

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.

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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				

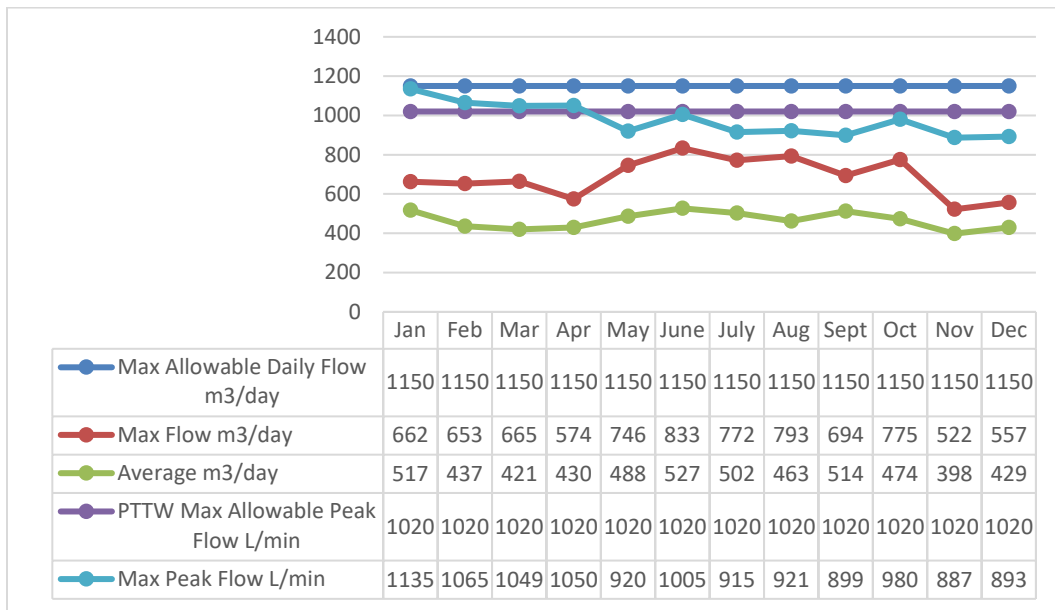
Flows

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

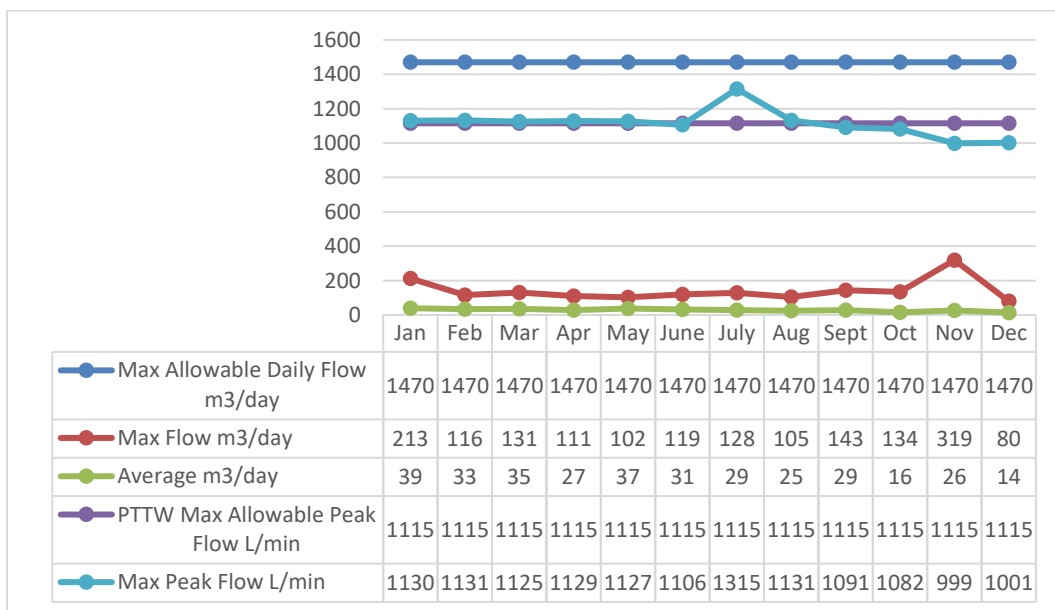
The Raw Water flows are regulated under the Permit to Take Water.

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.

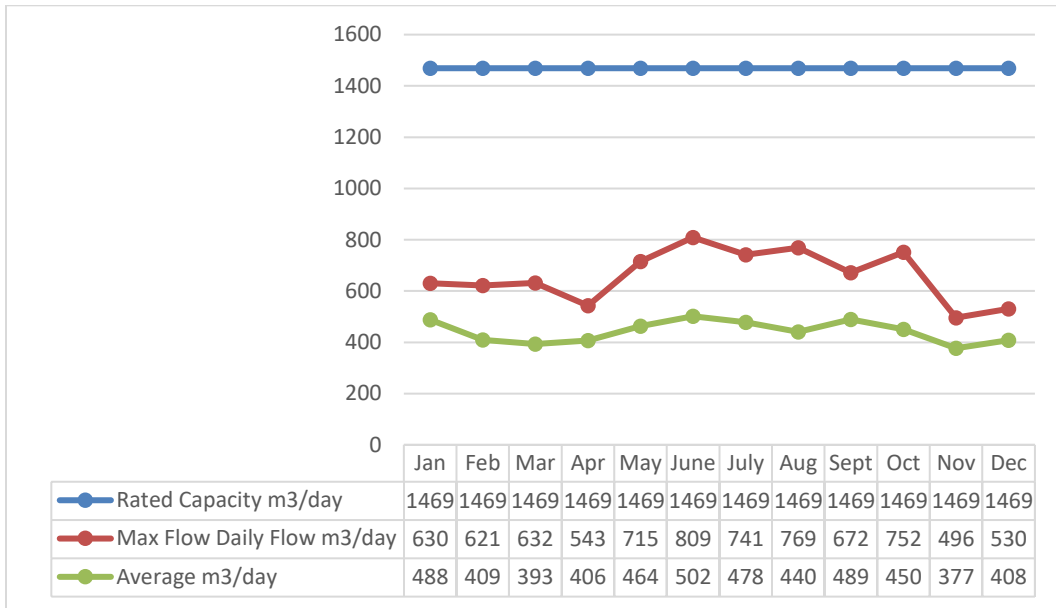
Raw Water Daily Rate of Taking: RW4



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.

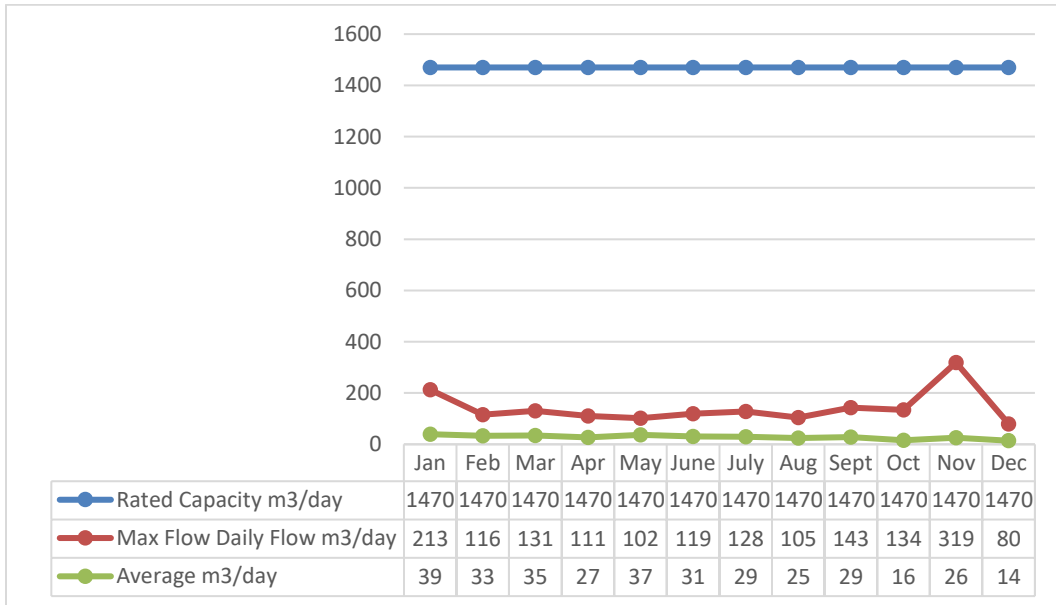
Treated Water Flows - TW3

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 web interface. At the top, there are logos for Ontario, environet, and WTRS, along with the text 'Ministry of the Environment, Conservation and Parks'. A navigation bar includes links for 'WT DATA', 'USER PROFILE', 'CONTACT US', 'HELP', 'HOME', and 'LOGOUT'. Below this, the location is identified as 'WTRS / WT DATA / Edit Submitted WT Records' with the ID 'WTRS-WT-008'. A green banner states 'Water Taking Data submitted successfully.' The main content area is titled 'Confirmation:' and contains the following text: '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.' Two buttons are visible: 'Print Confirmation' and 'Return to Main Page'. The footer includes 'ONTARIO CLEAN WATER AGENCY | 2024/01/25 version: v4.5.0.21 (build#: 22) Last modified: 2018/09/18' and '©2024 Queen's Printer for Ontario'. The Ontario logo and 'This site maintained by the Government of Ontario' are also present.