Ontario

Ministry of the Environment, Conservation and Parks

Drinking Water and Environmental Compliance Division, Northern Region
Timmins District, Timmins Office
Ontario Government Complex
5520 Highway 101 East
PO Bag 3080
South Porcupine ON P0N 1H0
Tel.: 705 235-1500
Fax: 705 235-1520

Ministère de l'Environnement, de la Protection de la nature et des Parcs

Division de la conformité en matière d'eau potable et d'environnement, Direction régionale du Nord
District de Timmins, bureau de Timmins
Complexe du gouvernement de l'Ontario
5520 Route 101 Est
C/P service de sacs 3080
South Porcupine ON P0N 1H0
Tél.: 705 235-1500
Téléc.: 705 235-1520

February 3rd, 2022 by Email

Ms. Guylaine Coulombe – CAO/Clerk
The Corporation of the Township of Mattice-Val Côté
500 Hwy 11, PO Box 129
Mattice, ON P0L 1T0

Re: 2021-2022 Inspection Report for the Mattice Drinking Water System
DWS No. 210001781
Inspection Report No. 1-64164933

Attached is the Drinking Water System Inspection Report resulting from an announced, detailed inspection conducted at the above-mentioned facility by Connie Croisier of the Timmins District Office of the Ministry of the Environment, Conservation, and Parks.

Please note that due to a change in IT systems, the Inspection Rating Report (IRR) cannot be generated at the same time as the inspection report. The IRR will be sent separately and prior to any public release (typically within 1-2 month of the completion of the inspection).

Attached in Appendix A is a document entitled "DWS Components Information" and in Appendix B is a document titled "Key Reference and Guidance Material for Municipal Residential Drinking Water Systems".

Section 19 of the Safe Drinking Water Act (Standard of Care) creates a number of obligations for individuals who exercise decision-making authority over municipal drinking water systems. Please be aware that the Ministry has encouraged such individuals, particularly municipal councillors, to take steps to be better informed about the drinking water systems over which they have decision making authority. These steps could include asking for a copy of this inspection report and a review of its findings. Further information about Section 19 can be found in "Taking Care of Your Drinking Water: A guide for members of municipal council" found under "Resources" on the Drinking Water Ontario website at www.ontario.ca/drinkingwater

Copies of the inspection report have been sent to OCWA as the operating authority for the treatment system. Copies have also been sent to the Porcupine Health Unit and the Ministry of Natural Resources and Forestry in accordance with the Ministry's Municipal Drinking Water Inspection Protocol.

If you have any questions about this inspection report, please contact me at (705) 262-0540 or by email at connie.croisier@ontario.ca.

Regards,

Connie Croisier

Connie Croisier
Water Inspector
Timmins District Office, Northern Region
Drinking Water and Environmental Compliance Division
Ministry of the Environment, Conservation and Parks

cc:

Mr. Serge Audet, Overall Responsible Operator - OCWA
Ms. April Swanson, Process and Compliance Technician - OCWA
Mr. Claude Rancourt, Sr Operations Manager - OCWA
Ms. Sherry Ilersich, Water Compliance Supervisor – Ministry of the Environment, Conservation and Parks
Ms. Sue Lajoie, Manager of Environmental Health - Porcupine Health Unit
Ms. Kaitlin McCaw, Program Coordinator Environmental Health - Porcupine Health Unit
Mr. Wesley Woods, District Manager - Ministry of Natural Resources and Forestry

MATTICE DRINKING WATER SYSTEM
249 PARKVIEW RD, MATTICE-VAL COTE, ON, P0L 1T0

Inspection Report

System Number:	210001781
Inspection Start Date:	11/22/2021
Inspection End Date:	02/03/2022
Inspected By:	Connie Croisier
Badge #:	

(signature)

NON-COMPLIANCE/NON-CONFORMANCE ITEMS

The following item(s) have been identified as non-compliance/non-conformance, based on a "No" response captured for a legislative or best management practice (BMP) question (s), respectively.

Question Group: Treatment Processes

Question ID	MRDW1037000	
Question	**Question Type**	**Legislative Requirement**
Are all continuous monitoring equipment utilized for sampling and testing required by O. Reg.170/03, or MDWL or DWWP or order, equipped with alarms or shut-off mechanisms that satisfy the standards described in Schedule 6?	Legislative	SDWA | O. Reg. 170/03 | 6-5 | (1)1-4,SDWA | O. Reg. 170/03 | 6-5 | (1)5-10,SDWA | O. Reg. 170/03 | 6-5 | (1.1)

Observation/Corrective Action(s)

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 not equipped with alarms or shut-off mechanisms that satisfy the standards described in Schedule 6.

Subsections 6-5 (1) 5 and 6-5 (1.1) of Schedule 6 to O. Reg. 170/03 requires continuous monitoring equipment to be equipped with an automatic shut-off or designed and operated such that an alarm sounds immediately at the following locations if the equipment malfunctions or loses power or a test result for a parameter is above or below the alarm standard:
i. The location where the equipment conducts tests.
ii. A location where a person is present; if a person is not always present at the location where the equipment conducts tests.

Additionally, the Minimum and Maximum Alarm Standards prescribed by Section 6-5 of Schedule 6 to O. Reg. 170/03 requires alarms for primary disinfection monitoring to be set:
1. No less than 0.1 milligrams per litre less than the concentration of free chlorine residual that is required to achieve primary disinfection, and;
2. No greater than 1.0 NTU for filter effluent turbidity monitoring.

In accordance with OCWA's standard operating procedure for Chlorine Contact Time, the minimum required free chlorine residual to ensure primary disinfection is achieved under worst-case conditions is 0.40 mg/L. The regulatory alarm for low primary disinfection is set at a free chlorine residual of 0.80 mg/L, which complies with the Minimum Alarm Standard prescribed in Section 6-5 of Schedule 6 to O. Reg. 170.

In addition, each filter effluent line turbidimeter generates an alarm when turbidity reaches 1.0 NTU which triggers the raw water pumps to shut-down and notify the on-call operator.

NON-COMPLIANCE:

During the physical inspection of the WTP, the regulatory alarm for low free chlorine residual was set with a delay of 300 seconds (5 minutes) to account for power surges and abnormal instantaneous

readings that would result in a faulty alarm. This is a violation of subsection 6-5 (1.1) 3 (i) B of Schedule 6 to O. Reg. 170/03 which allows a maximum lag time of 2 minutes for the regulatory alarm for low primary disinfection. The Regulation reads "…within two minutes, a further test result indicated that the parameter was no longer above the maximum alarm standard or below the minimum alarm standard", meaning the alarm has 2 minutes to return to normal which allows the operator to decide whether to take corrective action.

CORRECTIVE ACTION:

On December 15th, 2021, the operating authority indicated they had reduced to delay to 10 seconds and are monitoring the results.

No further action required at this time.

Question Group: Water Quality Monitoring

Question ID	MRDW1095000	
Question	**Question Type**	**Legislative Requirement**
Have all lead sampling requirements prescribed by Schedule 15.1 of O.R. 170/03 been met?	Legislative	SDWA | O. Reg. 170/03 | 15.1-10,SDWA | O. Reg. 170/03 | 15.1-4 | (1), SDWA | O. Reg. 170/03 | 15.1-5 | (1),SDWA | O. Reg. 170/03 | 15.1-5 | (10), SDWA | O. Reg. 170/03 | 15.1-5 | (11),SDWA | O. Reg. 170/03 | 15.1-5 | (12), SDWA | O. Reg. 170/03 | 15.1-5 | (2),SDWA | O. Reg. 170/03 | 15.1-5 | (3), SDWA | O. Reg. 170/03 | 15.1-5 | (4),SDWA | O. Reg. 170/03 | 15.1-5 | (5), SDWA | O. Reg. 170/03 | 15.1-5 | (6),SDWA | O. Reg. 170/03 | 15.1-5 | (7), SDWA | O. Reg. 170/03 | 15.1-5 | (8),SDWA | O. Reg. 170/03 | 15.1-5 | (9), SDWA | O. Reg. 170/03 | 15.1-7 | (1),SDWA | O. Reg. 170/03 | 15.1-7 | (2), SDWA | O. Reg. 170/03 | 15.1-7 | (3),SDWA | O. Reg. 170/03 | 15.1-7 | (4),

		SDWA | O. Reg. 170/03 | 15.1-9 | (1),SDWA | O. Reg. 170/03 | 15.1-9 | (2), SDWA | O. Reg. 170/03 | 15.1-9 | (3),SDWA | O. Reg. 170/03 | 15.1-9 | (4), SDWA | O. Reg. 170/03 | 15.1-9 | (5),SDWA | O. Reg. 170/03 | 15.1-9 | (6), SDWA | O. Reg. 170/03 | 15.1-9 | (7),SDWA | O. Reg. 170/03 | 15.1-9 | (8), SDWA | O. Reg. 170/03 | 15.1-9 | (9)

Observation/Corrective Action(s)

All sampling requirements for lead prescribed by schedule 15.1 of O. Reg. 170/03 were not met.

The Mattice DWS is qualified for the "Exemption from Plumbing Sampling" as described in subsections 15.1-5 (9) and 15.1-5 (10) of Schedule 15.1 to O.Reg.170/03. As such, the owner and operating authority for the system must ensure;

- Water samples are collected from two locations in the distribution system and tested for pH and total alkalinity at least once during each prescribed sampling period in every 12-month period.

- Water samples are collected from two locations in the distribution system and tested for lead at least once during each prescribed sampling period in every third 12-month period.

For the Winter sampling period (December 15th to April 15th), water samples were collected on April 8th, 2021 from two locations in the distribution system and tested for pH and alkalinity as required (based on a service population of 600).

NON-COMPLIANCE:

For the Summer sampling period (June 15th to October 15th), only one water sample was collected on October 7th, 2021 from a single location in the distribution system and tested for alkalinity and pH. This is a violation of the sampling requirements prescribed by subsection 15-1 (10) of Schedule 15 to O. Reg. 170/03 which states at least two points in the distribution system must be sampled and tested for alkalinity and pH based on a service population of 600.

CORRECTIVE ACTION:

The operating authority has provided documentation indicating they will discuss and review the number of sampling locations at operations meetings prior to conducting alkalinity/lead sampling. They will also be updating the Chain of Custody forms to include the number of hydrants to sample. No further action required.

With respect to lead sampling, samples were collected from two locations in the distribution system and

tested for lead on April 7th, 2020 and October 7th, 2020, and previously on March 29th, 2017 and October 4th, 2017 as required. Note: The owner and operating authority for the system must ensure the appropriate number of samples are collected and tested for lead during the Winter 2022-2023 and Summer 2023 sampling periods.

INSPECTION DETAILS

This section includes all questions that were assessed during the inspection.

Ministry Program: Regulated Activity: DRINKING WATER : DW Municipal Residential

Question ID	MRDW1001000	
Question	**Question Type**	**Legislative Requirement**
What was the scope of this inspection?	Information	Not Applicable

Observation

The primary focus of this inspection is to confirm compliance with Ministry of the Environment, Conservation and Parks (MECP) 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.

This announced, detailed inspection of the Mattice Drinking Water System (DWS) was conducted on December 7th, 2021 by Ministry of the Environment, Conservation and Parks Water Inspectors Connie Croisier and Lori Duquette. Representing the Ontario Clean Water Agency (OCWA) was Overall Responsible Operator (ORO) Mr. Serge Audet. Supporting documentation and information was provided by OCWA Process and Compliance Technician Ms. April Swanson. Chief Administrative Officer and Clerk for the Corporation of the Township of Mattice-Val Côté Ms. Guylaine Coulombe also provided information on select aspects of the distribution system.

The inspection included an assessment of the source water intake and water treatment works, as well as a document review for the period of October 20th, 2020 to November 30th, 2021; referred to in this report as the inspection period.

The Corporation of the Township of Mattice-Val Côté is the owner of the DWS and OCWA is the accredited operating authority for the Mattice Water Treatment Plant (WTP) and Distribution System.

Question ID	MRDW1000000	
Question	**Question Type**	**Legislative Requirement**

Does this drinking water system provide primary disinfection?	Information	Not Applicable
Observation		
This Drinking Water System provides for both primary and secondary disinfection, as well as distribution of treated water.		

Question ID	MRDW1010000	
Question	**Question Type**	**Legislative Requirement**
Are trends in source water quality being monitored?	BMP	Not Applicable
Observation		
Trends in source water quality were being monitored. OCWA regularly tests and trends the following parameters in the water from the Missinaibi River: - Microbiological parameters E.coli and total coliforms are tested once weekly as required by Section 10-4 of Schedule 10 to Ontario Regulation 170/03 of the Safe Drinking Water Act, 2002 (O.Reg.170/03). - pH, alkalinity, true colour, apparent colour, turbidity, and temperature are tested and recorded on the "Mattice WTP Laboratory Sheets" at least twice per week.		

Question ID	MRDW1012000	
Question	**Question Type**	**Legislative Requirement**
Does the owner have a harmful algal bloom monitoring plan in place that meets the requirements of the MDWL?	Legislative	SDWA | 31 | (1)
Observation		
The owner had a harmful algal bloom monitoring plan in place. Condition 6.0 of Schedule C to Municipal Drinking Water Licence (MDWL) No. 291-101 requires the owner to implement a Harmful Algal Bloom (HAB) monitoring, reporting and sampling plan on or before September 1st, 2021. OCWA's standard operating procedure for HAB monitoring at the Mattice WTP was issued May 18th, 2021 and describes the visual monitoring, sampling, and reporting processes for HABs that meet the requirements of the Licence.		

Question ID	MRDW1014000	
Question	**Question Type**	**Legislative Requirement**
Is there sufficient monitoring of flow as required by the MDWL or DWWP issued under Part V of the SDWA?	Legislative	SDWA | 31 | (1)
Observation		

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.

Condition 2.1 of Schedule C to the MDWL requires continuous flow measurement and recording to be undertaken for:

2.1.1 The flow rate and daily volume of treated water that flows from the treatment subsystem to the distribution system.

2.1.2 The flow rate and daily volume of water that flows into the treatment subsystem.

The Mattice WTP is equipped with two raw water flow meters located on each raw water discharge header upstream of the dual train package treatment unit, and one treated water flow meter located on the high lift pump common discharge header. The filter effluent and backwash lines are also equipped with individual flow meters. Raw and treated flow are continuously monitored and recorded using the Supervisory Control and Data Acquisition (SCADA) system.

Question ID	MRDW1015000	
Question	**Question Type**	**Legislative Requirement**
Are the flow measuring devices calibrated or verified in accordance with the requirements of the MDWL issued under Part V of the SDWA?	Legislative	SDWA | 31 | (1)

Observation

The flow measuring devices were calibrated or verified in accordance with the requirements of the MDWL issued under Part V of the SWDA.

A review of the calibration records for the inspection period confirmed that flow meters are calibrated once every 12 months as required by Condition 3.0 of Schedule C to the MDWL. Raw water, filter effluent and treated water flow meters were calibrated on March 15th, 2021 and previously on March 25th, 2020. Instruments are also verified by the operator on a weekly basis.

Question ID	MRDW1016000	
Question	**Question Type**	**Legislative Requirement**
Is the owner in compliance with the conditions associated with maximum flow rate or the rated capacity conditions in the MDWL issued under Part V of the SDWA?	Legislative	SDWA | 31 | (1)

Observation

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.

Condition 1.1 of Schedule C to the MDWL requires the owner to ensure the system is operated such that the maximum daily volume of water that flows from the treatment subsystem to the distribution system does not exceed the rated capacity of 905 m^3/day.

The maximum daily volume of treated water supplied to the distribution system during the inspection period was 331.3 m³/day. The average daily volume of water directed to the distribution system during this inspection period was approximately 182.7 m³/day which equates to 20.2% of the rated capacity.

Question ID	MRDW1017000	
Question	**Question Type**	**Legislative Requirement**
Were appropriate records of flows and any capacity exceedances made in accordance with the MDWL issued under Part V of the SDWA?	Legislative	SDWA | 31 | (1)
Observation		
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.		

Question ID	MRDW1013000	
Question	**Question Type**	**Legislative Requirement**
Is the owner in compliance with all conditions of the PTTW?	Legislative	OWRA | 34 | (3)
Observation		
The owner was in compliance with all conditions of the PTTW. PTTW No. 0836-AXHN4F issued to the Corporation of the Township of Mattice-Val Côté for the Mattice WTP was issued on April 5th, 2018 with an expiry date of February 21st, 2028. The permit sets the following limits for water taking: - Missinaibi River: 909 L/min (15.15 L/s) and 1,309,000 L/day (1,309 m³/day); - Maximum number of hours taken per day is 24 hours; and - Maximum number of days taken per year is 365 days. Additionally, the Permit Holder, unless otherwise required by the Director, shall submit the daily water taking data collected and recorded for the previous year to the Ministry's Water Taking Reporting System on or before March 31st in each year. The maximum flow rate and daily volume of water taken from the Missinaibi River during the inspection period was 3.95 L/s and 374.1 m³/day.		

Question ID	MRDW1030000	
Question	**Question Type**	**Legislative Requirement**
Is primary disinfection chlorine monitoring being conducted at a location approved by MDWL and/or DWWP issued under Part V of the SDWA, or at/near a location where the	Legislative	SDWA | O. Reg. 170/03 | 7-2 | (1), SDWA | O. Reg.

intended CT has just been achieved?		170/03 | 7-2 | (2)
Observation		
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. Subsection 7-2(1) of Schedule 7 to O.Reg.170/03 requires the owner of a drinking water system that provides chlorination for primary disinfection to sample and test for free chlorine residual using continuous monitoring equipment in the treatment process at or near the location where the intended contact time (CT) has just been achieved in accordance with the Ministry's Procedure for Disinfection of Drinking Water in Ontario. This sampling point is located in the WTP on the high lift pump discharge header (prior to directing treated water to the distribution system).		

Question ID	MRDW1038000	
Question	**Question Type**	**Legislative Requirement**
Is continuous monitoring equipment that is being utilized to fulfill O. Reg. 170/03 requirements 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?	Legislative	SDWA | O. Reg. 170/03 | 6-5 | (1) 1-4
Observation		
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.		

Question ID	MRDW1036000	
Question	**Question Type**	**Legislative Requirement**
Where continuous monitoring equipment is not used for chlorine residual analysis, are samples tested using an acceptable portable device?	Legislative	SDWA | O. Reg. 170/03 | 6-7 | (1)
Observation		
Samples for chlorine residual analysis were tested using an acceptable portable device. Handheld chlorine residual tests are conducted using Hach pocket colorimeters which are calibrated at least twice per year.		

Question ID	MRDW1037000	
Question	**Question Type**	**Legislative Requirement**
Are all continuous monitoring equipment utilized for	Legislative	SDWA | O. Reg.

sampling and testing required by O. Reg.170/03, or MDWL or DWWP or order, equipped with alarms or shut-off mechanisms that satisfy the standards described in Schedule 6?		170/03 | 6-5 | (1) 1-4,SDWA | O. Reg. 170/03 | 6-5 | (1)5-10,SDWA | O. Reg. 170/03 | 6-5 | (1.1)

Observation

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 not equipped with alarms or shut-off mechanisms that satisfy the standards described in Schedule 6.

Subsections 6-5 (1) 5 and 6-5 (1.1) of Schedule 6 to O. Reg. 170/03 requires continuous monitoring equipment to be equipped with an automatic shut-off or designed and operated such that an alarm sounds immediately at the following locations if the equipment malfunctions or loses power or a test result for a parameter is above or below the alarm standard:
i. The location where the equipment conducts tests.
ii. A location where a person is present; if a person is not always present at the location where the equipment conducts tests.

Additionally, the Minimum and Maximum Alarm Standards prescribed by Section 6-5 of Schedule 6 to O. Reg. 170/03 requires alarms for primary disinfection monitoring to be set:
1. No less than 0.1 milligrams per litre less than the concentration of free chlorine residual that is required to achieve primary disinfection, and;
2. No greater than 1.0 NTU for filter effluent turbidity monitoring.

In accordance with OCWA's standard operating procedure for Chlorine Contact Time, the minimum required free chlorine residual to ensure primary disinfection is achieved under worst-case conditions is 0.40 mg/L. The regulatory alarm for low primary disinfection is set at a free chlorine residual of 0.80 mg/L, which complies with the Minimum Alarm Standard prescribed in Section 6-5 of Schedule 6 to O. Reg. 170.

In addition, each filter effluent line turbidimeter generates an alarm when turbidity reaches 1.0 NTU which triggers the raw water pumps to shut-down and notify the on-call operator.

NON-COMPLIANCE:

During the physical inspection of the WTP, the regulatory alarm for low free chlorine residual was set with a delay of 300 seconds (5 minutes) to account for power surges and abnormal instantaneous readings that would result in a faulty alarm. This is a violation of subsection 6-5 (1.1) 3 (i) B of Schedule 6 to O. Reg. 170/03 which allows a maximum lag time of 2 minutes for the regulatory alarm for low primary disinfection. The Regulation reads "…within two minutes, a further test result indicated that the parameter was no longer above the maximum alarm standard or below the minimum alarm standard", meaning the alarm has 2 minutes to return to normal which allows the operator to decide whether to take corrective action.

CORRECTIVE ACTION:

On December 15th, 2021, the operating authority indicated they had reduced to delay to 10

seconds and are monitoring the results.

No further action required at this time.

Question ID	MRDW1035000		
Question		**Question Type**	**Legislative Requirement**
Are operators examining continuous monitoring test results and are they examining the results within 72 hours of the test?		Legislative	SDWA | O. Reg. 170/03 | 6-5 | (1) 1-4,SDWA | O. Reg. 170/03 | 6-5 | (1)5-10

Observation

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

All continuous monitoring data from the SCADA system and OCWA's "Outpost" data management system are reviewed remotely Monday through Friday during an operating shift and by the on-call operator on weekends. Operators review continuous monitoring trends and record both instantaneous readings and minimum/maximum readings from the previous day to the Wonderware data review sheets. Additionally, operators review continuous monitoring data during their routine inspections of the Mattice WTP when on site at least 3 times per week.

Question ID	MRDW1040000		
Question		**Question Type**	**Legislative Requirement**
Are all continuous analysers calibrated, maintained, and operated, in accordance with the manufacturer's instructions or the regulation?		Legislative	SDWA | O. Reg. 170/03 | 6-5 | (1) 1-4,SDWA | O. Reg. 170/03 | 6-5 | (1)5-10

Observation

All continuous analysers were calibrated, maintained, and operated, in accordance with the manufacturer's instructions or the regulation.

A review of the calibration records for the inspection period indicate that calibrations are conducted quarterly for the turbidity analyzers and biannually for the continuous free and total chlorine analyzers (including the analyzer that monitors free chlorine residual for primary disinfection). Calibrations were conducted on November 5th, 2020, January 11th, 2021, February 4th, 2021, May 26th, 2021, July 12th, 2021, and August 19th, 2021.

Question ID	MRDW1108000		
Question		**Question Type**	**Legislative Requirement**

Where continuous monitoring equipment used for the monitoring of free chlorine residual, total chlorine residual, combined chlorine residual or turbidity, required by Regulation 170, an Order, MDWL, or DWWP issued under Part V, SDWA, has triggered an alarm or an automatic shut-off, did a qualified person respond in a timely manner and take appropriate actions?	Legislative	SDWA | O. Reg. 170/03 | 6-5 | (1) 1-4,SDWA | O. Reg. 170/03 | 6-5 | (1)5-10,SDWA | O. Reg. 170/03 | 6-5 | (1.1)

Observation

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.

All alarms are recorded on the Mattice WTP Alarm Summary sheet along with the date and time of the alarm, response time, and person responding. Additional details and actions taken by the operator are recorded in the logbook as required.

Question ID	MRDW1033000	
Question	**Question Type**	**Legislative Requirement**
Is the secondary disinfectant residual measured as required for the large municipal residential distribution system?	Legislative	SDWA | O. Reg. 170/03 | 7-2 | (3), SDWA | O. Reg. 170/03 | 7-2 | (4)

Observation

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

Subsection 7-2(3) of Schedule 7 to O. Reg. 170/03 requires the owner and operating authority of a drinking water system to ensure at least seven distribution samples are taken each week and tested immediately for combined chlorine residual if the system provides chloramination.

Secondary chlorine testing must also be conducted in accordance with Subsection 7-2(4) of Schedule 7 to O. Reg. 170/03 such that:

1. At least four of the samples must be taken on one day of the week, at least 48 hours after the last sample was taken in the previous week.

2. At least three of the samples must be taken on a second day of the week, at least 48 hours after the last sample was taken on the day referred to in paragraph 1.

3. When more than one sample is taken on the same day of the week under paragraph 1 or 2, each sample must be taken from a different location.

A review of monthly distribution chlorine residual tests for the inspection period confirms that operators conducted the required secondary chlorine testing in accordance with the legislation. Four samples were taken at different locations one day early in the week and three samples were taken on a second day at least 48 hours after the last sample date in the same week.

Question ID	MRDW1031000		
Question		**Question Type**	**Legislative Requirement**
Are operators aware of the operational criteria necessary to achieve primary disinfection within the drinking water system?		BMP	Not Applicable
Observation			
Operators were aware of the operational criteria necessary to achieve primary disinfection within the drinking water system. It was indicated during the inspection that operators receive training on the primary disinfection criteria and when to perform a CT calculation. Additionally, this information can be found in OCWA's standard operating procedure for Chlorine Contact Time which is posted in the WTP for operational staff to reference.			

Question ID	MRDW1032000		
Question		**Question Type**	**Legislative Requirement**
If the drinking water system obtains water from a surface water source and provides filtration, is continuous monitoring of each filter effluent line being performed for turbidity?		Legislative	SDWA | O. Reg. 170/03 | 7-3 | (2)
Observation			
Continuous monitoring of each filter effluent line was being performed for turbidity. Subsection 7-3(2) of Schedule 7 to O. Reg. 170/03 requires the owner and operating authority of a drinking water system that obtains its raw water supply from surface water and provides filtration to sample and test for turbidity using continuous monitoring equipment on each filter effluent line. Turbidity is continuously monitored by Hach turbidimeters located on the effluent lines of both filters. There were no instances of gaps in data that did not correlate to times when the plant was not treating water or for maintenance of the analyzers.			

Question ID	MRDW1018000		
Question		**Question Type**	**Legislative Requirement**
Has the owner ensured that all equipment is installed in accordance with Schedule A and Schedule C of the Drinking Water Works Permit?		Legislative	SDWA | 31 | (1)
Observation			
The owner had ensured that all equipment was installed in accordance with Schedule A and Schedule C of the Drinking Water Works Permit.			

Question ID	MRDW1019000		
Question		**Question Type**	**Legislative Requirement**
Does the owner have evidence that, when required during the inspection period, all Director Notifications under Condition 2.4 of Schedule B of the DWWP were made to the Ministry?		Legislative	SDWA | 31 | (1)
Observation			
The owner had evidence that all required Director Notifications under Condition 2.4 of Schedule B of the Drinking Water Works Permit were made during the inspection period. The operating authority of the system prepared one "Director Notification – Alterations to a Drinking Water System" document and submitted to the Ministry for the following changes which would require an alteration to the "Drinking Water System Description" found in Schedule A of DWWP No. 291-201: - Addition of a "Soda Ash" section outlining the description, feed points, equipment and additional notes. - Revision of the "Chlorine" section to include two chemical solution tanks with spill containment (was previously three). - Revision of the "Sodium Hydroxide" section to include one chemical metering pump (was previously three).			

Question ID	MRDW1021000		
Question		**Question Type**	**Legislative Requirement**
Is the owner/operating authority able to demonstrate that, when required during the inspection period, Form 2 documents were prepared in accordance with their Drinking Water Works Permit?		Legislative	SDWA | 31 | (1)
Observation			
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. The operating authority of the system prepared two "Form 2 – Record of Minor Modifications or Replacements to the Drinking Water System" documents for the following: - Replacement of the aluminum sulphate metering pump - Replacement of the clearwell sampling pump			

Question ID	MRDW1023000		
Question		**Question Type**	**Legislative Requirement**

Do records indicate that the treatment equipment was operated in a manner that achieved the design capabilities required under Ontario Regulation 170/03 or a DWWP and/or MDWL issued under Part V of the SDWA at all times that water was being supplied to consumers?	Legislative	SDWA | O. Reg. 170/03 | 1-2 | (2)

Observation

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.

For a system using a surface water raw water source, it is required by Section 1-4 of Schedule 1 to O. Reg. 170/03 that the owner of the drinking water system shall ensure provision of water treatment equipment that is designed to be capable of achieving, at all times, primary disinfection in accordance with the Ministry's Procedure for Disinfection of Drinking Water in Ontario, including:

• at least 99% (2-log) removal/inactivation of Cryptosporidium oocysts

• at least 99.9% (3-log) removal/inactivation of Giardia cysts

• at least 99.99% (4-log) removal/inactivation of viruses by the time water enters the distribution system.

The Mattice WTP is a conventional filtration system which obtains its raw water source from the Missinaibi River. The system is designed to meet a minimum of 2-log removal of Cryptosporidium oocysts, 2.5-log removal of Giardia cysts and 2-log removal/inactivation of viruses through conventional filtration, and an additional 0.5-log removal of Giardia cysts and 2+log removal/inactivation of viruses through chlorination, thus meeting the requirements above.

To receive the required removal/inactivation credits set out in Schedule E of the MDWL, the following criteria must be met for conventional filtration:

1. A chemical coagulant shall be used at all times when the treatment plant is in operation
2. Chemical dosage shall be monitored and adjusted in response to variations in raw water quality
3. Effective backwash procedures shall be maintained
4. Turbidity shall be continuously monitored from each filter
5. Performance criterion for filtered water turbidity of less than or equal to 0.3 NTU in 95% of the measurements each month shall be met for each filter

Information provided for this inspection period indicates that the Mattice WTP is operating in accordance with these requirements. A review of the filter effluent turbidity data indicates that the filter effluent met the performance measure of 0.3 NTU or less 95% of the time for each individual month.

In order to ensure effective pathogen removal/inactivation to the required level through disinfection, the CT disinfection concept must be applied. The Disinfection Procedure defines the CT concept as using the combination of disinfectant residual concentration (C) and the effective disinfection contact time (T) to quantify the capability of a chemical disinfection system in providing pathogen inactivation. Using this concept involves the determination of CT values

required at the actual variable operating conditions (free chlorine residual, flow rate, temperature, pH) and ensuring that the disinfection process achieves these values at all times. For this drinking water system and under worst-case scenario conditions (flow of 11.8 L/s exiting the clearwell, clearwell and pump sump well levels of 2.5 m, pH of 9.0, free chlorine residual of 0.40 mg/L and water temperature of 0.5 degrees Celsius), a CT value of 71.53 mg/L*minute is required for primary disinfection.

Information provided by the operating authority indicated that the baffled clearwell for chlorine contact provides a minimum T of approximately 549 minutes based on maximum flows produced by the high lift pumps and a baffling factor of 0.5. Based on the above worst-case conditions, free chlorine residuals following contact time must be maintained above 0.40 mg/L to ensure the required CT of 71.53 mg/L*minute is achieved.

For this inspection period, free chlorine residuals were maintained at levels that ensured the required CT was met or exceeded at all times.

Question ID	MRDW1024000	
Question	**Question Type**	**Legislative Requirement**
Do records confirm 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?	Legislative	SDWA | O. Reg. 170/03 | 1-2 | (2)

Observation

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.

The minimum combined chlorine residual recorded in the distribution system during the inspection period was 0.72 mg/L on October 14th, 2021.

Question ID	MRDW1025000	
Question	**Question Type**	**Legislative Requirement**
Were all parts of the drinking water system that came in contact with drinking water (added, modified, replaced or extended) disinfected in accordance with a procedure listed in Schedule B of the Drinking Water Works Permit?	Legislative	SDWA | 31 | (1)

Observation

All parts of the drinking water system were disinfected in accordance with a procedure listed in Schedule B of the Drinking Water Works Permit.

A review of the sample results, logbook, and disinfection procedures recorded on the "Distribution

Repair and Maintenance" forms indicate that the disinfection requirements were met for the inspection period.

Question ID	MRDW1027000	
Question	**Question Type**	**Legislative Requirement**
Does the owner have evidence indicating that all chemicals and materials which come in contact with water within the drinking water system have met all applicable AWWA and ANSI standards in accordance with the DWWP and MDWL issued under Part V of the SDWA?	Legislative	SDWA | 31 | (1)
Observation		
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.		

Question ID	MRDW1028000	
Question	**Question Type**	**Legislative Requirement**
Are up-to-date plans for the drinking water system kept in place, or made available in such a manner, that they may be readily viewed by all persons responsible for all or part of the operation of the drinking water system in accordance with the DWWP and MDWL issued under Part V of the SDWA?	Legislative	SDWA | 31 | (1)
Observation		
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 DWWP and MDWL issued under Part V of the SDWA. Physical copies of plans and drawings are stored at the Mattice WTP and are accessible to all operating staff.		

Question ID	MRDW1043000	
Question	**Question Type**	**Legislative Requirement**
Are the process wastewater and residual solids/sludges being treated, handled and disposed of in accordance with the design requirements approved under the Drinking Water Works Permit and the Municipal Drinking Water Licence?	Legislative	SDWA | 31 | (1)
Observation		
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.

Question ID	MRDW1046000	
Question	**Question Type**	**Legislative Requirement**
Is there a backflow prevention program, policy and/or bylaw in place that addresses cross connections and connections to high hazard facilities?	BMP	Not Applicable
Observation		
There is a backflow prevention program, policy and/or bylaw in place. The Corporation of the Township of Mattice-Val Côté adopted By-Law No.581 on April 25th, 2006. This by-law prohibits cross-connections within the water distribution system in order to protect the integrity of the system from potential sources of contamination.		

Question ID	MRDW1048000	
Question	**Question Type**	**Legislative Requirement**
Has the owner implemented a program for the flushing of watermains as per industry standards?	BMP	Not Applicable
Observation		
The owner had implemented a program for the flushing of watermains as per industry standards. Watermains are flushed once per year typically during the Fall season.		

Question ID	MRDW1049000	
Question	**Question Type**	**Legislative Requirement**
Do records confirm that disinfectant residuals are routinely checked at the extremities and dead ends of the distribution system?	BMP	Not Applicable
Observation		
Records confirmed that disinfectant residuals were routinely checked at the extremities and "dead ends" of the distribution system.		

Question ID	MRDW1050000	
Question	**Question Type**	**Legislative Requirement**
Is there a program in place for inspecting and exercising valves?	BMP	Not Applicable
Observation		
A program was in place for inspecting and exercising valves.		

Question ID	MRDW1051000

Question	**Question Type**	**Legislative Requirement**
Is there a program in place for inspecting and operating hydrants?	BMP	Not Applicable

Observation

There was a program in place for inspecting and operating hydrants.

Question ID	MRDW1052000

Question	**Question Type**	**Legislative Requirement**
Is there a by-law or policy in place limiting access to hydrants?	BMP	Not Applicable

Observation

There was a by-law or policy in place limiting access to hydrants.

The Corporation of the Township of Mattice-Val Côté (previously The Corporation of the Union of Townships of Eilber & Devitt) adopted By-Law No. 200 on October 11th, 1983. Section 13 (a) of the by-law states "No person other than the Corporation shall do any work upon any part of the waterworks and sewage works of the Corporation" where the definition of "waterworks" includes hydrants.

Question ID	MRDW1053000

Question	**Question Type**	**Legislative Requirement**
Is the Owner able to maintain proper pressures in the distribution system and is pressure 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?	BMP	Not Applicable

Observation

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.

WTP discharge pressure is recorded and monitored by the SCADA system and OCWA's "Outpost" data management system. Operators review pressure monitoring data on a daily basis and record instantaneous readings on the Mattice WTP Wonderware Data Review Sheet. The system also has a low distribution pressure alarm with a set point of 275 kPa.

Question ID	MRDW1058000

Question	**Question**	**Legislative**

	Type	Requirement
Do operators and maintenance personnel have ready access to operations and maintenance manuals?	Legislative	SDWA | O. Reg. 128/04 | 28
Observation		
Operators and maintenance personnel had ready access to operations and maintenance manuals.		

Question ID	MRDW1063000	
Question	**Question Type**	**Legislative Requirement**
For every required operational test and for every required sample, is a record made of the date, time, location, name of the person conducting the test and result of the test?	Legislative	SDWA | O. Reg. 170/03 | 6-10 | (1)
Observation		
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.		

Question ID	MRDW1064000	
Question	**Question Type**	**Legislative Requirement**
Did the operator-in-charge ensure that records were maintained of all adjustments made to the processes within his or her responsibility?	Legislative	SDWA | O. Reg. 128/04 | 26 | (2)
Observation		
The operator-in-charge ensured that records were maintained of all adjustments made to the processes within his or her responsibility.		

Question ID	MRDW1065000	
Question	**Question Type**	**Legislative Requirement**
Are logs and other record keeping mechanisms available for at least five (5) years?	Legislative	SDWA | O. Reg. 128/04 | 27 | (6)
Observation		
Logs or other record keeping mechanisms were available for at least five (5) years.		

Question ID	MRDW1059000	
Question	**Question Type**	**Legislative Requirement**
Do the operations and maintenance manuals contain plans, drawings and process descriptions sufficient for the safe and efficient operation of the system?	Legislative	SDWA | O. Reg. 128/04 | 28
Observation		
The operations and maintenance manuals contained plans, drawings and process descriptions		

sufficient for the safe and efficient operation of the system.

Question ID	MRDW1060000	
Question	**Question Type**	**Legislative Requirement**
Do the operations and maintenance manuals meet the requirements of the DWWP and MDWL issued under Part V of the SDWA?	Legislative	SDWA | 31 | (1)

Observation

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.

NOTE: A number of documents in the Mattice WTP Operations Manual binder and the Facility Emergency Plan binder were found to be outdated (some of which dating back to 2010) and specified people of contact who are no longer employed with OCWA. It is recommended that both binders are updated with any new information as well as the correct contact persons.

Question ID	MRDW1061000	
Question	**Question Type**	**Legislative Requirement**
Are logbooks properly maintained and contain the required information?	Legislative	SDWA | O. Reg. 128/04 | 27 | (1), SDWA | O. Reg. 128/04 | 27 | (2), SDWA | O. Reg. 128/04 | 27 | (3), SDWA | O. Reg. 128/04 | 27 | (4), SDWA | O. Reg. 128/04 | 27 | (5), SDWA | O. Reg. 128/04 | 27 | (6), SDWA | O. Reg. 128/04 | 27 | (7)

Observation

Logbooks were properly maintained and contained the required information.

Effective May 17th, 2021, the Mattice WTP transitioned from paper to electronic logbooks for record keeping. Operators are able to create entries on their computers and cell phones at all times. Printable PDF reports of the logs can be generated both with and without edits.

Question ID	MRDW1062000	
Question	**Question Type**	**Legislative Requirement**

Do records or other record keeping mechanisms confirm that operational testing not performed by continuous monitoring equipment is being done by a certified operator, water quality analyst, or person who meets the requirements of O. Reg. 170/03 7-5?	Legislative	SDWA | O. Reg. 170/03 | 7-5
Observation		
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.		

Question ID	MRDW1066000	
Question	**Question Type**	**Legislative Requirement**
Is spill containment provided for process chemicals and standby power generator fuel?	BMP	Not Applicable
Observation		
Spill containment was provided for process chemicals and/or standby power generator fuel.		

Question ID	MRDW1067000	
Question	**Question Type**	**Legislative Requirement**
Are clean-up equipment and materials in place for the clean up of spills?	BMP	Not Applicable
Observation		
Clean-up equipment and materials were in place for the clean up of spills.		

Question ID	MRDW1068000	
Question	**Question Type**	**Legislative Requirement**
If available, are standby power generators tested under normal load conditions?	BMP	Not Applicable
Observation		
Standby power generators were tested under normal load conditions.		

Question ID	MRDW1069000	
Question	**Question Type**	**Legislative Requirement**
Are all storage facilities completely covered and secure?	BMP	Not Applicable
Observation		
All storage facilities were completely covered and secure. The baffled chlorine contact tank (clearwell) is the only form of water storage in this drinking water system and is situated under the floor-slabs of the WTP. The man-way hatch entrances into		

the clearwell are located inside the WTP, are positioned above the floor grade on a cement curb and appear adequate to prevent the entry of water and other foreign materials.

Question ID	MRDW1071000	
Question	**Question Type**	**Legislative Requirement**
Has the owner provided security measures to protect components of the drinking water system?	BMP	Not Applicable

Observation

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

The following security measures are currently in place for the Mattice Drinking Water System:

- The WTP and low lift pumphouse access doors are steel-constructed and kept locked at all times

- The WTP is equipped with an intrusion alarm system (de-activation codes are restricted to authorized operations staff)

- Door keys to the WTP and low lift pumphouse are restricted to authorized staff only

- All components of this drinking water system are visited by operations staff at least three days per week.

- The WTP and low lift pumphouse are located in a central area of the municipality and are equipped with exterior lighting.

Note: There have been no reports of intrusion or vandalism at the WTP.

Question ID	MRDW1072000	
Question	**Question Type**	**Legislative Requirement**
Has the owner and/or operating authority undertaken efforts to promote water conservation and reduce water losses in their system?	BMP	Not Applicable

Observation

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

Although there are no formal practices currently in place, the owner of the DWS indicated that efforts are made to limit water consumption when necessary. Residents are kept informed via social media of any water restrictions in the event of a fire, boil water advisory, distribution repairs, etc. Additionally, the operating authority for the system closely monitors flow from the WTP and undertakes repairs of watermain breaks and service line leaks in a timely manner.

Question ID	MRDW1073000		
Question		**Question Type**	**Legislative Requirement**
Has the overall responsible operator been designated for all subsystems which comprise the drinking water system?		Legislative	SDWA | O. Reg. 128/04 | 23 | (1)
Observation			
The overall responsible operator has been designated for each subsystem. OCWA has designated Mr. Serge Audet as the ORO and possesses the required certification for the system, categorized as "Water Treatment Subsystem Class 2" and "Water Distribution Subsystem Class 1". Mr. Michel Plourde has been designated as the backup ORO and possesses the required certification.			

Question ID	MRDW1074000		
Question		**Question Type**	**Legislative Requirement**
Have operators in charge been designated for all subsystems for which comprise the drinking water system?		Legislative	SDWA | O. Reg. 128/04 | 25 | (1)
Observation			
Operators-in-charge had been designated for all subsystems which comprised the drinking water system.			

Question ID	MRDW1075000		
Question		**Question Type**	**Legislative Requirement**
Do all operators possess the required certification?		Legislative	SDWA | O. Reg. 128/04 | 22
Observation			
All operators possessed the required certification.			

Question ID	MRDW1076000		
Question		**Question Type**	**Legislative Requirement**
Do only certified operators make adjustments to the treatment equipment?		Legislative	SDWA | O. Reg. 170/03 | 1-2 | (2)
Observation			
Only certified operators made adjustments to the treatment equipment.			

Question ID	MRDW1078000		
Question		**Question Type**	**Legislative Requirement**

In instances where the overall responsible operator was unable to act, was an adequately certified operator designated to act in place of the overall responsible operator?	Legislative	SDWA | O. Reg. 128/04 | 23 | (1), SDWA | O. Reg. 128/04 | 23 | (2), SDWA | O. Reg. 128/04 | 23 | (3), SDWA | O. Reg. 128/04 | 23 | (4), SDWA | O. Reg. 128/04 | 23 | (5), SDWA | O. Reg. 128/04 | 23 | (6), SDWA | O. Reg. 128/04 | 23 | (7)
Observation		
An adequately licenced operator was designated to act in place of the overall responsible operator when the overall responsible operator was unable to act.		

Question ID	MRDW1099000	
Question	**Question Type**	**Legislative Requirement**
Do records 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)?	Information	Not Applicable
Observation		
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). On October 20th, 2020, a treated water sample was collected and tested for 2-Methyl-4-chlorophenoxyacetic acid (MCPA) with a result of 0.44 mg/L. The maximum allowable concentration for MCPA as prescribed by O. Reg. 169/03 is 0.1 mg/L. Resamples were collected on November 12th, 2020 and tested below the detection limit (AWQI No.152859).		

Question ID	MRDW1079000	
Question	**Question Type**	**Legislative Requirement**
Are all microbiological water quality monitoring requirements for raw water samples prescribed by legislation being met?	Legislative	SDWA | O. Reg. 170/03 | 10-4 | (1),SDWA | O. Reg. 170/03 | 10-4 | (2),SDWA | O. Reg. 170/03 | 10-4 | (3)

Observation
All microbiological water quality monitoring requirements for raw water samples were being met. Section 10-4 of Schedule 10 to O.Reg.170/03 requires the owner and operating authority for the system to ensure at least one sample of raw source water is collected weekly and tested for E.coli and total coliforms. A review of the water quality data for the inspection period confirmed that water samples were collected weekly from the raw surface water source and tested for E.coli and total coliforms.

Question ID	MRDW1081000		
Question		**Question Type**	**Legislative Requirement**
Are all microbiological water quality monitoring requirements for distribution samples being met?		Legislative	SDWA | O. Reg. 170/03 | 10-2 | (1),SDWA | O. Reg. 170/03 | 10-2 | (2),SDWA | O. Reg. 170/03 | 10-2 | (3)
Observation			
All microbiological water quality monitoring requirements for distribution samples were being met. Section 10-2 of Schedule 10 to O. Reg. 170/03 requires the owner and operating authority for the system to ensure at least 8 water samples are collected monthly from the distribution system (based on an estimated population of 600) with at least one sample collected each week. Samples must be tested for E.coli and total coliforms, with 25% of those samples tested for general background population expressed as colony counts on a heterotrophic plate count (HPC). A review of the water quality data for the inspection period confirmed that at least 8 samples were taken each month and tested for E.coli and total coliforms, and 25% of those samples were tested for HPC. Operators routinely collected two distribution system samples each week and had both tested for E.coli and total coliforms, and had one of the samples tested for HPC.			

Question ID	MRDW1083000		
Question		**Question Type**	**Legislative Requirement**
Are all microbiological water quality monitoring requirements for treated samples being met?		Legislative	SDWA | O. Reg. 170/03 | 10-3
Observation			
All microbiological water quality monitoring requirements for treated samples were being met. Section 10-3 of Schedule 10 to O. Reg. 170/03 requires the owner and operating authority for the			

system to ensure at least one sample of treated water is collected weekly and tested for E.coli, total coliforms, and HPC.

A review of the water quality data for the inspection period confirmed that treated water samples were collected weekly and tested for E.coli, total coliforms, and HPC.

Question ID	MRDW1084000	
Question	**Question Type**	**Legislative Requirement**
Are all inorganic water quality monitoring requirements prescribed by legislation conducted within the required frequency?	Legislative	SDWA | O. Reg. 170/03 | 13-2

Observation

All inorganic water quality monitoring requirements prescribed by legislation were conducted within the required frequency.

Subsection 13-2 (a) of Schedule 13 to O. Reg. 170/03 requires the owner and operating authority for the system to ensure at least one sample of treated water is collected every 12 months and tested for every parameter set out in Schedule 23 to O. Reg. 170/03.

Monitoring of Schedule 23 parameters was completed on October 5th, 2021 and previously on October 20th, 2020.

Question ID	MRDW1085000	
Question	**Question Type**	**Legislative Requirement**
Are all organic water quality monitoring requirements prescribed by legislation conducted within the required frequency?	Legislative	SDWA | O. Reg. 170/03 | 13-4 | (1),SDWA | O. Reg. 170/03 | 13-4 | (2),SDWA | O. Reg. 170/03 | 13-4 | (3)

Observation

All organic water quality monitoring requirements prescribed by legislation were conducted within the required frequency.

Subsection 13-4 (a) of Schedule 13 to O. Reg. 170/03 requires the owner and operating authority for the system to ensure at least one sample of treated water is collected every 12 months and tested for every parameter set out in Schedule 24 to O. Reg. 170/03.

Monitoring of Schedule 24 parameters was completed on October 5th, 2021 and previously on October 20th, 2020.

Question ID	MRDW1086000	
Question	**Question Type**	**Legislative Requirement**
Are all haloacetic acid water quality monitoring requirements prescribed by legislation conducted within the required frequency and at the required location?	Legislative	SDWA | O. Reg. 170/03 | 13-6.1 | (1),SDWA | O. Reg. 170/03 | 13-6.1 | (2),SDWA | O. Reg. 170/03 | 13-6.1 | (3), SDWA | O. Reg. 170/03 | 13-6.1 | (4),SDWA | O. Reg. 170/03 | 13-6.1 | (5),SDWA | O. Reg. 170/03 | 13-6.1 | (6)

Observation

All haloacetic acid water quality monitoring requirements prescribed by legislation are being conducted within the required frequency and at the required location.

Section 13-6.1 of Schedule 13 to O. Reg. 170/03 requires the owner and operating authority for the system to ensure at least one water sample is collected in each calendar quarter from a point in the distribution system likely to have an elevated potential for the formation of haloacetic acids (HAAs) and have them tested for HAAs.

The Ontario Drinking Water Quality Standard prescribed by O. Reg. 169/03 for HAA's came into effect January 1st, 2020. The standard is 80 µg/L and is expressed as a running annual average (RAA).

A review of the water quality data for the inspection period indicated that sampling for HAAs was conducted on October 20th, 2020 (58 µg/L), January 19th, 2021 (55 µg/L), April 13th, 2021 (34 µg/L), July 20th, 2021 (137 µg/L), and October 5th, 2021 (78 µg/L). Based on these results, the current RAA is 76 µg/L.

Question ID	MRDW1087000	
Question	**Question Type**	**Legislative Requirement**
Have all trihalomethane water quality monitoring requirements prescribed by legislation been conducted within the required frequency and at the required location?	Legislative	SDWA | O. Reg. 170/03 | 13-6 | (1)

Observation

All trihalomethane water quality monitoring requirements prescribed by legislation were conducted within the required frequency and at the required location.

Section 13-6 of Schedule 13 to O. Reg. 170/03 requires the owner and operating authority for the system to ensure at least one water sample is taken in each calendar quarter from points in the distribution system likely to have an elevated potential for the formation of trihalomethanes (THM) and have the sample(s) tested for THM.

The standard for THM as prescribed by O. Reg. 169/03 is 100.0 µg/L and is expressed as a RAA.

A review of the water quality data for the inspection period indicated that sampling for THMs was conducted on October 20th, 2020 (76.5 µg/L), January 19th, 2021 (28.5 µg/L), April 13th, 2021 (43.2 µg/L), July 20th, 2021 (123.0 µg/L), and October 5th, 2021 (61 µg/L). Based on these results, the current RAA is 63.9 µg/L.

Question ID	MRDW1088000	
Question	**Question Type**	**Legislative Requirement**
Are all nitrate/nitrite water quality monitoring requirements prescribed by legislation conducted within the required frequency for the DWS?	Legislative	SDWA | O. Reg. 170/03 | 13-7

Observation

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 to O. Reg. 170/03 requires the owner and operating authority for the system to ensure that at least one treated water sample is taken every three months and tested for nitrite and nitrate.

A review of the water quality data for the inspection period confirmed samples were collected on October 20th, 2020, January 19th, 2021, April 13th, 2021, July 20th, 2021, and October 5th, 2021.

Question ID	MRDW1089000	
Question	**Question Type**	**Legislative Requirement**
Are all sodium water quality monitoring requirements prescribed by legislation conducted within the required frequency?	Legislative	SDWA | O. Reg. 170/03 | 13-8

Observation

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

Section 13-8 of Schedule 13 to O. Reg. 170/03 requires the owner and operating authority for the system to ensure at least one treated water sample is taken every 60 months and tested for sodium. The most recent sample was collected on October 18th, 2017 with a result of 38.8 mg/L.

Question ID	MRDW1090000		
Question		**Question Type**	**Legislative Requirement**
Where fluoridation is not practiced, are all fluoride water quality monitoring requirements prescribed by legislation conducted within the required frequency?		Legislative	SDWA | O. Reg. 170/03 | 13-9
Observation			
All fluoride water quality monitoring requirements prescribed by legislation were conducted within the required frequency. Section 13-9 of Schedule 13 to O. Reg. 170/03 requires the owner and operating authority for the system to ensure at least one treated water sample is taken every 60 months and tested for fluoride. The most recent sample was collected on October 18th, 2017.			

Question ID	MRDW1092000		
Question		**Question Type**	**Legislative Requirement**
Has the owner ensured that water samples are taken at the prescribed location?		Legislative	SDWA | O. Reg. 170/03 | 6-2
Observation			
The owner ensured that water samples were taken at the prescribed location.			

Question ID	MRDW1093000		
Question		**Question Type**	**Legislative Requirement**
If the owner is required to conduct sampling under Schedule 13 of O. Reg. 170/03, have they increased the frequency of monitoring for any Schedule 13-2 or 13-4 parameter(s) as a result of having exceeded half the value of an applicable ODWQS?		Legislative	SDWA | O. Reg. 170/03 | 13-5 | (1),SDWA | O. Reg. 170/03 | 13-5 | (2)
Observation			
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. Subsection 13-5 (2) (a) of Schedule 13 to O. Reg. 170/03 states that if a test result for a parameter obtained under Section 13-2 (Inorganics) or 13-4 (Organics) exceeds half of the standard prescribed by O. Reg. 169/03, the frequency of sampling and testing shall be increased so that at least one water sample is collected for four consecutive three-month periods and each of the results shall not exceed half of the standard set out in O. Reg. 169/03. A review of the water quality data indicated that treated water samples were collected on January 19th, 2021, April 13th, 2021, July 20th, 2021 and October 5th, 2021, and tested for MCPA as required.			

Note: The sample collected on July 20th, 2021 resulted in an exceedance of half of the standard for MCPA (0.055 mg/L). The system is required to sample and test for MCPA for an additional four consecutive three-month periods (one of which being collected on October 5th, 2021). The remaining samples are scheduled for January, April, and July of 2022. All other results were below the detection limit.

Question ID	MRDW1095000	
Question	**Question Type**	**Legislative Requirement**
Have all lead sampling requirements prescribed by Schedule 15.1 of O.R. 170/03 been met?	Legislative	SDWA | O. Reg. 170/03 | 15.1-10, SDWA | O. Reg. 170/03 | 15.1-4 | (1),SDWA | O. Reg. 170/03 | 15.1-5 | (1), SDWA | O. Reg. 170/03 | 15.1-5 | (10),SDWA | O. Reg. 170/03 | 15.1-5 | (11), SDWA | O. Reg. 170/03 | 15.1-5 | (12),SDWA | O. Reg. 170/03 | 15.1-5 | (2), SDWA | O. Reg. 170/03 | 15.1-5 | (3),SDWA | O. Reg. 170/03 | 15.1-5 | (4), SDWA | O. Reg. 170/03 | 15.1-5 | (5),SDWA | O. Reg. 170/03 | 15.1-5 | (6), SDWA | O. Reg. 170/03 | 15.1-5 | (7),SDWA | O. Reg. 170/03 | 15.1-5 | (8), SDWA | O. Reg. 170/03 | 15.1-5 | (9),SDWA | O. Reg. 170/03 | 15.1-7 | (1), SDWA | O. Reg.

		170/03 | 15.1-7 | (2),SDWA | O. Reg. 170/03 | 15.1-7 | (3), SDWA | O. Reg. 170/03 | 15.1-7 | (4),SDWA | O. Reg. 170/03 | 15.1-9 | (1), SDWA | O. Reg. 170/03 | 15.1-9 | (2),SDWA | O. Reg. 170/03 | 15.1-9 | (3), SDWA | O. Reg. 170/03 | 15.1-9 | (4),SDWA | O. Reg. 170/03 | 15.1-9 | (5), SDWA | O. Reg. 170/03 | 15.1-9 | (6),SDWA | O. Reg. 170/03 | 15.1-9 | (7), SDWA | O. Reg. 170/03 | 15.1-9 | (8),SDWA | O. Reg. 170/03 | 15.1-9 | (9)

Observation

All sampling requirements for lead prescribed by schedule 15.1 of O. Reg. 170/03 were not met.

The Mattice DWS is qualified for the "Exemption from Plumbing Sampling" as described in subsections 15.1-5 (9) and 15.1-5 (10) of Schedule 15.1 to O.Reg.170/03. As such, the owner and operating authority for the system must ensure;

- Water samples are collected from two locations in the distribution system and tested for pH and total alkalinity at least once during each prescribed sampling period in every 12-month period.

- Water samples are collected from two locations in the distribution system and tested for lead at least once during each prescribed sampling period in every third 12-month period.

For the Winter sampling period (December 15th to April 15th), water samples were collected on April 8th, 2021 from two locations in the distribution system and tested for pH and alkalinity as required (based on a service population of 600).

NON-COMPLIANCE:

For the Summer sampling period (June 15th to October 15th), only one water sample was collected on October 7th, 2021 from a single location in the distribution system and tested for alkalinity and pH. This is a violation of the sampling requirements prescribed by subsection 15-1 (10) of Schedule 15 to O. Reg. 170/03 which states at least two points in the distribution system must be sampled and tested for alkalinity and pH based on a service population of 600.

CORRECTIVE ACTION:

The operating authority has provided documentation indicating they will discuss and review the number of sampling locations at operations meetings prior to conducting alkalinity/lead sampling. They will also be updating the Chain of Custody forms to include the number of hydrants to sample. No further action required.

With respect to lead sampling, samples were collected from two locations in the distribution system and tested for lead on April 7th, 2020 and October 7th, 2020, and previously on March 29th, 2017 and October 4th, 2017 as required. Note: The owner and operating authority for the system must ensure the appropriate number of samples are collected and tested for lead during the Winter 2022-2023 and Summer 2023 sampling periods.

Question ID	MRDW1096000	
Question	**Question Type**	**Legislative Requirement**
Do records confirm that chlorine residual tests are being conducted at the same time and at the same location that microbiological samples are obtained?	Legislative	SDWA | O. Reg. 170/03 | 6-3 | (1)
Observation		
Records confirmed that chlorine residual tests were being conducted at the same time and at the same location that microbiological samples were obtained.		

Question ID	MRDW1098000	
Question	**Question Type**	**Legislative Requirement**
Has the owner indicated that the required records are kept and will be kept for the required time period?	Legislative	SDWA | O. Reg. 170/03 | 13 | (1), SDWA | O. Reg. 170/03 | 13 | (2), SDWA | O. Reg. 170/03 | 13 | (3)
Observation		
The owner indicated that the required records are kept and will be kept for the required time period.		

Question ID	MRDW1100000	
Question	**Question**	**Legislative**

	Type	Requirement
Did any reportable adverse/exceedance conditions occur during the inspection period?	Information	Not Applicable

Observation

There were reportable adverse/exceedances during the inpsection period.

There were 3 adverse water quality incidents (AWQI) reported during the inspection period.

- AWQI 152859 was reported by the operating authority and accredited laboratory on November 6th, 2020 for an exceedance of the standard for MCPA.

- AWQI 153477 was reported by the operating authority and accredited laboratory on January 28th, 2021 for one total coliform (TC) detected in a sample taken from the WTP.

- AWQI 154161 was reported by the operating authority on May 30th, 2021 for complete loss of pressure to the entire town (approximately 600 residents) due to a Category 2 watermain break.

Question ID	MRDW1101000	
Question	**Question Type**	**Legislative Requirement**
Have corrective actions (as per Schedule 17) been taken to address adverse conditions, including any other steps as directed by the Medical Officer of Health?	Legislative	SDWA | O. Reg. 170/03 | 17-1, SDWA | O. Reg. 170/03 | 17-10 | (1),SDWA | O. Reg. 170/03 | 17-10 | (2),SDWA | O. Reg. 170/03 | 17-11,SDWA | O. Reg. 170/03 | 17-12,SDWA | O. Reg. 170/03 | 17-13,SDWA | O. Reg. 170/03 | 17-14,SDWA | O. Reg. 170/03 | 17-2,SDWA | O. Reg. 170/03 | 17-3,SDWA | O. Reg. 170/03 | 17-4,SDWA | O. Reg. 170/03 | 17-5,SDWA | O. Reg. 170/03 | 17-6,SDWA | O. Reg. 170/03 | 17-

		9

Observation

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.

AWQI 152859: As per Section 17-10 of Schedule 17 of O. Reg. 170/03, the required corrective actions in response to the MCPA exceedance were to resample and test as soon as reasonably possible, and to take such other steps as directed by the Medical Officer of Health (MOH). Resamples were collected on November 12th, 2020 and tested below the detection limit. No additional action was required by the MOH.

AWQI 153477: As per Section 17-6 of Schedule 17 to O. Reg. 170/03, the required corrective actions in response to the detection of TCs were to resample and test as soon as reasonably possible, and to take such other steps as directed by the Medical Officer of Health. Resamples were collected on January 28th, 2021 and were non-detect for TC and E. coli. No additional action was required by the MOH.

AWQI 154161: On May 30th, 2021, the operating authority for the system reported a complete loss of water pressure in the distribution system due to a Category 2 watermain break and subsequent repairs. The municipality/OCWA issued a Boil Water Advisory to all users in the distribution system until testing indicated absence of microbiological parameters (following the completion of the necessary repairs, localized flushing and confirmation of adequate free chlorine residual levels).

Question ID	MRDW1104000	
Question	**Question Type**	**Legislative Requirement**
Were all required verbal notifications of adverse water quality incidents immediately provided as per O. Reg. 170/03 16-6?	Legislative	SDWA | O. Reg. 170/03 | 16-6 | (1),SDWA | O. Reg. 170/03 | 16-6 | (2),SDWA | O. Reg. 170/03 | 16-6 | (3),SDWA | O. Reg. 170/03 | 16-6 | (3.1),SDWA | O. Reg. 170/03 | 16-6 | (3.2), SDWA | O. Reg. 170/03 | 16-6 | (4),SDWA | O. Reg. 170/03 | 16-6 | (5),SDWA | O. Reg. 170/03 | 16-6 | (6)
Observation		

All required notifications of adverse water quality incidents were immediately provided as per O. Reg. 170/03 16-6.

Question ID	MRDW1105000		
Question		**Question Type**	**Legislative Requirement**
Were all required written notices of adverse water quality incidents provided as per O. Reg. 170/03 16-7?		Legislative	SDWA | O. Reg. 170/03 | 16-7 | (1),SDWA | O. Reg. 170/03 | 16-7 | (2),SDWA | O. Reg. 170/03 | 16-7 | (3),SDWA | O. Reg. 170/03 | 16-7 | (4),SDWA | O. Reg. 170/03 | 16-7 | (5)
Observation			
All required written notices of adverse water quality incidents were provided as per O. Reg. 170/03 16-7.			

Question ID	MRDW1106000		
Question		**Question Type**	**Legislative Requirement**
Were all required written notices of issue resolution provided as per O. Reg.. 170/03 16-9?		Legislative	SDWA | O. Reg. 170/03 | 16-9 | (1),SDWA | O. Reg. 170/03 | 16-9 | (2)
Observation			
In instances where written notice of issue resolution was required by regulation, the notice was provided as per O. Reg. 170/03 16-9.			

Question ID	MRDW1110000		
Question		**Question Type**	**Legislative Requirement**
Was an Annual Report containing the required information prepared by February 28 of the following year?		Legislative	SDWA | O. Reg. 170/03 | 11 | (6)
Observation			
The Annual Report containing the required information was prepared by February 28th of the following year.			

Question ID	MRDW1111000

Question	Question Type	Legislative Requirement
Have Summary Reports for municipal council been completed on time, include the required content, and distributed in accordance with the regulatory requirements?	Legislative	SDWA | O. Reg. 170/03 | 22-2 | (1),SDWA | O. Reg. 170/03 | 22-2 | (2),SDWA | O. Reg. 170/03 | 22-2 | (3),SDWA | O. Reg. 170/03 | 22-2 | (4)
Observation		
Summary Reports for municipal council were completed on time, included the required content, and were distributed in accordance with the regulatory requirements.		

APPENDIX A

Components Description

DWS Component Information Report for 210001781

as of 02-FEB-2022

Drinking Water System Profile Information

DWS # 210001781
MOE Assigned Name Mattice Drinking Water System
Category LMRS
Regulation O.REG 170/03
DWS Type Water Treatment Plant
Source Type Surface Water
Address 249 Parkview Road, Mattice, Ontario, P0L 1T0, Canada
Region Northern Region
District Timmins District
Municipality Mattice-Val Cote
Public Health Unit Porcupine Health Unit

LWIS Component Name	LWIS Component Type	LWIS Component Sub-Type	Component Address	Comments
Distribution (Water Inspection)	Other	Other		The Mattice Distribution System has an estimated 249 service connections and serves a population of approximately 600. The system has 25 fire hydrants and 13 dead end locations. The piping of the system consists of mainly PVC piping and some ductile iron.
Raw Water	Source	Surface Water		The raw water source for the Mattice Drinking Water System is the Missinaibi River. Raw water enters the system via one of two raw water (one standby) pumps, each rated at 11.0 L/s. Both raw water pumps are located in the wet well building adjacent to the river. The raw water inlet valve opens on instruction from the programmable logic controller (PLC) following initiation of plant start up on low clearwell level. The valve closes automatically on plant shutdown.
Water Treatment Plant	Plant Classification	Class Ii		The Mattice Water Treatment Plant building is approximately 30 m X 18.4 m and houses a dual package water treatment plant, chlorine contact tank, chemical storage, dosing equipment, four high lift pumps, an office, a laboratory and personnel facilities. The treatment process is an automatic, gravity flow operation consisting of two-process trains with a treatment capacity of 5.3 L/s or 905 m3/day.
Treated Water	Treated Water Poe	Primary Treatment		Treatment is a dual train package water treatment plant consisting of one flash mixing and coagulation chamber, two-stage flocculation made up of four flocculation tanks, two up flow clarifiers with tube settlers and two dual media filters. Filters are backwashed based on elapsed time. Backwash water and sludge from the bottom of the clarifiers are automatically removed and discharged to the sanitary sewer. The treated water enters a baffled chlorine contact tank that has a capacity of 808 m3. Ammonium sulphate is added at the discharge of the chlorine contact tank to produce a combined chlorine residual before entering the distribution system.

APPENDIX B

Key Reference and Guidance Material for Municipal Residential Drinking Water Systems

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 Ministry if you need assistance or have questions at 1-866-793-2588 or waterforms@ontario.ca.

For more information on Ontario's drinking water visit www.ontario.ca/drinkingwater

PUBLICATION TITLE	PUBLICATION NUMBER
FORMS: Drinking Water System Profile Information Laboratory Services Notification Adverse Test Result Notification	 012-2149E 012-2148E 012-4444E
Taking Care of Your Drinking Water: A Guide for Members of Municipal Councils	Website
Procedure for Disinfection of Drinking Water in Ontario	Website
Strategies for Minimizing the Disinfection Products Trihalomethanes and Haloacetic Acids	Website
Filtration Processes Technical Bulletin	Website
Ultraviolet Disinfection Technical Bulletin	Website
Guide for Applying for Drinking Water Works Permit Amendments, & License Amendments	Website
Certification Guide for Operators and Water Quality Analysts	Website
Guide to Drinking Water Operator Training Requirements	9802E
Community Sampling and Testing for Lead: Standard and Reduced Sampling and Eligibility for Exemption	Website
Drinking Water System Contact List	7128E01
Ontario's Drinking Water Quality Management Standard - Pocket Guide	Website
Watermain Disinfection Procedure	Website
List of Licensed Laboratories	Website

Ontario

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 ministère au 1-866-793-2588, ou encore à waterforms@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

TITRE DE LA PUBLICATION	NUMÉRO DE PUBLICATION
Renseignements sur le profil du réseau d'eau potable Avis de demande de services de laboratoire Avis de résultats d'analyse insatisfaisants et de règlement des problèmes	012-2149F 012-2148F 012-4444F
Prendre soin de votre eau potable - Un guide destiné aux membres des conseils municipaux	Site Web
Marche à suivre pour désinfecter l'eau portable en Ontario	Site Web
Stratégies pour minimiser les trihalométhanes et les acides haloacétiques de sous-produits de désinfection	Site Web
Filtration Processes Technical Bulletin (en anglais seulement)	Site Web
Ultraviolet Disinfection Technical Bulletin (en anglais seulement)	Site Web
Guide de présentation d'une demande de modification du permis d'aménagement de station de production d'eau potable	Site Web
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	Site Web
Guide sur les exigences relatives à la formation des exploitants de réseaux d'eau potable	9802F
Échantillonnage et analyse du plomb dans les collectivités : échantillonnage normalisé ou réduit et admissibilité à l'exemption	Site Web
Liste des personnes-ressources du réseau d'eau potable	Site Web
L'eau potable en Ontario - Norme de gestion de la qualité - Guide de poche	Site Web
Procédure de désinfection des conduites principales	Site Web
Laboratoires autorisés	Site Web

Ontario