values with a less than sign ("<") indicate that the test result is below the method detection limit from the accredited laboratory (i.e. non-detect). Average results include values which were returned as non-detect and are rounded to four decimals. For a complete set of results, see the open dataset available at york.ca/drinkingwater.

Test Parameter	Test Unit	No. of Samples	Average	Minimum	Maximum	ODWS Limit
Antimony	mg/L	1	0.0005	<0.0005	<0.0005	0.0060
Arsenic	mg/L	1	0.0007	0.0007	0.0007	0.01
Barium	mg/L	1	0.0219	0.0219	0.0219	1
Boron	mg/L	1	0.0269	0.0269	0.0269	5
Cadmium	mg/L	1	0.0005	<0.0005	<0.0005	0.0050
Chromium	mg/L	1	0.0005	<0.0005	<0.0005	0.05
Mercury	ug/L	1	0.0500	<0.05	<0.05	1
Selenium	mg/L	1	0.0005	<0.0005	<0.0005	0.05
Uranium	mg/L	1	0.0005	<0.0005	<0.0005	0.02

Summary of organic parameters tested pursuant to Schedule 24 of O. Reg. 170/03

Values with a less than sign ("<") indicate that the test result is below the method detection limit from the accredited laboratory (i.e. non-detect). Average results include values which were returned as non-detect and are rounded to three decimals. For a complete set of results, see the open dataset available at york.ca/drinkingwater.

Not Applicable

Schedule 24 sampling is not applicable to the Kleinburg DWS as the wells were available for backup capacity but were not used for supply.

2023 Annual Drinking Water System Quality Report for Mount Albert DWS

Prepared by The Regional Municipality of York pursuant to Section 11 of O. Reg. 170/03.

Drinking Water System Number: 220006543
Drinking Water System Name: Mount Albert DWS
Drinking Water System Owner: The Regional Municipality of York
Drinking Water System Category: Large Municipal Residential
Drinking Water System Classification: Water Distribution and Supply II
Reporting period: Jan 1, 2023 - Dec 31, 2023

The Mount Albert DWS serves approximately 6,280 people.
(Population is the most recent available estimate based on Statistics Canada census data and building permits)

List all Drinking Water Systems which receive their drinking water from the Mount Albert DWS:
Mount Albert Distribution System (260002265)

This annual report is available to the public at no charge on York Region's website (york.ca/drinkingwater) and upon request. Accessible formats or communication supports are also available upon request. Please contact AccessYork@york.ca or call 1-877-464-9675.

A copy of York Region's annual report was provided to all Drinking Water System owners that are connected to and receive drinking water from York Region.

System users were notified that York Region's annual report is available free of charge by public access and notice through:

- Media (internet, social media)
- Public requests at any time

Summary report required under O. Reg. 170/03 Schedule 22 will be available for inspection at:

The Regional Municipality of York
Administrative Centre
Public Works Department
17250 Yonge Street, Newmarket ON L3Y 6Z1

Description of the Mount Albert DWS

Introduction:
The village of Mount Albert is located in the east side of Town of East Gwillimbury around Mount Albert Road, between Highway 48 and York Durham Line. Local groundwater is naturally high in minerals. York Region operates the water supply, while the Town of East Gwillimbury maintains water quality and distributes it to users. The Province governs York Region's operations with Acts and Regulations, a Permit to Take Water, a Municipal Drinking Water License and an operating Permit.

Raw water source:
Groundwater

Profile of water in distribution system:
Groundwater

Water treatment description:
Mount Albert DWS includes three wells and two storage facilities. Chlorine provides disinfection and maintains a secondary residual. Sodium silicate is added to sequester naturally occurring iron and manganese. Storage facilities hold treated water and maintain pressure. Tests confirm good groundwater quality. Operators test the water and inspect the process. Online analyzers continuously monitor treatment and water flow. When analyzers detect a significant process or water quality issue, the system automatically pauses operation until an operator takes action.

List of water treatment chemicals used in this system:
Chlorine (Sodium Hypochlorite and Chlorine gas); Sodium Silicate

Brief description and breakdown of monetary expenses incurred:
$258,258 for valve chamber rehabilitation, wells rehabilitation, pump maintenance, wells upgrades design, general maintenance and repairs.

Notices submitted under Section 18(1) of the *Safe Drinking Water Act* or Section 16-4 of Schedule 16 of O. Reg. 170/03 and reported to MECP Spills Action Centre

Not Applicable

Intentionally blank. No notices were submitted for this report period.

Microbiological testing completed under Schedule 10 of O. Reg. 170/03

For additional distribution samples collected under Schedule 10, refer to the local municipality.

Raw Samples

Test Parameter	Count of Samples	Count of Presence
E. Coli	145	0
Total Coliforms	145	0

Treated Samples

Test Parameter	Count of Samples	Count of Presence
E. Coli	91	0
Heterotrophic Plate Count	91	24
Total Coliforms	91	0

Operational testing completed under Schedule 7 of O. Reg. 170/03 during this reporting period

Test Parameter	Test Unit	No. of Samples [1]	Average	Minimum	Maximum
Free Chlorine	mg/L	8,760	1.50	0.00	3.87
Turbidity (Treated)	NTU	8,760	0.07	0.00	5.00

[1] 8,760 is used as the number of samples for continuous analyzers.

Summary of testing pursuant to Schedule 13 of O. Reg. 170/03 and sampling carried out in accordance with the requirement of an approval, order or other legal instrument

Values with a less than sign ("<") indicate that the test result is below the method detection limit from the accredited laboratory (i.e. non-detect). Average results include values which were returned as non-detect (i.e. the "<" is omitted) and are rounded to three decimals. For a complete set of results, see the open dataset available at york.ca/drinkingwater.

Test Parameter [2] [3]	Test Unit	No. of Samples [1]	Average	Minimum	Maximum
Fluoride	mg/L	11	0.056	0.05	0.06
Haloacetic Acids (Distribution)	ug/L	4	8.025	<8	8.10
Nitrate (Treated)	mg/L	7	2.130	<0.08	3.77
Nitrate (Distribution)	mg/L	4	1.933	<0.08	3.45
Nitrite (Treated)	mg/L	7	0.030	<0.003	<0.05
Nitrite (Distribution)	mg/L	4	0.027	<0.003	<0.05
Sodium	mg/L	3	13.700	11.1	15.1
Trihalomethanes (Treated)	ug/L	2	3.300	1.10	5.50
Trihalomethanes (Distribution)	ug/L	4	17.575	9.20	22.60

*Lead testing under Schedule 15.1 is conducted by the local municipality - refer to local municipality reports for results. York Region occasionally collects samples tested for lead for non-regulatory research purposes.

[1] 8,760 is used as the number of samples for continuous analyzers.

[2] The Average for Haloacetic Acids and Trihalomethanes is calculated as the running annual average of quarterly results in accordance with O. Reg 170/03. The Minimum and Maximum values reflect individual test results.

[3] Where sampling for 'N-Nitrosodimethylamine (NDMA)' is required, locations were selected to represent the farthest points in the distribution system. For York DWS and sub-systems, representative sample locations were selected from across the interconnected sub-systems and include at least one facility from every subsystem.

Organic and inorganic parameter(s), from Schedule 23 and 24, that exceeded half the standard prescribed in Schedule 2 of O. Reg. 169/03 Ontario Drinking Water Quality Standards

Not Applicable
Intentionally blank. There were no applicable test results.

Summary of inorganic parameters tested pursuant to Schedule 23 of O. Reg. 170/03

Values with a less than sign ("<") indicate that the test result is below the method detection limit from the accredited laboratory (i.e. non-detect). Average results include values which were returned as non-detect and are rounded to four decimals. For a complete set of results, see the open dataset available at york.ca/drinkingwater.

Test Parameter	Test Unit	No. of Samples	Average	Minimum	Maximum	ODWS Limit
Antimony	mg/L	3	0.0005	<0.0005	<0.0005	0.0060
Arsenic	mg/L	3	0.0005	<0.0005	<0.0005	0.01
Barium	mg/L	3	0.0656	0.0602	0.0714	1
Boron	mg/L	3	0.0074	0.0066	0.0082	5
Cadmium	mg/L	3	0.0005	<0.0005	<0.0005	0.0050
Chromium	mg/L	3	0.0005	<0.0005	<0.0005	0.05
Mercury	ug/L	3	0.0500	<0.05	<0.05	1
Selenium	mg/L	3	0.0005	<0.0005	<0.0005	0.05
Uranium	mg/L	3	0.0032	<0.0005	0.0087	0.02

Summary of organic parameters tested pursuant to Schedule 24 of O. Reg. 170/03

Values with a less than sign ("<") indicate that the test result is below the method detection limit from the accredited laboratory (i.e. non-detect). Average results include values which were returned as non-detect and are rounded to three decimals. For a complete set of results, see the open dataset available at york.ca/drinkingwater.

Test Parameter	Test Unit	No. of Samples	Average	Minimum	Maximum	ODWS Limit
1,1-dichloroethylene (vinylidene chloride)	ug/L	2	0.300	<0.3	<0.3	14
1,2-(o-dcb) Dichlorobenzene	ug/L	2	0.100	<0.1	<0.1	200
1,2-Dichloroethane	ug/L	2	0.100	<0.1	<0.1	5
1,4-(p-dcb) Dichlorobenzene	ug/L	2	0.100	<0.1	<0.1	5
2,3,4,6-Tetrachlorophenol	ug/L	2	0.500	<0.5	<0.5	100
2,4,6-Trichlorophenol	ug/L	2	0.500	<0.5	<0.5	5
2,4-Dichlorophenol	ug/L	2	0.700	<0.7	<0.7	900
2,4-dichlorophenoxyacetic acid (2,4-D)	ug/L	2	0.800	<0.8	<0.8	100
2-methyl-4-chlorophenoxyacetic acid	ug/L	2	5.000	<5	<5	100
Alachlor	ug/L	2	0.400	<0.4	<0.4	5
Atrazine + N-dealkylated metabolites	ug/L	2	0.200	<0.2	<0.2	5
Azinphos-methyl	ug/L	2	0.300	<0.3	<0.3	20
Benzene	ug/L	2	0.100	<0.1	<0.1	1
Benzo(a)pyrene	ug/L	2	0.010	<0.01	<0.01	0.01
Bromoxynil	ug/L	2	0.400	<0.4	<0.4	5
Carbaryl	ug/L	2	3.000	<3	<3	90
Carbofuran	ug/L	2	3.000	<3	<3	90
Carbon Tetrachloride	ug/L	2	0.200	<0.2	<0.2	2
Chlorpyrifos	ug/L	2	0.200	<0.2	<0.2	90
Diazinon	ug/L	2	0.200	<0.2	<0.2	20
Dicamba	ug/L	2	0.400	<0.4	<0.4	120
Dichloromethane	ug/L	2	4.000	<4	<4	50
Diclofop-methyl	ug/L	2	0.400	<0.4	<0.4	9
Dimethoate	ug/L	2	0.300	<0.3	<0.3	20
Diquat	ug/L	2	1.000	<1	<1	70
Diuron	ug/L	2	3.000	<3	<3	150
Glyphosate	ug/L	2	25.000	<25	<25	280
Malathion	ug/L	2	0.200	<0.2	<0.2	190
Metolachlor	ug/L	2	0.200	<0.2	<0.2	50
Metribuzin	ug/L	2	0.300	<0.3	<0.3	80
Monochlorobenzene	ug/L	2	0.100	<0.1	<0.1	80
Paraquat	ug/L	2	1.000	<1	<1	10
Pentachlorophenol	ug/L	2	0.400	<0.4	<0.4	60
Phorate	ug/L	2	0.200	<0.2	<0.2	2
Picloram	ug/L	2	0.700	<0.7	<0.7	190
Polychlorinated Biphenyls (PCBs)	ug/L	2	0.100	<0.1	<0.1	3
Prometryne	ug/L	2	0.205	<0.2	<0.21	1
Simazine	ug/L	2	0.200	<0.2	<0.2	10
Terbufos	ug/L	2	0.200	<0.2	<0.2	1
Tetrachloroethylene (perchloroethylene)	ug/L	2	0.300	<0.3	<0.3	10
Triallate	ug/L	2	4.000	<4	<4	230
Trichloroethylene	ug/L	2	0.100	<0.1	<0.1	5
Trifluralin	ug/L	2	0.006	<0.006	<0.006	45
Vinyl Chloride	ug/L	2	0.200	<0.2	<0.2	1

2023 Annual Drinking Water System Quality Report for Newmarket DWS

Prepared by The Regional Municipality of York pursuant to Section 11 of O. Reg. 170/03.

Drinking Water System Number: 220002413
Drinking Water System Name: Newmarket DWS
Drinking Water System Owner: The Regional Municipality of York
Drinking Water System Category: Large Municipal Residential
Drinking Water System Classification: Water Distribution and Supply III
Reporting period: Jan 1, 2023 - Dec 31, 2023

The Newmarket DWS serves approximately 93,320 people.
(Population is the most recent available estimate based on Statistics Canada census data and building permits)

List all Drinking Water Systems which receive their drinking water from the Newmarket DWS:
Holland Landing/Queensville/Sharon Distribution System (260001747); Newmarket Distribution System (260003188); Town Of Aurora Distribution System (260003227); Yonge-Green Lane Distribution System (260087685)

This annual report is available to the public at no charge on York Region's website (york.ca/drinkingwater) and upon request. Accessible formats or communication supports are also available upon request. Please contact AccessYork@york.ca or call 1-877-464-9675.

A copy of York Region's annual report was provided to all Drinking Water System owners that are connected to and receive drinking water from York Region.

System users were notified that York Region's annual report is available free of charge by public access and notice through:

- Media (internet, social media)
- Public requests at any time

Summary report required under O. Reg. 170/03 Schedule 22 will be available for inspection at:

The Regional Municipality of York
Administrative Centre
Public Works Department
17250 Yonge Street, Newmarket ON L3Y 6Z1

Description of the Newmarket DWS

Introduction:
The Town of Newmarket is located centrally in York Region. Groundwater from the Newmarket wells is blended with water from Lake Ontario and groundwater from Aurora from the York DWS. York Region operates the water supply, and the Town of Newmarket maintains and distributes water to users. The Province governs York Region's operations with Acts and Regulations, a Permit to Take Water, a Municipal Drinking Water License and an operating Permit. Lake Ontario water is purchased with supply agreements.

Raw water source:
Groundwater

Profile of water in distribution system:
Blended - Lake and Groundwater

Water treatment description:
Newmarket DWS includes five wells, six storage facilities, and two booster pumping stations. Chlorine provides disinfection, and chloramine provides a secondary residual. One of these facilities also re-chloraminates to boost the residual. Sodium silicate is added to sequester naturally occurring iron and manganese. Storage facilities hold treated water and help booster stations maintain pressure. Operators test the water and inspect the process. Online analyzers continuously monitor the facilities. When analyzers detect a significant process or water quality issue, the system automatically pauses operation until an operator takes action.

List of water treatment chemicals used in this system:
Chlorine (Sodium Hypochlorite and Chlorine gas); Ammonia solution (Ammonium Sulphate); Sodium Silicate

Brief description and breakdown of monetary expenses incurred:
$6,211,477 for storage facility rehabilitation and upgrades, treatment facility upgrades, valve chamber rehabilitation and upgrades, well rehabilitation, pump maintenance, general maintenance and repairs.

Notices submitted under Section 18(1) of the *Safe Drinking Water Act* or Section 16-4 of Schedule 16 of O. Reg. 170/03 and reported to MECP Spills Action Centre

Incident Description	Incident Date	Adverse Test Result	Corrective Action	Corrective Action Date
Sodium > 20.0 mg/L	Apr 19, 2023	24.7 mg/L	Operator attended site. Resample taken.	May 3, 2023

Microbiological testing completed under Schedule 10 of O. Reg. 170/03

For additional distribution samples collected under Schedule 10, refer to the local municipality.

Raw Samples

Test Parameter	Count of Samples	Count of Presence
E. Coli	244	0
Total Coliforms	244	2

Treated Samples

Test Parameter	Count of Samples	Count of Presence
E. Coli	152	0
Heterotrophic Plate Count	152	41
Total Coliforms	152	0

Operational testing completed under Schedule 7 of O. Reg. 170/03 during this reporting period

Test Parameter	Test Unit	No. of Samples [1]	Average	Minimum	Maximum
Combined Chlorine	mg/L	8,760	2.53	0.00	4.19
Turbidity (Treated)	NTU	8,760	0.06	0.02	5.00

[1] 8,760 is used as the number of samples for continuous analyzers.

Summary of testing pursuant to Schedule 13 of O. Reg. 170/03 and sampling carried out in accordance with the requirement of an approval, order or other legal instrument

Values with a less than sign ("<") indicate that the test result is below the method detection limit from the accredited laboratory (i.e. non-detect). Average results include values which were returned as non-detect (i.e. the "<" is omitted) and are rounded to three decimals. For a complete set of results, see the open dataset available at york.ca/drinkingwater.

Test Parameter [2] [3]	Test Unit	No. of Samples [1]	Average	Minimum	Maximum
Fluoride	mg/L	66	0.465	0.15	0.68
Haloacetic Acids (Distribution)	ug/L	17	8.778	<8	12
Nitrate (Treated)	mg/L	11	0.424	<0.08	<0.5
Nitrate (Distribution)	mg/L	55	0.485	0.34	0.52
Nitrite (Treated)	mg/L	11	0.042	<0.003	<0.05
Nitrite (Distribution)	mg/L	55	0.042	<0.003	<0.05
N-Nitrosodimethylamine (NDMA) (Treated)	ug/L	3	0.001	<0.0009	<0.0009
N-Nitrosodimethylamine (NDMA) (Distribution)	ug/L	6	0.001	<0.0009	0.0014
Sodium	mg/L	9	21.156	15.6	25.2
Trihalomethanes (Treated)	ug/L	3	6.967	6.50	7.30
Trihalomethanes (Distribution)	ug/L	19	18.005	9.80	25.20

*Lead testing under Schedule 15.1 is conducted by the local municipality - refer to local municipality reports for results. York Region occasionally collects samples tested for lead for non-regulatory research purposes.

[1] 8,760 is used as the number of samples for continuous analyzers.

[2] The Average for Haloacetic Acids and Trihalomethanes is calculated as the running annual average of quarterly results in accordance with O. Reg 170/03. The Minimum and Maximum values reflect individual test results.

[3] Where sampling for 'N-Nitrosodimethylamine (NDMA)' is required, locations were selected to represent the farthest points in the distribution system. For York DWS and sub-systems, representative sample locations were selected from across the interconnected sub-systems and include at least one facility from every subsystem.

Organic and inorganic parameter(s), from Schedule 23 and 24, that exceeded half the standard prescribed in Schedule 2 of O. Reg. 169/03 Ontario Drinking Water Quality Standards

Not Applicable
Intentionally blank. There were no applicable test results.

Summary of inorganic parameters tested pursuant to Schedule 23 of O. Reg. 170/03

Values with a less than sign ("<") indicate that the test result is below the method detection limit from the accredited laboratory (i.e. non-detect). Average results include values which were returned as non-detect and are rounded to four decimals. For a complete set of results, see the open dataset available at york.ca/drinkingwater.

Test Parameter	Test Unit	No. of Samples	Average	Minimum	Maximum	ODWS Limit
Antimony	mg/L	8	0.0005	<0.0005	<0.0005	0.0060
Arsenic	mg/L	8	0.0006	<0.0005	0.0007	0.01
Barium	mg/L	8	0.0886	0.0238	0.199	1
Boron	mg/L	8	0.0364	0.0294	0.0474	5
Cadmium	mg/L	8	0.0005	<0.0005	<0.0005	0.0050
Chromium	mg/L	8	0.0010	<0.0005	0.003	0.05
Mercury	ug/L	8	0.0500	<0.05	<0.05	1
Selenium	mg/L	8	0.0005	<0.0005	<0.0005	0.05
Uranium	mg/L	8	0.0005	<0.0005	<0.0005	0.02

Summary of organic parameters tested pursuant to Schedule 24 of O. Reg. 170/03

Values with a less than sign ("<") indicate that the test result is below the method detection limit from the accredited laboratory (i.e. non-detect). Average results include values which were returned as non-detect and are rounded to three decimals. For a complete set of results, see the open dataset available at york.ca/drinkingwater.

Test Parameter	Test Unit	No. of Samples	Average	Minimum	Maximum	ODWS Limit
1,1-dichloroethylene (vinylidene chloride)	ug/L	4	0.300	<0.3	<0.3	14
1,2-(o-dcb) Dichlorobenzene	ug/L	4	0.100	<0.1	<0.1	200
1,2-Dichloroethane	ug/L	4	0.100	<0.1	<0.1	5
1,4-(p-dcb) Dichlorobenzene	ug/L	4	0.100	<0.1	<0.1	5
2,3,4,6-Tetrachlorophenol	ug/L	3	0.500	<0.5	<0.5	100
2,4,6-Trichlorophenol	ug/L	3	0.500	<0.5	<0.5	5
2,4-Dichlorophenol	ug/L	3	0.700	<0.7	<0.7	900
2,4-dichlorophenoxyacetic acid (2,4-D)	ug/L	3	0.800	<0.8	<0.8	100
2-methyl-4-chlorophenoxyacetic acid	ug/L	3	5.000	<5	<5	100
Alachlor	ug/L	3	0.400	<0.4	<0.4	5
Atrazine + N-dealkylated metabolites	ug/L	3	0.200	<0.2	<0.2	5
Azinphos-methyl	ug/L	3	0.300	<0.3	<0.3	20
Benzene	ug/L	4	0.100	<0.1	<0.1	1
Benzo(a)pyrene	ug/L	3	0.010	<0.01	<0.01	0.01
Bromoxynil	ug/L	3	0.400	<0.4	<0.4	5
Carbaryl	ug/L	3	3.000	<3	<3	90
Carbofuran	ug/L	3	3.000	<3	<3	90
Carbon Tetrachloride	ug/L	4	0.200	<0.2	<0.2	2
Chlorpyrifos	ug/L	3	0.200	<0.2	<0.2	90
Diazinon	ug/L	3	0.200	<0.2	<0.2	20
Dicamba	ug/L	3	0.400	<0.4	<0.4	120
Dichloromethane	ug/L	4	8.500	<4	<10	50
Diclofop-methyl	ug/L	3	0.400	<0.4	<0.4	9
Dimethoate	ug/L	3	0.300	<0.3	<0.3	20
Diquat	ug/L	3	1.000	<1	<1	70
Diuron	ug/L	3	3.000	<3	<3	150
Glyphosate	ug/L	3	25.000	<25	<25	280
Malathion	ug/L	3	0.200	<0.2	<0.2	190
Metolachlor	ug/L	3	0.200	<0.2	<0.2	50
Metribuzin	ug/L	3	0.300	<0.3	<0.3	80
Monochlorobenzene	ug/L	4	0.100	<0.1	<0.1	80
Paraquat	ug/L	3	1.000	<1	<1	10
Pentachlorophenol	ug/L	3	0.400	<0.4	<0.4	60
Phorate	ug/L	3	0.200	<0.2	<0.2	2
Picloram	ug/L	3	0.700	<0.7	<0.7	190
Polychlorinated Biphenyls (PCBs)	ug/L	3	0.100	<0.1	<0.1	3
Prometryne	ug/L	3	0.200	<0.2	<0.2	1
Simazine	ug/L	3	0.200	<0.2	<0.2	10
Terbufos	ug/L	3	0.200	<0.2	<0.2	1
Tetrachloroethylene (perchloroethylene)	ug/L	4	0.300	<0.3	<0.3	10
Triallate	ug/L	3	4.000	<4	<4	230
Trichloroethylene	ug/L	4	0.100	<0.1	<0.1	5
Trifluralin	ug/L	3	0.006	<0.006	<0.006	45
Vinyl Chloride	ug/L	4	0.200	<0.2	<0.2	1

2023 Annual Drinking Water System Quality Report for Nobleton DWS

Prepared by The Regional Municipality of York pursuant to Section 11 of O. Reg. 170/03.

Drinking Water System Number: 220002306
Drinking Water System Name: Nobleton DWS
Drinking Water System Owner: The Regional Municipality of York
Drinking Water System Category: Large Municipal Residential
Drinking Water System Classification: Water Distribution and Supply II
Reporting period: Jan 1, 2023 - Dec 31, 2023

The Nobleton DWS serves approximately 7,360 people.
(Population is the most recent available estimate based on Statistics Canada census data and building permits)

List all Drinking Water Systems which receive their drinking water from the Nobleton DWS:
Nobleton Distribution System-260002577

This annual report is available to the public at no charge on York Region's website (york.ca/drinkingwater) and upon request. Accessible formats or communication supports are also available upon request. Please contact AccessYork@york.ca or call 1-877-464-9675.

A copy of York Region's annual report was provided to all Drinking Water System owners that are connected to and receive drinking water from York Region.

System users were notified that York Region's annual report is available free of charge by public access and notice through:

- Media (internet, social media)
- Public requests at any time

Summary report required under O. Reg. 170/03 Schedule 22 will be available for inspection at:

The Regional Municipality of York
Administrative Centre
Public Works Department
17250 Yonge Street, Newmarket ON L3Y 6Z1

Description of the Nobleton DWS

Introduction:
Nobleton is located in King Township, and the municipal drinking water system is centered on King Road and Highway 27. Local groundwater is naturally high in minerals. Tests confirm ground water quality. York Region operates the water supply, while King Township maintains water quality and distributes it to users. The Province governs York Region's operations with Acts and Regulations, a Permit to Take Water, a Municipal Drinking Water License and an operating Permit.

Raw water source:
Groundwater

Profile of water in distribution system:
Groundwater

Water treatment description:
Nobleton DWS includes four wells, two storage facilities, and one booster pumping station. Chlorine provides disinfection and maintains a secondary residual. Sodium silicate is added to sequester naturally occurring iron and manganese. Storage facilities hold treated water and help the booster station maintain pressure. Operators test the water and inspect the process. Online analyzers continuously monitor treatment and water flow. When analyzers detect a significant process or water quality issue, the system automatically pauses operation until an operator takes action.

List of water treatment chemicals used in this system:
Chlorine (Sodium Hypochlorite and Chlorine gas); Sodium Silicate

Brief description and breakdown of monetary expenses incurred:
$3,574,655 for new well installation, facility upgrades, well rehabilitation, well replacement, pump maintenance, general maintenance and repairs.

Notices submitted under Section 18(1) of the *Safe Drinking Water Act* or Section 16-4 of Schedule 16 of O. Reg. 170/03 and reported to MECP Spills Action Centre

Not Applicable

Intentionally blank. No notices were submitted for this report period.

Microbiological testing completed under Schedule 10 of O. Reg. 170/03

For additional distribution samples collected under Schedule 10, refer to the local municipality.

Raw Samples

Test Parameter	Count of Samples	Count of Presence
E. Coli	150	0
Total Coliforms	150	6

Treated Samples

Test Parameter	Count of Samples	Count of Presence
E. Coli	144	0
Heterotrophic Plate Count	143	34
Total Coliforms	144	0

Operational testing completed under Schedule 7 of O. Reg. 170/03 during this reporting period

Test Parameter	Test Unit	No. of Samples [1]	Average	Minimum	Maximum
Free Chlorine	mg/L	8,760	1.84	0.00	3.99
Turbidity (Treated)	NTU	8,760	0.09	0.02	5.00

[1] 8,760 is used as the number of samples for continuous analyzers.

Summary of testing pursuant to Schedule 13 of O. Reg. 170/03 and sampling carried out in accordance with the requirement of an approval, order or other legal instrument

Values with a less than sign ("<") indicate that the test result is below the method detection limit from the accredited laboratory (i.e. non-detect). Average results include values which were returned as non-detect (i.e. the "<" is omitted) and are rounded to three decimals. For a complete set of results, see the open dataset available at york.ca/drinkingwater.

Test Parameter [2] [3]	Test Unit	No. of Samples [1]	Average	Minimum	Maximum
Fluoride	mg/L	20	0.124	0.11	0.14
Haloacetic Acids (Distribution)	ug/L	8	10.550	<8	14
Nitrate (Treated)	mg/L	12	0.500	<0.5	<0.5
Nitrate (Distribution)	mg/L	8	0.500	<0.5	<0.5
Nitrite (Treated)	mg/L	12	0.050	<0.05	<0.05
Nitrite (Distribution)	mg/L	8	0.050	<0.05	<0.05
Sodium	mg/L	5	15.340	13.3	18.4
Trihalomethanes (Treated)	ug/L	3	6.933	4.90	8.90
Trihalomethanes (Distribution)	ug/L	8	31.125	21	48.10

*Lead testing under Schedule 15.1 is conducted by the local municipality - refer to local municipality reports for results. York Region occasionally collects samples tested for lead for non-regulatory research purposes.

[1] 8,760 is used as the number of samples for continuous analyzers.

[2] The Average for Haloacetic Acids and Trihalomethanes is calculated as the running annual average of quarterly results in accordance with O. Reg 170/03. The Minimum and Maximum values reflect individual test results.

[3] Where sampling for 'N-Nitrosodimethylamine (NDMA)' is required, locations were selected to represent the farthest points in the distribution system. For York DWS and sub-systems, representative sample locations were selected from across the interconnected sub-systems and include at least one facility from every subsystem.

Organic and inorganic parameter(s), from Schedule 23 and 24, that exceeded half the standard prescribed in Schedule 2 of O. Reg. 169/03 Ontario Drinking Water Quality Standards

Not Applicable
Intentionally blank. There were no applicable test results.

Summary of inorganic parameters tested pursuant to Schedule 23 of O. Reg. 170/03

Values with a less than sign ("<") indicate that the test result is below the method detection limit from the accredited laboratory (i.e. non-detect). Average results include values which were returned as non-detect and are rounded to four decimals. For a complete set of results, see the open dataset available at york.ca/drinkingwater.

Test Parameter	Test Unit	No. of Samples	Average	Minimum	Maximum	ODWS Limit
Antimony	mg/L	6	0.0005	<0.0005	<0.0005	0.0060
Arsenic	mg/L	5	0.0005	<0.0005	<0.0005	0.01
Barium	mg/L	5	0.2368	0.218	0.267	1
Boron	mg/L	5	0.0432	0.0357	0.0534	5
Cadmium	mg/L	5	0.0005	<0.0005	<0.0005	0.0050
Chromium	mg/L	5	0.0005	<0.0005	<0.0005	0.05
Mercury	ug/L	5	0.0500	<0.05	<0.05	1
Selenium	mg/L	5	0.0005	<0.0005	<0.0005	0.05
Uranium	mg/L	5	0.0005	<0.0005	<0.0005	0.02

Summary of organic parameters tested pursuant to Schedule 24 of O. Reg. 170/03

Values with a less than sign ("<") indicate that the test result is below the method detection limit from the accredited laboratory (i.e. non-detect). Average results include values which were returned as non-detect and are rounded to three decimals. For a complete set of results, see the open dataset available at york.ca/drinkingwater.

Test Parameter	Test Unit	No. of Samples	Average	Minimum	Maximum	ODWS Limit
1,1-dichloroethylene (vinylidene chloride)	ug/L	3	0.300	<0.3	<0.3	14
1,2-(o-dcb) Dichlorobenzene	ug/L	3	0.100	<0.1	<0.1	200
1,2-Dichloroethane	ug/L	3	0.100	<0.1	<0.1	5
1,4-(p-dcb) Dichlorobenzene	ug/L	3	0.100	<0.1	<0.1	5
2,3,4,6-Tetrachlorophenol	ug/L	3	0.500	<0.5	<0.5	100
2,4,6-Trichlorophenol	ug/L	3	0.500	<0.5	<0.5	5
2,4-Dichlorophenol	ug/L	3	0.700	<0.7	<0.7	900
2,4-dichlorophenoxyacetic acid (2,4-D)	ug/L	3	0.800	<0.8	<0.8	100
2-methyl-4-chlorophenoxyacetic acid	ug/L	3	5.000	<5	<5	100
Alachlor	ug/L	3	0.400	<0.4	<0.4	5
Atrazine + N-dealkylated metabolites	ug/L	3	0.200	<0.2	<0.2	5
Azinphos-methyl	ug/L	3	0.300	<0.3	<0.3	20
Benzene	ug/L	3	0.100	<0.1	<0.1	1
Benzo(a)pyrene	ug/L	3	0.010	<0.01	<0.01	0.01
Bromoxynil	ug/L	3	0.400	<0.4	<0.4	5
Carbaryl	ug/L	3	3.000	<3	<3	90
Carbofuran	ug/L	3	3.000	<3	<3	90
Carbon Tetrachloride	ug/L	3	0.200	<0.2	<0.2	2
Chlorpyrifos	ug/L	3	0.200	<0.2	<0.2	90
Diazinon	ug/L	3	0.200	<0.2	<0.2	20
Dicamba	ug/L	3	0.400	<0.4	<0.4	120
Dichloromethane	ug/L	3	4.000	<4	<4	50
Diclofop-methyl	ug/L	3	0.400	<0.4	<0.4	9
Dimethoate	ug/L	3	0.300	<0.3	<0.3	20
Diquat	ug/L	3	1.000	<1	<1	70
Diuron	ug/L	3	3.000	<3	<3	150
Glyphosate	ug/L	3	25.000	<25	<25	280
Malathion	ug/L	3	0.200	<0.2	<0.2	190
Metolachlor	ug/L	3	0.200	<0.2	<0.2	50
Metribuzin	ug/L	3	0.300	<0.3	<0.3	80
Monochlorobenzene	ug/L	3	0.100	<0.1	<0.1	80
Paraquat	ug/L	3	1.000	<1	<1	10
Pentachlorophenol	ug/L	3	0.400	<0.4	<0.4	60
Phorate	ug/L	3	0.200	<0.2	<0.2	2
Picloram	ug/L	3	0.700	<0.7	<0.7	190
Polychlorinated Biphenyls (PCBs)	ug/L	3	0.100	<0.1	<0.1	3
Prometryne	ug/L	3	0.193	<0.19	<0.2	1
Simazine	ug/L	3	0.200	<0.2	<0.2	10
Terbufos	ug/L	3	0.200	<0.2	<0.2	1
Tetrachloroethylene (perchloroethylene)	ug/L	3	0.300	<0.3	<0.3	10
Triallate	ug/L	3	4.000	<4	<4	230
Trichloroethylene	ug/L	3	0.100	<0.1	<0.1	5
Trifluralin	ug/L	3	0.006	<0.006	<0.006	45
Vinyl Chloride	ug/L	3	0.200	<0.2	<0.2	1

2023 Annual Drinking Water System Quality Report for Schomberg DWS

Prepared by The Regional Municipality of York pursuant to Section 11 of O. Reg. 170/03.

Drinking Water System Number: 220004901
Drinking Water System Name: Schomberg DWS
Drinking Water System Owner: The Regional Municipality of York
Drinking Water System Category: Large Municipal Residential
Drinking Water System Classification: Water Distribution and Supply II, Water Treatment II
Reporting period: Jan 1, 2023 - Dec 31, 2023

The Schomberg DWS serves approximately 2,530 people.
(Population is the most recent available estimate based on Statistics Canada census data and building permits)

List all Drinking Water Systems which receive their drinking water from the Schomberg DWS:
Schomberg Distribution System (260005151)

This annual report is available to the public at no charge on York Region's website (york.ca/drinkingwater) and upon request. Accessible formats or communication supports are also available upon request. Please contact AccessYork@york.ca or call 1-877-464-9675.

A copy of York Region's annual report was provided to all Drinking Water System owners that are connected to and receive drinking water from York Region.

System users were notified that York Region's annual report is available free of charge by public access and notice through:

- Media (internet, social media)
- Public requests at any time

Summary report required under O. Reg. 170/03 Schedule 22 will be available for inspection at:

The Regional Municipality of York
Administrative Centre
Public Works Department
17250 Yonge Street, Newmarket ON L3Y 6Z1

Description of the Schomberg DWS

Introduction:
Schomberg is located within the Township of King around the intersections of Highway 27 and Highway 9, just south of the border with Simcoe County. Local groundwater is naturally high in minerals. Tests confirm ground water quality. York Region operates the water supply, while King Township maintains water quality and distributes it to users. The Province governs York Region's operations with Acts and Regulations, a Permit to Take Water, a Municipal Drinking Water License and an operating Permit.

Raw water source:
Groundwater

Profile of water in distribution system:
Groundwater

Water treatment description:
Schomberg DWS includes one Water treatment Plant, three wells and one storage/rechloramination facility. Naturally occurring methane is removed through pre-oxidation with chlorine followed by air stripping. Potassium permanganate is added for iron and manganese removal using media filtration. Water is disinfected with UV light, followed by chlorine which combines with naturally occurring ammonia to form chloramines to provide a secondary residual. Operators test the water and inspect the process. Online analyzers continuously monitor the facilities. When analyzers detect a significant process or water quality issue, the system automatically pauses operation until an operator takes action.

List of water treatment chemicals used in this system:
Potassium Permanganate; Chlorine gas (forms chloramine when it combines with naturally occurring ammonia)

Brief description and breakdown of monetary expenses incurred:
$778,197 for well rehabilitation, pump maintenance, general maintenance and repairs.

Notices submitted under Section 18(1) of the *Safe Drinking Water Act* or Section 16-4 of Schedule 16 of O. Reg. 170/03 and reported to MECP Spills Action Centre

Incident Description	Incident Date	Adverse Test Result	Corrective Action	Corrective Action Date
Combined Chlorine Residual > 4.0 mg/L (Regulatory Relief Sites)	Jan 12, 2023	4.06 mg/L	Operator attended site, facility restored to normal operation. Compliant grab sample taken.	Jan 12, 2023
	Feb 1, 2023	4.03 mg/L	Operator attended site, facility restored to normal operation. Compliant grab sample taken.	Feb 1, 2023
	Mar 31, 2023	4.17 mg/L	Operator attended site, facility restored to normal operation. Compliant grab sample taken.	Mar 31, 2023
	Apr 20, 2023	4.01 mg/L	Operator attended site, facility restored to normal operation. Compliant grab sample taken.	Apr 20, 2023

Microbiological testing completed under Schedule 10 of O. Reg. 170/03

For additional distribution samples collected under Schedule 10, refer to the local municipality.

Raw Samples

Test Parameter	Count of Samples	Count of Presence
E. Coli	156	0
Total Coliforms	156	7

Treated Samples

Test Parameter	Count of Samples	Count of Presence
E. Coli	52	0
Heterotrophic Plate Count	52	6
Total Coliforms	52	0

Operational testing completed under Schedule 7 of O. Reg. 170/03 during this reporting period

Test Parameter	Test Unit	No. of Samples [1]	Average	Minimum	Maximum
Combined Chlorine	mg/L	8,760	3.27	0.00	4.17
Turbidity (Treated)	NTU	8,760	0.25	0.13	3.38

[1] 8,760 is used as the number of samples for continuous analyzers.

Summary of testing pursuant to Schedule 13 of O. Reg. 170/03 and sampling carried out in accordance with the requirement of an approval, order or other legal instrument

Values with a less than sign ("<") indicate that the test result is below the method detection limit from the accredited laboratory (i.e. non-detect). Average results include values which were returned as non-detect (i.e. the "<" is omitted) and are rounded to three decimals. For a complete set of results, see the open dataset available at york.ca/drinkingwater.

Test Parameter [2] [3]	Test Unit	No. of Samples [1]	Average	Minimum	Maximum
Fluoride	mg/L	8	0.166	0.16	0.17
Haloacetic Acids (Distribution)	ug/L	4	8.725	<8	9.30
Nitrate (Treated)	mg/L	4	0.500	<0.5	<0.5
Nitrate (Distribution)	mg/L	4	0.515	<0.5	0.56
Nitrite (Treated)	mg/L	4	0.130	0.12	0.14
Nitrite (Distribution)	mg/L	4	0.338	0.28	0.39
N-Nitrosodimethylamine (NDMA) (Treated)	ug/L	1	0.001	<0.001	<0.001
N-Nitrosodimethylamine (NDMA) (Distribution)	ug/L	4	0.001	<0.0009	0.0012
Sodium	mg/L	2	20.900	20.3	21.5
Trihalomethanes (Treated)	ug/L	1	6.100	6.10	6.10
Trihalomethanes (Distribution)	ug/L	4	5.075	3.50	5.90

*Lead testing under Schedule 15.1 is conducted by the local municipality - refer to local municipality reports for results. York Region occasionally collects samples tested for lead for non-regulatory research purposes.

[1] 8,760 is used as the number of samples for continuous analyzers.

[2] The Average for Haloacetic Acids and Trihalomethanes is calculated as the running annual average of quarterly results in accordance with O. Reg 170/03. The Minimum and Maximum values reflect individual test results.

[3] Where sampling for 'N-Nitrosodimethylamine (NDMA)' is required, locations were selected to represent the farthest points in the distribution system. For York DWS and sub-systems, representative sample locations were selected from across the interconnected sub-systems and include at least one facility from every subsystem.

Organic and inorganic parameter(s), from Schedule 23 and 24, that exceeded half the standard prescribed in Schedule 2 of O. Reg. 169/03 Ontario Drinking Water Quality Standards

Not Applicable
Intentionally blank. There were no applicable test results.

Summary of inorganic parameters tested pursuant to Schedule 23 of O. Reg. 170/03

Values with a less than sign ("<") indicate that the test result is below the method detection limit from the accredited laboratory (i.e. non-detect). Average results include values which were returned as non-detect and are rounded to four decimals. For a complete set of results, see the open dataset available at york.ca/drinkingwater.

Test Parameter	Test Unit	No. of Samples	Average	Minimum	Maximum	ODWS Limit
Antimony	mg/L	2	0.0005	<0.0005	<0.0005	0.0060
Arsenic	mg/L	2	0.0007	0.0007	0.0007	0.01
Barium	mg/L	2	0.1235	0.12	0.127	1
Boron	mg/L	2	0.0756	0.0716	0.0796	5
Cadmium	mg/L	2	0.0005	<0.0005	<0.0005	0.0050
Chromium	mg/L	2	0.0005	<0.0005	<0.0005	0.05
Mercury	ug/L	2	0.0500	<0.05	<0.05	1
Selenium	mg/L	2	0.0005	<0.0005	<0.0005	0.05
Uranium	mg/L	2	0.0005	<0.0005	<0.0005	0.02

Summary of organic parameters tested pursuant to Schedule 24 of O. Reg. 170/03

Values with a less than sign ("<") indicate that the test result is below the method detection limit from the accredited laboratory (i.e. non-detect). Average results include values which were returned as non-detect and are rounded to three decimals. For a complete set of results, see the open dataset available at york.ca/drinkingwater.

Test Parameter	Test Unit	No. of Samples	Average	Minimum	Maximum	ODWS Limit
1,1-dichloroethylene (vinylidene chloride)	ug/L	1	0.300	<0.3	<0.3	14
1,2-(o-dcb) Dichlorobenzene	ug/L	1	0.100	<0.1	<0.1	200
1,2-Dichloroethane	ug/L	1	0.100	<0.1	<0.1	5
1,4-(p-dcb) Dichlorobenzene	ug/L	1	0.100	<0.1	<0.1	5
2,3,4,6-Tetrachlorophenol	ug/L	1	0.500	<0.5	<0.5	100
2,4,6-Trichlorophenol	ug/L	1	0.500	<0.5	<0.5	5
2,4-Dichlorophenol	ug/L	1	0.700	<0.7	<0.7	900
2,4-dichlorophenoxyacetic acid (2,4-D)	ug/L	1	0.800	<0.8	<0.8	100
2-methyl-4-chlorophenoxyacetic acid	ug/L	1	5.000	<5	<5	100
Alachlor	ug/L	1	0.400	<0.4	<0.4	5
Atrazine + N-dealkylated metabolites	ug/L	1	0.200	<0.2	<0.2	5
Azinphos-methyl	ug/L	1	0.300	<0.3	<0.3	20
Benzene	ug/L	1	0.100	<0.1	<0.1	1
Benzo(a)pyrene	ug/L	1	0.010	<0.01	<0.01	0.01
Bromoxynil	ug/L	1	0.400	<0.4	<0.4	5
Carbaryl	ug/L	1	3.000	<3	<3	90
Carbofuran	ug/L	1	3.000	<3	<3	90
Carbon Tetrachloride	ug/L	1	0.200	<0.2	<0.2	2
Chlorpyrifos	ug/L	1	0.200	<0.2	<0.2	90
Diazinon	ug/L	1	0.200	<0.2	<0.2	20
Dicamba	ug/L	1	0.400	<0.4	<0.4	120
Dichloromethane	ug/L	1	4.000	<4	<4	50
Diclofop-methyl	ug/L	1	0.400	<0.4	<0.4	9
Dimethoate	ug/L	1	0.300	<0.3	<0.3	20
Diquat	ug/L	1	1.000	<1	<1	70
Diuron	ug/L	1	3.000	<3	<3	150
Glyphosate	ug/L	1	25.000	<25	<25	280
Malathion	ug/L	1	0.200	<0.2	<0.2	190
Metolachlor	ug/L	1	0.200	<0.2	<0.2	50
Metribuzin	ug/L	1	0.300	<0.3	<0.3	80
Monochlorobenzene	ug/L	1	0.100	<0.1	<0.1	80
Paraquat	ug/L	1	1.000	<1	<1	10
Pentachlorophenol	ug/L	1	0.400	<0.4	<0.4	60
Phorate	ug/L	1	0.200	<0.2	<0.2	2
Picloram	ug/L	1	0.700	<0.7	<0.7	190
Polychlorinated Biphenyls (PCBs)	ug/L	1	0.100	<0.1	<0.1	3
Prometryne	ug/L	1	0.200	<0.2	<0.2	1
Simazine	ug/L	1	0.200	<0.2	<0.2	10
Terbufos	ug/L	1	0.200	<0.2	<0.2	1
Tetrachloroethylene (perchloroethylene)	ug/L	1	0.300	<0.3	<0.3	10
Triallate	ug/L	1	4.000	<4	<4	230
Trichloroethylene	ug/L	1	0.100	<0.1	<0.1	5
Trifluralin	ug/L	1	0.006	<0.006	<0.006	45
Vinyl Chloride	ug/L	1	0.200	<0.2	<0.2	1

2023 Annual Drinking Water System Quality Report for Sharon/Queensville DWS

Prepared by The Regional Municipality of York pursuant to Section 11 of O. Reg. 170/03.

Drinking Water System Number: 260001955
Drinking Water System Name: Sharon/Queensville DWS
Drinking Water System Owner: The Regional Municipality of York
Drinking Water System Category: Large Municipal Residential
Drinking Water System Classification: Water Distribution and Supply III
Reporting period: Jan 1, 2023 - Dec 31, 2023

The Sharon/Queensville DWS serves approximately 10,440 people.
(Population is the most recent available estimate based on Statistics Canada census data and building permits)

List all Drinking Water Systems which receive their drinking water from the Sharon/Queensville DWS:
Holland Landing/Queensville/Sharon Distribution System (260001747); Newmarket Distribution System (260003188)

This annual report is available to the public at no charge on York Region's website (york.ca/drinkingwater) and upon request. Accessible formats or communication supports are also available upon request. Please contact AccessYork@york.ca or call 1-877-464-9675.

A copy of York Region's annual report was provided to all Drinking Water System owners that are connected to and receive drinking water from York Region.

System users were notified that York Region's annual report is available free of charge by public access and notice through:

- Media (internet, social media)
- Public requests at any time

Summary report required under O. Reg. 170/03 Schedule 22 will be available for inspection at:

The Regional Municipality of York
Administrative Centre
Public Works Department
17250 Yonge Street, Newmarket ON L3Y 6Z1

Description of the Sharon/Queensville DWS

Introduction:
Queensville and Sharon are in the Town of East Gwillimbury. Local groundwater is naturally high in minerals, and is blended with Lake Ontario water from the York DWS. York Region operates the water supply, and the Town of East Gwillimbury maintains water quality and distributes it to users. The Province governs York Region's operations with Acts and Regulations, a Permit to Take Water, a Municipal Drinking Water License and an operating Permit. Lake Ontario water is purchased with supply agreements.

Raw water source:
Groundwater

Profile of water in distribution system:
Blended - Lake and Groundwater

Water treatment description:
Sharon-Queensville DWS includes four wells and one storage facility (elevated tank). Chlorine provides disinfection, and chloramine provides a secondary residual. Sodium silicate is added to sequester naturally occurring iron and manganese. The storage facility holds treated water and helps to maintain pressure. Tests confirm good groundwater quality. Operators test the water and inspect the process. Online analyzers continuously monitor treatment and water flow. When analyzers detect a significant process or water quality issue, the system automatically pauses operation until an operator takes action.

List of water treatment chemicals used in this system:
Chlorine gas; Ammonia solution (Ammonium Sulphate); Sodium Silicate

Brief description and breakdown of monetary expenses incurred:
$408,733 for treatment facility upgrades design, valve chamber rehabilitation, general maintenance and repairs.

Notices submitted under Section 18(1) of the *Safe Drinking Water Act* or Section 16-4 of Schedule 16 of O. Reg. 170/03 and reported to MECP Spills Action Centre

Not Applicable

Intentionally blank. No notices were submitted for this report period.

Microbiological testing completed under Schedule 10 of O. Reg. 170/03

For additional distribution samples collected under Schedule 10, refer to the local municipality.

Raw Samples

Test Parameter	Count of Samples	Count of Presence
E. Coli	208	0
Total Coliforms	208	1

Treated Samples

Test Parameter	Count of Samples	Count of Presence
E. Coli	104	0
Heterotrophic Plate Count	104	21
Total Coliforms	104	0

Operational testing completed under Schedule 7 of O. Reg. 170/03 during this reporting period

Test Parameter	Test Unit	No. of Samples [1]	Average	Minimum	Maximum
Combined Chlorine	mg/L	8,760	2.54	0.39	3.70
Turbidity (Treated)	NTU	8,760	0.05	0.02	5.00

[1] 8,760 is used as the number of samples for continuous analyzers.

Summary of testing pursuant to Schedule 13 of O. Reg. 170/03 and sampling carried out in accordance with the requirement of an approval, order or other legal instrument

Values with a less than sign ("<") indicate that the test result is below the method detection limit from the accredited laboratory (i.e. non-detect). Average results include values which were returned as non-detect (i.e. the "<" is omitted) and are rounded to three decimals. For a complete set of results, see the open dataset available at york.ca/drinkingwater.

Test Parameter [2] [3]	Test Unit	No. of Samples [1]	Average	Minimum	Maximum
Fluoride	mg/L	12	0.213	0.2	0.23
Haloacetic Acids (Distribution)	ug/L	4	10.200	9.80	11
Nitrate (Treated)	mg/L	8	0.395	<0.08	<0.5
Nitrate (Distribution)	mg/L	4	0.395	<0.08	<0.5
Nitrite (Treated)	mg/L	8	0.039	0.003	<0.05
Nitrite (Distribution)	mg/L	4	0.038	<0.003	<0.05
N-Nitrosodimethylamine (NDMA) (Treated)	ug/L	2	0.001	<0.0009	<0.0009
N-Nitrosodimethylamine (NDMA) (Distribution)	ug/L	4	0.001	<0.0009	0.0021
Sodium	mg/L	3	21.000	20.6	21.7
Trihalomethanes (Treated)	ug/L	2	16.450	14.80	18.10
Trihalomethanes (Distribution)	ug/L	4	17.750	15.30	19.40

*Lead testing under Schedule 15.1 is conducted by the local municipality - refer to local municipality reports for results. York Region occasionally collects samples tested for lead for non-regulatory research purposes.

[1] 8,760 is used as the number of samples for continuous analyzers.

[2] The Average for Haloacetic Acids and Trihalomethanes is calculated as the running annual average of quarterly results in accordance with O. Reg 170/03. The Minimum and Maximum values reflect individual test results.

[3] Where sampling for 'N-Nitrosodimethylamine (NDMA)' is required, locations were selected to represent the farthest points in the distribution system. For York DWS and sub-systems, representative sample locations were selected from across the interconnected sub-systems and include at least one facility from every subsystem.

Organic and inorganic parameter(s), from Schedule 23 and 24, that exceeded half the standard prescribed in Schedule 2 of O. Reg. 169/03 Ontario Drinking Water Quality Standards

Not Applicable
Intentionally blank. There were no applicable test results.

Summary of inorganic parameters tested pursuant to Schedule 23 of O. Reg. 170/03

Values with a less than sign ("<") indicate that the test result is below the method detection limit from the accredited laboratory (i.e. non-detect). Average results include values which were returned as non-detect and are rounded to four decimals. For a complete set of results, see the open dataset available at york.ca/drinkingwater.

Test Parameter	Test Unit	No. of Samples	Average	Minimum	Maximum	ODWS Limit
Antimony	mg/L	3	0.0005	<0.0005	<0.0005	0.0060
Arsenic	mg/L	3	0.0005	<0.0005	0.0006	0.01
Barium	mg/L	3	0.1440	0.136	0.155	1
Boron	mg/L	3	0.0578	0.0553	0.0612	5
Cadmium	mg/L	3	0.0005	<0.0005	<0.0005	0.0050
Chromium	mg/L	3	0.0005	<0.0005	<0.0005	0.05
Mercury	ug/L	3	0.0500	<0.05	<0.05	1
Selenium	mg/L	3	0.0005	<0.0005	<0.0005	0.05
Uranium	mg/L	3	0.0005	<0.0005	<0.0005	0.02

Summary of organic parameters tested pursuant to Schedule 24 of O. Reg. 170/03

Values with a less than sign ("<") indicate that the test result is below the method detection limit from the accredited laboratory (i.e. non-detect). Average results include values which were returned as non-detect and are rounded to three decimals. For a complete set of results, see the open dataset available at york.ca/drinkingwater.

Test Parameter	Test Unit	No. of Samples	Average	Minimum	Maximum	ODWS Limit
1,1-dichloroethylene (vinylidene chloride)	ug/L	2	0.300	<0.3	<0.3	14
1,2-(o-dcb) Dichlorobenzene	ug/L	2	0.100	<0.1	<0.1	200
1,2-Dichloroethane	ug/L	2	0.100	<0.1	<0.1	5
1,4-(p-dcb) Dichlorobenzene	ug/L	2	0.100	<0.1	<0.1	5
2,3,4,6-Tetrachlorophenol	ug/L	2	0.500	<0.5	<0.5	100
2,4,6-Trichlorophenol	ug/L	2	0.500	<0.5	<0.5	5
2,4-Dichlorophenol	ug/L	2	0.700	<0.7	<0.7	900
2,4-dichlorophenoxyacetic acid (2,4-D)	ug/L	2	0.800	<0.8	<0.8	100
2-methyl-4-chlorophenoxyacetic acid	ug/L	2	5.000	<5	<5	100
Alachlor	ug/L	2	0.400	<0.4	<0.4	5
Atrazine + N-dealkylated metabolites	ug/L	2	0.200	<0.2	<0.2	5
Azinphos-methyl	ug/L	2	0.300	<0.3	<0.3	20
Benzene	ug/L	2	0.100	<0.1	<0.1	1
Benzo(a)pyrene	ug/L	2	0.010	<0.01	<0.01	0.01
Bromoxynil	ug/L	2	0.400	<0.4	<0.4	5
Carbaryl	ug/L	2	3.000	<3	<3	90
Carbofuran	ug/L	2	3.000	<3	<3	90
Carbon Tetrachloride	ug/L	2	0.200	<0.2	<0.2	2
Chlorpyrifos	ug/L	2	0.200	<0.2	<0.2	90
Diazinon	ug/L	2	0.200	<0.2	<0.2	20
Dicamba	ug/L	2	0.400	<0.4	<0.4	120
Dichloromethane	ug/L	2	10.000	<10	<10	50
Diclofop-methyl	ug/L	2	0.400	<0.4	<0.4	9
Dimethoate	ug/L	2	0.300	<0.3	<0.3	20
Diquat	ug/L	2	1.000	<1	<1	70
Diuron	ug/L	2	3.000	<3	<3	150
Glyphosate	ug/L	2	25.000	<25	<25	280
Malathion	ug/L	2	0.200	<0.2	<0.2	190
Metolachlor	ug/L	2	0.200	<0.2	<0.2	50
Metribuzin	ug/L	2	0.300	<0.3	<0.3	80
Monochlorobenzene	ug/L	2	0.100	<0.1	<0.1	80
Paraquat	ug/L	2	1.000	<1	<1	10
Pentachlorophenol	ug/L	2	0.400	<0.4	<0.4	60
Phorate	ug/L	2	0.200	<0.2	<0.2	2
Picloram	ug/L	2	0.700	<0.7	<0.7	190
Polychlorinated Biphenyls (PCBs)	ug/L	2	0.100	<0.1	<0.1	3
Prometryne	ug/L	2	0.200	<0.2	<0.2	1
Simazine	ug/L	2	0.200	<0.2	<0.2	10
Terbufos	ug/L	2	0.200	<0.2	<0.2	1
Tetrachloroethylene (perchloroethylene)	ug/L	2	0.300	<0.3	<0.3	10
Triallate	ug/L	2	4.000	<4	<4	230
Trichloroethylene	ug/L	2	0.100	<0.1	<0.1	5
Trifluralin	ug/L	2	0.006	<0.006	<0.006	45
Vinyl Chloride	ug/L	2	0.200	<0.2	<0.2	1

2023 Annual Drinking Water System Quality Report for Stouffville DWS

Prepared by The Regional Municipality of York pursuant to Section 11 of O. Reg. 170/03.

Drinking Water System Number: 220002333
Drinking Water System Name: Stouffville DWS
Drinking Water System Owner: The Regional Municipality of York
Drinking Water System Category: Large Municipal Residential
Drinking Water System Classification: Water Distribution and Supply III, Water Treatment I
Reporting period: Jan 1, 2023 - Dec 31, 2023

The Stouffville DWS serves approximately 37,880 people.
(Population is the most recent available estimate based on Statistics Canada census data and building permits)

List all Drinking Water Systems which receive their drinking water from the Stouffville DWS:
Stouffville Distribution System (260003162)

This annual report is available to the public at no charge on York Region's website (york.ca/drinkingwater) and upon request. Accessible formats or communication supports are also available upon request. Please contact AccessYork@york.ca or call 1-877-464-9675.

A copy of York Region's annual report was provided to all Drinking Water System owners that are connected to and receive drinking water from York Region.

System users were notified that York Region's annual report is available free of charge by public access and notice through:

- Media (internet, social media)
- Public requests at any time

Summary report required under O. Reg. 170/03 Schedule 22 will be available for inspection at:

The Regional Municipality of York
Administrative Centre
Public Works Department
17250 Yonge Street, Newmarket ON L3Y 6Z1

Description of the Stouffville DWS

Introduction:
Stouffville is a community in the Town of Whitchurch-Stouffville. Local groundwater is naturally high in minerals, and blends with Lake Ontario water from the York DWS. York Region operates the water supply, while the Town maintains water quality and distributes it to users. The Province governs York Region's operations with Acts and Regulations, a Permit to Take Water, a Municipal Drinking Water License and an operating Permit. Lake Ontario water is purchased with supply agreements.

Raw water source:
Groundwater

Profile of water in distribution system:
Blended - Lake and Groundwater

Water treatment description:
Stouffville DWS includes five wells, three storage facilities, and four booster pumping stations (one of these booster stations is within York DWS and converts chloramines to free chlorine for the Stouffville DWS). Chlorine provides disinfection and maintains a secondary residual. Sodium silicate is added to sequester naturally occurring iron and manganese. Storage facilities hold treated water and help booster stations maintain pressure. Operators test the water and inspect the process. Online analyzers continuously monitor the facilities. When analyzers detect a significant process or water quality issue, the system automatically pauses operation until an operator takes action.

List of water treatment chemicals used in this system:
Chlorine (Sodium Hypochlorite and Chlorine gas); Sodium Silicate

Brief description and breakdown of monetary expenses incurred:
$378,864 for storage facility upgrades, valve chamber rehabilitation, well rehabilitation, pump maintenance, general maintenance and repairs.

Notices submitted under Section 18(1) of the *Safe Drinking Water Act* or Section 16-4 of Schedule 16 of O. Reg. 170/03 and reported to MECP Spills Action Centre

Not Applicable

Intentionally blank. No notices were submitted for this report period.

Microbiological testing completed under Schedule 10 of O. Reg. 170/03

For additional distribution samples collected under Schedule 10, refer to the local municipality.

Raw Samples

Test Parameter	Count of Samples	Count of Presence
E. Coli	244	0
Total Coliforms	244	1

Treated Samples

Test Parameter	Count of Samples	Count of Presence
E. Coli	150	0
Heterotrophic Plate Count	150	28
Total Coliforms	150	0

Operational testing completed under Schedule 7 of O. Reg. 170/03 during this reporting period

Test Parameter	Test Unit	No. of Samples [1]	Average	Minimum	Maximum
Free Chlorine	mg/L	8,760	1.60	0.00	3.97
Turbidity (Treated)	NTU	8,760	0.05	0.01	5.00

[1] 8,760 is used as the number of samples for continuous analyzers.

Summary of testing pursuant to Schedule 13 of O. Reg. 170/03 and sampling carried out in accordance with the requirement of an approval, order or other legal instrument

Values with a less than sign ("<") indicate that the test result is below the method detection limit from the accredited laboratory (i.e. non-detect). Average results include values which were returned as non-detect (i.e. the "<" is omitted) and are rounded to three decimals. For a complete set of results, see the open dataset available at york.ca/drinkingwater.

Test Parameter [2] [3]	Test Unit	No. of Samples [1]	Average	Minimum	Maximum
Fluoride	mg/L	39	0.108	<0.05	0.19
Haloacetic Acids (Treated)	ug/L	4	8.000	<8	<8
Haloacetic Acids (Distribution)	ug/L	8	8.138	<8	8.70
Nitrate (Treated)	mg/L	13	0.951	<0.08	2.49
Nitrate (Distribution)	mg/L	26	0.559	0.4	0.86
Nitrite (Treated)	mg/L	13	0.028	<0.003	<0.05
Nitrite (Distribution)	mg/L	26	0.043	<0.003	<0.05
N-Nitrosodimethylamine (NDMA) (Treated)	ug/L	3	0.001	<0.0009	<0.0009
N-Nitrosodimethylamine (NDMA) (Distribution)	ug/L	4	0.001	<0.0009	<0.0009
Sodium	mg/L	6	55.500	25.7	85.8
Trihalomethanes (Treated)	ug/L	6	6.700	1.10	15
Trihalomethanes (Distribution)	ug/L	8	18.063	12.10	27.60

*Lead testing under Schedule 15.1 is conducted by the local municipality - refer to local municipality reports for results. York Region occasionally collects samples tested for lead for non-regulatory research purposes.

[1] 8,760 is used as the number of samples for continuous analyzers.

[2] The Average for Haloacetic Acids and Trihalomethanes is calculated as the running annual average of quarterly results in accordance with O. Reg 170/03. The Minimum and Maximum values reflect individual test results.

[3] Where sampling for 'N-Nitrosodimethylamine (NDMA)' is required, locations were selected to represent the farthest points in the distribution system. For York DWS and sub-systems, representative sample locations were selected from across the interconnected sub-systems and include at least one facility from every subsystem.

Organic and inorganic parameter(s), from Schedule 23 and 24, that exceeded half the standard prescribed in Schedule 2 of O. Reg. 169/03 Ontario Drinking Water Quality Standards

Not Applicable
Intentionally blank. There were no applicable test results.

Summary of inorganic parameters tested pursuant to Schedule 23 of O. Reg. 170/03

Values with a less than sign ("<") indicate that the test result is below the method detection limit from the accredited laboratory (i.e. non-detect). Average results include values which were returned as non-detect and are rounded to four decimals. For a complete set of results, see the open dataset available at york.ca/drinkingwater.

Test Parameter	Test Unit	No. of Samples	Average	Minimum	Maximum	ODWS Limit
Antimony	mg/L	5	0.0005	<0.0005	<0.0005	0.0060
Arsenic	mg/L	5	0.0005	<0.0005	<0.0005	0.01
Barium	mg/L	5	0.1434	0.106	0.177	1
Boron	mg/L	5	0.0240	0.012	0.046	5
Cadmium	mg/L	5	0.0005	<0.0005	<0.0005	0.0050
Chromium	mg/L	5	0.0005	<0.0005	0.0006	0.05
Mercury	ug/L	5	0.0500	<0.05	<0.05	1
Selenium	mg/L	5	0.0005	<0.0005	<0.0005	0.05
Uranium	mg/L	5	0.0017	<0.0005	0.0026	0.02

Summary of organic parameters tested pursuant to Schedule 24 of O. Reg. 170/03

Values with a less than sign ("<") indicate that the test result is below the method detection limit from the accredited laboratory (i.e. non-detect). Average results include values which were returned as non-detect and are rounded to three decimals. For a complete set of results, see the open dataset available at york.ca/drinkingwater.

Test Parameter	Test Unit	No. of Samples	Average	Minimum	Maximum	ODWS Limit
1,1-dichloroethylene (vinylidene chloride)	ug/L	3	0.300	<0.3	<0.3	14
1,2-(o-dcb) Dichlorobenzene	ug/L	3	0.100	<0.1	<0.1	200
1,2-Dichloroethane	ug/L	3	0.100	<0.1	<0.1	5
1,4-(p-dcb) Dichlorobenzene	ug/L	3	0.100	<0.1	<0.1	5
2,3,4,6-Tetrachlorophenol	ug/L	3	0.500	<0.5	<0.5	100
2,4,6-Trichlorophenol	ug/L	3	0.500	<0.5	<0.5	5
2,4-Dichlorophenol	ug/L	3	0.700	<0.7	<0.7	900
2,4-dichlorophenoxyacetic acid (2,4-D)	ug/L	3	0.800	<0.8	<0.8	100
2-methyl-4-chlorophenoxyacetic acid	ug/L	3	5.000	<5	<5	100
Alachlor	ug/L	3	0.400	<0.4	<0.4	5
Atrazine + N-dealkylated metabolites	ug/L	3	0.200	<0.2	<0.2	5
Azinphos-methyl	ug/L	5	0.300	<0.3	<0.3	20
Benzene	ug/L	3	0.100	<0.1	<0.1	1
Benzo(a)pyrene	ug/L	5	0.010	<0.01	<0.01	0.01
Bromoxynil	ug/L	3	0.400	<0.4	<0.4	5
Carbaryl	ug/L	3	3.000	<3	<3	90
Carbofuran	ug/L	3	3.000	<3	<3	90
Carbon Tetrachloride	ug/L	3	0.200	<0.2	<0.2	2
Chlorpyrifos	ug/L	5	0.200	<0.2	<0.2	90
Diazinon	ug/L	5	0.200	<0.2	<0.2	20
Dicamba	ug/L	3	0.400	<0.4	<0.4	120
Dichloromethane	ug/L	3	4.000	<4	<4	50
Diclofop-methyl	ug/L	3	0.400	<0.4	<0.4	9
Dimethoate	ug/L	5	0.300	<0.3	<0.3	20
Diquat	ug/L	3	1.000	<1	<1	70
Diuron	ug/L	3	3.000	<3	<3	150
Glyphosate	ug/L	3	25.000	<25	<25	280
Malathion	ug/L	5	0.200	<0.2	<0.2	190
Metolachlor	ug/L	3	0.200	<0.2	<0.2	50
Metribuzin	ug/L	3	0.300	<0.3	<0.3	80
Monochlorobenzene	ug/L	3	0.100	<0.1	<0.1	80
Paraquat	ug/L	3	1.000	<1	<1	10
Pentachlorophenol	ug/L	3	0.400	<0.4	<0.4	60
Phorate	ug/L	5	0.200	<0.2	<0.2	2
Picloram	ug/L	3	0.700	<0.7	<0.7	190
Polychlorinated Biphenyls (PCBs)	ug/L	3	0.100	<0.1	<0.1	3
Prometryne	ug/L	3	0.200	<0.2	<0.2	1
Simazine	ug/L	3	0.200	<0.2	<0.2	10
Terbufos	ug/L	5	0.200	<0.2	<0.2	1
Tetrachloroethylene (perchloroethylene)	ug/L	3	0.300	<0.3	<0.3	10
Triallate	ug/L	3	4.000	<4	<4	230
Trichloroethylene	ug/L	3	0.100	<0.1	<0.1	5
Trifluralin	ug/L	3	0.006	<0.006	<0.006	45
Vinyl Chloride	ug/L	3	0.200	<0.2	<0.2	1

2023 Annual Drinking Water System Quality Report for York DWS

Prepared by The Regional Municipality of York pursuant to Section 11 of O. Reg. 170/03.

Drinking Water System Number: 260001929
Drinking Water System Name: York DWS
Drinking Water System Owner: The Regional Municipality of York
Drinking Water System Category: Large Municipal Residential
Drinking Water System Classification: Water Distribution IV
Reporting period: Jan 1, 2023 - Dec 31, 2023

The York DWS serves approximately 876,330 people.
(Population is the most recent available estimate based on Statistics Canada census data and building permits)

List all Drinking Water Systems which receive their drinking water from the York DWS:
York DWS is the primary water source for: Markham Distribution System (220004162); Richmond Hill Distribution System (260001968); Vaughan Distribution System (260003097). The following systems are connected to or are sub-systems of the York DWS: York Drinking Water sub-system - Aurora (220002440); York Drinking Water sub-system - Holland Landing (220004046); King City Drinking Water System (220002299); Kleinburg Drinking Water System (220002360); York Drinking Water sub-system - Newmarket (220002413); York Drinking Water sub-system - Queensville (260001955); York Drinking Water sub-system - Stouffville (220002333); Town Of Aurora Distribution System (260003227); Town of Newmarket Distribution System (260003188)

This annual report is available to the public at no charge on York Region's website (york.ca/drinkingwater) and upon request. Accessible formats or communication supports are also available upon request. Please contact AccessYork@york.ca or call 1-877-464-9675.

A copy of York Region's annual report was provided to all Drinking Water System owners that are connected to and receive drinking water from York Region.

System users were notified that York Region's annual report is available free of charge by public access and notice through:

- Media (internet, social media)
- Public requests at any time

Summary report required under O. Reg. 170/03 Schedule 22 will be available for inspection at:

The Regional Municipality of York
Administrative Centre
Public Works Department
17250 Yonge Street, Newmarket ON L3Y 6Z1

Description of the York DWS

Introduction:
The cities of Vaughan, Markham, and Richmond Hill form the southern border of York Region. These three municipalities receive all their water from Lake Ontario through the York Drinking Water System (York DWS). In these areas, initial treatment of the source water is done by Peel Region and the City of Toronto. Kleinburg, in Vaughan, is its own sub-system. Communities north of Vaughan, Richmond Hill, and Markham that receive water from the York DWS are supplemented with groundwater from wells.

Raw water source:
Lake Ontario

Profile of water in distribution system:
Lake Ontario (some sub-systems can be supplemented with local groundwater)

Water treatment description:
In Vaughan, Richmond Hill, and Markham, purchased water is pre-treated and disinfected by the City of Toronto and Peel Region. Twelve storage facilities hold water and help the eight booster stations maintain pressure. One of these facilities also provides re-chloramination to boost the chloramine residual, and another converts it to free chlorine for the Stouffville DWS. Regional Operators test the water and inspect the process. Test results from certified labs and equipment confirm good water quality. Online analyzers continuously monitor the facilities. When analyzers detect a significant process or water quality issue, the system automatically pauses operation until an operator takes action.

List of water treatment chemicals used in this system:
York DWS water is purchased pre-treated from the City of Toronto and Peel Region. Re-chloramination chemicals: Chlorine gas; Ammonia solution (Ammonium Sulphate)

Brief description and breakdown of monetary expenses incurred:
$32,943,095 for storage facility rehabilitation and upgrades, repairs and upgrades on peel feedermain, standby power and fuel storage generator upgrades, valve chamber upgrades and rehabilitation, pump maintenance, watermains installation, replacement and rehabilitation, general maintenance and repairs.

Notices submitted under Section 18(1) of the *Safe Drinking Water Act* or Section 16-4 of Schedule 16 of O. Reg. 170/03 and reported to MECP Spills Action Centre

Incident Description	Incident Date	Adverse Test Result	Corrective Action	Corrective Action Date
Failure to meet monitoring requirement	Mar 29, 2023	N/A	Reported as due diligence. Operator attended site. Facility returned to normal operation. Compliant grab sample taken.	Mar 30, 2023

Microbiological testing completed under Schedule 10 of O. Reg. 170/03

For additional distribution samples collected under Schedule 10, refer to the local municipality.

Not Applicable

York DWS does not have any raw water or treatment facilities, so there are no microbiological tests to report here. For more data, view the Open Dataset or refer to the local municipality.

Operational testing completed under Schedule 7 of O. Reg. 170/03 during this reporting period

Test Parameter	Test Unit	No. of Samples [1]	Average	Minimum	Maximum
Combined Chlorine	mg/L	8,760	1.68	0.00	5.00

[1] 8,760 is used as the number of samples for continuous analyzers.

Summary of testing pursuant to Schedule 13 of O. Reg. 170/03 and sampling carried out in accordance with the requirement of an approval, order or other legal instrument

Values with a less than sign ("<") indicate that the test result is below the method detection limit from the accredited laboratory (i.e. non-detect). Average results include values which were returned as non-detect (i.e. the "<" is omitted) and are rounded to three decimals. For a complete set of results, see the open dataset available at york.ca/drinkingwater.

Test Parameter [2] [3]	Test Unit	No. of Samples [1]	Average	Minimum	Maximum
Fluoride	mg/L	48	0.620	0.56	0.69
Haloacetic Acids (Distribution)	ug/L	48	8.121	<8	10
Nitrate (Distribution)	mg/L	48	0.470	0.33	<0.5
Nitrite (Distribution)	mg/L	48	0.039	<0.003	<0.05
N-Nitrosodimethylamine (NDMA) (Distribution)	ug/L	13	0.001	<0.0009	0.001
Sodium	mg/L	12	19.342	15.3	26.1
Trihalomethanes (Distribution)	ug/L	50	12.896	5.10	25.80

*Lead testing under Schedule 15.1 is conducted by the local municipality - refer to local municipality reports for results. York Region occasionally collects samples tested for lead for non-regulatory research purposes.

[1] 8,760 is used as the number of samples for continuous analyzers.

[2] The Average for Haloacetic Acids and Trihalomethanes is calculated as the running annual average of quarterly results in accordance with O. Reg 170/03. The Minimum and Maximum values reflect individual test results.

[3] Where sampling for 'N-Nitrosodimethylamine (NDMA)' is required, locations were selected to represent the farthest points in the distribution system. For York DWS and sub-systems, representative sample locations were selected from across the interconnected sub-systems and include at least one facility from every subsystem.

Organic and inorganic parameter(s), from Schedule 23 and 24, that exceeded half the standard prescribed in Schedule 2 of O. Reg. 169/03 Ontario Drinking Water Quality Standards

Not Applicable
Intentionally blank. There were no applicable test results.

Summary of inorganic parameters tested pursuant to Schedule 23 of O. Reg. 170/03

Values with a less than sign ("<") indicate that the test result is below the method detection limit from the accredited laboratory (i.e. non-detect). Average results include values which were returned as non-detect and are rounded to four decimals. For a complete set of results, see the open dataset available at york.ca/drinkingwater.

Test Parameter	Test Unit	No. of Samples	Average	Minimum	Maximum	ODWS Limit
Antimony	mg/L	12	0.0005	<0.0005	<0.0005	0.0060
Arsenic	mg/L	12	0.0007	0.0005	0.0009	0.01
Barium	mg/L	12	0.0227	0.0206	0.0258	1
Boron	mg/L	12	0.0289	0.0233	0.0345	5
Cadmium	mg/L	12	0.0005	<0.0005	<0.0005	0.0050
Chromium	mg/L	12	0.0005	<0.0005	<0.0005	0.05
Mercury	ug/L	12	0.0500	<0.05	<0.05	1
Selenium	mg/L	12	0.0005	<0.0005	<0.0005	0.05
Uranium	mg/L	12	0.0005	<0.0005	<0.0005	0.02

Summary of organic parameters tested pursuant to Schedule 24 of O. Reg. 170/03

Values with a less than sign ("<") indicate that the test result is below the method detection limit from the accredited laboratory (i.e. non-detect). Average results include values which were returned as non-detect and are rounded to three decimals. For a complete set of results, see the open dataset available at york.ca/drinkingwater.

Not Applicable

Schedule 24 sampling is not applicable to the York DWS as it has no active treatment facilities.