



# 2022 Annual Water Quality Summary Report

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February 27 2023

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Feb 27, 2023

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## Table of Contents

<b>Introduction</b>	3
<b>SUMMARY</b>	4
<b>System Specific</b>	6
<b>Sudbury Drinking Water System 210001111 - Wanapitei</b>	7
<b>Sudbury Drinking Water System 220003537- David Street</b>	9
<b>Sudbury Drinking Water System 220003485 - Garson</b>	10
<b>Dowling Wells and Distribution System 210001665</b>	13
<b>Bleazard Valley/Capreol Drinking Water System-210000737</b>	14
<b>Falconbridge Drinking Water System - 240000020</b>	22
<b>Onaping/Levack Drinking Water System - 220003519</b>	24
<b>Vermilion Distribution System - 260006789</b>	26
<b>Appendix A</b>	28
CGS 2022 Annual Water Quality Report	28

## Introduction

The production and delivery of potable water in Ontario is regulated by Ontario Regulation (O. Reg.) 170/03 governed by the Ministry of the Environment, Conservation and Parks (MECP) under the *Safe Drinking Water Act* (SDWA), 2002, S.O. 2002, c. 32.

The purpose of this summary report is to provide system owners and municipal council information to satisfy the regulatory reporting required under Schedule 22 titled *Summary Reports for Municipalities* of the O. Reg. 170/03 Drinking Water Systems.

The information within the report must cover the following topics of the previous calendar year from January 1<sup>st</sup> through to December 31<sup>st</sup>.

- A list of orders that were not met, the duration and any corrective actions needed;
- A brief description of the operations of the treatment systems;
- Quantities and flow rates of the water supplied during the reporting period, including monthly averages and maximum daily flows; and,
- A comparison of the quantities and flows to the rated capacities approved in the system performance section in the Municipal Drinking Water Licence (MDWL).

An Annual Water Quality Report, to fulfill Section 11 of Ontario Regulation 170/03, has been completed and details the drinking water quality of all the CGS owned and operated drinking water systems have been described. This report is placed as an appendix at the end of this summary report.

This annual report is available for viewing on the City of Greater Sudbury's website (<https://www.greatersudbury.ca/live/water-and-wastewater-services/projects-plans-reports-and-presentations/drinking-water-quality-reports/>) and notices were posted in local papers to inform the public and ensure access to a computer is available at any of the CGS Citizen Service Centers to for residents to view.

## SUMMARY

In the 2022 calendar year, the City of Greater Sudbury (CGS) operated its Drinking Water Systems (DWS) without exceeding any of the limits within the Municipal Drinking Water Licenses. Surface water plants supplying the Sudbury DWS operated at less than half of permitted levels with the Wanapitei Water Treatment Plant (WTP) averaging 44% and the David Street WTP utilizing 36% of their respective total water takings listed in the Permits to Take Water (PTTW). Ground water systems also operated below permitted levels: Blezard Valley-Capreol DWS at 33% (Valley) and 22% (Capreol), Falconbridge DWS at 23%, Garson DWS at 16%, Onaping DWS at 37%, and Dowling DWS with the lowest usage at 5% of its PTTW. As such, the City of Greater Sudbury currently has an adequate source water budget.

Due to the criticality of safe, reliable drinking water and the continuing improvements made to source water protection legislation; CGS continues to invest in our water works systems to perform critical upgrades and infrastructure renewal. It should not be assumed that these upgrades are the result of any detected incidents of poor water quality, as in most cases they are completed to reduce the risk of potable water contamination as deemed necessary through mandatory compliance known as the Statutory Standard of Care. The regulation stipulates that water works owners will continually monitor water works performance, source water quality, review levels of treatment versus current standards and emerging technologies. For example, this standard of care has been demonstrated through the following projects:

1. Construction of a system for the removal of Iron and Manganese within the Blezard Valley-Capreol system (estimated completion Q4 2024).
2. Addressing contaminant levels in the Garson Well Field. Tetrachloroethylene, a harmful chemical, was detected at levels below half the provincial regulated limit within two of the source waters within the Garson well field. Despite the levels being lower than permissible amounts, the preferred solution is to decommission the existing water supply wells and supply the Garson DWS with surface water from the Sudbury DWS through the Maley Booster Station (BS). Detailed design is underway to install a new watermain, upgrade the Maley BS and install a new BS with possible rechlorination at the current O'Neil pressure valve. A water quality study was undertaken, and a corrosion expert was consulted, on the phased plan to gradually introduce surface water and decrease the ground water in the Garson DWS after the construction work is completed.

3. David Street HVAC system upgrade to ensure the air quality for employees and to lessen the exposure to oxidizing chemical fumes on the plants assets (completed 2023).
4. David street primary membrane filtration system upgrades to replace end of life cassettes with the newest model. Tanks are being repaired and appurtenances are also being retrofitted (estimated completed Q2 2023).
5. Val Caron booster and valve chamber upgrades, including a new backup power generator to ensure continuous flow and pressure within the McCrea Heights area (completed 2022).
6. Montrose booster station retrofit to enhance the flows and pressures within the neighboring households (completed 2022)
7. Wanapitei Water Treatment Plant pump motor upgrades, filter assessment, and a filter refurbishing to be completed on all four filters within the next four years.

The MECP is responsible for the enforcement of regulations and conducts annual, announced, and unannounced inspections of all our facilities. As part of the new format used by the MECP, the Inspection Rating Record (IRR) is not included in the final consolidated report. All CGS water systems reviewed to date passed the inspection. However, two issues were identified: ongoing tetrachloroethylene contamination impacting Garson Wells #1 and #3, and elevated levels of trihalomethanes (THMs) and halo acetic acids (HAAs) in parts of the Vermilion distribution system. Work is already underway to decommission the Garson wells and introduce water from the Sudbury DWS. A working group has been formed with participants from Vale and CGS to address the THMs/HAA's in the Vermilion system. We are still waiting for the final inspection reports pertaining to the Wanapitei WTP, David St. WTP of the Sudbury DWS as well as the Blezard Valley Capreol systems.

As per regulatory requirement, 14 adverse water quality incident (AWQI) reports have been filed. Corrective actions were taken, and issues were promptly rectified and reported to the MECP as well as the Public Health Sudbury & Districts (PHSD) unit. Out of the 14 AWQI 8 were for information purposes of non-compliance events not of adverse water conditions.

These occurrences are discussed in their respective DWS sections.

The Community Lead Testing Initiative was instilled in 2007 and falls under O. Reg. 170/03, Schedule 15.1.

CGS was granted relief by the MECP from lead testing in all systems except for the Sudbury DWS, fed by the Wanapitei and David St. WTPs. These sections must continue to be sampled not due to the quality of the water but to satisfy the section of the regulation stating minimum sampling requirement as a function of population served by that system. CGS continues to provide corrosion control to its DWS where required, with the success of the program demonstrated through consistently low analytical results for lead. .

Water quality throughout all systems is monitored twenty-four hours a day, 365 days a year. Regular sampling schedules are followed in accordance with O. Reg. 170/03, our Municipal Drinking Water Licenses and Permits. The treated water is fluoridated to prevent tooth decay in all DWS as PHSD mandates this requirement.

### System Specific

Drinking Water Services within the City of Greater Sudbury is a combination of municipally owned and operated utilities along with the supply of purchased potable water. CGS owns and operates two surface water treatment plants along with its distribution systems, six ground water treatment well fields along with their own distribution systems and one independent distribution system conveying purchased potable water from Vale's Vermilion Water Treatment Plant.

Table 1 - Overview of the City's Water Systems

Drinking Water System	Type of Facility	Source of Water	Communities Served
Sudbury DWS – Wanapitei	Class IV Surface water conventional treatment plant and Class IV Distribution system	Wanapitei River	Sudbury, Coniston, Wanapitei, Markstay, Garson West
Sudbury DWS - David	Class III Surface water Membrane Filtration Plant and Class II Distribution system	Ramsey Lake	Sudbury (West and South sections)
Sudbury DWS - Garson	Class I Wells and Class II Distribution system	Groundwater	Garson East (east of Penman Dr.)

Drinking Water System	Type of Facility	Source of Water	Communities Served
Dowling DWS	Class I Wells and Class I Distribution system	Groundwater	Dowling
Valley DWS	Class I Wells and Class II Distribution system	Groundwater	Valley East, Azilda, Chelmsford & Capreol
Falconbridge DWS	Class I Wells and Class II Distribution system	Groundwater	Falconbridge
Onaping /Levack DWS	Class I Wells and Class II Distribution system	Groundwater	Onaping & Levack
Vermilion Distribution System	Class II Distribution System	Vermilion River WTP Owned and Operated by Vale	Lively, Naughton, Whitefish, Copper Cliff, Walden Industrial Park

## Sudbury Drinking Water System 210001111 - Wanapitei

The Sudbury DWS is comprised of three different water sources: the Wanapitei Water Treatment Plant (WTP), the David Street WTP and the Garson Well Field.

The Wanapitei WTP is a conventional surface plant located between Coniston and Wahnapiatae. Its source water is from the Wanapitei River. The plant's rated capacity is 54,000 m<sup>3</sup>/day and provides approximately sixty percent of CGS's potable water. The treatment process follows these steps:

Raw river water is screened through coarse and fine screens. Five pumps convey the raw water several kilometers to the plant for treatment.

At the plant, the raw water is initially disinfected by chlorination. The water's pH and alkalinity are controlled by the addition of lime. A coagulant (alum) and flocculant (polymer) are added to remove colloidal solids that are in suspension. Sedimentation is a separation by gravity of clarified water and sludge. The settled sludge waste is pumped to a nearby sewage lagoon for treatment and the clarified water is sent to four filters.

The filtration process is to remove the smaller particles that did not settle. The filtration media is a mixture of silica sand and anthracite coal.

The filtered water flows into a reservoir where lime is added to adjust the final pH and alkalinity along with addition of a corrosion control chemical.

Chlorine is added at this stage to ensure final disinfection of finished water and to maintain a residual disinfectant within the distribution system.

The treated water is pumped through ultraviolet (UV) light disinfection units to provide extra inactivation of pathogens.

The treated water is pumped to the distribution system by six vertical turbine pumps and directs the water east towards the community of Markstay or west towards the community of Coniston, the city of Sudbury and the Ellis Reservoir.

### Non-Compliance with Act, Regulations, Order or Approvals

In 2022, the Wanapitei system had no Adverse Water Quality Incidents (AWQI) to report.

### Annual Flow Summary

Wanapitei WTP							
	Total Flow m <sup>3</sup>	Average Daily Flow m <sup>3</sup> /d	Maximum Daily Flow m <sup>3</sup> /d	Instantaneous Peak Flow L/s	MDWL Daily Maximum Permitted m <sup>3</sup> /d	MDWL Annual Permitted m <sup>3</sup>	% Capacity
January	660,071	21,293	25,161	386.1	54,000	19,710,000	39.4
February	622,134	22,219	24,473	420.1	54,000	19,710,000	41.1
March	745,728	24,056	26,736	435.6	54,000	19,710,000	44.5
April	670,411	22,347	24,161	300.0	54,000	19,710,000	41.4
May	755,926	24,385	27,254	419.3	54,000	19,710,000	45.2
June	753,942	25,131	27,926	423.0	54,000	19,710,000	46.5
July	813,040	26,227	30,799	421.2	54,000	19,710,000	48.6
August	815,359	26,302	29,895	450.8	54,000	19,710,000	48.7
September	754,340	25,145	27,772	438.5	54,000	19,710,000	46.6
October	713,347	23,011	27,732	409.0	54,000	19,710,000	42.6
November	675,299	22,510	25,736	409.2	54,000	19,710,000	41.7
December	685,226	22,104	23,981	461.3	54,000	19,710,000	40.9
<b>Total</b>	<b>8,664,823</b>				<b>54,000</b>	<b>19,710,000</b>	<b>44.0</b>



## Sudbury Drinking Water System 220003537- David Street

The David St. WTP is a membrane ultra-filtration surface water treatment plant. The plant has a rated capacity of 40,000 m<sup>3</sup>/day and provides approximately forty percent of the City of Greater Sudbury's potable water.

The raw water intake is located approximately three hundred meters offshore from the WTP in Ramsey Lake. The treatment process follows these steps:

Raw lake water is screened through coarse screens and two strainers. The water is initially disinfected by chlorination (sodium hypochlorite). Four pumps send the water to membrane trains for ultrafiltration. The filtration process removes particles 0.02 microns (µm) in size or larger. The filtered water flows into a reservoir. Chlorine, as sodium hypochlorite, is added at this stage to ensure final disinfection of finished water and to maintain a residual disinfectant within the distribution system. Fluoride is added to prevent tooth decay along with a corrosion control chemical. The treated water is pumped through UV light disinfection units to provide extra inactivation of pathogens.

The treated water is pumped to the distribution system by four vertical turbine pumps which send water to the south, west and downtown sections of the City of Greater Sudbury. Water from this plant is also used to fill the Ellis Reservoir.

### Non-Compliance with Act, Regulations, Order or Approvals

In 2022, the David St. system had one AWQI. The incident was a fluoride test of 1.63 mg/L when drinking water quality standard is a maximum of 1.50 mg/L. The site was attended, potable water was reanalyzed and proven to be under 1.50mg/L. No further actions were needed.

### Annual Flow Summary

David St. WTP							
	Total Flow m <sup>3</sup>	Average Daily Flow m <sup>3</sup> /d	Maximum Daily Flow m <sup>3</sup> /d	Instantaneous Peak Flow L/s	MDWL Daily Maximum Permitted m <sup>3</sup> /d	MDWL Annual Permitted m <sup>3</sup>	% Capacity
<b>January</b>	435,937	14,062	15,378	506.5	40,000	14,600,000	35.2
<b>February</b>	396,553	12,792	16,083	513.4	40,000	14,600,000	35.4
<b>March</b>	450,034	14,517	17,236	512.2	40,000	14,600,000	36.3
<b>April</b>	425,662	13,731	14,422	375.5	40,000	14,600,000	35.5

	Total Flow m <sup>3</sup>	Average Daily Flow	Maximum Daily Flow	Instantaneous Peak Flow	MDWL Daily Maximum Permitted	MDWL Annual Permitted	% Capacity
<b>May</b>	441,502	14,242	15,306	516.7	40,000	14,600,000	35.6
<b>June</b>	449,772	14,509	18,030	527.7	40,000	14,600,000	37.5
<b>July</b>	470,432	15,175	18,550	502.3	40,000	14,600,000	37.9
<b>August</b>	447,407	14,432	16,328	522.5	40,000	14,600,000	36.1
<b>September</b>	438,406	14,142	18,757	501.4	40,000	14,600,000	36.5
<b>October</b>	433,267	13,976	15,625	408.2	40,000	14,600,000	34.9
<b>November</b>	421,742	13,605	18,371	501.7	40,000	14,600,000	35.1
<b>December</b>	423,082	13,648	15,545	488.3	40,000	14,600,000	34.1
<b>Total</b>	5,233,796				40,000	14,600,000	35.8

## Sudbury Drinking Water System 220003485 - Garson

The Garson water works is a groundwater system consisting of three wells for servicing the community of Garson east of Penman Ave and O'Neil Dr East. The three wells are:

- Garson Well No. 1;
- Garson Well No. 2; and,
- Garson Well No. 3.

The system includes three vertical turbine well pumps, disinfection with sodium hypochlorite and fluoride injection as mandated by PHSD. The water is directly connected to the public distribution network. The distribution network extends from Skead Road to the north to Garson-Coniston Road to the south. The pipe network is connected to the water supply from Sudbury at the intersection of Falconbridge Road and O'Neil Drive West, therefore the community is serviced from the Sudbury distribution system west of Penman Avenue. If all three wells were to fail, the Garson system is connected to the Sudbury distribution system by way of a pressure valve and would have water supplied from Sudbury.

In March 2001, a hydrogeological assessment was made of each of the wells which concluded that it is unlikely that any of them are under the direct influence of surface water. The raw water was therefore found to be in general conformance with the Ontario Drinking Water Standards (ODWS). Notwithstanding the historical good water quality, the aquifer used in the Garson well supply has a recharge area which includes the developed area of Garson. With direction and consultation from PHSD and the MECP, CGS committed to undertaking a groundwater monitoring program for tetrachloroethylene (TCE). Although TCE levels found during audit sampling are well below regulatory limits, CGS is proactively sampling and monitoring these levels. In 2012 four monitoring wells were drilled in the area and sampling and graphing of results is

completed regularly by staff to augment historical data and to ensure the safety of the water source and public. In 2017 CGS retained a consultant to provide feasibility options for treatment of TCE and the possibility of feeding this system directly from the two surface plants. A project to decommission the Garson wells and connect the entire community to the Sudbury DWS is currently in the design phase. Until this project is completed Well #3 is being underutilized as it has the highest concentration of TCE.

### Non-Compliance with Act, Regulations, Order or Approvals

The Garson DWS had two AWQI in 2022 to report. Data was not reviewed on the mandated 72-hour schedule on March 27. This was done a day late and caused a non-compliance for the system. No issues were found with the water quality. A second incident was reported to the MECP as information only when a water main break resulted in a loss of pressure. The system was flushed and resampled. No water quality issues occurred with the incident.

### Annual Flow Summary

Garson Well #1							
	Total Flow m <sup>3</sup>	Average Daily Flow m <sup>3</sup> /d	Maximum Daily Flow m <sup>3</sup> /d	Instantaneous Peak Flow L/s	MDWL Daily Maximum Permitted m <sup>3</sup> /d	MDWL Annual Permitted m <sup>3</sup>	% Capacity
January	7,333	237	395	15.9	1,572	573,955	15.0
February	6,907	247	488	15.7	1,572	573,955	15.7
March	8,463	273	451	15.9	1,572	573,955	17.4
April	7,234	241	344	15.7	1,572	573,955	15.3
May	9,261	299	657	15.7	1,572	573,955	19.0
June	8,580	286	497	16.2	1,572	573,955	18.2
July	9,043	292	465	16.2	1,572	573,955	18.6
August	9,184	296	465	16.0	1,572	573,955	18.8
September	7,975	266	398	15.7	1,572	573,955	16.9
October	8,717	281	414	15.9	1,572	573,955	17.9
November	8,172	272	487	17.2	1,572	573,955	17.3
December	8,356	270	571	15.5	1,572	573,955	17.1
<b>Total</b>	99,225				1,572	573,955	17.3

Garson Well #2							
	Total Flow m <sup>3</sup>	Average Daily Flow m <sup>3</sup> /d	Maximum Daily Flow m <sup>3</sup> /d	Instantaneous Peak Flow L/s	MDWL Daily Maximum Permitted m <sup>3</sup> /d	MDWL Annual Permitted m <sup>3</sup>	% Capacity
January	24,535	791	984	31.9	2,981	1,088,065	26.5
February	21,943	784	1,247	33.6	2,981	1,088,065	26.3
March	25,670	828	1,081	31.7	2,981	1,088,065	27.8
April	23,525	784	997	37.1	2,981	1,088,065	26.3
May	27,182	877	1,146	36.8	2,981	1,088,065	29.4
June	28,594	953	1,317	37.3	2,981	1,088,065	32.0
July	26,455	853	1,255	32.6	2,981	1,088,065	28.6
August	23,635	762	1,164	31.8	2,981	1,088,065	25.6
September	27,344	911	1,527	29.0	2,981	1,088,065	30.6
October	22,259	718	959	24.8	2,981	1,088,065	24.1
November	22,457	749	978	26.1	2,981	1,088,065	25.1
December	26,483	854	1,031	29.5	2,981	1,088,065	28.7
Total	300,082				2,981	1,088,065	27.6

Garson Well #3							
	Total Flow m <sup>3</sup>	Average Daily Flow m <sup>3</sup> /d	Maximum Daily Flow m <sup>3</sup> /d	Instantaneous Peak Flow L/s	MDWL Daily Maximum Permitted m <sup>3</sup> /d	MDWL Annual Permitted m <sup>3</sup>	% Capacity
January	758	24	268	29.1	3,275	1,195,214	0.7
February	718	26	238	32.4	3,275	1,195,214	0.8
March	1,666	54	546	30.4	3,275	1,195,214	1.6
April	1,464	49	466	28.8	3,275	1,195,214	1.5
May	2,035	66	411	29.0	3,275	1,195,214	2.0
June	3,139	105	761	28.6	3,275	1,195,214	3.2
July	3,258	105	710	33.8	3,275	1,195,214	3.2
August	3,180	103	578	30.8	3,275	1,195,214	3.1
September	2,326	78	536	29.3	3,275	1,195,214	2.4
October	2,010	65	361	30.9	3,275	1,195,214	2.0
November	1,835	61	338	32.4	3,275	1,195,214	1.9
December	2,352	76	433	28.1	3,275	1,195,214	2.3
Total	24,741				3,275	1,195,214	2.1

## Dowling Wells and Distribution System 210001665

The water source for the Dowling wells is an unconfined aquifer of sand and gravel deposits located within the Onaping river watershed. Due to the unconfined nature of the soils and the proximity to the river, the MECP has characterized the water source as potentially groundwater under the direct influence of surface water (potentially GUDI).

Studies were conducted in 2002 with the resulting submission of a GUDI study on July 1, 2002. This study was reviewed and accepted by the MECP and as a result, both wells were deemed to be GUDI with effective in situ filtration. As such, the additional treatment of UV irradiation was added to enhance disinfection to comply with the treatment requirements.

The water works includes two wells, a distribution network, and an elevated water storage tank.

The treatment process follows these steps:

The system includes one well pump, chlorine gas disinfection, UV irradiation along with fluoride injection as mandated by PHSD for each well site. The distribution network in Dowling has been reliable and is not exposed to frost depths as severe as other areas of the City. Further, the elevated water storage provides a measure of security to the water system in the event of power interruptions and watermain breaks.

### Non-Compliance with Act, Regulations, Order or Approvals

The Dowling DWS had one non-compliance in 2022. Data was not reviewed on the mandated 72-hour schedule on May 20th. This was done a day late and caused a non-compliance for the system. No issues were found with the water quality.

### Annual Flow Summary

Lionel Well							
	Total Flow m <sup>3</sup>	Average Daily Flow m <sup>3</sup> /d	Maximum Daily Flow m <sup>3</sup> /d	Instantaneous Peak Flow L/s	MDWL Daily Maximum Permitted m <sup>3</sup> /d	MDWL Annual Permitted m <sup>3</sup>	% Capacity
<b>January</b>	4,400	142	575	22.7	3,640	1,328,600	3.9
<b>February</b>	4,444	143	673	22.3	3,640	1,328,600	4.4
<b>March</b>	4,368	141	520	38.4	3,640	1,328,600	3.9
<b>April</b>	4,573	148	526	23.5	3,640	1,328,600	4.2
<b>May</b>	4,692	151	524	23.1	3,640	1,328,600	4.2
<b>June</b>	5,751	186	551	22.7	3,640	1,328,600	5.3
<b>July</b>	5,455	176	453	22.3	3,640	1,328,600	4.8

	Total Flow m <sup>3</sup>	Average Daily Flow	Maximum Daily Flow	Instantaneous Peak Flow	MDWL Daily Maximum Permitted	MDWL Annual Permitted	% Capacity
<b>August</b>	6,221	201	468	22.7	3,640	1,328,600	5.5
<b>September</b>	6,197	200	487	21.9	3,640	1,328,600	5.7
<b>October</b>	5,520	178	445	20.6	3,640	1,328,600	4.9
<b>November</b>	5,165	167	515	21.0	3,640	1,328,600	4.7
<b>December</b>	4,575	148	491	22.7	3,640	1,328,600	4.1
<b>Total</b>	61,363				3,640	1,328,600	4.6

Riverside Well							
	Total Flow m <sup>3</sup>	Average Daily Flow m <sup>3</sup> /d	Maximum Daily Flow m <sup>3</sup> /d	Instantaneous Peak Flow L/s	MDWL Daily Maximum Permitted m <sup>3</sup> /d	MDWL Annual Permitted m <sup>3</sup>	% Capacity
<b>January</b>	6,493	209	567	33.0	3,640	1,328,600	5.8
<b>February</b>	4,260	137	486	32.6	3,640	1,328,600	4.2
<b>March</b>	5,274	170	552	32.6	3,640	1,328,600	4.7
<b>April</b>	4,527	146	574	33.8	3,640	1,328,600	4.1
<b>May</b>	5,698	184	549	32.2	3,640	1,328,600	5.1
<b>June</b>	4,219	136	459	31.8	3,640	1,328,600	3.9
<b>July</b>	4,626	149	457	30.9	3,640	1,328,600	4.1
<b>August</b>	4,617	149	432	30.1	3,640	1,328,600	4.1
<b>September</b>	2,968	96	423	31.3	3,640	1,328,600	2.7
<b>October</b>	4,848	156	495	31.8	3,640	1,328,600	4.3
<b>November</b>	5,416	175	428	32.2	3,640	1,328,600	5.0
<b>December</b>	5,672	183	505	32.6	3,640	1,328,600	5.0
<b>Total</b>	58,618				3,640	1,328,600	4.4

## Bleazard Valley/Capreol Drinking Water System-210000737

In 2010, the Bleazard Valley and Capreol well supply systems were determined to be one single system by the MECP, with one Municipal Drinking Water License and Works Permit assigned to the entire system. This report will identify the works by geographical area where appropriate.

The Bleazard Valley portion of the system is a multi-well groundwater system servicing the communities of Hanmer, Bleazard Valley, Val Therese, Val Caron, McCrea Heights, Azilda, and Chelmsford. Eleven groundwater wells are situated throughout the Hanmer and Val Therese area. The communities are interconnected with distribution piping and the system feeds three water storage tanks located in Val Caron,

Azilda, and Chelmsford. This well field extends approximately 7.5 km (west to east) from Val Therese to Hanmer.

Some of the wells are located immediately adjacent to residential homes, commercial establishments, and major arterial roadways. The water quality does show the continuing effects of urbanization, including residual sodium levels higher than the provincial standard. Public education sessions and bylaws have been implemented in attempts to mitigate the quality of source water.

The Blezard Valley wells consist of:

- Deschene well;
- Kenneth well (currently not in service);
- Philippe well;
- Frost well;
- I well (currently not in service);
- Notre Dame well;
- Linden well;
- Pharand well;
- Michelle well;
- Chenier well and,
- R Well.

The treatment process for all wells listed follows these steps:

The system includes one well pump, chlorine gas disinfection, UV irradiation along with fluoride injection as mandated by PHSD. The distribution network has been relatively reliable. It is to be noted that all the wells producing water are before the Val Caron tank. One trunk main feeds all the water produced to the Azilda Tank and Chelmsford Tank.

The eleventh well, I-Well, has not been in use for some time. Raw water quality has shown elevated iron and manganese that compromises the aesthetic quality of the water. Studies are currently being conducted on methods of removal to re-introduce the well into production in the future.

The Capreol portion of the system is a multi-well groundwater system servicing the community of Capreol. They are situated on the east side of Greens Lake. Like the Dowling wells, hydrogeological studies found these wells to be potentially GUDI with effective in situ filtration and as such required UV irradiation.

The Capreol wells are:

- M Well; and,
- J Well.

The treatment process follows these steps:

The system includes one vertical turbine well pump, chlorine gas disinfection, UV irradiation, polyphosphate for corrosion control along with fluoride injection as mandated by PHSD for each well.

Raw water quality has shown elevated iron and manganese that compromises the aesthetic quality of the water. Removal of these parameters is expected to be available in Q4 2024 as the construction phase of a project to add additional treatment steps is underway.

The Blezard Valley wells can supply water through the Capreol Boosters located onsite at the wells ensuring a continued water supply to the town of Capreol in the event the two wells are unavailable.

The distribution system in Capreol was developed in conjunction with the growth of industry in the area and, as such, some of the pipe network is relatively old. The frost depths in Capreol extend to extreme depths during cold winters, which impose additional stresses on the integrity of the system. A second water main was added to the distribution system from the well as a contingency.

### Non-Compliance with Act, Regulations, Order or Approvals

The Blezard Valley/Capreol DWS had 2 non-compliances in 2022. Frost well chlorine was not monitored within the 5-minute time frame as mandated in the regulations. This occurred during an analyzer maintenance work order. Disinfection was continuously supplied; no water quality issues occurred. The second incident occurred when data was not reviewed in the mandated 72-hour time frame. The review was completed and no unusual data was found.

### Annual Flow Summary

Due to high iron and manganese causing aesthetic issues with the distributed water from I well and Kenneth well; they have been taken out of service. Kenneth well will be receiving a rehabilitation in 2023 in steps to return it to aesthetically pleasing parameters. I well will continue to be out of production until the manganese and iron filtration installation at M and J wells proves to be an economical solution.



Well "A" Deschene							
	Total Flow m <sup>3</sup>	Average Daily Flow m <sup>3</sup> /d	Maximum Daily Flow m <sup>3</sup> /d	Instantaneous Peak Flow L/s	MDWL Daily Maximum Permitted m <sup>3</sup> /d	MDWL Annual Permitted m <sup>3</sup>	% Capacity
January	18,793	606	1,313	18.6	1,798	656,212	33.7
February	16,925	604	871	18.6	1,798	656,212	33.6
March	21,072	680	967	18.6	1,798	656,212	37.8
April	28,655	955	1,454	18.6	1,798	656,212	53.1
May	23,815	768	1,459	18.6	1,798	656,212	42.7
June	29,868	996	1,458	18.4	1,798	656,212	55.4
July	17,973	580	1,085	18.6	1,798	656,212	32.2
August	26,203	845	1,448	18.4	1,798	656,212	47.0
September	17,983	599	1,016	18.3	1,798	656,212	33.3
October	17,389	561	897	18.3	1,798	656,212	31.2
November	20,467	682	1,446	18.5	1,798	656,212	37.9
December	20,843	672	1,433	18.6	1,798	656,212	37.4
Total	259,985				1,798	656,212	39.6

Well "B" Kenneth							
	Total Flow m <sup>3</sup>	Average Daily Flow m <sup>3</sup> /d	Maximum Daily Flow m <sup>3</sup> /d	Instantaneous Peak Flow L/s	MDWL Daily Maximum Permitted m <sup>3</sup> /d	MDWL Annual Permitted m <sup>3</sup>	% Capacity
January	3,680	119	604	23.1	2,288	835,178	5.2
February	0	0	0	0.0	2,288	835,178	0.0
March	0	0	0	0.0	2,288	835,178	0.0
April	0	0	0	0.0	2,288	835,178	0.0
May	0	0	0	0.0	2,288	835,178	0.0
June	0	0	0	0.0	2,288	835,178	0.0
July	0	0	0	0.0	2,288	835,178	0.0
August	0	0	0	0.0	2,288	835,178	0.0
September	0	0	0	0.0	2,288	835,178	0.0
October	0	0	0	0.0	2,288	835,178	0.0
November	0	0	0	0.0	2,288	835,178	0.0
December	0	0	0	0.0	2,288	835,178	0.0
Total	3,680				2,288	835,178	0.4

Well "C" Philippe							
	Total Flow m <sup>3</sup>	Average Daily Flow m <sup>3</sup> /d	Maximum Daily Flow m <sup>3</sup> /d	Instantaneous Peak Flow L/s	MDWL Daily Maximum Permitted m <sup>3</sup> /d	MDWL Annual Permitted m <sup>3</sup>	% Capacity
January	23,019	743	1,147	24.9	2,288	835,178	32.5
February	19,563	699	1,246	24.9	2,288	835,178	30.5
March	28,015	904	1,768	24.7	2,288	835,178	39.5
April	25,776	859	1,165	24.9	2,288	835,178	37.6
May	32,527	1,049	1,669	25.0	2,288	835,178	45.9
June	32,835	1,095	1,484	24.9	2,288	835,178	47.8
July	38,766	1,251	1,853	25.0	2,288	835,178	54.7
August	31,755	1,024	1,738	24.8	2,288	835,178	44.8
September	24,743	825	1,390	24.7	2,288	835,178	36.0
October	22,973	741	1,155	24.8	2,288	835,178	32.4
November	21,450	715	1,628	24.8	2,288	835,178	31.2
December	21,807	703	1,185	24.8	2,288	835,178	30.7
Total	323,229				2,288	835,178	38.7

Well "D" Frost							
	Total Flow m <sup>3</sup>	Average Daily Flow m <sup>3</sup> /d	Maximum Daily Flow m <sup>3</sup> /d	Instantaneous Peak Flow L/s	MDWL Daily Maximum Permitted m <sup>3</sup> /d	MDWL Annual Permitted m <sup>3</sup>	% Capacity
January	20,660	666	1,874	27.5	2,288	835,178	29.1
February	19,156	684	1,051	27.6	2,288	835,178	29.9
March	25,212	813	1,785	25.1	2,288	835,178	35.5
April	21,899	730	1,504	26.9	2,288	835,178	31.9
May	41,034	1,324	1,713	26.1	2,288	835,178	57.8
June	34,667	1,156	1,706	24.3	2,288	835,178	50.5
July	38,201	1,232	1,673	23.2	2,288	835,178	53.9
August	28,395	916	1,653	24.1	2,288	835,178	40.0
September	24,318	811	1,130	23.8	2,288	835,178	35.4
October	20,941	676	1,098	25.8	2,288	835,178	29.5
November	21,383	713	1,534	27.9	2,288	835,178	31.2
December	24,829	801	1,824	26.8	2,288	835,178	35.0
Total	320,695				2,288	835,178	38.4

Well "E" Notre Dame							
	Total Flow m <sup>3</sup>	Average Daily Flow m <sup>3</sup> /d	Maximum Daily Flow m <sup>3</sup> /d	Instantaneous Peak Flow L/s	MDWL Daily Maximum Permitted m <sup>3</sup> /d	MDWL Annual Permitted m <sup>3</sup>	% Capacity
January	49,572	1,599	2,795	35.3	3,105	1,133,456	51.5
February	49,551	1,770	2,776	35.5	3,105	1,133,456	57.0
March	42,512	1,371	2,777	35.7	3,105	1,133,456	44.2

	Total Flow m <sup>3</sup>	Average Daily Flow	Maximum Daily Flow	Instantaneous Peak Flow	MDWL Daily Maximum Permitted	MDWL Annual Permitted	% Capacity
April	38,119	1,271	2,741	36.0	3,105	1,133,456	40.9
May	43,055	1,389	2,721	37.0	3,105	1,133,456	44.7
June	39,141	1,305	2,187	34.9	3,105	1,133,456	42.0
July	45,485	1,467	2,734	36.2	3,105	1,133,456	47.2
August	39,566	1,276	2,709	35.8	3,105	1,133,456	41.1
September	51,139	1,705	2,749	36.6	3,105	1,133,456	54.9
October	36,261	1,170	2,721	35.6	3,105	1,133,456	37.7
November	33,124	1,104	2,651	35.7	3,105	1,133,456	35.6
December	42,911	1,384	2,836	36.8	3,105	1,133,456	44.6
<b>Total</b>	510,435				3,105	1,133,456	45.0

Well "F" Linden							
	Total Flow m <sup>3</sup>	Average Daily Flow m <sup>3</sup> /d	Maximum Daily Flow m <sup>3</sup> /d	Instantaneous Peak Flow L/s	MDWL Daily Maximum Permitted m <sup>3</sup> /d	MDWL Annual Permitted m <sup>3</sup>	% Capacity
January	42,432	1,369	2,647	34.6	3,269	1,193,112	41.9
February	47,203	1,686	2,716	34.3	3,269	1,193,112	51.6
March	49,004	1,581	2,800	35.6	3,269	1,193,112	48.4
April	47,813	1,594	2,653	34.8	3,269	1,193,112	48.8
May	56,870	1,835	2,954	36.2	3,269	1,193,112	56.1
June	62,814	2,094	2,876	36.1	3,269	1,193,112	64.1
July	48,012	1,549	2,544	34.2	3,269	1,193,112	47.4
August	54,299	1,752	2,667	35.1	3,269	1,193,112	53.6
September	37,907	1,264	2,641	34.5	3,269	1,193,112	38.7
October	45,922	1,481	2,702	34.9	3,269	1,193,112	45.3
November	45,564	1,519	2,664	34.3	3,269	1,193,112	46.5
December	36,477	1,177	2,631	33.9	3,269	1,193,112	36.0
<b>Total</b>	574,317				3,269	1,193,112	48.1

Well "G" Pharand							
	Total Flow m <sup>3</sup>	Average Daily Flow m <sup>3</sup> /d	Maximum Daily Flow m <sup>3</sup> /d	Instantaneous Peak Flow L/s	MDWL Daily Maximum Permitted m <sup>3</sup> /d	MDWL Annual Permitted m <sup>3</sup>	% Capacity
January	15,230	491	968	26.5	2,290	835,704	21.5
February	14,417	465	846	26.4	2,290	835,704	22.5
March	8,771	283	672	26.3	2,290	835,704	12.4
April	5,841	188	512	26.8	2,290	835,704	8.5
May	12,163	392	2,110	27.1	2,290	835,704	17.1
June	14,961	483	2,107	85.0	2,290	835,704	21.8
July	8,270	267	727	26.9	2,290	835,704	11.7
August	2,419	78	1,023	27.3	2,290	835,704	3.4

	Total Flow m <sup>3</sup>	Average Daily Flow	Maximum Daily Flow	Instantaneous Peak Flow	MDWL Daily Maximum Permitted	MDWL Annual Permitted	% Capacity
September	6,195	200	491	26.7	2,290	835,704	9.0
October	16,684	538	2,137	27.2	2,290	835,704	23.5
November	23,605	787	2,155	26.7	2,290	835,704	34.4
December	27,388	883	2,130	26.9	2,290	835,704	38.6
<b>Total</b>	155,944				2,290	835,704	18.7

Well "H" Michelle							
	Total Flow m <sup>3</sup>	Average Daily Flow m <sup>3</sup> /d	Maximum Daily Flow m <sup>3</sup> /d	Instantaneous Peak Flow L/s	MDWL Daily Maximum Permitted m <sup>3</sup> /d	MDWL Annual Permitted m <sup>3</sup>	% Capacity
January	16,476	531	968	26.0	2,290	835,704	23.2
February	12,657	408	774	29.3	2,290	835,704	19.7
March	12,604	407	1,061	29.0	2,290	835,704	17.8
April	6,690	216	1,033	28.5	2,290	835,704	9.7
May	9,563	308	1,019	28.6	2,290	835,704	13.5
June	2,118	68	464	29.0	2,290	835,704	3.1
July	3,231	104	465	85.0	2,290	835,704	4.6
August	8,254	266	1,007	22.3	2,290	835,704	11.6
September	7,052	227	916	85.0	2,290	835,704	10.3
October	5,548	179	1,028	26.5	2,290	835,704	7.8
November	4,298	143	1,660	79.9	2,290	835,704	6.3
December	0	0	0	0.0	2,290	835,704	0.0
<b>Total</b>	88,490				2,290	835,704	10.6

Well "Q" Chenier							
	Total Flow m <sup>3</sup>	Average Daily Flow m <sup>3</sup> /d	Maximum Daily Flow m <sup>3</sup> /d	Instantaneous Peak Flow L/s	MDWL Daily Maximum Permitted m <sup>3</sup> /d	MDWL Annual Permitted m <sup>3</sup>	% Capacity
January	28,864	931	1,721	27.1	2,333	851,472	39.9
February	38,631	1,380	2,076	27.0	2,333	851,472	59.1
March	37,829	1,220	2,075	27.5	2,333	851,472	52.3
April	37,386	1,246	2,075	27.5	2,333	851,472	53.4
May	31,702	1,023	2,053	27.3	2,333	851,472	43.8
June	36,041	1,201	1,943	27.3	2,333	851,472	51.5
July	35,748	1,153	1,639	27.6	2,333	851,472	49.4
August	36,104	1,165	2,075	27.3	2,333	851,472	49.9
September	43,021	1,434	2,076	26.9	2,333	851,472	61.5
October	44,997	1,452	2,075	27.2	2,333	851,472	62.2
November	34,415	1,147	2,075	26.8	2,333	851,472	49.2
December	38,947	1,256	2,076	27.0	2,333	851,472	53.9
<b>Total</b>	443,683				2,333	851,472	52.1

Well "R"							
	Total Flow m <sup>3</sup>	Average Daily Flow m <sup>3</sup> /d	Maximum Daily Flow m <sup>3</sup> /d	Instantaneous Peak Flow L/s	MDWL Daily Maximum Permitted m <sup>3</sup> /d	MDWL Annual Permitted m <sup>3</sup>	% Capacity
January	39,963	1,289	2,163	29.7	3,162	1,154,218	40.8
February	25,978	928	2,008	29.3	3,162	1,154,218	29.3
March	39,918	1,288	2,163	29.7	3,162	1,154,218	40.7
April	32,047	1,068	2,162	30.0	3,162	1,154,218	33.8
May	39,626	1,278	1,791	30.0	3,162	1,154,218	40.4
June	18,097	603	1,468	29.6	3,162	1,154,218	19.1
July	46,151	1,489	2,163	29.4	3,162	1,154,218	47.1
August	36,808	1,187	2,162	29.6	3,162	1,154,218	37.5
September	33,694	1,123	2,163	29.7	3,162	1,154,218	35.5
October	36,457	1,176	2,163	29.5	3,162	1,154,218	37.2
November	40,806	1,360	2,163	30.0	3,162	1,154,218	43.0
December	36,461	1,176	2,162	29.7	3,162	1,154,218	37.2
Total	426,003				3,162	1,154,218	36.9

"M" Well							
	Total Flow m <sup>3</sup>	Average Daily Flow m <sup>3</sup> /d	Maximum Daily Flow m <sup>3</sup> /d	Instantaneous Peak Flow L/s	MDWL Daily Maximum Permitted m <sup>3</sup> /d	MDWL Annual Permitted m <sup>3</sup>	% Capacity
January	15,485	500	1,917	32.4	3,927	1,433,355	12.7
February	21,381	690	2,546	30.0	3,927	1,433,355	19.4
March	17,617	568	2,058	50.0	3,927	1,433,355	14.5
April	10,978	354	2,075	29.3	3,927	1,433,355	9.3
May	31,650	1,021	2,263	50.0	3,927	1,433,355	26.0
June	17,652	569	2,083	30.0	3,927	1,433,355	15.0
July	25,124	810	2,100	44.5	3,927	1,433,355	20.6
August	28,848	931	1,913	35.1	3,927	1,433,355	23.7
September	18,909	610	1,843	34.0	3,927	1,433,355	16.1
October	18,405	594	1,860	30.3	3,927	1,433,355	15.1
November	15,539	501	1,797	28.6	3,927	1,433,355	13.2
December	13,638	440	1,847	29.5	3,927	1,433,355	11.2
Total	235,226				3,927	1,433,355	16.4

"J" Well							
	Total Flow m <sup>3</sup>	Average Daily Flow m <sup>3</sup> /d	Maximum Daily Flow m <sup>3</sup> /d	Instantaneous Peak Flow L/s	MDWL Daily Maximum Permitted m <sup>3</sup> /d	MDWL Annual Permitted m <sup>3</sup>	% Capacity
January	37,381	1,206	2,562	30.3	3,273	1,194,645	36.8
February	16,878	544	2,083	29.8	3,273	1,194,645	18.4
March	21,914	707	2,119	30.0	3,273	1,194,645	21.6

	Total Flow m <sup>3</sup>	Average Daily Flow	Maximum Daily Flow	Instantaneous Peak Flow	MDWL Daily Maximum Permitted	MDWL Annual Permitted	% Capacity
<b>April</b>	38,504	1,242	2,114	30.1	3,273	1,194,645	39.2
<b>May</b>	30,108	971	2,333	30.0	3,273	1,194,645	29.7
<b>June</b>	38,911	1,255	2,137	30.4	3,273	1,194,645	39.6
<b>July</b>	28,413	917	2,083	29.6	3,273	1,194,645	28.0
<b>August</b>	22,112	713	1,859	29.4	3,273	1,194,645	21.8
<b>September</b>	29,144	940	1,894	32.2	3,273	1,194,645	29.7
<b>October</b>	22,972	741	1,905	29.0	3,273	1,194,645	22.6
<b>November</b>	15,841	511	1,910	28.6	3,273	1,194,645	16.1
<b>December</b>	31,472	1,015	2,210	28.5	3,273	1,194,645	31.0
<b>Total</b>	333,649				3,273	1,194,645	27.9

## Falconbridge Drinking Water System - 240000020

The Falconbridge well system consists of 3 drilled wells:

- Well 5;
- Well 6; and,
- Well 7.

The treatment process follows these steps:

The system includes three submersible pumps, disinfection with chlorine gas, along with polyphosphate addition for corrosion control. The wells are located north of the Sudbury Airport. Water is supplied south to the town of Falconbridge, north to the Greater Sudbury Airport reservoir and to the Nickel Rim Mine tank. The City sells water to Glencore and two industrial clients along the south transmission line and fluoridates the water, as mandated by PHSD, before it enters the Falconbridge municipal distribution system.

### Non-Compliance with Act, Regulations, Order or Approvals

The Falconbridge DWS had one non-compliance in 2022. Data was not reviewed on the mandated 72-hour schedule on May 20th. This was done a day late and caused a non-compliance for the system. No issues were found with the water quality.

## Annual Flow Summary

Falconbridge Well #5							
	Total Flow m <sup>3</sup>	Average Daily Flow m <sup>3</sup> /d	Maximum Daily Flow m <sup>3</sup> /d	Instantaneous Peak Flow L/s	MDWL Daily Maximum Permitted m <sup>3</sup> /d	MDWL Annual Permitted m <sup>3</sup>	% Capacity
January	11,887	383	1,161	15.7	1,417	517,280	27.1
February	14,682	474	1,104	15.6	1,417	517,280	37.0
March	13,506	436	1,121	15.5	1,417	517,280	30.7
April	13,002	419	1,248	15.6	1,417	517,280	30.6
May	17,423	562	1,265	15.6	1,417	517,280	39.7
June	18,943	611	1,180	15.5	1,417	517,280	44.6
July	15,426	498	1,157	15.5	1,417	517,280	35.1
August	15,706	507	1,144	15.5	1,417	517,280	35.7
September	14,765	476	1,171	15.6	1,417	517,280	34.7
October	9,761	315	1,130	15.4	1,417	517,280	22.2
November	6,898	223	1,036	15.4	1,417	517,280	16.2
December	15,326	494	1,231	15.6	1,417	517,280	34.9
Total	167,325				1,417	517,280	32.3
Falconbridge Well #6							
	Total Flow m <sup>3</sup>	Average Daily Flow m <sup>3</sup> /d	Maximum Daily Flow m <sup>3</sup> /d	Instantaneous Peak Flow L/s	MDWL Daily Maximum Permitted m <sup>3</sup> /d	MDWL Annual Permitted m <sup>3</sup>	% Capacity
January	18,247	589	1,115	16.2	1,417	517,280	41.5
February	12,296	397	1,188	15.9	1,417	517,280	31.0
March	15,090	487	1,109	16.1	1,417	517,280	34.3
April	18,840	608	1,299	15.9	1,417	517,280	44.3
May	16,636	537	1,323	16.2	1,417	517,280	37.9
June	8,737	282	1,056	15.8	1,417	517,280	20.5
July	14,764	476	1,146	15.9	1,417	517,280	33.6
August	14,512	468	1,131	16.4	1,417	517,280	33.0
September	14,228	459	1,168	16.2	1,417	517,280	33.5
October	12,008	387	1,166	16.1	1,417	517,280	27.3
November	10,450	337	1,125	16.2	1,417	517,280	24.6
December	10,527	340	1,220	16.1	1,417	517,280	24.0
Total	166,335				1,417	517,280	32.2

Falconbridge Well #7							
	Total Flow m <sup>3</sup>	Average Daily Flow m <sup>3</sup> /d	Maximum Daily Flow m <sup>3</sup> /d	Instantaneous Peak Flow L/s	MDWL Daily Maximum Permitted m <sup>3</sup> /d	MDWL Annual Permitted m <sup>3</sup>	% Capacity
January	0	0	0	0.0	1,417	517,280	0.0
February	34	1	34	17.4	1,417	517,280	0.1

	Total Flow m <sup>3</sup>	Average Daily Flow	Maximum Daily Flow	Instantaneous Peak Flow	MDWL Daily Maximum Permitted	MDWL Annual Permitted	% Capacity
<b>March</b>	4	0	4	7.8	1,417	517,280	0.0
<b>April</b>	0	0	0	0.0	1,417	517,280	0.0
<b>May</b>	0	0	0	0.0	1,417	517,280	0.0
<b>June</b>	0	0	0	0.0	1,417	517,280	0.0
<b>July</b>	0	0	0	0.0	1,417	517,280	0.0
<b>August</b>	0	0	0	0.0	1,417	517,280	0.0
<b>September</b>	48	2	48	14.4	1,417	517,280	0.1
<b>October</b>	7,581	245	988	14.4	1,417	517,280	17.3
<b>November</b>	11,699	377	940	14.0	1,417	517,280	27.5
<b>December</b>	6,557	212	1,032	13.5	1,417	517,280	14.9
<b>Total</b>	25,922				1,417	517,280	5.0

## Onaping/Levack Drinking Water System - 220003519

The Onaping/Levack system includes three drilled wells:

- Well 3;
- Well 4, and;
- Well 5.

The treatment process follows these steps:

The system includes three pumps, disinfection with chlorine gas, sodium hydroxide for pH adjustment, polyphosphate addition for corrosion control along with fluoride injection. An elevated storage tank with re-chlorination capabilities, a pressure control/booster building with stand-by power, a pressure control facility on Fraser Crescent and the distribution piping completes the system. The City continues to monitor sodium on a monthly basis on the raw water due to high levels present in the aquifer caused by road salt as a major highway is above grade.

### Non-Compliance with Act, Regulations, Order or Approvals

The Onaping DWS had one non-compliance in 2022. Data was not reviewed on the mandated 72-hour schedule on May 20th. This was done a day late and caused a non-compliance for the system. No issues were found with the water quality.



## Annual Flow Summary

The Onaping/Levack PTTW is different from the other systems in that its total taking is not a sum of all sources, but rather the same value as any one well. For that reason, this system requires superimposing all three wells onto one chart to ensure the sum does not exceed the permit.

Onaping Well #3							
	Total Flow m <sup>3</sup>	Average Daily Flow m <sup>3</sup> /d	Maximum Daily Flow m <sup>3</sup> /d	Instantaneous Peak Flow L/s	MDWL Daily Maximum Permitted m <sup>3</sup> /d	MDWL Annual Permitted m <sup>3</sup>	% Capacity
January	15,775	509	2,244	34.5	5,237	1,911,541	9.7
February	19,818	639	2,537	33.4	5,237	1,911,541	13.5
March	31,206	1,007	2,670	35.3	5,237	1,911,541	19.2
April	4,045	130	1,473	34.4	5,237	1,911,541	2.6
May	29,399	948	2,731	34.9	5,237	1,911,541	18.1
June	17,577	567	2,077	34.4	5,237	1,911,541	11.2
July	7,808	252	2,489	34.7	5,237	1,911,541	4.8
August	12,639	408	1,941	34.6	5,237	1,911,541	7.8
September	12,189	393	2,039	34.4	5,237	1,911,541	7.8
October	9,504	307	1,925	33.9	5,237	1,911,541	5.9
November	17,390	561	1,987	34.5	5,237	1,911,541	11.1
December	10,071	325	1,685	33.9	5,237	1,911,541	6.2
<b>Total</b>	187,422				5,237	1,911,541	9.8

Onaping Well #4							
	Total Flow m <sup>3</sup>	Average Daily Flow m <sup>3</sup> /d	Maximum Daily Flow m <sup>3</sup> /d	Instantaneous Peak Flow L/s	MDWL Daily Maximum Permitted m <sup>3</sup> /d	MDWL Annual Permitted m <sup>3</sup>	% Capacity
January	25,781	832	2,310	29.8	5,237	1,911,541	15.9
February	9,884	319	2,346	28.9	5,237	1,911,541	6.7
March	26,833	866	2,376	28.9	5,237	1,911,541	16.5
April	19,666	634	2,355	29.1	5,237	1,911,541	12.5
May	19,637	633	2,330	29.3	5,237	1,911,541	12.1
June	28,398	916	2,395	29.4	5,237	1,911,541	18.1
July	25,733	830	2,376	29.4	5,237	1,911,541	15.9
August	23,774	767	2,240	29.1	5,237	1,911,541	14.6
September	12,312	397	1,825	29.2	5,237	1,911,541	7.8
October	22,467	725	1,790	29.4	5,237	1,911,541	13.8
November	12,098	390	1,804	29.0	5,237	1,911,541	7.7
December	20,136	650	1,681	29.2	5,237	1,911,541	12.4
<b>Total</b>	246,719				5,237	1,911,541	12.9

Onaping Well #5							
	Total Flow m <sup>3</sup>	Average Daily Flow m <sup>3</sup> /d	Maximum Daily Flow m <sup>3</sup> /d	Instantaneous Peak Flow L/s	MDWL Daily Maximum Permitted m <sup>3</sup> /d	MDWL Annual Permitted m <sup>3</sup>	% Capacity
January	22,527	727	2,552	43.8	5,237	1,911,541	13.9
February	35,787	1,154	2,592	44.1	5,237	1,911,541	24.4
March	11,670	376	2,568	44.7	5,237	1,911,541	7.2
April	36,444	1,176	2,380	44.2	5,237	1,911,541	23.2
May	11,316	365	2,091	43.3	5,237	1,911,541	7.0
June	14,930	482	2,299	50.1	5,237	1,911,541	9.5
July	41,632	1,343	3,002	48.2	5,237	1,911,541	25.6
August	23,018	743	2,641	43.6	5,237	1,911,541	14.2
September	24,051	776	1,986	49.5	5,237	1,911,541	15.3
October	17,895	577	1,724	43.8	5,237	1,911,541	11.0
November	13,646	440	1,768	44.5	5,237	1,911,541	8.7
December	12,388	400	1,591	38.2	5,237	1,911,541	7.6
Total	265,304				5,237	1,911,541	13.9

Onaping Wells Total					
	Total Flow m <sup>3</sup>	Maximum Daily Flow m <sup>3</sup> /d	MDWL Daily Maximum Permitted m <sup>3</sup> /d	MDWL Annual Permitted m <sup>3</sup>	% Capacity
January	64,083	2,552	5,237	1,911,541	39.5
February	65,489	2,592	5,237	1,911,541	44.7
March	69,709	2,670	5,237	1,911,541	42.9
April	60,155	2,380	5,237	1,911,541	38.3
May	60,352	2,731	5,237	1,911,541	37.2
June	60,906	2,454	5,237	1,911,541	38.8
July	75,172	3,002	5,237	1,911,541	46.3
August	59,431	2,713	5,237	1,911,541	36.6
September	48,552	2,039	5,237	1,911,541	30.9
October	49,866	1,925	5,237	1,911,541	30.7
November	43,134	1,987	5,237	1,911,541	27.5
December	42,595	1,685	5,237	1,911,541	26.2
Total	699,445		5,237	1,911,541	36.6

## Vermilion Distribution System - 260006789

The Vermilion distribution system is a standalone distribution system that receives water from a “donor” system; the Vermilion water treatment facility, owned by Vale Canada Limited (Vale). Vale has

responsibility for the treatment facility and must also comply with O. Reg. 170/03. The Vale water treatment facility is not the subject of this report.

CGS owns and operates the distribution network in the communities of Copper Cliff, Lively, Naughton, Whitefish and the Atikameksheng Anishnawbek Reserve. The system also includes the Walden Water Storage Tank and Walden Metering Chamber.

Water quality throughout the distribution systems is monitored through regular sampling in accordance with O. Reg. 170/03.

### Non-Compliance with Act, Regulations, Order or Approvals

The Vermilion DWS had one non-compliance in 2022. Data was not reviewed on the mandated 72-hour schedule on May 20th. This was done a day late and caused a non-compliance for the system. No issues were found with the water quality.

Two AWQI were reported in 2022. One AWQI was reported for a bacterial sample, 1 count of coliform, within the distribution system. A sample was taken upstream, downstream and at the site. All samples were retested, no coliforms were found, and disinfection was not affected. It is suspected a sampling error and contamination. The second was for a low-pressure incidence (< 20 psi) within the system.

## Appendix A

### CGS 2022 Annual Water Quality Report

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

## Part III Form 2

### Section 11. ANNUAL REPORT.

<b>Drinking-Water System Number:</b>	220003537
<b>Drinking-Water System</b>	Sudbury Drinking Water System - David St.
<b>Drinking-Water System Owner:</b>	City of Greater Sudbury
<b>Drinking-Water System Category:</b>	Large Municipal Residential
<b>Period being reported:</b>	From 2022-01-01 To 2022-12-31

<p><b><u>Complete if your Category is Large Municipal Residential or Small Municipal Residential</u></b></p> <p>Does your Drinking-Water System serve more than 10,000 people? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>Is your annual report available to the public at no charge on a web site on the Internet? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></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>www.greatersudbury.ca TDS-Engineering Department</p> </div>	<p><b><u>Complete for all other Categories.</u></b></p> <p>Number of Designated Facilities served: <input type="text" value="0"/></p> <p>Did you provide a copy of your annual report to all Designated Facilities you serve? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p> <p>Number of Interested Authorities you report to: <input type="text" value="0"/></p> <p>Did you provide a copy of your annual report to all Interested Authorities you report to for each Designated Facility? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></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
Sudbury Drinking Water System - Wanapitei	210001111

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 ☐ No ☒

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

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/Citizen Service Centre
- ☐ Public access/notice via other method \_\_\_\_\_

### Describe your Drinking-Water System

The David St. Water Treatment Plant is a surface water plant which draws water from Ramsey Lake. Proportionally, the plant services approximately 40% of Sudbury, however, most of the water produced at the David St. WTP is normally delivered to the south, west and downtown areas of Sudbury as well as supplying water to the Ellis reservoir. Treatment incorporated is in the form of membrane ultrafiltration, disinfection by chlorination, Ultra-Violet irradiation, fluoridation, pH adjustment and corrosion control with a polyphosphate. The distribution system includes an online continuous chlorine analyzer & related appurtenances. The plant is in full treatment compliance with O. Reg. 170/03 and is monitored 24/7 from the Wanapitei WTP.

### List all water treatment chemicals used over this reporting period

Sodium Hypochlorite UN#1791, Hydrofluosilicic Acid UN#1778, Polyphosphate, Sodium Hydroxide UN#1824, Sodium Bisulfate UN#2693, Citric Acid UN#3625, Sodium Permanganate UN#3214

### 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

HVAC system upgrades and repairs, membrane tank repairs and new membrane replacement \$ 1 113 716  
 Membrane performance assessment \$118 000  
 Replace aeration system on membrane filtration \$38 000

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

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

AWQI #	Incident Date	Parameter	Result	Unit of Measure	Corrective Action	Corrective Action Date
159918	2022/09/11	Fluoride	1.63	mg/L	Resample	2022/09/11

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 #)
<b>Raw: RAMSEY LAKE</b>					
	52	0 to 50	0 to 150		
<b>Treated: SUDBURY (DAVID ST) Water Treatment Plant</b>					
	52	0 to 0	0 to 0	52	10 to 10
<b>Distribution</b>					
	1,493	0 to 0	0 to 0	339	10 to 20

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 #)
Chlorine Residual Distribution System	8,760	0.42 - 2.47

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

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

## SUDBURY (DAVID ST) Water Treatment Plant

<b>Turbidity</b>	8,760	0.01 - 5.00	NTU
<b>Chlorine</b>	8,760	0.37 - 5.01	mg/L
<b>Fluoride</b> (If the DWS provides fluoridation)	8,760	0.20 - 1.63	mg/L

**Summary of additional testing and sampling carried out in accordance with the requirement of an approval or order or other legal instrument.**

Date of legal instrument issued	Parameter	Date Sampled	Result	Unit of Measure

## SUDBURY (DAVID ST) Water Treatment Plant

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
<b>Antimony</b>	2022/12/08	0.0005	mg/L	No
<b>Arsenic</b>	2022/12/08	0.002	mg/L	No
<b>Barium</b>	2022/12/08	0.0126	mg/L	No
<b>Boron</b>	2022/12/08	0.002	mg/L	No
<b>Cadmium</b>	2022/12/08	0.0001	mg/L	No
<b>Chromium</b>	2022/12/08	0.001	mg/L	No
<b>Mercury</b>	2022/12/08	0.0001	mg/L	No
<b>Selenium</b>	2022/12/08	0.0006	mg/L	No
<b>Uranium</b>	2022/12/08	0.001	mg/L	No
<b>Nitrite</b>	2022/02/28	0.05	mg/L	No
	2022/06/06	0.05	mg/L	No
	2022/09/06	0.05	mg/L	No
	2022/12/08	0.05	mg/L	No
<b>Nitrate</b>	2022/02/28	0.05	mg/L	No
	2022/06/06	0.05	mg/L	No
	2022/09/06	0.12	mg/L	No
	2022/12/08	0.05	mg/L	No
<b>Sodium</b>	2020/01/13	52.20	mg/L	Yes
	2020/02/03	55.00	mg/L	Yes
	2020/02/10	57.80	mg/L	Yes
	2020/11/30	54.10	mg/L	Yes

**Summary of lead testing under Schedule 15.1 during this reporting period.**

Location Type	Number of Samples	Range of Lead Results (min#) - (max#)	Number of Exceedances
<b>Plumbing</b>	22	0.0001-0.0053 mg/L	1
<b>Distribution</b>	8	0.0001-0.00013 mg/L	0



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

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
<b>THM</b> (NOTE: show latest annual average)	2022	0.0669	mg/L	No
<b>HAA</b> (NOTE: show latest annual average)	2022	0.06	mg/L	No

## SUDBURY (DAVID ST) Water Treatment Plant

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Alachlor	2022/12/08	0.000233	mg/L	No
Atrazine + N-dealkylated metabolites	2022/12/08	0.0005	mg/L	No
Azinphos-methyl	2022/12/08	0.000175	mg/L	No
Benzene	2022/12/08	0.0001	mg/L	No
Benzo(a)pyrene	2022/12/08	0.00001	mg/L	No
Bromoxynil	2022/12/08	0.0000994	mg/L	No
Carbaryl	2022/12/08	0.002	mg/L	No
Carbofuran	2022/12/08	0.003	mg/L	No
Carbon Tetrachloride	2022/12/08	0.0002	mg/L	No
Chlorpyrifos	2022/12/08	0.000175	mg/L	No
Diazinon	2022/12/08	0.000175	mg/L	No
Dicamba	2022/12/08	0.000087	mg/L	No
1,2-Dichlorobenzene	2022/12/08	0.0002	mg/L	No
1,4-Dichlorobenzene	2022/12/08	0.0003	mg/L	No
1,2-Dichloroethane	2022/12/08	0.0002	mg/L	No
1,1-Dichloroethylene (vinylidene chloride)	2022/12/08	0.0003	mg/L	No
Dichloromethane	2022/12/08	0.001	mg/L	No
2-4 Dichlorophenol	2022/12/08	0.0002	mg/L	No
2,4-Dichlorophenoxy acetic acid (2,4-D)	2022/12/08	0.000373	mg/L	No
Diclofop-methyl	2022/12/08	0.000249	mg/L	No
Dimethoate	2022/12/08	0.000175	mg/L	No
Diquat	2022/12/08	0.0002	mg/L	No
Diuron	2022/12/08	0.01	mg/L	No
Glyphosate	2022/12/08	0.02	mg/L	No
Malathion	2022/12/08	0.000175	mg/L	No
Metolachlor	2022/12/08	0.000117	mg/L	No
Metribuzin	2022/12/08	0.000117	mg/L	No
Monochlorobenzene	2022/12/08	0.0005	mg/L	No
Paraquat	2022/12/08	0.0002	mg/L	No
Pentachlorophenol	2022/12/08	0.0003	mg/L	No
Phorate	2022/12/08	0.000117	mg/L	No
Picloram	2022/12/08	0.000087	mg/L	No
Polychlorinated Biphenyls(PCB)	2022/12/08	0.00006	mg/L	No
Prometryne	2022/12/08	0.0000583	mg/L	No
Simazine	2022/12/08	0.000175	mg/L	No
Terbufos	2022/12/08	0.000117	mg/L	No
Tetrachloroethylene	2022/12/08	0.0003	mg/L	No
2,3,4,6-Tetrachlorophenol	2022/12/08	0.0003	mg/L	No

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

Triallate	2022/12/08	0.000117	mg/L	No
Trichloroethylene	2022/12/08	0.0002	mg/L	No
2,4,6-Trichlorophenol	2022/12/08	0.0002	mg/L	No
Trifluralin	2022/12/08	0.000117	mg/L	No
Vinyl Chloride	2022/12/08	0.0001	mg/L	No
MCPA	2022/12/08	0.00621	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	UOM	Date of Sample	Location

(Only if DWS category is large municipal residential, small municipal residential, large municipal non-residential, non municipal year round residential, large non municipal non residential)

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

## Part III Form 2

### Section 11. ANNUAL REPORT.

<b>Drinking-Water System Number:</b>	210001111
<b>Drinking-Water System</b>	Sudbury Drinking Water System - Wanapitei
<b>Drinking-Water System Owner:</b>	City of Greater Sudbury
<b>Drinking-Water System Category:</b>	Large Municipal Residential
<b>Period being reported:</b>	From 2022-01-01 To 2022-12-31

<p><b><u>Complete if your Category is Large Municipal Residential or Small Municipal Residential</u></b></p> <p>Does your Drinking-Water System serve more than 10,000 people? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>Is your annual report available to the public at no charge on a web site on the Internet? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></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;">             www.greatersudbury.ca              TDS-Engineering Department           </div>	<p><b><u>Complete for all other Categories.</u></b></p> <p>Number of Designated Facilities served: <input type="text" value="0"/></p> <p>Did you provide a copy of your annual report to all Designated Facilities you serve? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p> <p>Number of Interested Authorities you report to: <input type="text" value="0"/></p> <p>Did you provide a copy of your annual report to all Interested Authorities you report to for each Designated Facility? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></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
Markstay-Warren	220013606
Sudbury Drinking Water System - Garson	220003485
Sudbury Drinking Water System - David St.	220003537

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 ☒ No ☐

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

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/Citizen Service Centre
- ☐ Public access/notice via other method \_\_\_\_\_

### Describe your Drinking-Water System

The Wanapitei Water Treatment Plant is a surface water plant which draws water from the Wanapitei River. Proportionally, the plant services approximately 60% of Sudbury, with the water being produced supplying the northeastern and northwestern areas of the City but includes Markstay, Coniston and parts of Garson (west of Falconbridge Road at O'Neil Drive) as well as supplying water to the Ellis Reservoir. The raw water is pumped from the Wanapitei River via the Wanapitei intake, a concrete intake structure that protrudes into the Wanapitei River. The raw intake pumphouse is situated north of Hwy. 17, in the community of Wahnapiatae. The raw water passes through a coarse aluminum bar screen then through two finer stainless steel screens inside the station before being pumped to the treatment plant to the west. The Wanapitei WTP utilizes a conventional water treatment process complete with Coagulation / Flocculation, Sedimentation and Filtration by dual media filters. Chlorine and/or Chlorine Dioxide are used for disinfection purposes and Ultra-Violet irradiation was added to the end of the process in 2010. Corrosion control, pH adjustment plus the addition of fluoride complete the process. The distribution system includes an online continuous chlorine analyzer & various other appurtenances. The plant is in full treatment compliance with O. Reg. 170/03.

### List all water treatment chemicals used over this reporting period

Chlorine Gas UN#1017, Hydrofluosilicic Acid UN#1778, Polyphosphate, Sodium Chlorite UN#1908, PAS-Aluminum Sulfate UN#3264, Hydrated Lime, Polyelectrolyte, Chlorine Dioxide (generated onsite)

### 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

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

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

AWQI #	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 (min #)-(max #)	Range of Total Coliform Results (min #)-(max #)	Number of HPC Samples	Range of HPC Results (min #)-(max #)
<b>Raw: WANAPITEI RIVER</b>					
	52	0 to 30	4 to 1200		
<b>Treated: HL PUMP STATION, Sudbury (Wanapitei) WTP</b>					
	52	0 to 0	0 to 0	52	10 to 10
<b>Distribution</b>					
	1,493	0 to 0	0 to 0	339	0 to 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 #)
Chlorine Residual Distribution System	8,760	0.42 - 2.47

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

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

## HL PUMP STATION, Sudbury (Wanapitei) WTP

<b>Turbidity</b>	8,760	0.00 - 1.37	NTU
<b>Chlorine</b>	8,760	0.17 - 2.77	mg/L
<b>Fluoride</b> (If the DWS provides fluoridation)	8,760	0.20 - 1.32	mg/L

**Summary of additional testing and sampling carried out in accordance with the requirement of an approval or order or other legal instrument.**

Date of legal instrument issued	Parameter	Date Sampled	Result	Unit of Measure

## HL PUMP STATION, Sudbury (Wanapitei) WTP

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
<b>Antimony</b>	2022/12/07	0.0005	mg/L	No
<b>Arsenic</b>	2022/12/07	0.001	mg/L	No
<b>Barium</b>	2022/12/07	0.0134	mg/L	No
<b>Boron</b>	2022/12/07	0.002	mg/L	No
<b>Cadmium</b>	2022/12/07	0.0001	mg/L	No
<b>Chromium</b>	2022/12/07	0.001	mg/L	No
<b>Mercury</b>	2022/12/07	0.0001	mg/L	No
<b>Selenium</b>	2022/12/07	0.0002	mg/L	No
<b>Uranium</b>	2022/12/07	0.001	mg/L	No
<b>Nitrite</b>	2022/03/02	0.05	mg/L	No
	2022/06/07	0.05	mg/L	No
	2022/09/06	0.05	mg/L	No
	2022/12/07	0.05	mg/L	No
<b>Nitrate</b>	2022/03/02	0.11	mg/L	No
	2022/06/07	0.09	mg/L	No
	2022/09/06	0.05	mg/L	No
	2022/12/07	0.21	mg/L	No
<b>Sodium</b>	2021/11/30	1.67	mg/L	No

**Summary of lead testing under Schedule 15.1 during this reporting period.**

Location Type	Number of Samples	Range of Lead Results (min#) - (max#)	Number of Exceedances
<b>Plumbing</b>	22	0.0001-0.0023 mg/L	0
<b>Distribution</b>	9	0.0001-0.0001 mg/L	0

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

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

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
<b>THM</b> (NOTE: show latest annual average)	2022	0.0615	mg/L	No
<b>HAA</b> (NOTE: show latest annual average)	2022	0.05	mg/L	No

## HL PUMP STATION, Sudbury (Wanapitei) WTP

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Alachlor	2022/12/07	0.000329	mg/L	No
Atrazine + N-dealkylated metabolites	2022/12/07	0.0005	mg/L	No
Azinphos-methyl	2022/12/07	0.000247	mg/L	No
Benzene	2022/12/07	0.0001	mg/L	No
Benzo(a)pyrene	2022/12/07	0.00001	mg/L	No
Bromoxynil	2022/12/07	0.0000972	mg/L	No
Carbaryl	2022/12/07	0.002	mg/L	No
Carbofuran	2022/12/07	0.004	mg/L	No
Carbon Tetrachloride	2022/12/07	0.0002	mg/L	No
Chlorpyrifos	2022/12/07	0.000247	mg/L	No
Diazinon	2022/12/07	0.000247	mg/L	No
Dicamba	2022/12/07	0.000243	mg/L	No
1,2-Dichlorobenzene	2022/12/07	0.0002	mg/L	No
1,4-Dichlorobenzene	2022/12/07	0.0003	mg/L	No
1,2-Dichloroethane	2022/12/07	0.0002	mg/L	No
1,1-Dichloroethylene (vinylidene chloride)	2022/12/07	0.0003	mg/L	No
Dichloromethane	2022/12/07	0.001	mg/L	No
2-4 Dichlorophenol	2022/12/07	0.0002	mg/L	No
2,4-Dichlorophenoxy acetic acid (2,4-D)	2022/12/07	0.00122	mg/L	No
Diclofop-methyl	2022/12/07	0.000122	mg/L	No
Dimethoate	2022/12/07	0.000247	mg/L	No
Diquat	2022/12/07	0.0002	mg/L	No
Diuron	2022/12/07	0.01	mg/L	No
Glyphosate	2022/12/07	0.02	mg/L	No
Malathion	2022/12/07	0.000247	mg/L	No
Metolachlor	2022/12/07	0.000165	mg/L	No
Metribuzin	2022/12/07	0.000165	mg/L	No
Monochlorobenzene	2022/12/07	0.0005	mg/L	No
Paraquat	2022/12/07	0.0002	mg/L	No
Pentachlorophenol	2022/12/07	0.0003	mg/L	No
Phorate	2022/12/07	0.000165	mg/L	No
Picloram	2022/12/07	0.000122	mg/L	No
Polychlorinated Biphenyls(PCB)	2022/12/07	0.00006	mg/L	No
Prometryne	2022/12/07	0.0000824	mg/L	No
Simazine	2022/12/07	0.000247	mg/L	No
Terbufos	2022/12/07	0.000165	mg/L	No
Tetrachloroethylene	2022/12/07	0.0003	mg/L	No
2,3,4,6-Tetrachlorophenol	2022/12/07	0.0003	mg/L	No
Triallate	2022/12/07	0.000165	mg/L	No
Trichloroethylene	2022/12/07	0.0002	mg/L	No
2,4,6-Trichlorophenol	2022/12/07	0.0002	mg/L	No

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

Trifluralin	2022/12/07	0.000165	mg/L	No
Vinyl Chloride	2022/12/07	0.0001	mg/L	No
MCPA	2022/12/07	0.00608	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	UOM	Date of Sample	Location

(Only if DWS category is large municipal residential, small municipal residential, large municipal non-residential, non municipal year round residential, large non municipal non residential)



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

## Part III Form 2

### Section 11. ANNUAL REPORT.

<b>Drinking-Water System Number:</b>	220003485
<b>Drinking-Water System</b>	Sudbury Drinking Water System -Garson
<b>Drinking-Water System Owner:</b>	City of Greater Sudbury
<b>Drinking-Water System Category:</b>	Large Municipal Residential
<b>Period being reported:</b>	From 2022-01-01 To 2022-12-31

**Complete if your Category is Large Municipal Residential or Small Municipal Residential**

Does your Drinking-Water System serve more than 10,000 people? Yes ☐ No ☒

Is your annual report available to the public at no charge on a web site on the Internet? Yes ☒ No ☐

Location where Summary Report required under O. Reg. 170/03 Schedule 22 will be available for inspection.

www.greatersudbury.ca  
TDS-Engineering Department

**Complete for all other Categories.**

Number of Designated Facilities served:

0

Did you provide a copy of your annual report to all Designated Facilities you serve?

Yes ☐ No ☒

Number of Interested Authorities you report to:

0

Did you provide a copy of your annual report to all Interested Authorities you report to for each Designated Facility?

Yes ☐ No ☒

**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

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 ☐ No ☐

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

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/Citizen Service Centre
- ☐ Public access/notice via other method \_\_\_\_\_

### Describe your Drinking-Water System

The Garson system includes three wells, Garson Well #2 located near the intersection of Spruce St. and Falconbridge Hwy., plus Garson Wells #1 & 3 located on Falconbridge Hwy. The system's wells take water from an unconfined aquifer in a sand and gravel formation at Garson Well #2, and a sand, gravel, boulder formation at Garson #1 & 3. All the well groundwater is disinfected by chlorination and fluoridated at the well sites before it enters the distribution system. A common chemical room and a chlorine contact chamber is installed at the Garson #1 & 3 site. Garson Well #2 includes an oversized pipe on discharge that provides chlorine contact time. Continuous analyzers for free chlorine residual, fluoride and turbidity are monitored by an onsite PLC. A standby power generator with an automatic transfer switch is located at the Garson #1 & 3 site. The Garson Distribution System encompasses all municipal distribution in the north east part of Garson, east of the intersection of O'Neil Drive W. and Falconbridge Road and North to include the Old Skead Rd. area of Garson. The distribution system includes an online continuous chlorine analyzer. In the case of a complete system failure, a pressure sustaining valve, at the corner of O'Neil Drive W. and Falconbridge Hwy, ensures a water supply to Garson by connecting the Garson and Sudbury/Wanapitei Systems. The entire water system is in compliance with O. Reg. 170/03 and is monitored 24/7 from the Wanapitei WTP.

### List all water treatment chemicals used over this reporting period

Sodium Hypochlorite UN#1791, Hydrofluosilicic Acid UN#1778

### 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

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

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

AWQI #	Incident Date	Parameter	Result	Unit of Measure	Corrective Action	Corrective Action Date
158495	2022/03/27	Trending not completed				2022/03/27
158553	2022/06/06	low pressures			Flush/Resample	2022/06/06

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 #)
<b>Raw: GARSON WELL #1</b>					
	52	0 to 0	0 to 0		
<b>Raw: GARSON WELL #2</b>					
	52	0 to 0	0 to 0		
<b>Raw: GARSON WELL #3</b>					
	52	0 to 0	0 to 0		
<b>Treated: GARSON #1 &amp; #3 WELL TREATED</b>					
	52	0 to 0	0 to 0	52	10 to 20
<b>Treated: GARSON #2 WELL TREATED</b>					
	52	0 to 0	0 to 0	52	10 to 20
<b>Distribution</b>					
	254	0 to 0	0 to 0	59	0 to 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 #)
Chlorine Residual Distribution System	8,760	0.07 - 3.64

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

## GARSON #1 & #3 WELL TREATED

Turbidity	8,760	0.02 - 1.68	NTU
Chlorine	8,760	0.54 - 2.71	mg/L
Fluoride (If the DWS provides fluoridation)	8,760	0.20 - 0.80	mg/L

## GARSON #2 WELL TREATED

Turbidity	8,760	0.00 - 2.00	NTU
Chlorine	8,760	0.22 - 5.00	mg/L
Fluoride (If the DWS provides fluoridation)	8,760	0.20 - 1.05	mg/L

**Summary of additional testing and sampling carried out in accordance with the requirement of an approval or order or other legal instrument.**

Date of legal instrument issued	Parameter	Date Sampled	Result	Unit of Measure

## GARSON #1 & #3 WELL TREATED

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Antimony	2020/12/03	0.0005	mg/L	No
Arsenic	2020/12/03	0.0027	mg/L	No
Barium	2020/12/03	0.0367	mg/L	No
Boron	2020/12/03	0.0059	mg/L	No
Cadmium	2020/12/03	0.0001	mg/L	No
Chromium	2020/12/03	0.001	mg/L	No
Mercury	2020/12/03	0.0001	mg/L	No
Selenium	2020/12/03	0.00027	mg/L	No
Uranium	2020/12/03	0.0013	mg/L	No
Nitrite	2022/02/28	0.05	mg/L	No
	2022/06/08	0.05	mg/L	No
	2022/09/06	0.05	mg/L	No
	2022/12/05	0.05	mg/L	No

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

<b>Nitrate</b>	2022/02/28	0.566	mg/L	No
	2022/06/08	0.621	mg/L	No
	2022/09/06	0.5	mg/L	No
	2022/12/05	0.47	mg/L	No
<b>Sodium</b>				

### GARSON #2 WELL TREATED

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
<b>Antimony</b>	2021/06/29	0.0005	mg/L	No
<b>Arsenic</b>	2021/06/29	0.0024	mg/L	No
<b>Barium</b>	2021/06/29	0.0417	mg/L	No
<b>Boron</b>	2021/06/29	0.011	mg/L	No
<b>Cadmium</b>	2021/06/29	0.0001	mg/L	No
<b>Chromium</b>	2021/06/29	0.0014	mg/L	No
<b>Mercury</b>	2021/06/29	0.0001	mg/L	No
<b>Selenium</b>	2021/06/29	0.0008	mg/L	No
<b>Uranium</b>	2021/06/29	0.0011	mg/L	No
<b>Nitrite</b>	2022/02/28	0.05	mg/L	No
	2022/06/08	0.05	mg/L	No
	2022/09/06	0.05	mg/L	No
	2022/12/05	0.05	mg/L	No
<b>Nitrate</b>	2022/02/28	0.822	mg/L	No
	2022/06/08	0.878	mg/L	No
	2022/09/06	0.725	mg/L	No
	2022/12/05	0.669	mg/L	No
<b>Sodium</b>	2021/06/15	67.50	mg/L	Yes
	2021/06/29	70.80	mg/L	Yes

### Summary of lead testing under Schedule 15.1 during this reporting period.

Location Type	Number of Samples	Range of Lead Results (min#) - (max#)	Number of Exceedances
<b>Plumbing</b>			
<b>Distribution</b>	3	0.0001-0.00025 mg/L	0

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

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
<b>THM</b> (NOTE: show latest annual average)	2022	0.0034	mg/L	No
<b>HAA</b> (NOTE: show latest annual average)	2022	0.008	mg/L	No

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

## GARSON #2 WELL TREATED

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Alachlor	2020/12/03	0.000236	mg/L	No
Atrazine + N-dealkylated metabolites	2020/12/03	0.0005	mg/L	No
Azinphos-methyl	2020/12/03	0.000177	mg/L	No
Benzene	2020/12/03	0.0001	mg/L	No
Benzo(a)pyrene	2020/12/03	0.00001	mg/L	No
Bromoxynil	2020/12/03	0.000094	mg/L	No
Carbaryl	2020/12/03	0.002	mg/L	No
Carbofuran	2020/12/03	0.003	mg/L	No
Carbon Tetrachloride	2020/12/03	0.0002	mg/L	No
Chlorpyrifos	2020/12/03	0.000177	mg/L	No
Diazinon	2020/12/03	0.000177	mg/L	No
Dicamba	2020/12/03	0.0000822	mg/L	No
1,2-Dichlorobenzene	2020/12/03	0.0003	mg/L	No
1,4-Dichlorobenzene	2020/12/03	0.0003	mg/L	No
1,2-Dichloroethane	2020/12/03	0.0003	mg/L	No
1,1-Dichloroethylene (vinylidene chloride)	2020/12/03	0.0003	mg/L	No
Dichloromethane	2020/12/03	0.001	mg/L	No
2-4 Dichlorophenol	2020/12/03	0.0002	mg/L	No
2,4-Dichlorophenoxy acetic acid (2,4-D)	2020/12/03	0.000352	mg/L	No
Diclofop-methyl	2020/12/03	0.000117	mg/L	No
Dimethoate	2020/12/03	0.000177	mg/L	No
Diquat	2020/12/03	0.0002	mg/L	No
Diuron	2020/12/03	0.01	mg/L	No
Glyphosate	2020/12/03	0.02	mg/L	No
Malathion	2020/12/03	0.000177	mg/L	No
Metolachlor	2020/12/03	0.000118	mg/L	No
Metribuzin	2020/12/03	0.000118	mg/L	No
Monochlorobenzene	2020/12/03	0.0005	mg/L	No
Paraquat	2020/12/03	0.0002	mg/L	No
Pentachlorophenol	2020/12/03	0.0003	mg/L	No
Phorate	2020/12/03	0.000118	mg/L	No
Picloram	2020/12/03	0.000176	mg/L	No
Polychlorinated Biphenyls(PCB)	2020/12/03	0.00006	mg/L	No
Prometryne	2020/12/03	0.0000591	mg/L	No
Simazine	2020/12/03	0.000177	mg/L	No
Terbufos	2020/12/03	0.000118	mg/L	No
Tetrachloroethylene	2020/12/03	0.0003	mg/L	No
2,3,4,6-Tetrachlorophenol	2020/12/03	0.0003	mg/L	No
Triallate	2020/12/03	0.000118	mg/L	No
Trichloroethylene	2020/12/03	0.0002	mg/L	No
2,4,6-Trichlorophenol	2020/12/03	0.0002	mg/L	No
Trifluralin	2020/12/03	0.000118	mg/L	No
Vinyl Chloride	2020/12/03	0.0001	mg/L	No
MCPA	2020/12/03	0.00587	mg/L	No

## GARSON #1 & #3 WELL TREATED

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Alachlor	2020/12/03	0.000251	mg/L	No

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

Atrazine + N-dealkylated metabolites	2020/12/03	0.0005	mg/L	No
Azinphos-methyl	2020/12/03	0.000188	mg/L	No
Benzene	2020/12/03	0.0001	mg/L	No
Benzo(a)pyrene	2020/12/03	0.00001	mg/L	No
Bromoxynil	2020/12/03	0.0000966	mg/L	No
Carbaryl	2020/12/03	0.001	mg/L	No
Carbofuran	2020/12/03	0.002	mg/L	No
Carbon Tetrachloride	2020/12/03	0.0002	mg/L	No
Chlorpyrifos	2020/12/03	0.000188	mg/L	No
Diazinon	2020/12/03	0.000188	mg/L	No
Dicamba	2020/12/03	0.0000845	mg/L	No
1,2-Dichlorobenzene	2020/12/03	0.0003	mg/L	No
1,4-Dichlorobenzene	2020/12/03	0.0003	mg/L	No
1,2-Dichloroethane	2020/12/03	0.0003	mg/L	No
1,1-Dichloroethylene (vinylidene chloride)	2020/12/03	0.0003	mg/L	No
Dichloromethane	2020/12/03	0.001	mg/L	No
2-4 Dichlorophenol	2020/12/03	0.0002	mg/L	No
2,4-Dichlorophenoxy acetic acid (2,4-D)	2020/12/03	0.000362	mg/L	No
Diclofop-methyl	2020/12/03	0.000121	mg/L	No
Dimethoate	2020/12/03	0.000188	mg/L	No
Diquat	2020/12/03	0.0002	mg/L	No
Diuron	2020/12/03	0.006	mg/L	No
Glyphosate	2020/12/03	0.02	mg/L	No
Malathion	2020/12/03	0.000188	mg/L	No
Metolachlor	2020/12/03	0.000125	mg/L	No
Metribuzin	2020/12/03	0.000125	mg/L	No
Monochlorobenzene	2020/12/03	0.0005	mg/L	No
Paraquat	2020/12/03	0.0002	mg/L	No
Pentachlorophenol	2020/12/03	0.0003	mg/L	No
Phorate	2020/12/03	0.000125	mg/L	No
Picloram	2020/12/03	0.0000845	mg/L	No
Polychlorinated Biphenyls(PCB)	2020/12/03	0.00006	mg/L	No
Prometryne	2020/12/03	0.0000627	mg/L	No
Simazine	2020/12/03	0.000188	mg/L	No
Terbufos	2020/12/03	0.000125	mg/L	No
Tetrachloroethylene	2020/12/03	0.0027	mg/L	No
2,3,4,6-Tetrachlorophenol	2020/12/03	0.0003	mg/L	No
Triallate	2020/12/03	0.000125	mg/L	No
Trichloroethylene	2020/12/03	0.0007	mg/L	No
2,4,6-Trichlorophenol	2020/12/03	0.0002	mg/L	No
Trifluralin	2020/12/03	0.000125	mg/L	No
Vinyl Chloride	2020/12/03	0.0001	mg/L	No
MCPA	2020/12/03	0.00604	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	UOM	Date of Sample	Location

(Only if DWS category is large municipal residential, small municipal residential, large municipal non-residential, non municipal year round residential, large non municipal non residential)

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

### Part III Form 2

#### Section 11. ANNUAL REPORT.

<b>Drinking-Water System Number:</b>	210001665
<b>Drinking-Water System</b>	Dowling Drinking Water System
<b>Drinking-Water System Owner:</b>	City of Greater Sudbury
<b>Drinking-Water System Category:</b>	Large Municipal Residential
<b>Period being reported:</b>	From 2022-01-01 To 2022-12-31

<p><b><u>Complete if your Category is Large Municipal Residential or Small Municipal Residential</u></b></p> <p>Does your Drinking-Water System serve more than 10,000 people? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p> <p>Is your annual report available to the public at no charge on a web site on the Internet? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></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>www.greatersudbury.ca TDS-Engineering Department</p> </div>	<p><b><u>Complete for all other Categories.</u></b></p> <p>Number of Designated Facilities served: <input type="text" value="0"/></p> <p>Did you provide a copy of your annual report to all Designated Facilities you serve? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p> <p>Number of Interested Authorities you report to: <input type="text" value="0"/></p> <p>Did you provide a copy of your annual report to all Interested Authorities you report to for each Designated Facility? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></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

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 ☐ No ☐



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

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/Citizen Service Centre
- ☐ Public access/notice via other method \_\_\_\_\_

### Describe your Drinking-Water System

The Dowling Drinking Water System encompasses all municipal water distribution within Dowling. The system includes Dowling Well #1 (Riverside) located on Riverside Dr., Dowling Well #2 (Lionel) located on Lionel Avenue and the Dowling Tank located off of Hwy. 144. Each of the wells is housed in individual structures. The wells pump water from an unconfined aquifer within a primarily sand and gravel formation. The discharge at each well site undergoes primary treatment in the form of Ultra-Violet irradiation, secondary disinfection by chlorination, and fluoridation before it enters the distribution system. Continuous analyzers for free chlorine residual, fluoride, turbidity and UV equipment are monitored by an onsite PLC. A standby power generator with an automatic transfer switch is located at Lionel well and supplies power to both wells. The distribution system includes an online continuous free chlorine analyzer. The entire water system is in compliance with O. Reg. 170/03 and is monitored 24/7 from the Wanapitei WTP.

### List all water treatment chemicals used over this reporting period

Chlorine Gas UN#1017, Hydrofluosilicic Acid UN#1778

### 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

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

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

AWQI #	Incident Date	Parameter	Result	Unit of Measure	Corrective Action	Corrective Action Date
158499	2022/03/27	Trending not completed				2022/03/27
157417	2022/05/19	Analyzer failure				2022/05/19

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 #)
<b>Raw: LIONEL WELL#2</b>					
	52	0 to 0	0 to 0		
<b>Raw: RIVERSIDE WELL#1</b>					
	52	0 to 0	0 to 0		
<b>Treated: LIONEL WELL</b>					
	52	0 to 0	0 to 0	52	0 to 1260
<b>Treated: RIVERSIDE WELL</b>					
	52	0 to 0	0 to 0	52	0 to 40
<b>Distribution</b>					
	156	0 to 0	0 to 0	39	0 to 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 #)
Chlorine Residual Distribution System	8,760	0.40 - 3.63

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

## LIONEL WELL

Turbidity	8,760	0.00 - 1.74	NTU
Chlorine	8,760	0.59 - 5.00	mg/L
Fluoride (If the DWS provides fluoridation)	8,760	0.20 - 1.15	mg/L

## RIVERSIDE WELL

Turbidity	8,760	0.03 - 0.75	NTU
Chlorine	8,760	0.75 - 3.74	mg/L
Fluoride (If the DWS provides fluoridation)	8,760	0.20 - 1.45	mg/L

**Summary of additional testing and sampling carried out in accordance with the requirement of an approval or order or other legal instrument.**

Date of legal instrument issued	Parameter	Date Sampled	Result	Unit of Measure

## LIONEL WELL

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Antimony	2022/12/08	0.0005	mg/L	No
Arsenic	2022/12/08	0.001	mg/L	No
Barium	2022/12/08	0.0209	mg/L	No
Boron	2022/12/08	0.002	mg/L	No
Cadmium	2022/12/08	0.0001	mg/L	No
Chromium	2022/12/08	0.0013	mg/L	No
Mercury	2022/12/08	0.0001	mg/L	No
Selenium	2022/12/08	0.00036	mg/L	No
Uranium	2022/12/08	0.001	mg/L	No
Nitrite	2022/03/01	0.05	mg/L	No
	2022/06/07	0.05	mg/L	No
	2022/09/07	0.05	mg/L	No
	2022/12/08	0.05	mg/L	No

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

<b>Nitrate</b>	2022/03/01	0.536	mg/L	No
	2022/06/07	0.647	mg/L	No
	2022/09/07	0.594	mg/L	No
	2022/12/08	0.49	mg/L	No
<b>Sodium</b>	2021/11/30	38.90	mg/L	Yes

### RIVERSIDE WELL

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
<b>Antimony</b>	2022/12/08	0.0005	mg/L	No
<b>Arsenic</b>	2022/12/08	0.001	mg/L	No
<b>Barium</b>	2022/12/08	0.0197	mg/L	No
<b>Boron</b>	2022/12/08	0.002	mg/L	No
<b>Cadmium</b>	2022/12/08	0.0001	mg/L	No
<b>Chromium</b>	2022/12/08	0.0015	mg/L	No
<b>Mercury</b>	2022/12/08	0.0001	mg/L	No
<b>Selenium</b>	2022/12/08	0.0002	mg/L	No
<b>Uranium</b>	2022/12/08	0.001	mg/L	No
<b>Nitrite</b>	2022/03/01	0.05	mg/L	No
	2022/06/07	0.05	mg/L	No
	2022/09/07	0.05	mg/L	No
	2022/12/08	0.05	mg/L	No
<b>Nitrate</b>	2022/03/01	0.614	mg/L	No
	2022/06/07	0.823	mg/L	No
	2022/09/07	0.806	mg/L	No
	2022/12/08	0.714	mg/L	No
<b>Sodium</b>	2021/11/30	37.70	mg/L	Yes

### Summary of lead testing under Schedule 15.1 during this reporting period.

Location Type	Number of Samples	Range of Lead Results (min#) - (max#)	Number of Exceedances
<b>Plumbing</b>			
<b>Distribution</b>	4	0.0001-0.00105 mg/L	0

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

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
<b>THM</b> (NOTE: show latest annual average)	2022	0.0059	mg/L	No
<b>HAA</b> (NOTE: show latest annual average)	2022	0.008	mg/L	No

### LIONEL WELL

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
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# Drinking-Water Systems Regulation O. Reg. 170/03

Alachlor	2022/12/08	0.000244	mg/L	No
Atrazine + N-dealkylated metabolites	2022/12/08	0.0005	mg/L	No
Azinphos-methyl	2022/12/08	0.000183	mg/L	No
Benzene	2022/12/08	0.0001	mg/L	No
Benzo(a)pyrene	2022/12/08	0.00001	mg/L	No
Bromoxynil	2022/12/08	0.0000975	mg/L	No
Carbaryl	2022/12/08	0.002	mg/L	No
Carbofuran	2022/12/08	0.003	mg/L	No
Carbon Tetrachloride	2022/12/08	0.0002	mg/L	No
Chlorpyrifos	2022/12/08	0.000183	mg/L	No
Diazinon	2022/12/08	0.000183	mg/L	No
Dicamba	2022/12/08	0.000731	mg/L	No
1,2-Dichlorobenzene	2022/12/08	0.0002	mg/L	No
1,4-Dichlorobenzene	2022/12/08	0.0003	mg/L	No
1,2-Dichloroethane	2022/12/08	0.0002	mg/L	No
1,1-Dichloroethylene (vinylidene chloride)	2022/12/08	0.0003	mg/L	No
Dichloromethane	2022/12/08	0.001	mg/L	No
2-4 Dichlorophenol	2022/12/08	0.0002	mg/L	No
2,4-Dichlorophenoxy acetic acid (2,4-D)	2022/12/08	0.000365	mg/L	No
Diclofop-methyl	2022/12/08	0.000122	mg/L	No
Dimethoate	2022/12/08	0.000183	mg/L	No
Diquat	2022/12/08	0.0002	mg/L	No
Diuron	2022/12/08	0.01	mg/L	No
Glyphosate	2022/12/08	0.02	mg/L	No
Malathion	2022/12/08	0.000183	mg/L	No
Metolachlor	2022/12/08	0.000122	mg/L	No
Metribuzin	2022/12/08	0.000122	mg/L	No
Monochlorobenzene	2022/12/08	0.0005	mg/L	No
Paraquat	2022/12/08	0.0002	mg/L	No
Pentachlorophenol	2022/12/08	0.0003	mg/L	No
Phorate	2022/12/08	0.000122	mg/L	No
Picloram	2022/12/08	0.0000853	mg/L	No
Polychlorinated Biphenyls(PCB)	2022/12/08	0.00006	mg/L	No
Prometryne	2022/12/08	0.0000609	mg/L	No
Simazine	2022/12/08	0.000183	mg/L	No
Terbufos	2022/12/08	0.000122	mg/L	No
Tetrachloroethylene	2022/12/08	0.0003	mg/L	No
2,3,4,6-Tetrachlorophenol	2022/12/08	0.0002	mg/L	No
Triallate	2022/12/08	0.000122	mg/L	No
Trichloroethylene	2022/12/08	0.0002	mg/L	No
2,4,6-Trichlorophenol	2022/12/08	0.0002	mg/L	No
Trifluralin	2022/12/08	0.000122	mg/L	No
Vinyl Chloride	2022/12/08	0.0001	mg/L	No
MCPA	2022/12/08	0.00853	mg/L	No

## RIVERSIDE WELL

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Alachlor	2022/12/08	0.000301	mg/L	No
Atrazine + N-dealkylated metabolites	2022/12/08	0.0005	mg/L	No
Azinphos-methyl	2022/12/08	0.000226	mg/L	No
Benzene	2022/12/08	0.0001	mg/L	No

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

Benzo(a)pyrene	2022/12/08	0.00001	mg/L	No
Bromoxynil	2022/12/08	0.0000876	mg/L	No
Carbaryl	2022/12/08	0.002	mg/L	No
Carbofuran	2022/12/08	0.003	mg/L	No
Carbon Tetrachloride	2022/12/08	0.0002	mg/L	No
Chlorpyrifos	2022/12/08	0.000226	mg/L	No
Diazinon	2022/12/08	0.000226	mg/L	No
Dicamba	2022/12/08	0.00131	mg/L	No
1,2-Dichlorobenzene	2022/12/08	0.0002	mg/L	No
1,4-Dichlorobenzene	2022/12/08	0.0003	mg/L	No
1,2-Dichloroethane	2022/12/08	0.0002	mg/L	No
1,1-Dichloroethylene (vinylidene chloride)	2022/12/08	0.0003	mg/L	No
Dichloromethane	2022/12/08	0.001	mg/L	No
2-4 Dichlorophenol	2022/12/08	0.0002	mg/L	No
2,4-Dichlorophenoxy acetic acid (2,4-D)	2022/12/08	0.00219	mg/L	No
Diclofop-methyl	2022/12/08	0.000219	mg/L	No
Dimethoate	2022/12/08	0.000226	mg/L	No
Diquat	2022/12/08	0.0002	mg/L	No
Diuron	2022/12/08	0.01	mg/L	No
Glyphosate	2022/12/08	0.02	mg/L	No
Malathion	2022/12/08	0.000226	mg/L	No
Metolachlor	2022/12/08	0.00015	mg/L	No
Metribuzin	2022/12/08	0.00015	mg/L	No
Monochlorobenzene	2022/12/08	0.0005	mg/L	No
Paraquat	2022/12/08	0.0002	mg/L	No
Pentachlorophenol	2022/12/08	0.0003	mg/L	No
Phorate	2022/12/08	0.00015	mg/L	No
Picloram	2022/12/08	0.0000766	mg/L	No
Polychlorinated Biphenyls(PCB)	2022/12/08	0.00006	mg/L	No
Prometryne	2022/12/08	0.0000752	mg/L	No
Simazine	2022/12/08	0.000226	mg/L	No
Terbufos	2022/12/08	0.00015	mg/L	No
Tetrachloroethylene	2022/12/08	0.0003	mg/L	No
2,3,4,6-Tetrachlorophenol	2022/12/08	0.0003	mg/L	No
Triallate	2022/12/08	0.00015	mg/L	No
Trichloroethylene	2022/12/08	0.0002	mg/L	No
2,4,6-Trichlorophenol	2022/12/08	0.0002	mg/L	No
Trifluralin	2022/12/08	0.00015	mg/L	No
Vinyl Chloride	2022/12/08	0.0001	mg/L	No
MCPA	2022/12/08	0.00547	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	UOM	Date of Sample	Location

(Only if DWS category is large municipal residential, small municipal residential, large municipal non-residential, non municipal year round residential, large non municipal non residential)

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

### Part III Form 2

#### Section 11. ANNUAL REPORT.

<b>Drinking-Water System Number:</b>	240000020
<b>Drinking-Water System</b>	Falconbridge Well Supply
<b>Drinking-Water System Owner:</b>	City of Greater Sudbury
<b>Drinking-Water System Category:</b>	Large Municipal Residential
<b>Period being reported:</b>	From 2022-01-01 To 2022-12-31

<p><b><u>Complete if your Category is Large Municipal Residential or Small Municipal Residential</u></b></p> <p>Does your Drinking-Water System serve more than 10,000 people? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p> <p>Is your annual report available to the public at no charge on a web site on the Internet? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></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>www.greatersudbury.ca TDS-Engineering Department</p> </div>	<p><b><u>Complete for all other Categories.</u></b></p> <p>Number of Designated Facilities served: <input type="text" value="0"/></p> <p>Did you provide a copy of your annual report to all Designated Facilities you serve? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p> <p>Number of Interested Authorities you report to: <input type="text" value="0"/></p> <p>Did you provide a copy of your annual report to all Interested Authorities you report to for each Designated Facility? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></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

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 ☐ No ☐

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

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/Citizen Service Centre
- ☐ Public access/notice via other method \_\_\_\_\_

### Describe your Drinking-Water System

The Falconbridge system consists of three drilled wells, Numbers 5, 6, and 7, located north of the Sudbury Airport. All three wells share a common treatment building that includes a stand-by power generator, chlorine gas for disinfection and chemical addition for corrosion control. Continuous analyzers for free chlorine residual and turbidity are monitored by an onsite PLC. Fluoride is added to the water before it enters the Falconbridge Municipal distribution system at a designated fluoridation building. Water is supplied south to the Town of Falconbridge and north to the Nickel Rim Mine reservoir and the Sudbury Airport. The remainder of the system consists of an Elevated Storage Tank, Booster Pumping Station and a Pressure Regulating Valve, all located within the town of Falconbridge. The City provides water to Glencore and two industrial clients along the South transmission line. The distribution system includes an online continuous free chlorine analyzer and fluoride analyzer. The entire water system is in compliance with O. Reg. 170/03 and is monitored 24/7 from the Wanapitei WTP.

### List all water treatment chemicals used over this reporting period

Chlorine Gas UN#1017, Polyphosphate, Hydrofluosilicic Acid UN#1778

### 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



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

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

AWQI #	Incident Date	Parameter	Result	Unit of Measure	Corrective Action	Corrective Action Date
158497	2022/03/27	Trending not completed				2022/03/27

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 #)
<b>Raw: FALCONBRIDGE WELL #5</b>					
	52	0 to 0	0 to 0		
<b>Raw: FALCONBRIDGE WELL #6</b>					
	52	0 to 0	0 to 1		
<b>Raw: FALCONBRIDGE WELL #7</b>					
	15	0 to 0	0 to 1		
<b>Treated: FALCONBRIDGE WELL #5</b>					
	52	0 to 0	0 to 0	52	10 to 120
<b>Treated: FALCONBRIDGE WELL #6</b>					
	52	0 to 0	0 to 0	52	10 to 10
<b>Treated: FALCONBRIDGE WELL #7</b>					
	15	0 to 0	0 to 0	15	10 to 20
<b>Distribution</b>					
	209	0 to 0	0 to 0	52	0 to 10

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

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 #)
Chlorine Residual Distribution System	8,760	0.08 - 3.94

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

### FALCONBRIDGE WELLS TREATED

Turbidity	8,760	0.00 - 5.00	NTU
Chlorine	8,760	0.72 - 5.00	mg/L
Fluoride (If the DWS provides fluoridation)	8,760	0.20 - 1.49	mg/L

Summary of additional testing and sampling carried out in accordance with the requirement of an approval or order or other legal instrument.

Date of legal instrument issued	Parameter	Date Sampled	Result	Unit of Measure

### FALCONBRIDGE WELL #5

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Antimony	2020/12/01	0.0005	mg/L	No
Arsenic	2020/12/01	0.0022	mg/L	No
Barium	2020/12/01	0.0065	mg/L	No
Boron	2020/12/01	0.0045	mg/L	No
Cadmium	2020/12/01	0.0001	mg/L	No
Chromium	2020/12/01	0.0013	mg/L	No
Mercury	2020/12/01	0.0001	mg/L	No
Selenium	2020/12/01	0.00033	mg/L	No
Uranium	2020/12/01	0.001	mg/L	No
Nitrite	2022/02/28	0.05	mg/L	No
	2022/06/08	0.05	mg/L	No
	2022/09/06	0.05	mg/L	No
	2022/12/05	0.05	mg/L	No
Nitrate	2022/02/28	0.16	mg/L	No
	2022/06/08	0.18	mg/L	No
	2022/09/06	0.087	mg/L	No
	2022/12/05	0.18	mg/L	No
Sodium	2021/02/22	23.10	mg/L	Yes

## FALCONBRIDGE WELL #6

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Antimony	2020/12/01	0.0005	mg/L	No
Arsenic	2020/12/01	0.0019	mg/L	No
Barium	2020/12/01	0.0076	mg/L	No
Boron	2020/12/01	0.0042	mg/L	No
Cadmium	2020/12/01	0.0001	mg/L	No
Chromium	2020/12/01	0.0012	mg/L	No
Mercury	2020/12/01	0.0001	mg/L	No
Selenium	2020/12/01	0.00043	mg/L	No
Uranium	2020/12/01	0.001	mg/L	No
Nitrite	2022/02/28	0.05	mg/L	No
	2022/06/08	0.05	mg/L	No
	2022/09/06	0.05	mg/L	No
	2022/12/05	0.05	mg/L	No
Nitrate	2022/02/28	0.16	mg/L	No
	2022/06/08	0.21	mg/L	No
	2022/09/06	0.1	mg/L	No
	2022/12/05	0.11	mg/L	No
Sodium	2021/02/22	22.30	mg/L	Yes

## FALCONBRIDGE WELL #7

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Antimony	2020/12/01	0.0005	mg/L	No
Arsenic	2020/12/01	0.0035	mg/L	No
Barium	2020/12/01	0.0062	mg/L	No
Boron	2020/12/01	0.0042	mg/L	No
Cadmium	2020/12/01	0.0001	mg/L	No
Chromium	2020/12/01	0.0014	mg/L	No
Mercury	2020/12/01	0.0001	mg/L	No
Selenium	2020/12/01	0.00033	mg/L	No
Uranium	2020/12/01	0.001	mg/L	No
Nitrite				
	2022/12/05	0.05	mg/L	No
Nitrate				
	2022/12/05	0.05	mg/L	No
Sodium	2021/02/22	25.60	mg/L	Yes

## Summary of lead testing under Schedule 15.1 during this reporting period.

Location Type	Number of Samples	Range of Lead Results (min#) - (max#)	Number of Exceedances
Plumbing			
Distribution	2	0.0001-0.0001 mg/L	0

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

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
THM (NOTE: show latest annual average)	2022	0.0034	mg/L	No
HAA (NOTE: show latest annual average)	2022	0.008	mg/L	No

## FALCONBRIDGE WELL #5

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Alachlor	2020/12/01	0.000244	mg/L	No
Atrazine + N-dealkylated metabolites	2020/12/01	0.0005	mg/L	No
Azinphos-methyl	2020/12/01	0.000183	mg/L	No
Benzene	2020/12/01	0.0001	mg/L	No
Benzo(a)pyrene	2020/12/01	0.00001	mg/L	No
Bromoxynil	2020/12/01	0.0000939	mg/L	No
Carbaryl	2020/12/01	0.002	mg/L	No
Carbofuran	2020/12/01	0.003	mg/L	No
Carbon Tetrachloride	2020/12/01	0.0002	mg/L	No
Chlorpyrifos	2020/12/01	0.000183	mg/L	No
Diazinon	2020/12/01	0.000183	mg/L	No
Dicamba	2020/12/01	0.000352	mg/L	No
1,2-Dichlorobenzene	2020/12/01	0.0003	mg/L	No
1,4-Dichlorobenzene	2020/12/01	0.0003	mg/L	No
1,2-Dichloroethane	2020/12/01	0.0003	mg/L	No
1,1-Dichloroethylene (vinylidene chloride)	2020/12/01	0.0003	mg/L	No
Dichloromethane	2020/12/01	0.001	mg/L	No
2,4 Dichlorophenol	2020/12/01	0.0002	mg/L	No
2,4-Dichlorophenoxy acetic acid (2,4-D)	2020/12/01	0.000352	mg/L	No
Diclofop-methyl	2020/12/01	0.000117	mg/L	No
Dimethoate	2020/12/01	0.000183	mg/L	No
Diquat	2020/12/01	0.0003	mg/L	No
Diuron	2020/12/01	0.009	mg/L	No
Glyphosate	2020/12/01	0.02	mg/L	No
Malathion	2020/12/01	0.000183	mg/L	No
Metolachlor	2020/12/01	0.000122	mg/L	No
Metribuzin	2020/12/01	0.000122	mg/L	No
Monochlorobenzene	2020/12/01	0.0005	mg/L	No

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

Paraquat	2020/12/01	0.0003	mg/L	No
Pentachlorophenol	2020/12/01	0.0003	mg/L	No
Phorate	2020/12/01	0.000122	mg/L	No
Picloram	2020/12/01	0.0000821	mg/L	No
Polychlorinated Biphenyls(PCB)	2020/12/01	0.00007	mg/L	No
Prometryne	2020/12/01	0.0000609	mg/L	No
Simazine	2020/12/01	0.000183	mg/L	No
Terbufos	2020/12/01	0.000122	mg/L	No
Tetrachloroethylene	2020/12/01	0.0003	mg/L	No
2,3,4,6-Tetrachlorophenol	2020/12/01	0.0003	mg/L	No
Triallate	2020/12/01	0.000122	mg/L	No
Trichloroethylene	2020/12/01	0.0002	mg/L	No
2,4,6-Trichlorophenol	2020/12/01	0.0002	mg/L	No
Trifluralin	2020/12/01	0.000122	mg/L	No
Vinyl Chloride	2020/12/01	0.0001	mg/L	No
MCPA	2020/12/01	0.00587	mg/L	No

## FALCONBRIDGE WELL #6

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Alachlor	2020/12/01	0.00023	mg/L	No
Atrazine + N-dealkylated metabolites	2020/12/01	0.0005	mg/L	No
Azinphos-methyl	2020/12/01	0.000173	mg/L	No
Benzene	2020/12/01	0.0001	mg/L	No
Benzo(a)pyrene	2020/12/01	0.00001	mg/L	No
Bromoxynil	2020/12/01	0.0000908	mg/L	No
Carbaryl	2020/12/01	0.001	mg/L	No
Carbofuran	2020/12/01	0.002	mg/L	No
Carbon Tetrachloride	2020/12/01	0.0002	mg/L	No
Chlorpyrifos	2020/12/01	0.000173	mg/L	No
Diazinon	2020/12/01	0.000173	mg/L	No
Dicamba	2020/12/01	0.000227	mg/L	No
1,2-Dichlorobenzene	2020/12/01	0.0003	mg/L	No
1,4-Dichlorobenzene	2020/12/01	0.0003	mg/L	No
1,2-Dichloroethane	2020/12/01	0.0003	mg/L	No
1,1-Dichloroethylene (vinylidene chloride)	2020/12/01	0.0003	mg/L	No
Dichloromethane	2020/12/01	0.001	mg/L	No
2-4 Dichlorophenol	2020/12/01	0.0003	mg/L	No
2,4-Dichlorophenoxy acetic acid (2,4-D)	2020/12/01	0.000341	mg/L	No
Diclofop-methyl	2020/12/01	0.000114	mg/L	No
Dimethoate	2020/12/01	0.000173	mg/L	No
Diquat	2020/12/01	0.0002	mg/L	No
Diuron	2020/12/01	0.007	mg/L	No
Glyphosate	2020/12/01	0.02	mg/L	No
Malathion	2020/12/01	0.000173	mg/L	No
Metolachlor	2020/12/01	0.000115	mg/L	No
Metribuzin	2020/12/01	0.000115	mg/L	No
Monochlorobenzene	2020/12/01	0.0005	mg/L	No
Paraquat	2020/12/01	0.0002	mg/L	No
Pentachlorophenol	2020/12/01	0.0003	mg/L	No
Phorate	2020/12/01	0.000115	mg/L	No
Picloram	2020/12/01	0.0000795	mg/L	No

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

Polychlorinated Biphenyls(PCB)	2020/12/01	0.00006	mg/L	No
Prometryne	2020/12/01	0.0000575	mg/L	No
Simazine	2020/12/01	0.000173	mg/L	No
Terbufos	2020/12/01	0.000115	mg/L	No
Tetrachloroethylene	2020/12/01	0.0003	mg/L	No
2,3,4,6-Tetrachlorophenol	2020/12/01	0.0003	mg/L	No
Triallate	2020/12/01	0.000115	mg/L	No
Trichloroethylene	2020/12/01	0.0002	mg/L	No
2,4,6-Trichlorophenol	2020/12/01	0.0003	mg/L	No
Trifluralin	2020/12/01	0.000115	mg/L	No
Vinyl Chloride	2020/12/01	0.0001	mg/L	No
MCPA	2020/12/01	0.00568	mg/L	No

## FALCONBRIDGE WELL #7

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Alachlor	2020/12/01	0.000228	mg/L	No
Atrazine + N-dealkylated metabolites	2020/12/01	0.0005	mg/L	No
Azinphos-methyl	2020/12/01	0.000171	mg/L	No
Benzene	2020/12/01	0.0001	mg/L	No
Benzo(a)pyrene	2020/12/01	0.00001	mg/L	No
Bromoxynil	2020/12/01	0.0000925	mg/L	No
Carbaryl	2020/12/01	0.002	mg/L	No
Carbofuran	2020/12/01	0.003	mg/L	No
Carbon Tetrachloride	2020/12/01	0.0002	mg/L	No
Chlorpyrifos	2020/12/01	0.000171	mg/L	No
Diazinon	2020/12/01	0.000171	mg/L	No
Dicamba	2020/12/01	0.000081	mg/L	No
1,2-Dichlorobenzene	2020/12/01	0.0003	mg/L	No
1,4-Dichlorobenzene	2020/12/01	0.0003	mg/L	No
1,2-Dichloroethane	2020/12/01	0.0003	mg/L	No
1,1-Dichloroethylene (vinylidene chloride)	2020/12/01	0.0003	mg/L	No
Dichloromethane	2020/12/01	0.001	mg/L	No
2-4 Dichlorophenol	2020/12/01	0.0002	mg/L	No
2,4-Dichlorophenoxy acetic acid (2,4-D)	2020/12/01	0.000347	mg/L	No
Diclofop-methyl	2020/12/01	0.000116	mg/L	No
Dimethoate	2020/12/01	0.000171	mg/L	No
Diquat	2020/12/01	0.0002	mg/L	No
Diuron	2020/12/01	0.009	mg/L	No
Glyphosate	2020/12/01	0.02	mg/L	No
Malathion	2020/12/01	0.000171	mg/L	No
Metolachlor	2020/12/01	0.000114	mg/L	No
Metribuzin	2020/12/01	0.000114	mg/L	No
Monochlorobenzene	2020/12/01	0.0005	mg/L	No
Paraquat	2020/12/01	0.0002	mg/L	No
Pentachlorophenol	2020/12/01	0.0003	mg/L	No
Phorate	2020/12/01	0.000114	mg/L	No
Picloram	2020/12/01	0.000081	mg/L	No
Polychlorinated Biphenyls(PCB)	2020/12/01	0.00006	mg/L	No
Prometryne	2020/12/01	0.0000571	mg/L	No
Simazine	2020/12/01	0.000171	mg/L	No
Terbufos	2020/12/01	0.000114	mg/L	No

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

Tetrachloroethylene	2020/12/01	0.0003	mg/L	No
2,3,4,6-Tetrachlorophenol	2020/12/01	0.0003	mg/L	No
Triallate	2020/12/01	0.000114	mg/L	No
Trichloroethylene	2020/12/01	0.0002	mg/L	No
2,4,6-Trichlorophenol	2020/12/01	0.0002	mg/L	No
Trifluralin	2020/12/01	0.000114	mg/L	No
Vinyl Chloride	2020/12/01	0.0001	mg/L	No
MCPA	2020/12/01	0.00578	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	UOM	Date of Sample	Location

(Only if DWS category is large municipal residential, small municipal residential, large municipal non-residential, non municipal year round residential, large non municipal non residential)

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

### Part III Form 2

#### Section 11. ANNUAL REPORT.

<b>Drinking-Water System Number:</b>	220003519
<b>Drinking-Water System</b>	Onaping-Levack Well Supply
<b>Drinking-Water System Owner:</b>	City of Greater Sudbury
<b>Drinking-Water System Category:</b>	Large Municipal Residential
<b>Period being reported:</b>	From 2022-01-01 To 2022-12-31

<p><b><u>Complete if your Category is Large Municipal Residential or Small Municipal Residential</u></b></p> <p>Does your Drinking-Water System serve more than 10,000 people? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p> <p>Is your annual report available to the public at no charge on a web site on the Internet? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></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>www.greatersudbury.ca TDS-Engineering Department</p> </div>	<p><b><u>Complete for all other Categories.</u></b></p> <p>Number of Designated Facilities served: <input type="text" value="0"/></p> <p>Did you provide a copy of your annual report to all Designated Facilities you serve? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p> <p>Number of Interested Authorities you report to: <input type="text" value="0"/></p> <p>Did you provide a copy of your annual report to all Interested Authorities you report to for each Designated Facility? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></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

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 ☐ No ☐



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

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/Citizen Service Centre
- ☐ Public access/notice via other method \_\_\_\_\_

### Describe your Drinking-Water System

The Onaping/Levack system includes three drilled wells, Numbers 3, 4 and 5 with a common treatment building. Well pumps 3 and 4 are housed in a separate building while well pump 5 is situated in the treatment building. The treatment building provides chlorine gas injection for disinfection, fluoridation, chemical addition for corrosion control, Sodium Hydroxide for pH control and a stand-by power generator. Continuous analyzers for free chlorine residual, fluoride, turbidity and pH are monitored by an onsite PLC. The system is equipped with an elevated storage tank having re-chlorination capabilities, a Pressure Control /Booster building with stand-by power, a pressure sustaining valve, a distribution online continuous free chlorine analyzer and the distribution piping. The entire water system is in compliance with O. Reg. 170/03 and is monitored 24/7 from the Wanapitei WTP.

### List all water treatment chemicals used over this reporting period

Chlorine Gas UN#1017, Hydrofluosilicic Acid UN#1778, Polyphosphate, Sodium Hydroxide UN#1824

### 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

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

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

AWQI #	Incident Date	Parameter	Result	Unit of Measure	Corrective Action	Corrective Action Date
158500	2022/03/27	Trending not completed				2022/03/27
159653	2022/08/21	Cl2 Analyzer			Resample	2022/08/21

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 #)
<b>Raw: WICKWAS WELL #3</b>					
	52	0 to 0	0 to 0		
<b>Raw: WICKWAS WELL #4</b>					
	52	0 to 0	0 to 0		
<b>Raw: WICKWAS WELL #5</b>					
	52	0 to 0	0 to 0		
<b>Treated: WICKWAS TREATED PUMPHOUSE</b>					
	52	0 to 0	0 to 0	52	0 to 10
<b>Distribution</b>					
	150	0 to 0	0 to 0	36	0 to 10

**Operational testing done under Schedule 7, 8 or 9 of Regulation 170/03 during the period covered by this Annual Report.**

	<b>Number of Grab Samples</b>	<b>Range of Results (min #) - (max #)</b>
<b>Chlorine Residual Distribution System</b>	8,760	0.10 - 3.27

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

## WICKWAS TREATED PUMPHOUSE

<b>Turbidity</b>	8,760	0.02 - 10.00	NTU
<b>Chlorine</b>	8,760	0.80 - 2.36	mg/L
<b>Fluoride</b> (If the DWS provides fluoridation)	8,760	0.00 - 1.36	mg/L

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

## Summary of additional testing and sampling carried out in accordance with the requirement of an approval or order or other legal instrument.

Date of legal instrument issued	Parameter	Date Sampled	Result	Unit of Measure
2009/03/09	Sodium	2022/01/04	76.4	mg/L
2009/03/09	Sodium	2022/01/04	102	mg/L
2009/03/09	Sodium	2022/01/04	73.1	mg/L
2009/03/09	Sodium	2022/02/01	68.8	mg/L
2009/03/09	Sodium	2022/02/01	81.4	mg/L
2009/03/09	Sodium	2022/02/01	70	mg/L
2009/03/09	Sodium	2022/03/08	60	mg/L
2009/03/09	Sodium	2022/03/08	70.8	mg/L
2009/03/09	Sodium	2022/03/08	71.1	mg/L
2009/03/09	Sodium	2022/04/06	101	mg/L
2009/03/09	Sodium	2022/04/06	102	mg/L
2009/03/09	Sodium	2022/04/06	65	mg/L
2009/03/09	Sodium	2022/05/03	46.7	mg/L
2009/03/09	Sodium	2022/05/03	51.1	mg/L
2009/03/09	Sodium	2022/05/03	54.8	mg/L
2009/03/09	Sodium	2022/06/01	56.2	mg/L
2009/03/09	Sodium	2022/06/01	70.5	mg/L
2009/03/09	Sodium	2022/06/01	81.1	mg/L
2009/03/09	Sodium	2022/06/07	73.2	mg/L
2009/03/09	Sodium	2022/06/07	97.8	mg/L
2009/03/09	Sodium	2022/06/07	99.3	mg/L
2009/03/09	Sodium	2022/07/05	63.6	mg/L
2009/03/09	Sodium	2022/07/05	73.3	mg/L
2009/03/09	Sodium	2022/07/05	86.8	mg/L
2009/03/09	Sodium	2022/08/04	69.8	mg/L
2009/03/09	Sodium	2022/08/04	75.9	mg/L
2009/03/09	Sodium	2022/08/04	40.3	mg/L
2009/03/09	Sodium	2022/09/07	77.5	mg/L
2009/03/09	Sodium	2022/09/07	94.7	mg/L
2009/03/09	Sodium	2022/09/07	68.8	mg/L
2009/03/09	Sodium	2022/09/07	78.2	mg/L
2009/03/09	Sodium	2022/09/07	105	mg/L
2009/03/09	Sodium	2022/09/07	74.7	mg/L
2009/03/09	Sodium	2022/10/04	88.8	mg/L
2009/03/09	Sodium	2022/10/04	97	mg/L
2009/03/09	Sodium	2022/10/04	80.8	mg/L
2009/03/09	Sodium	2022/11/01	72.4	mg/L
2009/03/09	Sodium	2022/11/01	79.5	mg/L
2009/03/09	Sodium	2022/11/01	86.3	mg/L
2009/03/09	Sodium	2022/12/08	79.6	mg/L
2009/03/09	Sodium	2022/12/08	82.1	mg/L
2009/03/09	Sodium	2022/12/08	102	mg/L
2009/03/09	Sodium	2022/12/13	78.6	mg/L
2009/03/09	Sodium	2022/12/13	82.8	mg/L
2009/03/09	Sodium	2022/12/13	105	mg/L

### WICKWAS TREATED PUMPHOUSE

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
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# Drinking-Water Systems Regulation O. Reg. 170/03

Antimony	2020/12/04	0.0005	mg/L	No
Arsenic	2020/12/04	0.0013	mg/L	No
Barium	2020/12/04	0.0686	mg/L	No
Boron	2020/12/04	0.0098	mg/L	No
Cadmium	2020/12/04	0.0001	mg/L	No
Chromium	2020/12/04	0.001	mg/L	No
Mercury	2020/12/04	0.0001	mg/L	No
Selenium	2020/12/04	0.00065	mg/L	No
Uranium	2020/12/04	0.001	mg/L	No
Nitrite	2022/03/01	0.05	mg/L	No
	2022/06/07	0.05	mg/L	No
	2022/09/07	0.05	mg/L	No
	2022/12/08	0.05	mg/L	No
Nitrate	2022/03/01	0.748	mg/L	No
	2022/06/07	0.914	mg/L	No
	2022/09/07	0.815	mg/L	No
	2022/12/08	0.762	mg/L	No
Sodium	2020/12/04	109.00	mg/L	Yes

## Summary of lead testing under Schedule 15.1 during this reporting period.

Location Type	Number of Samples	Range of Lead Results (min#) - (max#)	Number of Exceedances
Plumbing			
Distribution	4	0.0001-0.0001 mg/L	0

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

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
THM (NOTE: show latest annual average)	2022	0.0048	mg/L	No
HAA (NOTE: show latest annual average)	2022	0.008	mg/L	No

## WICKWAS TREATED PUMPHOUSE

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Alachlor	2020/12/04	0.000231	mg/L	No
Atrazine + N-dealkylated metabolites	2020/12/04	0.0005	mg/L	No
Azinphos-methyl	2020/12/04	0.000173	mg/L	No
Benzene	2020/12/04	0.0001	mg/L	No
Benzo(a)pyrene	2020/12/04	0.00001	mg/L	No
Bromoxynil	2020/12/04	0.0000929	mg/L	No
Carbaryl	2020/12/04	0.002	mg/L	No
Carbofuran	2020/12/04	0.002	mg/L	No
Carbon Tetrachloride	2020/12/04	0.0002	mg/L	No

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

Chlorpyrifos	2020/12/04	0.000173	mg/L	No
Diazinon	2020/12/04	0.000173	mg/L	No
Dicamba	2020/12/04	0.0000813	mg/L	No
1,2-Dichlorobenzene	2020/12/04	0.0003	mg/L	No
1,4-Dichlorobenzene	2020/12/04	0.0003	mg/L	No
1,2-Dichloroethane	2020/12/04	0.0003	mg/L	No
1,1-Dichloroethylene (vinylidene chloride)	2020/12/04	0.0003	mg/L	No
Dichloromethane	2020/12/04	0.001	mg/L	No
2-4 Dichlorophenol	2020/12/04	0.0002	mg/L	No
2,4-Dichlorophenoxy acetic acid (2,4-D)	2020/12/04	0.000349	mg/L	No
Diclofop-methyl	2020/12/04	0.000116	mg/L	No
Dimethoate	2020/12/04	0.000173	mg/L	No
Diquat	2020/12/04	0.0003	mg/L	No
Diuron	2020/12/04	0.008	mg/L	No
Glyphosate	2020/12/04	0.02	mg/L	No
Malathion	2020/12/04	0.000173	mg/L	No
Metolachlor	2020/12/04	0.000116	mg/L	No
Metribuzin	2020/12/04	0.000116	mg/L	No
Monochlorobenzene	2020/12/04	0.0005	mg/L	No
Paraquat	2020/12/04	0.0003	mg/L	No
Pentachlorophenol	2020/12/04	0.0003	mg/L	No
Phorate	2020/12/04	0.000116	mg/L	No
Picloram	2020/12/04	0.0000813	mg/L	No
Polychlorinated Biphenyls(PCB)	2020/12/04	0.00006	mg/L	No
Prometryne	2020/12/04	0.0000578	mg/L	No
Simazine	2020/12/04	0.000173	mg/L	No
Terbufos	2020/12/04	0.000116	mg/L	No
Tetrachloroethylene	2020/12/04	0.0003	mg/L	No
2,3,4,6-Tetrachlorophenol	2020/12/04	0.0003	mg/L	No
Triallate	2020/12/04	0.000116	mg/L	No
Trichloroethylene	2020/12/04	0.0002	mg/L	No
2,4,6-Trichlorophenol	2020/12/04	0.0002	mg/L	No
Trifluralin	2020/12/04	0.000116	mg/L	No
Vinyl Chloride	2020/12/04	0.0001	mg/L	No
MCPA	2020/12/04	0.00581	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	UOM	Date of Sample	Location

(Only if DWS category is large municipal residential, small municipal residential, large municipal non-residential, non municipal year round residential, large non municipal non residential)

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

### Part III Form 2

#### Section 11. ANNUAL REPORT.

<b>Drinking-Water System Number:</b>	210000737
<b>Drinking-Water System</b>	Bleazard Valley - Capreol Well Supply
<b>Drinking-Water System Owner:</b>	City of Greater Sudbury
<b>Drinking-Water System Category:</b>	Large Municipal Residential
<b>Period being reported:</b>	From 2022-01-01 To 2022-12-31

<p><b><u>Complete if your Category is Large Municipal Residential or Small Municipal Residential</u></b></p> <p>Does your Drinking-Water System serve more than 10,000 people? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>Is your annual report available to the public at no charge on a web site on the Internet? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></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>www.greatersudbury.ca TDS-Engineering Department</p> </div>	<p><b><u>Complete for all other Categories.</u></b></p> <p>Number of Designated Facilities served: <input type="text" value="0"/></p> <p>Did you provide a copy of your annual report to all Designated Facilities you serve? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p> <p>Number of Interested Authorities you report to: <input type="text" value="0"/></p> <p>Did you provide a copy of your annual report to all Interested Authorities you report to for each Designated Facility? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></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

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 ☐ No ☐

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

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/Citizen Service Centre
- ☐ Public access/notice via other method \_\_\_\_\_

### Describe your Drinking-Water System

The system includes nine Blezard Valley wells, which extend in a well field from Val Therese to Hanmer and two Capreol Wells adjacent to Greens Lake. All of the groundwater wells undergo primary treatment in the form of Ultra-Violet irradiation, secondary disinfection by chlorination, and fluoridation. The Capreol wells also include chemical addition for corrosion control. Continuous analyzers for free chlorine residual, fluoride, turbidity and UV equipment are monitored at each well by onsite PLC's. A standby power generator with an automatic transfer switch is located at several of the wells. In the event that the Capreol wells fail, the Valley wells can supply water to the Capreol Boosters located onsite. In the event that the entire system of wells and boosters fail, water will continue to be supplied from the three storage facilities, but at a reduced pressure. Three water storage tanks are situated in Azilda, Chelmsford and Val Caron and all distribution piping completes the system. The Blezard Valley distribution includes an online continuous chlorine analyzer and encompasses the communities of Chelmsford, Azilda, McCrea Heights, Blezard Valley, Val Caron, Val Therese, Hanmer and Capreol. The entire water system is in compliance with O. Reg. 170/03 and is monitored 24/7 from the Wanapitei WTP.

### List all water treatment chemicals used over this reporting period

Chlorine Gas UN#1017, Hydrofluosilicic Acid UN#1778, Polyphosphate

### 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

Chemical room and well building upgrades \$58 000  
 Capreol wells manganese and iron filtration system preliminary installation \$300 000  
 Blezard Valley and Capreol system ground water study \$155 000



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

**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**

AWQI #	Incident Date	Parameter	Result	Unit of Measure	Corrective Action	Corrective Action Date
158061	2022/03/24	Cl2 not monitored				2022/03/24
158498	2022/03/27	Trending not completed				2022/03/27

**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 #)

<b>Raw: WELL A -DESCHENE WELL</b>					
	52	0 to 0	0 to 1		
<b>Raw: WELL B- KENNETH WELL</b>					
	4	0 to 0	0 to 0		
<b>Raw: WELL C -PHILIPPE WELL</b>					
	52	0 to 0	0 to 16		
<b>Raw: WELL D -FROST WELL</b>					
	52	0 to 0	0 to 0		
<b>Raw: WELL E -NOTRE DAME</b>					
	52	0 to 0	0 to 1		
<b>Raw: WELL F -LINDEN WELL</b>					
	52	0 to 0	0 to 0		
<b>Raw: WELL G -PHARAND WELL</b>					
	48	0 to 0	0 to 0		
<b>Raw: WELL H -MICHELLE WELL</b>					
	42	0 to 0	0 to 1		
<b>Raw: WELL I -I WELL</b>					
	0				
<b>Raw: WELL J - GREEN LAKE</b>					
	52	0 to 0	0 to 0		
<b>Raw: WELL M - GREEN LAKE</b>					
	52	0 to 0	0 to 7		
<b>Raw: WELL Q - CHENIER</b>					
	52	0 to 0	0 to 0		
<b>Raw: WELL R</b>					
	52	0 to 0	0 to 0		

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

<b>Treated: CAPREOL WELL SUPPLY - WELL M&amp;J</b>					
	104	0 to 0	0 to 0	104	0 to 30
<b>Treated: WELL A - DESCHENE WELL</b>					
	52	0 to 0	0 to 0	52	10 to 10
<b>Treated: WELL B - KENNETH WELL</b>					
	4	0 to 0	0 to 0	4	10 to 10
<b>Treated: WELL C - PHILIPPE WELL</b>					
	52	0 to 0	0 to 0	52	10 to 20
<b>Treated: WELL D - FROST WELL</b>					
	52	0 to 0	0 to 0	52	0 to 10
<b>Treated: WELL E - NOTRE DAME WELL</b>					
	52	0 to 0	0 to 0	52	0 to 30
<b>Treated: WELL F - LINDEN WELL</b>					
	52	0 to 0	0 to 0	52	0 to 450
<b>Treated: WELL G - PHARAND WELL</b>					
	48	0 to 0	0 to 0	48	10 to 50
<b>Treated: WELL H - MICHELLE WELL</b>					
	42	0 to 0	0 to 0	42	0 to 10
<b>Treated: WELL I - I WELL</b>					
	0			0	
<b>Treated: WELL Q- CHENIER</b>					
	52	0 to 0	0 to 0	52	0 to 1420
<b>Treated: WELL R</b>					
	52	0 to 0	0 to 0	52	0 to 20
<b>Distribution</b>					
	603	0 to 0	0 to 0	150	0 to 1620

**Operational testing done under Schedule 7, 8 or 9 of Regulation 170/03 during the period covered by this Annual Report.**

	<b>Number of Grab Samples</b>	<b>Range of Results (min #) - (max #)</b>
<b>Chlorine Residual Distribution System</b>	8,760	0.07 - 1.77

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

## CAPREOL WELL SUPPLY - WELL M&J

<b>Turbidity</b>	8,760	0.00 - 2.00	NTU
<b>Chlorine</b>	8,760	0.29 - 4.45	mg/L
<b>Fluoride</b> (If the DWS provides fluoridation)	8,760	0.20 - 1.05	mg/L

## WELL A - DESCHENE WELL

<b>Turbidity</b>	8,760	0.01 - 2.00	NTU
<b>Chlorine</b>	8,760	0.55 - 2.60	mg/L
<b>Fluoride</b> (If the DWS provides fluoridation)	8,760	0.20 - 1.35	mg/L

## WELL B - KENNETH WELL

<b>Turbidity</b>	8,760	0.04 - 1.56	NTU
<b>Chlorine</b>	8,760	0.34 - 2.05	mg/L
<b>Fluoride</b> (If the DWS provides fluoridation)	8,760	0.20 - 0.88	mg/L

## WELL C - PHILIPPE WELL

<b>Turbidity</b>	8,760	0.02 - 0.94	NTU
<b>Chlorine</b>	8,760	0.35 - 2.30	mg/L
<b>Fluoride</b> (If the DWS provides fluoridation)	8,760	0.20 - 1.21	mg/L

## WELL D - FROST WELL

<b>Turbidity</b>	8,760	0.03 - 2.00	NTU
<b>Chlorine</b>	8,760	0.55 - 2.74	mg/L
<b>Fluoride</b> (If the DWS provides fluoridation)	8,760	0.20 - 2.00	mg/L

## WELL E - NOTRE DAME WELL

<b>Turbidity</b>	8,760	0.01 - 2.00	NTU
<b>Chlorine</b>	8,760	0.40 - 5.00	mg/L
<b>Fluoride</b> (If the DWS provides fluoridation)	8,760	0.20 - 2.00	mg/L

## WELL F - LINDEN WELL

<b>Turbidity</b>	8,760	0.03 - 2.00	NTU
<b>Chlorine</b>	8,760	0.51 - 3.00	mg/L
<b>Fluoride</b> (If the DWS provides fluoridation)	8,760	0.20 - 1.12	mg/L

## WELL G - PHARAND WELL

<b>Turbidity</b>	8,760	0.03 - 2.00	NTU
<b>Chlorine</b>	8,760	0.30 - 3.55	mg/L
<b>Fluoride</b> (If the DWS provides fluoridation)	8,760	0.20 - 1.30	mg/L

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

## WELL H - MICHELLE WELL

<b>Turbidity</b>	8,760	0.00 - 2.00	NTU
<b>Chlorine</b>	8,760	0.30 - 3.75	mg/L
<b>Fluoride</b> (If the DWS provides fluoridation)	8,760	0.20 - 1.15	mg/L

## WELL I - I WELL

<b>Turbidity</b>			
<b>Chlorine</b>			
<b>Fluoride</b> (If the DWS provides fluoridation)			

## WELL Q- CHENIER

<b>Turbidity</b>	8,760	0.01 - 3.60	NTU
<b>Chlorine</b>	8,760	0.38 - 4.99	mg/L
<b>Fluoride</b> (If the DWS provides fluoridation)	8,760	0.20 - 1.33	mg/L

## WELL R

<b>Turbidity</b>	8,760	0.02 - 10.00	NTU
<b>Chlorine</b>	8,760	0.50 - 4.76	mg/L
<b>Fluoride</b> (If the DWS provides fluoridation)	8,760	0.20 - 1.32	mg/L

Summary of additional testing and sampling carried out in accordance with the requirement of an approval or order or other legal instrument.

Date of legal instrument issued	Parameter	Date Sampled	Result	Unit of Measure

## WELL A - DESCHENE WELL

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
<b>Antimony</b>	2020/12/01	0.0005	mg/L	No
<b>Arsenic</b>	2020/12/01	0.001	mg/L	No
<b>Barium</b>	2020/12/01	0.0146	mg/L	No
<b>Boron</b>	2020/12/01	0.013	mg/L	No
<b>Cadmium</b>	2020/12/01	0.0001	mg/L	No
<b>Chromium</b>	2020/12/01	0.0018	mg/L	No
<b>Mercury</b>	2020/12/01	0.0001	mg/L	No
<b>Selenium</b>	2020/12/01	0.0002	mg/L	No
<b>Uranium</b>	2020/12/01	0.001	mg/L	No
<b>Nitrite</b>	2022/02/28	0.05	mg/L	No
	2022/06/06	0.05	mg/L	No
	2022/09/07	0.05	mg/L	No
	2022/12/07	0.05	mg/L	No

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

<b>Nitrate</b>	2022/02/28	2.3	mg/L	No
	2022/06/06	1.9	mg/L	No
	2022/09/07	2.05	mg/L	No
	2022/12/07	2.35	mg/L	No
<b>Sodium</b>				

### WELL B - KENNETH WELL

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
<b>Antimony</b>	2020/12/01	0.0005	mg/L	No
<b>Arsenic</b>	2020/12/01	0.001	mg/L	No
<b>Barium</b>	2020/12/01	0.0475	mg/L	No
<b>Boron</b>	2020/12/01	0.0223	mg/L	No
<b>Cadmium</b>	2020/12/01	0.0001	mg/L	No
<b>Chromium</b>	2020/12/01	0.002	mg/L	No
<b>Mercury</b>	2020/12/01	0.0001	mg/L	No
<b>Selenium</b>	2020/12/01	0.00021	mg/L	No
<b>Uranium</b>	2020/12/01	0.001	mg/L	No
<b>Nitrite</b>				
<b>Nitrate</b>				
<b>Sodium</b>	2021/02/22	20.40	mg/L	Yes

### WELL C - PHILIPPE WELL

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
<b>Antimony</b>	2020/12/02	0.0005	mg/L	No
<b>Arsenic</b>	2020/12/02	0.0011	mg/L	No
<b>Barium</b>	2020/12/02	0.008	mg/L	No
<b>Boron</b>	2020/12/02	0.0037	mg/L	No
<b>Cadmium</b>	2020/12/02	0.0001	mg/L	No
<b>Chromium</b>	2020/12/02	0.001	mg/L	No
<b>Mercury</b>	2020/12/02	0.0001	mg/L	No
<b>Selenium</b>	2020/12/02	0.00027	mg/L	No
<b>Uranium</b>	2020/12/02	0.001	mg/L	No
<b>Nitrite</b>	2022/02/28	0.05	mg/L	No
	2022/06/06	0.05	mg/L	No
	2022/09/07	0.05	mg/L	No
	2022/12/07	0.05	mg/L	No
<b>Nitrate</b>	2022/02/28	0.35	mg/L	No
	2022/06/06	0.46	mg/L	No
	2022/09/07	0.31	mg/L	No
	2022/12/07	0.45	mg/L	No
<b>Sodium</b>				

### WELL D - FROST WELL

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

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Antimony	2020/12/02	0.0005	mg/L	No
Arsenic	2020/12/02	0.0014	mg/L	No
Barium	2020/12/02	0.0353	mg/L	No
Boron	2020/12/02	0.0065	mg/L	No
Cadmium	2020/12/02	0.0001	mg/L	No
Chromium	2020/12/02	0.001	mg/L	No
Mercury	2020/12/02	0.0001	mg/L	No
Selenium	2020/12/02	0.0015	mg/L	No
Uranium	2020/12/02	0.001	mg/L	No
Nitrite	2022/02/28	0.05	mg/L	No
	2022/06/08	0.05	mg/L	No
	2022/09/07	0.05	mg/L	No
	2022/12/05	0.05	mg/L	No
Nitrate	2022/02/28	0.642	mg/L	No
	2022/06/08	0.68	mg/L	No
	2022/09/07	0.59	mg/L	No
	2022/12/05	0.521	mg/L	No
Sodium	2021/02/22	22.40	mg/L	Yes

## WELL E - NOTRE DAME WELL

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Antimony	2020/11/30	0.0005	mg/L	No
Arsenic	2020/11/30	0.001	mg/L	No
Barium	2020/11/30	0.0149	mg/L	No
Boron	2020/11/30	0.0086	mg/L	No
Cadmium	2020/11/30	0.0001	mg/L	No
Chromium	2020/11/30	0.001	mg/L	No
Mercury	2020/11/30	0.0001	mg/L	No
Selenium	2020/11/30	0.00048	mg/L	No
Uranium	2020/11/30	0.001	mg/L	No
Nitrite	2022/03/01	0.05	mg/L	No
	2022/06/06	0.05	mg/L	No
	2022/09/07	0.05	mg/L	No
	2022/12/06	0.05	mg/L	No
Nitrate	2022/03/01	1.55	mg/L	No
	2022/06/06	1.4	mg/L	No
	2022/09/07	1.28	mg/L	No
	2022/12/06	1.54	mg/L	No
Sodium				

## WELL F - LINDEN WELL

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
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# Drinking-Water Systems Regulation O. Reg. 170/03

Antimony	2020/11/30	0.0005	mg/L	No
Arsenic	2020/11/30	0.0019	mg/L	No
Barium	2020/11/30	0.023	mg/L	No
Boron	2020/11/30	0.005	mg/L	No
Cadmium	2020/11/30	0.0001	mg/L	No
Chromium	2020/11/30	0.001	mg/L	No
Mercury	2020/11/30	0.0001	mg/L	No
Selenium	2020/11/30	0.00036	mg/L	No
Uranium	2020/11/30	0.001	mg/L	No
Nitrite	2022/03/01	0.05	mg/L	No
	2022/06/08	0.05	mg/L	No
	2022/09/07	0.05	mg/L	No
	2022/12/06	0.05	mg/L	No
Nitrate	2022/03/01	0.27	mg/L	No
	2022/06/08	0.37	mg/L	No
	2022/09/07	0.21	mg/L	No
	2022/12/06	0.29	mg/L	No
Sodium				

## WELL G - PHARAND WELL

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Antimony	2020/12/02	0.00084	mg/L	No
Arsenic	2020/12/02	0.001	mg/L	No
Barium	2020/12/02	0.0587	mg/L	No
Boron	2020/12/02	0.015	mg/L	No
Cadmium	2020/12/02	0.0001	mg/L	No
Chromium	2020/12/02	0.001	mg/L	No
Mercury	2020/12/02	0.0001	mg/L	No
Selenium	2020/12/02	0.00096	mg/L	No
Uranium	2020/12/02	0.001	mg/L	No
Nitrite	2022/03/01	0.05	mg/L	No
	2022/06/08	0.05	mg/L	No
	2022/09/07	0.05	mg/L	No
	2022/12/05	0.05	mg/L	No
Nitrate	2022/03/01	3.45	mg/L	No
	2022/06/08	3.36	mg/L	No
	2022/09/07	3.39	mg/L	No
	2022/12/05	3.39	mg/L	No
Sodium	2021/02/19	88.00	mg/L	Yes

## WELL H - MICHELLE WELL

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Antimony	2020/12/02	0.00099	mg/L	No
Arsenic	2020/12/02	0.001	mg/L	No
Barium	2020/12/02	0.0182	mg/L	No
Boron	2020/12/02	0.007	mg/L	No
Cadmium	2020/12/02	0.0001	mg/L	No
Chromium	2020/12/02	0.001	mg/L	No
Mercury	2020/12/02	0.0001	mg/L	No
Selenium	2020/12/02	0.0015	mg/L	No



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

Uranium	2020/12/02	0.001	mg/L	No
Nitrite	2022/03/01	0.05	mg/L	No
	2022/06/06	0.05	mg/L	No
	2022/09/07	0.05	mg/L	No
Nitrate	2022/03/01	1.56	mg/L	No
	2022/06/06	1.43	mg/L	No
	2022/09/07	1.44	mg/L	No
Sodium	2021/02/19	30.10	mg/L	Yes

## WELL I - I WELL

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Antimony				
Arsenic				
Barium				
Boron				
Cadmium				
Chromium				
Mercury				
Selenium				
Uranium				
Nitrite				
Nitrate				
Sodium				

## WELL J - Capreol

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Antimony	2022/12/06	0.0005	mg/L	No
Arsenic	2022/12/06	0.001	mg/L	No
Barium	2022/12/06	0.0161	mg/L	No
Boron	2022/12/06	0.0024	mg/L	No
Cadmium	2022/12/06	0.0001	mg/L	No
Chromium	2022/12/06	0.0012	mg/L	No
Mercury	2022/12/06	0.0001	mg/L	No
Selenium	2022/12/06	0.00028	mg/L	No
Uranium	2022/12/06	0.001	mg/L	No
Nitrite	2022/03/02	0.05	mg/L	No
	2022/06/08	0.05	mg/L	No
	2022/09/08	0.05	mg/L	No
	2022/12/06	0.05	mg/L	No

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

<b>Nitrate</b>	2022/03/02	0.05	mg/L	No
	2022/06/08	0.05	mg/L	No
	2022/09/08	0.05	mg/L	No
	2022/12/06	0.05	mg/L	No
<b>Sodium</b>				

### WELL M - Capreol

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
<b>Antimony</b>	2022/12/06	0.0005	mg/L	No
<b>Arsenic</b>	2022/12/06	0.001	mg/L	No
<b>Barium</b>	2022/12/06	0.0307	mg/L	No
<b>Boron</b>	2022/12/06	0.002	mg/L	No
<b>Cadmium</b>	2022/12/06	0.0001	mg/L	No
<b>Chromium</b>	2022/12/06	0.001	mg/L	No
<b>Mercury</b>	2022/12/06	0.0001	mg/L	No
<b>Selenium</b>	2022/12/06	0.0002	mg/L	No
<b>Uranium</b>	2022/12/06	0.001	mg/L	No
<b>Nitrite</b>	2022/03/02	0.05	mg/L	No
	2022/06/08	0.05	mg/L	No
	2022/09/08	0.05	mg/L	No
	2022/12/06	0.05	mg/L	No
<b>Nitrate</b>	2022/03/02	0.05	mg/L	No
	2022/06/08	0.05	mg/L	No
	2022/09/08	0.05	mg/L	No
	2022/12/06	0.05	mg/L	No
<b>Sodium</b>				

### WELL Q- CHENIER

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
<b>Antimony</b>	2020/11/30	0.0005	mg/L	No
<b>Arsenic</b>	2020/11/30	0.001	mg/L	No
<b>Barium</b>	2020/11/30	0.0242	mg/L	No
<b>Boron</b>	2020/11/30	0.0091	mg/L	No
<b>Cadmium</b>	2020/11/30	0.0001	mg/L	No
<b>Chromium</b>	2020/11/30	0.001	mg/L	No
<b>Mercury</b>	2020/11/30	0.0001	mg/L	No
<b>Selenium</b>	2020/11/30	0.00041	mg/L	No
<b>Uranium</b>	2020/11/30	0.001	mg/L	No
<b>Nitrite</b>	2022/03/01	0.05	mg/L	No
	2022/06/09	0.05	mg/L	No
	2022/09/08	0.05	mg/L	No
	2022/12/05	0.05	mg/L	No
<b>Nitrate</b>	2022/03/01	1.47	mg/L	No
	2022/06/09	1.57	mg/L	No
	2022/09/08	1.37	mg/L	No
	2022/12/05	1.5	mg/L	No
<b>Sodium</b>				

### WELL R

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

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Antimony	2020/11/30	0.0005	mg/L	No
Arsenic	2020/11/30	0.001	mg/L	No
Barium	2020/11/30	0.023	mg/L	No
Boron	2020/11/30	0.0055	mg/L	No
Cadmium	2020/11/30	0.0001	mg/L	No
Chromium	2020/11/30	0.001	mg/L	No
Mercury	2020/11/30	0.0001	mg/L	No
Selenium	2020/11/30	0.00023	mg/L	No
Uranium	2020/11/30	0.001	mg/L	No
Nitrite	2022/03/02	0.05	mg/L	No
	2022/06/08	0.05	mg/L	No
	2022/09/08	0.05	mg/L	No
	2022/12/05	0.05	mg/L	No
Nitrate	2022/03/02	0.33	mg/L	No
	2022/06/08	0.34	mg/L	No
	2022/09/08	0.29	mg/L	No
	2022/12/05	0.23	mg/L	No
Sodium	2021/02/19	26.10	mg/L	Yes

## Summary of lead testing under Schedule 15.1 during this reporting period.

Location Type	Number of Samples	Range of Lead Results (min#) - (max#)	Number of Exceedances
Plumbing			
Distribution	4	0.0001-0.0002 mg/L	0

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

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
THM (NOTE: show latest annual average)	2022	0.0135	mg/L	No
HAA (NOTE: show latest annual average)	2022	0.016	mg/L	No

## WELL A - DESCHENE WELL

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Alachlor	2020/12/01	0.000235	mg/L	No
Atrazine + N-dealkylated metabolites	2020/12/01	0.0005	mg/L	No
Azinphos-methyl	2020/12/01	0.000176	mg/L	No
Benzene	2020/12/01	0.0001	mg/L	No
Benzo(a)pyrene	2020/12/01	0.00001	mg/L	No
Bromoxynil	2020/12/01	0.000127	mg/L	No
Carbaryl	2020/12/01	0.002	mg/L	No
Carbofuran	2020/12/01	0.003	mg/L	No

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

Carbon Tetrachloride	2020/12/01	0.0002	mg/L	No
Chlorpyrifos	2020/12/01	0.000176	mg/L	No
Diazinon	2020/12/01	0.000176	mg/L	No
Dicamba	2020/12/01	0.000317	mg/L	No
1,2-Dichlorobenzene	2020/12/01	0.0003	mg/L	No
1,4-Dichlorobenzene	2020/12/01	0.0003	mg/L	No
1,2-Dichloroethane	2020/12/01	0.0003	mg/L	No
1,1-Dichloroethylene (vinylidene chloride)	2020/12/01	0.0003	mg/L	No
Dichloromethane	2020/12/01	0.001	mg/L	No
2-4 Dichlorophenol	2020/12/01	0.0002	mg/L	No
2,4-Dichlorophenoxy acetic acid (2,4-D)	2020/12/01	0.00038	mg/L	No
Diclofop-methyl	2020/12/01	0.000127	mg/L	No
Dimethoate	2020/12/01	0.000176	mg/L	No
Diquat	2020/12/01	0.0002	mg/L	No
Diuron	2020/12/01	0.008	mg/L	No
Glyphosate	2020/12/01	0.02	mg/L	No
Malathion	2020/12/01	0.000176	mg/L	No
Metolachlor	2020/12/01	0.000117	mg/L	No
Metribuzin	2020/12/01	0.000117	mg/L	No
Monochlorobenzene	2020/12/01	0.0005	mg/L	No
Paraquat	2020/12/01	0.0002	mg/L	No
Pentachlorophenol	2020/12/01	0.0003	mg/L	No
Phorate	2020/12/01	0.000117	mg/L	No
Picloram	2020/12/01	0.0000888	mg/L	No
Polychlorinated Biphenyls(PCB)	2020/12/01	0.00006	mg/L	No
Prometryne	2020/12/01	0.0000587	mg/L	No
Simazine	2020/12/01	0.000176	mg/L	No
Terbufos	2020/12/01	0.000117	mg/L	No
Tetrachloroethylene	2020/12/01	0.0003	mg/L	No
2,3,4,6-Tetrachlorophenol	2020/12/01	0.0003	mg/L	No
Triallate	2020/12/01	0.000117	mg/L	No
Trichloroethylene	2020/12/01	0.0002	mg/L	No
2,4,6-Trichlorophenol	2020/12/01	0.0002	mg/L	No
Trifluralin	2020/12/01	0.000117	mg/L	No
Vinyl Chloride	2020/12/01	0.0001	mg/L	No
MCPA	2020/12/01	0.00634	mg/L	No

## WELL B - KENNETH WELL

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Alachlor	2020/12/01	0.000236	mg/L	No
Atrazine + N-dealkylated metabolites	2020/12/01	0.0005	mg/L	No
Azinphos-methyl	2020/12/01	0.000177	mg/L	No
Benzene	2020/12/01	0.0001	mg/L	No
Benzo(a)pyrene	2020/12/01	0.00001	mg/L	No
Bromoxynil	2020/12/01	0.000144	mg/L	No
Carbaryl	2020/12/01	0.001	mg/L	No
Carbofuran	2020/12/01	0.002	mg/L	No
Carbon Tetrachloride	2020/12/01	0.0002	mg/L	No
Chlorpyrifos	2020/12/01	0.000177	mg/L	No
Diazinon	2020/12/01	0.000177	mg/L	No
Dicamba	2020/12/01	0.00036	mg/L	No

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

1,2-Dichlorobenzene	2020/12/01	0.0003	mg/L	No
1,4-Dichlorobenzene	2020/12/01	0.0003	mg/L	No
1,2-Dichloroethane	2020/12/01	0.0003	mg/L	No
1,1-Dichloroethylene (vinylidene chloride)	2020/12/01	0.0003	mg/L	No
Dichloromethane	2020/12/01	0.001	mg/L	No
2-4 Dichlorophenol	2020/12/01	0.0002	mg/L	No
2,4-Dichlorophenoxy acetic acid (2,4-D)	2020/12/01	0.00036	mg/L	No
Diclofop-methyl	2020/12/01	0.00012	mg/L	No
Dimethoate	2020/12/01	0.000177	mg/L	No
Diquat	2020/12/01	0.0002	mg/L	No
Diuron	2020/12/01	0.007	mg/L	No
Glyphosate	2020/12/01	0.02	mg/L	No
Malathion	2020/12/01	0.000177	mg/L	No
Metolachlor	2020/12/01	0.000118	mg/L	No
Metribuzin	2020/12/01	0.000118	mg/L	No
Monochlorobenzene	2020/12/01	0.0005	mg/L	No
Paraquat	2020/12/01	0.0002	mg/L	No
Pentachlorophenol	2020/12/01	0.0003	mg/L	No
Phorate	2020/12/01	0.000118	mg/L	No
Picloram	2020/12/01	0.0000839	mg/L	No
Polychlorinated Biphenyls(PCB)	2020/12/01	0.00006	mg/L	No
Prometryne	2020/12/01	0.000059	mg/L	No
Simazine	2020/12/01	0.000177	mg/L	No
Terbufos	2020/12/01	0.000118	mg/L	No
Tetrachloroethylene	2020/12/01	0.0003	mg/L	No
2,3,4,6-Tetrachlorophenol	2020/12/01	0.0003	mg/L	No
Triallate	2020/12/01	0.000118	mg/L	No
Trichloroethylene	2020/12/01	0.0002	mg/L	No
2,4,6-Trichlorophenol	2020/12/01	0.0002	mg/L	No
Trifluralin	2020/12/01	0.000118	mg/L	No
Vinyl Chloride	2020/12/01	0.0001	mg/L	No
MCPA	2020/12/01	0.00599	mg/L	No

## WELL C - PHILIPPE WELL

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Alachlor	2020/12/02	0.00024	mg/L	No
Atrazine + N-dealkylated metabolites	2020/12/02	0.0005	mg/L	No
Azinphos-methyl	2020/12/02	0.00018	mg/L	No
Benzene	2020/12/02	0.0001	mg/L	No
Benzo(a)pyrene	2020/12/02	0.00001	mg/L	No
Bromoxynil	2020/12/02	0.0000943	mg/L	No
Carbaryl	2020/12/02	0.002	mg/L	No
Carbofuran	2020/12/02	0.003	mg/L	No
Carbon Tetrachloride	2020/12/02	0.0002	mg/L	No
Chlorpyrifos	2020/12/02	0.00018	mg/L	No
Diazinon	2020/12/02	0.00018	mg/L	No
Dicamba	2020/12/02	0.0000825	mg/L	No
1,2-Dichlorobenzene	2020/12/02	0.0003	mg/L	No
1,4-Dichlorobenzene	2020/12/02	0.0003	mg/L	No
1,2-Dichloroethane	2020/12/02	0.0003	mg/L	No

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

1,1-Dichloroethylene (vinylidene chloride)	2020/12/02	0.0003	mg/L	No
Dichloromethane	2020/12/02	0.001	mg/L	No
2-4 Dichlorophenol	2020/12/02	0.0002	mg/L	No
2,4-Dichlorophenoxy acetic acid (2,4-D)	2020/12/02	0.000354	mg/L	No
Diclofop-methyl	2020/12/02	0.000118	mg/L	No
Dimethoate	2020/12/02	0.00018	mg/L	No
Diquat	2020/12/02	0.0002	mg/L	No
Diuron	2020/12/02	0.009	mg/L	No
Glyphosate	2020/12/02	0.02	mg/L	No
Malathion	2020/12/02	0.00018	mg/L	No
Metolachlor	2020/12/02	0.00012	mg/L	No
Metribuzin	2020/12/02	0.00012	mg/L	No
Monochlorobenzene	2020/12/02	0.0005	mg/L	No
Paraquat	2020/12/02	0.0002	mg/L	No
Pentachlorophenol	2020/12/02	0.0003	mg/L	No
Phorate	2020/12/02	0.00012	mg/L	No
Picloram	2020/12/02	0.0000825	mg/L	No
Polychlorinated Biphenyls(PCB)	2020/12/02	0.00006	mg/L	No
Prometryne	2020/12/02	0.0000599	mg/L	No
Simazine	2020/12/02	0.00018	mg/L	No
Terbufos	2020/12/02	0.00012	mg/L	No
Tetrachloroethylene	2020/12/02	0.0003	mg/L	No
2,3,4,6-Tetrachlorophenol	2020/12/02	0.0003	mg/L	No
Triallate	2020/12/02	0.00012	mg/L	No
Trichloroethylene	2020/12/02	0.0002	mg/L	No
2,4,6-Trichlorophenol	2020/12/02	0.0002	mg/L	No
Trifluralin	2020/12/02	0.00012	mg/L	No
Vinyl Chloride	2020/12/02	0.0001	mg/L	No
MCPA	2020/12/02	0.00589	mg/L	No

## WELL D - FROST WELL

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Alachlor	2020/12/02	0.000238	mg/L	No
Atrazine + N-dealkylated metabolites	2020/12/02	0.0005	mg/L	No
Azinphos-methyl	2020/12/02	0.000179	mg/L	No
Benzene	2020/12/02	0.0001	mg/L	No
Benzo(a)pyrene	2020/12/02	0.00001	mg/L	No
Bromoxynil	2020/12/02	0.0000953	mg/L	No
Carbaryl	2020/12/02	0.001	mg/L	No
Carbofuran	2020/12/02	0.002	mg/L	No
Carbon Tetrachloride	2020/12/02	0.0002	mg/L	No
Chlorpyrifos	2020/12/02	0.000179	mg/L	No
Diazinon	2020/12/02	0.000179	mg/L	No
Dicamba	2020/12/02	0.0000834	mg/L	No
1,2-Dichlorobenzene	2020/12/02	0.0003	mg/L	No
1,4-Dichlorobenzene	2020/12/02	0.0003	mg/L	No
1,2-Dichloroethane	2020/12/02	0.0003	mg/L	No
1,1-Dichloroethylene (vinylidene chloride)	2020/12/02	0.0003	mg/L	No
Dichloromethane	2020/12/02	0.001	mg/L	No
2-4 Dichlorophenol	2020/12/02	0.0002	mg/L	No

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

2,4-Dichlorophenoxy acetic acid (2,4-D)	2020/12/02	0.000357	mg/L	No
Diclofop-methyl	2020/12/02	0.000119	mg/L	No
Dimethoate	2020/12/02	0.000179	mg/L	No
Diquat	2020/12/02	0.0002	mg/L	No
Diuron	2020/12/02	0.006	mg/L	No
Glyphosate	2020/12/02	0.02	mg/L	No
Malathion	2020/12/02	0.000179	mg/L	No
Metolachlor	2020/12/02	0.000119	mg/L	No
Metribuzin	2020/12/02	0.000119	mg/L	No
Monochlorobenzene	2020/12/02	0.0005	mg/L	No
Paraquat	2020/12/02	0.0002	mg/L	No
Pentachlorophenol	2020/12/02	0.0003	mg/L	No
Phorate	2020/12/02	0.000119	mg/L	No
Picloram	2020/12/02	0.0000834	mg/L	No
Polychlorinated Biphenyls(PCB)	2020/12/02	0.00006	mg/L	No
Prometryne	2020/12/02	0.0000596	mg/L	No
Simazine	2020/12/02	0.000179	mg/L	No
Terbufos	2020/12/02	0.000119	mg/L	No
Tetrachloroethylene	2020/12/02	0.0003	mg/L	No
2,3,4,6-Tetrachlorophenol	2020/12/02	0.0003	mg/L	No
Triallate	2020/12/02	0.000119	mg/L	No
Trichloroethylene	2020/12/02	0.0002	mg/L	No
2,4,6-Trichlorophenol	2020/12/02	0.0002	mg/L	No
Trifluralin	2020/12/02	0.000119	mg/L	No
Vinyl Chloride	2020/12/02	0.0001	mg/L	No
MCPA	2020/12/02	0.00596	mg/L	No

## WELL E - NOTRE DAME WELL

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Alachlor	2020/11/30	0.000231	mg/L	No
Atrazine + N-dealkylated metabolites	2020/11/30	0.0005	mg/L	No
Azinphos-methyl	2020/11/30	0.000173	mg/L	No
Benzene	2020/11/30	0.0001	mg/L	No
Benzo(a)pyrene	2020/11/30	0.000009	mg/L	No
Bromoxynil	2020/11/30	0.0000881	mg/L	No
Carbaryl	2020/11/30	0.001	mg/L	No
Carbofuran	2020/11/30	0.002	mg/L	No
Carbon Tetrachloride	2020/11/30	0.0002	mg/L	No
Chlorpyrifos	2020/11/30	0.000173	mg/L	No
Diazinon	2020/11/30	0.000173	mg/L	No
Dicamba	2020/11/30	0.0000771	mg/L	No
1,2-Dichlorobenzene	2020/11/30	0.0003	mg/L	No
1,4-Dichlorobenzene	2020/11/30	0.0003	mg/L	No
1,2-Dichloroethane	2020/11/30	0.0003	mg/L	No
1,1-Dichloroethylene (vinylidene chloride)	2020/11/30	0.0003	mg/L	No
Dichloromethane	2020/11/30	0.001	mg/L	No
2-4 Dichlorophenol	2020/11/30	0.0003	mg/L	No
2,4-Dichlorophenoxy acetic acid (2,4-D)	2020/11/30	0.00033	mg/L	No
Diclofop-methyl	2020/11/30	0.00011	mg/L	No
Dimethoate	2020/11/30	0.000173	mg/L	No

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

Diquat	2020/11/30	0.0002	mg/L	No
Diuron	2020/11/30	0.007	mg/L	No
Glyphosate	2020/11/30	0.02	mg/L	No
Malathion	2020/11/30	0.000173	mg/L	No
Metolachlor	2020/11/30	0.000115	mg/L	No
Metribuzin	2020/11/30	0.000115	mg/L	No
Monochlorobenzene	2020/11/30	0.0005	mg/L	No
Paraquat	2020/11/30	0.0002	mg/L	No
Pentachlorophenol	2020/11/30	0.0003	mg/L	No
Phorate	2020/11/30	0.000115	mg/L	No
Picloram	2020/11/30	0.0000771	mg/L	No
Polychlorinated Biphenyls(PCB)	2020/11/30	0.00006	mg/L	No
Prometryne	2020/11/30	0.0000577	mg/L	No
Simazine	2020/11/30	0.000173	mg/L	No
Terbufos	2020/11/30	0.000115	mg/L	No
Tetrachloroethylene	2020/11/30	0.0003	mg/L	No
2,3,4,6-Tetrachlorophenol	2020/11/30	0.0003	mg/L	No
Triallate	2020/11/30	0.000115	mg/L	No
Trichloroethylene	2020/11/30	0.0002	mg/L	No
2,4,6-Trichlorophenol	2020/11/30	0.0002	mg/L	No
Trifluralin	2020/11/30	0.000115	mg/L	No
Vinyl Chloride	2020/11/30	0.0001	mg/L	No
MCPA	2020/11/30	0.00551	mg/L	No

## WELL F - LINDEN WELL

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Alachlor	2020/11/30	0.000228	mg/L	No
Atrazine + N-dealkylated metabolites	2020/11/30	0.0005	mg/L	No
Azinphos-methyl	2020/11/30	0.000171	mg/L	No
Benzene	2020/11/30	0.0001	mg/L	No
Benzo(a)pyrene	2020/11/30	0.000009	mg/L	No
Bromoxynil	2020/11/30	0.0000909	mg/L	No
Carbaryl	2020/11/30	0.001	mg/L	No
Carbofuran	2020/11/30	0.002	mg/L	No
Carbon Tetrachloride	2020/11/30	0.0002	mg/L	No
Chlorpyrifos	2020/11/30	0.000171	mg/L	No
Diazinon	2020/11/30	0.000171	mg/L	No
Dicamba	2020/11/30	0.0000795	mg/L	No
1,2-Dichlorobenzene	2020/11/30	0.0003	mg/L	No
1,4-Dichlorobenzene	2020/11/30	0.0003	mg/L	No
1,2-Dichloroethane	2020/11/30	0.0003	mg/L	No
1,1-Dichloroethylene (vinylidene chloride)	2020/11/30	0.0003	mg/L	No
Dichloromethane	2020/11/30	0.001	mg/L	No
2-4 Dichlorophenol	2020/11/30	0.0002	mg/L	No
2,4-Dichlorophenoxy acetic acid (2,4-D)	2020/11/30	0.000341	mg/L	No
Diclofop-methyl	2020/11/30	0.000114	mg/L	No
Dimethoate	2020/11/30	0.000171	mg/L	No
Diquat	2020/11/30	0.0002	mg/L	No
Diuron	2020/11/30	0.006	mg/L	No
Glyphosate	2020/11/30	0.02	mg/L	No
Malathion	2020/11/30	0.000171	mg/L	No



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

Metolachlor	2020/11/30	0.000114	mg/L	No
Metribuzin	2020/11/30	0.000114	mg/L	No
Monochlorobenzene	2020/11/30	0.0005	mg/L	No
Paraquat	2020/11/30	0.0003	mg/L	No
Pentachlorophenol	2020/11/30	0.0003	mg/L	No
Phorate	2020/11/30	0.000114	mg/L	No
Picloram	2020/11/30	0.0000795	mg/L	No
Polychlorinated Biphenyls(PCB)	2020/11/30	0.00006	mg/L	No
Prometryne	2020/11/30	0.0000569	mg/L	No
Simazine	2020/11/30	0.000171	mg/L	No
Terbufos	2020/11/30	0.000114	mg/L	No
Tetrachloroethylene	2020/11/30	0.0003	mg/L	No
2,3,4,6-Tetrachlorophenol	2020/11/30	0.0003	mg/L	No
Triallate	2020/11/30	0.000114	mg/L	No
Trichloroethylene	2020/11/30	0.0002	mg/L	No
2,4,6-Trichlorophenol	2020/11/30	0.0002	mg/L	No
Trifluralin	2020/11/30	0.000114	mg/L	No
Vinyl Chloride	2020/11/30	0.0001	mg/L	No
MCPA	2020/11/30	0.00568	mg/L	No

## WELL G - PHARAND WELL

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Alachlor	2020/12/02	0.00024	mg/L	No
Atrazine + N-dealkylated metabolites	2020/12/02	0.0005	mg/L	No
Azinphos-methyl	2020/12/02	0.00018	mg/L	No
Benzene	2020/12/02	0.0001	mg/L	No
Benzo(a)pyrene	2020/12/02	0.00001	mg/L	No
Bromoxynil	2020/12/02	0.00012	mg/L	No
Carbaryl	2020/12/02	0.001	mg/L	No
Carbofuran	2020/12/02	0.002	mg/L	No
Carbon Tetrachloride	2020/12/02	0.0002	mg/L	No
Chlorpyrifos	2020/12/02	0.00018	mg/L	No
Diazinon	2020/12/02	0.00018	mg/L	No
Dicamba	2020/12/02	0.000105	mg/L	No
1,2-Dichlorobenzene	2020/12/02	0.0003	mg/L	No
1,4-Dichlorobenzene	2020/12/02	0.0003	mg/L	No
1,2-Dichloroethane	2020/12/02	0.0003	mg/L	No
1,1-Dichloroethylene (vinylidene chloride)	2020/12/02	0.0003	mg/L	No
Dichloromethane	2020/12/02	0.001	mg/L	No
2-4 Dichlorophenol	2020/12/02	0.0002	mg/L	No
2,4-Dichlorophenoxy acetic acid (2,4-D)	2020/12/02	0.000452	mg/L	No
Diclofop-methyl	2020/12/02	0.000151	mg/L	No
Dimethoate	2020/12/02	0.00018	mg/L	No
Diquat	2020/12/02	0.0002	mg/L	No
Diuron	2020/12/02	0.006	mg/L	No
Glyphosate	2020/12/02	0.02	mg/L	No
Malathion	2020/12/02	0.00018	mg/L	No
Metolachlor	2020/12/02	0.00012	mg/L	No
Metribuzin	2020/12/02	0.00012	mg/L	No
Monochlorobenzene	2020/12/02	0.0005	mg/L	No
Paraquat	2020/12/02	0.0002	mg/L	No

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

Pentachlorophenol	2020/12/02	0.0003	mg/L	No
Phorate	2020/12/02	0.00012	mg/L	No
Picloram	2020/12/02	0.000105	mg/L	No
Polychlorinated Biphenyls(PCB)	2020/12/02	0.00006	mg/L	No
Prometryne	2020/12/02	0.0000601	mg/L	No
Simazine	2020/12/02	0.00018	mg/L	No
Terbufos	2020/12/02	0.00012	mg/L	No
Tetrachloroethylene	2020/12/02	0.0003	mg/L	No
2,3,4,6-Tetrachlorophenol	2020/12/02	0.0003	mg/L	No
Triallate	2020/12/02	0.00012	mg/L	No
Trichloroethylene	2020/12/02	0.0002	mg/L	No
2,4,6-Trichlorophenol	2020/12/02	0.0002	mg/L	No
Trifluralin	2020/12/02	0.00012	mg/L	No
Vinyl Chloride	2020/12/02	0.0001	mg/L	No
MCPA	2020/12/02	0.00753	mg/L	No

## WELL H - MICHELLE WELL

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Alachlor	2020/12/02	0.000249	mg/L	No
Atrazine + N-dealkylated metabolites	2020/12/02	0.0005	mg/L	No
Azinphos-methyl	2020/12/02	0.000187	mg/L	No
Benzene	2020/12/02	0.0001	mg/L	No
Benzo(a)pyrene	2020/12/02	0.00001	mg/L	No
Bromoxynil	2020/12/02	0.000117	mg/L	No
Carbaryl	2020/12/02	0.001	mg/L	No
Carbofuran	2020/12/02	0.002	mg/L	No
Carbon Tetrachloride	2020/12/02	0.0002	mg/L	No
Chlorpyrifos	2020/12/02	0.000187	mg/L	No
Diazinon	2020/12/02	0.000187	mg/L	No
Dicamba	2020/12/02	0.000103	mg/L	No
1,2-Dichlorobenzene	2020/12/02	0.0003	mg/L	No
1,4-Dichlorobenzene	2020/12/02	0.0003	mg/L	No
1,2-Dichloroethane	2020/12/02	0.0003	mg/L	No
1,1-Dichloroethylene (vinylidene chloride)	2020/12/02	0.0003	mg/L	No
Dichloromethane	2020/12/02	0.001	mg/L	No
2-4 Dichlorophenol	2020/12/02	0.0002	mg/L	No
2,4-Dichlorophenoxy acetic acid (2,4-D)	2020/12/02	0.00044	mg/L	No
Diclofop-methyl	2020/12/02	0.000147	mg/L	No
Dimethoate	2020/12/02	0.000187	mg/L	No
Diquat	2020/12/02	0.0002	mg/L	No
Diuron	2020/12/02	0.006	mg/L	No
Glyphosate	2020/12/02	0.02	mg/L	No
Malathion	2020/12/02	0.000187	mg/L	No
Metolachlor	2020/12/02	0.000124	mg/L	No
Metribuzin	2020/12/02	0.000124	mg/L	No
Monochlorobenzene	2020/12/02	0.0005	mg/L	No
Paraquat	2020/12/02	0.0002	mg/L	No
Pentachlorophenol	2020/12/02	0.0003	mg/L	No
Phorate	2020/12/02	0.000124	mg/L	No
Picloram	2020/12/02	0.000103	mg/L	No
Polychlorinated Biphenyls(PCB)	2020/12/02	0.00006	mg/L	No

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

Prometryne	2020/12/02	0.0000622	mg/L	No
Simazine	2020/12/02	0.000187	mg/L	No
Terbufos	2020/12/02	0.000124	mg/L	No
Tetrachloroethylene	2020/12/02	0.0003	mg/L	No
2,3,4,6-Tetrachlorophenol	2020/12/02	0.0003	mg/L	No
Triallate	2020/12/02	0.000124	mg/L	No
Trichloroethylene	2020/12/02	0.0002	mg/L	No
2,4,6-Trichlorophenol	2020/12/02	0.0002	mg/L	No
Trifluralin	2020/12/02	0.000124	mg/L	No
Vinyl Chloride	2020/12/02	0.0001	mg/L	No
MCPA	2020/12/02	0.00734	mg/L	No

## WELL I - I WELL

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Alachlor				
Atrazine + N-dealkylated metabolites				
Azinphos-methyl				
Benzene				
Benzo(a)pyrene				
Bromoxynil				
Carbaryl				
Carbofuran				
Carbon Tetrachloride				
Chlorpyrifos				
Diazinon				
Dicamba				
1,2-Dichlorobenzene				
1,4-Dichlorobenzene				
1,2-Dichloroethane				
1,1-Dichloroethylene (vinylidene chloride)				
Dichloromethane				
2,4-Dichlorophenol				
2,4-Dichlorophenoxy acetic acid (2,4-D)				
Diclofop-methyl				
Dimethoate				
Diquat				
Diuron				
Glyphosate				
Malathion				
Metolachlor				
Metribuzin				
Monochlorobenzene				
Paraquat				
Pentachlorophenol				
Phorate				
Picloram				
Polychlorinated Biphenyls(PCB)				
Prometryne				
Simazine				
Terbufos				
Tetrachloroethylene				

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

2,3,4,6-Tetrachlorophenol				
Triallate				
Trichloroethylene				
2,4,6-Trichlorophenol				
Trifluralin				
Vinyl Chloride				
MCPA				

## WELL M - Capreol

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Alachlor	2022/12/06	0.000243	mg/L	No
Atrazine + N-dealkylated metabolites	2022/12/06	0.0005	mg/L	No
Azinphos-methyl	2022/12/06	0.000182	mg/L	No
Benzene	2022/12/06	0.0001	mg/L	No
Benzo(a)pyrene	2022/12/06	0.00001	mg/L	No
Bromoxynil	2022/12/06	0.0000925	mg/L	No
Carbaryl	2022/12/06	0.003	mg/L	No
Carbofuran	2022/12/06	0.004	mg/L	No
Carbon Tetrachloride	2022/12/06	0.0002	mg/L	No
Chlorpyrifos	2022/12/06	0.000182	mg/L	No
Diazinon	2022/12/06	0.000182	mg/L	No
Dicamba	2022/12/06	0.000578	mg/L	No
1,2-Dichlorobenzene	2022/12/06	0.0002	mg/L	No
1,4-Dichlorobenzene	2022/12/06	0.0003	mg/L	No
1,2-Dichloroethane	2022/12/06	0.0002	mg/L	No
1,1-Dichloroethylene (vinylidene chloride)	2022/12/06	0.0003	mg/L	No
Dichloromethane	2022/12/06	0.001	mg/L	No
2-4 Dichlorophenol	2022/12/06	0.0002	mg/L	No
2,4-Dichlorophenoxy acetic acid (2,4-D)	2022/12/06	0.00116	mg/L	No
Diclofop-methyl	2022/12/06	0.000116	mg/L	No
Dimethoate	2022/12/06	0.000182	mg/L	No
Diquat	2022/12/06	0.0002	mg/L	No
Diuron	2022/12/06	0.01	mg/L	No
Glyphosate	2022/12/06	0.02	mg/L	No
Malathion	2022/12/06	0.000182	mg/L	No
Metolachlor	2022/12/06	0.000121	mg/L	No
Metribuzin	2022/12/06	0.000121	mg/L	No
Monochlorobenzene	2022/12/06	0.0005	mg/L	No
Paraquat	2022/12/06	0.0002	mg/L	No
Pentachlorophenol	2022/12/06	0.0003	mg/L	No
Phorate	2022/12/06	0.000121	mg/L	No
Picloram	2022/12/06	0.000081	mg/L	No
Polychlorinated Biphenyls(PCB)	2022/12/06	0.00007	mg/L	No
Prometryne	2022/12/06	0.0000607	mg/L	No
Simazine	2022/12/06	0.000182	mg/L	No
Terbufos	2022/12/06	0.000121	mg/L	No
Tetrachloroethylene	2022/12/06	0.0003	mg/L	No
2,3,4,6-Tetrachlorophenol	2022/12/06	0.0003	mg/L	No
Triallate	2022/12/06	0.000121	mg/L	No
Trichloroethylene	2022/12/06	0.0002	mg/L	No
2,4,6-Trichlorophenol	2022/12/06	0.0002	mg/L	No

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

Trifluralin	2022/12/06	0.000121	mg/L	No
Vinyl Chloride	2022/12/06	0.0001	mg/L	No
MCPA	2022/12/06	0.00925	mg/L	No

## WELL J - Capreol

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Alachlor	2022/12/06	0.000231	mg/L	No
Atrazine + N-dealkylated metabolites	2022/12/06	0.0005	mg/L	No
Azinphos-methyl	2022/12/06	0.000173	mg/L	No
Benzene	2022/12/06	0.0001	mg/L	No
Benzo(a)pyrene	2022/12/06	0.00001	mg/L	No
Bromoxynil	2022/12/06	0.0000926	mg/L	No
Carbaryl	2022/12/06	0.002	mg/L	No
Carbofuran	2022/12/06	0.004	mg/L	No
Carbon Tetrachloride	2022/12/06	0.0002	mg/L	No
Chlorpyrifos	2022/12/06	0.000173	mg/L	No
Diazinon	2022/12/06	0.000173	mg/L	No
Dicamba	2022/12/06	0.000081	mg/L	No
1,2-Dichlorobenzene	2022/12/06	0.0002	mg/L	No
1,4-Dichlorobenzene	2022/12/06	0.0003	mg/L	No
1,2-Dichloroethane	2022/12/06	0.0002	mg/L	No
1,1-Dichloroethylene (vinylidene chloride)	2022/12/06	0.0003	mg/L	No
Dichloromethane	2022/12/06	0.001	mg/L	No
2-4 Dichlorophenol	2022/12/06	0.0003	mg/L	No
2,4-Dichlorophenoxy acetic acid (2,4-D)	2022/12/06	0.00231	mg/L	No
Diclofop-methyl	2022/12/06	0.000347	mg/L	No
Dimethoate	2022/12/06	0.000173	mg/L	No
Diquat	2022/12/06	0.0002	mg/L	No
Diuron	2022/12/06	0.01	mg/L	No
Glyphosate	2022/12/06	0.02	mg/L	No
Malathion	2022/12/06	0.000173	mg/L	No
Metolachlor	2022/12/06	0.000116	mg/L	No
Metribuzin	2022/12/06	0.000116	mg/L	No
Monochlorobenzene	2022/12/06	0.0005	mg/L	No
Paraquat	2022/12/06	0.0001	mg/L	No
Pentachlorophenol	2022/12/06	0.0003	mg/L	No
Phorate	2022/12/06	0.000116	mg/L	No
Picloram	2022/12/06	0.000081	mg/L	No
Polychlorinated Biphenyls(PCB)	2022/12/06	0.00007	mg/L	No
Prometryne	2022/12/06	0.0000578	mg/L	No
Simazine	2022/12/06	0.000173	mg/L	No
Terbufos	2022/12/06	0.000116	mg/L	No
Tetrachloroethylene	2022/12/06	0.0003	mg/L	No
2,3,4,6-Tetrachlorophenol	2022/12/06	0.0003	mg/L	No
Triallate	2022/12/06	0.000116	mg/L	No
Trichloroethylene	2022/12/06	0.0002	mg/L	No
2,4,6-Trichlorophenol	2022/12/06	0.0002	mg/L	No
Trifluralin	2022/12/06	0.000116	mg/L	No
Vinyl Chloride	2022/12/06	0.0001	mg/L	No
MCPA	2022/12/06	0.00579	mg/L	No

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

## WELL Q- CHENIER

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Alachlor	2020/11/30	0.000269	mg/L	No
Atrazine + N-dealkylated metabolites	2020/11/30	0.0005	mg/L	No
Azinphos-methyl	2020/11/30	0.000202	mg/L	No
Benzene	2020/11/30	0.0001	mg/L	No
Benzo(a)pyrene	2020/11/30	0.00001	mg/L	No
Bromoxynil	2020/11/30	0.0000939	mg/L	No
Carbaryl	2020/11/30	0.001	mg/L	No
Carbofuran	2020/11/30	0.002	mg/L	No
Carbon Tetrachloride	2020/11/30	0.0002	mg/L	No
Chlorpyrifos	2020/11/30	0.000202	mg/L	No
Diazinon	2020/11/30	0.000202	mg/L	No
Dicamba	2020/11/30	0.0000822	mg/L	No
1,2-Dichlorobenzene	2020/11/30	0.0003	mg/L	No
1,4-Dichlorobenzene	2020/11/30	0.0003	mg/L	No
1,2-Dichloroethane	2020/11/30	0.0003	mg/L	No
1,1-Dichloroethylene (vinylidene chloride)	2020/11/30	0.0003	mg/L	No
Dichloromethane	2020/11/30	0.001	mg/L	No
2-4 Dichlorophenol	2020/11/30	0.0002	mg/L	No
2,4-Dichlorophenoxy acetic acid (2,4-D)	2020/11/30	0.000352	mg/L	No
Diclofop-methyl	2020/11/30	0.000117	mg/L	No
Dimethoate	2020/11/30	0.000202	mg/L	No
Diquat	2020/11/30	0.0003	mg/L	No
Diuron	2020/11/30	0.006	mg/L	No
Glyphosate	2020/11/30	0.02	mg/L	No
Malathion	2020/11/30	0.000202	mg/L	No
Metolachlor	2020/11/30	0.000134	mg/L	No
Metribuzin	2020/11/30	0.000134	mg/L	No
Monochlorobenzene	2020/11/30	0.0005	mg/L	No
Paraquat	2020/11/30	0.0003	mg/L	No
Pentachlorophenol	2020/11/30	0.0003	mg/L	No
Phorate	2020/11/30	0.000134	mg/L	No
Picloram	2020/11/30	0.0000822	mg/L	No
Polychlorinated Biphenyls(PCB)	2020/11/30	0.00006	mg/L	No
Prometryne	2020/11/30	0.0000672	mg/L	No
Simazine	2020/11/30	0.000202	mg/L	No
Terbufos	2020/11/30	0.000134	mg/L	No
Tetrachloroethylene	2020/11/30	0.0003	mg/L	No
2,3,4,6-Tetrachlorophenol	2020/11/30	0.0003	mg/L	No
Triallate	2020/11/30	0.000134	mg/L	No
Trichloroethylene	2020/11/30	0.0002	mg/L	No
2,4,6-Trichlorophenol	2020/11/30	0.0002	mg/L	No
Trifluralin	2020/11/30	0.000134	mg/L	No
Vinyl Chloride	2020/11/30	0.0001	mg/L	No
MCPA	2020/11/30	0.00587	mg/L	No

## WELL R

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Alachlor	2020/11/30	0.00023	mg/L	No

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

Atrazine + N-dealkylated metabolites	2020/11/30	0.0005	mg/L	No
Azinphos-methyl	2020/11/30	0.000172	mg/L	No
Benzene	2020/11/30	0.0001	mg/L	No
Benzo(a)pyrene	2020/11/30	0.000009	mg/L	No
Bromoxynil	2020/11/30	0.0000921	mg/L	No
Carbaryl	2020/11/30	0.001	mg/L	No
Carbofuran	2020/11/30	0.002	mg/L	No
Carbon Tetrachloride	2020/11/30	0.0002	mg/L	No
Chlorpyrifos	2020/11/30	0.000172	mg/L	No
Diazinon	2020/11/30	0.000172	mg/L	No
Dicamba	2020/11/30	0.0000806	mg/L	No
1,2-Dichlorobenzene	2020/11/30	0.0003	mg/L	No
1,4-Dichlorobenzene	2020/11/30	0.0003	mg/L	No
1,2-Dichloroethane	2020/11/30	0.0003	mg/L	No
1,1-Dichloroethylene (vinylidene chloride)	2020/11/30	0.0003	mg/L	No
Dichloromethane	2020/11/30	0.001	mg/L	No
2-4 Dichlorophenol	2020/11/30	0.0002	mg/L	No
2,4-Dichlorophenoxy acetic acid (2,4-D)	2020/11/30	0.000345	mg/L	No
Diclofop-methyl	2020/11/30	0.000115	mg/L	No
Dimethoate	2020/11/30	0.000172	mg/L	No
Diquat	2020/11/30	0.0002	mg/L	No
Diuron	2020/11/30	0.007	mg/L	No
Glyphosate	2020/11/30	0.02	mg/L	No
Malathion	2020/11/30	0.000172	mg/L	No
Metolachlor	2020/11/30	0.000115	mg/L	No
Metribuzin	2020/11/30	0.000115	mg/L	No
Monochlorobenzene	2020/11/30	0.0005	mg/L	No
Paraquat	2020/11/30	0.0002	mg/L	No
Pentachlorophenol	2020/11/30	0.0003	mg/L	No
Phorate	2020/11/30	0.000115	mg/L	No
Picloram	2020/11/30	0.0000806	mg/L	No
Polychlorinated Biphenyls(PCB)	2020/11/30	0.00006	mg/L	No
Prometryne	2020/11/30	0.0000574	mg/L	No
Simazine	2020/11/30	0.000172	mg/L	No
Terbufos	2020/11/30	0.000115	mg/L	No
Tetrachloroethylene	2020/11/30	0.0003	mg/L	No
2,3,4,6-Tetrachlorophenol	2020/11/30	0.0003	mg/L	No
Triallate	2020/11/30	0.000115	mg/L	No
Trichloroethylene	2020/11/30	0.0002	mg/L	No
2,4,6-Trichlorophenol	2020/11/30	0.0002	mg/L	No
Trifluralin	2020/11/30	0.000115	mg/L	No
Vinyl Chloride	2020/11/30	0.0001	mg/L	No
MCPA	2020/11/30	0.00575	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	UOM	Date of Sample	Location

(Only if DWS category is large municipal residential, small municipal residential, large municipal non-residential, non municipal year round residential, large non municipal non residential)

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

## Part III Form 2

### Section 11. ANNUAL REPORT.

<b>Drinking-Water System Number:</b>	260006789
<b>Drinking-Water System</b>	Vermilion Distribution System
<b>Drinking-Water System Owner:</b>	City of Greater Sudbury
<b>Drinking-Water System Category:</b>	Large Municipal Residential
<b>Period being reported:</b>	From 2022-01-01 To 2022-12-31

<p><b><u>Complete if your Category is Large Municipal Residential or Small Municipal Residential</u></b></p> <p>Does your Drinking-Water System serve more than 10,000 people? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p> <p>Is your annual report available to the public at no charge on a web site on the Internet? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></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;">             www.greatersudbury.ca              TDS-Engineering Department           </div>	<p><b><u>Complete for all other Categories.</u></b></p> <p>Number of Designated Facilities served: <input type="text" value="0"/></p> <p>Did you provide a copy of your annual report to all Designated Facilities you serve? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p> <p>Number of Interested Authorities you report to: <input type="text" value="0"/></p> <p>Did you provide a copy of your annual report to all Interested Authorities you report to for each Designated Facility? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></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
Atikameksheng Anishnawbek	

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 ☒ No ☐



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

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/Citizen Service Centre
- ☐ Public access/notice via other method \_\_\_\_\_

### Describe your Drinking-Water System

The City of Greater Sudbury purchases water from Vale to supply the Vermilion Distribution System. The City owned distribution system supplies the communities of Lively, Naughton, Whitefish and Copper Cliff. Additional service was provided in 2005 to supply Atikameksheng Anishnawbek, formerly known as the Whitefish First Nations Reserve. Water is treated by Vale at the Vermilion Water Treatment Plant to comply with O. Reg. 170/03. The City of Greater Sudbury has the responsibility of water quality monitoring within the Vermilion Distribution. The system includes the Walden water storage tank and Walden metering chamber; both located in the Walden Industrial Park and includes an online continuous chlorine analyzer.

### List all water treatment chemicals used over this reporting period

No chemical addition. Distribution system only.

### 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

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

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

AWQI #	Incident Date	Parameter	Result	Unit of Measure	Corrective Action	Corrective Action Date
158501	2022/03/27	Trending not completed				2022/03/27
159263	2022/07/25	Pressure	>20	PSI		2022/07/25
160203	2022/10/01	Total Coliform	1	NTU	Resample	2022/10/01
160280	2022/10/08		1		Resample	2022/10/08

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 #)
<b>Distribution</b>					
	285	0 to 0	0 to 1	71	0 to 20

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 #)
Chlorine Residual Distribution System	8,760	0.23 - 4.09

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

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

**Summary of additional testing and sampling carried out in accordance with the requirement of an approval or order or other legal instrument.**

Date of legal instrument issued	Parameter	Date Sampled	Result	Unit of Measure

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Antimony				
Arsenic				
Barium				
Boron				
Cadmium				
Chromium				
Mercury				
Selenium				
Uranium				
Nitrite				
Nitrate				
Sodium				

**Summary of lead testing under Schedule 15.1 during this reporting period.**

Location Type	Number of Samples	Range of Lead Results (min#) - (max#)	Number of Exceedances
Plumbing			
Distribution	8	0.0001-0.0001 mg/L	0

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

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
<b>THM</b> (NOTE: show latest annual average)	2022	0.0867	mg/L	No
<b>HAA</b> (NOTE: show latest annual average)	2022	0.071	mg/L	No

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

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Alachlor				
Atrazine + N-dealkylated metabolites				
Azinphos-methyl				
Benzene				
Benzo(a)pyrene				
Bromoxynil				
Carbaryl				
Carbofuran				
Carbon Tetrachloride				
Chlorpyrifos				
Diazinon				
Dicamba				
1,2-Dichlorobenzene				
1,4-Dichlorobenzene				
1,2-Dichloroethane				
1,1-Dichloroethylene (vinylidene chloride)				
Dichloromethane				
2-4 Dichlorophenol				
2,4-Dichlorophenoxy acetic acid (2,4-D)				
Diclofop-methyl				
Dimethoate				
Diquat				
Diuron				
Glyphosate				
Malathion				
Metolachlor				
Metribuzin				
Monochlorobenzene				
Paraquat				
Pentachlorophenol				
Phorate				
Picloram				
Polychlorinated Biphenyls(PCB)				
Prometryne				
Simazine				
Terbufos				
Tetrachloroethylene				
2,3,4,6-Tetrachlorophenol				
Triallate				
Trichloroethylene				
2,4,6-Trichlorophenol				
Trifluralin				
Vinyl Chloride				
MCPA				

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

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	UOM	Date of Sample	Location

(Only if DWS category is large municipal residential, small municipal residential, large municipal non-residential, non municipal year round residential, large non municipal non residential)