

Espanola Water Treatment

Large Municipal Residential Drinking Water System

January 1, 2015 – December 31, 2015

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



Ontario Clean Water Agency
Agence Ontarienne Des Eaux



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, 2016.

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

Flows

In accordance with the Municipal Drinking Water License (MDWL), the Espanola WTP shall not be operated to exceed a maximum flow of 10,500 m³/d to the distribution system.

The daily treated water maximum flow was 5,948 m³ in July and represents 56.6% of capacity.

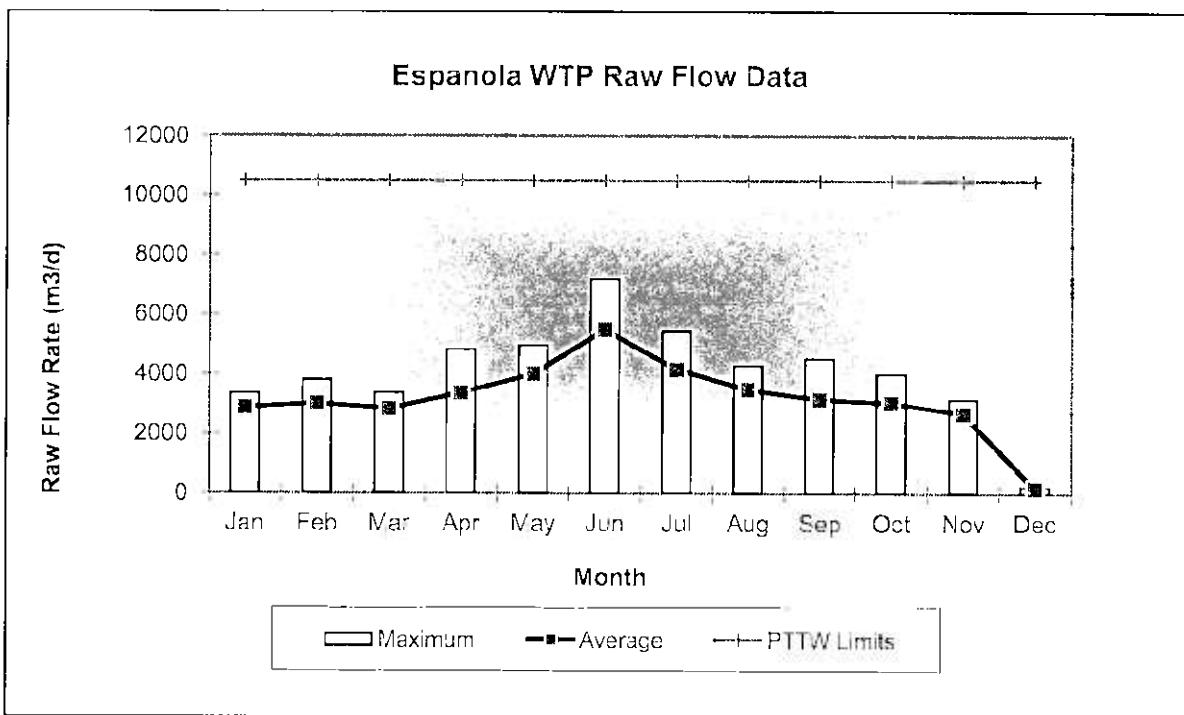
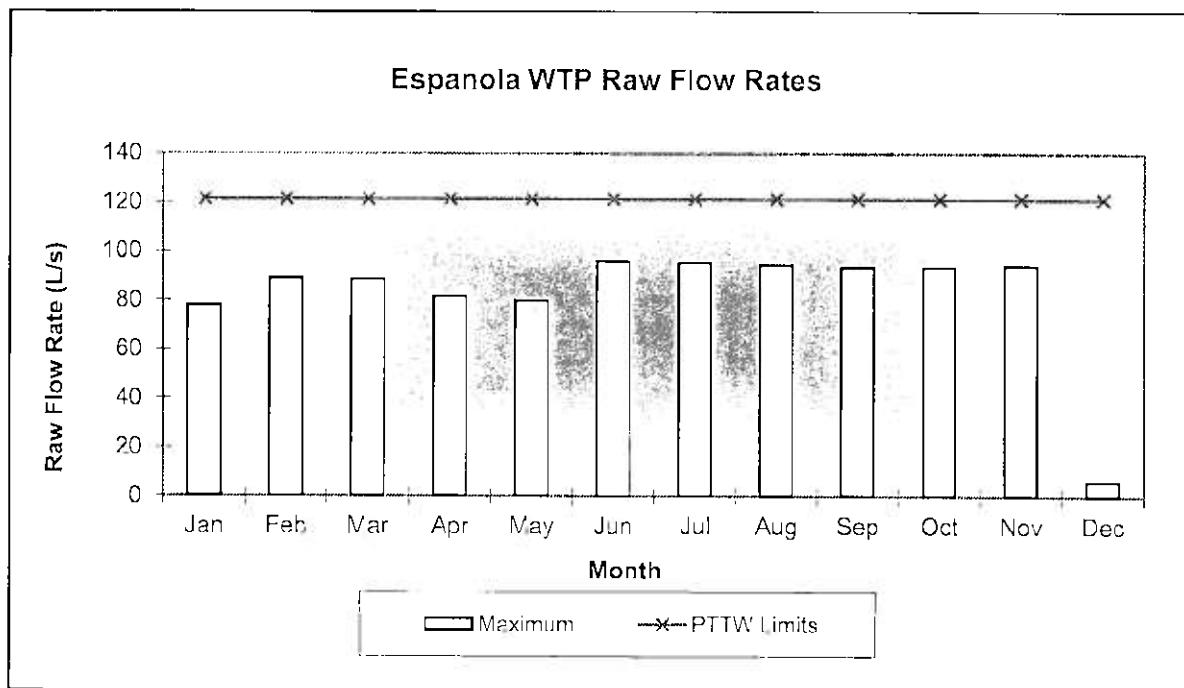
Daily raw maximum instantaneous flow is stated in the PTTW at a maximum rate of flow of 121.53 L/s and a maximum daily volume of 10,500.0 m³/d.

The average monthly raw water flow for this reporting period was 3,427.5 m³/d. The maximum daily flow was 7,187 m³/d representing 68.4% of water taking limits.

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

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

Month	RAW WATER FLOW DATA - Apsey Lake					
	Total Monthly Flow (m ³)	Average Flow (m ³ /d)	Maximum Flow (m ³ /d)	Maximum Flow Rate (L/s)	Limits	
					L/s (PTTW)	m ³ /d (PTTW)
January	90,272	2,912	3,483	78.03	121.53	10,500.0
February	80,627	2,879.54	3,352	77.94	121.53	10,500.0
March	93,507	3,016.35	3,803	88.81	121.53	10,500.0
April	85,345	2,844.83	3,370	88.49	121.53	10,500.0
May	104,526	3,371.81	4,826	81.51	121.53	10,500.0
June	120,351	4,011.7	4,969	79.82	121.53	10,500.0
July	170,514	5,500.45	7,187	95.83	121.53	10,500.0
August	128,999	4,161.26	5,445	95.46	121.53	10,500.0
September	104,576.5	3,485.88	4,287	94.6	121.53	10,500.0
October	97,931	3,159.06	4,532	93.78	121.53	10,500.0
November	91,424	3,047.47	4,011	93.71	121.53	10,500.0
December	82,956	2,676	3,165	94.38	121.53	10,500.0
Total	1,251,028.5					
Average		3,427.5				
Maximum			7,187	95.83	121.53	10,500.0





Annual Raw Water Review

Raw Water Taking	Total Taking (m ³ /d)	Average Day (m ³ /d)	Max Day (m ³ /d)	Max Day % of PTTW allowable 10,500 (m ³ /d)
2015	1,251,029	3,427.5	7,187	68.4
2014	1,154,739	3,198.7	7,111	67.7
2013	1,208,770	3,311.7	7,370	70.0
2012	1,434,427	3,919.2	6,791	64.7
2011	1,403,578	3,843.0	8,590	81.8

System Failures and Corrective Actions

The latest inspection of the drinking water facility took place on October 28, 2015. The facility scored 30/765 providing a rating of 96.08%.

The fluoride program was the main topic of concern for the inspector. The fluoride analyzer has been reading erratically for some time and it was decided to discontinue the injection of fluoride into the drinking water until such time that dosages could be measured accurately. Multiple operators, maintenance personnel and manufacturer representatives attempted to troubleshoot the equipment. A decision was made to resume fluoride injection and to collect treated water samples to test for fluoride residuals as per Reg 170/03 which also states that for every test a record be made of the date, time, location, name of the person conducting the test and result of the test. On a few occasions, the operator failed to record the sample time or their name in the logs.

Fluoride was only introduced into drinking water from Monday to Friday as dosages could not be determined over the weekend. On 2 occasions, the fluoride system was activated late in the day and grab samples were not taken until the following day. Regulations require a sample be taken daily.

The fluoride analyzer is listed as required equipment within the facility's DWWP and must therefore be in use at all times. Given that the analyzer was not functioning for some length of time, it was listed as a non compliance. Additionally, the raw flow meter failed and was replaced six weeks later. During this 6 week period, raw flows were estimated based on a set flow rate instead of being accurately measured.

During routine rounds on July 16th, it was noticed that treated water chlorine residual trends were no longer recording properly. Chlorine residuals were taken with a handheld and confirmed no loss of chlorine within the drinking water system. The operator took multiple chlorine residuals with a handheld unit while attempting calibrations but did not take them at 5 minute intervals as required by O.Reg 170/03. A new probe was installed in the analyzer and trending was restored. A report was made to the MOECC on July 16, 2015.



AWQIs reported to the Ministry

Incident Date	Parameter	Result	Unit of Measure	Corrective Action/Comment	Corrective Action Date
20-May-2015	Coagulant	Improper dosage	N/A	Coagulant dosage was restored and water was wasted from the clarifiers and filters until turbidity levels were below 0.03 NTU.	May 20, 2015
19-Aug-15	Total Coliform	19	CFU/100m	Bacti samples were taken to confirm TC values were sampling errors and not contamination of the drinking water system.	21-Aug-15
11-Sep-15	Chlorine	0.04	mg/L	Low chlorine was seen due to a failed bleeder line. System was flushed and Bacti tests were done. Bleeder line was repaired.	13-Sep-15
19-Oct-2015	Chlorine	0.03	mg/l	Chlorine was restored and affected area was flushed. Bacteriological (bacti) samples were taken.	23-Oct-2015
10-Nov-15	Pressure	0	PSI	BWA issued due to hydrant relocation and service line installation. System was flushed, chlorine was restored and Bacti samples were taken 24 hours apart.	13-Nov-15
25-Nov-15	Pressure	0	PSI	BWA issued. Pressure was lost while performing emergency water main replacement. A valve was replaced, the system was flushed and bactis were taken 24 hours apart.	01-Dec-15



SECTION 4: SECTION 11 REPORT

Information

Population Served 5,364 (Stats Canada 2011)	
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	
Town of Espanola, Municipal Office Location where Summary Report required under O. Reg. 170/03 100 Tudhope Street, Suite 2 Schedule 22 will be available for inspection. Espanola, Ontario P5E 1S6	
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? NA	
Indicate how you notified system users that your annual report is available, and is free of charge. Public access/notice via a Public Library	
Indicate if you notified system users that your annual report is available and is free of charge using an alternate method Yes	

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.



Chemicals Used

Poly Aluminum Chloride (PAC)	Coagulation
MagnaFloc LT 27 AG (Polymer)	Coagulation aide
Sodium Hypochlorite 12%	Disinfection
Hydrofluorosilicic Acid (25% HF'S)	Fluoride
Soda Ash	Alkalinity and pH control
Poly Ortho Phosphate	Corrosion control
Carbon Dioxide	Alkalinity and pH control
Potassium Permanganate	Oxidizing Agent
Sodium Hydroxide	Alkalinity and pH control

Significant Expenses

Significant expenses incurred to

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

Work Order	Completion Date	Comment
9127	24-Dec-15	ESPAÑOLA FILTER #3 UNDERDRAIN REPLACEMENT. EXCAVATOR REQ'D TO REMOVE MATERIAL FROM WATER FILTRATION PIT Double T contracted to remove old filter media from Filter. Removed all bolts and clamps, remove all underdrain baffles. Fabricate and bolt Stainless steel angle on both sides of the underdrain trough. Install new rubber gasket strips on floor. Refit underdrain baffles with new gaskets. Reinstall all other equipment. Refill with new Filter media
2243	24-Dec-15	'CHANGE BEARING IN CLARIFIER BOTTOM END BY SPEC & SONS PLUMBING & HEATING LTD Ongoing maintenance of clarifiers that include changing gear box oils on 3 of 4 remaining gear boxes. Replace pillow block bearings recently received from Wajax for both mechanical scraper drive shafts. Waiting on one more belt that was ordered for mechanical mixer drives. Currently in the process of acquiring an estimate/ ordering two new automatic motor base tensioners #601 for drive belt motor assemblies.
5824	24-Aug-15	SUBMERSIBLE SLUDGE PUMP REPAIRED When pump was called to start to draw down the sludge tank it kept tripping the breaker. Tried multiple times to get the pump to start but tripped the breaker each time. Locked it out and now running off other sludge pump. The pump will be pulled and sent in to be repaired.
N/A	N/A	NEW BACKWASH PUMP MOTOR
5244	17-Dec-15	'INSTALL FILTER DIFFERENTIAL PRESSURE TRANSMITTERS ON FILTERS Nortech was onsite to install the new pressure transmitters. After installation they were tested and no issues were found.
1735	12-Jun-15	REMOVE & REPLACE RAW WATER FLOW METER Siemens flow meter installed by Spec Mechanical and wired up by Barry Lee.
4463	22-Dec-15	DIAPHRAGM FOR POLYMER PUMP -Noticed that the polymer pump had faulted. When pump had been reset it was noticed that it was spraying polymer out the diaphragm rupture port. Shut pump down and inspected. Diaphragm is broken and needs to be replaced. Purchasing one to replace this broken one and another to have on hand.



1512	24-Feb-15	REPLACE PROBES ON FLUORIDE ANALYZER -Flushed out and cleaned the fluoride analyzer system. Replaced the fluoride, reference and pH probes for the fluoride analyzer. Tried to get the system running by using a stock solution for calibration. Was unable to get the analyzer to read the fluoride residual. Will continue work on the system. Unplugged system, removed probes and inspected wires and connections to analyzer. Performed multiple calibrations using the new probes and old probes in different combinations. Determined new fluoride probe may be unserviceable. Stored old Reference and PT100 probes and decommissioned new Fluoride probe in deionized water for the time being. Performed a single point calibration with new Reference, PT100 and old Fluoride probe. Reading is accurate. Will monitor tomorrow for Fluoride to reach sampling point of analyzer for readings.
3753	22-Oct-15	DIST. CHLORINE ANALYZER PROBE Purchased and installed
5837	21-Jul-15	SLUDGE SUB. PUMP REPAIRED Submersible sludge pump in the sludge tank failed to start. Tried resetting the breaker but pump tripped it right away. Will be pulling pumps and sending them for repair.
5835	2016	MATERIAL FOR FLUORIDE PANEL INSTALLATION Install new fluoride panel in fluoride room with unistrut. Install new double wall chemical tank. Run new tubing to pumps and relief valve from tank.
9160	2016	NEW FREE CHLORINE ANALYZER
9054	2016	NEW CHLORINE ANALYZER
5244	17-Dec-15	FILTER 2 & 3 DIFFERENTIAL PRESSURE TRANSMITTERS Nortech was onsite to install the new pressure transmitters. After installation they were tested and no issues were found.
N/A	N/A	REPLACE MAIN BREAKER ON EMERGENCY GENERATOR
3247665		REPL. WORN IMPELLOR DRIVE BEARING GUIDE
2656921		Purchase of materials to build chemflare chemical board for the Espanola WTP.

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
20-May-15	Coagulant	Improper Dosage	N/A	Coagulant dosage was restored and water was wasted from the clarifiers and filters until turbidity levels were below 0.03 NTU.	May 20, 15
19-Aug-15	Total Coliform	19	CFU/100m	Bacti samples were taken to confirm TC values were sampling errors and not contamination of the drinking water system.	21-Aug-15
11-Sep-15	Chlorine	0.04	mg/l	Low chlorine was seen due to a failed bleeder line. System was flushed and Bacti tests were done. Bleeder line was repaired.	13-Sep-15
19-Oct-15	Chlorine	0.03	mg/l	Chlorine was restored and affected area was flushed. Bacteriological (bacti) samples were taken.	23-Oct-15



10-Nov-15	Pressure	0	PSI	BWA issued due to hydrant relocation and service line installation. System was flushed, chlorine was restored and Bacti samples were taken 24 hours apart.	13-Nov-15
25-Nov-15	Pressure	0	PSI	BWA issued. Pressure was lost while performing emergency water main replacement. A valve was replaced, the system was flushed and bactis were taken 24 hours apart.	01-Dec-15

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

No. of Samples Collected	Range of E.Coli		Range of Total Coliform Results		Number of HPC Samples	Range of HPC Results	
	Min #	Max #	Min #	Max #		Min #	Max #
	52	0	44	0	108	N/A	N/A
Treated Water	53	0	0	0	0	52	0
Distribution	208	0	0	0	19	52	0

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

	No. of Samples Collected*	Range of Results		Units of Measure
		Minimum	Maximum	
Turbidity - Filt1	8760	0.001	0.52	NTU
Turbidity - Filt2	8760	0.001	0.63	NTU
Turbidity - Filt3	8760	0.001	0.98	NTU
Free Chlorine Residual - TW	8760	0.41	4.35	mg/L
Fluoride Residual - TW	8760	0	1.33	mg/L
Fluoride Residual - DW	173	0	0.67	mg/L
Free Chlorine Residual - DW	8760	0.38	4.62	mg/L
Free Chlorine Residual - DW 1	9	1.38	1.85	mg/L
Free Chlorine Residual - DW 2	11	1.26	1.92	mg/L
Free Chlorine Residual - DW 3	11	1.14	2.07	mg/L
Free Chlorine Residual - DW 4	8	1.21	2.01	mg/L

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



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	Jan	N/A	N/A	mg/L
		Feb	N/A	N/A	mg/L
		Mar	N/A	N/A	mg/L
		Apr	N/A	N/A	mg/L
		May	N/A	N/A	mg/L
		Jun	N/A	N/A	mg/L
		Jul	N/A	N/A	mg/L
		Aug	N/A	N/A	mg/L
		Sep	N/A	N/A	mg/L
		Oct	N/A	N/A	mg/L
		Nov	N/A	N/A	mg/L
		Dec	N/A	N/A	mg/L
		Annual Average			mg/L

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

TREATED WATER	Sample Date (mm/dd/yyyy)	Sample Result	MAC	No. of Exceedances	
				MAC	1/2 MAC
Antimony: Sb (ug/L) - TW	1/21/2015	0.08	6.0	No	No
Arsenic: As (ug/L) - TW	1/21/2015	0.2	25.0	No	No
Barium: Ba (ug/L) - TW	1/21/2015	5	1000.0	No	No
Boron: B (ug/L) - TW	1/21/2015	5.4	5000.0	No	No
Cadmium: Cd (ug/L) - TW	1/21/2015	<MDL 0.003	5.0	No	No
Chromium: Cr (ug/L) - TW	1/21/2015	0.05	50.0	No	No
Mercury: Hg (ug/L) - TW	1/21/2015	0.02	1.0	No	No
Selenium: Se (ug/L) - TW	1/21/2015	<MDL 1.0	10.0	No	No
Uranium: U (ug/L) - TW	1/21/2015	<MDL 0.002	20.0	No	No

TREATED WATER	Sample Date (mm/dd/yyyy)	Sample Result	MAC	No. of Exceedances	
				MAC	1/2 MAC
Fluoride (mg/L) - TW	1/11/2011	0.06	1.5	No	No
Nitrite (mg/L) - TW	1/21/2015	<MDL 0.003	1.0	No	No
Nitrite (mg/L) - TW	5/11/2015	<MDL 0.003	1.0	No	No
Nitrite (mg/L) - TW	8/4/2015	<MDL 0.003	1.0	No	No
Nitrite (mg/L) - TW	11/10/2015	<MDL 0.003	1.0	No	No
Nitrate (mg/L) - TW	1/21/2015	0.085	10.0	No	No
Nitrate (mg/L) - TW	5/11/2015	0.084	10.0	No	No
Nitrate (mg/L) - TW	8/4/2015	0.044	10.0	No	No
Nitrate (mg/L) - TW	11/10/2015	0.02	10.0	No	No
Sodium: Na (mg/L) - TW	1/9/2012	16.7	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	No. of Samples	Range of Results		MAC (ug/L)	Number of Exceedances
		Minimum	Maximum		
Distribution - Lead Results (ug/L)	0	N/A	N/A	N/A	N/A
Distribution - Alkalinity (mg/L)	6	18	40	N/A	N/A
Distribution - pH In-House	6	6.97	7.72	N/A	N/A

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

TREATED WATER	Sample Date (mm/dd/yyyy)	Sample Result	MAC	Number of Exceedances	
				MAC	1/2 MAC
Alachlor (ug/L) - TW	1/21/2015	<MDL 0.02	5.00	No	No
Aldicarb (ug/L) - TW	1/21/2015	<MDL 0.01	9.00	No	No
Aldrin+Dieldrin (ug/L) - TW	1/21/2015	<MDL 0.01	0.70	No	No
Atrazine + N-dealkylated metabolites (ug/L) - TW	1/21/2015	<MDL 0.01	5.00	No	No
Azinphos-methyl (ug/L) - TW	1/21/2015	<MDL 0.02	20.00	No	No
Bendiocarb (ug/L) - TW	1/21/2015	<MDL 0.01	40.00	No	No
Benzene (ug/L) - TW	1/21/2015	<MDL 0.32	5.00	No	No
Benzo(a)pyrene (ug/L) - TW	1/21/2015	<MDL 0.004	0.01	No	No
Bromoxynil (ug/L) - TW	1/21/2015	<MDL 0.33	5.00	No	No
Carbaryl (ug/L) - TW	1/21/2015	<MDL 0.01	90.00	No	No
Carbofuran (ug/L) - TW	1/21/2015	<MDL 0.01	90.00	No	No
Carbon Tetrachloride (ug/L) - TW	1/21/2015	<MDL 0.16	5.00	No	No
Chlordane: Total (ug/L) - TW	1/21/2015	<MDL 0.01	7.00	No	No
Chloryprifos (ug/L) - TW	1/21/2015	<MDL 0.02	90.00	No	No
Cyanazine (ug/L) - TW	1/21/2015	<MDL 0.03	10.00	No	No
Diazinon (ug/L) - TW	1/21/2015	<MDL 0.02	20.00	No	No
Dicamba (ug/L) - TW	1/21/2015	<MDL 0.2	120.00	No	No
1,2-Dichlorobenzene (ug/L) - TW	1/21/2015	<MDL 0.41	200.00	No	No
1,4-Dichlorobenzene (ug/L) - TW	1/21/2015	<MDL 0.36	5.00	No	No
DDT + metabolites (ug/L) - TW	1/21/2015	<MDL 0.01	30.00	No	No
1,2-Dichloroethane (ug/L) - TW	1/21/2015	<MDL 0.35	5.00	No	No
1,1-Dichloroethylene (ug/L) - TW	1/21/2015	<MDL 0.33	14.00	No	No
Dichloromethane (Methylene Chloride) (ug/L) - TW	1/21/2015	<MDL 0.35	50.00	No	No
2,4-Dichlorophenol (ug/L) - TW	1/21/2015	<MDL 0.15	900.00	No	No
2,4-Dichlorophenoxy acetic acid (2,4-D) (ug/L) - TW	1/21/2015	<MDL 0.19	100.00	No	No
Diclofop-methyl (ug/L) - TW	1/21/2015	<MDL 0.4	9.00	No	No
Dimethoate (ug/L) - TW	1/21/2015	<MDL 0.03	20.00	No	No
Dinoseb (ug/L) - TW	1/21/2015	<MDL 0.36	10.00	No	No
Diquat (ug/L) - TW	1/21/2015	<MDL 1.0	70.00	No	No
Diuron (ug/L) - TW	1/21/2015	<MDL 0.03	150.00	No	No
Glyphosate (ug/L) - TW	1/21/2015	<MDL 1.0	280.00	No	No
Heptachlor+heptachlor epoxide (ug/L) - TW	1/21/2015	<MDL 0.01	3.00	No	No



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Lindane (ug/L) - TW	1/21/2015	<MDL 0.01	4.00	No	No
Malathion (ug/L) - TW	1/21/2015	<MDL 0.02	190.00	No	No
Methoxychlor (ug/L) - TW	1/21/2015	<MDL 0.01	900.00	No	No
Metolachlor (ug/L) - TW	1/21/2015	<MDL 0.01	50.00	No	No
Metribuzin (ug/L) - TW	1/21/2015	<MDL 0.02	80.00	No	No
Monochlorobenzene (Chlorobenzene) (ug/L) - TW	1/21/2015	<MDL 0.3	80.00	No	No
Paraquat (ug/L) - TW	1/21/2015	<MDL 1.0	10.00	No	No
Parathion (ug/L) - TW	1/21/2015	<MDL 0.02	50.00	No	No
PCB (ug/L) - TW	1/21/2015	<MDL 0.04	3.00	No	No
Pentachlorophenol (ug/L) - TW	1/21/2015	<MDL 0.15	60.00	No	No
Phorate (ug/L) - TW	1/21/2015	<MDL 0.01	2.00	No	No
Picloram (ug/L) - TW	1/21/2015	<MDL 1.0	190.00	No	No
Prometryne (ug/L) - TW	1/21/2015	<MDL 0.03	1.00	No	No
Simazine (ug/L) - TW	1/21/2015	<MDL 0.01	10.00	No	No
Temephos (ug/L) - TW	1/21/2015	<MDL 0.01	280.00	No	No
Terbufos (ug/L) - TW	1/21/2015	<MDL 0.01	1.00	No	No
Tetrachloroethylene (ug/L) - TW	1/21/2015	<MDL 0.35	30.00	No	No
2,3,4,6-Tetrachlorophenol (ug/L) - TW	1/21/2015	<MDL 0.2	100.00	No	No
Triallate (ug/L) - TW	1/21/2015	<MDL 0.01	230.00	No	No
Trichloroethylene (ug/L) - TW	1/21/2015	<MDL 0.44	50.00	No	No
2,4,6-Trichlorophenol (ug/L) - TW	1/21/2015	<MDL 0.25	5.00	No	No
2,4,5-T (ug/L) - TW	1/21/2015	<MDL 0.22	280.00	No	No
Trifluralin (ug/L) - TW	1/21/2015	<MDL 0.02	45.00	No	No
Vinyl Chloride (ug/L) - TW	1/21/2015	<MDL 0.17	2.00	No	No
DISTRIBUTION WATER					
Trihalomethane: Total (ug/L) Annual Average - DW	12/31/2015	40.75	100.00	No	Yes

SECTION 5:RAW WATER SUBMISSIONS

Raw water flows were submitted to the MOECC on Feb 16, 2016.

Ministry of the Environment and Climate Change

WTRS - WT DATA / Input WT Record

Water Today Data submitted successfully.

Confirmation:

Thank you for submitting your water taking data online.

Permit Number: 3154-761N9J
 Permit Holder: THE CORPORATION OF THE TOWN OF ESPANOLA
 Received on Feb 16, 2016 12:08 PM

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.

[Print Confirmation](#) | [Return to Main Page](#)

TOWN2 ESPANOLA2 | 2016/02/16
 version: v4.3.0.0 (build: 7)
 Last modified: 2015/10/25



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.

For the 2015 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	Groundwater Under Direct Influence – Considered to be surface water under O.Reg 170/03
HIPC	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	Milligrams per Litre
Ministry	Ministry of the Environment and Climate Change
MOECC	Ministry of the Environment and Climate Change
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



Appendix A

Raw Water Flows

Ontario Clean Water Agency
Annual Water Taking and Transfer Report

From C1/01/2015 To 12/31/2015

Facility: ESPANOLA DRINKING WATER SYSTEM-5758
Tag: Raw Flow: Sum (m³/d)
Tag Group: Raw Water

Permit#: S154-7E7N9V Coordinate Zone: 17
Source Name: Lake Apesy Easting: 439966
Source: Lake Northing: 5119623
Type: Method deter: Metered
Purpose: Municipal

Date Measured	Value (m ³ /d)	Value (Litres)
1/1/2015	2825.0000	2825000.0000
1/2/2015	2963.0000	2963000.0000
1/3/2015	3100.0000	3100000.0000
1/4/2015	2745.0000	2745000.0000
1/5/2015	2822.0000	2822000.0000
1/6/2015	3340.0000	3340000.0000
1/7/2015	2772.0000	2772000.0000
1/8/2015	3293.0000	3293000.0000
1/9/2015	2891.0000	2891000.0000
1/10/2015	2949.0000	2949000.0000
1/11/2015	3028.0000	3028000.0000
1/12/2015	2675.0000	2675000.0000
1/13/2015	3284.0000	3284000.0000
1/14/2015	2521.0000	2521000.0000
1/15/2015	3201.0000	3201000.0000
1/16/2015	2992.0000	2992000.0000
1/17/2015	2682.0000	2682000.0000
1/18/2015	3040.0000	3040000.0000
1/19/2015	3437.0000	3437000.0000
1/20/2015	2614.0000	2614000.0000
1/21/2015	3192.0000	3192000.0000
1/22/2015	2371.0000	2371000.0000
1/23/2015	3483.0000	3483000.0000
1/24/2015	2450.0000	2450000.0000
1/25/2015	2699.0000	2699000.0000
1/26/2015	3194.0000	3194000.0000
1/27/2015	2581.0000	2581000.0000
1/28/2015	2711.0000	2711000.0000
1/29/2015	2680.0000	2680000.0000
1/30/2015	3153.0000	3153000.0000
1/31/2015	2584.0000	2584000.0000
2/1/2015	2473.0000	2473000.0000
2/2/2015	3352.0000	3352000.0000
2/3/2015	2587.0000	2587000.0000

Ontario Clean Water Agency
Annual Water Taking and Transfer Report

From 01/01/2015 To 12/31/2015

Facility: ESPANOLA DRINKING WATER SYSTEM-5758
Tag: Raw Flow: Sum (m³/d)
Tag Group: Raw Water

Permit#: 3154-7E7N9V
Source Name: Lake Apesy
Source: Lake
Type:
Purpose: Municipal

Coordinate Zone: 17
Easting: 439966
Northing: 5119623
Method deter: Metered

Date Measured	Value (m ³ /d)	Value (Litres)
2/4/2015	2467.0000	2467000.0000
2/5/2015	3306.0000	3306000.0000
2/6/2015	3160.0000	3160000.0000
2/7/2015	2263.0000	2263000.0000
2/8/2015	3222.0000	3222000.0000
2/9/2015	2865.0000	2865000.0000
2/10/2015	2434.0000	2434000.0000
2/11/2015	3133.0000	3133000.0000
2/12/2015	2823.0000	2823000.0000
2/13/2015	2649.0000	2649000.0000
2/14/2015	2718.0000	2718000.0000
2/15/2015	2955.0000	2955000.0000
2/16/2015	2632.0000	2632000.0000
2/17/2015	2660.0000	2660000.0000
2/18/2015	3229.0000	3229000.0000
2/19/2015	2292.0000	2292000.0000
2/20/2015	2992.0000	2992000.0000
2/21/2015	3174.0000	3174000.0000
2/22/2015	2365.0000	2365000.0000
2/23/2015	3314.0000	3314000.0000
2/24/2015	2977.0000	2977000.0000
2/25/2015	3177.0000	3177000.0000
2/26/2015	3188.0000	3188000.0000
2/27/2015	3136.0000	3136000.0000
2/28/2015	3084.0000	3084000.0000
3/1/2015	3213.0000	3213000.0000
3/2/2015	3331.0000	3331000.0000
3/3/2015	3279.0000	3279000.0000
3/4/2015	2636.0000	2636000.0000
3/5/2015	3803.0000	3803000.0000
3/6/2015	2833.0000	2833000.0000
3/7/2015	3723.0000	3723000.0000
3/8/2015	2574.0000	2574000.0000
3/9/2015	3779.0000	3779000.0000

Ontario Clean Water Agency
Annual Water Taking and Transfer Report

From: 01/01/2015 To 12/31/2015

Facility: ESPANOLA DRINKING WATER SYSTEM-5758
Tag: Raw Flow: Sum (m³/d)
Tag Group: Raw Water

Permit#: 3154-7E7N9V
Source Name: Lake Apesy
Source: Lake
Type:
Purpose: Municipal

Coordinate Zone: 17
Easting: 439966
Northing: 5119623
Method deter: Metered

Date Measured	Value (m ³ /d)	Value (Litres)
3/10/2015	2607.0000	2607000.0000
3/11/2015	3330.0000	3330000.0000
3/12/2015	3492.0000	3492000.0000
3/13/2015	3020.0000	3020000.0000
3/14/2015	2824.0000	2824000.0000
3/15/2015	2992.0000	2992000.0000
3/16/2015	2806.0000	2806000.0000
3/17/2015	2598.0000	2598000.0000
3/18/2015	3108.0000	3108000.0000
3/19/2015	2872.0000	2872000.0000
3/20/2015	3246.0000	3246000.0000
3/21/2015	2671.0000	2671000.0000
3/22/2015	2944.0000	2944000.0000
3/23/2015	2882.0000	2882000.0000
3/24/2015	3103.0000	3103000.0000
3/25/2015	2946.0000	2946000.0000
3/26/2015	2874.0000	2874000.0000
3/27/2015	2717.0000	2717000.0000
3/28/2015	2928.0000	2928000.0000
3/29/2015	2832.0000	2832000.0000
3/30/2015	2995.0000	2995000.0000
3/31/2015	2549.0000	2549000.0000
4/1/2015	2825.0000	2825000.0000
4/2/2015	2870.0000	2870000.0000
4/3/2015	2742.0000	2742000.0000
4/4/2015	2736.0000	2736000.0000
4/5/2015	2647.0000	2647000.0000
4/6/2015	3173.0000	3173000.0000
4/7/2015	3008.0000	3008000.0000
4/8/2015	2713.0000	2713000.0000
4/9/2015	3281.0000	3281000.0000
4/10/2015	2910.0000	2910000.0000
4/11/2015	2563.0000	2563000.0000
4/12/2015	2654.0000	2654000.0000

Ontario Clean Water Agency
Annual Water Taking and Transfer Report

From 01/01/2015 To 12/31/2015

Facility: ESPANOLA DRINKING WATER SYSTEM-5758
Tag: Raw Flow: Sum (m³/d)
Tag Group: Raw Water

Permit#: 3154-7E7N9V
Source Name: Lake Apesy
Source: Lake
Type:
Purpose: Municipal

Coordinate Zone: 17
Easting: 439966
Northing: 5119623
Method deter: Metered

Date Measured	Value (m ³ /d)	Value (Litres)
4/13/2015	2965.0000	2965000.0000
4/14/2015	2848.0000	2848000.0000
4/15/2015	2659.0000	2659000.0000
4/16/2015	2666.0000	2666000.0000
4/17/2015	2707.0000	2707000.0000
4/18/2015	2663.0000	2663000.0000
4/19/2015	2753.0000	2753000.0000
4/20/2015	2775.0000	2775000.0000
4/21/2015	3312.0000	3312000.0000
4/22/2015	2880.0000	2880000.0000
4/23/2015	3021.0000	3021000.0000
4/24/2015	2916.0000	2916000.0000
4/25/2015	2711.0000	2711000.0000
4/26/2015	2539.0000	2539000.0000
4/27/2015	3370.0000	3370000.0000
4/28/2015	2573.0000	2573000.0000
4/29/2015	3069.0000	3069000.0000
4/30/2015	2796.0000	2796000.0000
5/1/2015	3404.0000	3404000.0000
5/2/2015	3405.0000	3405000.0000
5/3/2015	3329.0000	3329000.0000
5/4/2015	3380.0000	3380000.0000
5/5/2015	3541.0000	3541000.0000
5/6/2015	3482.0000	3482000.0000
5/7/2015	3499.0000	3499000.0000
5/8/2015	3651.0000	3651000.0000
5/9/2015	3104.0000	3104000.0000
5/10/2015	3015.0000	3015000.0000
5/11/2015	3150.0000	3150000.0000
5/12/2015	2765.0000	2765000.0000
5/13/2015	3236.0000	3236000.0000
5/14/2015	3442.0000	3442000.0000
5/15/2015	2959.0000	2959000.0000
5/16/2015	3157.0000	3157000.0000

Ontario Clean Water Agency
Annual Water Taking and Transfer Report

From 01/01/2015 To 12/31/2015

Facility: ESPANOLA DRINKING WATER SYSTEM-5758
Tag: Raw Flow: Sum (m³/d)
Tag Group: Raw Water

Permit#: 3154-7E7N9V
Source Name: Lake Apesy
Source: Lake
Type:
Purpose: Municipal

Coordinate Zone: 17
Easting: 439966
Northing: 5119023
Method deter: Metered

Date Measured	Value (m ³ /d)	Value (Litres)
5/17/2015	3184.0000	3184000.0000
5/18/2015	3618.0000	3618000.0000
5/19/2015	3238.0000	3238000.0000
5/20/2015	4826.0000	4826000.0000
5/21/2015	3292.0000	3292000.0000
5/22/2015	3326.0000	3326000.0000
5/23/2015	3606.0000	3606000.0000
5/24/2015	3680.0000	3680000.0000
5/25/2015	3462.0000	3462000.0000
5/26/2015	3214.0000	3214000.0000
5/27/2015	3509.0000	3509000.0000
5/28/2015	3338.0000	3338000.0000
5/29/2015	3363.0000	3363000.0000
5/30/2015	3229.0000	3229000.0000
5/31/2015	3122.0000	3122000.0000
6/1/2015	3815.0000	3815000.0000
6/2/2015	4086.0000	4086000.0000
6/3/2015	3855.0000	3855000.0000
6/4/2015	4219.0000	4219000.0000
6/5/2015	3608.0000	3608000.0000
6/6/2015	3579.0000	3579000.0000
6/7/2015	3670.0000	3670000.0000
6/8/2015	3797.0000	3797000.0000
6/9/2015	3286.0000	3286000.0000
6/10/2015	3372.0000	3372000.0000
6/11/2015	3441.0000	3441000.0000
6/12/2015	3773.0000	3773000.0000
6/13/2015	3436.0000	3436000.0000
6/14/2015	3426.0000	3426000.0000
6/15/2015	3677.0000	3677000.0000
6/16/2015	4030.0000	4030000.0000
6/17/2015	4345.0000	4345000.0000
6/18/2015	3409.0000	3409000.0000
6/19/2015	4155.0000	4155000.0000

Ontario Clean Water Agency
Annual Water Taking and Transfer Report

From 01/01/2015 To 12/31/2015

Facility: ESPANOLA DRINKING WATER SYSTEM-5758
Tag: Raw Flow: Sum (m³/d)
Tag Group: Raw Water

Permit#: 3154-7E7N9V
Source Name: Lake Apesy
Source: Lake
Type:
Purpose: Municipal

Coordinate Zone: 17
Easting: 439966
Northing: 5119623
Method deter: Metered

Date Measured	Value (m ³ /d)	Value (Litres)
6/20/2015	3491.0000	3491000.0000
6/21/2015	4414.0000	4414000.0000
6/22/2015	4170.0000	4170000.0000
6/23/2015	4201.0000	4201000.0000
6/24/2015	4662.0000	4662000.0000
6/25/2015	4270.0000	4270000.0000
6/26/2015	4934.0000	4934000.0000
6/27/2015	4694.0000	4694000.0000
6/28/2015	4822.0000	4822000.0000
6/29/2015	4959.0000	4969000.0000
6/30/2015	4745.0000	4745000.0000
7/1/2015	3796.0000	3796000.0000
7/2/2015	5286.0000	5286000.0000
7/3/2015	4578.0000	4578000.0000
7/4/2015	5192.0000	5192000.0000
7/5/2015	5225.0000	5225000.0000
7/6/2015	5682.0000	5682000.0000
7/7/2015	4415.0000	4415000.0000
7/8/2015	4950.0000	4950000.0000
7/9/2015	4852.0000	4852000.0000
7/10/2015	5862.0000	5862000.0000
7/11/2015	4953.0000	4953000.0000
7/12/2015	5758.0000	5758000.0000
7/13/2015	5836.0000	5886000.0000
7/14/2015	5340.0000	5340000.0000
7/15/2015	5374.0000	5374000.0000
7/16/2015	5741.0000	5741000.0000
7/17/2015	4462.0000	4462000.0000
7/18/2015	4553.0000	4553000.0000
7/19/2015	5254.0000	5254000.0000
7/20/2015	5537.0000	5537000.0000
7/21/2015	5034.0000	5034000.0000
7/22/2015	5981.0000	5981000.0000
7/23/2015	6639.0000	6639000.0000

Ontario Clean Water Agency
Annual Water Taking and Transfer Report

From 01/01/2015 To 12/31/2015

Facility: ESPANOLA DRINKING WATER SYSTEM-5758
Tag: Raw Flow: Sum (m³/d)
Tag Group: Raw Water

Permit#: 3154-7E7N9V
Source Name: Lake Apesy
Source: Lake
Type:
Purpose: Municipal

Coordinate Zone: 17
Easting: 439963
Northing: 5119623
Method deter: Metered

Date Measured	Value (m ³ /d)	Value (Litres)
7/24/2015	6376.0000	6376000.0000
7/25/2015	5943.0000	5943000.0000
7/26/2015	6039.0000	6039000.0000
7/27/2015	7187.0000	7187000.0000
7/28/2015	6974.0000	6974000.0000
7/29/2015	6909.0000	6909000.0000
7/30/2015	5569.0000	5569000.0000
7/31/2015	5167.0000	5167000.0000
8/1/2015	4290.0000	4290000.0000
8/2/2015	4219.0000	4219000.0000
8/3/2015	3994.0000	3994000.0000
8/4/2015	4744.0000	4744000.0000
8/5/2015	4778.0000	4778000.0000
8/6/2015	4328.0000	4328000.0000
8/7/2015	4929.0000	4929000.0000
8/8/2015	4079.0000	4079000.0000
8/9/2015	5118.0000	5118000.0000
8/10/2015	4305.0000	4305000.0000
8/11/2015	3618.0000	3618000.0000
8/12/2015	4299.0000	4299000.0000
8/13/2015	4832.0000	4832000.0000
8/14/2015	4767.0000	4767000.0000
8/15/2015	4543.0000	4543000.0000
8/16/2015	4787.0000	4787000.0000
8/17/2015	5445.0000	5445000.0000
8/18/2015	4813.0000	4813000.0000
8/19/2015	4127.0000	4127000.0000
8/20/2015	3674.0000	3674000.0000
8/21/2015	3627.0000	3627000.0000
8/22/2015	3680.0000	3680000.0000
8/23/2015	3817.0000	3817000.0000
8/24/2015	3814.0000	3814000.0000
8/25/2015	3396.0000	3396000.0000
8/26/2015	3580.0000	3580000.0000

Ontario Clean Water Agency
Annual Water Taking and Transfer Report

From 01/01/2015 To 12/31/2015

Facility: ESPANOLA DRINKING WATER SYSTEM-5758
Tag: Raw Flow: Sum (m³/d)
Tag Group: Raw Water

Permit#: 3154-7E7N9V
Source Name: Lake Apesy
Source: Lake
Type:
Purpose: Municipal

Coordinate Zone: 17
Easting: 439968
Northing: 5119623
Method deter: Metered

Date Measured	Value (m ³ /d)	Value (Litres)
8/27/2015	3427.0000	3427000.0000
8/28/2015	3478.0000	3478000.0000
8/29/2015	3431.0000	3431000.0000
8/30/2015	3422.0000	3422000.0000
8/31/2015	3638.0000	3638000.0000
9/1/2015	3319.0000	3319000.0000
9/2/2015	3799.0000	3799000.0000
9/3/2015	3754.0000	3754000.0000
9/4/2015	4287.0000	4287000.0000
9/5/2015	3533.0000	3533000.0000
9/6/2015	3801.0000	3801000.0000
9/7/2015	3564.0000	3564000.0000
9/8/2015	3628.0000	3628000.0000
9/9/2015	3561.0000	3561000.0000
9/10/2015	3239.0000	3239000.0000
9/11/2015	3544.0000	3544000.0000
9/12/2015	3265.0000	3265000.0000
9/13/2015	3431.0000	3431000.0000
9/14/2015	3938.0000	3938000.0000
9/15/2015	3401.0000	3401000.0000
9/16/2015	3896.0000	3896000.0000
9/17/2015	3758.0000	3758000.0000
9/18/2015	3294.0000	3294000.0000
9/19/2015	3508.0000	3508000.0000
9/20/2015	3094.0000	3094000.0000
9/21/2015	3531.0000	3531000.0000
9/22/2015	3364.0000	3364000.0000
9/23/2015	3508.0000	3508000.0000
9/24/2015	3665.0000	3665000.0000
9/25/2015	3066.0000	3066000.0000
9/26/2015	3644.0000	3644000.0000
9/27/2015	3362.0000	3362000.0000
9/28/2015	3575.0000	3575000.0000
9/29/2015	3010.5000	3010500.0000

Ontario Clean Water Agency
Annual Water Taking and Transfer Report

From 01/01/2015 To 12/31/2015

Facility: ESPANOLA DRINKING WATER SYSTEM-5768
Tag: Raw Flow: Sum (m³/d)
Tag Group: Raw Water

Permit#: 3154-7E7N9V Coordinate Zone: 17
Source Name: Lake Apesy Easting: 439966
Source: Lake Northing: 5119623
Type: Method deter: Metered
Purpose: Municipal

Date Measured	Value (m ³ /d)	Value (Litres)
9/30/2015	2237.0000	2237000.0000
10/1/2015	3123.0000	3123000.0000
10/2/2015	3164.0000	3164000.0000
10/3/2015	2948.0000	2948000.0000
10/4/2015	3049.0000	3049000.0000
10/5/2015	3065.0000	3065000.0000
10/6/2015	2978.0000	2978000.0000
10/7/2015	3267.0000	3267000.0000
10/8/2015	2829.0000	2829000.0000
10/9/2015	3161.0000	3161000.0000
10/10/2015	2941.0000	2941000.0000
10/11/2015	2970.0000	2970000.0000
10/12/2015	3053.0000	3053000.0000
10/13/2015	3505.0000	3505000.0000
10/14/2015	3643.0000	3643000.0000
10/15/2015	3648.0000	3648000.0000
10/16/2015	3257.0000	3257000.0000
10/17/2015	3096.0000	3096000.0000
10/18/2015	2932.0000	2932000.0000
10/19/2015	3474.0000	3474000.0000
10/20/2015	3449.0000	3449000.0000
10/21/2015	3900.0000	3900000.0000
10/22/2015	2925.0000	2925000.0000
10/23/2015	3139.0000	3139000.0000
10/24/2015	2863.0000	2863000.0000
10/25/2015	3019.0000	3019000.0000
10/26/2015	3542.0000	3542000.0000
10/27/2015	2602.0000	2602000.0000
10/28/2015	2426.0000	2426000.0000
10/29/2015	4532.0000	4532000.0000
10/30/2015	2745.0000	2745000.0000
10/31/2015	2686.0000	2686000.0000
11/1/2015	3369.0000	3369000.0000
11/2/2015	3231.0000	3231000.0000

Ontario Clean Water Agency
Annual Water Taking and Transfer Report

From 01/01/2015 To 12/31/2015

Facility: ESPANOLA DRINKING WATER SYSTEM-5755

Tag: Raw Flow: Sum (m³/d)

Tag Group: Raw Water

Permit#: 3154-7E7N9V

Source Name: Lake Apesy

Source: Lake

Type:

Purpose: Municipal

Coordinate Zone: 17

Easting: 439966

Northing: 5119623

Method deter: Metered

Date Measured	Value (m ³ /d)	Value (Litres)
11/3/2015	2882.0000	2882000.0000
11/4/2015	3113.0000	3113000.0000
11/5/2015	3080.0000	3080000.0000
11/6/2015	2941.0000	2941000.0000
11/7/2015	2748.0000	2748000.0000
11/8/2015	3213.0000	3213000.0000
11/9/2015	3019.0000	3019000.0000
11/10/2015	3062.0000	3062000.0000
11/11/2015	2998.0000	2998000.0000
11/12/2015	2883.0000	2883000.0000
11/13/2015	3354.0000	3354000.0000
11/14/2015	2713.0000	2713000.0000
11/15/2015	2778.0000	2778000.0000
11/16/2015	3365.0000	3365000.0000
11/17/2015	2720.0000	2720000.0000
11/18/2015	3056.0000	3056000.0000
11/19/2015	3039.0000	3039000.0000
11/20/2015	2967.0000	2967000.0000
11/21/2015	2807.0000	2807000.0000
11/22/2015	3002.0000	3002000.0000
11/23/2015	3144.0000	3144000.0000
11/24/2015	3605.0000	3605000.0000
11/25/2015	4011.0000	4011000.0000
11/26/2015	3036.0000	3036000.0000

Ontario Clean Water Agency
Annual Water Taking and Transfer Report

From 01/01/2015 To 12/31/2015

Facility: ESPANOLA DRINKING WATER SYSTEM-5756
Tag: Raw Flow: Sum (m³/d)
Tag Group: Raw Water

Permit#: 3154-7E7NSV
Source Name: Lake Apesey
Source: Lake
Type:
Purpose: Municipal

Coordinate Zone: 17
Easting: 439966
Northing: 5119623
Method deter: Metered

Date Measured	Value (m ³ /d)	Value (Litres)
11/27/2015	3183.0000	3183000.0000
11/28/2015	2629.0000	2629000.0000
11/29/2015	2666.0000	2666000.0000
11/30/2015	2810.0000	2810000.0000
12/1/2015	2463.0000	2463000.0000
12/2/2015	2781.0000	2781000.0000
12/3/2015	2796.0000	2796000.0000
12/4/2015	2607.0000	2607000.0000
12/5/2015	2478.0000	2478000.0000
12/6/2015	2774.0000	2774000.0000
12/7/2015	3076.0000	3076000.0000
12/8/2015	2335.0000	2335000.0000
12/9/2015	2687.0000	2687000.0000
12/10/2015	2717.0000	2717000.0000
12/11/2015	2704.0000	2704000.0000
12/12/2015	2580.0000	2580000.0000
12/13/2015	2654.0000	2654000.0000
12/14/2015	2672.0000	2672000.0000
12/15/2015	2472.0000	2472000.0000
12/16/2015	2734.0000	2734000.0000
12/17/2015	3165.0000	3165000.0000
12/18/2015	2806.0000	2806000.0000
12/19/2015	2676.0000	2676000.0000
12/20/2015	2602.0000	2602000.0000
12/21/2015	2769.0000	2769000.0000
12/22/2015	2790.0000	2790000.0000
12/23/2015	3073.0000	3073000.0000
12/24/2015	2550.0000	2550000.0000
12/25/2015	2397.0000	2397000.0000
12/26/2015	2678.0000	2678000.0000
12/27/2015	2453.0000	2453000.0000
12/28/2015	2656.0000	2656000.0000
12/29/2015	2725.0000	2725000.0000
12/30/2015	2284.0000	2284000.0000

Ontario Clean Water Agency
Annual Water Taking and Transfer Report

From 01/01/2015 To 12/31/2015

Facility: ESPANOLA DRINKING WATER SYSTEM-5758
Tag: Raw Flow: Sum (m³/d)
Tag Group: Raw Water

Permit#: 3154-7E7N9V Coordinate Zone: 17
Source Name: Lake Apesy Easting: 439963
Source: Lake Northing: 5119623
Type: Method deter: Metered
Purpose: Municipal

Date Measured	Value (m ³ /d)	Value (Litres)
12/31/2015	2800.0000	2800000.0000