

# *Espanola Water Treatment*

Large Municipal Residential Drinking Water System

*January 1, 2024 – December 31, 2024*

*O.Reg 170/03 Schedule 22 Summary Report*

*O.Reg 170/03 Section 11 Annual Report*

*&*

*O.Reg 387/04 Annual Record of Water Taking*

Prepared by the Ontario Clean Water Agency  
For The Corporation of the Town of Espanola



Drinking-Water System Number: 210000746  
Drinking-Water System Name: ESPANOLA DRINKING WATER SYSTEM  
Drinking-Water System Owner: The Corporation of the Town of Espanola  
Drinking-Water System Category: Large Municipal Residential

## SECTION 1: INTRODUCTION

This document is prepared in accordance with Section 11 and Schedule 22 of O.Reg.170/03 under the Safe Drinking Water Act and with Section 9 of O.Reg.387/04 under the Ontario Water Resources Act. The reports are prepared by the Ontario Clean Water Agency. Acronyms and definitions can be found at the end of the report.

A copy of the Summary Report must be provided to the members of the municipal council by March 31, 2025.

## SECTION 2: REQUIREMENTS OF THE REPORTS

### Schedule 22 Report

The report must list the requirements of the Act, the regulations, the system's approval and any order that the system **failed to meet** at any time during the period covered by the report. It must also specify the duration of the failure, and for each failure referred to, describe the measures that were taken to correct the failure.

For the purpose of enabling the owner of the system to assess the rated capability of their system to meet existing and future planned water uses, the following information is required to be included in this report:

- A summary of the quantities and flow rates of the water supplied during the period covered by the report, including monthly average and maximum daily flows.
- A comparison of the summary to the rated capacity and flow rates approved in the systems approval.

### Section 11 Report

The annual report must contain the following:

- A brief description of the drinking water system and a list of chemicals used by the system.
- A description of any major expenses incurred during the period covered by the report to install, repair or replace required equipment.
- A summary of all adverse water quality incidents (AWQI) reported to the Ministry
- A summary of corrective actions taken in response all AWQIs
- A summary of all test results required under the regulation, under an approval, municipal drinking water licence or order, including an OWRA order.
- A statement of where a Schedule 22 report will be available for inspection.

The report must be prepared not later than February 28 of the following year.

### Regulation 387 Report

On or before March 31 in every year, every holder of a permit to take water (PTTW) shall submit to a Director the data collected and recorded for the previous year.

A record of annual water taking can be found in **Appendix A**.



## SECTION 3: SCHEDULE 22 REPORT

### 3.1: Flows - Treated

In accordance with the Municipal Drinking Water License (MDWL), the Espanola WTP shall not be operated to exceed a maximum flow of 10,500 m<sup>3</sup>/d to the distribution system.

The daily treated water maximum flow was 4,211 m<sup>3</sup> in August and represents 40% of capacity. In 2024, the total volume of water sent to the distribution system was 886,662.5m<sup>3</sup>

The quantity of treated water supplied during the reporting period did not exceed the rated maximum capacity.

TREATED WATER FLOW DATA					
Month	Total Monthly Flow (m <sup>3</sup> )	Average Flow (m <sup>3</sup> /d)	Maximum Flow (m <sup>3</sup> /d)	Maximum Flow Rate (L/s)	Limit
					Rated Capacity m <sup>3</sup> /d
January	65,409	2,109.97	3,692	88.93	10,500
February	57,836	1,994.34	2,165	90.57	10,500
March	59,242	1,911.03	2,319	90.73	10,500
April	61,468	2,048.93	3,168	91.17	10,500
May	75,742	2,443.29	3,462	90.61	10,500
June	88,894	2,963.13	3,978	91.83	10,500
July	102,784.5	3,315.63	4,065	90.71	10,500
August	103,545	3,340.16	4,211	91.06	10,500
September	88,441	2,948.03	4,209	91.30	10,500
October	66,453	2,143.65	3,807	91.08	10,500
November	55,619	1,853.97	2,206	89.15	10,500
December	61,229	1,975.13	2,354	89.36	10,500
Total	886,662.5				
Average		2,420.61			
Maximum			4,211	91.83	10,500

### 3.2: Flows - Raw

Daily raw maximum instantaneous flow is stated in the PTTW at a maximum rate of flow of 121.53 L/s and a maximum daily volume of 10,500.0 m<sup>3</sup>/d.

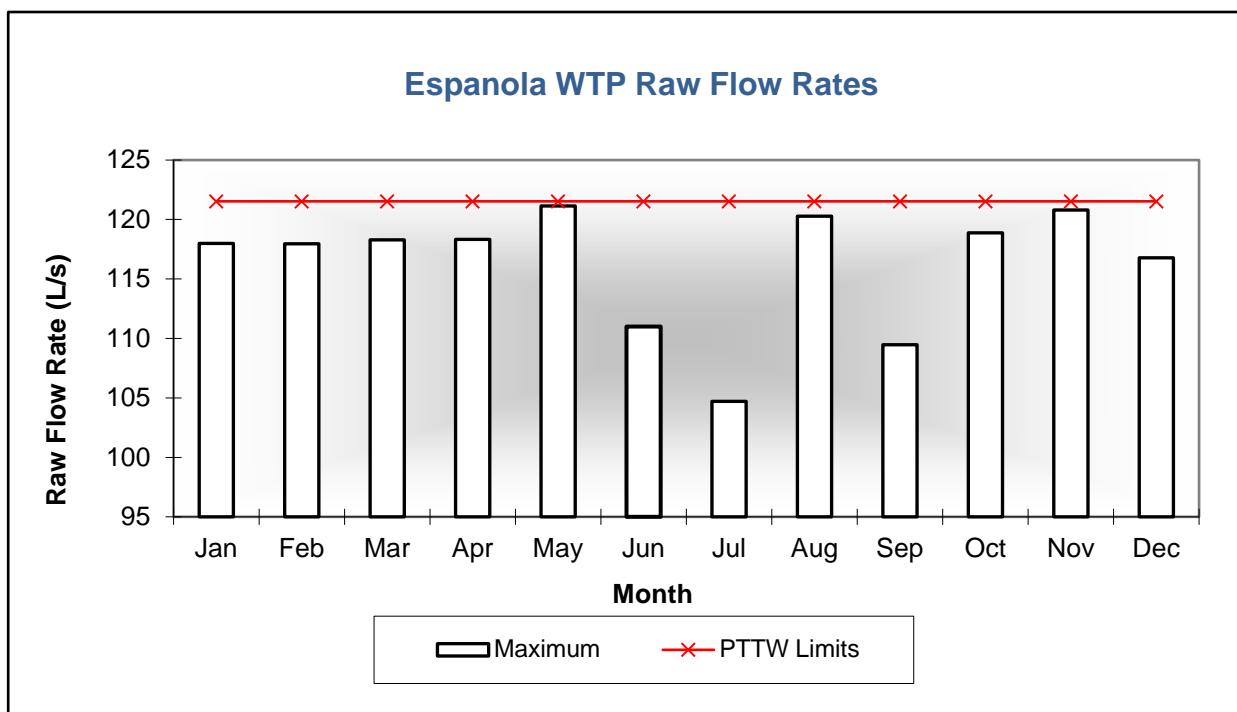
The average monthly raw water flow for this reporting period was 2,766.84m<sup>3</sup>/d. The maximum daily flow was 4,901m<sup>3</sup>/d representing 47% of water taking limits. In 2024, the total volume of water sent to the distribution system was 1,013,607 m<sup>3</sup>

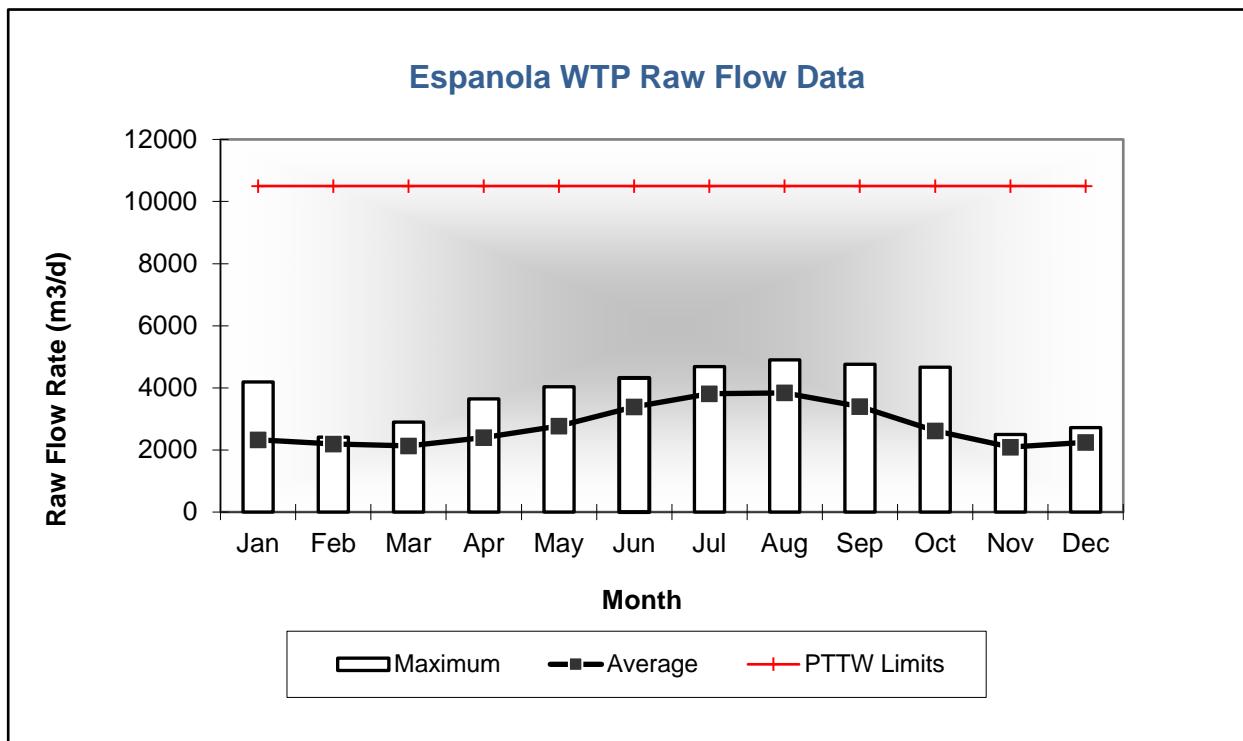
The quantity of raw water taken did not exceed any limits stipulated within the PTTW.



RAW WATER FLOW DATA – Apsey Lake

Month	Total Monthly Flow (m <sup>3</sup> )	Average Flow (m <sup>3</sup> /d)	Maximum Flow (m <sup>3</sup> /d)	Maximum Flow Rate (L/s)	Limits	
					L/s (PTTW)	m <sup>3</sup> /d (PTTW)
January	72,102	2,325.87	4,190	117.99	121.53	10,500.0
February	63,481	2,189	2,412	117.96	121.53	10,500.0
March	66,050	2,130.65	2,897	118.29	121.53	10,500.0
April	71,864	2,395.47	3,644	118.33	121.53	10,500.0
May	85,855	2,769.52	4,035	121.14	121.53	10,500.0
June	101,816	3,393.87	4,319	111.00	121.53	10,500.0
July	118,047	3,807.97	4,684	104.71	121.53	10,500.0
August	118,949	3,837.06	4,901	120.28	121.53	10,500.0
September	101,953	3,398.43	4,759	109.47	121.53	10,500.0
October	80,955	2,611.45	4,665	118.88	121.53	10,500.0
November	62,805	2,093.50	2,498	120.80	121.53	10,500.0
December	89,730	2,249.35	2,720	116.78	121.53	10,500.0
Total	1,013,607					
Average		2,766.84				
Maximum			4,901	121.14	121.53	10,500.0





### 3.3: Annual Raw Water Review

Raw Water Taking	Total Taking (m <sup>3</sup> /d)	Average Day (m <sup>3</sup> /d)	Max Day (m <sup>3</sup> /d)	Max Day % of PTTW allowable
2024	1,013,607	2,766.84	4,901	47%
2023	1,092,311	2,992.63	6,001	57%
2022	1,168,714	3,201.9	6,239	59%
2021	1,092,449	2,993	6,039	58%
2020	1,114,464	3,044.98	6,057	58%

### 3.4: System Failures and Corrective Actions

The latest inspection of the drinking water facility took place on [February 13, 2024](#). The facility scored [0/444](#) providing a rating of [100%](#).

The following non-compliances were reported to the MECP during the reporting period.

On Friday April 19, 2024 at 15:00, Operators discovered an issue with the filter turbidity analyzers upon completing rounds and reviews before the weekend. It was noted there was no flow going through any of the turbidity analyzers. Therefore, it is assumed turbidity was not being analyzed for the runtime that occurred between 13:18 and 15:24. An on-call Operator had been on-site for high turbidity call outs on April 18 and earlier in the day on April 19, at the time the analyzers were dirty and had little flow. After cleaning and flushing the analyzers, flow seemed to improve and the LLP shutdown due to the clearwell full level being reached. It wasn't until they returned to the site at 15:00 that they realized there was no flow into the analyzers during production. The on-site Operator notified management, PCTs and the ORO of the issue at 16:45. PCTs provided direction to management at 17:03 stating turbidity readings must be taken every 15min while the filters are in production. This was then communicated to the onsite and on-call Operators.



However, turbidity readings were not taken during the following filter run times: April 19 beginning at 17:18 ending at 20:37 and April 19 beginning at 21:55 ending April 20 at 01:48. The on-call Operator was onsite for all the remaining filter run times on Saturday April 20, Sunday April 21 and the morning of Monday April 22. The regular facility Operator, was able to fix the issue with the analyzers on April 22. There were no additional filter runtimes in which turbidity was not being monitored according to the requirements stated in Reg 170.

On September 22 @ 16:14 an alarm was received for PLC communication failure. When the Operator arrived onsite, they could not find the source of the alarm and at the time all operations seemed normal. The Operator received another alarm on September 24 for a filter #1 fault alarm. While troubleshooting the issue, they discovered there was no power to the filter control panel and a breaker was tripped. Nor-tech was brought onsite and they found the breaker itself was broken, they were able to use a spare breaker to correct the issue. After this was complete, the Operator noted the PLC communication alarm cleared. After completing the 72hr data review, the Operator discovered the filter #1 turbidity data had flat lined at 0.04NTU due to the faulty breaker. The actual turbidity data was not recorded from September 22 @ 16:14 to September 24 @ 18:08. As a result of this a loss of data was reported for this timeframe.

The fluoride analyzer at the Espanola WTP has been inoperable since June 2024. In order to meet requirements of Reg 170, daily bench top residuals were to be recorded. The fluoride system is only being used during the Operator's regular scheduled work week. The Operator turns on the system when they arrive Monday morning and shuts it down Friday before leaving. On December 9th, the Operator missed taking a fluoride residual. On Friday December 13th, the Operator forgot to turn off the fluoride feed system and therefore residuals were missed on Saturday December 14th and Sunday December 15th. A residual was collected on December 16th with a result of 0.78mg/L.

### 3.5: AWQIs Reported to the Ministry

Incident Date	Parameter	Result	Unit of Measure	Corrective Action/Comment	Corrective Action Date
n/a					

## SECTION 4: SECTION 11 REPORT

### 4.1: Information to be provided

Population <b>5,185</b> (Stats Canada 2021)		
Does your Drinking-Water System serve more than 10,000 people? <b>No</b>		
Is your annual report available to the public at no charge on a web site on the Internet? <b>Yes</b>		
Location where Summary Report required under O. Reg. 170/03 Schedule 22 will be available for inspection.		Town of Espanola, Municipal Office <b>100 Tudhope Street, Suite 2</b> Espanola, Ontario <b>P5E 1S6</b>
Number of Designated Facilities served: <b>0</b>		
Did you provide a copy of your annual report to all Designated Facilities you serve? <b>NA</b>		
Number of Interested Authorities you report to: <b>0</b>		



Did you provide a copy of your annual report to all Interested Authorities you report to for each Designated Facility? <b>NA</b>
List all Drinking-Water Systems (if any), and their DWS Number which receive all of their drinking water from your system: <b>N/A</b>
Did you provide a copy of your annual report to all Drinking-Water System owners that are connected to you and to whom you provide all of its drinking water? <b>NA</b>
Indicate how you notified system users that your annual report is available, and is free of charge. <b>Public access/notice via a Public Library</b>
Indicate if you notified system users that your annual report is available and is free of charge using an alternate method <b>Yes</b>

#### 4.2: Facility Description

The source of raw water for the Espanola Drinking Water System is Lake Apsey where the intake is located 135 m from shore at a depth of 12m.

The facility includes two solids contact clarifiers, three dual media filters, a clearwell, a pumping station with low lift pumps, three high lift pumps, two backwash pumps, backwash water holding tank with pumps discharging to the sanitary sewer system.

As raw water enters the facility, potassium permanganate is added to improve oxidation of iron and manganese. Alkalinity is boosted and pH is adjusted prior to coagulation and flocculation. After the water is through the reactivator clarifiers and 3 dual media filters, sodium hypochlorite is added for disinfection and hydrofluosilicic acid (fluoride) is added to the water. The water is then pushed through into the facility's reservoir. PH levels are again adjusted and then fed to the 2 clearwells. Prior to entering the distribution, polyphosphates (corrosion control) and sodium hypochlorite is added. The system is equipped with a 275KW diesel generator on site for emergency power.

The distribution includes an elevated storage tank, 5 bleeders with backflow prevention (air gap), a continuous chlorine analyzer and approximately 150 hydrants.

#### 4.3: Chemicals Used

Poly Aluminum Chloride (PAC)	Coagulation
Praestol DW27AG (Polymer)	Coagulation aide
Sodium Hypochlorite 12%	Disinfection
Hydrofluorosilicic Acid (25% HFS)	Fluoride
Soda Ash	Alkalinity and pH control
Poly Ortho Phosphate	Corrosion control
Potassium Permanganate	Oxidizing Agent
Sodium Hydroxide	Alkalinity and pH control

#### 4.4: Significant Expenses

Significant expenses incurred to

- Install required equipment
- Repair required equipment
- Replace required equipment



Work Order	Completion Date	Comment
4000066	09-Oct-24	Clarifier rebuild – \$36,430.80
4050860	10-Seot-24	Fluoride analyzer probe replacement – \$2,264
4143719	23-Oct-24	Repairs to communication failure with water tower – \$9,662.47
	18-Dec-24	Distribution chlorine cap and pH probe, spare turbidity analyzer desiccant cartridge, spare pumphead tubes, sludge pump #2 reset button, SCADA UPS – \$8,959.53

A watermain replacement project was undertaken by the Owner. The project replaced the watermain and appurtenances along Mead Blvd and Second Ave. This consisted of approximately 900m of 400mm diameter watermain on Mead Blvd from Queensway Ave to Second Ave. Along with approximately 125m of 200mm diameter watermain on Second Ave from Mead Blvd to Marguerite St.

#### 4.5: Adverse Water Quality Incidents

Provide details on the notices submitted in accordance with subsection 18(1) of the Safe Drinking-Water Act or section 16-4 of Schedule 16 of O.Reg.170/03 and reported to Spills Action Centre

Incident Date	Parameter	Result	Unit of Measure	Corrective Action/Comment	Corrective Action Date
n/a					

#### 4.6: Microbiological testing done under the Schedule 10, 11 or 12 of Regulation 170/03

	Collected	No. of Samples		Range of E.Coli		Range of Total Coliform Results		Number of HPC		Range of HPC Results	
		Min #	Max #	Min #	Max #	Samples	Min #	Max #		Min #	Max #
Raw Water	53	0	4	0	49	N/A	N/A	N/A		N/A	N/A
Treated Water	53	0	0	0	0	52	0	10			
Distribution	212	0	0	0	0	52	0	10			

#### 4.7: Operational testing done under Schedule 7, 8 or 9 of Regulation 170/03

Parameter	No. of Samples	Range of Results			Units of Measure
		Collected*	Minimum	Maximum	
Turbidity - Filt1	8760	0.01	1.01	NTU	
Turbidity - Filt2	8760	0.01	4.16	NTU	
Turbidity - Filt3	8760	0.01	1.00	NTU	
Free Chlorine Residual - TW	8760	0.96	2.93	mg/L	
Fluoride Residual - TW	8760	0	1.16	mg/L	
Fluoride Residual - TW	92	0.00	1.06	mg/L	
Free Chlorine Residual – DW	8760	0.18	1.69	mg/L	
Free Chlorine Residual – DW 1	103	0.73	1.56	mg/L	



<b>Free Chlorine Residual – DW 2</b>	103	0.49	1.39	mg/L
<b>Free Chlorine Residual – DW 3</b>	103	0.69	1.81	mg/L
<b>Free Chlorine Residual – DW 4</b>	53	0.84	1.53	mg/L

\*8760 is used as number of samples for online data.

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

Date of legal instrument issued	Parameter and limits	Month Sampled	Day Sampled	Result	Unit of Measure
N/A	N/A	N/A	N/A	N/A	N/A
		Annual Average			mg/L

#### 4.9: Summary of Inorganic parameters tested during this reporting period or the most recent sample results

TREATED WATER	Sample Date (yyyy/mm/dd)	Sample Result	MAC	No. of Exceedances	
				MAC	1/2 MAC
<b>Antimony: Sb (ug/L) - TW</b>	2024/01/30	< MDL 0.6	6	No	No
<b>Arsenic: As (ug/L) - TW</b>	2024/01/30	0.2	10	No	No
<b>Barium: Ba (ug/L) - TW</b>	2024/01/30	4.74	1000	No	No
<b>Boron: B (ug/L) - TW</b>	2024/01/30	6	5000	No	No
<b>Cadmium: Cd (ug/L) - TW</b>	2024/01/30	0.004	5	No	No
<b>Chromium: Cr (ug/L) - TW</b>	2024/01/30	0.14	50	No	No
<b>Mercury: Hg (ug/L) - TW</b>	2024/01/30	< MDL 0.01	1	No	No
<b>Selenium: Se (ug/L) - TW</b>	2024/01/30	0.06	50	No	No
<b>Uranium: U (ug/L) - TW</b>	2024/01/30	0.002	20	No	No

TREATED WATER	Sample Date (yyyy/mm/dd)	Sample Result	MAC	No. of Exceedances	
				MAC	1/2 MAC
<b>Fluoride (mg/L) - TW</b>	2022/01/10	0.46	1.5	No	No
<b>Nitrate : (mg/L) - TW</b>	2024/01/30	0.11	10	No	No
<b>Nitrate : (mg/L) - TW</b>	2024/04/15	0.047	10	No	No
<b>Nitrate : (mg/L) - TW</b>	2024/07/22	< MDL 0.006	10	No	No
<b>Nitrate : (mg/L) - TW</b>	2024/10/15	0.013	10	No	No
<b>Nitrite : (mg/L) - TW</b>	2024/01/30	< MDL 0.003	1	No	No
<b>Nitrite : (mg/L) - TW</b>	2024/04/15	< MDL 0.003	1	No	No
<b>Nitrite : (mg/L) - TW</b>	2024/07/22	< MDL 0.003	1	No	No
<b>Nitrite : (mg/L) - TW</b>	2024/10/15	< MDL 0.003	1	No	No
<b>Sodium / Na (mg/L) - TW</b>	2022/01/17	21.5	20*	Yes	Yes

\*There is no "MAC" for Sodium. The aesthetic objective for sodium in drinking water is 200 mg/L. The local Medical Officer of Health should be notified when the sodium concentration exceeds 20 mg/L so that this information may be communicated to local physicians for their use with patients on sodium restricted diets.



## 4.10: Summary of Lead testing under Schedule 15.1 during this reporting period

Location Type	No. of Samples	Range of Results		MAC (ug/L)	Number of Exceedances
		Minimum	Maximum		
<b>Distribution - Lead Results (ug/L)</b>	6	0.01	0.02	N/A	N/A
<b>Distribution - Alkalinity (mg/L)</b>	6	25	31	N/A	N/A
<b>Distribution - pH In-House</b>	6	7.07	7.22	N/A	N/A

## 4.11: Summary of Organic parameters sampled during this reporting period or the most recent results

TREATED WATER	Sample Date (yyyy/mm/dd)	Sample Result	MAC	Number of Exceedances	
				MAC	1/2 MAC
<b>1,1-Dichloroethylene (ug/L)-TW</b>	2024/01/30	< MDL 0.33	14	No	No
<b>1,2-Dichlorobenzene (ug/L)-TW</b>	2024/01/30	< MDL 0.41	200	No	No
<b>1,2-Dichloroethane (ug/L)-TW</b>	2024/01/30	< MDL 0.35	5	No	No
<b>1,4-Dichlorobenzene (ug/L)-TW</b>	2024/01/30	< MDL 0.36	5	No	No
<b>2,3,4,6-Tetrachlorophenol (ug/L)-TW</b>	2024/01/30	< MDL 0.2	100	No	No
<b>2,4,6-Trichlorophenol (ug/L)-TW</b>	2024/01/30	< MDL 0.25	5	No	No
<b>2,4-Dichlorophenol (ug/L)-TW</b>	2024/01/30	< MDL 0.15	900	No	No
<b>2,4-Dichlorophenoxy acetic acid (2,4-D) (ug/L)-TW</b>	2024/01/30	< MDL 0.19	100	No	No
<b>2-methyl-4-chlorophenoxyacetic acid (MCPA) (ug/L)-TW</b>	2024/01/30	< MDL 0.12	100	No	No
<b>Alachlor (ug/L) -TW</b>	2024/01/30	< MDL 0.02	5	No	No
<b>Atrazine + N-dealkylated metabolites (ug/L)-TW</b>	2024/01/30	< MDL 0.01	5	No	No
<b>Azinphos-methyl (ug/L)-TW</b>	2024/01/30	< MDL 0.05	20	No	No
<b>Benzene (ug/L)-TW</b>	2024/01/30	< MDL 0.32	1	No	No
<b>Benzo(a)pyrene (ug/L)-TW</b>	2024/01/30	< MDL 0.004	0.01	No	No
<b>Bromoxynil (ug/L)-TW</b>	2024/01/30	< MDL 0.33	5	No	No
<b>Carbaryl (ug/L)-TW</b>	2024/01/30	< MDL 0.05	90	No	No
<b>Carbofuran (ug/L) -TW</b>	2024/01/30	< MDL 0.01	90	No	No
<b>Carbon Tetrachloride (ug/L) -TW</b>	2024/01/30	< MDL 0.17	2	No	No
<b>Chlorpyrifos (ug/L) -TW</b>	2024/01/30	< MDL 0.02	90	No	No
<b>Diazinon (ug/L)-TW</b>	2024/01/30	< MDL 0.02	20	No	No
<b>Dicamba (ug/L)-TW</b>	2024/01/30	< MDL 0.2	120	No	No
<b>Dichloromethane (Methylene Chloride) (ug/L)-TW</b>	2024/01/30	< MDL 0.35	50	No	No
<b>Diclofop-methyl (ug/L)-TW</b>	2024/01/30	< MDL 0.4	9	No	No
<b>Dimethoate (ug/L)-TW</b>	2024/01/30	< MDL 0.06	20	No	No
<b>Diquat (ug/L)-TW</b>	2024/01/30	< MDL 1	70	No	No
<b>Diuron (ug/L)-TW</b>	2024/01/30	< MDL 0.03	150	No	No
<b>Glyphosate (ug/L)-TW</b>	2024/01/30	< MDL 1	280	No	No
<b>Malathion (ug/L)-TW</b>	2024/01/30	< MDL 0.02	190	No	No



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<b>Metolachlor (ug/L)-TW</b>	2024/01/30	< MDL 0.01	50	No	No
<b>Metribuzin (ug/L)-TW</b>	2024/01/30	< MDL 0.02	80	No	No
<b>Monochlorobenzene (Chlorobenzene) (ug/L)-TW</b>	2024/01/30	< MDL 0.3	80	No	No
<b>Paraquat (ug/L)-TW</b>	2024/01/30	< MDL 1	10	No	No
<b>PCB (ug/L)-TW</b>	2024/01/30	< MDL 0.04	3	No	No
<b>Pentachlorophenol (ug/L)-TW</b>	2024/01/30	< MDL 0.15	60	No	No
<b>Phorate (ug/L)-TW</b>	2024/01/30	< MDL 0.01	2	No	No
<b>Picloram (ug/L)-TW</b>	2024/01/30	< MDL 1	190	No	No
<b>Prometryne (ug/L)-TW</b>	2024/01/30	< MDL 0.03	1	No	No
<b>Simazine (ug/L)-TW</b>	2024/01/30	< MDL 0.01	10	No	No
<b>Terbufos (ug/L)-TW</b>	2024/01/30	< MDL 0.01	1	No	No
<b>Tetrachloroethylene (ug/L)-TW</b>	2024/01/30	< MDL 0.35	10	No	No
<b>Triallate (ug/L) -TW</b>	2024/01/30	< MDL 0.01	230	No	No
<b>Trichloroethylene (ug/L)-TW</b>	2024/01/30	< MDL 0.44	5	No	No
<b>Trifluralin (ug/L)-TW</b>	2024/01/30	< MDL 0.02	45	No	No
<b>Vinyl Chloride (ug/L)-TW</b>	2024/01/30	< MDL 0.17	1	No	No
<b>DISTRIBUTION WATER</b>					
<b>Trihalomethane: Total (ug/L) Annual Average - DW</b>	2024/12/31	46.8	100.00	No	No
<b>HAA Total (ug/L) Annual Average – DW</b>	2024/12/31	44.6	80.0	No	<b>Yes</b>

## SECTION 5: RAW WATER SUBMISSIONS

Raw water flows were submitted to the MECP on January 28, 2025.



Location: WTRS / WT DATA / Input WT Record

WTRS-WT-008

Water Taking Data submitted successfully.

**Confirmation:**

Thank you for submitting your water taking data online.

Permit Number: 8723-AVXQ59

Permit Holder: THE CORPORATION OF THE MUNICIPALITY OF ESPANOLA.

Received on: Jan 28, 2025 10:20 AM

This confirmation indicates that your data has been received by the Ministry, but should not be construed as acceptance of this data if it differs from that specified on the Permit Number, assigned to the Permit Holder stated above.

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TOWN2 ESPANOLA2 | 2025/01/28  
version: v4.5.0.21 (build#: 22)  
Last modified: 2018/09/18



## SECTION 6: CONCLUSION

The Espanola WTP delivers water that, in all its treated and distribution samples, indicates the water to be free of bacteriological contamination.

Based on information available for the 2024 operating year, the Espanola WTP was able to meet the demand of water use without exceeding the PTTW or the MDWL.

## List of Acronyms and Definitions

Alkalinity	The capacity of water for neutralizing an acid solution
AWQI	Adverse Water Quality Incident- when a water sample test result exceeds the Ontario Drinking Water Quality Standards
Backwash	Water pumped backwards to clean filters
BWA	Boil Water Advisory; Issued when risk of contamination is possible in drinking water
CFU	Colony Forming Units
Chlorine Residual	A low level of chlorine remaining in water after disinfection occurs
DW	Distribution Water
DWA	Drinking Water Advisory; Issued when water cannot be consumed by any means
DWWP	Drinking Water Works Permit - provides a description of the overall system
E.Coli	Bacteria used as indicators to measure the degree of pollution and sanitary quality of water
GUDI 170/03	Groundwater Under Direct Influence – Considered to be surface water under O.Reg 170/03
HPC	Heterotrophic Plant Count
L/s	Litres per Second
m <sup>3</sup> /d	Cubic Metres per Day
MAC	Maximum Acceptable Concentration
MDL	Minimum Detection Level
MDWL requirements	Municipal Drinking Water Licence - relates to the operation and performance
mg/L	Miligrams per Litre
Ministry	Ministry of the Environment, Conservation and Parks
MECP	Ministry of the Environment, Conservation and Parks
NDOGN	No Data: Overgrown with Non Target Bacteria
NDOGT	No Data: Overgrown with Target Bacteria
O.Reg	Ontario Regulation
PTTW water	Permit to Take Water – Permit which allows water taking from groundwater or surface water
RW	Raw Water
TC	Total Coliforms
TSS	Total Suspended Solids
Turbidity	Cloudiness or haziness of water
TW	Treated Water



# Appendix A

## Raw Water Flows

**Ontario Clean Water Agency**  
**Annual Water Taking and Transfer Report**

From 1/1/2024 To 12/31/2024

Facility: ESPANOLA DRINKING WATER SYSTEM - 5758

Tag: Flow: Sum(m<sup>3</sup>/d)

Tag Group: Raw Water

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Permit#: 8723-AVXQ59

Coordinate Zone: 17

Source Name: Lake Apsey

Easting: 439966

Source: Lake

Northing: 5119623

Type:

Method deter: Metered

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Purpose: Municipal

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Date Measured	Value (m <sup>3</sup> /d)	Value(Liters)
01/01/2024	3003.0000	3003000.0000
02/01/2024	2152.0000	2152000.0000
03/01/2024	2165.0000	2165000.0000
04/01/2024	2217.0000	2217000.0000
05/01/2024	2208.0000	2208000.0000
06/01/2024	2051.0000	2051000.0000
07/01/2024	2550.0000	2550000.0000
08/01/2024	2226.0000	2226000.0000
09/01/2024	2502.0000	2502000.0000
10/01/2024	4190.0000	4190000.0000
11/01/2024	2262.0000	2262000.0000
12/01/2024	2299.0000	2299000.0000
13/01/2024	1717.0000	1717000.0000
14/01/2024	2407.0000	2407000.0000
15/01/2024	2293.0000	2293000.0000
16/01/2024	2189.0000	2189000.0000
17/01/2024	2318.0000	2318000.0000
18/01/2024	2262.0000	2262000.0000
19/01/2024	2181.0000	2181000.0000
20/01/2024	2300.0000	2300000.0000
21/01/2024	2150.0000	2150000.0000
22/01/2024	2049.0000	2049000.0000
23/01/2024	2128.0000	2128000.0000
24/01/2024	2193.0000	2193000.0000
25/01/2024	2316.0000	2316000.0000
26/01/2024	2250.0000	2250000.0000
27/01/2024	2364.0000	2364000.0000
28/01/2024	2482.0000	2482000.0000

29/01/2024	2428.0000	2428000.0000
30/01/2024	1876.0000	1876000.0000
31/01/2024	2374.0000	2374000.0000
01/02/2024	2186.0000	2186000.0000
02/02/2024	2361.0000	2361000.0000
03/02/2024	2237.0000	2237000.0000
04/02/2024	2227.0000	2227000.0000
05/02/2024	2400.0000	2400000.0000
06/02/2024	1930.0000	1930000.0000
07/02/2024	2200.0000	2200000.0000
08/02/2024	2125.0000	2125000.0000
09/02/2024	2277.0000	2277000.0000
10/02/2024	2194.0000	2194000.0000
11/02/2024	2342.0000	2342000.0000
12/02/2024	1963.0000	1963000.0000
13/02/2024	2183.0000	2183000.0000
14/02/2024	2313.0000	2313000.0000
15/02/2024	2082.0000	2082000.0000
16/02/2024	2280.0000	2280000.0000
17/02/2024	1965.0000	1965000.0000
18/02/2024	2240.0000	2240000.0000
19/02/2024	1838.0000	1838000.0000
20/02/2024	2191.0000	2191000.0000
21/02/2024	2261.0000	2261000.0000
22/02/2024	2412.0000	2412000.0000
23/02/2024	2194.0000	2194000.0000
24/02/2024	2241.0000	2241000.0000
25/02/2024	2403.0000	2403000.0000
26/02/2024	2025.0000	2025000.0000
27/02/2024	1880.0000	1880000.0000
28/02/2024	2218.0000	2218000.0000
29/02/2024	2313.0000	2313000.0000
01/03/2024	2035.0000	2035000.0000
02/03/2024	2304.0000	2304000.0000
03/03/2024	2226.0000	2226000.0000
04/03/2024	2273.0000	2273000.0000
05/03/2024	2045.0000	2045000.0000
06/03/2024	2290.0000	2290000.0000
07/03/2024	2139.0000	2139000.0000
08/03/2024	2282.0000	2282000.0000
09/03/2024	2220.0000	2220000.0000
10/03/2024	1947.0000	1947000.0000
11/03/2024	2089.0000	2089000.0000
12/03/2024	2210.0000	2210000.0000
13/03/2024	2116.0000	2116000.0000
14/03/2024	2012.0000	2012000.0000

15/03/2024	2347.0000	2347000.0000
16/03/2024	1860.0000	1860000.0000
17/03/2024	1873.0000	1873000.0000
18/03/2024	2897.0000	2897000.0000
19/03/2024	1840.0000	1840000.0000
20/03/2024	1884.0000	1884000.0000
21/03/2024	2297.0000	2297000.0000
22/03/2024	2287.0000	2287000.0000
23/03/2024	1880.0000	1880000.0000
24/03/2024	1947.0000	1947000.0000
25/03/2024	2288.0000	2288000.0000
26/03/2024	2370.0000	2370000.0000
27/03/2024	1827.0000	1827000.0000
28/03/2024	2689.0000	2689000.0000
29/03/2024	1815.0000	1815000.0000
30/03/2024	1796.0000	1796000.0000
31/03/2024	1965.0000	1965000.0000
01/04/2024	2430.0000	2430000.0000
02/04/2024	1963.0000	1963000.0000
03/04/2024	2178.0000	2178000.0000
04/04/2024	1869.0000	1869000.0000
05/04/2024	2152.0000	2152000.0000
06/04/2024	1842.0000	1842000.0000
07/04/2024	1982.0000	1982000.0000
08/04/2024	2340.0000	2340000.0000
09/04/2024	1953.0000	1953000.0000
10/04/2024	2378.0000	2378000.0000
11/04/2024	1832.0000	1832000.0000
12/04/2024	1936.0000	1936000.0000
13/04/2024	2406.0000	2406000.0000
14/04/2024	1940.0000	1940000.0000
15/04/2024	3001.0000	3001000.0000
16/04/2024	3221.0000	3221000.0000
17/04/2024	2825.0000	2825000.0000
18/04/2024	2813.0000	2813000.0000
19/04/2024	3255.0000	3255000.0000
20/04/2024	3125.0000	3125000.0000
21/04/2024	2570.0000	2570000.0000
22/04/2024	1935.0000	1935000.0000
23/04/2024	2986.0000	2986000.0000
24/04/2024	3644.0000	3644000.0000
25/04/2024	2052.0000	2052000.0000
26/04/2024	2736.0000	2736000.0000
27/04/2024	2115.0000	2115000.0000
28/04/2024	2118.0000	2118000.0000
29/04/2024	2142.0000	2142000.0000

30/04/2024	2125.0000	2125000.0000
01/05/2024	2532.0000	2532000.0000
02/05/2024	1912.0000	1912000.0000
03/05/2024	2447.0000	2447000.0000
04/05/2024	2191.0000	2191000.0000
05/05/2024	2205.0000	2205000.0000
06/05/2024	2549.0000	2549000.0000
07/05/2024	2240.0000	2240000.0000
08/05/2024	2332.0000	2332000.0000
09/05/2024	2080.0000	2080000.0000
10/05/2024	2434.0000	2434000.0000
11/05/2024	2001.0000	2001000.0000
12/05/2024	2442.0000	2442000.0000
13/05/2024	2522.0000	2522000.0000
14/05/2024	2498.0000	2498000.0000
15/05/2024	2593.0000	2593000.0000
16/05/2024	2918.0000	2918000.0000
17/05/2024	2555.0000	2555000.0000
18/05/2024	2744.0000	2744000.0000
19/05/2024	2762.0000	2762000.0000
20/05/2024	2870.0000	2870000.0000
21/05/2024	3537.0000	3537000.0000
22/05/2024	3468.0000	3468000.0000
23/05/2024	3496.0000	3496000.0000
24/05/2024	3674.0000	3674000.0000
25/05/2024	2917.0000	2917000.0000
26/05/2024	3144.0000	3144000.0000
27/05/2024	3111.0000	3111000.0000
28/05/2024	2959.0000	2959000.0000
29/05/2024	3498.0000	3498000.0000
30/05/2024	3189.0000	3189000.0000
31/05/2024	4035.0000	4035000.0000
01/06/2024	3541.0000	3541000.0000
02/06/2024	3620.0000	3620000.0000
03/06/2024	3409.0000	3409000.0000
04/06/2024	3710.0000	3710000.0000
05/06/2024	3243.0000	3243000.0000
06/06/2024	2873.0000	2873000.0000
07/06/2024	3019.0000	3019000.0000
08/06/2024	2909.0000	2909000.0000
09/06/2024	2843.0000	2843000.0000
10/06/2024	3321.0000	3321000.0000
11/06/2024	3835.0000	3835000.0000
12/06/2024	4066.0000	4066000.0000
13/06/2024	3356.0000	3356000.0000
14/06/2024	4319.0000	4319000.0000

15/06/2024	3788.0000	3788000.0000
16/06/2024	3645.0000	3645000.0000
17/06/2024	4243.0000	4243000.0000
18/06/2024	3743.0000	3743000.0000
19/06/2024	3243.0000	3243000.0000
20/06/2024	3243.0000	3243000.0000
21/06/2024	3243.0000	3243000.0000
22/06/2024	3243.0000	3243000.0000
23/06/2024	3243.0000	3243000.0000
24/06/2024	3243.0000	3243000.0000
25/06/2024	3193.0000	3193000.0000
26/06/2024	3452.0000	3452000.0000
27/06/2024	3329.0000	3329000.0000
28/06/2024	3201.0000	3201000.0000
29/06/2024	2873.0000	2873000.0000
30/06/2024	2827.0000	2827000.0000
01/07/2024	3608.0000	3608000.0000
02/07/2024	3511.0000	3511000.0000
03/07/2024	3252.0000	3252000.0000
04/07/2024	3230.0000	3230000.0000
05/07/2024	3308.0000	3308000.0000
06/07/2024	2938.0000	2938000.0000
07/07/2024	3430.0000	3430000.0000
08/07/2024	3654.0000	3654000.0000
09/07/2024	3573.0000	3573000.0000
10/07/2024	3467.0000	3467000.0000
11/07/2024	4111.0000	4111000.0000
12/07/2024	4259.0000	4259000.0000
13/07/2024	3960.0000	3960000.0000
14/07/2024	3583.0000	3583000.0000
15/07/2024	4000.0000	4000000.0000
16/07/2024	4296.0000	4296000.0000
17/07/2024	3608.0000	3608000.0000
18/07/2024	4140.0000	4140000.0000
19/07/2024	4180.0000	4180000.0000
20/07/2024	3320.0000	3320000.0000
21/07/2024	4262.0000	4262000.0000
22/07/2024	4639.0000	4639000.0000
23/07/2024	3743.0000	3743000.0000
24/07/2024	3290.0000	3290000.0000
25/07/2024	3252.0000	3252000.0000
26/07/2024	4312.0000	4312000.0000
27/07/2024	3977.0000	3977000.0000
28/07/2024	4238.0000	4238000.0000
29/07/2024	4283.0000	4283000.0000
30/07/2024	3939.0000	3939000.0000

31/07/2024	4684.0000	4684000.0000
01/08/2024	4440.0000	4440000.0000
02/08/2024	4553.0000	4553000.0000
03/08/2024	4531.0000	4531000.0000
04/08/2024	4260.0000	4260000.0000
05/08/2024	4235.0000	4235000.0000
06/08/2024	4901.0000	4901000.0000
07/08/2024	4553.0000	4553000.0000
08/08/2024	4394.0000	4394000.0000
09/08/2024	4784.0000	4784000.0000
10/08/2024	3064.0000	3064000.0000
11/08/2024	3262.0000	3262000.0000
12/08/2024	3601.0000	3601000.0000
13/08/2024	4310.0000	4310000.0000
14/08/2024	4374.0000	4374000.0000
15/08/2024	4460.0000	4460000.0000
16/08/2024	3388.0000	3388000.0000
17/08/2024	3034.0000	3034000.0000
18/08/2024	2544.0000	2544000.0000
19/08/2024	3714.0000	3714000.0000
20/08/2024	3300.0000	3300000.0000
21/08/2024	3908.0000	3908000.0000
22/08/2024	3475.0000	3475000.0000
23/08/2024	3955.0000	3955000.0000
24/08/2024	3417.0000	3417000.0000
25/08/2024	4110.0000	4110000.0000
26/08/2024	4160.0000	4160000.0000
27/08/2024	3324.0000	3324000.0000
28/08/2024	3383.0000	3383000.0000
29/08/2024	3439.0000	3439000.0000
30/08/2024	3033.0000	3033000.0000
31/08/2024	3043.0000	3043000.0000
01/09/2024	3580.0000	3580000.0000
02/09/2024	3842.0000	3842000.0000
03/09/2024	3655.0000	3655000.0000
04/09/2024	3438.0000	3438000.0000
05/09/2024	3341.0000	3341000.0000
06/09/2024	2962.0000	2962000.0000
07/09/2024	2823.0000	2823000.0000
08/09/2024	2881.0000	2881000.0000
09/09/2024	2791.0000	2791000.0000
10/09/2024	2939.0000	2939000.0000
11/09/2024	3114.0000	3114000.0000
12/09/2024	3156.0000	3156000.0000
13/09/2024	3394.0000	3394000.0000
14/09/2024	3510.0000	3510000.0000

15/09/2024	3591.0000	3591000.0000
16/09/2024	3321.0000	3321000.0000
17/09/2024	4759.0000	4759000.0000
18/09/2024	3615.0000	3615000.0000
19/09/2024	3580.0000	3580000.0000
20/09/2024	3486.0000	3486000.0000
21/09/2024	2886.0000	2886000.0000
22/09/2024	2792.0000	2792000.0000
23/09/2024	3666.0000	3666000.0000
24/09/2024	3506.0000	3506000.0000
25/09/2024	4209.0000	4209000.0000
26/09/2024	3444.0000	3444000.0000
27/09/2024	4231.0000	4231000.0000
28/09/2024	3675.0000	3675000.0000
29/09/2024	2601.0000	2601000.0000
30/09/2024	3165.0000	3165000.0000
01/10/2024	3696.0000	3696000.0000
02/10/2024	4665.0000	4665000.0000
03/10/2024	3307.0000	3307000.0000
04/10/2024	2838.0000	2838000.0000
05/10/2024	3134.0000	3134000.0000
06/10/2024	2883.0000	2883000.0000
07/10/2024	3412.0000	3412000.0000
08/10/2024	3881.0000	3881000.0000
09/10/2024	4292.0000	4292000.0000
10/10/2024	2558.0000	2558000.0000
11/10/2024	2377.0000	2377000.0000
12/10/2024	2000.0000	2000000.0000
13/10/2024	2141.0000	2141000.0000
14/10/2024	2177.0000	2177000.0000
15/10/2024	2878.0000	2878000.0000
16/10/2024	2083.0000	2083000.0000
17/10/2024	2251.0000	2251000.0000
18/10/2024	2196.0000	2196000.0000
19/10/2024	2210.0000	2210000.0000
20/10/2024	2112.0000	2112000.0000
21/10/2024	2535.0000	2535000.0000
22/10/2024	1990.0000	1990000.0000
23/10/2024	2284.0000	2284000.0000
24/10/2024	2249.0000	2249000.0000
25/10/2024	2004.0000	2004000.0000
26/10/2024	2044.0000	2044000.0000
27/10/2024	2169.0000	2169000.0000
28/10/2024	2255.0000	2255000.0000
29/10/2024	2072.0000	2072000.0000
30/10/2024	1971.0000	1971000.0000

31/10/2024	2291.0000	2291000.0000
01/11/2024	2213.0000	2213000.0000
02/11/2024	2090.0000	2090000.0000
03/11/2024	2092.0000	2092000.0000
04/11/2024	2203.0000	2203000.0000
05/11/2024	2059.0000	2059000.0000
06/11/2024	2001.0000	2001000.0000
07/11/2024	2459.0000	2459000.0000
08/11/2024	2213.0000	2213000.0000
09/11/2024	2102.0000	2102000.0000
10/11/2024	2011.0000	2011000.0000
11/11/2024	2335.0000	2335000.0000
12/11/2024	2054.0000	2054000.0000
13/11/2024	2112.0000	2112000.0000
14/11/2024	2072.0000	2072000.0000
15/11/2024	1979.0000	1979000.0000
16/11/2024	2133.0000	2133000.0000
17/11/2024	2498.0000	2498000.0000
18/11/2024	2077.0000	2077000.0000
19/11/2024	1914.0000	1914000.0000
20/11/2024	2151.0000	2151000.0000
21/11/2024	2006.0000	2006000.0000
22/11/2024	1947.0000	1947000.0000
23/11/2024	2007.0000	2007000.0000
24/11/2024	2100.0000	2100000.0000
25/11/2024	2196.0000	2196000.0000
26/11/2024	1926.0000	1926000.0000
27/11/2024	2209.0000	2209000.0000
28/11/2024	1662.0000	1662000.0000
29/11/2024	2244.0000	2244000.0000
30/11/2024	1740.0000	1740000.0000
01/12/2024	2436.0000	2436000.0000
02/12/2024	2249.0000	2249000.0000
03/12/2024	2147.0000	2147000.0000
04/12/2024	2026.0000	2026000.0000
05/12/2024	1968.0000	1968000.0000
06/12/2024	1993.0000	1993000.0000
07/12/2024	1988.0000	1988000.0000
08/12/2024	2348.0000	2348000.0000
09/12/2024	1766.0000	1766000.0000
10/12/2024	2222.0000	2222000.0000
11/12/2024	1941.0000	1941000.0000
12/12/2024	2424.0000	2424000.0000
13/12/2024	2179.0000	2179000.0000
14/12/2024	2048.0000	2048000.0000
15/12/2024	2382.0000	2382000.0000

16/12/2024	2108.0000	2108000.0000
17/12/2024	1900.0000	1900000.0000
18/12/2024	2426.0000	2426000.0000
19/12/2024	1853.0000	1853000.0000
20/12/2024	2446.0000	2446000.0000
21/12/2024	2428.0000	2428000.0000
22/12/2024	2720.0000	2720000.0000
23/12/2024	2530.0000	2530000.0000
24/12/2024	2650.0000	2650000.0000
25/12/2024	2469.0000	2469000.0000
26/12/2024	2017.0000	2017000.0000
27/12/2024	2444.0000	2444000.0000
28/12/2024	2614.0000	2614000.0000
29/12/2024	2567.0000	2567000.0000
30/12/2024	2159.0000	2159000.0000
31/12/2024	2282.0000	2282000.0000