

February 17, 2022

Mike Thompson  
411 Greenfield St.  
Petrolia, ON N0N 1R0

**Re: Annual Municipal Summary Report**

Dear Mr. Thompson;

Attached is the 2021 Summary Report for the Petrolia Drinking Water System. This report is completed in accordance with Schedule 22 of O. Reg. 170/03, under the Safe Drinking Water Act.

This Summary Report is to be provided to the members of council. Please ensure this distribution by March 31<sup>st</sup>, 2022.

Attached is also copy of the 2021 Annual Report for the Petrolia Drinking Water System required under Section 11 of O. Reg. 170/03. Section 12 of O. Reg. 170/03, requires both the Summary Report and the Annual Report be made available for inspection by any member of the public during normal business hours, without charge. The reports should be made available for inspection at the office of the municipality, or at a location that is reasonably convenient to the users of the water system.

Please feel free to contact me should you require any additional information regarding these reports. I can be reached at 519-312-0847.

Sincerely,



Terri-Lynn Thomson  
Process and Compliance Technician  
Ontario Clean Water Agency

cc. Dale LeBritton, Regional Hub Manager (OCWA)  
Sam Smith, Senior Operations Manager (OCWA)  
Cindy Sigurdson, Safety, Process and Compliance Manager (OCWA)  
Mandi Pearson, Deputy/Operations Clerk (Petrolia)



**Ontario Clean Water Agency  
Agence Ontarienne Des Eaux**

**Annual Summary Report  
For the  
Petrolia Drinking Water System  
2021**

**Prepared for the Corporation of the Town of Petrolia**

**By the Ontario Clean Water Agency**

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## **SECTION 1: Overview**

This is a summary report for the Petrolia Drinking Water System and is published in accordance with Schedule 22 of Ontario's Drinking Water Systems Regulation for the reporting period of January 1, 2021 to December 31, 2021. The Petrolia Drinking Water System is categorized as a Large Municipal Residential Drinking Water System.

The Petrolia Drinking Water System operated in accordance with the Municipal Drinking Water License 034-101, Drinking Water Works Permit 034-201 and Permit to Take Water 3431-98DKSC (Issued June 27<sup>th</sup>, 2013).

This report was prepared by The Ontario Clean Water Agency on behalf of the Corporation of the Town of Petrolia.

## **SECTION 2: Compliance**

The Petrolia Drinking Water System was operated and maintained in such a manner that the treated water supplied to the consumers serviced by the system satisfied Ontario Drinking Water Quality Standards. However, some of the regulatory requirements were not met as identified below.

The Petrolia Drinking Water System was inspected on October 26, 2021 by Emily Awad of the Ministry of the Environment, Conservation and Parks (MECP) for the reporting year 2020-2021. The report received an overall inspection rating of 95.48%.

The following regulatory requirements were not met in 2021:

- During the repair of the SCADA system in July 2021, duplicate data tags were found and corrections were required. When the data was being pulled for this inspection, the operating authority noted gaps from November 1, 2020 to the end of February 2021, which was attributed to the corrections that were made on the duplicate tags back in July. However, this data was available at the time and was reviewed by operators every 72 hours, as required. This is a non-compliance with Section 13 of O. Reg. 170/03, which requires the retention of records for at least two years. This Section applies to Schedule 6 of O. Reg. 170/03, which requires that continuous monitoring of free chlorine residual required to achieve primary disinfection is tested and recorded at a minimum frequency of 5 minutes, and turbidity is tested and recorded at a minimum frequency of 15 minutes.
- Continuous monitoring equipment that was being utilized to fulfill O. Reg. 170/03 requirements was not performing tests for the parameters with at least the minimum frequency specified in the Table in Schedule 6 of O. Reg. 170/03 and/or was not recording data with the prescribed format. Section 6-5(1)1 of O. Reg. 170/03 states that if a drinking water system uses continuous monitoring equipment for sampling and testing that is required under this Regulation, or under an approval, drinking water works permit, municipal drinking water licence or order, for a parameter set out in the Table to this section, the owner of the system and the operating authority for the system shall ensure that the following standards are met: The continuous monitoring equipment must, except when no water is being directed to users of water sampled by the equipment, i. test for the parameter with at least the minimum frequency specified in the

Table for the parameter, and ii. record the date, time, sampling location and result of every test for the parameter with at least the minimum frequency referred to in subparagraph i. On July 21, 2021, the operating authority reported a loss of data on the SCADA system on July 18 to 19, 2021. Gaps in the trending were noted during the 72-hour review of continuous data from the weekend. The SCADA provider was contacted to investigate and was able to fully restore the SCADA system by July 19th. All alarms were operational during the incident. The issue was identified as a data storage issue and the owner has capital plans to increase data storage. On January 5, 2022, the operating authority reported a loss of trending for rack 1 of the membrane filtration system only. This outage began on January 1 at approximately 10:30am and was not found until January 2 at approximately 5pm when an alarm for high chlorine in the contact tank called out to the operator. The SCADA provider is investigating the issue but believes this to be a memory issue as occurred in July 2021. The operating authority stated that there are plans to upgrade the HACH turbidimeters with models that include SD card storage to address any loss of turbidity data. However, other regulatory data (e.g. flow, chlorine) would still be lost.

### **SECTION 3: Corrective Action**

- In response to the non-compliances; to address this in the short term, the operating authority has begun downloading all the SCADA data each month.
- The HACH turbidimeters will be upgraded with models that include SD card storage to address any loss of turbidity data.
- An alarm was set up to provide notification to the SCADA provider when the system begins to buffer so action can be taken before data is lost
- Upgrades to the historian software and upgrades the data logger logic to log data up to 7 days instead of 3 for all critical data tags is being undertaken

### **SECTION 4: Summary and Discussion of Quantity of Water Supplied**

In accordance with Schedule 22-2(3) find a summary and discussion of the quantity of water supplied during the reporting period compared to the rated capacity specified in the MDWL, DWWP and Permit to Take Water, including monthly average and maximum daily flows.

Attached as Appendix A, find a summary of the raw flows for the Petrolia Water Treatment Plant including total, average, and maximum daily flows, and peak flow rates for the reporting period. As well, a comparison of flows to the Permit to Take Water limits is provided. The Permit to Take Water (PTTW) specifies flow rates and total water takings that are permitted. For the Petrolia Water Treatment Plant the maximum flow rate limit is 10,824L/min. The total daily water taking is 15,586m<sup>3</sup>/day. There were no PTTW exceedances in 2021. The Petrolia WTP is at 28.5% capacity of the total water taking limit. The flows have decreased by 12.5% when comparing raw water takings in 2021 to 2020.

Attached as Appendix B, find a summary of treated water flows from the Petrolia Water Treatment Plant to the Mandaamin Booster Station including total, average, and maximum daily flows for the reporting period. As well, a comparison of flows to the Municipal Drinking Water Licence (MDWL) rated capacities is provided. The rated capacity of the plant is 12,000m<sup>3</sup>/day of treated water as specified in the MDWL. The daily average flow for the reporting period was 3,660m<sup>3</sup>/day. The maximum daily flow for the reporting period was 6,922 m<sup>3</sup>/day. The plant is operating at 30.5% of its rated capacity. The flows have increased by 1% when comparing treated water flows in 2021 to 2020.

Attached as Appendix C, find a summary of flows including total, average, and maximum flows from LAWSS which was supplied during emergency situations at the Petrolia WTP in 2021. In the event of an emergency or scheduled maintenance that renders the Petrolia Water Treatment Plant unable to supply potable water, the Lambton Area Water Supply System is an alternate source. In 2021 an alternate source of water was not needed.

The Petrolia Drinking Water System is capable of meeting its current uses for the system. It is operating below the limits set out in the Permit to Take Water and the design capacity for the plant.

## APPENDIX A

Raw Flows for the Petrolia WTP compared to the specified limits in the Permit to Take Water. The maximum flow rate specified is 10,824 L/min (180L/s) with a total water taking of 15,586,000L/day (15,586 m<sup>3</sup>/d).

Month	Total Flow (m <sup>3</sup> )	Average Day Flow (m <sup>3</sup> )	% of PTTW Limit	Max Day Flow (m <sup>3</sup> )	% of PTTW Limit	Max Day Flow Rates (L/s)	% of PTTW Limit
January	132,241.99	4,266	27.4	5,924	38.0	119.96	66.6
February	127,984.33	4,571	29.3	6,235	40.0	114.97	63.9
March	125,129.65	4,036	25.9	5,695	36.5	103.86	57.7
April	124,291.63	4,143	26.6	5,547	35.6	138.24	76.8
May	152,229.47	4,911	31.5	5,932	38.1	148.73	82.6
June	151,177.87	5,039	32.3	7,011	45.0	161.49	89.7
July	134,395.96	4,335	27.8	6,741	43.2	133.23	74.0
August	145,565.71	4,696	30.1	7,579	48.6	145.59	80.9
September	124,029.22	4,134	26.5	5,181	33.2	148.86	82.7
October	117,460.17	3,789	24.3	5,451	35.0	109.95	61.1
November	136,307.54	4,544	29.2	8,149	52.3	121.14	67.3
December	148,553.64	4,792	30.7	6,406	41.1	136.10	75.6
<b>Total</b>	1,619,367.18						
<b>Average</b>		4,438	28.5				
<b>Maximum</b>				8,149	52.3	161.49	89.7

**APPENDIX B**

**Treated flows for the Petrolia WTP compared to the specified rated capacity of 12,000m<sup>3</sup>/day in the Municipal Drinking Water Licence.**

<b>Month</b>	<b>Total Flow (m<sup>3</sup>)</b>	<b>Average Day Flow (m<sup>3</sup>)</b>	<b>% of Rated Capacity</b>	<b>Max Day Flow (m<sup>3</sup>)</b>	<b>% of Rated Capacity</b>
January	105,645	3,408	28.4	4,583	38.2
February	99,680	3,560	29.7	4,557	38.0
March	103,924	3,352	27.9	4,890	40.7
April	105,673	3,522	29.4	4,720	39.3
May	132,073	4,260	35.5	5,246	43.7
June	132,241	4,408	36.7	6,044	50.4
July	119,618	3,859	32.2	6,044	50.4
August	131,097	4,229	35.2	6,922	57.7
September	107,756	3,592	29.9	4,162	34.7
October	102,434	3,304	27.5	4,085	34.0
November	97,066	3,236	27.0	5,146	42.9
December	98,707	3,184	26.5	4,110	34.2
<b>Total</b>	<b>1,335,913</b>				
<b>Average</b>		<b>3,660</b>	<b>30.5</b>		
<b>Maximum</b>				<b>6,922</b>	<b>57.7</b>



### APPENDIX C

In the event of an emergency or scheduled maintenance that renders the Petrolia Brights Grove Water Plant unable to supply potable water, the Lambton Area Water Supply System is an alternate source. The following table outlines the flow received from LAWSS, in 2021 no water was supplied by the LAWSS system:

Month	Total Flow (m <sup>3</sup> )	Average Day Flow (m <sup>3</sup> )	Max Day Flow (m <sup>3</sup> )
January	-	-	-
February	-	-	-
March	-	-	-
April	-	-	-
May	-	-	-
June	-	-	-
July	-	-	-
August	-	-	-
September	-	-	-
October	-	-	-
November	-	-	-
December	-	-	-
	-	-	-
<b>Total</b>	0		
<b>Average</b>		0	
<b>Maximum</b>			0