July - September 2002 Water Quarterly Report

Parameters Related to Microbiological Quality	MAC, IMAC or Minimum	Number of Samples	Number of Detectable Results	Sampling Date	Range	Adverse Results?	Typical Source of Contaminant
Turbidity							
Filter # 1	Mac 1.0 NTU	Continuous	Continuous	July 1/02- September 30/02	0.030-0.179 NTU	No	Indicates presence of particles in water due to process difficulties.
Filter # 2		Continuous	Continuous		0.032-0.204 NTU	No	
Filter # 3		Continuous	Continuous		0.031-0.117 NTU	No	
Filter # 4		Continuous	Continuous		0.039-0.164 NTU	No	
Plant Effluent Online		Continuous	Continuous		0.021-0.047 NTU	No	
Plant Effluent Lab.		91	91		0.020-0.054 NTU	No	
Free Chlorine Entering Distribution System	Indicator of adverse water quality if below 0.05mg/L						Free chlorine entering distribution system must be high enough to maintain a minimum of 0.20 mg/L in all parts of the distribultion system.
Plant Effluent Online		Continuous	Continuous	July 1/02- September 30/02	1.366-2.222 mg/L	No	
Plant Effluent Lab.		91	91		1.30-1.98 mg/L	No	
Free Chlorine @ Sites Throughout Distribution System	Indicator of adverse water quality if below 0.05mg/L	431	431	July 1/02- September 30/02	0.01-1.74 mg/L	Yes. See summary.	

Microbiological Parameters	MAC , IMAC or Aesthetic Objective	Number of Samples	Number of Detectable Results	Sampling Date	Range	Adverse Results?	Typical Source of Contaminant
Total Coliforms	MAC = 0 *See Note	119	1	July 1/02- September 30/02	N/A	No	Inadequate filtration/disinfection.
Fecal Coliforms	MAC = 0 *See Note		0	July 1/02- September 30/02	N/A	No	Sewage Contamination.
E . Coli	MAC = 0 *See Note		0	July 1/02- September 30/02	N/A	No	Sewage Contamination.
Deterioration Indicators	MAC = 0 *See Note		0	July 1/02- September 30/02	N/A	No	Inadequate filtration/disinfection.
Heterotrophic Plate Count Colonies / mL	MAC 500 Colonies/mL	24	8	July 1/02- September 30/02	0-3 colonies	No	Used to monitor disinfection efficiency at plant or water quality deterioration in system.

Note * Indicator of Adverse Water Quality if present in treated water.

Volatile Organics	MAC , IMAC or Aesthetic Objective	Detection Limit	Number of Samples	Sampling Date	Result	Exceedance ?	Typical Source of Contaminant
Benzene	MAC 5 ug/L	0.5 ug/L	1	August 14/02	<0.5 ug/L	No	Petroleum products, vehicle emissions, cigarette smoke.
CarbonTetrachloride	MAC 5 ug/L	0.5 ug/L	1	August 14/02	<0.5 ug/L	No	Industrial waste.
1,2-Dichlorobenzene	MAC 200 ug/L	0.5 ug/L	1	August 14/02	<0.5 ug/L	No	Used in specialty chemical blends (degreasing agents, dye carriers).
1,4-Dichlorobenzene	MAC 5 ug/L	0.5 ug/L	1	August 14/02	<0.5 ug/L	No	Synthetic material widely used in toilet pucks & moth balls.
1,2-Dichloroethane	IMAC 5 ug/L	0.5 ug/L	1	August 14/02	<0.5 ug/L	No	Used in production of vinyl chloride also as a solvent and fumigant.
1,1-Dichloroethelyne	MAC 14 ug/L	0.5 ug/L	1	August 14/02	<0.5 ug/L	No	Used in food packaging industry and textile industry.
Dichloromethane (Methylene Chloride)	MAC 50 ug/L	0.5 ug/L	1	August 14/02	<0.5 ug/L	No	Industrial paint stripper and degreasing agent.
Ethylbenzene	Aesthetic Objective 2.4 ug/L	0.5 ug/L	1	August 14/02	<0.5 ug/L	No	Component of gas octane booster also used in solvant based paint.
Monochlorobenzene (Chlorobenzene)	MAC 0.08 mg/L Aesthetic Objective/ 30 ug/L	0.5 ug/L	1	August 14/02	<0.5 ug/L	No	Used to produce ingredients for waxes paints, polishes,rubber,
Tetrachloroethylene	MAC 30 ug/L	0.5 ug/L	1	August 14/02	<0.5 ug/L	No	Solvent for dry cleaning and the metal cleaning industries.
Toluene	Aesthetic Objective 24 ug/L	0.5 ug/L	1	August 14/02	<0.5 ug/L	No	Petroleum products, and benzene derived products.
Total Trihalomethanes (current quarter)	See running average of four quarters below	1.0 ug/L	1	August 14/02	244 ug/L	N/A	Trihalomethanes are the most widely occurring synthetic organics found in chlorinated drinking water. They are caused by the action of chlorine with naturally occurring organics.
Total Trihalomethanes (Running Average)	MAC 100 ug/L *Based on a four quarter moving annual average	1.0 ug/L	Average of last four quarterly samples	August 14/02 May 14/02 February 12/02 November 28/01	147 ug/L	Yes. See summary.	
Trichloroethylene (Trichloroethene)	MAC 50 ug/L	0.5 ug/L	1	August 14/02	<0.5 ug/L	No	Dry cleaning, metal degreasing, tetrachloroethylene production.
Vinyl Chloride	MAC 2 ug/L	0.5 ug/L	1	August 14/02	<0.5 ug/L	No	Used in making PVC.
m+p-Xylene	Aesthetic Objective 300 ug/L	1.0 ug/L	1	August 14/02	<1.0 ug/L	No	Industrial solvents, intermediate for dyes and organic synthesis, compound of paints, paint cleaners, and petroleum products.
o-Xylene	Aesthetic Objective 300 ug/L	0.5 ug/L	1	August 14/02	<0.5 ug/L	No	

Pesticides and PCBs	MAC , IMAC or Aesthetic Objective	Detection Limit	Number of Samples	Sampling Date	Result	Exceedance ?	Typical Source of Contaminant
Alachlor	IMAC 5 ug/L	0.1 ug/L	1	August 14/02	<0.1 ug/L	No	Herbicide when growing corn and soybeans/banned in 1985.
Aldicarb	MAC 9 ug/L	0.9 ug/L	1	August 14/02	<0.9 ug/L	No	Insecticide.
Aldrin + Dieldrin	MAC .7 ug/L	0.04 ug/L	1	August 14/02	<0.04 ug/L	No	Pesticides partially banned in Ontario in 1969 fully banned in 1994.
Atrazine + N-dealkylated metabolites	IMAC 5 ug/L	0.2 ug/L	1	August 14/02	<0.2 ug/L	No	Herbicide.
Azinphos -methyl	MAC 20 ug/L	0.1 ug/L	1	August 14/02	<0.1 ug/L	No	Insecticide.
Bendiocarb	MAC 40 ug/L	0.1 ug/L	1	August 14/02	<0.1 ug/L	No	Insecticide.
Bromoxynil	IMAC 5 ug/L	0.2 ug/l	1	August 14/02	<0.2 ug/l	No	Herbicide.
Carbaryl	MAC 90 ug/L	0.1 ug/L	1	August 14/02	<0.1 ug/L	No	Insecticide.
Carbofuran	MAC 90 ug/L	0.1 ug/L	1	August 14/02	<0.1 ug/L	No	Insecticide.
Chlordane(Total)	MAC 7 ug/L	0.3 ug/L	1	August 14/02	<0.3 ug/L	No	Insecticide.
Chlorpyrifos	MAC 90 ug/L	0.1 ug/L	1	August 14/02	<0.1 ug/L	No	Insecticide.
Cyanazine	IMAC 10 ug/l	0.1 ug/L	1	August 14/02	<0.1 ug/L	No	Herbicide.
Diazinon	MAC 20 ug/L	0.1ug/L	1	August 14/02	<0.1 ug/L	No	Insecticide.
Dicamba	MAC 120 ug/L	0.2 ug/L	1	August 14/02	<0.2 ug/L	No	Herbicide.
2,4-Dichlorophenol	MAC 900 ug/L	0.5 ug/L	1	August 14/02	<0.5 ug/L	No	The action of chlorine on phenolic precursers.
DDT & Metabolites	MAC 30 ug/L	0.4 ug/L	1	August 14/02	<0.4 ug/L	No	Insecticide.
2,4-D	IMAC 100 ug/L	0.2 ug/L	1	August 14/02	<0.2 ug/L	No	Herbicide.
Diclofop - methyl	MAC 9 ug/L	0.1 ug/L	1	August 14/02	<0.1 ug/L	No	Herbicide.
Dimethoate	IMAC 20 ug/L	0.1 ug/L	1	August 14/02	<0.1 ug/L	No	Insecticide.
Dinoseb	MAC 10 ug/L	0.2 ug/L	1	August 14/02	<0.2 ug/L	No	Herbicide.
Diquat	MAC 70 ug/L	7 ug/L	1	August 14/02	<7 ug/L	No	Herbicide.
Diuron	MAC 150 ug/L	15 ug/L	1	August 14/02	<15 ug/L	No	Herbicide.
Glyphosate	IMAC 280 ug/L	28 ug/L	1	August 14/02	<28 ug/L	No	Herbicide.
Heptachlor	MAC 3 ug/L	0.1 ug/L	1	August 14/02	<0.1 ug/L	No	Insecticide.
Heptachlor Epoxide	MAC 3 ug/L	0.1 ug/L	1	August 14/02	<0.1 ug/L	No	Insecticide.
Lindane(Total)	MAC 4 ug/L	0.1 ug/L	1	August 14/02	<0.1 ug/L	No	Insecticide.
Malathion	MAC 190 ug/L	0.1 ug/L	1	August 14/02	<0.1 ug/L	No	Insecticide.
Methoxychlor	MAC 900 ug/L	0.1 ug/L	1	August 14/02	<0.1 ug/L	No	Insecticide.
Metolachlor	IMAC 50 ug/L	0.1 ug/L	1	August 14/02	<0.1 ug/L	No	Herbicide.
Metribuzin	MAC 80 ug/L	0.1 ug/L	1	August 14/02	<0.1 ug/L	No	Herbicide.
Paraquat	10 ug/L 10 ug/L	1 ug/L	1	August 14/02	<1 ug/L	No	Herbicide.
Parathion	MAC 50 ug/L	0.1 ug/L	1	August 14/02	<0.1 ug/L	No	Insecticide.
Pentachlorophenol	MAC 60 ug/L	0.5 ug/L	1	August 14/02	<0.5 ug/L	No	Pesticides and wood preservatives.
Phorate	IMAC 2 ug/L	0.1 ug/L	1	August 14/02	<0.1 ug/L	No	Insecticide.
Picloram	IMAC 190 ug/L	0.2 ug/L	1	August 14/02	<0.2 ug/L	No	Herbicide.
PCBs	IMAC 3 ug/L	0.06 ug/L	1	August 14/02	<0.06 ug/L	No	Transformers.
Prometryne	IMAC 1 ug/L	0.1 ug/L	1	August 14/02	<0.1 ug/L	No	Herbicide.
Simazine	IMAC 10 ug/L	0.1 ug/L	1	August 14/02	<0.1 ug/L	No	Herbicide.
Temephos	IMAC 280 ug/L	0.1 ug/L	1	August 14/02	<0.1 ug/L	No	Insecticide.
Terbufos	IMAC 1 ug/L	0.1 ug/L	1	August 14/02	<0.1 ug/L	No	Insecticide.
2,3,4,6-Tetrachlorophenol	MAC 1 ug/L	0.5 ug/L	1	August 14/02	<0.5 ug/L	No	Wood preservative.
Triallate	MAC 230 ug/L	0.1 ug/L	1	August 14/02	<0.1 ug/L	No	Herbicide.
2,4,6-Trichlorophenol	MAC 5 ug/L	0.5 ug/L	1	August 14/02	<0.5 ug/L	No	Used in the manufacture of pesticides.
Trifluralin	IMAC 45 ug/L	0.1 ug/L	1	August 14/02	<0.1 ug/L	No	Herbicide.
2,4,5-T (2,4,5-Trichlorophenoxy acetic acid)	28 ug/L	0.2 ug/L	1	August 14/02	<0.2 ug/L	No	Herbicide.

Inorganics	MAC , IMAC or Aesthetic Objective	Detection Limit	Number of samples	Sampling Date	Result	Exceedance ?	Typical Source of Contaminant
Arsenic	IMAC 25 ug/L	1 ug/L	1	November 28/01	<1 ug/L	No	Mine drainage waters and leachates, also occurrs naturally.
Barium	MAC 1000 ug/L	10 ug/L	1	November 28/01	<10 ug/L	No	Limestone and dolomite.
Boron	IMAC 5000 ug/L	50 ug/L	1	November 28/01	<50ug/L	No	Antiseptic agents.
Cadmium	MAC 5 ug/L	0.5 ug/L	1	November 28/01	<0.5 ug/L	No	Electroplating wastes.
Chromium	MAC 50 ug/L	1 ug/L	1	November 28/01	<1 ug/L	No	Chlorination, older yellow paints, and water cooling systems.
Copper	Aesthetic Objective 1000 ug/L	1 ug/L	1	November 28/01	<1 ug/L	No	Plumbing.
Fluoride	Optimum Level 0.5 mg/L-0.8 mg/L	0.03 mg/L	1	August14/02	0.32 mg/L	No. See summary.	Natural or added to prevent tooth decay
Iron	Aesthetic Objective 300 ug/L	50 ug/L	1	November 28/01	<50 ug/L	No	Anaerobic decay in sediments and complex formations.
Lead	MAC 10 ug/L	1 ug/L	2	November 28/01	<1 ug/L	No	Corrosion of lead solder, some brass fittings or from lead pipes.
Manganese	Aesthetic Objective 50 ug/L	1 ug/L	1	November 28/01	<1 ug/L	No	Anaerobic decay processes in sediments.
Mercury	MAC 1 ug/L	0.1 ug/L	1	November 28/01	<0.1 ug/L	No	Air pollution, metal refining, and natural mineral deposits.
Nitrate	MAC 10 mg/L	0.03 mg/L	1	August 14/02	0.03 mg/L	No	Decayed plants or animals or from sewage,geological formations.
Nitrite	MAC 1.0 mg/L	0.02 mg/L	1	August 14/02	<0.02 mg/L	No	Unoxidized nitrate.
Selenium	MAC 10 ug/L	5 ug/L	1	November 28/01	<5 ug/L	No	Occurs naturally eg.weathering of rocks.
Sodium	Aesthetic Obj. 200.0 mg/L	0.005 mg/L	1	November 28/01	13.8 mg/L	No	Natually ocurring or through the addition of water treatment process
Uranium	MAC 100 ug/L	5 ug/L	1	November 28/01	<5 ug/L	No	Naturally occuring.