

Echo Bay Water Treatment

Large Municipal Residential Drinking Water System

January 1, 2022 – December 31, 2022

*Reg 170/03 Schedule 22 Summary Report
Reg 170/03 Section 11 Annual Report
&
Reg 387/04 Annual Record of Water Taking*

Prepared by the Ontario Clean Water Agency
For The Corporation of the Township of Macdonald, Meredith and Aberdeen Additional



Ontario Clean Water Agency
Agence Ontarienne Des Eaux



Drinking-Water System Number: 220009121
Drinking-Water System Name: Echo Bay Drinking Water System
Drinking-Water System Owner: The Corp. of the Township of Macdonald, Meredith and Aberdeen Additional
Drinking-Water System Category: Large Municipal Residential

SECTION 1: INTRODUCTION

This document is prepared in accordance with Section 11 and Schedule 22 of O.Reg.170/03 under the Safe Drinking Water Act and with Section 9 of O.Reg.387/04 under the Ontario Water Resources Act. The reports are prepared by the Ontario Clean Water Agency. Acronyms and definitions can be found at the end of the report.

A copy of the Summary Report must be provided to the members of the municipal council by March 31, [2023](#).

SECTION 2: REQUIREMENTS OF THE REPORTS

Schedule 22 Report

The report must list the requirements of the Act, the regulations, the system's approval and any order that the system **failed to meet** at any time during the period covered by the report. It must also specify the duration of the failure, and for each failure referred to, describe the measures that were taken to correct the failure.

For the purpose of enabling the owner of the system to assess the rated capability of their system to meet existing and future planned water uses, the following information is required to be included in this report:

- A summary of the quantities and flow rates of the water supplied during the period covered by the report, including monthly average and maximum daily flows.
- A comparison of the summary to the rated capacity and flow rates approved in the systems approval.

Section 11 Report

The annual report must contain the following:

- A brief description of the drinking water system and a list of chemicals used by the system.
- A description of any major expenses incurred during the period covered by the report to install, repair or replace required equipment.
- A summary of all adverse water quality incidents (AWQI) reported to the Ministry
- A summary of corrective actions taken in response all AWQIs
- A summary of all test results required under the regulation, under an approval, municipal drinking water licence or order, including an OWRA order.
- A statement of where a Schedule 22 report will be available for inspection.

The report must be prepared not later than February 28 of the following year.

Regulation 387 Report

On or before March 31 in every year, every holder of a permit to take water (PTTW) shall submit to a Director the data collected and recorded for the previous year.

A record of annual water taking can be found in [Appendix A](#).



SECTION 3: SCHEDULE 22 REPORT

Flows - Treated

In accordance with the Municipal Drinking Water License (MDWL), the Echo Bay WTP shall not be operated to exceed a maximum flow of 1,416 m³/d to the distribution system.

The daily treated water maximum flow was 332.8 m³ in April and represents 24% of capacity. In 2022, the total volume of water sent to the distribution system was 56,608.5 m³

The quantity of treated water supplied during the reporting period **did not** exceed the rated maximum capacity.

Flows - Raw

Daily raw maximum instantaneous flow is stated in the PTTW at a maximum rate of flow of 16.4 L/s and a maximum daily volume of 1,418 m³/d.

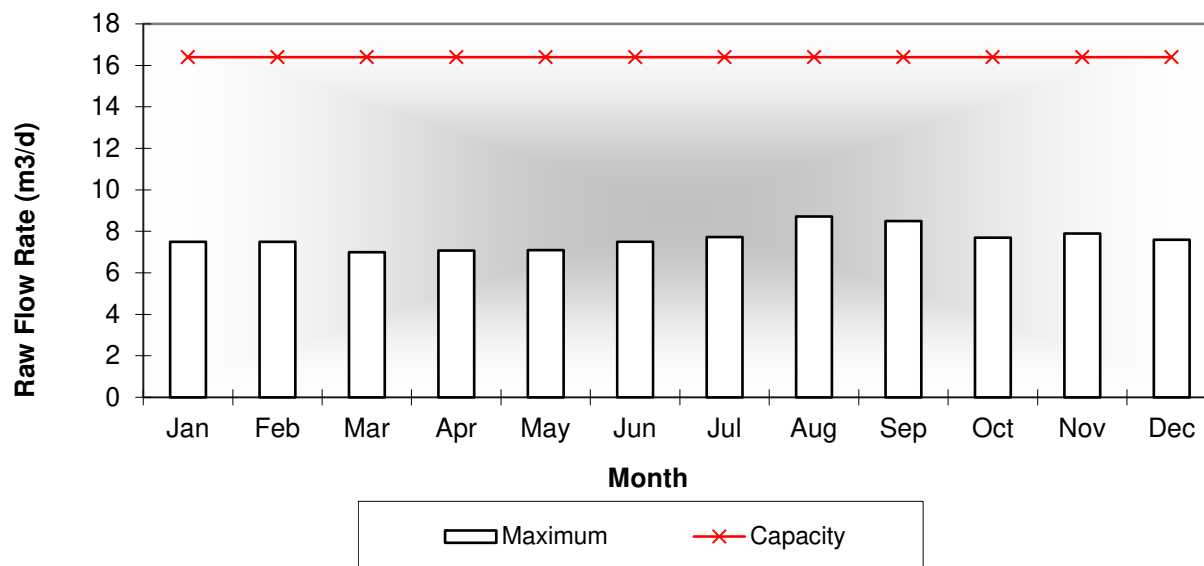
The average monthly raw water flow for this reporting period was 208.8 m³/d. The maximum daily flow was 519 m³/d representing 37% of water taking limits. In 2022, the total volume of water taken from the environment was 76,210.4m³

The quantity of raw water taken **did not** exceed any limits stipulated within the PTTW.

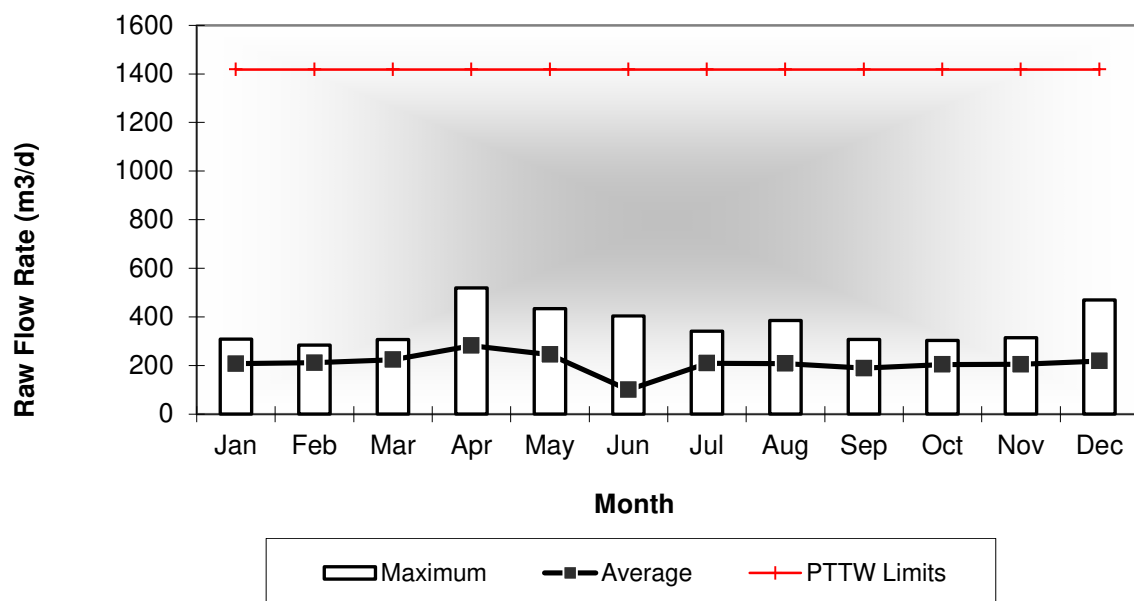
RAW WATER FLOW DATA - TOTAL ALL SOURCES						
Month	Total Monthly Flow (m³)	Average Flow (m³/d)	Maximum Flow (m³/d)	Maximum Flow Rate (L/s)	Limits	
					L/s (PTTW)	m³/d (PTTW)
January	6,431.1	207.45	308.3	7.5	16.4	1,418
February	5,922	211.5	283.7	7.5	16.4	1,418
March	6,942.9	223.96	306.6	7	16.4	1,418
April	8,452.7	281.76	519	7.08	16.4	1,418
May	7,599.8	245.15	433.7	7.1	16.4	1,418
June	3,007.2	100.24	403.8	7.5	16.4	1,418
July	6,489	209.32	340.9	7.73	16.4	1,418
August	6,450.2	208.07	385	8.72	16.4	1,418
September	5,669.8	188.99	307	8.5	16.4	1,418
October	6,318.6	203.83	302.9	7.7	16.4	1,418
November	6,150	205	314.1	7.9	16.4	1,418
December	6,777.1	218.62	469.5	7.6	16.4	1,418
Total	76,210.4					
Average		208.8				
Maximum			519	8.72	16.4	1,418



Echo Bay WTP Raw Flow Rates



Echo Bay WTP Raw Flow Data





Annual Raw Water Review

Raw Water Taking	Total Taking m ³ / d	Average Day m ³ / d	Max Day m ³ / d	Max Day % of PTIW allowable 1,418 m ³ / d
2022	76,210	208.8	519	37%
2021	69,277.6	189.8	368.3	26%
2020	66,228.1	180.95	474.9	33.5%
2019	63,695.2	174.51	370	26.1%
2018	62,687.6	171.75	394.4	27.8%

System Failures and Corrective Actions

The latest inspection of the drinking water facility took place on [September 29, 2022](#). The facility scored [0/493](#) providing a rating of [100%](#).

The following incidents occurred in 2022:

An incident occurred at the Echo Bay WTP whereas the UPS failed and caused the facility to stop producing water on Dec 23, 2022. The facility operator started the WTP in hand on Dec 26 to begin producing water; no analyzers were working. During the time water was being made, monitoring for chlorine was done manually, although, not at the prescribed 5 minute intervals. Turbidity and chlorine were both monitored every 15 minutes. Operators began filling the tower at ~1030 hours and started pulling raw water into the clearwell at ~1140 hours and the facility was turned off at ~1600 hours. I have included the turbidity and chlorine residuals taken during the time the facility was making water.

On June 9, Algoma Steel in Sault Ste Marie had an oil spill discharging into the St Mary's River. The spill made its way towards Lake George which is where the Echo Bay WTP intake is located. As a result, the Echo Bay WTP was shut down and water was being hauled into the clearwells to supply the town. On June 24, the MECP gave permission to begin bringing the Echo Bay WTP back on-line; they also requested 2 sets of bacti samples collected 24hrs apart. Samples were collected and were all non-detect. The facility was returned to regular operations on June 27.

AWQIs reported to the Ministry					
Incident Date	Parameter	Result	Unit of Measure	Corrective Action	Corrective Action Date
30-Jun-22	TC	1	Cfu/100 mL	AWQI#158938 - On June 30, SGS notified there was a TC result of 1 on the water tower DW sample. The tower was resampled and results came back non-detect.	05-Jul-22



SECTION 4: SECTION 11 REPORT

Information to be provided

Population Served	530
Does your Drinking-Water System serve more than 10,000 people?	No
Is your annual report available to the public at no charge on a web site on the Internet?	Yes
Location where Summary Report required under O. Reg. 170/03 Schedule 22 will be available for inspection.	Township of Macdonald, Meredith and Aberdeen Additional, Municipal Office 208 Church St Echo Bay, Ontario P0S 1C0
Number of Designated Facilities served:	0
Did you provide a copy of your annual report to all Designated Facilities you serve?	NA
Number of Interested Authorities you report to:	0
Did you provide a copy of your annual report to all Interested Authorities you report to for each Designated Facility?	NA
List all Drinking-Water Systems (if any), and their DWS Number which receive all of their drinking water from your system:	N/A
Did you provide a copy of your annual report to all Drinking-Water System owners that are connected to you and to whom you provide all of its drinking water?	NA
Indicate how you notified system users that your annual report is available, and is free of charge.	Public access/notice via the web
Indicate if you notified system users that your annual report is available and is free of charge using an alternate method	YES

Facility Description

Raw water drawn from Lake George is processed into potable water by the package water treatment plant through coagulation, flocculation, sedimentation, and filtration. Alum is used to assist the clarification process, chlorination is used for disinfection purposes, and Sodium Hydroxide (Caustic) is used for pH adjustment. The granular activated carbon filters are used primarily as a safeguard against the presence of organics in the supply water, as well as to prevent possible taste and odor problems. The rated capacity of the system is 1,416m³. Water is directed into two clearwells with a total storage volume of 630m³ and four high lift pumps supply water to the Town and the elevated storage tank. A surge tank serves as backwash water storage from the dual media filters and GAC filters. Two submersible pumps convey wastewater from the surge tank to the wastewater clarifier in the attached sewage treatment plant. Stand-by power is available from a 180kW diesel generator.



Chemicals Used

Aluminum Sulphate	Coagulation
Magnafloc LT 20 (Polymer)	Coagulation aide
Sodium Hypochlorite 12%	Disinfection
Sodium Hydroxide	Sodium Hydroxide

Significant Expenses

Significant expenses incurred to

- ☐ Install required equipment
- ☐ Repair required equipment
- ☐ Replace required equipment

There were no significant expenses in 2022.

Adverse Water Quality Incidents

Provide details on the notices submitted in accordance with subsection 18(1) of the Safe Drinking-Water Act or section 16-4 of Schedule 16 of O.Reg.170/03 and reported to Spills Action Centre					
Incident Date	Parameter	Result	Unit of Measure	Corrective Action	Corrective Action Date
30-Jun-22	TC	1	Cfu/100mL	AWQI#158938 - On June 30, SGS notified there was a TC result of 1 on the water tower DW sample. The tower was resampled and results came back non-detect.	05-Jul-22

Microbiological testing done under the Schedule 10, 11 or 12 of Regulation 170/03.

	No. of Samples	Range of E.Coli		Range of Total Coliform Results		Number of HPC Samples	Range of HPC Results	
	Collected	Min #	Max #	Min #	Max #		Min #	Max #
Raw Water	49	0	13	0	158	0		
Treated Water	56	0	0	0	0	52	0	500
Distribution	105	0	0	0	1	52	0	20

Operational testing done under Schedule 7, 8 or 9 of Regulation 170/03

	No. of Samples	Range of Results	
	Collected	Minimum	Maximum
Turbidity, On-Line (NTU) - Filt1	8760	0.013	4.84
Turbidity, On-Line (NTU) - Filt2	8760	0.001	5
Free Chlorine Residual, Treated (mg/L)	8760	0.327	3
Free Chlorine Residual, Distribution Location 1	103	0.54	1.89
Free Chlorine Residual, Distribution Location 2	103	0.53	1.88
Free Chlorine Residual, Distribution Location 3	103	0.49	1.83
Free Chlorine Residual, Distribution Location 4	52	0.89	1.88



Summary of additional testing and sampling carried out in accordance with the requirement of an approval, order or other legal instrument. (Use monitoring BW TSS sheet to Paste and Copy)

Date of legal instrument issued	Parameter and limits	Month Sampled	Day Sampled	Result	Unit of Measure
N/A	N/A	N/A	N/A	N/A	N/A
		Annual Average			mg/L

Summary of Inorganic parameters tested during this reporting period or the most recent sample results

	Sample Date (yyyy/mm/dd)	Sample Result	MAC	No. of Exceedances	
				MAC	1/2 MAC
TREATED WATER					
Antimony: Sb (ug/L) - TW	2022/01/24	<MDL 0.6	6.0	No	No
Arsenic: As (ug/L) - TW	2022/01/24	<MDL 0.2	25.0	No	No
Barium: Ba (ug/L) - TW	2022/01/24	8.78	1000.0	No	No
Boron: B (ug/L) - TW	2022/01/24	11.0	5000.0	No	No
Cadmium: Cd (ug/L) - TW	2022/01/24	0.005	5.0	No	No
Chromium: Cr (ug/L) - TW	2022/01/24	0.17	50.0	No	No
Mercury: Hg (ug/L) - TW	2022/01/24	<MDL 0.01	1.0	No	No
Selenium: Se (ug/L) - TW	2022/01/24	0.12	50.0	No	No
Uranium: U (ug/L) - TW	2022/01/24	0.014	20.0	No	No

	Sample Date (yyyy/mm/dd)	Sample Result	MAC	No. of Exceedances	
				MAC	1/2 MAC
TREATED WATER					
Fluoride (mg/L) - TW	2021/01/27	<MDL 0.06	1.5	No	No
Nitrite (mg/L) - TW	2022/01/24	<MDL 0.003	1.0	No	No
Nitrite (mg/L) - TW	2022/04/19	<MDL 0.003	1.0	No	No
Nitrite (mg/L) - TW	2022/09/12	<MDL 0.003	1.0	No	No
Nitrite (mg/L) - TW	2022/12/20	<MDL 0.003	1.0	No	No
Nitrate (mg/L) - TW	2022/01/24	0.395	10.0	No	No
Nitrate (mg/L) - TW	2022/04/19	0.314	10.0	No	No
Nitrate (mg/L) - TW	2022/09/12	0.356	10.0	No	No
Nitrate (mg/L) - TW	2022/12/20	0.386	10.0	No	No
Sodium: Na (mg/L) - TW	2021/01/27	5.42	20*	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.



Summary of Lead testing under Schedule 15.1 during this reporting period

Location Type	Number of Samples	Range of Results		MAC (ug/L)	Number of Exceedances
		Minimum	Maximum		
Distribution - Lead Results (ug/L)	n/a			10	0
Distribution - Alkalinity (mg/L)	2	35	47	n/a	n/a
Distribution - pH In-House	2	7.01	7.05	n/a	n/a

Summary of Organic parameters sampled during this reporting period or the most recent sample results

	Sample Date (yyyy/mm/dd)	Sample Result	MAC	Number of Exceedances	
				MAC	1/2 MAC
TREATED WATER					
Alachlor (ug/L) - TW	2022/01/24	<MDL 0.02	5.0	No	No
Atrazine + N-dealkylated metabolites (ug/L) - TW	2022/01/24	<MDL 0.01	5.0	No	No
Azinphos-methyl (ug/L) - TW	2022/01/24	<MDL 0.05	20.0	No	No
Benzene (ug/L) - TW	2022/01/24	<MDL 0.32	1.0	No	No
Benzo(a)pyrene (ug/L) - TW	2022/01/24	<MDL 0.004	0.01	No	No
Bromoxynil (ug/L) - TW	2022/01/24	<MDL 0.33	5.0	No	No
Carbaryl (ug/L) - TW	2022/01/24	<MDL 0.05	90.0	No	No
Carbofuran (ug/L) - TW	2022/01/24	<MDL 0.01	90.0	No	No
Carbon Tetrachloride (ug/L) - TW	2022/01/24	<MDL 0.17	2.0	No	No
Chlorpyrifos (ug/L) - TW	2022/01/24	<MDL 0.02	90.0	No	No
Diazinon (ug/L) - TW	2022/01/24	<MDL 0.02	20.0	No	No
Dicamba (ug/L) - TW	2022/01/24	<MDL 0.2	120.0	No	No
1,2-Dichlorobenzene (ug/L) - TW	2022/01/24	<MDL 0.41	200.0	No	No
1,4-Dichlorobenzene (ug/L) - TW	2022/01/24	<MDL 0.36	5.0	No	No
1,2-Dichloroethane (ug/L) - TW	2022/01/24	<MDL 0.35	5.0	No	No
1,1-Dichloroethylene (ug/L) - TW	2022/01/24	<MDL 0.33	14.0	No	No
Dichloromethane (Methylene Chloride) (ug/L) - TW	2022/01/24	<MDL 0.35	50.0	No	No
2,4-Dichlorophenol (ug/L) - TW	2022/01/24	<MDL 0.15	900.0	No	No
2,4-Dichlorophenoxy acetic acid (2,4-D) (ug/L) - TW	2022/01/24	<MDL 0.19	100.0	No	No
Diclofop-methyl (ug/L) - TW	2022/01/24	<MDL 0.4	9.0	No	No
Dimethoate (ug/L) - TW	2022/01/24	<MDL 0.06	20.0	No	No
Diquat (ug/L) - TW	2022/01/24	<MDL 1.0	70.0	No	No
Diuron (ug/L) - TW	2022/01/24	<MDL 0.03	150.0	No	No
Glyphosate (ug/L) - TW	2022/01/24	<MDL 1.0	280.0	No	No
Malathion (ug/L) - TW	2022/01/24	<MDL 0.02	190.0	No	No
Metolachlor (ug/L) - TW	2022/01/24	<MDL 0.01	50.0	No	No
Metribuzin (ug/L) - TW	2022/01/24	<MDL 0.02	80.0	No	No
Monochlorobenzene (Chlorobenzene) (ug/L) - TW	2022/01/24	<MDL 0.3	80.0	No	No
Paraquat (ug/L) - TW	2022/01/24	<MDL 1.0	10.0	No	No
PCB (ug/L) - TW	2022/01/24	<MDL 0.04	3.0	No	No
Pentachlorophenol (ug/L) - TW	2022/01/24	<MDL 0.15	60.0	No	No



Phorate (ug/L) - TW	2022/01/24	<MDL 0.01	2.0	No	No
Picloram (ug/L) - TW	2022/01/24	<MDL 1.0	190.0	No	No
Prometryne (ug/L) - TW	2022/01/24	<MDL 0.03	1.0	No	No
Simazine (ug/L) - TW	2022/01/24	<MDL 0.01	10.0	No	No
Terbufos (ug/L) - TW	2022/01/24	<MDL 0.01	1.0	No	No
Tetrachloroethylene (ug/L) - TW	2022/01/24	<MDL 0.35	10.0	No	No
2,3,4,6-Tetrachlorophenol (ug/L) - TW	2022/01/24	<MDL 0.2	100.0	No	No
Triallate (ug/L) - TW	2022/01/24	<MDL 0.01	230.0	No	No
Trichloroethylene (ug/L) - TW	2022/01/24	<MDL 0.44	5.0	No	No
2,4,6-Trichlorophenol (ug/L) - TW	2022/01/24	<MDL 0.25	5.0	No	No
2-methyl-4-chlorophenoxyacetic acid (MCPA) (ug/L) - TW	2022/01/24	<MDL 0.12	100.0	No	No
Trifluralin (ug/L) - TW	2022/01/24	<MDL 0.02	45.0	No	No
Vinyl Chloride (ug/L) - TW	2022/01/24	<MDL 0.17	1.0	No	No
DISTRIBUTION WATER					
Trihalomethane: Total (ug/L) Annual Average - DW	2022/12/31	22.4	100.00	No	No
HAA Total (ug/L) Annual Average – DW	2022/12/31	9.5	80.0	No	No

SECTION 5: RAW WATER SUBMISSIONS

Raw water flows were submitted to the MOECC on [January 13, 2023](#).

The screenshot shows the WTRS web interface. At the top, there are logos for Ontario, Environment Canada, and WTRS, along with the text 'Ministry of the Environment, Conservation and Parks'. Below the logos is a navigation bar with links: WT DATA, REPORTS, SEARCH WT DATA, ADMINISTRATION, USER PROFILE, CONTACT US, HELP, HOME, and LOGOUT. The main content area displays a green box with the message 'Water Taking Data submitted successfully.' Below this, a 'Confirmation:' section provides details: 'Thank you for submitting your water taking data online.', 'Permit Number: 0256-A4JQAR', 'Permit Holder: THE CORPORATION OF THE TOWNSHIP OF MACDONALD, MEREDITH AND ABERDEEN ADDITIONAL.', and 'Received on: Jan 13, 2023 10:07 AM'. A disclaimer at the bottom states: '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.'

SECTION 6: CONCLUSION

The Echo Bay WTP delivers water that, in all its treated and distribution samples, indicates the water to be free of bacteriological contamination.

Based on information available for the [2022](#) operating year, the Echo Bay WTP was able to meet the demand of water use without exceeding the PTTW or the MDWL.



List of Acronyms and Definitions

Alkalinity	The capacity of water for neutralizing an acid solution
AWQI	Adverse Water Quality Incident- when a water sample test result exceeds the Ontario Drinking Water Quality Standards
Backwash	Water pumped backwards to clean filters
BWA	Boil Water Advisory; Issued when risk of contamination is possible in drinking water
CFU	Colony Forming Units
Chlorine Residual	A low level of chlorine remaining in water after disinfection occurs
DW	Distribution Water
DWA	Drinking Water Advisory; Issued when water cannot be consumed by any means
DWWP	Drinking Water Works Permit - provides a description of the overall system
E.Coli	Bacteria used as indicators to measure the degree of pollution and sanitary quality of water
GUDI 170/03	Groundwater Under Direct Influence – Considered to be surface water under O.Reg
HPC	Heterotrophic Plant Count
L/s	Litres per Second
m ³ /d	Cubic Metres per Day
MAC	Maximum Acceptable Concentration
MDL	Minimum Detection Level
MDWL requirements	Municipal Drinking Water Licence - relates to the operation and performance
mg/L	Miligrams per Litre
Ministry	Ministry of the Environment and Climate Change
MOECC	Ministry of the Environment and Climate Change
O.Reg	Ontario Regulation
PTTW water	Permit to Take Water – Permit which allows water taking from groundwater or surface
RW	Raw Water
TC	Total Coliforms
TSS	Total Suspended Solids
Turbidity	Cloudiness or haziness of water
TW	Treated Water



Appendix A

Raw Water Flows

Ontario Clean Water Agency
Annual Water Taking and Transfer Report
From 01/01/2022 To 12/31/2022

Facility: ECHO BAY DRINKING WATER SYSTEM-5057
Tag: Raw Flow: Sum (m3/d)
Tag Group: RW

Permit#: 0256-A4JQAR
Source Name: Lake George (St. Mary's River)
Source: Lake
Type:
Purpose: Municipal

Coordinate Zone: 16
Easting: 722981
Northing: 5152672
Method deter: Metered

Date Measured	Value (m³/d)	Value (Litres)
01/01/2022	235.7000	235699.9969
02/01/2022	308.3000	308299.9878
03/01/2022	219.1000	219100.0061
04/01/2022	126.9000	126900.0015
05/01/2022	157.4000	157399.9939
06/01/2022	251.1000	251100.0061
07/01/2022	187.2000	187199.9969
08/01/2022	185.8000	185800.0031
09/01/2022	252.2000	252199.9969
10/01/2022	141.5000	141500.0000
11/01/2022	225.3000	225300.0031
12/01/2022	183.0000	183000.0000
13/01/2022	184.4000	184399.9939
14/01/2022	212.6000	212600.0061
15/01/2022	206.1000	206100.0061
16/01/2022	243.1000	243100.0061
17/01/2022	178.0000	178000.0000
18/01/2022	230.2000	230199.9969
19/01/2022	175.8000	175800.0031
20/01/2022	173.2000	173199.9969
21/01/2022	291.6000	291600.0061
22/01/2022	170.2000	170199.9969
23/01/2022	244.3000	244300.0031
24/01/2022	189.7000	189699.9969
25/01/2022	235.9000	235899.9939
26/01/2022	255.5000	255500.0000
27/01/2022	196.0000	196000.0000
28/01/2022	176.0000	176000.0000
29/01/2022	193.7000	193699.9969
30/01/2022	229.9000	229899.9939
31/01/2022	171.4000	171399.9939
01/02/2022	235.5000	235500.0000
02/02/2022	173.8000	173800.0031
03/02/2022	275.3000	275299.9878
04/02/2022	179.0000	179000.0000
05/02/2022	193.5000	193500.0000
06/02/2022	230.1000	230100.0061
07/02/2022	173.5000	173500.0000
08/02/2022	227.0000	227000.0000
09/02/2022	173.3000	173300.0031
10/02/2022	283.7000	283700.0122
11/02/2022	170.4000	170399.9939

12/02/2022	197.1000	197100.0061
13/02/2022	254.2000	254199.9969
14/02/2022	167.0000	167000.0000
15/02/2022	229.1000	229100.0061
16/02/2022	189.6000	189600.0061
17/02/2022	224.8000	224800.0031
18/02/2022	184.9000	184899.9939
19/02/2022	183.9000	183899.9939
20/02/2022	251.8000	251800.0031
21/02/2022	224.2000	224199.9969
22/02/2022	196.7000	196699.9969
23/02/2022	187.4000	187399.9939
24/02/2022	211.8000	211800.0031
25/02/2022	245.9000	245899.9939
26/02/2022	247.0000	247000.0000
27/02/2022	186.1000	186100.0061
28/02/2022	225.4000	225399.9939
01/03/2022	178.8000	178800.0031
02/03/2022	306.6000	306600.0061
03/03/2022	181.9000	181899.9939
04/03/2022	218.5000	218500.0000
05/03/2022	201.1000	201100.0061
06/03/2022	178.1000	178100.0061
07/03/2022	299.0000	299000.0000
08/03/2022	155.8000	155800.0031
09/03/2022	222.5000	222500.0000
10/03/2022	208.2000	208199.9969
11/03/2022	250.0000	250000.0000
12/03/2022	186.8000	186800.0031
13/03/2022	237.6000	237600.0061
14/03/2022	173.0000	173000.0000
15/03/2022	267.5000	267500.0000
16/03/2022	175.2000	175199.9969
17/03/2022	232.1000	232100.0061
18/03/2022	217.5000	217500.0000
19/03/2022	264.3000	264299.9878
20/03/2022	205.4000	205399.9939
21/03/2022	262.5000	262500.0000
22/03/2022	233.7000	233699.9969
23/03/2022	250.4000	250399.9939
24/03/2022	236.7000	236699.9969
25/03/2022	197.5000	197500.0000
26/03/2022	267.2000	267200.0122
27/03/2022	253.2000	253199.9969
28/03/2022	236.9000	236899.9939
29/03/2022	231.3000	231300.0031
30/03/2022	222.4000	222399.9939
31/03/2022	191.2000	191199.9969
01/04/2022	368.3000	368299.9878
02/04/2022	190.6000	190600.0061
03/04/2022	246.6000	246600.0061
04/04/2022	233.6000	233600.0061
05/04/2022	209.9000	209899.9939
06/04/2022	150.8000	150800.0031
07/04/2022	312.7000	312700.0122
08/04/2022	228.6000	228600.0061
09/04/2022	251.0000	251000.0000
10/04/2022	252.0000	252000.0000
11/04/2022	185.0000	185000.0000
12/04/2022	252.0000	252000.0000
13/04/2022	249.2000	249199.9969

14/04/2022	289.4000	289399.9939
15/04/2022	193.5000	193500.0000
16/04/2022	411.1000	411100.0061
17/04/2022	327.4000	327399.9939
18/04/2022	227.1000	227100.0061
19/04/2022	351.0000	351000.0000
20/04/2022	136.6000	136600.0061
21/04/2022	387.9000	387899.9939
22/04/2022	409.1000	409100.0061
23/04/2022	519.0000	519000.0000
24/04/2022	380.3000	380299.9878
25/04/2022	323.4000	323399.9939
26/04/2022	307.8000	307799.9878
27/04/2022	313.2000	313200.0122
28/04/2022	238.9000	238899.9939
29/04/2022	257.8000	257799.9878
30/04/2022	248.9000	248899.9939
01/05/2022	223.0000	223000.0000
02/05/2022	243.3000	243300.0031
03/05/2022	292.1000	292100.0061
04/05/2022	227.3000	227300.0031
05/05/2022	232.6000	232600.0061
06/05/2022	231.9000	231899.9939
07/05/2022	251.7000	251699.9969
08/05/2022	160.8000	160800.0031
09/05/2022	338.2000	338200.0122
10/05/2022	433.7000	433700.0122
11/05/2022	351.4000	351399.9939
12/05/2022	245.6000	245600.0061
13/05/2022	309.5000	309500.0000
14/05/2022	239.0000	239000.0000
15/05/2022	234.4000	234399.9939
16/05/2022	198.7000	198699.9969
17/05/2022	250.1000	250100.0061
18/05/2022	229.9000	229899.9939
19/05/2022	263.5000	263500.0000
20/05/2022	195.8000	195800.0031
21/05/2022	257.0000	257000.0000
22/05/2022	241.5000	241500.0000
23/05/2022	211.6000	211600.0061
24/05/2022	198.3000	198300.0031
25/05/2022	206.8000	206800.0031
26/05/2022	225.4000	225399.9939
27/05/2022	208.3000	208300.0031
28/05/2022	236.3000	236300.0031
29/05/2022	255.1000	255100.0061
30/05/2022	204.0000	204000.0000
31/05/2022	203.0000	203000.0000
01/06/2022	238.5000	238500.0000
02/06/2022	225.2000	225199.9969
03/06/2022	249.5000	249500.0000
04/06/2022	227.7000	227699.9969
05/06/2022	266.5000	266500.0000
06/06/2022	235.3000	235300.0031
07/06/2022	223.7000	223699.9969
08/06/2022	203.7000	203699.9969
09/06/2022	32.8000	32799.9992
10/06/2022	0.0000	0.0000
11/06/2022	0.0000	0.0000
12/06/2022	0.0000	0.0000
13/06/2022	0.0000	0.0000

14/06/2022	0.0000	0.0000
15/06/2022	0.0000	0.0000
16/06/2022	0.0000	0.0000
17/06/2022	0.0000	0.0000
18/06/2022	0.0000	0.0000
19/06/2022	0.0000	0.0000
20/06/2022	0.0000	0.0000
21/06/2022	0.0000	0.0000
22/06/2022	0.0000	0.0000
23/06/2022	0.0000	0.0000
24/06/2022	0.0000	0.0000
25/06/2022	0.0000	0.0000
26/06/2022	0.0000	0.0000
27/06/2022	403.8000	403799.9878
28/06/2022	330.7000	330700.0122
29/06/2022	147.3000	147300.0031
30/06/2022	222.5000	222500.0000
01/07/2022	205.4000	205399.9939
02/07/2022	230.1000	230100.0061
03/07/2022	181.7000	181699.9969
04/07/2022	176.9000	176899.9939
05/07/2022	183.5000	183500.0000
06/07/2022	207.2000	207199.9969
07/07/2022	153.9000	153899.9939
08/07/2022	282.8000	282799.9878
09/07/2022	223.3000	223300.0031
10/07/2022	203.7000	203699.9969
11/07/2022	210.5000	210500.0000
12/07/2022	158.4000	158399.9939
13/07/2022	264.0000	264000.0000
14/07/2022	194.6000	194600.0061
15/07/2022	229.6000	229600.0061
16/07/2022	223.4000	223399.9939
17/07/2022	340.9000	340899.9939
18/07/2022	181.9000	181899.9939
19/07/2022	189.0000	189000.0000
20/07/2022	225.2000	225199.9969
21/07/2022	186.0000	186000.0000
22/07/2022	273.3000	273299.9878
23/07/2022	249.6000	249600.0061
24/07/2022	213.3000	213300.0031
25/07/2022	249.1000	249100.0061
26/07/2022	140.8000	140800.0031
27/07/2022	73.0000	73000.0000
28/07/2022	229.3000	229300.0031
29/07/2022	253.6000	253600.0061
30/07/2022	201.6000	201600.0061
31/07/2022	153.4000	153399.9939
01/08/2022	111.3000	111300.0031
02/08/2022	254.4000	254399.9939
03/08/2022	190.9000	190899.9939
04/08/2022	215.5000	215500.0000
05/08/2022	188.2000	188199.9969
06/08/2022	210.1000	210100.0061
07/08/2022	132.0000	132000.0000
08/08/2022	252.3000	252300.0031
09/08/2022	226.3000	226300.0031
10/08/2022	191.6000	191600.0061
11/08/2022	54.9000	54900.0015
12/08/2022	201.5000	201500.0000
13/08/2022	385.0000	385000.0000

14/08/2022	291.3000	291299.9878
15/08/2022	341.8000	341799.9878
16/08/2022	222.3000	222300.0031
17/08/2022	189.2000	189199.9969
18/08/2022	265.8000	265799.9878
19/08/2022	238.6000	238600.0061
20/08/2022	234.8000	234800.0031
21/08/2022	210.4000	210399.9939
22/08/2022	139.6000	139600.0061
23/08/2022	235.5000	235500.0000
24/08/2022	188.1000	188100.0061
25/08/2022	161.4000	161399.9939
26/08/2022	187.5000	187500.0000
27/08/2022	215.1000	215100.0061
28/08/2022	215.5000	215500.0000
29/08/2022	154.0000	154000.0000
30/08/2022	162.7000	162699.9969
31/08/2022	182.6000	182600.0061
01/09/2022	204.7000	204699.9969
02/09/2022	152.0000	152000.0000
03/09/2022	209.4000	209399.9939
04/09/2022	215.7000	215699.9969
05/09/2022	121.6000	121599.9985
06/09/2022	220.6000	220600.0061
07/09/2022	150.8000	150800.0031
08/09/2022	249.9000	249899.9939
09/09/2022	162.7000	162699.9969
10/09/2022	218.0000	218000.0000
11/09/2022	187.0000	187000.0000
12/09/2022	184.0000	184000.0000
13/09/2022	165.8000	165800.0031
14/09/2022	170.9000	170899.9939
15/09/2022	201.9000	201899.9939
16/09/2022	177.6000	177600.0061
17/09/2022	193.0000	193000.0000
18/09/2022	203.6000	203600.0061
19/09/2022	198.5000	198500.0000
20/09/2022	171.6000	171600.0061
21/09/2022	207.3000	207300.0031
22/09/2022	126.8000	126800.0031
23/09/2022	171.6000	171600.0061
24/09/2022	268.2000	268200.0122
25/09/2022	173.5000	173500.0000
26/09/2022	123.7000	123699.9969
27/09/2022	307.0000	307000.0000
28/09/2022	234.3000	234300.0031
29/09/2022	127.6000	127599.9985
30/09/2022	170.5000	170500.0000
01/10/2022	302.9000	302899.9939
02/10/2022	172.3000	172300.0031
03/10/2022	211.7000	211699.9969
04/10/2022	144.6000	144600.0061
05/10/2022	173.9000	173899.9939
06/10/2022	232.9000	232899.9939
07/10/2022	214.9000	214899.9939
08/10/2022	193.1000	193100.0061
09/10/2022	218.2000	218199.9969
10/10/2022	245.1000	245100.0061
11/10/2022	188.0000	188000.0000
12/10/2022	249.8000	249800.0031
13/10/2022	92.2000	92199.9969

14/10/2022	242.9000	242899.9939
15/10/2022	231.1000	231100.0061
16/10/2022	227.8000	227800.0031
17/10/2022	218.3000	218300.0031
18/10/2022	152.8000	152800.0031
19/10/2022	191.5000	191500.0000
20/10/2022	196.3000	196300.0031
21/10/2022	222.2000	222199.9969
22/10/2022	173.6000	173600.0061
23/10/2022	182.0000	182000.0000
24/10/2022	214.0000	214000.0000
25/10/2022	213.3000	213300.0031
26/10/2022	136.6000	136600.0061
27/10/2022	248.1000	248100.0061
28/10/2022	243.4000	243399.9939
29/10/2022	229.3000	229300.0031
30/10/2022	207.9000	207899.9939
31/10/2022	147.9000	147899.9939
01/11/2022	188.2000	188199.9969
02/11/2022	228.8000	228800.0031
03/11/2022	224.5000	224500.0000
04/11/2022	154.7000	154699.9969
05/11/2022	221.4000	221399.9939
06/11/2022	214.9000	214899.9939
07/11/2022	221.6000	221600.0061
08/11/2022	137.4000	137399.9939
09/11/2022	197.1000	197100.0061
10/11/2022	216.4000	216399.9939
11/11/2022	262.8000	262799.9878
12/11/2022	226.3000	226300.0031
13/11/2022	153.9000	153899.9939
14/11/2022	214.9000	214899.9939
15/11/2022	230.8000	230800.0031
16/11/2022	215.6000	215600.0061
17/11/2022	154.7000	154699.9969
18/11/2022	161.2000	161199.9969
19/11/2022	215.7000	215699.9969
20/11/2022	314.1000	314100.0061
21/11/2022	145.3000	145300.0031
22/11/2022	167.7000	167699.9969
23/11/2022	214.7000	214699.9969
24/11/2022	195.1000	195100.0061
25/11/2022	238.0000	238000.0000
26/11/2022	263.8000	263799.9878
27/11/2022	224.8000	224800.0031
28/11/2022	155.7000	155699.9969
29/11/2022	195.5000	195500.0000
30/11/2022	194.4000	194399.9939
01/12/2022	220.0000	220000.0000
02/12/2022	220.8000	220800.0031
03/12/2022	174.8000	174800.0031
04/12/2022	211.4000	211399.9939
05/12/2022	209.3000	209300.0031
06/12/2022	239.0000	239000.0000
07/12/2022	200.1000	200100.0061
08/12/2022	150.2000	150199.9969
09/12/2022	208.8000	208800.0031
10/12/2022	222.8000	222800.0031
11/12/2022	210.5000	210500.0000
12/12/2022	250.5000	250500.0000
13/12/2022	206.4000	206399.9939

14/12/2022	222.3000	222300.0031
15/12/2022	207.4000	207399.9939
16/12/2022	168.5000	168500.0000
17/12/2022	222.2000	222199.9969
18/12/2022	217.2000	217199.9969
19/12/2022	214.9000	214899.9939
20/12/2022	295.3000	295299.9878
21/12/2022	242.5000	242500.0000
22/12/2022	211.5000	211500.0000
23/12/2022	175.4000	175399.9939
24/12/2022	0.0000	0.0000
25/12/2022	0.0000	0.0000
26/12/2022	324.9000	324899.9939
27/12/2022	96.7000	96699.9969
28/12/2022	328.4000	328399.9939
29/12/2022	290.1000	290100.0061
30/12/2022	365.7000	365700.0122
31/12/2022	469.5000	469500.0000