February 9th, 2022

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

Subject:

2021 - 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, 2021 to December 31, 2021.

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, 2022.

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
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, 2021 to December 31, 2021:

- The maximum daily flow to the distribution system was 1583 m^3/day. This occurred in May, and it represented 76% of the rated capacity of 2080 m^3/day.
- The maximum daily flow from the wells was 1906 m^3/day. This occurred in August, 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^3/day.
- The average daily distribution flow was 1008 m^3/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, 2021

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:

Municipal Office
The Corporation of the Nation municipality
958 Route 500 West
Casselman, ON
K0A1M0

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.

(X) 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 inluding 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
(X) Repair required equipment
( ) Replace required equipment

Please provide a brief description and a breakdown of monetary expenses incurred

Calibration of Flow meter	**$**	**2,000.00**
Hydrant inspection & Flushing	**$**	**5,000.00**
Replaced polymer pump #1	**$**	**5,500.00**
Calibration of analysers and instruments	**$**	**1,200.00**
Replaced both chlorine dosage pumps	**$**	**11,000.00**

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
2021-07-13	other observations : low pressure in distribution system caused by Generator/SCADA programming.	<20	psi	prev. Boil water advisory & flushed all dead ends of distribution system, took DPD test, took turbidity test, took 5 samples to lab, all negative.	2021-07-15

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	52	0 - 0	0 - 3	N/A	N/A
Treated	52	0 - 0	0 - 0	52	0 - 2
Distribution	208	0 - 0	0 - 0	52	0 - 10

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#)	*For continuous monitors use 8760 as the number of samples.*
Turbidity (Raw W1)	25	(5.50) - (19.10)	
Turbidity (Raw W2)	25	(0,30) - (2.24)	
Chlorine Combined Dist. Syst,	8760	(1.27) - (2,68)	
Turbidity (Treated water)	8760	(0,04) - (0.55)	

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	***21-Apr-21***	*<0.0001*	0.006	***No***
Arsenic	***21-Apr-21***	<0.0001	0.01	***No***
Barium	***2021 RAA***	0.620	1	***HalfMac***
Boron	***21-Apr-21***	0.059	5	***No***
Cadmium	***21-Apr-21***	< 0.000015	0.005	***No***
Chromium	***21-Apr-21***	< 0.002	0.05	***No***
Fluoride	to be sampled in 2024		1.5	
Mercury	***21-Apr-21***	<0.00002	0.001	***No***
Selenium	***21-Apr-21***	< 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	**2021 RAA**	<0.1	1	***No***
Nitrate	**2021 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) (min #) - (max #)		Number of Exceedance
Plumbing	N/A				N/A
Distribution	6	0.1 mg/L	< 0.00003	0.0001	No
Alkalinity	6		216	253	N/A
pH	6		(8.04 - 8.21)		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	2021-04-21	0.3	0.0003	0.005 mg/L	no
Atrazine + N-dealkylated metobolites	2021-04-21	0.5	0.0005	0.005 mg/L	no
Azinphos-methyl	2021-04-21	1	0.0010	0.02 mg/L	no
Benzene	2021-04-21	0.5	0.0005	0.001 mg/L	no
Benzo(a)pyrene	2021-04-21	0.006	0.0000	0.00001 mg/L	no
Bromoxynil	2021-04-21	0.5	0.0005	0.005 mg/L	no
Carbaryl	2021-04-21	3	0.0030	0.09 mg/L	no
Carbofuran	2021-04-21	1	0.0010	0.09 mg/L	no
Carbon Tetrachloride	2021-04-21	0.2	0.0002	0.002 mg/L	no
Chlorpyfiros	2021-04-21	0.5	0.0005	0.09 mg/L	no
Diazinon	2021-04-21	1	0.0010	0.02 mg/L	no
Dicamba	2021-04-21	10	0.0100	0.12 mg/L	no
1,2-Dichlorobenzene	2021-04-21	0.5	0.0005	0.2 mg/L	no
1,4-Dichlorobenzene	2021-04-21	0.5	0.0005	0.005 mg/L	no
1,2-Dichloroethane	2021-04-21	0.5	0.0005	0.005 mg/L	no
1,1-Dichloroethylene (vinyldene chloride)	2021-04-21	0.5	0.0005	0.014 mg/L	no
Dichloromethane	2021-04-21	5	0.0050	0.05 mg/L	no
2-4 Dichlorophenol	2021-04-21	0.2	0.0002	0.9 mgL	no
2,4-Dichlorophenoxy acetic acid (2,4-D)	2021-04-21	10	0.0100	0.1 mg/L	no
Diclofop-methyl	2021-04-21	0.9	0.0009	0.009 mg/L	no
Dimethoate	2021-04-21	1	0.0010	0.02 mg/L	no
Diquat	2021-04-21	5	0.0050	0.07 mg/L	no
Diuron	2021-04-21	5	0.0050	0.15 mg/L	no
Glyphosate	2021-04-21	25	0.0250	0.28 mg/L	no
Malathion	2021-04-21	5	0.0050	0.19 mg/L	no
2-Methyl-4-chlorophenoxyacetic acid (MCP	2021-04-21	10	0.0100	0.1 mg/L	no
Metholachlor	2021-04-21	3	0.0030	0.05 mg/L	no
Metribuzin	2021-04-21	3	0.0030	0.08 mg/L	no
Monochlorobenzene	2021-04-21	0.5	0.0005	0.08 mg/L	no
Paraquat	2021-04-21	1	0.0010	0.01 mg/L	no
Pentachlorophenol	2021-04-21	0.2	0.0002	0.06 mg/L	no
Phorate	2021-04-21	0.3	0.0003	0.002 mg/L	no
Picloram	2021-04-21	15	0.0150	0.19 mg/L	no

Parameter	Sample date	Result value (µg/L)	Conversion in (mg/L)	Limit (mg/L)	Exceedance
Polychlorinated Biphenyls (PCB)	2021-04-21	0.05	0.0001	0.003 mg/L	no
Prometryne	2021-04-21	0.1	0.0001	0.001 mg/L	no
Simazine	2021-04-21	0.5	0.0005	0.01 mg/L	no
Terbufos	2021-04-21	0.5	0.0005	0.001 mg/L	no
Tetrachloroethylene	2021-04-21	0.5	0.0005	0.01 mg/L	no
2,3,4,6- Tetrachlorophenol	2021-04-21	0.2	0.0002	0.1 mg/L	no
Triallate	2021-04-21	10	0.0100	0.23 mg/L	no
Trichloroethylene	2021-04-21	0.5	0.0005	0.005 mg/L	no
2,4,6- Trichlorophenol	2021-04-21	0.2	0.0002	0.005 mg/L	no
Trifluralin	2021-04-21	0.5	0.0005	0.045 mg/L	no
Vinyl Chloride	2021-04-21	0.2	0.0002	0.001 mg/L	no
Trihalomethanes (THM)	2021 RAA	32	0.032	0.1 mg/L	no
Haloacetic acids (HAA)	2021 RAA	22	0.022	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	***0.609***	mg/L	2021-01-12
Barium	***0.633***	mg/L	2021-04-21
Barium	***0.564***	mg/L	2021-07-07
Barium	***0.673***	mg/L	2021-10-13