

February 5th, 2024

Mr. Jean-François Durocher

Water Inspector

Drinking Water and Environmental Compliance Division

Ministry of the Environment, Conservation and Parks

Subject:

2023 - Annual Report for the Limoges Drinking Water System

Dear Mr Durocher:

Please see attached, the summary report for the Limoges Drinking Water System that covers the period from January 1st, 2023 to December 31, 2023.

This summary report has been completed in accordance with O. Reg. 170/03 Schedule 22 under the Safe Drinking Water Act. The target due date for this report is March 31st, 2024.

This summary report includes quantities and flow rates of the water supplied to consumers serviced by the Limoges Drinking Water System, including monthly averages; and a comparison to the rated water supply capacity of the system.

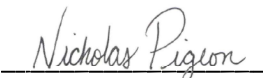
This report is also distributed to the Members of the Municipal Council.

Sincerely,



Sebastien Mainville

Water and Wastewater Manager (acting)



Nicholas Pigeon, CET

Water & Wastewater Director (acting) , ORO

In the preparation of this summary Report, we have complied with the following requirements:

- List the requirements of the Act, the Regulations, the Systems Approval, Drinking Water Works Permit, Municipal Drinking Water License, and any orders applicable to the system that were not met at any time during the period covered by the report;
- For each requirement referred to in clause (a) that was not met, specify the duration of the failure and the measurements that were taken to correct the failure;
- A summary of the quantities and flow rates of the water supplied during the period covered by the report, including monthly average and maximum daily flows;
- A comparison of the summary referred to in paragraph 1 to the rated capacity and flow rates approved in the system approval, drinking water works permit, or municipal drinking water license, or if the system is receiving all of its water from another system under an agreement pursuant to subsection 5 (4), to the flow rates specified in the written agreement.

Comparison:

During the period of January 1, 2023 to December 31, 2023:

- ***The maximum daily flow to the distribution*** system was 2237 m³/day. This occurred in May. On that day, 1918 m³ came from the wells and 440 m³ from Cheney (Clarence-Rockland). The 1918 m³ represented 92% of the rated capacity of 2080 m³/day, from our PTTW.
- ***The maximum daily flow from the wells*** was 2003 m³/day. This occurred in June, and it represented 96% of the rated capacity. In accordance with our PTTW # 1106-968LAR, the maximum rated flow from the wells is 24.1 L/sec or 2080 m³/day.
- ***The average daily distribution flow*** was 1117 m³/day.
 - During summer (May 1st to October 31st) months, the average daily distribution flow was 1297 m³.
 - During winter (January, February, March, April, November and December) months, the average daily distribution flow was 936 m³.
- ***The Total water taking from the City of Clarence-Rockland*** was 137 608 m³, for an average of 377 m³/day.



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

System Information

Drinking Water System Name:	Limoges Water Treatment Plant
Drinking Water System Number:	260006841
Drinking Water System Owner:	The Corporation of the Nation Municipality
Operathing Authority:	The Nation Municipality
Drinking Water System Category:	Large Municipal Residential
Period being reported:	Jan. 1 to Dec. 31, 2023

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 ()

Summary Report (170/03 Schedule 22) will be available for inspection at:

<p>The Nation municipality website</p>
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List all Drinking-Water System, which receive all of their drinking water from your system:

Drinking Water System Name	Drinking Water System Number
Le Baron Estate	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 another method _____

Describe your Drinking Water System

The Limoges water treatment plant was designed as a GUDI Treatment System. It is operated as a GUDI System; treating groundwater that has the potential of being influenced by surface water. The treatment uses a conventional process; chemically assisted filtration followed by disinfection. The plant has a rated capacity of 2080 m3/day; services the Village of Limoges, the Community of Forest Park, Le Baron Estate, and the Ben Tardif Trailer Park. Raw water is supplied from two production wells; delivered via a five km watermain into an aeration basin at the water treatment plant. Further treatment is achieved in sequence by chemical oxidation and a dual train chemically assisted filtration process. Primary disinfection is achieved by chlorination followed by chloramination for secondary disinfection. Treated water is stored in two onsite water storage reservoirs and then pumped into the distribution system. The Limoges drinking water system is also being supplied with chloraminated water from the Rockland WTP in the City of Clarence-Rockland. A 10 km transmission watermain supplies water to the LWTP from Cheney. The water first reaches the Re-chlorination building north of Limoges which consists of : a chemical feed system designed to boost the chloramine level, one flow meter, two CL2 analyzers (before and after chemical injection) and one standby power generator. Water is then directed to LWTP and into the two water storage towers. All processes are fully automated and monitored using a SCADA System. Operators perform routine monitoring, and maintain operation and production records of the groundwater supply wells, the plant and treatment processes, and the distribution systems. The Operators also conduct water quality sampling and testing, and system maintenance. The system operates under the MDWL 179-102 and the DWWP 179-202.

The Chemical feed systems consist of chemical pumps, storage tanks, piping and associated appurtances to deliver treatment chemicals including potassium permanganate, Alum, Polyelectrolyte, Sodium Hypochlorite and Ammonium Sulphate.

List all water treatment chemicals used over this reporting period

Chemical Name	Supplier
Potassium Permanganate	Brenntag
PAX-XL6	Kemira
Polyelectrolyte	Northland Chemicals Inc.
Sodium Hypochlorite	Brenntag
Ammonium Sulfate	Brenntag

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

Calibration of Flow meter	\$	4,600.00
Hydrant inspection & Flushing	\$	5,000.00
Replaced 4" flow meter on fill line at Forest Park booster	\$	1,500.00
Calibration of analysers and instruments	\$	1,600.00
Upgraded valve and piping in Forest Park easement	\$	114,000.00
Replaced flow meter at well #2	\$	6,000.00
Repaired 8" backwash line inside LWTP	\$	4,000.00
Replaced flow meter at entrance of Calypso Water Park	\$	2,500.00
Replaced head on air compressor #1	\$	1,800.00
SCADA and radio communication upgrade at LWTP	\$	150,000.00
Replaced air blower #1 at LWTP	\$	18,000.00
Rehab on reservoir #2 at LWTP	\$	17,000.00

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 Spill Action Centre.

Incident Date	Parameter	Result	Unit of Measure	Corrective Action	Corrective Action Date

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
		(min#)-(max#)	(min#)-(max#)		(min#)-(max#)
Raw Well # 1	52	0 - 0	0 - 0	N/A	N/A
Raw Well # 2	46	0 - 0	0 - 0	N/A	N/A
Treated	52	0 - 0	0 - 0	52	0 - 10
Distribution	260	0 - 0	0 - 0	104	0 - 50

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#)	<i>For continuous monitors use 8760 as the number of samples.</i>
Turbidity (Raw W1)	26	(6.00) - (14.14)	
Turbidity (Raw W2)	23	(0,08) - (4.49)	
Chlorine Combined Dist. Syst,	8760	(0.62) - (2,66)	
Chlorine Combined Dist. Syst,	301	(0.59) - (2,51)	
Turbidity (Treated water)	203	(0,01) - (0.29)	
Turbidity (Treated water)	8760	(0,04) - (0.94)	

Note: Record the unit of measure if it is not milligrams per liter. *Average per day of combine chlorine in distribution system

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				

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

Parameter	Sample date	Result value (mg/L)	Limit (mg/L)	Exceedance
Antimony	04-Apr-23	<0.0001	0.006	No
Arsenic	04-Apr-23	<0.0001	0.01	No
Barium	17-Jan-23	0.416	1	No
Barium	04-Apr-23	0.466	1	No
Barium	07-Jul-23	0.504	1	half mac
Barium	03-Oct-23	0.443	1	No
Boron	04-Apr-23	0.043	5	No
Cadmium	04-Apr-23	< 0.000015	0.005	No
Calcium	04-Apr-23	65.6		
Chromium	04-Apr-23	< 0.0010	0.05	No
Fluoride	to be sampled in 2024		1.5	
Hardness	04-Apr-23	225		
Iron	04-Apr-23	<0.005		
Magnesium	04-Apr-23	14.9		
Manganese	04-Apr-23	0.003		
Mercury	04-Apr-23	<0.00002	0.001	No
Selenium	04-Apr-23	< 0.001	0.05	No
Sodium	to be sampled in 2024		Health >20 reportable (Limit: 200)	
Uranium	04-Apr-23	< 0.00005	0.02	No
Nitrite	17-Jan-23	< 0.1	1	No
Nitrite	04-Apr-23	< 0.05	1	No
Nitrite	07-Jul-23	< 0.05	1	No
Nitrite	03-Oct-23	0.07	1	No
Nitrate	17-Jan-23	0.4	10	No
Nitrate	04-Apr-23	0.33	10	No
Nitrate	07-Jul-23	0.31	10	No
Nitrate	03-Oct-23	0.29	10	No

Summary of Lead testing under Schedule 15.1 during this reporting period

Location Type	Number of samples	Limit	Range of Lead Results (mg/L)		Number of Exceedance
			(min #)	(max #)	
Plumbing	N/A				N/A
Distribution	6	0.1 mg/L	< 0.00002	0.00012	No
Alkalinity	7		167	201	N/A
pH	7		(7.69 - 8.16)		No

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

Parameter	Sample date	Result value (µg/L)	Conversion in mg/L	Limit (mg/L)	Exceedance
Alachlor	2023-04-04	0.3	0.0003	0.005 mg/L	no
Atrazine + N-dealkylated metabolites	2023-04-04	0.5	0.0005	0.005 mg/L	no
Azinphos-methyl	2023-04-04	1	0.0010	0.02 mg/L	no
Benzene	2023-04-04	0.5	0.0005	0.001 mg/L	no
Benzo(a)pyrene	2023-04-04	0.006	0.0000	0.00001 mg/L	no
Bromoxynil	2023-04-04	0.5	0.0005	0.005 mg/L	no
Carbaryl	2023-04-04	3	0.0030	0.09 mg/L	no
Carbofuran	2023-04-04	1	0.0010	0.09 mg/L	no
Carbon Tetrachloride	2023-04-04	0.2	0.0002	0.002 mg/L	no
Chlorpyrifos	2023-04-04	0.5	0.0005	0.09 mg/L	no
Diazinon	2023-04-04	1	0.0010	0.02 mg/L	no
Dicamba	2023-04-04	1	0.0010	0.12 mg/L	no
1,2-Dichlorobenzene	2023-04-04	0.5	0.0005	0.2 mg/L	no
1,4-Dichlorobenzene	2023-04-04	0.5	0.0005	0.005 mg/L	no
1,2-Dichloroethane	2023-04-04	0.5	0.0005	0.005 mg/L	no
1,1-Dichloroethylene (vinylidene chloride)	2023-04-04	0.5	0.0005	0.014 mg/L	no
Dichloromethane	2023-04-04	5	0.0050	0.05 mg/L	no
2-4 Dichlorophenol	2023-04-04	0.2	0.0002	0.9 mg/L	no
2,4-Dichlorophenoxy acetic acid (2,4-D)	2023-04-04	1	0.0010	0.1 mg/L	no
Diclofop-methyl	2023-04-04	0.9	0.0009	0.009 mg/L	no
Dimethoate	2023-04-04	1	0.0010	0.02 mg/L	no
Diquat	2023-04-04	5	0.0050	0.07 mg/L	no
Diuron	2023-04-04	5	0.0050	0.15 mg/L	no
Glyphosate	2023-04-04	25	0.0250	0.28 mg/L	no
Malathion	2023-04-04	5	0.0050	0.19 mg/L	no
2-Methyl-4-chlorophenoxyacetic acid (MCP)	2023-04-04	10	0.0100	0.1 mg/L	no
Metholachlor	2023-04-04	3	0.0030	0.05 mg/L	no
Metribuzin	2023-04-04	3	0.0030	0.08 mg/L	no
Monochlorobenzene	2023-04-04	0.5	0.0005	0.08 mg/L	no
Paraquat	2023-04-04	1	0.0010	0.01 mg/L	no
Pentachlorophenol	2023-04-04	0.2	0.0002	0.06 mg/L	no
Phorate	2023-04-04	0.3	0.0003	0.002 mg/L	no
Picloram	2023-04-04	5	0.0050	0.19 mg/L	no

Limoges Drinking Water System

Ontario Regulation 170/03, Section 11 Annual Report 2023

Parameter	Sample date	Result value (µg/L)	Conversion in (mg/L)	Limit (mg/L)	Exceedance
Polychlorinated Biphenyls (PCB)	2023-04-04	0.05	0.0001	0.003 mg/L	no
Prometryne	2023-04-04	0.1	0.0001	0.001 mg/L	no
Simazine	2023-04-04	0.5	0.0005	0.01 mg/L	no
Terbufos	2023-04-04	0.5	0.0005	0.001 mg/L	no
Tetrachloroethylene	2023-04-04	0.5	0.0005	0.01 mg/L	no
2,3,4,6- Tetrachlorophenol	2023-04-04	0.2	0.0002	0.1 mg/L	no
Triallate	2023-04-04	10	0.0100	0.23 mg/L	no
Trichloroethylene	2023-04-04	0.5	0.0005	0.005 mg/L	no
2,4,6- Trichlorophenol	2023-04-04	0.2	0.0002	0.005 mg/L	no
Trifluralin	2023-04-04	0.5	0.0005	0.045 mg/L	no
Vinyl Chloride	2023-04-04	0.2	0.0002	0.001 mg/L	no
Trihalomethanes (THM)	2023 RAA	37	0.037	0.1 mg/L	no
Haloacetic acids (HAA)	2023 RAA	27.33	0.027	0.08 mg/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
Barium	0.504	mg/L	2023-07-04
Chloramines	2.66 (max value)	mg/L	Jan - Dec