



**OPTIONAL ANNUAL REPORT TEMPLATE**

<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, 2014 – DECEMBER 31, 2014

<p><b><u>Complete if your Category is Large Municipal Residential or Small Municipal Residential</u></b></p> <p><b>Does your Drinking-Water System serve more than 10,000 people? Yes [X] No [ ]</b></p> <p><b>Is your annual report available to the public at no charge on a web site on the Internet? Yes [X] No [ ]</b></p> <p><b>Location where Summary Report required under O. Reg. 170/03 Schedule 22 will be available for inspection.</b></p> <div style="border: 1px solid black; padding: 5px;"> <p>City Hall – 1 Main Street South              Kenora Water Treatment Plant –              9 7th Street South              City of Kenora – Website  <a href="http://www.kenora.ca">http://www.kenora.ca</a></p> </div>	<p><b><u>Complete for all other Categories.</u></b></p> <p><b>Number of Designated Facilities served:</b></p> <div style="border: 1px solid black; padding: 2px; width: fit-content;">N/A</div> <p><b>Did you provide a copy of your annual report to all Designated Facilities you serve? Yes [ ] No [ ]</b></p> <p><b>Number of Interested Authorities you report to:</b></p> <div style="border: 1px solid black; padding: 2px; width: fit-content;">N/A</div> <p><b>Did you provide a copy of your annual report to all Interested Authorities you report to for each Designated Facility? Yes [ ] No [ ]</b></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:**

<b>Drinking Water System Name</b>	<b>Drinking Water System Number</b>
Rocky Heights Distribution 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? Yes [X] 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 5136. 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 plant uses chloramination to provide secondary disinfection prior to distribution.

**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**

Replacement of Aluminum Sulphate Metering Pumps  
Replacement of Three Backwash Valves  
Addition of Plant Discharge Pressure Transmitter  
SCADA Programming for Low Chlorine Shutdowns  
Installation of Natural Gas Heating System for Lab/Lobby Area of WTP



**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**

<b>Incident Date</b>	<b>Parameter</b>	<b>Result</b>	<b>Unit of Measure</b>	<b>Corrective Action</b>	<b>Corrective Action Date</b>
<b>Feb 18 2014</b>	<b>Turbidimeter Failure</b>	<b>Loss of Data</b>	<b>NTU</b>	<b>Replaced burned out turbidimeter bulb. No turbidity data was recorded for 17 minutes on filter #4</b>	<b>Feb 18 2014</b>
<b>Mar 1 2014</b>	<b>Isolating valves at repaired mains were opened before bacti results could be obtained in order to protect further watermain sections from breaking</b>	<b>City Wide BWA</b>		<b>Due to extremely cold weather with unusual frost depth the city experienced multiple watermain breaks in a very short duration during February and March. Due to this the isolated repaired sections of main awaiting bacti results needed to be opened to maintain the remainder of the systems integrity. As a result there was a City wide BWA issued prior to valves being opened. The City remained on a BWA for the duration of main repairs so that repairs could be put back into service once the repair was completed. In consultation with the MOE and NWHU city wide</b>	<b>Mar 27 2014</b>



				sampling was done with absent TC/EC results prior to lifting BWA.	
<b>May 1 2014</b>	<b>Low chlorine residual in Distribution system</b>	<b>0.00</b>	<b>mg/L</b>	<b>Flushed hydrant at the end of main to restore disinfection. A frozen section of the main on a previous repair site had created a dead end in an area that normally circulated. Monitored residuals periodically until frost thawed and regular flow was restored.</b>	<b>May 6 2014</b>
<b>Jul 5 2014</b>	<b>Total Coliform present in sample from a new watermain to be put in service.</b>	<b>Present</b>		<b>Flushed hydrant at the end and resampled affected and upstream areas. Resamples came back absent of TC/EC.</b>	<b>Jul 7 2014</b>
<b>Jul 16 2014</b>	<b>Total Coliform present in sample from a newly installed watermain to be put in</b>	<b>Present</b>		<b>Flushed main and resampled. Resample came back present for TC. Flushed and resampled again from businesses under BWA</b>	<b>Jul 24 2014</b>



	service.			drawing water from new main. Resample came back present for TC. Flushed and resampled again. Resample results came back absent of TC/EC.	
<b>Jul 24 2014</b>	<b>Total coliform present in repaired watermain under BWA.</b>	<b>Present</b>		<b>Flushed main and resampled. Resample results came back absent of TC/EC.</b>	<b>Jul 30 2014</b>
<b>Aug 2 2014</b>	<b>Total Coliform present in sample from a new watermain to be put in service.</b>	<b>Present</b>		<b>Flushed main and resampled. Resample present for TC. Flushed again and resampled. Resample present for TC again. After discussing with MOE/NWHU the repaired main was flushed, superchlorinated and resampled again. Resamples came back absent of TC/EC.</b>	<b>Aug 25 2014</b>
<b>Aug 20 2014</b>	<b>Total Coliform present in both samples from a new watermain to be put in service.</b>	<b>Present</b>		<b>Samples were taken from a fire hydrant which was the only available sampling point on new main. Installed a more appropriate sample tap onto hydrant and resampled.</b>	<b>Aug 25 2014</b>



				Resamples came back absent of TC/EC.	
Sep 14 2014	Total Coliform present in both samples from a new watermain to be put in service.	Present		Flushed and resampled. Resamples came back absent of TC/EC.	Sep 22 2014
Sep 19 2014	Low chlorine residual in Distribution system	0.11	mg/L	Dead end main was flushed through hydrant and repairs were made to bleeder and end of the main. Monitored periodically throughout remainder of the summer.	Sep 22 2014
Sep 22 2014	Low chlorine residual in Distribution system	0.02	mg/L	Dead end main was flushed through hydrant and disinfection was restored.	Sep 22 2014
Sep 29 2014	Low chlorine residual in Distribution system	0.05	mg/L	Dead end main was flushed through hydrant and disinfection was restored. A bleeder was restored at the end of the main to maintain residual.	Oct 2 2014

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 Results (min #)-(max #)	Range of Total Coliform Results	Number of HPC Samples	Range of HPC Results (min #)-(max #)
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			(min #)-(max #)		
<b>Raw</b>	<b>53</b>	<b>&lt;1 – 2</b>	<b>&lt;1 – 613</b>	<b>N/A</b>	<b>N/A</b>
<b>Treated</b>	<b>53</b>	<b>Absent</b>	<b>Absent</b>	<b>53</b>	<b>0 – 126</b>
<b>Distribution</b>	<b>320</b>	<b>Absent</b>	<b>Absent</b>	<b>97</b>	<b>0 – 4</b>

**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	Number of Online Samples	Range of Results
<b>Turbidity</b>	<b>365</b>	<b>0.025 - 0.113 NTU</b>	<b>8760</b>	<b>0.030 – 0.107 NTU</b>
<b>Chlorine</b>	<b>365</b>	<b>1.71 – 2.26 mg/L</b>	<b>8760</b>	<b>1.55 – 2.38 mg/L</b>
<b>Fluoride (If the DWS provides fluoridation)</b>	<b>365</b>	<b>0.02 -0.73 mg/L</b>	<b>8760</b>	<b>0.03 – 0.66 mg/L</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>Nov 3/2004</b>	<b>Total suspended solids</b>	<b>No samples were taken as effluent was not discharged to lake in 2014.</b>	<b>N/A</b>	<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
<b>Antimony</b>	<b>Jan 6/2014</b>	<b>&lt;0.60</b>	<b>µg/L</b>	<b>No</b>
<b>Arsenic</b>	<b>Jan 6/2014</b>	<b>&lt;1.0</b>	<b>µg/L</b>	<b>No</b>
<b>Barium</b>	<b>Jan 6/2014</b>	<b>10</b>	<b>µg/L</b>	<b>No</b>
<b>Boron</b>	<b>Jan 6/2014</b>	<b>&lt;50</b>	<b>µg/L</b>	<b>No</b>
<b>Cadmium</b>	<b>Jan 6/2014</b>	<b>&lt;0.10</b>	<b>µg/L</b>	<b>No</b>

<b>Chromium</b>	<b>Jan 6/2014</b>	<b>&lt;1.0</b>	<b>µg/L</b>	<b>No</b>
<b>*Lead</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>
<b>Mercury</b>	<b>Jan 6/2014</b>	<b>&lt;0.10</b>	<b>µg/L</b>	<b>No</b>
<b>Selenium</b>	<b>Jan 6/2014</b>	<b>&lt;1.0</b>	<b>µg/L</b>	<b>No</b>
<b>Sodium</b>	<b>Feb 8/2010</b>	<b>13.4</b>	<b>mg/L</b>	<b>No</b>
<b>Uranium</b>	<b>Jan 6/2014</b>	<b>&lt;2.0</b>	<b>µg/L</b>	<b>No</b>
<b>Fluoride</b>	<b>Feb 8/2010</b>	<b>0.582</b>	<b>mg/L</b>	<b>No</b>
<b>Nitrite</b>	<b>Jan 30/2014</b>	<b>&lt;0.020</b>	<b>mg/L</b>	<b>No</b>
	<b>Apr 7/2014</b>	<b>&lt;0.020</b>	<b>mg/L</b>	<b>No</b>
	<b>July 7/2014</b>	<b>&lt;0.020</b>	<b>mg/L</b>	<b>No</b>
	<b>Oct 6/2014</b>	<b>&lt;0.020</b>	<b>mg/l</b>	<b>No</b>
<b>Nitrate</b>	<b>Jan 30/2014</b>	<b>0.126</b>	<b>mg/L</b>	<b>No</b>
	<b>Apr 7/2014</b>	<b>0.155</b>	<b>mg/L</b>	<b>No</b>
	<b>July 7/2014</b>	<b>&lt;0.030</b>	<b>mg/L</b>	<b>No</b>
	<b>Oct 6/2014</b>	<b>0.078</b>	<b>mg/L</b>	<b>No</b>

\*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)

<b>Location Type</b>	<b>Number of Samples</b>	<b>Range of Lead Results (min#) – (max #)</b>	<b>Number of Exceedances</b>
<b>Plumbing</b>	<b>0</b>	<b>NA</b>	<b>NA</b>
<b>Distribution</b>	<b>0</b>	<b>NA</b>	<b>NA</b>

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

<b>Parameter</b>	<b>Sample Date</b>	<b>Result Value</b>	<b>Unit of Measure</b>	<b>Exceedance</b>
<b>Alachlor</b>	<b>Jan 6/2014</b>	<b>&lt;0.10</b>	<b>µg/L</b>	<b>No</b>
<b>Aldicarb</b>	<b>Jan 6/2014</b>	<b>&lt;1.0</b>	<b>µg/L</b>	<b>No</b>
<b>Aldrin + Dieldrin</b>	<b>Jan 6/2014</b>	<b>&lt;0.040</b>	<b>µg/L</b>	<b>No</b>
<b>Atrazine + N-dealkylated metabolites</b>	<b>Jan 6/2014</b>	<b>&lt;0.20</b>	<b>µg/L</b>	<b>No</b>
<b>Azinphos-methyl</b>	<b>Jan 6/2014</b>	<b>&lt;0.10</b>	<b>µg/L</b>	<b>No</b>
<b>Bendiocarb</b>	<b>Jan 6/2014</b>	<b>&lt;0.20</b>	<b>µg/L</b>	<b>No</b>
<b>Benzene</b>	<b>Jan 6/2014</b>	<b>&lt;0.50</b>	<b>µg/L</b>	<b>No</b>
<b>Benzo(a)pyrene</b>	<b>Jan 6/2014</b>	<b>&lt;0.010</b>	<b>µg/L</b>	<b>No</b>
<b>Bromoxynil</b>	<b>Jan 6/2014</b>	<b>&lt;0.20</b>	<b>µg/L</b>	<b>No</b>
<b>Carbaryl</b>	<b>Jan 6/2014</b>	<b>&lt;0.20</b>	<b>µg/L</b>	<b>No</b>
<b>Carbofuran</b>	<b>Jan 6/2014</b>	<b>&lt;0.20</b>	<b>µg/L</b>	<b>No</b>
<b>Carbon Tetrachloride</b>	<b>Jan 6/2014</b>	<b>&lt;0.50</b>	<b>µg/L</b>	<b>No</b>





Chlordane (Total)	Jan 6/2014	<0.30	µg/L	No
Chlorpyrifos	Jan 6/2014	<0.10	µg/L	No
Cyanazine	Jan 6/2014	<0.10	µg/L	No
Diazinon	Jan 6/2014	<0.10	µg/L	No
Dicamba	Jan 6/2014	<0.20	µg/L	No
1,2-Dichlorobenzene	Jan 6/2014	<0.50	µg/L	No
1,4-Dichlorobenzene	Jan 6/2014	<0.50	µg/L	No
Dichlorodiphenyltrichloroethane (DDT) + metabolites	Jan 6/2014	<0.40	µg/L	No
1,2-Dichloroethane	Jan 6/2014	<0.50	µg/L	No
1,1-Dichloroethylene (vinylidene chloride)	Jan 6/2014	<0.50	µg/L	No
Dichloromethane	Jan 6/2014	<0.50	µg/L	No
2-4 Dichlorophenol	Jan 6/2014	<0.30	µg/L	No
2,4-Dichlorophenoxy acetic acid (2,4-D)	Jan 6/2014	<0.20	µg/L	No
Diclofop-methyl	Jan 6/2014	<0.20	µg/L	No
Dimethoate	Jan 6/2014	<0.10	µg/L	No
Dinoseb	Jan 6/2014	<0.20	µg/L	No
Diquat	Jan 6/2014	<1.00	µg/L	No
Diuron	Jan 6/2014	<1.00	µg/L	No
Glyphosate	Jan 6/2014	<5.00	µg/L	No
Heptachlor + Heptachlor Epoxide	Jan 6/2014	<0.20	µg/L	No
Lindane (Total)	Jan 6/2014	<0.10	µg/L	No
Malathion	Jan 6/2014	<0.10	µg/L	No
Methoxychlor	Jan 6/2014	<0.10	µg/L	No
Metolachlor	Jan 6/2014	<0.10	µg/L	No
Metribuzin	Jan 6/2014	<0.10	µg/L	No
Monochlorobenzene	Jan 6/2014	<0.50	µg/L	No
Paraquat	Jan 6/2014	<1.00	µg/L	No
Parathion	Jan 6/2014	<0.10	µg/L	No
Pentachlorophenol	Jan 6/2014	<0.50	µg/L	No
Phorate	Jan 6/2014	<0.10	µg/L	No
Picloram	Jan 6/2014	<0.20	µg/L	No
Polychlorinated Biphenyls(PCB)	Jan 6/2014	<0.035	µg/L	No
Prometryne	Jan 6/2014	<0.10	µg/L	No
Simazine	Jan 6/2014	<0.10	µg/L	No
THM (NOTE: show latest annual average)	Jan 6/2014 April 7/2014 July 7/2014 Oct 6/2014	62.1	µg/L	No
Temephos	Jan 6/2014	<0.10	µg/L	No
Terbufos	Jan 6/2014	<0.20	µg/L	No
Tetrachloroethylene	Jan 6/2014	<0.50	µg/L	No
2,3,4,6-Tetrachlorophenol	Jan 6/2014	<0.50	µg/L	No



Triallate	Jan 6/2014	<0.10	µg/L	No
Trichloroethylene	Jan 6/2014	<0.50	µg/L	No
2,4,6-Trichlorophenol	Jan 6/2014	<0.50	µg/L	No
2,4,5-Trichlorophenoxy acetic acid (2,4,5-T)	Jan 6/2014	<0.20	µg/L	No
Trifluralin	Jan 6/2014	<0.10	µg/L	No
Vinyl Chloride	Jan 6/2014	<0.20	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.**

Parameter	Result Value	Unit of Measure	Date of Sample
Sodium	13.4	mg/L	Feb 8/2010
THM	62.1	µg/L	Annual Average