

Spanish Water Treatment

Large Municipal Residential Drinking Water System

January 1, 2018 – December 31, 2018

***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 Spanish



Ontario Clean Water Agency
Agence Ontarienne Des Eaux



Drinking-Water System Number: 220007025
Drinking-Water System Name: Spanish Drinking Water System
Drinking-Water System Owner: The Corporation of the Town of Spanish
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, 2019.

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. The report 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 *Noranda* Well

In accordance with the Municipal Drinking Water License (MDWL), the Spanish WTP shall not be operated to exceed a maximum flow of 388.8 m³/d to the distribution system.

The daily treated water maximum flow was 596 m³ occurring in June and represents 153% of capacity.

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

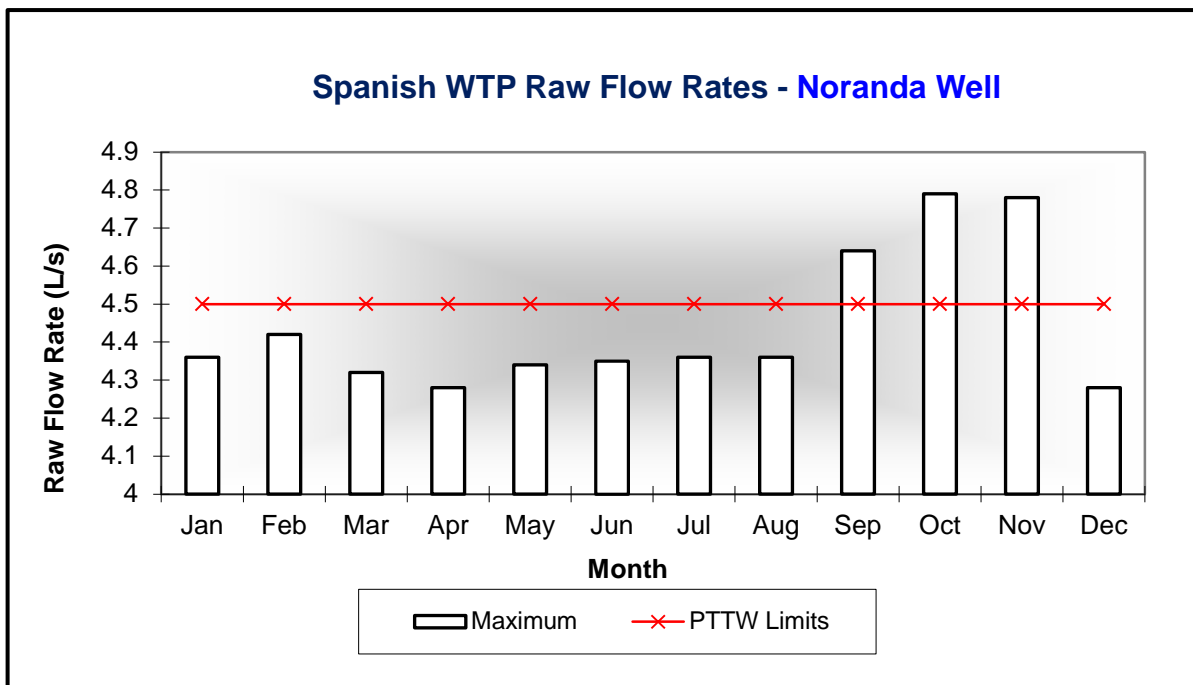
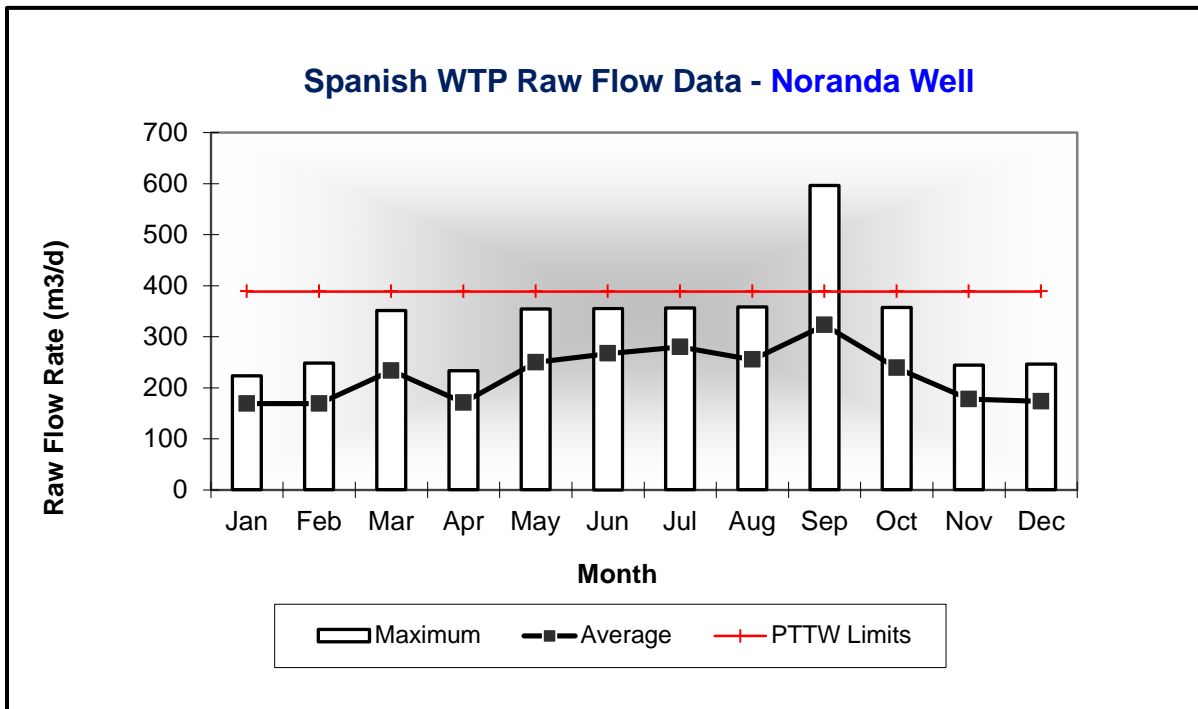
Flows – Raw *Noranda* Well

Daily raw maximum instantaneous flow is stated in the PTTW at a maximum rate of flow of 4.5 L/s and a maximum daily volume of 388.8 m³/d.

The average monthly raw water flow for this reporting period was 225.88 m³/d. The maximum daily flow was 596 m³/d representing 153% of water taking limits.

The quantity of raw water taken **did** exceed the daily flow and the flow rate limits stipulated within the PTTW.

<i>RAW WATER FLOW DATA – Noranda Well</i>						
Month	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	5,237	168.94	223	4.36	4.5	388.8
February	4,725	168.75	248	4.42	4.5	388.8
March	7,239	223.52	351	4.32	4.5	388.8
April	5,126	170.87	233	4.28	4.5	388.8
May	7,738	249.61	354	4.34	4.5	388.8
June	8,009	266.97	355	4.35	4.5	388.8
July	8,679	279.97	356	4.36	4.5	388.8
August	7,907	255.06	358	4.36	4.5	388.8
September	9,688	322.93	596	4.64	4.5	388.8
October	7,399.18	238.68	357	4.79	4.5	388.8
November	5,327	177.57	244	4.78	4.5	388.8
December	5,371	173.26	246	4.28	4.5	388.8
Total	82,445.18					
Average		255.88				
Maximum			596	4.79	4.5	388.8



Annual Raw Water Review – Noranda Well

Raw Water Taking	Total Taking m3/d	Average Day m3/d	Max Day m3/d	Max Day % of PTTW allowable 388.8 m3/d
2018	82,445.18	225.88	596	153%
2017	74,259.52	203.45	354	91%
2016	79,229.26	216.47	371	95%
2015	78,346	220	445	114%
2014	75,090	206	400	102%



Flows - Treated **Goderich** Well

In accordance with the Municipal Drinking Water License (MDWL), the Spanish WTP shall not be operated to exceed a maximum flow of 371.52 m³/d to the distribution system.

The daily treated water maximum flow was 315 m³ in August and represents 84.8% of capacity.

The quantity of treated water supplied during the reporting period **did** exceed the rated maximum capacity. Information on exceedances can be found in the conclusion section of the report.

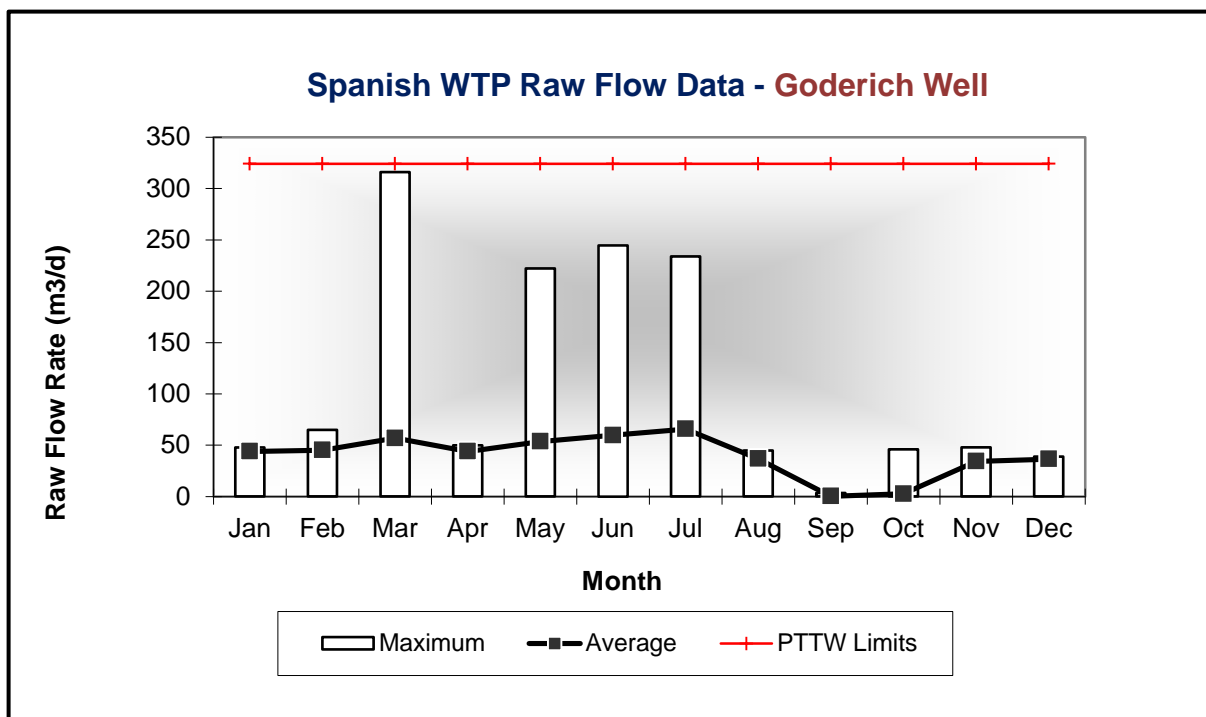
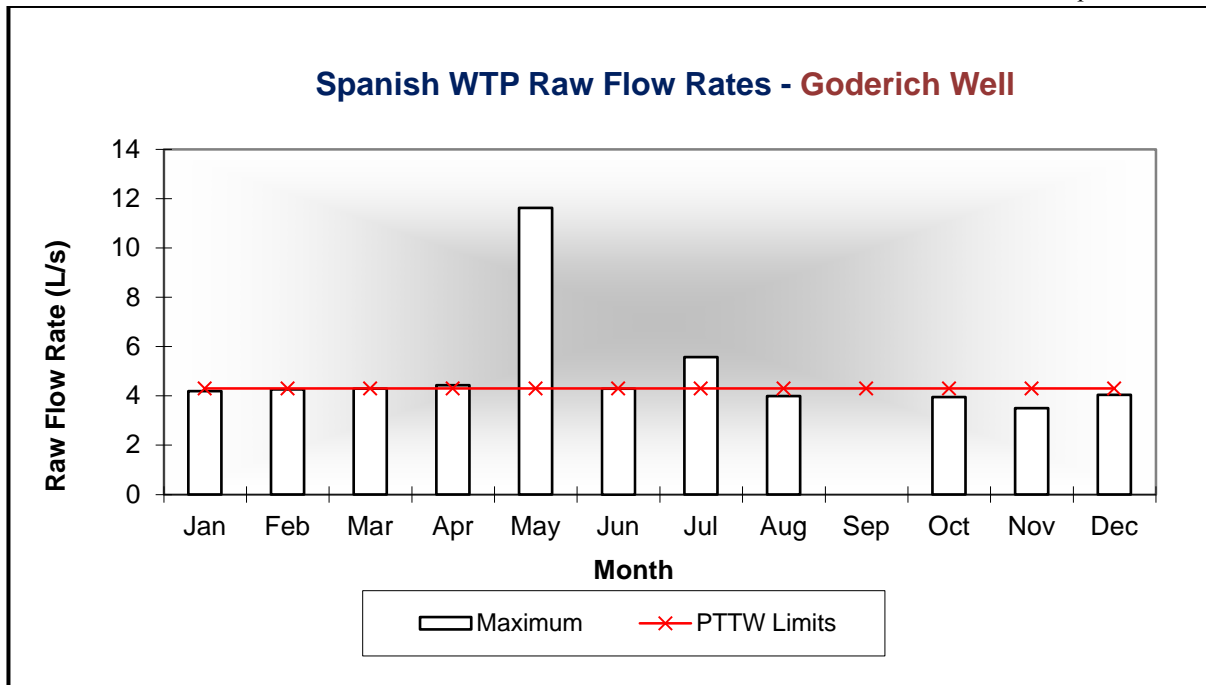
Flows - Raw **Goderich** Well

Daily raw maximum instantaneous flow is stated in the PTTW at a maximum rate of flow of 4.3 L/s and a maximum daily volume of 324 m³/d. The permit also limits the time allowed to take water to 18 hours a day.

The average monthly raw water flow for this reporting period was 40.02 m³/d. The maximum daily flow was 315.75 m³/d representing 97.4% of water taking limits.

The rate of raw water taken **did** exceed limits stipulated within the PTTW. Information on exceedances can be found in the summary of failures and corrective actions section of the report.

RAW WATER FLOW DATA – <i>Goderich Well</i>						
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	1,365.83	44.06	47.63	4.19	4.3	324
February	1,266.33	45.23	64.75	4.26	4.3	324
March	1,763.23	56.88	315.75	4.29	4.3	324
April	1,320.43	44.01	49.7	4.43	4.3	324
May	1,662.95	53.64	221.93	11.62	4.3	324
June	1,790.11	59.67	244.7	4.29	4.3	324
July	2,039.26	65.78	233.63	5.57	4.3	324
August	1,141.43	36.82	44.67	3.99	4.3	324
September	9.2	0.31	3.3	0	4.3	324
October	86	2.77	45.8	3.95	4.3	324
November	1,028.9	34.3	47.73	3.5	4.3	324
December	1,134.44	36.58	38.73	4.04	4.3	324
Total	14,607.78					
Average		40.02				
Maximum			315.75	11.62	4.3	324



Annual Raw Water Review – Goderich Well

Raw Water Taking	Total Taking m3/d	Average Day m3/d	Max Day m3/d	Max Day % of PTTW allowable 324 m3/d
2018	14,607.78	40.02	315.75	97.4%
2017	23,833.32	80.52	339.7	105%
2016	26,876.45	74	369	113.4%
2015	24,797	69	335	102.0%
2014	31,911	112	336	103.7%
2013	22,088	106	354	109.3%



System Failures and Corrective Actions

The latest inspection of the drinking water facility took place on **May 10, 2018**. The facility scored **16/557** providing a rating of **97.13%**

The owner was not in compliance with the conditions associated with maximum flow rate or the rated capacity conditions in the Municipal Drinking Water Licence issued under Part V of the SDWA.

The Goderich Well has a rated capacity of 371.52 m³/day and the Noranda Well has a rated capacity of 388.8 m³/day. Neither rated capacity was exceeded during the current inspection period.

There were no exceedances of the PTTW limits for the Noranda Well during the inspection period. A number of exceedances for the Goderich Well were noted, and include the following:

- November 18, 2017 - maximum daily takings exceeded at 339.7 m³/day and the water was drawn for >18 hours;
- November 19, 2017 - water was drawn for >18 hours;
- November 20, 2017 - water was drawn for >18 hours;
- November 21, 2017 - water was drawn for >18 hours;
- March 1, 2018 - water was drawn for >18 hours;
- May 6, 2018 - maximum L/min takings were exceeded as the maximum flow rate reached 4.9 L/s.

Action(s) Required:

Subsection 31 (1) of the Safe Drinking Water Act states that no person shall operate a municipal drinking water system except under the authority of, and in accordance with an approval or drinking water licence. Schedule A of MDWL 283-101 (issue 3) identifies PTTW 2328-83MMZY as forming part of the licence. As such, PTTW exceedances constitute non-compliance with the MDWL and the SDWA.

At this time, the Town and the operating authority should consider implementing alarms and/or notifications for the Goderich Well, should it approach the PTTW limits, and develop procedures to prevent such exceedances.

Alternately, an application for an amendment to the PTTW should be considered. This issue will be reviewed once again during the next DWS inspection.

The following non-compliances were reported during 2018:

The Goderich well ran over the PTTW time on March 1, 2018. It ran for a total of 20.8 hours which is 2.8hrs over the time specified in the PTTW. This was due to a leak in the Tower, since the Tower level kept dipping below the low level setpoint, it kept calling for the lag Well(Goderich) to start. Once the issue was discovered, the Operator turned off the Well and manually operated it in order to stay within the PTTW limits.

On March 24, 2018, The Historian that stores the data and trends for the Wonderware program shut down. IT worked on restoring the data however; they were unable to restore the Spanish Tower data. All trends/data were lost from 12:30 to 16:30 on March 24. The Operator attended the site and was able to review the alarm history on the analyzer. The history showed that no alarms occurred during this period. A low value of 0.30mg/L is programmed into the analyzer and will log if any residuals went below the setpoint. Therefore, there were no issues with chlorine residuals during the period in which data was lost.

On April 24, 2018, communication issues from the Spanish Tower caused a loss of data between 24/04/2018 @ 17:30 to 25/04/2018 @ 01:42. No data was collected for the Cl₂ analyzer or tower level during this loss of communication. No alarming was active during this time however; the Operator was able to confirm that the analyzer readings did not go below the setpoint of 0.30mg/L. The analyzer will go into alarm status if it falls out of the setpoint and a record is kept. No alarms were recorded for the timeframe.

On May 3, 2018, the Historian data server experienced a malfunction which caused a loss of data at the Spanish tower from 08:28 to 09:13. The Operator was able to review the chlorine analyzer alarm history and confirmed that no alarms occurred during this period. A low value of 0.30mg/L is programmed into the analyzer and will log if any residuals went below the set point.

On May 6, 2018, the Goderich Well unexpectedly started up at 8:50pm. The Well is programmed to start at 12am and run until 3am, the operator was unable to determine why the Well started prior to the scheduled start. However during this time, there were power fluctuations experienced at both Well. At 8:51pm, the flow rate reached a max of 4.9L/sec and call out for high flows. From 8:51pm to 9:19pm, the flow rate was erratic and exceeded the PTTW limit of 4.3L/sec. After



9:19pm, the flow rate lowered to the regular flow of 4.16L/sec. The flow rate is throttled back to prevent exceedances, operator investigated the issue and was not able to determine why the flow rate change. We are currently investigating upgrades to the monitoring systems which will hopefully provide more consistent and accurate data.

On October 1, 2018 the operator was attending the Massey WTP and failed to get the 72 hour reviews completed on time for the Spanish WTP. The reviews were completed 18 minutes late and were logged into Wonderware as an annotation.

AWQIs reported to the Ministry

Incident Date	Parameter	Result	Unit of Measure	Corrective Action	Corrective Action Date
11-Sep-18	Pressure	0	psi	A section of the distribution lost pressure (highest elevation points) due to firefighting demand while the Tower was off line. A BWA was issued for the affected area. Pressure was regained, hydrants were flushed and chlorine residuals collected. Two sets of bacti samples were taken 24hrs apart.	14-Sep-18
21-Sep-18	Pressure	0	psi	Power loss due to high winds caused the wells to stop operating. A generator was hooked up to one Well to power and regain pressure in the distribution. A BWA was issued for the affected area. Pressure was regained to 65psi, hydrants were flushed and chlorine residuals collected. Two sets of bacti samples were taken 24hrs apart.	25-Sep-18
26-Oct-18	Sodium	46.3	Mg/L	Treated water sample at Noranda well was 46.3mg/L. The health unit was notified but did not require any corrective actions. Sampling is already being conducted quarterly for this site. The Municipality was informed of the high result.	30-Oct-18



SECTION 4: SECTION 11 REPORT

Information to be provided

Population Served	696 (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
Location where Summary Report required under O. Reg. 170/03 Schedule 22 will be available for inspection.	The Corporation of the Town of Spanish 8 Trunk Road PO Box 70 Spanish, ON P0P 2A0
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?	No
List all Drinking-Water Systems (if any), and their DWS 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?	Yes
Indicate how you notified system users that your annual report is available, and is free of charge.	Public access/notice via the web
Indicate if you notified system users that your annual report is available and is free of charge using an alternate method	YES

Facility Description

A ground water supply system consisting of two wells serving the town of Spanish. Noranda Well No.1 consists of a drilled well equipped with a submersible pump, a 2 cartridge filter system (5 and 1 micron), a 6 unit UV System and sodium hypochlorite injection system. Goderich Well No.2 consists of a drilled well, equipped with a submersible pump and a sodium hypochlorite dosing system. The pumping stations each have flow monitoring and alarm capabilities. The distribution system is supplied by a tower having a storage volume of 955 cubic meters.

Chemicals Used

Sodium Hypochlorite 12%

Disinfection



Significant Expenses

Significant expenses incurred to

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

Work Order	Completion Date	Comment
626879	31-Jan-18	<i>Water Tower</i> Repaired the communication antenna located on top of the tower
662188	09-Jan-19	<i>Purchased spare parts</i>
685148	09-Jan-19	<i>Water Tower</i> Repaired leaks in the steel water line feeding the tower
821768	09-Jan-19	<i>Water Tower</i> Emergency replacement of riser and discharge pipes due to multiple failures in pipe wall
860985	09-Jan-19	<i>Ordered parts for Metcon and Accu pumps</i>
939487	09-Jan-19	<i>Goderich Flow Meter</i> Ordered and installed new circuit board

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	Corrective Action Date
11-Sep-18	Pressure	0	psi	A section of the distribution lost pressure (highest elevation points) due to firefighting demand while the Tower was off line. A BWA was issued for the affected area. Pressure was regained, hydrants were flushed and chlorine residuals collected. Two sets of bacti samples were taken 24hrs apart.	14-Sep-18
21-Sep-18	Pressure	0	psi	Power loss due to high winds caused the wells to stop operating. A generator was hooked up to one Well to power and regain pressure in the distribution. A BWA was issued for the affected area. Pressure was regained to 65psi, hydrants were flushed and chlorine residuals collected. Two sets of bacti samples were taken 24hrs apart.	25-Sep-18



26-Oct-18	Sodium	46.3	Mg/L	Treated water sample at Noranda well was 46.3mg/L. The health unit was notified but did not require any corrective actions. Sampling is already being conducted quarterly for this site. The Municipality was informed of the high result.	30-Oct-18
-----------	--------	------	------	--	-----------

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 #
Noranda Raw Well	52	0	0	0	7	N/A	N/A	N/A
Goderich Raw Well	46	0	0	0	1	N/A	N/A	N/A
Noranda Treated Water	52	0	0	0	0	52	0	3
Goderich Treated Water	46	0	0	0	0	46	0	1
Distribution	104	0	0	0	0	71	0	4

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

Noranda	No. of Samples Collected	Range of Results		Units of Measure
		Minimum	Maximum	
Turbidity, On-Line - Filter 1	8760	0.00	0.917	(NTU)
Free Chlorine Residual - Treated	8760	0.199	1.923	(mg/L)

Goderich	No. of Samples Collected	Range of Results		Units of Measure
		Minimum	Maximum	
Turbidity, Raw Grabs	13	0.336	0.728	NTU
Free Chlorine Residual - Treated	8760	0	2	(mg/L)

Distribution	No. of Samples Collected	Range of Results		Units of Measure
		Minimum	Maximum	
Free Chlorine Residual, Distribution	8760	0	3.37	(mg/L)
Free Chlorine Residual, Distribution Location 1	109	0.31	1.68	(mg/L)
Free Chlorine Residual, Distribution Location 2	11	0.89	1.27	(mg/L)
Free Chlorine Residual, Distribution Location 3	11	0.66	1.28	(mg/L)
Free Chlorine Residual, Distribution Location 4	7	0.46	1.71	(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	Noranda Result	Goderich Result	Unit of Measure
Sampling is taking place due to failed sodium samples in the treated water	Sodium	Jan	9	70.8	10.6	mg/L
		Feb				mg/L
	20mg/L for sodium restricted diets	Mar				mg/L
		Apr	16	55.7	9.7	mg/L
	200 mg/L for aesthetic limits	May				mg/L
		Jun				mg/L
		Jul	31	71.1	50.6	mg/L
		Aug				mg/L
		Sep				mg/L
		Oct	22	46.3		mg/L
		Oct	30		10.4	
		Nov				mg/L
Dec				mg/L		

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

Noranda TREATED WATER	Sample Date (yyyy/mm/dd)	Sample Result	MAC	No. of Exceedances	
				MAC	1/2 MAC
Antimony: Sb (ug/L) - TW	2018/01/09	<MDL 0.02	6.0	No	No
Arsenic: As (ug/L) - TW	2018/01/09	<MDL 0.2	25.0	No	No
Barium: Ba (ug/L) - TW	2018/01/09	30.2	1000.0	No	No
Boron: B (ug/L) - TW	2018/01/09	13.0	5000.0	No	No
Cadmium: Cd (ug/L) - TW	2018/01/09	0.02	5.0	No	No
Chromium: Cr (ug/L) - TW	2018/01/09	0.29	50.0	No	No
Mercury: Hg (ug/L) - TW	2018/01/09	<MDL 0.01	1.0	No	No
Selenium: Se (ug/L) - TW	2018/01/09	0.53	10.0	No	No
Uranium: U (ug/L) - TW	2018/01/09	2.33	20.0	No	No

Goderich TREATED WATER	Sample Date (yyyy/mm/dd)	Sample Result	MAC	No. of Exceedances	
				MAC	1/2 MAC
Antimony: Sb (ug/L) - TW	2018/01/09	<MDL 0.02	6.0	No	No
Arsenic: As (ug/L) - TW	2018/01/09	0.4	25.0	No	No
Barium: Ba (ug/L) - TW	2018/01/09	22.5	1000.0	No	No
Boron: B (ug/L) - TW	2018/01/09	14.0	5000.0	No	No
Cadmium: Cd (ug/L) - TW	2018/01/09	<MDL 0.003	5.0	No	No
Chromium: Cr (ug/L) - TW	2018/01/09	0.08	50.0	No	No
Mercury: Hg (ug/L) - TW	2018/01/09	<MDL 0.01	1.0	No	No
Selenium: Se (ug/L) - TW	2018/01/09	0.32	10.0	No	No
Uranium: U (ug/L) - TW	2018/01/09	2.41	20.0	No	No



Noranda TREATED WATER	Sample Date (yyyy/mm/dd)	Sample Result	MAC	No. of Exceedances	
				MAC	1/2 MAC
Fluoride (mg/L) - TW	2018/01/09	0.08	1.5	No	No
Nitrite (mg/L) - TW	2018/01/09	<MDL 0.003	1.0	No	No
Nitrite (mg/L) - TW	2018/04/16	<MDL 0.003	1.0	No	No
Nitrite (mg/L) - TW	2018/07/31	<MDL 0.003	1.0	No	No
Nitrite (mg/L) - TW	2018/10/22	<MDL 0.003	1.0	No	No
Nitrate (mg/L) - TW	2018/01/09	0.803	10.0	No	No
Nitrate (mg/L) - TW	2018/04/16	0.655	10.0	No	No
Nitrate (mg/L) - TW	2018/07/31	0.464	10.0	No	No
Nitrate (mg/L) - TW	2018/10/22	0.538	10.0	No	No

Goderich TREATED WATER	Sample Date (yyyy/mm/dd)	Sample Result	MAC	No. of Exceedances	
				MAC	1/2 MAC
Fluoride (mg/L) - TW	2018/01/09	0.14	1.5	No	No
Nitrite (mg/L) - TW	2018/01/09	<MDL 0.003	1.0	No	No
Nitrite (mg/L) - TW	2018/04/16	<MDL 0.003	1.0	No	No
Nitrite (mg/L) - TW	2018/07/31	<MDL 0.003	1.0	No	No
Nitrite (mg/L) - TW	2018/10/30	<MDL 0.003	1.0	No	No
Nitrate (mg/L) - TW	2018/01/09	0.052	10.0	No	No
Nitrate (mg/L) - TW	2018/04/16	0.056	10.0	No	No
Nitrate (mg/L) - TW	2018/07/31	0.464	10.0	No	No
Nitrate (mg/L) - TW	2018/10/30	0.012	10.0	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)	4	0.11	0.49	10	N/A
Distribution - Alkalinity (mg/L)	4	84	109	N/A	N/A
Distribution - pH In-House	4	6.20	7.06	N/A	N/A

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

NORANDA TREATED WATER	Sample Date (yyyy/mm/dd)	Sample Result	MAC	Number of Exceedances	
				MAC	1/2 MAC
Alachlor (ug/L) - TW	2018/01/09	<MDL 0.02	5.00	No	No
Atrazine + N-dealkylated metabolites (ug/L) - TW	2018/01/09	<MDL 0.01	5.00	No	No
Azinphos-methyl (ug/L) - TW	2018/01/09	<MDL 0.05	20.00	No	No



Benzene (ug/L) - TW	2018/01/09	<MDL 0.32	5.00	No	No
Benzo(a)pyrene (ug/L) - TW	2018/01/09	<MDL 0.004	0.01	No	No
Bromoxynil (ug/L) - TW	2018/01/09	<MDL 0.33	5.00	No	No
Carbaryl (ug/L) - TW	2018/01/09	<MDL 0.05	90.00	No	No
Carbofuran (ug/L) - TW	2018/01/09	<MDL 0.01	90.00	No	No
Carbon Tetrachloride (ug/L) - TW	2018/01/09	<MDL 0.16	5.00	No	No
Chlorpyrifos (ug/L) - TW	2018/01/09	<MDL 0.02	90.00	No	No
Diazinon (ug/L) - TW	2018/01/09	<MDL 0.02	20.00	No	No
Dicamba (ug/L) - TW	2018/01/09	<MDL 0.2	120.00	No	No
1,2-Dichlorobenzene (ug/L) - TW	2018/01/09	<MDL 0.41	200.00	No	No
1,4-Dichlorobenzene (ug/L) - TW	2018/01/09	<MDL 0.36	5.00	No	No
1,2-Dichloroethane (ug/L) - TW	2018/01/09	<MDL 0.35	5.00	No	No
1,1-Dichloroethylene (ug/L) - TW	2018/01/09	<MDL 0.33	14.00	No	No
Dichloromethane (Methylene Chloride) (ug/L) - TW	2018/01/09	<MDL 0.35	50.00	No	No
2,4-Dichlorophenol (ug/L) - TW	2018/01/09	<MDL 0.15	900.00	No	No
2,4-Dichlorophenoxy acetic acid (2,4-D) (ug/L) - TW	2018/01/09	<MDL 0.19	100.00	No	No
Diclofop-methyl (ug/L) - TW	2018/01/09	<MDL 0.4	9.00	No	No
Dimethoate (ug/L) - TW	2018/01/09	<MDL 0.03	20.00	No	No
Diquat (ug/L) - TW	2018/01/09	<MDL 1.0	70.00	No	No
Diuron (ug/L) - TW	2018/01/09	<MDL 0.03	150.00	No	No
Glyphosate (ug/L) - TW	2018/01/09	<MDL 1.0	280.00	No	No
Malathion (ug/L) - TW	2018/01/09	<MDL 0.02	190.00	No	No
2-methyl-4-chlorophenoxyacetic acid (MCPA) (mg/L) - TW	2018/01/09	<MDL 0.01	N/A	N/A	N/A
Metolachlor (ug/L) - TW	2018/01/09	<MDL 0.02	50.00	No	No
Metribuzin (ug/L) - TW	2018/01/09	<MDL 0.3	80.00	No	No
Monochlorobenzene (Chlorobenzene) (ug/L) - TW	2018/01/09	<MDL 1.0	80.00	No	No
Paraquat (ug/L) - TW	2018/01/09	<MDL 0.04	10.00	No	No
PCB (ug/L) - TW	2018/01/09	<MDL 0.15	3.00	No	No
Pentachlorophenol (ug/L) - TW	2018/01/09	<MDL 0.01	60.00	No	No
Phorate (ug/L) - TW	2018/01/09	<MDL 1.0	2.00	No	No
Picloram (ug/L) - TW	2018/01/09	<MDL 0.03	190.00	No	No
Prometryne (ug/L) - TW	2018/01/09	<MDL 0.01	1.00	No	No
Simazine (ug/L) - TW	2018/01/09	<MDL 0.01	10.00	No	No
Terbufos (ug/L) - TW	2018/01/09	<MDL 0.35	1.00	No	No
Tetrachloroethylene (ug/L) - TW	2018/01/09	<MDL 0.2	30.00	No	No
2,3,4,6-Tetrachlorophenol (ug/L) - TW	2018/01/09	<MDL 0.01	100.00	No	No
Triallate (ug/L) - TW	2018/01/09	<MDL 0.44	230.00	No	No
Trichloroethylene (ug/L) - TW	2018/01/09	<MDL 0.25	50.00	No	No
2,4,6-Trichlorophenol (ug/L) - TW	2018/01/09	<MDL 0.12	5.00	No	No
Trifluralin (ug/L) - TW	2018/01/09	<MDL 0.02	45.00	No	No
Vinyl Chloride (ug/L) - TW	2018/01/09	<MDL 0.17	2.00	No	No



GODERICH TREATED WATER	Sample Date	Sample		Number of Exceedances	
	(yyyy/mm/dd)	Result	MAC	MAC	1/2 MAC
Alachlor (ug/L) - TW	2018/01/09	<MDL 0.02	5.00	No	No
Aldicarb (ug/L) - TW	2018/01/09	<MDL 0.01	9.00	No	No
Aldrin+Dieldrin (ug/L) - TW	2018/01/09	<MDL 0.05	0.70	No	No
Atrazine + N-dealkylated metabolites (ug/L) - TW	2018/10/30	<MDL 0.5	5.00	No	No
Azinphos-methyl (ug/L) - TW	2018/01/09	<MDL 0.004	20.00	No	No
Bendiocarb (ug/L) - TW	2018/01/09	<MDL 0.33	40.00	No	No
Benzene (ug/L) - TW	2018/01/09	<MDL 0.05	5.00	No	No
Benzo(a)pyrene (ug/L) - TW	2018/01/09	<MDL 0.01	0.01	No	No
Bromoxynil (ug/L) - TW	2018/01/09	<MDL 0.16	5.00	No	No
Carbaryl (ug/L) - TW	2018/01/09	<MDL 0.02	90.00	No	No
Carbofuran (ug/L) - TW	2018/01/09	<MDL 0.02	90.00	No	No
Carbon Tetrachloride (ug/L) - TW	2018/01/09	<MDL 0.2	5.00	No	No
Chlordane: Total (ug/L) - TW	2018/01/09	<MDL 0.41	7.00	No	No
Chlorpyrifos (ug/L) - TW	2018/01/09	<MDL 0.36	90.00	No	No
Cyanazine (ug/L) - TW	2018/01/09	<MDL 0.35	10.00	No	No
Diazinon (ug/L) - TW	2018/01/09	<MDL 0.33	20.00	No	No
Dicamba (ug/L) - TW	2018/01/09	<MDL 0.35	120.00	No	No
1,2-Dichlorobenzene (ug/L) - TW	2018/01/09	<MDL 0.15	200.00	No	No
1,4-Dichlorobenzene (ug/L) - TW	2018/01/09	<MDL 0.19	5.00	No	No
DDT + metabolites (ug/L) - TW	2018/01/09	<MDL 0.4	30.00	No	No
1,2-Dichloroethane (ug/L) - TW	2018/01/09	<MDL 0.03	5.00	No	No
1,1-Dichloroethylene (ug/L) - TW	2018/01/09	<MDL 1.0	14.00	No	No
Dichloromethane (Methylene Chloride) (ug/L) - TW	2018/01/09	<MDL 0.03	50.00	No	No
2,4-Dichlorophenol (ug/L) - TW	2018/01/09	<MDL 1.0	900.00	No	No
2,4-Dichlorophenoxy acetic acid (2,4-D) (ug/L) - TW	2018/01/09	<MDL 0.02	100.00	No	No
Diclofop-methyl (ug/L) - TW	2018/01/09	<MDL 0.01	9.00	No	No
Dimethoate (ug/L) - TW	2018/01/09	<MDL 0.02	20.00	No	No
Dinoseb (ug/L) - TW	2018/01/09	<MDL 0.3	10.00	No	No
Diquat (ug/L) - TW	2018/01/09	<MDL 1.0	70.00	No	No
Diuron (ug/L) - TW	2018/01/09	<MDL 0.04	150.00	No	No
Glyphosate (ug/L) - TW	2018/01/09	<MDL 0.15	280.00	No	No
Heptachlor+hepachlor epoxide (ug/L) - TW	2018/01/09	<MDL 0.01	3.00	No	No
Lindane (ug/L) - TW	2018/01/09	<MDL 1.0	4.00	No	No
Malathion (ug/L) - TW	2018/01/09	<MDL 0.03	190.00	No	No
2-methyl-4-chlorophenoxyacetic acid (MCPA) (mg/L) - TW	2018/01/09	<MDL 0.01	N/A	N/A	N/A
Methoxychlor (ug/L) - TW	2018/01/09	<MDL 0.01	900.00	No	No
Metolachlor (ug/L) - TW	2018/01/09	<MDL 0.35	50.00	No	No
Metribuzin (ug/L) - TW	2018/01/09	<MDL 0.2	80.00	No	No
Monochlorobenzene (Chlorobenzene) (ug/L) - TW	2018/01/09	<MDL 0.01	80.00	No	No
Paraquat (ug/L) - TW	2018/01/09	<MDL 0.44	10.00	No	No
Parathion (ug/L) - TW	2018/01/09	<MDL 0.25	50.00	No	No
PCB (ug/L) - TW	2018/01/09	<MDL 0.12	3.00	No	No



Pentachlorophenol (ug/L) - TW	2018/01/09	<MDL 0.02	60.00	No	No
Phorate (ug/L) - TW	2018/01/09	<MDL 0.17	2.00	No	No
Picloram (ug/L) - TW	2018/01/09	<MDL 0.02	190.00	No	No
Prometryne (ug/L) - TW	2018/01/09	<MDL 0.01	1.00	No	No
Simazine (ug/L) - TW	2018/01/09	<MDL 0.05	10.00	No	No
Temephos (ug/L) - TW	2018/10/30	<MDL 0.5	280.00	No	No
Terbufos (ug/L) - TW	2018/01/09	<MDL 0.004	1.00	No	No
Tetrachloroethylene (ug/L) - TW	2018/01/09	<MDL 0.33	30.00	No	No
2,3,4,6-Tetrachlorophenol (ug/L) - TW	2018/01/09	<MDL 0.05	100.00	No	No
Triallate (ug/L) - TW	2018/01/09	<MDL 0.01	230.00	No	No
Trichloroethylene (ug/L) - TW	2018/01/09	<MDL 0.16	50.00	No	No
2,4,6-Trichlorophenol (ug/L) - TW	2018/01/09	<MDL 0.02	5.00	No	No
2,4,5-T (ug/L) - TW	2018/01/09	<MDL 0.02	280.00	No	No
Trifluralin (ug/L) - TW	2018/01/09	<MDL 0.2	45.00	No	No
Vinyl Chloride (ug/L) - TW	2018/01/09	<MDL 0.41	2.00	No	No

DISTRIBUTION WATER					
Trihalomethane: Total (ug/L) Annual Average - DW	2018/12/31	26.25	100.00	No	No
HAA Total (ug/L Annual Average - DW)	2018/12/31	12.425		N/A	N/A

SECTION 5: RAW WATER SUBMISSIONS

Raw water flows were submitted to the Ministry on [February 13, 2019](#).

The screenshot shows the Ontario logo at the top left. Below it, the location is identified as 'WTRS / WT DATA / Input WT Record' and the record ID is 'WTRS-WT-005'. A green-bordered box contains the message: 'Water Taking Data submitted successfully.' Below this, a 'Confirmation:' section contains the following text: 'Thank you for submitting your water taking data online. Permit Number: 2328-83MMZY Permit Holder: THE CORPORATION OF THE TOWN OF SPANISH. Received on: Feb 13, 2019 8:55 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.' A 'Return to Main Page' button is located at the bottom of the confirmation box. At the bottom of the page, it says 'THE CORPORATION OF THE TOWN OF SPANISH | 2019/02/13 version: v4.5.0.21 (build#: 22) Last modified: 2018/09/18'. The footer includes the Ontario logo, 'This site maintained by the Government of Ontario', and '©2019 Queen's Printer for Ontario'.



SECTION 6: CONCLUSION

The Spanish 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, exceedances occurred at both wells for total daily volumes and peak flow rate limits listed in the PTTW. The Noranda well trended flow rate exceedances on one occasion throughout the year although exceedances are related to backwashes occurring and not due to raw water takings.

The Goderich well exceeded the flow rate limit in May. This occurred on an unscheduled startup of the well, it is unclear why they well started when it did. Total daily flows also exceeded r by surpassing the allowable 18 hours per day water taking limit.



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 01/01/2018 To 12/31/2018

Facility: SPANISH DRINKING WATER SYSTEM-1150
 Tag: Raw Flow: Sum (m3/d)
 Tag Group: Noranda Raw - GUDI

Permit#: 2328-83MMZY
 Source Name: Noranda Well
 Source: Well
 Type: Drilled
 Purpose: Municipal

Coordinate Zone: 17
 Easting: 397392
 Northing: 5116753
 Method deter: Metered

Date Measured	Value (m³/d)	Value (Litres)
01/01/2018	223.0000	223000.0000
02/01/2018	203.0000	203000.0000
03/01/2018	196.0000	196000.0000
04/01/2018	187.0000	187000.0000
05/01/2018	183.0000	183000.0000
06/01/2018	187.0000	187000.0000
07/01/2018	219.0000	219000.0000
08/01/2018	220.0000	220000.0000
09/01/2018	191.0000	191000.0000
10/01/2018	181.0000	181000.0000
11/01/2018	176.0000	176000.0000
12/01/2018	193.0000	193000.0000
13/01/2018	196.0000	196000.0000
14/01/2018	159.0000	159000.0000
15/01/2018	150.0000	150000.0000
16/01/2018	140.0000	140000.0000
17/01/2018	140.0000	140000.0000
18/01/2018	160.0000	160000.0000
19/01/2018	161.0000	161000.0000
20/01/2018	128.0000	128000.0000
21/01/2018	189.0000	189000.0000
22/01/2018	151.0000	151000.0000
23/01/2018	135.0000	135000.0000
24/01/2018	152.0000	152000.0000
25/01/2018	144.0000	144000.0000
26/01/2018	127.0000	127000.0000
27/01/2018	105.0000	105000.0000
28/01/2018	216.0000	216000.0000
29/01/2018	144.0000	144000.0000
30/01/2018	141.0000	141000.0000
31/01/2018	140.0000	140000.0000
01/02/2018	136.0000	136000.0000
02/02/2018	164.0000	164000.0000
03/02/2018	180.0000	180000.0000
04/02/2018	159.0000	159000.0000
05/02/2018	124.0000	124000.0000
06/02/2018	132.0000	132000.0000
07/02/2018	149.0000	149000.0000
08/02/2018	163.0000	163000.0000
09/02/2018	164.0000	164000.0000
10/02/2018	188.0000	188000.0000
11/02/2018	248.0000	248000.0000

12/02/2018	160.0000	160000.0000
13/02/2018	187.0000	187000.0000
14/02/2018	178.0000	178000.0000
15/02/2018	191.0000	191000.0000
16/02/2018	178.0000	178000.0000
17/02/2018	208.0000	208000.0000
18/02/2018	167.0000	167000.0000
19/02/2018	184.0000	184000.0000
20/02/2018	138.0000	138000.0000
21/02/2018	169.0000	169000.0000
22/02/2018	171.0000	171000.0000
23/02/2018	159.0000	159000.0000
24/02/2018	168.0000	168000.0000
25/02/2018	182.0000	182000.0000
26/02/2018	144.0000	144000.0000
27/02/2018	172.0000	172000.0000
28/02/2018	162.0000	162000.0000
01/03/2018	351.0000	351000.0000
02/03/2018	350.0000	350000.0000
03/03/2018	351.0000	351000.0000
04/03/2018	350.0000	350000.0000
05/03/2018	348.0000	348000.0000
06/03/2018	349.0000	349000.0000
07/03/2018	349.0000	349000.0000
08/03/2018	348.0000	348000.0000
09/03/2018	348.0000	348000.0000
10/03/2018	348.0000	348000.0000
11/03/2018	348.0000	348000.0000
12/03/2018	149.0000	149000.0000
13/03/2018	220.0000	220000.0000
14/03/2018	105.0000	105000.0000
15/03/2018	167.0000	167000.0000
16/03/2018	178.0000	178000.0000
17/03/2018	168.0000	168000.0000
18/03/2018	182.0000	182000.0000
19/03/2018	202.0000	202000.0000
20/03/2018	155.0000	155000.0000
21/03/2018	185.0000	185000.0000
22/03/2018	169.0000	169000.0000
23/03/2018	183.0000	183000.0000
24/03/2018	178.0000	178000.0000
25/03/2018	181.0000	181000.0000
26/03/2018	158.0000	158000.0000
27/03/2018	147.0000	147000.0000
28/03/2018	156.0000	156000.0000
29/03/2018	164.0000	164000.0000
30/03/2018	203.0000	203000.0000
31/03/2018	149.0000	149000.0000
01/04/2018	193.0000	193000.0000
02/04/2018	175.0000	175000.0000
03/04/2018	159.0000	159000.0000
04/04/2018	202.0000	202000.0000
05/04/2018	150.0000	150000.0000
06/04/2018	179.0000	179000.0000
07/04/2018	165.0000	165000.0000
08/04/2018	182.0000	182000.0000
09/04/2018	161.0000	161000.0000
10/04/2018	172.0000	172000.0000
11/04/2018	130.0000	130000.0000
12/04/2018	167.0000	167000.0000
13/04/2018	139.0000	139000.0000

14/04/2018	211.0000	211000.0000
15/04/2018	177.0000	177000.0000
16/04/2018	110.0000	110000.0000
17/04/2018	174.0000	174000.0000
18/04/2018	159.0000	159000.0000
19/04/2018	141.0000	141000.0000
20/04/2018	156.0000	156000.0000
21/04/2018	177.0000	177000.0000
22/04/2018	193.0000	193000.0000
23/04/2018	156.0000	156000.0000
24/04/2018	161.0000	161000.0000
25/04/2018	166.0000	166000.0000
26/04/2018	181.0000	181000.0000
27/04/2018	184.0000	184000.0000
28/04/2018	175.0000	175000.0000
29/04/2018	198.0000	198000.0000
30/04/2018	233.0000	233000.0000
01/05/2018	162.0000	162000.0000
02/05/2018	200.0000	200000.0000
03/05/2018	181.0000	181000.0000
04/05/2018	164.0000	164000.0000
05/05/2018	206.0000	206000.0000
06/05/2018	222.0000	222000.0000
07/05/2018	301.0000	301000.0000
08/05/2018	152.0000	152000.0000
09/05/2018	354.0000	354000.0000
10/05/2018	352.0000	352000.0000
11/05/2018	283.0000	283000.0000
12/05/2018	283.0000	283000.0000
13/05/2018	232.0000	232000.0000
14/05/2018	249.0000	249000.0000
15/05/2018	247.0000	247000.0000
16/05/2018	265.0000	265000.0000
17/05/2018	287.0000	287000.0000
18/05/2018	328.0000	328000.0000
19/05/2018	262.0000	262000.0000
20/05/2018	271.0000	271000.0000
21/05/2018	294.0000	294000.0000
22/05/2018	115.0000	115000.0000
23/05/2018	354.0000	354000.0000
24/05/2018	148.0000	148000.0000
25/05/2018	256.0000	256000.0000
26/05/2018	294.0000	294000.0000
27/05/2018	255.0000	255000.0000
28/05/2018	286.0000	286000.0000
29/05/2018	243.0000	243000.0000
30/05/2018	242.0000	242000.0000
31/05/2018	250.0000	250000.0000
01/06/2018	232.0000	232000.0000
02/06/2018	242.0000	242000.0000
03/06/2018	279.0000	279000.0000
04/06/2018	272.0000	272000.0000
05/06/2018	238.0000	238000.0000
06/06/2018	255.0000	255000.0000
07/06/2018	254.0000	254000.0000
08/06/2018	257.0000	257000.0000
09/06/2018	266.0000	266000.0000
10/06/2018	273.0000	273000.0000
11/06/2018	315.0000	315000.0000
12/06/2018	168.0000	168000.0000
13/06/2018	354.0000	354000.0000

14/06/2018	355.0000	355000.0000
15/06/2018	344.0000	344000.0000
16/06/2018	268.0000	268000.0000
17/06/2018	281.0000	281000.0000
18/06/2018	234.0000	234000.0000
19/06/2018	207.0000	207000.0000
20/06/2018	189.0000	189000.0000
21/06/2018	254.0000	254000.0000
22/06/2018	288.0000	288000.0000
23/06/2018	265.0000	265000.0000
24/06/2018	257.0000	257000.0000
25/06/2018	266.0000	266000.0000
26/06/2018	329.0000	329000.0000
27/06/2018	249.0000	249000.0000
28/06/2018	256.0000	256000.0000
29/06/2018	311.0000	311000.0000
30/06/2018	251.0000	251000.0000
01/07/2018	269.0000	269000.0000
02/07/2018	326.0000	326000.0000
03/07/2018	356.0000	356000.0000
04/07/2018	255.0000	255000.0000
05/07/2018	288.0000	288000.0000
06/07/2018	281.0000	281000.0000
07/07/2018	282.0000	282000.0000
08/07/2018	301.0000	301000.0000
09/07/2018	253.0000	253000.0000
10/07/2018	264.0000	264000.0000
11/07/2018	293.0000	293000.0000
12/07/2018	288.0000	288000.0000
13/07/2018	228.0000	228000.0000
14/07/2018	298.0000	298000.0000
15/07/2018	355.0000	355000.0000
16/07/2018	354.0000	354000.0000
17/07/2018	264.0000	264000.0000
18/07/2018	276.0000	276000.0000
19/07/2018	278.0000	278000.0000
20/07/2018	264.0000	264000.0000
21/07/2018	248.0000	248000.0000
22/07/2018	221.0000	221000.0000
23/07/2018	222.0000	222000.0000
24/07/2018	297.0000	297000.0000
25/07/2018	213.0000	213000.0000
26/07/2018	249.0000	249000.0000
27/07/2018	294.0000	294000.0000
28/07/2018	256.0000	256000.0000
29/07/2018	266.0000	266000.0000
30/07/2018	314.0000	314000.0000
31/07/2018	326.0000	326000.0000
01/08/2018	337.0000	337000.0000
02/08/2018	51.0000	51000.0000
03/08/2018	185.0000	185000.0000
04/08/2018	322.0000	322000.0000
05/08/2018	283.0000	283000.0000
06/08/2018	240.0000	240000.0000
07/08/2018	220.0000	220000.0000
08/08/2018	232.0000	232000.0000
09/08/2018	213.0000	213000.0000
10/08/2018	278.0000	278000.0000
11/08/2018	358.0000	358000.0000
12/08/2018	260.0000	260000.0000
13/08/2018	357.0000	357000.0000

14/08/2018	231.0000	231000.0000
15/08/2018	264.0000	264000.0000
16/08/2018	236.0000	236000.0000
17/08/2018	274.0000	274000.0000
18/08/2018	297.0000	297000.0000
19/08/2018	272.0000	272000.0000
20/08/2018	271.0000	271000.0000
21/08/2018	243.0000	243000.0000
22/08/2018	207.0000	207000.0000
23/08/2018	222.0000	222000.0000
24/08/2018	288.0000	288000.0000
25/08/2018	260.0000	260000.0000
26/08/2018	259.0000	259000.0000
27/08/2018	257.0000	257000.0000
28/08/2018	227.0000	227000.0000
29/08/2018	265.0000	265000.0000
30/08/2018	257.0000	257000.0000
31/08/2018	241.0000	241000.0000
01/09/2018	265.0000	265000.0000
02/09/2018	290.0000	290000.0000
03/09/2018	276.0000	276000.0000
04/09/2018	284.0000	284000.0000
05/09/2018	275.0000	275000.0000
06/09/2018	290.0000	290000.0000
07/09/2018	156.0000	156000.0000
08/09/2018	353.0000	353000.0000
09/09/2018	356.0000	356000.0000
10/09/2018	356.0000	356000.0000
11/09/2018	356.0000	356000.0000
12/09/2018	356.0000	356000.0000
13/09/2018	356.0000	356000.0000
14/09/2018	354.0000	354000.0000
15/09/2018	352.0000	352000.0000
16/09/2018	352.0000	352000.0000
17/09/2018	353.0000	353000.0000
18/09/2018	353.0000	353000.0000
19/09/2018	354.0000	354000.0000
20/09/2018	355.0000	355000.0000
21/09/2018	271.0000	271000.0000
22/09/2018	596.0000	596000.0000
23/09/2018	351.0000	351000.0000
24/09/2018	353.0000	353000.0000
25/09/2018	352.0000	352000.0000
26/09/2018	354.0000	354000.0000
27/09/2018	271.0000	271000.0000
28/09/2018	234.0000	234000.0000
29/09/2018	241.0000	241000.0000
30/09/2018	223.0000	223000.0000
01/10/2018	356.0000	356000.0000
02/10/2018	157.0000	157000.0000
03/10/2018	274.0000	274000.0000
04/10/2018	200.0000	200000.0000
05/10/2018	213.0000	213000.0000
06/10/2018	167.0000	167000.0000
07/10/2018	259.0000	259000.0000
08/10/2018	225.0000	225000.0000
09/10/2018	241.0000	241000.0000
10/10/2018	206.0000	206000.0000
11/10/2018	256.0000	256000.0000
12/10/2018	250.0000	250000.0000
13/10/2018	210.0000	210000.0000

14/10/2018	226.0000	226000.0000
15/10/2018	215.0000	215000.0000
16/10/2018	251.0000	251000.0000
17/10/2018	289.0000	289000.0000
18/10/2018	220.0000	220000.0000
19/10/2018	205.0000	205000.0000
20/10/2018	254.0000	254000.0000
21/10/2018	256.0000	256000.0000
22/10/2018	239.0000	239000.0000
23/10/2018	249.0000	249000.0000
24/10/2018	273.0000	273000.0000
25/10/2018	357.0000	357000.0000
26/10/2018	355.0000	355000.0000
27/10/2018	247.0000	247000.0000
28/10/2018	86.0000	86000.0000
29/10/2018	265.1800	265180.0000
30/10/2018	191.0000	191000.0000
31/10/2018	207.0000	207000.0000
01/11/2018	225.0000	225000.0000
02/11/2018	119.0000	119000.0000
03/11/2018	159.0000	159000.0000
04/11/2018	221.0000	221000.0000
05/11/2018	203.0000	203000.0000
06/11/2018	152.0000	152000.0000
07/11/2018	66.0000	66000.0000
08/11/2018	85.0000	85000.0000
09/11/2018	167.0000	167000.0000
10/11/2018	214.0000	214000.0000
11/11/2018	212.0000	212000.0000
12/11/2018	198.0000	198000.0000
13/11/2018	165.0000	165000.0000
14/11/2018	173.0000	173000.0000
15/11/2018	244.0000	244000.0000
16/11/2018	240.0000	240000.0000
17/11/2018	167.0000	167000.0000
18/11/2018	189.0000	189000.0000
19/11/2018	156.0000	156000.0000
20/11/2018	236.0000	236000.0000
21/11/2018	160.0000	160000.0000
22/11/2018	220.0000	220000.0000
23/11/2018	134.0000	134000.0000
24/11/2018	202.0000	202000.0000
25/11/2018	148.0000	148000.0000
26/11/2018	209.0000	209000.0000
27/11/2018	137.0000	137000.0000
28/11/2018	179.0000	179000.0000
29/11/2018	148.0000	148000.0000
30/11/2018	199.0000	199000.0000
01/12/2018	127.0000	127000.0000
02/12/2018	190.0000	190000.0000
03/12/2018	189.0000	189000.0000
04/12/2018	175.0000	175000.0000
05/12/2018	151.0000	151000.0000
06/12/2018	180.0000	180000.0000
07/12/2018	205.0000	205000.0000
08/12/2018	132.0000	132000.0000
09/12/2018	210.0000	210000.0000
10/12/2018	149.0000	149000.0000
11/12/2018	195.0000	195000.0000
12/12/2018	127.0000	127000.0000
13/12/2018	183.0000	183000.0000

14/12/2018	131.0000	131000.0000
15/12/2018	180.0000	180000.0000
16/12/2018	153.0000	153000.0000
17/12/2018	148.0000	148000.0000
18/12/2018	246.0000	246000.0000
19/12/2018	112.0000	112000.0000
20/12/2018	190.0000	190000.0000
21/12/2018	144.0000	144000.0000
22/12/2018	156.0000	156000.0000
23/12/2018	203.0000	203000.0000
24/12/2018	219.0000	219000.0000
25/12/2018	189.0000	189000.0000
26/12/2018	155.0000	155000.0000
27/12/2018	222.0000	222000.0000
28/12/2018	153.0000	153000.0000
29/12/2018	205.0000	205000.0000
30/12/2018	186.0000	186000.0000
31/12/2018	166.0000	166000.0000

Ontario Clean Water Agency
Annual Water Taking and Transfer Report
 From 01/01/2018 To 12/31/2018

Facility: SPANISH DRINKING WATER SYSTEM-1150
 Tag: Raw Flow: Sum (m3/d)
 Tag Group: Goderich Raw - Well

Permit#: 2328-83MMZY
 Source Name: Goderich Well
 Source: Well
 Type: Drilled
 Purpose: Municipal

Coordinate Zone: 17
 Easting: 396295
 Northing: 5116551
 Method deter: Metered

Date Measured	Value (m³/d)	Value (Litres)
01/01/2018	43.6000	43600.0000
02/01/2018	47.6000	47600.0000
03/01/2018	43.6000	43600.0000
04/01/2018	43.6000	43600.0000
05/01/2018	43.6000	43600.0000
06/01/2018	43.6000	43600.0000
07/01/2018	43.6000	43600.0000
08/01/2018	43.6000	43600.0000
09/01/2018	47.6300	47630.0000
10/01/2018	43.6300	43630.0000
11/01/2018	43.6300	43630.0000
12/01/2018	43.3000	43300.0000
13/01/2018	43.6500	43650.0000
14/01/2018	43.6500	43650.0000
15/01/2018	43.6500	43650.0000
16/01/2018	43.6500	43650.0000
17/01/2018	43.4300	43430.0000
18/01/2018	43.4300	43430.0000
19/01/2018	43.4300	43430.0000
20/01/2018	43.8600	43860.0000
21/01/2018	43.8600	43860.0000
22/01/2018	45.8600	45860.0000
23/01/2018	43.6000	43600.0000
24/01/2018	43.6000	43600.0000
25/01/2018	43.6000	43600.0000
26/01/2018	43.6000	43600.0000
27/01/2018	44.5700	44570.0000
28/01/2018	44.5700	44570.0000
29/01/2018	44.5700	44570.0000
30/01/2018	43.6300	43630.0000
31/01/2018	44.6300	44630.0000
01/02/2018	44.6300	44630.0000
02/02/2018	39.5000	39500.0000
03/02/2018	44.7000	44700.0000
04/02/2018	44.7000	44700.0000
05/02/2018	45.7000	45700.0000
06/02/2018	44.6000	44600.0000
07/02/2018	44.6000	44600.0000
08/02/2018	44.6000	44600.0000
09/02/2018	44.6000	44600.0000
10/02/2018	44.6000	44600.0000
11/02/2018	44.6000	44600.0000

12/02/2018	44.6000	44600.0000
13/02/2018	44.6000	44600.0000
14/02/2018	44.6000	44600.0000
15/02/2018	44.6000	44600.0000
16/02/2018	44.6000	44600.0000
17/02/2018	44.5500	44550.0000
18/02/2018	44.5500	44550.0000
19/02/2018	44.5500	44550.0000
20/02/2018	45.5500	45550.0000
21/02/2018	44.6500	44650.0000
22/02/2018	44.6500	44650.0000
23/02/2018	44.6250	44625.0000
24/02/2018	44.6250	44625.0000
25/02/2018	44.6250	44625.0000
26/02/2018	44.6250	44625.0000
27/02/2018	44.7500	44750.0000
28/02/2018	64.7500	64750.0000
01/03/2018	315.7500	315750.0000
02/03/2018	0.7500	750.0000
03/03/2018	125.6000	125600.0000
04/03/2018	119.6000	119600.0000
05/03/2018	0.0000	0.0000
06/03/2018	0.0000	0.0000
07/03/2018	4.0000	4000.0000
08/03/2018	0.0000	0.0000
09/03/2018	100.7000	100700.0000
10/03/2018	120.5000	120500.0000
11/03/2018	121.4000	121400.0000
12/03/2018	1.1000	1100.0000
13/03/2018	44.6250	44625.0000
14/03/2018	44.6250	44625.0000
15/03/2018	44.6250	44625.0000
16/03/2018	44.6250	44625.0000
17/03/2018	44.6000	44600.0000
18/03/2018	44.6000	44600.0000
19/03/2018	44.6000	44600.0000
20/03/2018	44.6300	44630.0000
21/03/2018	44.6300	44630.0000
22/03/2018	44.6300	44630.0000
23/03/2018	44.6250	44625.0000
24/03/2018	44.6250	44625.0000
25/03/2018	44.6250	44625.0000
26/03/2018	45.6250	45625.0000
27/03/2018	45.6500	45650.0000
28/03/2018	45.6500	45650.0000
29/03/2018	45.6000	45600.0000
30/03/2018	45.6200	45620.0000
31/03/2018	45.6200	45620.0000
01/04/2018	45.6200	45620.0000
02/04/2018	45.6200	45620.0000
03/04/2018	45.6200	45620.0000
04/04/2018	48.9000	48900.0000
05/04/2018	42.6000	42600.0000
06/04/2018	42.6000	42600.0000
07/04/2018	42.6600	42660.0000
08/04/2018	42.6600	42660.0000
09/04/2018	43.6600	43660.0000
10/04/2018	42.6250	42625.0000
11/04/2018	42.6250	42625.0000
12/04/2018	42.6250	42625.0000
13/04/2018	42.6250	42625.0000

14/04/2018	43.6670	43667.0000
15/04/2018	43.6670	43667.0000
16/04/2018	45.6670	45667.0000
17/04/2018	42.6500	42650.0000
18/04/2018	43.6500	43650.0000
19/04/2018	43.6000	43600.0000
20/04/2018	43.6000	43600.0000
21/04/2018	43.7000	43700.0000
22/04/2018	43.7000	43700.0000
23/04/2018	49.7000	49700.0000
24/04/2018	43.6500	43650.0000
25/04/2018	43.6500	43650.0000
26/04/2018	43.6000	43600.0000
27/04/2018	43.6000	43600.0000
28/04/2018	43.6300	43630.0000
29/04/2018	43.6300	43630.0000
30/04/2018	44.6300	44630.0000
01/05/2018	43.7250	43725.0000
02/05/2018	1.7250	1725.0000
03/05/2018	44.7250	44725.0000
04/05/2018	62.7250	62725.0000
05/05/2018	44.9330	44933.0000
06/05/2018	93.9330	93933.0000
07/05/2018	221.9330	221933.0000
08/05/2018	144.8000	144800.0000
09/05/2018	42.6330	42633.0000
10/05/2018	42.6330	42633.0000
11/05/2018	42.6330	42633.0000
12/05/2018	41.6330	41633.0000
13/05/2018	42.6330	42633.0000
14/05/2018	43.6330	43633.0000
15/05/2018	42.7000	42700.0000
16/05/2018	42.7000	42700.0000
17/05/2018	41.7000	41700.0000
18/05/2018	42.7000	42700.0000
19/05/2018	42.7000	42700.0000
20/05/2018	43.7000	43700.0000
21/05/2018	43.7000	43700.0000
22/05/2018	44.7000	44700.0000
23/05/2018	43.6000	43600.0000
24/05/2018	43.6000	43600.0000
25/05/2018	44.6000	44600.0000
26/05/2018	44.4000	44400.0000
27/05/2018	44.4000	44400.0000
28/05/2018	45.4000	45400.0000
29/05/2018	45.2000	45200.0000
30/05/2018	50.2000	50200.0000
31/05/2018	42.6500	42650.0000
01/06/2018	43.6500	43650.0000
02/06/2018	42.6700	42670.0000
03/06/2018	42.6700	42670.0000
04/06/2018	42.6700	42670.0000
05/06/2018	42.6700	42670.0000
06/06/2018	42.6700	42670.0000
07/06/2018	42.6700	42670.0000
08/06/2018	43.8700	43870.0000
09/06/2018	42.8700	42870.0000
10/06/2018	43.8700	43870.0000
11/06/2018	43.8700	43870.0000
12/06/2018	157.7000	157700.0000
13/06/2018	244.7000	244700.0000

14/06/2018	118.8000	118800.0000
15/06/2018	78.8000	78800.0000
16/06/2018	44.3300	44330.0000
17/06/2018	44.3300	44330.0000
18/06/2018	45.3300	45330.0000
19/06/2018	98.6750	98675.0000
20/06/2018	44.6750	44675.0000
21/06/2018	43.6750	43675.0000
22/06/2018	43.6750	43675.0000
23/06/2018	44.6330	44633.0000
24/06/2018	44.6330	44633.0000
25/06/2018	46.6330	46633.0000
26/06/2018	42.7000	42700.0000
27/06/2018	42.7000	42700.0000
28/06/2018	42.7000	42700.0000
29/06/2018	43.6000	43600.0000
30/06/2018	43.6750	43675.0000
01/07/2018	44.6750	44675.0000
02/07/2018	44.6750	44675.0000
03/07/2018	44.6750	44675.0000
04/07/2018	43.7000	43700.0000
05/07/2018	67.7000	67700.0000
06/07/2018	86.1000	86100.0000
07/07/2018	127.9500	127950.0000
08/07/2018	127.9500	127950.0000
09/07/2018	130.9500	130950.0000
10/07/2018	74.9500	74950.0000
11/07/2018	47.7300	47730.0000
12/07/2018	43.7300	43730.0000
13/07/2018	43.7300	43730.0000
14/07/2018	233.6300	233630.0000
15/07/2018	98.6300	98630.0000
16/07/2018	45.6300	45630.0000
17/07/2018	44.6500	44650.0000
18/07/2018	43.6500	43650.0000
19/07/2018	43.6500	43650.0000
20/07/2018	43.6500	43650.0000
21/07/2018	44.6300	44630.0000
22/07/2018	44.6300	44630.0000
23/07/2018	45.6300	45630.0000
24/07/2018	53.9000	53900.0000
25/07/2018	52.8300	52830.0000
26/07/2018	44.8300	44830.0000
27/07/2018	109.8300	109830.0000
28/07/2018	40.1000	40100.0000
29/07/2018	40.1000	40100.0000
30/07/2018	41.1000	41100.0000
31/07/2018	39.6750	39675.0000
01/08/2018	39.6750	39675.0000
02/08/2018	39.6750	39675.0000
03/08/2018	41.6750	41675.0000
04/08/2018	39.7000	39700.0000
05/08/2018	40.7000	40700.0000
06/08/2018	40.7000	40700.0000
07/08/2018	40.7000	40700.0000
08/08/2018	39.6500	39650.0000
09/08/2018	39.6500	39650.0000
10/08/2018	38.6500	38650.0000
11/08/2018	39.6500	39650.0000
12/08/2018	39.6500	39650.0000
13/08/2018	39.6500	39650.0000

14/08/2018	40.7000	40700.0000
15/08/2018	40.7000	40700.0000
16/08/2018	40.7000	40700.0000
17/08/2018	40.6750	40675.0000
18/08/2018	40.6750	40675.0000
19/08/2018	40.6750	40675.0000
20/08/2018	40.6750	40675.0000
21/08/2018	43.9000	43900.0000
22/08/2018	40.6670	40667.0000
23/08/2018	39.6670	39667.0000
24/08/2018	39.6670	39667.0000
25/08/2018	39.6670	39667.0000
26/08/2018	42.6670	42667.0000
27/08/2018	44.6670	44667.0000
28/08/2018	43.8000	43800.0000
29/08/2018	0.8000	800.0000
30/08/2018	0.7000	700.0000
31/08/2018	0.7000	700.0000
01/09/2018	0.0000	0.0000
02/09/2018	0.0000	0.0000
03/09/2018	0.0000	0.0000
04/09/2018	0.0000	0.0000
05/09/2018	0.2000	200.0000
06/09/2018	0.0000	0.0000
07/09/2018	0.0000	0.0000
08/09/2018	0.0000	0.0000
09/09/2018	0.0000	0.0000
10/09/2018	0.0000	0.0000
11/09/2018	0.0000	0.0000
12/09/2018	0.0000	0.0000
13/09/2018	0.0000	0.0000
14/09/2018	0.0000	0.0000
15/09/2018	0.0000	0.0000
16/09/2018	0.0000	0.0000
17/09/2018	0.0000	0.0000
18/09/2018	0.0000	0.0000
19/09/2018	0.0000	0.0000
20/09/2018	0.0000	0.0000
21/09/2018	0.4000	400.0000
22/09/2018	2.1000	2100.0000
23/09/2018	3.3000	3300.0000
24/09/2018	3.2000	3200.0000
25/09/2018	0.0000	0.0000
26/09/2018	0.0000	0.0000
27/09/2018	0.0000	0.0000
28/09/2018	0.0000	0.0000
29/09/2018	0.0000	0.0000
30/09/2018	0.0000	0.0000
01/10/2018	0.0000	0.0000
02/10/2018	0.0000	0.0000
03/10/2018	0.0000	0.0000
04/10/2018	0.0000	0.0000
05/10/2018	0.0000	0.0000
06/10/2018	0.0000	0.0000
07/10/2018	0.0000	0.0000
08/10/2018	0.0000	0.0000
09/10/2018	0.0000	0.0000
10/10/2018	0.0000	0.0000
11/10/2018	0.0000	0.0000
12/10/2018	0.0000	0.0000
13/10/2018	0.0000	0.0000

14/10/2018	0.0000	0.0000
15/10/2018	0.0000	0.0000
16/10/2018	0.0000	0.0000
17/10/2018	0.0000	0.0000
18/10/2018	0.0000	0.0000
19/10/2018	0.0000	0.0000
20/10/2018	0.0000	0.0000
21/10/2018	0.0000	0.0000
22/10/2018	0.0000	0.0000
23/10/2018	0.0000	0.0000
24/10/2018	0.0000	0.0000
25/10/2018	0.0000	0.0000
26/10/2018	0.0000	0.0000
27/10/2018	0.0000	0.0000
28/10/2018	0.0000	0.0000
29/10/2018	3.4000	3400.0000
30/10/2018	45.8000	45800.0000
31/10/2018	36.8000	36800.0000
01/11/2018	36.8000	36800.0000
02/11/2018	36.6000	36600.0000
03/11/2018	36.7330	36733.0000
04/11/2018	47.7330	47733.0000
05/11/2018	38.7330	38733.0000
06/11/2018	36.7000	36700.0000
07/11/2018	36.7000	36700.0000
08/11/2018	36.7000	36700.0000
09/11/2018	36.7000	36700.0000
10/11/2018	36.7000	36700.0000
11/11/2018	36.7000	36700.0000
12/11/2018	36.7000	36700.0000
13/11/2018	36.7000	36700.0000
14/11/2018	25.7000	25700.0000
15/11/2018	0.0000	0.0000
16/11/2018	11.5250	11525.0000
17/11/2018	36.5250	36525.0000
18/11/2018	36.5250	36525.0000
19/11/2018	37.5250	37525.0000
20/11/2018	36.7000	36700.0000
21/11/2018	36.7000	36700.0000
22/11/2018	35.7000	35700.0000
23/11/2018	35.7000	35700.0000
24/11/2018	35.7000	35700.0000
25/11/2018	34.7000	34700.0000
26/11/2018	34.7000	34700.0000
27/11/2018	34.7000	34700.0000
28/11/2018	35.1000	35100.0000
29/11/2018	35.1000	35100.0000
30/11/2018	36.1000	36100.0000
01/12/2018	36.1000	36100.0000
02/12/2018	36.1000	36100.0000
03/12/2018	36.1000	36100.0000
04/12/2018	35.8500	35850.0000
05/12/2018	35.8500	35850.0000
06/12/2018	35.5500	35550.0000
07/12/2018	34.5500	34550.0000
08/12/2018	35.7300	35730.0000
09/12/2018	35.7300	35730.0000
10/12/2018	38.7300	38730.0000
11/12/2018	37.8330	37833.0000
12/12/2018	37.8330	37833.0000
13/12/2018	37.8330	37833.0000

14/12/2018	36.6750	36675.0000
15/12/2018	36.6750	36675.0000
16/12/2018	36.6750	36675.0000
17/12/2018	36.6750	36675.0000
18/12/2018	36.6300	36630.0000
19/12/2018	36.6300	36630.0000
20/12/2018	36.6300	36630.0000
21/12/2018	36.7300	36730.0000
22/12/2018	36.7300	36730.0000
23/12/2018	36.7300	36730.0000
24/12/2018	36.7300	36730.0000
25/12/2018	36.6700	36670.0000
26/12/2018	36.6700	36670.0000
27/12/2018	36.6700	36670.0000
28/12/2018	36.7000	36700.0000
29/12/2018	36.7000	36700.0000
30/12/2018	36.7000	36700.0000
31/12/2018	36.7000	36700.0000