

# Town of Prescott Drinking Water System

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Waterworks # 220001245  
System Category – Large Municipal Residential

## Annual Water Report

Prepared For: Town of Prescott

Reporting Period of January 1<sup>st</sup> – December 31<sup>st</sup> 2023

Issued: February 26, 2024

Revision: 0

Operating Authority:



This report has been prepared to satisfy the annual reporting requirements in O.Reg 170/03 Section 11 and Schedule 22

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## Revision History

Date	Revision #	Revision Notes
February 26, 2024	0	Annual report issued

## Report Availability

This system does not serve more than 10,000 residence and the annual reports will be available to residents at the Town Hall located at 360 Dibble Street West, Prescott, Ontario, as well as on the Town website. ([www.prescott.ca](http://www.prescott.ca)) Copies are provided free of charge if requested.

## Compliance Report Card

Compliance Event	# of Events
Ministry of Environment Inspections	<ul style="list-style-type: none"> <li>- 1 Ministry Inspection on February 8<sup>th</sup>, 2023               <ul style="list-style-type: none"> <li>o Final Inspection Rating: 95.98%</li> <li>o Loss of distribution chlorine trending                   <ul style="list-style-type: none"> <li>▪ Communication alarm installed, along with new UPS and SD card on analyzer to log data when communication lost</li> </ul> </li> </ul> </li> </ul>
Ministry of Labour Inspections	<ul style="list-style-type: none"> <li>- No Ministry of Labour inspections in 2023</li> </ul>
QEMS External Audit	<ul style="list-style-type: none"> <li>- 1 QEMS Audit on August 11<sup>th</sup>, 2023               <ul style="list-style-type: none"> <li>o 2 OFI's that have been addressed</li> <li>o 1 Minor Non-Conformance that has been addressed</li> </ul> </li> </ul>
AWQI's/BWA	<ul style="list-style-type: none"> <li>- 1 AWQI in 2023 referenced in Summary of Non-Compliance</li> </ul>
Non-Compliance	<ul style="list-style-type: none"> <li>- 1 Non-Compliance in 2023               <ul style="list-style-type: none"> <li>o Details outlined in Non Compliance section</li> </ul> </li> </ul>
Community Complaints	<ul style="list-style-type: none"> <li>- 3 community complaints referenced in report</li> </ul>
Spills	<ul style="list-style-type: none"> <li>- No spills in 2023</li> </ul>
Watermain Breaks	<ul style="list-style-type: none"> <li>- No watermain breaks repaired in 2023</li> </ul>

## System Process Description

### Raw Source

Water is drawn from the St. Lawrence River into the plant via a 600 mm diameter steel intake pipe equipped with a sodium hypochlorite feed system for zebra mussel control. Raw water passes through a travelling screen unit located in the low lift building. The unit consists of wire mesh screens on a rotating belt. From there it is pumped to the plant for treatment.

### Treatment

Once water enters the plant, an aluminum based coagulant is added and flash mixed. The water then travels to flocculation tanks where the coagulant is allowed time to attract fine particles from the water. From there, the water passes through one of three dual media rapid sand filters. Sodium hypochlorite and hydrofluosilicic acid are added as water enters the clearwell. To maximize contact time, the treated water is diverted to two baffled reservoirs, each with a capacity of 800 m<sup>3</sup>. Four vertical turbine pumps are available for supplying the distribution demand as needed.

#### Treatment Chemicals used during the reporting year:

Chemical Name	Use	Supplier
Aluminum Sulphate	Coagulant	Kemira
Hydrofluosilicic Acid	Fluoridation	Brenntag
Sodium Hypochlorite	Disinfection	LAVO

### Distribution

Watermains in the distribution system are composed of PVC, cast iron and ductile iron. An elevated storage tank is located on Wood Street and has a storage capacity of 2,272 m<sup>3</sup>. The storage facility provides for peak hour demands and fire flows.

## Summary of Non-Compliance

### Adverse Water Quality Incidents

Date	AWQI #	Location	Problem	Details	Legislation	Corrective Action Taken
07/15/23	162598	Filter 3 Turbidity Controller Signal Fail	Trending loss	Loss of trending from July 13 @ 1146 to July 15 @ 1440	Reg 170	Turbidity controller replaced with an upgraded controller. Internal memory card on new controller to log data when communication is lost.

### Non-Compliance

Legislation	requirement(s) system failed to meet	duration of the failure (i.e. date(s))	Corrective Action	Status
Reg 170	Continuous monitoring of filter effluent turbidity	*Refer to AWQI above	*Refer to AWQI above	Completed

**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
Reg 170	Continuous monitoring of distribution chlorine residual	March 1, 2022 @ 13:40 to March 3, 2022 @ 08:50	New UPS installed. New communication alarm installed. SD card installed in analyzer for back up data when communication is down.	Completed

\* Non-compliance identified in MECP Inspection report from February 8<sup>th</sup>, 2023

**Community Complaints**

Date	Location	Details of Complaint	Corrective Action Taken
03/09/23	131 Victor Rd	Discoloured water	Just moved in, also only noticing pink discoloration in washroom (could be caused by bacteria in bathroom)
03/20/23	186 Wood St East	Feels sick (wondering if it could be the water making him sick)	No evidence of water causing illness (isolated complaint). Offered OCWA services for sampling, and Caduceon Labs.
09/13/23	356 James St East	Slimy water in sink and dog bowl	Internal plumbing issue, not related to distribution system.

\*Community complaints were received by the Town Staff

**Flows**

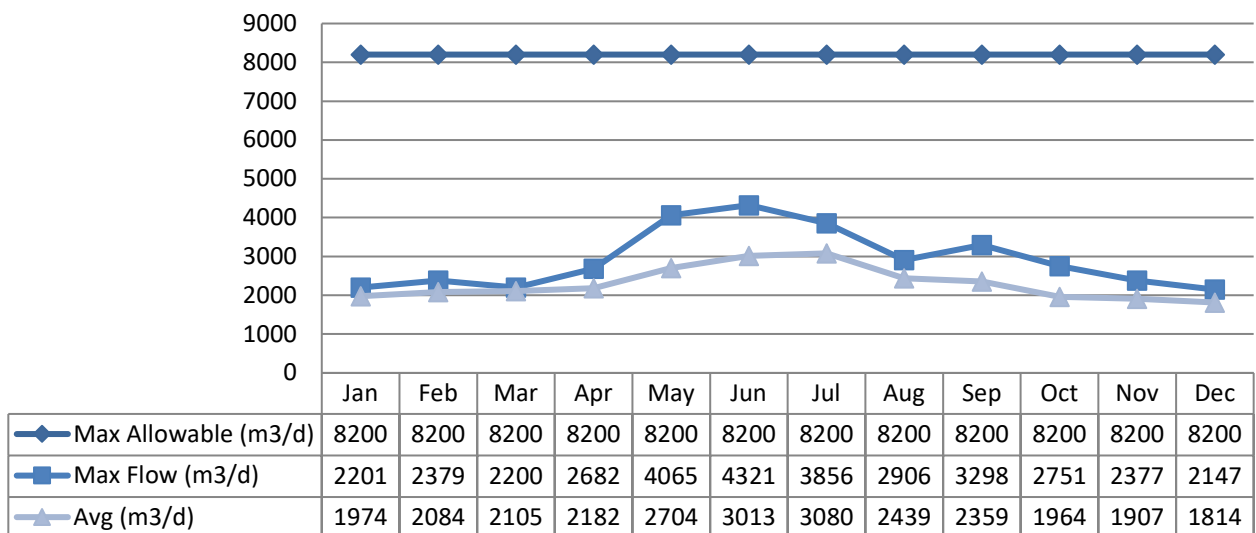
Prescott’s drinking water system is operating on average under half the rated capacity.

**Raw Water Flows**

The Raw Water flows are regulated under the Permit to Take Water. 2023 Raw Flow Data was submitted to the Ministry electronically under permit #5506-9RMLKE. The confirmation and a copy of the data that was submitted are attached in Appendix A.

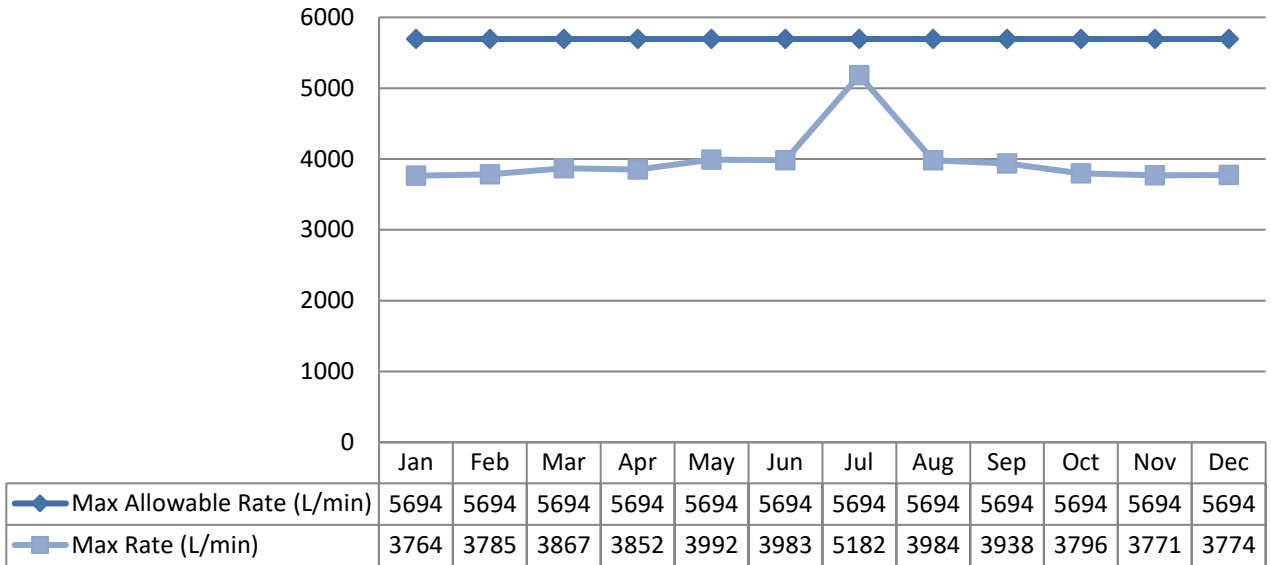
**Total Monthly Flows (m3/d)**

Max Allowable PTTW



Monthly Rated Flows (L/min)

Max allowable rate - PTTW

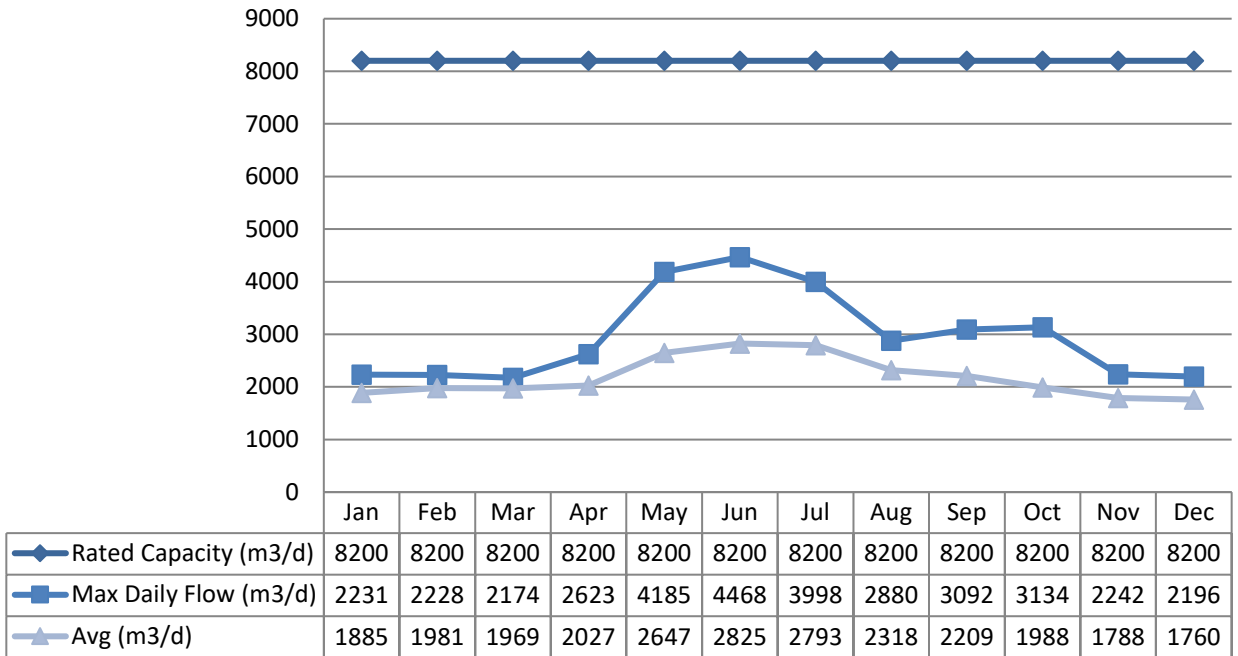


Treated Water Flows

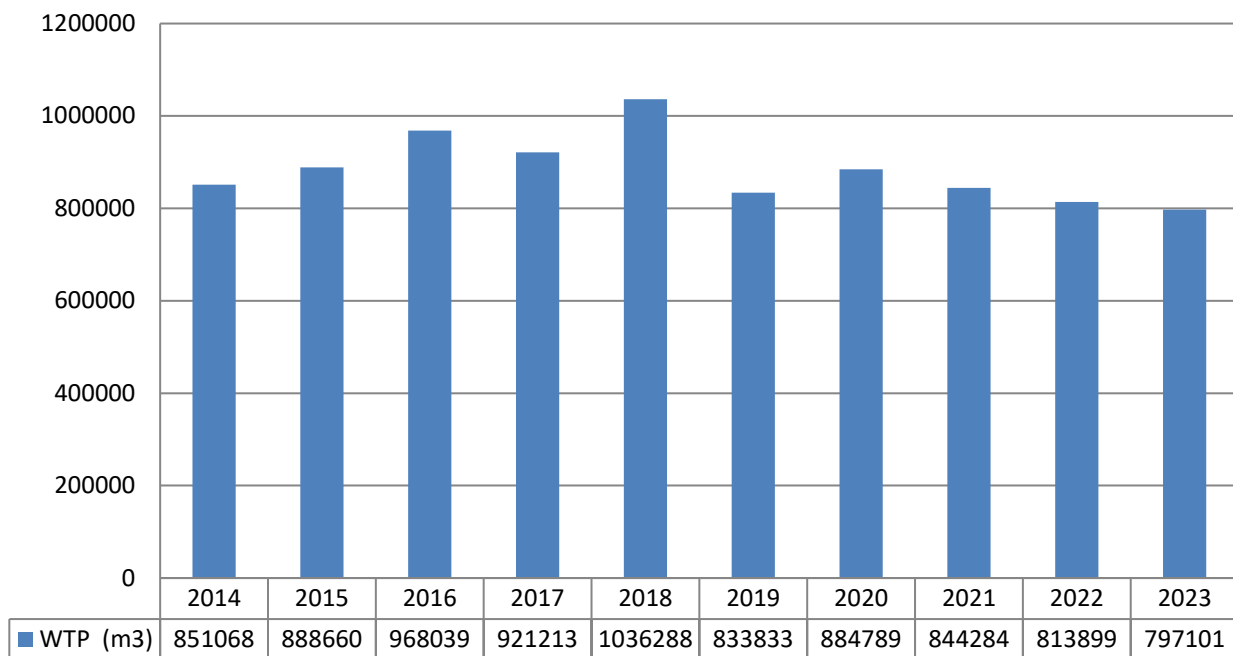
The Treated Water flows are regulated under the Municipal Licence.

Monthly Rated Flows

Rated Capacity - MDWL



Annual Total Flow Comparison



## Regulatory Sample Results Summary

### Microbiological Testing

	No. of Samples Collected	Range of E.Coli Results		Range of Total Coliform Results		Range of HPC Results	
		Min	Max	Min	Max	Min	Max
Raw Water	52	0	19	0	147		
Treated Water	52	0	0	0	0	10	130
Distribution Water	208	0	0	0	0	10	450

### Operational Testing

	No. of Samples Collected	Range of Results		
		Minimum	Average	Maximum
Turbidity, On-line (NTU) - RW	8760	N/A	0.89	9.00
Turbidity, On-Line (NTU) - TW	8760	N/A	0.07	2.30
Turbidity, On-Line (NTU) - Filt1	8760	N/A	0.06	0.47
Turbidity, On-Line (NTU) - Filt2	8760	N/A	0.03	0.35
Turbidity, On-Line (NTU) - Filt3	8760	N/A	0.09	0.19
Free Chlorine Residual, On-Line (mg/L) - TW	8760	0.79	1.65	2.19
Free Chlorine Residual, On-Line (mg/L) - DW	8760	0.53	1.41	2.42
Free Chlorine Residual, DW Field (mg/L)	208	0.30	N/A	1.98
Fluoride, On-line (mg/L)	8760	0.00	0.60	1.19

NOTE: spikes recorded by on-line instrumentation were a result of air bubbles and various maintenance/calibration activities. All spikes are reviewed for compliance with O.Reg 170/03

## Inorganic Parameters

These parameters are tested as a requirement under 170/03. Sodium and Fluoride are required to be tested every 5 years. Nitrate and Nitrite are tested quarterly and the metals are tested annually as required under 170/03. In the event any of the parameters exceed half of the maximum allowable concentration the parameter is required to be sampled quarterly.

- MAC = Maximum Allowable Concentration as per O.Reg 169/03
- BDL = Below the laboratory detection level

	Sample Date (yyyy/mm/dd)	Sample Result	MAC	No. of Exceedances	
				MAC	1/2 MAC
<b>Treated Water</b>					
Antimony: Sb (ug/L) - TW	2023/01/09	0.2	6.0	No	No
Arsenic: As (ug/L) - TW	2023/01/09	0.3	10.0	No	No
Barium: Ba (ug/L) - TW	2023/01/09	21.0	1000.0	No	No
Boron: B (ug/L) - TW	2023/01/09	15.0	5000.0	No	No
Cadmium: Cd (ug/L) - TW	2023/01/09	<BDL 0.01	5.0	No	No
Chromium: Cr (ug/L) - TW	2023/01/09	<BDL 2.0	50.0	No	No
Mercury: Hg (ug/L) - TW	2023/01/09	<BDL 0.02	1.0	No	No
Selenium: Se (ug/L) - TW	2023/01/09	<BDL 1.0	50.0	No	No
Uranium: U (ug/L) - TW	2023/01/09	0.2	20.0	No	No
<b>Additional Inorganics</b>					
Fluoride (mg/L) - TW	2019/01/14	0.4	1.5	No	No
Nitrite (mg/L) - TW	2023/01/03	<BDL 0.1	1.0	No	No
Nitrite (mg/L) - TW	2023/04/03	<BDL 0.05	1.0	No	No
Nitrite (mg/L) - TW	2023/07/05	<BDL 0.05	1.0	No	No
Nitrite (mg/L) - TW	2023/10/03	<BDL 0.05	1.0	No	No
Nitrate (mg/L) - TW	2023/01/03	0.3	10.0	No	No
Nitrate (mg/L) - TW	2023/04/03	0.32	10.0	No	No
Nitrate (mg/L) - TW	2023/07/05	0.22	10.0	No	No
Nitrate (mg/L) - TW	2023/10/03	0.14	10.0	No	No
Sodium: Na (mg/L) - TW	2019/01/14	15.9	20*	N/A	N/A

\*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 mg/L 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.

### Schedule 15 Sampling:

The Schedule 15 Sampling is required under O.Reg 170/03. This system is under reduced sampling.

Distribution System	Number of Sampling Points	Number of Samples	Range of Results		MAC (ug/L)	Number of Exceedances
			Minimum	Maximum		
Alkalinity (mg/L)	6	6	95	108	N/A	N/A
pH	6	6	7.10	8.10	N/A	N/A
Lead (ug/l)	4	4	0.05	0.15	10	0



## Organic Parameters

These parameters are tested annually as a requirement under O.Reg 170/03. In the event any of the parameters exceed half of the maximum allowable concentration the parameter is required to be sampled quarterly.

	Sample Date (yyyy/mm/dd)	Sample Result	MAC	Number of Exceedances	
				MAC	1/2 MAC
<b>Treated Water</b>					
Alachlor (ug/L) - TW	2023/01/16	<BDL 0.3	5.0	No	No
Atrazine + N-dealkylated metabolites (ug/L) - TW	2022/01/04	<BDL 0.5	5.0	No	No
Azinphos-methyl (ug/L) - TW	2023/01/16	<BDL 1.0	20.0	No	No
Benzene (ug/L) - TW	2023/01/09	<BDL 0.5	1.0	No	No
Benzo(a)pyrene (ug/L) - TW	2023/01/16	<BDL 0.006	0.01	No	Yes
Bromoxynil (ug/L) - TW	2023/01/16	<BDL 0.5	5.0	No	No
Carbaryl (ug/L) - TW	2023/01/16	<BDL 3.0	90.0	No	No
Carbofuran (ug/L) - TW	2023/01/16	<BDL 1.0	90.0	No	No
Carbon Tetrachloride (ug/L) - TW	2023/01/09	<BDL 0.2	2.0	No	No
Chlorpyrifos (ug/L) - TW	2023/01/16	<BDL 0.5	90.0	No	No
Diazinon (ug/L) - TW	2023/01/16	<BDL 1.0	20.0	No	No
Dicamba (ug/L) - TW	2023/01/09	<BDL 1.0	120.0	No	No
1,2-Dichlorobenzene (ug/L) - TW	2023/01/09	<BDL 0.5	200.0	No	No
1,4-Dichlorobenzene (ug/L) - TW	2023/01/09	<BDL 0.5	5.0	No	No
1,2-Dichloroethane (ug/L) - TW	2023/01/09	<BDL 0.5	5.0	No	No
1,1-Dichloroethylene (ug/L) - TW	2023/01/09	<BDL 0.5	14.0	No	No
Dichloromethane (Methylene Chloride) (ug/L) - TW	2023/01/09	<BDL 5.0	50.0	No	No
2,4-Dichlorophenol (ug/L) - TW	2023/01/16	<BDL 0.2	900.0	No	No
2,4-Dichlorophenoxy acetic acid (2,4-D) (ug/L) - TW	2023/01/09	<BDL 1.0	100.0	No	No
Diclofop-methyl (ug/L) - TW	2023/01/16	<BDL 0.9	9.0	No	No
Dimethoate (ug/L) - TW	2023/01/16	<BDL 1.0	20.0	No	No
Diquat (ug/L) - TW	2023/01/09	<BDL 5.0	70.0	No	No
Diuron (ug/L) - TW	2023/01/16	<BDL 5.0	150.0	No	No
Glyphosate (ug/L) - TW	2023/01/09	<BDL 25.0	280.0	No	No
Malathion (ug/L) - TW	2023/01/16	<BDL 5.0	190.0	No	No
2-Methyl-4chlorophenoxyacetic Acid (MCPA)	2023/01/09	<BDL 10	100.0	No	No
Metolachlor (ug/L) - TW	2023/01/16	<BDL 3.0	50.0	No	No
Metribuzin (ug/L) - TW	2023/01/16	<BDL 3.0	80.0	No	No
Monochlorobenzene (Chlorobenzene) (ug/L) - TW	2023/01/09	<BDL 0.5	80.0	No	No
Paraquat (ug/L) - TW	2023/01/09	<BDL 1.0	10.0	No	No
PCB (ug/L) - TW	2023/01/09	<BDL 0.05	3.0	No	No
Pentachlorophenol (ug/L) - TW	2023/01/16	<BDL 0.2	60.0	No	No
Phorate (ug/L) - TW	2023/01/16	<BDL 0.3	2.0	No	No
Picloram (ug/L) - TW	2023/01/09	<BDL 5.0	190.0	No	No

	Sample Date (yyyy/mm/dd)	Sample Result	MAC	Number of Exceedances	
				MAC	1/2 MAC
Prometryne (ug/L) - TW	2023/01/16	<BDL 0.1	1.0	No	No
Simazine (ug/L) - TW	2023/01/16	<BDL 0.5	10.0	No	No
Terbufos (ug/L) - TW	2023/01/16	<BDL 0.5	1.0	No	No
Tetrachloroethylene (ug/L) - TW	2023/01/09	<BDL 0.5	10.0	No	No
2,3,4,6-Tetrachlorophenol (ug/L) - TW	2023/01/16	<BDL 0.2	100.0	No	No
Triallate (ug/L) - TW	2023/01/16	<BDL 10.0	230.0	No	No
Trichloroethylene (ug/L) - TW	2023/01/09	<BDL 0.5	5.0	No	No
2,4,6-Trichlorophenol (ug/L) - TW	2023/01/16	<BDL 0.2	5.0	No	No
Trifluralin (ug/L) - TW	2023/01/16	<BDL 0.5	45.0	No	No
Vinyl Chloride (ug/L) - TW	2023/01/09	<BDL 0.2	1.0	No	No
	Sample Year	RAA	MAC	No. of Exceedances	
Distribution Water		(ug/L)	(ug/L)	MAC	½ MAC
Trihalomethane: Total (ug/L) Annual Average - DW	2023	33.75	100	No	No
Haloacetic Acid (HAA): Total (ug/L) Annual Average - DW	2023	18.1	80	No	No

MAC = Maximum Allowable Concentration as per O.Reg 169/03

BDL = Below the laboratory detection level

RAA = Running Annual Average

### Additional Legislated Samples

Document	Parameter	Limit (mg/L)	Result (mg/L)
MDWL # 161-101	Filter Backwash Supernatant Suspended Solids	Annual Average < 25	4.3

### Major Maintenance Summary



WO #	Description
3203224	Backwash tank cleaned and inspected
3203227	Filter media anthracite replacement filter #2
3203237	Raw water chamber cleaned
3203389	Lowlift pump #4 Rebuild
3203391	Intake crib and chlorine diffuser inspected and cleaned
3203396	Replace 14" discharge valve
3338421	Filter #1 drain valve and influent valve actuator replaced
3432914	High lift #2 CLA-VAL rebuild
3434928	High lift #1 packing gland repair
3568817	Filter #2 FCV 202 valve and actuator replaced
3661503	High lift #3 repair
3482505	3 Turbidity controllers with backup memory capabilities
3665930	Pressure relief rebuilt

**Distribution Maintenance**

Date	Location Reference	Category	Details	Corrective Repair
No watermains repaired in 2023				

# Appendix A

## WTRS Data and Submission Confirmation



Ministry of the Environment,  
Conservation and Parks

| [WT DATA](#) | [USER PROFILE](#) | [CONTACT US](#) | [HELP](#) | [HOME](#) | [LOGOUT](#) |

Location: [WTRS](#) / [WT DATA](#) / [Input WT Record](#) WTRS-WT-008

**Water Taking Data submitted successfully.**

**Confirmation:**


Thank you for submitting your water taking data online.

Permit Number: 5506-9RMLKE  
Permit Holder: THE CORPORATION OF THE SEPARATED TOWN OF PRESCOTT.  
Received on: Jan 22, 2024 1:54 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.

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ONTARIO CLEAN WATER AGENCY | 2024/01/22  
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