



**OPTIONAL ANNUAL REPORT TEMPLATE**

<b>Drinking-Water System Number:</b>	220007276
<b>Drinking-Water System Name:</b>	Kirby's Beach Water Treatment Plant
<b>Drinking-Water System Owner:</b>	District Municipality of Muskoka
<b>Drinking-Water System Category:</b>	Large Municipal Residential
<b>Period being reported:</b>	January 01 to December 31, 2022

<p><b><u>Complete if your Category is Large Municipal Residential or Small Municipal Residential</u></b></p> <p>Does your Drinking-Water System serve more than 10,000 people? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>Is your annual report available to the public at no charge on a web site on the Internet? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>Location where Summary Report required under O. Reg. 170/03 Schedule 22 will be available for inspection.</p> <div style="border: 1px solid black; padding: 5px;"> <p>District Municipality of Muskoka 70 Pine Street Bracebridge, Ontario P1L 1N3 (705) 645-6764 www.muskoka.on.ca</p> </div>	<p><b><u>Complete for all other Categories.</u></b></p> <p>Number of Designated Facilities served: <input type="text" value="N/A"/></p> <p>Did you provide a copy of your annual report to all Designated Facilities you serve? Yes <input type="checkbox"/> No <input type="checkbox"/></p> <p>Number of Interested Authorities you report to: <input type="text" value="N/A"/></p> <p>Did you provide a copy of your annual report to all Interested Authorities you report to for each Designated Facility? Yes <input type="checkbox"/> No <input type="checkbox"/></p>
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**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



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

- Public access/notice via the web
- Public access/notice via Government Office
- Public access/notice via a newspaper
- 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 Bracebridge was constructed in 1995. The system features pre-treatment consisting of chemically assisted coagulation-flocculation, sedimentation and filtration using dual media filters with a combination of sand and anthracite coal. Disinfection in a post treatment chlorine contact chamber is followed by fluoridation and final pH adjustment before the treated water is pumped to our customers. The water system currently serves a population of approximately 10,800. The rated water production capacity of the plant is 10,000 cubic meters per day. Our raw water source is Lake Muskoka where the intake is located two meters above the lakebed at a depth of 18 meters and about 500 meters from shore. The intake structure and intake pipeline were video inspected spring 2022 with no issues noted.

**List all water treatment chemicals used over this reporting period**

Carbon Dioxide, Aluminum Sulphate, Hydrated Lime, Sodium Hypochlorite, Hydrofluosilicic Acid, and Sodium Hydroxide.

**Were any significant expenses incurred to?**

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

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

Replaced waterproof membrane on roof at Ecclestone Booster station/reservoir.

**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
June 7, 2022	EC / TC	4 EC 4 TC	cfu/100ml cfu/100ml	Flush, 2 sets resamples	Jun 12, 2022
July 12, 2022	TC	22 TC	cfu/100ml	Flush, Resample, replaced sample tap	July 14, 2022
Dec 18, 2022	Failed to meet CT in Contact Tank	.50 required .46 actual		Restore adequate chlorination	Dec 18, 2022



Dec 23, 2022	Loss of SCADA monitoring / Trending	Trends lost for 14hrs, 58 min		Restore PLC comms to SCADA	Dec 24, 2022
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**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	52	0 - 10	0 - 17	0	~
Treated	52	0 - 0	0 - 0	52	0 - 2
Distribution	299	0 - 4	0 - 22	148	0 - 10

**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 #)	Geomean	<b>NOTE: For continuous monitors use 8760 as the number of samples.</b>
Turbidity	8760	0.05 – 0.31 NTU	0.07 NTU	
Chlorine	8760	1.56 – 2.09 mg/L	1.48 mg/L	
Fluoride (If the DWS provides fluoridation)	8760	0.26 – 0.80 mg/L	0.62 mg/L	

**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

**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 17 2022	0.6<MDL	µg/L	No
Arsenic	May 17 2022	0.2<MDL	µg/L	No
Barium	May 17 2022	12.7	µg/L	No
Boron	May 17 2022	4	µg/L	No
Cadmium	May 17 2022	0.025	µg/L	No
Chromium	May 17 2022	0.26	µg/L	No
*Lead				
Mercury	May 17 2022	0.01<MDL	µg/L	No
Selenium	May 17 2022	0.08	µg/L	No
Sodium	May 17 2022	17.9	mg/L	No
Uranium	May 17 2022	0.006	µg/L	No
Fluoride	May 17 2022	0.70	mg/L	No

Nitrite	Feb 08 2022	0.003<MDL	mg/L	No
Nitrate	Feb 08 2022	0.219	mg/L	No
Nitrite	May 17 2022	0.003<MDL	mg/L	No
Nitrate	May 17 2022	0.222	mg/L	No
Nitrite	Aug 10 2022	0.003<MDL	mg/L	No
Nitrate	Aug 10 2022	0.250	mg/L	No
Nitrite	Oct 31 2022	0.003<MDL	mg/L	No
Nitrate	Oct 31 2022	0.147	mg/L	No

\*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 #)	Unit of Measure	Number of Exceedances
<b>Plumbing</b>				
<b>Distribution</b>	8	0.01-0.21	µg/L	0

### 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 17 2022	0.02<MDL	µg/L	No
Atrazine + N-dealkylated metabolites	May 17 2022	0.01<MDL	µg/L	No
Azinphos-methyl	May 17 2022	0.05<MDL	µg/L	No
Benzene	May 17 2022	0.32<MDL	µg/L	No
Benzo(a)pyrene	May 17 2022	0.004<MDL	µg/L	No
Bromoxynil	May 17 2022	0.33<MDL	µg/L	No
Carbaryl	May 17 2022	0.05<MDL	µg/L	No
Carbofuran	May 17 2022	0.01<MDL	µg/L	No
Carbon Tetrachloride	May 17 2022	0.17<MDL	µg/L	No
Chlorpyrifos	May 17 2022	0.02<MDL	µg/L	No
Diazinon	May 17 2022	0.02<MDL	µg/L	No
Dicamba	May 17 2022	0.20<MDL	µg/L	No
1,2-Dichlorobenzene	May 17 2022	0.41<MDL	µg/L	No
1,4-Dichlorobenzene	May 17 2022	0.36<MDL	µg/L	No
1,2-Dichloroethane	May 17 2022	0.35<MDL	µg/L	No
1,1-Dichloroethylene (vinylidene chloride)	May 17 2022	0.33<MDL	µg/L	No
Dichloromethane	May 17 2022	0.35<MDL	µg/L	No
2-4 Dichlorophenol	May 17 2022	0.15<MDL	µg/L	No
2,4-Dichlorophenoxy acetic acid (2,4-D)	May 17 2022	0.19<MDL	µg/L	No
Diclofop-methyl	May 17 2022	0.40<MDL	µg/L	No
Dimethoate	May 17 2022	0.06<MDL	µg/L	No



<b>Diquat</b>	May 17 2022	1<MDL	µg/L	No
<b>Diuron</b>	May 17 2022	0.03<MDL	µg/L	No
<b>Glyphosate</b>	May 17 2022	1<MDL	µg/L	No
<b>Malathion</b>	May 17 2022	0.02<MDL	µg/L	No
<b>MCPA</b>	May 17 2022	0.00012<MDL	µg/L	No
<b>Metolachlor</b>	May 17 2022	0.01<MDL	µg/L	No
<b>Metribuzin</b>	May 17 2022	0.02<MDL	µg/L	No
<b>Monochlorobenzene</b>	May 17 2022	0.30<MDL	µg/L	No
<b>Paraquat</b>	May 17 2022	1<MDL	µg/L	No
<b>Pentachlorophenol</b>	May 17 2022	0.15<MDL	µg/L	No
<b>Phorate</b>	May 17 2022	0.01<MDL	µg/L	No
<b>Picloram</b>	May 17 2022	1<MDL	µg/L	No
<b>Polychlorinated Biphenyls(PCB)</b>	May 17 2022	0.04<MDL	µg/L	No
<b>Prometryne</b>	May 17 2022	0.03<MDL	µg/L	No
<b>Simazine</b>	May 17 2022	0.01<MDL	µg/L	No
<b>THM</b> (NOTE: annual average from Distribution – 8 samples)	Samples Taken: Feb. 08/22 May 17/ 22 Aug. 10/22 Oct. 31/22	60.5	µg/L	No
<b>Terbufos</b>	May 17 2022	0.01<MDL	µg/L	No
<b>Tetrachloroethylene</b>	May 17 2022	0.35<MDL	µg/L	No
<b>2,3,4,6-Tetrachlorophenol</b>	May 17 2022	0.20<MDL	µg/L	No
<b>Triallate</b>	May 17 2022	0.01<MDL	µg/L	No
<b>Trichloroethylene</b>	May 17 2022	0.44<MDL	µg/L	No
<b>2,4,6-Trichlorophenol</b>	May 17 2022	0.25<MDL	µg/L	No
<b>Trifluralin</b>	May 17 2022	0.02<MDL	µg/L	No
<b>Vinyl Chloride</b>	May 17 2022	0.17<MDL	µg/L	No
<b>HAA5</b>	Samples Taken: Feb. 08/22 May 17/ 22 Aug. 10/22 Oct. 31/22	49.8	µg/L	No

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

<b>Parameter</b>	<b>Result Value</b>	<b>Unit of Measure</b>	<b>Date of Sample</b>
<b>Distribution HAA5</b>	49.8	µg/L	RAA of quarterly results
<b>Distribution THM</b>	60.5	µg/L	RAA of quarterly results