



2022

Water Quality Report

For

The City of Stratford

Water Distribution and Supply

Infrastructure and Development Services



Infrastructure and Development
Services Department
82 Erie Street, 3rd Floor
Stratford ON N5A 2M4
(519) 271-0250 Ext. 222
www.stratford.ca

Dear Water Consumer,

The Water Division is pleased to provide the 2022 Annual Water Quality Report for the City of Stratford Distribution and Supply water system.

The report, as required by Regulation 170/03 of the Safe Drinking Water Act, contains information related to water quality in the City of Stratford.

The report must be made available annually by February 28 and can be found on the City of Stratford website at:

<https://www.stratford.ca/en/live-here/waterannualreports.aspx>

If you have any questions or would like copies of the report, please call 519-271-0250 ext. 5222 or the report can be viewed at the Infrastructure Services Department, City Annex, 82 Erie Street, 3rd Floor, Stratford.

Yours truly,

A handwritten signature in blue ink, appearing to read 'J. Bowes', followed by a long horizontal flourish.

Johnny Bowes
Manager of Environmental Services

Annual Report

Drinking-Water System Number: 220000530
Drinking-Water System Name: Stratford Drinking Water System
Drinking-Water System Owner: Corporation of the City of Stratford
Drinking-Water System Category: Large Municipal Residential
Period Being Reported: January 1 to December 31, 2022

Does your Drinking-Water System serve more than 10,000 people?

Yes

Is your annual report available to the public at no charge on a website?

Yes

**Location where Summary Report required under O. Reg. 170/03
Schedule 22 will be available for inspection:**

On-line at: <https://www.stratford.ca/en/live-here/waterannualreports.aspx>, or contact the City of Stratford Infrastructure Services, Water Division at 519-271-0250, extension 5222.

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

Drinking Water System Name	Drinking Water System Number
N/A	N/A

Did you provide a copy of your annual report to all Drinking-Water System owners that are connected to you and to whom you provide all of its drinking water?

N/A

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

- Public access/notice via the web: Yes
- Public access/notice via Government Website: Yes
- Public access/notice via a newspaper: No
- Public access/notice via Public Request: Yes
- Public access/notice via a Public Library: No
- Public access/notice via other method: Yes, Social Media

Describe Your Drinking-Water System:

- **Chestnut Street Well and Pumphouse:** Raw water is pumped with one submersible well pump directly into a 131.5m³ raw water reservoir (chlorine contact chamber). As flow enters the raw water reservoir (chlorine contact chamber) is it injected with chlorine gas for primary disinfection, where it then flows into to a 59m³ highlift pump well to achieve sufficient chlorine contact time. Treated water is then distributed to the distribution system by one vertical turbine highlift pump. Free Chlorine Analyzer continuously monitors chlorine residuals prior to the distribution system. The facility is monitored through the SCADA system. During regular working hours the facility monitored by operational staff and remotely through an emergency after-hours alarming system. This site has no emergency standby power on-site but is equipped with a main power electrical transfer switch and connection for use of a 15kW portable generator available for standby power at 161 Wellington Street in emergency conditions.
- **Mornington Street Well and Pumphouse:** Raw water is pumped with one submersible well pump directly into a 50m³ raw water reservoir. As flow enters the raw water reservoir is it injected with chlorine gas for primary disinfection, where it then flows into to a 118.3m³ clear well to achieve sufficient chlorine contact time. Treated water is then distributed to the distribution system by one vertical turbine highlift pump. Free Chlorine Analyzer continuously monitors chlorine residuals prior to the distribution system. The facility is monitored through the SCADA system. During regular working hours the facility monitored by operational staff and remotely through an emergency after-hours alarming system. This site has no emergency standby power on-site but is equipped with a main power electrical transfer switch and connection for use of a 15kW portable generator available for standby power at 161 Wellington Street in emergency conditions.
- **Lorne Avenue Well and Pumphouse:** Raw water is pumped with one submersible well pump directly into a 30m³ concrete pressure chamber which also acts as the chlorine contact chamber. Prior to flow entering the concrete pressure chamber is it injected with chlorine gas for primary disinfection. To achieve sufficient chlorine contact time the concrete pressure chamber is equipped with two internal and external perforated baffles. Treated water is then distributed to the distribution system through a gate valve and a connection to the existing watermain. Free Chlorine Analyzer continuously monitors chlorine residuals prior to the distribution system. The facility is monitored through the SCADA system. During regular working hours the facility monitored by operational staff and remotely through an emergency after-hours alarming system. This site has no emergency standby power on-site but is equipped with a main power electrical transfer switch and connection for use of a 15kW portable generator available for standby power at 161 Wellington Street in emergency conditions.

- **Dunn Road Well and Pumphouse:** Raw water is pumped with one submersible well pump directly into a 89.5m³ concrete pressure chamber which also acts as the chlorine contact chamber. Prior to flow entering the concrete pressure chamber is it injected with chlorine gas for primary disinfection. To achieve sufficient chlorine contact time the concrete pressure chamber is equipped with three internal perforated baffles. Treated water is then distributed to the distribution system through a gate valve and a connection to the existing watermain. Free Chlorine Analyzer continuously monitors chlorine residuals prior to the distribution system. The facility is monitored through the SCADA system. During regular working hours the facility monitored by operational staff and remotely through an emergency after-hours alarming system. This site has no emergency standby power on-site but is equipped with a main power electrical transfer switch and connection for use of a 15kW portable generator available for standby power at 161 Wellington Street in emergency conditions.
- **O'Loane Avenue Well and Pumphouse:** Raw water is pumped with one submersible well pump directly into a 54.2m³ concrete pressure chamber which also acts as the chlorine contact chamber. Prior to flow entering the concrete pressure chamber is it injected with chlorine gas for primary disinfection. The concrete pressure chamber provides sufficient chlorine contact time. Treated water is then distributed to the distribution system through a gate valve and a connection to the existing watermain. Free Chlorine Analyzer continuously monitors chlorine residuals prior to the distribution system. The facility is monitored through the SCADA system. During regular working hours the facility monitored by operational staff and remotely through an emergency after-hours alarming system.
- **Romeo Street Pumping Station:** Raw water is received from 6 Raw Water Field Wells, each field well is equipped with submersible pumps. Flows are then pumped directly into a 450.2m³ treatment well which then flows a 7,500m³ inground storage reservoir for chlorine contact time. Prior to flow entering the treatment well is it injected with chlorine gas for primary disinfection. For additional chlorine contact time, Flow continues into a 521.8m³ storage well followed by a 289.4m³ pump well, all of which provide sufficient contact time. The well water at Romeo Street Pumping Station has iron levels higher than what is considered aesthetically acceptable. The well house provides chemically assisted iron sequestering; the chemical used is sodium silicate. Sodium silicate is fed prior to the point of entry to the treatment well.

Treated water is then distributed to the distribution system by three vertical turbine highlift pump and one vertical turbine fire pump. Free Chlorine Analyzers continuously monitors chlorine residuals prior to the distribution system. The facility is monitored through the SCADA system. During regular working hours the facility monitored by operational staff and remotely through an emergency

after-hours alarming system. This is standby power provided but a 600 kW diesel generator.

- **The City of Stratford Distribution System** consists of 180km of cast iron, ductile, steel and PVC water main, varying in size from 100mm to 400mm. It includes 1850 main valves, 940 public fire hydrants and 12,650 service connections. There are two water towers located in the distribution system that provide both storage and pressure stability. The Dufferin Water Tower has a capacity of 3,790m³ and is equipped with an analyzer for continuous monitoring of the level of chlorine. The Forman Water Tower has a capacity of 5,680m³.

List all water treatment chemicals used over this reporting period:

Chlorine Gas & Sodium Silicate (Sodium Silicate only used at Romeo Street Pumping Station).

Were any significant expenses incurred to:

- Install required equipment? Yes
- Repair required equipment? Yes
- Replace required equipment? Yes

Please provide a brief description and a breakdown of monetary expenses incurred in 2020:

1. Unidirectional Flushing (UDF) Program
 - a. Jacobs Consulting has been hired to assist in developing a UDF pilot program.
 - b. **Total Cost: \$22,000**
2. Romeo Control Centre Upgrades
 - a. Purchase of new check valves and isolation gate valves for high lift pumps.
 - b. **Total Cost: \$28,000**
3. e.RIS Software Improvements
 - a. Westin completed improvements to the existing water e.RIS reports, tools, data collection and reporting tools.
 - b. **Total Cost: \$22,000**
4. Field Well #7 Motor Replacement and Performance Testing
 - a. Replacement of the existing floor access hatch at the Mornington St. well. Install a new water seal tight hatch and address ladder rung issue.
 - b. **Total Cost: \$9,500**

5. Mornington St. Hatch Replacement
 - a. Replacement of the existing floor access hatch at the Mornington St. Well and ladder rung repairs.
 - b. **Total Cost: \$6,000**
6. Mornington St. Well Drainage Plumbing Replacement
 - a. Drain the Mornington clearwell and remove failed piping. Replace with new, non-corrosive brackets and re-install to spec.
 - b. **Total Cost: \$3,500**
7. Hydrant Monitoring
 - a. Ongoing leak detection using hydrant monitoring equipment. Support from Digital Water Solutions
 - b. **Total Cost: \$20,000**
8. Lorne Ave., Romeo and Chestnut VFD Installation
 - a. Install Variable Frequency Drive (VFD) at Lorne Ave. well.
 - b. Install VFD's at Romeo CC for High Lift Pumps 2 and 3.
 - c. Install VFD at Chestnut Well.
 - d. **Total Cost: \$20,000**
9. Dunn Rd. Well and Field Well #7 Performance Testing
 - a. Complete performance and step-testing of FW#6 and Dunn Rd. wells.
 - b. **Total Cost: \$4,000**
10. 2022 Capital Projects
 - a. Huron St. Reconstruction Phase 1
 - i. **Total Cost to Date (Water Related): \$702, 620.00**
 - b. Queen St. Trunk Sewer
 - i. **Total Cost to Date (Water Related): \$107,423.69**
 - c. Argyle St. Reconstruction
 - i. **Total Cost to Date (Water Related): \$327,385.15**
 - d. Willow Street Watermain Relining
 - i. **Total Cost to Date (Water Related): \$1,019,843.99**
 - e. Mackenzie St. Reconstruction
 - i. **Total Cost to Date (Water Related): \$327,358.15**

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

Incident Date (Y/M/D)	Parameter	Result	Units	Corrective Action	Corrective Action Date (Y/M/D)
2022/06/13	Total Coliform	1	cfu/100mL	Resampled Source, up/down stream - Passed	2022/06/15

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

Water Source	Number of Samples	Range of E.Coli Or Fecal Results (cfu/100m L)	Range of Total Coliform Results (cfu/100m L)	Number of HPC Samples	Range of HPC Results (cfu/100m L)
Raw	536	0	0 - 26	536	<10 - >2000
Treated	284	0	0	284	<10 - 150
Distribution	576	0	0 - 1	576	<10 - 2, 020

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

Operational Testing	Number of Grab Samples	Range of Results
Turbidity (Raw)	2030	0.06 – 0.89 NTU
Chlorine	>8760	0.22 – 1.97
Fluoride (If the DWS provides fluoridation)	DWS does not provide fluoridation.	DWS does not provide fluoridation.

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

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

Date of legal instrument issued	Parameter	Date Sampled	Result	Unit of Measure
N/A	N/A	N/A	N/A	N/A

Not applicable; no additional testing or sampling required.

Summary of Inorganic parameters tested during this reporting period or the most recent sample results *(Note: ND=Below Method Detection Limit)*

**There is no health related limit set for sodium, however, levels of greater than 20 mg/L are reported to the Public Health Department and Ministry of the Environment and Climate Change every five years.*

Chestnut Street Well and Pumphouse

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Antimony	20/09/22	ND	ug/L	NO
Arsenic	20/09/22	0.7	ug/L	NO
Barium	20/09/22	205	ug/L	NO
Boron	20/09/22	90	ug/L	NO
Cadmium	20/09/22	0.010	ug/L	NO
Chromium	20/09/22	0.11	ug/L	NO
Mercury	20/09/22	ND	ug/L	NO
Selenium	20/09/22	0.14	ug/L	NO
Sodium	20/09/22	25.4	mg/L	YES >20mg/L*
Uranium	20/09/22	0.078	ug/L	NO
Fluoride	20/09/22	2.34	mg/L	YES >1.5mg/L
Nitrite	16/03/22	ND	mg/L	NO
Nitrite	15/06/22	Offline	mg/L	NO
Nitrite	20/09/22	ND	mg/L	NO
Nitrite	14/12/22	ND	mg/L	NO
Nitrate	16/03/22	ND	mg/L	NO
Nitrate	15/06/22	Offline	mg/L	NO
Nitrate	20/09/22	ND	mg/L	NO
Nitrate	14/12/22	ND	mg/L	NO

Mornington Street Well and Pumphouse

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Antimony	20/09/22	ND	ug/L	NO
Arsenic	20/09/22	0.4	ug/L	NO
Barium	20/09/22	118	ug/L	NO
Boron	20/09/22	85	ug/L	NO
Cadmium	20/09/22	0.004	ug/L	NO
Chromium	20/09/22	0.08	ug/L	NO
Mercury	20/09/22	ND	ug/L	NO
Selenium	20/09/22	0.09	ug/L	NO
Sodium	20/09/22	27.0	mg/L	YES >20mg/L*
Uranium	20/09/22	0.073	ug/L	NO
Fluoride	20/09/22	1.93	mg/L	YES >1.5mg/L
Nitrite	16/03/22	ND	mg/L	NO
Nitrite	15/06/22	ND	mg/L	NO
Nitrite	20/09/22	ND	mg/L	NO
Nitrite	14/12/22	0.011	mg/L	NO
Nitrate	16/03/22	ND	mg/L	NO
Nitrate	15/06/22	0.008	mg/L	NO
Nitrate	20/09/22	0.006	mg/L	NO
Nitrate	14/12/22	ND	mg/L	NO

Lorne Avenue Well and Pumphouse

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Antimony	20/09/22	ND	ug/L	NO
Arsenic	20/09/22	1.2	ug/L	NO
Barium	20/09/22	223	ug/L	NO
Boron	20/09/22	73	ug/L	NO
Cadmium	20/09/22	ND	ug/L	NO
Chromium	20/09/22	ND	ug/L	NO
Mercury	20/09/22	ND	ug/L	NO
Selenium	20/09/22	ND	ug/L	NO
Sodium	20/09/22	23.3	mg/L	YES >20mg/L*
Uranium	20/09/22	0.086	ug/L	NO
Fluoride	20/09/22	2.27	mg/L	YES >1.5mg/L
Nitrite	16/03/22	ND	mg/L	NO
Nitrite	15/06/22	ND	mg/L	NO
Nitrite	20/09/22	ND	mg/L	NO
Nitrite	14/12/22	ND	mg/L	NO
Nitrate	16/03/22	ND	mg/L	NO
Nitrate	15/06/22	ND	mg/L	NO
Nitrate	20/09/22	ND	mg/L	NO
Nitrate	14/12/22	ND	mg/L	NO

Dunn Road Well and Pumphouse

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Antimony	20/09/22	ND	ug/L	NO
Arsenic	20/09/22	1.1	ug/L	NO
Barium	20/09/22	197	ug/L	NO
Boron	20/09/22	81	ug/L	NO
Cadmium	20/09/22	0.009	ug/L	NO
Chromium	20/09/22	0.10	ug/L	NO
Mercury	20/09/22	ND	ug/L	NO
Selenium	20/09/22	0.24	ug/L	NO
Sodium	20/09/22	17.8	mg/L	NO
Uranium	20/09/22	0.084	ug/L	NO
Fluoride	20/09/22	1.71	mg/L	YES >1.5mg/L
Nitrite	16/03/22	ND	mg/L	NO
Nitrite	15/06/22	ND	mg/L	NO
Nitrite	20/09/22	ND	mg/L	NO
Nitrite	14/12/22	0.009	mg/L	NO
Nitrate	16/03/22	ND	mg/L	NO
Nitrate	15/06/22	ND	mg/L	NO
Nitrate	20/09/22	ND	mg/L	NO
Nitrate	14/12/22	0.006	mg/L	NO

O'Loane Avenue Well and Pumphouse

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Antimony	20/09/22	ND	ug/L	NO
Arsenic	20/09/22	ND	ug/L	NO
Barium	20/09/22	239	ug/L	NO
Boron	20/09/22	64	ug/L	NO
Cadmium	20/09/22	ND	ug/L	NO
Chromium	20/09/22	ND	ug/L	NO
Mercury	20/09/22	ND	ug/L	NO
Selenium	20/09/22	0.18	ug/L	NO
Sodium	20/09/22	18.4	mg/L	NO
Uranium	20/09/22	0.076	ug/L	NO
Fluoride	20/09/22	2.25	mg/L	YES >1.5mg/L
Nitrite	16/03/22	ND	mg/L	NO
Nitrite	15/06/22	ND	mg/L	NO
Nitrite	20/09/22	ND	mg/L	NO
Nitrite	14/12/22	ND	mg/L	NO
Nitrate	16/03/22	ND	mg/L	NO

Nitrate	15/06/22	ND	mg/L	NO
Nitrate	20/09/22	ND	mg/L	NO
Nitrate	14/12/22	ND	mg/L	NO

Romeo Street Pumping Station

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Antimony	20/09/22	ND	ug/L	NO
Arsenic	20/09/22	0.7	ug/L	NO
Barium	20/09/22	120	ug/L	NO
Boron	20/09/22	78	ug/L	NO
Cadmium	20/09/22	ND	ug/L	NO
Chromium	20/09/22	ND	ug/L	NO
Mercury	20/09/22	ND	ug/L	NO
Selenium	20/09/22	ND	ug/L	NO
Sodium	20/09/22	19.5	mg/L	NO
Uranium	20/09/22	0.102	ug/L	NO
Fluoride	20/09/22	1.51	mg/L	YES >1.5mg/L
Nitrite	16/03/22	ND	mg/L	NO
Nitrite	15/06/22	ND	mg/L	NO
Nitrite	20/09/22	ND	mg/L	NO
Nitrite	14/12/22	ND	mg/L	NO
Nitrate	16/03/22	0.007	mg/L	NO
Nitrate	15/06/22	0.007	mg/L	NO
Nitrate	20/09/22	0.007	mg/L	NO
Nitrate	14/12/22	ND	mg/L	NO

Distribution System

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Lead (Forman Tower)	14/12/22	ND	ug/L	NO
Lead (Dufferin Tower)	14/12/22	0.01	ug/L	NO

Summary of lead testing under Schedule 15.1 during this reporting period

Location Type*	Number of Samples	Range of Lead Results (min#) – (max #)	Number of Exceedances
Distribution (Winter)	N/A	N/A	N/A
Distribution (Summer)	N/A	N/A	N/A

**The City of Stratford qualifies for reduced sampling/plumbing exempt. Next lead testing will be conducted in 2024.*

Summary of Organic parameters sampled during this reporting period or the most recent sample results (Note: ND=Below Method Detection Limit)

Chestnut Street Well and Pumphouse

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Alachlor	20/09/22	ND	ug/L	NO
Atrazine + N-dealkylated metabolites	20/09/22	ND	ug/L	NO
Atrazine	20/09/22	ND	ug/L	NO
Desethyl atrazine	20/09/22	ND	ug/L	NO
Azinphos-methyl	20/09/22	ND	ug/L	NO
Benzene	20/09/22	ND	ug/L	NO
Benzo(a)pyrene	20/09/22	ND	ug/L	NO
Bromoxynil	20/09/22	ND	ug/L	NO
Carbaryl	20/09/22	ND	ug/L	NO
Carbofuran	20/09/22	ND	ug/L	NO
Carbon Tetrachloride	20/09/22	ND	ug/L	NO
Chlorpyrifos	20/09/22	ND	ug/L	NO
Diazinon	20/09/22	ND	ug/L	NO
Dicamba	20/09/22	ND	ug/L	NO
1,2-Dichlorobenzene	20/09/22	ND	ug/L	NO
1,4-Dichlorobenzene	20/09/22	ND	ug/L	NO
1,2-Dichloroethane	20/09/22	ND	ug/L	NO
1,1-Dichloroethylene (vinylidene chloride)	20/09/22	ND	ug/L	NO
Dichloromethane	20/09/22	ND	ug/L	NO
2,4 Dichlorophenol	20/09/22	ND	ug/L	NO
2,4-Dichlorophenoxy acetic acid (2,4-D)	20/09/22	ND	ug/L	NO
Diclofop-methyl	20/09/22	ND	ug/L	NO
Dimethoate	20/09/22	ND	ug/L	NO

Diquat	20/09/22	ND	ug/L	NO
Diuron	20/09/22	ND	ug/L	NO
Glyphosate	20/09/22	ND	ug/L	NO
Malathion	20/09/22	ND	ug/L	NO
MCPA	20/09/22	ND	mg/L	NO
Metolachlor	20/09/22	ND	ug/L	NO
Metribuzin	20/09/22	ND	ug/L	NO
Monochlorobenzene	20/09/22	ND	ug/L	NO
Paraquat	20/09/22	ND	ug/L	NO
Pentachlorophenol	20/09/22	ND	ug/L	NO
Phorate	20/09/22	ND	ug/L	NO
Picloram	20/09/22	ND	ug/L	NO
Polychlorinated Biphenyls(PCB)	20/09/22	ND	ug/L	NO
Prometryne	20/09/22	ND	ug/L	NO
Simazine	20/09/22	ND	ug/L	NO
Terbufos	20/09/22	ND	ug/L	NO
Tetrachloroethylene	20/09/22	ND	ug/L	NO
2,3,4,6-Tetrachlorophenol	20/09/22	ND	ug/L	NO
Triallate	20/09/22	ND	ug/L	NO
Trichloroethylene	20/09/22	ND	ug/L	NO
2,4,6-Trichlorophenol	20/09/22	ND	ug/L	NO
Trifluralin	20/09/22	ND	ug/L	NO
Vinyl Chloride	20/09/22	ND	ug/L	NO

Mornington Street Well and Pumphouse

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Alachlor	20/09/22	ND	ug/L	NO
Atrazine + N-dealkylated metabolites	20/09/22	ND	ug/L	NO
Atrazine	20/09/22	ND	ug/L	NO
Desethyl atrazine	20/09/22	ND	ug/L	NO
Azinphos-methyl	20/09/22	ND	ug/L	NO
Benzene	20/09/22	ND	ug/L	NO
Benzo(a)pyrene	20/09/22	ND	ug/L	NO
Bromoxynil	20/09/22	ND	ug/L	NO
Carbaryl	20/09/22	ND	ug/L	NO
Carbofuran	20/09/22	ND	ug/L	NO
Carbon Tetrachloride	20/09/22	ND	ug/L	NO
Chlorpyrifos	20/09/22	ND	ug/L	NO
Diazinon	20/09/22	ND	ug/L	NO
Dicamba	20/09/22	ND	ug/L	NO

1,2-Dichlorobenzene	20/09/22	ND	ug/L	NO
1,4-Dichlorobenzene	20/09/22	ND	ug/L	NO
1,2-Dichloroethane	20/09/22	ND	ug/L	NO
1,1-Dichloroethylene (vinylidene chloride)	20/09/22	ND	ug/L	NO
Dichloromethane	20/09/22	ND	ug/L	NO
2-4 Dichlorophenol	20/09/22	ND	ug/L	NO
2,4-Dichlorophenoxy acetic acid (2,4-D)	20/09/22	ND	ug/L	NO
Diclofop-methyl	20/09/22	ND	ug/L	NO
Dimethoate	20/09/22	ND	ug/L	NO
Diquat	20/09/22	ND	ug/L	NO
Diuron	20/09/22	ND	ug/L	NO
Glyphosate	20/09/22	ND	ug/L	NO
Malathion	20/09/22	ND	ug/L	NO
MCPA	20/09/22	ND	mg/L	NO
Metolachlor	20/09/22	ND	ug/L	NO
Metribuzin	20/09/22	ND	ug/L	NO
Monochlorobenzene	20/09/22	ND	ug/L	NO
Paraquat	20/09/22	ND	ug/L	NO
Pentachlorophenol	20/09/22	ND	ug/L	NO
Phorate	20/09/22	ND	ug/L	NO
Picloram	20/09/22	ND	ug/L	NO
Polychlorinated Biphenyls(PCB)	20/09/22	ND	ug/L	NO
Prometryne	20/09/22	ND	ug/L	NO
Simazine	20/09/22	ND	ug/L	NO
Terbufos	20/09/22	ND	ug/L	NO
Tetrachloroethylene	20/09/22	ND	ug/L	NO
2,3,4,6-Tetrachlorophenol	20/09/22	ND	ug/L	NO
Triallate	20/09/22	ND	ug/L	NO
Trichloroethylene	20/09/22	ND	ug/L	NO
2,4,6-Trichlorophenol	20/09/22	ND	ug/L	NO
Trifluralin	20/09/22	ND	ug/L	NO
Vinyl Chloride	20/09/22	ND	ug/L	NO

Lorne Avenue Well and Pumphouse

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Alachlor	20/09/22	ND	ug/L	NO
Atrazine + N-dealkylated metabolites	20/09/22	ND	ug/L	NO
Atrazine	20/09/22	ND	ug/L	NO

Desethyl atrazine	20/09/22	ND	ug/L	NO
Azinphos-methyl	20/09/22	ND	ug/L	NO
Benzene	20/09/22	ND	ug/L	NO
Benzo(a)pyrene	20/09/22	ND	ug/L	NO
Bromoxynil	20/09/22	ND	ug/L	NO
Carbaryl	20/09/22	ND	ug/L	NO
Carbofuran	20/09/22	ND	ug/L	NO
Carbon Tetrachloride	20/09/22	ND	ug/L	NO
Chlorpyrifos	20/09/22	ND	ug/L	NO
Diazinon	20/09/22	ND	ug/L	NO
Dicamba	20/09/22	ND	ug/L	NO
1,2-Dichlorobenzene	20/09/22	ND	ug/L	NO
1,4-Dichlorobenzene	20/09/22	ND	ug/L	NO
1,2-Dichloroethane	20/09/22	ND	ug/L	NO
1,1-Dichloroethylene (vinylidene chloride)	20/09/22	ND	ug/L	NO
Dichloromethane	20/09/22	ND	ug/L	NO
2-4 Dichlorophenol	20/09/22	ND	ug/L	NO
2,4-Dichlorophenoxy acetic acid (2,4-D)	20/09/22	ND	ug/L	NO
Diclofop-methyl	20/09/22	ND	ug/L	NO
Dimethoate	20/09/22	ND	ug/L	NO
Diquat	20/09/22	ND	ug/L	NO
Diuron	20/09/22	ND	ug/L	NO
Glyphosate	20/09/22	ND	ug/L	NO
Malathion	20/09/22	ND	ug/L	NO
MCPA	20/09/22	ND	mg/L	NO
Metolachlor	20/09/22	ND	ug/L	NO
Metribuzin	20/09/22	ND	ug/L	NO
Monochlorobenzene	20/09/22	ND	ug/L	NO
Paraquat	20/09/22	ND	ug/L	NO
Pentachlorophenol	20/09/22	ND	ug/L	NO
Phorate	20/09/22	ND	ug/L	NO
Picloram	20/09/22	ND	ug/L	NO
Polychlorinated Biphenyls(PCB)	20/09/22	ND	ug/L	NO
Prometryne	20/09/22	ND	ug/L	NO
Simazine	20/09/22	ND	ug/L	NO
Terbufos	20/09/22	ND	ug/L	NO
Tetrachloroethylene	20/09/22	ND	ug/L	NO
2,3,4,6-Tetrachlorophenol	20/09/22	ND	ug/L	NO
Triallate	20/09/22	ND	ug/L	NO
Trichloroethylene	20/09/22	ND	ug/L	NO

2,4,6-Trichlorophenol	20/09/22	ND	ug/L	NO
Trifluralin	20/09/22	ND	ug/L	NO
Vinyl Chloride	20/09/22	ND	ug/L	NO

Dunn Road Well and Pumphouse

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Alachlor	20/09/22	ND	ug/L	NO
Atrazine + N-dealkylated metabolites	20/09/22	ND	ug/L	NO
Atrazine	20/09/22	ND	ug/L	NO
Desethyl atrazine	20/09/22	ND	ug/L	NO
Azinphos-methyl	20/09/22	ND	ug/L	NO
Benzene	20/09/22	ND	ug/L	NO
Benzo(a)pyrene	20/09/22	ND	ug/L	NO
Bromoxynil	20/09/22	ND	ug/L	NO
Carbaryl	20/09/22	ND	ug/L	NO
Carbofuran	20/09/22	ND	ug/L	NO
Carbon Tetrachloride	20/09/22	ND	ug/L	NO
Chlorpyrifos	20/09/22	ND	ug/L	NO
Diazinon	20/09/22	ND	ug/L	NO
Dicamba	20/09/22	ND	ug/L	NO
1,2-Dichlorobenzene	20/09/22	ND	ug/L	NO
1,4-Dichlorobenzene	20/09/22	ND	ug/L	NO
1,2-Dichloroethane	20/09/22	ND	ug/L	NO
1,1-Dichloroethylene (vinylidene chloride)	20/09/22	ND	ug/L	NO
Dichloromethane	20/09/22	ND	ug/L	NO
2,4-Dichlorophenol	20/09/22	ND	ug/L	NO
2,4-Dichlorophenoxy acetic acid (2,4-D)	20/09/22	ND	ug/L	NO
Diclofop-methyl	20/09/22	ND	ug/L	NO
Dimethoate	20/09/22	ND	ug/L	NO
Diquat	20/09/22	ND	ug/L	NO
Diuron	20/09/22	ND	ug/L	NO
Glyphosate	20/09/22	ND	ug/L	NO
Malathion	20/09/22	ND	ug/L	NO
MCPA	20/09/22	ND	mg/L	NO
Metolachlor	20/09/22	ND	ug/L	NO
Metribuzin	20/09/22	ND	ug/L	NO
Monochlorobenzene	20/09/22	ND	ug/L	NO
Paraquat	20/09/22	ND	ug/L	NO
Pentachlorophenol	20/09/22	ND	ug/L	NO

Phorate	20/09/22	ND	ug/L	NO
Picloram	20/09/22	ND	ug/L	NO
Polychlorinated Biphenyls(PCB)	20/09/22	ND	ug/L	NO
Prometryne	20/09/22	ND	ug/L	NO
Simazine	20/09/22	ND	ug/L	NO
Terbufos	20/09/22	ND	ug/L	NO
Tetrachloroethylene	20/09/22	ND	ug/L	NO
2,3,4,6-Tetrachlorophenol	20/09/22	ND	ug/L	NO
Triallate	20/09/22	ND	ug/L	NO
Trichloroethylene	20/09/22	ND	ug/L	NO
2,4,6-Trichlorophenol	20/09/22	ND	ug/L	NO
Trifluralin	20/09/22	ND	ug/L	NO
Vinyl Chloride	20/09/22	ND	ug/L	NO

O'Loane Avenue Well and Pump house

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Alachlor	20/09/22	ND	ug/L	NO
Atrazine + N-dealkylated metabolites	20/09/22	ND	ug/L	NO
Atrazine	20/09/22	ND	ug/L	NO
Desethyl atrazine	20/09/22	ND	ug/L	NO
Azinphos-methyl	20/09/22	ND	ug/L	NO
Benzene	20/09/22	ND	ug/L	NO
Benzo(a)pyrene	20/09/22	ND	ug/L	NO
Bromoxynil	20/09/22	ND	ug/L	NO
Carbaryl	20/09/22	ND	ug/L	NO
Carbofuran	20/09/22	ND	ug/L	NO
Carbon Tetrachloride	20/09/22	ND	ug/L	NO
Chlorpyrifos	20/09/22	ND	ug/L	NO
Diazinon	20/09/22	ND	ug/L	NO
Dicamba	20/09/22	ND	ug/L	NO
1,2-Dichlorobenzene	20/09/22	ND	ug/L	NO
1,4-Dichlorobenzene	20/09/22	ND	ug/L	NO
1,2-Dichloroethane	20/09/22	ND	ug/L	NO
1,1-Dichloroethylene (vinylidene chloride)	20/09/22	ND	ug/L	NO
Dichloromethane	20/09/22	ND	ug/L	NO
2-4 Dichlorophenol	20/09/22	ND	ug/L	NO
2,4-Dichlorophenoxy acetic acid (2,4-D)	20/09/22	ND	ug/L	NO
Diclofop-methyl	20/09/22	ND	ug/L	NO

Dimethoate	20/09/22	ND	ug/L	NO
Diquat	20/09/22	ND	ug/L	NO
Diuron	20/09/22	ND	ug/L	NO
Glyphosate	20/09/22	ND	ug/L	NO
Malathion	20/09/22	ND	ug/L	NO
MCPA	20/09/22	ND	mg/L	NO
Metolachlor	20/09/22	ND	ug/L	NO
Metribuzin	20/09/22	ND	ug/L	NO
Monochlorobenzene	20/09/22	ND	ug/L	NO
Paraquat	20/09/22	ND	ug/L	NO
Pentachlorophenol	20/09/22	ND	ug/L	NO
Phorate	20/09/22	ND	ug/L	NO
Picloram	20/09/22	ND	ug/L	NO
Polychlorinated Biphenyls(PCB)	20/09/22	ND	ug/L	NO
Prometryne	20/09/22	ND	ug/L	NO
Simazine	20/09/22	ND	ug/L	NO
Terbufos	20/09/22	ND	ug/L	NO
Tetrachloroethylene	20/09/22	ND	ug/L	NO
2,3,4,6-Tetrachlorophenol	20/09/22	ND	ug/L	NO
Triallate	20/09/22	ND	ug/L	NO
Trichloroethylene	20/09/22	ND	ug/L	NO
2,4,6-Trichlorophenol	20/09/22	ND	ug/L	NO
Trifluralin	20/09/22	ND	ug/L	NO
Vinyl Chloride	20/09/22	ND	ug/L	NO

Romeo Street Pumping Station

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Alachlor	20/09/22	ND	ug/L	NO
Atrazine + N-dealkylated metabolites	20/09/22	ND	ug/L	NO
Atrazine	20/09/22	ND	ug/L	NO
Desethyl atrazine	20/09/22	ND	ug/L	NO
Azinphos-methyl	20/09/22	ND	ug/L	NO
Benzene	20/09/22	ND	ug/L	NO
Benzo(a)pyrene	20/09/22	ND	ug/L	NO
Bromoacetic Acid	20/09/22	ND	ug/L	NO
Bromdichloromethane	20/09/22	3.4	ug/L	NO
Bromoform	20/09/22	ND	ug/L	NO
Bromoxynil	20/09/22	ND	ug/L	NO
Carbaryl	20/09/22	ND	ug/L	NO
Carbofuran	20/09/22	ND	ug/L	NO

Carbon Tetrachloride	20/09/22	ND	ug/L	NO
Chloroacetic Acid	20/09/22	ND	ug/L	NO
Chloroform	20/09/22	16	ug/L	NO
Chlorpyrifos	20/09/22	ND	ug/L	NO
Diazinon	20/09/22	ND	ug/L	NO
Dibromoacetic Acid	20/09/22	ND	ug/L	NO
Dibromochloromethane	20/09/22	0.60	ug/L	NO
Dicamba	20/09/22	ND	ug/L	NO
Dichloroacetic Acid	20/09/22	4.7	ug/L	NO
1,2-Dichlorobenzene	20/09/22	ND	ug/L	NO
1,4-Dichlorobenzene	20/09/22	ND	ug/L	NO
1,2-Dichloroethane	20/09/22	ND	ug/L	NO
1,1-Dichloroethylene (vinylidene chloride)	20/09/22	ND	ug/L	NO
Dichloromethane	20/09/22	ND	ug/L	NO
2,4-Dichlorophenol	20/09/22	ND	ug/L	NO
2,4-Dichlorophenoxy acetic acid (2,4-D)	20/09/22	ND	ug/L	NO
Diclofop-methyl	20/09/22	ND	ug/L	NO
Dimethoate	20/09/22	ND	ug/L	NO
Diquat	20/09/22	ND	ug/L	NO
Diuron	20/09/22	ND	ug/L	NO
Glyphosate	20/09/22	ND	ug/L	NO
Total Haloacetic Acid (HAA)	16/03/22	10.8	ug/L	NO
Total Haloacetic Acid (HAA)	15/06/22	10.5	ug/L	NO
Total Haloacetic Acid (HAA)	20/09/22	11.7	ug/L	NO
Total Haloacetic Acid (HAA)	14/12/22	11.2	ug/L	NO
Malathion	20/09/22	ND	ug/L	NO
MCPA	20/09/22	ND	mg/L	NO
Metolachlor	20/09/22	ND	ug/L	NO
Metribuzin	20/09/22	ND	ug/L	NO
Monochlorobenzene	20/09/22	ND	ug/L	NO
Paraquat	20/09/22	ND	ug/L	NO
Pentachlorophenol	20/09/22	ND	ug/L	NO
Phorate	20/09/22	ND	ug/L	NO
Picloram	20/09/22	ND	ug/L	NO
Polychlorinated Biphenyls(PCB)	20/09/22	ND	ug/L	NO
Prometryne	20/09/22	ND	ug/L	NO

Simazine	20/09/22	ND	ug/L	NO
THM (Total)	16/03/22	20	ug/L	NO
THM (Total)	15/06/22	20	ug/L	NO
THM (Total)	20/09/22	20	ug/L	NO
THM (Total)	14/12/22	19	ug/L	NO
Terbufos	20/09/22	ND	ug/L	NO
Tetrachloroethylene	20/09/22	ND	ug/L	NO
2,3,4,6-Tetrachlorophenol	20/09/22	ND	ug/L	NO
Triallate	20/09/22	ND	ug/L	NO
Trichloroacetic Acid	20/09/22	7.0	ug/L	NO
Trichloroethylene	20/09/22	ND	ug/L	NO
2,4,6-Trichlorophenol	20/09/22	ND	ug/L	NO
Trifluralin	20/09/22	ND	ug/L	NO
Vinyl Chloride	20/09/22	ND	ug/L	NO

Distribution System

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
HAA (Dufferin Towers)	16/03/22 15/06/22 20/09/22 14/12/22	20.6 (Running Annual Average)	ug/L	NO
THM (Dufferin Towers)	16/03/22 15/06/22 20/09/22 14/12/22	35 (Running Annual Average)	ug/L	NO

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
HAA (Forman Towers)	16/03/22 15/06/22 20/09/22 14/12/22	16.7 (Running Annual Average)	ug/L	NO
THM (Forman Towers)	16/03/22 15/06/22 20/09/22 14/12/22	27.5 (Running Annual Average)	ug/L	NO

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

Chestnut Street Well and Pumphouse

Parameter	Result Value	Unit of Measure	Date of Sample
Fluoride	2.34	mg/L	20/09/22

Mornington Street Well and Pumphouse

Parameter	Result Value	Unit of Measure	Date of Sample
Fluoride	1.93	mg/L	20/09/22

Lorne Avenue Well and Pumphouse

Parameter	Result Value	Unit of Measure	Date of Sample
Fluoride	2.27	mg/L	20/09/22

Dunn Road Well and Pumphouse

Parameter	Result Value	Unit of Measure	Date of Sample
Fluoride	1.71	mg/L	20/09/22

O'Loane Avenue Well and Pumphouse

Parameter	Result Value	Unit of Measure	Date of Sample
Fluoride	2.25	mg/L	20/09/22

Note: Fluoride is naturally occurring in Stratford's drinking water supply source.

For more information visit the Perth District Health Unit website at:

<http://www.pdhu.on.ca/health-topics/environment/water/fluoride-and-drinking-water/>

Fluoride exceedances are reportable every 57 months. Next reportable exceedances will be in 2023.