

Madoc Drinking Water System Annual Water Report

Reporting period of January 1, 2023 – December 31, 2023

Prepared For: Corporation of the Municipality of Centre Hastings

Prepared By:



Ontario Clean Water Agency
Agence Ontarienne Des Eaux

This report has been prepared to satisfy the annual reporting requirements of the Provincial Regulations and Guidelines established by the Ministry of the Environment in the Province of Ontario including the section 11 and Schedule 22 reports identified in O.Reg 170/03, Drinking Water Systems Regulation and the Permit to Take Water Reports identified in O.Reg 387/04, Water Taking and Transfer Regulation.

Table of Contents

| | |
|---|----|
| Compliance Report Card | 3 |
| Report Availability..... | 3 |
| Quality Control Measures | 4 |
| System Process Description | 4 |
| Raw Source..... | 4 |
| Treatment | 4 |
| Treatment Chemicals used during the reporting year: | 5 |
| Summary of Non-Compliance..... | 5 |
| Non-Compliance Identified in a Ministry Inspection:..... | 5 |
| Adverse Water Quality Incidents..... | 5 |
| Non-Compliance | 6 |
| Flows | 6 |
| Raw Water Flows | 6 |
| Regulatory Sample Results Summary | 7 |
| Microbiological Testing..... | 8 |
| Operational Testing..... | 8 |
| Additional Legislated Samples | 9 |
| Lead Sampling..... | 9 |
| Inorganic Parameters..... | 10 |
| Organic Parameters | 11 |
| Maintenance Summary..... | 15 |
| Maintenance Highlights | 16 |
| QEMS..... | 16 |
| Water Taking and Transfer Data..... | 16 |

Compliance Report Card

| | |
|--|--|
| Drinking Water System Number: | 220001575 |
| System Owner: | Corporation of the Municipality of Centre Hastings |
| Operating Authority: | Ontario Clean Water Agency |
| Drinking Water System Category: | Large Municipal Residential |
| Reporting Period: | January 1, 2023 – December 31, 2023 |

Report Availability

| | |
|---|--|
| Population Served: | < 10,000 |
| Website where the annual report can be viewed by the public: | www.centrehastings.com |
| Alternate location where annual report will be available for inspection and is free of charge: | Municipal Office |
| How are system users notified that the annual report is available and is free of charge? | Public access/notice via Municipal Website |
| Number of Designated Facilities served: | None |
| Has a copy of this report been provided to all Designated Facilities? | N/A |
| Number of Interested Parties reported to: | N/A |
| Has a copy of this report been provided to all Interested Parties? | N/A |
| The following Drinking-Water Systems receive drinking water from this system: | N/A |
| Has a copy of this report been provided to connected owners? | N/A |

| Event Summary | # of Events | Date | Details |
|--|-------------|---------------|--|
| Ministry of Environment Inspections | 1 | Oct 26 2023 | Announced Focused - No Non-Compliances identified. 100.00% Inspection Risk Rating. |
| Ministry of Labour Inspections | 0 | | |
| DWQMS Audits | 1 | Jun 16, 2023 | S1 Audit performed by SAI Global |
| AWQI's | 2 | July 10, 2023 | Sodium Exceedance |
| Non-Compliance | 0 | | |
| Community Complaints | 0 | | |
| Spills | 0 | | |

Quality Control Measures

Corporation of the Municipality of Centre Hastings facilities are part of OCWA's operational Trent Valley Hub. The facilities are supported by hub, regional and corporate resources. Operational Services are delivered by OCWA staff that live and work in the surrounding area. OCWA operates facilities in compliance with applicable regulations. The facility has comprehensive manuals detailing operations, maintenance, instrumentation, and emergency procedures. All procedures are treated as active documents, with annual reviews.

OCWA has additional “Value Added” and operational support services that Corporation of the Municipality of Centre Hastings benefits from including:

- Access to a network of operational compliance and support experts at the regional and corporate level, as well as affiliated programs that include the following:
 - Quality & Environmental Management System, Occupational Health & Safety System and an internal compliance audit system.
 - PDM (WISKI) facility operating information repository, which consolidates field data, online instrumentation, and electronic receipt of lab test results for reporting, tracking and analysis.
 - Work Management System (WMS) tracks and reports maintenance activities, and creates predictive and preventative reports.
 - Wonderware wide-area SCADA system allows for process optimization and data logging, process trending, remote alarming and optimization of staff time.
- Client reporting which includes operational data, equipment inventory, financial statements, maintenance work orders, and capital status reports
- Site-Specific Contingency Plans and Standard Operating Procedures
- Use of accredited laboratories
- Access to a network of operational compliance and support experts at the hub, region and corporate level
- Additional support in response to unusual circumstances, and extra support in an emergency.
- Use of sampling schedules for external laboratory sampling

System Process Description

Raw Source

Raw water source for the Madoc Drinking Water System are two groundwater wells. The Rollins Well (Well 3) is considered the main water supply well, while the Marmora Well (Well 4) is proposed as a secondary standby well.

Treatment

Madoc Drinking Water System is a two well supply system, Well # 3– Rollins Street and Well #4 – Marmora Street. Both wells are considered to be groundwater under the direct influence of surface water (GUDI).

Well #3 treatment system consists of a dual train cartridge filtration system and an ultraviolet light system for primary treatment and sodium hypochlorite as the secondary disinfectant. Well #3 is equipped with on-line alarmed continuous analyzers for treated water free chlorine residual and turbidity.

The Well #4 treatment system consists of a dual train cartridge filtration system and an ultraviolet light system along with an arsenic removal system. The primary disinfection process consists of the cartridge filtration system and ultraviolet system while sodium hypochlorite is the secondary disinfectant. Well #4 is equipped with on-line alarmed continuous analyzers for treated water free chlorine residual and turbidity.

Distribution free chlorine residual is continuously monitored with an on-line alarmed chlorine analyzer. Both facilities contain a well pump lock out system in the case disinfection failure.

Treatment Chemicals used during the reporting year:

| Chemical Name | Use | Supplier |
|---------------------|--------------|------------------|
| Sodium Hypochlorite | Disinfection | Jutzi & Brenntag |

Summary of Non-Compliance**Non-Compliance Identified in a Ministry Inspection:**

Ministry of Environment Inspection Rating: 100.00%

| Legislation | requirement(s) system failed to meet | duration of the failure (i.e. date(s)) | Corrective Action | Status |
|-------------|--------------------------------------|--|-------------------|--------|
| N/A | | | | |

Adverse Water Quality Incidents

| Date | AWQI # | Cause | | | Corrective Action Taken |
|------------------------------|--------|---------------------|----------|---------------|---|
| | | Parameter | Result | Exceedance of | |
| July 10 th , 2023 | 162561 | Sodium in TW Well 3 | 73.1mg/L | 53.1mg/L | Re Sampled and test. Re sample result 69.3 mg/L |
| July 10 th , 2023 | 162562 | Sodium in TW Well 4 | 44.0mg/L | 24.0mg/L | Re Sampled and test. Re sample result 42.3 mg/L |

Non-Compliance

| Legislation | requirement(s) system failed to meet | duration of the failure | Corrective Action | Status |
|-------------|--------------------------------------|-------------------------|-------------------|--------|
| N/A | | | | |

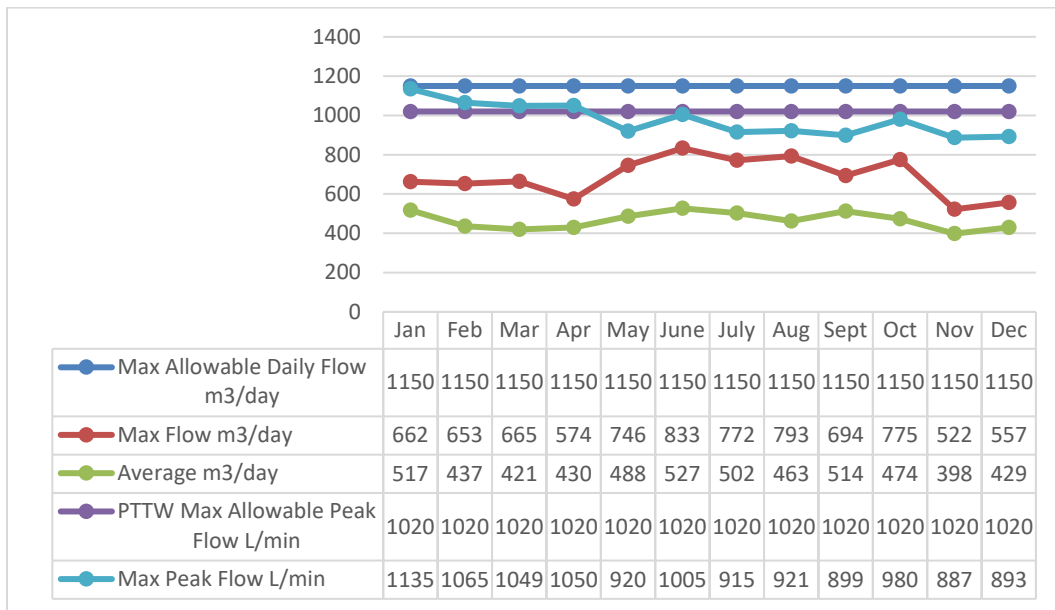
Flows

The Madoc Drinking Water System has a rated capacity for Rollins Street Pump house - 1,469m³/day and Marmora Street Pump house – 1,470m³/day. Additional flow data can be found under the Water Taking and Transfer Data.

Raw Water Flows

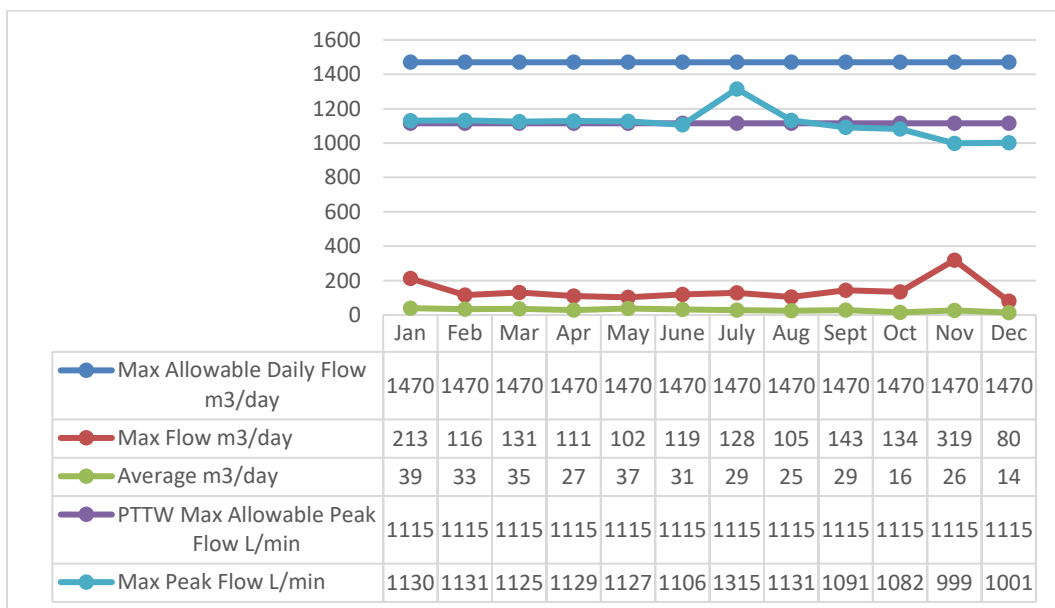
The Raw Water flows are regulated under the Permit to Take Water.

Raw Water Volume Taken: RW3



The above table shows there were spikes in instantaneous peak flow rate (L/min) and max flow rate these occurrences were caused during pump start-up/pump to waste.

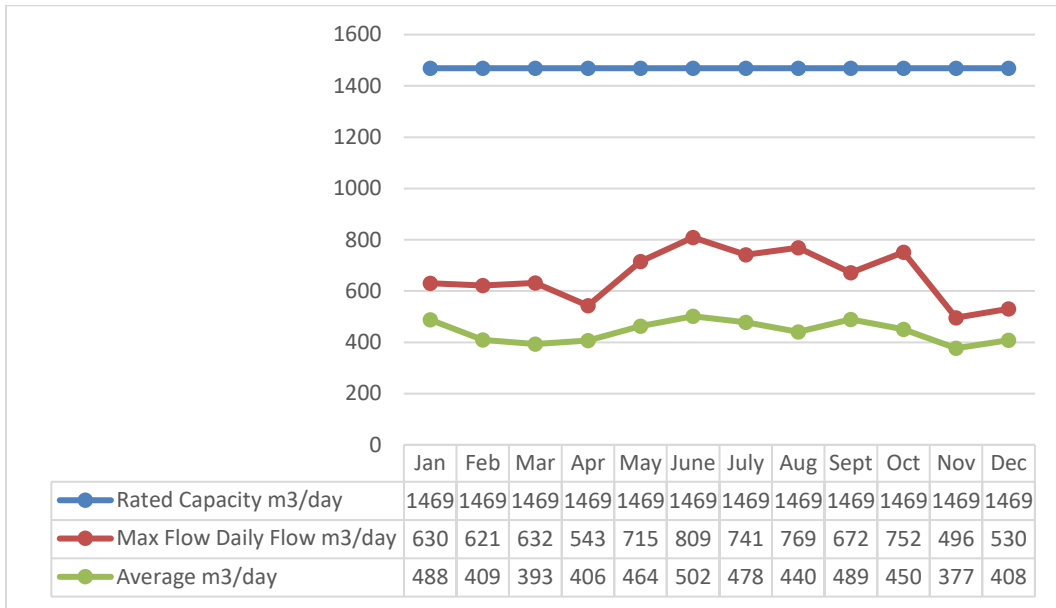
Raw Water Daily Rate of Taking: RW4



The above table shows there were spikes in instantaneous peak flow rate (L/min) and max flow rate these occurrences were caused during pump start-up/pump to waste. The increased flow rate seen in July was due to maintenance.

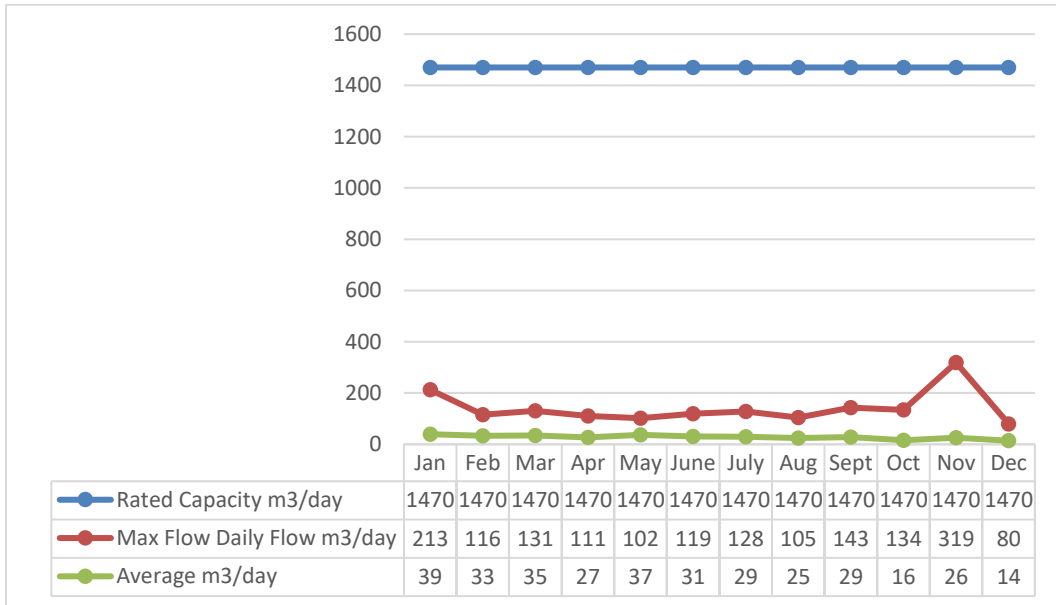
Treated Water Flows - TW3

The Treated Water flows are regulated under the Municipal Drinking Water License.



Treated Water Flows - TW4

The Treated Water flows are regulated under the Municipal Drinking Water License.



Regulatory Sample Results Summary

- RW3 = Raw Water Well 3
- TW3 = Treated Water Well 3
- RW4 = Raw Water Well 4
- TW4 = Treated Water Well 4
- DW = Distribution Water

Microbiological Testing

| Location | Number of Samples | E. Coli Results (min) - (max) | Total Coliform Results (min) – (max) | Number of HPC Samples | HPC Results (min) - (max) |
|-------------------|-------------------|-------------------------------|--------------------------------------|-----------------------|---------------------------|
| Raw – RW3 | 52 | 0 – 4 | 0 – 163 | ~ | ~ |
| Raw – RW4 | 52 | 0 – 3 | 0 – 103 | ~ | ~ |
| Treated - TW3 | 52 | 0 - 0 | 0 – 0 | 52 | 0 – 1 |
| Treated- TW4 | 52 | 0 - 0 | 0 - 0 | 52 | 0 – 1 |
| Distribution - DW | 156 | 0 - 0 | 0 - 0 | 152 | 0 – 2000 |

Operational Testing

On-Line

| Parameter | Range of Results (min # - max #) |
|--|----------------------------------|
| Turbidity, Well #3 Filter Effluent Train # 1 (NTU) | 0.00 – 1.89 NTU* |
| Turbidity, Well #3 Filter Effluent Train # 2 (NTU) | 0.00 – 2.00 NTU* |
| Chlorine, Well #3 Treated | 0.89 – 4.51 mg/L* |
| Total Chlorine, Distribution | 1.09 – 3.47 mg/L* |
| Free Chlorine, Distribution | 0.68 – 3.47 mg/L* |
| Turbidity, Well #4 Filter Effluent Train # 1 (NTU) | 0.00 – 5.00 NTU* |
| Turbidity, Well #4 Filter Effluent Train # 2 (NTU) | 0.00 – 5.00 NTU* |
| Chlorine, Well #4 Treated | 0.00 – 5.00 mg/L* |

* Instrument spikes and dips recorded by on-line instrumentation were a result of air bubbles and various maintenance and calibration activities. Power interruptions may also cause an instrument reading to drop to zero. All events are reviewed for compliance with O. Reg. 170/03 and if warranted, are reported to the Ministry of Environment as Adverse Water Quality Incidents.

In-House

| Parameter | # of grab samples taken | Range of Results (min # - max #) |
|-------------------------------------|-------------------------|----------------------------------|
| Raw Water Turbidity grabs - Well 3 | 12 | 0.0 – 0.30 NTU |
| Raw Water UVT grabs – Well 3 | 12 | 91.40 – 94.30 % |
| Raw Water Turbidity grabs - Well 4 | 12 | 0.10 – 0.33 NTU |
| Raw Water UVT grabs – Well 4 | 12 | 92.70 – 95.30 % |
| Well #3 Treated Water Free Chlorine | 52 | 1.51 – 2.8 mg/L |
| Well #4 Treated Water Free Chlorine | 52 | 1.76 – 2.70 mg/L |
| Distribution Free Chlorine | 157 | 0.99 – 2.16 mg/L |

Additional Legislated Samples

| Date of Legal Instrument issued | Parameter | Sample Location | # of grab samples taken | Range of Results (min # - max #) |
|--|-----------------|-----------------|---------------------------------------|----------------------------------|
| MDWL : 153-101 Drinking Water Health Related Parameters | Antimony (ug/L) | RW 3 | 1 | 0.08 |
| | | RW 4 | 4 | <0.6 |
| | | TW 3 | 1 | 1.0 |
| | | TW 4 | 5 | 0.60-0.60 |
| | Arsenic (ug/L) | RW 4 | 12 | 6.6-8.3 |
| | | TW 4 | 13 | 0.2-0.2 |
| Additional Samples | Fluoride | TW | Fluoride is not used at this facility | |

Lead Sampling

The Lead Sampling Program is required under O.Reg 170/03. This system qualified for the plumbing exemption. This facility is on a reduced sampling schedule and lead is sampled every 36 months, the last samples were taken in 2021.

| Location | Date | Lead (ug/L) | pH | Alkalinity (mg/L) as CaCO ₃ |
|-------------|----------------------|-------------|----------------|--|
| | <i>Limits/Ranges</i> | 10.0 | 6.5-8.5 | 30-500 |
| Hydrant #82 | 29-March-23 | -- | 7.75 | 285 |
| Hydrant #99 | 29-March-23 | -- | 7.74 | 283 |
| Hydrant #82 | 19-Sept-23 | -- | 7.77 | 334 |
| Hydrant #99 | 19-Sept-23 | -- | 7.79 | 324 |

Inorganic Parameters

- MAC = Maximum Allowable Concentration as per O.Reg 169/03
- MDL = Method Detection Limit
- Fluoride and Sodium are only required to be tested every 60 months.

| Parameter | Sample Date | Result Value | MAC | Exceedance | |
|------------------------------|-------------|----------------|------|------------|-------|
| | | | | MAC | ½ MAC |
| Antimony: Sb (ug/L) - TW3 | 03/20/23 | 1 | 6 | No | No |
| Antimony: Sb (ug/L) - TW4 | 01/16/23 | < MDL 0.6 | 6 | No | No |
| Antimony: Sb (ug/L) - TW4 | 03/20/23 | < MDL 0.6 | 6 | No | No |
| Antimony: Sb (ug/L) - TW4 | 04/03/23 | < MDL 0.6 | 6 | No | No |
| Antimony: Sb (ug/L) - TW4 | 07/10/23 | < MDL 0.6 | 6 | No | No |
| Antimony: Sb (ug/L) - TW4 | 10/17/23 | < MDL 0.6 | 6 | No | No |
| Arsenic: As (ug/L) - TW3 | 03/20/23 | 2.4 | 10 | No | No |
| Arsenic: As (ug/L) - TW4 | 01/09/23 | < MDL 0.2 | 10 | No | No |
| Arsenic: As (ug/L) - TW4 | 02/06/23 | < MDL 0.2 | 10 | No | No |
| Arsenic: As (ug/L) - TW4 | 03/06/23 | < MDL 0.2 | 10 | No | No |
| Arsenic: As (ug/L) - TW4 | 03/20/23 | < MDL 0.2 | 10 | No | No |
| Arsenic: As (ug/L) - TW4 | 04/03/23 | < MDL 0.2 | 10 | No | No |
| Arsenic: As (ug/L) - TW4 | 05/01/23 | < MDL 0.2 | 10 | No | No |
| Arsenic: As (ug/L) - TW4 | 06/05/23 | < MDL 0.2 | 10 | No | No |
| Arsenic: As (ug/L) - TW4 | 07/04/23 | < MDL 0.2 | 10 | No | No |
| Arsenic: As (ug/L) - TW4 | 08/08/23 | < MDL 0.2 | 10 | No | No |
| Arsenic: As (ug/L) - TW4 | 09/05/23 | < MDL 0.2 | 10 | No | No |
| Arsenic: As (ug/L) - TW4 | 10/03/23 | < MDL 0.2 | 10 | No | No |
| Arsenic: As (ug/L) - TW4 | 11/06/23 | < MDL 0.2 | 10 | No | No |
| Arsenic: As (ug/L) - TW4 | 12/04/23 | < MDL 0.2 | 10 | No | No |
| Barium: Ba (ug/L) - TW3 | 03/20/23 | 169 | 1000 | No | No |
| Barium: Ba (ug/L) - TW4 | 03/20/23 | 126 | 1000 | No | No |
| Boron: B (ug/L) - TW3 | 03/20/23 | 22 | 5000 | No | No |
| Boron: B (ug/L) - TW4 | 03/20/23 | 15 | 5000 | No | No |
| Cadmium: Cd (ug/L) - TW3 | 03/20/23 | 0.146 | 5 | No | No |
| Cadmium: Cd (ug/L) - TW4 | 03/20/23 | < MDL 0.003 | 5 | No | No |
| Chromium: Cr (ug/L) - TW3 | 03/20/23 | 0.29 | 50 | No | No |
| Chromium: Cr (ug/L) - TW4 | 03/20/23 | 0.22 | 50 | No | No |
| Mercury: Hg (ug/L) - TW3 | 03/20/23 | < MDL 0.01 | 1 | No | No |
| Mercury: Hg (ug/L) - TW4 | 03/20/23 | < MDL 0.01 | 1 | No | No |
| Selenium: Se (ug/L) - TW3 | 03/20/23 | 0.36 | 50 | No | No |
| Selenium: Se (ug/L) - TW4 | 03/20/23 | 0.23 | 50 | No | No |
| Uranium: U (ug/L) - TW3 | 03/20/23 | 0.876 | 20 | No | No |
| Uranium: U (ug/L) - TW4 | 03/20/23 | 0.291 | 20 | No | No |
| Additional Inorganics | | | | | |
| Fluoride (mg/L) - TW3 | 07/10/23 | 0.38 | 1.5 | No | No |

| | | | | | |
|--------------------------|------------|----------------|------|-----|-----|
| Nitrate : (mg/L) - TW3 | 01/16/23 | 2.73 | 10 | No | No |
| Nitrate : (mg/L) - TW3 | 04/03/23 | 2.59 | 10 | No | No |
| Nitrate : (mg/L) - TW3 | 07/10/23 | 2.41 | 10 | No | No |
| Nitrate : (mg/L) - TW3 | 10/17/23 | 1.67 | 10 | No | No |
| Nitrate : (mg/L) - TW4 | 01/16/23 | 0.846 | 10 | No | No |
| Nitrate : (mg/L) - TW4 | 04/03/23 | 0.234 | 10 | No | No |
| Nitrate : (mg/L) - TW4 | 07/10/23 | 1.67 | 10 | No | No |
| Nitrate : (mg/L) - TW4 | 10/17/23 | 3.36 | 10 | No | No |
| Nitrite : (mg/L) - TW3 | 01/16/23 | < MDL 0.003 | 1 | No | No |
| Nitrite : (mg/L) - TW3 | 04/03/23 | < MDL 0.003 | 1 | No | No |
| Nitrite : (mg/L) - TW3 | 07/10/23 | < MDL 0.003 | 1 | No | No |
| Nitrite : (mg/L) - TW3 | 10/17/23 | < MDL 0.003 | 1 | No | No |
| Nitrite : (mg/L) - TW4 | 01/16/23 | < MDL 0.003 | 1 | No | No |
| Nitrite : (mg/L) - TW4 | 04/03/23 | < MDL 0.003 | 1 | No | No |
| Nitrite : (mg/L) - TW4 | 07/10/23 | < MDL 0.003 | 1 | No | No |
| Nitrite : (mg/L) - TW4 | 10/17/23 | < MDL 0.003 | 1 | No | No |
| 60 Month Sampling | | | | | |
| Sodium(mg/L)-TW3 | 07/10/2023 | 53.1 | 20.0 | Yes | Yes |
| Fluoride(mg/L)-TW3 | 07/10/2023 | 0.38 | 1.50 | No | No |
| Sodium(mg/L)-TW4 | 07/10/2023 | 44.0 | 20.0 | Yes | Yes |
| Fluoride(mg/L)-TW4 | 07/10/2023 | 0.53 | 1.50 | No | No |

*There is no "MAC" for Sodium. The aesthetic objective for sodium in drinking water is 200 mg/L. The local Medical Officer of Health should be notified when the sodium concentration exceeds 20 mg/L so that this information may be communicated to local physicians for their use with patients on sodium restricted diets.

Organic Parameters

- MAC = Maximum Allowable Concentration as per O.Reg 169/03
- MDL = Method Detection Limit

| Parameter | Sample Date | Result Value | MAC | Exceedance | |
|---------------------------------|-------------|--------------|-----|------------|-------|
| | | | | MAC | ½ MAC |
| 1,1-Dichloroethylene (ug/L)-TW4 | 03/20/23 | < MDL 0.33 | 14 | No | No |
| 1,2-Dichlorobenzene (ug/L)-TW4 | 03/20/23 | < MDL 0.41 | 200 | No | No |
| 1,2-Dichloroethane (ug/L)-TW4 | 03/20/23 | < MDL 0.35 | 5 | No | No |

| | | | | | |
|---|----------|-------------|------|----|----|
| 1,4-Dichlorobenzene (ug/L)-TW4 | 03/20/23 | < MDL 0.36 | 5 | No | No |
| 2,3,4,6-Tetrachlorophenol (ug/L)-TW4 | 03/20/23 | < MDL 0.2 | 100 | No | No |
| 2,4,6-Trichlorophenol (ug/L)-TW4 | 03/20/23 | < MDL 0.25 | 5 | No | No |
| 2,4-Dichlorophenol (ug/L)-TW4 | 03/20/23 | < MDL 0.15 | 900 | No | No |
| 2,4-Dichlorophenoxy acetic acid (2,4-D) (ug/L)-TW4 | 03/20/23 | < MDL 0.19 | 100 | No | No |
| 2-methyl-4-chlorophenoxyacetic acid (MCPA) (ug/L)-TW4 | 03/20/23 | < MDL 0.12 | 100 | No | No |
| Alachlor (ug/L) -TW4 | 03/20/23 | < MDL 0.02 | 5 | No | No |
| Atrazine + N-dealkylated metabolites (ug/L)-TW4 | 03/20/23 | < MDL 0.01 | 5 | No | No |
| Azinphos-methyl (ug/L)-TW4 | 03/20/23 | < MDL 0.05 | 20 | No | No |
| Benzene (ug/L)-TW4 | 03/20/23 | < MDL 0.32 | 1 | No | No |
| Benzo(a)pyrene (ug/L)-TW4 | 03/20/23 | < MDL 0.004 | 0.01 | No | No |
| Bromoxynil (ug/L)-TW4 | 03/20/23 | < MDL 0.33 | 5 | No | No |
| Carbaryl (ug/L)-TW4 | 03/20/23 | < MDL 0.05 | 90 | No | No |
| Carbofuran (ug/L) -TW4 | 03/20/23 | < MDL 0.01 | 90 | No | No |
| Carbon Tetrachloride (ug/L) -TW4 | 03/20/23 | < MDL 0.17 | 2 | No | No |
| Chlorpyrifos (ug/L) -TW4 | 03/20/23 | < MDL 0.02 | 90 | No | No |
| Diazinon (ug/L)-TW4 | 03/20/23 | < MDL 0.02 | 20 | No | No |
| Dicamba (ug/L)-TW4 | 03/20/23 | < MDL 0.2 | 120 | No | No |
| Dichloromethane (Methylene Chloride) (ug/L)-TW4 | 03/20/23 | < MDL 0.35 | 50 | No | No |
| Diclofop-methyl (ug/L)-TW4 | 03/20/23 | < MDL 0.4 | 9 | No | No |
| Dimethoate (ug/L)-TW4 | 03/20/23 | < MDL 0.06 | 20 | No | No |
| Diquat (ug/L)-TW4 | 03/20/23 | < MDL 1 | 70 | No | No |
| Diuron (ug/L)-TW4 | 03/20/23 | < MDL 0.03 | 150 | No | No |
| Glyphosate (ug/L)-TW4 | 03/20/23 | < MDL 1 | 280 | No | No |

| | | | | | |
|---|----------|------------|-----|----|----|
| Malathion (ug/L)-TW4 | 03/20/23 | < MDL 0.02 | 190 | No | No |
| Metolachlor (ug/L)-TW4 | 03/20/23 | < MDL 0.01 | 50 | No | No |
| Metribuzin (ug/L)-TW4 | 03/20/23 | < MDL 0.02 | 80 | No | No |
| Monochlorobenzene (Chlorobenzene) (ug/L)-TW4 | 03/20/23 | < MDL 0.3 | 80 | No | No |
| Paraquat (ug/L)-TW4 | 03/20/23 | < MDL 1 | 10 | No | No |
| PCB (ug/L)-TW4 | 03/20/23 | < MDL 0.04 | 3 | No | No |
| Pentachlorophenol (ug/L)-TW4 | 03/20/23 | < MDL 0.15 | 60 | No | No |
| Phorate (ug/L)-TW4 | 03/20/23 | < MDL 0.01 | 2 | No | No |
| Picloram (ug/L)-TW4 | 03/20/23 | < MDL 1 | 190 | No | No |
| Prometryne (ug/L)-TW4 | 03/20/23 | < MDL 0.03 | 1 | No | No |
| Simazine (ug/L)-TW4 | 03/20/23 | < MDL 0.01 | 10 | No | No |
| Terbufos (ug/L)-TW4 | 03/20/23 | < MDL 0.01 | 1 | No | No |
| Tetrachloroethylene (ug/L)-TW4 | 03/20/23 | < MDL 0.35 | 10 | No | No |
| Triallate (ug/L) -TW4 | 03/20/23 | < MDL 0.01 | 230 | No | No |
| Trichloroethylene (ug/L)-TW4 | 03/20/23 | < MDL 0.44 | 5 | No | No |
| Trifluralin (ug/L)-TW4 | 03/20/23 | < MDL 0.02 | 45 | No | No |
| Vinyl Chloride (ug/L)-TW4 | 03/20/23 | < MDL 0.17 | 1 | No | No |
| 1,1-Dichloroethylene (ug/L)-TW3 | 03/20/23 | < MDL 0.33 | 14 | No | No |
| 1,2-Dichlorobenzene (ug/L)-TW3 | 03/20/23 | < MDL 0.41 | 200 | No | No |
| 1,2-Dichloroethane (ug/L)-TW3 | 03/20/23 | < MDL 0.35 | 5 | No | No |
| 1,4-Dichlorobenzene (ug/L)-TW3 | 03/20/23 | < MDL 0.36 | 5 | No | No |
| 2,3,4,6-Tetrachlorophenol (ug/L)-TW3 | 03/20/23 | < MDL 0.2 | 100 | No | No |
| 2,4,6-Trichlorophenol (ug/L)-TW3 | 03/20/23 | < MDL 0.25 | 5 | No | No |
| 2,4-Dichlorophenol (ug/L)-TW3 | 03/20/23 | < MDL 0.15 | 900 | No | No |

| | | | | | |
|--|----------|-------------|------|----|----|
| 2,4-Dichlorophenoxy acetic acid (2,4-D) (ug/L)-TW3 | 03/20/23 | < MDL 0.19 | 100 | No | No |
| 2-methyl-4-chlorophenoxyacetic acid (MCPA) (ug/L)-TW3 | 03/20/23 | < MDL 0.12 | 100 | No | No |
| Alachlor (ug/L) -TW3 | 03/20/23 | < MDL 0.02 | 5 | No | No |
| Atrazine + N-dealkylated metabolites (ug/L)-TW3 | 03/20/23 | < MDL 0.01 | 5 | No | No |
| Azinphos-methyl (ug/L)-TW3 | 03/20/23 | < MDL 0.05 | 20 | No | No |
| Benzene (ug/L)-TW3 | 03/20/23 | < MDL 0.32 | 1 | No | No |
| Benzo(a)pyrene (ug/L)-TW3 | 03/20/23 | < MDL 0.004 | 0.01 | No | No |
| Bromoxynil (ug/L)-TW3 | 03/20/23 | < MDL 0.33 | 5 | No | No |
| Carbaryl (ug/L)-TW3 | 03/20/23 | < MDL 0.05 | 90 | No | No |
| Carbofuran (ug/L) -TW3 | 03/20/23 | < MDL 0.01 | 90 | No | No |
| Carbon Tetrachloride (ug/L) -TW3 | 03/20/23 | < MDL 0.17 | 2 | No | No |
| Chlorpyrifos (ug/L) -TW3 | 03/20/23 | < MDL 0.02 | 90 | No | No |
| Diazinon (ug/L)-TW3 | 03/20/23 | < MDL 0.02 | 20 | No | No |
| Dicamba (ug/L)-TW3 | 03/20/23 | < MDL 0.2 | 120 | No | No |
| Dichloromethane (Methylene Chloride) (ug/L)-TW3 | 03/20/23 | < MDL 0.35 | 50 | No | No |
| Diclofop-methyl (ug/L)-TW3 | 03/20/23 | < MDL 0.4 | 9 | No | No |
| Dimethoate (ug/L)-TW3 | 03/20/23 | < MDL 0.06 | 20 | No | No |
| Diquat (ug/L)-TW3 | 03/20/23 | < MDL 1 | 70 | No | No |
| Diuron (ug/L)-TW3 | 03/20/23 | < MDL 0.03 | 150 | No | No |
| Glyphosate (ug/L)-TW3 | 03/20/23 | < MDL 1 | 280 | No | No |
| Malathion (ug/L)-TW3 | 03/20/23 | < MDL 0.02 | 190 | No | No |
| Metolachlor (ug/L)-TW3 | 03/20/23 | < MDL 0.01 | 50 | No | No |
| Metribuzin (ug/L)-TW3 | 03/20/23 | < MDL 0.02 | 80 | No | No |
| Monochlorobenzene (Chlorobenzene) (ug/L)-TW3 | 03/20/23 | < MDL 0.3 | 80 | No | No |

| | | | | | |
|---|----------|------------|-------|----|----|
| Paraquat (ug/L)-TW3 | 03/20/23 | < MDL 1 | 10 | No | No |
| PCB (ug/L)-TW3 | 03/20/23 | < MDL 0.04 | 3 | No | No |
| Pentachlorophenol (ug/L)-TW3 | 03/20/23 | < MDL 0.15 | 60 | No | No |
| Phorate (ug/L)-TW3 | 03/20/23 | < MDL 0.01 | 2 | No | No |
| Picloram (ug/L)-TW3 | 03/20/23 | < MDL 1 | 190 | No | No |
| Prometryne (ug/L)-TW3 | 03/20/23 | < MDL 0.03 | 1 | No | No |
| Simazine (ug/L)-TW3 | 03/20/23 | < MDL 0.01 | 10 | No | No |
| Terbufos (ug/L)-TW3 | 03/20/23 | < MDL 0.01 | 1 | No | No |
| Tetrachloroethylene (ug/L)-TW3 | 03/20/23 | < MDL 0.35 | 10 | No | No |
| Triallate (ug/L) -TW3 | 03/20/23 | < MDL 0.01 | 230 | No | No |
| Trichloroethylene (ug/L)-TW3 | 03/20/23 | < MDL 0.44 | 5 | No | No |
| Trifluralin (ug/L)-TW3 | 03/20/23 | < MDL 0.02 | 45 | No | No |
| Vinyl Chloride (ug/L)-TW3 | 03/20/23 | < MDL 0.17 | 1 | No | No |
| DISTRIBUTION WATER | | | | | |
| Trihalomethane: Total (ug/L) Annual Average - DW | 2023 | 20.5 | 100.0 | No | No |
| HAA Total (ug/L) Annual Average - DW | 2023 | 9.1 | 80.0 | No | No |

Maintenance Summary

OCWA uses a risk-based preventative maintenance framework that ensures assets are maintained to manufacturer's and/or industry standards. Maintenance is completed using various tools and operational supports.

OCWA uses a Work Tracking Database (Maximo). Maximo is a maintenance tracking system that can generate work orders as well as give summaries of completed and scheduled work. During the year, the operating authority at the facility generates scheduled work orders on a weekly, monthly and annual basis. The service work is recorded in the work order history. This ensures routine and preventive maintenance is carried out. Emergency and capital repair maintenance is completed and added to the system.

Capital projects are listed and provided to the Corporation of the Municipality of Centre Hastings in the form of a "Capital Forecast". This list is developed by facility staff and provides recommendations for facility components requiring upgrading or improvement.

| | |
|---|-----|
| Preventative/Weekly Maintenance Work Orders Completed | 459 |
| Operational Maintenance Work Orders Completed | 20 |
| Capital Maintenance Work Orders Completed | 15 |

Maintenance Highlights: major expenses incurred to install, repair or replace required equipment

| |
|---|
| Flow Control Valve Replacement |
| Replace Riser Well 3 Riser Pipe and Couplings |
| Repair of Well 4 South Filter |

QEMS

A Re-Accreditation audit was conducted by QMI-SAI Canada Limited on June 16th, 2023. The Corporation of the Municipality of Centre Hastings Quality Management System conforms to the Standard.

Water Taking and Transfer Data

Data for the reporting period of January 1, 2023 to December 31, 2023 was submitted electronically to the Ministry of the Environment and Climate Change on January 25th, 2024 under Permit to Take Water #2660-B5FQPP.

The screenshot displays the WTRS interface with the following elements:

- Logos:** Ontario, environet, WTRS, and Ministry of the Environment, Conservation and Parks.
- Navigation:** WT DATA | USER PROFILE | CONTACT US | HELP | HOME | LOGOUT |
- Location:** WTRS / WT DATA / Edit Submitted WT Records
- Message:** Water Taking Data submitted successfully.
- Confirmation:**
 - Thank you for submitting your water taking data online.
 - Permit Number: 2660-B5FQPP
 - Permit Holder: THE CORPORATION OF THE MUNICIPALITY OF CENTRE HASTINGS.
 - Received on: Jan 25, 2024 12:49 PM
 - This confirmation indicates that your data has been received by the Ministry, but should not be construed as acceptance of this data if it differs from that specified on the Permit Number, assigned to the Permit Holder stated above.
- Buttons:** Print Confirmation, Return to Main Page
- Footer:** ONTARIO CLEAN WATER AGENCY | 2024/01/25, version: v4.5.0.21 (build#: 22), Last modified: 2018/09/18, ©2024 Queen's Printer for Ontario