Ontario Clean Water Agency
Agence Ontarienne Des Eaux

Quarterly Report for the Baxter Water Treatment and Distribution System

Waterworks # 260001013

Operated by the Ontario Clean Water Agency (OCWA)

under contract to the Township of Essa

for the period ending December 31 , 2001

Introduction:

This report is a summary of the last quarter's water quality, published in accordance with Ontario Regulation 450/00 titled **"Drinking Water Protection - Larger Water Works"**. 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 this quarter, more than 500 tests for water quality parameters specified in Ontario Regulation 459/00 and the facility Certificate of Approval (C of A) were conducted at Lakefield Research, an accredited laboratory under contract with OCWA. Of those tests conducted on treated water, there were no exceedences of the Ontario Drinking Water Standards as set out in Ontario Regulation 459/00 and are summarized in this report.

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 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.

- **Sampling and Analytical Requirements**: OCWA collects samples from the plant and distribution system to meet the requirements listed in Schedule 2 of Ontario Regulation 459/00 and any additional parameters required by the facility C of A. 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, OCWA adheres to the guidelines and procedures developed by the Ministry of Environment and the Ministry of Health.

System Information:

Facility Name:	Baxter Water System	**Client Services:**	Steve Rohacek
Total Design Capacity:	1048m^3/day	**Phone Number:**	(519)770-5699
Raw Water Source:	Two wells	**E-mail Address:**	srohacek@OCWA.com
Disinfection Method:	Sodium hypochlorite	**Operations Manager:**	Wayne White
Municipal Location:	Township of Essa	**Phone Number:**	(705)429-2525
Service Area:	Village of Baxter	**E-mail Address:**	wwhite@OCWA.com
Service Population:	114	**Office Address:**	Wasaga Beach, ON

Operational Description: Two drilled wells provide 1048m^3/day potable water to a community of 114. As water is pumped from either well, sodium hypochlorite is added by an automatic chemical feed pump. The water is then stored in four 425 litre pressure tanks. Online chlorine and turbidity analyzers continuously monitor the residual and clarity in the water and sends an alarm if the predetermined set points are exceeded.

Analytical Test Results:

Micro biological Parameters	October	November	December	Quarter Summary	MAC / IMAC
Total Coliform *counts/100mls*					
Number of Samples	24	20	20	64	
Number of Detectable Results	0	0	0	0	
Min / Max	0/0	0/0	0/0		0
Exceedences	0	0	0	0	
E. Coli *counts/100mls*					
Number of Samples	24	20	20	64	
Number of Detectable Results	0	0	0	0	
Min / Max	0/0	0/0	0/0		0
Exceedences	0	0	0	0	
Background					
Number of Samples	24	18	16	58	
Number of Detectable Results	1	0	1	2	
Min / Max	0/8	0/0	0/1		200
Exceedences	0	0	0	0	

Typical sources of microbial contaminants, such as viruses and bacteria, may come from septic systems, agricultural livestock operations, wildlife, and wastewater treatment plants.

Comments**: There were no exceedances in the microbiological parameters tested during this quarter.**

Operational Parameters	October	November	December	Quarter Summary	MAC / IMAC
Chlorine Residual (Plant)					
Number of Samples	31	30	31	92	
Number of Detectable Results	31	30	31	92	
Min / Max	0.00/.81	0.00/1.26	0.00/2.12	0/2.12	.05/4.0
Exceedences	2	2	1	5	
Chlorine Residual (System)					
Number of Samples	10	8	8		
Number of Detectable Results	10	8	8		
Min/Max	.12/.67	.21/1.27	.12/.39	.02/1.27	.05/4.0
Exceedances	0	0	0	0	
Turbidity					
Number of Samples	31	30	31	92	
Number of Detectable Results	31	30	31	92	
Min / Max	.24/1.98	.34/ >2.0	.56/>2.0	.24/1.98	1
Exceedences	4	4	3	11	

COMMENTS: Turbidity and chlorine are monitored continuously with online equipment and are alarmed. Operations staff collect grab samples during their plant checks and measure the chlorine and turbidity with pocket instruments as a comparison to the continuous equipment. All operational parameter exceedances were reported as per O.Reg. 459/00.

Volatile Organic Parameters	October	November	December	Quarter Summary	MAC / IMAC

Typical sources of 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 OCTOBER AND THERE WERE NO EXCEEDANCES.**

Inorganic Parameters	October	November	December	Quarter Summary	MAC / IMAC

Typical sources of 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 TESTED IN OCTOBER AND THERE WERE NO EXCEEDANCES.**

Pesticides and PCB Parameters	October	November	December	Quarter Summary	MAC / IMAC
Typical sources of contamination from pesticides and herbicides, may come from a variety of sources such as agriculture, urban storm water runoff, and residential uses.					
Comments: **PESTICIDES AND PCB's WERE TESTED IN OCTOBER AND THERE WERE NO EXCEEDANCES.**					

Radiological Parameters	October	November	December	Quarter Summary	MAC / IMAC
Typical sources of contamination are from 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.**					

Discussion of Analytical Results:

During this quarter, there were no micro biological parameters that exceeded the MAC/IMAC limits. In respect to Operational Parameters, there were 5 notifications issued as the result of a low chlorine residual in the water leaving the pump house and/or the system. This parameter is controlled by an alarm system; therefore, staff were able to respond immediately and restore the chlorine residual in a timely manner. The cause for each low chlorine incident was equipment-related; therefore, OCWA has since contacted the supplier to get some technical assistance in order to prevent this issue from being systemic.

During this quarter, 11 turbidity exceedences were reported as per Regulation 459/00. These samples are taken continuously in-house by online equipment and these instantaneous spikes are believed to be caused from the starting and stopping of pumps and/or air and a buildup of iron sediment in the sample lines. During these spikes, the system is being adequately disinfected; therefore, reducing any risks that may be associated with the high turbidity. The turbidity analyzers are alarmed to notify Operations Staff of continual exceedances.

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 and OCWA.

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