



Ontario Clean Water Agency
Agence Ontarienne Des Eaux

**Quarterly Report for the Angus Water
Treatment and 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, 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 700 tests for water quality parameters specified in Ontario Regulation 459/00 and each facility Certificate of Approval (C of A) were conducted at Lakefield Research, an accredited laboratory under contract with OCWA. Of the tests conducted, one sample analyzed for an organic parameter exceeded the IMAC specified in the Ontario Drinking Water Standards and the details are explained later 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:	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:	Wayne White
Municipal Location:	Township of Essa	Phone Number:	(705)429-2525
Service Area:	Town of Angus	E-mail Address:	wwhite@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 <i>counts/100mls</i>					
Number of Samples	45	36	36	117	
Number of Detectable Results	0	0	0	0	
Min / Max	0/0	0/0	0/0		0
Exceedences	0	0	0	0	
E. Coli <i>counts/100mls</i>					
Number of Samples	45	36	36	117	
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	15	19	24	58	
Number of Detectable Results	4	1	3	8	
Min / Max	0/8	0/2	0/1	0/8	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)	0.88/1.51	0.37/1.50	0.90/1.42	.37/1.51	.05/4.0
Min/Max (Mill)	.61/.93	.74/1.0	.77/1.08	.61/1.08	.05/4.0
Exceedences	0	0	0	0	
Chlorine Residual (System)					
Number of Samples	10	8	8	26	
Number of Detectable Results	10	8	8	26	
Min/Max	.21/.90	.38/.95	.58/.85	.21/.95	.05/4.0
Exceedences	0	0	0	0	
Turbidity					
Number of Samples	31	30	31	92	
Number of Detectable Results	31	30	31	92	
Min / Max (McGeorge)	.03/.56	.06/.18	.03/.14	.03/.56	1
Min/Max (Mill)	.10/1.32	.02/.54	.05/.42	.02/1.32	1
Exceedences	4	0	0	4	
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 turbidity spikes 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 OF THIS QUARTER AND A TREATED WATER SAMPLE FROM THE McGEORGE PUMP HOUSE EXCEEDED THE IMAC SPECIFIED IN TABLE 1 OF THE ONTARIO DRINKING WATER STANDARDS FOR DIOXIN AND FURAN. THE EXCEEDANCE WAS REPORTED AS PER REG.459/00. RESAMPLES WERE COLLECTED ON NOVEMBER 22/01 AND THE RESULTS WERE NEGATIVE.					

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 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 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, 4 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, equipment maintenance/calibration 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 exceedences.

The positive sample collected from the McGeorge pumphouse and analyzed for Dioxin and Furan is being treated as an isolated occurrence at this point as there has never been any exceedences in the past and the re-sample was negative when the analysis was repeated. Dioxin and Furan is required to be tested annually as per the facility C of A and will be monitored closely. Dioxins and Furans are unwanted byproducts created in manufacturing other chemicals such as some disinfectants, wood preservatives and herbicides. They are also emitted during combustion processes such as the incineration of municipal and industrial waste, wood and gasoline burning.

Availability of Analytical Test Results:

The certificate of approval for each facility issued by 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.