

Part III Form 2  
Section 11. ANNUAL REPORT.

<b>Drinking-Water System Number:</b>	220001423
<b>Drinking-Water System Name:</b>	KENORA AREA WATER TREATMENT PLANT
<b>Drinking-Water System Owner:</b>	CITY OF KENORA
<b>Drinking-Water System Category:</b>	LARGE MUNICIPAL RESIDENTIAL
<b>Period being reported:</b>	JANUARY 1, 2005 – DECEMBER 31, 2005

<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 [X ] No [ ]</p> <p>Is your annual report available to the public at no charge on a web site on the Internet? Yes [X] No [ ]</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>City Hall – 1, Main Street South City of Kenora – Website <a href="http://www.kenora.ca">http://www.kenora.ca</a> Kenora Water Treatment Plant – 9, 7th Street South</p> </div>	<p><b><u>Complete for all other Categories.</u></b></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 [ ] No [ ]</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 [ ] No [ ]</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
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 [ ]

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 categorized as Large Municipal Residential. It is designated a Class III plant. The total number of service connections at this time is 6,427. 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. The disinfection of the water system was switched to chloramination on November 17, 2005.

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

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

**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**

Static mixers were installed in the header to ensure proper mixing of chemicals before our online analyzers. This was required to effectively switch over to chloramination.

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	Resolution Date
<b>February 1/05</b>  <b>Crystal Clean Carwash</b>  <b>Maytag</b>	<b>Free Chlorine Residual &lt;.05.</b>	<b>0.00F</b> <b>0.06T</b>  <b>0.00F</b> <b>0.00T</b>	<b>mg/L</b>	<b>Resample/Re-test.</b> <b>Increased disinfection.</b> <b>Flushed mains/pipes.</b> <b>Microbiological tests conducted 3 consecutive days after good chlorine residual was maintained.</b> <b>Boil water advisory given to two customers.</b>	<b>February 8/05</b>  <b>Isolation of line due to repair cause of low chlorine level (became a dead end).</b> <b>Line reopened.</b>
<b>February 11/05</b>  <b>12/05</b>  <b>502 6<sup>th</sup> Ave. South</b>	<b>Free Chlorine Residual &lt;.05.</b>	<b>0.03F</b> <b>0.00T</b>  <b>0.02F</b> <b>0.04T</b>	<b>mg/L</b>	<b>Resample/Re-test.</b> <b>Increased disinfection.</b> <b>Flushed mains/pipes 24 hrs.</b> <b>Microbiological tests conducted 2 consecutive days 24 hours apart.</b> <b>Boil water advisory.</b>	<b>February 17/05</b>  <b>Main line repair.</b>
<b>February 28/05</b>  <b>March 1/05</b>  <b>March 2/05</b>  <b>Sewage Treatment Plant</b>	<b>Free Chlorine Residual &lt;.05.</b>	<b>0.02F</b> <b>0.10T</b>  <b>0.02F</b> <b>0.20T</b>  <b>0.03F</b> <b>0.25T</b>	<b>mg/L</b>	<b>Resample/Re-test.</b> <b>Microbiological tests conducted.</b> <b>Staff drinking bottled water. 1/2" bleeder installed.</b> <b>Chlorine residuals taken on residences before the STP. These residuals were good.</b>	<b>March 3/05</b>  <b>Sewage Treatment Plant on a dead end.</b>

<b>April 1/05</b>  <b>Kenora police station</b>	<b>Total coliform.</b> <b>Fecal coliform.</b>	<b>Present</b>	<b>mg/L</b>	<b>Resample/Re-test. Chlorine residuals good. Flushed mains/pipes. Boil water advisory (south of Laurensons Creek and Laurensons Lake east and west inclusive. Microbiological tests conducted 2 consecutive days 24 hours apart.</b>	<b>April 4/05</b>
<b>April 21/05</b> <b>April 23/05</b>  <b>April 25/05</b>  <b>May 3/05</b>  <b>May 19/05</b>  <b>618 – 19<sup>th</sup> Ave. North</b>	<b>Free Chlorine Residual &lt;.05.</b>	<b>0.02F</b> <b>0.00F</b> <b>0.05T</b>  <b>0.03F</b> <b>0.02T</b>  <b>0.04F</b> <b>0.09T</b>  <b>0.01F</b> <b>0.01T</b>	<b>mg/L</b>	<b>Resample/Re-test. Increased disinfection. Flushed mains/pipes. Microbiological tests conducted. Boil water advisory (one family on line). Outside temporary bleeder installed. In May the bleeder was shut off. Still a problem after flushing. May 4/05 bleeder turned back on until plant switches to chloramination disinfection .</b>	<b>July 14/05</b>
<b>May 19/05</b>	<b>Rechlorination pump failure at Zone 2 standpipe.</b>	<b>0.30F</b> <b>0.35F</b>	<b>mg/L</b>	<b>Chlorine residual increased. Flow sensor and control board replaced. Water quality was</b>	<b>May 22/05</b>

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				never adverse.	
<p><b>May 13/05</b></p>	<p><b>Water main line ripped up Hwy 17.</b></p>		<p><b>mg/L</b></p>	<p><b>Boil water issued to affected residences during repair and testing. Microbiological tests conducted.</b></p>	<p><b>May 19/05</b></p>
<p><b>May 24/05</b></p>	<p><b>8" line shut to negative pressure for repair.</b></p>		<p><b>mg/L</b></p>	<p><b>Resample/Retest. Boil water issued to affected residences. Microbiological tests conducted.</b></p>	<p><b>May 30/05</b></p>
<p><b>May 31/05</b></p> <p><b>June 29/05</b></p> <p><b>Sewage Treatment Plant</b></p>	<p><b>Free Chlorine Residual &lt;.05.</b></p>	<p><b>0.03F</b> <b>0.05F</b></p> <p><b>0.03F</b> <b>0.04F</b></p>	<p><b>mg/L</b></p>	<p><b>Resample/Re-test. Flushed mains/pipes. STP staff drinking bottled water. Close residences tested. Good chlorine residual. Disinfection increased. Microbiological tests conducted.</b></p>	<p><b>December 19/05</b></p> <p><b>Switched to chloramination disinfection Nov. 17/05.</b></p>
<p><b>September 28/05</b></p> <p><b>118 Mascott Ave.</b></p>	<p><b>Free Chlorine Residual &lt;.05.</b></p>	<p><b>0.02F</b> <b>0.11T</b></p>	<p><b>mg/L</b></p>	<p><b>Resample/Re-test. Flushed mains/pipes. Disinfection restored/increased Boil water advisory. Microbiological tests conducted 2 consecutive days 24 hrs apart after disinfection restored.</b></p>	<p><b>October 11/05</b></p>

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<p><b>November 27/05</b></p> <p><b>618 – 19<sup>th</sup> Ave. North</b></p>	<p><b>Free Chlorine Residual &lt;.25Combined</b></p> <p><b>City switched to chloramination Nov. 17/05. Bleeder turned off Nov. 25/05</b></p>	<p><b>0.00F</b> <b>0.00T</b> <b>0.00C</b></p>	<p><b>mg/L</b></p>	<p><b>Resample/Retest. Family drinks bottled water. Bleeder installed into house Dec. 7/05.</b></p>	<p><b>December 19/05</b></p>
<p><b>December 7/05</b></p> <p><b>17 Anne Crescent</b></p>	<p><b>Free Chlorine Residual &lt;.25Combined</b></p>	<p><b>0.06 F</b> <b>0.16 T</b> <b>0.10 C</b></p>	<p><b>mg/L</b></p>	<p><b>Resample/Re-test. Flushed mains/pipes. Advised to boil water. Bleeder turned on. Microbiological tests conducted 2 consecutive days, 24 hrs apart.</b></p>	<p><b>December 12/05</b></p>

**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 (#-#)	Range of Total Coliform Results (#-#)	Number of HPC Samples	Range of HPC Results (#-#)
<b>Raw</b>	<b>60</b>	<b>0-3 E.C.</b>	<b>0 – 290</b>	<b>0</b>	<b>0</b>
		<b>0-12 Fecal</b>			
<b>Treated</b>	<b>60</b>	<b>Absent</b>	<b>Absent</b>	<b>60</b>	<b>0 - 6</b>
<b>Distribution</b>	<b>350</b>	<b>One Presence Police Station April 1/05</b>	<b>One Presence Police Station April 1/05</b>	<b>142</b>	<b>0 – 41</b>

**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 (#-#)
<b>Turbidity</b>	<b>365</b>	<b>0.028 - 0.196 N.T.U.</b>	<b>8760</b>	<b>0.021 – 0.224 N.T.U.*</b> <b>*false spikes due to power failures 2.007; 2.009; 0.679.</b>
<b>Chlorine</b>	<b>365</b>	<b>1.06 – 2.07 mg/L Free during chlorination, 1.84 – 2.23 Combined during chloramination</b>	<b>8760</b>	<b>0.849 – 2.209 mg/L F during chlorination, 1.523 – 2.951 mg/L T during chloramination</b>
<b>Fluoride (If the DWS provides fluoridation)</b>	<b>365</b>	<b>0.46 - 0.80 mg/L</b>	<b>8760</b>	<b>0.46 – 0.77 mg/L*</b> <b>*readings dipped to 0.19 during periods when fluoride feed was shut off for repairs.</b>

**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, order or other legal instrument.**

Date of legal instrument issued	Parameter	Date Sampled	Result	Unit of Measure
<b>November 3 / 2004</b>	<b>Total suspended solids</b>	<b>Monthly 2005</b>	<b>23.83</b> (Average For 2005)	<b>mg/L</b>

**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	January 31/2005	3	ug/L	No
Arsenic	January 31/2005	<1	ug/L	No
Barium	January 31/2005	10	ug/L	No
Boron	January 31/2005	<50	ug/L	No
Cadmium	January 31/2005	<0.1	ug/L	No
Chromium	January 31/2005	<1	ug/L	No
Lead	January 31/2005	<1	ug/L	No
Mercury	January 31/2005	<0.1	ug/L	No
Selenium	January 31/2005	<5	ug/L	No
Sodium	January 31/2005	7.75	mg/L	No
Uranium	January 31/2005	<5	ug/L	No
Fluoride	May 25/2005	0.36	mg/L	No
Nitrite	January 31/2005	0.10	mg/L	No
	May 10/2005	<0.02	mg/L	No
	August 9/2005	<0.02	mg/L	No
	November 24/2005	<0.02	mg/L	No
Nitrate	January 31/2005	<0.10	mg/L	No
	May 10/2005	0.14	mg/L	No
	August 9/2005	<0.03	mg/L	No
	November 24/2005	0.20	mg/L	No

**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	January 31/2005	<0.10	ug/L	No
Aldicarb	January 31/2005	<9.00	ug/L	No
Aldrin + Dieldrin	January 31/2005	<0.04	ug/L	No
Atrazine + N-dealkylated metabolites	January 31/2005	<0.20	ug/L	No
Azinphos-methyl	January 31/2005	<0.10	ug/L	No
Bendiocarb	January 31/2005	<0.20	ug/L	No
Benzene	January 31/2005	<0.50	ug/L	No
Benzo(a)pyrene	January 31/2005	<0.01	ug/L	No
Bromoxynil	January 31/2005	<0.20	ug/L	No
Carbaryl	January 31/2005	<0.20	ug/L	No
Carbofuran	January 31/2005	<0.20	ug/L	No
Carbon Tetrachloride	January 31/2005	<0.50	ug/L	No
Chlordane (Total)	January 31/2005	<0.30	ug/L	No
Chlorpyrifos	January 31/2005	<0.10	ug/L	No
Cyanazine	January 31/2005	<0.10	ug/L	No
Diazinon	January 31/2005	<0.10	ug/L	No
Dicamba	January 31/2005	<0.20	ug/L	No
1,2-Dichlorobenzene	January 31/2005	<0.50	ug/L	No
1,4-Dichlorobenzene	January 31/2005	<0.50	ug/L	No
Dichlorodiphenyltrichloroethane (DDT) + metabolites	January 31/2005	<0.40	ug/L	No
1,2-Dichloroethane	January 31/2005	<0.50	ug/L	No

<b>1,1-Dichloroethylene (vinylidene chloride)</b>	<b>January 31/2005</b>	<b>&lt;0.50</b>	<b>ug/L</b>	<b>No</b>
<b>Dichloromethane</b>	<b>January 31/2005</b>	<b>&lt;0.50</b>	<b>ug/L</b>	<b>No</b>
<b>2-4 Dichlorophenol</b>	<b>January 31/2005</b>	<b>&lt;0.50</b>	<b>ug/L</b>	<b>No</b>
<b>2,4-Dichlorophenoxy acetic acid (2,4-D)</b>	<b>January 31/2005</b>	<b>&lt;0.20</b>	<b>ug/L</b>	<b>No</b>
<b>Diclofop-methyl</b>	<b>January 31/2005</b>	<b>&lt;0.20</b>	<b>ug/L</b>	<b>No</b>
<b>Dimethoate</b>	<b>January 31/2005</b>	<b>&lt;0.10</b>	<b>ug/L</b>	<b>No</b>
<b>Dinoseb</b>	<b>January 31/2005</b>	<b>&lt;0.20</b>	<b>ug/L</b>	<b>No</b>
<b>Diquat</b>	<b>January 31/2005</b>	<b>&lt;7</b>	<b>ug/L</b>	<b>No</b>
<b>Diuron</b>	<b>January 31/2005</b>	<b>&lt;10</b>	<b>ug/L</b>	<b>No</b>
<b>Glyphosate</b>	<b>January 31/2005</b>	<b>&lt;10</b>	<b>ug/L</b>	<b>No</b>
<b>Heptachlor + Heptachlor Epoxide</b>	<b>January 31/2005</b>	<b>&lt;0.20</b>	<b>ug/L</b>	<b>No</b>
<b>Lindane (Total)</b>	<b>January 31/2005</b>	<b>&lt;0.10</b>	<b>ug/L</b>	<b>No</b>
<b>Malathion</b>	<b>January 31/2005</b>	<b>&lt;0.10</b>	<b>ug/L</b>	<b>No</b>
<b>Methoxychlor</b>	<b>January 31/2005</b>	<b>&lt;0.10</b>	<b>ug/L</b>	<b>No</b>
<b>Metolachlor</b>	<b>January 31/2005</b>	<b>&lt;0.10</b>	<b>ug/L</b>	<b>No</b>
<b>Metribuzin</b>	<b>January 31/2005</b>	<b>&lt;0.10</b>	<b>ug/L</b>	<b>No</b>
<b>Monochlorobenzene</b>	<b>January 31/2005</b>	<b>&lt;0.50</b>	<b>ug/L</b>	<b>No</b>
<b>Paraquat</b>	<b>January 31/2005</b>	<b>&lt;1</b>	<b>ug/L</b>	<b>No</b>
<b>Parathion</b>	<b>January 31/2005</b>	<b>&lt;0.10</b>	<b>ug/L</b>	<b>No</b>
<b>Pentachlorophenol</b>	<b>January 31/2005</b>	<b>&lt;0.50</b>	<b>ug/L</b>	<b>No</b>
<b>Phorate</b>	<b>January 31/2005</b>	<b>&lt;0.10</b>	<b>ug/L</b>	<b>No</b>
<b>Picloram</b>	<b>January 31/2005</b>	<b>&lt;0.20</b>	<b>ug/L</b>	<b>No</b>

Polychlorinated Biphenyls(PCB)	January 31/2005	<0.08	ug/L	No
Prometryne	January 31/2005	<0.10	ug/L	No
Simazine	January 31/2005	<0.10	ug/L	No
THM First Quarter	January 31/2005	62.0	ug/L	N/A
THM Second Quarter	May 10/2005	77.0	ug/L	N/A
THM Third Quarter	August /2005	162.0	ug/L	N/A
THM Fourth Quarter	November 25/2005	72.0	ug/L	N/A
THM	Running Annual Average	93.25	ug/L	No
Temephos	January 31/2005	<0.10	ug/L	No
Terbufos	January 31/2005	<0.20	ug/L	No
Tetrachloroethylene	January 31/2005	<0.50	ug/L	No
2,3,4,6-Tetrachlorophenol	January 31/2005	<0.50	ug/L	No
Triallate	January 31/2005	<0.10	ug/L	No
Trichloroethylene	January 31/2005	<0.50	ug/L	No
2,4,6-Trichlorophenol	January 31/2005	<0.50	ug/L	No
2,4,5-Trichlorophenoxy acetic acid (2,4,5-T)	January 31/2005	<0.20	ug/L	No
Trifluralin	January 31/2005	<0.10	ug/L	No
Vinyl Chloride	January 31/2005	<0.50	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
THM Quarterly Average	93.25	ug/L	January 31/2005 May 10/2005 August 9/2005 November 24/2005

**(Only if DWS category is large municipal residential, small municipal residential, large municipal non residential, non municipal year round residential, large non municipal non residential)**