



## ***PETAWAWA DRINKING WATER SYSTEM 2015 ANNUAL REPORT***



**Prepared by:**

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**Ontario Clean Water Agency  
Agence Ontarienne Des Eaux**

## Foreword

This document contains three different reports required for the Petawawa Drinking Water System:

- Section 11, Annual Report, as per the SDWA, 2002- Section 11 of the Ontario Regulation 170/03
- Summary Report, as per the SDWA, 2002- Schedule 22 of the Ontario Regulation 170/03
- Summary of the Raw Water values that were submitted to the Ministry of the Environment under the Ontario Regulation 387/04, OWRA, 1990- Water Taking.

Section 12 of Ontario Regulation 170/03 of the SDWA, 2002, requires both the Summary Report and the Annual Report be made available for inspection by any member of the public during normal business hours, without charge. These reports are to be made available for inspection at the office of the municipality and on the municipality internet site.

**SECTION 11**  
**ANNUAL REPORT 2015**



**Drinking Water Systems Regulation O. Reg. 170/03  
Section 11- Annual Report**

**System Information:**

|   |   |
|---|---|
| <b>Drinking Water System Name</b>                             | Petawawa Drinking Water System                              |
| <b>Municipal Drinking Water License #</b>                     | 199-101, Issue #1   |
| <b>Drinking Water Works Permit #</b>                          | 199-201, Issue #1   |
| <b>Drinking Water System Number</b>                           | 210002101   |
| <b>System Owner</b>   | Town of Petawawa  |
| <b>Operating Authority</b>                                    | Ontario Clean Water Agency                                  |
| <b>Drinking Water System Category</b>                         | Large Municipal Residential                                 |
| <b>DWQMS Status (SAI Global Certified- File # 1634127-01)</b> | Full Scope/ Entire DWQMS Accreditation on December 15, 2012 |
| <b>Reporting Period</b>                                       | January 1, 2015 – December 31, 2015                         |

**Summary Report (170/03 Schedule 22) will be available for inspection at:**

|   |
|---|
| Town of Petawawa<br>1111 Victoria Street<br>Petawawa, ON<br>K8H 2E6 |
|---|

**List all Drinking Water Systems which receive all of their drinking water from your system:**

| Name         | Drinking Water System Number |
|--------------|------------------------------|
| CFB Petawawa | Federal jurisdiction         |

**Provide a brief description of the system:**

|  |
|--|
| Petawawa Water Treatment Plant is a conventional water treatment system using PAS-8 as the primary coagulant, and polymer as the secondary coagulant to achieve coagulation, flocculation, and sedimentation. Pre and post pH adjustment with soda ash is also utilized during the water treatment process. Dual media filters provide filtration and chlorine gas is used for disinfection. Fluoridation is also practiced. |
|--|

**What Treatment Chemicals were used during the Reporting Year:**

| Chemical Name                        | Use           | Supplier |
|--------------------------------------|---------------|----------|
| PAS-8                                | Coagulant     | Kemira   |
| Fluoride                             | Fluoridation  | Brenntag |
| Soda Ash Dense                       | pH Adjustment | Flochem  |
| Chlorine Gas                         | Disinfection  | Brenntag |
| Superfloc A-100 Flocculant (Polymer) | Coagulant Aid | Kemira   |

**Summary of any Reports made to the Ministry under Subsection 18 (1) of the Act or Section 16-4 of Schedule 16:**

| DRINKING WATER LEGISLATION    | AWQI # | Cause                       |          |                         | STATUS |
|-------------------------------|--------|-----------------------------|----------|-------------------------|--------|
|                               |        | PARAMETER/EQUIPMENT FAILURE | DURATION | CORRECTIVE ACTION TAKEN |        |
| No AWQI's to report for 2015. |        |                             |          |                         |        |

**Does your Drinking-Water System serve more than 10 000 people?**

YES

NO

**If yes, is your annual report available to the public at no charge on a web site on the internet?**

YES

NO

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

- Notice via Government Office
- Town of Petawawa internet Web-Site

**Capacity Assessment of the Petawawa Drinking Water System:**

| Year                                       | 2011     | 2012     | 2013     | 2014     | 2015     |
|--|----------|----------|----------|----------|----------|
| Av. Day Flow (m <sup>3</sup> /d)           | 6 248.97 | 7 166.06 | 6 463.48 | 6 573.42 | 6 478.16 |
| Design Capacity (m <sup>3</sup> /d)        | 21 500.0 | 21 500.0 | 21 500.0 | 21 500.0 | 21 500.0 |
| % of Capacity<br>(based on av. day flows)  | 29.1     | 33.3     | 30.1     | 30.5     | 30.1     |
| Max. Day Flow (m <sup>3</sup> /d)          | 10 952.0 | 13 860.0 | 11 664.0 | 13 017.0 | 11 072.0 |
| % of Capacity<br>(based on max. day flows) | 50.9     | 64.5     | 54.3     | 60.5     | 51.5     |

In 2015, the average day flow was at approximately 30.1 % of the current plant design, and the maximum day flow was at approximately 51.5 % of the plant design of 21 500.0 m<sup>3</sup>/d.

**Microbiological Testing (Ont. Reg. 170/03, Sch.10, Sch.11 or Sch.12 & Ont. Reg. 169/03 Standards – Not Detectable):**

|              | # of E-coli Samples Taken | E-Coli Results (min-max) | # of Total Coliform Samples Taken | Total Coliform Results (min-max) | # of HPC Samples Taken | HPC Results (min-max) |
|--------------|---------------------------|--------------------------|-----------------------------------|----------------------------------|------------------------|-----------------------|
| Raw          | 52                        | 0-3                      | 52                                | 0-27                             |                        |                       |
| Treated      | 53                        | 0-0                      | 53                                | 0-0                              | 53                     | 0-4                   |
| Distribution | 313                       | 0-0                      | 313                               | 0-0                              | 312                    | 0-11                  |

**Operational Testing, On-Line (Ont. Reg. 170/03, Sch. 7, Sch. 8 or Sch. 9):**

| Parameter                    | Ont. Reg. 170/03 Standard | Range of Results (min # - max #) |
|------------------------------|---------------------------|----------------------------------|
| Filter #1 Turbidity          | 1 NTU                     | 0 – 2.000 NTU                    |
| Filter #2 Turbidity          | 1 NTU                     | 0 – 2.000 NTU                    |
| Filter #3 Turbidity          | 1 NTU                     | 0 – 2.000 NTU                    |
| Treated Free Chlorine        | 0.05 mg/L – 4 mg/L        | 0 – 2.37 mg/L*                   |
| Distribution Free Chlorine** | 0.2 mg/L – 4.0 mg/L       | 0.70– 1.36 mg/L*                 |
| Treated Fluoride             | 1.5 mg/L***               | 0 – 0.56 mg/L                    |

\*spikes recorded by on-line instrumentation were a result of various maintenance/calibration activities and power outages. All spikes are reviewed for compliance with O. Reg. 170/03 and reported as required.

\*\*Includes all Booster Stations (2) and Tower (3) samples.

\*\*\*Where fluoride is added to drinking water, it is recommended that the concentration be adjusted to 0.5 – 0.8 mg/L which is the optimum level for the control of tooth decay. Where supplies contain naturally occurring fluoride at levels higher than 1.5 mg/L, but less than 2.4 mg/L, the Ministry of Health and Long Term Care recommends an approach through the local boards of health to raise public and professional awareness to control excessive exposure to fluoride from other sources (taken from the Technical Support Document for Ontario Drinking Water Standards, Objectives and Guidelines, June 2006, MOE PIBS 4449e01).

**Summary of Additional Non-Required Samples, In-House:**

| Parameter                   | # of grab samples taken | Ont. Reg. 170/03 / Ont. Reg. 169/03 Standard (MAC), as applicable | Range of Results (min # - max #) |
|-----------------------------|-------------------------|---|----------------------------------|
| Treated Water Free Chlorine | 107                     | 0 mg/L – 1.0 mg/L   | 1.24 – 2.01 mg/L                 |
| Treated Water Fluoride      | 133                     | 1.5 mg/L  | 0.3 – 0.80 mg/L                  |
| Treated Water Turbidity     | 106                     | 1 NTU   | 0.017 – 0.333 NTU                |
| Treated Water Alkalinity    | 86                      | 30 – 500 mg/L (OG)*   | 20 – 43 mg/L                     |
| Treated Water Aluminum      | 103                     | 0.1 mg/L (OG)   | 0 – 3 mg/L                       |
| Treated Water Colour        | 98                      | 5 TCU (AO)**  | 0 – < 6.0 TCU                    |
| Treated Water pH            | 106                     | 6.5 – 8.5 (OG)  | 6.68 – 7.44                      |
| Distribution Free Chlorine  | 296                     | 0.2 mg/L – 4.0 mg/L   | 0 – 1.34 mg/L                    |
| Filter #1 Turbidity         | 106                     | 1 NTU   | 0.031 – 0.269 NTU                |
| Filter #2 Turbidity         | 105                     | 1 NTU   | 0.059 – 0.700 NTU                |

|                     |     |       |                   |
|---------------------|-----|-------|-------------------|
| Filter #3 Turbidity | 105 | 1 NTU | 0.050 – 0.274 NTU |
|---------------------|-----|-------|-------------------|

\* (OG) - Operational Guidelines- are established for parameters that, if not controlled, may negatively affect the efficient and effective treatment, disinfection and distribution of the water.

\*\* (AO) – Aesthetic Objectives- are established for parameters that may impair the taste, odour or colour of water, or which may interfere with good water quality control practices (taken from the Technical Support Document for Ontario Drinking Water Standards, Objectives and Guidelines, MOE PIBS 4449e01, June 2006).

**Laboratory:**

| Parameter                                    | # of grab samples taken | Ont. Reg. 170/03 /<br>Ont. Reg. 169/03<br>Standard (MAC), as<br>applicable | Range of Results<br>(min # - max #) |
|--|-------------------------|--|-------------------------------------|
| Treated Water Alkalinity                     | 52                      | 30 – 500 mg/L (OG)   | 24 – 51 mg/L                        |
| Treated Water Colour                         | 52                      | 5 TCU (AO)   | < 2 – < 8 TCU                       |
| Treated Water Conductivity                   | 52                      | 300 – 500 uS/cm  | 115 – 171 uS/cm                     |
| Treated Water pH                             | 52                      | 6.5 – 8.5 (OG)   | 7.11 – 7.84                         |
| Treated Water<br>Total Dissolved Solids      | 52                      | 500 mg/L<br>(AO)   | 50 – 130 mg/L                       |
| Treated Water Hardness                       | 52                      | 80 – 100 mg/L (OG)   | 14 – 28 mg/L                        |
| Treated Water Fluoride                       | 52                      | 1.5 mg/L   | < 0.1 – 0.60 mg/L                   |
| Distribution Water Alkalinity                | 159                     | 30 – 500 mg/L (OG)   | 22 – 48 mg/L                        |
| Distribution Water Colour                    | 159                     | 5 TCU (AO)   | < 2 – < 6.0 TCU                     |
| Distribution Water Conductivity              | 159                     | 300 – 500 uS/cm  | 117 – 175 uS/cm                     |
| Distribution Water pH                        | 159                     | 6.5 – 8.5 (OG)   | 6.84 – 7.84                         |
| Distribution Water<br>Total Dissolved Solids | 159                     | 500 mg/L<br>(AO)   | 50 – 150 mg/L                       |
| Distribution Water<br>Hardness               | 159                     | 80 – 100 mg/L<br>(OG)  | 14 – 31 mg/L                        |

**Summary of Additional Samples:**

| Reason            | Date of Issuance | Parameter                             | Date Sampled | Result     |
|-------------------|------------------|---------------------------------------|--------------|------------|
| MDWL<br># 199-101 | August 4, 2011   | Backwash Effluent<br>Suspended Solids | 20-Jan-15    | 3.0 mg/L   |
|                   |                  |                                       | 10-Apr-15    | < 2.0 mg/L |
|                   |                  |                                       | 6-Jul-15     | 6.0 mg/L   |
|                   |                  |                                       | 6-Oct-15     | 4.0 mg/L*  |

\*The annual average for Backwash Effluent Suspended Solids is 3.75 mg/L, which is below the limit of 25 mg/L.

**Summary of Inorganic Parameters Tested or Most Recent Sample Results:**

MAC = Maximum Allowable Concentration as per O. Reg. 169/03

(INSERTED ON THE NEXT PAGES)

**Summary of Organic Parameters Tested or Most Recent Sample Results:**

MAC = Maximum Allowable Concentration as per O. Reg. 169/03

(INSERTED ON THE NEXT PAGES)

Drinking-Water System Number: 210002101

Drinking-Water System Name: PETAWAWA DRINKING WATER SYSTEM

Drinking-Water System Owner: Title Holder: Municipality

Drinking-Water System Category: Large Municipal Residential

Period being reported: 01/2015 12/2015

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

|                              | Sample Date<br>(mm/dd/yyyy) | Sample Result | MAC    | No. of Exceedances |         |
|------------------------------|-----------------------------|---------------|--------|--------------------|---------|
|                              |                             |               |        | MAC                | 1/2 MAC |
| <b>TREATED WATER</b>         |                             |               |        |                    |         |
| Antimony: Sb (ug/L) - TW     | 19/01/2015                  | <MDL 0.5      | 6.0    | No                 | No      |
| Arsenic: As (ug/L) - TW      | 19/01/2015                  | <MDL 1.0      | 25.0   | No                 | No      |
| Barium: Ba (ug/L) - TW       | 19/01/2015                  | <MDL 10.0     | 1000.0 | No                 | No      |
| Boron B (ug/L) - TW          | 19/01/2015                  | <MDL 10.0     | 5000.0 | No                 | No      |
| Cadmium: Cd (ug/L) - TW      | 19/01/2015                  | <MDL 0.1      | 5.0    | No                 | No      |
| Chromium Cr (ug/L) - TW      | 19/01/2015                  | <MDL 1.0      | 50.0   | No                 | No      |
| Mercury: Hg (ug/L) - TW      | 19/01/2015                  | <MDL 0.1      | 1.0    | No                 | No      |
| Selenium Se (ug/L) - TW      | 19/01/2015                  | <MDL 1.0      | 10.0   | No                 | No      |
| Uranium: U (ug/L) - TW       | 19/01/2015                  | <MDL 1.0      | 20.0   | No                 | No      |
| <b>Additional Inorganics</b> |                             |               |        |                    |         |
| Fluoride (mg/L) - TW         | 29/12/2015                  | 0.5           | 1.5    | No                 | No      |
| Nitrite (mg/L) - TW          | 19/01/2015                  | <MDL 0.1      | 1.0    | No                 | No      |
| Nitrite (mg/L) - TW          | 07/04/2015                  | <MDL 0.1      | 1.0    | No                 | No      |
| Nitrite (mg/L) - TW          | 06/07/2015                  | <MDL 0.1      | 1.0    | No                 | No      |
| Nitrite (mg/L) - TW          | 05/10/2015                  | <MDL 0.1      | 1.0    | No                 | No      |
| Nitrate (mg/L) - TW          | 19/01/2015                  | 0.22          | 10.0   | No                 | No      |
| Nitrate (mg/L) - TW          | 07/04/2015                  | 0.21          | 10.0   | No                 | No      |
| Nitrate (mg/L) - TW          | 06/07/2015                  | 0.13          | 10.0   | No                 | No      |
| Nitrate (mg/L) - TW          | 05/10/2015                  | 0.18          | 10.0   | No                 | No      |
| Sodium: Na (mg/L) - TW       | 10/02/2014                  | 20            | 20*    | No                 | Yes     |

\*There is no "MAC" for Sodium. The aesthetic objective for sodium in drinking water is 200 mg/L. The local Medical Officer of Health should be notified mg/L

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.



Drinking-Water System Number: 210002101  
 Drinking-Water System Name: PETAWAWA DRINKING WATER SYSTEM  
 Drinking-Water System Owner: Title Holder: Municipality  
 Drinking-Water System Category: Large Municipal Residential  
 Period being reported: 01/2015 12/2015

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

|   | Sample Date<br>(mm/dd/yyyy) | Sample Result | MAC    | Number of Exceedances |         |
|---|-----------------------------|---------------|--------|-----------------------|---------|
|   |                             |               |        | MAC                   | 1/2 MAC |
| <b>TREATED WATER</b>                                |                             |               |        |                       |         |
| Alachlor (ug/L) - TW                                | 19/01/2015                  | <MDL 0.5      | 5.00   | No                    | No      |
| Aldicarb (ug/L) - TW                                | 19/01/2015                  | <MDL 9.0      | 9.00   | No                    | Yes     |
| Aldrin+Dieldrin (ug/L) - TW                         | 19/01/2015                  | <MDL 0.012    | 0.70   | No                    | No      |
| Atrazine + N-dealkylated metabolites (ug/L) - TW    | 19/01/2015                  | <MDL 0.2      | 5.00   | No                    | No      |
| Azinphos-methyl (ug/L) - TW                         | 19/01/2015                  | <MDL 2.0      | 20.00  | No                    | No      |
| Bendiocarb (ug/L) - TW                              | 19/01/2015                  | <MDL 2.0      | 40.00  | No                    | No      |
| Benzene (ug/L) - TW                                 | 19/01/2015                  | <MDL 0.5      | 5.00   | No                    | No      |
| Benzo(a)pyrene (ug/L) - TW                          | 19/01/2015                  | <MDL 0.01     | 0.01   | No                    | Yes     |
| Bromoxynil (ug/L) - TW                              | 19/01/2015                  | <MDL 0.5      | 5.00   | No                    | No      |
| Carbaryl (ug/L) - TW                                | 19/01/2015                  | <MDL 5.0      | 90.00  | No                    | No      |
| Carbofuran (ug/L) - TW                              | 19/01/2015                  | <MDL 5.0      | 90.00  | No                    | No      |
| Carbon Tetrachloride (ug/L) - TW                    | 19/01/2015                  | <MDL 0.2      | 5.00   | No                    | No      |
| Chlordane: Total (ug/L) - TW                        | 19/01/2015                  | <MDL 0.018    | 7.00   | No                    | No      |
| Chlorpyrifos (ug/L) - TW                            | 19/01/2015                  | <MDL 1.0      | 90.00  | No                    | No      |
| Cyanazine (ug/L) - TW                               | 19/01/2015                  | <MDL 1.0      | 10.00  | No                    | No      |
| Diazinon (ug/L) - TW                                | 19/01/2015                  | <MDL 1.0      | 20.00  | No                    | No      |
| Dicamba (ug/L) - TW                                 | 19/01/2015                  | <MDL 1.0      | 120.00 | No                    | No      |
| 1,2-Dichlorobenzene (ug/L) - TW                     | 19/01/2015                  | <MDL 0.4      | 200.00 | No                    | No      |
| 1,4-Dichlorobenzene (ug/L) - TW                     | 19/01/2015                  | <MDL 0.4      | 5.00   | No                    | No      |
| DDT + metabolites (ug/L) - TW                       | 19/01/2015                  | <MDL 0.024    | 30.00  | No                    | No      |
| 1,2-Dichloroethane (ug/L) - TW                      | 19/01/2015                  | <MDL 0.2      | 5.00   | No                    | No      |
| 1,1-Dichloroethylene (ug/L) - TW                    | 19/01/2015                  | <MDL 0.5      | 14.00  | No                    | No      |
| Dichloromethane (Methylene Chloride) (ug/L) - TW    | 19/01/2015                  | <MDL 4.0      | 50.00  | No                    | No      |
| 2,4-Dichlorophenol (ug/L) - TW                      | 19/01/2015                  | <MDL 0.5      | 900.00 | No                    | No      |
| 2,4-Dichlorophenoxy acetic acid (2,4-D) (ug/L) - TW | 19/01/2015                  | <MDL 1.0      | 100.00 | No                    | No      |
| Didofop-methyl (ug/L) - TW                          | 19/01/2015                  | <MDL 0.9      | 9.00   | No                    | No      |
| Dimethoate (ug/L) - TW                              | 19/01/2015                  | <MDL 2.5      | 20.00  | No                    | No      |
| Dimoseb (ug/L) - TW                                 | 19/01/2015                  | <MDL 1.0      | 10.00  | No                    | No      |
| Diquat (ug/L) - TW                                  | 19/01/2015                  | <MDL 5.0      | 70.00  | No                    | No      |
| Diuron (ug/L) - TW                                  | 19/01/2015                  | <MDL 10.0     | 150.00 | No                    | No      |
| Glyphosate (ug/L) - TW                              | 19/01/2015                  | <MDL 10.0     | 280.00 | No                    | No      |
| Heptachlor+hepachlor epoxide (ug/L) - TW            | 19/01/2015                  | <MDL 0.012    | 3.00   | No                    | No      |
| Lindane (ug/L) - TW                                 | 19/01/2015                  | <MDL 0.006    | 4.00   | No                    | No      |

|  |            |            |        |    |     |
|--|------------|------------|--------|----|-----|
| Malathion (ug/L) - TW                            | 19/01/2015 | <MDL 5.0   | 190.00 | No | No  |
| Methoxychlor (ug/L) - TW                         | 19/01/2015 | <MDL 0.006 | 900.00 | No | No  |
| Metolachlor (ug/L) - TW                          | 19/01/2015 | <MDL 1.0   | 50.00  | No | No  |
| Metribuzin (ug/L) - TW                           | 19/01/2015 | <MDL 5.0   | 80.00  | No | No  |
| Monochlorobenzene (Chlorobenzene) (ug/L) - TW    | 19/01/2015 | <MDL 0.2   | 80.00  | No | No  |
| Paraquat (ug/L) - TW                             | 19/01/2015 | <MDL 1.0   | 10.00  | No | No  |
| Parathion (ug/L) - TW                            | 19/01/2015 | <MDL 1.0   | 50.00  | No | No  |
| PCB (ug/L) - TW                                  | 19/01/2015 | <MDL 0.1   | 3.00   | No | No  |
| Pentachlorophenol (ug/L) - TW                    | 19/01/2015 | <MDL 0.5   | 60.00  | No | No  |
| Phorate (ug/L) - TW                              | 19/01/2015 | <MDL 1.0   | 2.00   | No | No  |
| Picloram (ug/L) - TW                             | 19/01/2015 | <MDL 5.0   | 190.00 | No | No  |
| Prometryne (ug/L) - TW                           | 19/01/2015 | <MDL 0.25  | 1.00   | No | No  |
| Simazine (ug/L) - TW                             | 19/01/2015 | <MDL 1.0   | 10.00  | No | No  |
| Temephos (ug/L) - TW                             | 19/01/2015 | <MDL 10.0  | 280.00 | No | No  |
| Terbufos (ug/L) - TW                             | 19/01/2015 | <MDL 1.0   | 1.00   | No | Yes |
| Tetrachloroethylene (ug/L) - TW                  | 19/01/2015 | <MDL 0.3   | 30.00  | No | No  |
| 2,3,4,5-Tetrachlorophenol (ug/L) - TW            | 19/01/2015 | <MDL 0.5   | 100.00 | No | No  |
| Triallate (ug/L) - TW                            | 19/01/2015 | <MDL 1.0   | 230.00 | No | No  |
| Trichloroethylene (ug/L) - TW                    | 19/01/2015 | <MDL 0.3   | 50.00  | No | No  |
| 2,4,6-Trichlorophenol (ug/L) - TW                | 19/01/2015 | <MDL 0.5   | 5.00   | No | No  |
| 2,4,5-T (ug/L) - TW                              | 19/01/2015 | <MDL 1.0   | 280.00 | No | No  |
| Trifluralin (ug/L) - TW                          | 19/01/2015 | <MDL 1.0   | 45.00  | No | No  |
| Vinyl Chloride (ug/L) - TW                       | 19/01/2015 | <MDL 0.2   | 2.00   | No | No  |
|  |            |            |        |    |     |
| DISTRIBUTION WATER                               |            |            |        |    |     |
| Trihalomethane: Total (ug/L) Annual Average - DW | 01/01/2015 | 68.35      | 100.00 | No | Yes |

**Summary of Community Lead Sampling Program:** (Ont. Reg. 169/03 Standard = 10 ug/L or 0.01 mg/L (MAC):

**Reduced Sampling:** Distribution Samples Only Required (Dec 15th-Apr 15th & Jun 15th-Oct 15<sup>th</sup> annually): Taken from 4 hydrants for Petawawa DWS.

Distribution Samples-

| Date Sampled | pH Results |            | Alkalinity Results |            | Lead Results |              |
|--------------|------------|------------|--------------------|------------|--------------|--------------|
|              | Max Result | Min Result | Max Result         | Min Result | Max Result   | Min Result   |
| 10-Apr-15    | 7.02       | 6.51       | 36                 | 27         | < 0.001 mg/L | < 0.001 mg/L |
| 16-Oct-15    | 6.99       | 6.70       | 38                 | 34         | < 0.001 mg/L | < 0.001 mg/L |

**Facility Work Order Status:**

|  |     |
|--|-----|
| Preventative Work Orders Completed       | 494 |
| Operational Work Orders Completed        | 157 |
| Weekly Maintenance Work Orders Completed | 916 |
| Capital Work Orders Completed            | 30  |
| Corrective Work Orders Completed         | 27  |

**Maintenance Summary:**

**Brief Description - Summary of Expenses Incurred for Installations, Repairs or Replacements:**

- Aspec Automation provided scope of work and quote to replace/upgrade SCADA and PLC at the water plant and booster stations.
- Costs for contractor to install a new tee on the backwash discharge line.
- Costs associated with the water treatment plant header project.
- Replaced diaphragm pump for fluoride.
- Installation of new fluoride scale to monitor daily fluoride usage and SCADA wiring completed.
- Installation of new pressure regulator on base tower chlorine system.

- Costs for installing new injection valve for chlorine and water line for the sink at the town tower.
- Replaced heater at TWP with new higher voltage wattage heater. Installed new breaker and new wires.
- Installed new sample pump #4 for filter effluent.
- Repaired leaking water pipe for PAS8 flush water line.
- Installed new motor and pump on heating water circulating pump #2.
- Installed new rebuild kit for booster pump #1.
- Replaced soda ash feed line for pre soda ash from pump to injection point.
- Repair and calibration of DR 4000.
- Purchase of new DR3900 Spectrophotometer and fluoride analyzer.
- Purchase of heat circulating pump parts.
- Replacement of the hot water tank at the plant.
- Costs associated with the underwater repair and inspection of the clear well by Dundee Marine.
- Replacement of flash mixer gear box.
- Repair of generator at the new base tower completed.
- Repair of township tower chlorine pump.
- Replacement of high lift pump switch, control piping, and new seal kit for HLP#1 check valve.
- Costs for insulating women's washroom.
- Compressor repairs and maintenance by contractor.
- Replacement solenoid valves for high lift pumps.
- Replaced diaphragm alum pump in chemical room.
- Replaced lower bearing and mechanical seal on BPS#2, pump #5.
- Replaced cracked flow switch on Boiler #3.
- Repaired several fluorescent light fixtures that required either new ballast or new sockets.
- Replacement of blown fuses, local isolation switch, replaced overloads and holder for flash mix sample pump by contractor.
- Labour required for various repairs associated with the lightning strike on the township tower.
- Costs associated with TSSA inspections and upgrades.
- Contractor expenses to troubleshoot and correct backwash pump failure.
- Contractor expenses for chlorine detection maintenance.
- Contractor expenses for testing building alarms and extinguishers.
- Miscellaneous capital items needed for repair and maintenance of the plant and equipment.

## Distribution Activities for 2015:

**Background:** OCWA is responsible for the operation of the water treatment plant, booster pumping stations (2), water storage facilities (3 towers), and the distribution system that OCWA assumed responsibility for on January 1st, 2011.

- Petawawa Water Treatment Plant is a Class 3 Facility.
- Petawawa Distribution System is a Class 1 System.

## Distribution Summary:

1. OCWA Operators attended to 2 water main breaks in 2015: one on Norman Street in April and at the Petawawa Plaza in May.
2. Booster Pumping Stations are checked every week on Mondays and Thursdays. Towers are inspected twice weekly, as well.
3. Hydrant Flushing was performed on approx. 582 hydrants between May to October 2015. Annual winterizing of hydrants was completed in October 2015 to 34 hydrants. All dead end hydrants were checked and flushed in April and September/October 2015. OCWA's summer student started painting hydrants in June 2015.
4. The Community Lead Sampling Program was conducted during the Winter Period of December 15<sup>th</sup>, 2014 to April 15<sup>th</sup>, 2015 and again during the Summer Period of June 15<sup>th</sup> to October 16<sup>th</sup>, 2015. See Summary of Community Lead Sampling above for results.
5. Water Service Inspections (including water turn on/off's, new home piping inspections, backflow preventer installations, charging/pressure and flow testing, locates, exercising valves, opening curb stops, assisting contractors, collecting bacti samples, etc.) were performed during 2015 on numerous homes, businesses and roads within the Town of Petawawa. These types of inspections to various locations within the town, included such activities as:
  - February 9/15 - Flow Meter testing at Wolfe Avenue.
  - April 7/15 - Water and sewer inspection at 23 Newport Street.
  - April 8/15 - Flush Carla Street - Frozen water line complaint at 314 Carla Street.
  - April 8/15 - Flush Jamie Crescent - Frozen water line complaint.
  - April 9/15 - Water and sewer inspection at lot on 37 Nick Street.
  - April 15/15 - Water and sewer inspection at lot 38 on Gardner Crescent.
  - April 16/15 - Water service line repair at 38 Northbrook Road.
  - April 23/15 - Water and sewer inspection at lot on 21 Newport Street.
  - April 23/15 - Water and sewer inspection at lot on 62 Butler Blvd.
  - April 23/15 - Water and sewer inspection at lot on 61 Butler Blvd.

- April 27/15 - Water and sewer inspection at lot on 65 Butler Blvd.
- April 28/15 - Water turn on at 72 Oak Avenue.
- April 29/15 - Water main break on Norman Street.
- May 1/15 - Water and sewer inspection at 19 East Street.
- May 1/15 - Water turn on at 11,13,15,17 William Thomas Drive.
- May 1/15 - Water turn on at 30 and 32 Newport Street.
- May 4/15 - Water and sewer inspection at 34 Nick Street.
- May 5/15 - New water main valve installed on Norman Street.
- May 6/15 - Water and sewer inspection at 15 Gardner Crescent.
- May 6/15 - Water main leak at Petawawa Plaza.
- May 6/15 - Water service line repair at 13 Selkirk Street.
- May 11/15 - Water line inspection at Petawawa Plaza.
- May 13/15 - Water and sewer inspection at 12 Wilbert Street.
- May 13/15 - Water and sewer inspection at 10 Wilbert Street.
- May 13/15 - Water inspection at Leeder Lane - Track Field.
- May 14/15 - Water and sewer inspection at 1002 Bedard Blvd.
- May 15/15 - Water and sewer inspection at 1001 Bedard Blvd.
- May 20/15 - Dead end water line hydrant flushing (32 hydrants).
- May 21/15 - Water turn on at 70 Radtke Road.
- May 25/15 to July 16/15 - Distribution system hydrant flushing (582 hydrants).
- June 2/15 - Water and sewer inspection at 72 Oak Avenue.
- June 3/15 - Water and sewer inspection at 54 McNamara Street.
- June 4/15 - Water and sewer inspection at 5 Noble Street.
- June 4/15 - Water and sewer inspection at 7 Noble Street.
- June 5/15 - Water and sewer inspection at 63 Noble Street.
- June 8/15 - Water and sewer inspection at 14 Gardner Crescent.
- June 9/15 - Water inspection at 41 Laurentian Drive.
- June 17/15 - Water and sewer inspection at lot on 16 Gardner Crescent.
- June 17/15 - Water and sewer inspection at lot on 18 Gardner Crescent.
- June 18/15 - Water and sewer inspection at lot on 19 Newport Street.
- June 24/15 - Water and sewer inspection at 44 Butler Blvd.
- June 24/15 - Water and sewer inspection at lot 25 on Noble Street.
- June 24/15 - Water and sewer inspection at lot 26 on Noble Street.
- June 29/15 - Water turn on at 3 William Thomas Drive.
- June 29/15 - Water turn on at new Moncion Plaza.
- July 2/15 - Water and sewer inspection at lot 13 on Gardner Crescent.
- July 14/15 - Water service line repair at 34 Silke Drive.
- July 15/15 - Water inspection at 50 Doran Road.
- July 15/15 - Water and sewer inspection at 17 Newport Street.
- July 16/15 - New hydrant numbering.
- July 22/15 - Water and sewer inspection at lot 11 on Marquis Street.
- July 28/15 - Water turn on at 30 Oak Avenue.
- August 12/15 - Water & sewer inspection at 34 Newport Street.
- August 13 & 14/15 - Dead end water line hydrant flushing (32 hydrants).
- August 26/15 - Water & sewer inspection at lot 10 on Nick Street.

- August 26/15 - Water & sewer inspection at 13 East Street.
- August 27/15 - Water & sewer inspection at 36 Newport Street.
- August 27/15 - New water main tie-in on Portage Road for H&H subdivision.
- September 22/15 - Water turn on at 8 Wilbert Street.
- September 24/15 - Water turn on at 73 Oak Avenue.
- September 24/15 - Water & sewer inspection at lot 34 on Nick Street.
- September 25/15 - Water turn on at 21 Hoffman Street.
- September 23 & 25/15 - Dead end water line hydrant flushing (34 hydrants).
- September 30/15 - Water & sewer inspection at lot 10 on Gardner Crescent.
- October 21/15 - Water & sewer inspection at 27 Dustin Drive.
- October 22/15 - Water & sewer inspection at 2827 Petawawa Blvd.
- October 22/15 - Water & sewer inspection at 5 Dustin Drive.
- October 23 to 26/15 - Hydrant pumping and antifreeze added.
- October 26/15 - Water & sewer inspection at 3 Dustin Drive.
- October 28/15 - Water & sewer inspection at lot 29/31 on Noble Street.
- October 29/15 - Water & sewer inspection at 15 Newport Street.
- October 29/15 - Water & sewer inspection at 7 Dustin Drive.
- November 4/15 - Water & sewer inspection at 25 Dustin Drive.
- November 19/15 - Water & sewer inspection at 29 Dustin Drive.
- November 26/15 - Water & sewer inspection at new Mac's Milk Gas Bar.
- November 26/15 - Hydrant repair at Cardinal Crescent and Doran Road.
- November 18/15 - Hydrant replacement at 70 Selkirk Street.
- December 17/15 - Water turn on at 17, 34, & 36 Newport Street.
- December 22/15 - Town Centre Blvd. water main tie-in (RGT Clouthier).
- December 30/15 - Nick Street to Butler Blvd. water main tie-in (Eastway Construction).
- December 30/15 - Water turn on at 38 Nick Street.
- Dead end hydrant flushing behind Petawawa Plaza - March 25th, July 3rd, August 25th, September 11th, November 17th, and November 30th, 2015.

# **SUMMARY REPORT**

**2015**



# PETAWAWA DRINKING WATER SYSTEM

## 2015 SUMMARY REPORTS FOR MUNICIPALITIES

### Report:

This report is a summary of water quality information for the Petawawa Drinking Water System, published in accordance with Schedule 22 of Ontario's Drinking-Water Systems Regulation for the reporting period of January 1, 2015 to December 31, 2015. The Petawawa Drinking Water System is categorized as a Large Municipal Residential Drinking Water System.

This report was prepared by the Ontario Clean Water Agency on behalf of the Town of Petawawa.

### Who gets a copy of the Report?

- in the case of a drinking-water system owned by a municipality, the members of the municipal council;

### What must the Report contain?

The report must,

- (a) 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 and specify the duration of the failure; and
- (b) for each failure referred to in clause (a) describe the measures that were taken to correct the failure.

The following table lists the requirements that the system failed to meet and the measures taken to correct the failure:

| Drinking Water Legislation | AWQI # | List the requirement(s) the system failed to meet | Specify the duration of the failure (i.e. date(s)) | Describe the measures taken to correct the failure | Status (complete or outstanding) |
|----------------------------|--------|---|--|--|----------------------------------|
| None to report for 2015.   |        |   |  |  |                                  |

### 2015 – 2016 Petawawa DWS MOECC Inspection:

The Ministry of Environment conducted their annual site visit for the 2015-2016 reporting year on February 4th, 2015. The MOECC Drinking Water Inspector had no 'Actions Required' or 'BMP/Recommended Actions' identified in the inspection report.

The final report was received on March 16, 2015 with an Inspection Rating of 100%.

# PETAWAWA DRINKING WATER SYSTEM

## 2015 SUMMARY REPORTS FOR MUNICIPALITIES

### Summary of Community Complaints/Service Forms for 2015:

- Jan. 14, 2015: Northern Credit Union – brown colour of water.
- Feb. 18, 2015: 28 Silke Drive – no water pressure at house.
- Feb. 20, 2015: 65 Mary Street – no water pressure at house.
- March 4, 2015: address unknown – concerned about the risk of contamination to the distribution system when homeowners are clearing ice from their service with pressure equipment.
- April 7, 2015: 314 Carla Street – no water at house.
- April 20, 2015: 11 Fairway Drive – brown coloured water.
- May 4, 2015: 11 Point Crescent – rusty coloured water.
- May 5, 2015: 19 Van Hoof – rusty coloured water.
- May 27, 2015: 59 Bedard Blvd. – low water pressure when two water sources are running at once.
- June 29, 2015: 9 Michael Crescent – flushed hydrant left rusty-coloured water stain on the newly re-sealed driveway.
- July 30, 2015: 1300 Victoria Street – smelling gas/sulphur smell of the water.
- Aug. 10, 2015 – 42 Park Drive – swamp smelling water.
- Nov. 16, 2015: 90 Oak Avenue – no water pressure with a contractor working in the area.
- Nov. 17, 2015: 110 Hemlock Street – low water pressure.

### What else must the Report contain?

The report must also include the following information for the purpose of enabling the owner of the system to assess the capability of the system to meet existing and planned uses of the system:

1. 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.
2. A comparison of the summary referred to in paragraph 1 to the rated capacity and flow rates approved in the system's approval, drinking water works permit or municipal drinking water licence.

**PETAWAWA DRINKING WATER SYSTEM  
2015 SUMMARY REPORTS FOR MUNICIPALITIES**

**Capacity Assessment of the Petawawa Drinking Water System:**

| <b>Year</b>                                       | <b>2011</b> | <b>2012</b> | <b>2013</b> | <b>2014</b> | <b>2015</b> |
|---|-------------|-------------|-------------|-------------|-------------|
| Av. Day Flow (m <sup>3</sup> /d)                  | 6 248.97    | 7 166.06    | 6 463.48    | 6 573.42    | 6 478.16    |
| Design Capacity (m <sup>3</sup> /d)               | 21 500.0    | 21 500.0    | 21 500.0    | 21 500.0    | 21 500      |
| <b>% of Capacity</b><br>(based on av. day flows)  | 29.1        | 33.3        | 30.1        | 30.5        | 30.1        |
| Max. Day Flow (m <sup>3</sup> /d)                 | 10 952.0    | 13 860.0    | 11 664.0    | 13 017.0    | 11 072.00   |
| <b>% of Capacity</b><br>(based on max. day flows) | 50.9        | 64.5        | 54.3        | 60.5        | 51.5        |

In 2015, the average day flow was at approximately 30.1 % of the current plant design, and the maximum day flow was at approximately 51.5 % of the plant design of 21 500.0 m<sup>3</sup>/d.

Attached is a copy of the Facility Flow Summary for the Petawawa Drinking Water System. This document contains all required flow information. Also, attached is the confirmation for the submission into the MOECC WTRS for the 2015 reporting period.

**When Does the Report Get Submitted?**

If a report is prepared for a system that supplies water to a municipality under the terms of a contract, the owner of the system shall give a copy of the report to the municipality by March 31st.

**Facility Flow Summary**

Drinking-Water System Number: 210002101  
 Drinking-Water System Name: PETAWAWA DRINKING WATER SYSTEM  
 Drinking-Water System Owner: Title Holder: Municipality  
 Drinking-Water System Category: Large Municipal Residential  
 Municipal Drinking Water License: 199-101  
 Period being reported: Jan-15 Dec-15

| Raw Water (Source Name) |                               | Raw Water                   |                             |                              |                              |                                |                             |                     |                     |                               |                             | Treated Water (Source Name) |                              |                              |  |
|-------------------------|-------------------------------|-----------------------------|-----------------------------|------------------------------|------------------------------|--------------------------------|-----------------------------|---------------------|---------------------|-------------------------------|-----------------------------|-----------------------------|------------------------------|------------------------------|--|
| Month                   | Monthly Flow Total (m3/month) | Daily Flow Average (m3/day) | Daily Flow Maximum (m3/day) | Daily Flow Peak Rate (L/min) | Daily Flow Peak Rate (L/sec) | Number of Days of Water Taking | Maximum Daily Run Time (hr) | Well Level, Minimum | Well Level, Maximum | Monthly Flow Total (m3/month) | Daily Flow Average (m3/day) | Daily Flow Maximum (m3/day) | Daily Flow Peak Rate (L/min) | Daily Flow Peak Rate (L/sec) |  |
| Jan                     | 177020.00                     | 5710.32                     | 6522.00                     |                              |                              | 31                             | 14.00                       |                     |                     | 159127.00                     | 5133.13                     | 5777.00                     |                              |                              |  |
| Feb                     | 167121.00                     | 5968.61                     | 7431.00                     |                              |                              | 28                             | 17.00                       |                     |                     | 154165.00                     | 5505.89                     | 6919.00                     |                              |                              |  |
| Mar                     | 194838.00                     | 6285.10                     | 6941.00                     |                              |                              | 31                             | 16.00                       |                     |                     | 182976.00                     | 5902.45                     | 6700.00                     |                              |                              |  |
| Apr                     | 173281.00                     | 5776.03                     | 7465.00                     |                              |                              | 30                             | 16.00                       |                     |                     | 168061.00                     | 5602.03                     | 7504.00                     |                              |                              |  |
| May                     | 217193.00                     | 7006.23                     | 10196.00                    |                              |                              | 31                             | 18.00                       |                     |                     | 199239.00                     | 6427.06                     | 9503.00                     |                              |                              |  |
| Jun                     | 213169.00                     | 7105.63                     | 9579.00                     |                              |                              | 30                             | 18.00                       |                     |                     | 192162.00                     | 6405.40                     | 8839.00                     |                              |                              |  |
| Jul                     | 264583.00                     | 8534.94                     | 10588.00                    |                              |                              | 31                             | 18.00                       |                     |                     | 242341.00                     | 7817.45                     | 9829.00                     |                              |                              |  |
| Aug                     | 251986.00                     | 8128.58                     | 11072.00                    |                              |                              | 31                             | 16.00                       |                     |                     | 227778.00                     | 7347.68                     | 9922.00                     |                              |                              |  |
| Sep                     | 222220.00                     | 7407.33                     | 8519.00                     |                              |                              | 30                             | 14.00                       |                     |                     | 202229.00                     | 6740.97                     | 8248.00                     |                              |                              |  |
| Oct                     | 165556.00                     | 5340.52                     | 7096.00                     |                              |                              | 31                             | 12.00                       |                     |                     | 147354.00                     | 4753.35                     | 6152.00                     |                              |                              |  |
| Nov                     | 161345.00                     | 5378.17                     | 6190.00                     |                              |                              | 30                             | 11.00                       |                     |                     | 142817.00                     | 4760.57                     | 5523.00                     |                              |                              |  |
| Dec                     | 157992.00                     | 5096.52                     | 6202.00                     |                              |                              | 31                             | 12.00                       |                     |                     | 142568.00                     | 4598.97                     | 5582.00                     |                              |                              |  |
| <b>Total</b>            | <b>2366304.00</b>             | <b>77737.97</b>             | <b>97801.00</b>             |                              |                              | <b>365</b>                     | <b>182.00</b>               |                     |                     | <b>2160817.00</b>             | <b>70994.96</b>             | <b>90498.00</b>             |                              |                              |  |
| <b>Avg</b>              | <b>197192.00</b>              | <b>6478.16</b>              | <b>8150.08</b>              |                              |                              | <b>30</b>                      | <b>15.17</b>                |                     |                     | <b>180068.08</b>              | <b>5916.25</b>              | <b>7541.50</b>              |                              |                              |  |
| <b>Max</b>              | <b>264583.00</b>              | <b>8534.94</b>              | <b>11072.00</b>             |                              |                              | <b>31</b>                      | <b>18.00</b>                |                     |                     | <b>142568.00</b>              | <b>7817.45</b>              | <b>9922.00</b>              |                              |                              |  |

Raw Water Source Type: Raw Water RIVER  
 Drinking Water Permit to Take Water No: 3814-912RQN

**ANNUAL WATER TAKING AND TRANSFER  
REPORT - SUBMITTED DATA TO MOEECC,  
FOR THE YEAR OF 2015**

| WT DATA | REPORTS | SEARCH WT DATA | ADMINISTRATION | USER PROFILE | CONTACT US | HELP | HOME | LOG

Location: WTRS / WT DATA / Input WT Record WTR

**Water Taking Data submitted successfully.**

**Confirmation:**

Thank you for submitting your water taking data online.

Permit Number: 6422-8W9PUB

Permit Holder: THE CORPORATION OF THE TOWNSHIP OF WHITEWATER REGION.

Received on: Feb 4, 2016 2:42 PM

This confirmation indicates that your data has been received by the Ministry, but should not be construed as acceptance of this if it differs from that specified on the Permit Number, assigned to the Permit Holder stated above.

| WT DATA | REPORTS | SEARCH WT DATA | ADMINISTRATION | USER PROFILE | CONTACT US | HELP | HOME | LOG

Location: WTRS / WT DATA / Input WT Record WTR

**Water Taking Data submitted successfully.**

**Confirmation:**

Thank you for submitting your water taking data online.

Permit Number: 3814-9J2RQN

Permit Holder: THE CORPORATION OF THE TOWN OF PETAWAWA.

Received on: Feb 4, 2016 2:43 PM

This confirmation indicates that your data has been received by the Ministry, but should not be construed as acceptance of this if it differs from that specified on the Permit Number, assigned to the Permit Holder stated above.

Helen D'Apice  
Water Taking and Reporting Assistant  
Ministry of The Environment and Climate Change  
Environmental Monitoring and Reporting Branch  
125 Resources Rd. Etobicoke, ON M9P 3V6  
1Phone (416)235-6322  
(Phone (416)235-6761 – Direct Line  
LFax (416) 235-6549  
E-mail [helen.dapice@ontario.ca](mailto:helen.dapice@ontario.ca)

**Ontario Clean Water Agency**  
**Annual Water Taking and Transfer Report**  
 From 01/01/2015 To 12/31/2015

Facility: PETAWAWA DRINKING WATER SYSTEM-5710  
 Tag: Raw Flow: Sum (m3/d)  
 Tag Group: Raw Water

Permit#: 3814-9J2RQN  
 Source Name: ALLUMETTE LAKE (OTTAWA RIVER)  
 Source: SURFACE  
 Type: RIVER  
 Purpose: Municipal

Coordinate Zone: 18  
 Easting: 322258  
 Northing: 5088033  
 Method deter: Metered

| Date Measured | Value (m <sup>3</sup> /d) | Value (Litres) |
|---------------|---------------------------|----------------|
| 1/1/2015      | 4978.0000                 | 4978000.0000   |
| 1/2/2015      | 4757.0000                 | 4757000.0000   |
| 1/3/2015      | 5296.0000                 | 5296000.0000   |
| 1/4/2015      | 5117.0000                 | 5117000.0000   |
| 1/5/2015      | 5592.0000                 | 5592000.0000   |
| 1/6/2015      | 5885.0000                 | 5885000.0000   |
| 1/7/2015      | 5854.0000                 | 5854000.0000   |
| 1/8/2015      | 5717.0000                 | 5717000.0000   |
| 1/9/2015      | 6134.0000                 | 6134000.0000   |
| 1/10/2015     | 5473.0000                 | 5473000.0000   |
| 1/11/2015     | 5617.0000                 | 5617000.0000   |
| 1/12/2015     | 6202.0000                 | 6202000.0000   |
| 1/13/2015     | 5801.0000                 | 5801000.0000   |
| 1/14/2015     | 5871.0000                 | 5871000.0000   |
| 1/15/2015     | 5635.0000                 | 5635000.0000   |
| 1/16/2015     | 5816.0000                 | 5816000.0000   |
| 1/17/2015     | 5637.0000                 | 5637000.0000   |
| 1/18/2015     | 5429.0000                 | 5429000.0000   |
| 1/19/2015     | 6522.0000                 | 6522000.0000   |
| 1/20/2015     | 5237.0000                 | 5237000.0000   |
| 1/21/2015     | 6349.0000                 | 6349000.0000   |
| 1/22/2015     | 5534.0000                 | 5534000.0000   |
| 1/23/2015     | 6349.0000                 | 6349000.0000   |
| 1/24/2015     | 5263.0000                 | 5263000.0000   |

|           |           |              |
|-----------|-----------|--------------|
| 1/25/2015 | 5817.0000 | 5817000.0000 |
| 1/26/2015 | 6152.0000 | 6152000.0000 |
| 1/27/2015 | 5772.0000 | 5772000.0000 |
| 1/28/2015 | 5889.0000 | 5889000.0000 |
| 1/29/2015 | 6019.0000 | 6019000.0000 |
| 1/30/2015 | 5810.0000 | 5810000.0000 |
| 1/31/2015 | 5496.0000 | 5496000.0000 |
| 2/1/2015  | 5570.0000 | 5570000.0000 |
| 2/2/2015  | 6163.0000 | 6163000.0000 |
| 2/3/2015  | 5861.0000 | 5861000.0000 |
| 2/4/2015  | 5869.0000 | 5869000.0000 |
| 2/5/2015  | 5979.0000 | 5979000.0000 |
| 2/6/2015  | 5893.0000 | 5893000.0000 |
| 2/7/2015  | 5515.0000 | 5515000.0000 |
| 2/8/2015  | 5498.0000 | 5498000.0000 |
| 2/9/2015  | 6246.0000 | 6246000.0000 |
| 2/10/2015 | 5996.0000 | 5996000.0000 |
| 2/11/2015 | 5792.0000 | 5792000.0000 |
| 2/12/2015 | 6250.0000 | 6250000.0000 |
| 2/13/2015 | 5772.0000 | 5772000.0000 |
| 2/14/2015 | 5713.0000 | 5713000.0000 |
| 2/15/2015 | 5357.0000 | 5357000.0000 |
| 2/16/2015 | 5460.0000 | 5460000.0000 |
| 2/17/2015 | 6043.0000 | 6043000.0000 |
| 2/18/2015 | 5604.0000 | 5604000.0000 |
| 2/19/2015 | 6167.0000 | 6167000.0000 |
| 2/20/2015 | 5615.0000 | 5615000.0000 |
| 2/21/2015 | 5348.0000 | 5348000.0000 |
| 2/22/2015 | 5501.0000 | 5501000.0000 |
| 2/23/2015 | 5875.0000 | 5875000.0000 |
| 2/24/2015 | 6579.0000 | 6579000.0000 |
| 2/25/2015 | 6943.0000 | 6943000.0000 |
| 2/26/2015 | 7230.0000 | 7230000.0000 |
| 2/27/2015 | 7431.0000 | 7431000.0000 |
| 2/28/2015 | 5851.0000 | 5851000.0000 |
| 3/1/2015  | 6312.0000 | 6312000.0000 |
| 3/2/2015  | 6941.0000 | 6941000.0000 |
| 3/3/2015  | 6170.0000 | 6170000.0000 |
| 3/4/2015  | 6753.0000 | 6753000.0000 |
| 3/5/2015  | 6890.0000 | 6890000.0000 |
| 3/6/2015  | 6764.0000 | 6764000.0000 |
| 3/7/2015  | 6301.0000 | 6301000.0000 |
| 3/8/2015  | 5837.0000 | 5837000.0000 |



|           |           |              |
|-----------|-----------|--------------|
| 3/9/2015  | 6572.0000 | 6572000.0000 |
| 3/10/2015 | 6290.0000 | 6290000.0000 |
| 3/11/2015 | 6287.0000 | 6287000.0000 |
| 3/12/2015 | 5855.0000 | 5855000.0000 |
| 3/13/2015 | 5893.0000 | 5893000.0000 |
| 3/14/2015 | 6016.0000 | 6016000.0000 |
| 3/15/2015 | 5644.0000 | 5644000.0000 |
| 3/16/2015 | 5888.0000 | 5888000.0000 |
| 3/17/2015 | 5578.0000 | 5578000.0000 |
| 3/18/2015 | 6425.0000 | 6425000.0000 |
| 3/19/2015 | 6076.0000 | 6076000.0000 |
| 3/20/2015 | 6418.0000 | 6418000.0000 |
| 3/21/2015 | 6153.0000 | 6153000.0000 |
| 3/22/2015 | 6298.0000 | 6298000.0000 |
| 3/23/2015 | 6776.0000 | 6776000.0000 |
| 3/24/2015 | 6588.0000 | 6588000.0000 |
| 3/25/2015 | 6610.0000 | 6610000.0000 |
| 3/26/2015 | 6429.0000 | 6429000.0000 |
| 3/27/2015 | 6314.0000 | 6314000.0000 |
| 3/28/2015 | 6015.0000 | 6015000.0000 |
| 3/29/2015 | 6241.0000 | 6241000.0000 |
| 3/30/2015 | 6387.0000 | 6387000.0000 |
| 3/31/2015 | 6117.0000 | 6117000.0000 |
| 4/1/2015  | 6336.0000 | 6336000.0000 |
| 4/2/2015  | 6257.0000 | 6257000.0000 |
| 4/3/2015  | 5686.0000 | 5686000.0000 |
| 4/4/2015  | 5710.0000 | 5710000.0000 |
| 4/5/2015  | 5459.0000 | 5459000.0000 |
| 4/6/2015  | 5679.0000 | 5679000.0000 |
| 4/7/2015  | 6229.0000 | 6229000.0000 |
| 4/8/2015  | 6134.0000 | 6134000.0000 |
| 4/9/2015  | 5945.0000 | 5945000.0000 |
| 4/10/2015 | 5828.0000 | 5828000.0000 |
| 4/11/2015 | 5811.0000 | 5811000.0000 |
| 4/12/2015 | 5617.0000 | 5617000.0000 |
| 4/13/2015 | 6575.0000 | 6575000.0000 |
| 4/14/2015 | 5638.0000 | 5638000.0000 |
| 4/15/2015 | 5693.0000 | 5693000.0000 |
| 4/16/2015 | 5555.0000 | 5555000.0000 |
| 4/17/2015 | 5703.0000 | 5703000.0000 |
| 4/18/2015 | 5277.0000 | 5277000.0000 |
| 4/19/2015 | 5447.0000 | 5447000.0000 |
| 4/20/2015 | 5685.0000 | 5685000.0000 |

|           |            |               |
|-----------|------------|---------------|
| 4/21/2015 | 5373.0000  | 5373000.0000  |
| 4/22/2015 | 5452.0000  | 5452000.0000  |
| 4/23/2015 | 5514.0000  | 5514000.0000  |
| 4/24/2015 | 5567.0000  | 5567000.0000  |
| 4/25/2015 | 5040.0000  | 5040000.0000  |
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