3/28/2025

City of Greater Sudbury Annual Water Summary Report

Covering January 1, 2024– December 31, 2024

O. Reg 170/03 Schedule 22 Annual Water Summary Report
Prepared by The City of Greater Sudbury

Table of Contents

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 1st through to December 31st:

- 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.
- A comparison of the quantities and flows to the rated capacities approved in the system performance section in the Municipal Drinking Water License (MDWL).

An Annual Water Quality Report, to fulfill Section 11 of Ontario Regulation 170/03, has been completed separately. It details the drinking water quality of all the CGS-owned and operated drinking water systems and is available for viewing on the City of Greater Sudbury's website.

Summary

During the 2024 calendar year, the City of Greater Sudbury (CGS) operated its Drinking Water Systems (DWS) within the limits specified in all applicable Municipal Drinking Water Licences. Surface water plants supplying the Sudbury DWS operated at less than half of permitted levels, with the Wanapitei Water Treatment Plant (WTP) averaging 47% and the David Street WTP utilizing 38% of their Permits to Take Water (PTTW) permissible total water takings. Ground water systems also operated below permitted levels with Blezard Valley-Capreol DWS at 33% (Valley) and 19% (Capreol), Falconbridge DWS at 25%, Garson DWS at 16%, Onaping DWS at 39%, and Dowling DWS at 4% of its PTTW.

As part of our ongoing commitment to providing safe, reliable drinking water while meeting the requirements of source water protection legislation, CGS continues to invest in water treatment and distribution systems to perform critical upgrades and renew aging infrastructure. These upgrades are not necessarily the result of any water quality incidents but are completed to reduce the risk of potable water contamination as part of our Statutory Standard of Care. The regulation stipulates that water works owners will continually monitor water works performance, source water quality, and review levels of treatment versus current standards and emerging technologies. For example, this standard of care has been demonstrated through the following projects:

1. The ongoing construction phase for the removal of Iron and Manganese within the Blezard Valley-Capreol system is underway with its estimated completion date to be the summer of 2025.
2. Addressing Tetrachloroethylene contaminant levels in the Garson Well Field through the planned decommissioning of existing groundwater wells and connection to the Sudbury DWS. City of Greater Sudbury has now completed the Environmental Assessment and is now in the detailed design phase.
3. David St. WTP primary membrane filtration module replacement and upgrades (one (1) module per year over three (3) years).
4. Wanapitei WTP filter refurbishment (one (1) unit per year over four (4) years).
5. Wanapitei WTP Intake low lift pumps valve replacement.
6. Wanapitei WTP high lift pumps valve replacement.
7. Well rehabilitation and pump assessments.

The MECP is responsible for the enforcement of regulations and conducts inspections of all large municipal water systems. As of this report, all CGS water systems have passed inspection with two issues identified:

1. Ongoing presence of tetrachloroethylene within the Garson Wells #1 and #3.
2. Elevated levels of trihalomethanes (THMs) and halo acetic acids (HAAs) in parts of the Vermilion distribution system.

However, significant progress has been made in reducing THMs and HAAs in partnership with Vale, owner and operator of Vermilion WTP. Ongoing collaboration continues between the two organizations.

Twelve (12) adverse water quality incident (AWQI) reports were filed in 2024. Corrective actions were taken, and issues were promptly rectified and reported to the MECP and Public Health Sudbury & Districts (PHSD).

The Community Lead Testing Initiative was implemented in 2007 as part of O. Reg. 170/03, Schedule 15.1. The MECP granted CGS relief from residential 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 due to the population served by that system, not because of water quality. CGS continues to provide corrosion control in targeted DWS to lower residual lead levels in affected areas.

Water quality throughout all systems is monitored 24 hours a day, 365 days a year. Regular sampling schedules are followed in accordance with O. Reg. 170/03 and our Municipal Drinking Water Licences and Permits. Treated water is fluoridated in all CGS systems under the direction of PHSD.

System Specific

Drinking Water Services within the City of Greater Sudbury are a combination of municipally owned and operated utilities along with the supply of purchased potable water. CGS owns and operates two (2) surface water treatment plants servicing the Sudbury distribution systems, six (6) groundwater well fields along with their own distribution systems and one (1) 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 • Class IV Distribution system	Wanapitei River	Sudbury, Coniston, Wanapitei, Markstay, Garson West
Sudbury DWS – David St.	• Class III Surface water Membrane Filtration Plant • Class IV Distribution system	Ramsey Lake	Sudbury (West and South sections)
Sudbury DWS - Garson	• Class I Wells • Class II Distribution system	Groundwater	Garson East (east of Penman Dr.)
Dowling DWS	• Class I Wells • Class I Distribution system	Groundwater	Dowling
Valley DWS	• Class I Wells • Class II Distribution system	Groundwater	Valley East, Azilda, Chelmsford & Capreol
Falconbridge DWS	• Class I Wells • Class II Distribution system	Groundwater	Falconbridge
Onaping /Levack DWS	• Class I Wells • 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 St. WTP and the Garson Well Field.

The Wanapitei WTP is a conventional surface plant located between the towns of Coniston and Wahnapitae. Its source water is the Wanapitei River. The plant's rated capacity is 54,000 m^3/day and provides approximately sixty (60) percent of the potable water in the Sudbury DWS. 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;
- Raw water is initially disinfected by chlorination and the pH and alkalinity are adjusted by adding lime (calcium hydroxide);
- A coagulant (aluminum sulphate) and flocculant (polymer) are added to remove solids that are in suspension with separation performed by gravity sedimentation of clarified water and sludge;
- Settled sludge waste is pumped to a nearby sewage lagoon for treatment and the clarified water is sent to four filters;
- Filtered water flows into a basin where lime is added to adjust the final pH and alkalinity along with the addition of a corrosion control chemical;
- Chlorine is added to ensure final disinfection of potable water and to maintain a residual disinfectant within the distribution system; and
- Treated water is exposed to ultraviolet (UV) light disinfection to provide extra inactivation of pathogens and pumped east to the community of Markstay and west towards the communities of Coniston, Sudbury and to fill the Ellis Reservoir.

Non-Compliance with Act, Regulations, Order or Approvals

In 2024, the Wanapitei system had four (4) Adverse Water Quality Incidents (AWQI) to report:

1. Loss of pressure due to watermain break. The break was isolated, the main was flushed and bacterial samples were taken from three hydrants.
2. A bacterial sample taken at one out of the three hydrants flushing after a watermain break tested positive for *E. coli* and coliform contamination. Re-samples were taken and showed no contamination.
3. The fluoride analyzer at Wanapitei WTP read 1.65 mg/L due to analyzer issue. The limit is 1.50 mg/L.

4. Loss of pressure due to watermain break, a “Do Not Drink Water” advisory was issued for the area that was affected. Disinfection was restored, area was flushed, and samples were taken. Sample results confirmed no contamination, and the order was removed two (2) days later.

Annual Flow Summary

Wanapitei WTP

	Total Flow m^3	Average Daily Flow m^3/d	Maximum Daily Flow m^3/d	Instantaneous Peak Flow L/s	MDWL Daily Maximum Permitted m^3/d	MDWL Annual Permitted m^3	% Capacity
January	630,922	20,352	23,637	397.3	54,000	19,710,000	37.7
February	684,670	23,609	24,259	342.1	54,000	19,710,000	45.3
March	728,791	23,509	25,172	519.8	54,000	19,710,000	43.5
April	707,391	23,580	25,271	757.7	54,000	19,710,000	43.7
May	800,282	25,916	28,885	447.9	54,000	19,710,000	47.8
June	826,800	27,560	29,961	436.9	54,000	19,710,000	51.0
July	832,835	26,866	29,893	431.9	54,000	19,710,000	49.8
August	855,353	27,592	30,029	431.6	54,000	19,710,000	51.1
September	839,736	27,991	31,039	465.0	54,000	19,710,000	51.8
October	773,376	24,948	27,872	413.9	54,000	19,710,000	46.2
November	765,959	25,532	27,235	377.5	54,000	19,710,000	47.3
December	753,025	24,291	26,112	413.1	54,000	19,710,000	45.0
Total	9,199,141				54,000	19,710,000	46.7

Sudbury Drinking Water System 220003537- David Street

David St. WTP is a membrane ultra-filtration surface water treatment plant. The plant's rated capacity is 40,000 m^3/day and provides approximately 40 percent of the potable water to the Sudbury DWS.

The raw water intake is located approximately three hundred meters (300 m) from the shores of Ramsey Lake. The treatment process follows these steps:

- Raw lake water is screened through coarse screens and two strainers and is initially disinfected by chlorination;
- Four pumps send the water to membranes for ultrafiltration, where particles 0.02 microns (µm) in size or larger are removed;
- The filtered water flows into a reservoir where chlorine is added to ensure final disinfection of potable water and to maintain a residual disinfectant within the distribution system. Sodium hydroxide is added, as needed, for pH control. 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; and
- The treated water is pumped to the distribution system by four pumps and directs water flows 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 2024, the David St. system had one (1) AWQI:

- UV dosage at David St. WTP dropped below the operational target causing the plant to shut down. The incident was reported to MECP and Public Health, no adverse quality was noted.

Annual Flow Summary

David WTP

	Total Flow m^3	Average Daily Flow m^3/d	Maximum Daily Flow m^3/d	Instantaneous Peak Flow L/s	MDWL Daily Maximum Permitted m^3/d	MDWL Annual Permitted m^3	% Capacity
January	565,918	18,255	25,549	525.5	40,000	14,600,000	45.6
February	447,892	14,448	17,563	484.2	40,000	14,600,000	40.0
March	462,121	14,907	18,668	426.8	40,000	14,600,000	37.3
April	430,630	13,891	16,779	482.9	40,000	14,600,000	35.9
May	450,948	14,547	17,118	475.6	40,000	14,600,000	36.4
June	454,296	14,590	21,374	510.6	40,000	14,600,000	37.7
July	465,801	15,026	18,988	451.0	40,000	14,600,000	37.6
August	475,644	15,343	18,581	451.8	40,000	14,600,000	38.4
September	483,891	15,609	32,310	484.7	40,000	14,600,000	40.3
October	480,832	15,511	33,655	485.1	40,000	14,600,000	28.8
November	434,758	14,024	17,076	438.6	40,000	14,600,000	36.2
December	451,404	14,561	17,097	451.8	40,000	14,600,000	36.4
Total	5,602,133				40,000	14,600,000	38.4

Sudbury Drinking Water System 220003485 - Garson

Garson is a groundwater system consisting of three wells 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 well pumps, disinfection with sodium hypochlorite and fluoride injection. The distribution system extends from Skead Road to the north to Garson-Coniston Road to the south. The community west of Penman Avenue is serviced from the Sudbury distribution system and is connected to the rest of the Garson system by a pressure-actuated valve at Falconbridge Road and O'Neil Drive West. If all three wells were to fail, this valve would open supplying the eastern portion of the community with water from the Sudbury system.

In 2011, with direction and consultation from PHSD and the MECP, CGS committed to undertaking a groundwater monitoring program for tetrachloroethylene (TCE). In 2012, four (4) monitoring wells were drilled in the area. Sampling and analysis are completed. Although TCE levels found during audit sampling are below regulatory limits, CGS is proactively sampling and monitoring these levels. In 2017 CGS retained a consultant to provide options for the Garson system. Feeding the entire community of Garson from the Sudbury Drinking water system was selected as the best option. The upgrades required to facilitate this are currently in the detailed design phase. In the meantime, 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 (2) AWQIs to report in 2024.

1. Low water pressure in the system was reported on one occasion during a main break and a "Do Not Drink Water" advisory was issued.
2. The fluoride concentration was over 1.5 mg/L due to a malfunction at the chemical injection point. The well was backflushed, and samples were taken in the distribution system to ensure levels were below the limit of 1.5 mg/L.

Annual Flow Summary

Garson Well #1

	Total Flow m^3	Average Daily Flow m^3/d	Maximum Daily Flow m^3/d	Instantaneous Peak Flow L/s	MDWL Daily Maximum Permitted m^3/d	MDWL Annual Permitted m^3	% Capacity
January	7,422	239	292	16.3	1,572	573,955	15.2
February	7,009	242	337	11.3	1,572	573,955	15.9
March	7,397	239	299	11.6	1,572	573,955	15.2
April	6,863	229	281	16.4	1,572	573,955	14.5
May	8,522	275	589	11.9	1,572	573,955	17.5
June	8,432	281	462	15.1	1,572	573,955	17.9
July	7,876	254	372	15.6	1,572	573,955	16.2
August	9,544	308	587	16.6	1,572	573,955	19.6
September	8,061	269	410	20.1	1,572	573,955	17.1
October	7,287	235	331	11.6	1,572	573,955	14.9
November	6,674	222	298	12.4	1,572	573,955	14.1
December	7,501	242	402	14.4	1,572	573,955	15.4
Total	92,587				1,572	573,955	16.1

Garson Well #2

	Total Flow m^3	Average Daily Flow m^3/d	Maximum Daily Flow m^3/d	Instantaneous Peak Flow L/s	MDWL Daily Maximum Permitted m^3/d	MDWL Annual Permitted m^3	% Capacity
January	25,764	831	955	29.7	2,981	1,088,065	27.9
February	22,183	792	1,002	26.4	2,981	1,088,065	26.6
March	25,820	833	984	25.7	2,981	1,088,065	27.9
April	24,789	826	1,006	40.0	2,981	1,088,065	27.7
May	28,070	905	1,142	28.0	2,981	1,088,065	30.4
June	26,356	879	1,041	36.5	2,981	1,088,065	29.5
July	27,645	921	1,193	40.0	2,981	1,088,065	29.9
August	28,450	918	1,089	29.3	2,981	1,088,065	30.8
September	26,544	885	1,042	32.1	2,981	1,088,065	29.7
October	23,907	771	1,100	26.2	2,981	1,088,065	25.9
November	26,215	874	981	40.0	2,981	1,088,065	29.3
December	27,940	901	1,312	32.5	2,981	1,088,065	30.2
Total	313,682				2,981	1,088,065	28.8

Garson Well #3

	Total Flow m^3	Average Daily Flow m^3/d	Maximum Daily Flow m^3/d	Instantaneous Peak Flow L/s	MDWL Daily Maximum Permitted m^3/d	MDWL Annual Permitted m^3	% Capacity
January	2,504	81	448	23.6	3,275	1,195,214	2.5
February	3,510	121	922	27.6	3,275	1,195,214	3.8
March	2,487	80	472	24.7	3,275	1,195,214	2.4
April	2,513	84	397	32.6	3,275	1,195,214	2.6
May	3,811	123	420	22.8	3,275	1,195,214	3.8
June	4,983	166	827	25.8	3,275	1,195,214	5.1
July	5,517	178	1,065	30.0	3,275	1,195,214	5.4
August	4,326	140	536	30.2	3,275	1,195,214	4.3
September	4,435	148	588	28.6	3,275	1,195,214	4.5
October	5,038	163	658	32.5	3,275	1,195,214	5.0
November	1,992	66	276	24.4	3,275	1,195,214	2.0
December	3,896	126	447	26.3	3,275	1,195,214	3.8
Total	45,013				3,275	1,195,214	3.8

Dowling Wells and Distribution System 210001665

The water source for the Dowling wells is within the Onaping river watershed. In 2002 both wells were found to be groundwater under the direct influence of surface water (GUDI) with effective in-situ filtration. The additional treatment of UV irradiation was added to enhance disinfection to comply with the treatment requirements for GUDI wells.

The treatment process follows these steps:

The system includes two well sites. Each well site contains one well pump, disinfection with chlorine gas, UV irradiation along with fluoride injection. The elevated water storage provides a measure of security to the water system in the event of power interruptions and watermain breaks.

Riverside well was rehabilitated during the summer, prolonging its useful life.

Non-Compliance with Act, Regulations, Order or Approvals

The Dowling DWS had one (1) AWQI to report in 2024.

1. One distribution sample was reported for a sodium exceedance.

Annual Flow Summary

Lionel Well

	Total Flow m^3	Average Daily Flow m^3/d	Maximum Daily Flow m^3/d	Instantaneous Peak Flow L/s	MDWL Daily Maximum Permitted m^3/d	MDWL Annual Permitted m^3	% Capacity
January	5,709	184	439	21.9	3,640	1,328,600	5.1
February	4.052	131	410	21.4	3,640	1,328,600	4.0
March	4,107	132	410	21.0	3,640	1,328,600	3.6
April	4,693	151	406	21.4	3,640	1,328,600	4.3
May	5,666	183	491	21.4	3,640	1,328,600	5.0
June	9,744	314	492	21.4	3,640	1,328,600	8.9
July	10,236	330	579	21.0	3,640	1,328,600	9.1
August	10,161	328	473	21.0	3,640	1,328,600	9.0
September	10,157	328	650	21.0	3,640	1,328,600	9.3
October	5,995	193	408	21.0	3,640	1,328,600	5.3
November	4,326	140	410	20.2	3,640	1,328,600	4.0
December	3,276	106	397	20.6	3,640	1,328,600	2.9
Total	78,120				3,640	1,328,600	5.9

Riverside Well

	Total Flow m^3	Average Daily Flow m^3/d	Maximum Daily Flow m^3/d	Instantaneous Peak Flow L/s	MDWL Daily Maximum Permitted m^3/d	MDWL Annual Permitted m^3	% Capacity
January	6,235	201	476	30.5	3,640	1,328,600	5.5
February	4,292	138	414	30.5	3,640	1,328,600	4.2
March	4,222	136	385	30.9	3,640	1,328,600	3.7
April	3,818	123	376	31.8	3,640	1,328,600	3.5
May	4,787	154	437	52.8	3,640	1,328,600	4.2
June	0	0	0	0	3,640	1,328,600	0
July	0	0	0	0	3,640	1,328,600	0
August	0	0	0	0	3,640	1,328,600	0
September	345	11	114	36.3	3,640	1,328,600	0.3
October	4,089	132	383	37.1	3,640	1,328,600	3.6
November	4,958	160	474	30.5	3,640	1,328,600	4.5
December	5,973	193	448	31.3	3,640	1,328,600	5.3
Total	38,719				3,640	1,328,600	2.9

Blezard Valley/Capreol Drinking Water System 210000737

Blezard Valley and Capreol well supply systems were determined to be one (1) system due to existing cross connections in 2010. This report will identify the works by geographical area where appropriate.

The Blezard Valley portion of the system is a multi-well groundwater system servicing the communities of Hanmer, Blezard Valley, Val Therese, Val Caron, McCrea Heights, Azilda and Chelmsford. Eleven (11) 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 is beginning to show the effects of urbanization such as sodium residuals higher than the provincial standard. Public education sessions and bylaws have been implemented in attempts to maintain the quality of source water.

The Blezard Wells are:

- 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.
- R Well.

Each well site consists of one well pump, disinfection with chlorine gas, UV irradiation along with fluoride injection. The distribution system has been relatively reliable. It is to be noted that all the wells producing water are before the Val Caron tank. One trunk main delivers the potable water to the Val Caron Tank, the Azilda Tank and the Chelmsford Tank.

Two wells, I-Well and Kenneth well, were not used in 2024. Testing of raw water samples has shown elevated iron and manganese that compromises the aesthetic quality of the water. Removal of these parameters will be evaluated after the manganese and iron removal filtration system is proven viable at M and J Wells.

Michelle well underwent rehabilitation this year to prolong its life.

The Capreol Well portion of the system draws water from two wells to service the community of Capreol.

The Capreol wells are:

- M Well.
- J Well.

The Capreol portion of the system consists of two groundwater wells 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.

Each well site consists of one (1) well pump, disinfection with chlorine gas, UV irradiation, polyphosphate for corrosion control along with fluoride injection.

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 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 three (3) AWQIs in 2024.

1. The chlorine analyzer at one of the Blezard Valley Wells was experiencing communication issues, grab samples were taken in the distribution system and at wells during event. All results were within acceptable parameters.
2. A flow issue with an analyzer at Capreol Wells resulted in chlorine residual to flatline. Analyzer was equipped with fault codes that would prevent the incident from re-occurring. Chlorine residuals were taken in the distribution system, no adverse quality was noted.
3. Fluoride residual exceedance occurred at Capreol Wells for under one (1) minute. Incident was reported to MECP and PHSD.

Annual Flow Summary

Due to high iron and manganese causing aesthetic issues with the distributed water from I well and Kenneth well; they were not used in 2024. Kenneth and I wells will continue to be out of production until the manganese and iron filtration installation at M and J wells is proven to be viable.

Well "A" Deschene

	Total Flow m^3	Average Daily Flow m^3/d	Maximum Daily Flow m^3/d	Instantaneous Peak Flow L/s	MDWL Daily Maximum Permitted m^3/d	MDWL Annual Permitted m^3	% Capacity
January	1,258	41	469	21.6	1,798	656,212	2.3
February	10,110	349	1,525	22.9	1,798	656,212	20.1
March	27,194	877	1,609	19.3	1,798	656,212	48.8
April	19,557	652	1,572	19.3	1,798	656,212	36.3
May	24,782	799	1,572	19.2	1,798	656,212	44.5
June	17,490	583	945	19.3	1,798	656,212	32.4
July	21,641	698	1,400	19.4	1,798	656,212	38.8
August	27,869	899	1,628	19.4	1,798	656,212	50.0
September	27,105	904	1,628	19.3	1,798	656,212	50.3
October	25,379	819	1,625	19.4	1,798	656,212	45.5
November	24,050	802	1,622	19.4	1,798	656,212	44.6
December	22,092	713	1,457	19.4	1,798	656,212	39.6
Total	248,528				1,798	656,212	37.9

Well "C" Philippe

	Total Flow m^3	Average Daily Flow m^3/d	Maximum Daily Flow m^3/d	Instantaneous Peak Flow L/s	MDWL Daily Maximum Permitted m^3/d	MDWL Annual Permitted m^3	% Capacity
January	16,947	547	1,103	24.6	2,288	835,178	23.9
February	20,568	709	1,630	23.7	2,288	835,178	32.1
March	13,267	428	1,026	24.3	2,288	835,178	18.7
April	17,661	589	1,823	25.5	2,288	835,178	25.7
May	24,734	798	1,334	25.4	2,288	835,178	34.9
June	22,038	735	1,845	24.3	2,288	835,178	32.1
July	14,916	481	1,063	23.5	2,288	835,178	21.0
August	18,251	589	935	23.6	2,288	835,178	25.7
September	3,187	106	950	21.4	2,288	835,178	4.6
October	112	4	86	80.0	2,288	835,178	0.2
November	5,229	174	1,593	26.2	2,288	835,178	7.6
December	3,796	122	1,556	22.1	2,288	835,178	5.4
Total	160,706				2,288	835,178	19.2

Well "D" Frost

	Total Flow m^3	Average Daily Flow m^3/d	Maximum Daily Flow m^3/d	Instantaneous Peak Flow L/s	MDWL Daily Maximum Permitted m^3/d	MDWL Annual Permitted m^3	% Capacity
January	20,831	672	1,745	27.3	2,288	835,178	29.4
February	21,480	741	2,054	29.1	2,288	835,178	33.5
March	17,461	563	1,345	29.6	2,288	835,178	24.6
April	22,840	761	1,334	30.7	2,288	835,178	33.3
May	28,448	918	1,707	23.6	2,288	835,178	40.1
June	22,925	764	1,648	22.5	2,288	835,178	33.4
July	33,514	1,081	1,650	22.6	2,288	835,178	47.2
August	30,242	976	1,606	21.5	2,288	835,178	42.6
September	27,444	915	1,600	23.0	2,288	835,178	40.0
October	27,307	881	1,622	21.9	2,288	835,178	38.5
November	20,807	694	1,158	22.6	2,288	835,178	30.3
December	23,719	765	1,524	23.4	2,288	835,178	33.4
Total	297,019				2,288	835,178	35.6

Well "E" Notre Dame

	Total Flow m^3	Average Daily Flow m^3/d	Maximum Daily Flow m^3/d	Instantaneous Peak Flow L/s	MDWL Daily Maximum Permitted m^3/d	MDWL Annual Permitted m^3	% Capacity
January	39,652	1,279	2,528	32.2	3,105	1,133,456	41.2
February	34,510	1,190	2,473	32.1	3,105	1,133,456	39.7
March	52,245	1,685	2,479	32.0	3,105	1,133,456	54.3
April	46,901	1,563	2,489	32.2	3,105	1,133,456	50.3
May	46,731	1,507	2,592	32.3	3,105	1,133,456	48.5
June	45,596	1,520	2,524	32.5	3,105	1,133,456	48.9
July	38,612	1,246	2,481	32.6	3,105	1,133,456	40.0
August	34,664	1,118	1,804	31.9	3,105	1,133,456	36.0
September	38,158	1,272	2,494	31.7	3,105	1,133,456	41.0
October	49,176	1,586	2,554	32.0	3,105	1,133,456	51.1
November	48,057	1,602	2,621	33.0	3,105	1,133,456	51.6
December	29,037	937	1,580	31.5	3,105	1,133,456	30.2
Total	503,338				3,105	1,133,456	44.4

Well "F" Linden

	Total Flow m^3	Average Daily Flow m^3/d	Maximum Daily Flow m^3/d	Instantaneous Peak Flow L/s	MDWL Daily Maximum Permitted m^3/d	MDWL Annual Permitted m^3	% Capacity
January	34,090	1,100	2,248	33.8	3,269	1,193,112	33.6
February	36,446	1,257	2,612	34.0	3,269	1,193,112	39.8
March	37,636	1,214	2,716	34.7	3,269	1,193,112	37.1
April	30,179	1,006	1,845	34.8	3,269	1,193,112	30.8
May	47,758	1,541	2,639	35.1	3,269	1,193,112	47.1
June	51,712	1,724	2,694	34.2	3,269	1,193,112	52.7
July	39,232	1,268	2,601	33.0	3,269	1,193,112	38.8
August	35,585	1,148	2,598	34.8	3,269	1,193,112	35.1
September	40,895	1,363	2,593	34.4	3,269	1,193,112	41.7
October	54,379	1,754	2,632	33.4	3,269	1,193,112	53.7
November	47,584	1,586	2,634	33.5	3,269	1,193,112	48.5
December	53,104	1,713	2,723	34.1	3,269	1,193,112	52.4
Total	508,690				3,269	1,193,112	42.6

Well "G" Pharand

	Total Flow m^3	Average Daily Flow m^3/d	Maximum Daily Flow m^3/d	Instantaneous Peak Flow L/s	MDWL Daily Maximum Permitted m^3/d	MDWL Annual Permitted m^3	% Capacity
January	24,892	803	1,229	25.6	2,290	835,704	35.1
February	21,930	756	1,278	25.9	2,290	835,704	34.2
March	23,676	764	1,382	25.5	2,290	835,704	33.4
April	22,691	756	1,994	25.6	2,290	835,704	33.0
May	26,132	843	2,019	25.5	2,290	835,704	36.8
June	22,339	745	1,211	25.6	2,290	835,704	32.5
July	29,873	964	2.025	41.2	2,290	835,704	42.1
August	27,314	881	1,439	25.4	2,290	835,704	38.5
September	26,417	881	1,481	80.0	2,290	835,704	38.5
October	24,877	802	1,335	25.4	2,290	835,704	35.0
November	28,088	936	2,034	25.4	2,290	835,704	40.9
December	25,731	830	1,595	25.5	2,290	835,704	36.3
Total	303,960				2,290	835,704	36.4

Well "H" Michelle

	Total Flow m^3	Average Daily Flow m^3/d	Maximum Daily Flow m^3/d	Instantaneous Peak Flow L/s	MDWL Daily Maximum Permitted m^3/d	MDWL Annual Permitted m^3	% Capacity
January	22,346	721	1,297	23.5	2,290	835,704	31.5
February	23,626	815	1,348	23.3	2,290	835,704	36.9
March	26,113	842	1,825	23.6	2,290	835,704	36.8
April	20,958	699	1,090	23.6	2,290	835,704	30.5
May	28,247	911	1,884	24.3	2,290	835,704	39.8
June	22,294	743	1,213	23.9	2,290	835,704	32.5
July	30,648	989	1,825	24.0	2,290	835,704	43.2
August	27,418	884	1,846	23.7	2,290	835,704	38.6
September	26,683	889	1,848	23.7	2,290	835,704	38.8
October	0	0	0	0.0	2,290	835,704	0.00
November	5,863	195	1,851	23.7	2,290	835,704	8.5
December	29,404	949	1,806	23.6	2,290	835,704	41.4
Total	263,600				2,290	835,704	31.5

Well "Q" Chenier

	Total Flow m^3	Average Daily Flow m^3/d	Maximum Daily Flow m^3/d	Instantaneous Peak Flow L/s	MDWL Daily Maximum Permitted m^3/d	MDWL Annual Permitted m^3	% Capacity
January	42,960	1,386	2,076	26.7	2,333	851,472	59.4
February	40,208	2,386	2.076	26.8	2,333	851,472	61.6
March	30,467	983	2,075	26.6	2,333	851,472	42.1
April	32,225	1,074	2,076	26.6	2,333	851,472	46.0
May	23,114	746	2,076	27.2	2,333	851,472	32.0
June	40,570	1,352	2,076	26.5	2,333	851,472	58.0
July	36,513	1,178	2,075	26.5	2,333	851,472	50.5
August	42,088	1,358	2,076	26.8	2,333	851,472	58.2
September	33,137	1,105	2,075	26.5	2,333	851,472	47.3
October	31,074	1,002	1,713	26.7	2,333	851,472	43.0
November	30,293	1,010	2,075	26.9	2,333	851,472	43.3
December	46,226	1,491	2,076	26.4	2,333	851,472	63.9
Total	428,872				2,333	851,472	50.4

Well "R"

	Total Flow m^3	Average Daily Flow m^3/d	Maximum Daily Flow m^3/d	Instantaneous Peak Flow L/s	MDWL Daily Maximum Permitted m^3/d	MDWL Annual Permitted m^3	% Capacity
January	44,985	1,451	2,163	28.3	3,162	1,154,218	45.9
February	27,878	961	2,009	29.1	3,162	1,154,218	31.5
March	17,181	553	1,200	28.9	3,162	1,154,218	17.5
April	25,511	850	1,528	33.6	3,162	1,154,218	26.9
May	27,876	899	1,528	29.2	3,162	1,154,218	28.4
June	27,001	900	2,163	29.0	3,162	1,154,218	28.5
July	33,711	1,087	2,162	29.2	3,162	1,154,218	34.4
August	31,479	1,015	2,162	30.2	3,162	1,154,218	32.1
September	28,787	960	2,163	28.4	3,162	1,154,218	30.3
October	39,573	1,277	2,163	28,5	3,162	1,154,218	40.4
November	30,061	1,002	2,162	28.3	3,162	1,154,218	31.7
December	37,177	1,199	2,163	28.8	3,162	1,154,218	37.9
Total	371,215				3,162	1,154,218	32.2

Falconbridge Drinking Water System - 240000020

The Falconbridge well system consists of three (3) drilled wells:

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

The system includes three (3) pumps, disinfection with chlorine gas and 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. CGS sells water to Glencore and two industrial clients along the south transmission line and fluoridates the water before it enters the Falconbridge municipal distribution system.

Non-Compliance with Act, Regulations, Order or Approvals

The Falconbridge DWS had no AWQI or non-compliance in 2024.

Annual Flow Summary

Falconbridge Well #5

	Total Flow m^3	Average Daily Flow m^3/d	Maximum Daily Flow m^3/d	Instantaneous Peak Flow L/s	MDWL Daily Maximum Permitted m^3/d	MDWL Annual Permitted m^3	% Capacity
January	12,811	413	1,135	15.5	1,417	517,280	29.2
February	12,237	395	1,196	15.2	1,417	517,280	30.8
March	18,078	583	1,254	15.1	1,417	517,280	41.1
April	15,805	510	1,246	15.3	1,417	517,280	37.2
May	15,492	500	1,255	15.4	1,417	517,280	35.3
June	12,781	412	1,247	26.7	1,417	517,280	30.1
July	12,151	392	1,109	15.2	1,417	517,280	27.7
August	7,144	230	1,137	15.1	1,417	517,280	16.3
September	12,718	410	1,097	15.8	1,417	517,280	29.9
October	8,949	289	1,237	15.5	1,417	517,280	20.4
November	10,365	334	926	16.0	1,417	517,280	24.4
December	9,099	294	1,088	15.9	1,417	517,280	20.7
Total	147,630				1,417	517,280	28.5

Falconbridge Well #6

	Total Flow m^3	Average Daily Flow m^3/d	Maximum Daily Flow m^3/d	Instantaneous Peak Flow L/s	MDWL Daily Maximum Permitted m^3/d	MDWL Annual Permitted m^3	% Capacity
January	3,065	99	302	16.3	1,417	517,280	7.0
February	10,724	346	1,293	16.1	1,417	517,280	27.0
March	8,809	284	1,205	15.6	1,417	517,280	20.1
April	12,744	411	1,262	25.8	1,417	517,280	30.0
May	10,847	350	1,278	15.6	1,417	517,280	24.7
June	17,357	560	1,278	26.7	1,417	517,280	40.8
July	11,556	373	1,167	16.1	1,417	517,280	26.3
August	9,717	313	1,106	16.1	1,417	517,280	22.1
September	9,538	308	1,176	16.3	1,417	517,280	22.4
October	5,372	173	1,048	16.2	1,417	517,280	12.2
November	6,765	218	1,157	16.2	1,417	517,280	15.9
December	11,910	384	1,039	16.1	1,417	517,280	27.1
Total	118,403				1,417	517,280	22.9

Falconbridge Well #7

	Total Flow m^3	Average Daily Flow m^3/d	Maximum Daily Flow m^3/d	Instantaneous Peak Flow L/s	MDWL Daily Maximum Permitted m^3/d	MDWL Annual Permitted m^3	% Capacity
January	15,519	501	990	12.7	1,417	517,280	35.3
February	10,037	324	983	12.8	1,417	517,280	25.3
March	9,769	315	991	12.6	1,417	517,280	22.2
April	7,641	246	995	12.5	1,417	517,280	18.0
May	11,262	363	1,019	12.7	1,417	517,280	25.6
June	8,305	268	1,041	26.7	1,417	517,280	19.5
July	7,682	248	1,049	13.1	1,417	517,280	17.5
August	13,839	446	1,054	13.0	1,417	517,280	31.5
September	6,728	217	989	13.6	1,417	517,280	15.8
October	15,466	499	1,074	13.4	1,417	517,280	35.2
November	8,467	273	974	13.5	1,417	517,280	19.9
December	5,546	179	940	13.7	1,417	517,280	12.6
Total	120,260				1,417	517,280	23.2

Onaping/Levack Drinking Water System - 220003519

The Onaping/Levack system includes three (3) drilled wells:

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

The system includes three (3) pumps, disinfection with chlorine gas, sodium hydroxide for pH adjustment, polyphosphate addition for corrosion control and 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 levels in the raw water monthly due to large amounts of road salt used on a provincial highway located near the wells.

Onaping Well #5 was rehabilitated to prolong its life.

Non-Compliance with Act, Regulations, Order or Approvals

The Onaping DWS had one (1) AWQI to report in 2024.

1. The flow to the fluoride analyzer at the well site was shut off. Grab samples were taken in the distribution system and the incident was reported.

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 table to ensure the sum does not exceed the permit.

Onaping Wells Total

	Total Flow m^3	Maximum Daily Flow m^3/d	MDWL Daily Maximum Permitted m^3/d	MDWL Annual Permitted m^3	% Capacity
January	54,697	2,894	5,237	1,911,541	33.7
February	56,323	2,490	5,237	1,911,541	38.4
March	58,012	2,315	5,237	1,911,541	35.7
April	56,743	2,302	5,237	1,911,541	36.1
May	58,725	2,294	5,237	1,911,541	36.2
June	59,469	2,468	5,237	1,911,541	37.9
July	63,271	2,507	5,237	1,911,541	39.0
August	66,124	2,453	5,237	1,911,541	40.7
September	69,608	2,951	5,237	1,911,541	44.3
October	69,475	2,623	5,237	1,911,541	42.8
November	69,866	2,766	5,237	1,911,541	44.5
December	68,757	2,588	5,237	1,911,541	42.4
Total	751,071		5,237	1,911,541	39.3

Vermilion Distribution System - 260006789

The Vermilion drinking water system (DWS) is a standalone distribution system that receives water from a “donor” system, as CGS purchases water from Vale, the owner of the Vermilion Water Treatment Plant. 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, and Whitefish. The system also includes the Walden Water Storage Tank and Walden Metering Chamber.

The Vermilion DWS supplies the distribution system serving the community of Atikameksheng Anishnawbek through the Naughton Metering Chamber. Atikameksheng Anishnawbek operates its distribution system beyond the 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 no AWQI or non-compliance to report in 2024.