

January 20<sup>th</sup>, 2021

**Mr. Jean-François Durocher**  
Water Inspector  
Drinking Water and Environmental Compliance Division  
Ministry of the Environment, Conservation and Parks

**Subject:**

**2020 - Annual Report for the Limoges Drinking Water System**

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Dear Mr Durocher:

Please see attached, the summary report for the Limoges Drinking Water System that covers the period from January 1<sup>st</sup>, 2020 to December 31, 2020.

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 31<sup>st</sup>, 2021.

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 and the Executive committee from the Nation Municipality.

Sincerely,



Nicholas Pigeon, CET  
O.I.C. Water and Wastewater



Doug Renaud,  
Director of Water & Wastewater



Desmond Verasammy, CET  
Overall Responsible Operator

***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, 2020 to December 31, 2020:

- The maximum daily flow to the distribution system was 1591 m<sup>3</sup>/day. This occurred in May, and it represented 76% of the rated capacity of 2080 m<sup>3</sup>/day.
- The maximum daily flow from the wells was 1921 m<sup>3</sup>/day. This occurred in June, and it represented 92% 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 m<sup>3</sup>/day.
- The average daily distribution flow was 961 m<sup>3</sup>/day.



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

**System Information**

<b>Drinking Water System Name:</b>	Limoges Water Treatment Plant
<b>Drinking Water System Number:</b>	260006841
<b>Drinking Water System Owner:</b>	The Corporation of the Nation Municipality
<b>Operating Authority:</b>	The Nation Municipality
<b>Drinking Water System Category:</b>	Large Municipal Residential
<b>Period being reported:</b>	Jan. 1 to Dec. 31, 2020

**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><b>Municipal Office</b>  <b>The Corporation of the Nation municipality</b>  <b>958 Route 500 West</b>  <b>Casselman, ON</b>  <b>K0A1M0</b></p>
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**List all Drinking-Water System, which receive all of their drinking water from your system:**

<b>Drinking Water System Name</b>	<b>Drinking Water System Number</b>
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 towers and then pumped into the distribution system. 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 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

Water hauling - To supplement supply	\$	45,200.00
Well #2 rehab and camera inspection	\$	35,700.00
Calibration of Flow meter	\$	600.00
Hydrant inspection & Flushing	\$	4,500.00
Scada PLC upgrades	\$	35,000.00
Replaced all 4 post KMN04 dosage pumps	\$	14,600.00
Replaced flow meter in booster station	\$	5,000.00
Replaced flow meter at well #1	\$	4,500.00
Replaced both ammonia dosage pumps	\$	7,300.00
Rehab of booster pump #1	\$	3,600.00
Calibration of analyzers and instruments	\$	1,025.00

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
2020-06-18	other observations : low pressure in distribution system caused by generator failure	<20	psi	flushed all dead ends of distribution system, took DPD test, took turbidity test, took 5 samples to lab, all negative.	2020-06-20

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 Well # 1	52	0 - 1	0 - 2	N/A	N/A
Raw Well # 2	51	0 - 0	0 - 0	N/A	N/A
Treated	52	0 - 0	0 - 0	52	0 - 80
Distribution	208	0 - 0	0 - 0	52	0 - 6

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	(0.41) - (13.04)	
Turbidity (Raw W2)	26	(0,24) - (2.78)	
Chlorine Combined Dist. Syst,	8760	(0,66) - (2,58)	
Turbidity (Treated water)	8760	(0,04) - (1,43)	

**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	28-Apr-20	<0.0001	0.006	No
Arsenic	28-Apr-20	<0.0001	0.01	No
Barium	2020 RAA	0.641	1	HalfMac
Boron	28-Apr-20	0.043	5	No
Cadmium	28-Apr-20	< 0.000015	0.005	No
Chromium	28-Apr-20	< 0.002	0.05	No
Fluoride	to be sampled in 2024		1.5	
Mercury	28-Apr-20	<0.00002	0.001	No
Selenium	28-Apr-20	< 0.001	0.05	No
Sodium	to be sampled in 2024		Health >20 reportable (Limit: 200)	
Uranium	28-Apr-20	< 0.00005	0.02	No
Nitrite	2020 RAA	<0.1	1	No
Nitrate	2020 RAA	0.3	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	< 0.00003	0.00077	No
Alkalinity	6		211	246	N/A
pH	6		(8.01 - 8.06)		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	2020-04-28	0.3	0.0003	0.005 mg/L	no
Atrazine + N-dealkylated metabolites	2020-04-28	0.5	0.0005	0.005 mg/L	no
Azinphos-methyl	2020-04-28	1	0.0010	0.02 mg/L	no
Benzene	2020-04-28	0.5	0.0005	0.001 mg/L	no
Benzo(a)pyrene	2020-04-28	0.005	0.0000	0.00001 mg/L	no
Bromoxynil	2020-04-28	0.5	0.0005	0.005 mg/L	no
Carbaryl	2020-04-28	3	0.0030	0.09 mg/L	no
Carbofuran	2020-04-28	1	0.0010	0.09 mg/L	no
Carbon Tetrachloride	2020-04-28	0.2	0.0002	0.002 mg/L	no
Chlorpyrifos	2020-04-28	0.5	0.0005	0.09 mg/L	no
Diazinon	2020-04-28	1	0.0010	0.02 mg/L	no
Dicamba	2020-04-28	10	0.0100	0.12 mg/L	no
1,2-Dichlorobenzene	2020-04-28	0.5	0.0005	0.2 mg/L	no
1,4-Dichlorobenzene	2020-04-28	0.5	0.0005	0.005 mg/L	no
1,2-Dichloroethane	2020-04-28	0.5	0.0005	0.005 mg/L	no
1,1-Dichloroethylene (vinylidene chloride)	2020-04-28	0.5	0.0005	0.014 mg/L	no
Dichloromethane	2020-04-28	5	0.0050	0.05 mg/L	no
2-4 Dichlorophenol	2020-04-28	0.1	0.0001	0.9 mg/L	no
2,4-Dichlorophenoxy acetic acid (2,4-D)	2020-04-28	10	0.0100	0.1 mg/L	no
Diclofop-methyl	2020-04-28	0.9	0.0009	0.009 mg/L	no
Dimethoate	2020-04-28	1	0.0010	0.02 mg/L	no
Diquat	2020-04-28	5	0.0050	0.07 mg/L	no
Diuron	2020-04-28	5	0.0050	0.15 mg/L	no
Glyphosate	2020-04-28	25	0.0250	0.28 mg/L	no
Malathion	2020-04-28	5	0.0050	0.19 mg/L	no
2-Methyl-4-chlorophenoxyacetic acid (MCP)	2020-04-28	10	0.0100	0.1 mg/L	no
Metholachlor	2020-04-28	3	0.0030	0.05 mg/L	no
Metribuzin	2020-04-28	3	0.0030	0.08 mg/L	no
Monochlorobenzene	2020-04-28	0.5	0.0005	0.08 mg/L	no
Paraquat	2020-04-28	1	0.0010	0.01 mg/L	no
Pentachlorophenol	2020-04-28	0.1	0.0001	0.06 mg/L	no
Phorate	2020-04-28	0.3	0.0003	0.002 mg/L	no
Picloram	2020-04-28	15	0.0150	0.19 mg/L	no

Limoges Drinking Water System

Ontario Regulation 170/03, Section 11 Annual Report 2020

Parameter	Sample date	Result value (µg/L)	Conversion in (mg/L)	Limit (mg/L)	Exceedance
Polychlorinated Biphenyls (PCB)	2020-04-28	0.05	0.0001	0.003 mg/L	no
Prometryne	2020-04-28	0.1	0.0001	0.001 mg/L	no
Simazine	2020-04-28	0.5	0.0005	0.01 mg/L	no
Terbufos	2020-04-28	0.5	0.0005	0.001 mg/L	no
Tetrachloroethylene	2020-04-28	0.5	0.0005	0.01 mg/L	no
2,3,4,6- Tetrachlorophenol	2020-04-28	0.1	0.0001	0.1 mg/L	no
Triallate	2020-04-28	10	0.0100	0.23 mg/L	no
Trichloroethylene	2020-04-28	0.5	0.0005	0.005 mg/L	no
2,4,6- Trichlorophenol	2020-04-28	0.1	0.0001	0.005 mg/L	no
Trifluralin	2020-04-28	0.5	0.0005	0.045 mg/L	no
Vinyl Chloride	2020-04-28	0.2	0.0002	0.001 mg/L	no
Trihalomethanes (THM)	2020 RAA		0.032	0.1 mg/L	no
Haloacetic acids (HAA)	2020 RAA		0.023	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	<b>0.622</b>	mg/L	2020-01-21
Barium	<b>0.662</b>	mg/L	2020-04-28
Barium	<b>0.685</b>	mg/L	2020-07-07
Barium	<b>0.594</b>	mg/L	2020-10-06

Limoges Drinking Water System

Ontario Regulation 170/03, Section 11 Annual Report 2020