

Elgeti & Crystal Springs Drinking Water System Annual Water Report

**Reporting period of
January 1, 2024 – December 31, 2024**

Prepared
For:

Corporation of the Township of
Otonabee- South Monaghan

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	5
Flows.....	5
Raw Water Flows	5
Regulatory Sample Results Summary.....	7
Microbiological Testing.....	7
Operational Testing.....	7
Lead Sampling	8
Inorganic Parameters	8
Organic Parameters	9
Maintenance Summary	10
Maintenance Highlights	11
QEMS.....	11
Water Taking and Transfer Data	11

Compliance Report Card

Drinking Water System Number:	260064272
System Owner:	Corporation of the Township of Otonabee-South Monaghan
Operating Authority:	Ontario Clean Water Agency
Drinking Water System Category:	Large Municipal Residential
Reporting Period:	January 1, 2024 – December 31, 2024

Report Availability

Population Served:	< 10,000
Website where the annual report can be viewed by the public:	www.osmtownship.ca
Alternate location where annual report will be available for inspection and is free of charge:	Township Office
How are system users notified that the annual report is available and is free of charge?	Public access/notice via Township 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	Number of Events	Date	Details
Ministry of Environment Inspections	1	Nov. 8, 2024	Announced – Focused Drinking Water Inspection – Final Inspection Rating of 100%
Ministry of Labour Inspections	0	N/A	N/A
DWQMS Audits	1	May 16, 2024	Surveillance System Audit performed by SAI Global
AWQI's	0	N/A	N/A
Non-Compliance identified during Ministry Inspection	0	N/A	N/A
Community Complaints	0	N/A	N/A
Spills	0	N/A	N/A

Quality Control Measures

Corporation of the Township of Otonabee- South Monaghan facilities are part of OCWA's operational Kawartha Trent Regional Hub – South Cluster. 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 Township of Otonabee-South Monaghan 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 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
- 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

A well supply system consisting of 2 groundwater wells potentially under the direct influence of surface water in the Crystal Springs well field. Well #2 serves as the sole production well for the water system and Well #1 serves only in standby capacity.

Treatment

The system contains treated water reservoirs and sodium hypochlorite and ultra violet disinfection. The facility has continuous on-line alarms analyzers recording treated water turbidity, free chlorine residual and distribution system free chlorine residual (located at Stewart Hall). The water system supplies treated water to the Elgeti and Crystal Springs Subdivisions, consisting of approximately 107 service connections.

Treatment Chemicals used during the reporting year:

Chemical Name	Use	Supplier
Sodium Hypochlorite	Disinfection	Jutzi Water Technologies

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

Legislation	Requirement(s) system failed to meet	Duration of the failure (i.e. date(s))	Corrective Action	Status
There were no non-compliance issues identified during the Ministry inspection this reporting period.				

Adverse Water Quality Incidents

Date	AWQI #	Cause			Corrective Action Taken
		Parameter	Result	Exceedance of	
There were no adverse water quality incidents reported during the reporting period.					

Non-Compliance

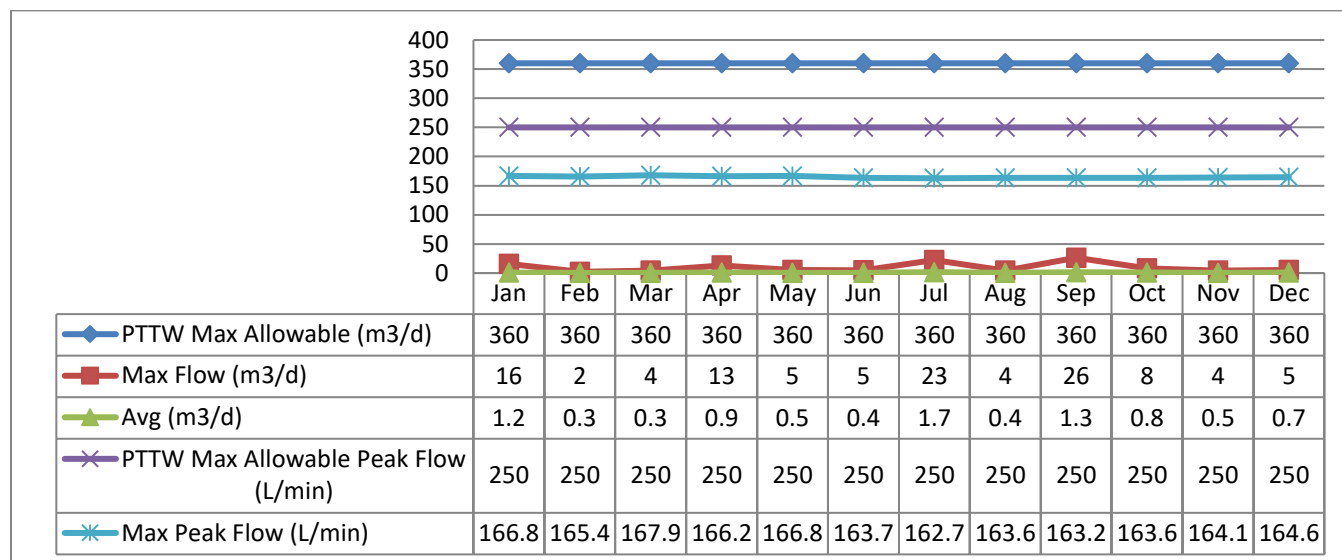
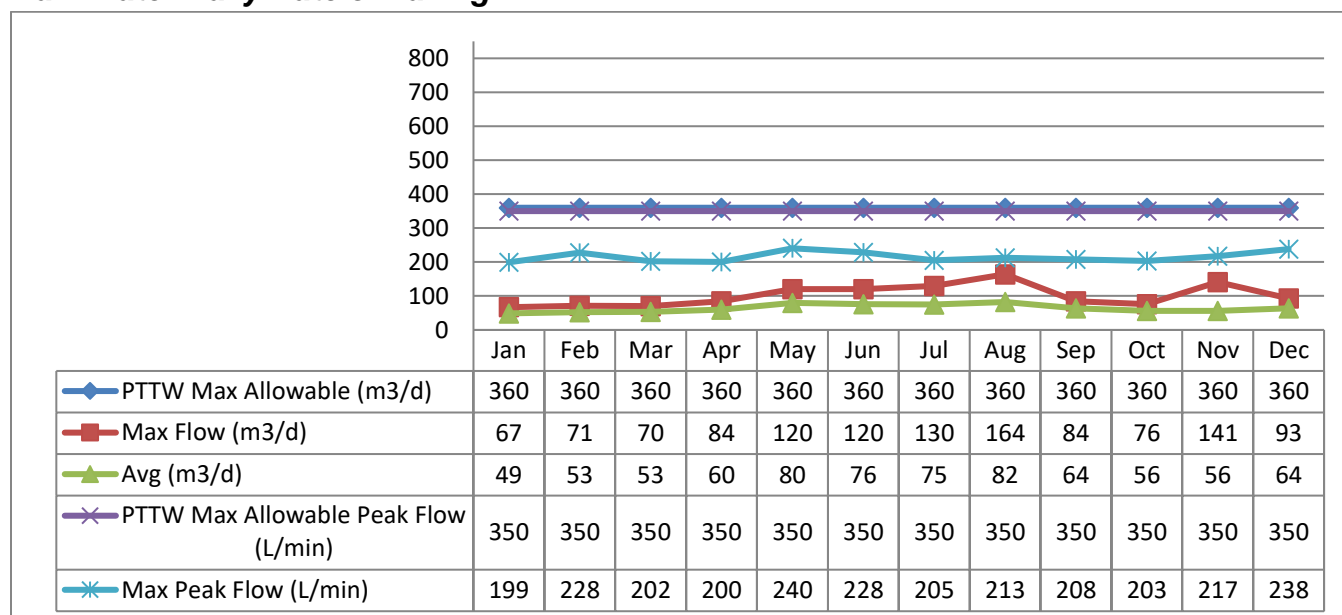
Legislation	Requirement(s) system failed to meet	Duration of the failure(i.e. date(s))	Corrective Action	Status
There were no non-compliance issues reported during the reporting period.				

Flows

The Elgeti & Crystal Springs Drinking Water System has a rated capacity of 540 m³/day. Additional flow data can be found under the Water Taking and Transfer Data.

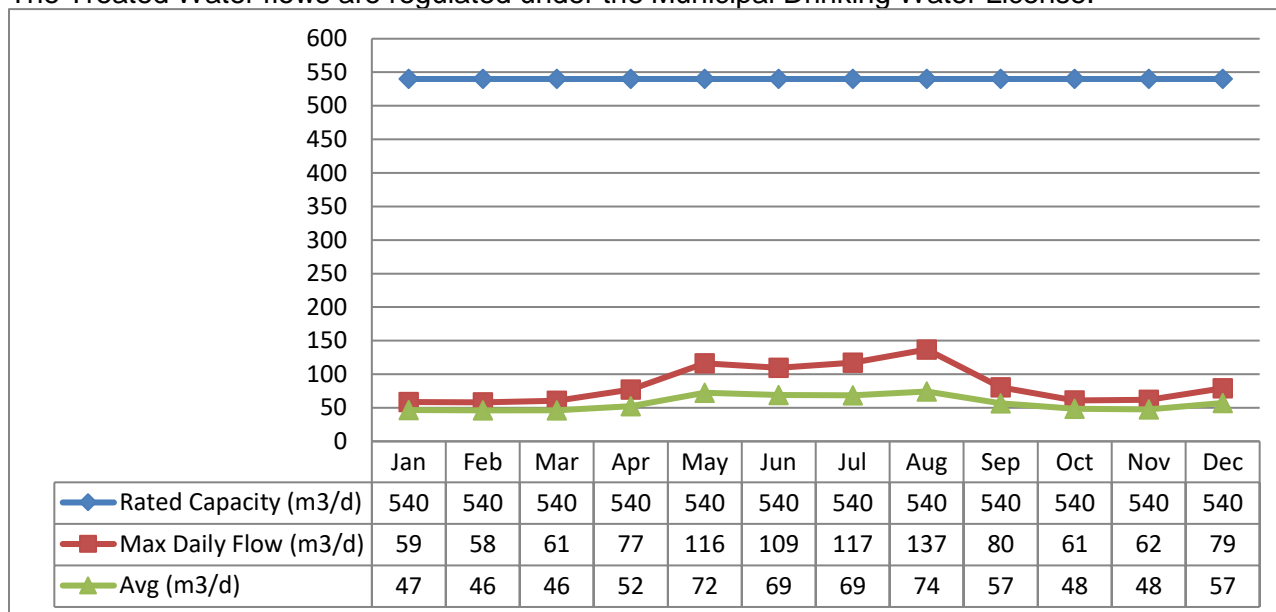
Raw Water Flows

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

Raw Water Volume Taken: RW1**Raw Water Daily Rate of Taking: RW2**

Treated Water Flows – TW

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



Regulatory Sample Results Summary

- RW1 = Raw Water Well 1
- RW2 = Raw Water Well 2
- TW = Treated Water
- DW = Distribution Water
- N/A = Not Applicable

Microbiological Testing

Location	Number of Samples	E. Coli Results (min) - (max)	Total Coliform Results (min) - (max)	Number of HPC Samples	HPC Results (min) – (max)
RW1	53	0 – 0	0 – 22	N/A	N/A
RW2	53	0 – 0	0 – 2	N/A	N/A
TW	53	0 – 0	0 – 0	53	0 – 13
DW	159	0 – 0	0 – 0	159	0 – 9

Operational Testing

Parameter	Range of Results (min # - max #)
Turbidity, Raw Well #1	0.31 – 1.08 NTU*
Turbidity, Raw Well #2	0.14 – 0.86 NTU*
Turbidity, Treated	0.00 – 1.03 mg/L*
Free Chlorine, Treated	0.25 – 5.02 mg/L
Total Chlorine, Treated	1.10 – 3.44 mg/L
Free Chlorine, Distribution	0.00 – 4.98 mg/L

Fluoride (If the DWS provides fluoridation)	N/A
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* 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.

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 next lead samples will be taken in 2025.

Location	Date	Lead (ug/L)	pH	Alkalinity (mg/L) as CaCO ₃
Limits/Ranges		10.0	6.5-8.5	30-500
Stewart Hall	Feb. 01, 2024	N/A	7.33	253
Crystal Dr.	Jun. 17, 2024	N/A	7.63	268
Wallace Point Rd.	Feb. 01, 2024	N/A	7.83	250
Wallace Point Rd.	Jun. 17, 2024	N/A	7.50	273

Inorganic Parameters

- MAC = Maximum Allowable Concentration as per O. Reg. 169/03
- MDL = Method the laboratory detection level
- 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) - TW	2024/03/11	<MDL 0.6	6.0	No	No
Arsenic: As (ug/L) - TW	2024/03/11	<MDL 0.2	25.0	No	No
Barium: Ba (ug/L) - TW	2024/03/11	221	1000.0	No	No
Boron: B (ug/L) - TW	2024/03/11	19	5000.0	No	No
Cadmium: Cd (ug/L) - TW	2024/03/11	0.003	5.0	No	No
Chromium: Cr (ug/L) - TW	2024/03/11	0.15	50.0	No	No
Mercury: Hg (ug/L) - TW	2024/03/11	<MDL 0.01	1.0	No	No
Selenium: Se (ug/L) - TW	2024/03/11	0.31	50.0	No	No
Uranium: U (ug/L) - TW	2024/03/11	2.34	20.0	No	No
Additional Inorganics					
Nitrite (mg/L) - TW	2024/01/01	<MDL 0.003	1.0	No	No
Nitrite (mg/L) - TW	2024/04/02	<MDL 0.003	1.0	No	No
Nitrite (mg/L) - TW	2024/07/02	<MDL 0.003	1.0	No	No
Nitrite (mg/L) - TW	2024/10/07	<MDL 0.003	1.0	No	No
Nitrate (mg/L) - TW	2024/01/01	4.37	10.0	No	No
Nitrate (mg/L) - TW	2024/04/02	4.31	10.0	No	No
Nitrate (mg/L) - TW	2024/07/02	4.42	10.0	No	No

Nitrate (mg/L) - TW	2024/10/07	4.58	10.0	No	No
60 Month Sampling					
Sodium (mg/L) - TW	2023/08/31	18.0	20.0*	No	Yes
Fluoride (mg/L) - TW	2023/07/10	0.06	0.08	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 the laboratory detection level

Parameter	Sample Date	Result Value	MAC	Exceedance	
				MAC	½ MAC
Alachlor (ug/L) - TW	2024/03/11	<MDL 0.02	5.00	No	No
Atrazine + N-dealkylated metabolites (ug/L) - TW	2024/03/11	<MDL 0.01	5.00	No	No
Azinphos-methyl (ug/L) - TW	2024/03/11	<MDL 0.05	20.00	No	No
Benzene (ug/L) - TW	2024/03/11	<MDL 0.32	1.00	No	No
Benzo(a)pyrene (ug/L) - TW	2024/03/11	<MDL 0.004	0.01	No	No
Bromoxynil (ug/L) - TW	2024/03/11	<MDL 0.33	5.00	No	No
Carbaryl (ug/L) - TW	2024/03/11	<MDL 0.05	90.00	No	No
Carbofuran (ug/L) - TW	2024/03/11	<MDL 0.01	90.00	No	No
Carbon Tetrachloride (ug/L) - TW	2024/03/11	<MDL 0.17	2.00	No	No
Chlorpyrifos (ug/L) - TW	2024/03/11	<MDL 0.02	90.00	No	No
Diazinon (ug/L) - TW	2024/03/11	<MDL 0.02	20.00	No	No
Dicamba (ug/L) - TW	2024/03/11	<MDL 0.2	120.00	No	No
1,2-Dichlorobenzene (ug/L) - TW	2024/03/11	<MDL 0.41	200.00	No	No
1,4-Dichlorobenzene (ug/L) - TW	2024/03/11	<MDL 0.36	5.00	No	No
1,2-Dichloroethane (ug/L) - TW	2024/03/11	<MDL 0.35	5.00	No	No
1,1-Dichloroethylene (ug/L) - TW	2024/03/11	<MDL 0.33	14.00	No	No
Dichloromethane (Methylene Chloride) (ug/L) - TW	2024/03/11	<MDL 0.35	50.00	No	No
2,4-Dichlorophenol (ug/L) - TW	2024/03/11	<MDL 0.15	900.00	No	No
2,4-Dichlorophenoxy acetic acid (2,4-D) (ug/L) - TW	2024/03/11	<MDL 0.19	100.00	No	No
Diclofop-methyl (ug/L) - TW	2024/03/11	<MDL 0.4	9.00	No	No
Dimethoate (ug/L) - TW	2024/03/11	<MDL 0.06	20.00	No	No
Diquat (ug/L) - TW	2024/03/11	<MDL 1.0	70.00	No	No
Diuron (ug/L) - TW	2024/03/11	<MDL 0.03	150.00	No	No
Glyphosate (ug/L) - TW	2024/03/11	<MDL 1.0	280.00	No	No
Malathion (ug/L) - TW	2024/03/11	<MDL 0.02	190.00	No	No
Metolachlor (ug/L) - TW	2024/03/11	<MDL 0.01	50.00	No	No
Metribuzin (ug/L) - TW	2024/03/11	<MDL 0.02	80.00	No	No

Monochlorobenzene (Chlorobenzene) (ug/L) - TW	2024/03/11	<MDL 0.3	80.00	No	No
Paraquat (ug/L) - TW	2024/03/11	<MDL 1.0	10.00	No	No
PCB (ug/L) - TW	2024/03/11	<MDL 0.04	3.00	No	No
Pentachlorophenol (ug/L) - TW	2024/03/11	<MDL 0.15	60.00	No	No
Phorate (ug/L) - TW	2024/03/11	<MDL 0.01	2.00	No	No
Picloram (ug/L) - TW	2024/03/11	<MDL 1.0	190.00	No	No
Prometryne (ug/L) - TW	2024/03/11	<MDL 0.03	1.00	No	No
Simazine (ug/L) - TW	2024/03/11	<MDL 0.01	10.00	No	No
Terbufos (ug/L) - TW	2024/03/11	<MDL 0.01	1.00	No	No
Tetrachloroethylene (ug/L) - TW	2024/03/11	<MDL 0.35	10.00	No	No
2,3,4,6-Tetrachlorophenol (ug/L) - TW	2024/03/11	<MDL 0.2	100.00	No	No
Triallate (ug/L) - TW	2024/03/11	<MDL 0.01	230.00	No	No
Trichloroethylene (ug/L) - TW	2024/03/11	<MDL 0.44	5.00	No	No
2,4,6-Trichlorophenol (ug/L) - TW	2024/03/11	<MDL 0.25	5.00	No	No
2-methyl-4-chlorophenoxyacetic acid (MCPA) (ug/L) - TW	2024/03/11	<MDL 0.12	100.00	No	No
Trifluralin (ug/L) - TW	2024/03/11	<MDL 0.02	45.00	No	No
Vinyl Chloride (ug/L) - TW	2024/03/11	<MDL 0.17	1.00	No	No
DISTRIBUTION WATER					
Trihalomethane: Total (ug/L) Annual Average - DW	2024	14.75	100.00	No	No
HAA Total (ug/L) Annual Average - DW	2024	5.3	80.00	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 Township of Otonabee-South Monaghan in the form of a "Capital Forecast". This list is developed by facility staff and provides recommendations for facility components requiring upgrading or improvement.

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

WO Number	Description
3764279	UV Parts Purchase 2024
4002005	Interior Lighting, Upgrade
4281302	Elgeti Springs Distribution System, Curb Stop Replacement

QEMS

A Surveillance System audit was conducted by SAI Global on May 16, 2024. The Corporation of the Township of Otonabee-South Monaghan Quality Management System conforms to the Standard.

Water Taking and Transfer Data

Data for the reporting period of January 1, 2024 – December 31, 2024 was submitted electronically to the Ministry of the Environment, Conservation and Parks on February 27, 2025 under Permit to Take Water No. 8142-ABTRNG.