

Espanola Hub 148 Fleming St. Suite 5 Espanola, ON P5E IR8

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February 28, 2024

Alton Hobbs, Chief Administrative Officer
The Corporation of the Township of Assiginack
156 Arthur St. P.O. Box 238
Manitowaning, Ontario
POP 1N0

Re; O. Reg. 170 Section 11 & Schedule 22 Annual Reporting under SDWA

O. Reg 387 Section 9 Annual Reporting under OWRA

For the Sunsite Estates Water Treatment Plant

Waterworks No.: 220008471

Dear Mr. Hobbs:

Attached are the 2023 Annual and Summary Reports for the Sunsite Estates Water System. The Reports are based on information provided by Operators as of February 20, 2024 in accordance with Section 11 and Schedule 22 of O. Reg. 170/03, under the Safe Drinking Water Act. A confirmation of submission of the PTTW reporting, as required by O.Reg 387, is included as part of the report.

Please note that any Orders that you have received directly from the MECP or any major expense incurred by the Municipality which is not listed should be reviewed and added to the report.

As per Schedule 22 of O. Reg. 170/03, this Summary Report is to be provided to the members of the municipal council no later than March 31, 2024. Please ensure this distribution.

Section 12 of O. Reg. 170.03, requires both the Summary Report and the Annual Report be made available for inspection by any member of the public during normal business hours, without charge. The reports should be made available for inspection at the office of the municipality or at a location that is reasonably convenient to the users of the water system.

Sincerely,

Sarah Beaulieu

Process & Compliance Technician

Ontario Clean Water Agency

Sunsite Estates Drinking Water System

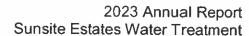
Small Municipal Residential Drinking Water System

January 1, 2023 - December 31, 2023

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 Municipality of Assiginack







Drinking-Water System Number:

Drinking-Water System Name:

Drinking-Water System Owner: Drinking-Water System Category: 210008426

Sunsite Estates Drinking Water System

Corporation of the Municipality of Assiginack

Small 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, 2024.

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.

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



SECTION 3: SCHEDULE 22 REPORT

Flows - Treated

In accordance with the Municipal Drinking Water License (MDWL), the Sunsite Estates WTP shall not be operated to exceed a maximum daily volume of 220 m3/d to the distribution system.

The daily treated water maximum flow was 133.68 m3 in July and represents 61% of capacity. In 2023, the total volume of water sent to the distribution system was 28.095.44 m3

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

Flows - Raw

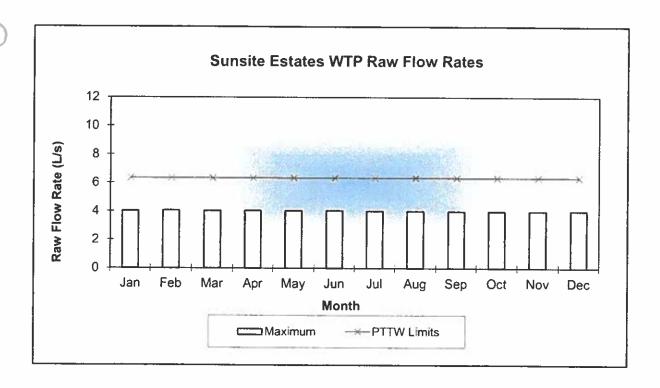
Daily raw maximum instantaneous flow is stated in the PTTW at a maximum rate of flow of 6.32 L/s and a maximum daily volume of 276.48 m³/d.

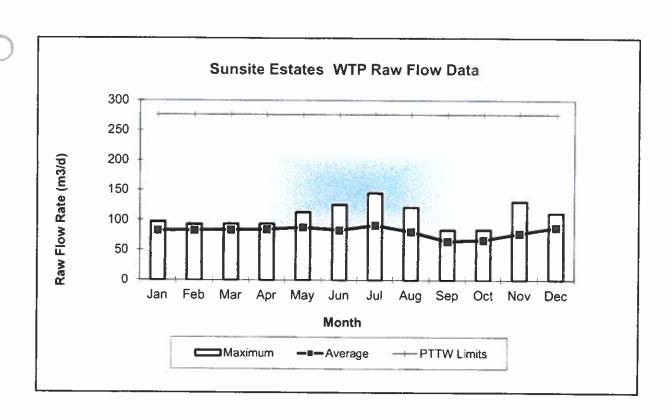
The average monthly raw water flow for this reporting period was \$1.45 m3/d. The maximum daily flow was 144.94 m3/d representing 52% of water taking limits. In 2023, the total volume of water taken from the environment was 29,730.46 m3

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

	RAW WATER F	LOW DATA - TO	TAL ALL SOU	RCES								
or first to the telephone process around the contract and all contract and all contracts.	Total		Maximum	Maximum	Lin	Limits						
Month	Monthly Flow (m3)	Average Flow (m3/3573d)	Flow (m3/d)	Flow Rate (L/s)	L/s (PTTW)	m³/d (PTTW)						
January	2,564.19	82.72	97.17	4.02	6.32	276.48						
February	2,326.43	83.09	93.1	4.05	6.32	276.48						
March	2.611.05	84.23	93.64	4.03	6.32	276.48						
April	2,540,39	84.68	93.61	4.04	6.32	276.48						
May	2,733.99	88.19	113.19	4.03	6.32	276.48						
June	2,507.53	83.58	126.04	4.03	6.32	276.48						
July	2.843.54	91.73	144.94	4.01	6.32	276.48						
August	2,508.37	80.92	121.1	4	6.32	276.48						
September	1,951.9	65.06	83.38	3.98	6.32	276.48						
October	2,079.37	67.08	83.99	3.99	6.32	276.48						
November	2,336.53	77.88	130.76	3.98	6.32	276.48						
December	2,727.18	87.97	111.36	4.01	6.32	276.48						
Total	29,730.46											
Average		81.45										
Maximum			144.94	4.05	6.32	276.48						









Annual Raw Water Review

Raw Water	Total Taking	Average Day	Max Day	Max Day % of PTTW allowable
Taking	m3/d	m3/d	m3/d	276.48 m3/d
2023	29,730.46	81.45	144.94	52%
2022	29,295.8	80.26	244.7	88.5%
2021	24,390.13	66.82	146.72	53%
2020	21,928.56	59.91	161.18	58%
2019	16,219	44.44	409	39%

System Failures and Corrective Actions

The latest inspection of the drinking water facility took place on July 13, 2023. The facility scored 0/528 providing a rating of 100%

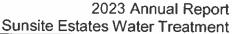
AWQIs reported to the Ministry

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

SECTION 4: SECTION 11 REPORT

information to be provided

Population Served	65
Does your Drinking-Water System serve more than 10,000 people?	No
Is your annual report available to the public at no charge on a web site on the Internet?	Yes
Location where Summary Report required under O. Reg. 170/03 Schedule 22 will be available for inspection.	Township of Assiginack, Municipal Office 156 Arthur Street Sunsite Estates, Ontario POP 1N0
Number of Designated Facilities served:	0
Did you provide a copy of your annual report to all Designated Facilities you serve?	NA
Number of Interested Authorities you report to:	0
Did you provide a copy of your annual report to all Interested Authorities you report to for each Designated Facility?	NA
List all Drinking-Water Systems (if any), and their DWS Number which receive all of their drinking water from your system:	N/A





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?

Indicate how you notified system users that your annual report is available, and is free of charge.

Indicate if you notified system users that your annual report is available and is free of charge using an alternate method

Yes

Facility consists of an Evoqua Filter membrane filtration plant supplying water to Sunsite Estates drawing water from Manitowaning Bay, Lake Huron. The low lift building supplies water to the WTP via a single LLP. The LL Building also contains a sodium hypochlorite dosing system for seasonal control of zebra mussels. The water treatment plant consists of two membrane filter trains a chlorine contact reservoir, clear well and three submersible high lift pumps supplying the village. Primary disinfection is achieved through the use of liquid sodium hypochlorite. The Municipal Drinking Water License has a capacity of 220m3/d Waste water sludge is stored on site and periodically removed to disposal while the supernatant is discharged back to the Lake.

Chemicals Used

Sodium Hypochlorite (12%)	Disinfection and clean-in-place
Sodium Hydroxide	Neutralization of wastewater
Citric Acid	Clean-in-place
Calcium Thiosulphate (Captor)	Dechlorination of reject water & wastewater

Significant Expenses

Significant expenses incurred to

[] Install required equipment

[] Repair required equipment

[X] Replace required equipment

Work Order	Date Completed	Comment
3527573	13-Dec-23	Replacement of 3 turbidity analyzers – \$20,026.27
	31-Dec-23	Purchased pressure relief valve for low lift building - \$3,921.18

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	Comment / Corrective Action	Corrective Action Date
n/a	n/a	n/a	n/a	n/a	n/a



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

	No. of Samples	Range	of E.Coli		of Total m Results	Number of	Range of HPC Results	
_	Collected	Min#	Max#	Min#	Max#	HPC Samples	Min#	Max#
Raw Water	N/A							
Treated Water	N/A							
Distribution	27	0	0	0	0	27	0	1

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

	No. of Samples	Range o	Units of	
	Collected	Minimum	Maximum	Measure
Turbidity – Filter 1	8760	0	0.755	(NTU)
Turbidity – Filter 2	8760	0	0.091	(NTU)
Free Chlorine Residual – TW	8760	1.02	3.24	(mg/L)
Free Chlorine Residual, Distribution	106	0.96	2.18	(mg/L)

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
	Backwash (BW) Total	Jan	-23	<2	mg/L
254-101	Suspended Solids (TSS)	Feb			mg/L
		Mar			mg/L
Issue Date: January 24,	25 mg/L annual average	Apr	17	-3	mg/L
2022	Quarterly samples	May			mg/L
		Jun			mg/L
Expiry Date: January 23,		Jul	17	7	mg/L
2027		Aug			mg/L
		Sep			mg/L
		Oct	17	-3	mg/L
		Nov			mg/L
		Dec			mg/L
		Annual Av	erage	3.75	mg/L

Date of legal instrument issued	Parameter and limits	Month Sampled	Day Sampled	Result	Unit of Measure
	Total Chlorine Residual	Jan	23	0.01	mg/L
254-101		Feb			mg/L
	0.02 mg/L annual average	Mar			mg/L
Issue Date: January 24,	Quarterly samples	Арг	17	0.00	mg/L
2022		May	-		mg/L
		Jun			mg/L
Expiry Date: January 23,	İ	Jul	17	0.02	mg/L
2027		Aug			mg/L
		Sep			mg/L
		Oct	17	0.02	mg/L
		Nov			mg/L
		Dec			mg/L
		Annual Av	erage/	0.0125	mg/L



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

	Sample Date	Sample Result	MAC	No. of Ex	ceedances
TREATED WATER	(yyyy/mm/dd)			MAC	1/2 MAC
Antimony: Sb (ug/L) - TW	2019/01/16	0.11	6.0	No	No
Arsenic: As (ug/L) - TW	2019/01/16	0.3	25.0	No	No
Barium: Ba (ug/L) - TW	2019/01/16	12.1	1000.0	No	No
Boron: B (ug/L) - TW	2019/01/16	11.0	5000.0	No	No
Cadmium: Cd (ug/L) - TW	2019/01/16	<mdl 0.003<="" td=""><td>5.0</td><td>No</td><td>No</td></mdl>	5.0	No	No
Chromium: Cr (ug/L) - TW	2019/01/16	0.13	50.0	No	No
Mercury: Hg (ug/L) - TW	2019/01/16	<mdl 0.01<="" td=""><td>1.0</td><td>No</td><td>No</td></mdl>	1.0	No	No
Selenium: Se (ug/L) - TW	2019/01/16	0.09	10.0	No	No
Uranium: U (ug/L) - TW	2019/01/16	0.149	20.0	No	No

	Sample Date	Sample Result	MAC	No. of Ex	ceedances
TREATED WATER	(yyyy/mm/dd)			MAC	1/2 MAC
Fluoride (mg/L) - TW	2019/01/16	0.08	1.5	No	No
Nitrate : (mg/L) - TW	2023/01/23	0.172	10	No	No
Nitrate : (mg/L) - TW	2023 04/17	0.198	10	No	No
Nitrate : (mg/L) - TW	2023/07/17	0.12	10	No	No
Nitrate : (mg/L) - TW	2023/10/17	0.12	10	No	No
Nitrite : (mg/L) - TW	2023/01/23	< MDL 0.003	1	No	No
Nitrite : (mg/L) - TW	2023/04/17	< MDL 0.003	1	No	No
Nitrite : (mg/L) - TW	2023/07/17	< MDL 0.003	1	No	No
Nitrite : (mg/L) - TW	2023/10/17	< MDL 0.003	1	No	No
Sodium / Na (mg/L) - TW	2019/01/16	6.08	20*	No	No

^{*}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.

Summary of Lead testing under Schedule 15.1 during this reporting period

Location Type	Number of Samples	Range o	of Results	MAC	Number of Exceedances
		Minimum	Maximum	(ug/L)	!
Distribution - Lead Results (ug/L)	n/a			10	0
Distribution - Alkalinity (mg/L)	2	70	71	n/a	n/a
Distribution - pH In-House	2	7.22	8.31	n/a	n/a





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

TREA	TED WATER	Sample Date (yyyy/mm/dd)	Sample Result	MAC	1	mber of edances
					MAC	1/2 MAC
Alachlor (ug/L) - TW		2019/01/16	<mdl 0.02<="" td=""><td>5.0</td><td>No</td><td>No</td></mdl>	5.0	No	No
Atrazine + N-dealkylated r	netabolites (ug/L) - TW	2019/01/16	<mdl 0.01<="" td=""><td>5.0</td><td>No</td><td>No</td></mdl>	5.0	No	No
Azinphos-methyl (ug/L) -	TW	2019/01/16	<mdl 0.05<="" td=""><td>20.0</td><td>No</td><td>No</td></mdl>	20.0	No	No
Benzene (ug/L) - TW		2019/01/16	<mdl 0.32<="" td=""><td>1.0</td><td>No</td><td>No</td></mdl>	1.0	No	No
Benzo(a)pyrene (ug/L) - T	W	2019/01/16	<mdl 0.004<="" td=""><td>0.01</td><td>No</td><td>No</td></mdl>	0.01	No	No
Bromoxynil (ug/L) - TW		2019/01/16	<mdl 0.33<="" td=""><td>5.0</td><td>No</td><td>No</td></mdl>	5.0	No	No
Carbaryl (ug/L) - TW		2019/01/16	<mdl 0.05<="" td=""><td>90.0</td><td>No</td><td>No</td></mdl>	90.0	No	No
Carbofuran (ug/L) - TW		2019/01/16	<mdl 0.01<="" td=""><td>90.0</td><td>No</td><td>No</td></mdl>	90.0	No	No
Carbon Tetrachloride (ug/I	L) - TW	2019/01/16	<mdl 0.16<="" td=""><td>2.0</td><td>No</td><td>No</td></mdl>	2.0	No	No
Chlorpyrifos (ug/L) - TW		2019/01/16	<mdl 0.02<="" td=""><td>90.0</td><td>No</td><td>No</td></mdl>	90.0	No	No
Diazinon (ug/L) - TW		2019/01/16	<mdl 0.02<="" td=""><td>20.0</td><td>No</td><td>No</td></mdl>	20.0	No	No
Dicamba (ug/L) - TW		2019/01/16	<mdl 0.2<="" td=""><td>120.0</td><td>No</td><td>No</td></mdl>	120.0	No	No
1,2-Dichlorobenzene (ug/L	.) - TW	2019/01/16	<mdl 0.41<="" td=""><td>200.0</td><td>No</td><td>No</td></mdl>	200.0	No	No
1,4-Dichlorobenzene (ug/L	.) - TW	2019/01/16	<mdl 0.36<="" td=""><td>5.0</td><td>No</td><td>No</td></mdl>	5.0	No	No
1,2-Dichloroethane (ug/L)	- TW	2019/01/16	<mdl 0.35<="" td=""><td>5.0</td><td>No</td><td>No</td></mdl>	5.0	No	No
1,1-Dichloroethylene (ug/I	_) - TW	2019/01/16	<mdl 0.33<="" td=""><td>14.0</td><td>No</td><td>No</td></mdl>	14.0	No	No
Dichloromethane (Methyle	ene Chloride) (ug/L) - TW	2019/01/16	<mdl 0.35<="" td=""><td>50.0</td><td>No</td><td>No</td></mdl>	50.0	No	No
2,4-Dichlorophenol (ug/L)	- TW	2019/01/16	<mdl 0.15<="" td=""><td>900.0</td><td>No</td><td>No</td></mdl>	900.0	No	No
2.4-Dichlorophenoxy aceti	c acid (2,4-D) (ug/L) - TW	2019/01/16	<mdl 0.19<="" td=""><td>100.0</td><td>No</td><td>No</td></mdl>	100.0	No	No
Diclofop-methyl (ug/L) - T	W	2019/01/16	<mdl 0.4<="" td=""><td>9.0</td><td>No</td><td>No</td></mdl>	9.0	No	No
Dimethoate (ug/L) - TW		2019/01/16	<mdl 0.06<="" td=""><td>20.0</td><td>No</td><td>No</td></mdl>	20.0	No	No
Diquat (ug/L) - TW		2019/01/16	<mdl 1.0<="" td=""><td>70.0</td><td>No</td><td>No</td></mdl>	70.0	No	No
Diuron (ug/L) - TW		2019/01/16	<mdl 0.03<="" td=""><td>150.0</td><td>No</td><td>No</td></mdl>	150.0	No	No
Glyphosate (ug/L) - TW		2019/01/16	<mdl 1.0<="" td=""><td>280.0</td><td>No</td><td>No</td></mdl>	280.0	No	No
Malathion (ug/L) - TW		2019/01/16	<mdl 0.02<="" td=""><td>190.0</td><td>No</td><td>No</td></mdl>	190.0	No	No
2-methyl-4-chlorophenoxy TW	racetic acid (MCPA) (mg/L) -	2019/01/16	<mdl 0.01<="" td=""><td>50.0</td><td>N/A</td><td>N/A</td></mdl>	50.0	N/A	N/A
Metolachlor (ug/L) - TW		2019/01/16	<mdl 0.02<="" td=""><td>80.0</td><td>No</td><td>No</td></mdl>	80.0	No	No
Metribuzin (ug/L) - TW		2019/01/16	<mdl 0.3<="" td=""><td>80.0</td><td>No</td><td>No</td></mdl>	80.0	No	No
Monochlorobenzene (Chlo	robenzene) (ug/L) - TW	2019/01/16	<mdl 1.0<="" td=""><td>10.0</td><td>No</td><td>No</td></mdl>	10.0	No	No
Paraquat (ug/L) - TW		2019/01/16	<mdl 0.04<="" td=""><td>3.0</td><td>No</td><td>No</td></mdl>	3.0	No	No
PCB (ug/L) - TW		2019/01/16	<mdl 0.15<="" td=""><td>60.0</td><td>No</td><td>No</td></mdl>	60.0	No	No
Pentachlorophenol (ug/L)	- TW	2019/01/16	<mdl 0.01<="" td=""><td>2.0</td><td>No</td><td>No</td></mdl>	2.0	No	No
Phorate (ug/L) - TW		2019/01/16	<mdl 1.0<="" td=""><td>190.0</td><td>No</td><td>No</td></mdl>	190.0	No	No
Picloram (ug/L) - TW		2019/01/16	<mdl 0.03<="" td=""><td>1.0</td><td>No</td><td>No</td></mdl>	1.0	No	No
Prometryne (ug/L) - TW		2019/01/16	<mdl 0.01<="" td=""><td>10.0</td><td>No</td><td>No</td></mdl>	10.0	No	No
Simazine (ug/L) - TW		2019/01/16	<mdl 0.01<="" td=""><td>1.0</td><td>No</td><td>No</td></mdl>	1.0	No	No
Terbufos (ug/L) - TW		2019/01/16	<mdl 0.35<="" td=""><td>10.0</td><td>No</td><td>No</td></mdl>	10.0	No	No
Tetrachloroethylene (ug/L)) - TW	2019/01/16	<mdl 0.2<="" td=""><td>100.0</td><td>No</td><td>No</td></mdl>	100.0	No	No
2,3,4,6-Tetrachlorophenol	(ug/L) - TW	2019/01/16	<mdl 0.01<="" td=""><td>230.0</td><td>No</td><td>No</td></mdl>	230.0	No	No
Triallate (ug/L) - TW		2019/01/16	<mdl 0.44<="" td=""><td>5.0</td><td>No</td><td>No</td></mdl>	5.0	No	No



2023 Annual Report Sunsite Estates Water Treatment

		Sunsite	States v	vateri	realment
Trichloroethylene (ug/L) - TW	2019/01/16	<mdl 0.25<="" td=""><td>5.0</td><td>No</td><td>No</td></mdl>	5.0	No	No
2,4,6-Trichlorophenol (ug/L) - TW	2019/01/16	<mdl 0.12<="" td=""><td>100.0</td><td>No</td><td>No</td></mdl>	100.0	No	No
Trifluralin (ug/L) - TW	2019/01/16	<mdl 0.02<="" td=""><td>45.0</td><td>No</td><td>No</td></mdl>	45.0	No	No
Vinyl Chloride (ug/L) - TW	2019/01/16	<mdl 0.17<="" td=""><td>1.0</td><td>No</td><td>No</td></mdl>	1.0	No	No
DISTRIBUTION WATER					
Trihalomethane: Total (ug/L) Annual Average - DW	2023/12/31	33.0	100.00	No	No
HAA Total (ug/L) Annual Average – DW	2023/12/31	17.2	80.0	No	No

SECTION 5: RAW WATER SUBMISSIONS

Raw water flows were submitted to the Ministry on January 24, 2024.



Location: WTRS / WT DATA / Input WT Record

WIRS WT DOS

Confirmation:	
Thank you for Submitting your water taking data online.	
Permit Number: 7151-ABEK4P Permit Holder: THE CORPORATION OF THE TOWNSHIP OF ASSIGNACK. Received on:Jan 24, 2024-2:06-PM	
This confirmation indicates that your data has been received by the Ministry, but should not be construed as acceptance if it differs from that specified on the Permit Number, assigned to the Permit Holder stated above.	le of this data
Return to Main Page	

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SECTION 6: CONCLUSION

The Sunsite Estates 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 2023 operating year, the Sunsite Estates WTP was able to meet the demand of water use without exceeding the PTTW or the MDWL.



List of Acronyms and Definitions

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 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 Groundwater Under Direct Influence – Considered to be surface water under O.Reg 170/03 HPC Heterotrophic Plant Count L/s Litres per Second m3/d Cubic Metres per Day MAC Maximum Acceptable Concentration MDL Minimum Detection Level MDWL municipal Drinking Water Licence - relates to the operation and performance requirements 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 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	Alkalinity	The capacity of water for neutralizing an acid solution
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 Groundwater Under Direct Influence - Considered to be surface water under O.Reg 170/03 HPC Heterotrophic Plant Count L/s Litres per Second M3/d Cubic Metres per Day MAC Maximum Acceptable Concentration MDL Minimum Detection Level MDWL Municipal Drinking Water Licence - relates to the operation and performance requirements 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 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		
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E.Coli Bacteria used as indicators to measure the degree of pollution and sanitary quality of water GUDI Groundwater Under Direct Influence – Considered to be surface water under O.Reg 170/03 HPC Heterotrophic Plant Count L/s Litres per Second m3/d Cubic Metres per Day MAC Maximum Acceptable Concentration MDL Minimum Detection Level MDWL Municipal Drinking Water Licence - relates to the operation and performance requirements 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 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	DWWP	
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L/s Litres per Second m3/d Cubic Metres per Day MAC Maximum Acceptable Concentration MDL Minimum Detection Level MDWL Municipal Drinking Water Licence - relates to the operation and performance requirements 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 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	170/03	
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MDWL requirements 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 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		
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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 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	requirements	
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 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		
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NDOGT No Data: Overgrown with Target Bacteria O.Reg Ontario Regulation PTTW 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		Ministry of the Environment, Conservation and Parks
O.Reg Ontario Regulation PTTW 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		
PTTW water RW Raw Water TC Total Coliforms TSS Total Suspended Solids Turbidity Permit to Take Water – Permit which allows water taking from groundwater or surface water RW Raw Water Total Coliforms Total Suspended Solids Cloudiness or haziness of water	NDOGT	No Data: Overgrown with Target Bacteria
water RW Raw Water TC Total Coliforms TSS Total Suspended Solids Turbidity Cloudiness or haziness of water		Ontario Regulation
RW Raw Water TC Total Coliforms TSS Total Suspended Solids Turbidity Cloudiness or haziness of water	PTTW	Permit to Take Water - Permit which allows water taking from groundwater or surface
TC Total Coliforms TSS Total Suspended Solids Turbidity Cloudiness or haziness of water	water	
TSS Total Suspended Solids Turbidity Cloudiness or haziness of water		
Turbidity Cloudiness or haziness of water		
TW Treated Water		
	TW	Treated Water



Appendix A

Raw Water Flows

Ontario Clean Water Agency Annual Water Taking and Transfer Report

From 01/01/2023 To 12/31/2023

Facility: SUNSITE ESTATES DRINKING WATER SYSTEM-5785

Tag: Raw Flow: Sum (m3/d)

Tag Group: Raw Water

Permit#: 7151-ABEK4P Source Name: Lake Huron

Source: Lake Type:

Purpose: Communal

Coordinate Zone: 17 Easting: 435400 Northing: 5074000

Method deter: Metered

—		
Date Measured	Value (m³/d)	Value (Litres)
01/01/2023	75.2080	75208.0002
02/01/2023	92.1040	92103.9963
03/01/2023	83.4050	83404.9988
04/01/2023	73.3760	73375.9995
05/01/2023	86.7950	86794.9982
06/01/2023	77.1960	77195.9991
07/01/2023	85.8040	85804.0009
08/01/2023	93.1530	93152.9999
09/01/2023	78.1870	78186.9965
10/01/2023	79.4470	79446.9986
11/01/2023	79.9520	79952.0035
12/01/2023	89.3540	89353.9963
13/01/2023	78.1290	78128.9978
14/01/2023	83.6530	83652.9999
15/01/2023	82.7660	82765.9988
16/01/2023	83.8350	83834.9991
17/01/2023	81.9710	81971.0007
18/01/2023	82.1780	82178.0014
19/01/2023	79.2410	79240.9973
20/01/2023	77.6330	77633.0032
21/01/2023	96.5020	96501.9989
22/01/2023	75.1250	75125.0000
23/01/2023 24/01/2023	97.1670	97166.9998
25/01/2023	83.8560	83856.0028
26/01/2023	71.0320 92.1590	71031.9977
27/01/2023	68.6910	92158.9966
28/01/2023	91,5780	68691.0019
29/01/2023	76.5780	91578.0029
30/01/2023	84.3320	76578,0029
31/01/2023	83.7870	84332.0007 83787.0026
01/02/2023	75.3660	75365.9973
02/02/2023	88.0260	88026.0010
03/02/2023	84.8860	84886 0016
04/02/2023	75.9310	75930 9998
05/02/2023	93.1000	93099.9985
06/02/2023	69.9520	69952.0035
07/02/2023	91.8910	91890.9988
08/02/2023	82.7640	82763.9999
09/02/2023	77.8670	77866.9968
10/02/2023	90.5190	90518.9972
11/02/2023	83.1480	83148.0026
11.02.2020	00,1700	33170.0020

12/02/2023	83.3680	83367.9962
13/02/2023	79.8390	79838.9969
14/02/2023	80.8440	80844.0018
15/02/2023	84.7910	84791.0004
16/02/2023	83.5900	83589.9963
17/02/2023	82.1580	82157.9971
18/02/2023		
	84.6330	84633.0032
19/02/2023	83.5810	83581.0013
20/02/2023	81.9180	81917.9993
21/02/2023	81.7670	81766.9983
22/02/2023	81.5290	81528.9993
23/02/2023	78.1040	78103.9963
24/02/2023	85.7430	85742.9962
25/02/2023	85.1520	85152.0004
26/02/2023	91.3490	91348.9990
27/02/2023	76.5750	76574.9969
28/02/2023	88.0390	88039.0015
01/03/2023	84.3050	84305.0003
02/03/2023	83.2160	83216.0034
03/03/2023	79.4060	79405.9982
04/03/2023	83.6200	83620.0027
05/03/2023	84.3050	84305.0003
06/03/2023	82.4350	82434.9976
07/03/2023	84.3410	84341.0034
08/03/2023	82.1250	82125.0000
09/03/2023	81.6570	81656.9977
10/03/2023	78.4520	78452.0035
11/03/2023	85.7980	85797.9965
12/03/2023	85.4190	85418.9987
13/03/2023	88.1720	88171.9971
14/03/2023	87.0580	87057.9987
15/03/2023	84.5630	84563,0035
16/03/2023	84.5830	84583.0002
17/03/2023	89.9810	89981.0028
18/03/2023	93.6420	93641.9983
19/03/2023	71.4830	71483.0017
20/03/2023	93.4390	93439.0030
21/03/2023	77.8350	77834.9991
22/03/2023	82 2910	82291.0004
23/03/2023	91,6740	91674.0036
24/03/2023	91.1070	91107.0023
25/03/2023	82.8320	82832.0007
26/03/2023	76.1050	76105.0034
27/03/2023		
	78.9860	78986.0001
28/03/2023	89.4880	89487.9990
29/03/2023	92.2480	92248.0011
30/03/2023	69.4200	69419.9982
31/03/2023	91.0590	91058.9981
01/04/2023	80.9370	80936.9965
02/04/2023	84 2070	84207.0007
03/04/2023	76.4380	76438.0035
04/04/2023	91.4380	91438.0035
05/04/2023	76.8900	76889.9994
06/04/2023	89.1340	89134.0027
07/04/2023	88.6530	88652.9999
08/04/2023	80.1560	80155.9982
09/04/2023	83.3240	83323.9975
10/04/2023	81.1210	81121.0022
11/04/2023	81.5400	81540.0009
12/04/2023	83.1060	83106.0028
13/04/2023	90.0820	90082-0007
. 5. 5 2 52 5	00.0020	30002.0007

14/04/2023	86.6860	86685,9970
15/04/2023	91.6770	
		91677.0020
16/04/2023	77.4880	77487.9990
17/04/2023	87.3100	87309.9976
18/04/2023	83.5190	83518.9972
19/04/2023	85.2430	85242.9962
20/04/2023	82.8930	82892.9977
21/04/2023	93.5990	93598.9990
22/04/2023	84.0310	84030.9982
23/04/2023	83.7590	83759.0027
24/04/2023	76.9030	76902.9999
25/04/2023	81.0890	81088.9969
26/04/2023	82.0030	82002.9984
27/04/2023	82.9170	82916.9998
28/04/2023	92.2110	92210.9985
29/04/2023	93.6100	93610.0006
30/04/2023	88.4220	88421.9971
01/05/2023	82.3400	82339.9963
02/05/2023	80.4180	80417.9993
03/05/2023	80.5330	80532.9971
04/05/2023	82.5210	82521.0037
05/05/2023	91.0820	91082.0007
06/05/2023	92.7670	92766.9983
07/05/2023	83.8330	83833.0002
08/05/2023	80.6600	80660.0037
09/05/2023	87.1620	87162.0026
10/05/2023	82.6620	82662.0026
11/05/2023	87.7830	87782.9971
12/05/2023	92.3460	92346.0007
13/05/2023	87.9450	87944.9997
14/05/2023	88.3510	88350.9979
15/05/2023	92.5950	92595.0012
16/05/2023	85.8040	85804.0009
17/05/2023	86.5780	86578.0029
18/05/2023	83.5670	83567.0013
19/05/2023	93.7210	93721.0007
20/05/2023	85.8730	85873.0011
21/05/2023	87.5900	87589.9963
22/05/2023	85.8970	85897.0032
23/05/2023	91,4010	91401.0010
24/05/2023	92.3230	92322.9980
25/05/2023	80.2060	80206.0013
26/05/2023	87.1620	87162.0026
27/05/2023	95.5930	95593.0023
28/05/2023	113.1890	113189.0030
29/05/2023	106.2360	106236.0001
30/05/2023	97.5310	97530.9982
31/05/2023	68.3170	68317.0013
01/06/2023	71.0680	71068.0008
02/06/2023	91.8590	91859.0012
03/06/2023	70.1080	70108.0017
04/06/2023	105,4950	105495.0027
05/06/2023	92,4180	92417.9993
1000		
06/06/2023	80.9310	80930.9998
07/06/2023	63.9190	63918.9987
08/06/2023	86.8970	86897.0032
09/06/2023	101.1310	101130.9967
10/06/2023	99,9270	99927,0020
11/06/2023	58.8310	58831,0013
12/06/2023	54.8230	54823,0019
13/06/2023	45.6870	45687,0003

14/06/2023	59.3530	59353.0006
15/06/2023	52.5250	52525-0015
16/06/2023	86.8510	86850.9979
17/06/2023	115.2230	115222.9996
18/06/2023	96.1140	96113.9984
19/06/2023	87.0100	87010.0021
20/06/2023	94.9790	94978.9963
21/06/2023	108,9220	108921.9971
22/06/2023	105.9720	105972.0001
23/06/2023	126.0350	126035.0037
24/06/2023	121.7750	121775.0015
		70
25/06/2023	109.7060	109706.0013
26/06/2023	57.5970	57597.0001
27/06/2023	57.3870	57387.0010
28/06/2023	58.1000	58099.9985
29/06/2023	71.8100	71809.9976
30/06/2023	75.0770	75077.0035
01/07/2023	104.8530	104852.9968
02/07/2023	125.6350	125635.0021
03/07/2023	144.9420	144942.0013
04/07/2023	109.1750	109175.0031
05/07/2023	75.5310	75530.9982
06/07/2023	65.7260	65725,9979
07/07/2023	61.4280	61428.0014
08/07/2023	76.3530	76352.9968
09/07/2023	82.0970	82097.0001
10/07/2023	90.1160	90115.9973
11/07/2023	87.7450	87745.0027
12/07/2023	83.3940	83393.9972
13/07/2023	87.6490	87649.0021
14/07/2023	84.8580	84858.0017
15/07/2023	80 8770	80876.9989
16/07/2023	91.7280	91727.9968
17/07/2023	87.8360	87835.9985
(4.25) (4.25)		
18/07/2023	126 9830	126983.0017
19/07/2023	105.3720	105372.0016
20/07/2023	87.9870	87986.9995
21/07/2023	87.2470	87247.0016
22/07/2023	90.3200	90319.9997
23/07/2023	93 2200	93220.0012
24/07/2023	98.4490	98448 9975
25/07/2023	101.4310	101430.9998
26/07/2023	73.5260	73526.0010
27/07/2023	81.4870	81486.9995
28/07/2023	90.7640	90763.9999
29/07/2023	96.1790	96179.0009
30/07/2023	99.0440	99043.9987
31/07/2023	71.5900	71589.9963
01/08/2023	77.6080	77608.0017
02/08/2023	90.7000	90699.9969
03/08/2023	88.8000	88800.0031
04/08/2023	87.3480	87347.9996
05/08/2023	102.9360	102935.9970
06/08/2023	121,1020	121101.9974
07/08/2023	69.4120	69412.0026
08/08/2023	95 2280	95227.9968
09/08/2023	105.8450	105845.0012
10/08/2023	76.2220	76222.0001
11/08/2023	83.3680	83367.9962
12/08/2023	77,1440	77143,9972
13/08/2023	77,7390	77738.9984

14/08/2023	100.8000	100800.0031
15/08/2023	89.7560	89755-9967
16/08/2023	90.0470	90046 9971
17/08/2023	73.6020	73601.9974
18/08/2023	64.3720	64372.0016
19/08/2023	89.2760	89276.0010
20/08/2023	78.6470	78647.0032
21/08/2023	75.5550	75555,0003
22/08/2023	70.3180	70318.0008
23/08/2023	60.7330	60733.0017
24/08/2023	70,8180	70818,0008
25/08/2023	74.4540	74454.0024
26/08/2023	80.1720	80171.9971
27/08/2023	85.1130	85112.9990
28/08/2023	74.9140	74914.0015
29/08/2023	53.8690	53868.9995
30/08/2023	57.7300	57729.9995
31/08/2023	64.7450	64745-0027
01/09/2023	55.3700	
		55369.9989
02/09/2023	76.6210	76621.0022
03/09/2023	83.3830	83383.0032
04/09/2023	76.3660	76365.9973
05/09/2023	58.4690	58469.0018
06/09/2023	70.9870	70986.9995
07/09/2023	55.3930	55393.0016
08/09/2023	54.7630	54763.0005
09/09/2023	74.3900	74389.9994
10/09/2023	64_6490	64649.0021
11/09/2023	68.2690	68268.9972
12/09/2023	53.2950	53294.9982
13/09/2023	53.8850	53884.9983
14/09/2023	57.1010	57101.0017
15/09/2023	52.8120	52812.0003
16/09/2023	72.9880	72987.9990
17/09/2023	71.5180	71517.9977
18/09/2023	60.1340	60133.9989
19/09/2023	56.7130	56713,0013
20/09/2023	62.4550	62455.0018
21/09/2023	64.9480	64947.9980
22/09/2023	74.9060	74905.9982
23/09/2023	77.9740	77973.9990
	1/2	
24/09/2023	62.0850	62084.9991
25/09/2023	73.5540	73554.0009
26/09/2023	54.9890	54988.9984
27/09/2023	77.5310	77530.9982
28/09/2023	60.3420	60341.9991
29/09/2023	58,9380	58937.9997
30/09/2023	67.0710	67070.9991
01/10/2023	54.0100	54009.9983
02/10/2023	61.7230	61722.9996
03/10/2023	66.3440	66344.0018
04/10/2023	66.5140	66513.9999
05/10/2023	60.7180	60717.9985
06/10/2023	58.3220	58321.9986
07/10/2023	70.1690	70168.9987
08/10/2023	69.8050	69805.0003
09/10/2023	70.5590	70558.9981
10/10/2023	46.9610	46960.9985
11/10/2023	72.7450	72745.0027
12/10/2023	70.6970	70696,9986
13/10/2023	66.2510	66250.9995

14/10/2023	70.2770	70277.0004
15/10/2023	71.2830	71282.9971
16/10/2023	71.3090	71308.9981
17/10/2023	60.2720	60271.9994
18/10/2023	57.8840	57883.9989
19/10/2023	83.9880	83987.9990
20/10/2023	65.1560	65155-9982
21/10/2023	66.6850	66684.9976
22/10/2023	55.9270	55926.9981
23/10/2023	67.9090	67908.9966
24/10/2023	75.9850	75985.0006
25/10/2023	62.2050	62205.0018
26/10/2023	70.4850	70485.0006
27/10/2023	67.1350	67135.0021
28/10/2023	77.8340	77833.9996
29/10/2023	79.1030	79102.9968
30/10/2023	68.6930	68693.0008
31/10/2023	72.4180	72417.9993
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01/11/2023	61_8100	61810.0014
02/11/2023	80.5350	80535.0037
03/11/2023	66.0780	66078.0029
04/11/2023	68.0400	68040.0009
05/11/2023	86.6400	86639.9994
06/11/2023	66.3160	66316.0019
07/11/2023	65.2200	65220.0012
08/11/2023	73.6530	73652,9999
09/11/2023	78.0480	78047.9965
10/11/2023	70.7110	70710.9985
11/11/2023	64.7290	64728.9963
12/11/2023	87.4170	87416.9998
13/11/2023	74.8570	74857.0023
14/11/2023	71.5550	71555.0003
15/11/2023	86.5290	86528.9993
16/11/2023	90.2650	90264,9994
17/11/2023	67.2390	67238.9984
18/11/2023	91.9900	91989,9979
19/11/2023	77.5260	77526.0010
20/11/2023	84.3840	84384.0027
21/11/2023	77.5340	77533.9966
22/11/2023	89.7870	89787.0026
23/11/2023	70.6720	70671.9971
24/11/2023	87.7810	87780.9982
25/11/2023	72.5000	72500.0000
26/11/2023	92.9050	92904.9988
27/11/2023	34.7770	34777.0004
28/11/2023	130.7550	130755.0049
29/11/2023	77.1850	
		77184.9976
30/11/2023	89.0910	89091.0034
01/12/2023	77.0540	77054.0009
02/12/2023	82.2320	82232.0023
03/12/2023	91.0650	91065.0024
04/12/2023	85.0680	85068.0008
05/12/2023	77.8890	77888.9999
06/12/2023	94.3760	94375.9995
07/12/2023	86.0910	86091.0034
08/12/2023	95.5290	95528.9993
09/12/2023	101,4890	101488.9984
10/12/2023	111.3600	111360.0006
11/12/2023	92.8650	92864.9979
12/12/2023	93.3120	93311.9965
13/12/2023	93,6770	93677.0020
. 0 1. 2020	55.0110	55511.0020

14/12/2023	83.4640	83463.9969
15/12/2023	88.0180	88017.9977
16/12/2023	91.6580	91657.9971
17/12/2023	88.1610	88161.0031
18/12/2023	71.2370	71236.9995
19/12/2023	90.4170	90416.9998
20/12/2023	91.4630	91462.9974
21/12/2023	79.3440	79344.0018
22/12/2023	94.0980	94097.9996
23/12/2023	71.6190	71619.0033
24/12/2023	93.1300	93129.9973
25/12/2023	83.0870	83086.9980
26/12/2023	82.5140	82513.9999
27/12/2023	93.8000	93800.0031
28/12/2023	76.7220	76722.0001
29/12/2023	87.2210	87221.0007
30/12/2023	92.5350	92535.0037
31/12/2023	86 6830	86682.9987