



Ontario Clean Water Agency
Agence Ontarienne Des Eaux

**Quarterly Report for the Angus Water
Distribution System**
Waterworks # 260001026

Operated by the Ontario Clean Water Agency (OCWA)
under contract to the Township of Essa
For the period ending December 31,2002

Introduction:

This report summarizes the water quality for the Angus Water Supply during the fourth quarter of 2002, published in accordance with Ontario Regulation 506/01 (formerly 459/00) 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 450 tests for water quality parameters specified in Schedule 2 of Ontario Regulation 506/01 were conducted at SGS/Lakefield Research, an accredited laboratory under contract with OCWA. Of the tests conducted on treated water during this quarter, there were no exceedances reported. Refer to the analytical discussion section below for details.

In respect to Operational Parameters, chlorine and turbidity levels in the treated water leaving the pumphouse are analyzed continuously with online equipment and an alarm is signaled when the levels fall below or exceed the standard. During this quarter there were six (6) turbidity exceedances reported. Refer to the analytical discussion section below for details.

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 506/01 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:	Angus Water System	Client Services:	Steve Rohacek
Total Design Capacity:	Mill St: 3927 m ³ /day 1 Well McGeorge: 2600 m ³ /day 2 Wells	Phone Number:	(519)770-5699
Raw Water Source:	Three wells Total	E-mail Address:	srohacek@ocwa.com
Disinfection Method:	Sodium hypochlorite	Operations Manager:	Matt Tracey
Municipal Location:	Township of Essa	Phone Number:	(705)429-2525
Service Area:	Village of Angus	E-mail Address:	mtracey@ocwa.com
Service Population:	4218	Office Address:	Wasaga Beach, ON

Operational Description: (Mill) A single drilled well provides up to 3927 m³/day of potable water. **(McGeorge)** Two drilled wells provide up to 2600 m³/day of potable water. As groundwater is pumped from each well, chemical feed pumps automatically inject sodium silicate (for iron sequestering) and sodium hypochlorite (for disinfection) at both pump houses. Treated water is stored in underground reservoirs in order to meet peak demands. The raw and treated water is measured with flow meters in order to ensure that the volumes pumped from each well do not exceed the volume specified in each facility Permit to take Water. On-line analyzers continuously measure the chlorine residual and turbidity and the analyzers are alarmed 24 hours a day. Stand-by diesel generators are available as a back-up source in the event of a power failure.

Analytical Test Results:

Micro biological Parameters	October	November	December	Quarter Summary	MAC / IMAC
Total Coliform counts/100mls					
Number of Samples	36	38	36	110	
Number of Detectable Results	0	0	0	0	
Min / Max	0/0	0/0	0/0	0/0	0
Exceedences	0	0	0	0	
E. Coli counts/100mls					
Number of Samples	36	38	36	110	
Number of Detectable Results	0	0	0	0	
Min / Max	0/0	0/0	0/0	0/0	0
Exceedences	0	0	0	0	
Background					
Number of Samples	24	23	15	62	
Number of Detectable Results	0	0	0	0	
Min / Max	0/0	0/0	0/0	0/0	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 EXCEEDENCES 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 (McGeorge)	.60/1.28	.60/1.65	.62/2.4	.60/2.40	.05/4.0
Min/Max (Mill)	.78/1.18	.87/1.48	1.1/1.48	.78/1.48	.05/4.0
Exceedances	0	0	0	0	
Chlorine Residual (System)					
Number of Samples	16	16	16	48	
Number of Detectable Results	16	16	16	48	
Min/Max	.63/1.21	.52/1.36	.67/1.56	.52/1.56	.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 (McGeorge)	.05/1.2	.05/>1	.04/.29	.04/1.20	1.0
Min/Max (Mill)	.08/1.2	.04/>1	.03/.05	.03/1.2	1.0
Exceedances	4	2	0	6	
COMMENTS: THERE WERE SIX (6) TURBIDITY EXCEEDANCES REPORTED DURING THIS QUARTER.					

Volatile Organic Parameters	October	November	December	Quarter Summary	MAC / IMAC
<i>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.</i>					
Comments: VOLATILE ORGANIC PARAMETERS WERE TESTED IN OCTOBER AND NO EXCEEDANCES WERE REPORTED.					

Inorganic Parameters	October	November	December	Quarter Summary	MAC / IMAC
<i>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.</i>					
COMMENTS: INORGANIC PARAMETERS WERE NOT TESTED DURING THIS QUARTER.					

Pesticides and PCB Parameters	October	November	December	Quarter Summary	MAC / IMAC
<i>Typical Sources of Pesticides and Herbicides, may come from a variety of sources such as agriculture, urban storm water runoff, and residential uses.</i>					
Comments: PESTICIDES AND PCB's WERE TESTED IN OCTOBER AND NO EXCEEDANCES WERE REPORTED.					

Radiological Parameters	October	November	December	Quarter Summary	MAC / IMAC
<i>Typical Sources of Contamination are man made or natural elements emitting radiation in the form of alpha, beta or gamma particles.</i>					
Comments: RADIOLOGICAL PARAMETERS WERE NOT TESTED IN THIS QUARTER.					

Discussion of Analytical Results:

During this quarter, there were no exceedances reported for the microbiological parameters. In respect to Operational Parameters, 6 turbidity exceedances were reported as per Regulation 506/01. This parameter is monitored continuously by online equipment. Occasional instantaneous turbidity spikes that occur are believed to be caused from the starting and stopping of pumps, equipment maintenance/calibration and/or air and a buildup of iron sediment in the sample lines. During the above-noted spikes, adequate disinfection was applied to the system; therefore, reducing any risks that may be associated with the high turbidity. The turbidity analyzers are alarmed to notify Operations Staff of continual exceedances. The chlorine levels monitored in the treated and distribution water were maintained as per MOE Procedure B13-3.

All other volatile, organic, inorganic and pesticide parameters tested during this quarter were within the limits specified in Schedule 4 and 5 of ON Reg.506/01.

A requirement of the facility Certificate of Approval (C of A) is a Compliance Report which must be completed and made available not later than March 31, 2003. Upon completion, this report will be located at the Municipal Office and OCWA's Hub Office where it can be inspected.

As outlined in Condition 4 (c) of the C of A, the Compliance Report shall include, at a minimum, the following information:

(i) Under the heading of Compliance with Terms and Conditions of this Certificate of Approval, a statement as to compliance with all terms and conditions of the certificate, including any supporting data or other information;

(ii) *In the event of any Non-Compliance during any reporting period, and under a heading of "Non-Compliance with Terms and Conditions of this Certificate of Approval", details of the non-compliance as well as details of how and when any non-compliance was corrected;*

(iii) *A summary and discussion of the quantity of water supplied during the reporting period compared to the rated capacity specified in the certificate of approval, including monthly average and maximum daily flows;*

(iv) *A summary of records made under Condition 2.1 of this Certificate of Approval related to flow rate exceedances, and a summary of analytical results of sampling required by the certificate, including raw water and in-process parameters as specified in the operations manual in accordance with Condition 3.10; and*

(v) *A summary listing treatment chemicals used, including average dosage rates with special reference to any abnormal usages.*

Availability of Analytical Test Results:

The certificate of approval for each facility issued by the Ministry of the Environment, and Regulation 506/01 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.