



2023

Summary Report Drinking Water in Peel

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1. EXECUTIVE SUMMARY

The 2023 Drinking Water in Peel Summary Report (the Report) fulfills the requirements outlined in Schedule 22 of the Ontario Drinking Water Systems Regulation 170/03 under the *Safe Drinking Water Act, 2002*.

The Report includes a statement of compliance with the *Safe Drinking Water Act, 2002* (the Act) and its regulations as well as the terms and conditions of all approval documents issued by the Ministry of the Environment, Conservation and Parks (the Ministry) for Peel Region's drinking water systems. The Report also contains a summary of the quantities and flow rates of water supplied, which aids with the assessment of our ability to meet existing and future water demands.

REPORTING REQUIREMENTS UNDER THE ONTARIO DRINKING WATER SYSTEMS REGULATION (O. REG. 170/03)

Peel Region (Peel) staff prepare and publish annual reports for each of Peel's five drinking water systems, and a Summary Report for Municipalities to keep our customers and Regional Council informed of system performance. More detail can be found in Section 2.

REPORTING OF WATER QUALITY EVENTS

Public Works Water and Wastewater Division collaborates with Peel Public Health on all reportable water quality events to ensure the safety of the drinking water supply for Peel's residents, businesses, and visitors. This involves thorough assessment of each event to determine the level of potential risk to public health and selection of appropriate response action. In the event of a confirmed risk, action may include a Drinking Water Advisory or Boil Water Advisory issued by Public Health. Water quality events are summarized in the [Annual Reports](#), available online, to demonstrate transparency and accountability to our customers regarding their water supply and actions taken to confirm or re-establish water safety.

SUMMARY OF COMPLIANCE

Peel Region complied with the requirements of the Act, the regulations, and the conditions of all licences and permits for the municipal drinking water systems, with the exception of events detailed in Section 2 of this report. These events were primarily operational and administrative in nature with no impact to the safety of the drinking water supply.

2. STATEMENT OF COMPLIANCE

The Ontario Drinking-Water Systems Regulation (O.Reg.170/03) prescribes stringent and mandatory requirements to monitor, test and report on drinking water quality. Section 11 of O.Reg.170/03 requires the water system owner to prepare an Annual Report that includes information related to the quality of the drinking water supplied, a brief description of the drinking water system, a list of treatment chemicals used, any major expenses incurred, and a summary of reports made to the Ministry for adverse water quality incidents. An Annual Report must be prepared for the preceding calendar year and identify specific details regarding the overall quality of drinking water supplied. It must be made available to the public by February 28 of each year.

The 2023 Annual Reports on water quality were prepared for each of Peel's drinking water systems and published on the website in February. Reports can be viewed [online](#), or obtained in electronic or paper format upon request. Availability of the Annual Reports is communicated to the consumers via Peel's website, social media feeds, and Access Peel.

Under Schedule 22 of O.Reg.170/03, the owner of a water system must also annually prepare a Summary Report for Municipalities and present it to Regional Council by March 31 of each year. The report must demonstrate regular review of compliance with the requirements of the *Act* and its regulations, and conditions of approvals documents. Any regulatory requirement(s) that the drinking water system failed to meet must be summarized with a description of the non-compliance event, the immediate actions taken to correct the issue, as well as the control measures put in place to mitigate or prevent future occurrences. The report must also include a summary of the quantities and flow rates of water supplied for the year, tallying monthly average and maximum daily flows for all municipal drinking water systems. Flow data can be found in Section 4 of this Report.

Peel Region fulfilled the requirements of the *Act*, the regulations, and the conditions of all approvals documents for its drinking water systems, apart from the events detailed in the table *Summary of Non-Compliance Events and Actions Taken* within Section 2 of this report. These occurrences were not associated with the quality or safety of drinking water supplied to the consumers but found non-compliant with select conditions of the Ontario drinking water legislation and/or supplementary Ministry approvals.

Ministry of Environment, Conservation and Parks (the Ministry) inspections consistently yield excellent ratings for Peel Region's drinking water systems. Inspection results for the 2023 year are presented in the table below.

Drinking Water System Water Works	Operating Authority	Ministry Inspection Rating
Caledon Village – Alton	Peel Region	100%
Palgrave – Caledon East		100%
Cheltenham		100%
Inglewood		100%
Arthur P. Kennedy Water Treatment Plant	OCWA	100%
Lorne Park Water Treatment Plant		100%
South Peel Distribution	OCWA / Peel ¹	100%

OCWA – Ontario Clean Water Agency

Note: Inspection scores of less than 100% do not reflect unsafe drinking water. They typically reflect inspection findings that were largely administrative in nature and did not compromise the quality of the water supply. For more information on the Ministry inspection methodology, please visit the [Ministry's website](#).

¹ Water Transmission, Pumping and Storage part of the South Peel Distribution System is operated by OCWA, while the local distribution is operated by Peel Region.

The Poltava Country Club Distribution System (CCDS), located in Terra Cotta, Caledon, is a Non-Municipal Year-Round Residential system owned by the Poltava Country Club. Since January 2016, Poltava CCDS has been operated by Peel through a legal agreement under Section 5 of O.Reg.170/03, which includes regular monitoring of water quality by Peel water operations staff.

Poltava CCDS receives all its water directly from Peel's Cheltenham Drinking Water System. Maintenance and repair of water assets in the Poltava CCDS is performed by a third-party contractor.

Poltava CCDS did not undergo formal Ministry inspection in 2023; however, water quality monitoring and operational maintenance requirements were met. Essential information and data related to the water quality monitoring and system maintenance was shared between Peel Region and Poltava CCDS, including outcomes of the Ministry inspection of the Cheltenham Drinking Water System and availability of the Annual Report.

Summary of Non-Compliance Events and Actions Taken

Drinking Water System	Legislative Requirement	Statement of Non-Compliance	Immediate Action Taken	Risk to Drinking Water Safety and Public Health	Control Measures
Cheltenham	Drinking Water Works Permit # 009-204 Schedule B, section 4.6.1 Pre-approved minor alterations to the drinking water system must be recorded on the Ministry's <i>Form 2 - Record of Minor Modifications or Replacements to the Drinking Water System</i> , prior to the modified or replaced components being placed into service.	On January 8, 2024, during facility compliance checks, it was discovered through logbook review that the in-service date for the new chlorine tank at Wells 1 & 2 was not clearly indicated in the logbook. The new tank was installed on December 12, 2023 and Form 2 was submitted on December 21, 2023. The exact date when chlorine tank was placed into service is unclear.	The non-compliance was reported on January 22, 2024. A Director Notification was prepared, signed and submitted to the Ministry to document completion of the work.	NONE	On February 6, 2024, the finding of non-compliance was reviewed with operations staff. An overview of the Approval Forms process is scheduled in March 2024 to serve as training refresher.
Palgrave - Caledon East	Drinking Water Works Permit # 009-205 Schedule B, section 4.6.1 Pre-approved minor alterations to the drinking water system must be recorded on the Ministry's <i>Form 2 - Record of Minor Modifications or Replacements to the Drinking Water System</i> , prior to the modified or replaced components being placed into service.	On January 12, 2024, during facility compliance checks, it was discovered through logbook review that the new chlorine tank was placed into service prior to Form 2 submission. Chlorine tank was installed and placed into service on December 15, 2023 and Form 2 was submitted on December 21, 2023.	The non-compliance was reported on January 22, 2024. A Director Notification was prepared, signed and submitted to the Ministry to document completion of the work.	NONE	On February 6, 2024, the finding of non-compliance was reviewed with operations staff. An overview of the Approval Forms process is scheduled in March 2024 to serve as training refresher.
Arthur P. Kennedy Water Treatment Plant	O. Reg. 170/03 and the Procedure for Disinfection of Drinking Water in Ontario, section 3.4.6 Membrane filtration to meet the performance criterion for filtered water turbidity of less than or equal to 0.1 NTU in 99% of the measurements in each month.	OBM1 was out of service for the month of January for commissioning work on the new clean-in-place piping. Membrane trains 45, 46, and 54 were started up on January 31, 2023 and upon startup, entrapped air caused false turbidity spikes for a short period while trains were in service: Train 45: 13 minutes 5 seconds, with turbidity >0.1 NTU for 5 minutes Train 46: 16 minutes 10 seconds, with turbidity >0.1 NTU for 11 minutes Train 54: for 3 minutes 11 seconds, with turbidity >0.1 NTU for 3 minutes 11 seconds. During this startup, water from these membrane trains went to the distribution system. Since this was the last day of the month, it resulted in turbidity being over 0.1 NTU in less than 99% of the measurements for the month of January.	Once staff identified the calculation exceedance, they shut down the OBM1 plant. OCWA staff sent a due diligence notification to the local Ministry office to report the calculation exceedance.	NONE Air entrapment causes tiny air bubbles to falsely register as turbidity spikes. These do not impact water quality.	OCWA updated the standard operating procedure for OBM1 startup. Peel pursued and received regulatory relief to allow flexibility in the monthly turbidity compliance calculation where total membrane run time is less than 72 hours in a month, such that turbidity readings for the first 30 minutes following startup(s) of a membrane may be omitted from the data set for this calculation.

Drinking Water System	Legislative Requirement	Statement of Non-Compliance	Immediate Action Taken	Risk to Drinking Water Safety and Public Health	Control Measures
	<p>Procedure for Disinfection of Drinking Water in Ontario and Ontario Regulation 170/03 Schedule 16-4 Duty to report an observation that indicates that a drinking water system is directing water to users that has not been disinfected in accordance with the Ministry's Procedure for Disinfection of Drinking Water in Ontario.</p>	<p>On February 13, 2023, during the warm-up phase of the OBM2 ultraviolet (UV) reactor #1, a fault was noted and the reactor shut down. OCWA- staff investigated the fault and discovered one bulb had a pin-sized hole and a broken sleeve. This had the potential for a very small amount of mercury from the bulb to spill into the water piping exiting the reactor.</p>	<p>The alarm shut down the reactor immediately and staff investigated the event.</p> <p>Operations staff sampled the piping for mercury and drained the backwash supply tank. Sample results confirmed mercury was non-detect. The UV reactor was cleaned and repaired and placed back into service.</p> <p>The Ministry Spills Action Center was notified and sampling plan was approved by the local Ministry Office.</p>	<p>LOW The lab results indicated majority of the mercury was contained within the bulb.</p> <p>The water exiting the UVs passes through ultrafiltration membranes, which have a cleaning cycle. This multi-step treatment process provides additional assurance that material from a broken UV bulbs would not reach the drinking water system.</p>	<p>OCWA contacted the UV manufacturer to conduct a detailed investigation. The investigation report noted no abnormalities with the reactors.</p> <p>OCWA has a standard operating procedure for these events. They have put steps into place to ensure that sample bottles are available and sampling will be conducted if a reoccurrence of this incident were to happen.</p>
		<p>On March 14, 2023, partial loss of power occurred at 9:24am during quarterly maintenance of natural gas generators. This caused OBM2 to shut down abruptly, which left low lift pump #9 running for 23 minutes until operations shut it down locally at 09:33am. This caused 6,572 ML of equalization tank water to overflow into the intake well due to some valves remaining in the open position.</p>	<p>Operations staff were dispatched to check valving manually to ensure all appropriate valves were closed and to prepare plant for a safe restart. The natural gas system parameters were adjusted to mitigate future incidents with power generation and plant loading. This event was reported to the local Ministry office promptly once identified.</p>	<p>LOW No impact to water quality. The turbidity, chlorine and CT values of all facilities were normal. All processes downstream of filtration were unaffected.</p>	<p>OCWA updated the existing generator standard operating procedure to describe the importance of keeping plant loads constant during generator testing and improve communications between operations and maintenance teams during this work.</p>
	<p>Municipal Drinking Water Licence # 009-101, Schedule B, section 10.1 Water systems must not discharge a contaminant into the natural environment that causes, or is likely to cause, an adverse effect.</p>	<p>On August 10, Operations staff noticed 12 inches of water in the basement of OBM1. Sump pumps were not working in automatic mode. Staff ran the flood pumps in manual mode to drain the water from the area. The flood pumps discharge into the plant outfall after dechlorination. The water discharged had the potential to contain a small chlorine residual, as this water is a combination of unchlorinated process water and service water with free chlorine residual of 1.50 mg/L.</p>	<p>Electrical staff were called out to troubleshoot and found the fuse blown on the sump pump control electrical panel. Fuse was replaced and sump pumps were placed back into automatic mode.</p> <p>Compliance staff reported this as a spill of chlorinated water to the Ministry Spills Action Center and notified Environment and Climate Change Canada of event and resolution.</p>	<p>NONE</p>	<p>Operations staff increased frequency of OBM1 basement checks and are conducting a project to replace all sump pump panel components and move the panel to the permeate pump floor level above the basement.</p>
		<p>On December 30, 2023, at 8:35pm OCWA operations staff discovered flooding in the basement of OBM1 with approximately 6 inches of water on the floor. The temporary sump pumps were unable to keep up with the incoming water and the permanent sump pumps were not working at the time due to a over temperature relay trip. Operations staff manually turned on the flood pumps.</p> <p>The flood pumps discharge into the plant outfall after dechlorination. It was noted that the wastewater supernatant analyzer read a residual of 0.15 mg/L for less than 1 minute during the event. Staff manually tested chlorine residual shortly after and it measured zero mg/L.</p>	<p>OCWA Operations staff ran the flood pumps to prevent any damage to the equipment in the OBM1 basement. Operations staff called out electrical staff to investigate and repair the relay. Electrical staff arrived on site and replaced the relay and all sump pumps were placed back into service.</p> <p>Compliance staff reported the spill to the Ministry Spills Action Center and notified Environment and Climate Change Canada of event and resolution.</p>	<p>NONE</p>	<p>OCWA implemented recommendation by electrical staff to have operations staff visually check the sump pump panel in the OBM1 basement for alarms during their rounds.</p>

Drinking Water System	Legislative Requirement	Statement of Non-Compliance	Immediate Action Taken	Risk to Drinking Water Safety and Public Health	Control Measures
Lorne Park Water Treatment Plant	Municipal Drinking Water Licence # 009-101, Schedule B, section 10.1 Water systems must not discharge a contaminant into the natural environment that causes, or is likely to cause, an adverse effect.	On February 22, 2023, operations staff turned off all holding tank transfer pumps and opened holding tank drain valve to transfer tank contents to the Jack Darling wastewater pumping station, due to an issue with the wastewater supernatant analyzer electrical breaker. At 2:00am on February 23, staff reported flooding in the garage, which has storm water floor drains.	Upon discovery of the flooding, operations staff closed holding tank drain. At 2:30am, staff confirmed flooding had stopped. Event was reported as a spill to the Ministry Spills Action Center. OCWA electrical staff repaired issue with the electrical breaker for the wastewater supernatant analyzer and returned the holding tank transfer pumps to normal operation.	NONE	OCWA replaced outlet plug to restrict other devices from being connected to a shared breaker with the wastewater supernatant analyzer to prevent future overloads. Wastewater drainage conduit flow meter alarm set points have been adjusted to provide an earlier warning of conduit backup if an event were to reoccur.
	Procedure for Disinfection of Drinking Water in Ontario and Ontario Regulation 170/03 Schedule 16-4 Duty to report an observation that indicates that a drinking water system is directing water to users that has not been disinfected in accordance with the Ministry's Procedure for Disinfection of Drinking Water in Ontario.	On March 22, 2023, after isolating and draining surge tank #2 for routine inspection, staff discovered what appeared to be animal remains adhered to the -seal of the tank hatch cover. Staff inspected the inside of the tank and no other remains were found. Operations staff was unable to confirm if it came into contact with the surge tank water.	Once identified, the finding was reported to the Ministry Spills Action Center and Peel Public Health. Operations staff cleaned the tank thoroughly and completed disinfection based on the AWWA Standard C652-19. Bacteriological samples were collected after disinfection and the results were all satisfactory.	LOW Bacteriological samples are tested 3 times each week on the treated water and continuous chlorine analyzers demonstrate adequate disinfection was maintained at all times. Many bacteriological samples are tested each week within the distribution system. All results since the last surge tank inspection were reviewed and no indication of any contamination was observed. The location of where the animal remains were found -within the seal junction prevented majority of contact to with surge tank water.	OCWA operations staff checked all reservoir hatches, reservoir house and surge tank vent piping to ensure no animal infiltration. OCWA created a disinfection plan to be used for future surge tank disinfections.
South Peel Distribution System	Watermain Disinfection Procedure Watermain tap not witnessed by Peel Operator.	On April 26, 2023, a watermain tap at John Street and Centre Street South in Brampton was completed without a Peel operator onsite to oversee disinfection.	Peel staff sent a due diligence notification to Ministry inspector on May 2, 2023 with event information and corrective actions.	LOW	Once incident was reported to Compliance and Peel Public Health, seven system samples were immediately collected in the area. All sample results passed, confirming water safety.
	Municipal Drinking Water Licence Schedule B Section 14.1 All materials used in the alteration or operation of the drinking water system that come into contact with water -shall meet all applicable standards set by both the American Water Works Association and the American National Standards Institute safety criteria standards.	On June 4 and 5, 2023, an unapproved material was used to make a small closure piece on a distribution watermain. The material was adequately disinfected per Ministry's <i>Watermain Disinfection Procedure</i> prior to being welded and work was witnessed by a certified operator. Samples were collected as the pipe was placed into service on June 5 and the bacteriological results were satisfactory.	Upon Compliance staff becoming aware of the situation on June 8, the section of pipe was immediately isolated. A courtesy notification was sent to Ministry inspector on June 8, 2023 with event information and corrective actions.	LOW	On July 31, the acceptable closure piece was installed and this section was placed into service. Applicable staff were reminded about acceptable practices and materials that come into contact with water.
	Municipal Drinking Water Licence # 009-101, Schedule B, section 10.1 Water systems must not discharge a contaminant into the natural environment that causes, or is likely to cause, an adverse effect.	During an inspection of Beckett Sproule Reservoir on Aug 4 and Aug 10, a leak was discovered in Cell 2 and Cell 3 at rates of 0.4 L/s and 0.86 L/s respectively. At the time, it was believed the leakage was going to the sanitary sewer. After isolation of the two cells, leak investigation was done in mid-August. Further review suggested that a portion of the water may have gone to the storm sewer or soil, although what proportion went to the environment is unknown. Date the leakage started and total volume released are unknown. Free chlorine at Beckett Sproule Reservoir at the time of discovery was in the range of 1.19 to 1.65 mg/L.	Cell 3 was isolated on Aug 11. After water modeling was performed, Cell 2 was isolated on Aug 16. Dive team entered isolated cells for dye testing to locate leaks on Aug 15 for Cell 3 and Aug 16 for Cell 2. Controlled draining and dechlorination of Cells 2 and 3 began on Aug 22. Upon determining that some water was likely released to the environment, staff reported this as a spill of chlorinated water to the Ministry Spills Action Center.	NONE	Repairs have begun at the Beckett Sproule Reservoir Cells 2 and 3. Once this work is complete, Cells 1 and 4 will be inspected for leakage and repaired as needed. Completion is expected by late Spring 2024.

Drinking Water System	Legislative Requirement	Statement of Non-Compliance	Immediate Action Taken	Risk to Drinking Water Safety and Public Health	Control Measures
	<p>Municipal Drinking Water Licence # 009-101, Schedule B section 16.2.6 Operations and maintenance manual shall include procedures for the operation and maintenance of monitoring equipment.</p> <p>Section 16.4 All of the procedures included or referenced within the operations and maintenance manual must be implemented.</p>	<p>A review of handheld chlorine analyzer digital verification records for 2023 showed that verifications were not completed monthly for some handheld analyzers, as required by the procedure.</p> <p>Maintenance of handheld testing equipment and documentation transitioned from being a manual process to digital, with auto-reminders when verification is not completed within specified time. New process implementation presented a few gaps, which resulted in some handheld chlorine analyzers not verified every month. Also, the process for ensuring completion of records for verification-pending units was found to be inconsistent.</p>	<p>Upon a discovery of this finding, operations staff have been reviewing the process to identify the cause of auto-notification on equipment verification not being actioned in a timely manner and to update the process path.</p> <p>Peel staff sent a due diligence notification to our Ministry inspector on October 30, 2023 to self-declare the missed verification.</p>	<p>LOW Handheld chlorine analyzers are manufacturer factory-calibrated to ensure accurate and reliable measurement results. Monthly checks have been implemented to test instrument response and accuracy for added confidence. In addition, continuous chlorine analyzers at water storage and pumping facilities provide confidence of secondary disinfection being maintained.</p>	<p>Staff are working to refine the digitized process to prevent incidences of missing verification records, including documenting when a unit is taken out of active use, and ensuring units are verified monthly as required.</p>
	<p>Municipal Drinking Water Licence # 009-101, Schedule B, section 10.1 Water systems must not discharge a contaminant into the natural environment that causes, or is likely to cause, an adverse effect.</p>	<p>On several occasions throughout 2023, water emerging from a watermain break picked up soil (silt) and washed it into nearby storm sewers or waterbody until the water supply was isolated for watermain repair efforts to be initiated.</p>	<p>All the events were reported to the Ministry appropriately. Peel Region Environmental Control immediately responds to these events to assess impact to fish, wildlife, or plant life and report the event to the Ministry.</p>	<p>NONE</p>	<p>During these unplanned events, staff strive to maintain drinking water system pressure to ensure the integrity of the drinking water supply, and also minimize impact on the environment and the public.</p>

3. DRINKING WATER SYSTEMS

MUNICIPAL DRINKING WATER LICENCE AND DRINKING WATER WORKS PERMIT

The Ontario Ministry of the Environment, Conservation and Parks (Ministry) has developed the Municipal Drinking Water Licensing Program (the Program) in support of the *Safe Drinking Water Act, 2002*. The Program requires municipal drinking water systems to have the following in place in order to be issued a Municipal Drinking Water Licence (Licence) to operate the system:

- a Drinking Water Works Permit,
- a Permit to Take Water,
- an approved Operational Plan,
- accreditation of the Operating Authority, and
- a Financial Plan for the operation of the water system.

Under the Program, the authority to establish, alter and operate a drinking water system is provided by the specific conditions set out in the Drinking Water Works Permit (DWWP) and the Licence, respectively. These documents must be renewed by the Ministry every five years.

The renewal process is complex in that it includes a full technical evaluation, a raw water quality assessment, an approved financial plan, a copy of the Operational Plan and other supporting system-specific documentation.

Peel Region received the original DWWP and Licence for each of its drinking water systems in November 2009. All DWWPs and Licences were renewed every five years and updated between renewal dates as needed to reflect major changes to the water system(s) or to adjust their terms and conditions. All of Peel's Licences are due for renewal in November 2024.

MUNICIPAL DRINKING WATER LICENCE (LICENCE)

Drinking Water System	Licence Number	Issue Number	Issue Date	Expiry Date
South Peel	009-101	15	October 3, 2022	November 7, 2024
		16	October 2, 2023	November 7, 2024
Caledon Village – Alton	009-102	11	October 3, 2022	November 7, 2024
		12	June 9, 2023	November 7, 2024
Inglewood	009-103	10	October 3, 2022	November 7, 2024
		11	June 9, 2023	November 7, 2024
Cheltenham	009-104	10	October 3, 2022	November 7, 2024
		11	June 9, 2023	November 7, 2024
Palgrave – Caledon East	009-105	9	October 3, 2022	November 7, 2024
		10	June 9, 2023	November 7, 2024

DRINKING WATER WORKS PERMIT (DWWP)

Drinking Water System	DWWP Number	Issue Number	Issue Date
South Peel	009-201	10	March 31, 2022
		11	June 9, 2023
Caledon Village – Alton	009-202	8	October 9, 2020
Inglewood	009-203	9	October 9, 2020
Cheltenham	009-204	8	October 9, 2020
Palgrave – Caledon East	009-205	8	October 9, 2020

PERMIT TO TAKE WATER (PTTW)

Drinking Water System/ Waterworks Name	Waterworks Number	PTTW Number	Effective Date	PTTW Expiry Date
Arthur P. Kennedy WTP ¹	210000568	P-300 -5092604438	October 9, 2020	October 8, 2030
Lorne Park WTP ¹	210001317			
Caledon Village – Alton	220004000	P-300- 8032340160 (Caledon Village)	March 26, 2019	April 30, 2024
		P-300- 9058863382 (Alton)	August 1, 2019	August 31, 2024
Cheltenham	260002590	2505-AW9JW4	February 28, 2018	February 29, 2028
Inglewood	220004037	4521-C8ES9V	November 5, 2021	June 22, 2028
Palgrave – Caledon East	220003993	P-300-2034379854 (Palgrave)	May 9, 2019	May 9, 2024
		P-300-2095321129 (Caledon East)	December 30, 2020	December 26, 2025

WTP – Water Treatment Plant

¹ The Arthur P. Kennedy WTP and Lorne Park WTP are on the same PTTW

DRINKING WATER SYSTEM CLASSIFICATION

In accordance with Ontario Regulation 128/04, municipal residential water systems are classified based on the level of operating complexity, with the higher class reflecting more advanced treatment process or more complex water distribution. Water system classification must align with operators' certification whereby systems must be operated by persons holding the same type of certificate as that of the system, and those with overall operational responsibility holding, at the minimum, the same level of classification as that of the water system. All of Peel's drinking water systems are classified and certified with the Ministry, as required.

Drinking Water System	Drinking Water Subsystem	Subsystem Classification		Certificate Number
		Type of Subsystem	Class Level	
South Peel	Arthur P. Kennedy WTP	Water Treatment	IV	2
	Lorne Park WTP	Water Treatment	IV	3
	Transmission and Pumping	Water Distribution	IV	2135
	Distribution	Water Distribution	II	237
Caledon Village – Alton	Alton Wells # 3 & # 4A	Water Distribution	I	5164
	Caledon Village Wells #3 & #3B	Water Treatment	I	238
	Caledon Village Well # 4	Water Treatment	II	7225
	Distribution	Water Distribution	II	3612
Inglewood	Inglewood Wells #3 & #4	Water Treatment	I	5187
	Distribution	Water Distribution	III	2002
Cheltenham	Cheltenham Wells #1 & #2	Water Treatment	I	2967
	Distribution	Water Distribution	I	3614
Palgrave – Caledon East	Caledon East Wells #4 & #4A	Water Treatment	I	4814
	Caledon East Well #3	Water Treatment	I	1998
	Palgrave Well #4	Water Treatment	II	7226
	Palgrave Wells #2 & #3	Water Treatment	II	5188
	Distribution	Water Distribution	II	6245

South Peel drinking water system supplies the cities of Brampton and Mississauga, and parts of Caledon WTP – Water Treatment Plant

NORTH PEEL MUNICIPAL GROUNDWATER BASED WATER SYSTEM

a. Total Monthly Volumes

Table 1 - 2023 Caledon Village Total Monthly Raw Water Volumes

Month	Volume (m ³)			Monthly Total
	Caledon Village Well #3	Caledon Village Well #3B	Caledon Village Well #4	
January	5,969.79	7,007.42	24,319.69	37,296.90
February	6,709.78	3,665.22	17,947.53	28,322.53
March	5,236.60	4,125.27	19,779.62	29,141.49
April	9,943.27	9,817.78	10,330.91	30,091.96
May	8,819.05	9,674.17	22,051.89	40,545.11
June	6,875.58	6,423.55	27,057.45	40,356.58
July	6,844.20	4,720.38	23,357.35	34,921.93
August	7,080.86	5,355.62	21,994.76	34,431.24
September	5,955.12	6,387.98	26,037.92	38,381.02
October	4,622.87	8,904.57	19,742.16	33,269.60
November	5,889.06	6,177.55	22,318.50	34,385.11
December	5,707.41	6,454.79	23,316.72	35,478.92
ANNUAL TOTAL	79,653.59	78,714.30	258,254.50	416,622.39

Note: 1) 1 m³ = 1,000 Litres
 2) Caledon Village Well 4 was out of service for maintenance from April 17 - May 10

Figure 1 - 2023 Caledon Village Total Monthly Raw Water Volumes

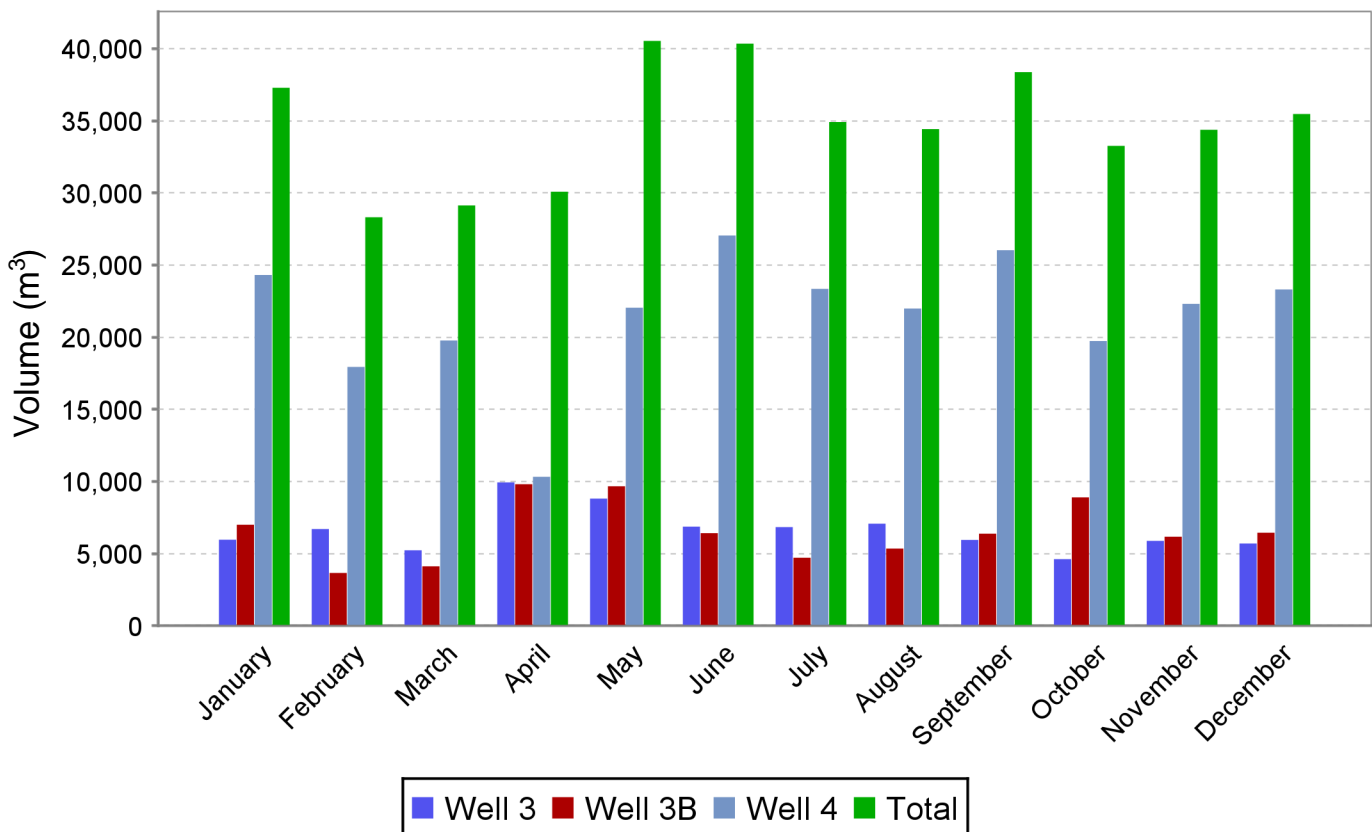


Table 2 - 2023 Caledon Village Total Monthly Treated Water Volumes

Month	Volume (m ³)			Monthly Total
	Caledon Village Well #3	Caledon Village Well #3B	Caledon Village Well #4	
January	5,969.79	7,007.42	24,397.97	37,375.18
February	6,709.78	3,665.22	17,899.68	28,274.68
March	5,236.60	4,125.27	19,847.94	29,209.81
April	9,943.27	9,817.78	10,359.99	30,121.04
May	8,819.05	9,674.17	22,111.45	40,604.67
June	7,004.94	6,349.16	27,122.52	40,476.62
July	6,804.50	4,666.85	23,323.01	34,794.36
August	7,039.20	5,293.55	22,085.35	34,418.10
September	5,920.07	6,314.69	26,081.01	38,315.77
October	4,597.42	8,799.21	19,814.14	33,210.77
November	5,851.07	6,095.62	22,480.27	34,426.96
December	5,606.96	6,345.32	23,480.55	35,432.83
ANNUAL TOTAL	79,502.65	78,154.26	259,003.88	416,660.79

Note: 1) 1 m³ = 1,000 Litres
 2) Caledon Village Well 4 was out of service for maintenance from April 17 - May 10

Figure 2 - 2023 Caledon Village Total Monthly Treated Water Volumes

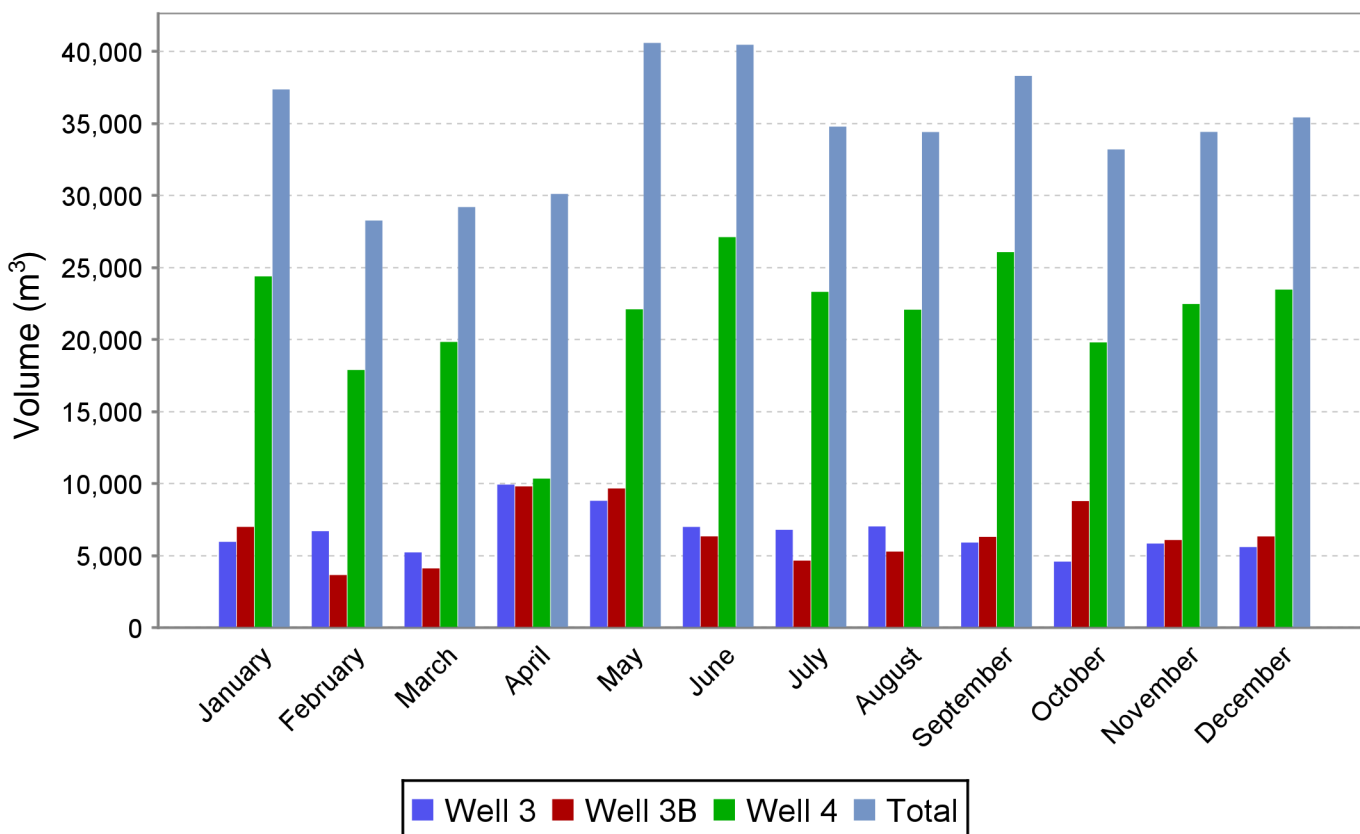


Table 3 - 2023 Alton Total Monthly Raw Water Volumes

Month	Volume (m ³)		
	Alton Well #3	Alton Well #4A	Monthly Total
January	5,194.73	3,132.93	8,327.66
February	3,601.05	4,262.79	7,863.84
March	5,045.04	3,451.54	8,496.58
April	4,748.71	3,924.27	8,672.98
May	5,068.82	4,881.29	9,950.11
June	4,800.34	6,424.42	11,224.76
July	5,190.29	5,593.68	10,783.97
August	5,386.50	4,932.12	10,318.62
September	5,484.76	4,826.18	10,310.94
October	6,617.94	8,362.21	14,980.15
November	7,673.07	9,515.19	17,188.26
December	7,955.20	8,356.77	16,311.97
ANNUAL TOTAL	66,766.45	67,663.39	134,429.84

Note: 1) 1 m³ = 1,000 Litres

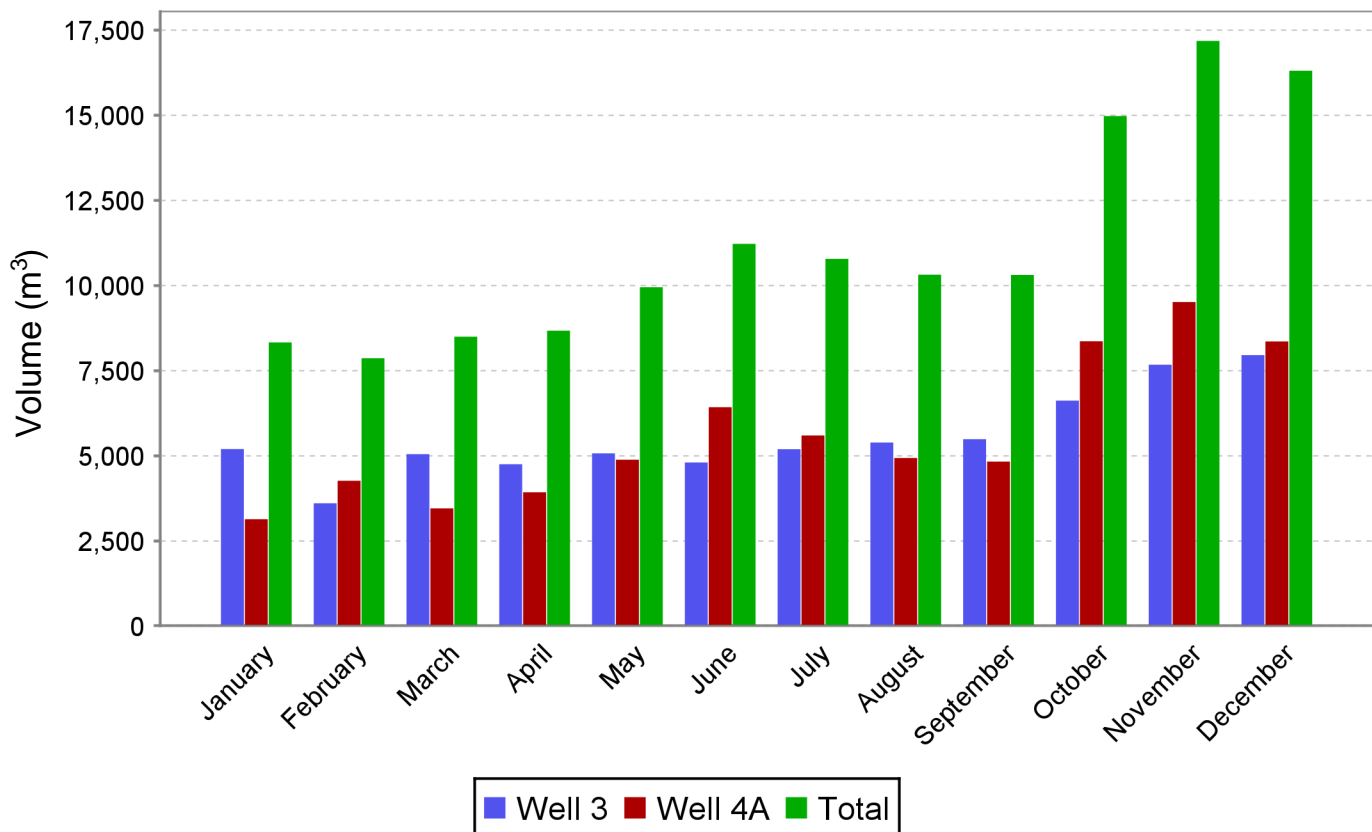
Figure 3 - 2023 Alton Total Monthly Raw Water Volumes

Table 4 - 2023 Alton Total Monthly Treated Water Volumes

	Volume (m ³)
Month	Alton Wells #3 & 4A
January	8,348.52
February	7,900.31
March	8,508.32
April	8,700.33
May	9,972.21
June	11,252.69
July	10,807.92
August	10,342.12
September	10,335.73
October	15,030.12
November	17,216.43
December	16,407.57
ANNUAL TOTAL	134,822.27

Note: 1) 1 m³ = 1,000 Litres

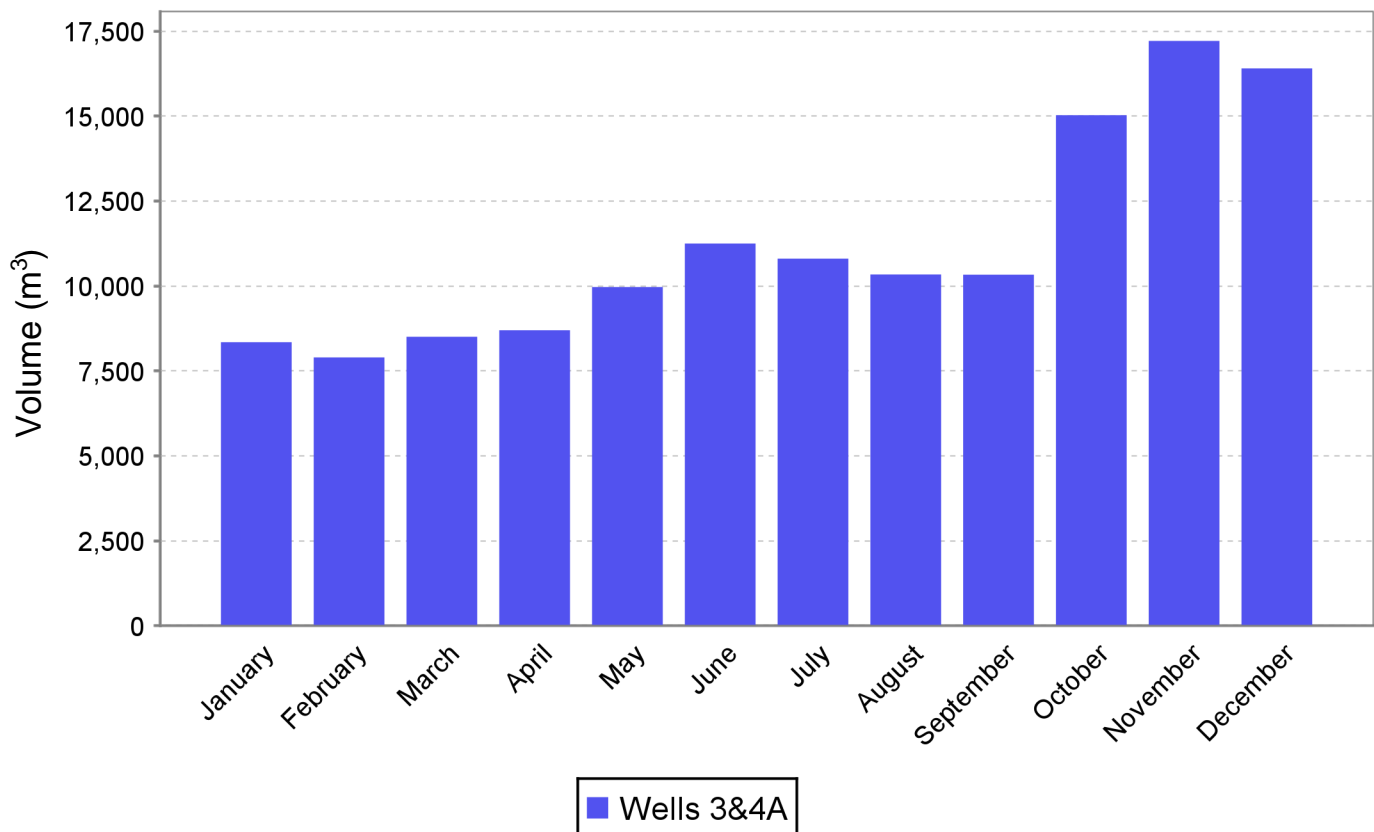
Figure 4 - 2023 Alton Total Monthly Treated Water Volumes

Table 5 - 2023 Palgrave Total Monthly Raw Water Volumes

Month	Volume (m ³)			Monthly Total
	Palgrave Well #2	Palgrave Well #3	Palgrave Well #4	
January	5,805.01	18,454.34	7,614.94	31,874.29
February	4,139.07	18,825.26	8,395.99	31,360.32
March	5,813.73	20,891.81	10,576.37	37,281.91
April	7,637.82	26,384.87	8,672.56	42,695.25
May	9,151.90	48,020.74	16,878.59	74,051.23
June	13,623.49	74,039.19	20,995.09	108,657.77
July	18,914.71	56,052.19	22,383.69	97,350.59
August	15,880.52	45,332.09	19,097.80	80,310.41
September	16,404.86	47,185.89	19,196.08	82,786.83
October	8,604.28	28,398.62	11,061.39	48,064.29
November	6,476.40	18,581.09	8,712.00	33,769.49
December	7,283.07	19,768.62	7,880.93	34,932.62
ANNUAL TOTAL	119,734.86	421,934.71	161,465.43	703,135.00

Note: 1) 1 m³ = 1,000 Litres
 2) Palgrave Well #4 was out of service for maintenance from June 6 - June 13

Figure 5 - 2023 Palgrave Total Monthly Raw Water Volumes

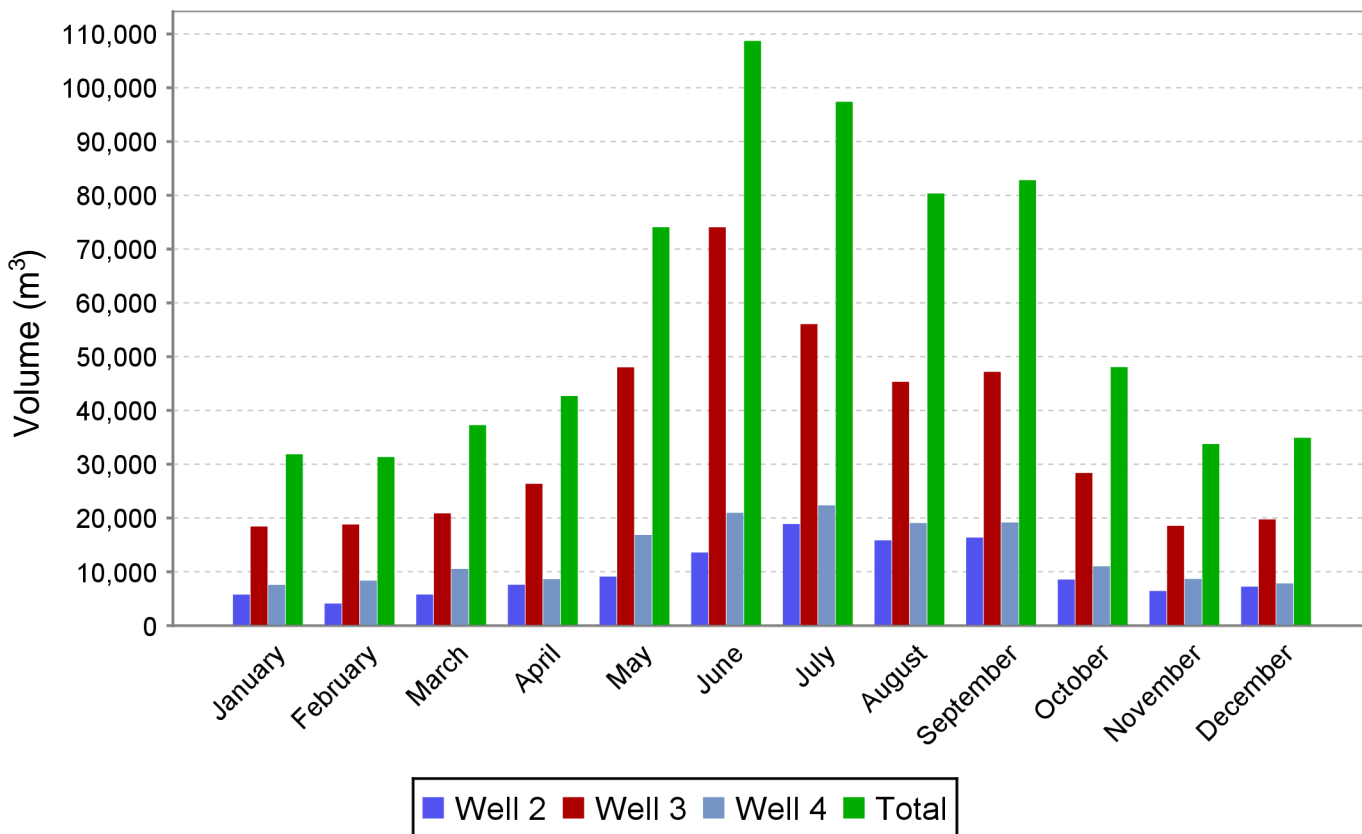


Table 6 - 2023 Palgrave Total Monthly Treated Water Volumes

Month	Volume (m ³)		
	Palgrave Wells #2 & 3	Palgrave Well #4	Monthly Total
January	24,003.44	7,725.80	31,729.24
February	22,561.40	8,380.41	30,941.81
March	26,390.26	10,750.41	37,140.67
April	34,357.17	8,948.74	43,305.91
May	57,682.14	17,278.75	74,960.89
June	88,361.25	21,404.06	109,765.31
July	75,464.46	22,912.10	98,376.56
August	61,797.54	19,584.50	81,382.04
September	64,135.39	19,646.73	83,782.12
October	37,313.61	11,341.89	48,655.50
November	25,173.50	9,005.27	34,178.77
December	27,235.96	8,024.88	35,260.84
ANNUAL TOTAL	544,476.12	165,003.54	709,479.66

- Note: 1) 1 m³ = 1,000 Litres
 2) Palgrave Well 4 treated water volume was 2.1% more than the raw water volume due to backwash rinse cycles and variation in flow meter accuracies.
 3) Palgrave Well #4 was out of service for maintenance from June 6 - June 13

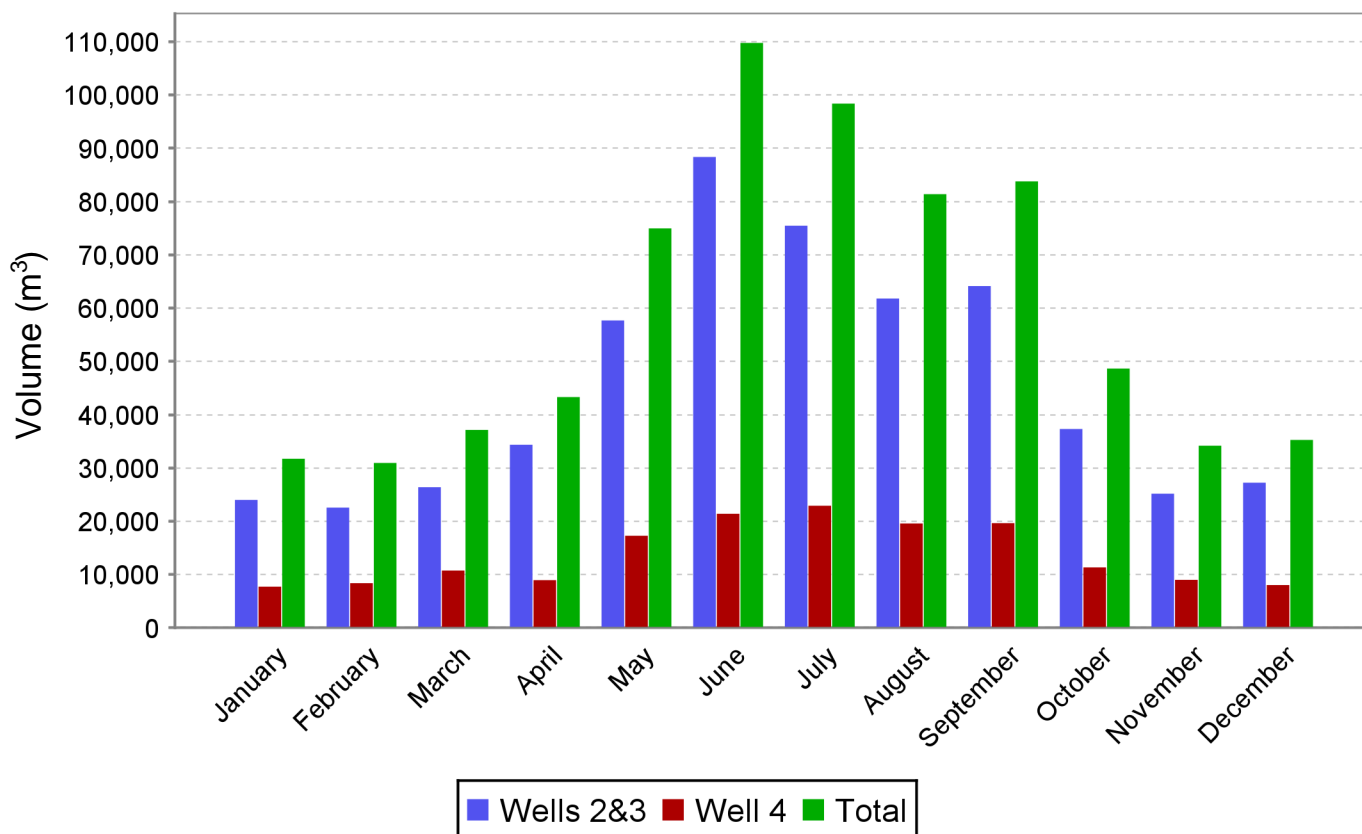
Figure 6 - 2023 Palgrave Total Monthly Treated Water Volumes

Table 7 - 2023 Caledon East Total Monthly Raw Water Volumes

Month	Volume (m ³)			Monthly Total
	Caledon East Well #3	Caledon East Well #4	Caledon East Well #4A	
January	1,144.52	32,624.04	20,059.14	53,827.70
February	4,441.92	20,962.87	24,112.61	49,517.40
March	1,506.05	26,413.28	22,374.03	50,293.36
April	8,617.66	27,737.16	18,101.06	54,455.88
May	28,395.48	29,767.21	19,239.03	77,401.72
June	32,509.41	27,242.18	30,928.79	90,680.38
July	24,957.80	28,146.12	26,651.36	79,755.28
August	22,749.06	30,700.83	23,124.52	76,574.41
September	24,490.40	30,584.26	20,702.24	75,776.90
October	8,253.21	45,942.80	3,678.63	57,874.64
November	9,621.61	42,288.37	0.10	51,910.08
December	17,231.38	34,267.55	0.00	51,498.93
ANNUAL TOTAL	183,918.50	376,676.67	208,971.51	769,566.68

Note: 1) 1 m³ = 1,000 Litres
 2) Caledon East Well 4A was out of service for maintenance from October 17th - December 31st.

Figure 7 - 2023 Caledon East Total Monthly Raw Water Volume

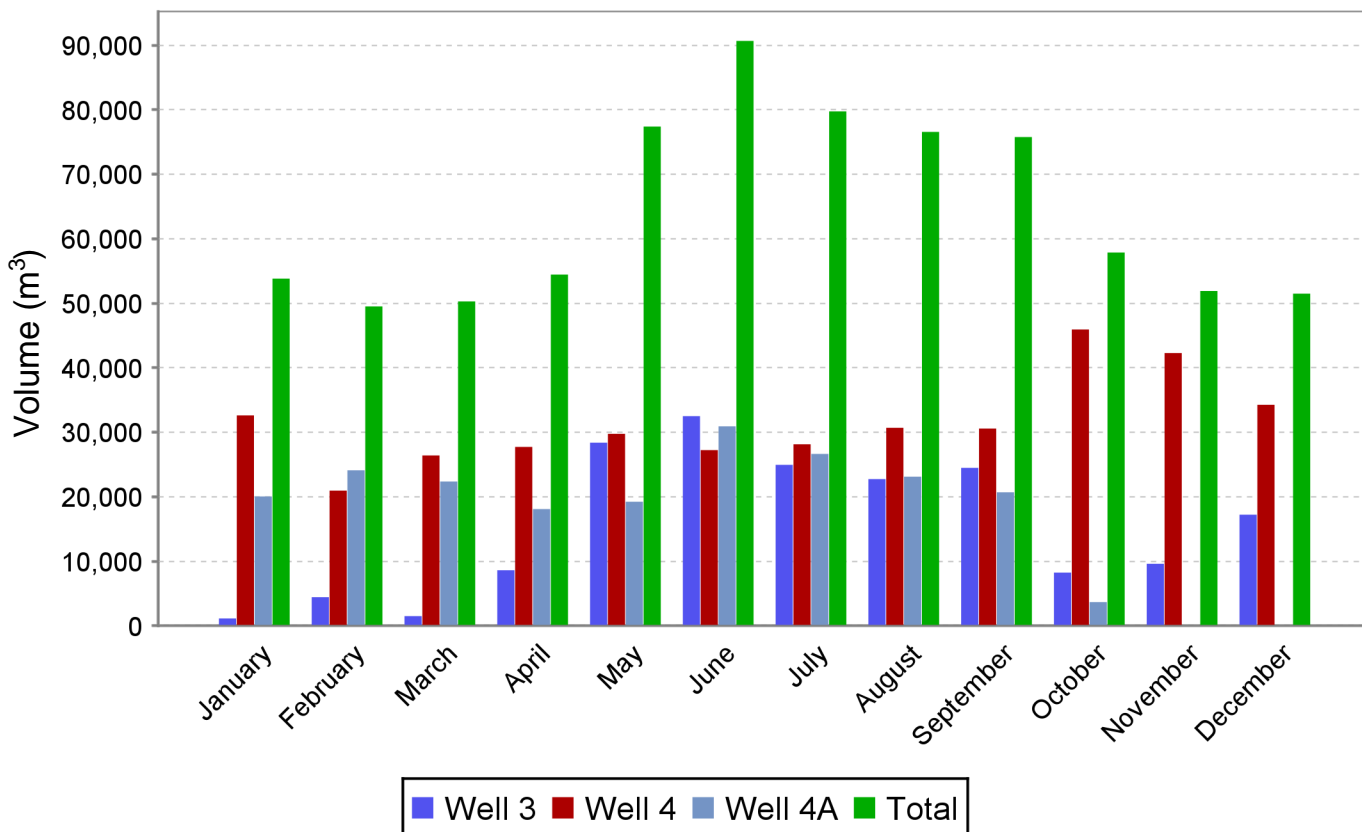


Table 8 - 2023 Caledon East Total Monthly Treated Water Volumes

Month	Volume (m ³)		
	Caledon East Well #3	Caledon East Wells #4 & 4A	Monthly Total
January	1,134.29	53,568.98	54,703.27
February	4,459.72	45,690.68	50,150.40
March	1,516.78	49,069.47	50,586.25
April	8,696.43	42,644.52	51,340.95
May	28,771.93	47,188.35	75,960.28
June	32,972.27	58,336.22	91,308.49
July	25,287.63	51,741.25	77,028.88
August	23,014.26	48,574.13	71,588.39
September	24,728.99	49,237.18	73,966.17
October	8,341.68	49,829.82	58,171.50
November	9,692.88	42,566.21	52,259.09
December	17,549.79	34,391.98	51,941.77
ANNUAL TOTAL	186,166.65	572,838.79	759,005.44

Note: 1) 1 m³ = 1,000 Litres
 2) Caledon East Well 3 treated water volume was 1.2% greater than the raw water volume due to variation in flow meter accuracies
 3) Caledon East Well 4 & 4A treated water volume was 2.2% less than the raw water volume due to backwash rinse cycle and variation in flow meter accuracies.

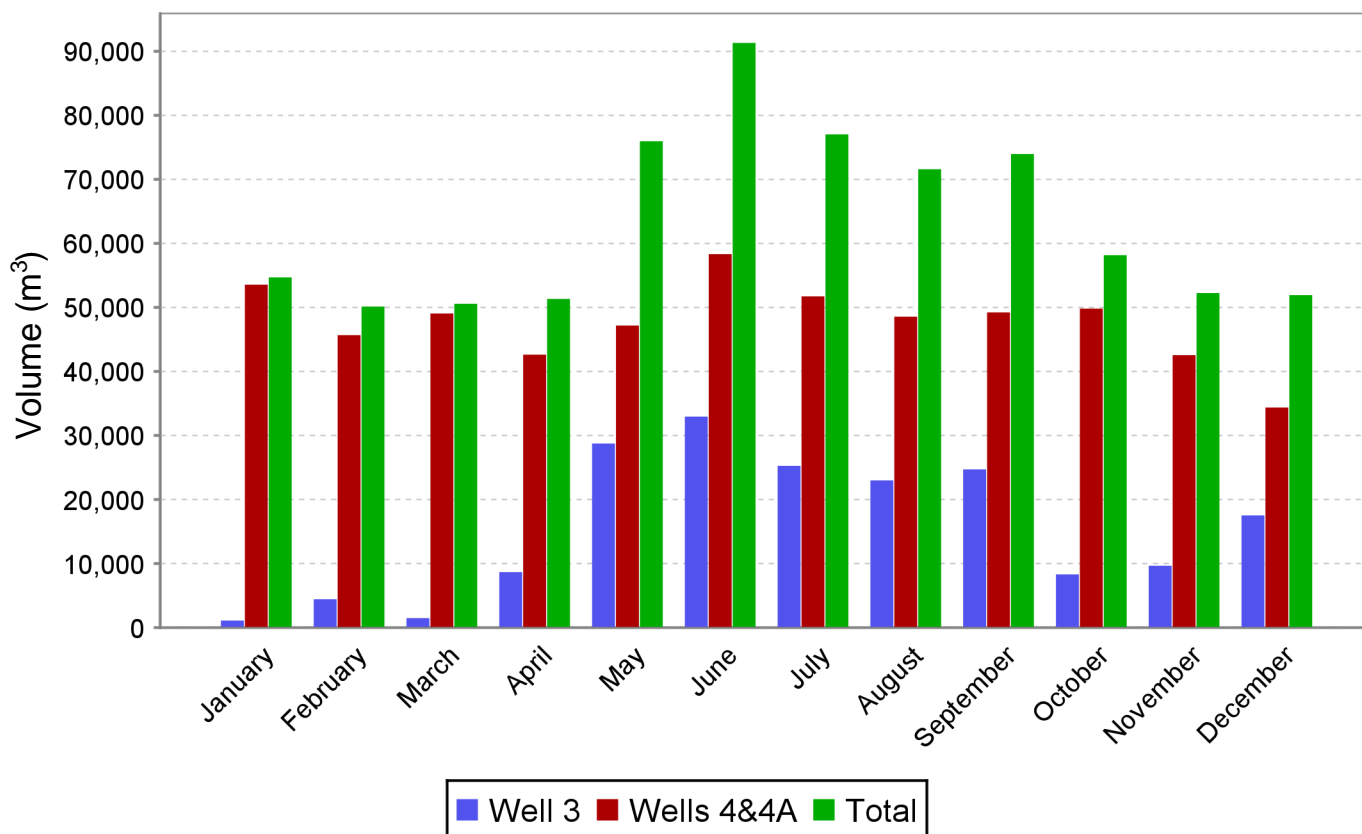
Figure 8 - 2023 Caledon East Total Monthly Treated Water Volumes

Table 9 - 2023 Cheltenham Total Monthly Raw Water Volumes

Month	Volume (m ³)		
	Cheltenham Well #1	Cheltenham Well #2	Monthly Total
January	2,961.31	2,729.92	5,691.23
February	2,865.15	2,670.86	5,536.01
March	3,415.59	3,133.42	6,549.01
April	3,759.88	3,693.52	7,453.40
May	4,982.82	4,142.45	9,125.27
June	5,404.30	5,981.55	11,385.85
July	5,334.42	5,254.77	10,589.19
August	4,247.41	4,349.81	8,597.22
September	4,707.78	4,437.10	9,144.88
October	3,472.82	4,342.43	7,815.25
November	3,027.83	3,881.24	6,909.07
December	3,310.47	3,356.90	6,667.37
ANNUAL TOTAL	47,489.78	47,973.97	95,463.75

Note: 1) 1 m³ = 1,000 Litres

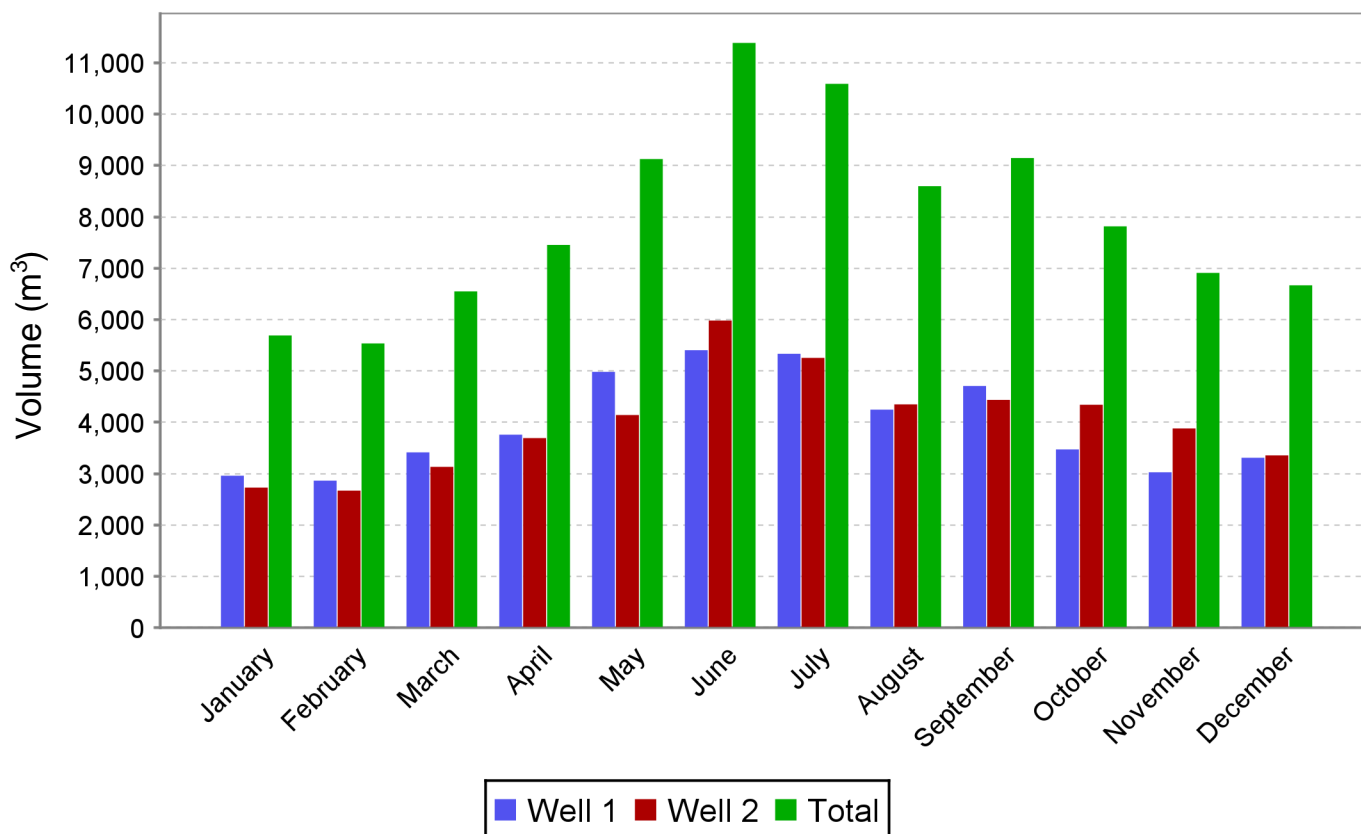
Figure 9 - 2023 Cheltenham Total Monthly Raw Water Volumes

Table 10 - 2023 Cheltenham Total Monthly Treated Water Volumes

Month	Volume (m ³)
	Cheltenham Wells #1 & 2
January	5,651.89
February	5,529.60
March	6,897.22
April	7,515.04
May	9,159.13
June	11,454.01
July	10,604.52
August	8,627.50
September	9,125.24
October	7,826.56
November	6,966.09
December	6,632.93
ANNUAL TOTAL	95,989.73

Note: 1) 1 m³ = 1,000 Litres

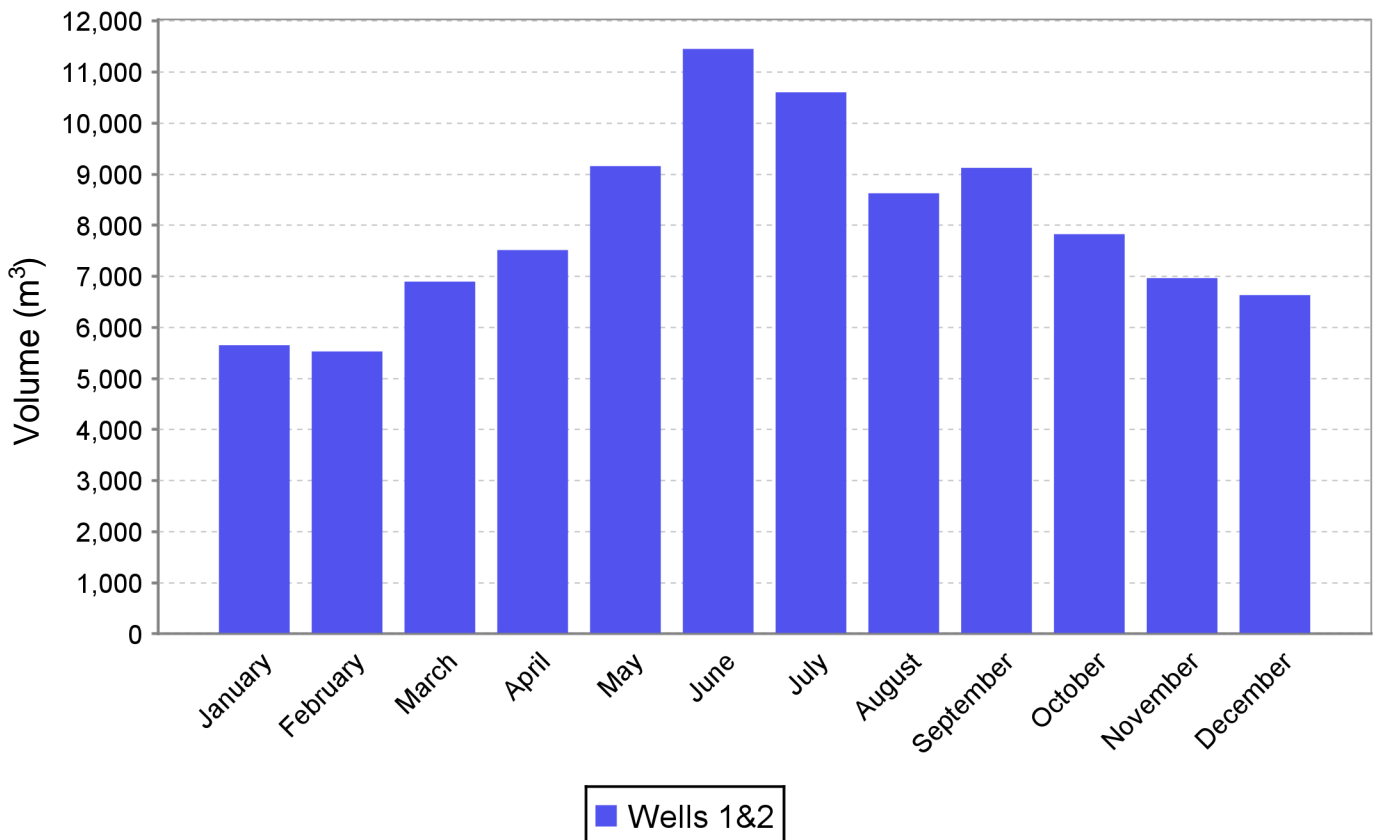
Figure 10 - 2023 Cheltenham Total Monthly Treated Water Volumes

Table 11 - 2023 Inglewood Total Monthly Raw Water Volumes

Month	Volume (m ³)		
	Inglewood Well #3	Inglewood Well #4	Monthly Total
January	4,060.35	4,490.75	8,551.10
February	4,644.11	3,036.23	7,680.34
March	4,085.00	4,489.88	8,574.88
April	4,564.67	3,624.08	8,188.75
May	5,742.88	6,173.65	11,916.53
June	7,477.69	9,142.40	16,620.09
July	7,598.93	8,624.68	16,223.61
August	8,419.83	7,374.32	15,794.15
September	7,296.99	7,562.26	14,859.25
October	4,890.81	4,605.14	9,495.95
November	1,586.48	5,829.04	7,415.52
December	4,133.95	3,740.15	7,874.10
ANNUAL TOTAL	64,501.69	68,692.58	133,194.27

Note: 1) 1 m³ = 1,000 Litres

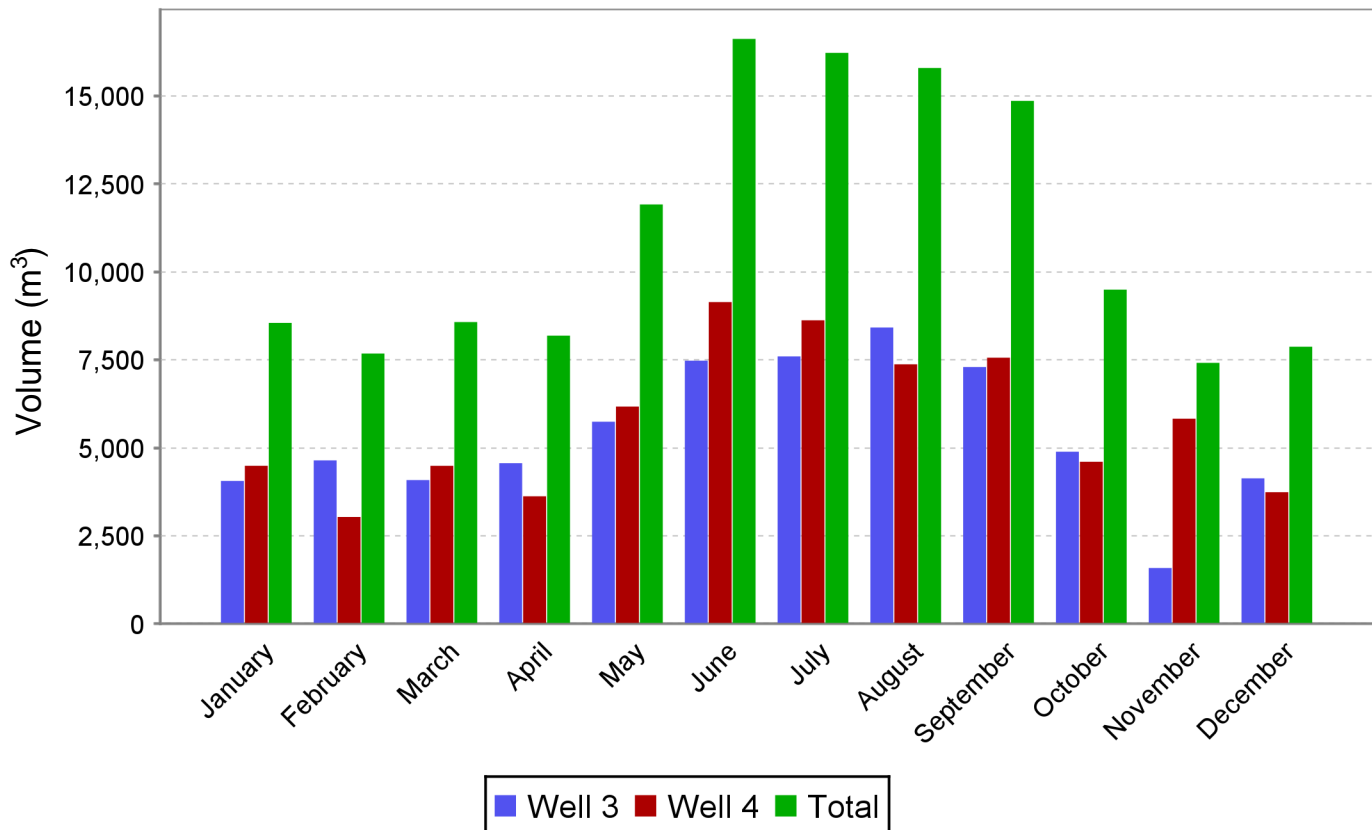
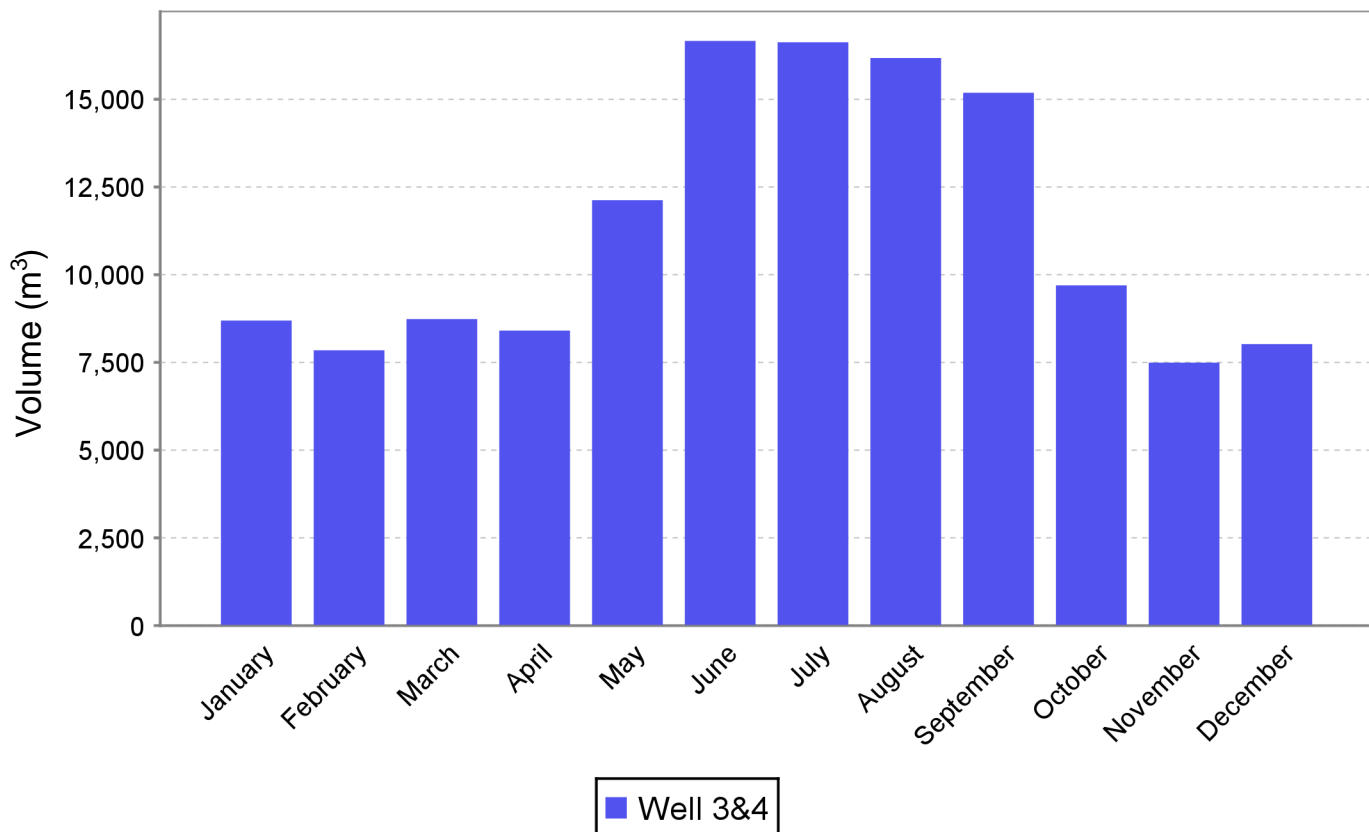
Figure 11 - 2023 Inglewood Total Monthly Raw Water Volumes

Table 12 - 2023 Inglewood Total Monthly Treated Water Volumes

Month	Volume (m ³)
	Inglewood Wells #3&4
January	8,693.91
February	7,847.28
March	8,735.73
April	8,408.21
May	12,121.70
June	16,657.81
July	16,619.23
August	16,170.79
September	15,181.09
October	9,696.68
November	7,496.14
December	8,023.30
ANNUAL TOTAL	135,651.87

Note: 1) 1 m³ = 1,000 Litres

2) Inglewood Well #3 and #4 combine treated water volume was 1.8% more than the combined raw water volume due to the clarified filter wash water being returned to the primary treatment process and due to slight variation in flow meter accuracies

Figure 12 - 2023 Inglewood Total Monthly Treated Water Volumes

b. Average Daily Production

Table 13 – 2023 Caledon Village Average Daily Raw Water Production

Month	Production (m ³ /day)			
	Caledon Village Well #3	Caledon Village Well #3B	Caledon Village Well #4	Combined Daily Average
January	192.57	226.05	784.51	1,203.13
February	239.64	130.90	640.98	1,011.52
March	168.92	133.07	638.05	940.05
April	331.44	327.26	344.36	1,003.07
May	284.49	312.07	711.35	1,307.91
June	229.19	214.12	901.92	1,345.22
July	220.78	152.27	753.46	1,126.51
August	228.41	172.76	709.51	1,110.69
September	198.50	212.93	867.93	1,279.37
October	149.12	287.24	636.84	1,073.21
November	196.30	205.92	743.95	1,146.17
December	184.11	208.22	752.15	1,144.48

Note: 1) 1 m³ = 1,000 Litres
 2) Caledon Village Well 4 was out of service for maintenance from April 18 - May 10
 3) The average raw water production value shown above represents days the well was in operation

Figure 13 - 2023 Caledon Village Average Daily Raw Water Production

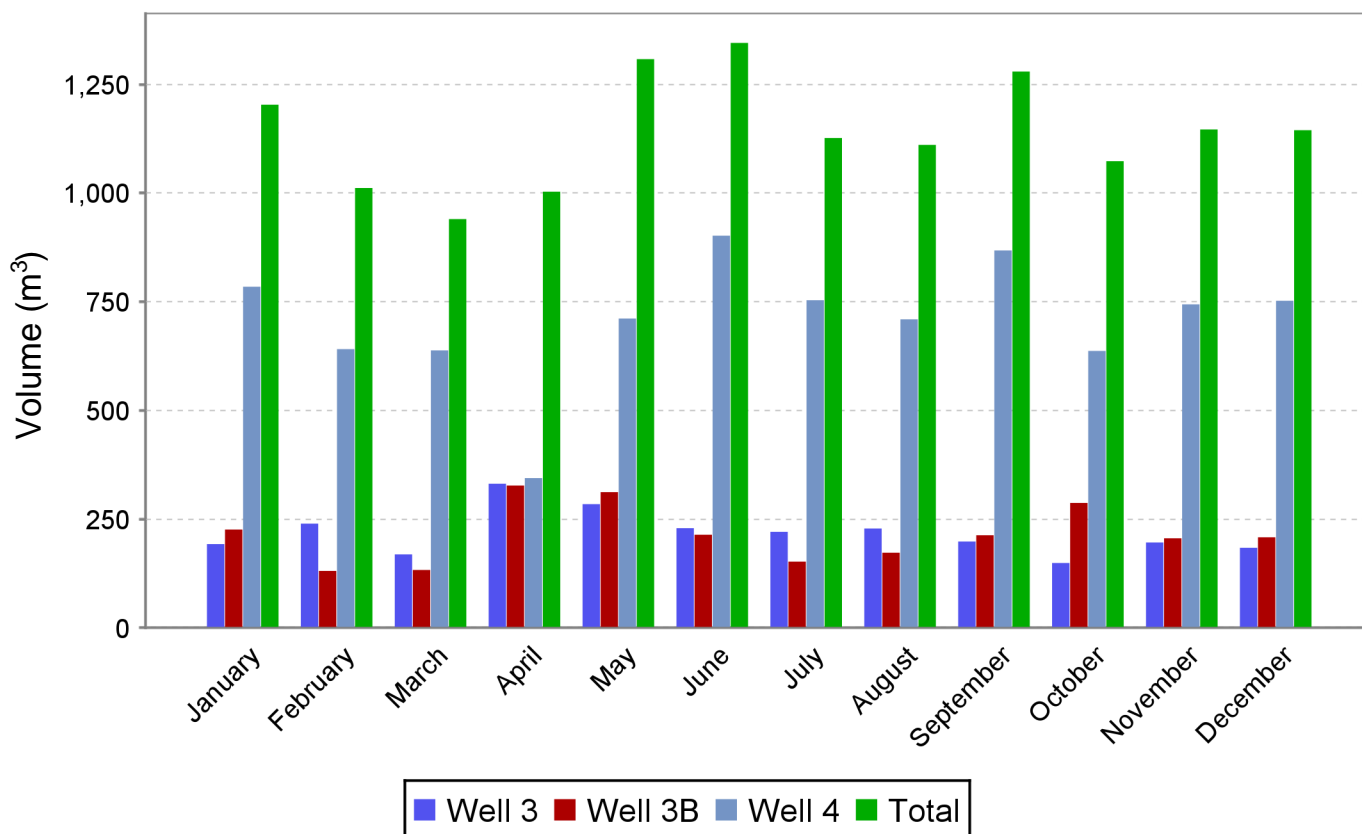


Table 14 – 2023 Caledon Village Average Daily Treated Water Production

Month	Production (m ³ /day)			Combined Daily Average
	Caledon Village Wells #3	Caledon Village Well #3B	Caledon Village Well #4	
January	192.57	226.05	787.03	1205.65
February	239.64	130.90	639.27	1009.81
March	168.92	133.07	640.26	942.25
April	331.44	327.26	345.33	1004.03
May	284.49	312.07	713.27	1309.83
June	233.50	211.64	904.08	1349.22
July	219.50	150.54	752.36	1122.4
August	227.07	170.76	712.43	1110.26
September	197.34	210.49	869.37	1277.19
October	148.30	283.85	639.17	1071.32
November	195.04	203.19	749.34	1147.57
December	180.87	204.69	757.44	1142.99

Note: 1) 1 m³ = 1,000 Litres
 2) Caledon Village Well 4 was out of service for maintenance from April 18 - May 10

Figure 14 - 2023 Caledon Village Average Daily Treated Water Production

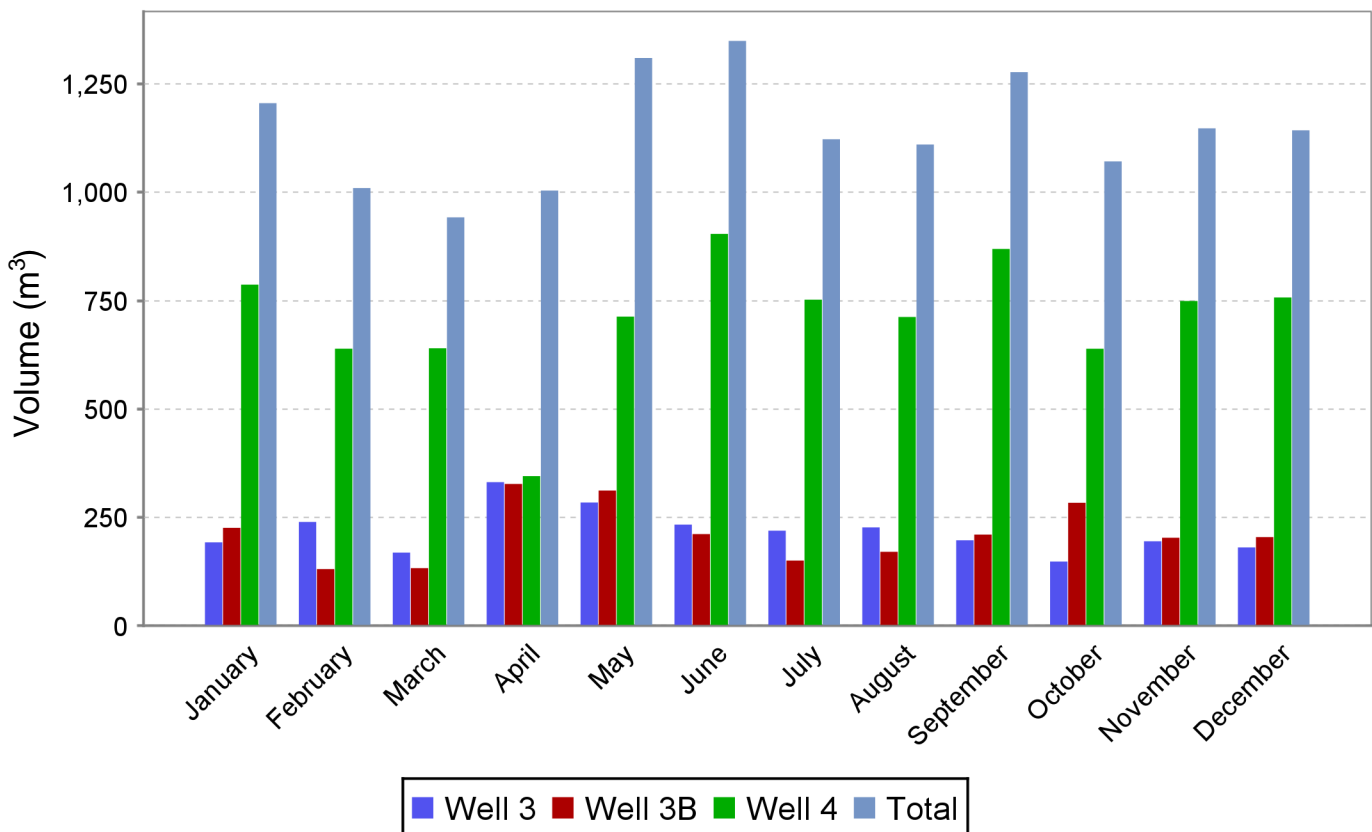


Table 15 – 2023 Alton Average Daily Raw Water Production

Month	Production (m ³ /day)		
	Alton Well #3	Alton Well #4A	Combined Daily Average
January	167.57	101.06	268.63
February	128.61	152.24	280.85
March	162.74	111.34	274.08
April	158.29	130.81	289.10
May	163.51	157.46	320.97
June	160.01	214.15	374.16
July	167.43	180.44	347.87
August	173.76	159.10	332.86
September	182.83	160.87	343.70
October	213.48	269.75	483.23
November	255.77	317.17	572.94
December	256.62	269.57	526.19

Note: 1) 1 m³ = 1,000 Litres

Figure 15 - 2023 Alton Average Daily Raw Water Production

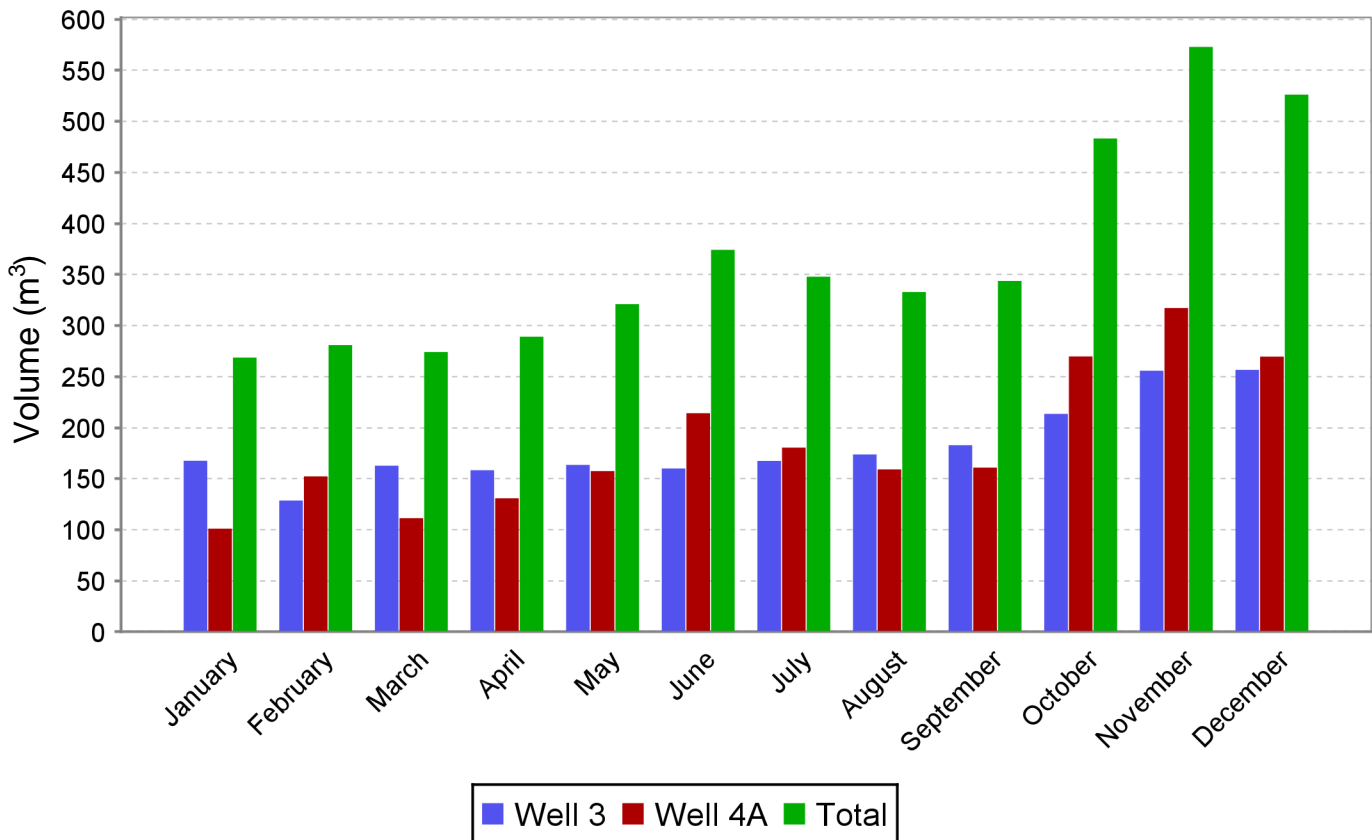


Table 16 – 2023 Alton Average Daily Treated Water Production

Month	Production (m ³ /day)
	Alton Wells #3 & 4A
January	269.31
February	282.15
March	274.46
April	290.01
May	321.68
June	375.09
July	348.64
August	333.62
September	344.52
October	484.84
November	573.88
December	529.28

Note: 1) 1 m³ = 1,000 Litres

Figure 16 - 2023 Alton Average Daily Treated Water Production

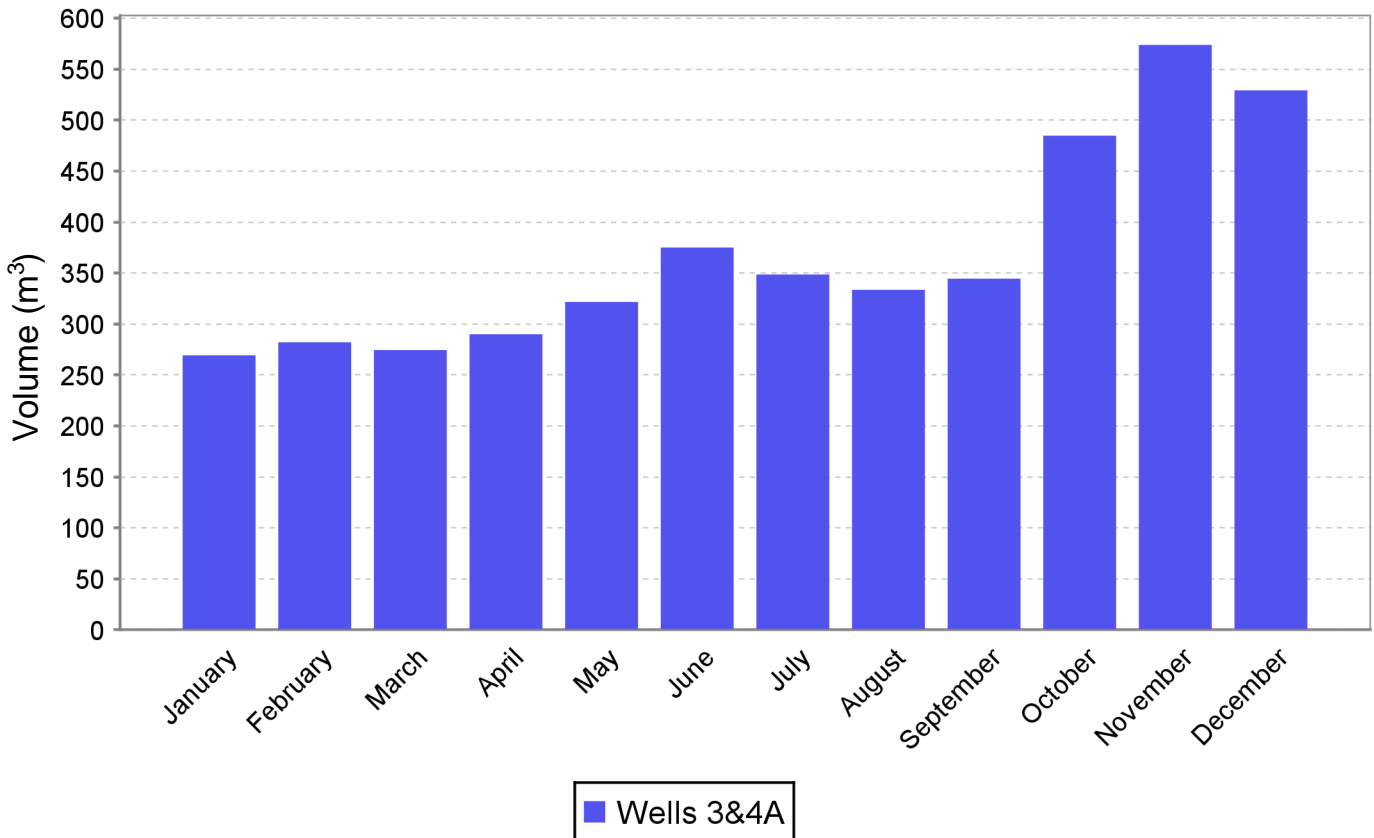


Table 17 – 2023 Palgrave Average Daily Raw Water Production

Month	Production (m ³ /day)			
	Palgrave Well #2	Palgrave Well #3	Palgrave Well #4	Combined Daily Average
January	187.26	595.30	245.64	1,028.20
February	147.82	672.33	299.86	1,120.01
March	187.54	673.93	341.17	1,202.64
April	254.59	879.50	289.09	1,423.17
May	295.22	1,549.06	544.47	2,388.75
June	454.12	2,467.97	699.84	3,621.93
July	610.15	1,808.14	722.05	3,140.34
August	512.27	1,462.33	616.06	2,590.66
September	546.83	1,572.86	639.87	2,759.56
October	277.56	916.08	356.82	1,550.46
November	215.88	619.37	290.40	1,125.65
December	234.94	637.70	254.22	1,126.86

Note: 1) 1 m³ = 1,000 Litres
 2) The average raw water production value shown above represents days the well was in operation
 3) Palgrave Well #4 was out of service for maintenance from June 6 - June 13

Figure 17 - 2023 Palgrave Average Daily Raw Water Production

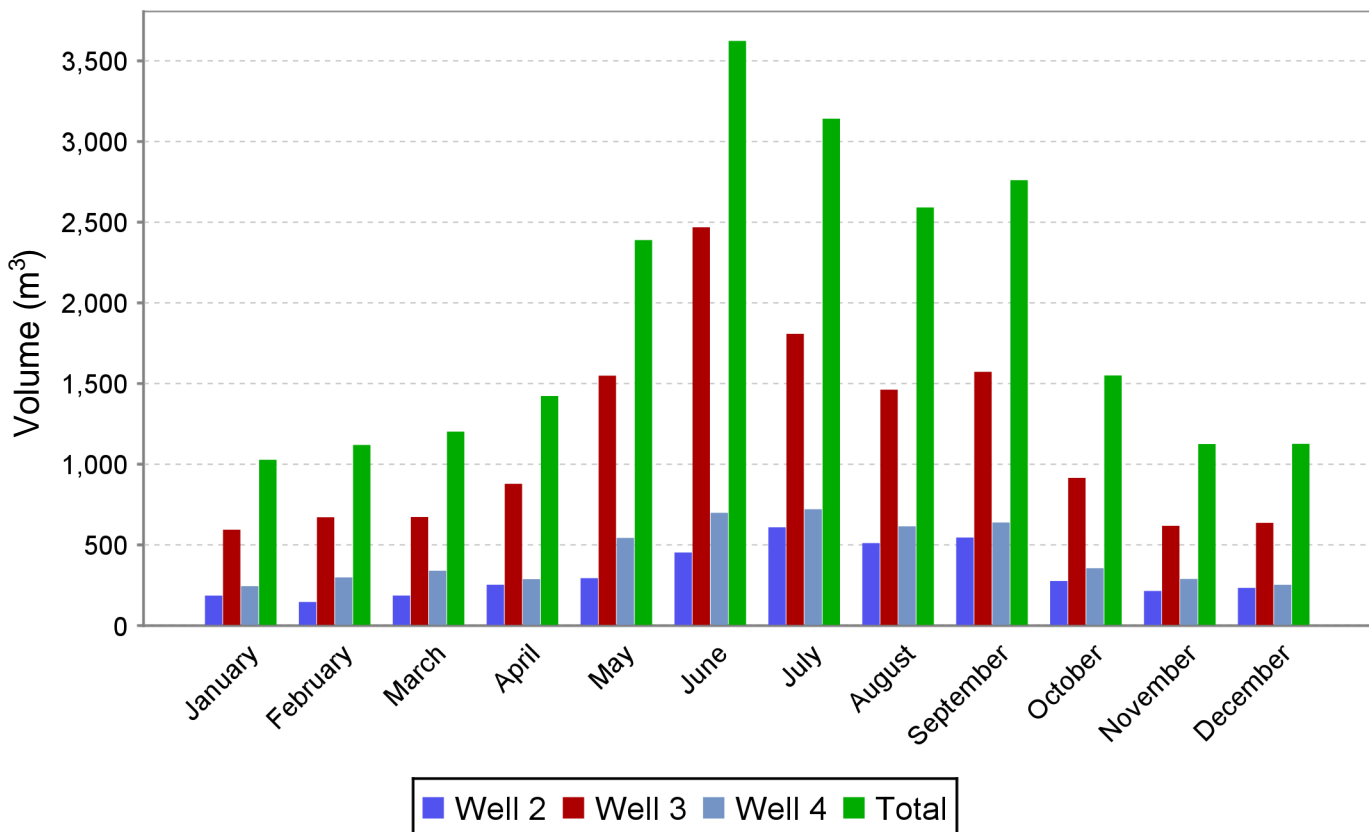


Table 18 – 2023 Palgrave Average Daily Treated Water Production

Month	Production (m ³ /day)		
	Palgrave Wells #2 & 3	Palgrave Well #4	Combined Daily Average
January	774.30	249.22	1,023.52
February	805.76	299.30	1,105.06
March	851.30	346.79	1,198.09
April	1,145.24	298.29	1,443.53
May	1,860.71	557.38	2,418.09
June	2,945.38	713.47	3,658.84
July	2,434.34	739.10	3,173.44
August	1,993.47	631.76	2,625.23
September	2,137.85	654.89	2,792.74
October	1,203.66	365.87	1,569.53
November	839.12	300.18	1,139.29
December	878.58	258.87	1,137.45

Note: 1) 1 m³ = 1,000 Litres
 2) Palgrave Well #4 was out of service for maintenance from June 6 - June 13

Figure 18 - 2023 Palgrave Average Daily Treated Water Production

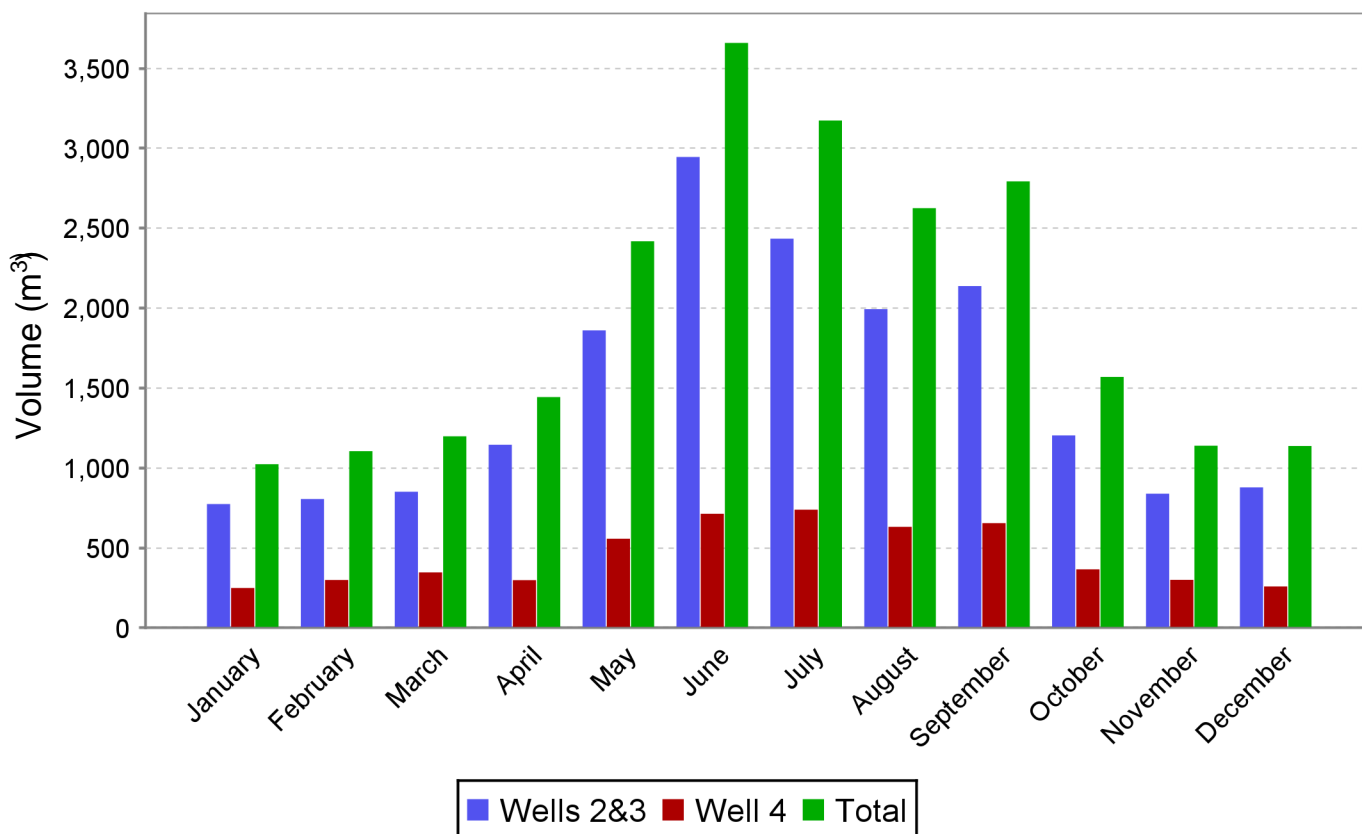


Table 19 – 2023 Caledon East Average Daily Raw Water Production

Month	Production (m ³ /day)			
	Caledon East Well #3	Caledon East Well #4	Caledon East Well #4A	Combined Daily Average
January	36.92	1,052.39	647.07	1,736.38
February	158.64	748.67	861.16	1,768.48
March	48.58	852.04	721.74	1,622.37
April	287.26	924.57	603.37	1,815.20
May	915.98	960.23	620.61	2,496.83
June	1,083.65	908.07	1,030.96	3,022.68
July	805.09	907.94	859.72	2,572.75
August	733.84	990.35	745.95	2,470.14
September	816.35	1,019.48	690.07	2,525.90
October	266.23	1,482.03	118.67	1,866.92
November	320.72	1,409.61	0.00	1,730.34
December	555.85	1,105.40	0.00	1,661.26

Note: 1) 1 m³ = 1,000 Litres
 2) Caledon East Well 4A was out of service for maintenance from October 17th - December 31st.
 3) The average raw water production value shown above represents days the well was in operation

Figure 19 - 2023 Caledon East Average Daily Raw Water Production

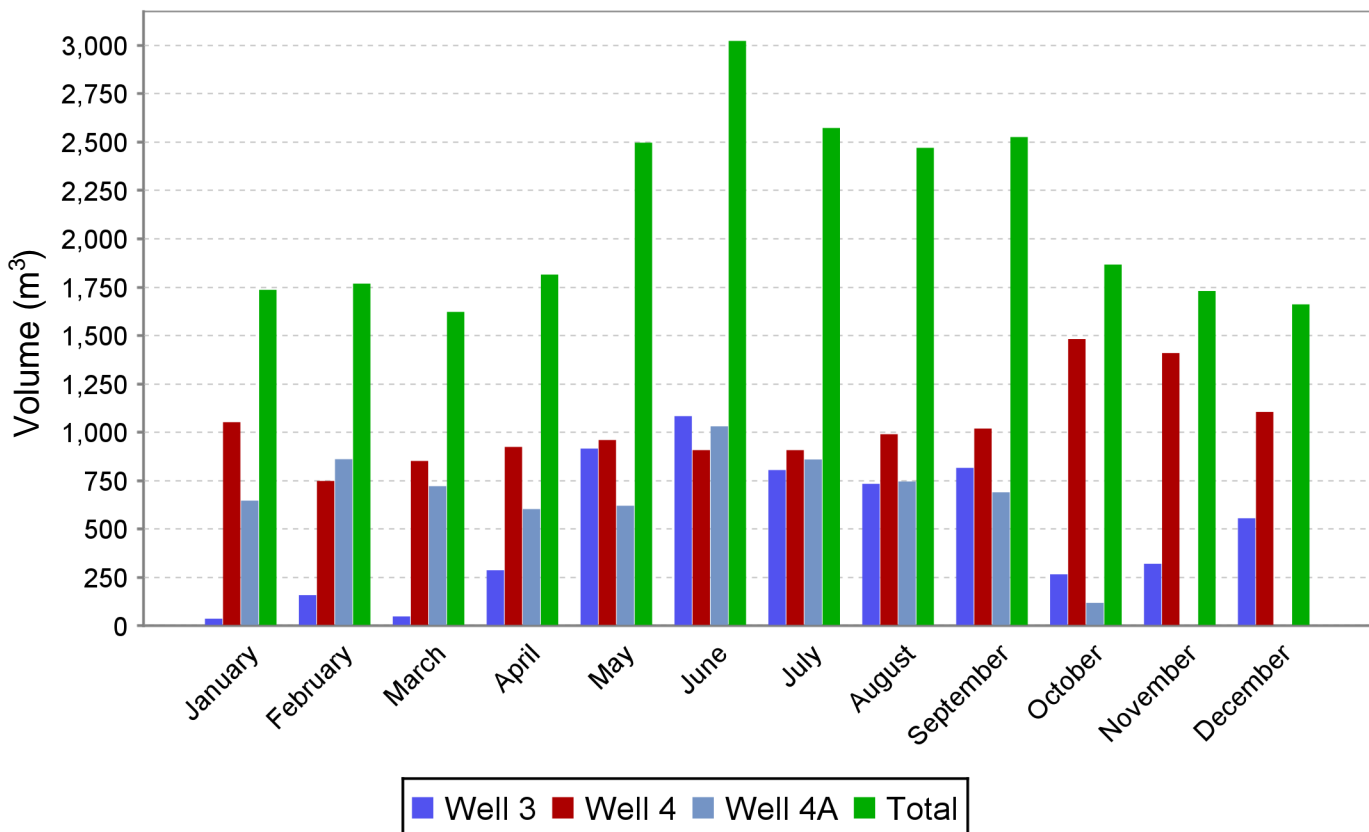


Table 20 – 2023 Caledon East Average Daily Treated Water Production

Month	Production (m ³ /day)		
	Caledon East Wells #3	Caledon East Wells #4 & 4A	Combined Daily Average
January	36.59	1,728.03	1,764.62
February	159.28	1,631.81	1,791.09
March	48.93	1,582.89	1,631.81
April	289.88	1,421.48	1,711.36
May	928.13	1,522.20	2,450.33
June	1,099.08	1,944.54	3,043.62
July	815.73	1,669.07	2,484.80
August	742.40	1,566.91	2,309.30
September	824.30	1,641.24	2,465.54
October	269.09	1,607.41	1,876.50
November	323.10	1,418.87	1,741.97
December	566.12	1,109.42	1,675.54

Note: 1) 1 m³ = 1,000 Litres
 2) Caledon East Well 4A was out of service for maintenance from October 17th - December 31st.

Figure 20 - 2023 Caledon East Average Daily Treated Water Production

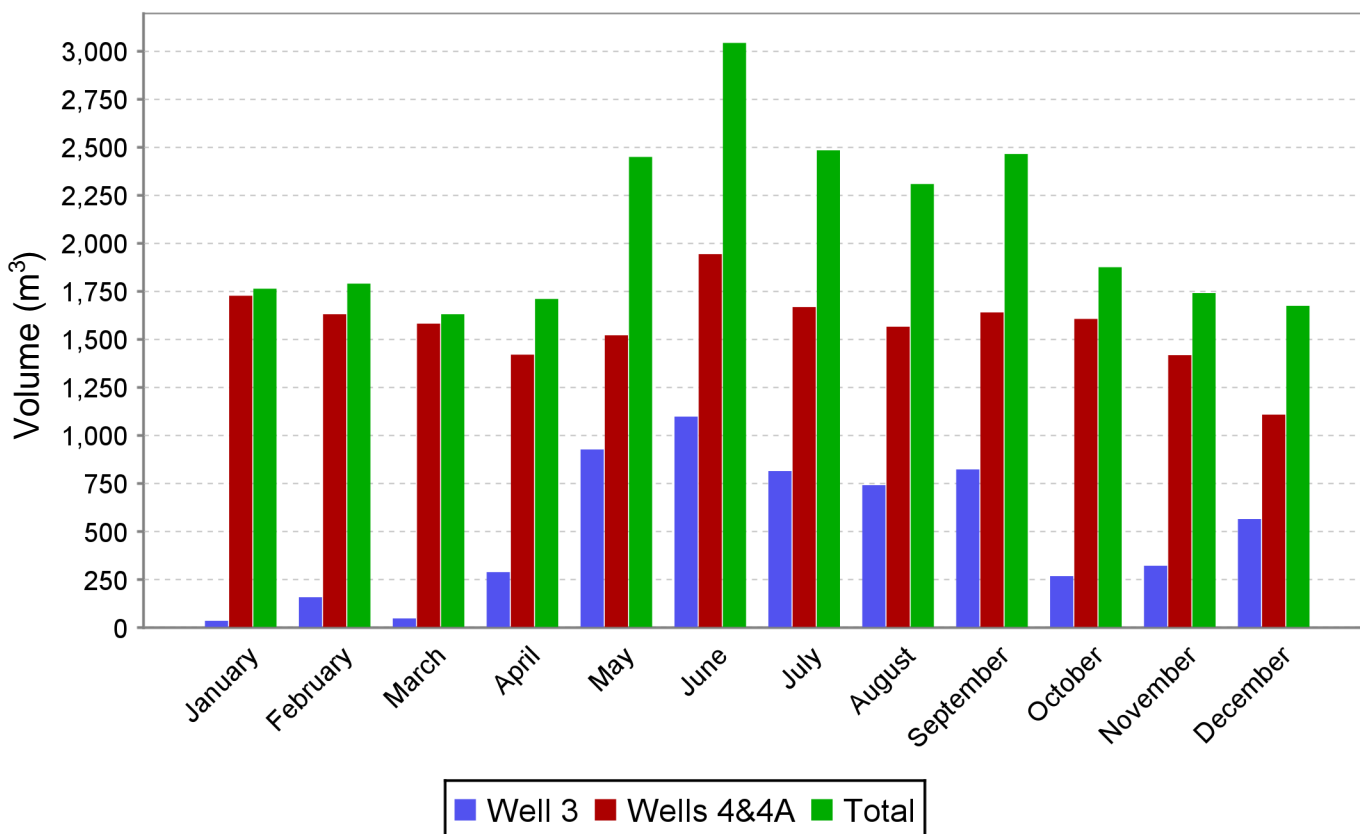


Table 21 – 2023 Cheltenham Average Daily Raw Water Production

Month	Production (m ³ /day)		
	Cheltenham Well #1	Cheltenham Well #2	Combined Daily Average
January	95.53	88.06	183.59
February	102.33	95.39	197.71
March	110.18	101.08	211.26
April	125.33	123.12	248.45
May	160.74	133.63	294.36
June	180.14	199.38	379.53
July	172.08	169.51	341.59
August	137.01	140.32	277.33
September	156.93	147.90	304.83
October	112.03	140.08	252.10
November	100.93	129.37	230.30
December	106.79	108.29	215.08

Note: 1) 1 m³ = 1,000 Litres

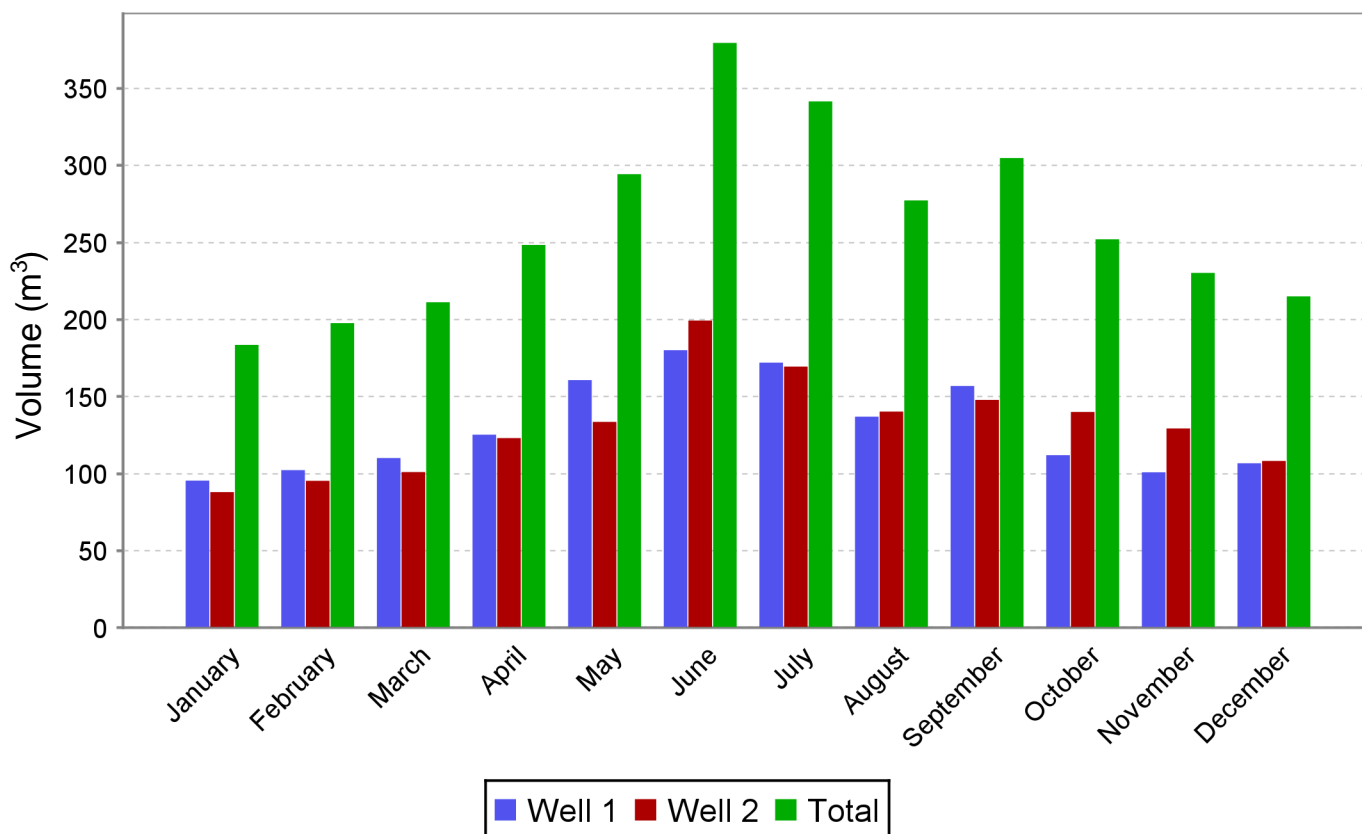
Figure 21 - 2023 Cheltenham Average Daily Raw Water Production

Table 22 – 2023 Cheltenham Average Daily Treated Water Production

Month	Production (m ³ /day)
	Cheltenham Wells #1 & 2
January	182.32
February	197.49
March	222.49
April	250.50
May	295.46
June	381.80
July	342.08
August	278.31
September	304.17
October	252.47
November	232.20
December	213.97

Note: 1) 1 m³ = 1,000 Litres

Figure 22 - 2023 Cheltenham Average Daily Treated Water Production

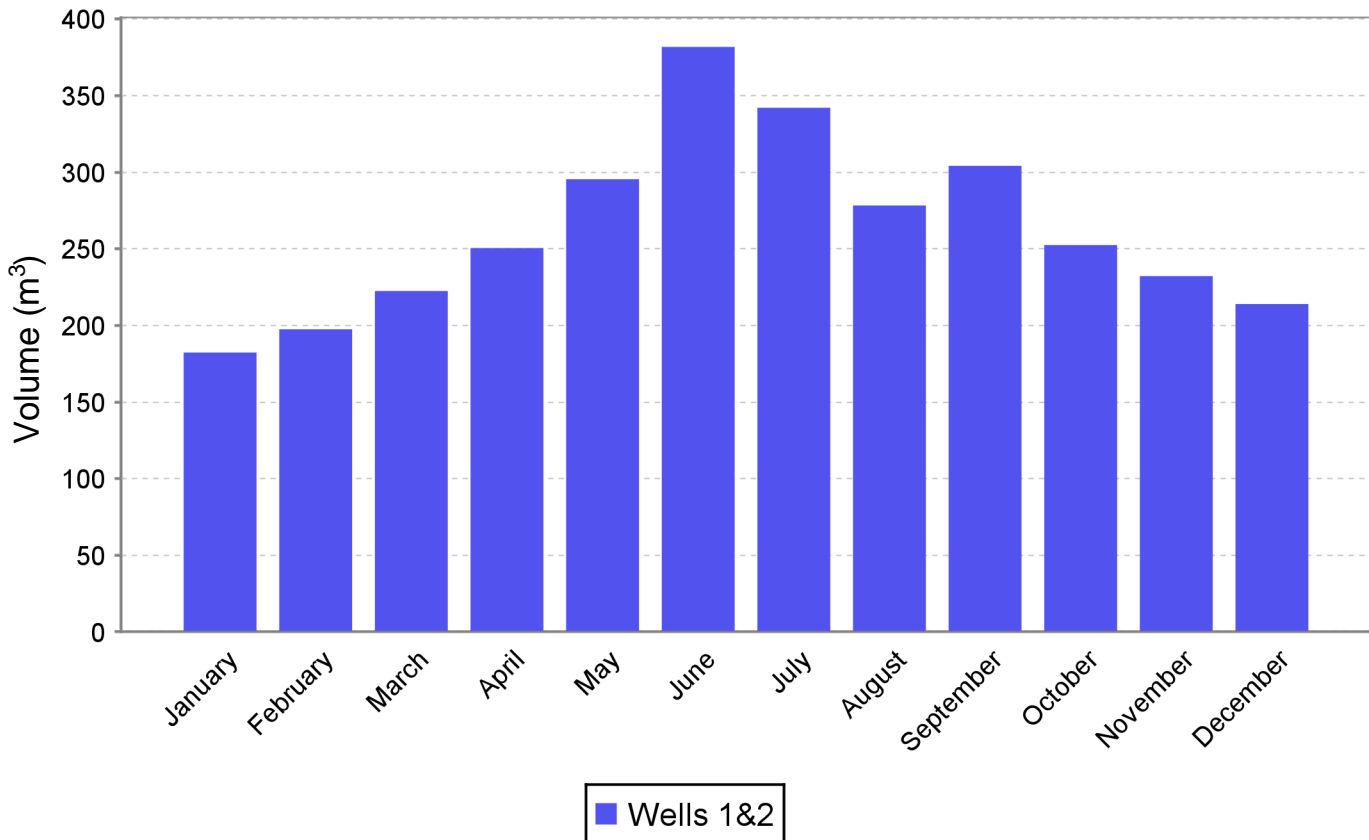


Table 23 – 2023 Inglewood Average Daily Raw Water Production

Month	Production (m ³ /day)		
	Inglewood Well #3	Inglewood Well #4	Combined Daily Average
January	130.98	144.86	275.84
February	165.86	108.44	274.30
March	131.77	144.83	276.61
April	152.16	120.80	272.96
May	185.25	199.15	384.40
June	249.26	304.75	554.00
July	245.13	278.22	523.34
August	271.61	237.88	509.49
September	243.23	252.08	495.31
October	157.77	148.55	306.32
November	52.88	194.30	247.18
December	133.35	120.65	254.00

Note: 1) 1 m³ = 1,000 Litres

Figure 23 - 2023 Inglewood Average Daily Raw Water Production

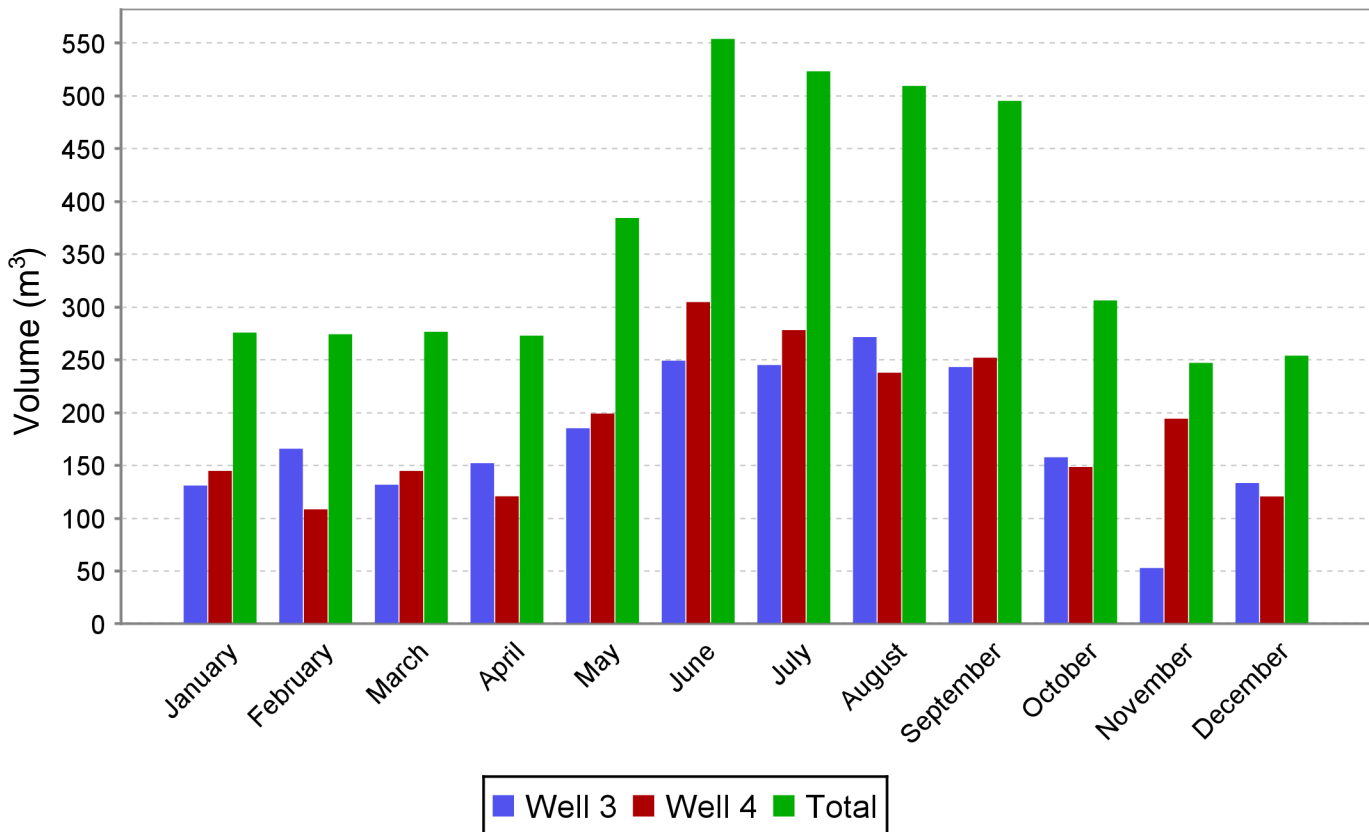
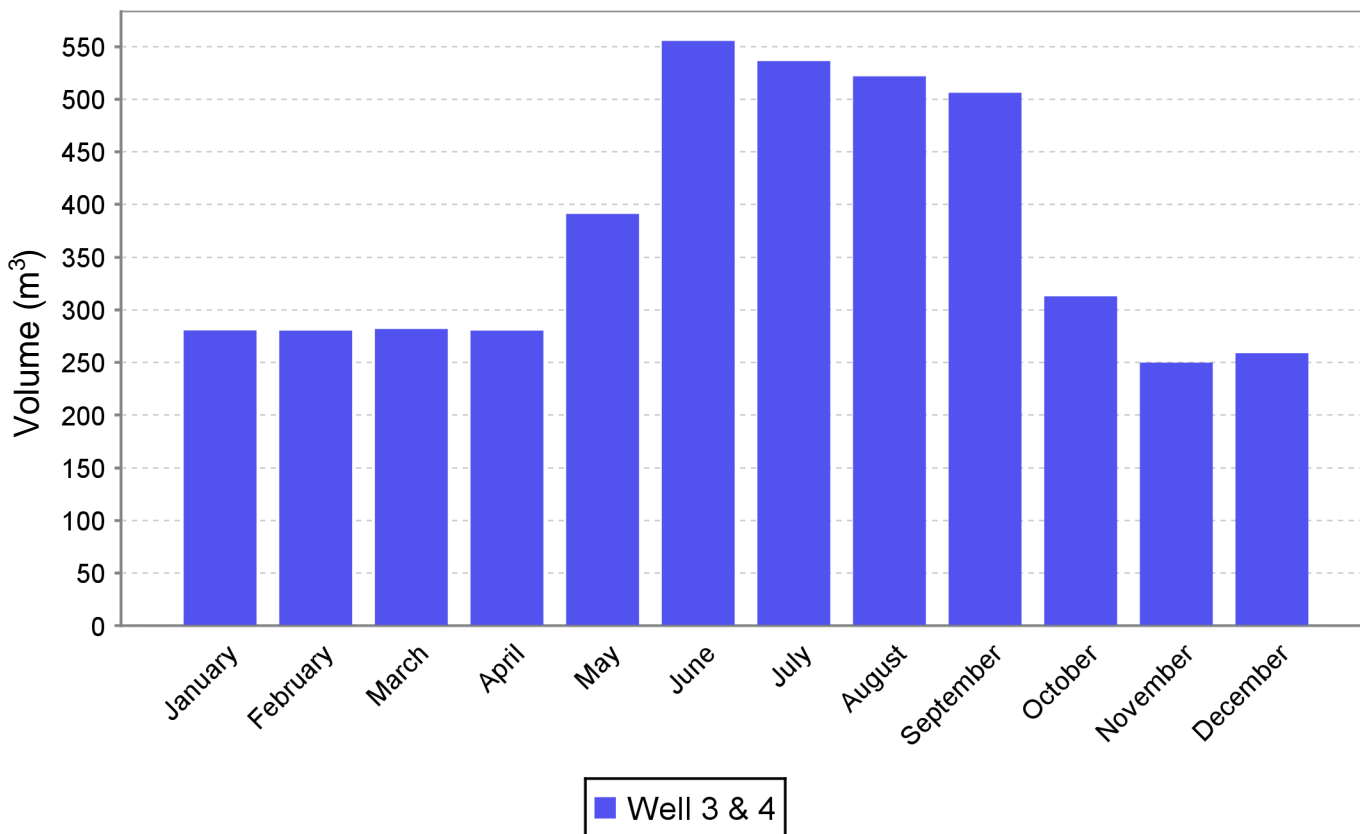


Table 24 – 2023 Inglewood Average Daily Treated Water Production

Month	Production (m ³ /day)
	Inglewood Well # 3 & 4
January	280.45
February	280.26
March	281.80
April	280.27
May	391.02
June	555.26
July	536.10
August	521.64
September	506.04
October	312.80
November	249.87
December	258.82

Note: 1) 1 m³ = 1,000 Litres

Figure 24 - 2023 Inglewood Average Daily Treated Water Production



c. Maximum Daily Raw Water Volumes and Permit to Take Water (PTTW) Limits

Table 25 – 2023 Caledon Village Well #3 Maximum Daily Raw Water Volumes

Month	Volume (m ³)
January	472.91
February	1,172.39
March	607.50
April	1,189.26
May	839.93
June	615.64
July	584.78
August	1,195.65
September	399.64
October	428.62
November	531.96
December	448.20

Note: 1) 1 m³ = 1,000 Litres

Figure 25 – 2023 Caledon Village Well #3 Maximum Daily Raw Water Volumes

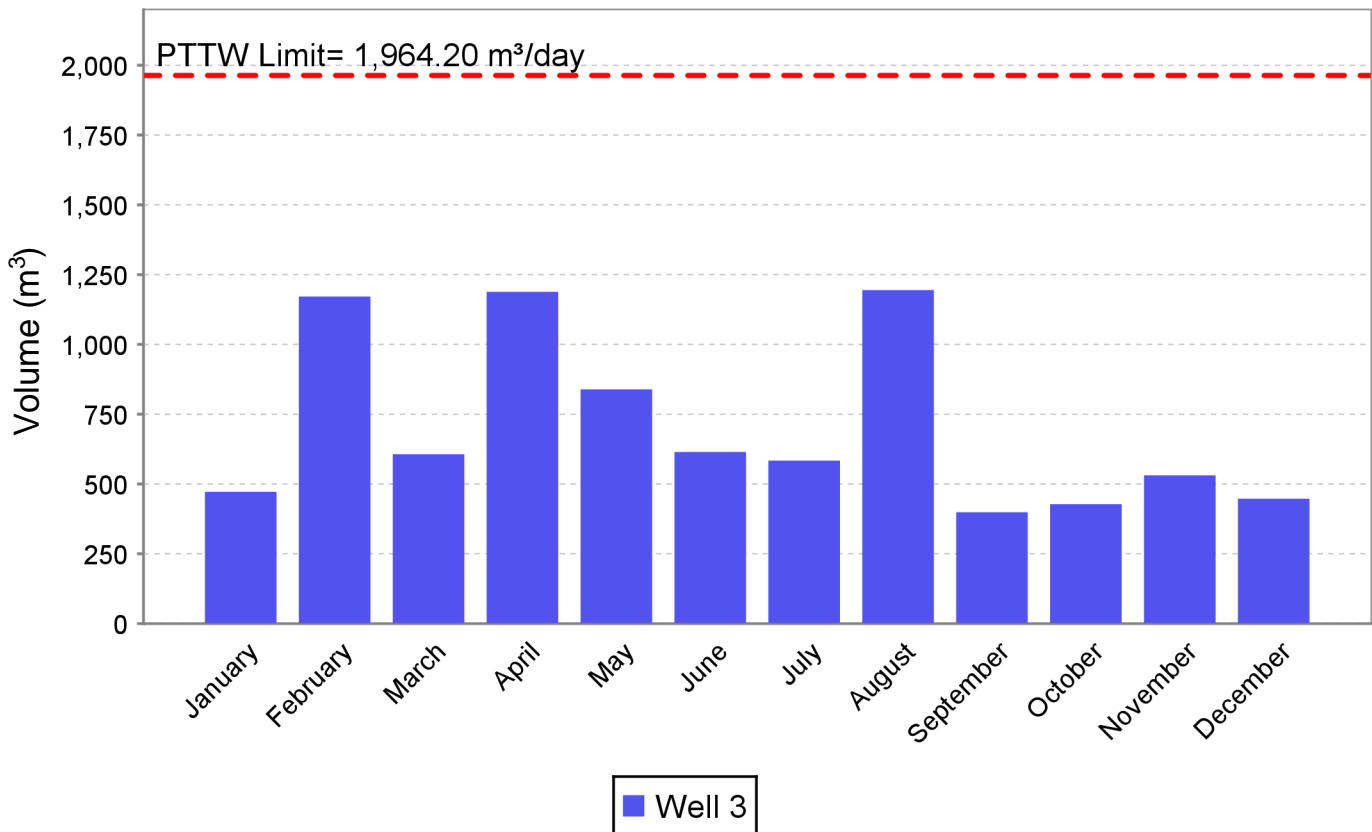


Table 26 – 2023 Caledon Village Well #3B Maximum Daily Raw Water Volumes

Month	Volume (m ³)
January	606.71
February	459.20
March	399.04
April	1,123.19
May	1,123.19
June	613.74
July	443.04
August	471.38
September	547.37
October	1,123.20
November	624.97
December	696.75

Note: 1) 1 m³ = 1,000 Litres

Figure 26 – 2023 Caledon Village Well #3B Maximum Daily Raw Water Volumes

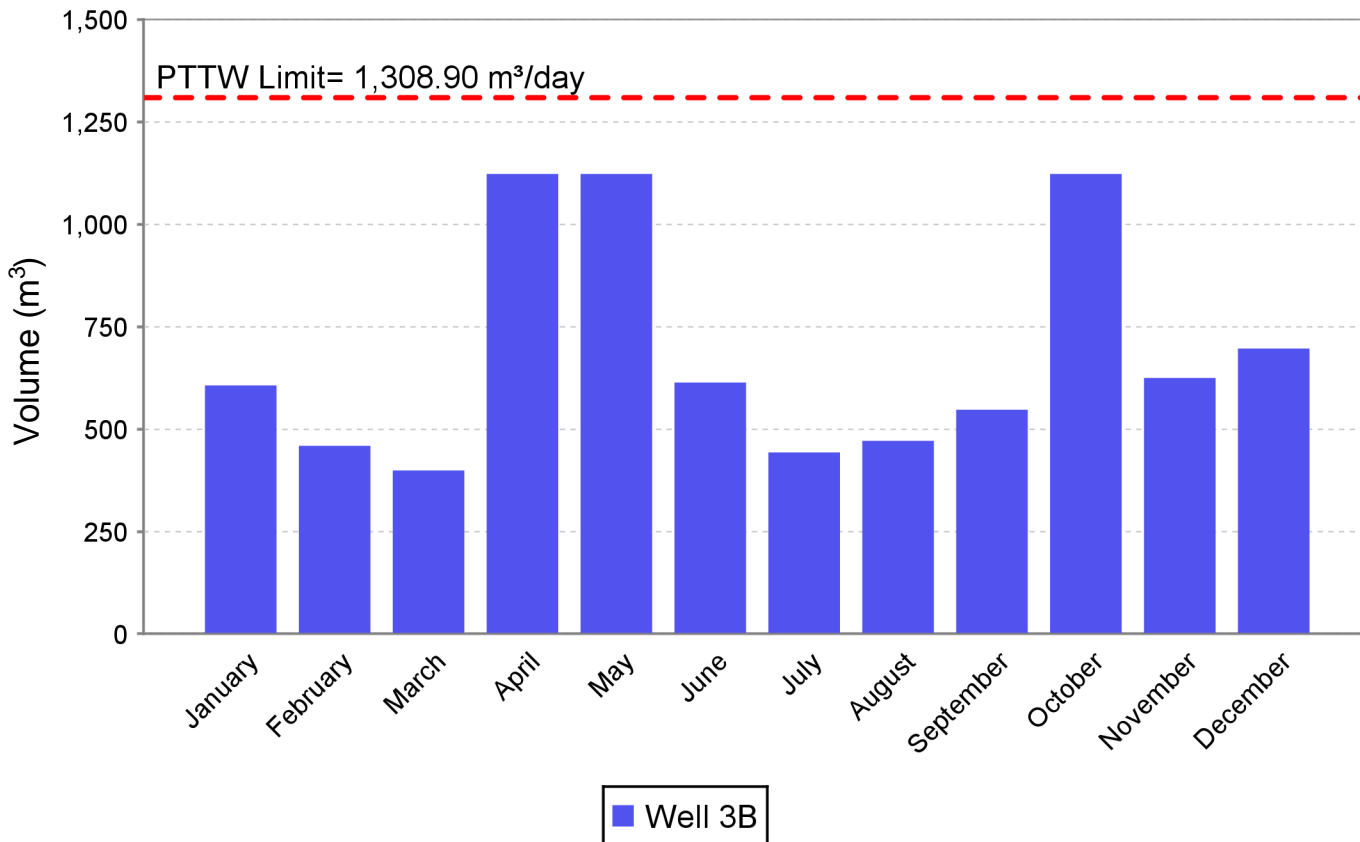


Table 27 – 2023 Caledon Village Well #4 Maximum Daily Raw Water Volumes

Month	Volume (m ³)
January	1,565.96
February	1,051.63
March	1,135.82
April	841.08
May	1,943.47
June	1,526.17
July	1,213.44
August	1,008.24
September	1,375.47
October	1,071.29
November	1,129.40
December	1,141.74

Note: 1) 1 m³ = 1,000 Litres
 2) Caledon Village Well 4 was out of service for maintenance from April 18 - May 10

Figure 27 – 2023 Caledon Village Well #4 Maximum Daily Raw Water Volumes

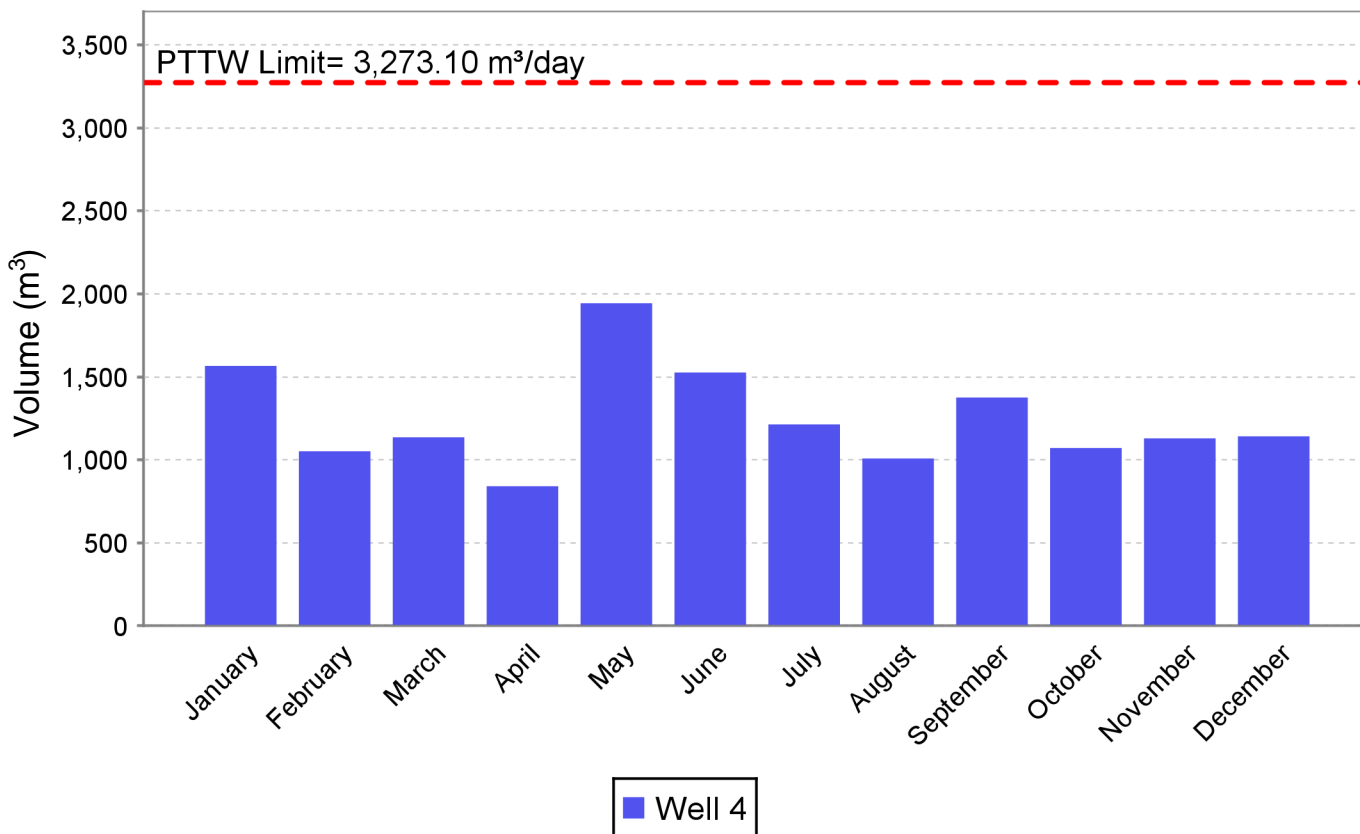


Table 28 – 2023 Caledon Village Wells # 3, 3B & 4 Combined Maximum Daily Raw Water Volumes

Month	Volume (m ³)
January	2,370.85
February	1,617.51
March	1,520.99
April	1,305.42
May	2,403.12
June	2,278.94
July	1,806.97
August	1,506.10
September	2,056.56
October	1,622.50
November	1,677.52
December	1,696.23

Note: 1) 1 m³ = 1,000 Litres

Figure 28 – 2023 Caledon Village Wells # 3, 3B & 4 Combined Maximum Daily Raw Water Volumes

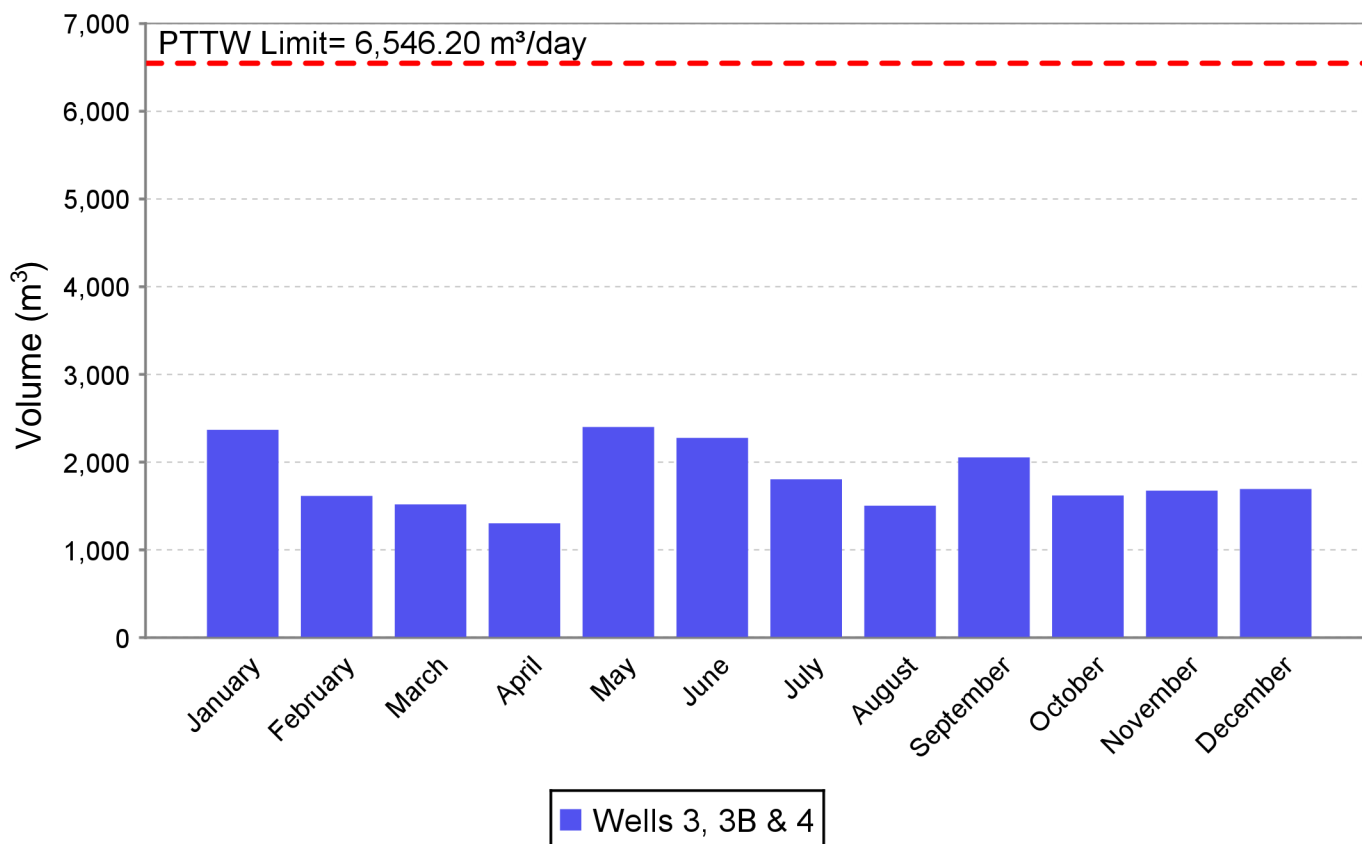


Table 29 – 2023 Alton Well #3 Maximum Daily Raw Water Volumes

Month	Volume (m ³)
January	577.46
February	566.24
March	625.13
April	557.19
May	762.26
June	696.18
July	690.59
August	698.97
September	671.59
October	939.25
November	918.01
December	910.86

Note: 1) 1 m³ = 1,000 Litres

Figure 29 – 2023 Alton Well #3 Maximum Daily Raw Water Volumes

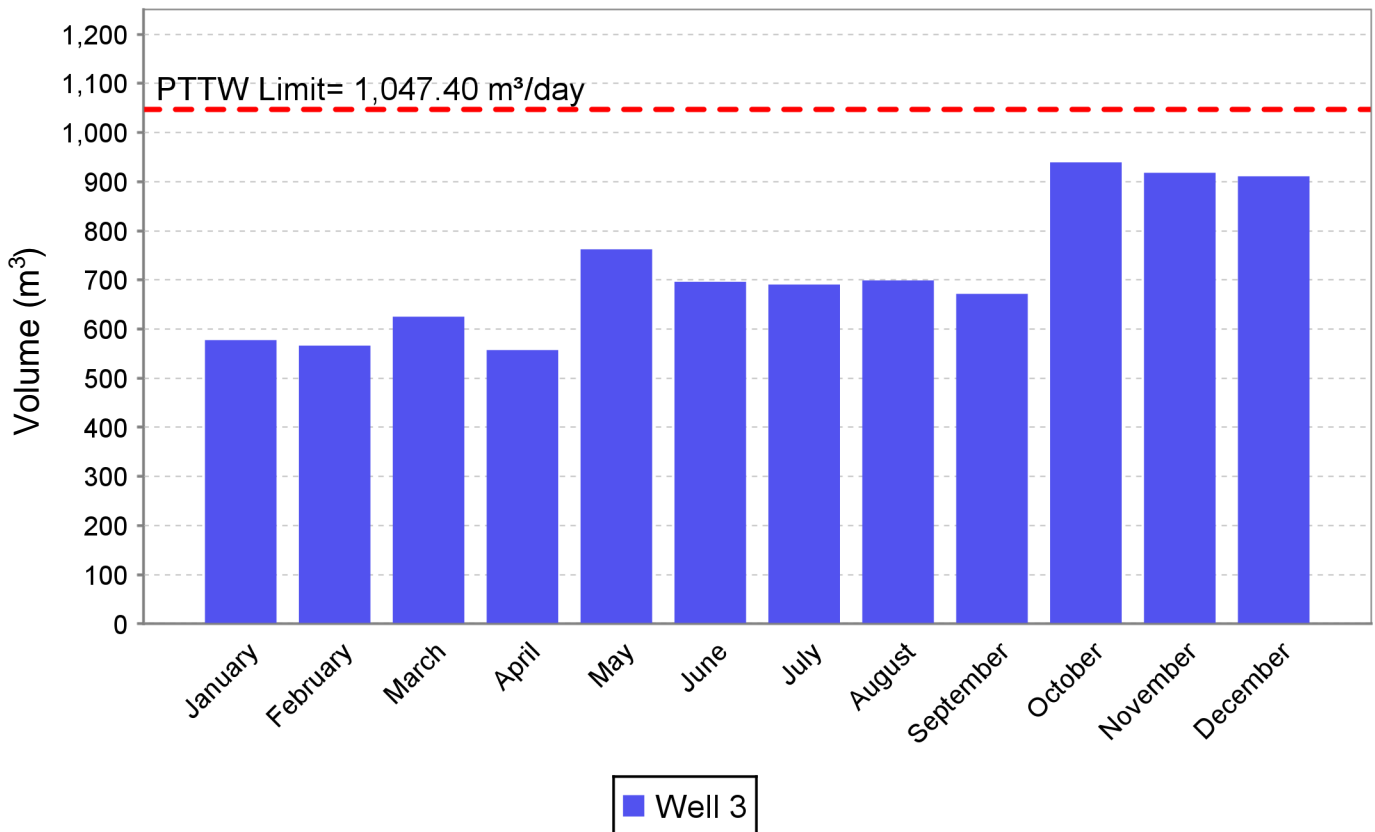


Table 30 – 2023 Alton Well #4A Maximum Daily Raw Water Volumes

Month	Volume (m ³)
January	538.97
February	511.72
March	527.54
April	463.00
May	613.38
June	574.53
July	700.56
August	630.92
September	745.61
October	760.29
November	922.96
December	840.10

Note: 1) 1 m³ = 1,000 Litres

Figure 30 – 2023 Alton Well #4A Maximum Daily Raw Water Volumes

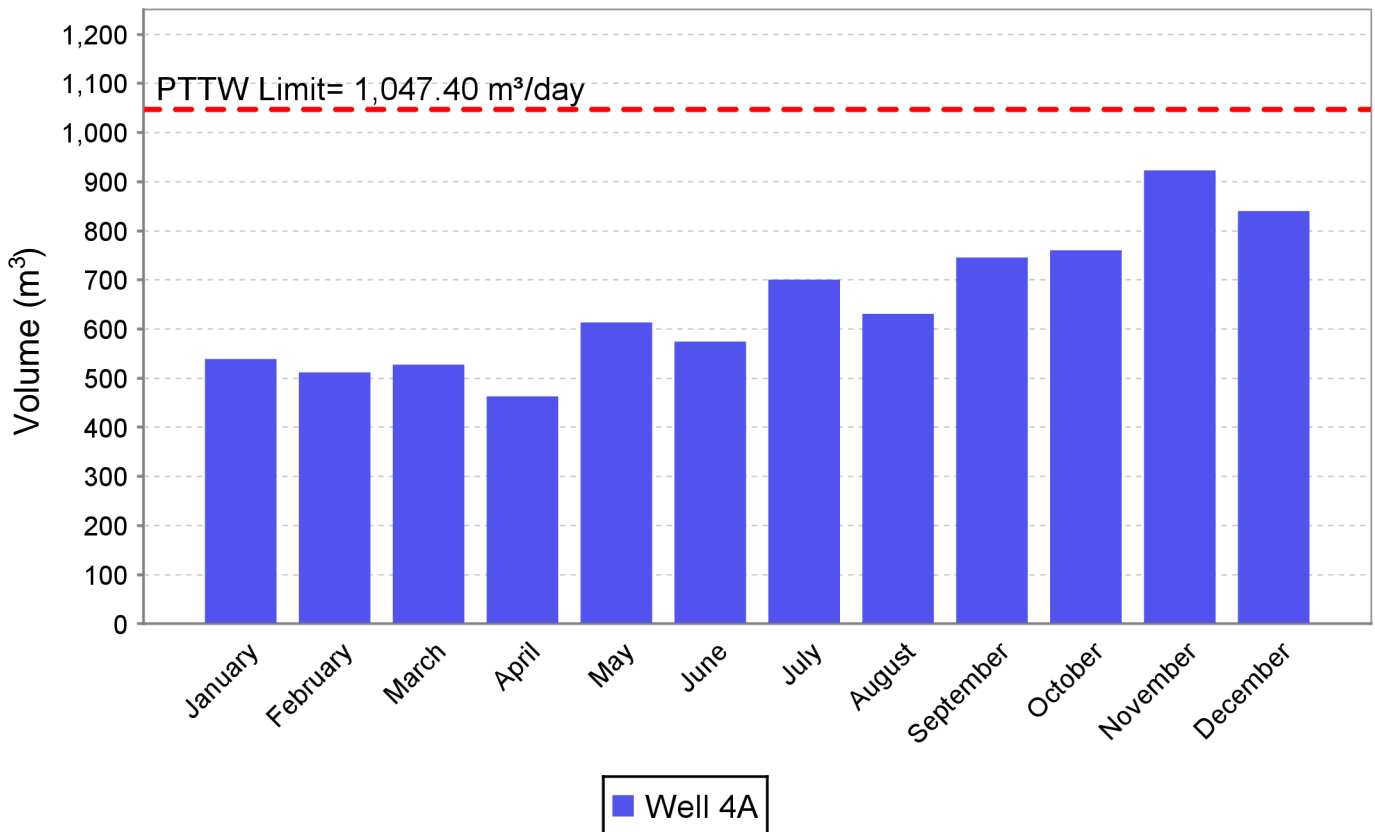


Table 31 – 2023 Alton Wells #3&4A Combined Maximum Daily Raw Water Volumes

Month	Volume (m ³)
January	577.46
February	566.24
March	625.13
April	557.19
May	762.26
June	822.13
July	700.56
August	698.97
September	745.61
October	939.25
November	922.96
December	910.86

Note: 1) 1 m³ = 1,000 Litres

Figure 31 – 2023 Alton Wells # 3 & 4A Combined Maximum Daily Raw Water Volumes

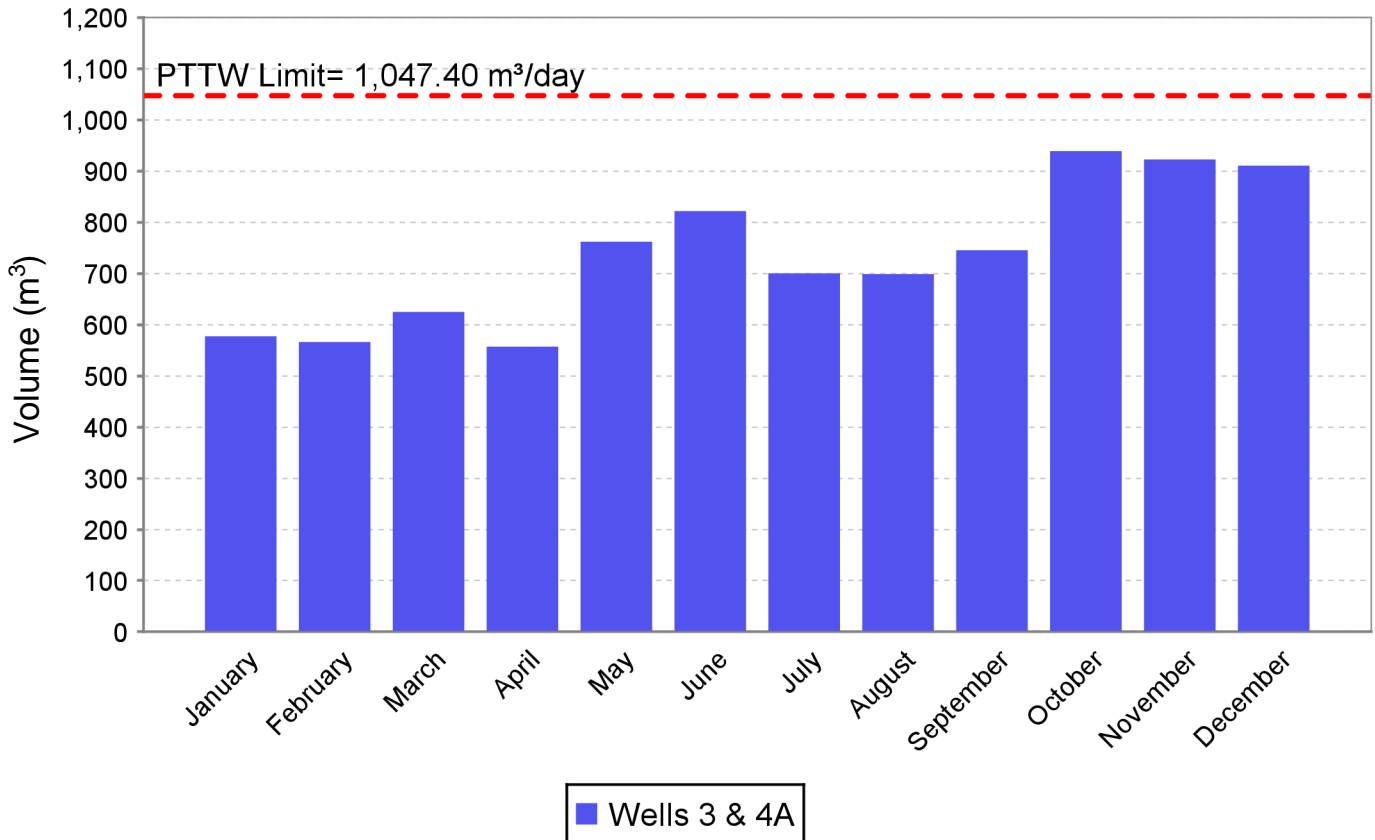


Table 32 – 2023 Palgrave Well #2 Maximum Daily Raw Water Volumes

Month	Volume (m ³)
January	267.55
February	387.18
March	329.71
April	482.61
May	602.02
June	1,068.10
July	1,045.99
August	681.84
September	750.68
October	608.02
November	338.38
December	352.80

Note: 1) 1 m³ = 1,000 Litres

Figure 32 – 2023 Palgrave Well #2 Maximum Daily Raw Water Volumes

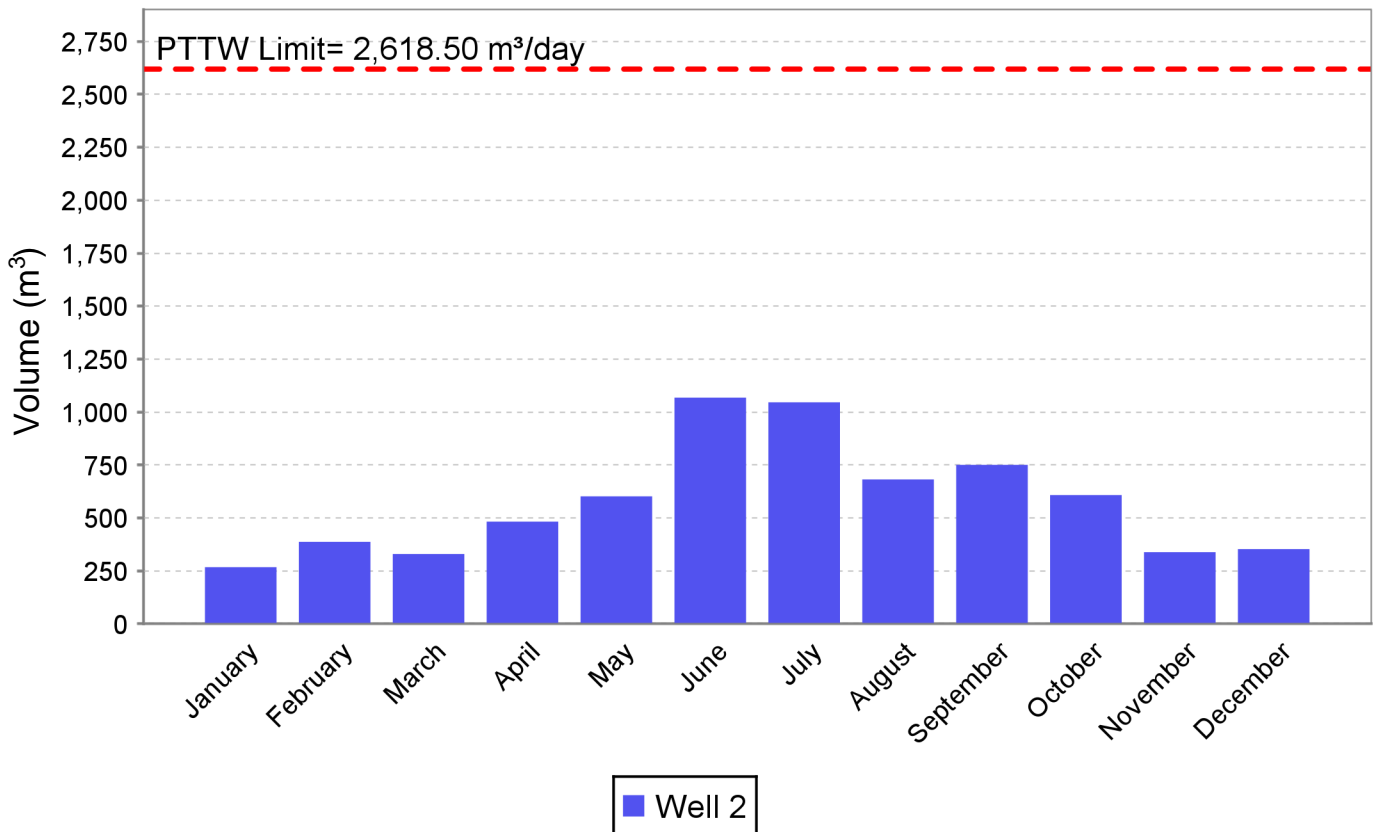


Table 33 – 2023 Palgrave Well #3 Maximum Daily Raw Water Volumes

Month	Volume (m ³)
January	827.82
February	1,266.30
March	1,066.69
April	1,394.83
May	3,563.55
June	4,391.83
July	2,798.73
August	2,003.67
September	2,119.53
October	1,723.87
November	1,104.23
December	930.98

Note: 1) 1 m³ = 1,000 Litres

Figure 33 – 2023 Palgrave Well #3 Maximum Daily Raw Water Volumes

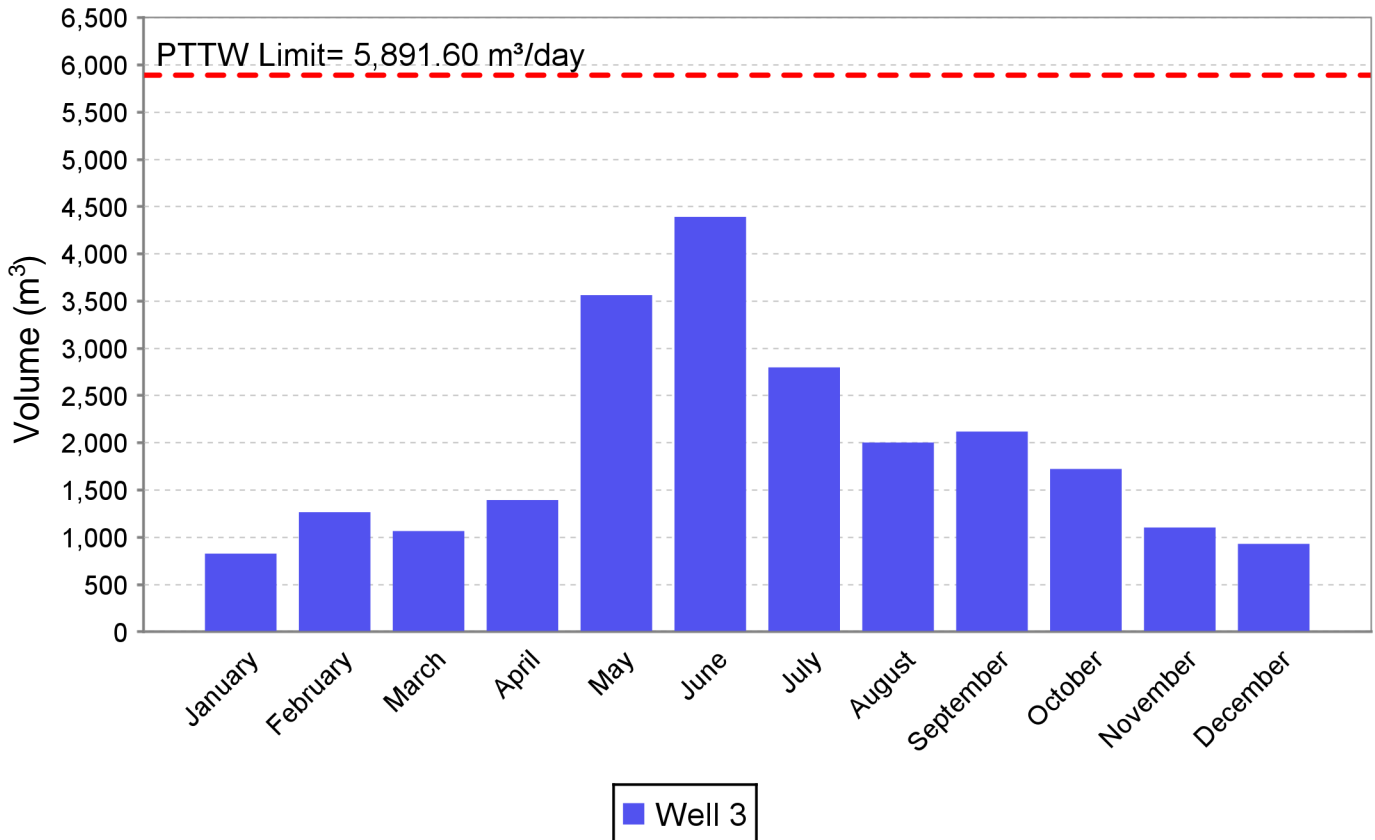


Table 34 – 2023 Palgrave Well #4 Maximum Daily Raw Water Volumes

Month	Volume (m ³)
January	402.55
February	893.08
March	1,424.71
April	1,076.47
May	1,424.71
June	1,666.21
July	1,129.16
August	953.38
September	975.07
October	744.89
November	1,015.11
December	432.05

Note: 1) 1 m³ = 1,000 Litres
 2) Palgrave Well #4 was out of service for maintenance from June 6 - June 13

Figure 34 – 2023 Palgrave Well #4 Maximum Daily Raw Water Volumes

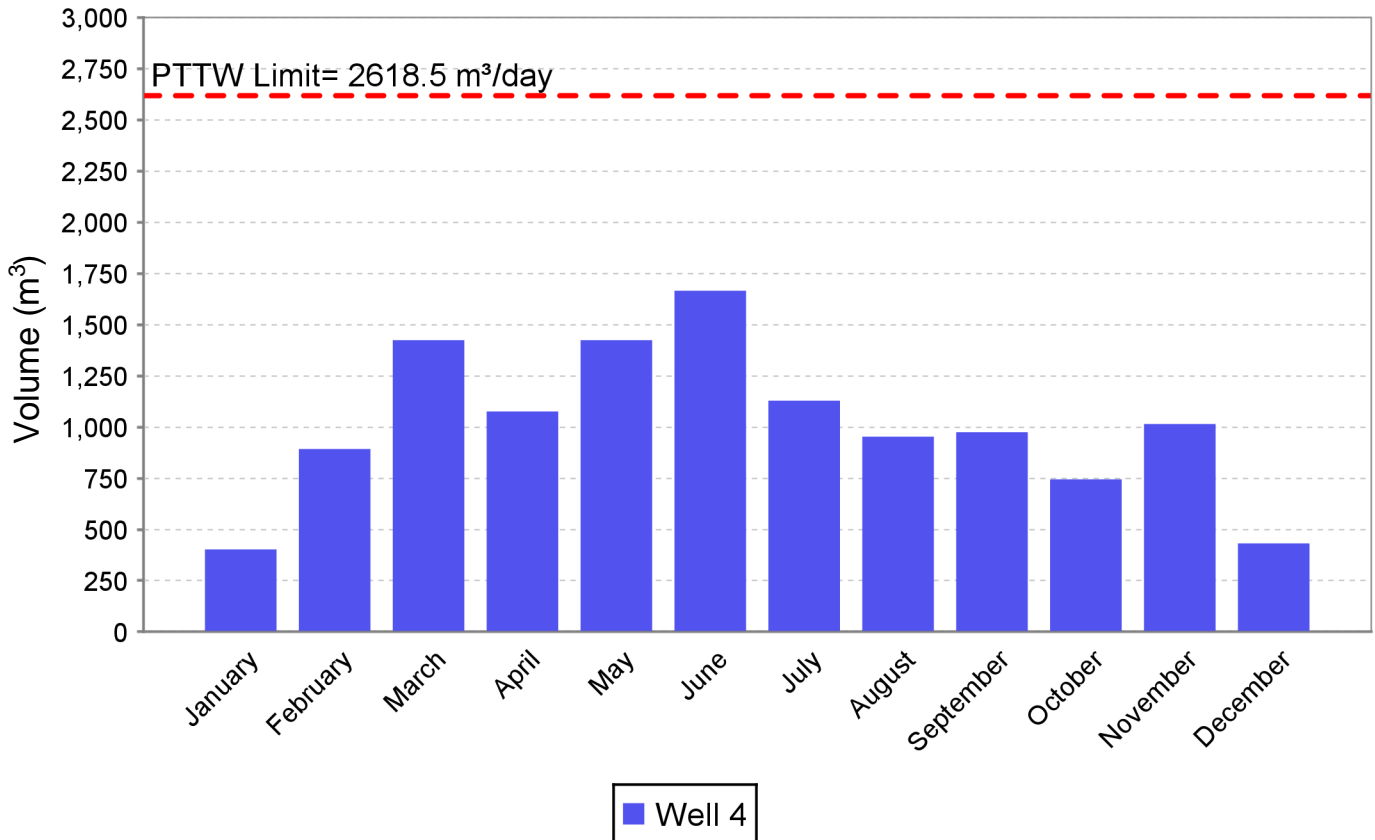


Table 35 – 2023 Palgrave Wells # 2, 3 & 4 Combined Maximum Daily Raw Water Volumes

Month	Volume (m ³)
January	1,420.61
February	2,090.62
March	1,579.13
April	1,938.17
May	4,533.01
June	5,654.19
July	4,801.78
August	3,479.69
September	3,845.28
October	3,076.78
November	1,678.33
December	1,675.47

Note: 1) 1 m³ = 1,000 Litres
 2) Palgrave Well #4 was out of service for maintenance from June 6 - June 13

Figure 35 – 2023 Palgrave Wells # 2, 3 & 4 Combined Maximum Daily Raw Water Volumes

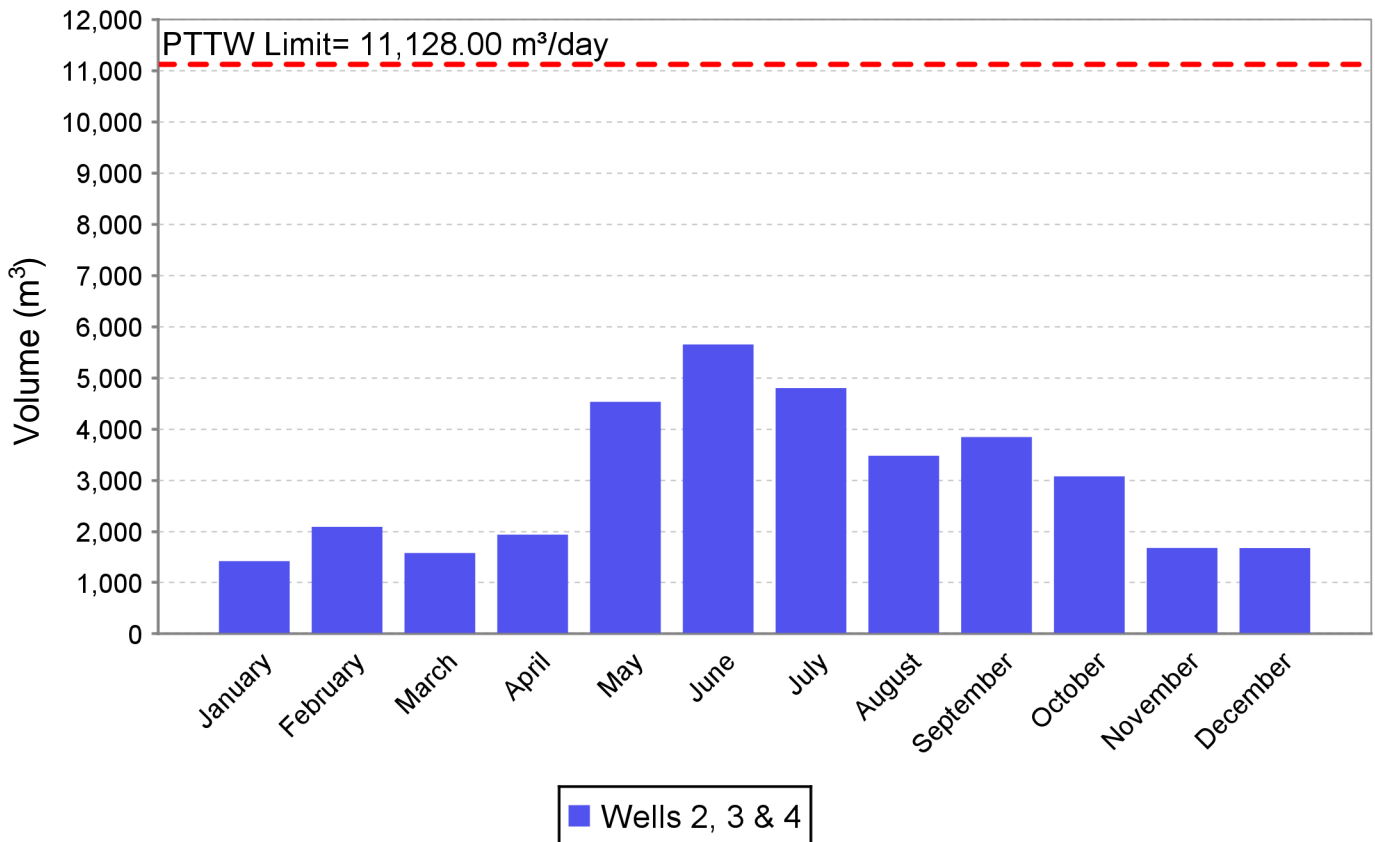


Table 36 – 2023 Caledon East Well #3 Maximum Daily Raw Water Volumes

Month	Volume (m ³)
January	298.93
February	933.63
March	411.17
April	676.74
May	2,124.81
June	2,276.27
July	1,422.12
August	1,397.43
September	1,845.01
October	1,680.03
November	1,501.22
December	1,300.96

Note: 1) 1 m³ = 1,000 Litres

Figure 36 – 2023 Caledon East Well #3 Maximum Daily Raw Water Volumes

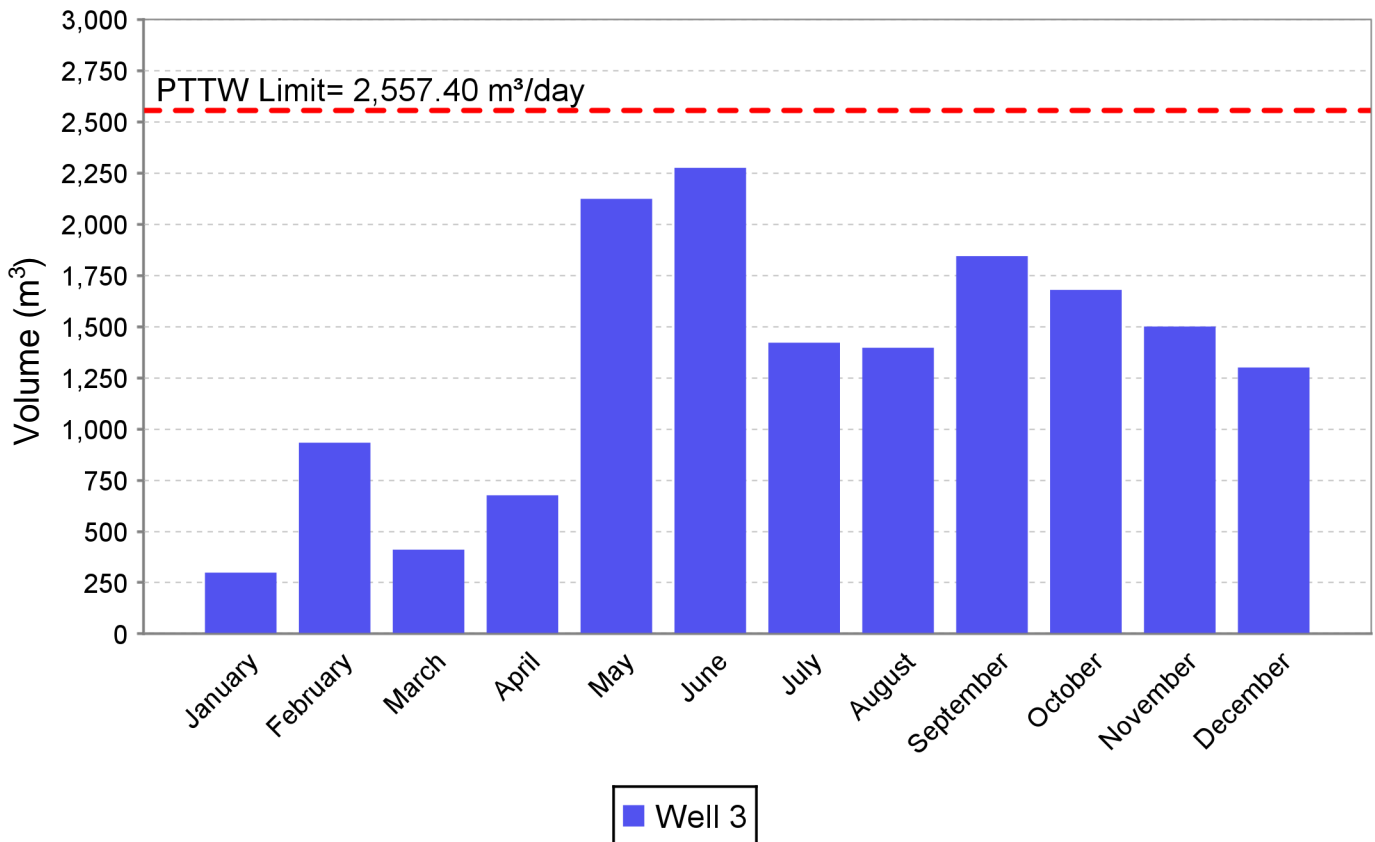


Table 37 – 2023 Caledon East Well #4 Maximum Daily Raw Water Volumes

Month	Volume (m ³)
January	1,727.95
February	1,727.98
March	1,727.94
April	1,555.20
May	2,235.56
June	2,243.83
July	1,727.95
August	1,727.99
September	1,727.94
October	1,727.99
November	1,727.97
December	1,555.14

Note: 1) 1 m³ = 1,000 Litres

Figure 37 – 2023 Caledon East Well #4 Maximum Daily Raw Water Volumes

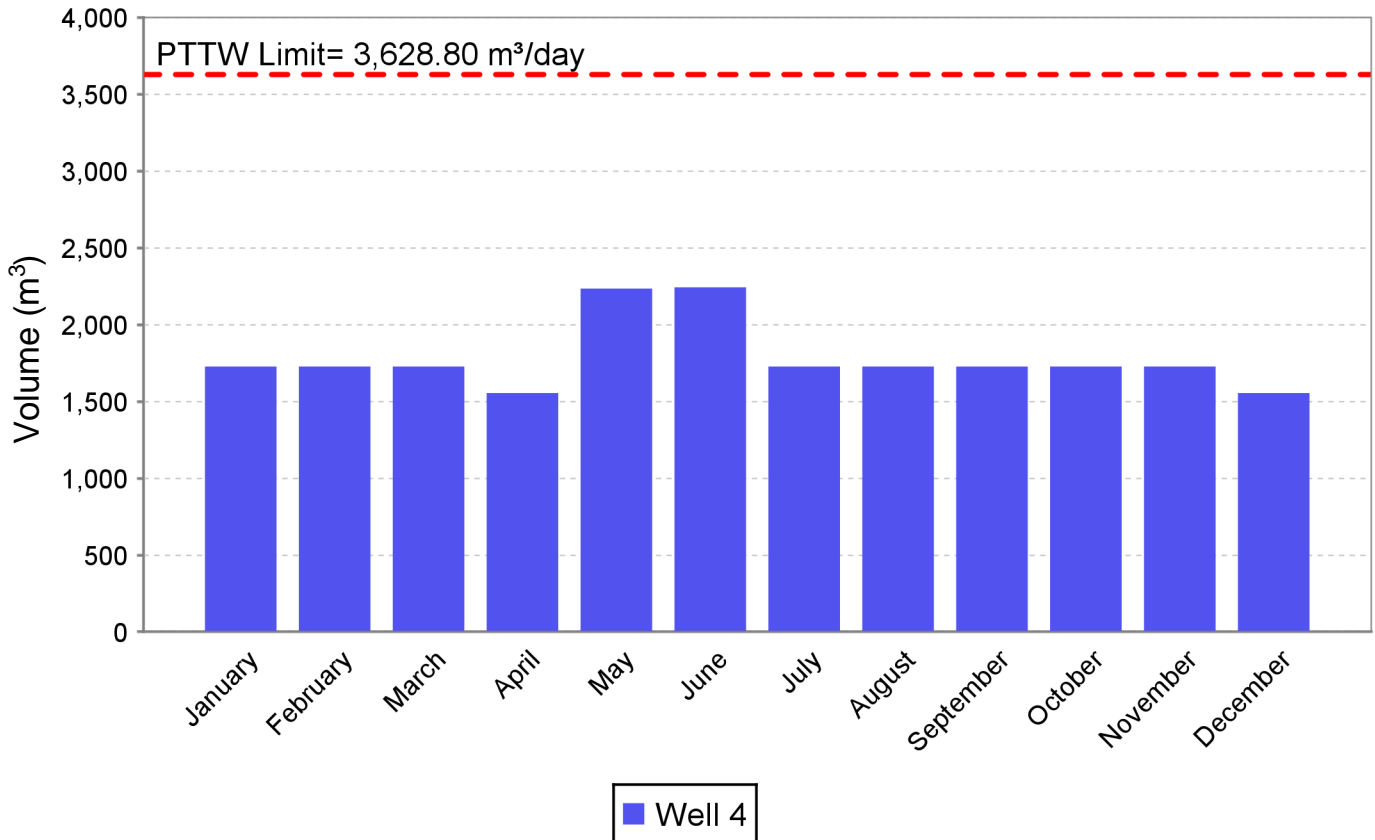


Table 38 – 2023 Caledon East Well #4A Maximum Daily Raw Water Volumes

Month	Volume (m ³)
January	1,727.96
February	1,727.97
March	1,555.16
April	1,555.16
May	1,555.17
June	2,246.36
July	1,727.97
August	1,727.95
September	1,727.94
October	2,475.77
November	0.10
December	0.00

Note: 1) 1 m³ = 1,000 Litres
 2) Caledon East #4A was out of service for maintenance from October 17 - December 31st

Figure 38 – 2023 Caledon East Well #4A Maximum Daily Raw Water Volumes

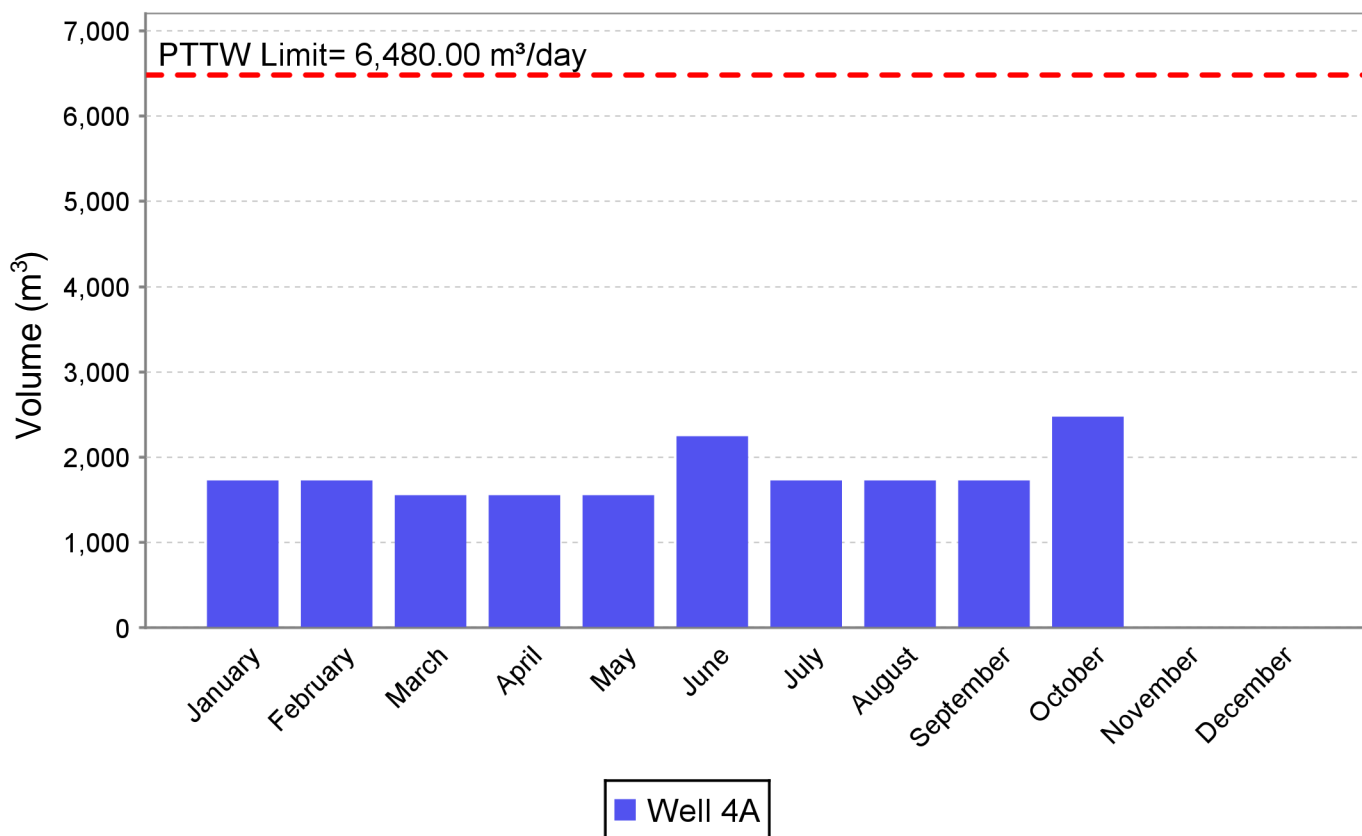


Table 39 – 2023 Caledon East Wells # 3, 4 & 4A Combined Maximum Daily Raw Water Volumes

Month	Volume (m ³)
January	2,018.10
February	2,427.61
March	2,139.06
April	2,203.61
May	4,360.37
June	4,473.09
July	3,656.21
August	3,090.22
September	3,537.81
October	2,713.92
November	2,364.14
December	2,094.52

Note: 1) 1 m³ = 1,000 Litres
 2) Caledon East #4A was out of service for maintenance from October 17 - December 31st

Figure 39 – 2023 Caledon East Wells # 3, 4 & 4A Combined Maximum Daily Raw Water Volumes

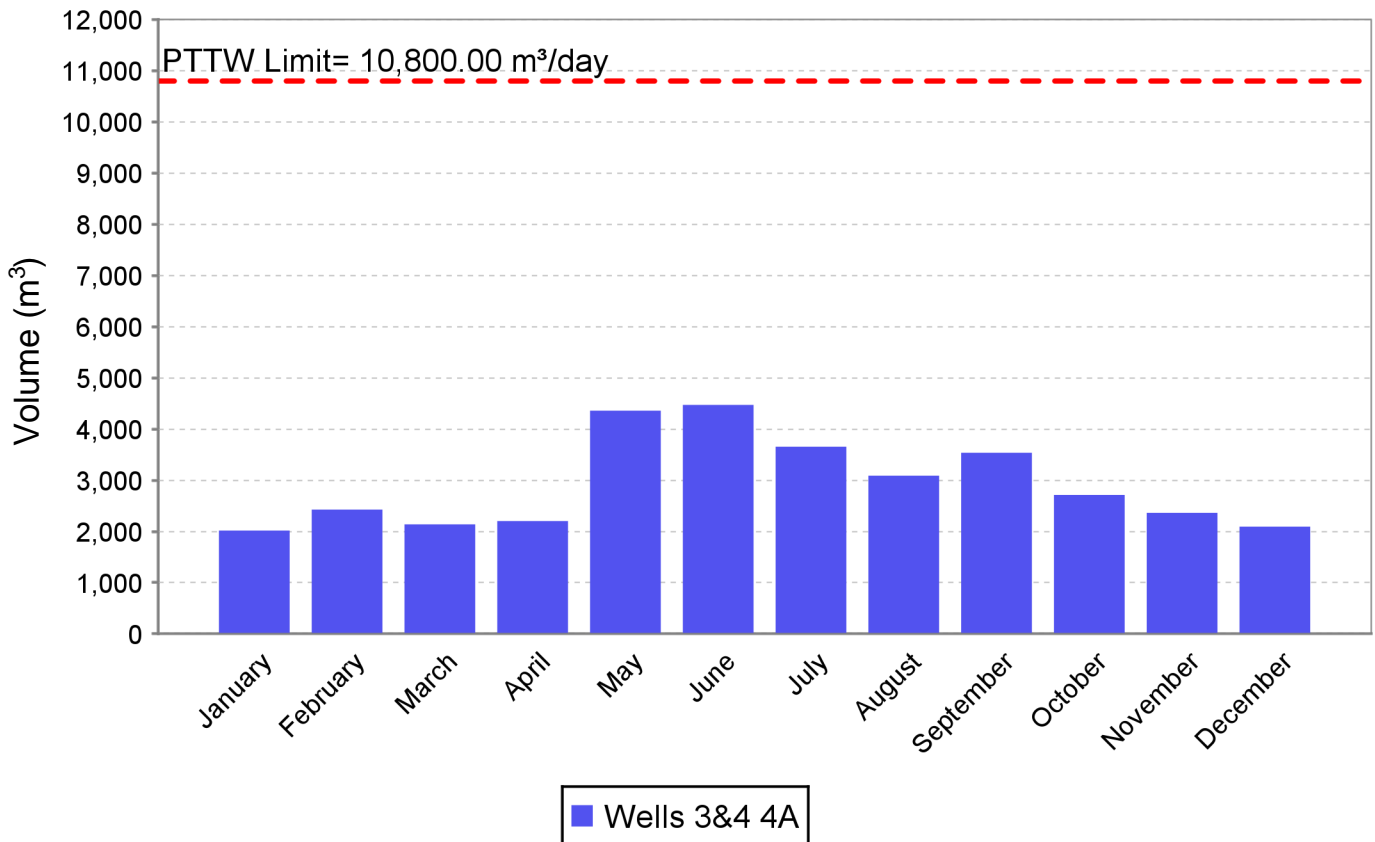


Table 40 – 2023 Cheltenham Well #1 Maximum Daily Raw Water Volumes

Month	Volume (m ³)
January	282.19
February	435.48
March	284.21
April	341.62
May	385.32
June	383.64
July	441.77
August	318.98
September	364.16
October	321.85
November	272.44
December	307.65

Note: 1) 1 m³ = 1,000 Litres

Figure 40 – 2023 Cheltenham Well #1 Maximum Daily Raw Water Volumes

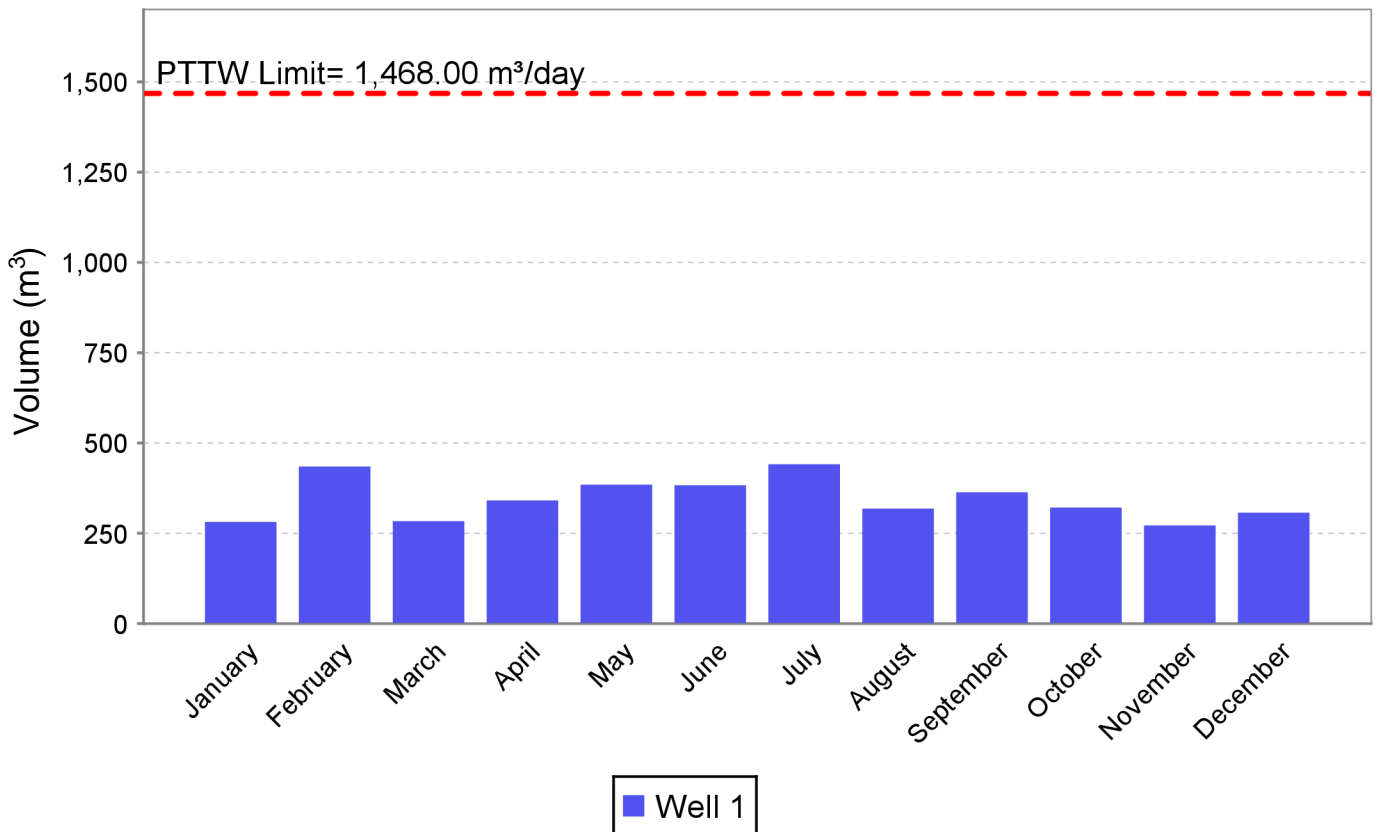


Table 41 – 2023 Cheltenham Well #2 Maximum Daily Raw Water Volumes

Month	Volume (m ³)
January	252.93
February	328.03
March	213.02
April	570.17
May	344.76
June	553.81
July	443.90
August	340.06
September	360.69
October	459.98
November	295.45
December	265.85

Note: 1) 1 m³ = 1,000 Litres

Figure 41 – 2023 Cheltenham Well #2 Maximum Daily Raw Water Volumess

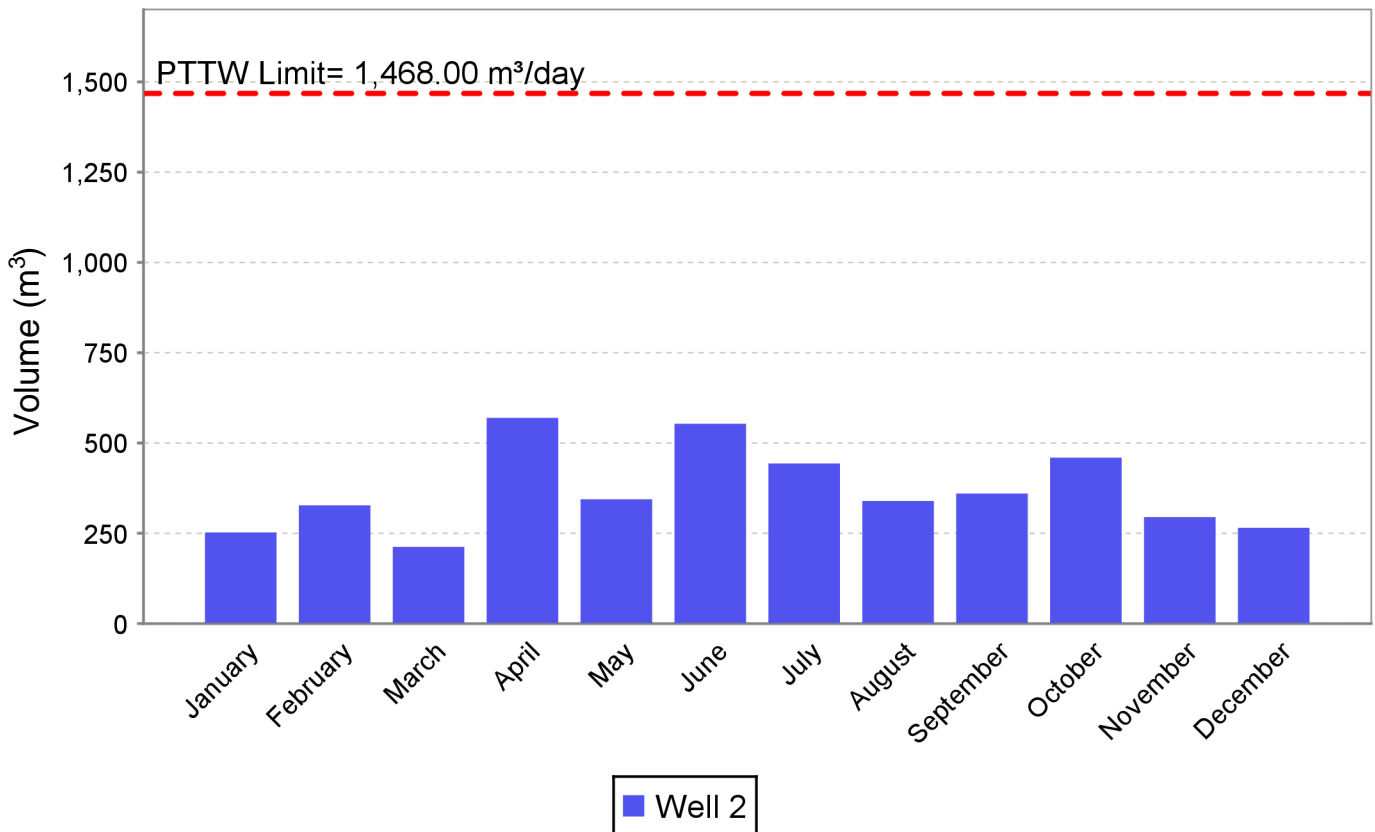


Table 42 – 2023 Cheltenham Wells #1&2 Combined Maximum Daily Raw Water Volumes

Month	Volume (m ³)
January	282.19
February	435.48
March	354.95
April	570.17
May	478.05
June	608.43
July	837.81
August	340.06
September	500.24
October	459.98
November	296.95
December	307.65

Note: 1) 1 m³ = 1,000 Litres

Figure 42 – 2023 Cheltenham Wells #1&2 Combined Maximum Daily Raw Water Volumes

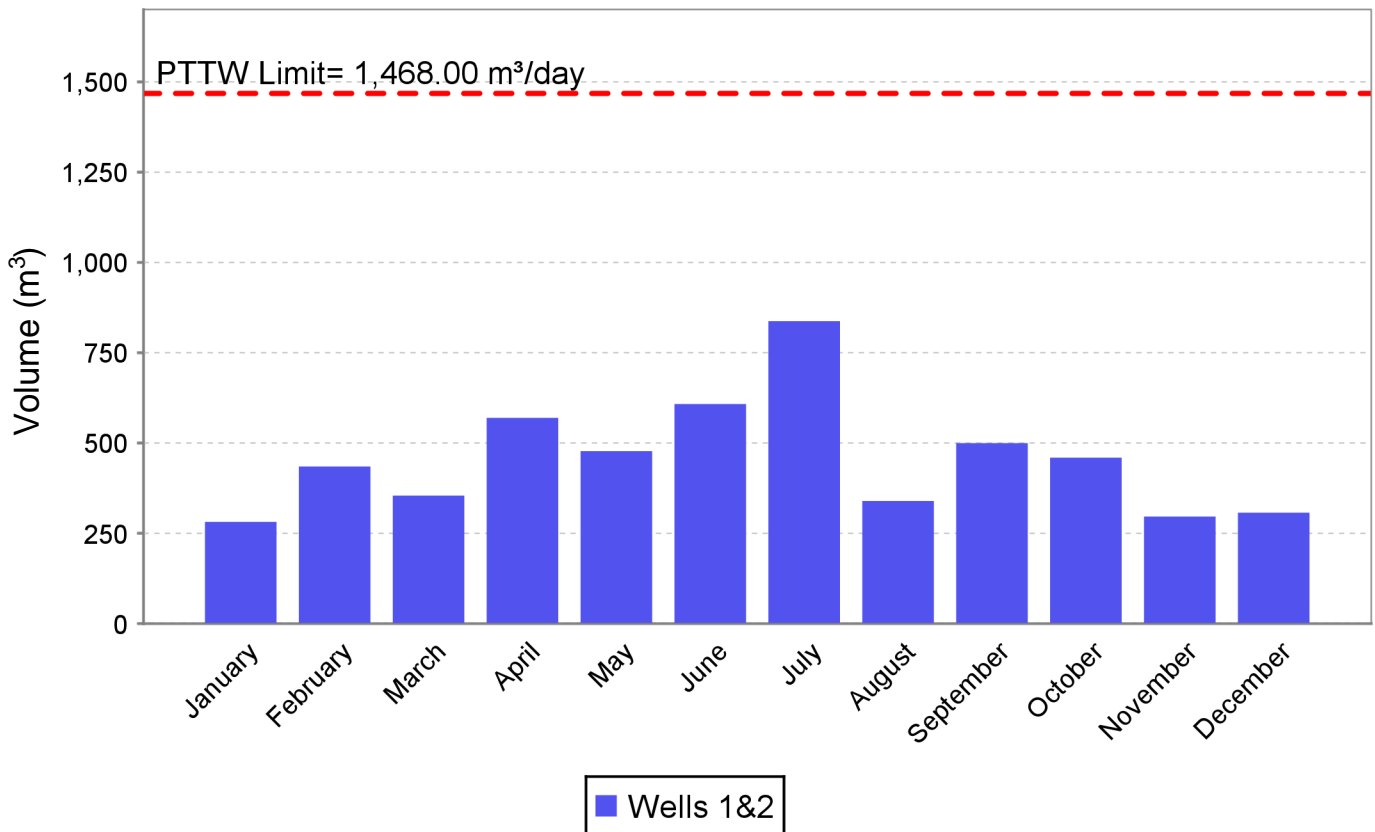


Table 43 – 2023 Inglewood Well #3 Maximum Daily Raw Water Volumes

Month	Volume (m ³)
January	457.01
February	373.39
March	455.96
April	415.15
May	582.80
June	789.72
July	433.90
August	569.13
September	573.53
October	437.44
November	346.75
December	362.30

Note: 1) 1 m³ = 1,000 Litres

Figure 43 – 2023 Inglewood Well #3 Maximum Daily Raw Water Volumes

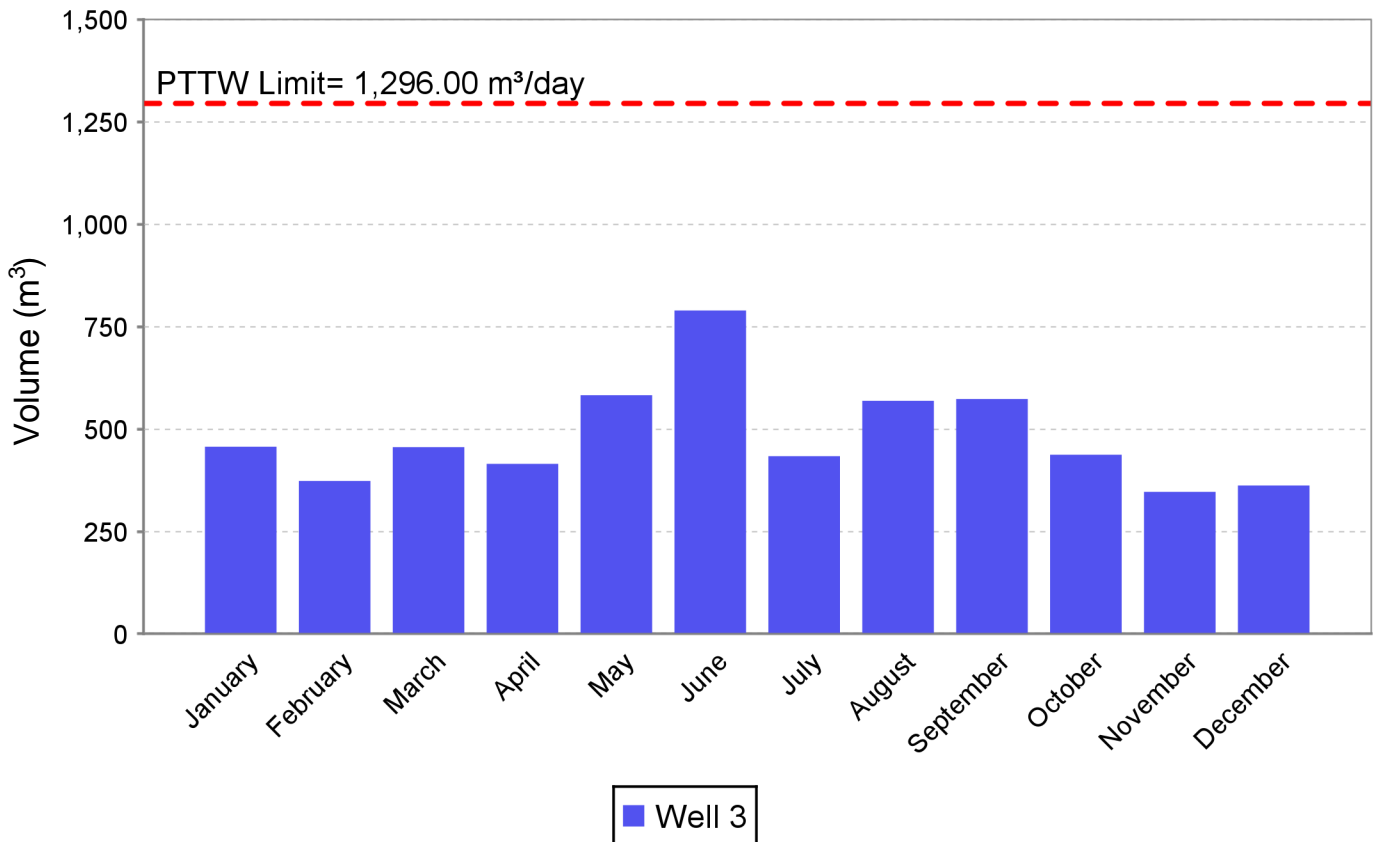


Table 44 – 2023 Inglewood Well #4 Maximum Daily Raw Water Volumes

Month	Volume (m ³)
January	537.07
February	373.85
March	499.19
April	317.17
May	426.91
June	669.67
July	501.25
August	506.41
September	581.20
October	425.79
November	387.50
December	355.25

Note: 1) 1 m³ = 1,000 Litres

Figure 44 – 2023 Inglewood Well #4 Maximum Daily Raw Water Volumes

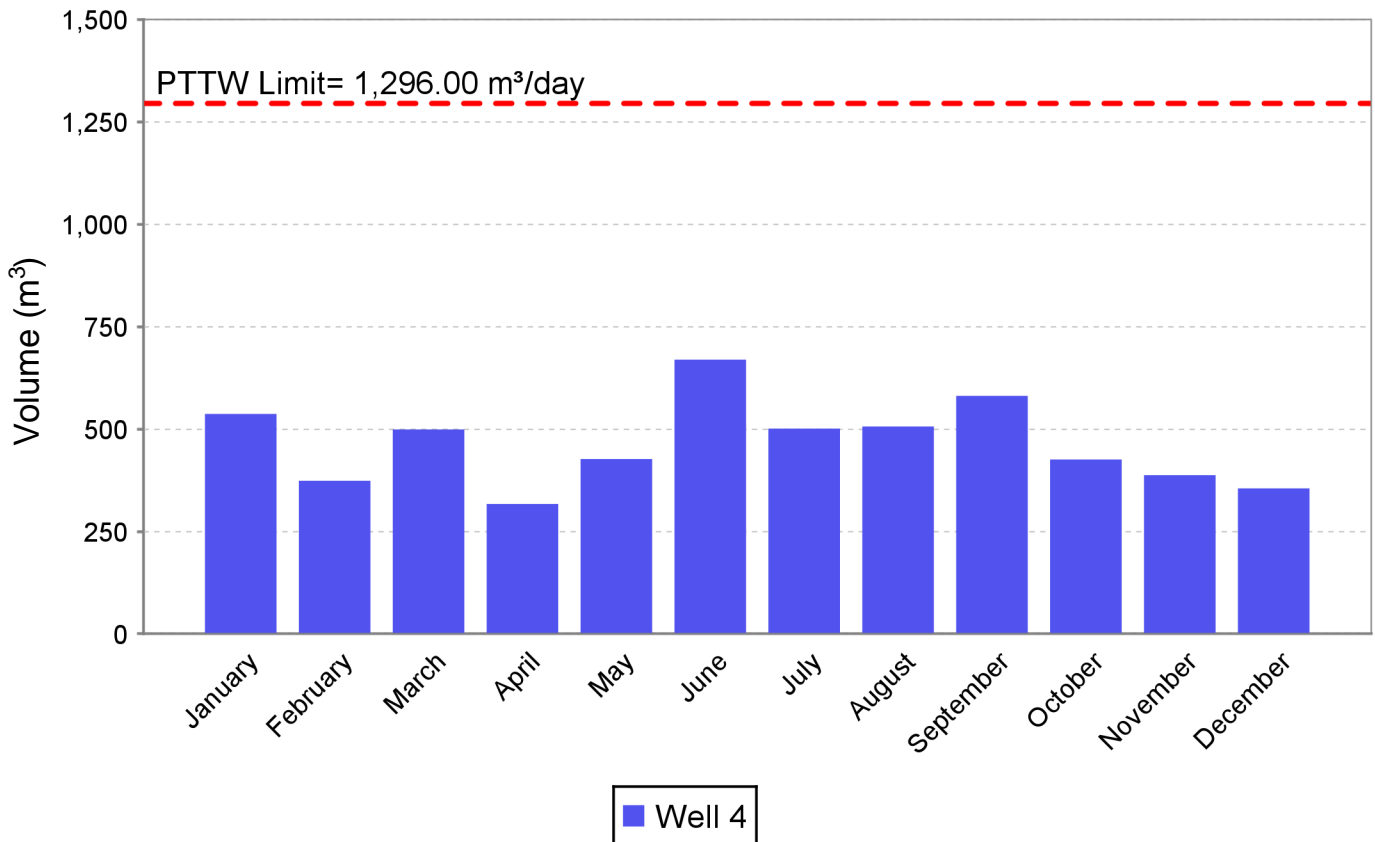
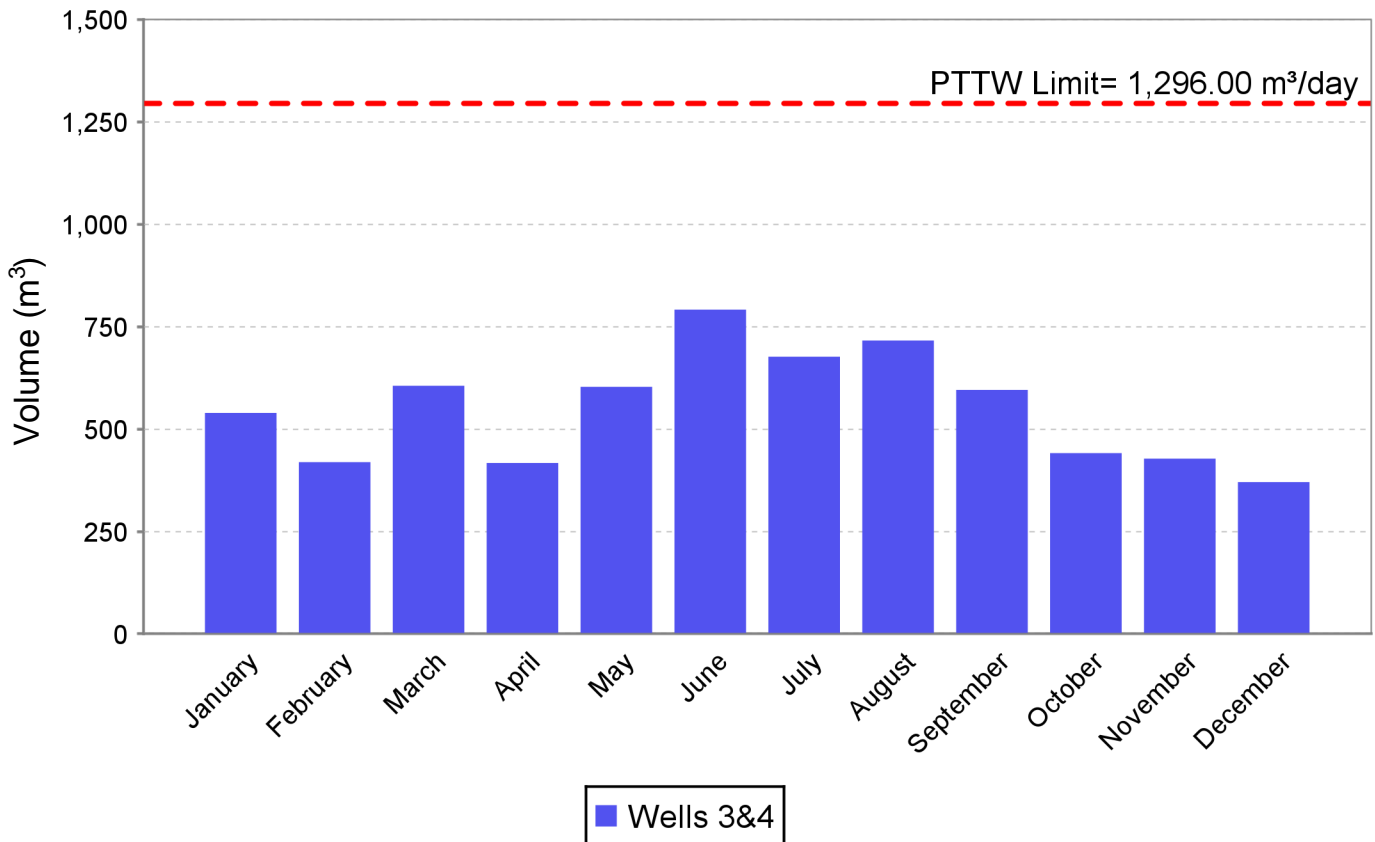


Table 45 – 2023 Inglewood Wells #3&4 Combined Maximum Daily Raw Water Volumes

Month	Volume (m ³)
January	539.54
February	419.34
March	605.88
April	417.29
May	603.28
June	791.82
July	676.86
August	716.39
September	595.76
October	441.40
November	427.89
December	370.60

Note: 1) 1 m³ = 1,000 Litres

Figure 45 – 2023 Inglewood Wells #3&4 Combined Maximum Daily Raw Water Volumes



d. Maximum Daily Production and Municipal Drinking Water Licence (MDWL) Limits

Table 46 – 2023 Caledon Village Well #3 Maximum Daily Treated Water Production

Month	Production (m ³)
January	472.91
February	1,172.39
March	607.50
April	1,189.26
May	839.93
June	612.16
July	581.33
August	1,188.55
September	397.58
October	426.67
November	529.47
December	444.06

Note: 1) 1 m³ = 1,000 Litres

Figure 46 – 2023 Caledon Village Well #3 Maximum Daily Treated Water Production

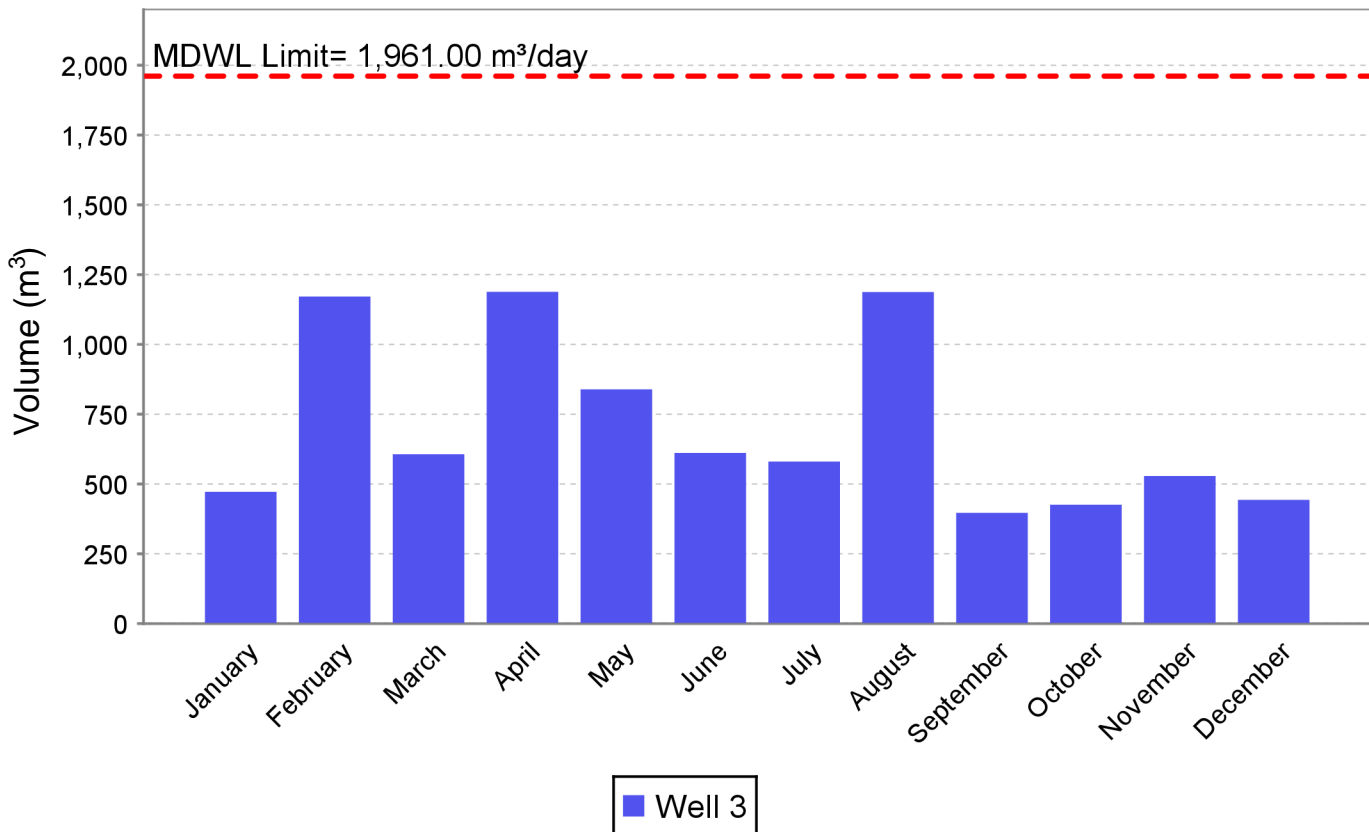


Table 47 – 2023 Caledon Village Well #3B Maximum Daily Treated Water Production

Month	Production (m ³)
January	606.71
February	459.20
March	399.04
April	1,123.19
May	1,123.19
June	606.52
July	438.19
August	465.98
September	541.11
October	1,109.82
November	617.43
December	686.81

Note: 1) 1 m³ = 1,000 Litres

Figure 47 – 2023 Caledon Village Well #3B Maximum Daily Treated Water Production

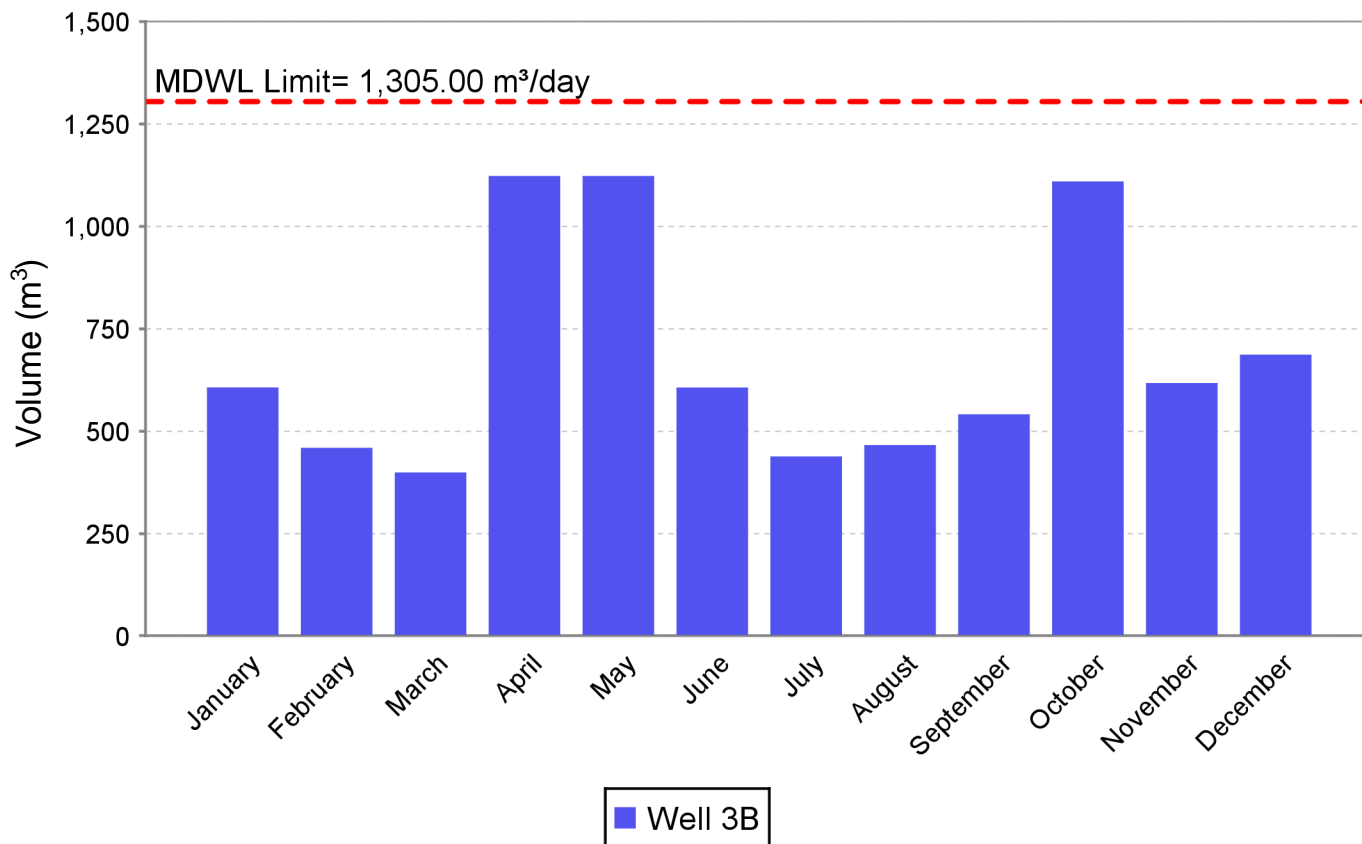


Table 48 – 2023 Caledon Village Well #4 Maximum Daily Treated Water Production

Month	Production (m ³ /day)
January	1,568.99
February	1,060.16
March	1,179.42
April	870.45
May	1,942.54
June	1,514.21
July	1,221.51
August	1,014.50
September	1,389.80
October	1,080.15
November	1,149.81
December	1,137.63

Note: 1) 1 m³ = 1,000 Litres
 2) Caledon Village #4 was out of service for maintenance from April 18 - May 10

Figure 48 – 2023 Caledon Village Well #4 Maximum Daily Treated Water Production

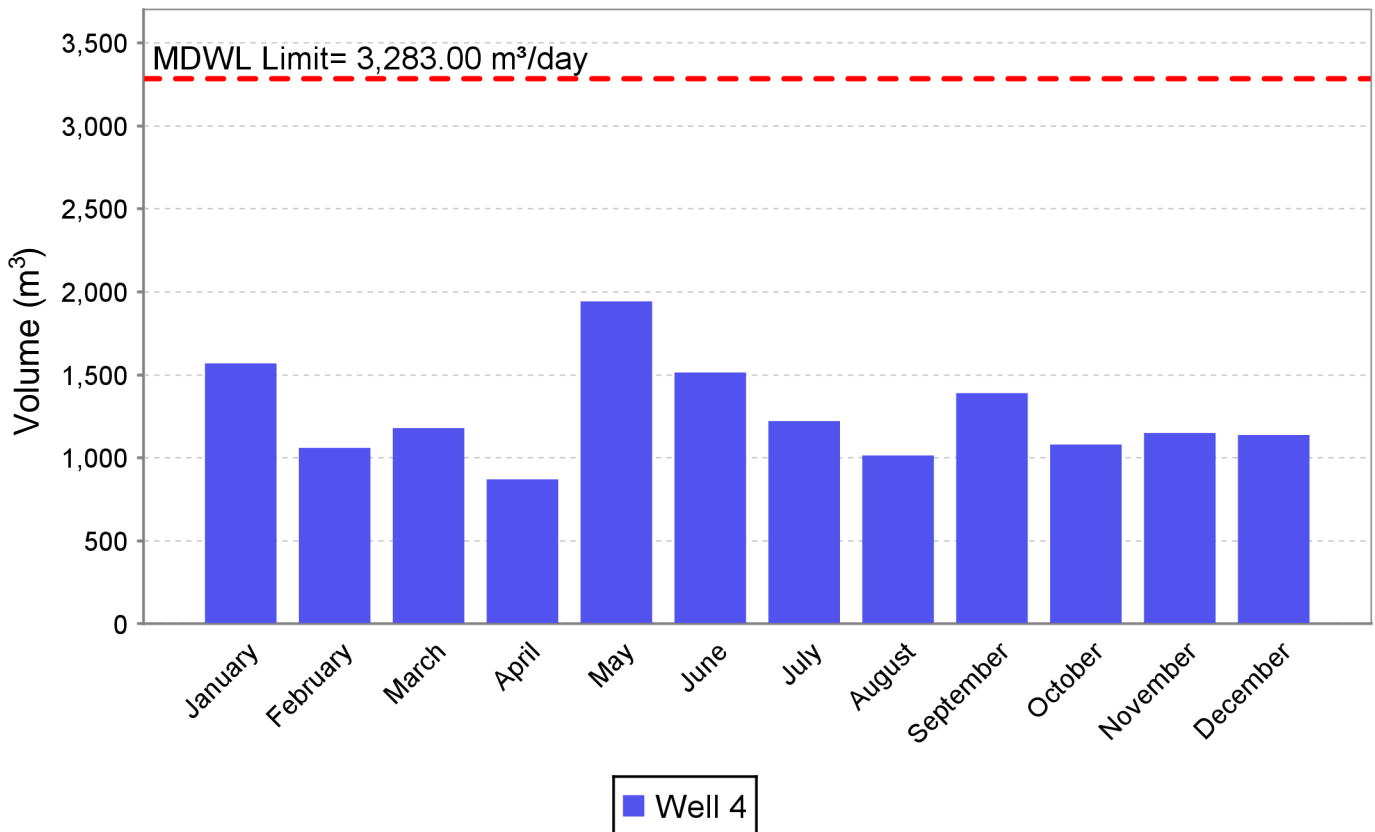


Table 49 – 2023 Alton Wells #3&4A Maximum Daily Treated Water Production

Month	Production (m ³ /day)
January	576.65
February	563.92
March	623.21
April	555.15
May	760.04
June	823.58
July	702.92
August	698.40
September	749.53
October	936.41
November	926.86
December	907.79

Note: 1) 1 m³ = 1,000 Litres

Figure 49 – 2023 Alton Wells #3&4A Maximum Daily Treated Water Production

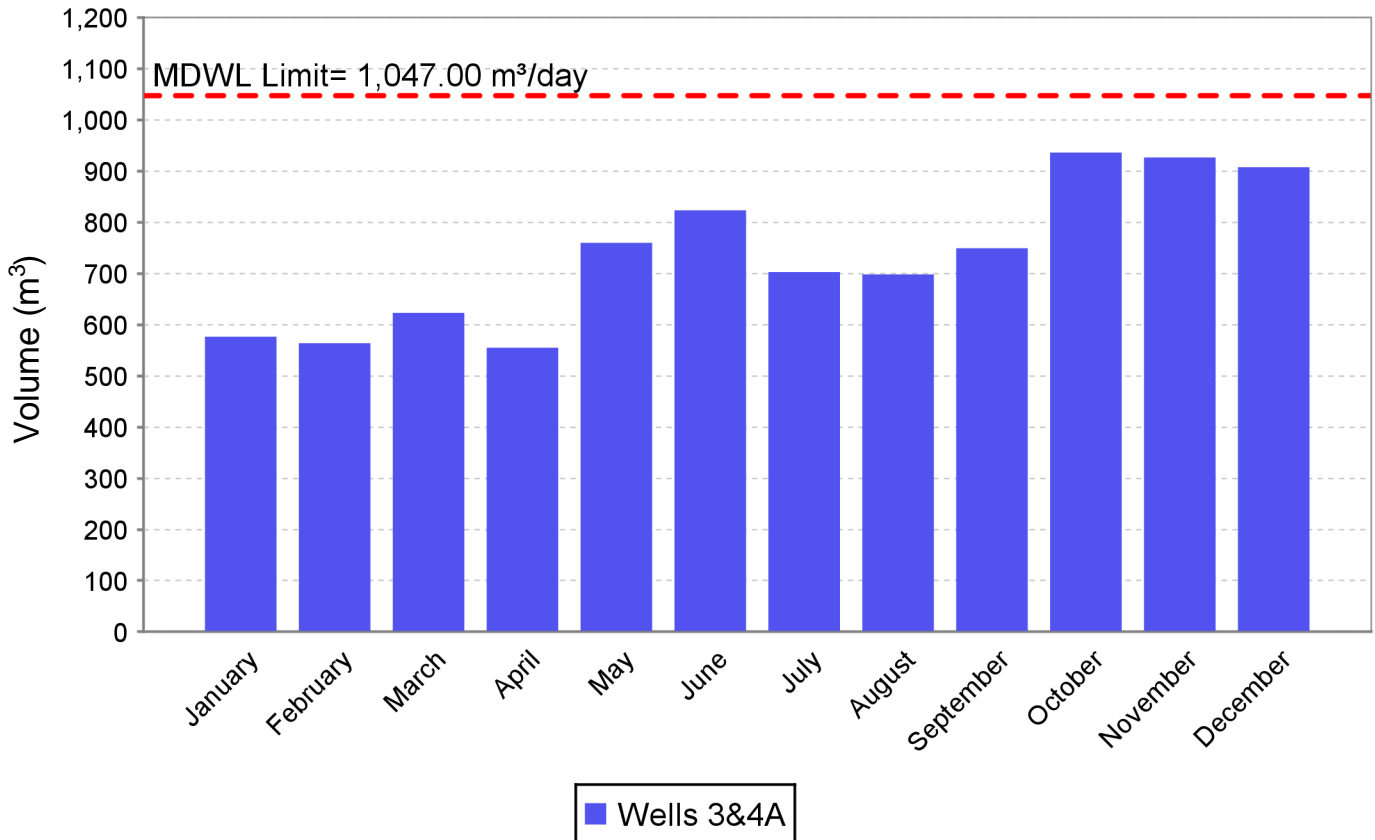


Table 50 – 2023 Palgrave Wells #2&3 Maximum Daily Treated Water Production

Month	Production (m ³ /day)
January	1,080.85
February	1,604.57
March	1,352.65
April	1,855.11
May	3,616.65
June	4,437.81
July	3,690.85
August	2,731.12
September	2,843.31
October	2,368.25
November	1,288.95
December	1,280.63

Note: 1) 1 m³ = 1,000 Litres

Figure 50 – 2023 Palgrave Wells #2&3 Maximum Daily Treated Water Production

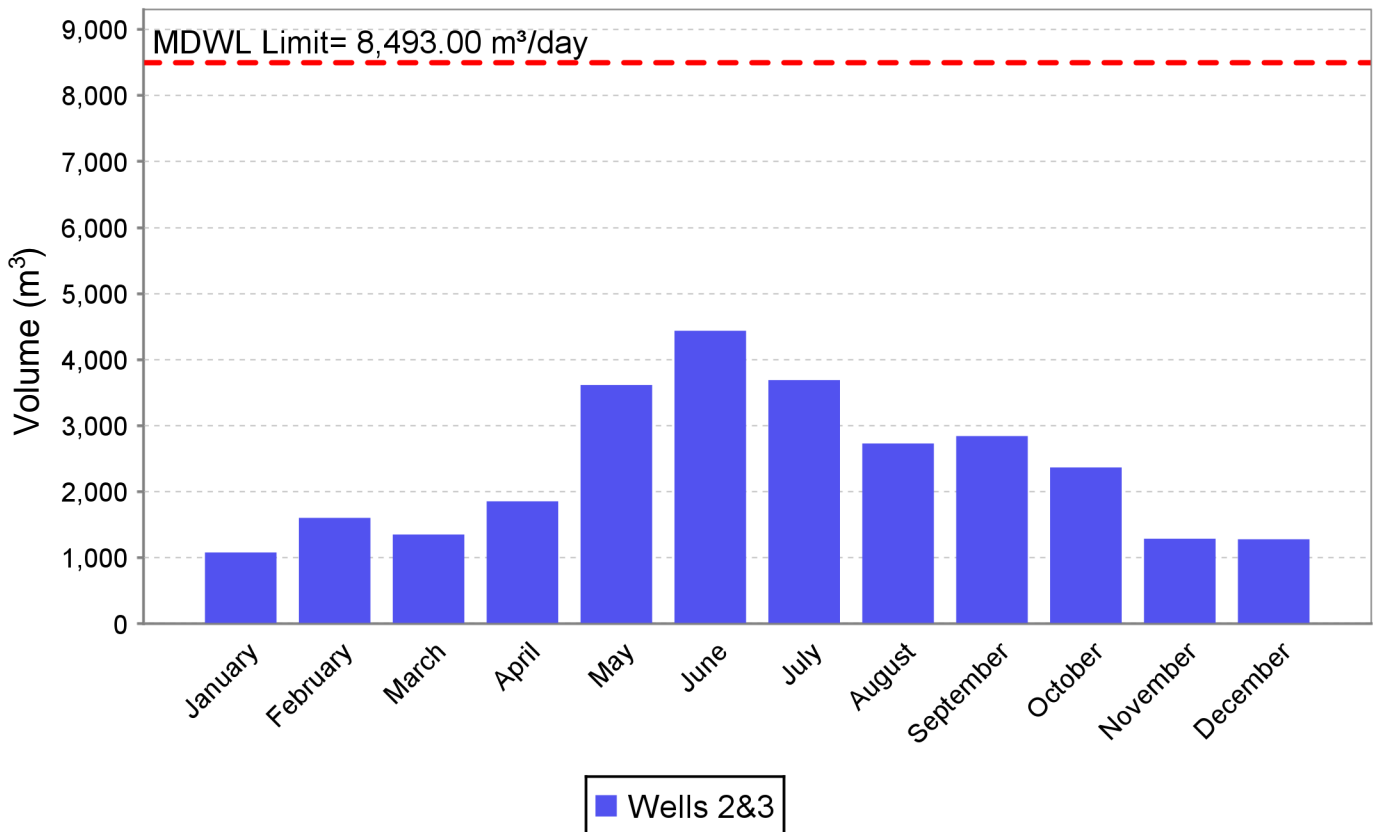


Table 51 – 2023 Palgrave Well #4 Maximum Daily Treated Water Production

Month	Production (m ³ /day)
January	427.20
February	885.41
March	1,452.30
April	1,082.67
May	1,464.35
June	1,700.28
July	1,147.99
August	959.83
September	976.94
October	750.04
November	1,022.86
December	435.16

Note: 1) 1 m³ = 1,000 Litres
 2) Palgrave Well #4 was out of service for maintenance from June 6 - June 13

Figure 51 – 2023 Palgrave Well #4 Maximum Daily Treated Water Production

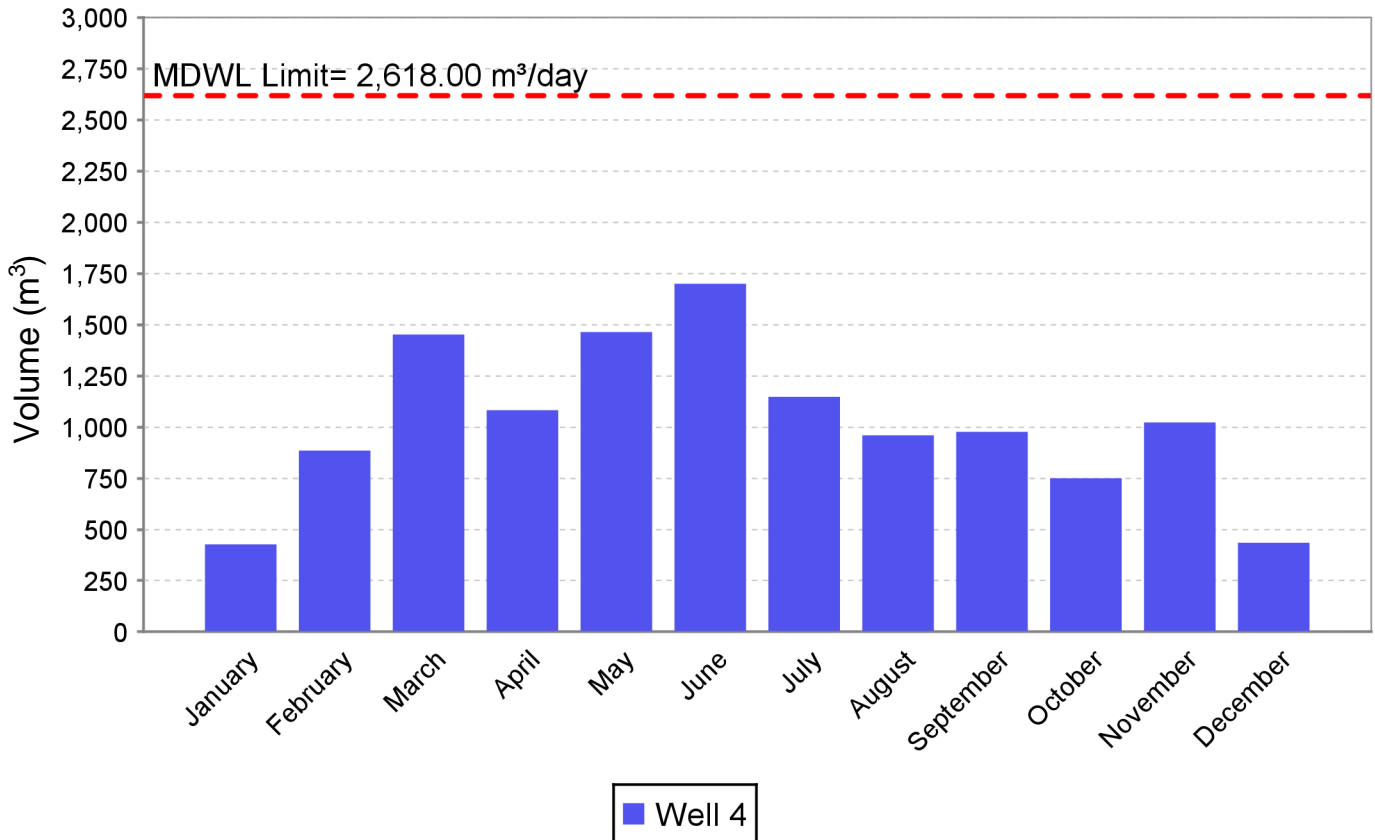


Table 52 – 2023 Caledon East Well #3 Max Daily Treated Water Production

Month	Production (m ³ /day)
January	296.23
February	946.49
March	413.97
April	681.99
May	2,157.47
June	2,304.52
July	1,432.96
August	1,413.44
September	1,869.42
October	1,700.36
November	1,518.74
December	1,314.93

Note: 1) 1 m³ = 1,000 Litres

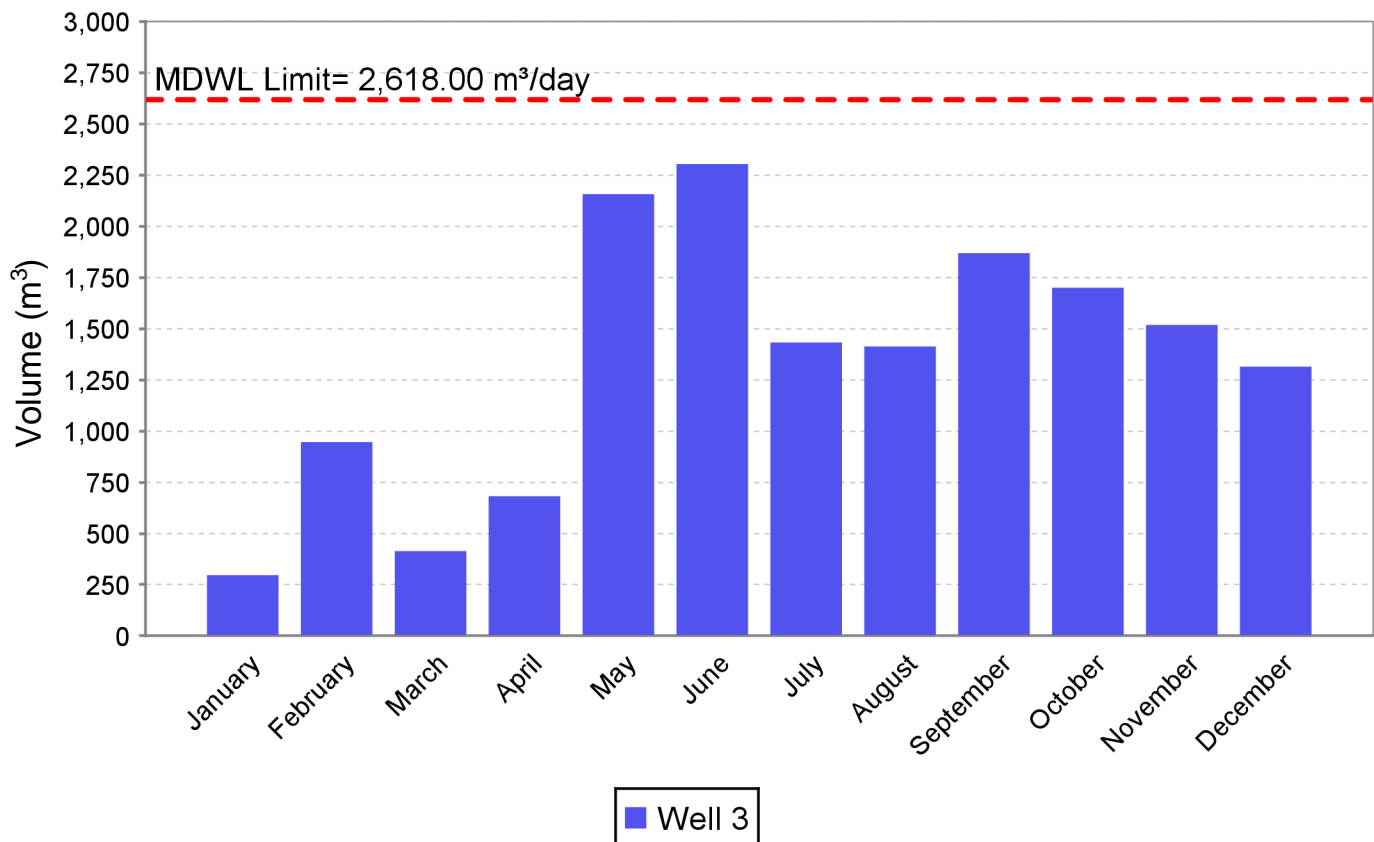
Figure 52 – 2023 Caledon East Well #3 Max Daily Treated Water Production

Table 53 – 2023 Caledon East Wells #4 & 4A Maximum Daily Treated Water Production

Month	Production (m ³ /day)
January	1,745.16
February	1,742.77
March	1,723.75
April	1,556.34
May	2,229.35
June	2,271.12
July	2,800.26
August	2,138.95
September	1,723.94
October	2,461.96
November	1,722.89
December	1,553.42

Note: 1) 1 m³ = 1,000 Litres
 2) Caledon East #4A was out of service for maintenance from October 17 - December 31

Figure 53 – 2023 Caledon East Wells #4 & 4A Maximum Daily Treated Water Production

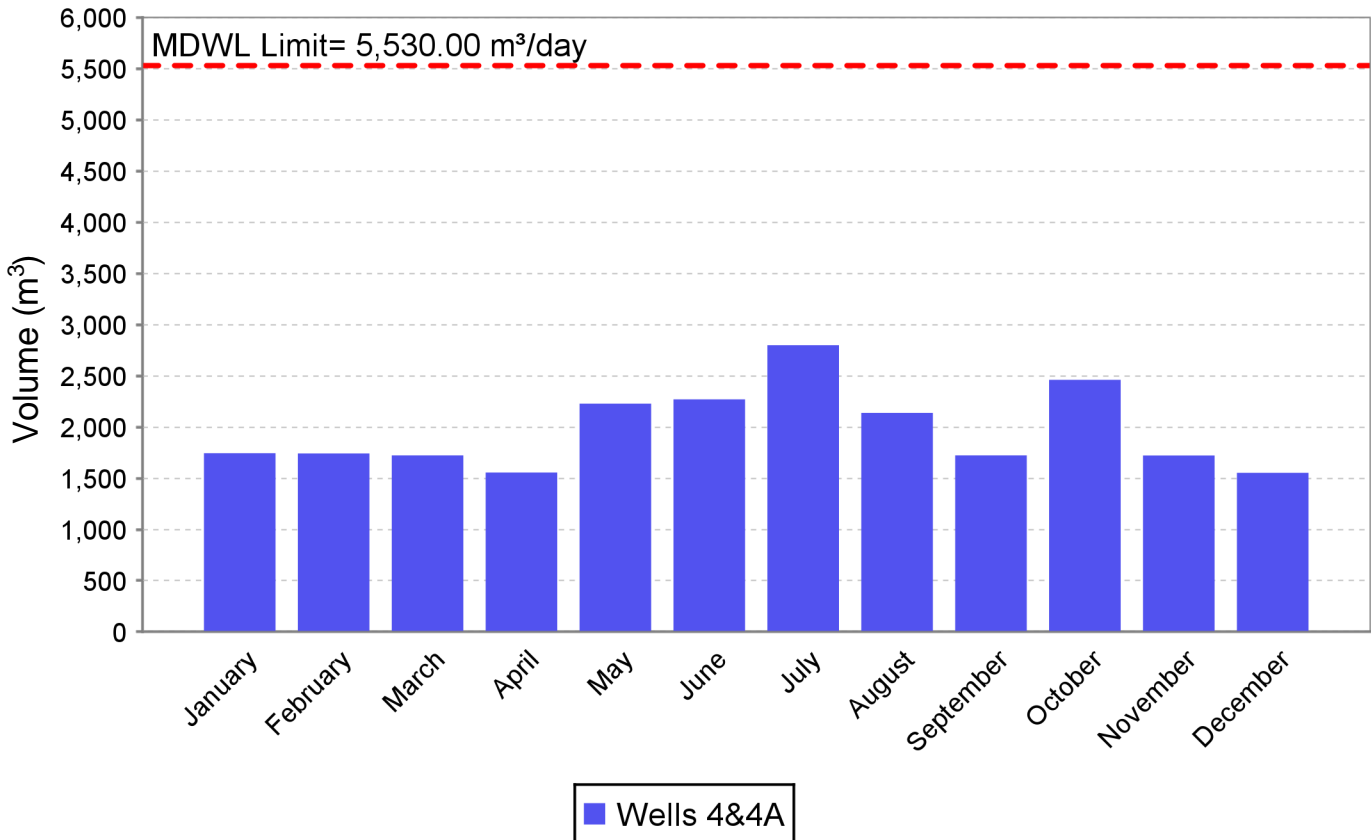


Table 54 – 2023 Cheltenham Wells #1&2 Maximum Daily Treated Water Production

Month	Production (m ³ /day)
January	306.60
February	423.19
March	457.03
April	555.79
May	476.37
June	610.10
July	828.83
August	331.64
September	488.43
October	447.14
November	315.88
December	304.80

Note: 1) 1 m³ = 1,000 Litres

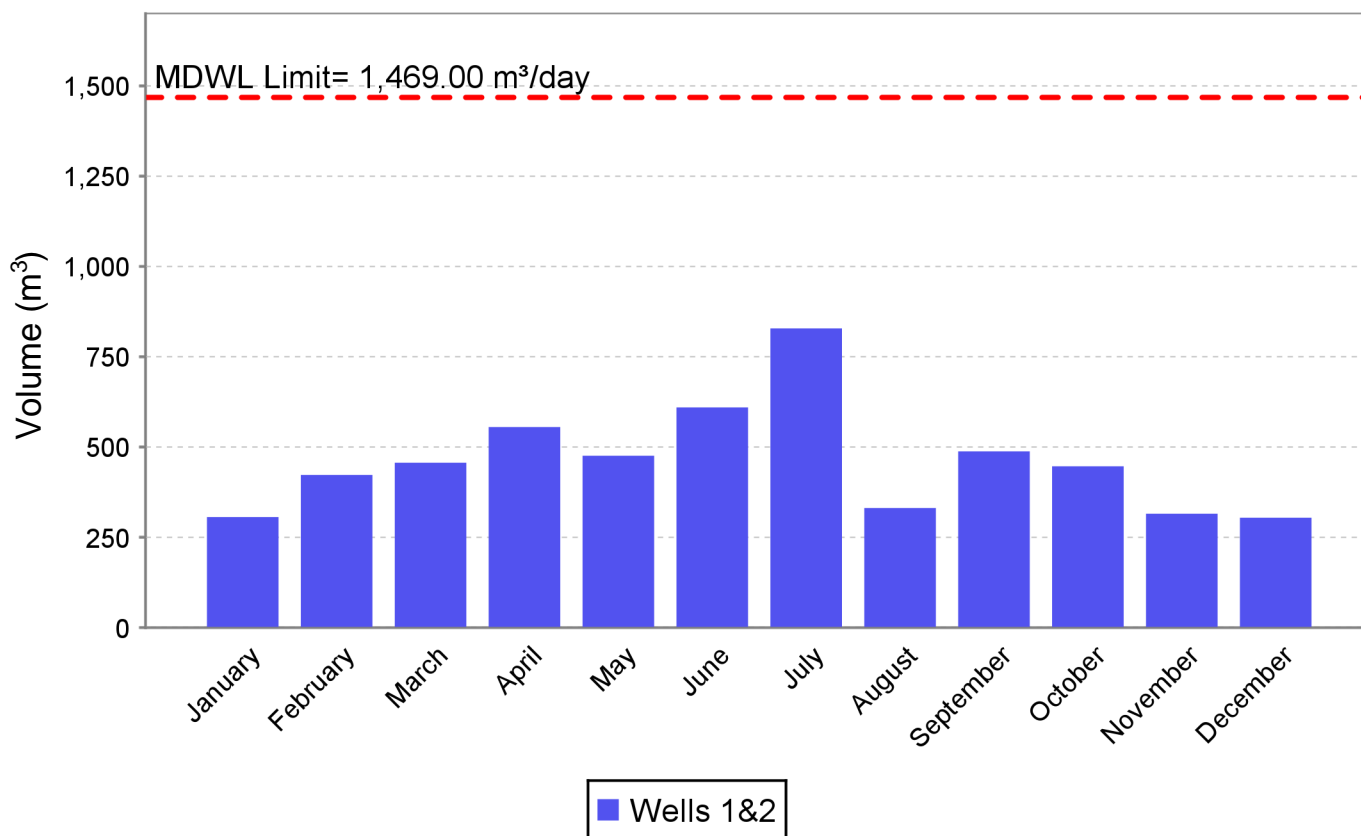
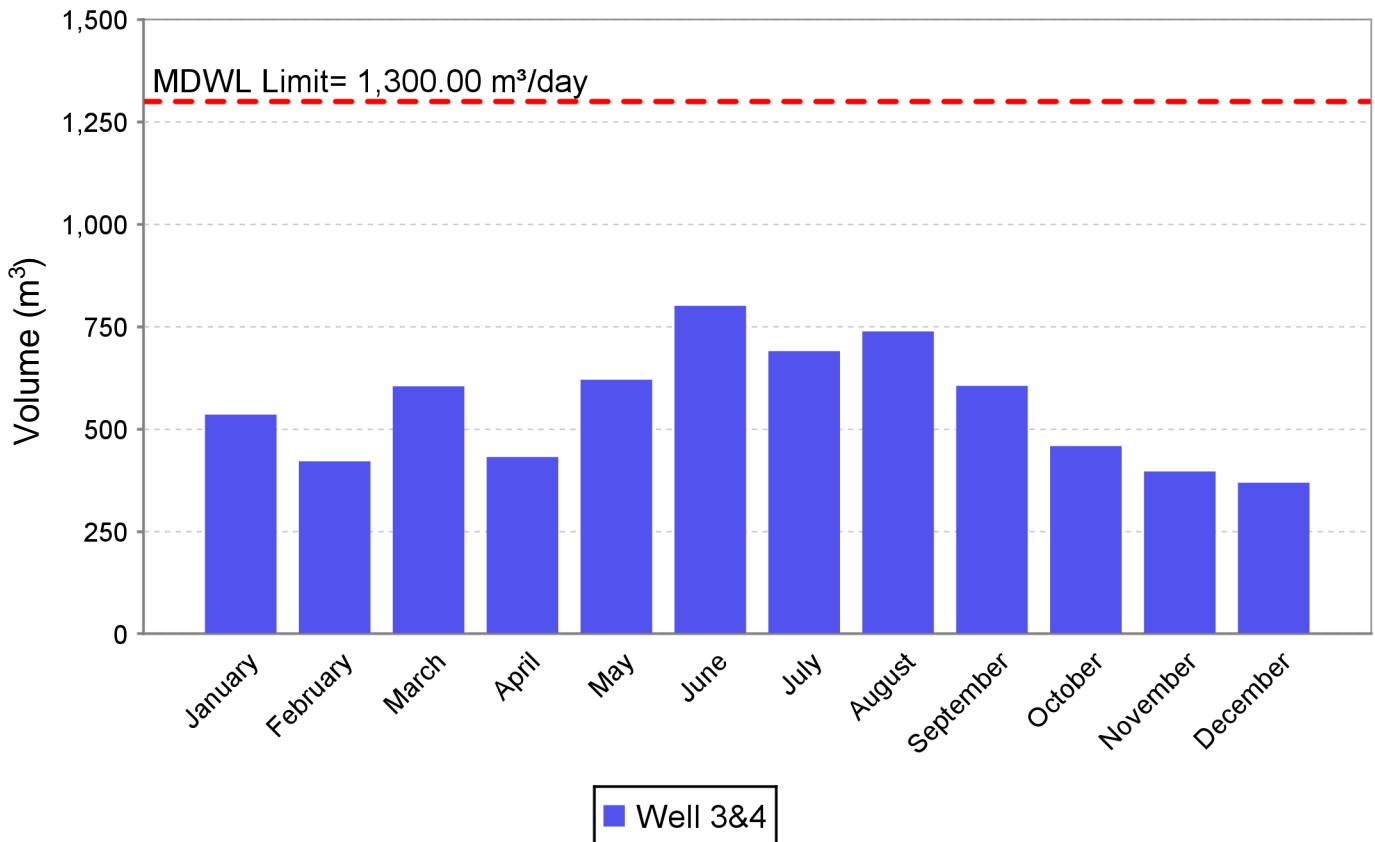
Figure 54 – 2023 Cheltenham Wells #1&2 Maximum Daily Treated Water Production

Table 55 – 2023 Inglewood Well #3&4 Maximum Daily Treated Water Production

Month	Production (m ³ /day)
January	535.39
February	421.34
March	604.49
April	431.83
May	620.65
June	801.13
July	690.44
August	738.57
September	605.65
October	458.53
November	396.54
December	369.10

Note: 1) 1 m³ = 1,000 Litres

Figure 55 – 2023 Inglewood Well #3&4 Maximum Daily Treated Water Production



SOUTH PEEL MUNICIPAL LAKE ONTARIO BASED WATER SYSTEM

a. Total Monthly Volumes

Table 56: 2023 Arthur P. Kennedy WTP Total Monthly Water Volumes

Month	Total Monthly Volume (ML)	
	Raw Water	Treated Water
January	9,635	9,263
February	8,800	8,469
March	9,672	9,313
April	11,622	10,687
May	13,813	13,245
June	15,216	14,532
July	14,922	14,192
August	14,897	14,139
September	14,092	13,411
October	12,468	11,628
November	11,594	10,743
December	11,438	10,664
Annual Total	148,168	140,286

Note: 1) 1 ML = 1,000,000 L = 1,000 m³

2) Treated water volume is 5.3% less than raw water volume because a small portion of the water is used within the treatment plant for processes such as filter cleaning and pump cooling.

Figure 56: 2023 Arthur P. Kennedy WTP Total Monthly Water Volumes

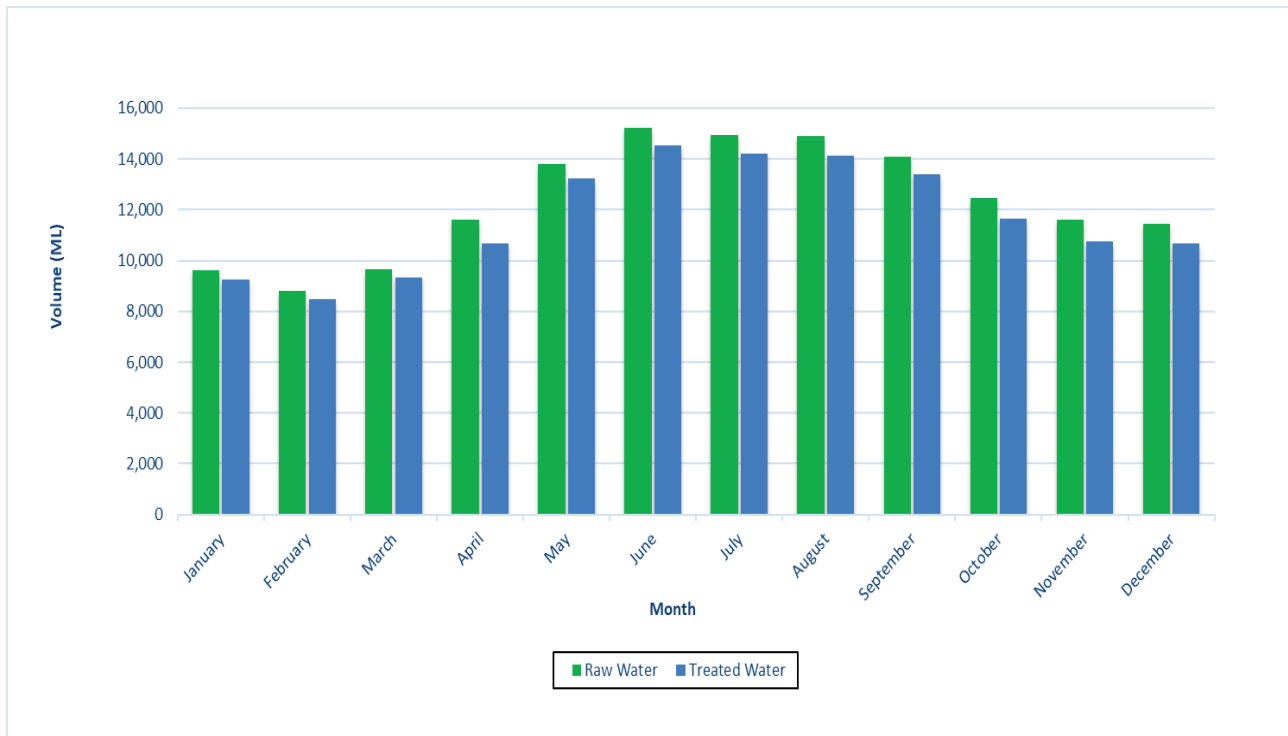


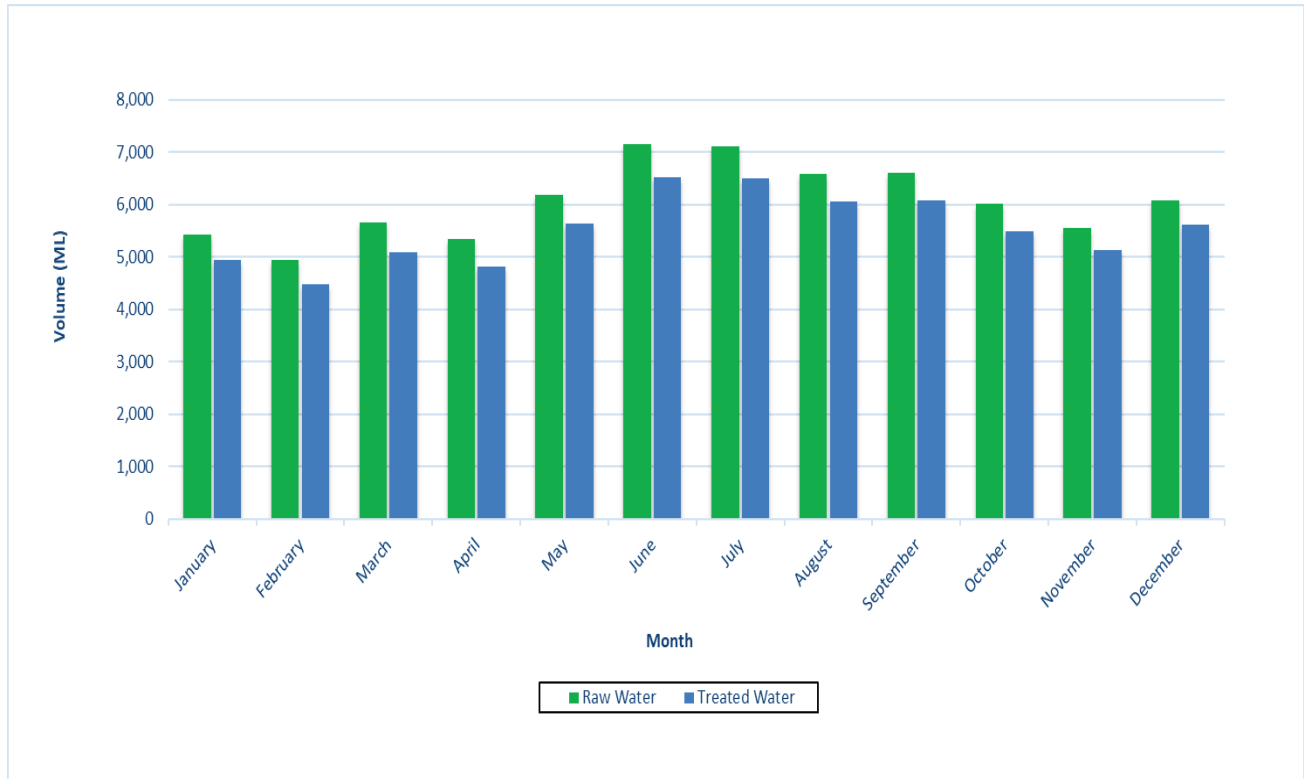
Table 57: 2023 Lorne Park WTP Total Monthly Water Volumes

Month	Total Monthly Volume (ML)	
	Raw Water	Treated Water
January	5,430	4,942
February	4,944	4,487
March	5,652	5,085
April	5,336	4,806
May	6,190	5,640
June	7,157	6,514
July	7,123	6,509
August	6,576	6,064
September	6,616	6,075
October	6,014	5,482
November	5,563	5,125
December	6,082	5,623
Annual Total	72,683	66,352

Note: 1) ML = 1,000,000 L = 1,000 m³

2) Treated water volume is 8.7% less than raw water volume because a small portion of the water is used within the treatment plant for processes such as filter cleaning, pump cooling.

Figure 57: 2023 Lorne Park WTP Total Monthly Water Volumes



b. Average Daily Takings and Production

Table 58: 2023 Arthur P. Kennedy WTP Average Daily Water Takings and

Month	Average Daily Volume (ML)	
	Raw Water	Treated Water
January	311	299
February	314	303
March	312	300
April	387	356
May	446	427
June	507	484
July	481	458
August	481	456
September	470	447
October	402	375
November	387	358
December	369	344
Annual Average	406	384

Note: 1 ML = 1,000,000 L = 1,000 m³

Figure 58:2023 Arthur P. Kennedy WTP Average Daily Water Takings and Production

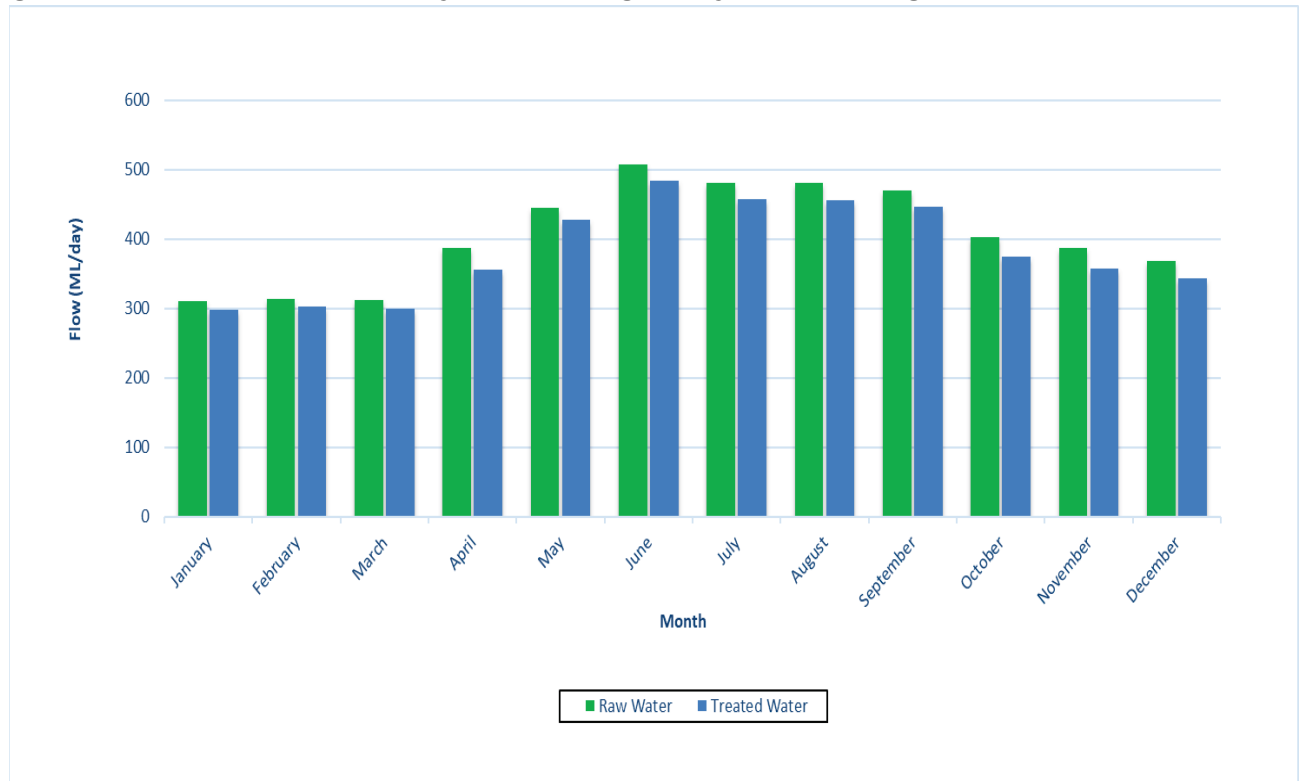
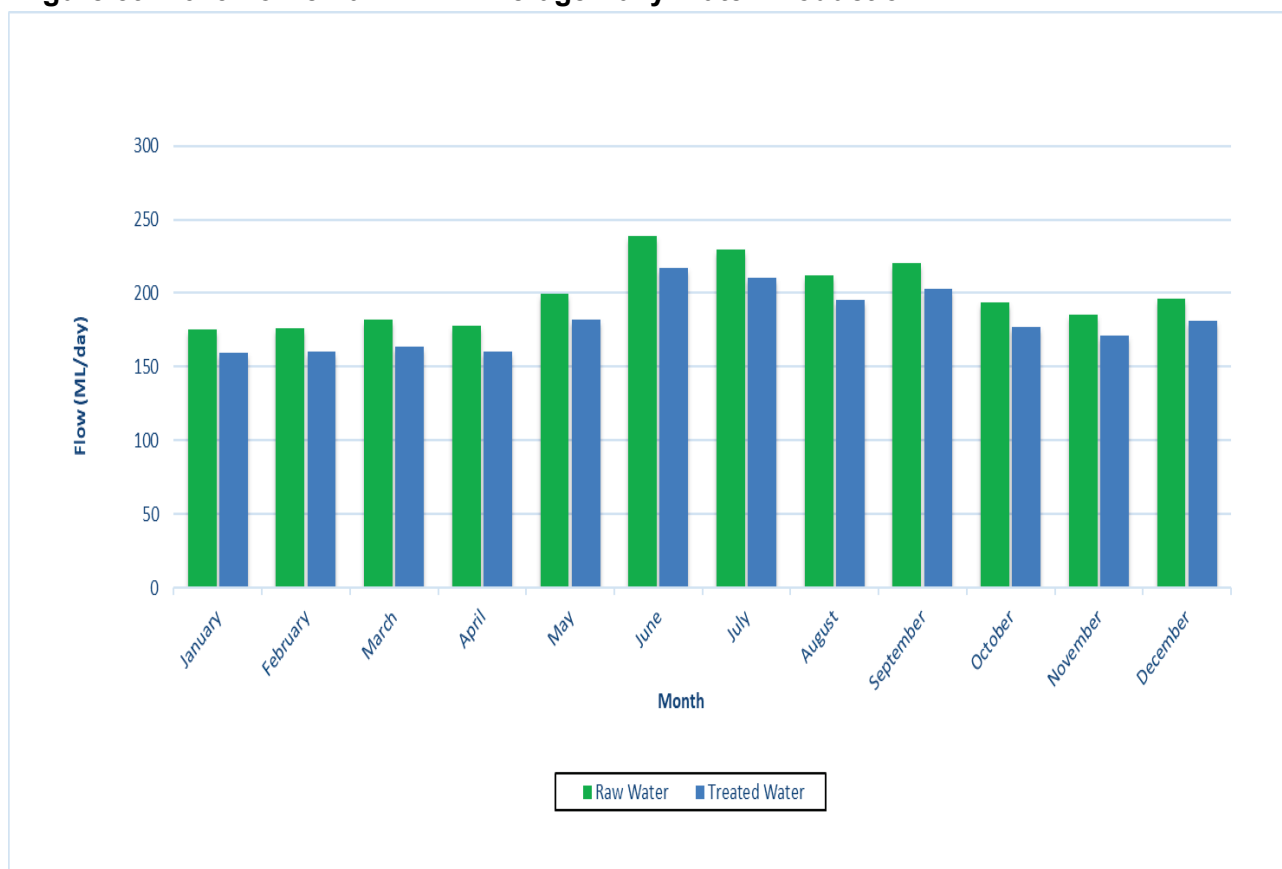


Table 59: 2023 Lorne Park WTP Average Daily Water Taking and Production

Month	Average Daily Volume (ML)	
	Raw Water	Treated Water
January	175	159
February	177	160
March	182	164
April	178	160
May	200	182
June	239	217
July	230	210
August	212	196
September	221	203
October	194	177
November	185	171
December	196	181
Annual Average	199	182

Note: 1 ML = 1,000,000 L = 1,000 m³

Figure 59: 2023 Lorne Park WTP Average Daily Water Production



c. Maximum Daily Raw Water Volumes and Permit to Take Water (PTTW) Limits

Table 60: 2023 Arthur P. Kennedy WTP Maximum Daily Raw Water Volumes

Month	Maximum Daily Volume (ML)
	Raw Water
January	350
February	366
March	350
April	510
May	531
June	598
July	539
August	547
September	528
October	496
November	425
December	438

Note: 1 ML = 1,000,000 L = 1,000 m³

Figure 60: 2023 Arthur P. Kennedy WTP Maximum Daily Raw Water Volumes

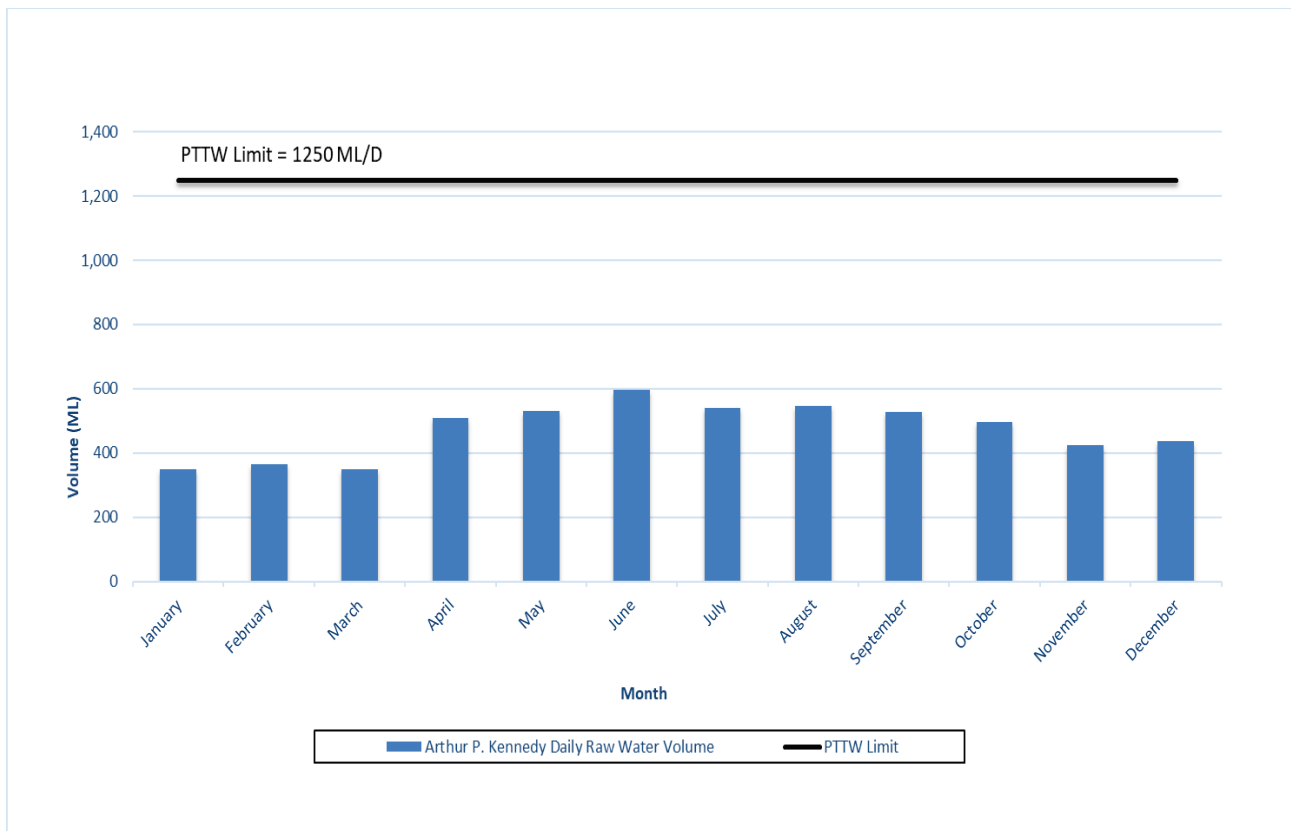
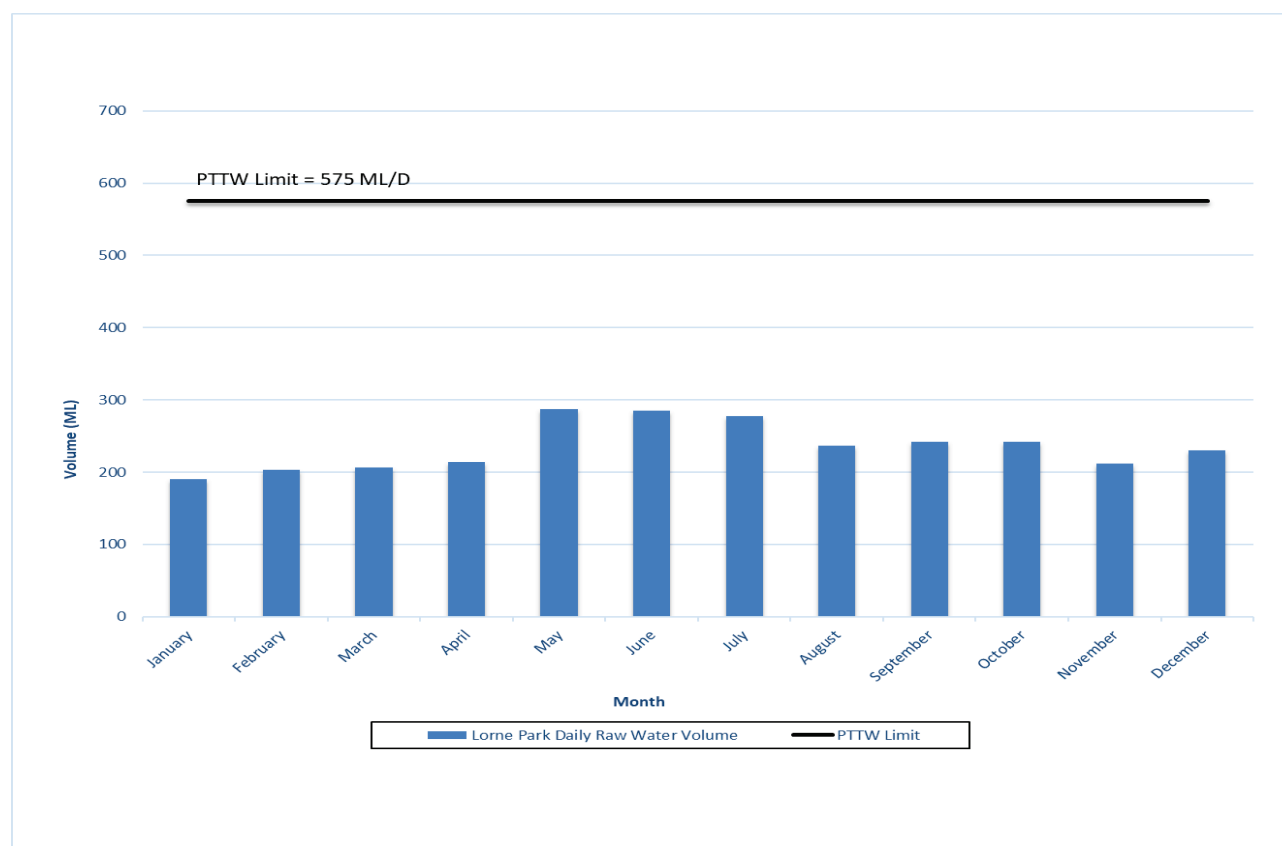


Table 61: 2023 Lorne Park WTP Maximum Daily Raw Water Volumes

Month	Maximum Daily Volume (ML)
	Raw Water
January	190
February	203
March	207
April	214
May	287
June	285
July	278
August	237
September	242
October	242
November	212
December	230

Note: 1 ML = 1,000,000 L = 1,000 m³

Figure 61: 2023 Lorne Park WTP Maximum Daily Raw Water Volumes



d. Maximum Daily Production and Municipal Drinking Water Licence (MDWL) Limits

Table 62: 2023 Arthur P. Kennedy WTP Maximum Daily Treated Water

Month	Maximum Daily Production (ML)
	Treated Water
January	332
February	351
March	340
April	471
May	518
June	571
July	522
August	519
September	503
October	479
November	400
December	394

Note: 1 ML = 1,000,000 L = 1,000 m³

Figure 62: 2023 Arthur P. Kennedy WTP Maximum Daily Treated Water Production

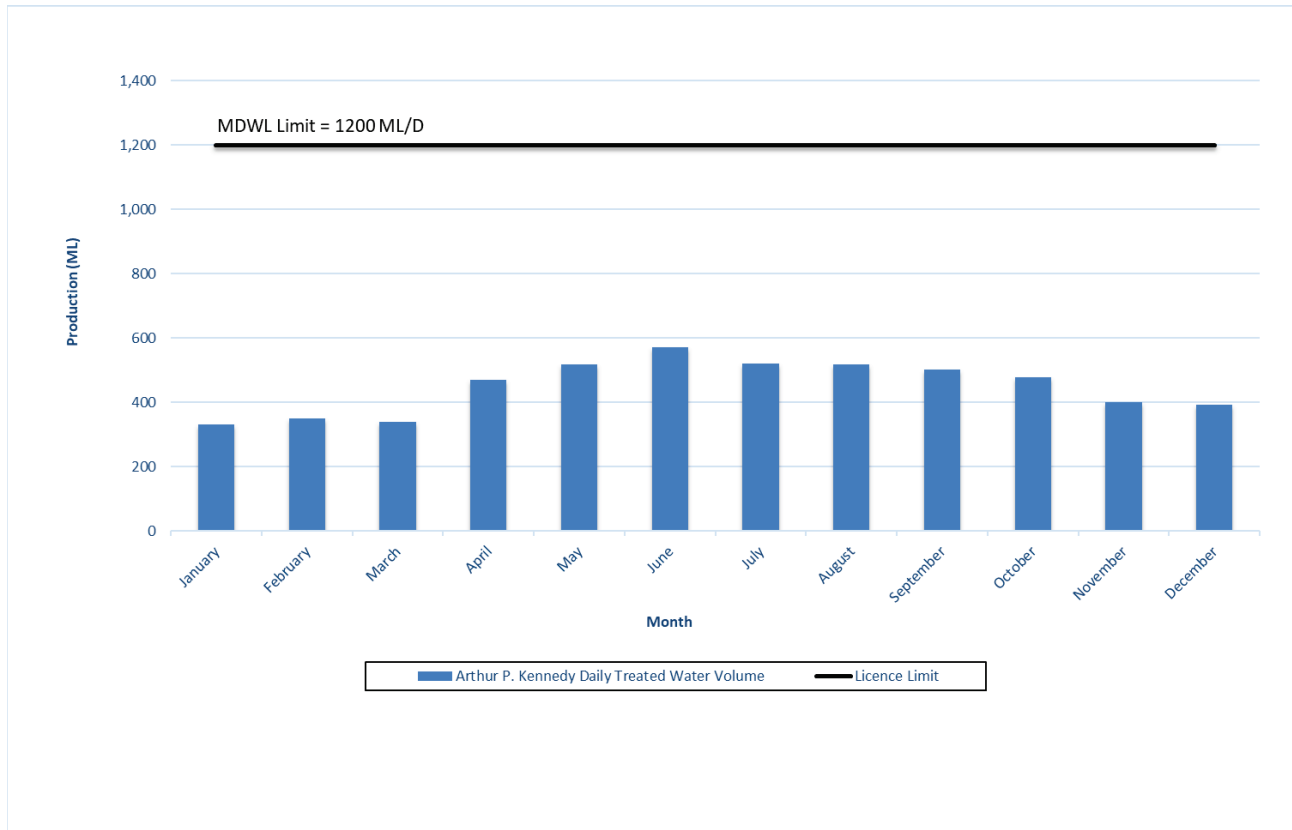


Table 63: 2023 Lorne Park WTP Maximum Daily Treated Water Production

Month	Maximum Daily Production (ML)
	Treated Water
January	174
February	184
March	188
April	188
May	262
June	257
July	253
August	213
September	224
October	220
November	191
December	211

: 1 ML = 1,000,000 L = 1,000 m³

Figure 63: 2023 Lorne Park WTP Maximum Daily Treated Water Production

