

Quarterly Report for the Glen Water Treatment Plant and Distribution System

**Operated by the Ontario Clean Water Agency (OCWA)
under contract to the Township of Essa
for the period ending March 31, 2001**

Introduction:

This report is a summary of the last quarter's water quality, published in accordance with Ontario's Drinking Water Protection Regulation. It includes important information regarding the source of your water, analytical test results, and how it compares to standards set by the Province. If you have any questions regarding this report, please contact our Client Services Representative listed in section 3 below.

During the quarter, the Ontario Clean Water Agency (OCWA) conducted more than 350 tests for water quality parameters. Of those tests, six sample was found to exceed the Ontario Drinking Water Standards as set out in Ontario Regulation 459/00. As a result we actively undertook the following remedial actions:

- Increasing the chlorine dose
- Resampling

Compliance With Provincial Regulations:

OCWA operates your water facility in accordance with provincial regulations. Here is how we do it:

- **Use of Accredited Labs:** Analytical tests to monitor your water quality are conducted by a laboratory audited by the Canadian Association for Environmental Analytical Laboratories (CAEAL) and accredited by the Standards Council of Canada (SCC). Accreditation ensures that the laboratory has acceptable laboratory protocols and test methods in place. It also requires the laboratory to provide evidence and assurances of the proficiency of the analysts performing the test methods.
- **Operation by Licensed Operators:** Your water treatment plant and distribution system is operated and maintained by the OCWA's competent and licensed staff. The mandatory licensing program for operators of drinking water facilities in Ontario is regulated under the Ontario Water Resources Act (OWRA) Regulation 435/93. Licensing means that an individual meets the education and experience requirements and has successfully passed the certificate exam.

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- Sampling and Analytical Requirements: OCWA follows a sampling and analysis schedule required by OWRA Regulation 459/00, the Ontario drinking Water Standards. More information on sampling and analysis including results are available in this report and from your municipal office.
- Adherence to Ministry Guidelines and Procedures: To ensure the protection of the public health and operational excellence, the OCWA adheres to the guidelines and procedures developed by the Ministry of Environment and the Ministry of Health.

System Information:

Facility Name:	Glen Water Treatment Plant	Client Services:	Peter Rupcic
Total Design Capacity	3940m ³ /day	Phone Number	(519)770-5699
Raw Water Source	Two wells	E-mail Address	prupcic@OCWA.com
Disinfection Method	Sodium Hypochlorite		
Municipal Location	Township of Essa	Operations Manager	Wayne White
Service Area	Village of Thornton	Phone Number	(705)429-2525
Service Population	351	E-mail Address	wwhite@OCWA.com
Operational Description: The present Glen Avenue Water System was constructed in the late 1980's to serve portions of the Cunningham Acres subdivision in Essa Township. A groundwater well system comprised of two drilled wells, control building and submersible well pumps, it presently provides potable water to 34 homes. A hypochlorination feed system housed in the control building ensures disinfection. Well water is stored in four 450 litre pressure tanks, and three 325 litre pressure system, the chlorine residual in the potable water is capable of being measured by an on-line analyzer. Up to 523 m ³ per day of potable water is capable of being produced. Flow from the Glen Avenue system is measured by new twin Trident flow meters (one at each well). Although there are two wells available, only one well at a time is permitted to be in production. The Glen Avenue Well and well house were upgraded in 1995 to accommodate an extension to the subdivision. Larger capacity well pumps were installed in the existing wells along with larger pressure tanks and new flow meters. During construction, a large diameter main was installed to insure a fifteen minute retention time prior to the first consumer. As required by the Certificate of Approval, chlorine residual must be maintained at 0.5 mg/L total and distribution system sampling frequency was increased to twice per week.			

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Analytical Test Results:

Micro biological Parameters	January	February	March	Quarter Summary	MAC /IMAC
Total Coliform counts/100mls					
Number of Samples	25	18	18	61	
Number of Detectable Results	0	0	0	0	
Min / Max	0	0	0	0	0
Exceedences	0	0	0	0	
E. Coliform counts/100mls					
Number of Samples	25	18	18	61	
Number of Detectable Results	0	0	0	0	
Min / Max	0	0	0	0	0
Exceedences	0	0	0	0	
Background					
Number of Samples	15	11	11	37	
Number of Detectable Results	0	0	0	0	
Min / Max	0/<200	0/3	0/8	0	200
Exceedences	0	0	0	0	
Typical Source of Contamination	Microbial contaminants, such as viruses and bacteria, may come from septic systems, agricultural livestock operations, wildlife, and wastewater treatment plants.				
Comments: All Bacteriological samples taken in this quarter showed no sign of contamination					

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Operational Parameters	January	February	March	Quarter summary	MAC/IMAC
Chlorine Residual					
Number of Samples	31	28	31	90	
Number of Detectable Results	31	28	31	90	
Min/Max Exceedences	.02/.65 1	.26/.58 0	.02/.55 1		0.2-4.0 2
Turbidity					
Number of Samples	31	28	31		
Number of Detectable Results	31	28	31		
Min/Max Exceedences	.21/.33 0	.15/.32 0	.05/2.5 4		1 4

It should be noted that, online analyzers have been installed in order to monitor and record these parameters continuously. The information above represents samples taken from continuous monitoring and grab samples. In January and March the chlorine fell below the limit on two separate occasions. Corrective action was taken. Several turbidity spikes were recorded near the end of March, corrective action was taken and the problem is presently being addressed in accordance to Reg. 459/00.

Volatile Organic Parameters	January	February	March	Quarter Summary	MAC / IMAC
Typical Source of Contamination	Organic Chemical Contaminants, including synthetic and volatile organic chemicals, that are byproducts of industrial processes and petroleum production, and can also come from gas stations, urban storm water runoff, and septic systems.				
Comments: VOLATILE ORGANIC PARAMETERS WERE TESTED IN JANUARY AND THERE WERE NO EXCEEDENCES IN THIS QUARTER.					

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Inorganic Parameters	January	February	March	Quarter Summary	MAC / IMAC
Typical Source of Contamination	Inorganic contaminants, such as salts and metals, can be naturally-occurring or result from urban storm water runoff, industrial, or domestic wastewater discharges, oil & gas production, mining.				
Comments: INORGANIC PARAMETERS WERE NOT TESTED IN THIS QUARTER.					

Pesticides and PCB Parameters	January	February	March	Quarter Summary	MAC / IMAC
Typical Source of Contamination	Pesticides and herbicides, may come from a variety of sources such as agriculture, urban storm water runoff, and residential uses.				
Comments: PESTICIDES AND PCB PARAMETERS WERE TESTED IN JANUARY AND NO EXCEEDENCES OCCURRED IN THIS QUARTER.					

Radiological Parameters	January	February	March	Quarter Summary	MAC / IMAC
Typical Source of Contamination	Man made or natural elements emitting radiation in the form of alpha, beta or gamma particles				
Comments: RADIOLOGICAL PARAMETERS WERE NOT TESTED IN THIS QUARTER.					

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Discussion of Analytical Results:

On the 22nd of January the chlorine residual dropped below the MOE reportable limit of .05 mg/L due to well pump failure. MOH and SAC were notified. The water was supplied from the reservoir only; therefore, the system was not replenished with chlorine as the chemical pumps run only when the wells are called. Chlorine was added to the reservoir and a hydrant was opened to push the new supply through the system quicker to restore the residual chlorine. Resamples were within the limits.

On the 20th of March a low chlorine residual was reported as per Reg. 459/00. The low chlorine is believed to be caused by a bleed valve being left open allowing the chlorine only to circulate through the chemical pump back into the day tank rather than into the system. Corrective action was taken and resamples were within the limits.

In the end of March four turbidity spikes were reported as per Reg. 459/00. The cause of these spikes is still under investigation and any further spikes are being reported as per Reg. 459/00.

Availability of Analytical Test Results:

The certificate of approval from the Ministry of the Environment, and Regulation 459/00 set out monitoring requirements for your water. The tables above summarize all the results required for inclusion in quarterly reports. Your water is extensively tested for the presence of dozens of compounds. Some compounds, not listed above, may be present in low concentrations and their presence does not necessarily mean that the water poses a health risk. Results of all analytical tests are available through your municipal office.

Definitions and Abbreviations:

- **MAC** - Maximum Acceptable Concentration.
- **IMAC** - Interim Maximum Acceptable Concentration.
- **Coliform Bacteria** - a group of commonly occurring rod shaped bacteria. Their presence in a water sample is indicative of inadequate filtration and/or disinfection.
- **Fecal Coliform Bacteria** - refers to a subgroup of coliform bacteria present in the digestive system of warm blooded animals and humans.
- **Heterotrophic Plate Count** - a method of measuring bacterial content in water samples. Also known as Standard Plate Count.
- **Organic Parameter** - a group of chemical compounds containing carbon.
- **Inorganic Parameter** - a group of chemical compounds not containing carbon.

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- **Raw Water** - Surface or ground water available as a source of drinking water that has not received any treatment.