

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

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

<b>Drinking-Water System Number:</b>	220001557
<b>Drinking-Water System Name:</b>	Tweed Well Supply System
<b>Drinking-Water System Owner:</b>	The Corporation of the Municipality of Tweed
<b>Drinking-Water System Category:</b>	Large Municipal Residential
<b>Period being reported:</b>	January 1, 2010 to December 31, 2010

<p><b><u>Complete if your Category is Large Municipal Residential or Small Municipal Residential</u></b></p> <p><b>Does your Drinking-Water System serve more than 10,000 people? Yes [ ] No [X]</b></p> <p><b>Is your annual report available to the public at no charge on a web site on the Internet? Yes [X] No [ ]</b></p> <p><b>Location where Summary Report required under O. Reg. 170/03 Schedule 22 will be available for inspection.</b></p> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p>Public notice/access via the web. Public notice/access via the newspaper.</p> </div>	<p><b><u>Complete for all other Categories.</u></b></p> <p><b>Number of Designated Facilities served:</b></p> <div style="border: 1px solid black; text-align: center; width: 100px; margin: 5px auto;">NONE</div> <p><b>Did you provide a copy of your annual report to all Designated Facilities you serve? Yes [ ] No [ ]</b></p> <p><b>Number of Interested Authorities you report to:</b></p> <div style="border: 1px solid black; text-align: center; width: 100px; margin: 5px auto;">NONE</div> <p><b>Did you provide a copy of your annual report to all Interested Authorities you report to for each Designated Facility? Yes [ ] No [ ]</b></p>
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List all Drinking-Water Systems (if any), which receive all of their drinking water from your system:

Drinking Water System Name	Drinking Water System Number
NONE	

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

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

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

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### Describe your Drinking-Water System

Two well groundwater system with submersible pumps ultra violet light for primary disinfection and sodium hypochlorite for secondary disinfection. Well #3 (Crockston) has a nitrate uranium removal system (ion exchange). The facility is equipped with on-line, alarmed continuous monitoring for treated water free chlorine residual and turbidity and distribution system free chlorine residual. The facility also contains a well pump lock out system in the case of disinfection failure. Well #1 (Main) has not been in production during the reporting period, however it can be brought on-line in the case of an emergency/stand-by in the event that the production well is out of service.

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

Sodium Hypochlorite – 12%  
Sifto Salt (Ion Exchange Resin)

### Were any significant expenses incurred to?

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

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

- FREE CHLORINE SENSOR
- FLOW METER CALIBRATIONS
- ANNUAL INSPECTION OF DIESEL GENERATORS
- UV CALIBRATIONS
- FLUSH TO WASTE LINE
- ANNUAL BACK FLOW PREVENTER RECERTIFICATION
- TWO UV SENSORS

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

Incident Date	Parameter	Result	Unit of Measure	Corrective Action	Corrective Action Date
	<b>No Reportable Incidences</b>				

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

	Number of Samples	Range of E.Coli or Fecal Results (min #)-(max #)	Range of Total Coliform Results (min #)-(max #)	Number of HPC Samples	Range of HPC Results (min #)-(max #)
<b>Raw - Well 1</b>	52	0 - 0	0 - 111	-	-
<b>Raw - Well 3</b>	52	0 - 0	0 - 0	-	-
<b>Treated</b>	52	0 - 0	0 - 0	52	0 - 1
<b>Distribution</b>	127	0 - 0	0 - 0	127	0 - 266

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

	Number of Grab Samples	Range of Results (min #)-(max #)
<b>Turbidity, Raw Well 1 (NTU)</b>	12	0.22 - 0.37
<b>Turbidity, Raw Well 3 (NTU)</b>	12	0.14 - 0.31
<b>Turbidity, Treated (NTU)</b>	8760	0.00 - 1.99*
<b>Chlorine, Treated</b>	8760	0.0 - 5.97*
<b>Chlorine, Distribution</b>	8760	0.76 - 3.09*
<b>Fluoride</b> (If the DWS provides fluoridation)	n/a	n/a

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

\* **Please note:** instrument spikes and dips recorded by on-line instrumentation were a result of air bubbles and various maintenance and calibration activities. Power interruptions may also cause an instrument reading to drop to zero. All events are reviewed for compliance with O. Reg. 170/03 and if warranted, are reported to the Ministry of Environment as Adverse Water Quality Incidents.

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

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**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	
MOE/MOH Recommendation	Uranium, Treated Well #3	04-Jan-10	9.43	ug/L	
	Fluoride, Treated Well #3		0.89	mg/L	
	Uranium, Distribution		10.2	ug/L	
	Uranium, Treated Well #3	15-Mar-10	10.6	ug/L	
	Uranium, Treated Well #3	6-Apr-10	11.0	ug/L	
	Fluoride, Treated Well #3		0.85	mg/L	
	Uranium, Distribution		11.5	ug/L	
	Uranium, Treated Well #3	5-Jul-10	10.40	ug/L	
	Fluoride, Treated Well #3		0.87	mg/L	
	Uranium, Distribution		12.30	ug/L	
	Uranium, Treated Well #3	4-Oct-10	11.40	ug/L	
	Fluoride, Treated Well #3		0.80	mg/L	
	Uranium, Distribution		12.30	ug/L	
	PTTW #0687-6K5JCW Issued March 22, 2006	Total Ammonia Nitrogen, Raw Well # 1	4-Jan-10	0.48	mg/L
		Total Ammonia Nitrogen, Raw Well # 3		0.19	mg/L
Uranium, Raw Well # 1		244		ug/L	
Uranium, Raw Well # 3		17.4		ug/L	
Total Ammonia Nitrogen, Raw Well # 1		6-Apr-10	0.05	mg/L	
Total Ammonia Nitrogen, Raw Well # 3			0.07	mg/L	
Uranium, Raw Well #1			267	ug/L	
Uranium, Raw Well #3			17.8	ug/L	

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	Total Ammonia Nitrogen, Raw Well # 1	5-Jul-10	<0.04	mg/L
	Total Ammonia Nitrogen, Raw Well # 3		<0.04	mg/L
	Uranium, Raw Well #1		248	ug/L
	Uranium, Raw Well #3		19.0	ug/L
	Total Ammonia Nitrogen, Raw Well # 1	4-Oct-10	0.06	mg/L
	Total Ammonia Nitrogen, Raw Well # 3		0.46	mg/L
	Uranium, Raw Well #1		234	ug/L
	Uranium, Raw Well #3		11.7	ug/L

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

Parameter	Sample Date	Sample Result	Exceedance
Antimony: Sb (ug/L) - TW3	2010/03/08	0.28	No
Arsenic: As (ug/L) - TW3	2010/03/08	1.90	No
Barium: Ba (ug/L) - TW3	2010/03/08	326.00	No
Boron: B (ug/L) - TW3	2010/03/08	25.00	No
Cadmium: Cd (ug/L) - TW3	2010/03/08	< 0.0030	No
Chromium: Cr (ug/L) - TW3	2010/03/08	1.00	No
Lead: Pb (ug/L) - DW	2009/03/09	0.32	No
Mercury: Hg (ug/L) - TW3	2010/03/08	< 0.020	No
Selenium: Se (ug/L) - TW3	2010/03/08	< 1.00	No
Sodium: Na (mg/L) - TW3	2008/08/06	19.20	No
Uranium: U (ug/L) - TW3	2010/10/04	11.40	No
Fluoride Residual: Mean (mg/L) - TW3	2010/10/04	0.80	No
Nitrite (mg/L) - TW3	2010/10/04	< 0.0050	No
Nitrite (mg/L) - TW3	2010/01/04	< 0.0050	No
Nitrite (mg/L) - TW3	2010/04/06	< 0.0050	No
Nitrite (mg/L) - TW3	2010/07/05	< 0.0050	No
Nitrate (mg/L) - TW3	2010/10/04	1.41	No
Nitrate (mg/L) - TW3	2010/01/04	3.03	No
Nitrate (mg/L) - TW3	2010/04/06	3.42	No
Nitrate (mg/L) - TW3	2010/07/05	1.72	No

**Summary of lead testing under Schedule 15.1 during this reporting period**

(applicable to the following drinking water systems; large municipal residential systems, small municipal residential systems, and non-municipal year-round residential systems)

Location Type	Number of Samples	Range of Lead Results (min#) – (max #)	Number of Exceedances
<b>Plumbing</b>	0	N/A	N/A
<b>Distribution</b>	4	0.29-1.11	No Exceedances

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

Parameter	Sample Date	Result Value	Exceedance
Alachlor (ug/L) - TW3	2010/03/08	< 0.020	No
Aldicarb (ug/L) - TW3	2010/03/08	< 0.010	No
Aldrin + Dieldrin (ug/L) - TW3	2010/03/08	< 0.010	No
Atrazine + N-dealkylated metabolites (ug/L) - TW3	2010/03/08	0.050	No
Azinphos-methyl (ug/L) - TW3	2010/03/08	< 0.020	No
Bendiocarb (ug/L) - TW3	2010/03/08	< 0.010	No
Benzene (ug/L) - TW3	2010/03/08	< 0.32	No
Benzo(a)pyrene (ug/L) - TW3	2010/03/08	< 0.0040	No
Bromoxynil (ug/L) - TW3	2010/03/08	< 0.33	No
Carbaryl (ug/L) - TW3	2010/03/08	< 0.010	No
Carbofuran (ug/L) - TW3	2010/03/08	< 0.010	No
Carbon Tetrachloride (ug/L) - TW3	2010/03/08	< 0.16	No
Chlordane: Total (ug/L) - TW3	2010/03/08	< 0.010	No
Chlorpyrifos (ug/L) - TW3	2010/03/08	< 0.020	No
Cyanazine (ug/L) - TW3	2010/03/08	< 0.030	No
Diazinon (ug/L) - TW3	2010/03/08	< 0.020	No
Dicamba (ug/L) - TW3	2010/03/08	< 0.20	No
1,2-Dichlorobenzene (ug/L) - TW3	2010/03/08	< 0.41	No
1,4-Dichlorobenzene (ug/L) - TW3	2010/03/08	< 0.36	No
Dichlorodiphenyltrichloroethane(DDT) + metabolites (ug/L) - TW3	2010/03/08	< 0.010	No
1,2-Dichloroethane (ug/L) - TW3	2010/03/08	< 0.35	No
1,1-Dichloroethylene (ug/L) - TW3	2010/03/08	< 0.33	No
Dichloromethane (ug/L) - TW3	2010/03/08	< 0.35	No

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2,4-Dichlorophenol (ug/L) - TW3	2010/03/08	< 0.15	No
2,4-Dichlorophenoxy acetic acid (2,4-D) (ug/L) - TW3	2010/03/08	< 0.19	No
Diclofop-methyl (ug/L) - TW3	2010/03/08	< 0.40	No
Dimethoate (ug/L) - TW3	2010/03/08	< 0.030	No
Dinoseb (ug/L) - TW3	2010/03/08	< 0.36	No
Diquat (ug/L) - TW3	2010/03/08	< 1.00	No
Diuron (ug/L) - TW3	2010/03/08	< 0.030	No
Glyphosate (ug/L) - TW3	2010/03/08	< 6.00	No
Heptachlor+Hepachlor Epoxide (ug/L) - TW3	2010/03/08	< 0.010	No
Lindane: (ug/L) - TW3	2010/03/08	< 0.010	No
Malathion (ug/L) - TW3	2010/03/08	< 0.020	No
Methoxychlor (ug/L) - TW3	2010/03/08	< 0.010	No
Metolachlor (ug/L) - TW3	2010/03/08	< 0.010	No
Metribuzin (ug/L) - TW3	2010/03/08	< 0.020	No
Monochlorobenzene (ug/L) - TW3	2010/03/08	< 0.30	No
Paraquat (ug/L) - TW3	2010/03/08	< 1.00	No
Parathion (ug/L) - TW3	2010/03/08	< 0.020	No
Pentachlorophenol (ug/L) - TW3	2010/03/08	< 0.15	No
Phorate (ug/L) - TW3	2010/03/08	< 0.010	No
Picloram (ug/L) - TW3	2010/03/08	< 0.25	No
Polychlorinated Bichenysl(PCB) (ug/L) - TW3	2010/03/08	< 0.040	No
Prometryne (ug/L) - TW3	2010/03/08	< 0.030	No
Simazine (ug/L) - TW3	2010/03/08	< 0.010	No
Temephos (ug/L) - TW3	2010/03/08	< 0.010	No
Terbufos (ug/L) - TW3	2010/03/08	< 0.010	No
Tetrachloroethylene (ug/L) - TW3	2010/03/08	< 0.35	No
2,3,4,6-Tetrachlorophenol (ug/L) - TW3	2010/03/08	< 0.14	No
Triallate (ug/L) - TW3	2010/03/08	< 0.010	No
Trichloroethylene (ug/L) - TW3	2010/03/08	< 0.43	No
2,4,6-Trichlorophenol (ug/L) - TW3	2010/03/08	< 0.25	No
2,4,5-Trichlorophenoxy acetic acid (ug/L) - TW3	2010/03/08	< 0.22	No
Trifluralin (ug/L) - TW3	2010/03/08	< 0.020	No
Vinyl Chloride (ug/L) - TW3	2010/03/08	< 0.17	No
THM (ug/L) - DW	2010/01/04	10	No
THM (ug/L) - DW	2010/04/06	11	No
THM (ug/L) - DW	2010/07/05	5.1	No
THM (ug/L) - DW	2010/10/04	16	No

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

<b>Parameter</b>	<b>Result Value</b>	<b>Unit of Measure</b>	<b>Date of Sample</b>
Uranium - TW 3	10.6	ug/L	15-Mar-10
Uranium - TW 3	11.0	ug/L	6-Apr-10
Uranium - TW 3	10.40	ug/L	5-Jul-10
Uranium - TW 3	11.40	ug/L	4-Oct-10

**(Only if DWS category is large municipal residential, small municipal residential, large municipal non residential, non municipal year round residential, large non municipal non residential) Small Municipal Non-Residential has been removed and Non Municipal Year Round Residential has been added.**



## SUMMARY REPORTS FOR MUNICIPALITIES

### Report

This report is a summary of water quality information for the Tweed Well Supply System published in accordance with Schedule 22 of Ontario's Drinking-Water Systems Regulation for the reporting period of January 1, 2010 to December 31, 2010. The Tweed Well Supply System is categorized as a Large Municipal Residential Drinking Water System.

This report was prepared by the Ontario Clean Water Agency on behalf of the Corporation of the Municipality of Tweed.

### Who gets a copy of the Report:

- in the case of a drinking-water system owned by a municipality, the members of the municipal council;
- in the case of a drinking-water system owned by a municipal service board established under section 195 of the *Municipal Act, 2001*, the members of the municipal service board; or
- in the case of a drinking-water system owned by a corporation, the board of directors of the corporation.

### What must the Report contain?

The report must,

- (a) list the requirements of the Act, the regulations, the system's approval and any order that the system **failed to meet** at any time during the period covered by the report and specify the duration of the failure; and
- (b) for each failure referred to in clause (a), describe the measures that were taken to correct the failure.

The following table lists the requirements that the system failed to meet and the measures taken to correct the failure:

Drinking Water Legislation	List the requirement(s) the system failed to meet	Specify the duration of the failure (i.e. date(s))	Describe the measures taken to correct the failure	Status (complete or outstanding)
Safe Drinking Water Act	Not Applicable			
Ontario Regulations (eg. O. Reg. 170/03, O. Reg. 128/04, O. Reg. 903	Not Applicable			
System Certificate of Approval No. 0177-6AZL3J & 4447-6L6KUF	Not Applicable			

### What else must the Report contain?

The report must also include the following information for the purpose of enabling the owner of the system to assess the capability of the system to meet existing and planned uses of the system:

1. A summary of the quantities and flow rates of the water supplied during the period covered by the report, including monthly average and maximum daily flows and daily instantaneous peak flow rates.

2. A comparison of the summary referred to in paragraph 1 to the rated capacity and flow rates approved in the system's approval.

<b>Tweed Well Supply System – Well #3 - 2009 Flow Data</b>						
Month	Total Flow (m3/month)	Average Monthly Flow (m3/month)	Max. Daily Flow (m3/day)	PTTW Max. Design Capacity Flow Rate (m3/day)	Daily Instantaneous Peak Flow Rate (L/sec)	PTTW Max. Daily instantaneous Peak Flow Rate (L/sec)
January	17246	556	864	1633	12.58	18.9
February	14042	501	595	1633	12.72	18.9
March	15709	506	618	1633	12.51	18.9
April	16491	549	769	1633	12.41	18.9
May	19568	631	877	1633	14.58	18.9
June	19905	663	920	1633	17.1	18.9
July	21169	682	956	1633	14.85	18.9
August	19928	642	968	1633	13.66	18.9
September	17485	582	873	1633	13.38	18.9
October	18007	580	828	1633	16.29	18.9
November	15002	500	563	1633	13.63	18.9
December	17532	565	1468	1633	13.76	18.9

The above table shows that there were no exceedances of the quantity of water supplied during the reporting period, or of the maximum design rated capacity.

**When Does the Report Get Submitted?**

If a report is prepared for a system that supplies water to a municipality under the terms of a contract, the owner of the system shall give a copy of the report to the municipality by March 31.