

ANNUAL REPORT

ONTARIO REGULATION 170/03
SECTION 11

ANGUS DRINKING WATER SYSTEM



**FOR THE PERIOD:
JANUARY 1, 2017 – DECEMBER 31, 2017**

*Prepared for the Corporation of the Township of Essa
by the Ontario Clean Water Agency*



**ONTARIO CLEAN WATER AGENCY
AGENCE ONTARIENNE DES EAUX**

Drinking-Water System Number:	260001026
Drinking-Water System Name:	Angus Drinking Water System
Drinking-Water System Owner:	The Corporation of the Township of Essa
Drinking-Water System Category:	Large Municipal Residential
Period being reported:	January 1, 2017 to December 31, 2017

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

No

Is your annual report available to the public at no charge on a web site on the Internet?

Yes

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

Summary Report is available for inspection at the Township of Essa Municipal Office at 5786 Simcoe County Road 21, Utopia, Essa Township, ON, L0M 1T0 or on the following website: <http://www.essatownship.on.ca>

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
Not applicable	Not applicable

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?

Not Applicable

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

- Public access/notice via the web**
- Public access/notice via Government Office**
- Public access/notice via a newspaper**
- Public access/notice via Public Request**
- Public access/notice via a Public Library**
- Public access/notice via other method**

Description of Drinking-Water System:

The Angus Drinking Water System, Pumphouses and Storage Works serving the Town of Angus include the Mill Street Pumphouse, McGeorge Pumphouse and Brownley Pumphouse. These facilities supply water through a common distribution system.

McGeorge (Centre Street) Pumphouse

The McGeorge Pumphouse is located on Essa Side Road 30. Raw Water is supplied from two 203 mm diameter drilled groundwater wells (Well 2 Centre Street and Well 3 Centre Street) capable of providing up to 2627 m³/day potable water. As groundwater flows out of the (artesian) wells, pumps are automatically activated to add sodium silicate (for iron sequestering) and sodium hypochlorite (for disinfection). Treated water is stored in two underground reservoirs with capacities of 95 m³ and 157 m³ respectively. On-line monitoring equipment continuously monitors chlorine residual, turbidity and flow rates. Flow and process data is recorded on an SM1000 data logger. The recorded data is down loaded periodically and stored on the main server at the Ontario Clean Water Agency office in Wasaga Beach. The system is alarmed for a number of parameters and monitored by Huronia Alarms, Midland, Ontario. This pumphouse is equipped with a 64 kW diesel generator and auto switch over to provide stand by power in the event of a power failure.

Mill Street Pumphouse

The Mill Street Pumphouse is located at 28 Mill Street in the Town of Angus. Raw Water is supplied from one 610 mm diameter drilled groundwater well (Well 1 Mill Street) that can provide up to 3927 m³/day of potable water. As groundwater is pumped from the well; chemical feed pumps are automatically activated to add sodium silicate (for iron sequestering) and sodium hypochlorite (for disinfection). Treated water is stored in two underground reservoirs, with a capacity of 2500 m³ and 902 m³ respectively. Flow is measured before entering the reservoir and as the treated water enters the distribution system. On-line monitoring equipment continuously monitors chlorine residual, turbidity and flow rates. Flow and process data is recorded on an SM1000 data logger. The recorded data is down loaded periodically and also stored on the main server. The system is alarmed for a number of parameters and monitored by Huronia Alarms, Midland, Ontario. This pumphouse is equipped with a 400 kW diesel generator and auto switch over to provide stand by power in the event of a power failure. Note: the Mill Street Water Treatment Plant received the daily difference (100 m³ minus Baxter Water System daily water taking) from the Collingwood to Alliston treated water transmission main (pipeline) in 2015. The Raymond A. Barker Ultrafiltration Plant (RAB) in Collingwood supplies safe drinking water through the pipeline to the Baxter and Mill Street facilities. Collingwood water sample results can be found in the Collingwood Drinking Water System 2017 Annual Compliance Report located on the following website: <http://www.watercollingwood.ca>

Brownley Pumphouse

The Brownley Pumphouse is located on 5th Line just north of Willoughby Road. Raw Water is supplied from two 200 mm and one 150 mm diameter drilled groundwater wells (Well 4, Well 5 and Well 6) capable of providing up to 4251 m³/day potable water. As groundwater is pumped from the wells; chemical feed pumps are automatically activated to add sodium silicate (for iron sequestering) and sodium hypochlorite (for disinfection). Treated water is stored in one (1) underground reservoir, two interconnected cells with a total capacity of 2500 m³. Flow is measured before entering the reservoir and as the treated water enters the distribution system. On-line monitoring equipment continuously monitors chlorine residual, turbidity and flow rates and is recorded on a SCADA system located on site. This pumphouse is equipped with a 400 kW diesel generator and auto switch over to provide stand by power in the event of a power failure.

List of water treatment chemicals used during the reporting period:

- | |
|---|
| <ul style="list-style-type: none"> • Sodium Hypochlorite 12% Solution NSF, Disinfection • Sodium Silicate, NSF, Iron Sequestering |
|---|

Significant expenses incurred to:

- Install required equipment
- Purchase required equipment
- Repair required equipment
- Replace required equipment

Description of significant expenses incurred in 2017:

- | |
|--|
| <ol style="list-style-type: none"> 1. Drinking Water Quality Management Standard (DWQMS) audit of OCWA Quality & Environmental Management System (QEMS). 2. Annual calibrations of continuous analyzers, backflow preventers, flow meters, etc. 3. Laboratory sample bottles and analysis. 4. Purchased 3rd party contractor to conduct Arc Flash Study. 5. Replaced chlorine analyzer probes. 6. Completed swabbing of watermains. 7. Water service and meter repairs. 8. Replaced section of watermain in Robson subdivision. 9. Purchased fitting and tubing for pump that feeds pre-chlorine analyzer at McGeorge. 10. Purchased spare chlorine analyzer probes at McGeorge. 11. Replacement of 8" and 6" valves (emergency) within distribution network at McGeorge. 12. Purchased fittings for pre-chlorine analyzer pump at McGeorge. 13. Cleaned and inspected reservoir at Mill Street. 14. Repaired valve boxes within distribution network (x 3) at Mill Street. 15. Purchased parts to repair valve boxes at Mill Street. 16. Repaired curb stop, and fire hydrant within distribution network at Mill Street. 17. Used vacuum truck services for hydrant work at Mill Street. 18. Repaired singer flow control valve at Mill Street. 19. Purchased spare chlorine analyzer probes at Mill Street. 20. Purchased chemical pump spare parts kits at Mill Street. 21. Purchased probes at Mill Street. 22. Repaired soffit/bracing, eaves trough/downspouts, and weather capping at Mill Street. 23. Replaced chemical tanks at Brownley. 24. Purchased chemical pump spare parts kits at Brownley. 25. Repaired soffit/bracing, eaves trough/downspouts, and weather capping at Brownley. |
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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 (yyyy/mm/dd)	Parameter	Result	Unit of Measure	Corrective Action	Corrective Action Date (yyyy/mm/dd)
Not Applicable.					

Note: *Precautionary Boiled Water Advisory (BWA) issued by OCWA on February 4, 2017 for scheduled work. BWA lifted.*

Table 1: Microbiological testing done under the Schedule 11 of Regulation 170/03 during this reporting period.

Location	Number of Samples	Range of E. Coli or Fecal Results		Range of Total Coliform Results		Number of HPC Samples	Range of HPC Samples	
		Min	Max	Min	Max		Min	Max
Raw - RW1	51	0	0	0	0	N/A	N/A	N/A
Raw - RW2	51	0	0	0	0	N/A	N/A	N/A
Raw - RW3	51	0	0	0	0	N/A	N/A	N/A
Raw - RW4	51	0	0	0	0	N/A	N/A	N/A
Raw - RW5	51	0	0	0	0	N/A	N/A	N/A
Raw - RW6	43 [^]	0	0	0	0	N/A	N/A	N/A
Treated - TW1	52	0	0	0	0	51+	0	2000
Treated - TW2	50	0	0	0	0	51+	0	11
Treated - TW3	51	0	0	0	0	51+	0	960
Distribution - DW	229	0	0	0	0	86+	0	133

Note:

* Well numbering for Centre Street (i.e. McGeorge) and Mill Street wells altered in PTTW # 0411-93LSQW issued 24-Jan-13

- RW1 – Raw Water Well #2 at McGeorge*
- RW2 – Raw Water Well #3 at McGeorge*
- RW3 – Raw Water Well #1 at Mill*
- RW4 – Raw Water Well #4 at Brownley
- RW5 – Raw Water Well #5 at Brownley
- RW6 – Raw Water Well #6 at Brownley
- TW1 – Treated Water McGeorge Pumphouse
- TW2 – Treated Water Mill Pumphouse
- TW3 – Treated Water Brownley Pumphouse

[^] Well #6 (Brownley) was offline for Well Pump electrical maintenance and repairs for 5 weeks in September/October and 3 weeks in December.

+ Treated (TW1, TW2 & TW3) and Distribution Water (x 2) samples were taken on March 20, 2017 and were to be analyzed for EC, TC, and HPC, however the Laboratory sent a notification stating that the HPC results were "NDLA - No Data: Laboratory Accident/Error - incubator malfunction." The Laboratory sent the following explanation: "on the evening of March 22, 2017 our incubator used for microbiological testing, set at 35°C, malfunctioned causing the temperature to fall outside of our acceptable range. This resulted in processed samples being rejected under methodology and SGS quality control guidelines. Client was notified."

Table 2: Operational testing done under Schedule 7 of Regulation 170/03 during the period covered by this Annual Report.

Location & Test	Number of Samples	Range of Results	
		Minimum	Maximum
Turbidity, Raw RW1 (Grab) [NTU]	12	0.09	2.12
Turbidity, Raw RW2 (Grab) [NTU]	12	0.15	1.62
Turbidity, Raw RW3 (Grab) [NTU]	11	0.19	1.26
Turbidity, Raw RW4 (Grab) [NTU]	13	0.28	0.63
Turbidity, Raw RW5 (Grab) [NTU]	13	0.18	1.12
Turbidity, Raw RW6 (Grab) [NTU]	12	0.33	0.98
Turbidity, Raw RW1 (Continuous) [NTU]	8760	0.00	1.25
Turbidity, Raw RW2 (Continuous) [NTU]	8760	0.00	2.00

Location & Test	Number of Samples	Range of Results	
		Minimum	Maximum
Turbidity, Raw RW3 (Continuous) [NTU]	8760	0.00	2.00
Turbidity, Raw RW4 (Continuous) [NTU]	188	0.07	1.09
Turbidity, Raw RW5 (Continuous) [NTU]	192	0.13	2.40
Turbidity, Raw RW6 (Continuous) [NTU]	191	0.31	1.54
Free Chlorine Residual, Treated TW1 (Continuous) [mg/L]	8760	0.51	2.94
Free Chlorine Residual, Treated TW2 (Continuous) [mg/L]	8760	0.65	5.00
Free Chlorine Residual, Treated TW3 (Continuous) [mg/L]	8760	0.20	4.99
Free Chlorine Residual, Treated TW1 (Grab) [mg/L]	190	0.69	2.40
Free Chlorine Residual, Treated TW2 (Grab) [mg/L]	192	0.29	3.00
Free Chlorine Residual, Treated TW3 (Grab) [mg/L]	190	0.67	2.50
Total Chlorine Residual, Treated TW1 (Grab) [mg/L]	190	0.75	2.80
Total Chlorine Residual, Treated TW2 (Grab) [mg/L]	191	0.33	2.80
Total Chlorine Residual, Treated TW3 (Grab) [mg/L]	190	0.88	3.90
Free Chlorine Residual, Distribution (Continuous) [mg/L]	8760	0.33	2.30

Note: the number of samples used for continuous monitoring units is 8760.

Table 3: Summary of additional testing and sampling carried out in accordance with the requirement of an approval, order or other legal instrument.

Date of Legal Instrument Issued	Parameter	Date Sampled	Result	Unit of Measure
Not Applicable				

Table 4: Summary of Inorganic parameters tested during this reporting period or the most recent sample results

Parameter	Sample Date (yyyy/mm/dd)	Sample Result	Maximum Allowable Concentration (MAC)	Number of Exceedances	
				MAC	½ MAC
Antimony: Sb (µg/L) - TW1	2015/01/05	< 0.02	6.0	No	No
Antimony: Sb (µg/L) - TW2	2015/01/05	< 0.02	6.0	No	No
Antimony: Sb (µg/L) - TW3	2015/01/05	< 0.02	6.0	No	No
Arsenic: As (µg/L) - TW1	2015/01/05	0.3	25.0	No	No
Arsenic: As (µg/L) - TW2	2015/01/05	0.7	25.0	No	No
Arsenic: As (µg/L) - TW3	2015/01/05	< 0.2	25.0	No	No
Barium: Ba (µg/L) - TW1	2015/01/05	88.5	1000.0	No	No
Barium: Ba (µg/L) - TW2	2015/01/05	137.0	1000.0	No	No
Barium: Ba (µg/L) - TW3	2015/01/05	69.6	1000.0	No	No
Boron: B (µg/L) - TW1	2015/01/05	24.5	5000.0	No	No
Boron: B (µg/L) - TW2	2015/01/05	28.3	5000.0	No	No
Boron: B (µg/L) - TW3	2015/01/05	28.0	5000.0	No	No
Cadmium: Cd (µg/L) - TW1	2015/01/05	< 0.003	5.0	No	No

Parameter	Sample Date (yyyy/mm/dd)	Sample Result	Maximum Allowable Concentration (MAC)	Number of Exceedances	
				MAC	½ MAC
Cadmium: Cd (µg/L) - TW2	2015/01/05	< 0.003	5.0	No	No
Cadmium: Cd (µg/L) - TW3	2015/01/05	< 0.003	5.0	No	No
Chromium: Cr (µg/L) - TW1	2015/01/05	0.08	50.0	No	No
Chromium: Cr (µg/L) - TW2	2015/01/05	< 0.03	50.0	No	No
Chromium: Cr (µg/L) - TW3	2015/01/05	< 0.03	50.0	No	No
Mercury: Hg (µg/L) - TW1	2015/01/05	< 0.01	1.0	No	No
Mercury: Hg (µg/L) - TW2	2015/01/05	< 0.01	1.0	No	No
Mercury: Hg (µg/L) - TW3	2015/01/05	< 0.01	1.0	No	No
Selenium: Se (µg/L) - TW1	2015/01/05	< 1.0	50.0	No	No
Selenium: Se (µg/L) - TW2	2015/01/05	< 1.0	50.0	No	No
Selenium: Se (µg/L) - TW3	2015/01/05	< 1.0	50.0	No	No
Uranium: U (µg/L) - TW1	2015/01/05	0.014	20.0	No	No
Uranium: U (µg/L) - TW2	2015/01/05	0.088	20.0	No	No
Uranium: U (µg/L) - TW3	2015/01/05	2.09	20.0	No	No
Fluoride (mg/L) - TW1	2013/06/11	0.13	1.5	No	No
Fluoride (mg/L) - TW2	2013/06/11	0.11	1.5	No	No
Fluoride (mg/L) - TW3	2013/06/11	0.11	1.5	No	No
Nitrite (mg/L) - TW1	2017/01/04	<MDL 0.003	1.0	No	No
Nitrite (mg/L) - TW1	2017/04/03	<MDL 0.003	1.0	No	No
Nitrite (mg/L) - TW1	2017/07/11	<MDL 0.003	1.0	No	No
Nitrite (mg/L) - TW1	2017/10/02	<MDL 0.003	1.0	No	No
Nitrite (mg/L) - TW2	2017/01/04	<MDL 0.003	1.0	No	No
Nitrite (mg/L) - TW2	2017/04/03	<MDL 0.003	1.0	No	No
Nitrite (mg/L) - TW2	2017/07/11	<MDL 0.003	1.0	No	No
Nitrite (mg/L) - TW2	2017/10/02	<MDL 0.003	1.0	No	No
Nitrite (mg/L) - TW3	2017/01/04	<MDL 0.003	1.0	No	No
Nitrite (mg/L) - TW3	2017/04/03	<MDL 0.003	1.0	No	No
Nitrite (mg/L) - TW3	2017/07/11	<MDL 0.003	1.0	No	No
Nitrite (mg/L) - TW3	2017/10/02	<MDL 0.003	1.0	No	No
Nitrate (mg/L) - TW1	2017/01/04	0.018	10.0	No	No
Nitrate (mg/L) - TW1	2017/04/03	0.019	10.0	No	No
Nitrate (mg/L) - TW1	2017/07/11	0.018	10.0	No	No
Nitrate (mg/L) - TW1	2017/10/02	0.022	10.0	No	No
Nitrate (mg/L) - TW2	2017/01/04	0.042	10.0	No	No
Nitrate (mg/L) - TW2	2017/04/03	0.032	10.0	No	No
Nitrate (mg/L) - TW2	2017/07/11	0.014	10.0	No	No
Nitrate (mg/L) - TW2	2017/10/02	0.015	10.0	No	No
Nitrate (mg/L) - TW3	2017/01/04	1.64	10.0	No	No
Nitrate (mg/L) - TW3	2017/04/03	1.58	10.0	No	No
Nitrate (mg/L) - TW3	2017/07/11	1.73	10.0	No	No

Parameter	Sample Date (yyyy/mm/dd)	Sample Result	Maximum Allowable Concentration (MAC)	Number of Exceedances	
				MAC	½ MAC
Nitrate (mg/L) - TW3	2017/10/02	1.76	10.0	No	No
Sodium: Na (mg/L) - TW1	2013/06/11	17.3	20*	No	Yes
Sodium: Na (mg/L) - TW2	2013/06/11	16.9	20*	No	Yes
Sodium: Na (mg/L) - TW3	2013/06/11	14.2	20*	No	Yes

Note: MDL = Minimum Detection Limit

*There is no "MAC" for Sodium. The aesthetic objective for sodium in drinking water is 200 mg/L. The local Medical Officer of Health should be notified when the sodium concentration exceeds 20 mg/L so that this information may be communicated to local physicians for their use with patients on sodium restricted diets.

Table 5: Summary of lead testing under Schedule 15.1 during this reporting period

Location Type	Number of Samples	Range of Lead Results		Number of Exceedances
		Minimum	Maximum	
Plumbing	Not Applicable - Relief from all Plumbing Requirements*			
Distribution	Not Applicable**			

Note: *the Alkalinity results for 2017 were 157, 165, 175, 180, 199, and 205 (mg/L as CaCO₃).*

* This system qualifies for the plumbing exemption as per O. Regulation 170/03 Schedule 15.1-5 (9) (10).

** Distribution lead samples are taken every 36 months. The last set of distribution lead samples was taken in 2015. The next set of distribution lead samples is scheduled for 2018.

Table 6: Summary of Organic parameters sampled during this reporting period or the most recent sample results

Parameter	Sample Date (yyyy/mm/dd)	Sample Result	Maximum Allowable Concentration (MAC)	Number of Exceedances	
				MAC	½ MAC
Alachlor (µg/L) - TW1	2015/01/05	< 0.02	5.00	No	No
Alachlor (µg/L) - TW2	2015/01/05	< 0.02	5.00	No	No
Alachlor (µg/L) - TW3	2015/01/05	< 0.02	5.00	No	No
Atrazine + N-dealkylated metabolites (µg/L) - TW1	2015/01/05	< 0.01	5.00	No	No
Atrazine + N-dealkylated metabolites (µg/L) - TW2	2015/01/05	< 0.01	5.00	No	No
Atrazine + N-dealkylated metabolites (µg/L) - TW3	2015/01/05	< 0.01	5.00	No	No
Azinphos-methyl (µg/L) - TW1	2015/01/05	< 0.02	20.00	No	No
Azinphos-methyl (µg/L) - TW2	2015/01/05	< 0.02	20.00	No	No
Azinphos-methyl (µg/L) - TW3	2015/01/05	< 0.02	20.00	No	No
Benzene (µg/L) - TW1	2015/01/05	< 0.32	1.00	No	No
Benzene (µg/L) - TW2	2015/01/05	< 0.32	1.00	No	No
Benzene (µg/L) - TW3	2015/01/05	< 0.32	1.00	No	No
Benzo(a)pyrene (µg/L) - TW1	2015/01/05	< 0.004	0.01	No	No
Benzo(a)pyrene (µg/L) - TW2	2015/01/05	< 0.004	0.01	No	No
Benzo(a)pyrene (µg/L) - TW3	2015/01/05	< 0.004	0.01	No	No
Bromoxynil (µg/L) - TW1	2015/01/05	< 0.33	5.00	No	No

Parameter	Sample Date (yyyy/mm/dd)	Sample Result	Maximum Allowable Concentration (MAC)	Number of Exceedances	
				MAC	½ MAC
Bromoxynil (µg/L) - TW2	2015/01/05	< 0.33	5.00	No	No
Bromoxynil (µg/L) - TW3	2015/01/05	< 0.33	5.00	No	No
Carbaryl (µg/L) - TW1	2015/01/05	< 0.01	90.00	No	No
Carbaryl (µg/L) - TW2	2015/01/05	< 0.01	90.00	No	No
Carbaryl (µg/L) - TW3	2015/01/05	< 0.01	90.00	No	No
Carbofuran (µg/L) - TW1	2015/01/05	< 0.01	90.00	No	No
Carbofuran (µg/L) - TW2	2015/01/05	< 0.01	90.00	No	No
Carbofuran (µg/L) - TW3	2015/01/05	< 0.01	90.00	No	No
Carbon Tetrachloride (µg/L) - TW1	2015/01/05	< 0.16	2.00	No	No
Carbon Tetrachloride (µg/L) - TW2	2015/01/05	< 0.16	2.00	No	No
Carbon Tetrachloride (µg/L) - TW3	2015/01/05	< 0.16	2.00	No	No
Chlorpyrifos (µg/L) - TW1	2015/01/05	< 0.02	90.00	No	No
Chlorpyrifos (µg/L) - TW2	2015/01/05	< 0.02	90.00	No	No
Chlorpyrifos (µg/L) - TW3	2015/01/05	< 0.02	90.00	No	No
Diazinon (µg/L) - TW1	2015/01/05	< 0.02	20.00	No	No
Diazinon (µg/L) - TW2	2015/01/05	< 0.02	20.00	No	No
Diazinon (µg/L) - TW3	2015/01/05	< 0.02	20.00	No	No
Dicamba (µg/L) - TW1	2015/01/05	< 0.2	120.00	No	No
Dicamba (µg/L) - TW2	2015/01/05	< 0.2	120.00	No	No
Dicamba (µg/L) - TW3	2015/01/05	< 0.2	120.00	No	No
1,2-Dichlorobenzene (µg/L) - TW1	2015/01/05	< 0.41	200.00	No	No
1,2-Dichlorobenzene (µg/L) - TW2	2015/01/05	< 0.41	200.00	No	No
1,2-Dichlorobenzene (µg/L) - TW3	2015/01/05	< 0.41	200.00	No	No
1,4-Dichlorobenzene (µg/L) - TW1	2015/01/05	< 0.36	5.00	No	No
1,4-Dichlorobenzene (µg/L) - TW2	2015/01/05	< 0.36	5.00	No	No
1,4-Dichlorobenzene (µg/L) - TW3	2015/01/05	< 0.36	5.00	No	No
1,2-Dichloroethane (µg/L) - TW1	2015/01/05	< 0.35	5.00	No	No
1,2-Dichloroethane (µg/L) - TW2	2015/01/05	< 0.35	5.00	No	No
1,2-Dichloroethane (µg/L) - TW3	2015/01/05	< 0.35	5.00	No	No
1,1-Dichloroethylene (µg/L) - TW1	2015/01/05	< 0.33	14.00	No	No
1,1-Dichloroethylene (µg/L) - TW2	2015/01/05	< 0.33	14.00	No	No
1,1-Dichloroethylene (µg/L) - TW3	2015/01/05	< 0.33	14.00	No	No
Dichloromethane (Methylene Chloride) (µg/L) - TW1	2015/01/05	< 0.35	50.00	No	No
Dichloromethane (Methylene Chloride) (µg/L) - TW2	2015/01/05	< 0.35	50.00	No	No
Dichloromethane (Methylene Chloride) (µg/L) - TW3	2015/01/05	< 0.35	50.00	No	No
2,4-Dichlorophenol (µg/L) - TW1	2015/01/05	< 0.15	900.00	No	No
2,4-Dichlorophenol (µg/L) - TW2	2015/01/05	< 0.15	900.00	No	No
2,4-Dichlorophenol (µg/L) - TW3	2015/01/05	< 0.15	900.00	No	No

Parameter	Sample Date (yyyy/mm/dd)	Sample Result	Maximum Allowable Concentration (MAC)	Number of Exceedances	
				MAC	½ MAC
2,4-Dichlorophenoxy acetic acid (2,4-D) (µg/L) - TW1	2015/01/05	< 0.19	100.00	No	No
2,4-Dichlorophenoxy acetic acid (2,4-D) (µg/L) - TW2	2015/01/05	< 0.19	100.00	No	No
2,4-Dichlorophenoxy acetic acid (2,4-D) (µg/L) - TW3	2015/01/05	< 0.19	100.00	No	No
Diclofop-methyl (µg/L) - TW1	2015/01/05	< 0.4	9.00	No	No
Diclofop-methyl (µg/L) - TW2	2015/01/05	< 0.4	9.00	No	No
Diclofop-methyl (µg/L) - TW3	2015/01/05	< 0.4	9.00	No	No
Dimethoate (µg/L) - TW1	2015/01/05	< 0.03	20.00	No	No
Dimethoate (µg/L) - TW2	2015/01/05	< 0.03	20.00	No	No
Dimethoate (µg/L) - TW3	2015/01/05	< 0.03	20.00	No	No
Diquat (µg/L) - TW1	2015/01/05	< 1.0	70.00	No	No
Diquat (µg/L) - TW2	2015/01/05	< 1.0	70.00	No	No
Diquat (µg/L) - TW3	2015/01/05	< 1.0	70.00	No	No
Diuron (µg/L) - TW1	2015/01/05	< 0.03	150.00	No	No
Diuron (µg/L) - TW2	2015/01/05	< 0.03	150.00	No	No
Diuron (µg/L) - TW3	2015/01/05	< 0.03	150.00	No	No
Glyphosate (µg/L) - TW1	2015/01/05	< 1.0	280.00	No	No
Glyphosate (µg/L) - TW2	2015/01/05	< 1.0	280.00	No	No
Glyphosate (µg/L) - TW3	2015/01/05	< 1.0	280.00	No	No
Malathion (µg/L) - TW1	2015/01/05	< 0.02	190.00	No	No
Malathion (µg/L) - TW2	2015/01/05	< 0.02	190.00	No	No
Malathion (µg/L) - TW3	2015/01/05	< 0.02	190.00	No	No
Metolachlor (µg/L) - TW1	2015/01/05	< 0.01	50.00	No	No
Metolachlor (µg/L) - TW2	2015/01/05	< 0.01	50.00	No	No
Metolachlor (µg/L) - TW3	2015/01/05	< 0.01	50.00	No	No
Metribuzin (µg/L) - TW1	2015/01/05	< 0.02	80.00	No	No
Metribuzin (µg/L) - TW2	2015/01/05	< 0.02	80.00	No	No
Metribuzin (µg/L) - TW3	2015/01/05	< 0.02	80.00	No	No
Monochlorobenzene (Chlorobenzene) (µg/L) - TW1	2015/01/05	< 0.3	80.00	No	No
Monochlorobenzene (Chlorobenzene) (µg/L) - TW2	2015/01/05	< 0.3	80.00	No	No
Monochlorobenzene (Chlorobenzene) (µg/L) - TW3	2015/01/05	< 0.3	80.00	No	No
Paraquat (µg/L) - TW1	2015/01/05	< 1.0	10.00	No	No
Paraquat (µg/L) - TW2	2015/01/05	< 1.0	10.00	No	No
Paraquat (µg/L) - TW3	2015/01/05	< 1.0	10.00	No	No
PCB (µg/L) - TW1	2015/01/05	< 0.04	3.00	No	No
PCB (µg/L) - TW2	2015/01/05	< 0.04	3.00	No	No
PCB (µg/L) - TW3	2015/01/05	< 0.04	3.00	No	No
Pentachlorophenol (µg/L) - TW1	2015/01/05	< 0.15	60.00	No	No

Parameter	Sample Date (yyyy/mm/dd)	Sample Result	Maximum Allowable Concentration (MAC)	Number of Exceedances	
				MAC	½ MAC
Pentachlorophenol (µg/L) - TW2	2015/01/05	< 0.15	60.00	No	No
Pentachlorophenol (µg/L) - TW3	2015/01/05	< 0.15	60.00	No	No
Phorate (µg/L) - TW1	2015/01/05	< 0.01	2.00	No	No
Phorate (µg/L) - TW2	2015/01/05	< 0.01	2.00	No	No
Phorate (µg/L) - TW3	2015/01/05	< 0.01	2.00	No	No
Picloram (µg/L) - TW1	2015/01/05	< 1.0	190.00	No	No
Picloram (µg/L) - TW2	2015/01/05	< 1.0	190.00	No	No
Picloram (µg/L) - TW3	2015/01/05	< 1.0	190.00	No	No
Prometryne (µg/L) - TW1	2015/01/05	< 0.03	1.00	No	No
Prometryne (µg/L) - TW2	2015/01/05	< 0.03	1.00	No	No
Prometryne (µg/L) - TW3	2015/01/05	< 0.03	1.00	No	No
Simazine (µg/L) - TW1	2015/01/05	< 0.01	10.00	No	No
Simazine (µg/L) - TW2	2015/01/05	< 0.01	10.00	No	No
Simazine (µg/L) - TW3	2015/01/05	< 0.01	10.00	No	No
Terbufos (µg/L) - TW1	2015/01/05	< 0.01	1.00	No	No
Terbufos (µg/L) - TW2	2015/01/05	< 0.01	1.00	No	No
Terbufos (µg/L) - TW3	2015/01/05	< 0.01	1.00	No	No
Tetrachloroethylene (µg/L) - TW1	2015/01/05	< 0.35	10.00	No	No
Tetrachloroethylene (µg/L) - TW2	2015/01/05	< 0.35	10.00	No	No
Tetrachloroethylene (µg/L) - TW3	2015/01/05	< 0.35	10.00	No	No
2,3,4,6-Tetrachlorophenol (µg/L) - TW1	2015/01/05	< 0.14	100.00	No	No
2,3,4,6-Tetrachlorophenol (µg/L) - TW2	2015/01/05	< 0.14	100.00	No	No
2,3,4,6-Tetrachlorophenol (µg/L) - TW3	2015/01/05	< 0.14	100.00	No	No
Triallate (µg/L) - TW1	2015/01/05	< 0.01	230.00	No	No
Triallate (µg/L) - TW2	2015/01/05	< 0.01	230.00	No	No
Triallate (µg/L) - TW3	2015/01/05	< 0.01	230.00	No	No
Trichloroethylene (µg/L) - TW1	2015/01/05	< 0.44	5.00	No	No
Trichloroethylene (µg/L) - TW2	2015/01/05	< 0.44	5.00	No	No
Trichloroethylene (µg/L) - TW3	2015/01/05	< 0.44	5.00	No	No
2,4,6-Trichlorophenol (µg/L) - TW1	2015/01/05	< 0.25	5.00	No	No
2,4,6-Trichlorophenol (µg/L) - TW2	2015/01/05	< 0.25	5.00	No	No
2,4,6-Trichlorophenol (µg/L) - TW3	2015/01/05	< 0.25	5.00	No	No
Trifluralin (µg/L) - TW1	2015/01/05	< 0.02	45	No	No
Trifluralin (µg/L) - TW2	2015/01/05	< 0.02	45	No	No
Trifluralin (µg/L) - TW3	2015/01/05	< 0.02	45	No	No
Vinyl Chloride (µg/L) - TW1	2015/01/05	< 0.17	1	No	No
Vinyl Chloride (µg/L) - TW2	2015/01/05	< 0.17	1	No	No
Vinyl Chloride (µg/L) - TW3	2015/01/05	< 0.17	1	No	No
Trihalomethane: Total Annual Average (µg/L) - DW	4 Quarters of 2017	29.0	100.00	No	No

Parameter	Sample Date (yyyy/mm/dd)	Sample Result	Maximum Allowable Concentration (MAC)	Number of Exceedances	
				MAC	½ MAC
Haloacetic Acid: Total Annual Average (µg/L) - DW	4 Quarters of 2017	5.3	80.00 (in 2020)	N/A	N/A

Table 7: List of Inorganic or Organic parameter(s) that exceeded half the standard prescribed in Schedule 2 of Ontario Drinking Water Quality Standards.

Parameter	Result Value	Unit of Measure	Date of Sample
Sodium - TW1	17.3	mg/L	2013/06/11
Sodium - TW2	16.9	mg/L	2013/06/11
Sodium - TW3	14.2	mg/L	2013/06/11

Note: this table highlights parameters with a "Yes" in the ½ MAC columns of Table 4 and Table 6.