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March 19, 2024

via email

Paul Laperriere
Interim Chief Administrative Officer
The Corporation of the Town of Mattawa
160 Water St, Post Office Box No. 390
Mattawa, ON
P0H 1V0

Dear Mr. Laperriere:

Re: Inspection Report for the Mattawa Drinking Water System

Attached is the Drinking Water System Inspection Report resulting from an unannounced inspection conducted at the above-mentioned facility by Lori Duquette, Water Compliance Officer of the North Bay office of the Ministry of the Environment, Conservation, and Parks, on February 14, 2024.

Attached in Appendix A is a document entitled "DWS Components Information", Appendix B is the Inspection Risk Rating (IRR) report for this inspection and Appendix C 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 have also been sent to the North Bay Parry Sound District Health Unit, and the North Bay-Mattawa Conservation Authority in accordance with the Ministry's Municipal Drinking Water Inspection Protocol.

If you have any questions concerning the inspection report or you wish to arrange a meeting to discuss the findings of this report. please do not hesitate to contact me at (705) 845-1917.

Regards,



Lori Duquette
Water Compliance Officer/Provincial Officer
Ministry of the Environment, Conservation and Parks
North Bay Area Office

Cc: Josh DeWaal, Senior Operator, Ontario Clean Water Agency (OCWA)
Josh Gravelle, Process and Compliance Technician, OCWA
Paul Dyrda, Operations Manager, OCWA
Sherry Ilersich, Water Compliance Supervisor, Safe Drinking Water Branch – Timmins/North Bay, MECP
Robert A'Muhong, Program Manager, North Bay - Parry Sound and District Health Unit
David Ellingwood, Supervisor of Source Water Protection, North Bay Mattawa Conservation Authority



MATTAWA DRINKING WATER SYSTEM

Physical Address: 400 BISSETT ST, , MATTAWA,
ON

INSPECTION REPORT

System Number: 210001905
Entity: MATTAWA MUNICIPAL
CORPORATION
ONTARIO CLEAN WATER
AGENCY
Inspection Start Date: February 14, 2024
Site Inspection Date: February 14, 2024
Inspection End Date: March 12, 2024
Inspected By: Lori Duquette
Badge #: 812



(signature)

INTRODUCTION

Purpose

This unannounced, focused inspection was conducted to confirm compliance with Ministry of the Environment, Conservation and Parks' (MECP) legislation and conformance with ministry drinking water policies and guidelines.

Scope

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 and the operation of the system.

The inspection of the drinking water system included both the physical inspection of the component parts of the system listed in section 4 "Systems Components" of the report and the review of data and documents associated with the operation of the drinking water system during the review period.

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.

Facility Contacts and Dates

The drinking water system is owned by the Corporation of the Town of Mattawa and operated by the Ontario Clean Water Agency (OCWA).

The system serves an estimated population of 2,150 and is categorized as a Large Municipal Residential Drinking Water System (DWS). Information reviewed for this inspection covered the time period of November 29, 2022 to February 9, 2024.

As part of the inspection process, the Water Compliance Officer met with Josh DeWaal, OCWA Senior Operator and one of the Overall Responsible Operators (ORO) for the Mattawa DWS. Additional information was provided by Josh Gravelle, Process Compliance Technician (PCT) with OCWA.

Systems/Components

All locations associated with primary disinfection were visited as part of this inspection. The following sites were visited as part of the inspection of the drinking water system:

- Mattawa Water Treatment Plant (WTP).

Permissions/Approvals

This drinking water system was subject to specific conditions contained within the following permissions and/or approvals at the time of the inspection in addition to the requirements of the SDWA and its regulations:

- Municipal Drinking Water Licence (MDWL) No. 195-101, Issue No. 4;
- Drinking Water Works Permit (DWWP) No. 195-201, Issue No. 3; and
- Permit to Take Water (PTTW) No. 1546-9GHPLM (note renewal submitted on February 7, 2023 is still pending).

NON-COMPLIANCE

The following item(s) have been identified as non-compliance, based on a "No" response captured for a legislative question(s). For additional information on each question see the Inspection Details section of the report.

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

Item	Question	Compliance Response/Corrective Action(s)
NC-1	Question ID: DWMR1039000 If primary disinfection equipment that does not use chlorination or chloramination is provided, has the owner and operating authority ensured that the equipment has a recording device that continuously records the performance of the disinfection equipment?	The owner and operating authority did not ensure that the primary disinfection equipment had a recording device that continuously recorded the performance of the disinfection equipment. Condition 1.6.2 of Schedule C to the MDWL specifies that for Mattawa WTP while directing water to the distribution system and in addition to any other sampling, analysis and recording that may be required, the ultraviolet light disinfection equipment must test for calculated UV dose, flow rate; UV transmittance (UVT) and UV lamp status at a testing frequency of once every five (5) minutes or less and record the test data at a recording frequency of once every four (4) hours or less. The above noted requirements were met for the duration of this inspection period, with the exception of a short duration in December 2022 when UVT was not continuously monitored due an analyzer failure. The UVT analyzer was not operational from 2:07 am on December 4, 2022 until 3:10 pm on December 6, 2022. During this time a grab sample was collected to verify the UVT value. The failure related to the home sensor; a part that had previously been ordered but hadn't arrived yet. A back-up unit was also ordered to prevent future delays in repairing the unit. Failure to ensure that UV Transmittance is tested at a minimum frequency of every five (5) minutes or less and record the test data at a frequency of once every four (4) hours if a violation of the requirements of Condition 1.6 of

Schedule C of the MDWL.

REQUIRED ACTION:

No additional action is required as action was taken at the time of the incident to ensure spare parts are available on-site in case of similar issues in the future.

RECOMMENDATIONS

This should not be construed as a confirmation of full conformance with all potential applicable BMPs. These inspection findings are limited to the components and/or activities that were assessed, and the legislative framework(s) that were applied. It remains the responsibility of the owner to ensure compliance with all applicable legislative and regulatory requirements.

If you have any questions related to this inspection, please contact the signed Provincial Officer.

INSPECTION DETAILS

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

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

Question ID	DWMR1000000	Question Type	Information
Legislative Requirement(s): Not Applicable			
Question: Does this drinking water system provide primary disinfection?			
Compliance Response(s)/Corrective Action(s)/Observation(s): This drinking water system provides for both primary and secondary disinfection and distribution of water.			

Question ID	DWMR1007000	Question Type	Legislative
Legislative Requirement(s): SDWA O. Reg. 170/03 1-2 (1);			
Question: Is the owner maintaining the production well(s) in a manner sufficient to prevent entry into the well of surface water and other foreign materials?			
Compliance Response(s)/Corrective Action(s)/Observation(s): The owner was maintaining the production well(s) in a manner sufficient to prevent entry into the well of surface water and other foreign materials. The wells are located in the Mattawa WTP building. During the physical inspection, there was no indication of the possibility of entry of surface water and other foreign materials into the wells.			

Question ID	DWMR1009000	Question Type	Legislative
Legislative Requirement(s): SDWA 31 (1);			
Question: Are measures in place to protect the groundwater and/or GUDI source in accordance with any MDWL and DWWP issued under Part V of the SDWA?			
Compliance Response(s)/Corrective Action(s)/Observation(s): Measures were in place to protect the groundwater and/or GUDI source in accordance with the Municipal Drinking Water Licence and Drinking Water Works Permit issued under Part V of the SDWA.			

Section 16.2.8 through 16.2.10 of Schedule B of the Municipal Drinking Water Licence (MDWL) requires that the operations and maintenance manual shall include, at a minimum:

- an inspection schedule for all wells associated with the drinking water system;
- well inspection and maintenance procedures; and
- remedial action plans for situations of non-compliance and/or risk to the raw water quality.

Inspections on the above ground components of wells no. 1 and 2 are conducted by OCWA annually with the most recent inspection completed on June 8, 2023. The wells below ground components are scheduled every 10 years and were last completed in 2017 for well no. 1 and in 2018 for well no. 2. The next 10 year well inspections is scheduled for 2027 for well no. 1 and 2028 for well no. 2.

There are two Standard Operating Procedures (SOPs) relating to the wells; one relating to the above grade well inspection and the other to the below grade well inspection of well components of the Mattawa DWS Wells (dated July 23rd, 2019).

Question ID	DWMR1014000	Question Type	Legislative
Legislative Requirement(s): SDWA 31 (1);			
Question: Is there sufficient monitoring of flow as required by the MDWL or DWWP issued under Part V of the SDWA?			
Compliance Response(s)/Corrective Action(s)/Observation(s): 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. As identified in Drinking Water Works Permit (DWWP) No. 195-201, issue no. 3, the Mattawa Drinking Water System (DWS) is equipped with two magnetic flow meters and one ultrasonic flow meter. A magnetic flow meter is installed on the discharge of well # 2 and on the treated water discharge pipe to the distribution system. The new ultrasonic flow meter is installed on the discharge header to the distribution system near the magnetic flow meter. The raw water flow rate and volume from well # 1 is calculated based on the difference in flow between the treated water and well no. 2 raw flow meter values.			

Question ID	DWMR1016000	Question Type	Legislative
Legislative Requirement(s): SDWA 31 (1);			
Question: 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?			

Compliance Response(s)/Corrective Action(s)/Observation(s):

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 of the MDWL specifies the rated capacity as 6,540 m³/day of treated water that flows from the treatment subsystem to the distribution system.

A review of the flow summary data for the inspection period indicates that the maximum treated flow was 1,936 m³/day in July 2023.

Question ID	DWMR1018000	Question Type	Legislative
Legislative Requirement(s): SDWA 31 (1);			
Question: Has the owner ensured that all equipment is installed in accordance with Schedule A and Schedule C of the Drinking Water Works Permit?			
Compliance Response(s)/Corrective Action(s)/Observation(s): 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	DWMR1021000	Question Type	Legislative
Legislative Requirement(s): SDWA 31 (1);			
Question: 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?			
Compliance Response(s)/Corrective Action(s)/Observation(s): 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. During this inspection period, there was a Form 2 created in June 2023 for the installation of the new ultrasonic treated water flow meter. A director notification form was also completed for the change. This flow meter was initially installed as a trial to determine if the use of an ultrasonic flow meter instead of a magnetic flow meter would reduce the interference with the sodium hypochlorite injection point and result in more stable readings.			

Question ID	DWMR1023000	Question Type	Legislative
Legislative Requirement(s): SDWA O. Reg. 170/03 1-2 (2);			

Question:

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?

Compliance Response(s)/Corrective Action(s)/Observation(s):

Records indicated that the treatment equipment was operated in a manner that achieved the design capabilities required under O. Reg. 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.

In accordance with Section 1-2(2)3 of Schedule 1 of O. Reg. 170/03, the owner of a drinking water system that obtains water from a raw water supply that is ground water shall ensure water treatment equipment capable of achieving primary disinfection in accordance with the Ministry's Procedure for Disinfection of Drinking Water in Ontario is operated in a manner that achieves the required design capabilities. The Procedure for Disinfection of Drinking Water in Ontario states, "Where the drinking-water system obtains water from a raw water supply which is ground water, the treatment process must, as a minimum, consist of disinfection and must be credited with achieving an overall performance that provides, at a minimum 2-log (99%) removal or inactivation of viruses before the water is delivered to the first consumer."

MDWL no. 195-101, issue no. 4 identifies the log removal/inactivation credits assigned to the Mattawa WTP UV disinfection system as 2-log for *Cryptosporidium* oocysts, 3.0-log for *Giardia* cysts and 2-log for viruses.

In order to receive full log credits, the UV disinfection must be fully operational and meet the following credit assignment identified in Schedule E of the MDWL:

Duty UV Sensor Checks and Calibration:

1. Duty UV sensor shall be checked at least monthly against a reference sensor; or at a frequency recommended by the UV manufacturer.
2. When comparing the duty UV sensor to the reference sensor, the calibration ration must be equal to or below 1.2.
3. If the calibration ration is greater than 1.2 the duty sensor shall be replaced with a calibrated unit or a UV sensor correction factor shall be applied until the problem has been resolved.
4. Reference sensor shall be checked against a Master Reference Assembly at a minimum frequency of once every three (3) years or on a more frequent basis depending on recommendation of the equipment manufacturer.

Operational Requirements:

5. The UV disinfection equipment shall have a feature to ensure that no water is directed to users or cause an alarm to sound in the event that the equipment malfunctions, loses power or ceases to provide appropriate level of disinfection.
6. Water shall not flow through the UV reactor when the UV lights are off or not fully energized.
7. The UV lamps status shall indicate whether each UV lamp is on or off.

8. All UV sensors shall operate within their calibration range or corrective measures taken and;
9. Installed or replaced UV equipment components shall be equal or better than the components used during validation testing unless the UV equipment was revalidated.

For the duration of the inspection period, the above noted requirements were met.

Question ID	DWMR1026000	Question Type	Legislative
Legislative Requirement(s): SDWA O. Reg. 170/03 1-6 (1);			
Question: If primary disinfection equipment that does not use chlorination or chloramination is provided, is the equipment equipped with alarms or shut-off mechanisms that satisfy the standards described in Section 1-6 (1) of Schedule 1 of Ontario Regulation 170/03?			
Compliance Response(s)/Corrective Action(s)/Observation(s): 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 O. Reg. 170/03. Section 1-6(1) of Schedule 1 of O. Reg. 170/03 states that the owner shall ensure that the disinfection equipment is designed and operated so that, if the disinfection equipment malfunctions, loses power or ceases to provide the appropriate level of disinfection, no water is directed to users and a certified operator takes appropriate action at the location where the equipment is installed before water is again directed to users. The UV disinfection units have an alarm set for both the duty and the standby UV unit of 48 mJ/cm ² with a 60 second delay. This alarm if triggered will also trigger the UV unit in question to shutdown as well as the well pump that was in operation. If the duty UV unit alarmed and shutdown the standby unit would automatically be brought online and trigger the duty well pump to restart once the UV standby unit has completed its required start-up protocols. Additionally, if the standby UV unit after having been brought online unit triggers an alarm/shutdown, it would again activate an interlock to shut down the UV disinfection unit in operation and shut off the duty well pump. Operator intervention would then be required to resume water production if both UV units have triggered alarms and shutdowns. There is also a low UVT alarm set point, set at 95%. If the UVT continuous analyzer reading drops below that value it will trigger a plant interlock and shutdown the production of water and the well pump.			

Question ID	DWMR1024000	Question Type	Legislative
Legislative Requirement(s): SDWA O. Reg. 170/03 1-2 (2);			

Question:

Do records confirm that the water treatment equipment which provides chlorination or chloramination for secondary disinfection purposes was operated as required?

Compliance Response(s)/Corrective Action(s)/Observation(s):

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.

Question ID	DWMR1033000	Question Type	Legislative
Legislative Requirement(s): SDWA O. Reg. 170/03 7-2 (3); SDWA O. Reg. 170/03 7-2 (4);			
Question: Is the secondary disinfectant residual measured as required for the large municipal residential distribution system?			
Compliance Response(s)/Corrective Action(s)/Observation(s): The secondary disinfectant residual was measured as required for the large municipal residential distribution system. Subsection 7-2(3) of Schedule 7 to O. Reg. 170/03 required the owner and operating authority for the system to ensure at least seven (7) water samples were collected weekly from locations in the distribution system and tested for free chlorine residual. Additionally, the required sampling must be conducted in accordance with the rules prescribed by subsection 7-2(4) of Schedule 7 of O. Reg. 170/03. The rules stipulate the following: - At least four (4) 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. - At least three (3) of the samples must be taken on a second day of the week, at least 48 hours after the last sample taken on the day noted above. - When more than one sample is taken on the same day of the week under the paragraphs noted above, each sample must be taken from a different location. For the duration of this inspection period the above noted requirements were met. The operating authority follow the option permitted under subsection 7-2(4) (i.e. four (4) free chlorine residual samples on one day then three (3) free chlorine residual samples on a second day).			

Question ID	DWMR1035000	Question Type	Legislative
Legislative Requirement(s): SDWA O. Reg. 170/03 6-5 (1)1-4; SDWA O. Reg. 170/03 6-5 (1)5-10;			
Question: Are operators examining continuous monitoring test results and are they examining the results within 72 hours of the test?			
Compliance Response(s)/Corrective Action(s)/Observation(s): Operators were examining continuous monitoring test results and they were examining the results within 72 hours of the test.			

Question ID	DWMR1039000	Question Type	Legislative
Legislative Requirement(s): SDWA O. Reg. 170/03 1-6 (3);			
Question: If primary disinfection equipment that does not use chlorination or chloramination is provided, has the owner and operating authority ensured that the equipment has a recording device that continuously records the performance of the disinfection equipment?			
Compliance Response(s)/Corrective Action(s)/Observation(s): The owner and operating authority did not ensure that the primary disinfection equipment had a recording device that continuously recorded the performance of the disinfection equipment. Condition 1.6.2 of Schedule C to the MDWL specifies that for Mattawa WTP while directing water to the distribution system and in addition to any other sampling, analysis and recording that may be required, the ultraviolet light disinfection equipment must test for calculated UV dose, flow rate; UV transmittance (UVT) and UV lamp status at a testing frequency of once every five (5) minutes or less and record the test data at a recording frequency of once every four (4) hours or less. The above noted requirements were met for the duration of this inspection period, with the exception of a short duration in December 2022 when UVT was not continuously monitored due an analyzer failure. The UVT analyzer was not operational from 2:07 am on December 4, 2022 until 3:10 pm on December 6, 2022. During this time a grab sample was collected to verify the UVT value. The failure related to the home sensor; a part that had previously been ordered but hadn't arrived yet. A back-up unit was also ordered to prevent future delays in repairing the unit. Failure to ensure that UV Transmittance is tested at a minimum frequency of every five (5) minutes or less and record the test data at a frequency of once every four (4) hours if a violation of the requirements of Condition 1.6 of Schedule C of the MDWL. REQUIRED ACTION:			

No additional action is required as action was taken at the time of the incident to ensure spare parts are available on-site in case of similar issues in the future.

Additional details:

Subsection 1-6(3) of Schedule 1 to O. Reg. 170/03 specifies that if primary disinfection equipment that does not use chlorination or chloramination is provided by a large municipal residential system, the owner of the system and the operating authority for the system must ensure that the disinfection equipment has a recording device that continuously records the performance of the disinfection equipment.

At the Mattawa WTP performance of the disinfection equipment is continuously monitored and recorded using a supervisory control and data acquisition (SCADA) control system. According to the information provided, SCADA performs tests for the test parameters continuously. Calculated UV dose, UV transmittance (UVT) and flow rate are recorded continuously. Additionally, the minimum, maximum and average values are shown in the daily reports.

Question ID	DWMR1109000	Question Type	Legislative
Legislative Requirement(s): SDWA O. Reg. 170/03 1-6 (1);			
Question: If the system uses equipment for primary disinfection other than chlorination or chloramination and the equipment has malfunctioned, lost power or ceased to provide the appropriate level of disinfection, causing an alarm or an automatic shut-off, did a qualified person respond in a timely manner and take appropriate actions?			
Compliance Response(s)/Corrective Action(s)/Observation(s): When failure(s) of primary disinfection equipment, other than that used for chlorination or chloramination, caused an alarm to sound or an automatic shut-off to occur, a certified operator responded in a timely manner and took appropriate actions.			

Question ID	DWMR1042000	Question Type	Legislative
Legislative Requirement(s): SDWA 31 (1);			
Question: If UV disinfection is used were duty sensors and reference UV sensors checked and calibrated as per the requirements of Schedule E of the MDWL or at a frequency as otherwise recommended by the UV equipment manufacturer?			
Compliance Response(s)/Corrective Action(s)/Observation(s): All UV sensors were checked and calibrated as required.			

Schedule E of the MDWL requires that the duty UV sensors are checked at least monthly against a reference sensor; or at a frequency recommended by the UV manufacturer. When comparing the duty UV sensor to the reference sensor, the calibration ration must be equal to or below 1.2. If the calibration ration is greater than 1.2 the duty sensor shall be replaced with a calibrated unit, or a UV sensor correction factor shall be applied until the problem has been resolved.

For the duration of this inspection period, the above noted requirements were met. With relation to the monthly reference check records, it is suggested that the records identify which reference sensor was used to test each of the duty sensors for UV # 1 and #2 as records currently don't include that information. It should be noted that two new reference sensors were purchased on December 5, 2022. It was indicated that they will be tested against a master unit roughly every two years with alternating dates so that there is always a reference sensor on-site.

Question ID	DWMR1099000	Question Type	Information
Legislative Requirement(s): Not Applicable			
Question: 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)?			
Compliance Response(s)/Corrective Action(s)/Observation(s): 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).			

Question ID	DWMR1081000	Question Type	Legislative
Legislative Requirement(s): SDWA O. Reg. 170/03 10-2 (1); SDWA O. Reg. 170/03 10-2 (2); SDWA O. Reg. 170/03 10-2 (3);			
Question: For LMR systems, are all microbiological water quality monitoring requirements for distribution samples being met?			
Compliance Response(s)/Corrective Action(s)/Observation(s): All microbiological water quality monitoring requirements prescribed by legislation for distribution samples in a large municipal residential system were being met. Section 10-2 of Schedule 10 of O. Reg. 170/03 requires that the owner and operating authority for the drinking water system must ensure that at least ten distribution samples are taken every month, with at least one of the samples being taken each week. The owner and			

operating authority must ensure that each of the samples are tested for E.coli, total coliforms, and that at least 25% of the samples are tested for general bacteria population expressed as colony counts on a heterotrophic plate count (HPC).

A review of the certificates of analysis for the inspection period indicates that at least 12 distribution system samples were taken each month and tested for E.coli and total coliforms. Additionally, 25% of these samples were also tested for HPC.

Question ID	DWMR1083000	Question Type	Legislative
Legislative Requirement(s): SDWA O. Reg. 170/03 10-3;			
Question: For LMR systems, are all microbiological water quality monitoring requirements for treated samples being met?			
Compliance Response(s)/Corrective Action(s)/Observation(s): All microbiological water quality monitoring requirements prescribed by legislation for treated samples were being met. Section 10-3 of Schedule 10 of O. Reg. 170/03 requires the owner and operating authority of the drinking water system must ensure that a treated water sample is taken at least once every week and tested for E.coli, total coliforms, and HPC. A review of the certificates of analysis for the inspection period indicates that one treated water sample was taken each week and tested for E.coli, total coliforms, and HPC.			

Question ID	DWMR1096000	Question Type	Legislative
Legislative Requirement(s): SDWA O. Reg. 170/03 6-3 (1);			
Question: Do records confirm that chlorine residual tests are being conducted at the same time and at the same location that microbiological samples are obtained?			
Compliance Response(s)/Corrective Action(s)/Observation(s): 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	DWMR1084000	Question Type	Legislative
Legislative Requirement(s): SDWA O. Reg. 170/03 13-2;			
Question: Are all inorganic water quality monitoring requirements prescribed by legislation conducted			

within the required frequency?

Compliance Response(s)/Corrective Action(s)/Observation(s):

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

Section 13-2 of Schedule 13 of O. Reg. 170/03 requires the owner and operating authority for the drinking water system must ensure that at least one treated water sample is taken every 36 months from a ground water source and tested for every parameter in Schedule 23 (Inorganics).

The previous inspection report indicates that the most recent Schedule 23 Inorganics samples were taken on September 8th, 2021. The next sample is required by September 8th, 2024 (+/- 60 days).

Question ID	DWMR1085000	Question Type	Legislative
Legislative Requirement(s): SDWA O. Reg. 170/03 13-4 (1); SDWA O. Reg. 170/03 13-4 (2); SDWA O. Reg. 170/03 13-4 (3);			
Question: Are all organic water quality monitoring requirements prescribed by legislation conducted within the required frequency?			
Compliance Response(s)/Corrective Action(s)/Observation(s): All organic water quality monitoring requirements prescribed by legislation were conducted within the required frequency. Section 13-4 of Schedule 13 of O. Reg. 170/03 requires the owner and operating authority for the drinking water system must ensure that at least one treated water sample is taken every 36 months from a ground water source and tested for every parameter in Schedule 24 (Organics). The previous inspection report indicates that the most recent Schedule 24 Organics samples were taken on September 8th, 2021. The next sample is required by September 8th, 2024 (+/- 60 days).			

Question ID	DWMR1086000	Question Type	Legislative
Legislative Requirement(s): 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);			
Question: Are all haloacetic acid water quality monitoring requirements prescribed by legislation conducted within the required frequency and at the required location?			

Compliance Response(s)/Corrective Action(s)/Observation(s):

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

Section 13-6.1 of Schedule 13 of O. Reg. 170/03 requires that the owner of a drinking water system that provides chlorination and the operating authority for the system must ensure that at least one distribution sample is taken in each calendar quarter, from a point in the drinking water systems distribution system, or plumbing that is connected to the drinking water system, that is likely to have an elevated potential for the formation of haloacetic acids and tested for haloacetic acids (HAA).

On January 1, 2020, Ontario Drinking Water Quality Standards Regulation, O. Reg. 169/03 standard for HAA (80 µg/L) came into effect and is expressed as a RAA, where RAA is defined as "the running annual average of quarterly results" for HAA for a drinking water system.

A review of the certificates of analysis for the inspection period indicates that HAAs were tested on January 24th, 2023 (<2 µg/L), April 12th, 2023 (<2 µg/L), July 26th, 2023 (5.3 µg/L), October 10th, 2023 (5.3 µg/L), and January 30th, 2024 (5.3 µg/L).

The current RAA for HAAs is 4 µg/L.

Question ID	DWMR1087000	Question Type	Legislative
Legislative Requirement(s): SDWA O. Reg. 170/03 13-6 (1); SDWA O. Reg. 170/03 13-6 (2); SDWA O. Reg. 170/03 13-6 (3); SDWA O. Reg. 170/03 13-6 (4); SDWA O. Reg. 170/03 13-6 (5); SDWA O. Reg. 170/03 13-6 (6);			
Question: Have all trihalomethane water quality monitoring requirements prescribed by legislation been conducted within the required frequency and at the required location?			
Compliance Response(s)/Corrective Action(s)/Observation(s): 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 of O. Reg. 170/03 requires the owner and operating authority of drinking water system that provides chlorination must ensure that at least one distribution sample is taken in each calendar quarter from a point in the distribution system that is likely to have an elevated potential for the formation of trihalomethanes and tested for trihalomethanes (THMs). O. Reg. 169/03 sets the standard for THMS as 0.1 mg/L (100 ug/L) expressed as a RAA. RAA is defined as "the running annual average of quarterly results". O. Reg. 170/03 defines the "calendar quarter" as the three-month period that begins on January 1, April 1, July 1, or October1. A review of the certificates of analysis for the inspection period indicates that THMs were			

tested on January 24th, 2023 (<6 µg/L), April 28th, 2023 (<6 µg/L), July 26th, 2023 (4.4 µg/L), October 10th, 2023 (4.7 µg/L), and January 30th, 2024 (3.5 µg/L).

The current RAA for THMs is 5 µg/L.

Question ID	DWMR1088000	Question Type	Legislative
Legislative Requirement(s): SDWA O. Reg. 170/03 13-7;			
Question: Are all nitrate/nitrite water quality monitoring requirements prescribed by legislation conducted within the required frequency for the DWS?			
Compliance Response(s)/Corrective Action(s)/Observation(s): All nitrate/nitrite water quality monitoring requirements prescribed by legislation were conducted within the required frequency. Section 13-7 of Schedule 13 of O. Reg. 170/03 requires that the owner and operating authority for the drinking water system must ensure that at least one water sample is taken every three months and tested for nitrate and nitrite. A review of the certificates of analysis for the inspection period indicates that treated water samples were taken and tested for nitrate and nitrite on January 24th, 2023, April 12th, 2023, July 26th, 2023, October 10th, 2023, and January 30th, 2024.			

Question ID	DWMR1089000	Question Type	Legislative
Legislative Requirement(s): SDWA O. Reg. 170/03 13-8;			
Question: Are all sodium water quality monitoring requirements prescribed by legislation conducted within the required frequency?			
Compliance Response(s)/Corrective Action(s)/Observation(s): All sodium water quality monitoring requirements prescribed by legislation were conducted within the required frequency. Section 13-8 of Schedule 13 of O. Reg. 170/03 requires the owner and operating authority for the drinking water system must ensure that at least one treated water samples is taken every 60 months and tested for sodium. The most recent sodium samples was collected on January 24th, 2023 at 14.4 mg/L. The next samples is required by January 24th, 2028 (+/- 90 days).			

Question ID	DWMR1090000	Question Type	Legislative
Legislative Requirement(s): SDWA O. Reg. 170/03 13-9;			
Question: Where fluoridation is not practiced, are all fluoride water quality monitoring requirements prescribed by legislation conducted within the required frequency?			
Compliance Response(s)/Corrective Action(s)/Observation(s): All fluoride water quality monitoring requirements prescribed by legislation were conducted within the required frequency. Section 13-9 of Schedule 13 of O. Reg. 170/03 requires the owner and operating authority for the drinking water system must ensure that at least one treated water samples is taken every 60 months and tested for fluoride. The most recent fluoride sample was collected on February 15th, 2023 at <0.1 mg/L. The next sample is required by February 15th, 2028 (+/- 90 days).			

Question ID	DWMR1113000	Question Type	Legislative
Legislative Requirement(s): SDWA O. Reg. 170/03 10.1 (3);			
Question: Have all changes to the system registration information been provided to the Ministry within ten (10) days of the change?			
Compliance Response(s)/Corrective Action(s)/Observation(s): All changes to the system registration information were provided within ten (10) days of the change.			

Question ID	DWMR1060000	Question Type	Legislative
Legislative Requirement(s): SDWA 31 (1);			
Question: Do the operations and maintenance manuals meet the requirements of the DWWP and MDWL issued under Part V of the SDWA?			
Compliance Response(s)/Corrective Action(s)/Observation(s): 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.			

Question ID	DWMR1062000	Question Type	Legislative
Legislative Requirement(s): SDWA O. Reg. 170/03 7-5;			
Question: 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?			
Compliance Response(s)/Corrective Action(s)/Observation(s): 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	DWMR1071000	Question Type	BMP
Legislative Requirement(s): Not Applicable			
Question: Has the owner provided security measures to protect components of the drinking water system?			
Compliance Response(s)/Corrective Action(s)/Observation(s): The owner had provided security measures to protect components of the drinking water system. The Mattawa WTP is fenced with barbed wire along the top and the gates are padlocked. There is an intruder alarm, and the door is kept locked except when operators are onsite. Operators visit the treatment plant on workdays or more frequently when required.			

Question ID	DWMR1073000	Question Type	Legislative
Legislative Requirement(s): SDWA O. Reg. 128/04 23 (1);			
Question: Has the overall responsible operator been designated for all subsystems which comprise the drinking water system?			
Compliance Response(s)/Corrective Action(s)/Observation(s): The overall responsible operator had been designated for each subsystem. The Overall Responsible Operator (ORO) Standard Operating Procedure (dated August 17, 2023) specifies that for the Mattawa DWS ORO responsibilities rotate weekly along with on-call duties. ORO duties rotate weekly between Josh DeWaal, Curtis Green and Monique Mallette. Backup OROs are identified as Don Michaud, Darren Aljoe, and Tim Fraser.			

Question ID	DWMR1074000	Question Type	Legislative
Legislative Requirement(s): SDWA O. Reg. 128/04 25 (1);			
Question: Have operators-in-charge been designated for all subsystems which comprise the drinking water system?			
Compliance Response(s)/Corrective Action(s)/Observation(s): Operators-in-charge had been designated for all subsystems which comprise the drinking water system.			

Question ID	DWMR1075000	Question Type	Legislative
Legislative Requirement(s): SDWA O. Reg. 128/04 22;			
Question: Do all operators possess the required certification?			
Compliance Response(s)/Corrective Action(s)/Observation(s): All operators possessed the required certification.			

Question ID	DWMR1076000	Question Type	Legislative
Legislative Requirement(s): SDWA O. Reg. 170/03 1-2 (2);			
Question: Do only certified operators make adjustments to the treatment equipment?			
Compliance Response(s)/Corrective Action(s)/Observation(s): Only certified operators made adjustments to the treatment equipment.			

APPENDIX A

DRINKING WATER SYSTEM (DWS) COMPONENT INFORMATION REPORT

DWS Component Information Report for 210001905

as of 18-MAR-2024

Drinking Water System Profile Information

DWS # 210001905
MOE Assigned Name Mattawa Drinking Water System
Category LMRS
Regulation O.REG 170/03
DWS Type Well Supply
Source Type Ground Water
Address 400 Bissett Street, Mattawa, Ontario, P0H 1V0, Canada
Region Northern Region
District North Bay Area Office
Municipality Mattawa
Public Health Unit North Bay Parry Sound District Health Unit

LWIS Component Name	LWIS Component Type	LWIS Component Sub-Type	Component Address	Comments
Reservoir	Other	Reservoir		The in-ground reservoir has an operating capacity of 795 cubic metres and is located 700 metres to the northwest of the well house. The normal high operating water level in the reservoir is approximately 70 metres of elevation above the well house. The reservoir is located within a fenced compound and is equipped with two access hatches, two vent pipes and an overflow pipe. Monitoring of the reservoir level is used to control the operation of the well pumps at the pumphouse.
	Victor Fedeli			
Pumphouse	Treated Water Poe	Pumphouse	400 Bissett, Unit: Street,	The pumphouse is located at 400 Bissett Street. Raw water flows from the wells into a common 200 mm discharge header within the pump house. Primary disinfection is achieved using two ultraviolet reactors. Each unit is capable of providing a minimum ultraviolet dosage of 40 mJ/cm² at a peak flow rate of 75.7 L/s and raw water ultraviolet transmittance of 95%. Secondary disinfection with 12% sodium hypochlorite is completed in the common discharge header prior to entry to the distribution system. The hypochlorite system consists of one 200 L storage tank, with spill containment, and two chemical metering pumps (one duty and one standby) with discharge lines into the common discharge header. The chemical metering pumps are equipped with an automatic switch-over device and controls which provide for flow proportional dosing. If both dosing pumps fail an alarm to the pager is initiated and the raw water pumps automatically shut down. A sample line is installed on the 150 mm discharge header so that continuous on-line monitoring for free chlorine residual can be achieved. There is a pipe that leads treated water from the point of entry to the distribution system that is used for cooling of the diesel generator and the UV reactors during their warm up cycle and for water lubrication of the pump for Well # 1. A supervisory control and data acquisition (SCADA) system was put in place in 2011 to enhance the automated control of the water production and treatment

DWS Component Information Report for 210001905

as of 18-MAR-2024

LWIS Component Name	LWIS Component Type	LWIS Component Sub-Type	Component Address	Comments
				components and to produce the required performance and monitoring reports. Backup power is supplied by a 300 kW diesel generator equipped with an automatic transfer switch and a 2,200 L capacity above ground fuel tank. This system can run the entire pumphouse, as well as a nearby sewage lift station. Other meters and appurtenances are contained within the pumphouse in accordance with the requirements of system's recently issued Municipal Drinking Water Licence and Drinking Water Works Permit.
Distribution	Other	Other		The population of Mattawa is approximately 2,150. The distribution system is fed from the well house when the pumps are operating, with excess water being directed to the elevated in ground reservoir. When the well pumps are off the distribution is gravity fed from the reservoir. The system has approximately 1,050 service connections to residential and commercial consumers. There is approximately 20,000 metres of various sized cast iron, ductile iron and polyvinyl chloride piping. There are 107 fire hydrants and 239 valves in the distribution system.
Well 1 Raw	Source	Ground	400 Bissett, Unit: Street,	Well # 1 was constructed in 1958 per well record 4300581. It is the larger of the two wells located within the well house at 400 Bissett Street. It is a gravel wall type of construction and had a total depth of 26.5 m. A 660 mm diameter steel outer casing extends from grade to a depth of 19.1 m. A 400 mm diameter inner casing extends from grade to 22.1 m and a 400 mm diameter stainless steel screen extends from 22.1 m to 26.7 m. Well #1 is equipped with a 100 Hp vertical turbine pump and is rated at 53 L/s at a 105.8 m TDH. The pump is set at approximately 21.9 m below grade. The well head is approximately 30 cm above the pumphouse floor. Well # 1 is generally operated as the duty well from 6 a.m. to midnight to meet higher water demand period. The switchover of well pumps is controlled by a timer within the system's programmable logic controller.
Well 2 Raw	Source	Ground	400 Bissett, Unit: Street,	Well # 2 was constructed in 1949 per well record 4300579. It is the smaller of the two wells located within the well house at 400 Bissett Street. It is a gravel wall type well construction and has a total depth of 23.8 m. A 560 mm diameter steel outer casing extends from grade to a depth of 18.6 m. A 300 mm diameter inner casing extends from grade to 20.6 m and a 300 mm diameter #6 stainless steel screen extends from 20.6 m to 23.6 m. Well # 2 is equipped with a 40 Hp vertical turbine pump and is rated at 22.7 L/s at a 91.5 m TDH. The pump is set at approximately 17.3 m below grade. The well head is approximately 15 cm above the pumphouse floor. Well # 2 is generally operated as the duty well from midnight to 6 a.m. for energy conservation purposes.

APPENDIX B

INSPECTION RISK RATING (IRR) DOCUMENTATION

DWS Name: MATTAWA DRINKING WATER SYSTEM
DWS Number: 210001905
DWS Owner: MATTAWA MUNICIPAL CORPORATION
Municipal Location: MATTAWA

Regulation: O.REG. 170/03
DWS Category: DW Municipal Residential
Type of Inspection: Focused
Inspection Date: Feb-14-2024
Ministry Office: North Bay Area Office

Maximum Risk Rating: 385

Inspection Module	Non Compliance Risk (X out of Y)
Capacity Assessment	0/30
Certification and Training	0/42
Logbooks	0/14
Operations Manuals	0/14
Reporting & Corrective Actions	0/25
Source	0/14
Treatment Processes	4/134
Water Quality Monitoring	0/112
Overall - Calculated	4/385

Inspection Risk Rating:	1.04%
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Final Inspection Rating:	98.96%
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Ministry of the Environment, Conservation and Parks - Detailed Inspection Rating Record (Reporting Year - 2023-24)

DWS Name: MATTAWA DRINKING WATER SYSTEM
DWS Number: 210001905
DWS Owner Name: MATTAWA MUNICIPAL CORPORATION
Municipal Location: MATTAWA

Regulation: O.REG. 170/03
DWS Category: DW Municipal Residential
Type of Inspection: Focused
Inspection Date: Feb-14-2024
Ministry Office: North Bay Area Office

Non-Compliance Question(s)	Non Compliance Risk
Treatment Processes	
If primary disinfection equipment that does not use chlorination or chloramination is provided, has the owner and operating authority ensured that the equipment has a recording device that continuously records the performance of the disinfection equipment?	4
Overall - Total	4

Maximum Question Rating: 385

Inspection Risk Rating:	1.04%
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FINAL INSPECTION RATING:	98.96%
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APPENDIX C

KEY REFERENCE AND GUIDANCE MATERIAL 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 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

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	012-2149F
Avis de demande de services de laboratoire	012-2148F
Avis de résultats d'analyse insatisfaisants et de règlement des problèmes	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 potable 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