

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

Part III Form 2
Section 11. ANNUAL REPORT.

Drinking-Water System Number:	220001423
Drinking-Water System Name:	KENORA AREA WATER TREATMENT PLANT
Drinking-Water System Owner:	CITY OF KENORA
Drinking-Water System Category:	LARGE MUNICIPAL RESIDENTIAL
Period being reported:	APRIL 1, 2003 – DECEMBER 31, 2003

<p><u>Complete if your Category is Large Municipal Residential or Small Municipal Residential</u></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 Report required under O. Reg. 170/03 Schedule 22 will be available for inspection.</p> <div style="border: 1px solid black; padding: 5px;"> <p>City Hall – 1, Main Street South City of Kenora – Website www.city.kenora.on.ca Kenora Water Treatment Plant – 9, 7th Street South</p> </div>	<p><u>Complete for all other Categories.</u></p> <p>Number of Designated Facilities served: <input type="text"/></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"/></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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List Drinking-Water Systems, which receive all of their drinking water from your system:

None

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

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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 Kenora Water Treatment Plant is classed as Large Municipal Residential. The total number of service connections at this time is 6,300. The water plant has a rated capacity of 292 Litres per second. The process is chemically assisted and includes filtration to meet the treatment requirements of O.Reg 170/03 for surface water.

List all water treatment chemicals used over this reporting period

Chlorine, Aluminum Sulphate, Polyelectrolyte, Sodium Hydroxide, Sodium Silicofluoride.

Were any significant expenses incurred to?

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

Describe

We have converted from soda ash to sodium hydroxide for PH control. We have replaced our chlorinators and installed one standby and one trim chlorinator. We have also installed baffles in our clearwell. The Water Treatment Plant is also undergoing an upgrade to lower THM's in the water system. THM's are a byproduct of the reaction between chlorine and organic matter present in our water. The Lake of the Woods is our water source and has a high content of organic matter, which is common in northern Ontario.

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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
April/23/2003	Turbidity	5.177	N.T.U.	This was a spike with a duration of 5 minutes due to the installation of instrumentation takeoff points in our discharge header	April/23/2003
April/23/2003	Turbidity	1.255	N.T.U.	This was a spike with a duration of 1 minute due to the installation of instrumentation takeoff points in our discharge header	April/23/2003
April/24/2003	Free Chlorine Residual (<.05)	0.00	mg/L	Flushed hydrants opened valve that was found closed in distribution system. Conducted bacteria sampling until chlorine residual maintained along with 3 consecutive days of clear bacteriological samples	April 24 – 26/2003
May 2/2003	Turbidity	8.64	N.T.U.	This was a spike with a duration of 3 minutes due to starting a highlift pump after maintenance on highlift check	May 2/2003

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Incident Date	Parameter	Result	Unit of Measure	Corrective Action	Corrective Action Date
				valve	
May 15/2003	Turbidity	2.071	N.T.U.	This was a spike with a duration of 3 minutes 55 seconds due to starting a highlift pump after cleaning of west clearwell section	May15/2003
May 22/2003	Turbidity	4.27	N.T.U.	This was a spike due to maintenance on highlift hydraulic check valve	May 22/2003
June 5/2003	THM (Treated) (Distribution)	110 151	ug/L	Currently undergoing upgrade to chloramination	ongoing
July 14/2003	Free Chlorine Residual (high)	4.84	mg/L	Daily bleeding gas from metering pump feed system caused by degassing of hypochlorite solution	July 14/2003 →
August 2/2003	Free Chlorine Residual (<.05	0.01	mg/L	Zone 1 Standpipe empty due to alarm not functioning. Issued Boil Water Advisory, flushed hydrants, increased chlorine residual, conducted bacteria sampling until chlorine residual maintained along with 3 days of clear bacteriological samples.	Aug 2 / 2003 – Aug 9 / 2003

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Incident Date	Parameter	Result	Unit of Measure	Corrective Action	Corrective Action Date
August 6/2003	Total Coliform	Present		Conducted bacteria sampling until we had 3 consecutive days of clear bacteriological samples	Aug 6 – 9 / 2003
August 7 / 2003	Free Chlorine Residual (<.05)	0.02	mg/l	Flushed hydrants, Increased chlorine residual @Zone 1 Standpipe, conducted bacteria sampling until chlorine residual maintained along with 3 consecutive days of clear bacteriological samples	Aug 7 – 11/ 2003
August 21/2003	THM (Distribution)	127	ug/L	Currently undergoing upgrade to chloramination	ongoing
August 26/2003	Free Chlorine Residual (<.05)	0.02	mg/L	Determined sample point was on a dead end after last service connection. Sample tap left running steady. Follow-up residual testing to see that residual maintained.	August 26 →
November 21/2003 December 22/2003 (New Average Including Resample)	THM (Distribution)	115 114	ug/L ug/L	Currently undergoing upgrade to chloramination	ongoing

Microbiological testing done under section 8 (2) during this reporting period

	Number of Samples	Range of E.Coli or Fecal Results (#-#)	Range of Total Coliform Results (#-#)	Number of HPC Samples	Range of HPC Results (#-#)
Raw	39	0 - 55	0 - 10,300	0	0
Treated	61	Absent	Absent	18	0 - 6
Distribution	308	Absent	Absent	88	0 - 11

Operational testing done under Schedule 7, 8 or 9 during the period covered by this Annual Report.

	Number of Grab Samples	Range of Results (#-#)	Online Number of Grab Samples	Range of Results (#-#)
Turbidity	275	0.028 - 0.185 N.T.U.	8760	0.024 – 0.380 N.T.U.
Chlorine	275	1.27 – 2.07	8760	0.938 – 2.239
Fluoride (If the DWS provides fluoridation)	275	0.03 – 0.73	8760	0.02 – 0.78

*NOTE: Record the unit of measure if it is **not** milligrams per litre.*

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

Date of order or C of A	Parameter	Date Sampled	Result	Unit of Measure
April 29 / 2003	Total suspended solids	January – December / 2003	11.67, (Average For 2003)	mg/L

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

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Antimony	November 4 / 2003	<1	ug/L	No
Arsenic	November 4 / 2003	<1	ug/L	No
Barium	November 4 / 2003	<10	ug/L	No
Boron	November 4 / 2003	<50	ug/L	No
Cadmium	November 4 / 2003	0.1	ug/L	No
Chromium	November 4 / 2003	<1	ug/L	No
Lead	November 4 / 2003	<1	ug/L	No
Mercury	November 4 / 2003	<0.1	ug/L	No
Selenium	November 4 / 2003	<5	ug/L	No
Uranium	November 4 / 2003	<5	ug/L	No
Fluoride	November 4 / 2003	<0.03	mg/L	No
Nitrite	May 28 / 2003	<0.02	mg/l	No
	August 13 / 2003	<0.02	mg/l	No
	November 4 / 2003	<0.02	mg/l	No
Nitrate	May 28 / 2003	0.05	mg/l	No
	August 13 / 2003	<0.03	mg/l	No
	November 4 / 2003	0.15	mg/l	No

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

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Alachlor	May 28 / 2003	<0.10	ug/L	No
Aldicarb	May 28 / 2003	<0.9	ug/L	No
Aldrin + Dieldrin	May 28 / 2003	<0.04	ug/L	No
Atrazine + N-dealkylated metabolites	May 28 / 2003	<0.2	ug/L	No
Azinphos-methyl	May 28 / 2003	<0.10	ug/L	No
Bendiocarb	May 28 / 2003	<0.5	ug/L	No
Benzene	May 28 / 2003	<0.5	ug/L	No
Benzo(a)pyrene	May 28 / 2003	<0.01	ug/L	No
Bromoxynil	May 28 / 2003	<0.20	ug/L	No
Carbaryl	May 28 / 2003	<0.5	ug/L	No
Carbofuran	May 28 / 2003	<0.5	ug/L	No
Carbon Tetrachloride	May 28 / 2003	<0.5	ug/L	No
Chlordane (Total)	May 28 / 2003	<0.3	ug/L	No
Chlorpyrifos	May 28 / 2003	<0.10	ug/L	No
Cyanazine	May 28 / 2003	<0.10	ug/L	No

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Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Diazinon	May 28 / 2003	<0.10	ug/L	No
Dicamba	May 28 / 2003	<0.20	ug/L	No
1,2-Dichlorobenzene	May 28 / 2003	<0.5	ug/L	No
1,4-Dichlorobenzene	May 28 / 2003	<0.5	ug/L	No
Dichlorodiphenyltrichloroethane (DDT) + metabolites	May 28 / 2003	<0.40	ug/L	No
1,2-Dichloroethane	May 28 / 2003	<0.5	ug/L	No
1,1-Dichloroethylene (vinylidene chloride)	May 28 / 2003	<0.5	ug/L	No
Dichloromethane	May 28 / 2003	<0.5	ug/L	No
2-4 Dichlorophenol	May 28 / 2003	<0.50	ug/L	No
2,4-Dichlorophenoxy acetic acid (2,4-D)	May 28 / 2003	<0.20	ug/L	No
Diclofop-methyl	May 28 / 2003	<0.10	ug/L	No
Dimethoate	May 28 / 2003	<0.10	ug/L	No
Dinoseb	May 28 / 2003	<0.50	ug/L	No
Diquat	May 28 / 2003	<7	ug/L	No
Diuron	May 28 / 2003	<15	ug/L	No
Glyphosate	May 28 / 2003	<28	ug/L	No
Heptachlor + Heptachlor Epoxide	May 28 / 2003	<0.20	ug/L	No
Linadane (Total)	May 28 / 2003	<0.10	ug/L	No
Malathion	May 28 / 2003	<0.10	ug/L	No
Methoxychlor	May 28 / 2003	<0.10	ug/L	No
Metolachlor	May 28 / 2003	<0.10	ug/L	No
Metribuzin	May 28 / 2003	<1.0	ug/L	No
Monochlorobenzene	May 28 / 2003	<0.5	ug/L	No
Paraquat	May 28 / 2003	<1	ug/L	No
Parathion	May 28 / 2003	<0.10	ug/L	No
Pentachlorophenol	May 28 / 2003	<0.50	ug/L	No
Phorate	May 28 / 2003	<0.10	ug/L	No
Picloram	May 28 / 2003	<0.20	ug/L	No
Polychlorinated Biphenyls(PCB)	May 28 / 2003	<0.06	ug/L	No
Prometryne	May 28 / 2003	<0.10	ug/L	No
Simazine	May 28 / 2003	<0.10	ug/L	No
THM 1 st Quarter	March 4 / 2003	89.2	ug/L	N/A
THM 2 nd Quarter	May 28 / 2003	132	ug/L	N/A
THM 3 rd Quarter	August 13 / 2003	148	ug/L	N/A
THM 4 th Quarter	November 2, December 4 / 2003	85.8	ug/L	N/A
THM	Quarterly Average	114	ug/L	Yes
Temephos	May 28 / 2003	<0.10	ug/L	No
Terbufos	May 28 / 2003	<0.10	ug/L	No

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Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Tetrachloroethylene	May 28 / 2003	<0.5	ug/L	No
2,3,4,6-Tetrachlorophenol	May 28 / 2003	<0.50	ug/L	No
Triallate	May 28 / 2003	<0.10	ug/L	No
Trichloroethylene	May 28 / 2003	<0.5	ug/L	No
2,4,6-Trichlorophenol	May 28 / 2003	<.50	ug/L	No
2,4,5-Trichlorophenoxy acetic acid (2,4,5-T)	May 28 / 2003	<0.20	ug/L	No
Trifluralin	May 28 / 2003	<0.10	ug/L	No
Vinyl Chloride	May 28 / 2003	<0.5	ug/L	No

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
Benzo(a)pyrene	<0.01	ug/L	May 28 / 2003
*Note – Detection limit is 0.01 ug/L MAC is 0.01 ug/L			
Trihalomethanes	114	ug/L	Quarterly Average
Above Trihalomethane result value is an average of the values from the previous four quarters as follows:			
	89.2	ug/L	March 4 / 2003
	132	ug/L	May 28 / 2003
	148	ug/L	Aug. 13 / 2003
	85.8	ug/L	
The last value above is the average of the results of a sample taken November 2 / 2003 and a resample taken December 4 / 2003.			

(Only if category is large municipal residential, small municipal residential, large municipal non residential, small municipal non residential, large non municipal non residential)