

Quarterly Report for the Angus Water Treatment Plants and Distribution System

**Operated by the Ontario Clean Water Agency (OCWA)
under contract to the Township of Essa
for the period ending June 30th, 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 this quarter, the Ontario Clean Water Agency (OCWA) conducted more than 500 tests for water quality parameters. Of those tests conducted at an Accredited laboratory one of the treated drinking water samples was found to exceed the Ontario Drinking Water Standards as set out in Ontario Regulation 459/00. As a result, the following remedial actions were taken:

- Flushed Mains
- Increased the chlorine dose
- Re-Sampled the System
- Replaced Chlorine pump with new model

During this quarter, 19 turbidity exceedences were reported per Regulation 459/00. Turbidity is monitored continuously in-house by online equipment and the spikes are believed to be caused from the starting and stopping of pumps and/or air and dirt in the sample lines.

Compliance With Provincial Regulations:

OCWA operates your water facilities 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.

Quarterly Report for Angus Water Treatment Plants and Distribution System for the period ending June 30th, 2001

- **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.
- **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:	Angus WT and WD	Client Services:	Peter Rucpic
Total Design Capacity	Mill St. 3927m ³ /day	Phone Number	(519)770-5699
	McGeorge 2600 m ³ /day		
Raw Water Source	Three drilled wells, 1 at Mill St. Pump House, 2 at McGeorge Pump House	E-mail Address	prucpic@OCWA.com
Disinfection Method	Sodium Hypochlorite		
Municipal Location	Township of Essa	Operations Manager	Wayne White
Service Area	Town of Angus	Phone Number	(705)429-2525
Service Population	4218	E-mail Address	wwhite@OCWA.com

Quarterly Report for Angus Water Treatment Plants and Distribution System for the period ending June 30th, 2001

Operational Description: Mill St pump house -A single drilled groundwater well can provide up to 3927 m³/day of a good quality potable water. McGeorge pump house has two drilled groundwater wells that provide up to 2600 m³/day of potable water. As groundwater is pumped from the well, chemical feed pumps are automatically activated to add sodium silicate (for iron sequestering) and sodium hypochlorite (for disinfection). Treated water is stored in underground reservoirs. Flow is measured before entering the reservoir and as the treated water enters the distribution system. It should be noted that the Mill Street Water treatment plant shares a distribution system with the McGeorge plant. On-line analyzers continuously monitor chlorine residuals and turbidity. Standby diesel generators are available as a back-up source in the event of a power failure.

Analytical Test Results:

Micro biological Parameters	April	May	June	Quarter Summary	MAC /IMAC
Total Coliform					
CFU/100mls					
Number of Samples	36	45	36	117	
Number of Detectable Results	0	0	0	0	
Min / Max	0	0	0	0	0
Exceedences	0	0	0	0	
E. Coli					
CFU /100mls					
Number of Samples	36	45	36	117	
Number of Detectable Results	0	0	0	0	
Min / Max	0	0	0	0	0
Exceedences	0	0	0	0	
Background					
CFU/100 mls					
Number of Samples	12	15	12	42	
Number of Detectable Results	2	0	1	3	
Min / Max	0/<100	0	0/<200	0	200

Quarterly Report for Angus Water Treatment Plants and Distribution System for the period ending June 30th, 2001

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: NONE OF THE MICROBIOLOGICAL TESTS EXCEEDED THE MAC/IMAC LIMITS DURING THIS QUARTER.				

Operational Parameters	April	May	June	Quarter Summary	MAC / IMAC
Chlorine Residual					
Number of Samples	60	62	60	182	
Number of Detectable Results	60	62	60	182	
Min / Max	0.48/1.75	0.6/1.5	0.04/2.17		0.2-4.0
Exceedences	0	0	1	1	
Turbidity					
Number of Samples	60	62	60	182	
Number of Detectable Results	60	62	60	182	
Min / Max	0/>5	0/2	0		1
Exceedences	4	15	0	19	
Comments: Turbidity and chlorine are monitored continuously with on-line equipment. 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 turbidity spikes are reported as per reg.459/00. On June 25/01, a low chlorine residual was reported as per reg.459/01.					

Volatile Organic Parameters	April	May	June	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 APRIL AND NO EXCEEDENCES OCCURRED IN THIS QUARTER.					

Quarterly Report for Angus Water Treatment Plants and Distribution System for the period ending June 30th, 2001

Inorganic Parameters	April	May	June	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 TESTED IN APRIL AT THE MILL ST PLANT IN THIS QUARTER AND NO EXCEEDENCES OCCURED.					

Pesticides and PCB Parameters	April	May	June	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 APRIL AND NO EXCEEDENCES OCCURRED IN THIS QUARTER.					

Radiological Parameters	April	May	June	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.					

Quarterly Report for Angus Water Treatment Plants and Distribution System for the period ending June 30th, 2001

Discussion of Analytical Results:

On the 25th of June, a low chlorine residual was found leaving the plant and in the distribution system due to an equipment problem. Mains were immediately flushed and the chlorine dosage was increased. The Chlorine pump was replaced with a new model.

In this quarter there were many turbidity spikes. These spikes were reported as per Reg. 459/00. It should be noted that at the times of all the turbidity spikes that the system was receiving adequate disinfection. Turbidity spikes are an ongoing problem and is believed to be equipment-related. Spikes can occur from pump cycles as well as air and/or dirt in the sample lines. The 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 sets 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.
- **Raw Water** - Surface or ground water available as a source of drinking water that has not received any treatment.