The Corporation of the
Municipality of Wawa

Wawa Drinking Water System

ANNUAL AND SUMMARY REPORTS
2016

Wawa
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Prepared by:

Water & Sewer Department
Infrastructure Services

February 2017

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Municipality of Wawa

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SIGNATURE PAGE

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Prepared by: **Municipality of Wawa**
Infrastructure Services
Water & Sewer Department

_____ _____
Mark McRae - Water and Wastewater Lead Hand **Date**

Marc Liard - Water and Wastewater Operator

Gary Mercier - Water and Wastewater Operator

Received and Reviewed on behalf of
The Corporation of the Municipality of Wawa

_____ _____
Cory Stainthorpe, Director **Date**
Infrastructure Services

Presented to Council: _____
Date

Presentation Confirmed by Resolution _____

Wawa Drinking Water System Annual and Summary Report for 2016

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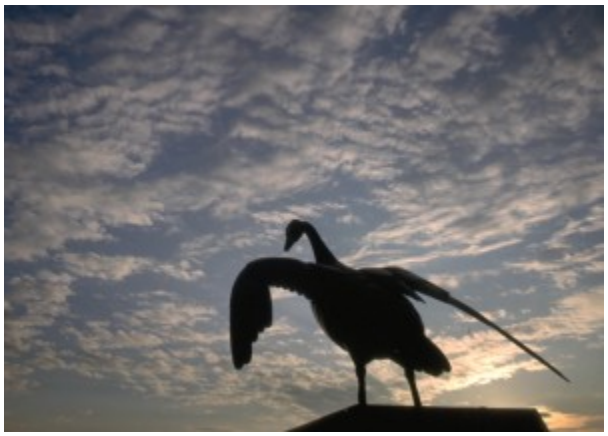


2016 Summary Report for the

Municipality of Wawa

As required by

Schedule 22 of Ontario Regulation 170/03

1.0 Introduction

1.1 Requirements of the Summary Report

The 2016 Summary Report for the Municipality of Wawa Drinking Water System is being submitted to satisfy Schedule 22 of the Ontario Regulation 170/03, the requirement to prepare and distribute a summary report of water quality. As per Ontario Regulation 170/03, the summary report must contain the following information:

- List the requirements of the Safe Water Drinking Act, the corresponding regulations, the system approval, drinking water works permit, municipal drinking water license, any orders applicable to the system that were not met at any time during the period of January 01 to December 31, 2016, and specify the duration of any non-compliant situations;
- For each period of non-compliance, describe the measures and corrective actions taken to restore the system integrity;
- Provide a summary of the quantities and flow rates of the water supplied during the period of January 01 to December 31, 2016, including maximum daily flows, instantaneous peak flows and monthly average flows;
- A comparison of the summary to the rated capacity and flow rates approved in the system approval, drinking water works permit or municipal drinking water license.

1.2 Background

The Wawa water supply system serves the Community of Wawa – sometimes referred to as the Wawa Townsite and the Michipicoten River Village – which are located within the Municipality of Wawa, District of Algoma. The facility is owned, maintained and operated by The Corporation of the Municipality of Wawa and serves approximately **3000** people. There are no major industrial users in the community.

The Wawa Water Treatment Plant, located at 40C Broadway Avenue, at the north-east corner of Ganley Street and McKinley Avenue, was constructed in accordance with Certificate of Approval **7008-648JTL** from the Ministry of the Environment and remedied the deficiencies of the original plant. This certificate has since been amended as noted in Section 2.1.2. It includes low lift pumping station, a membrane filtration system and disinfection utilizing sodium hypochlorite, fluoridation using hydrofluosilicic acid, chlorine contact cells, treated water storage, high lift pumping and a standby generator. The water treatment plant has a rated capacity of **7880 m^3/day.**

1.3 Facility Specific

i. The Wawa Water Treatment Plant is a Class II Plant. This type of facility requires the Overall Responsible Operator (ORO) have a Class II Operator License. In our situation, the Water and Wastewater Lead Hand possess a Class II Water Treatment License and a Class II Water Distribution License and he is the Designated ORO.

ii. Maximum rate of Raw Water Taking: 25000 m^3/day

iii. Waterworks Number: 210000050

1.4 Format

Chapter 2 of this report deals with the performance of the system and compliance with the requirements of the Act, Regulations, the system's approval, drinking water works permit, municipal drinking water license and any orders applicable to the system that were not met at any time during the period covered by the report.

Chapter 3 presents conclusions of the performance of the system.

2.0 SYSTEM REQUIREMENTS

2.1 The Act and Regulations

2.1.1 General

The system was in compliance with the Act and Regulations during 2016, according to the "M.O.E.C.C. Inspection Report". The inspection report identified no items requiring correction.

2.1.2 Municipal Drinking Water License

MUNICIPAL DRINKING WATER LICENCE (2), License Number: 231-101, Issued June 07, 2016.

2.1.3 Drinking Water Works Permit

DRINKING WATER WORKS PERMIT (2), Permit Number: 231-201, Issued May 19, 2016.

2.1.4 Permit to take Water

The new Permit to Take Water (PTTW) # 8801-A3ZKAL, which renews, and replaces PTTW #1086-88UQXZ, was issued to The Corporation of the Municipality of Wawa on November 24, 2015.

2.1.5 M.O.E.C.C. Inspection Report dated July 14, 2016:

The Ministry of the Environment and Climate Change carried out an inspection of the Wawa Water System on July 14, 2016, inspection number: 1-CNN2P. This inspection, by Ministry Inspector Stephen Rouleau, is conducted annually or more often as required and can be either announced, in which the operators have advanced notification of the inspection, or unannounced, wherein no notice is given. The report was submitted to the Municipality of Wawa on December 21, 2016.

The Inspection Report, which follows a structured format, outlines the design, operating requirements and observations of the Inspector, along with recommendations and orders, where required. Additional items are identified as ***"Best Practices"*** and serve as guidance for the Municipality and the Operators. The report is attached as ***Appendix A***.

There was no ***Non-Compliance with regulatory requirements or actions required.***

2.1.6 Drinking Water Quality Management Standard (DWQMS)

"The Drinking Water Quality management System "***(DWQMS)*** is a 'Made in Ontario' management standard developed specially by the drinking water sector for municipal residential drinking water systems. It is also a tool for owners and operators of a drinking system to help ensure that consistent processes and procedures are in place to manage production and delivery of high quality drinking water.

The development and implementation of the Municipal Drinking Water Licensing Program is based on **Justice O'Connor's** recommendations in the **Walkerton Inquiry Report**. ***A municipal drinking water license is an approval that is issued by the Ministry of the Environment to owners under the Safe Drinking Water Act, 2002 (SDWA) for the operation of municipal residential drinking water systems.***

The Municipality of Wawa Drinking Water System received their **Certificate of Accreditation for a Full Scope of the Drinking Water Quality Management System** (DWQMS) renewal on December 16, 2016.

2.2 Operational Checks, Sampling and Testing

2.2.1 Continuous Monitoring Equipment:

In Accordance with the Drinking Water Works Permit (Issue #2), the Wawa Water Treatment Plant is equipped with continuous monitoring equipment to sample and test for free chlorine residual, turbidity and fluoride concentration in the water leaving the plant. In addition, these parameters and others such as PH are measured at critical points in the treatment sequence to assist with operational decision making. All of the data is transmitted to and archived in a **SCADA** ***(Supervisory Control and Data Acquisition)*** computer in the main control room. The **SCADA** system analyzes and archives the data and generates daily, monthly and yearly reports. Operational set points are programmed into the **SCADA** system which triggers an auto dialer if an alarm condition occurs. The auto dialer notifies operational personnel of any potential problems.

2.2.2 Free Chlorine Residual:

At the Wawa Water Treatment Plant, free chlorine residual is monitored continuously and recorded every second going into the chlorine contact chambers. This is consistent with the requirements in *Schedule 7 of Regulation 170/03* that indicated that**…"sampling and testing for free chlorine residual is carried out by continuous monitoring equipment in the treatment process at or near a location where the intended contact time has just been completed in accordance with the Ministry *Procedure for Disinfection of Drinking Water in Ontario."***

Chlorine residual readings of the water entering the clear wells for the year was averaged at 1.15 mg/l and for water being pumped to the distribution system was averaged at of 0.90 mg/l. Refer to ***Table 2.2.5*** on page 7 for the minimum and maximum.

2.2.3 Turbidity:

At the Wawa Water Treatment Plant, turbidity is continuously monitored in the effluent from each of the three membrane filter skids and recorded every second, consistent with *Regulation 170/03*. From January 01, 2016 to December 31, 2016 the average turbidity from all three skids was 0.01 Nephelometric Turbidity Units (N.T.U.).

The Ministry *Procedure for Disinfection of Drinking Water in Ontario* further requires that filtered water turbidity from membrane filtration processes be less than or equal to 0.10 NTU in 95% of the measurements each month in order to *claim 2.0 + log cryptosporidium removal credit*. Information from the operations at the plant indicates that this condition was met.

The turbidity for the water being pumped to distribution is also monitored and recorded every second. From January 01, 2016 to December 31, 2016, the average was 0.03 NTU. Refer to ***Table 2.2.5*** below for the minimum and maximum.

2.2.4 Fluoride:

At the Wawa Water Treatment Plant, fluoride is continuously monitored in the discharge from the high lift pumps and recorded at one second intervals. The average of the concentration recorded for the period of January 01, 2016 to December 31, 2016 was 0.61 mg/l. However, Regulation 170/03 (Schedule 7, sub.7.4) only requires fluoride testing once every day.

As per ***Ontario regulation 169/03 for Ontario Drinking Water Quality Standards*** the ***Maximum Allowable Concentration*** for fluoride is **1.5 mg/l** for systems that provide fluoridation and if you have an exceedance of the ***Maximum Allowable Concentration***, it is to be treated as an indicator of adverse water quality and must be reported to the proper authorities. There were no fluoride adverse incidents. Refer to *Table 2.2.5* below for the minimum and maximum**.**

Table 2.2.5

Annual Summary of Operational Checks for 2016

	Number of Samples	Maximum	Average	Minimum
Free Chlorine Residual Entering "CT" chamber	Online Analyzer (sample every second)	5.02	1.15	0.01
Free Chlorine Residual Pumped to the Distribution System	Online Analyzer (sample every second)	5.01	0.90	0.00
Turbidity Effluent from each of the Three Membrane filter Skids	Online Analyzer (sample every second)	0.411	0.01	0.00
Fluoride residual pumped to the distribution System	Online Analyzer (sample every second)	1.48	0.61	0.08
Turbidity Readings pumped to the distribution System	Online Analyzer (sample every second)	10.05	0.03	0.00

Note The minimum and maximum residual do not show true because when performing routine maintenance on analyzers, turning power off – and back on the analyzers will get "spikes" in the reading. After maintenance we will do a few grab samples to calibrate the unit, this has been discussed and accepted by the Ministry of the Environment and Climate Change in the past.

2.2.6 Microbiological Sampling and Testing:

The Regulation requires that;

a) In the distribution system, a minimum of twelve samples must be taken monthly and tested for:

- Escherichia Coli or E-Coli;
- Total Coliforms; and,
- Heterotrophic Plate Count (HPC) (25% of the samples tested for this).

At least one of these samples must be taken every week.

b) Treated water samples at the Wawa Water Treatment Plant are to be taken at least once every week and tested for:

- E-Coli or Fecal Coliform;
- Total Coliforms; and,
- Heterotrophic Count.

c) Raw water samples at the Water Treatment Plant are to be taken at least once every week and tested for:

- Escherichia Coli or E-Coli; and,
- Total Coliform.

Testing has conformed to the requirements of Regulation 170/03.

2.2.7 Chemical Testing:

In accordance with *Ontario Regulation 170/03, Schedule 13 – Chemical Sampling and Testing*, for **Large Municipal Residential System** with surface water supply, the following testing is to be performed:

Annual Testing for

- Schedule 23 – Inorganic parameters;
- Schedule 24 – Organic parameters; and,
- Lead – new mandatory testing since December 2007 – of testing for lead in the distribution system and into household plumbing. Refer to ***Table 2.2.8*** on the following page for results from the 2016 lead sampling in the Municipality.

Table 2.2.8

Summary of lead testing under Schedule 15.1 during this reporting period

Location Type	Number of Samples	Range of Lead Results (min#) – (max #)	Number of Exceedances
Plumbing	0		0
Distribution	7	<1.0 – 40.0	1

Note: As per the Amended Reg.170/03 (Drinking Water System) made under the Safe Drinking Water Act, 2002, the Community Lead Testing Program (Schedule 15.1) ***The Municipality of Wawa is now exempt from plumbing sampling for lead. As per Drinking Water System Regulation 170/03, made under the Safe Drinking water Act 2002, schedule 15.1-4 subsection 10.***

Quarterly Testing for

- Trihalomethanes (THM) ; and,
- Nitrates and Nitrites.

Every 60 Months for

- Sodium

A review of the Municipalities records confirmed that all testing was performed as required during this reporting period and all laboratory results were satisfactory.

In 2014, the annual average for THM's in Wawa was 112.9 ug/l and it exceeded the current allowable level of 100 ug/l. This does pose any short-term or acute health risk but the Algoma Public Health Unit issued a drinking water advisory for the whole Municipality on November 26, 2014 (see Appendix C).

The Municipality worked on reducing the THM's in the drinking water system throughout 2015 and 2016. See Appendix D for the THM Action Plan. As a result of the effort taken by the Municipality, the THM's are still over the allowable level of 100 ug/l. The 2016 average is 108.25 ug/l, and we are still under the Drinking Water Advisory of The Algoma Public Health Unit.

(Trihalomethanes are formed as a by-product predominantly when chlorine is used to disinfect water for drinking. They represent one group of chemicals generally referred to as disinfection by-products. They result from the reaction of chlorine or bromine with organic matter present in the water being treated.)

In addition, the Municipality of Wawa was selected years ago by the Ministry of Environment and Climate Change to participate in a Drinking Water Surveillance Program (DWSP). This program is voluntary and no cost to the Municipality. Samples are routinely taken and sent to the M.O.E.C.C. lab in Etobicoke, Ontario for analysis. The operators in Wawa find it to be another avenue for monitoring water quality for the Municipality.

3.0 SYSTEM PERFORMANCE

At the Wawa Water Treatment Plant, flow is monitored continuously in the discharge to the distribution system and recorded on the **SCADA** system. Daily reports are generated that indicate the average, minimum, maximum and total monthly and yearly flow. Below are the charts for Water Quantities Taken and Summary of Flows.

3.1 Table of Water Quantities Taken

Water Quantities Taken - 2016

Maximum Daily Volume in m^3/day

	Wawa Water Treatment Plant Rate of Raw water Taking		**Wawa Water Treatment Finished Water to Distribution**
Maximum Daily Volume Allowed	25000.00 m^3/day		7880 m^3/day
January	4576.7		2730.0
February	4414.7		2774.7
March	4705.4		2787.0
April	4553.3		2588.8
May	4208.9		2228.5
June	3657.4		2144.5
July	3524.34		1985.6
August	3783.6		2049.4
September	3444.0		2384.7
October	3058.9		2436.1
November	3011.0		2543.0
December	4107.9		3462.6
Highest % of Maximum Volume	**18.8 %**		**43.9 %**

3.2 Table of Annual Summary of Flow for 2016

Water Total / Average / Peak Flows - 2016

Month	Total Consumption m^3	Average Daily Flow m^3/day	Maximum Daily Flow m^3/day	Instantaneous Peak Flow (L/s)	Wawa Monthly Consumption m3	Net MRV Monthly Consumption m^3
January	79300.8	2558.09	2730.0	77	76467.18	2833.62
February	76973.4	2654.25	2774.7	79.0	74027.11	2946.29
March	80997.2	2612.81	2787.0	75.0	78089.81	2907.39
April	73130.6	2437.69	2588.8	79.0	70271.06	2829.54
May	62463.3	2014.94	2228.5	98.0	59772.87	2690.43
June	55967.9	1865.59	2144.5	85.0	53451.0	2516.90
July	54369.6	1753.85	1985.6	137.0	51200.53	3169.07
August	55154.4	1779.17	2049.4	72.0	52417.1	2737.30
September	49225.4	1640.84	2384.7	74.0	46405.16	2820.24
October	69046.7	2227.31	2436.1	115.0	66358.24	2688.46
November	68505.8	2283.53	2543.0	60.0	65791.1	2714.17
December	91318.6	2945.76	3462.6	72.0	88438.82	2879.78
		Average flow for 2016 m^3	**Maximum flow for 2016 m^3**	**Peak flow for 2016 l/s**	**Wawa Consumption 2016 m^3**	**M.R.V. Co*nsum*ption 2016 m^3**
Totals	**816453.8**	**2231.15**	**3462.6**	**137.0**	**782720.61**	**33733.19**

The Wawa Water Treatment Plant has an approved, rated treatment capacity of 7880 m^3/day which includes an allowance of 392 m^3/day to serve Michipicoten River Village.

The maximum day flow in 2016 was 3462.2 m^3/day, which is approximately 43.9% of the total rated capacity and 46.2 % of the rated capacity if the amount for Michipicoten River village is excluded.

In 2016, the Maximum recorded instantaneous flow rate was 137.0 l/s that occurred during the month of July.

APPENDIX A

Wawa Drinking Water System

Inspection Report dated

July 14, 2016

Ministry of the Environment and Climate Change

Sault Ste. Marie Area Office
70 Foster Drive, Suite 110
Sault Ste. Marie ON P6A 1W7
Tel.: 705 942-6354
Fax: 705 942-6327
Toll Free: 1-800-965 -9990

Ministère de l'Environnement et de l'Action en matière de changement climatique

Bureau du secteur de Sault Ste. Marie
70, promenade Foster, Bureau 110
Sault Ste. Marie ON P6A 6V4
Tél. : 705 942-6354
Téléc. : 705 942-6327
Sans frais : 1-800-965-9990

Ontario

December 21, 2016

email only

Cory Stainthorpe, Director of Infrastructure Services
Municipality of Wawa
40 Broadway Avenue
P.O. Box 500
Wawa, ON P0S 1K0

Drinking Water System Inspection 2016-2017

The Ministry of the Environment and Climate Change conducted an inspection at the Wawa Water Treatment Plant and of the sampling and operational data available. Please find a copy of the resulting report attached.

The inspection found that the plant operators were operating the facility in accordance with the Safe Drinking Act and associated regulations and policies.

Several recent changes in operations were seen as making significant improvements to the systems operations. These included improved communications, enhanced control of the fluoride system, tower improvements actions/plans (installation of the aeration/bubbler system) to lessen ice formation and to prevent environmental damage during draining/flushing, submission of an informative/sound THM reduction and sampling plan, and the work to replace the control valve and booster pump for the Pinewood Drive zone.

A review of the Trihalomethanes (THM) data indicates that the current running average remains above Ontario's drinking water standard of 100 ug/l. it is hoped that that the recently approved Research and Development project will assist in determining the source/cause of the increased THM levels which the municipality has encountered during the last several years. Due to the current level of THMs the MOECC is continuing to recommend that the Drinking Water Advisory issued November 26, 2014 by Algoma Public Health remain in place.

Please note that there are several Amendments to Ontario's Drinking Water Quality Standards, aesthetic objectives and regulations which will come into effect on July 1, 2017, with additional requirements for licensed laboratories beginning January 1, 2018. You may view the Decision Notice on the Environmental Registry (#012-8244) (www.ebr.gov.on.ca) .

If you have any questions regarding the attached report or the recent changes please contact me at any time.

Yours truly,

Stephen Rouleau, Senior Environmental Officer
Water Inspection Program
email: stephen.rouleau@ontario.ca

cc: Chris Wray, Wawa
Marnie Managhan, MOECC
Jonathon Bouma, APH
John Peluch, MNRF

Ontario

Ministry of the Environment and Climate Change

WAWA DRINKING WATER SYSTEM

Inspection Report

Site Number:	210000050
Inspection Number:	1-CNN2P
Date of Inspection:	Jul 14, 2016
Inspected By:	Stephen Rouleau

OWNER INFORMATION:

Company Name:	WAWA, THE CORPORATION OF THE MUNICIPALITY OF		
Street Number:	40	**Unit Identifier:**	
Street Name:	BROADWAY Ave		
City:	WAWA		
Province:	ON	**Postal Code:**	P0S 1K0

CONTACT INFORMATION

Type:	Other - specify	**Name:**	Jonathon Bouma
Phone:	(705) 759-5286	**Fax:**	
Email:	jbouma@algomapublichealth.com		
Title:	Manager - Algoma Public Health		
Type:	Other - specify	**Name:**	Peluch John
Phone:	(705) 856-4703	**Fax:**	
Email:	john.peluch@ontario.ca		
Title:	District Manager - MNR		
Type:	Operating Authority	**Name:**	Cory Stainthorpe
Phone:	(705) 856-2244	**Fax:**	
Email:	cstainthorpe@wawa.cc		
Title:	Director of Infrastructure Services		
Type:	Owner	**Name:**	Chris Wray
Phone:	(705) 856-2244	**Fax:**	
Email:	cwray@wawa.ca		
Title:	CAO/Clerk-Treasurer		

INSPECTION DETAILS:

Site Name:	WAWA DRINKING WATER SYSTEM
Site Address:	40 BROADWAY AVE WAWA P0S 1K0
County/District:	Michipicoten
MOECC District/Area Office:	Sault Ste. Marie Area Office
Health Unit:	ALGOMA PUBLIC HEALTH
Conservation Authority:	
MNR Office:	
Category:	Large Municipal Residential
Site Number:	210000050
Inspection Type:	Unannounced
Inspection Number:	1-CNN2P
Date of Inspection:	Jul 14, 2016
Date of Previous Inspection:	

COMPONENTS DESCRIPTION

Site (Name): MOE DWS Mapping

Type: DWS Mapping Point **Sub Type:**

Site (Name): SYSTEM CLASSIFICATION
Type: **Sub Type:**
Comments:
The Municipality of Wawa is comprised of the Town of Wawa and Michipicoten River Village, with a population of approximately 3,200. The water treatment and distribution systems are owned and operated by the Municipality of Wawa. The water treatment system is a Class 2 WT subsystem, and the distribution system is a Class 1 WD subsystem. The treatment plant is rated at a capacity of 7,800 m3/d.

Site (Name): RAW WATER, WAWA LAKE
Type: Source **Sub Type:** Surface
Comments:
The intake for the water supply is located approximately 144 m offshore in Wawa Lake, at a depth of 10.7 m below low water level. The intake is housed in a timber crib structure, equipped with coarse screens. The 623 mm I.D. cast iron pipe discharges by gravity to a wet well at the low lift pumphouse. Three 45.6 L/s VFD pumps are used to supply raw water to the treatment plant. A line from the treatment plant provides sodium hypochlorite to the low lift discharge header for pre-chlorination, if required.

Site (Name): TREATED WATER
Type: **Sub Type:** Pumphouse
Comments:
The water treatment plant was constructed in 2006 and is a membrane filtration process. Raw water is pumped from the low lift station to a common header which feeds three Pall membrane systems, each consisting of a feed and backwash tank, feed/recirculation and reverse filtrate pump, 0.4 mm strainer, and 24 cartridge membrane rack. Filtered water is discharged to a contact tank where chlorine is injected to provide the necessary disinfection CT, and then to an under-floor reservoir prior to discharge to the distribution system. Sodium hypochlorite is used for pre-chlorination, primary and secondary disinfection, and membrane cleaning. Hydrofluosilicic acid is also added to the filtered water for dental health protection. Residue from the filter backwash and acid cleaning can be discharged to the municipal sanitary sewer system or to the storm sewer system (if it meets the discharge criteria).
Continuous analyzers are in place for turbidity, chlorine residual and fluoride monitoring. Flow meters are used to monitor raw and treated flow as well as flow into each filter train.

Site (Name): DISTRIBUTION
Type: **Sub Type:**
Comments:
The distribution system provides water for both domestic consumption and fire protection for the townsites of Wawa and Michipicoten River Village. Both communities are part of the Municipality of Wawa. There are approximately 1,350 service connections, and water consumption meters were installed in 2012. A new main was installed to connect Michipicoten River Village (MRV) to the Wawa system in November 2006. This line has pressure reducing valves located prior to connecting to a 455 m3 storage tower. Chlorination equipment is available at the tower for the purpose of triming the secondary disinfection as required. The wells and pump house for the old MRV system were decommissioned in 2007.

INSPECTION SUMMARY:

Introduction

- The primary focus of this inspection is to confirm compliance with Ministry of the Environment and Climate Change (MOECC) legislation as well as evaluating conformance with ministry drinking water related policies and guidelines during the inspection period. The ministry utilizes a comprehensive, multi-barrier approach in the inspection of water systems that focuses on the source, treatment and distribution components as well as management practices.

  This drinking water system is subject to the legislative requirements of the Safe Drinking Water Act, 2002 (SDWA) and regulations made therein, including Ontario Regulation 170/03, "Drinking Water Systems" (O.Reg. 170/03). This inspection has been conducted pursuant to Section 81 of the SDWA.

  This report is based on a "focused" inspection of the system. Although the inspection involved fewer activities than those normally undertaken in a detailed inspection, it contained critical elements required to assess key compliance issues. This system was chosen for a focused inspection because the system's performance met the ministry's criteria, most importantly that there were no deficiencies as identified in O.Reg. 172/03 over the past 3 years. The undertaking of a focused inspection at this drinking water system does not ensure that a similar type of inspection will be conducted at any point in the future.

  This inspection report does not suggest that all applicable legislation and regulations were evaluated. It remains the responsibility of the owner to ensure compliance with all applicable legislative and regulatory requirements.

Capacity Assessment

- There was sufficient monitoring of flow as required by the Municipal Drinking Water Licence or Drinking Water Works Permit issued under Part V of the SDWA.

- The owner was in compliance with the conditions associated with maximum flow rate or the rated capacity conditions in the Municipal Drinking Water Licence issued under Part V of the SDWA.

Treatment Processes

- The owner had ensured that all equipment was installed in accordance with Schedule A and Schedule C of the Drinking Water Works Permit.

- The owner/operating authority was in compliance with the requirement to prepare Form 1 documents as required by their Drinking Water Works Permit during the inspection period.

- The owner/operating authority was in compliance with the requirement to prepare Form 2 documents as required by their Drinking Water Works Permit during the inspection period.

- Records indicated that the treatment equipment was operated in a manner that achieved the design capabilities required under Ontario Regulation 170/03 or a Drinking Water Works Permit and/or Municipal Drinking Water Licence issued under Part V of the SDWA at all times that water was being supplied to consumers.

Treatment Processes

- Records confirmed that the water treatment equipment which provides chlorination or chloramination for secondary disinfection purposes was operated so that at all times and all locations in the distribution system the chlorine residual was never less than 0.05 mg/l free or 0.25 mg/l combined.

Treatment Process Monitoring

- Primary disinfection chlorine monitoring was conducted at a location approved by Municipal Drinking Water Licence and/or Drinking Water Works Permit issued under Part V of the SDWA, or at/near a location where the intended CT has just been achieved.
- Continuous monitoring of each filter effluent line was being performed for turbidity.
- The secondary disinfectant residual was measured as required for the distribution system.
- Operators were examining continuous monitoring test results and they were examining the results within 72 hours of the test.
- All continuous monitoring equipment utilized for sampling and testing required by O. Reg.170/03, or Municipal Drinking Water Licence or Drinking Water Works Permit or order, were equipped with alarms or shut-off mechanisms that satisfy the standards described in Schedule 6.
- Continuous monitoring equipment that was being utilized to fulfill O. Reg. 170/03 requirements was performing tests for the parameters with at least the minimum frequency specified in the Table in Schedule 6 of O. Reg. 170/03 and recording data with the prescribed format.
- All continuous analysers were calibrated, maintained, and operated, in accordance with the manufacturer's instructions or the regulation.

Operations Manuals

- The operations and maintenance manuals contained plans, drawings and process descriptions sufficient for the safe and efficient operation of the system.
- The operations and maintenance manuals met the requirements of the Drinking Water Works Permit and Municipal Drinking Water Licence issued under Part V of the SDWA.

Logbooks

- Records or other record keeping mechanisms confirmed that operational testing not performed by continuous monitoring equipment was being done by a certified operator, water quality analyst, or person who suffices the requirements of O. Reg. 170/03 7-5.

Security

- The owner had provided security measures to protect components of the drinking water system.

Certification and Training

Certification and Training

- **The overall responsible operator had been designated for each subsystem.**
- **Operators in charge had been designated for all subsystems which comprised the drinking-water system.**
- **Only certified operators made adjustments to the treatment equipment.**

Water Quality Monitoring

- **All microbiological water quality monitoring requirements for distribution samples were being met.**

  Some microbiological samples have been missed. However these issues have been attributed to transportation or laboratory issues. The MOECC local office was contacted as soon as the issues where identified and where and when possible supplementary samples were collected and submitted. The MOECC is satisfied that all efforts were made by operating staff to meet the sampling schedules and submission requirements.

- **All microbiological water quality monitoring requirements for treated samples were being met.**

  Some microbiological samples have been missed. However these issues have been attributed to transportation or laboratory issues. The MOECC local office was contacted as soon as the issues where identified and where and when possible supplementary samples were collected and submitted. The MOECC is satisfied that all efforts were made by operating staff to meet the sampling schedules and submission requirements.

- **All inorganic water quality monitoring requirements prescribed by legislation were conducted within the required frequency.**
- **All organic water quality monitoring requirements prescribed by legislation were conducted within the required frequency.**
- **All trihalomethanes water quality monitoring requirements prescribed by legislation were conducted within the required frequency.**
- **All nitrate/nitrite water quality monitoring requirements prescribed by legislation were conducted within the required frequency for the DWS.**
- **All sodium water quality monitoring requirements prescribed by legislation were conducted within the required frequency.**
- **The required daily samples were being taken at the end of the fluoridation process.**

  The fluoride treatment system is monitored using a on-line analyzer.

- **All water quality monitoring requirements imposed by the Municipal Drinking Water Licence and Drinking Water Works Permit were being met.**
- **Records confirmed that chlorine residual tests were being conducted at the same time and at the same location that microbiological samples were obtained.**

Water Quality Assessment

- **Records did not show that all water sample results taken during the inspection review period did not exceed the values of tables 1, 2 and 3 of the Ontario Drinking Water Quality Standards (O.Reg. 169/03).**

Water Quality Assessment

Running Average for THMs remains above the 100 ug/l limit. The most recent results from October 18, 2016 were 137 ug/l resulting in a current quarterly average of 108 ug/l. The municipality is continuing to study the issue and has recently received approval (December 2, 2016) for a Research and Method Development project titled "Wawa THM Sampling" (reference # 2016-11).

Reporting & Corrective Actions

- **Corrective actions (as per Schedule 17) had been taken to address adverse conditions, including any other steps that were directed by the Medical Officer of Health.**
- **All required notifications of adverse water quality incidents were immediately provided as per O. Reg. 170/03 16-6.**
- **Where required continuous monitoring equipment used for the monitoring of chlorine residual and/or turbidity triggered an alarm or an automatic shut-off, a qualified person responded in a timely manner and took appropriate actions.**

Other Inspection Findings

- **The following items are noted as being relevant to the Drinking Water System:**

  The Drinking Water Profile/Registration information should be updated to include Cory Stainthorpe, the new Director of Infrastructure Services for Wawa.
  Please review the entire profile/registration information to ensure it is up to date.

NON-COMPLIANCE WITH REGULATORY REQUIREMENTS AND ACTIONS REQUIRED

This section provides a summary of all non-compliance with regulatory requirements identified during the inspection period, as well as actions required to address these issues. Further details pertaining to these items can be found in the body of the inspection report.

Not Applicable

SUMMARY OF RECOMMENDATIONS AND BEST PRACTICE ISSUES

This section provides a summary of all recommendations and best practice issues identified during the inspection period. Details pertaining to these items can be found in the body of the inspection report. In the interest of continuous improvement in the interim, it is recommended that owners and operators develop an awareness of the following issues and consider measures to address them.

Not Applicable

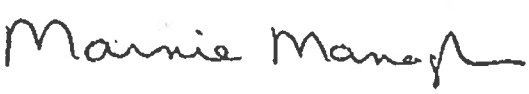
SIGNATURES

Inspected By: Signature: (Provincial Officer)

Stephen Rouleau

Reviewed & Approved By: Signature: (Supervisor)

Marnie Managhan



Review & Approval Date: December 21, 2016

Note: This inspection does not in any way suggest that there is or has been compliance with applicable legislation and regulations as they apply or may apply to this facility. It is, and remains, the responsibility of the owner and/or operating authority to ensure compliance with all applicable legislative and regulatory requirements.

Ministry of the Environment - Inspection Summary Rating Record (Reporting Year - 2016-2017)

DWS Name:	WAWA DRINKING WATER SYSTEM
DWS Number:	210000050
DWS Owner:	Wawa, The Corporation Of The Municipality Of
Municipal Location:	Michipicoten
Regulation:	O.REG 170/03
Category:	Large Municipal Residential System
Type Of Inspection:	Focused
Inspection Date:	July 14, 2016
Ministry Office:	Sault Ste. Marie Area Office

Maximum Question Rating: 479

Inspection Module	Non-Compliance Rating
Capacity Assessment	0 / 30
Treatment Processes	0 / 64
Operations Manuals	0 / 28
Logbooks	0 / 14
Certification and Training	0 / 28
Water Quality Monitoring	0 / 116
Reporting & Corrective Actions	0 / 66
Treatment Process Monitoring	0 / 133
TOTAL	**0 / 479**

Inspection Risk Rating	**0.00%**

FINAL INSPECTION RATING:	**100.00%**

Inspection Rating Record Generated On 21-DEC-16 (Inspection ID: 1-CNN2P).

Ministry of the Environment - Detailed Inspection Rating Record (Reporting Year - 2016-2017)

DWS Name:	WAWA DRINKING WATER SYSTEM
DWS Number:	210000050
DWS Owner:	Wawa, The Corporation Of The Municipality Of
Municipal Location:	Michipicoten
Regulation:	O.REG 170/03
Category:	Large Municipal Residential System
Type Of Inspection:	Focused
Inspection Date:	July 14, 2016
Ministry Office:	Sault Ste. Marie Area Office

Maximum Question Rating: 479

Inspection Risk Rating	**0.00%**

FINAL INSPECTION RATING:	**100.00%**

Inspection Rating Record Generated On 21-DEC-16 (Inspection ID: 1-CNN2P).

APPENDIX B

Wawa

Drinking Water System

Waterworks # 210000050

Annual Report

2016

Ontario Drinking-Water Systems Regulation O. Reg. 170/03

WAWA WATER SYSTEM 2016 ANNUAL REPORT

Drinking-Water System Number:	**210000050**
Drinking-Water System Name:	Wawa Water Supply System
Drinking-Water System Owner:	The Corporation of the Municipality of Wawa
Drinking-Water System Category:	Municipal Residential – Large
Period being reported:	01-01-16 to 31-12-16

Complete if your Category is Large Municipal Residential or Small Municipal Residential

Does your Drinking-Water System serve more than 10,000 people? Yes [ ] No [X]

Is your annual report available to the public at no charge on a web site on the Internet?
Yes [X] No [ ]

Location where Summary Report required under O. Reg. 170/03 Schedule 22 will be available for inspection.

Municipal Office
40 Broadway Avenue
Wawa, Ontario
P0S 1K0

Complete for all other Categories.

Number of Designated Facilities served:

N/A

Did you provide a copy of your annual report to all Designated Facilities you serve?
Yes [ ] No [X]

Number of Interested Authorities you report to: N/A

Did you provide a copy of your annual report to all Interested Authorities you report to for each Designated Facility?
Yes [ ] No [X]

Note: For the following tables below, additional rows or columns may be added or an appendix may be attached to the report

List all Drinking-Water Systems (if any), which receive all of their drinking water from your system:

Drinking Water System Name	Drinking Water System Number
- - - NONE - - -	

Did you provide a copy of your annual report to all Drinking-Water System owners that are connected to you and to whom you provide all of its drinking water?
Yes [ ] No [X]

Indicate how you notified system users that your annual report is available, and is free of charge.

[X] Public access/notice via the web
[ ] Public access/notice via Government Office
[X] Public access/notice via a newspaper
[X] Public access/notice via Public Request
[ ] Public access/notice via a Public Library
[ ] Public access/notice via other method _____

Describe your Drinking-Water System

Water Treatment Plant consisting of a membrane filtration process with the intake from Wawa Lake. Raw water is pumped through the membrane filters to an under floor reservoir where it is chlorinated. Sodium hypochlorite is used for pre-chlorination, primary and secondary disinfection, and membrane cleaning. Hydrofluorosilicic acid is added to filtered water before distribution. Residue from the filter backwash and acid cleaning can be discharged to the municipal sanitary sewer system or to the storm sewer system. Continuous analyzers are in place for turbidity, chlorine residual and fluoride monitoring. Flow meters are used to monitor raw water flow into each filter train and treated and chlorinated water entering the under floor reservoir.

A transmission main connects the Wawa water distribution system to the elevated water storage tank at the Michipicoten River Village, where "touch-up" chlorination facilities, using sodium hypochlorite, are installed.

List all water treatment chemicals used over this reporting period

- **Sodium hypochlorite**
- **Hydrofluorosilicic acid**

Were any significant expenses incurred to?

[X] Install required equipment
[ ] Repair required equipment
[ ] Replace required equipment
[X] Maintenance

Please provide a brief description and a breakdown of monetary expenses incurred

M.R.V.(Michipicoten River Village) – Install PAX water mixers for the water storage tower – (Purchased in 2015 for $ 26,000.00)

M.R.V. (Michipicoten River Village) – Cleaning and inspection of the water storage tower - $8500.00

Provide details on the notices submitted in accordance with subsection 18(1) of the Safe Drinking-Water Act or section 16-4 of Schedule 16 of O.Reg.170/03 and reported to Spills Action Centre

Incident Date	*Parameter*	*Result*	*Unit of Measure*	*Corrective Action*	*Corrective Action Date*
April 07, 2016	Lead Sample AWQI 129081	40.0	Ug/l	Flushed and resample hydrant and sample hydrant upstream and downstream	April 15, 2016

Microbiological testing done under the Schedule 10, 11 or 12 of Regulation 170/03, during this reporting period.

	Number of Samples	Range of E.Coli Or Fecal Results (min #)-(max #)	Range of Total Coliform Results (min #)-(max #)	Number of HPC Samples	Range of HPC Results (min #)-(max #)
Raw	51	<1 – 4	<1 - 150	N/A	N/A
Treated	51	0 - 0	0 - 0	48	0 - 0
Distribution	204	Absent	Absent	60	0 - 2

Operational testing done under Schedule 7, 8 or 9 of Regulation 170/03 during the period covered by this Annual Report.

Water Treatment Plant

	Number of Grab Samples	Minimum	Average	Maximum
Turbidity (NTU)	8760	0.00	0.03	10.05
Chlorine (mg/l)	8760	0.00	0.90	5.01
Fluoride (mg/l)	8760	0.00	0.61	1.48

NOTE: For continuous monitors use 8760 as the number of samples.

**NOTE:Minimum andMaximum levels are caused by instrument spikes because of maintenance to the instruments.*

Distribution System

	Number of Samples	Minimum	Average	Maximum
Chlorine Residual (mg/l)	365	0.44 mg/l	0.79 mg/l	1.20 mg/l

Summary of additional testing and sampling carried out in accordance with the requirement of an approval, order or other legal instrument.

Date of legal instrument issued	Parameter	Date Sampled	Result	Unit of Measure
Certificate of Approval 7805-76ZKUC	Waste Water Suspended Solids	N/A	None	No Discharge
Certificate of Approval 7805-76ZKUC	Waste Water Chlorine Residual	N/A	None	No Discharge

Summary of Inorganic parameters tested during this reporting period or the most recent sample results

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Antimony	Jan.28, 2016	<0.60	ug/l	No
Arsenic	Jan.28, 2016	<1.0	ug/l	No
Barium	Jan.28, 2016	<10	ug/l	No
Boron	Jan.28, 2016	<50	ug/l	No
Cadmium	Jan.28, 2016	<0.10	ug/l	No
Chromium	Jan.28, 2016	<1.0	ug/l	No
*Lead		See below	ug/l	No
Mercury	Jan.28, 2016	<0.10	ug/l	No
Selenium	Jan.28, 2016	<1.0	ug/l	No
Sodium	Jan.28, 2016		mg/l	No
Uranium	Jan.28, 2016	<2.0	ug/l	No
Fluoride	Jan.28, 2016		mg/l	No
Nitrite	Jan.28, 2016	<0.010	mg/l	No
Nitrate	Jan.28, 2016	0.068	mg/l	No

*only for drinking water systems testing under Schedule 15.2; this includes large municipal non-residential systems, small municipal non-residential systems, non-municipal seasonal residential systems, large non-municipal non-residential systems, and small non-municipal non-residential systems

Summary of lead testing under Schedule 15.1 during this reporting period

(applicable to the following drinking water systems; large municipal residential systems, small municipal residential systems, and non-municipal year-round residential systems)

Note: The Municipality of Wawa is now exempt from plumbing sampling for lead. As per Drinking water System Regulation 170/03 , made under the Safe Drinking water Act 2002, schedule 15.1-4 subsection 10.

Location Type	Number of Samples	Range of Lead Results (min#) – (max #)	Number of Exceedances
Plumbing	0		0
Distribution	7	<1.0 – 40.0	1

Summary of Organic parameters sampled during this reporting period or the most recent sample results

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Alachlor	Feb.12, 2016	<0.020	ug/l	No
Aldicarb			ug/l	No
Aldrin + Dieldrin			ug/l	No
Atrazine + N-dealkylated metobolites	Feb.12, 2016	<0.10	ug/l	No
Azinphos-methyl	Feb.12, 2016	<0.10	ug/l	No
Bendiocarb			ug/l	No
Benzene	Jan.29, 2016	<0.50	ug/l	No
Benzo(a)pyrene	Feb.12, 2016	<0.010	ug/l	No
Bromoxynil	Feb.12, 2016	<0.20	ug/l	No
Carbaryl	Feb.12, 2016	<0.20	ug/l	No
Carbofuran	Feb.12, 2016	<0.20	ug/l	No
Carbon Tetrachloride	Jan.29, 2016	<0.50	ug/l	No
Chlordane (Total)	Feb.12, 2016	<0.10	ug/l	No
Chlorpyrifos	Feb.12, 2016	<0.10	ug/l	No
Cyanazine			ug/l	No
Diazinon	Feb.12, 2016	<0.10	ug/l	No
Dicamba	Feb.12, 2016	<0.20	ug/l	No
1,2-Dichlorobenzene	Jan.29, 2016	<0.50	ug/l	No
1,4-Dichlorobenzene	Jan.29, 2016	<0.50	ug/l	No
Dichlorodiphenyltrichloroethane (DDT) + metabolites			ug/l	No

1,2-Dichloroethane	Jan.29, 2016	<0.50	ug/l	No
1,1-Dichloroethylene (vinylidene chloride)	Jan.29, 2016	<0.50	ug/l	No
Dichloromethane	Jan.29, 2016	<5.0	ug/l	No
2-4 Dichlorophenol	Feb.12, 2016	<0.30	ug/l	No
2,4-Dichlorophenoxy acetic acid (2,4-D)	Feb.12, 2016	<0.20	ug/l	No
Diclofop-methyl	Feb.12, 2016	<0.20	ug/l	No
Dimethoate	Feb.12, 2016	<0.10	ug/l	No
Dinoseb			ug/l	No
Diquat	Jan.29, 2016	<1.0	ug/l	No
Diuron	Jan.29, 2016	<1.0	ug/l	No
Glyphosate	Jan.29, 2016	<5.0	ug/l	No
Heptachlor + Heptachlor Epoxide			ug/l	No
Lindane (Total)			ug/l	No
Malathion	Feb.12, 2016	<0.10	ug/l	No
Methoxychlor			ug/l	No
Metolachlor	Feb.12, 2016	<0.10	ug/l	No
Metribuzin	Feb.12, 2016	<0.10	ug/l	No
Monochlorobenzene	Jan.29, 2016	<0.50	ug/l	No
Paraquat	Jan.29, 2016	<1.0	ug/l	No
Parathion			ug/l	No
Pentachlorophenol	Feb.12, 2016	<0.50	ug/l	No
Phorate	Feb.12, 2016	<0.10	ug/l	No
Picloram	Feb.12, 2016	<0.20	ug/l	No
Polychlorinated Biphenyls(PCB)	Jan.29, 2016	<0.035	ug/l	No
Prometryne	Feb.12, 2016	<0.10	ug/l	No
Simazine	Feb.12, 2016	<0.10	ug/l	No
THM (NOTE: show latest annual average)	Annual Average	108.25	ug/l	No
Temephos	Feb.12, 2016	<0.20	ug/l	No
Terbufos	Feb.12, 2016	<0.20	ug/l	No
Tetrachloroethylene	Jan.29, 2016	<0.50	ug/l	No
2,3,4,6-Tetrachlorophenol	Feb.12, 2016	<0.50	ug/l	No
Triallate	Feb.12, 2016	<0.10	ug/l	No
Trichloroethylene	Feb.12, 2016	<0.50	ug/l	No
2,4,6-Trichlorophenol	Jan.29, 2016	<0.50	ug/l	No
2,4,5-Trichlorophenoxy acetic acid (2,4,5-T)			ug/l	No
Trifluralin	Feb.12, 2016	<0.10	ug/l	No
Vinyl Chloride	Jan.29, 2016	<0.20	ug/l	No

THM – Summary Table

Date of Test	*Location*	*Results*	*Value*
Jan.26, 2016	Mission Tower	89.6	Ug/l
Apr.19, 2016	Mission Tower	80.5	Ug/l
July 28, 2016	Mission Tower	125	Ug/l
Oct.18, 2016	Mission Tower	137	Ug/l

Average THM's for the year 2016 is 108.25 Ug/l with the maximum acceptable concention of 100 ug/l (A)
"A" – The standard for THM's is expressed as a running annual average.

List any Inorganic or Organic parameter(s) that exceeded half the standard prescribed in Schedule 2 of Ontario Drinking Water Quality Standards.

Parameter	Result Value	Unit of Measure	Date of Sample

APPENDIX C

Wawa Drinking Water System

Algoma Public Health

Drinking Water Advisory Dated:

November 26, 2014

Algoma
PUBLIC HEALTH
Santé publique Algoma

Dr. Kimberley Barker, MD CCFP MPH FRCPC
Medical Officer of Health
www.algomapublichealth.com

ADVISORY

To Consumers of the Wawa Municipal Water System:

November 26, 2014

THM levels exceed Ontario Drinking Water Standards

Algoma Public Health has reviewed water quality data for the Wawa Municipal water system and is advising consumers that Trihalomenthane (THMs) levels exceed Ontario Drinking Water Quality Standards. The current allowable level for THMs in a drinking water supply in Ontario is 100 micrograms per liter, and the current level in the drinking water supply in Wawa has been calculated to be 112.9 micrograms per liter.

You will be notified when the level of THMs have returned to acceptable levels.

This advisory applies to water consumed directly, ice made from this water, or mixed with drinks such as juice or powdered drink mixes, baby formulas, etc.

This notification does not pose any short-term or acute health risk. All bacterial indicators for this water system are satisfactory.

Chlorine is used to protect the water supply from microorganisms, such as bacteria and viruses. When naturally occurring organic material is present, chlorine can produce THMs.

The high levels of THMs are due to an increase in organic material in the water source and chlorine levels introduced at the plant. At this time, chlorine levels have already been reduced to levels that will decrease THM production while still providing adequate treatment of the water. Options for a longer-term solution are being explored at this time.

.../2

Blind River
P.O. Box 194
9B Lawton Street
Blind River, ON P0R 1B0
Tel: 705-356-2551
TF: 1 (888) 356-2551
Fax: 705-356-2494

Elliot Lake
50 Roman Avenue
Elliot Lake, ON P5A 1R9
Tel: 705-848-2314
TF: 1 (877) 748-2314
Fax: 705-848-1911

Sault Ste. Marie
294 Willow Avenue
Sault Ste. Marie, ON P6B 0A9
Tel: 705-942-4646
TF: 1 (866) 892-0172
Fax: 705-759-1534

Wawa
18 Ganley Street
Wawa, ON P0S 1K0
Tel: 705-856-7208
TF: 1 (888) 211-8074
Fax: 705-856-1752

THMs will naturally dissipate when the water is exposed to air, and are removed easily by activated carbon type filters. If you would like to reduce the level of THMs in your drinking water you can:

- Store water in an open container in the refrigerator for 24 hours
- Use water treatment devices containing activated carbon (ie. Brita filter or similar)
- Aerate the water in a blender
- Use commercially available bottled water for drinking and other consumption purposes.

Where can I get more information?

Visit the Algoma Public Health website at **www.algomapublichealth.com** or contact the Environmental Health Department of Algoma Public Health at 1-888-356-2551.

For healthier communities,

Nick Roscoe, C.P.H.I.(C)
Public Health Inspector

NR/jal

Enclosure

Algoma
PUBLIC HEALTH
Santé publique Algoma

TRIHALOMETHANES IN DRINKING WATER

What are Trihalomethanes?

Trihalomethanes (THMs) are a byproduct of the water treatment process. They are formed when naturally occurring organic substances found in raw water react with chlorine used to treat the water. This reaction produces "disinfection by-products" the most common of which are THMs. The four most common THMs in drinking water are chloroform, bromodichloremathane, chlorodibromaomethane and bromoform.

What are the health risks?

Current evidence is that THMs do **not** pose an immediate health risk. Studies suggest that long-term exposure (e.g. 35 years) to high levels of THMs may be linked to a slightly increased risk of some types of cancer, particularly bladder cancer.

Why do we use chlorine if it creates these byproducts?

Chlorination continues to be the best choice to treat drinking water. Its use, since the early 1900's, has been a huge public health benefit in largely eliminating plagues such as cholera and typhoid and reducing other health problems caused by waterborne viruses and bacteria (e.g. E. coli). The benefits of chlorinating drinking water are considered much greater than the risk of health effects from THMs.

I am pregnant. Should I stop drinking the water?

It is very important to maintain fluid intake during pregnancy. Based on current knowledge, the potential risks of adverse pregnancy outcomes associated with drinking water containing THMs are much lower than the risks of serious illness and death that could result from drinking water that has not been properly disinfected.

Pregnant women may wish to speak with their doctor for advice. It is important that pregnant women continue to drink sufficient water according to their doctor's recommendations.

What options exist to reduce THMs?

Several options are available to the homeowner concerned about the level of THMs in their tap water: The effectiveness of the options depends on which THMs are in the water.

- Use bottled water (best method)
- Aerate the water in a blender
- Store it in the refrigerator for 24 hours
- Water treatment devices containing activated carbon

What is being done to reduce the THM levels in the drinking water?

Algoma Public Health is actively involved in the remedial plans being implemented by the Municipality and the Ministry of Environment to address the elevated THM levels. The goal is to reduce the THM levels and maintain low levels over the long term.

Information adapted from: Health Canada (September 2008)
www.hc-sc.gc.ca/ewh-semt/pubs/water-eau/trihalomethanes/index-eng.php