Drinking-Water Systems Regulation O. Reg. 170/03

ANNUAL REPORT

Drinking-Water System Number:	220004224
Drinking-Water System Name:	Beech Avenue (MacTier) Drinking Water System
Drinking-Water System Owner:	District Municipality of Muskoka
Drinking-Water System Category:	Large Municipal Residential
Period being reported:	January 01 to December 31, 2024

Complete if your Category is Large Municipal Residential or Small Municipal Residential

Does your Drinking-Water System serve more than 10,000 people? Yes [ ] No [X]

Is your annual report available to the public at no charge on a web site on the Internet? Yes [X] No [ ]

Location where Summary Report required under O. Reg. 170/03 Schedule 22 will be available for inspection.

District Municipality of Muskoka
70 Pine Street
Bracebridge, Ontario
P1L 1N3
(705) 645-6764
www.muskoka.on.ca

Complete for all other Categories.

Number of Designated Facilities served:

N.A.

Did you provide a copy of your annual report to all Designated Facilities you serve?
Yes [ ] No [x]

Number of Interested Authorities you report to: N.A.

Did you provide a copy of your annual report to all Interested Authorities you report to for each Designated Facility?
Yes [ ] No [x]

Note: For the following tables below, additional rows or columns may be added or an appendix may be attached to the report

List all Drinking-Water Systems (if any), which receive all of their drinking water from your system:

Drinking Water System Name	Drinking Water System Number
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?
Yes [ ] No [x]

Indicate how you notified system users that your annual report is available, and is free of charge.

[X] Public access/notice via the web
[X] Public access/notice via Government Office
[ ] Public access/notice via a newspaper
[X] Public access/notice via Public Request
[ ] Public access/notice via a Public Library
[ ] Public access/notice via other method _____

Describe your Drinking-Water System

The water treatment plant serving the community of MacTier was constructed in 1995. The treatment process consists of chemically assisted coagulation-flocculation, sedimentation and filtration using multi-media filters with a combination of gravel, sand and anthracite coal. Disinfection in a post-treatment chlorine contact chamber is followed by final pH adjustment before the treated water is pumped to our customers. Our waterworks currently serves a population of approximately 800 persons. The rated water production capacity of the plant is 1,904 cubic meters per day. Our raw water source is Stewart Lake and the intake is located 1.5 meters above the lakebed at a depth of 11 meters and about 220 meters from shore.

List all water treatment chemicals used over this reporting period

Sodium Hypochlorite, Polyaluminum Chloride, Sodium Hydroxide, Carbon Dioxide, Hydrated Lime, Fluoride, Sodium Permanganate

Were any significant expenses incurred to?

[ ] Install required equipment
[ ] Repair required equipment
[x] Replace required equipment

Please provide a brief description and a breakdown of monetary expenses incurred:

Components of the powdered activated carbon (PAC) bulk hopper and batching system were replaced to improve functionality. This system is used to aid in the removal of organics which can lead to taste, odour, colour and disinfection by-products in the drinking water.

Please provide a brief description and a breakdown of monetary expenses incurred

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
N/A					

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

	Number of Samples	Range of E.Coli Or Fecal Results (min #)-(max #)	Range of Total Coliform Results (min #)-(max #)	Number of HPC Samples	Range of HPC Results (min #)-(max #)
Raw	53	0-5	0-104	N/A	N/a
Treated	53	0-0	0-0	53	0-11
Distribution	150	0-0	0-0	73	0-11

Operational testing done under Schedule 7, 8 or 9 of Regulation 170/03 during the period covered by this Annual Report.

	Number of Grab Samples	Range of Results (min #)-(max #)	Geometric Mean Average
Turbidity	8760	0.06-1.16 NTU	0.13 NTU
Chlorine	8760	1.30-2.06	1.65
Fluoride (If the DWS provides fluoridation)	8760	0.57-0.72	0.63

__NOTE__: For continuous monitors use 8760 as the number of samples.

__NOTE__: Record the unit of measure if it is __not__ milligrams per litre.
MDL = Method Detection Limit

Summary of additional testing and sampling carried out in accordance with the requirement of an approval, order or other legal instrument.

Date of legal instrument issued	Parameter	Date Sampled	Result	Unit of Measure
N/A	N/A	N/A	N/A	N/A

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

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Antimony	May 01-2024	0.6 <MDL	µg/L	
Arsenic	May 01-2024	0.2 <MDL	µg/L	
Barium	May 01-2024	10.9	µg/L	
Boron	May 01-2024	7	µg/L	
Cadmium	May 01-2024	0.004	µg/L	
Chromium	May 01-2024	0.19	µg/L	
***Lead**			µg/L	
Mercury	May 01-2024	0.01 <MDL	µg/L	

Selenium	May 01-2024	0.04<MDL	µg/L	
Sodium	May 01-2024	0.012	mg/L	
Uranium	May 01-2024	0.6 <MDL	µg/L	
Fluoride	May 01-2024	0.47	mg/L	
Nitrite	Feb 05-2024	0.003<MDL	mg/L	
Nitrate	Feb 05-2024	0.078	mg/L	
Nitrite	May 01-2024	0.003<MDL	mg/L	
Nitrate	May 01, 2024	0.099	mg/L	
Nitrite	Aug 06-2024	0.003<MDL	mg/L	
Nitrate	Aug 06-2024	0.170	mg/L	
Nitrite	Nov 04-2024	0.003<MDL	mg/L	
Nitrate	Nov 04-2024	0.0957	mg/L	

*only for drinking water systems testing under Schedule 15.2; this includes large municipal non-residential systems, small municipal non-residential systems, non-municipal seasonal residential systems, large non-municipal non-residential systems, and small non-municipal non-residential systems.

Summary of lead testing under Schedule 15.1 during this reporting period

(applicable to the following drinking water systems; large municipal residential systems**,** small municipal residential systems, and non-municipal year-round residential systems)

Location Type	Number of Samples	Range of Lead Results (min#) – (max #)	Geometric Mean Average	Unit of Measure	Number of Exceedances
Plumbing	N/A	N/A	N/A	N/A	N/A
Distribution	4	0.02-0.09	0.0357	µg/L	

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

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Alachlor	May 01-2024	0.02<MDL	µg/L	
Atrazine+N-dealkylated Metabolites	May 01-2024	0.01<MDL	µg/L	
Azinphos-methyl	May 01-2024	0.05<MDL	µg/L	
Benzene	May 01-2024	0.32 <MDL	µg/L	
Benzo(a)pyrene	May 01-2024	0.004<MDL	µg/L	
Bromoxynil	May 01-2024	0.33<MDL	µg/L	
Carbaryl	May 01-2024	0.05<MDL	µg/L	
Carbofuran	May 01-2024	0.01<MDL	µg/L	
Carbon Tetrachloride	May 01-2024	0.17 <MDL	µg/L	
Chorpyrifos	May 01-2024	0.02<MDL	µg/L	
Diazinon	May 01-2024	0.02<MDL	µg/L	
Dicamba	May 01-2024	0.20<MDL	µg/L	
1,2 Dichlorobenzene	May 01-2024	0.41<MDL	µg/L	
1,4 Dichlorobenzene	May 01-2024	0.36<MDL	µg/L	
1,2 Dichloroethane	May 01-2024	0.35<MDL	µg/L	
1,1 Dichloroethylene	May 01-2024	0.33<MDL	µg/L	
Dichloromethane	May 01-2024	0.35<MDL	µg/L	

2,4 Dichlorophenol	May 01-2024	0.15<MDL	µg/L	
2,4-D	May 01-2024	0.15<MDL	µg/L	
Diclofop-Methyl	May 01-2024	0.40<MDL	µg/L	
Dimethoate	May 01-2024	0.06<MDL	µg/L	
Diquat	May 01-2024	1<MDL	µg/L	
Diuron	May 01-2024	0.03<MDL	µg/L	
Glyphosate	May 01-2024	1<MDL	µg/L	
Malathion	May 01-2024	0.02<MDL	µg/L	
MCPA	May 01-2024	0.00012<MDL	µg/L	
Metolachor	May 01-2024	0.01<MDL	µg/L	
Metribuzin	May 01-2024	0.02<MDL	µg/L	
Monochlorobenzene	May 01-2024	0.30<MDL	µg/L	
Paraquat	May 01-2024	1<MDL	µg/L	
Pentachlorophenol	May 01-2024	0.15<MDL	µg/L	
Phorate	May 01-2024	0.01<MDL	µg/L	
Picloram	May 01-2024	1 <MDL	µg/L	
PCB	May 01-2024	0.04<MDL	µg/L	
Prometryne	May 01-2024	0.03<MDL	µg/L	
Simazine	May 01-2024	0.01<MDL	µg/L	
THM (NOTE: Annual average of 4 samples – Distribution system)	Feb05/24; May06/24; Aug06/24; Nov04/24	69.05	µg/L	
HAA (NOTE: Annual average of 4 samples – Distribution system)	Feb05/24; May06/24; Aug06/24; Nov04/24	67.44	ug/L	
Terbufos	May 01-2024	0.35<MDL	µg/L	
Tetrachloroethylene	May 01-2024	0.20<MDL	µg/L	
2,3,4,6 - Tetrachlorophenol	May 01-2024	0.01<MDL	µg/L	
Triallate	May 01-2024	0.44<MDL	µg/L	
Trichloroethylene	May 01-2024	0.25<MDL	µg/L	
2,4,6,- Trichlorophenol	May 01-2024	0.02<MDL	µg/L	
Trifluralin	May 01-2024	0.17<MDL	µg/L	
Vinyl Chloride	May 01-2024	1<MDL	µg/L	

List any Inorganic or Organic parameter(s) that exceeded half the standard prescribed in Schedule 2 of Ontario Drinking Water Quality Standards.

Parameter	Result Value	Unit of Measure	Date of Sample
Sodium		mg/L	
THM	58, 70, 80, 70	ug/L	Feb05/24; May06/24; Aug06/24; Nov04/24
HAA	52.1, 81.3, 68, 71.8	ug/L	Feb05/24; May06/24; Aug06/24; Nov04/24