



TOWNSHIP OF ELIZABETHTOWN-KITLEY
WATER DISTRIBUTION SYSTEM

2009 ANNUAL WATER QUALITY REPORT

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D. Richards, Chief Operator – Water Treatment

DATE: February 22, 2010
FILE: W03-03

Part III Form 2
Section 11. ANNUAL REPORT.

Drinking-Water System Number:	260007777
Drinking-Water System Name:	Elizabethtown-Kitley Distribution System
Drinking-Water System Owner:	Township of Elizabethtown-Kitley
Drinking-Water System Category:	Class 1
Period being reported:	January 1, 2009 to December 31, 2009

Location of Annual Reports:

This annual report is available to the public at no charge at the Township's Municipal Offices and also on the City of Brockville's website: www.brockville.com. Users of this drinking-water system have been notified that this annual report is available by placing a notice on the website, and by memo in the water bills.

The 2009 Annual Summary Report for Council and Flow Study, as required under O. Reg. 170/03 Schedule 22, will be available for inspection no later than March 31, 2010 at:

- Township of Elizabethtown-Kitley's Website
- City of Brockville's Website
- Township of Elizabethtown-Kitley's Municipal Office
- City of Brockville – Public Library
- Water Billing Notice and hard copy at the Revenue Office, City Hall

DRINKING WATER QUALITY MANAGEMENT SYSTEM POLICY

The City of Brockville is dedicated to delivering a safe, reliable, drinking water supply while remaining compliant with all regulatory requirements. Achievement of those commitments is supported by risk-based process evaluation, staff competency, effective communications, and appropriate contingency / incident response measures.

*The managers and employees of the City of Brockville who are directly involved in the production and delivery of safe drinking water are committed to and share in the responsibilities for implementing, maintaining, and contributing to the continual improvement of the **Drinking Water Quality Management System**.*

Description of the City of Brockville Drinking-Water System and the Township of Elizabethtown-Kitley's Water Distribution System:

The City of Brockville's Water Treatment Plant is a Class III Facility located at 20 Rivers Avenue and operates under Certificate of Approval Number 7894-78ZK8P. The Water Distribution System has been separated into a Trunk Distribution System and Local Distribution System. The Trunk WDS is a Class III System (Certificate #3811) and the Local System is a Class II System (Certificate #2193). The Treatment Plant and Distribution Systems are described in the Annual Report for the City of Brockville.

The Water Distribution System for the Township of Elizabethtown-Kitley is described as follows:

- The City of Brockville provides treated water from the Water Treatment Plant to the Water Distribution System (Class 1) of the Township of Elizabethtown-Kitley to the west of the City. This is facilitated through a water main that extends along County Road #2 to the Country Club, through a meter chamber and associated appurtenances and services approximately 350 residential customers. This system was installed in 1996 by the Ministry of Transportation and the Ontario Clean Water Agency on behalf of the Township. The City has added the system to its SCADA system for trending purposes only (no control at this time).
- The distribution system has been sized to accommodate fire flow provision in the future by over-sizing the pipes where required (fire flow analysis is presented in the Class EA document). However, the pumping station is not sized for fire flows and although fire hydrants have been installed, these are to be used to facilitate flushing of the water mains only (may not provide adequate fire protection unless the booster station is upgraded). The pumps are operated daily to ensure proper operation. However, during summer months the station is also operated during flushing as per standard operating procedures for flushing the distribution system.
- A constant flow at the end of the main at Ackerman Rd. is required in the summer months to maintain free chlorine residual above the Regulated minimum level of 0.20 mg/L. During winter operation, the system is flushed for 24 hours prior to sampling in order to minimize the freezing of water at the Ackerman Road location.

Please refer to the Township of Elizabethtown-Kitley's website for the Annual Report, and also to the City of Brockville's Annual Report found on the City's Website. Any questions may be directed to Don Richards, Chief Operator - Water Treatment, Russ Fraser, Supervisor Public Works (Distribution) or to Reid Gaudin, Water Operations Foreman. These Annual Reports are a requirement under the Safe Drinking Water Act (SDWA, Ch. 32) and Ontario Regulation 170/03 for all Drinking Water Systems. This Report contains all relevant sampling, flows and disinfectant residuals for the DWS, including sampling points in the Township of Elizabethtown-Kitley's Water Distribution System.

Chemicals Used in the Drinking Water Treatment Process – 2009:

- Chlorine Gas (Disinfection)
- Poly Aluminum Chloride (Coagulant)
- Hydrofluorosilicic acid (Fluoride)
- Sodium Hypochlorite (Secondary Distribution System Disinfection)

Funds Required to Install, Repair or Replace Equipment:

PROJECT:	2009 Expenditures
Water Distribution System Repairs and Replacements	\$878.00
TOTAL EXPENDITURES:	\$878.00

2009 Adverse Water Quality Results and Notifications:

There were no Adverse Water Quality Results for the Township of Elizabethtown-Kitley's Water Distribution System in 2009.

Operational Testing:

The following table is a summary of the operational testing completed in 2009 (as per O. Reg. 170/03, Schedules 6 and 7).

PARAMETER TESTED:	# of Grab Samples	RANGE OF RESULTS:	
		Minimum	Maximum
Chlorine – Elizabethtown-Kitley Water Distribution System (mg/l)	365	0.53	1.39

Microbiological Testing:

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

Sample Description:	Number of Samples	Range of E.Coli Or Fecal Results CFU/100ml		Range of Total Coliform Results CFU/100ml		Number of HPC Samples	Range of HPC Results CFU/ml	
		Min.	Max.	Min.	Max.		Min.	Max.
Raw	52	0	20	4	680	52	<10	>2000
Treated	52	0	0	0	0	51	<10	210
Distribution	158	0	0	0	0	106	<10	1150

Chemical Testing:

The following Tables are a summary of the chemical testing completed in 2009 (as per O. Reg. 170/03, Schedule 13).

Schedule 23

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

Parameter	Sample Date	Result Value	Unit of Measure	Exceeded the Standard	Exceeded Half the Standard
Antimony	Jan. 6/09	0.0001	mg/l	No	No
Arsenic	Jan. 6/09	0.0008	mg/l	No	No
Barium	Jan. 6/09	0.017	mg/l	No	No
Boron	Jan. 6/09	0.015	mg/l	No	No
Cadmium	Jan. 6/09	<0.00002	mg/l	No	No
Chromium	Jan. 6/09	<0.002	mg/l	No	No
Mercury	Jan. 6/09	<0.00002	mg/l	No	No
Selenium	Jan. 6/09	0.0006	mg/l	No	No
Sodium	Weekly (52 samples)	12.49*	mg/l	No	n/a
Uranium	Jan. 6/09	0.00021	mg/l	No	No
Nitrite	Quarterly (4 samples)	<0.1*	mg/l	No	No
Nitrate	Quarterly (4 samples)	0.30*	mg/l	No	No

*average

n/a – not applicable

Schedule 24

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

Parameter	Sample Date	Result Value	Unit of Measure	Exceeded the Standard	Exceeded Half the Standard
Alachlor	Jan. 6/09	<0.3	ug/l	No	No
Aldicarb	Jan. 6/09	<3	ug/l	No	No
Aldrin + Dieldrin	Jan. 6/09	<0.02	ug/l	No	No
Atrazine + N-dealkylated metabolites	Jan. 6/09	<0.5	ug/l	No	No
Azinphos-methyl	Jan. 6/09	<1	ug/l	No	No
Bendiocarb	Jan. 6/09	<3	ug/l	No	No
Benzene	Jan. 6/09	<0.5	ug/l	No	No
Benzo(a)pyrene	Jan. 6/09	<0.005	ug/l	No	No
Bromoxynil	Jan. 6/09	<0.3	ug/l	No	No
Carbaryl	Jan. 6/09	<3	ug/l	No	No
Carbofuran	Jan. 6/09	<1	ug/l	No	No
Carbon Tetrachloride	Jan. 6/09	<0.2	ug/l	No	No
Chlordane (Total)	Jan. 6/09	<0.04	ug/l	No	No
Chlorpyrifos	Jan. 6/09	<0.5	ug/l	No	No
Cyanazine	Jan. 6/09	<0.5	ug/l	No	No
Diazinon	Jan. 6/09	<1	ug/l	No	No
Dicamba	Jan. 6/09	<5	ug/l	No	No
1,2-Dichlorobenzene	Jan. 6/09	<0.1	ug/l	No	No
1,4-Dichlorobenzene	Jan. 6/09	<0.2	ug/l	No	No
Dichlorodiphenyltrichloroethane (DDT) + metabolites	Jan. 6/09	<0.1	ug/l	No	No

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1,2-Dichloroethane	Jan. 6/09	<0.1	ug/l	No	No
1,1-Dichloroethylene (vinylidene chloride)	Jan. 6/09	<0.1	ug/l	No	No
Dichloromethane	Jan. 6/09	<0.3	ug/l	No	No
2-4 Dichlorophenol	Jan. 6/09	<0.1	ug/l	No	No
2,4-Dichlorophenoxy acetic acid (2,4-D)	Jan. 6/09	<5	ug/l	No	No
Diclofop-methyl	Jan. 6/09	<0.5	ug/l	No	No
Dimethoate	Jan. 6/09	<1	ug/l	No	No
Dinoseb	Jan. 6/09	<0.5	ug/l	No	No
Diquat	Jan. 6/09	<5	ug/l	No	No
Diuron	Jan. 6/09	<5	ug/l	No	No
Glyphosate	Jan. 6/09	<25	ug/l	No	No
Heptachlor + Heptachlor Epoxide	Jan. 6/09	<0.1	ug/l	No	No
Lindane (Total)	Jan. 6/09	<0.1	ug/l	No	No
Malathion	Jan. 6/09	<5	ug/l	No	No
Methoxychlor	Jan. 6/09	<0.1	ug/l	No	No
Metolachlor	Jan. 6/09	<3	ug/l	No	No
Metribuzin	Jan. 6/09	<3	ug/l	No	No
Monochlorobenzene	Jan. 6/09	<0.2	ug/l	No	No
Paraquat	Jan. 6/09	<1	ug/l	No	No
Parathion	Jan. 6/09	<3	ug/l	No	No
Pentachlorophenol	Jan. 6/09	<0.1	ug/l	No	No
Phorate	Jan. 6/09	<0.3	ug/l	No	No
Picloram	Jan. 6/09	<5	ug/l	No	No
Polychlorinated Biphenyls(PCB)	Jan. 6/09	<0.05	ug/l	No	No
Prometryne	Jan. 6/09	<0.1	ug/l	No	No
Simazine	Jan. 6/09	<0.5	ug/l	No	No
THM - Township of Elizabethtown-Kitley (NOTE: show latest annual average)	Quarterly (4 samples)	0.0362 *	ug/l	No	No
Temephos	Jan. 6/09	<10	ug/l	No	No
Terbufos	Jan. 6/09	<0.3	ug/l	No	No
Tetrachloroethylene	Jan. 6/09	<0.2	ug/l	No	No
2,3,4,6-Tetrachlorophenol	Jan. 6/09	<0.1	ug/l	No	No
Triallate	Jan. 6/09	<10	ug/l	No	No
Trichloroethylene	Jan. 6/09	<0.1	ug/l	No	No
2,4,6-Trichlorophenol	Jan. 6/09	<0.1	ug/l	No	No
2,4,5-Trichlorophenoxy acetic acid (2,4,5-T)	Jan. 6/09	<10	ug/l	No	No
Trifluralin	Jan. 6/09	<0.5	ug/l	No	No
Vinyl Chloride	Jan. 6/09	<0.2	ug/l	No	No

*average

LEAD SAMPLING REGULATION 170/03 SCHEDULE 15.1:

In 2009 two sampling periods were established for the Township of Elizabethtown-Kitley WDS. The results are summarized in the table below. All of the WDS was installed with PVC pipe, so most lead contaminants have been attributed to lead solder in household plumbing systems.

Location	Number of Sample Locations	Lead (mg/l)	Number of Exceedances	Field pH	Alkalinity (mg/l)
Residential Services	21	<0.00002 – 0.00193	0	7.51 – 7.85	N/A
Commercial Services	2	0.00057 – 0.00602	0	7.69 – 7.72	N/A
Distribution System	5	<0.00002 – 0.00045	0	7.40 – 7.72	82 - 86

Based on the 2009 results, Section 15 of Ontario Regulation 170/03, the Elizabethtown-Kitley WDS qualifies for the reduced lead sampling schedule. Lead sampling will commence again in 2012.