



February 26, 2018

M. Marc Legault,
The Corporation of the Nation Municipality
958 Hwy # 500 West, R.R. # 3
Casselman, ON
K0A 1M0

Subject: Summary and Annual Report for the Limoges Drinking Water System.

Mr. Legault :

The following document includes the Summary Report for the Limoges Drinking Water System, covering the period from January 1st to October 31st 2017. The Summary Report is completed in accordance with O.Reg 170/03 Schedule 22 under the Safe Drinking Water Act, which requires for it to be completed by February 28 of the following year.

The Summary Report includes a summary of the quantities and flow rates of the water supplied during the period covered including monthly average and maximum daily flow and a comparison of the summary to the rated capacity of the system.

It is to be distributed among the members of the municipal council and the board of directors of the Nation Corporation.

Sincerely,

A handwritten signature in blue ink, appearing to read "Luc Airoidi".

Luc Airoidi
Project Manager

cc: Doug Renaud, The Nation Municipality



The Nation Municipality

Report for Limoges Drinking Water System

2017 Summary and Annual report

Date : February 2018
N/Réf. : 058-P-0001826-027-EX-R-2017-00



Summary Report for the Limoges Drinking Water System

Background

O. Reg. 170/03 Schedule 22 Summary Reports for Municipalities applies for small and large municipal residential systems. The Limoges Drinking Water System is considered to be a large municipal residential system as it is a “municipal drinking water system that serves a major residential development and serves more than 100 private residences” as defined in Section 1 of O.Reg.170/03.

The summary report must be prepared by February 28 of the following year and must be given to:

- in the case of a drinking water system owned by a municipality, the members of the municipal council;
- in the case of a drinking water system owned by a municipal service board established under section 195 of the *Municipal Act, 2001*, the members of the municipal service board; or
- in the case of a drinking water system owned by a corporation, the board of directors of the corporation.

The Summary Report must:

- list the requirements of the Act, the regulations, the system’s approval, drinking water works permit, municipal drinking water licence, and any orders applicable to the system that were not met at any time during the period covered by the report; and
- for each requirement referred to in clause (a) that was not met, specify the duration of the failure and the measures 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’s approval, drinking water works permit or municipal drinking water licence, 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.

Content

The following table lists the requirements that the system failed to meet and the measures taken to correct the failures.

Drinking Water Legislation and	Requirements the system failed to meet	Duration of the failure	Corrective measures taken	Status
Safe Drinking Water Act, 2002	None	N/A	N/A	N/A
Ontario Regulations: O.Reg. 128/04 O.Reg. 169/03 O.Reg. 170/03	Preventive boiled water (Broke hydrant valve) Sodium (33.3 mg/l)	15-03-2017 N/A	Resample 0cfu/100ml Advise all citizen	Complete Open
Systems approval: Certificate of Approval	None	N/A	N/A	N/A
Drinking Water Works Permit under O.Reg 188/03	None	N/A	N/A	N/A
Municipal Drinking Water Licence under O.Reg 188/03	None	N/A	N/A	N/A
Provincial Officer's Order	None	N/A	N/A	N/A

Comparison:

During 2017 year, (January 1 to October 31), the maximum daily flow of 1 481 m³/d occurred during the month of June and represented 71,2 % of the rated capacity of the Limoges Water Treatment Plant which is 2080 m³/d.

The maximum daily flow from wells of 1444 L/Min (24.1 L/sec or 2080 m³/d) as per the Permit to Take Water number 1106-968LAR dated April 12th 2013. The maximum daily flow of 1714 m³/d, which occurred in July, represented 82,4 % of the rated capacity of the Limoges Water Treatment plant wells.

The average daily distribution flow during the 2017 year, (January 1 to October 31) was 927 m³/d.

2017 Summary Report Limoges Water Taking

Municipality: Village of Limoges and Forest Park in the Nation Township

Facility: Limoges Water Treatment Plant and Distribution System

Works: 260006841 - Limoges Water Treatment Plant and Water Distribution System

Classification: Class 1 Water Distribution

Water Source: Ground Water

Permit Number: 03-P-4045

Total Designed Capacity (m3/day): 2080

Period: 2017-01-01 to 2017-12-31

Rated Capacity (L/s) & (L/min) : 24,0 1440,0

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Sum
Well # 1													
Total Hours of Taking	191,80	159,53	153,60	138,76	156,14	127,37	98,54	177,65	188,90	150,84			1 543,13
Total Amount of Taking (m ³)	17 961	16 643	15 469	15 705	16 524	14 449	11 572	16 378	14 075	14 840			153 615
Average Daily Taking (m3)	579	594	499	524	533	516	609	528	469	479			533
% Rated Capacity (ave daily taking)	27,85	28,58	23,99	25,17	25,63	24,81	29,28	25,40	22,56	23,01	0,00	0,00	21,36
Max Daily Flow (m3)	1 021	1 127	942	952	1 075	1 111	1 247	975	1 038	944			1 247
% Rated Capacity (max daily flow)	49,10	54,18	45,27	45,78	51,66	53,43	59,96	46,86	49,92	45,40	0,00	0,00	59,96
Min Daily Flow (m3)	238	193	188	248	258	0	133	23	19	263			0
% Rated Capacity (max daily flow)	11,42	9,30	9,02	11,93	12,40	0,00	6,37	1,13	0,90	12,64	0,00	0,00	12,64
Average Daily Rate of Taking (L/s)	21,84	21,97	22,21	23,03	23,38	22,06	21,72	22,51	22,86	22,45			22,40
Peak Daily Rate of Taking (L/s)	23,97	23,99	23,83	23,93	24,00	24,00	24,00	24,00	23,98	23,98			24,00
% Peak Daily Rate of Taking (L/s)	99,88	99,96	99,29	99,71	100,00	100,00	100,00	100,00	99,92	99,92	0,00	0,00	100,00
Peak Daily Rate of Taking (L/min)	1 438	1 439	1 430	1 436	1 440	1 440	1 440	1 440	1 439	1 439	0	0	1 198,40
% Peak Daily Rate of Taking (L/min)	99,88	99,96	99,29	99,71	100,00	100,00	100,00	100,00	99,92	99,92	0,00	0,00	100,00
Well level (static & Dynamic)	6,33	6,47	7,20	8,44	9,08	8,74	9,20	8,65	8,29	7,92			8,03
Min Well level (Dynamic)	5,70	6,10	6,41	7,16	8,19	8,20	8,48	8,08	7,83	7,20			5,70
Max Well level (static)	6,69	6,90	7,51	9,01	9,67	9,30	9,76	9,12	8,63	8,28			9,76
Well # 2													
Total Hours of Taking	160,97	131,70	153,34	114,19	140,02	182,21	241,11	173,69	164,07	167,35			1 628,65
Total Amount of Taking (m ³)	16 851	15 332	16 500	12 563	16 428	21 319	26 036	18 781	15 800	14 695			174 305
Average Daily Taking (m3)	544	548	532	419	530	711	839,87	606	527	474			573
% Rated Capacity (ave daily taking)	26,13	26,33	25,59	20,13	25,48	34,16	40,38	29,13	25,32	22,79	0,00	0,00	22,95
Max Daily Flow (m3)	994	1 031	1 025	933	931	1 245	1 372	1 035	979,11	832,56			1 372,06
% Rated Capacity (max daily flow)	47,79	49,59	49,27	44,85	44,74	59,87	65,96	49,78	47,07	40,03	0,00	0,00	65,96
Min Daily Flow (m3)	104	24	271	0	263	315	319	251	11	3			0,00
% Rated Capacity (max daily flow)	4,98	1,14	13,04	0,00	12,66	15,13	15,35	12,07	0,51	0,16	0,00	0,00	15,35
Average Daily Rate of Taking (L/s)	22,60	22,68	23,06	20,59	21,97	22,16	22,45	22,52	22,22	21,93			22,22
Peak Daily Rate of Taking (L/s)	23,87	23,92	23,98	23,98	24,00	24,00	24,00	24,00	23,93	23,98			24,00
% Peak Daily Rate of Taking (L/s)	99,46	99,67	99,92	99,92	100,00	100,00	100,00	100,00	99,71	99,92	0,00	0,00	100,00
Peak Daily Rate of Taking (L/min)	1 432	1 435	1 439	1 439	1 440	1 440	1 440	1 440	1 436	1 439	0	0	1 198
% Peak Daily Rate of Taking (L/min)	99,46	99,67	99,92	99,92	100,00	100,00	100,00	100,00	99,71	99,92	0,00	0,00	100,00
Well level Average (Static & Dynamic)	6,39	6,54	7,26	8,56	9,21	8,81	9,17	8,86	8,45	8,06			8,13
Min Well level (Dynamic)	5,75	6,08	6,37	7,20	8,49	8,17	8,25	8,24	7,85	7,47			5,75
Max Well level (static)	6,76	6,98	7,59	9,16	9,82	9,45	9,83	9,44	8,84	8,46			9,83
Total Amount of Taking (m3)													
Total Amount of Taking (m ³)	34 812	31 975	31 969	28 268	32 951	35 768	37 608	35 159	29 875	29 535			327 920
Average Daily Taking (m3)	1 123	1 142	1 031	942	1 063	1 192	1 213	1 134	996	953			1 079

2017 Summary Report Limoges Water Distribution System

Municipality: Village of Limoges and Forest Park in the Nation Township

Facility: Limoges Water Treatment Plant and Distribution System

Works: 260006841 - Limoges Water Treatment Plant and Water Distribution System

Classification: Class 1 Water Distribution

Water Source: Ground Water

Serviced Population: 1300

Period: 2017-01-01 to 2017-12-31

Total Designed Capacity (m3/day): 2080

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Sum
DistributionSystem \ Flows													
POE - Flows (m3/day)													
Avg.	967	972	887	798	914	1027	1031	980	867	825			927
Max	1104	1084	1097	960	1366	1481	1464	1253	1051	963			1481
Min	904	905	725	671	707	770	796	788	736	719			671
Total	29977	27214	27487	23939	28341	30823	31955	30385	25997	25577			281695
Forest-Park booster - Flows (m3/day)													
Avg.	54	60	51	103	127	128	123	105	116	116			98
Max	85	111	87	155	204	242	286	149	196	179			286
Min	34	0	26	30	98	96	79	79	90	87			0
Total	1 674	1 608	1 576	3 104	3 553	3 831	3 828	3 262	3 358	3 493			29 287
Distribution System \ Health - Chlorine Residuals POE													
Minimum Total Cl ₂ (mg/L)													
Avg.	1,74	1,94	1,87	1,89	1,85	1,95	1,94	1,98	1,93	1,94			1,74
Min	1,05	1,20	1,25	0,87	0,74	1,31	1,31	1,50	1,26	1,49			0,74
Maximum Total Cl ₂ (mg/L)													
Avg.	1,90	2,14	2,02	2,10	2,05	2,14	2,14	2,22	2,26	2,16			2,26
Max	2,18	2,51	2,19	2,96	2,19	2,49	2,39	2,58	2,78	2,33			2,96
Minimum Free Cl ₂ (mg/L)													
Avg.	0,08	0,08	0,08	0,09	0,09	0,10	0,13	0,15	0,14	0,14			0,08
Min	0,06	0,06	0,06	0,06	0,07	0,08	0,11	0,13	0,11	0,11			0,06
Maximum Free Cl ₂ (mg/L)													
Avg.	0,14	0,14	0,13	0,19	0,18	0,17	0,24	0,27	0,25	0,23			0,27
Max	0,16	0,16	0,17	0,54	0,22	0,24	0,32	0,37	0,65	0,27			0,65
Minimum Combined Cl ₂ (mg/L)													
Avg.	1,63	1,82	1,75	1,73	1,71	1,81	1,73	1,74	1,72	1,74			1,63
Min	1,04	1,09	1,14	0,75	0,62	1,18	1,14	1,30	1,12	1,32			0,62
Maximum Combined Cl ₂ (mg/L)													
Avg.	1,80	2,02	1,93	1,96	1,94	2,04	1,97	2,03	2,09	1,99			2,09
Max	1,88	2,16	2,08	2,42	2,14	2,51	2,20	2,35	2,55	2,15			2,55
Mean Combined Cl ₂ (mg/L)													
Avg.	1,76	1,97	1,87	1,89	1,87	1,95	1,88	1,88	1,91	1,85			1,88



OPTIONAL ANNUAL REPORT TEMPLATE

Drinking-Water System Number:	260006841
Drinking-Water System Name:	Limoges Water Treatment Plant
Drinking-Water System Owner:	The Corporation of the Nation Municipality
Drinking-Water System Category:	Large Municipal Residential
Period being reported:	January 1 st to October 31 st 2017

<p><u>Complete if your Category is Large Municipal Residential or Small Municipal Residential</u></p> <p>Does your Drinking-Water System serve more than 10,000 people? Yes [] No [X]</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>Municipal Office The Corporation of the Nation Municipality 958 Hwy 500 W, RR # 3 Cassleman, ON, K0A1M0</p> </div>	<p><u>Complete for all other Categories.</u></p> <p>Number of Designated Facilities served:</p> <div style="border: 1px solid black; padding: 2px; width: fit-content; margin: 5px auto;">N/A</div> <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:</p> <div style="border: 1px solid black; padding: 2px; width: fit-content; margin: 5px auto;">N/A</div> <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
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 other method _____

Describe your Drinking-Water System

The Limoges water treatment plant is a ground water facility, service the Village of Limoges, the Community of Forest Park, Le Baron Estate and the Ben Tardif Trailer Park. The facility is rated at 2,080 m3/day and includes; two raw water production wells, two low lift pumps, two detention tanks, two clarifier/green sand filters, one clearwell (160 m3 capacity), one elevated water reservoir (1734 m3 capacity) and chemical feed systems.

The Chemical feed systems consist of chemical pumps, storage tanks, piping and associated appurtenances to dose potassium permanganate (primary and secondary doses), Alum, Polyelectrolyte, Sodium Hypochlorite and Ammonium Sulphate.

This facility operates under the Certificate of Approval number 7364 – 6SYKG8 and Permit to Take Water number 03-P-4045.

List all water treatment chemicals used over this reporting period

Potassium Permanganate, PAX-XL6, Polyelectrolyte, Sodium Hypochlorite, Ammonium Sulphate

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 valve	3 000\$
- Replace chlorine analyzer	5 000\$
- Inspect and Repair of fire hydrants	3 000\$
- Inspect generator (3)	4 500\$
- Calibration of flow meter	2 000\$
-	



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	Corrective Action Date
20-01	Sodium	33.3	mg/l	N/A Send letter to all citizen	

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	43	0 - 0	0 - <2	N/A	N/A
Raw Well # 2	43	0 - 0	0 - <2	N/A	N/A
Treated	43	0 - 0	0 - 0	43	0 - 10
Distribution	129	0 - 0	0 - 0	43	0 - 8

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 #)
Turbidity (Raw W1)	18	0.27 – 6.9
Turbidity (Raw W2)	18	0.54 – 5.35
Chlorine Combined Dist. Syst.	8760	0.62 – 2.55 *

NOTE: For continuous monitors use 8760 as the number of samples.

*NOTE: Record the unit of measure if it is not milligrams per liter.
Average per day of combine chlorine in distribution syst. : min. 1.63 – max. 2.09 mg/l

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

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	24/04/2017	<0.0001	mg/l	No
Arsenic	24/04/2017	0.0008	mg/l	No
Barium	18/10/2017	0.658	mg/l	Half Mac
Boron	13/04/2017	0.057	mg/l	No
Cadmium	24/04/2017	<0.00002	mg/l	No
Chromium	13/04/2017	<0.002	mg/l	No
Fluoride	03/04/2014	0.2	mg/l	No
Mercury	17/04/2017	0.00002	mg/l	No
Selenium	24/04/2017	<0.002	mg/l	No
Sodium	11/11/2014	33.2	mg/l	Yes
Uranium	24/04/2017	<0.00005	mg/l	No
Nitrite	17/10/2017	<0.1	mg/l	No
Nitrate	17/10/2017	0.3	mg/l	No

*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)

Location Type	Number of Samples	Range of Lead Results (min#) – (max #)	Number of Exceedances
Plumbing			N/A
Distribution	5	0.00004-0.00062	No
Alcalinity	1	227-235 mg/l	N/A
pH	1	7.98 – 8.06	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
HAA (NOTE: show latest annual average)	quarterly 2017	28.35	µg/L	No
Alachlor	24/04/17	<0.03	µg/L	No
Aldicarb	14/04/15	<0.3	µg/L	No
Aldrin + Dieldrin	13/04/15	<0.02	µg/L	No
Atrazine + N-dealkylated metabolites	24/04/17	<0.5	µg/L	No
Azinphos-methyl	24/04/17	<1	µg/L	No
Bendiocarb	13/04/15	<3	µg/L	No



Benzene	13/04/17	<0.5	µg/L	No
Benzo(a)pyrene	24/04/17	<0.005	µg/L	No
Bromoxynil	24/04/17	<0.3	µg/L	No
Carbaryl	24/04/17	<3	µg/L	No
Carbofuran	24/04/17	<1	µg/L	No
Carbon Tetrachloride	13/04/17	<0.2	µg/L	No
Chlordane (Total)	14/04/15	<0.04	µg/L	No
Chlorpyrifos	24/04/17	<0.5	µg/L	No
Cyanazine	13/04/15	<0.5	µg/L	No
Diazinon	24/04/17	<1	µg/L	No
Dicamba	24/04/17	<5	µg/L	No
1,2-Dichlorobenzene	13/04/17	<0.1	µg/L	No
1,4-Dichlorobenzene	13/04/17	<0.2	µg/L	No
Dichlorodiphenyltrichloroethane (DDT) + metabolites	13/04/15	<0.01	µg/L	No
1,2-Dichloroethane	13/04/17	<0.1	µg/L	No
1,1-Dichloroethene (vinylidene chloride)	13/04/17	<0.1	µg/L	No
Dichloromethane	13/04/17	<0.3	µg/L	No
2-4 Dichlorophenol	24/04/17	<0.1	µg/L	No
2,4-Dichlorophenoxy acetic acid (2,4-D)	24/04/17	<5	µg/L	No
Diclofop-methyl	24/04/17	<0.5	µg/L	No
Dimethoate	24/04/17	<1	µg/L	No
Dinoseb	13/04/15	<0.5	µg/L	No
Diquat	25/04/17	<5	µg/L	No
Diuron	24/04/17	<5	µg/L	No
Glyphosate	20/04/17	<25	µg/L	No
Heptachlor + Heptachlor Epoxide	14/04/15	<0.1	µg/L	No
Lindane (Total)	14/04/15	<0.1	µg/L	No
Malathion	24/04/17	<5	µg/L	No
MCPA	21/04/17	<.00012	µg/L	No
Methoxychlor	14/04/15	<0.1	µg/L	No
Metolachlor	24/04/17	<3	µg/L	No
Metribuzin	24/04/17	<3	µg/L	No
Monochlorobenzene	13/04/17	<0.2	µg/L	No
Paraquat	25/04/17	<1	µg/L	No
Parathion	13/04/15	<3	µg/L	No
Pentachlorophenol	24/04/17	<0.1	µg/L	No
Phorate	24/04/17	<0.3	µg/L	No
Picloram	24/04/17	<5	µg/L	No
Polychlorinated Biphenyls(PCB)	21/04/17	<0.05	µg/L	No
Prometryne	24/04/17	<0.1	µg/L	No
Simazine	24/04/17	<0.5	µg/L	No
THM (NOTE: show latest annual average)	quarterly y 2017	30.775	µg/L	No



Temephos	13/04/15	<10	µg/L	No
Terbufos	24/04/17	<0.3	µg/L	No
Tetrachloroethylene	13/04/17	<0.2	µg/L	No
2,3,4,6-Tetrachlorophenol	24/04/17	<0.1	µg/L	No
Triallate	24/04/17	<10	µg/L	No
Trichloroethylene	13/04/17	<0.1	µg/L	No
2,4,6-Trichlorophenol	24/04/17	<0.1	µg/L	No
2,4,5-Trichlorophenoxy acetic acid (2,4,5-T)	13/04/15	<10	µg/L	No
Trifluralin	24/04/17	<0.5	µg/L	No
Vinyl Chloride	24/04/17	<0.2	µg/L	No
Total Organic Carbon	08/04/15	4.8	Mg/l	No
Dissolved Organic Carbon	08/04/15	4.7	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	0.658	mg/l	18/10/2017
Sodium	33.3	mg/l	20/01/2017

February 2, 2018

Mme. Christina Des Rochers
Ministry of the Environment and Climate Change
2430 Don Reid Drive
Ottawa, ON K1H 1E1

Subject:

2017 - Annual Report for the Limoges Drinking Water System

Dear Mme Des Rochers:

Please see attached, the summary report for the Limoges Drinking Water System that covers the period from November 1, 2017 to December 31, 2017. A similar report covering the period of January 1, 2017 to October 31, 2017 has been prepared and submitted separately by the SIMO Group. SIMO has been the Operating Authority of the Limoges Drinking Water System during that period.

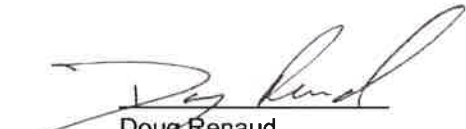
This summary report has been completed in accordance with O. Reg. 170/03 Schedule 22 under the Safe Drinking Water Act. The target due date for this report is March 31st, 2018.

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 Board of Directors of the Nation Municipality.

Sincerely,


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


Doug Renaud,
Deputy Director of Public Works


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 November 1, 2017 to December 31, 2017:

- The maximum daily flow to the distribution system was 1012 m³/day. This occurred in December, and it represented 49% of the rated capacity of 2080 m³/day.
- The maximum daily flow from the wells was 1203 m³/day. This occurred in December, and it represented 58% 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 822 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
Operating Authority:	The Nation Municipality
Drinking Water System Category:	Large Municipal Residential
Period being reported:	Nov 1 to Dec. 31, 2017

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

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.

<p>(X) Public access / Notice via the web</p> <p>() Public access / notice via government Office</p> <p>() Public access / notice via a newspaper</p> <p>() Public access / notice via Public Request</p> <p>(X) Public access / notice via a Public Library</p> <p>() Public access / notice via another method_____</p>

Describe your Drinking Water System

<p>The Limoges water treatment plant is a ground water treatment and supply facility. It has a rated capacity of 2080 m3/day; services the Village of Limoges, the Community of Forest Park, Le Baron Estate, and the Ben Tardiff Trailer Park. Raw water is supplied from two production wells; delivered via a two km watermain into an aeration tower at the water treatment plant. Further treatment is achieved in sequence by chemical oxidation and a dual train chemically assisted filtration process.</p> <p>Primary disinfection is achieved by chlorination followed by chloramination for secondary disinfection. Treated water is stored in an onsite water tower and then pumped into the distribution system. All processes are fully automated and monitored using a SCADA System. Operators monitor, log data, and maintain operational records of the wells, plant, treatment processes and the distribution systems. They also conduct water quality sampling and testing, and system maintenance.</p>
<p>The Chemical feed systems consist of chemical pumps, storage tanks, piping and associated appurtances to dose potassium permanganate, Alum, Polyelectrolyte, Sodium Hypochlorite and Ammonium Sulphate.</p>

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

Replacment of Booster Pump # 2, impeller	\$	3,500.00
Calibration of Flow meter	\$	1,500.00

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
None					

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	9	0 - 0	0 - 0	N/A	N/A
Raw Well # 2	9	0 - 0	0 - 0	N/A	N/A
Treated	9	0 - 0	0 - 0	9	< 2 - 6
Distribution	27	0 - 0	0 - 0	N/A	N/A

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)	4	(1,70) - (3,91)	
Turbidity (Raw W2)	4	(0,86) - (2,36)	
Chlorine Combined Dist. Syst,	8760	(1,30) - (2,45)	
Turbidity (Treated water)	8760	(0,035) - (0,049)	

Note: Record the unit of measure if it is not milligrams per liter. *Average per day of combine chlorine in distribution syst.; min. 1.66 - max. 2.38 mg/L.

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			0.006	
Arsenic			0.01	
Barium			1	
Boron			5	
Cadmium			0.005	
Chromium			0.05	
Fluoride			1.5	
Mercury			0.001	
Selenium			0.05	
Sodium			Health >20 reportable (Limit: 200)	
Uranium			0.02	
Nitrite			1	
Nitrate			10	

Summary of Lead testing under Schedule 15.1 during this reporting period

Location Type	Number of samples	Range of Lead Results	Range of Lead Results		Number of Exceedance
			(min #) - (max #)		
Plumbing	N/A				N/A
Distribution	0				No
Alcalinity	0				N/A
pH	0				No

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

Parameter	Sample date	Result value	Limit	Exceedance
Alachlor			0.005 mg/L	
Aldicarb			0.003 mg/L	
Aldrin + Dieldrin				
Atrazine + N-dealkylated metabolites			0.005 mg/L	
Azinphos-methyl			0.02 mg/L	
Bendiocarb				
Benzene			0.001 mg/L	
Benzo(a)pyrene			0.00001 mg/L	
Bromoxynil			0.005 mg/L	
Carbaryl			0.09 mg/L	
Carbofuran			0.09 mg/L	
Carbon Tetrachloride			0.002 mg/L	
Chlordane (Total)				
Chlorpyrifos			0.09 mg/L	
Cyanazine				
Diazinon			0.02 mg/L	
Dicamba			0.12 mg/L	
1,2-Dichlorobenzene			0.2 mg/L	
1,4-Dichlorobenzene			0.005 mg/L	
Dichlorodiphenyltrichloroethane (DDT) + metabolites				
1,2-Dichloroethane			0.005 mg/L	
1,1-Dichloroethylene (vinylidene chloride)			0.014 mg/L	
Dichloromethane			0.05 mg/L	
2,4-Dichlorophenol			0.9 mg/L	
2,4-Dichlorophenoxy acetic acid (2,4-D)			0.1 mg/L	
Diclofop-methyl			0.009 mg/L	
Dimethoate			0.02 mg/L	
Dinoseb				
Diquat			0.07 mg/L	
Diuron			0.15 mg/L	
Glyphosate			0.28 mg/L	
Heptachlor + Heptachlor Epoxide				
Lindane (Total)				
Malathion			0.19 mg/L	

Parameter	Sample date	Result value	Limit	Exceedance
Methoxychlor				
Metholachlor			0.05 mg/L	
Metribuzin			0.08 mg/L	
Monochlorobenzene			0.08 mg/L	
Paraquat			0.01 mg/L	
Parathion				
Pentachlorophenol			0.06 mg/L	
Phorate			0.002 mg/L	
Picloram			0.19 mg/L	
Polychlorinated Biphenyls (PCB)			0.003 mg/L	
Prometryne			0.001 mg/L	
Simazine			0.01 mg/L	
THM (Note : show last annual average)			.1 mg/L	
Temephos				
Terbufos			0.001 mg/L	
Tetrachloroethylene			0.01 mg/L	
2,3,4,6- Tetrachlorophenol			0.1 mg/L	
Triallate			0.23 mg/L	
Trichloroethylene			0.005 mg/L	
2,4,6- Trichlorophenol			0.005 mg/L	
2,4,5- Trichlorophenoxy acetic acid (2,4,5-T)				
Trifluralin			0.045 mg/L	
Vinyl Chloride			0.001 mg/L	
Total Organic Carbon				
Dissolved Organic Carbon				

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	