

# *Espanola Water Treatment*

Large Municipal Residential Drinking Water System

*January 1, 2016 – December 31, 2016*

***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, 2017.

## **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 - 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 5,967 m<sup>3</sup> in August and represents 56.8% of capacity.

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

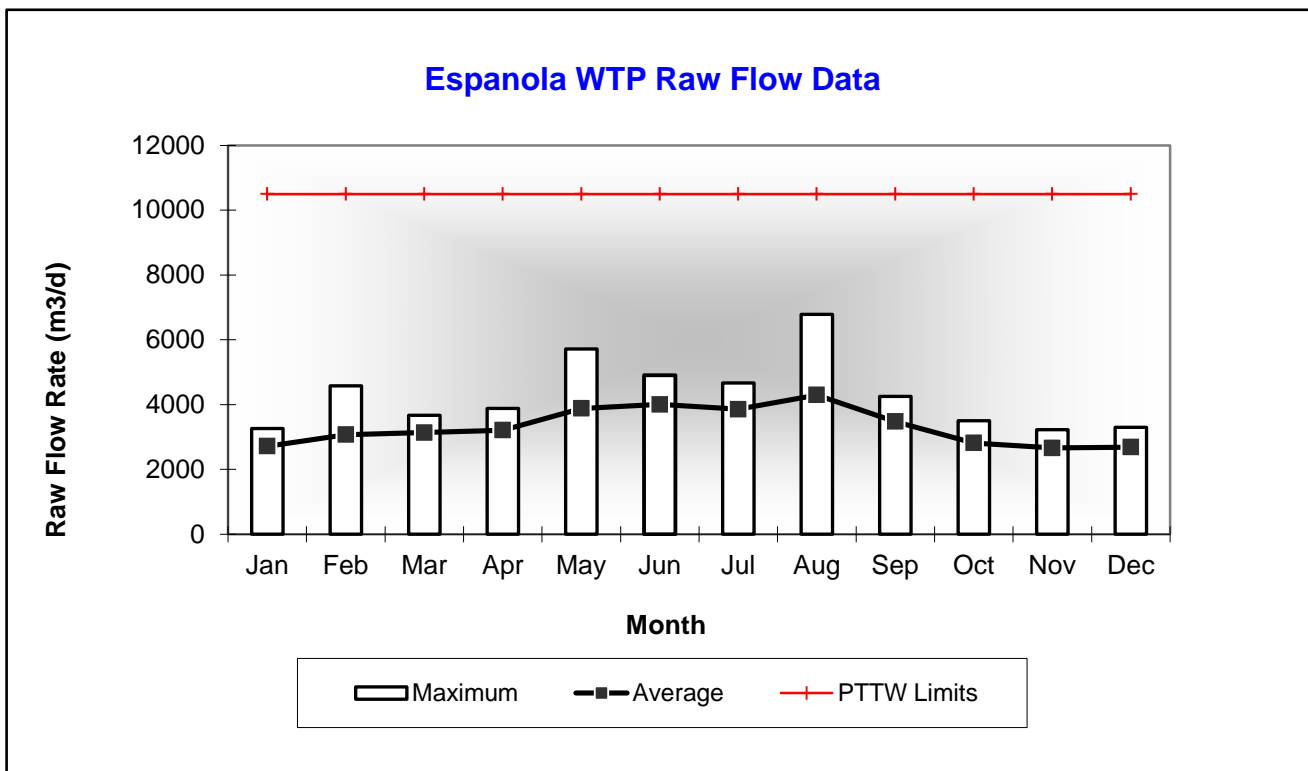
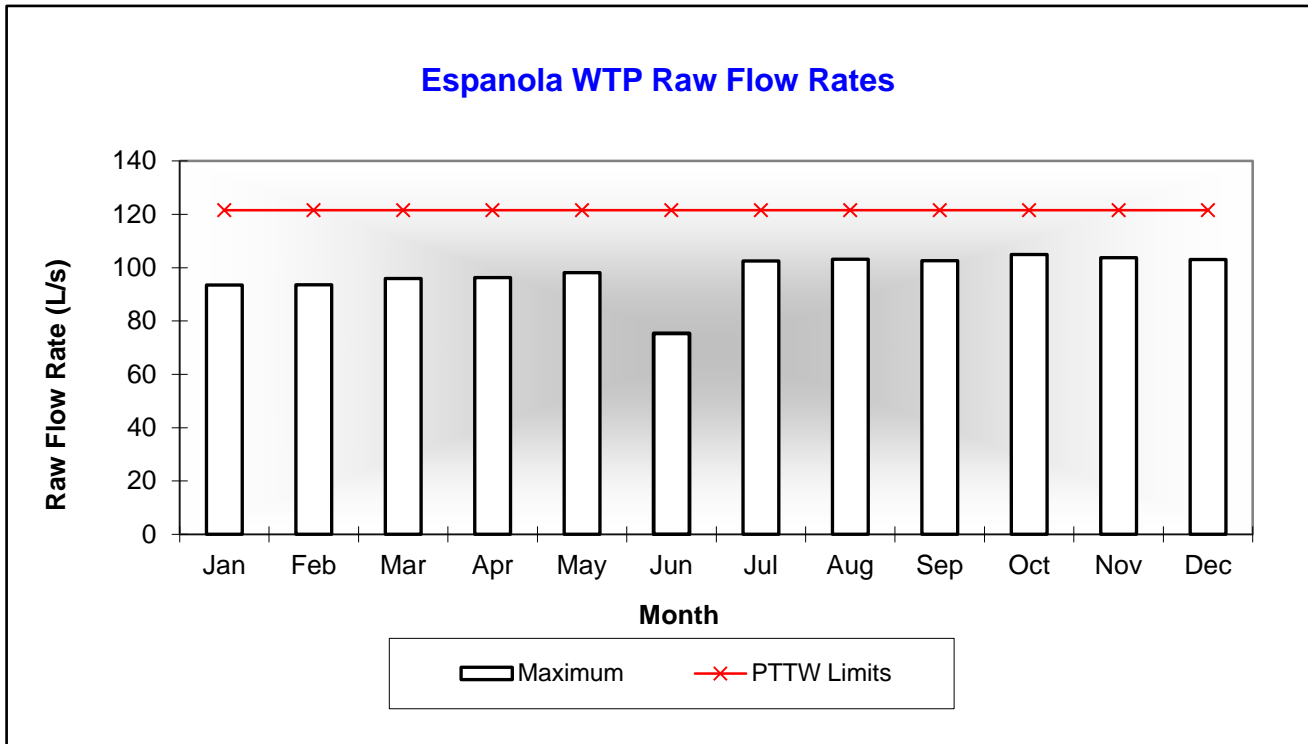
### **Flows - Raw**

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 3,318.3 m<sup>3</sup>/d. The maximum daily flow was 6,784 m<sup>3</sup>/d representing 64.9% of water taking limits.

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

<i>RAW WATER FLOW DATA – Apsey Lake</i>						
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	84,254	2,717.87	3,261	93.45	121.53	10,500.0
February	89,117	3,073.00	4,578	93.54	121.53	10,500.0
March	97,151	3,133.90	3,669	95.89	121.53	10,500.0
April	96,233	3,207.77	3,881	96.24	121.53	10,500.0
May	120,329	3,881.58	5,716	98.09	121.53	10,500.0
June	120,120	4,004.00	4,903	75.34	121.53	10,500.0
July	119,596	3,857.94	4,667	102.47	121.53	10,500.0
August	133,127	4,294.42	6,784	103.12	121.53	10,500.0
September	104,238	3,474.60	4,252	102.57	121.53	10,500.0
October	87,199	2,812.87	3,501	104.89	121.53	10,500.0
November	76,886	2,662.87	3,225	103.70	121.53	10,500.0
December	83,230	2684.84	3,298	103.02	121.53	10,500.0
<b>Total</b>	<b>1,214,480</b>					
<b>Average</b>		<b>3,318.25</b>				
<b>Maximum</b>			<b>6,784</b>	<b>104.89</b>	121.53	10,500.0





## Annual Raw Water Review

Raw Water Taking	Total Taking (m3/d)	Average Day (m3/d)	Max Day (m3/d)	Max Day % of PTTW allowable 10,500 (m3/d)
2016	1,214,480	3,318.3	6,784	64.9
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

## System Failures and Corrective Actions

The latest inspection of the drinking water facility took place on [January 26, 2017](#). No inspections occurred in 2016.



AWQIs reported to the Ministry

Incident Date	Parameter	Result	Unit of Measure	Corrective Action/Comment	Corrective Action Date
20-Apr-16	Pressure	0	PSI	BWA issued due to valve installation. System was flushed, chlorine was restored and Bacti samples were taken 24hrs apart.	22-Apr-16
13-May-16	Pressure	0	PSI	BWA issued due to new watermain installation. System was flushed, chlorine was restored and Bacti samples were taken 24 hours apart.	16-May-16
30-May-16	Pressure	0	PSI	BWA issued due to new watermain installation. System was flushed, chlorine was restored and Bacti samples were taken 24 hours apart.	03-Jun-16
31-May-16	Pressure	0	PSI	BWA issued due to installation of tee and valves. System was flushed, chlorine was restored and Bacti sample	03-Jun-16
11-July-16	Chlorine	0.02	mg/L	Low chlorine due to closed valve. System was flushed, chlorine was restored and Bacti sample	13-Jul-16
18-July-16	Pressure	0	PSI	BWA issued for the installation of three new mains and valves. Area was flushed, chlorine was restored and Bacti samples were taken 24 hours apart	21-Jul-16
26-July-16	Pressure	0	PSI	BWA issued due to main isolation to make a connection. Area was flushed, chlorine was restored and Bacti samples were taken 24 hours apart	28-Jul-16
04-Aug-16	Microcystin	2.14	ug/L	Adverse result for treated water Microcystin sample. Resample was taken with a result of 0.1mg/L. Operator sampling error caused the adverse.	08-Aug-16
24-Aug-16	Pressure	0	PSI	BWA issued for the installation of a new valve. Area was flushed, chlorine was restored and Bacti samples were taken 24 hours apart	26-Aug-16



## **SECTION 4: SECTION 11 REPORT**

### **Information**

Population Served	<b>5,364</b> (Stats Canada 2011)
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.	<b>Town of Espanola, Municipal Office 100 Tudhope Street, Suite 2 Espanola, Ontario 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>

### **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% HFS)	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
171705	01-Nov-16	<i>Roof Vent</i> Rented a Genie lift to access the roof. Sealed up all roof vents at the WTP.
36957	25-Feb-16	<i>Sodium Hypochlorite</i> Removed broken pieces of PVC fill line and replaced with new pipe fittings and new valve.
37052	19-Sept-16	<i>Low Lift Building Sample Sink</i> Shut down low lift pumps and closed raw water valve in WTP. Removed 1" plug in the raw water header at low lift building. Fit new 1" nipple and valve into header for new raw sample sing. Fit and soldered all connections to sink
29133	02-Aug-16	<i>Water Tower PLC - UPS</i> The UPS for the water tower PLC is no longer working. Purchased and installed a new UPS
9116	18-Jan-16	<i>Raw Water Sample Pump</i> Raw water sample pump no longer working. Purchasing two new pumps, one will replace the broken pump and the other will be a spare. Old pump was removed and replaced with the new one.
105688	14-Oct-16	<i>Main PLC - UPS</i> NorTech contacted to replace faulty UPS in the main PLC panel. UPS received and installed.
49445	30-Mar-16	<i>Sternpac Chemical Board</i> NorTech onsite investigating issues with PAC pumps not resetting after power outage/bump. The surefeed panel required reprogramming and rewiring.
29082 & 5835	03-Feb-16 & 24-Mar-16	<i>Fluoride Analyzer</i> Old fluoride analyzer no longer working, new analyzer and probes were ordered. Replaced old analyzer and probes, calibrated and reading with no issues.
N/A	August 2016	<i>Water Tower Upgrades</i> Water tower taken offline for 6 weeks to complete maintenance. Tower was cleaned and relined.





## 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-Apr-2016	Pressure	0	PSI	BWA issued due to valve installation. System was flushed, chlorine was restored and Bacti samples were taken 24hrs apart.	22-Apr-16
13-May-16	Pressure	0	PSI	BWA issued due to new watermain installation. System was flushed, chlorine was restored and Bacti samples were taken 24 hours apart.	16-May-16
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04-Aug-16	Microcystin	2.14	ug/L	Adverse result for treated water Microcystin sample. Resample was taken with a result of 0.1mg/L. Operator sampling error caused the adverse.	08-Aug-16
24-Aug-16	Pressure	0	PSI	BWA issued for the installation of a new valve. Area was flushed, chlorine was restored and Bacti samples were taken 24 hours apart	26-Aug-16



**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 #
Raw Water	52	0	4	0	40	N/A	N/A	N/A
Treated Water	52	0	0	0	0	52	0	10
Distribution	210	0	0	0	0	52	0	1700

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

Parameter	No. of Samples Collected*	Range of Results		Units of Measure
		Minimum	Maximum	
Turbidity - Filt1	8760	0	0.98	NTU
Turbidity - Filt2	8760	0	1.00	NTU
Turbidity - Filt3	8760	0	1.00	NTU
Free Chlorine Residual - TW	8760	0.11	3.61	mg/L
Fluoride Residual - TW	8760	0	1.23	mg/L
Fluoride Residual - TW	173	0.03	0.79	mg/L
Free Chlorine Residual – DW	8760	0.007	4.999	mg/L
Free Chlorine Residual – DW	14	0.93	1.57	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	N/A	N/A	N/A	N/A
Annual Average					mg/L

**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
Antimony: Sb (ug/L) - TW	2016/01/26	0.03	6.0	No	No
Arsenic: As (ug/L) - TW	2016/01/26	<MDL 0.2	25.0	No	No
Barium: Ba (ug/L) - TW	2016/01/26	4.42	1000.0	No	No
Boron: B (ug/L) - TW	2016/01/26	12.0	5000.0	No	No
Cadmium: Cd (ug/L) - TW	2016/01/26	<MDL 0.003	5.0	No	No
Chromium: Cr (ug/L) - TW	2016/01/26	0.28	50.0	No	No
Mercury: Hg (ug/L) - TW	2016/01/26	<MDL 0.01	1.0	No	No
Selenium: Se (ug/L) - TW	2016/01/26	0.05	10.0	No	No
Uranium: U (ug/L) - TW	2016/01/26	0.017	20.0	No	No



TREATED WATER	Sample Date (yyyy/mm/dd)	Sample Result	MAC	No. of Exceedances	
				MAC	1/2 MAC
Fluoride (mg/L) - TW			1.5	No	No
Nitrite (mg/L) - TW	2016/01/26	<MDL 0.003	1.0	No	No
Nitrite (mg/L) - TW	2016/04/25	<MDL 0.003	1.0	No	No
Nitrite (mg/L) - TW	2016/08/17	<MDL 0.003	1.0	No	No
Nitrite (mg/L) - TW	2016/10/26	<MDL 0.003	1.0	No	No
Nitrate (mg/L) - TW	2016/01/26	0.049	10.0	No	No
Nitrate (mg/L) - TW	2016/04/25	0.103	10.0	No	No
Nitrate (mg/L) - TW	2016/08/17	0.014	10.0	No	No
Nitrate (mg/L) - TW	2016/10/26	0.088	10.0	No	No
Sodium: Na (mg/L) - TW	2012/01/09	16.7	20*	No	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.

### 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)	6	0.01	0.2	N/A	N/A
Distribution - Alkalinity (mg/L)	6	21	47	N/A	N/A
Distribution - pH In-House	6	6.55	7.35	N/A	N/A

### 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
Alachlor (ug/L) - TW	2016/01/26	<MDL 0.02	5.00	No	No
Atrazine + N-dealkylated metabolites (ug/L) - TW	2016/01/26	<MDL 0.01	5.00	No	No
Azinphos-methyl (ug/L) - TW	2016/01/26	<MDL 0.05	20.00	No	No
Benzene (ug/L) - TW	2016/01/26	<MDL 0.32	5.00	No	No
Benzo(a)pyrene (ug/L) - TW	2016/01/26	<MDL 0.004	0.01	No	No
Bromoxynil (ug/L) - TW	2016/01/26	<MDL 0.33	5.00	No	No
Carbaryl (ug/L) - TW	2016/01/26	<MDL 0.05	90.00	No	No
Carbofuran (ug/L) - TW	2016/01/26	<MDL 0.01	90.00	No	No
Carbon Tetrachloride (ug/L) - TW	2016/01/26	<MDL 0.16	5.00	No	No
Chlorpyrifos (ug/L) - TW	2016/01/26	<MDL 0.02	90.00	No	No
Diazinon (ug/L) - TW	2016/01/26	<MDL 0.02	20.00	No	No
Dicamba (ug/L) - TW	2016/01/26	<MDL 0.2	120.00	No	No
1,2-Dichlorobenzene (ug/L) - TW	2016/01/26	<MDL 0.41	200.00	No	No
1,4-Dichlorobenzene (ug/L) - TW	2016/01/26	<MDL 0.36	5.00	No	No
1,2-Dichloroethane (ug/L) - TW	2016/01/26	<MDL 0.35	5.00	No	No
1,1-Dichloroethylene (ug/L) - TW	2016/01/26	<MDL 0.33	14.00	No	No
Dichloromethane (Methylene Chloride) (ug/L) - TW	2016/01/26	<MDL 0.35	50.00	No	No
2,4-Dichlorophenol (ug/L) - TW	2016/01/26	<MDL 0.15	900.00	No	No



2,4-Dichlorophenoxy acetic acid (2,4-D) (ug/L) - TW	2016/01/26	<MDL 0.19	100.00	No	No
Diclofop-methyl (ug/L) - TW	2016/01/26	<MDL 0.4	9.00	No	No
Dimethoate (ug/L) - TW	2016/01/26	<MDL 0.03	20.00	No	No
Diquat (ug/L) - TW	2016/01/26	<MDL 1.0	70.00	No	No
Diuron (ug/L) - TW	2016/01/26	<MDL 0.03	150.00	No	No
Glyphosate (ug/L) - TW	2016/01/26	<MDL 1.0	280.00	No	No
Malathion (ug/L) - TW	2016/01/26	<MDL 0.02	190.00	No	No
2-methyl-4-chlorophenoxyacetic acid (MCPA) (mg/L) - TW	2016/01/26	<MDL 0.00012	N/A	N/A	N/A
Metolachlor (ug/L) - TW	2016/01/26	<MDL 0.01	50.00	No	No
Metribuzin (ug/L) - TW	2016/01/26	<MDL 0.02	80.00	No	No
Monochlorobenzene (Chlorobenzene) (ug/L) - TW	2016/01/26	<MDL 0.3	80.00	No	No
Paraquat (ug/L) - TW	2016/01/26	<MDL 1.0	10.00	No	No
PCB (ug/L) - TW	2016/01/26	<MDL 0.04	3.00	No	No
Pentachlorophenol (ug/L) - TW	2016/01/26	<MDL 0.15	60.00	No	No
Phorate (ug/L) - TW	2016/01/26	<MDL 0.01	2.00	No	No
Picloram (ug/L) - TW	2016/01/26	<MDL 1.0	190.00	No	No
Prometryne (ug/L) - TW	2016/01/26	<MDL 0.03	1.00	No	No
Simazine (ug/L) - TW	2016/01/26	<MDL 0.01	10.00	No	No
Terbufos (ug/L) - TW	2016/01/26	<MDL 0.01	1.00	No	No
Tetrachloroethylene (ug/L) - TW	2016/01/26	<MDL 0.35	30.00	No	No
2,3,4,6-Tetrachlorophenol (ug/L) - TW	2016/01/26	<MDL 0.2	100.00	No	No
Triallate (ug/L) - TW	2016/01/26	<MDL 0.01	230.00	No	No
Trichloroethylene (ug/L) - TW	2016/01/26	<MDL 0.44	50.00	No	No
2,4,6-Trichlorophenol (ug/L) - TW	2016/01/26	<MDL 0.25	5.00	No	No
Trifluralin (ug/L) - TW	2016/01/26	<MDL 0.02	45.00	No	No
Vinyl Chloride (ug/L) - TW	2016/01/26	<MDL 0.17	2.00	No	No
<b>DISTRIBUTION WATER</b>					
Trihalomethane: Total (ug/L) Annual Average - DW	12/31/2016	29.5	100.00	No	No

## SECTION 5: RAW WATER SUBMISSIONS

Raw water flows were submitted to the MOECC on [Feb 21, 2016](#).



Location: [WTRS](#) / [WT DATA](#) / [Edit Submitted WT Records](#)

WTRS-WT-008

Water Taking Data submitted successfully.

**Confirmation:**

Thank you for submitting your water taking data online.

Permit Number: 3154-7E7N9V  
Permit Holder: THE CORPORATION OF THE TOWN OF ESPANOLA  
Received on: Feb 21, 2017 10:08 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.

[Return to Main Page](#)

TOWN2 ESPANOLA2 | 2017/02/21  
version: v4.5.0.6 (build#: 16)  
Last modified: 2016/12/13



## **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 2016 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
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	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 01/01/2016 To 12/31/2016

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 (m³/d)	Value (Litres)
01/01/2016	2442.0000	2442000.0000
02/01/2016	2538.0000	2538000.0000
03/01/2016	3047.0000	3047000.0000
04/01/2016	2884.0000	2884000.0000
05/01/2016	2715.0000	2715000.0000
06/01/2016	2850.0000	2850000.0000
07/01/2016	2648.0000	2648000.0000
08/01/2016	2524.0000	2524000.0000
09/01/2016	2528.0000	2528000.0000
10/01/2016	2987.0000	2987000.0000
11/01/2016	2785.0000	2785000.0000
12/01/2016	2489.0000	2489000.0000
13/01/2016	3166.0000	3166000.0000
14/01/2016	2499.0000	2499000.0000
15/01/2016	3128.0000	3128000.0000
16/01/2016	2459.0000	2459000.0000
17/01/2016	1401.0000	1401000.0000
18/01/2016	2994.0000	2994000.0000
19/01/2016	2677.0000	2677000.0000
20/01/2016	3261.0000	3261000.0000
21/01/2016	2723.0000	2723000.0000
22/01/2016	2583.0000	2583000.0000
23/01/2016	3043.0000	3043000.0000
24/01/2016	2508.0000	2508000.0000
25/01/2016	2950.0000	2950000.0000
26/01/2016	2708.0000	2708000.0000
27/01/2016	2648.0000	2648000.0000
28/01/2016	2689.0000	2689000.0000
29/01/2016	2641.0000	2641000.0000
30/01/2016	3185.0000	3185000.0000
31/01/2016	2554.0000	2554000.0000
01/02/2016	2904.0000	2904000.0000
02/02/2016	2749.0000	2749000.0000
03/02/2016	2730.0000	2730000.0000
04/02/2016	2924.0000	2924000.0000
05/02/2016	3613.0000	3613000.0000
06/02/2016	2632.0000	2632000.0000
07/02/2016	2939.0000	2939000.0000
08/02/2016	3067.0000	3067000.0000
09/02/2016	2661.0000	2661000.0000
10/02/2016	2965.0000	2965000.0000
11/02/2016	2858.0000	2858000.0000

12/02/2016	2830.0000	2830000.0000
13/02/2016	2879.0000	2879000.0000
14/02/2016	3130.0000	3130000.0000
15/02/2016	2968.0000	2968000.0000
16/02/2016	3214.0000	3214000.0000
17/02/2016	2993.0000	2993000.0000
18/02/2016	2980.0000	2980000.0000
19/02/2016	3003.0000	3003000.0000
20/02/2016	2573.0000	2573000.0000
21/02/2016	2833.0000	2833000.0000
22/02/2016	3119.0000	3119000.0000
23/02/2016	3490.0000	3490000.0000
24/02/2016	3326.0000	3326000.0000
25/02/2016	3336.0000	3336000.0000
26/02/2016	3646.0000	3646000.0000
27/02/2016	4578.0000	4578000.0000
28/02/2016	2794.0000	2794000.0000
29/02/2016	3383.0000	3383000.0000
01/03/2016	2939.0000	2939000.0000
02/03/2016	3240.0000	3240000.0000
03/03/2016	3330.0000	3330000.0000
04/03/2016	3239.0000	3239000.0000
05/03/2016	3004.0000	3004000.0000
06/03/2016	3396.0000	3396000.0000
07/03/2016	3167.0000	3167000.0000
08/03/2016	3060.0000	3060000.0000
09/03/2016	3422.0000	3422000.0000
10/03/2016	3231.0000	3231000.0000
11/03/2016	3112.0000	3112000.0000
12/03/2016	2924.0000	2924000.0000
13/03/2016	3252.0000	3252000.0000
14/03/2016	2956.0000	2956000.0000
15/03/2016	3224.0000	3224000.0000
16/03/2016	2911.0000	2911000.0000
17/03/2016	2985.0000	2985000.0000
18/03/2016	3404.0000	3404000.0000
19/03/2016	3384.0000	3384000.0000
20/03/2016	3669.0000	3669000.0000
21/03/2016	3301.0000	3301000.0000
22/03/2016	3054.0000	3054000.0000
23/03/2016	3028.0000	3028000.0000
24/03/2016	3225.0000	3225000.0000
25/03/2016	3036.0000	3036000.0000
26/03/2016	2752.0000	2752000.0000
27/03/2016	2751.0000	2751000.0000
28/03/2016	3468.0000	3468000.0000
29/03/2016	2726.0000	2726000.0000
30/03/2016	2845.0000	2845000.0000
31/03/2016	3116.0000	3116000.0000
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02/04/2016	2767.0000	2767000.0000
03/04/2016	3199.0000	3199000.0000
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05/04/2016	2876.0000	2876000.0000
06/04/2016	3019.0000	3019000.0000
07/04/2016	2944.0000	2944000.0000
08/04/2016	3042.0000	3042000.0000
09/04/2016	3012.0000	3012000.0000
10/04/2016	2910.0000	2910000.0000
11/04/2016	2992.0000	2992000.0000
12/04/2016	2983.0000	2983000.0000



13/04/2016	2791.0000	2791000.0000
14/04/2016	3146.0000	3146000.0000
15/04/2016	2954.0000	2954000.0000
16/04/2016	2901.0000	2901000.0000
17/04/2016	3001.0000	3001000.0000
18/04/2016	3723.0000	3723000.0000
19/04/2016	3522.0000	3522000.0000
20/04/2016	3782.0000	3782000.0000
21/04/2016	3881.0000	3881000.0000
22/04/2016	3649.0000	3649000.0000
23/04/2016	3229.0000	3229000.0000
24/04/2016	3302.0000	3302000.0000
25/04/2016	3255.0000	3255000.0000
26/04/2016	3333.0000	3333000.0000
27/04/2016	3427.0000	3427000.0000
28/04/2016	3328.0000	3328000.0000
29/04/2016	3866.0000	3866000.0000
30/04/2016	3415.0000	3415000.0000
01/05/2016	3246.0000	3246000.0000
02/05/2016	3695.0000	3695000.0000
03/05/2016	3948.0000	3948000.0000
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06/05/2016	3706.0000	3706000.0000
07/05/2016	3445.0000	3445000.0000
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10/05/2016	4180.0000	4180000.0000
11/05/2016	4313.0000	4313000.0000
12/05/2016	3988.0000	3988000.0000
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20/05/2016	4537.0000	4537000.0000
21/05/2016	3767.0000	3767000.0000
22/05/2016	3603.0000	3603000.0000
23/05/2016	4210.0000	4210000.0000
24/05/2016	4478.0000	4478000.0000
25/05/2016	5716.0000	5716000.0000
26/05/2016	3543.0000	3543000.0000
27/05/2016	3633.0000	3633000.0000
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29/05/2016	4580.0000	4580000.0000
30/05/2016	2153.0000	2153000.0000
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05/06/2016	3047.0000	3047000.0000
06/06/2016	3222.0000	3222000.0000
07/06/2016	2993.0000	2993000.0000
08/06/2016	3233.0000	3233000.0000
09/06/2016	3699.0000	3699000.0000
10/06/2016	3638.0000	3638000.0000
11/06/2016	3185.0000	3185000.0000
12/06/2016	3347.0000	3347000.0000

13/06/2016	3774.0000	3774000.0000
14/06/2016	4093.0000	4093000.0000
15/06/2016	4092.0000	4092000.0000
16/06/2016	4394.0000	4394000.0000
17/06/2016	4560.0000	4560000.0000
18/06/2016	4504.0000	4504000.0000
19/06/2016	4777.0000	4777000.0000
20/06/2016	4755.0000	4755000.0000
21/06/2016	4320.0000	4320000.0000
22/06/2016	4351.0000	4351000.0000
23/06/2016	4092.0000	4092000.0000
24/06/2016	4903.0000	4903000.0000
25/06/2016	4612.0000	4612000.0000
26/06/2016	4110.0000	4110000.0000
27/06/2016	4292.0000	4292000.0000
28/06/2016	4155.0000	4155000.0000
29/06/2016	4741.0000	4741000.0000
30/06/2016	4759.0000	4759000.0000
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02/07/2016	3191.0000	3191000.0000
03/07/2016	3762.0000	3762000.0000
04/07/2016	4667.0000	4667000.0000
05/07/2016	4492.0000	4492000.0000
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07/07/2016	4183.0000	4183000.0000
08/07/2016	3886.0000	3886000.0000
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10/07/2016	3697.0000	3697000.0000
11/07/2016	4460.0000	4460000.0000
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13/07/2016	4455.0000	4455000.0000
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18/07/2016	3654.0000	3654000.0000
19/07/2016	3987.0000	3987000.0000
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21/07/2016	3541.0000	3541000.0000
22/07/2016	3657.0000	3657000.0000
23/07/2016	3486.0000	3486000.0000
24/07/2016	3419.0000	3419000.0000
25/07/2016	3768.0000	3768000.0000
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27/07/2016	3801.0000	3801000.0000
28/07/2016	3770.0000	3770000.0000
29/07/2016	3971.0000	3971000.0000
30/07/2016	3905.0000	3905000.0000
31/07/2016	3612.0000	3612000.0000
01/08/2016	4657.0000	4657000.0000
02/08/2016	5551.0000	5551000.0000
03/08/2016	6784.0000	6784000.0000
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06/08/2016	4675.0000	4675000.0000
07/08/2016	4532.0000	4532000.0000
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10/08/2016	5654.0000	5654000.0000
11/08/2016	5941.0000	5941000.0000
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16/08/2016	4177.0000	4177000.0000
17/08/2016	2378.0000	2378000.0000
18/08/2016	4574.0000	4574000.0000
19/08/2016	3798.0000	3798000.0000
20/08/2016	3359.0000	3359000.0000
21/08/2016	3347.0000	3347000.0000
22/08/2016	3501.0000	3501000.0000
23/08/2016	3672.0000	3672000.0000
24/08/2016	3961.0000	3961000.0000
25/08/2016	3604.0000	3604000.0000
26/08/2016	3924.0000	3924000.0000
27/08/2016	3488.0000	3488000.0000
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29/08/2016	3901.0000	3901000.0000
30/08/2016	4081.0000	4081000.0000
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03/09/2016	3943.0000	3943000.0000
04/09/2016	3975.0000	3975000.0000
05/09/2016	4060.0000	4060000.0000
06/09/2016	4226.0000	4226000.0000
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10/09/2016	3242.0000	3242000.0000
11/09/2016	3226.0000	3226000.0000
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19/09/2016	3491.0000	3491000.0000
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23/09/2016	2942.0000	2942000.0000
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27/09/2016	3692.0000	3692000.0000
28/09/2016	3355.0000	3355000.0000
29/09/2016	2773.0000	2773000.0000
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05/10/2016	2793.0000	2793000.0000
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07/10/2016	3375.0000	3375000.0000
08/10/2016	2193.0000	2193000.0000
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11/10/2016	2835.0000	2835000.0000
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13/10/2016	2522.0000	2522000.0000
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18/10/2016	2807.0000	2807000.0000
19/10/2016	3263.0000	3263000.0000
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23/10/2016	2598.0000	2598000.0000
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25/10/2016	2551.0000	2551000.0000
26/10/2016	2567.0000	2567000.0000
27/10/2016	2860.0000	2860000.0000
28/10/2016	3089.0000	3089000.0000
29/10/2016	2557.0000	2557000.0000
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07/11/2016	3035.0000	3035000.0000
08/11/2016	2651.0000	2651000.0000
09/11/2016	2565.0000	2565000.0000
10/11/2016	2531.0000	2531000.0000
11/11/2016	2608.0000	2608000.0000
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17/11/2016	2476.0000	2476000.0000
18/11/2016	2650.0000	2650000.0000
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22/11/2016	2746.0000	2746000.0000
23/11/2016	2669.0000	2669000.0000
24/11/2016	2567.0000	2567000.0000
25/11/2016	2536.0000	2536000.0000
26/11/2016	2804.0000	2804000.0000
27/11/2016	2267.0000	2267000.0000
28/11/2016	3225.0000	3225000.0000
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30/11/2016	2947.0000	2947000.0000
01/12/2016	2643.0000	2643000.0000
02/12/2016	2947.0000	2947000.0000
03/12/2016	2690.0000	2690000.0000
04/12/2016	2313.0000	2313000.0000
05/12/2016	3061.0000	3061000.0000
06/12/2016	2521.0000	2521000.0000
07/12/2016	2643.0000	2643000.0000
08/12/2016	2793.0000	2793000.0000
09/12/2016	2232.0000	2232000.0000
10/12/2016	3247.0000	3247000.0000
11/12/2016	2475.0000	2475000.0000
12/12/2016	2686.0000	2686000.0000

13/12/2016	2566.0000	2566000.0000
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15/12/2016	2809.0000	2809000.0000
16/12/2016	2471.0000	2471000.0000
17/12/2016	2989.0000	2989000.0000
18/12/2016	2187.0000	2187000.0000
19/12/2016	3276.0000	3276000.0000
20/12/2016	2246.0000	2246000.0000
21/12/2016	2964.0000	2964000.0000
22/12/2016	2470.0000	2470000.0000
23/12/2016	2930.0000	2930000.0000
24/12/2016	2232.0000	2232000.0000
25/12/2016	2900.0000	2900000.0000
26/12/2016	2336.0000	2336000.0000
27/12/2016	3106.0000	3106000.0000
28/12/2016	3298.0000	3298000.0000
29/12/2016	2319.0000	2319000.0000
30/12/2016	3045.0000	3045000.0000
31/12/2016	2024.0000	2024000.0000