

**Ministry of the Environment
and Climate Change**

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

Safe Drinking Water
Branch

Direction du contrôle de la qualité de
l'eau potable

Owen Sound District Office
101 17th St. E, 3rd Floor
Owen Sound ON N4K 0A5

Bureau du district de Owen Sound
101, 17^e rue Est, 3^e étage
Owen Sound ON N4K 0A5



April 5, 2017

Sent by Email: tsbppwmanager@bmts.com

**The Corporation of the Town of South Bruce Peninsula
315 George St., P.O. Box 310
Wiarton, Ontario
N0H 2T0**

Attention: Andrew Sprunt, Manager of Public Works

Re: 2016/2017 Inspection Report 1-CNEQF
Wiarton Drinking Water System
Drinking Water Licence # 094-102
Drinking Water Works Permit 094-202, Issue # 2

The enclosed report documents findings of the inspection that was performed on January 30, 2017.

Two sections of the report, namely "Actions Required" and "Recommended Actions", specify due dates for the submission of information or plans to my attention.

Please note that "Actions Required" are linked to incidents of non-compliance with regulatory requirements contained within an Act, a Regulation, or site-specific approvals, orders or instructions; "Recommended Actions" convey information that the owner or operating authority should consider implementing in order to conform with existing and emerging industry standards.

The report includes an Inspection Summary Rating Record as an appendix. This record forms part of the ministry's comprehensive, risk-based inspection process. The rating provides a quantitative measure of the inspection results for this specific drinking water system for the reporting year. An inspection rating that is less than 100 per cent does not mean that the drinking water from the system is unsafe. The primary goals of this assessment are to encourage ongoing improvement of drinking water systems and to measure this progress from year to year.

I would like to remind you that Section 19 of the Safe Drinking Water Act, 2002 (Standard of Care) creates a number of obligations for individuals who exercise decision-making authority over municipal drinking water systems, including members of municipal councils. "Taking Care

of Your Drinking Water: A guide for members of municipal council”, a publication found on the [Drinking Water Ontario website](http://www.ontario.ca/environment-and-energy/municipal-drinking-water-systems-licencing-registration-and-permits) (<http://www.ontario.ca/environment-and-energy/municipal-drinking-water-systems-licencing-registration-and-permits>), provides further information about these obligations.

Should you have any questions regarding the content of the enclosed report, please do not hesitate to contact me.

Yours truly,

Shayne Finlay
Water Compliance Inspector
Phone: 519-376-2024
e-mail: shayne.finlay@ontario.ca

Enclosure

ec: - Dr. Christine Kennedy, Medical Officer of Health, Grey-Bruce Health Unit
 - Leo-Paul Frigault, Operations Manager OCWA
 - John Bittorf, Water Resources Coordinator, Grey Sauble Conservation Authority

c: File SI-BR-SB-BA -540 (2017)



Ministry of the Environment and Climate Change

**WIARTON DRINKING WATER SYSTEM
Inspection Report**

Site Number:	220002681
Inspection Number:	1-CNEQF
Date of Inspection:	Jan 30, 2017
Inspected By:	Shayne Finlay

OWNER INFORMATION:

Company Name:	SOUTH BRUCE PENINSULA, THE CORPORATION OF THE TOWN OF		
Street Number:	315	Unit Identifier:	Box 310
Street Name:	GEORGE St		
City:	WIARTON		
Province:	ON	Postal Code:	N0H 2T0

CONTACT INFORMATION

Type:	Operating Authority	Name:	Leo-Paul Frigault
Phone:	(519) 534-1610	Fax:	(519) 797-3080
Email:	lfrigault@ocwa.com		
Title:	OCWA - Operations Manager, West Highlands Hub.		
Type:	Owner	Name:	Andre Sprunt
Phone:	(519) 534-1400	Fax:	(519) 534-4976
Email:	tsbppwmanager@bmts.com		
Title:	Public Works Manager.		

INSPECTION DETAILS:

Site Name:	WIARTON DRINKING WATER SYSTEM
Site Address:	897 BAYVIEW ST WIARTON ON N0N 0N0
County/District:	The South Bruce Peninsula
MOECC District/Area Office:	Owen Sound Area Office
Health Unit:	GREY BRUCE HEALTH UNIT
Conservation Authority:	Grey Sauble Conservation Authority
MNR Office:	Owen Sound Regional Office
Category:	Large Municipal Residential
Site Number:	220002681
Inspection Type:	Unannounced
Inspection Number:	1-CNEQF
Date of Inspection:	Jan 30, 2017
Date of Previous Inspection:	

COMPONENTS DESCRIPTION

Site (Name):	MOE DWS Mapping	Sub Type:	
Type:	DWS Mapping Point		
Site (Name):	Raw Water	Sub Type:	Surface Water
Type:	Source		

Comments:

The Wiarton drinking water system is supplied by two 450 mm diameter polyethylene raw water intakes extending into Colpoy's Bay. The main intake extends approximately 180 metres into the bay. The second (back up) intake extends approximately 45 metres into the bay. Both intakes are equipped with zebra mussel control (sodium hypochlorite).

Site (Name): Treatment Facility
Type: Treated Water POE
Sub Type: Treatment Facility

Comments:

Treatment at the Wiarton drinking water system includes: pH adjustment using sodium bisulphate; chemically-assisted filtration (flocculation and dual media filters) using polyaluminium chloride; pre and post chlorination (sodium hypochlorite) and UV irradiation.

An activated carbon feed system is also available for taste and odour control but is not currently in use. CT calculation provided by the OA. The total treatment credits as listed in the Wiarton Disinfection Performance Assessment are; Crypto is achieved by 2 log filtration and 24 log UV credits, Giardia is achieved by 2 log filtration, 0.1 log chlorine contact and 24 log UV credits, viruses is achieved by 1 log filtration, 3 log chlorine contact and 3 log UV credits. According to the Procedure for Disinfection of Drinking Water in Ontario for a 3 log (99.99%) Inactivation of Viruses by Free Chlorine with a Raw Water temperature of 0.5 degrees Celsius, with a pH between 6 – 9 is required for a CT value = 9

Clearwell capacity = 751 m³

Minimum clearwell level = 60%

Baffle ratio = 0.3

Flow rate = 5400 m³/day (3.75 m³/min)

Effective Contact time = $(751 \times 0.6 \times 0.3) / 3.75$

Effective Contact Time = $135.18 / 3.75 = 36.04$ min

CT (required) = Disinfection Residual Concentration (mg/L) x Effective contact time (min)

Minimum Disinfection Residual (mg/L) = CT (required) / Effective contact time (min)

Minimum Disinfection Residual (mg/L) = $9 / 36.04 = 0.249$

A minimum Free Chlorine Concentration of 0.25 mg/L is required to meet primary disinfection with a minimum clearwell volume of 450.6 m³ (60%).

Site (Name): Water Distribution System
Type: Other
Sub Type: Other

Comments:

The Wiarton distribution system has approximately 1062 service connections and serves an estimated population of 2,300 residents. There are approximately 23.5 kilometres of watermains and approximately 87 fire hydrants. Approximately 54% of the watermains are constructed of PVC with the remainder constructed of cast iron and ductile iron.

The standpipe and booster station are located in a fenced area near the intersection of Jenny and Gould Streets. The standpipe has a volume of greater than two days water storage (2,893 cubic metres). The booster station services a pressure zone in the area of Gould Street, Daniel Street and Jenny Street.

The Wiarton Water Treatment Plant also serves the Oxenden Distribution System located east of the Town of Wiarton. This distribution system is owned by the Township of Georgian Bluffs and operated by Veolia Water Canada. Oxenden is a residential area with population of less than 500 consumers.

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 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 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.

On January 30, 2017 Provincial Officer Shayne Finlay began conducting the inspection of the Warton Water Treatment System located in the municipality of South Bruce Peninsula. The system is operated by OCWA. There was 1 AWQI'S during this year's inspection cycle which is from January 22, 2016- January 30, 2017.

Source

- **Trends in source water quality were being monitored.**

Permit To Take Water

- **The owner was in compliance with all conditions of the PTTW.**

The owner has a valid PTTW# 5181-9DFR4C with the drinking water source Colpoy's Bay expiring November 14, 2023 with a Max taking of 5394 m³/d (3764 L/m). Its noted the owner can increase its max water taking to 4500 L/m for not greater than one hour for pump start up circumstances. The document holder shall document any readings greater than 3764 L/m and the rational for each exceedance.

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 Licence for the Warton drinking water system (094-102) requires the monitoring and recording of flow rate and the daily volume of water conveyed into the treatment system and into the distribution system.

- **The flow measuring devices were calibrated or verified in accordance with the requirements of the Municipal Drinking Water Licence issued under Part V of the SDWA.**

Flow meters were calibrated by Flow Metrix in May 2016.

- **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.**

The Warton Drinking Water System has the following control documents in place:

Capacity Assessment

- Municipal Drinking Water Licence Number: 094-102 Issue Number: 2 issued March 19th, 2015 with a rated capacity of 5,400 m³/d.
- Drinking Water Works Permit 094-202 Issue Number: 2 issued March 19th, 2015.
- PTTW 5181-9DFR4C with the a drinking water source from Colpoy's Bay expiring November 14, 2023 with a Max taking of 5394 m³/d (3764 l/m).

- **Appropriate records of flows and any capacity exceedances were made in accordance with 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.**
- **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.**

Records reviewed indicate that the Wiarton Water Treatment Plant was operated to achieve the necessary UV criteria, CT requirements and filter performance criteria for primary disinfection purposes during the inspection cycle.

- **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.**

Free available chlorine residual is maintained out and into the distribution system for secondary disinfection purposes to reduce the potential for microbial re-growth within the distribution system, and in accordance with section 1-5 of Schedule 1, O.Reg.170/03.

- **The primary disinfection equipment was equipped with alarms or shut-off mechanisms that satisfied the standards described in Section 1-6 (1) of Schedule 1 of Ontario Regulation 170/03.**

The UV units and filters are equipped with alarms and automatic shut-offs. When the UV fails and causes an alarm to be generated, operators are called to the facility. The operators conduct a CT calculation to determine if disinfection has been achieved and in the event that it is not they are to follow the emergency SOP for Adverse Water Quality Incidents.

- **The owner had evidence indicating that all chemicals and materials that come in contact with water within the drinking water system met the AWWA and ANSI standards in accordance with the Municipal Drinking Water Licence and Drinking Water Works Permit issued under Part V of the SDWA.**
- **Up-to-date plans for the drinking-water system were kept in a place, or made available in such a manner, that they could be readily viewed by all persons responsible for all or part of the operation of the drinking water system in accordance with the Drinking Water Works Permit and Municipal Drinking Water Licence issued under Part V of the SDWA.**
- **Where a potential bypass of primary or secondary treatment equipment existed, measures were taken to ensure that raw or partially treated water was not directed to the distribution system.**

Treatment Process Monitoring

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.**

A minimum Free Chlorine Concentration of 0.25 mg/L is required to meet primary disinfection with a minimum clearwell volume of 450.6 m³ (60%) as per the owner's CT calculation provided by the OA. After a review of records provided by the OA, these requirements have been met.

- **Operators were aware of the operational criteria necessary to achieve primary disinfection within the drinking water system.**

- **Continuous monitoring of each filter effluent line was being performed for turbidity.**

For large municipal residential systems that use surface water or GUDI as the source and are required to provide filtration, Reg.170/03, Schedule 7 section 7(3)(2) requires continuous monitoring equipment of each filter effluent line. Continuous monitoring for turbidity is required only of the filter effluent that is directed to the next treatment process/stage (and eventually to the distribution system). Gaps in data should correlate to times when the plant was not treating water, or for maintenance of the analyzer; this is being met.

- **The secondary disinfectant residual was measured as required for the distribution system.**

Subsections 7-2 (3) of Schedule 7, O.Reg.170/03 requires the Owner and Operating Authority (OA) of a large municipal residential system that provides secondary disinfection to ensure that at least seven distribution system samples are taken each week and tested immediately for free chlorine residual. Where secondary disinfection monitoring is not being done on a daily basis, Subsection 7-2(4) of Schedule 7, O.Reg.170/03 requires that at least four of the seven required tests be taken on one day of the week at least 48 hours after the last samples were taken the week previous, while the remaining three tests are required to be collected within the same week and at least 48 hours after the initial four. Records provided by the OA and reviewed during the inspection indicate that the OA complied with these requirements, typically testing free chlorine residual for secondary disinfection monitoring purposes from 2 locations 7 days a each week.

- **Operators were examining continuous monitoring test results and they were examining the results within 72 hours of the test.**

A certified operator must examine all test results generated by continuous monitoring equipment within 72 hours of their generation; this is being met. The OA reviews the SCADA reports daily, they also sign, date and document any findings. When the system has abnormal operating conditions the OA reviews, documents their finding on the printed trends which are attached to the daily SCADA report.

- **Samples for chlorine residual analysis were tested using an acceptable portable device.**

- **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.**

The Wiarton water treatment plant is equipped with continuous analyzers and alarms for free chlorine and turbidity. The alarm set points for the clearwell Water chlorine analyzer is Low 0.85 mg/L and Low, Low 0.80 mg/L; when reached the system locks out ensuring the system meets their CT requirements. The turbidity set points on the two filter trains is High 0.30 NTU and High, High 0.8 NTU at which time the plant shuts down. In both instances the alarms are sent to the OA notifying of the plant shutdown.

Treatment Process Monitoring

- **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.**
- **The owner and operating authority ensured that the primary disinfection equipment had a recording device that continuously recorded the performance of the disinfection equipment.**
- **All continuous analysers were calibrated, maintained, and operated, in accordance with the manufacturer's instructions or the regulation.**

Routine analyzer maintenance, accuracy verification checks and calibrations are conducted by the operator which are recorded in plant logs and daily SCADA reports. The OA has yearly calibrations conducted by an outside source company and they also calibrate their analyzers on a monthly basis in house.

Process Wastewater

- **The process wastewater and residual solids/sludges were treated, handled and disposed of in accordance with the design requirements approved under the Drinking Water Works Permit and the Municipal Drinking Water Licence.**

Sludge is discharged to the sanitary sewer and the supernatant is discharged to Colpoy's Bay after dechlorination in accordance with Drinking Water Works Permit (094-202).

- **The process wastewater discharge monitoring program and discharge quality complied with requirements established in the Municipal Drinking Water Licence Issued under Part V of the SDWA.**

Schedule C of Licence number 094-102 requires quarterly sampling of suspended solids in the backwash water. The annual average concentration of suspended solids in the waste water must not exceed 25 mg/L. The annual average concentration of suspended solids for 2016 was 8.75 mg/L.

Distribution System

- **The owner had up-to-date documents describing the distribution components as required.**

The owner is reminded to update the document describing the distribution components within 12 months of completion of alterations to the system. Maintaining accurate mapping and records of the distribution system is essential for a water utility to repair and maintain the existing system, as well as to plan for future improvements or expansion.

- **There is a backflow prevention program, policy and/or bylaw in place.**

The Municipality has a bylaw that regulates the connection of individual water services to the municipal drinking water system.

- **The owner had a program or maintained a schedule for routine cleanout, inspection and maintenance of reservoirs and elevated storage tanks within the distribution system.**

During the fall of 2016 the Wiarton standpipe was drained and inspected. This was to allow for inside coating warranty repairs and for the re-installation of the standpipe cathodic protection system.

- **Existing parts of the distribution system that are taken out of service for inspection, repair or other activities that may lead to contamination, and all new parts of the distribution system that come in contact with drinking water, were disinfected in accordance with Schedule B, Condition 2.3 of the Drinking Water**

Distribution System

Works Permit, or an equivalent procedure (i.e. the Watermain Disinfection Procedure).

- The owner had implemented a program for the flushing of watermains as per industry standards.
- Records confirmed that disinfectant residuals were routinely checked at the extremities and "dead ends" of the distribution system.
- A program was in place for inspecting and exercising valves.
- There was a program in place for inspecting and operating hydrants.
- There was a by-law or policy in place limiting access to hydrants.

The owner has a Fire Hydrant 120-2015 By-Law to regulate the use of municipally owned fire hydrants.

- The owner was able to maintain proper pressures in the distribution system and pressure was monitored to alert the operator of conditions which may lead to loss of pressure below the value under which the system is designed to operate.
- The donor had an agreement with a receiver system, and the agreement satisfied the requirements prescribed by subsection 5(4) under O. Reg. 170/03.

The owners supplies water to the Oxenden distribution system. The Oxenden drinking water distribution system is located in The Municipality of the Township of Georgian Bluffs and supplies approximately 180 service connections. The current 20 year agreement expires at the end of April 2017. The Municipalities are currently in negotiations for a new agreement.

- The donor had provided an Annual Report to the receiver stand alone distribution system(s) connected to this system.

Operations Manuals

- Operators and maintenance personnel had ready access to operations and maintenance manuals.

An operations and maintenance manual has been created for the operator's use for the Warton drinking water system. The manual appears to be sufficient, enabling staff to safely operate the drinking water system. It is recommended that the OA review and update the manual every 2 years.

- 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.

As per Condition 16, Schedule B of the Licence # 094-102 prescribes that an up-to-date operations and maintenance manual or manuals is maintained and applicable parts of the manual or manuals are made available for reference by all persons responsible for all or part of the operation or maintenance of the drinking water system; this requirement has been met.

Logbooks

- Logbooks were properly maintained and contained the required information.

Logbooks

It's recommended that the OA have a document identifying names of all operators of the facility (clearly printed) and their respective signatures and initials to better identify the person making the entry in the logs and attached to all log books.

- **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.**
- **For every required operational test and every required sample, a record was made of the date, time, location, name of the person conducting the test and result of the test.**
- **The operator-in-charge ensured that records were maintained of all adjustments made to the processes within his or her responsibility.**
- **Logs or other record keeping mechanisms were available for at least five (5) years.**

Contingency/Emergency Planning

- **Spill containment was provided for process chemicals and/or standby power generator fuel.**
- **Clean-up equipment and materials were in place for the clean up of spills.**
- **Standby power generators were tested under normal load conditions.**

Security

- **All storage facilities were completely covered and secure.**
- **Air vents and overflows associated with reservoirs and elevated storage structures were equipped with screens.**
- **The owner had provided security measures to protect components of the drinking water system.**

Consumer Relations

- **The owner and/or operating authority undertook efforts to promote water conservation and reduce water losses in their system.**

Certification and Training

- **The overall responsible operator had been designated for each subsystem.**
James Learn is the designated overall responsible operator for the Wiarton drinking water system.
- **Operators in charge had been designated for all subsystems which comprised the drinking-water system.**
- **All activities that were undertaken by uncertified persons in the DW subsystems were overseen by persons having the prescribed qualifications.**

Certification and Training

- **All operators possessed the required certification.**
- **Only certified operators made adjustments to the treatment equipment.**
Records provided for review indicate that the OA operators appear to be the only persons who are adjusting water treatment equipment and processes at the water treatment plant.
- **The subsystem had been replaced or altered, since the issuance of the existing subsystem certificate of classification and the owner applied for the re-determination of the type and class of the subsystem or had determined that the alteration(s) was not sufficient to trigger an application.**
- **An adequately licenced operator was designated to act in place of the overall responsible operator when the overall responsible operator was unable to act.**

Water Quality Monitoring

- **All microbiological water quality monitoring requirements for raw water samples were being met.**
The owner of a large municipal residential drinking water system shall ensure that if the system serves a population of 100,000 or less, at least 8 distribution samples plus one for every thousand people served by the system are taken every month. At least one of the samples must be taken each week. These samples are required to be tested for E.Coli. and total coliform; and at least 25 percent of the samples are required to be tested for general bacteria populations expressed as colony counts on a heterotrophic plate count. A review of the data provided by the OA indicates that the OA is routinely collecting three distribution samples each week in order to comply with the regulatory requirement. Each of those samples were tested for E.Coli., total coliform, and approximately half of the samples were tested for general bacteria populations expressed as colony counts on a heterotrophic plate count.
- **All microbiological water quality monitoring requirements for distribution samples were being met.**
- **All microbiological water quality monitoring requirements for treated samples were being met.**
Treated water samples are collected weekly and analysed for E. coli, total coliforms and HPC.
- **All inorganic water quality monitoring requirements prescribed by legislation were conducted within the required frequency.**
Sampling and testing for inorganic parameters has been conducted for the Wiarton drinking water system in accordance with Schedule 13-2 of Ontario Regulation 170/03. The regulation requires that samples are to be collected every 12 months and tested for each parameter listed in Schedule 23; this requirement has been met. The most recent samples were collected on January 4, 2017 and there were no concerns identified from the results.
- **All organic water quality monitoring requirements prescribed by legislation were conducted within the required frequency.**
Sampling and testing for organic parameters has been conducted for the Wiarton drinking water system in accordance with Schedule 13-4 of Ontario Regulation 170/03. The regulation requires that samples are to be collected every 12 months and tested for each parameter listed in Schedule 23; this requirement has been met. The most recent samples were collected on January 4, 2017 and there were no concerns identified from the results.
- **All trihalomethanes water quality monitoring requirements prescribed by legislation were conducted within**

Water Quality Monitoring

the required frequency.

Section 13-6 of Schedule 13, O.Reg.170/03 requires the Owner and the Operating Authority to ensure that at least one distribution sample is taken every 3 months from a point in the drinking water system's distribution system, or in plumbing that is connected to the drinking water system, that is likely to have an elevated potential for the formation of Trihalomethanes (THMs), and tested for THMs. Section 6-1.1 of Schedule 6, O.Reg.170/03 requires that these samples be taken at least 60 days, and not more than 120 days, after a sample was taken for that purpose in the previous three month period. Sampling occurred January 4, 2016, April 4, 2016, July 4, 2016, October 3, 2016 and January 3, 2017. The running annual average of samples collected in 2016 is 27.75 ug/L.

- **All nitrate/nitrite water quality monitoring requirements prescribed by legislation were conducted within the required frequency for the DWS.**

Section 13-7 of Schedule 13, O.Reg.170/03 requires the Owner and Operating authority to ensure that at least one water sample is taken every three months and tested for nitrates and nitrites. Section 6-1.1 of Schedule 6, O.Reg.170/03 requires that these samples be taken at least 60 days, and not more than 120 days, after a sample was taken for that purpose in the previous three month period. Complying with these requirements, the operating authority conducted the required monitoring on January 4, 2016, April 4, 2016, July 4, 2016, ,October 3, 2016 and January 3, 2017. There were no concerns identified with the sample results.

- **All sodium water quality monitoring requirements prescribed by legislation were conducted within the required frequency.**

Section 13-8 of Schedule 13, O.Reg.170/03 requires that the the Owner and the Operating Authority ensure that a treated water sample is taken every 60 months and is tested for sodium. Records provided by the OA and reviewed during the the inspection, indicate that the OA conducted sampling for sodium on January 7, 2013 and achieved a result of 6.46 mg/L, which complied with the Ontario Drinking Water Quality Standard of 20 mg/L.

- **All fluoride water quality monitoring requirements prescribed by legislation were conducted within the required frequency.**

Section 13-9 of Schedule 13, O.Reg.170/03 requires the Owner and the operating Authority to ensure that at least one water sample is taken every 60 months and tested for Fluoride. The OA last conducted Fluoride sampling on January 7, 2013, and achieved a result of 0.08 mg/L, which complied with the Ontario Drinking Water Quality Standard of 1.5 mg/L.

- **The owner ensured that water samples were taken at the prescribed location.**
- **The owner was required to increase frequency of monitoring as a result of having exceeded half the value of an applicable ODWQS of a Schedule 13-2 or 13-4 parameter(s) and that increased monitoring was conducted.**
- **All water quality monitoring requirements imposed by the Municipal Drinking Water Licence and Drinking Water Works Permit were being met.**

Municipal Drinking Water Licence 092-101 Schedule C also requires sampling the discharge from the filter backwash water and testing for suspended solids on a quarterly basis. This sample must be a composite sample and not exceed 25 mg/L annual average concentration; these requirements have been met. Also additional monitoring requirements outlined in Schedule C of Licence number 094-102 include continuous monitoring of flow rate, UV intensity and UV lamp status for the UV disinfection equipment. During the inspection period UV disinfection parameters were continuously monitored when the unit was in operation.

Water Quality Monitoring

- **All sampling requirements for lead prescribed by schedule 15.1 of O. Reg. 170/03 were being met.**
The OA sampled (2) PH and alkalinity samples during the winter sampling period from Dec 15 to Apr 15 and Summer sampling period June 15- October 15 in 2016 as per O.Reg. 170/03 15.1.
- **Records confirmed that chlorine residual tests were being conducted at the same time and at the same location that microbiological samples were obtained.**
- **The drinking water system owner submitted written notices to the Director that identified the laboratories that were conducting tests for parameters required by legislation, Order, Drinking Water Works Permit or Municipal Drinking Water Licence.**
- **The owner indicated that the required records are kept and will be kept for the required time period.**

Water Quality Assessment

- **Records showed 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).**
The OA had an AWQI issued for Total Coliforms on January 25, 2016. Re-samples were tested for E. coli and total coliforms. Results came back with 0 cfu/100 mL for e.coli and total coliform.

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.**
January 25, 2016 the OA reported AWQI # 128144 after a bacteriological sample had a Total coliform of 1. The OA notified SAC, MOH and completed forms 2A and 2B. Re-samples came back showing no sign of contamination.
- **All required notifications of adverse water quality incidents were immediately provided as per O. Reg. 170/03 16-6.**
- **All required written notices of adverse water quality incidents were provided as per O. Reg. 170/03 16-7.**
- **In instances where written notice of issue resolution was required by regulation, the notice was provided as per O. Reg. 170/03 16-9.**
- **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.**
- **When the primary disinfection equipment, other than that used for chlorination or chloramination, has failed causing an alarm to sound or an automatic shut-off to occur, a certified operator responded in a timely manner and took appropriate actions.**
- **The Annual Report containing the required information was prepared by February 28th of the following year.**
- **Summary Reports for municipal council were completed on time, included the required content, and were**

Reporting & Corrective Actions

distributed in accordance with the regulatory requirements.

- All changes to the system registration information were provided within ten (10) days of the change.

Other Inspection Findings

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:

Shayne Finlay

Signature: (Provincial Officer)

Reviewed & Approved By:

John Ritchie

Signature: (Supervisor)

Review & Approval Date: 05/04/2017

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.



Ontario

**Ministry of the Environment and Climate Change
Drinking Water Inspection Report**

APPENDIX A

INSPECTION SUMMARY RATING RECORD

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

DWS Name:	WIARTON DRINKING WATER SYSTEM
DWS Number:	220002681
DWS Owner:	South Bruce Peninsula, The Corporation Of The Town Of
Municipal Location:	The South Bruce Peninsula

Regulation: O.REG 170/03
Category: Large Municipal Residential System
Type Of Inspection: Detailed
Inspection Date: January 30, 2017
Ministry Office: Owen Sound District Office

Maximum Question Rating: 735

Inspection Module	Non-Compliance Rating
Permit To Take Water	0 / 12
Capacity Assessment	0 / 42
Treatment Processes	0 / 89
Process Wastewater	0 / 20
Distribution System	0 / 29
Operations Manuals	0 / 42
Logbooks	0 / 30
Certification and Training	0 / 65
Water Quality Monitoring	0 / 152
Reporting & Corrective Actions	0 / 109
Treatment Process Monitoring	0 / 145
TOTAL	0 / 735

Inspection Risk Rating	0.00%
-------------------------------	--------------

FINAL INSPECTION RATING:	100.00%
---------------------------------	----------------

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

DWS Name: WIARTON DRINKING WATER SYSTEM
DWS Number: 220002681
DWS Owner: South Bruce Peninsula, The Corporation Of The Town Of
Municipal Location: The South Bruce Peninsula

Regulation: O.REG 170/03
Category: Large Municipal Residential System
Type Of Inspection: Detailed
Inspection Date: January 30, 2017
Ministry Office: Owen Sound District Office

Maximum Question Rating: 735

Inspection Risk Rating | 0.00%

FINAL INSPECTION RATING: | 100.00%



Ontario

**Ministry of the Environment and Climate Change
Drinking Water Inspection Report**

APPENDIX B

REFERENCE GUIDE FOR STAKEHOLDERS

Key Reference and Guidance Material for Municipal Residential Drinking Water Systems

Many useful materials are available to help you operate your drinking water system. Below is a list of key materials owners and operators of municipal residential drinking water systems frequently use.

To access these materials online click on their titles in the table below or use your web browser to search for their titles. Contact the Public Information Centre if you need assistance or have questions at 1-800-565-4923/416-325-4000 or picemail.moe@ontario.ca.

For more information on Ontario's drinking water visit www.ontario.ca/drinkingwater and email drinking.water@ontario.ca to subscribe to drinking water news.



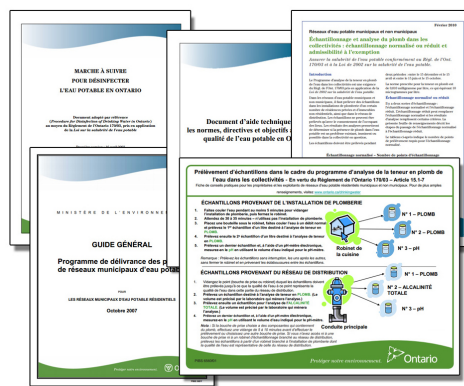
PUBLICATION TITLE	PUBLICATION NUMBER
Taking Care of Your Drinking Water: A Guide for Members of Municipal Councils	7889e01
FORMS: Drinking Water System Profile Information, Laboratory Services Notification, Adverse Test Result Notification Form	7419e, 5387e, 4444e
Procedure for Disinfection of Drinking Water in Ontario	4448e01
Strategies for Minimizing the Disinfection Products Trihalomethanes and Haloacetic Acids	7152e
Total Trihalomethane (TTHM) Reporting Requirements Technical Bulletin (February 2011)	8215e
Filtration Processes Technical Bulletin	7467
Ultraviolet Disinfection Technical Bulletin	7685
Guide for Applying for Drinking Water Works Permit Amendments, Licence Amendments, Licence Renewals and New System Applications	7014e01
Certification Guide for Operators and Water Quality Analysts	
Guide to Drinking Water Operator Training Requirements	9802e
Taking Samples for the Community Lead Testing Program	6560e01
Community Sampling and Testing for Lead: Standard and Reduced Sampling and Eligibility for Exemption	7423e
Guide: Requesting Regulatory Relief from Lead Sampling Requirements	6610
Drinking Water System Contact List	7128e
Technical Support Document for Ontario Drinking Water Quality Standards	4449e01

ontario.ca/drinkingwater

Principaux guides et documents de référence sur les réseaux résidentiels municipaux d'eau potable

De nombreux documents utiles peuvent vous aider à exploiter votre réseau d'eau potable. Vous trouverez ci-après une liste de documents que les propriétaires et exploitants de réseaux résidentiels municipaux d'eau potable utilisent fréquemment.

Pour accéder à ces documents en ligne, cliquez sur leur titre dans le tableau ci-dessous ou faites une recherche à l'aide de votre navigateur Web. Communiquez avec le Centre d'information au public au 1 800 565-4923 ou au 416 325-4000, ou encore à picemail.moe@ontario.ca si vous avez des questions ou besoin d'aide.



Pour plus de renseignements sur l'eau potable en Ontario, consultez le site www.ontario.ca/eaupotable ou envoyez un courriel à drinking.water@ontario.ca pour suivre l'information sur l'eau potable.

TITRE DE LA PUBLICATION	NUMÉRO DE PUBLICATION
Prendre soin de votre eau potable – Un guide destiné aux membres des conseils municipaux	7889f01
Renseignements sur le profil du réseau d'eau potable, Avis de demande de services de laboratoire, Formulaire de communication de résultats d'analyse insatisfaisants et du règlement des problèmes	7419f, 5387f, 4444f
Marche à suivre pour désinfecter l'eau potable en Ontario	4448f01
Strategies for Minimizing the Disinfection Products Trihalomethanes and Haloacetic Acids (en anglais seulement)	7152e
Total Trihalomethane (TTHM) Reporting Requirements: Technical Bulletin (février 2011) (en anglais seulement)	8215e
Filtration Processes Technical Bulletin (en anglais seulement)	7467
Ultraviolet Disinfection Technical Bulletin (en anglais seulement)	7685
Guide de présentation d'une demande de modification du permis d'aménagement de station de production d'eau potable, de modification du permis de réseau municipal d'eau potable, de renouvellement du permis de réseau municipal d'eau potable et de permis pour un nouveau réseau	7014f01
Guide sur l'accréditation des exploitants de réseaux d'eau potable et des analystes de la qualité de l'eau de réseaux d'eau potable	
Guide sur les exigences relatives à la formation des exploitants de réseaux d'eau potable	9802f
Prélèvement d'échantillons dans le cadre du programme d'analyse de la teneur en plomb de l'eau dans les collectivités	6560f01
Échantillonnage et analyse du plomb dans les collectivités : échantillonnage normalisé ou réduit et admissibilité à l'exemption	7423f
Guide: Requesting Regulatory Relief from Lead Sampling Requirements (en anglais seulement)	6610
Liste des personnes-ressources du réseau d'eau potable	7128f
Document d'aide technique pour les normes, directives et objectifs associés à la qualité de l'eau potable en Ontario	4449f01

ontario.ca/eaupotable