

Little Current Water Treatment

Large Municipal Residential Drinking Water System

January 1, 2017 – December 31, 2017

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 Northeastern Manitoulin and the Islands



Ontario Clean Water Agency
Agence Ontarienne Des Eaux



Drinking-Water System Number: 220002191

Drinking-Water System Name: LITTLE CURRENT DRINKING WATER SYSTEM

Drinking-Water System Owner: The Corporation of the Town of Northeastern Manitoulin and the Islands

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, 2018.

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 Little Current WTP shall not be operated to exceed a maximum daily volume of 3100 m³/d to the distribution system.

The daily treated water maximum flow was 1,487 m³ in August and represents 47.9% of capacity.

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

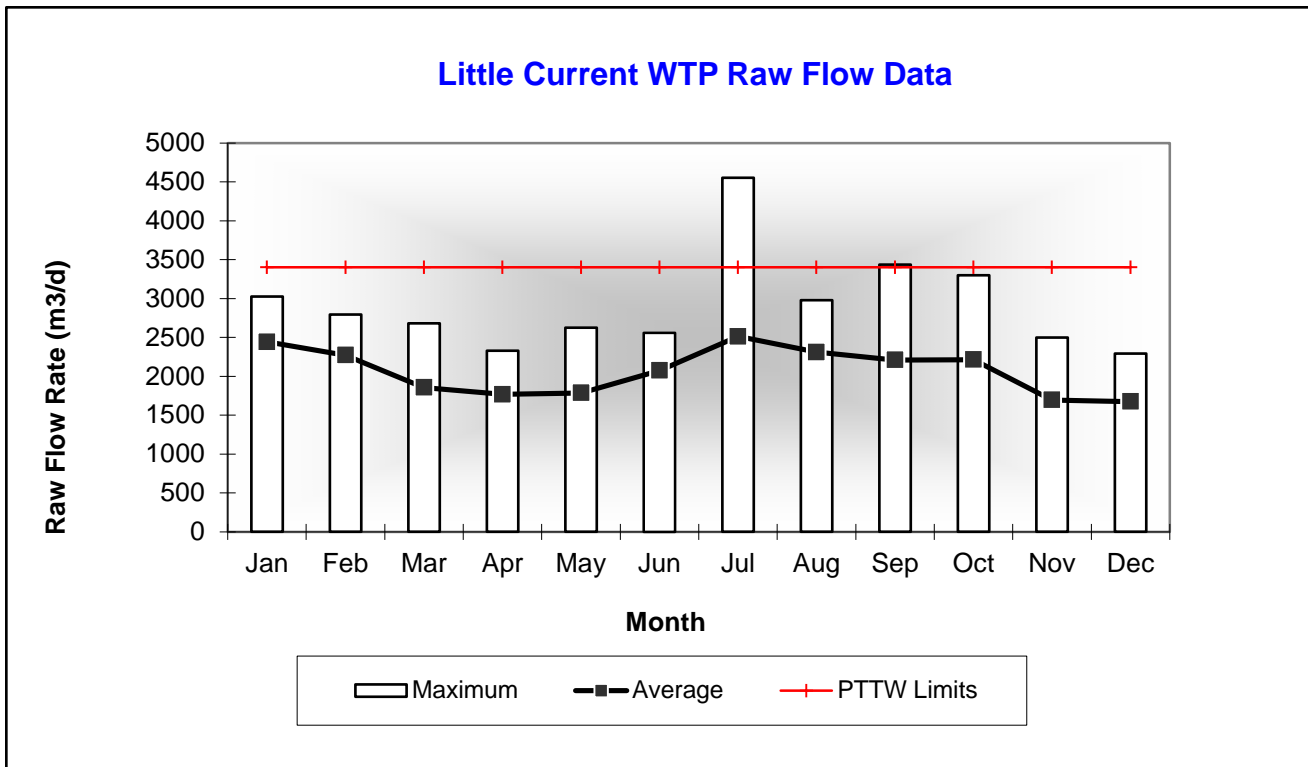
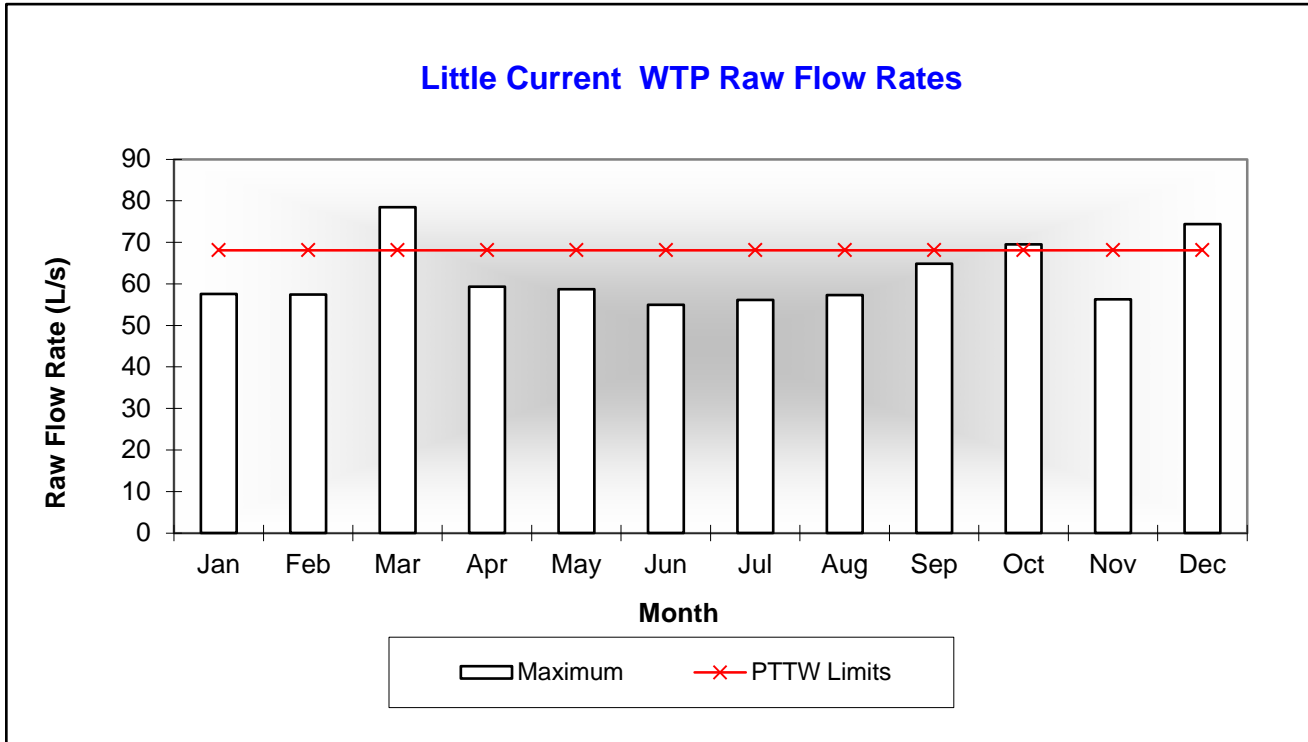
Flows - Raw

Daily raw maximum instantaneous flow is stated in the PTTW at a maximum rate of flow of 68.1 L/s and a maximum daily volume of 3400 m³/d.

The average monthly raw water flow for this reporting period was 2,067.07 m³/d. The maximum daily flow was 4,551.5m³/d representing 133.9% of water taking limits.

The quantity of raw water taken **did** exceed daily and instantaneous flow limits stipulated within the PTTW. All instantaneous flow rate exceedances were during acid washes on the filter trains, the instantaneous flow rate was exceeded when the operator initiated the rinse cycle. According to the Operator, the daily flow exceedances were due to PLC issues that caused the low lift pumps to run continuously. When the filters stopped making water, the low lifts continued to run and the water flowed back to the source.

RAW WATER FLOW DATA - TOTAL ALL SOURCES						
Month	Total Monthly Flow (m3)	Average Flow (m3/d)	Maximum Flow (m3/d)	Maximum Flow Rate (L/s)	Limits	
					L/s (PTTW)	m³/d (PTTW)
January	75,726.2	2,442.78	3,024.2	57.55	68.1	3400
February	63,575.9	2,270.57	2,792.8	57.41	68.1	3400
March	57,510.8	1,855.19	2,649.6	78.44	68.1	3400
April	52,998.7	1,766.62	2,327.5	59.3	68.1	3400
May	55,368	1,786.06	2,623.7	58.69	68.1	3400
June	62,204.9	2,073.5	2,559.6	54.94	68.1	3400
July	77,844.8	2,511.12	4,551.5	56.11	68.1	3400
August	71,625.9	2,310.51	2,977.3	57.28	68.1	3400
September	66,262.9	2,208.76	3,434.8	64.83	68.1	3400
October	68,652.3	2,214.59	3,297.9	69.49	68.1	3400
November	50,827.4	1,694.25	2,496.9	56.26	68.1	3400
December	51,883.2	1,673.95	2,290.9	74.37	68.1	3400
Total	754,481					
Average		2,067.07				
Maximum			4,551.5	78.44	68.1	3400





Annual Raw Water Review

Raw Water Taking	Total Taking m3/d	Average Day m3/d	Max Day m3/d	Max Day % of PTTW allowable 3400 m3/d
2017	754,481	2,067.07	4,551.5	133.9 %
2016	592,593	1,619.1	3125	91.1 %
2015	702,275	1,924.04	3213	94.5 %
2014	761,122	1767.2	4939	145.3 %
2013	680,253	1863.7	3345	98.4 %
2012	571,510	1561.5	2814	82.8 %

System Failures and Corrective Actions

During the week of Sept 10 -16, 2017, the operator (Jeff Tuerk) collected the usual weekly bacteriological samples required and had those samples shipped to SGS labs on Monday Sept 11, 2017.

On Wednesday, Sept 13, 2017, SGS Labs provided confirmation to the PCT (Sarah Beaulieu) that Purolator was late delivering the samples to SGS but Little Current was not among the late samples.

On Friday, Sept 15, 2017, SGS Labs informed the PCT (Natalie Wagar) that an error had occurred and Little Current's raw & treated samples were received past the holding time. The PCT was told that SGS has reviewed their process for identifying late shipments. This information was passed on to the operator and he immediately resampled. Samples were taken and sent to the lab via Saturday shipment requirements.

On Monday, Sept 25, 2017, SGS Labs contacted the PCT (Sarah Beaulieu) to inform her that samples had arrived that morning and were passed their holding time. As such, results for raw & treated samples were not received.

While preparing the annual report it was discovered that the lab result for the November TSS sample was not available. After discussing the issue with the Operator, he provided a copy of the CofC for the sample. The lab was contacted and indicated that the cooler matching the waybill was not received. It is believed that Purolator misplaced the shipment.

Two inspections of the drinking water facility took place in 2017. The first inspection was on [Feb 14, 2017](#), the facility scored [33/475](#) providing a rating of [93.05%](#). The second inspection was on [Nov 22, 2017](#), the facility scored [0/497](#) providing a rating of [100%](#).

There were three non-compliances listed in the February inspection.

The secondary disinfectant residual was not measured as required for the distribution system.

Secondary disinfectant is measured in the distribution system by operators taking four samples on one day of the week and 3 samples on an alternate day of the same week, at least 48 hours apart.

During the week beginning October 10, 2016, the first set of four samples were taken, but no additional chlorine residuals were measured that week.

Action(s) Required:

The operating authority is reminded that subsection 7-2 (3) of Schedule 7 of O. Reg. 170/03 states that the owner of a large municipal residential system that provides secondary disinfection, and the operating authority for the system shall ensure that at least seven distribution samples are taken each week in accordance with subsection (4) and are tested immediately for, (a) free chlorine residual, if the system provides chlorination. Unless at least one sample is taken on each day of the week, at least four of the samples must be taken on one day of the week, and at least



three samples must be taken on a second day of the week, at least 48 hours after the last sample was taken on the previous sampling day. When more than one sample is taken on the same day of the week, each sample must be taken from a different location.

The operating authority must continue to ensure that secondary disinfectant monitoring is completed in accordance with the regulation.

Action(s) Taken:

The operator performing weekly tests is no longer with OCWA and the current operator is well versed in the requirements for chlorine sampling.

Operators are required to enter chlorine residuals into PDM as part of their monthly data entry and have the option to complete a chlorine residual sheet to keep track of samples taken

All water quality monitoring requirements imposed by the Municipal Drinking Water Licence and/or Drinking Water Works Permit were not being met

The MDWL requires that monthly composite samples at the point of discharge to the North Channel be collected and tested for total suspended solids (TSS). The annual average concentration must not exceed 25 mg/L. Sampling for this parameter was not completed in August and September, 2016.

Action(s) Required:

This sampling is a requirement of Condition 4.4 of Schedule C of MDWL 197-202, and subsection 31(1) states that no person shall use or operate a municipal drinking-water system except under the authority of and in accordance with an approval under this Part or municipal drinking-water licence. Therefore, the owner and their operating authority must ensure that all such sampling is complete.

Action(s) Taken:

The operator who performed this sampling is no longer with OCWA. The current operator is well versed in the requirements to sample each month at least 20 days but no more than 40 days after the previous sample.

Sampling plans are maintained in outlook and in HC at the facility and sampling reviews are part of new employee orientation.

The following instance(s) of non-compliance were also noted during the inspection

Details regarding the chemicals and procedures used to clean the membranes have not been included in the Drinking Water Works Permit. It is mentioned in the DWWP that sodium hypochlorite is used as a chemical clean for the membranes, followed by neutralization with either sodium bisulphate or calcium thiosulphite, but the actual procedure followed during such a cleaning process is not identified. The cleaning of the membranes with citric acid is not included in the DWWP and the chemical is not listed in the document. The neutralization chemical (sodium hydroxide) used following a citric acid clean is also missing from the DWWP.

Action(s) Required:

Subsection 31 (1) of the Safe Drinking Water Act states that no person shall establish a new municipal drinking water system or replace or carry out an alteration to a municipal drinking-water system except under the authority of and in accordance with an approval under this Part or a drinking-water works permit; or use or operate a municipal drinking-water system except under the authority of and in accordance with an approval under this Part or municipal drinking-water licence. As the membrane cleaning process is an important part of ensuring proper plant operation, it is important that all chemicals and processes are included in the applicable control document (i.e. the Drinking Water Works Permit).

The owner of the drinking water system and/or the operator of the system must contact the Manager of the Approvals and Licencing section of the Safe Drinking Water Branch and submit the necessary information pertaining to all membrane cleaning chemicals and procedures, as well as all neutralization chemicals and procedures. The information for the DWWP amendment shall be submitted to the Director, Part 5, SDWA, Safe Drinking Water Branch, Ministry of the Environment and Climate Change by June 30, 2017. Notification of the submission shall also be provided to the undersigned Provincial Officer by the same date.

Action(s) Taken:

The DWWP has been amended to include the missing chemicals and processes.



AWQIs reported to the Ministry

Incident Date	Parameter	Result	Unit of Measure	Corrective Action	Corrective Action Date
23-Feb-17	Pressure	0	PSI	BWA issued by the Town. Water main repair causing zero pressure to six businesses. Once the break was repaired, the system was flushed. Two sets of bacti samples were collected.	27-Feb-17
11-May-17	Pressure	0	PSI	BWA issued by the Town. A 2in service was broken by a contractor. Service main was shut off causing a loss of pressure to one business. Once the break was repaired, the system was flushed. Two sets of bacti samples were collected.	13-May-17

SECTION 4: SECTION 11 REPORT

Information to be provided

Population Served	<i>1700</i>
Does your Drinking-Water System serve more than 10,000 people?	<i>No</i>
Is your annual report available to the public at no charge on a web site on the Internet?	<i>Yes</i>
Location where Summary Report required under O. Reg. 170/03 Schedule 22 will be available for inspection.	<i>Town of Little Current, Municipal Office 15 Manitowaning Road Little Current, Ontario P0P 1K0</i>
Number of Designated Facilities served:	<i>0</i>
Did you provide a copy of your annual report to all Designated Facilities you serve?	<i>NA</i>
Number of Interested Authorities you report to:	<i>0</i>
Did you provide a copy of your annual report to all Interested Authorities you report to for each Designated Facility?	<i>NA</i>
List all Drinking-Water Systems (if any), and their DWS Number which receive all of their drinking water from your system:	<i>N/A</i>
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?	<i>N/A</i>
Indicate how you notified system users that your annual report is available, and is free of charge.	<i>Public access/notice via the web - & via Government Office</i>
Indicate if you notified system users that your annual report is available and is free of charge using an alternate method	<i>Yes</i>



Facility Description

The Little Current Water treatment facility consists of a low lift pumping station with three submersible pumps. The low lift pumping station includes a zebra mussel control system utilizing sodium hypochlorite.

Treatment consists of membrane filtration which is comprised of two concrete tanks, each tank with six ultrafiltration units. The rated capacity is 35.9 L/s into the treatment system. Each unit contains 12 modules each module has a filtering area of 23.23 m². There are three permeate pumps used to push the water to the chlorine contact chamber. The contact chamber maintains a constant volume of 162 m³. Following the chlorine contact chamber there are two clear wells, each having a storage volume of 749.8 m³. The high lift pumping consists of four centrifugal high lift pumps, with two pumps having a capacity of 57.87 L/s and two pumps having a capacity of 28.94 L/s. The process back pulse & reject water from the plant is de-chlorinated and discharged back to the North Channel.

Wastewater from membrane cleaning is neutralized and discharged to the sanitary sewer system.

Chemicals Used

Sodium Hypochlorite 12%	Disinfection
Calcium Thiosulphate	Dechlorination of reject water & wastewater
Caustic Soda	Neutralizing membrane wastewater

Significant Expenses

Significant expenses incurred to

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

Work Order	Completion Date	Comment
242792	17-Nov-17	<i>Low Lift Pump 2</i> Brought pump to Xylem for a rebuild. Once pump was repaired it was reinstalled
242918	30-Nov-17	<i>Electrical Repairs</i> Removed two emergency lights and replaced with a smaller 6V unit. Ordered and installed new batteries in the emergency lights. Also made repairs to the alarm system panel
264190	02-Feb-17	<i>Low Lift Heater</i> Replaced defective heater
264199	14-Mar-17	<i>Low Lift Pump</i> Repaired pump start delay timer
264956	15-Jan-18	<i>Vacuum Pump</i> Purchased and installed new vacuum pump
315458	4-May-17	<i>Chemical Board</i> Removed old plumbing and installed new chemical board.
439171	05-Oct-17	Pressure Tank Removed and replaced three pressure tanks as required by RSA insurance. The existing tanks did not meet ASME certification
472413	29-Nov-17	<i>Dehumidifier</i> Repaired broken dehumidifier units



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
23-Feb-17	Pressure	0	PSI	BWA issued by the Town. Water main repair causing zero pressure to six businesses. Once the break was repaired, the system was flushed. Two sets of bacti samples were collected.	27-Feb-17
11-May-17	Pressure	0	PSI	BWA issued by the Town. A 2in service was broken by a contractor. Service main was shut off causing a loss of pressure to one business. Once the break was repaired, the system was flushed. Two sets of bacti samples were collected.	13-May-17

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 #		Collected	Min #
Raw Water	51	0	3400	0	6020			
Treated Water	51	0	0	0	0	51	0	29
Distribution	154	0	0	0	0	51	0	34

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 – Filter 1	8760	0	0.082	(NTU)
Turbidity – Filter 2	8760	0	0.222	(NTU)
Free Chlorine Residual – TW	8760	0.005	3.672	(mg/L)
Free Chlorine Residual, Distribution Location 1	96	1.01	1.89	(mg/L)
Free Chlorine Residual, Distribution Location 2	93	0.89	1.92	(mg/L)
Free Chlorine Residual, Distribution Location 3	93	0.80	2.04	(mg/L)
Free Chlorine Residual, Distribution Location 4	41	0.95	7.65	(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
197-101 March 11, 2011 Renewed on March 8, 2016	Membrane Reject Water Total Suspended Solids 25 mg/L	Jan	4	2	mg/L
		Feb	1	2	mg/L
		Mar	7	2	mg/L
		Apr	19	2	mg/L
		May	4	2	mg/L
		Jun	2	2	mg/L
		Jul	4	2	mg/L
		Aug	1	2	mg/L
		Sep	6	2	mg/L
		Oct	2	2	mg/L
		Nov			mg/L
		Dec	1	2	mg/L
		Annual Average			

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	2017/01/04	0.1	6.0	No	No
Arsenic: As (ug/L) - TW	2017/01/04	0.4	25.0	No	No
Barium: Ba (ug/L) - TW	2017/01/04	12.5	1000.0	No	No
Boron: B (ug/L) - TW	2017/01/04	12.0	5000.0	No	No
Cadmium: Cd (ug/L) - TW	2017/01/04	0.008	5.0	No	No
Chromium: Cr (ug/L) - TW	2017/01/04	0.65	50.0	No	No
Mercury: Hg (ug/L) - TW	2017/01/04	<MDL 0.01	1.0	No	No
Selenium: Se (ug/L) - TW	2017/01/04	0.15	10.0	No	No
Uranium: U (ug/L) - TW	2017/01/04	0.154	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	2017/01/26	0.08	1.5	No	No
Nitrite (mg/L) - TW	2017/01/04	<MDL 0.003	1.0	No	No
Nitrite (mg/L) - TW	2017/04/18	<MDL 0.003	1.0	No	No
Nitrite (mg/L) - TW	2017/07/04	<MDL 0.003	1.0	No	No
Nitrite (mg/L) - TW	2017/10/02	<MDL 0.003	1.0	No	No
Nitrate (mg/L) - TW	2017/01/04	0.193	10.0	No	No
Nitrate (mg/L) - TW	2017/04/18	0.17	10.0	No	No
Nitrate (mg/L) - TW	2017/07/04	0.113	10.0	No	No
Nitrate (mg/L) - TW	2017/10/02	0.075	10.0	No	No
Sodium: Na (mg/L) - TW	2017/01/26	6.59	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	10	0
Distribution - Alkalinity (mg/L)	4	66	69	N/A	N/A
Distribution - pH In-House	4	7.30	8.10	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	2017/01/04	<MDL 0.02	5.00	No	No
Atrazine + N-dealkylated metabolites (ug/L) - TW	2017/01/04	<MDL 0.01	9.00	No	No
Azinphos-methyl (ug/L) - TW	2017/01/04	<MDL 0.05	0.70	No	No
Benzene (ug/L) - TW	2017/01/04	<MDL 0.32	5.00	No	No
Benzo(a)pyrene (ug/L) - TW	2017/01/04	<MDL 0.004	20.00	No	No
Bromoxynil (ug/L) - TW	2017/01/04	<MDL 0.33	40.00	No	No
Carbaryl (ug/L) - TW	2017/01/04	<MDL 0.05	5.00	No	No
Carbofuran (ug/L) - TW	2017/01/04	<MDL 0.01	0.01	No	No
Carbon Tetrachloride (ug/L) - TW	2017/01/04	<MDL 0.16	5.00	No	No
Chlorpyrifos (ug/L) - TW	2017/01/04	<MDL 0.02	90.00	No	No
Diazinon (ug/L) - TW	2017/01/04	<MDL 0.02	90.00	No	No
Dicamba (ug/L) - TW	2017/01/04	<MDL 0.2	5.00	No	No
1,2-Dichlorobenzene (ug/L) - TW	2017/01/04	<MDL 0.41	7.00	No	No
1,4-Dichlorobenzene (ug/L) - TW	2017/01/04	<MDL 0.36	90.00	No	No
1,2-Dichloroethane (ug/L) - TW	2017/01/04	<MDL 0.35	10.00	No	No
1,1-Dichloroethylene (ug/L) - TW	2017/01/04	<MDL 0.33	20.00	No	No
Dichloromethane (Methylene Chloride) (ug/L) - TW	2017/01/04	<MDL 0.35	120.00	No	No
2,4-Dichlorophenol (ug/L) - TW	2017/01/04	<MDL 0.15	200.00	No	No
2,4-Dichlorophenoxy acetic acid (2,4-D) (ug/L) - TW	2017/01/04	<MDL 0.19	5.00	No	No
Diclofop-methyl (ug/L) - TW	2017/01/04	<MDL 0.4	30.00	No	No
Dimethoate (ug/L) - TW	2017/01/04	<MDL 0.03	5.00	No	No
Diquat (ug/L) - TW	2017/01/04	<MDL 1.0	14.00	No	No
Diuron (ug/L) - TW	2017/01/04	<MDL 0.03	50.00	No	No
Glyphosate (ug/L) - TW	2017/01/04	<MDL 1.0	900.00	No	No
Malathion (ug/L) - TW	2017/01/04	<MDL 0.02	100.00	No	No
2-methyl-4-chlorophenoxyacetic acid (MCPA) (mg/L) - TW	2017/01/04	<MDL 0.01	N/A	N/A	N/A
Metolachlor (ug/L) - TW	2017/01/04	<MDL 0.02	9.00	No	No
Metribuzin (ug/L) - TW	2017/01/04	<MDL 0.3	20.00	No	No
Monochlorobenzene (Chlorobenzene) (ug/L) - TW	2017/01/04	<MDL 1.0	10.00	No	No



Paraquat (ug/L) - TW	2017/01/04	<MDL 0.04	70.00	No	No
PCB (ug/L) - TW	2017/01/04	<MDL 0.15	150.00	No	No
Pentachlorophenol (ug/L) - TW	2017/01/04	<MDL 0.01	280.00	No	No
Phorate (ug/L) - TW	2017/01/04	<MDL 1.0	3.00	No	No
Picloram (ug/L) - TW	2017/01/04	<MDL 0.03	4.00	No	No
Prometryne (ug/L) - TW	2017/01/04	<MDL 0.01	190.00	No	No
Simazine (ug/L) - TW	2017/01/04	<MDL 0.01	900.00	No	No
Terbufos (ug/L) - TW	2017/01/04	<MDL 0.35	50.00	No	No
Tetrachloroethylene (ug/L) - TW	2017/01/04	<MDL 0.2	80.00	No	No
2,3,4,6-Tetrachlorophenol (ug/L) - TW	2017/01/04	<MDL 0.01	80.00	No	No
Triallate (ug/L) - TW	2017/01/04	<MDL 0.44	10.00	No	No
Trichloroethylene (ug/L) - TW	2017/01/04	<MDL 0.25	50.00	No	No
2,4,6-Trichlorophenol (ug/L) - TW	2017/01/04	<MDL 0.12	3.00	No	No
Trifluralin (ug/L) - TW	2017/01/04	<MDL 0.02	60.00	No	No
Vinyl Chloride (ug/L) - TW	2017/01/04	<MDL 0.17	2.00	No	No
DISTRIBUTION WATER					
Trihalomethane: Total (ug/L) Annual Average - DW	2017/12/31	44.0	100.00	No	Yes
HAA Total (ug/L) Annual Average - DW	2017/12/31	19.475		N/A	N/A

SECTION 5: RAW WATER SUBMISSIONS

Raw water flows were submitted to the Ministry on [February 22, 2018](#).



Location: [WTRS](#) / [WT DATA](#) / [Input WT Record](#)

WTRS-WT-008

Water Taking Data submitted successfully.

Confirmation:

Thank you for submitting your water taking data online.

Permit Number: 0404-7T3LM7
Permit Holder: THE CORPORATION OF THE TOWN OF NORTHEASTERN MANITOULIN AND THE ISLANDS.
Received on: Feb 22, 2018 12:24 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.

[Return to Main Page](#)

TOWN OF LITTLE CURRENT | 2018/02/22
version: v4.5.0.8 (build#: 18)
Last modified: 2018/01/11



This site maintained by
the Government of Ontario

©2018 [Queen's Printer for Ontario](#)



SECTION 6: CONCLUSION

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

For the 2018 operating year, the Little Current WTP was able to meet the demand of water use without exceeding the MDWL but did exceed daily and instantaneous flow limits stipulated within the PTTW. All instantaneous flow rate exceedances were during acid washes on the filter trains, the instantaneous flow rate was exceeded when the operator initiated the rinse cycle. According to the Operator, the daily flow exceedances were due to PLC issues that caused the low lift pumps to run continuously. When the filters stopped making water, the low lifts continued to run and the water flowed back to the source.



List of Acronyms and Definitions

Alkalinity	The capacity of water for neutralizing an acid solution
AWQI	Adverse Water Quality Incident- when a water sample test result exceeds the Ontario Drinking Water Quality Standards
Backwash	Water pumped backwards to clean filters
BWA	Boil Water Advisory; Issued when risk of contamination is possible in drinking water
CFU	Colony Forming Units
Chlorine Residual	A low level of chlorine remaining in water after disinfection occurs
DW	Distribution Water
DWA	Drinking Water Advisory; Issued when water cannot be consumed by any means
DWWP	Drinking Water Works Permit - provides a description of the overall system
E.Coli	Bacteria used as indicators to measure the degree of pollution and sanitary quality of water
GUDI 170/03	Groundwater Under Direct Influence – Considered to be surface water under O.Reg
HPC	Heterotrophic Plant Count
L/s	Litres per Second
m ³ /d	Cubic Metres per Day
MAC	Maximum Acceptable Concentration
MDL	Minimum Detection Level
MDWL requirements	Municipal Drinking Water Licence - relates to the operation and performance
mg/L	Miligrams per Litre
Ministry	Ministry of the Environment and Climate Change
MOECC	Ministry of the Environment and Climate Change
O.Reg	Ontario Regulation
PTTW water	Permit to Take Water – Permit which allows water taking from groundwater or surface
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 01/01/2017 To 12/31/2017

Facility: LITTLE CURRENT DRINKING WATER SYSTEM-6278
 Tag: Raw Flow: Sum (m3/d)
 Tag Group: Raw Water

Permit#: 0404-7T3LM7
 Source Name: Lake Huron
 Source: Lake
 Type:
 Purpose: Municipal

Coordinate Zone: 17
 Easting: 428654
 Northing: 5092305
 Method deter: Metered

Date Measured	Value (m³/d)	Value (Litres)
01/01/2017	2154.7000	2154700.0000
02/01/2017	2592.5000	2592500.0000
03/01/2017	2834.3999	2834399.9000
04/01/2017	3024.2000	3024200.0000
05/01/2017	2274.5000	2274500.0000
06/01/2017	2655.1001	2655100.1000
07/01/2017	2843.8999	2843899.9000
08/01/2017	2781.5000	2781500.0000
09/01/2017	2124.8999	2124899.9000
10/01/2017	2315.1001	2315100.1000
11/01/2017	2801.3000	2801300.0000
12/01/2017	1883.2000	1883200.0000
13/01/2017	2332.0000	2332000.0000
14/01/2017	2793.8000	2793800.0000
15/01/2017	1771.8000	1771800.0000
16/01/2017	2387.5000	2387500.0000
17/01/2017	2615.5000	2615500.0000
18/01/2017	2809.3000	2809300.0000
19/01/2017	2550.3999	2550399.9000
20/01/2017	2432.3000	2432300.0000
21/01/2017	2625.6001	2625600.1000
22/01/2017	2666.3999	2666399.9000
23/01/2017	1999.4000	1999400.0000
24/01/2017	2170.7000	2170700.0000
25/01/2017	2519.7000	2519700.0000
26/01/2017	2451.0000	2451000.0000
27/01/2017	2608.8999	2608899.9000
28/01/2017	2164.8999	2164899.9000
29/01/2017	2674.2000	2674200.0000
30/01/2017	1541.0000	1541000.0000
31/01/2017	2326.5000	2326500.0000
01/02/2017	2465.1001	2465100.1000
02/02/2017	1459.0000	1459000.0000
03/02/2017	2693.1001	2693100.1000
04/02/2017	2156.5000	2156500.0000
05/02/2017	2339.8000	2339800.0000
06/02/2017	2388.8999	2388899.9000
07/02/2017	2582.2000	2582200.0000
08/02/2017	2057.0000	2057000.0000
09/02/2017	1906.8000	1906800.0000
10/02/2017	2081.3999	2081399.9000
11/02/2017	2714.0000	2714000.0000

12/02/2017	2156.0000	2156000.0000
13/02/2017	2590.2000	2590200.0000
14/02/2017	2781.6001	2781600.1000
15/02/2017	2528.2000	2528200.0000
16/02/2017	2719.1001	2719100.1000
17/02/2017	2585.8000	2585800.0000
18/02/2017	2372.8000	2372800.0000
19/02/2017	2563.8999	2563899.9000
20/02/2017	2792.8000	2792800.0000
21/02/2017	2073.7000	2073700.0000
22/02/2017	2433.7000	2433700.0000
23/02/2017	2624.6001	2624600.1000
24/02/2017	1331.0000	1331000.0000
25/02/2017	2136.3999	2136399.9000
26/02/2017	1254.8000	1254800.0000
27/02/2017	1798.2000	1798200.0000
28/02/2017	1989.3000	1989300.0000
01/03/2017	878.8000	878800.0000
02/03/2017	2125.1001	2125100.1000
03/03/2017	1317.1000	1317100.0000
04/03/2017	2207.3999	2207399.9000
05/03/2017	1246.9000	1246900.0000
06/03/2017	2317.6001	2317600.1000
07/03/2017	2402.6001	2402600.1000
08/03/2017	1614.8000	1614800.0000
09/03/2017	1654.8000	1654800.0000
10/03/2017	1833.9000	1833900.0000
11/03/2017	2288.3999	2288399.9000
12/03/2017	2322.6001	2322600.1000
13/03/2017	2020.2000	2020200.0000
14/03/2017	1398.8000	1398800.0000
15/03/2017	1560.6000	1560600.0000
16/03/2017	2034.2000	2034200.0000
17/03/2017	2119.1001	2119100.1000
18/03/2017	1538.9000	1538900.0000
19/03/2017	2109.7000	2109700.0000
20/03/2017	2040.9000	2040900.0000
21/03/2017	2649.6001	2649600.1000
22/03/2017	2055.6001	2055600.1000
23/03/2017	1738.6000	1738600.0000
24/03/2017	2041.2000	2041200.0000
25/03/2017	1440.0000	1440000.0000
26/03/2017	2271.2000	2271200.0000
27/03/2017	1423.0000	1423000.0000
28/03/2017	2073.3000	2073300.0000
29/03/2017	1964.7000	1964700.0000
30/03/2017	1423.0000	1423000.0000
31/03/2017	1398.2000	1398200.0000
01/04/2017	2189.7000	2189700.0000
02/04/2017	1267.1000	1267100.0000
03/04/2017	1793.7000	1793700.0000
04/04/2017	1848.8000	1848800.0000
05/04/2017	2279.1001	2279100.1000
06/04/2017	1178.1000	1178100.0000
07/04/2017	2231.8000	2231800.0000
08/04/2017	1308.7000	1308700.0000
09/04/2017	2227.2000	2227200.0000
10/04/2017	1369.8000	1369800.0000
11/04/2017	2127.8000	2127800.0000
12/04/2017	1640.6000	1640600.0000
13/04/2017	1260.0000	1260000.0000

14/04/2017	2179.3999	2179399.9000
15/04/2017	1277.7000	1277700.0000
16/04/2017	2178.7000	2178700.0000
17/04/2017	1259.4000	1259400.0000
18/04/2017	1662.2000	1662200.0000
19/04/2017	1957.7000	1957700.0000
20/04/2017	1861.4000	1861400.0000
21/04/2017	1412.6000	1412600.0000
22/04/2017	2061.0000	2061000.0000
23/04/2017	1434.7000	1434700.0000
24/04/2017	1754.2000	1754200.0000
25/04/2017	2327.5000	2327500.0000
26/04/2017	1527.3000	1527300.0000
27/04/2017	1785.1000	1785100.0000
28/04/2017	2027.2000	2027200.0000
29/04/2017	2226.3000	2226300.0000
30/04/2017	1343.9000	1343900.0000
01/05/2017	1420.5000	1420500.0000
02/05/2017	2096.8000	2096800.0000
03/05/2017	1239.1000	1239100.0000
04/05/2017	1288.5000	1288500.0000
05/05/2017	1631.6000	1631600.0000
06/05/2017	1557.4000	1557400.0000
07/05/2017	1635.5000	1635500.0000
08/05/2017	1439.9000	1439900.0000
09/05/2017	1769.9000	1769900.0000
10/05/2017	1764.2000	1764200.0000
11/05/2017	1670.1000	1670100.0000
12/05/2017	1941.2000	1941200.0000
13/05/2017	1475.0000	1475000.0000
14/05/2017	2246.7000	2246700.0000
15/05/2017	1091.3000	1091300.0000
16/05/2017	2138.5000	2138500.0000
17/05/2017	1384.0000	1384000.0000
18/05/2017	2260.5000	2260500.0000
19/05/2017	1747.7000	1747700.0000
20/05/2017	2623.7000	2623700.0000
21/05/2017	2332.5000	2332500.0000
22/05/2017	1972.5000	1972500.0000
23/05/2017	2374.0000	2374000.0000
24/05/2017	1224.8000	1224800.0000
25/05/2017	2001.7000	2001700.0000
26/05/2017	1373.6000	1373600.0000
27/05/2017	2163.8999	2163899.9000
28/05/2017	1268.9000	1268900.0000
29/05/2017	2271.7000	2271700.0000
30/05/2017	1436.5000	1436500.0000
31/05/2017	2525.8000	2525800.0000
01/06/2017	2263.0000	2263000.0000
02/06/2017	1442.2000	1442200.0000
03/06/2017	2434.7000	2434700.0000
04/06/2017	1737.5000	1737500.0000
05/06/2017	2138.0000	2138000.0000
06/06/2017	1923.3000	1923300.0000
07/06/2017	2546.0000	2546000.0000
08/06/2017	1795.3000	1795300.0000
09/06/2017	1860.5000	1860500.0000
10/06/2017	2535.3000	2535300.0000
11/06/2017	2094.3000	2094300.0000
12/06/2017	2214.8000	2214800.0000
13/06/2017	1751.8000	1751800.0000

14/06/2017	2232.0000	2232000.0000
15/06/2017	2504.1001	2504100.1000
16/06/2017	1547.5000	1547500.0000
17/06/2017	2402.0000	2402000.0000
18/06/2017	1904.6000	1904600.0000
19/06/2017	2027.0000	2027000.0000
20/06/2017	2559.6001	2559600.1000
21/06/2017	1488.7000	1488700.0000
22/06/2017	2325.7000	2325700.0000
23/06/2017	2195.3999	2195399.9000
24/06/2017	1847.0000	1847000.0000
25/06/2017	2443.3999	2443399.9000
26/06/2017	1526.1000	1526100.0000
27/06/2017	2325.8000	2325800.0000
28/06/2017	2163.1001	2163100.1000
29/06/2017	1733.7000	1733700.0000
30/06/2017	2242.5000	2242500.0000
01/07/2017	2132.8000	2132800.0000
02/07/2017	2484.1001	2484100.1000
03/07/2017	1516.6000	1516600.0000
04/07/2017	2427.3999	2427399.9000
05/07/2017	2337.8000	2337800.0000
06/07/2017	2365.1001	2365100.1000
07/07/2017	2358.8999	2358899.9000
08/07/2017	2152.8000	2152800.0000
09/07/2017	2244.3999	2244399.9000
10/07/2017	2917.7000	2917700.0000
11/07/2017	2326.0000	2326000.0000
12/07/2017	2618.8000	2618800.0000
13/07/2017	3147.3000	3147300.0000
14/07/2017	2420.3000	2420300.0000
15/07/2017	2400.3999	2400399.9000
16/07/2017	1712.9000	1712900.0000
17/07/2017	2393.6001	2393600.1000
18/07/2017	2201.6001	2201600.1000
19/07/2017	2902.6001	2902600.1000
20/07/2017	2418.0000	2418000.0000
21/07/2017	2322.5000	2322500.0000
22/07/2017	4551.5000	4551500.0000
23/07/2017	3512.9000	3512900.0000
24/07/2017	3055.3999	3055399.9000
25/07/2017	3671.5000	3671500.0000
26/07/2017	2092.3999	2092399.9000
27/07/2017	2031.9000	2031900.0000
28/07/2017	2403.0000	2403000.0000
29/07/2017	2485.7000	2485700.0000
30/07/2017	2006.9000	2006900.0000
31/07/2017	2232.0000	2232000.0000
01/08/2017	2529.3000	2529300.0000
02/08/2017	2804.5000	2804500.0000
03/08/2017	1882.5000	1882500.0000
04/08/2017	2977.3000	2977300.0000
05/08/2017	1808.6000	1808600.0000
06/08/2017	2829.0000	2829000.0000
07/08/2017	1935.8000	1935800.0000
08/08/2017	2752.7000	2752700.0000
09/08/2017	2390.6001	2390600.1000
10/08/2017	2226.8999	2226899.9000
11/08/2017	2539.8000	2539800.0000
12/08/2017	2381.8000	2381800.0000
13/08/2017	2376.2000	2376200.0000

14/08/2017	2348.0000	2348000.0000
15/08/2017	2568.3000	2568300.0000
16/08/2017	2446.3999	2446399.9000
17/08/2017	2318.3999	2318399.9000
18/08/2017	2114.3000	2114300.0000
19/08/2017	2728.8000	2728800.0000
20/08/2017	1626.1000	1626100.0000
21/08/2017	2631.5000	2631500.0000
22/08/2017	2640.2000	2640200.0000
23/08/2017	2248.8999	2248899.9000
24/08/2017	2426.0000	2426000.0000
25/08/2017	2026.5000	2026500.0000
26/08/2017	1466.7000	1466700.0000
27/08/2017	2327.7000	2327700.0000
28/08/2017	2109.6001	2109600.1000
29/08/2017	1889.2000	1889200.0000
30/08/2017	2124.0000	2124000.0000
31/08/2017	2150.3000	2150300.0000
01/09/2017	2168.1001	2168100.1000
02/09/2017	2100.3999	2100399.9000
03/09/2017	1554.1000	1554100.0000
04/09/2017	2333.8000	2333800.0000
05/09/2017	1960.1000	1960100.0000
06/09/2017	1814.5000	1814500.0000
07/09/2017	2310.1001	2310100.1000
08/09/2017	1467.5000	1467500.0000
09/09/2017	2265.3999	2265399.9000
10/09/2017	1900.0000	1900000.0000
11/09/2017	1835.2000	1835200.0000
12/09/2017	2168.3000	2168300.0000
13/09/2017	2260.3999	2260399.9000
14/09/2017	1526.3000	1526300.0000
15/09/2017	2578.8000	2578800.0000
16/09/2017	1528.6000	1528600.0000
17/09/2017	2355.8000	2355800.0000
18/09/2017	1744.9000	1744900.0000
19/09/2017	2095.3999	2095399.9000
20/09/2017	2225.3000	2225300.0000
21/09/2017	2156.0000	2156000.0000
22/09/2017	2217.7000	2217700.0000
23/09/2017	2777.3000	2777300.0000
24/09/2017	2556.8000	2556800.0000
25/09/2017	2580.1001	2580100.1000
26/09/2017	1989.1000	1989100.0000
27/09/2017	3017.1001	3017100.1000
28/09/2017	2098.7000	2098700.0000
29/09/2017	3242.3000	3242300.0000
30/09/2017	3434.8000	3434800.0000
01/10/2017	3297.8999	3297899.9000
02/10/2017	2416.2000	2416200.0000
03/10/2017	1962.2000	1962200.0000
04/10/2017	2304.8000	2304800.0000
05/10/2017	3156.8000	3156800.0000
06/10/2017	2620.1001	2620100.1000
07/10/2017	1963.5000	1963500.0000
08/10/2017	2330.8999	2330899.9000
09/10/2017	2321.8999	2321899.9000
10/10/2017	2662.8000	2662800.0000
11/10/2017	2660.7000	2660700.0000
12/10/2017	1524.7000	1524700.0000
13/10/2017	2327.3999	2327399.9000

14/10/2017	2264.3999	2264399.9000
15/10/2017	1703.4000	1703400.0000
16/10/2017	2669.3999	2669399.9000
17/10/2017	1649.1000	1649100.0000
18/10/2017	2605.8999	2605899.9000
19/10/2017	1621.4000	1621400.0000
20/10/2017	2228.6001	2228600.1000
21/10/2017	2278.3999	2278399.9000
22/10/2017	1652.5000	1652500.0000
23/10/2017	2633.0000	2633000.0000
24/10/2017	1871.8000	1871800.0000
25/10/2017	1682.2000	1682200.0000
26/10/2017	2582.8000	2582800.0000
27/10/2017	1485.0000	1485000.0000
28/10/2017	2371.1001	2371100.1000
29/10/2017	1832.8000	1832800.0000
30/10/2017	2272.1001	2272100.1000
31/10/2017	1698.5000	1698500.0000
01/11/2017	2496.8999	2496899.9000
02/11/2017	1480.4000	1480400.0000
03/11/2017	2211.7000	2211700.0000
04/11/2017	2187.0000	2187000.0000
05/11/2017	2187.0000	2187000.0000
06/11/2017	2176.8999	2176899.9000
07/11/2017	1547.1000	1547100.0000
08/11/2017	2176.3999	2176399.9000
09/11/2017	1139.1000	1139100.0000
10/11/2017	2011.8000	2011800.0000
11/11/2017	1189.2000	1189200.0000
12/11/2017	2101.8999	2101899.9000
13/11/2017	1516.3000	1516300.0000
14/11/2017	1714.6000	1714600.0000
15/11/2017	2216.8999	2216899.9000
16/11/2017	1101.3000	1101300.0000
17/11/2017	1925.9000	1925900.0000
18/11/2017	1181.6000	1181600.0000
19/11/2017	1946.5000	1946500.0000
20/11/2017	1025.1000	1025100.0000
21/11/2017	1671.9000	1671900.0000
22/11/2017	1407.9000	1407900.0000
23/11/2017	1452.2000	1452200.0000
24/11/2017	1567.2000	1567200.0000
25/11/2017	1250.5000	1250500.0000
26/11/2017	1786.7000	1786700.0000
27/11/2017	1102.2000	1102200.0000
28/11/2017	1949.9000	1949900.0000
29/11/2017	1713.9000	1713900.0000
30/11/2017	1391.4000	1391400.0000
01/12/2017	1295.1000	1295100.0000
02/12/2017	1759.0000	1759000.0000
03/12/2017	1120.7000	1120700.0000
04/12/2017	1897.2000	1897200.0000
05/12/2017	1568.2000	1568200.0000
06/12/2017	2136.5000	2136500.0000
07/12/2017	1493.7000	1493700.0000
08/12/2017	1591.6000	1591600.0000
09/12/2017	1475.6000	1475600.0000
10/12/2017	1761.5000	1761500.0000
11/12/2017	1444.3000	1444300.0000
12/12/2017	2102.0000	2102000.0000
13/12/2017	1163.6000	1163600.0000

14/12/2017	2290.8999	2290899.9000
15/12/2017	1205.4000	1205400.0000
16/12/2017	2123.8000	2123800.0000
17/12/2017	1605.3000	1605300.0000
18/12/2017	1918.4000	1918400.0000
19/12/2017	1589.2000	1589200.0000
20/12/2017	2259.2000	2259200.0000
21/12/2017	1291.3000	1291300.0000
22/12/2017	1956.1000	1956100.0000
23/12/2017	1159.9000	1159900.0000
24/12/2017	1980.9000	1980900.0000
25/12/2017	1077.7000	1077700.0000
26/12/2017	1974.1000	1974100.0000
27/12/2017	1177.8000	1177800.0000
28/12/2017	2007.9000	2007900.0000
29/12/2017	1478.0000	1478000.0000
30/12/2017	1816.5000	1816500.0000
31/12/2017	2161.8000	2161800.0000