



Ontario Clean Water Agency
Agence Ontarienne Des Eaux

Chapleau Drinking Water System

2016 ANNUAL/SUMMARY REPORT

Prepared by the Ontario Clean Water Agency
on behalf of the Township of Chapleau



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EXECUTIVE SUMMARY

The 2016 Annual/Summary Report for the Chapleau Drinking Water System addresses the requirements outlined in Schedule 11 and 22 of the Ontario Drinking Water Systems Regulation (O. Reg. 170/03) under the *Safe Drinking Water Act, 2002*.

The Ontario Clean Water Agency prepares this report on behalf of the Township of Chapleau by February 28 of each year. The report is accessible on-line on the Township of Chapleau's website at: <http://www.chapleau.ca/en/townshipservices/watersewage.asp> and in hard copy upon request. The availability of the Annual/Summary Report is communicated to the Township of Chapleau's consumers via local newspaper and notice at the Township Office.

This report is divided into two sections. Section 11 – Annual Report provides a detailed description of the drinking water system, list of chemicals used, significant expenses incurred, notices of adverse test results, any incidents issued, and a summary of all microbiological and operational testing performed. Additionally, there are drinking water system highlights which include; the outcome of the most recent Ministry of Environment inspection, the status of the Quality and Environmental Management System, examples of system improvements in 2016. Section 12 – Summary Report for Municipalities presents any requirements the system failed to meet. Also included is a summary of quantities and flow rates generated by the drinking water system.

The Township of Chapleau complied with the terms and conditions of all Licences and Permits, Ontario Drinking Water Quality Standards Regulation (O. Reg. 169/03), and the Drinking Water Systems Regulation (O. Reg. 170/03) with the exception of those events detailed in Section 2 of the Summary Report.



INTRODUCTION

Municipalities throughout Ontario are required to comply with Ontario Regulation 170/03 made under the *Safe Drinking Water Act, 2002*. The Act was passed following recommendations made by Commissioner O'Conner after the Walkerton Inquiry. The Act's purpose is to protect human health through the control and regulation of drinking-water systems. O. Reg. 170/03 regulates drinking water testing, use of licensed laboratories, treatment requirements and reporting requirements.

O. Reg. 170/03 requires the owner to produce an Annual Report, under Section 11. This report must include the following:

1. Description of system and chemical(s) used
2. Summary of any adverse water quality reports and corrective actions
3. Summary of all required testing
4. Description of any major expenses incurred to install, repair or replace equipment

This Annual Report must be completed by February 28 of each year.

The regulation also requires a Summary Report which must be presented and accepted by Council by March 31 of each year for the preceding calendar year reporting period.

The report must list the requirements of the Act, its regulations, the system's Drinking Water Works Permit (DWWP), Municipal Drinking Water Licence (MDWL), Certificate of Approval (if applicable), and any Provincial Officer Order the system failed to meet during the reporting period. 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.

The *Safe Drinking Water Act, 2002* and the drinking water regulations can be viewed at the following website: <http://www.e-laws.gov.on.ca>.

To enable the Owner to assess the rated capacity of their system to meet existing and future planned water uses, the following information is also required in the report.

1. A summary of the quantities and flow rates of water supplied during the reporting period, including the monthly average and the maximum daily flows.
2. A comparison of the summary to the rated capacity and flow rates approved in the systems approval, drinking water works permit or municipal drinking water licence or a written agreement if the system is receiving all its water from another system under an agreement.

The two reports have been combined and presented to council as the 2016 Annual/Summary Report.



Chapleau Drinking Water System

Section 11

2016 ANNUAL REPORT

for MUNICIPALITIES



Section 11

ANNUAL REPORT

1.0 INTRODUCTION

Drinking-Water System Name	CHAPLEAU DRINKING WATER SYSTEM
Drinking-Water System Number	220003494
Drinking-Water System Owner	The Corporation of the Township of Chapleau
Drinking-Water System Category	Large Municipal, Residential System
Reporting Period	January 1, 2016 to December 31, 2016

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 at: <http://www.chapleau.ca>

Location where Report required under O. Reg. 170/03 Schedule 22 will be available for inspection:

Township of Chapleau
20 Pine Street, P.O. Box 129
Chapleau, ON P0M 1K0

Drinking-Water Systems that receive drinking water from the Chapleau Drinking Water System

The Chapleau Drinking Water System provides all of its drinking water to the Township of Chapleau.

The Annual Report was not provided to any other Drinking Water System owners

The Ontario Clean Water Agency prepared the 2016 Annual Report for the Chapleau Drinking Water System and provided a copy to the system owner; the Township of Chapleau. The Chapleau Drinking Water System is a stand-alone system that does not receive water from or send water to another system.

Notification to system users that the Annual Report is available for viewing is accomplished through:

- Public access/notice via the web
- Public access/notice via Government Office
- Public access/notice via a newspaper



2.0 DESCRIPTION OF THE DRINKING WATER SYSTEM

The Chapleau Drinking Water System is owned by the Corporation of the Township of Chapleau. The treatment system is operated by the Ontario Clean Water Agency and the distribution system is operated by the Township of Chapleau Public Works Department. This subject system is not interconnected to any other drinking-water systems owned by different owners.

The Chapleau Water Treatment Plant, built in 1975, draws raw water for the municipal system from the Kepsquasheshing River (Chapleau River). Water passes through a concrete screening chamber and then through one of three 500 Imp. Gal. /min low lift pumps in the raw water well. There are no critical upstream or downstream processes relied upon to ensure the provision of safe drinking water.

The raw water is directed to a pre-contact tank where aluminum sulphate (alum) is added as a coagulant, polyelectrolyte (polymer) is added as a coagulant aid and sodium carbonate (soda ash) is added for pH and alkalinity adjustment. The pre-contact tank is also equipped with a chlorine injection line for pre-chlorination if required. After a short residence time, water flows by gravity to one of two clarifier tanks, which are equipped with 30-degree tube settlers and sludge scrapers. Clarified water passes through the upflow settlers and directed into two dual media filters, each comprised of silicate sand and anthracite coal. The filters backwash automatically based on filter runtime or head pressure.

The filtered water is then chlorinated and directed to a series of three reservoirs and three clearwells to provide adequate contact time. The combined storage volume is 1 818 400 litres. Water levels in the clearwells are used to control the plant's production. Two 20 hp high lift pumps and four 60 hp high lift pumps are utilized in clearwell 1 and 2 to direct treated water to the distribution system. Before entering the distribution system the treated water is dosed with soda ash for pH adjustment and ammonium sulphate to provide secondary disinfection through chloramination.

A diesel generator is connected to allow the treatment plant to remain in operation should a power failure occur. The water treatment process is controlled by a dedicated PLC and monitored through the SCADA computer system.

The distribution system is constructed primarily of ductile iron, and provides fire protection to the Township of Chapleau as well as drinking water. There are no water storage facilities in the distribution system, as storage is incorporated within the treatment plant. Based on the number of service connections, the system is classified as a Large Municipal Drinking Water System.



3.0 LIST OF WATER TREATMENT CHEMICALS USED

The following chemicals were used in the Chapleau Drinking Water System treatment process:

Aluminum Sulphate (Alum) – Coagulation/Flocculation
Ammonium Sulfate – Secondary Disinfection
Chlorine Gas – Primary Disinfection
Polyelectrolyte (Polymer) - Coagulant Aid
Sodium Carbonate (Soda Ash) – pH and Alkalinity Adjustment

All treatment chemicals are NSF/ANSI approved.

4.0 SIGNIFICANT EXPENSES INCURRED TO THE DRINKING WATER SYSTEM

The following work was completed in 2016:

- waste pit cleaning
- clearwell inspection and cleaning
- pressure sustaining valve for chlorine
- clarifier dump valve
- reservoir pipe repairs
- polymer tank and spill containment
- Ammonium sulfate tank and containment
- chlorinator rebuild kits
- chlorine analyzer membranes and electrolyte
- eyewash / de-sludge shower
- lab glassware
- soda ash rebuild kits
- 1 chlorinator
- reservoir chlorine pump head
- genset servicing 2016
- pH analyzer

All routine maintenance functions were accomplished through OCWA's comprehensive Workplace Management computerized work order system.

5.0 DRINKING WATER SYSTEM HIGHLIGHTS

The Chapleau Drinking Water System (DWS) provides safe and reliable drinking water to the residents of the Township of Chapleau. On an annual basis the Ministry of Environment (MOE) performs an inspection of municipal drinking water systems to assess compliance with the regulations. The MOECC did not conduct an inspection of the Chapleau DWS in 2016.



A Quality and Environmental Management System (QEMS) is in place for the Chapleau DWS. This provincially mandated standard requires municipalities to develop and maintain a quality management system to ensure consistent water quality now and into the future. The re-accreditation audit was conducted on August 18, 2016.

6.0 DETAILS ON NOTICES OF ADVERSE TEST RESULTS AND OTHER PROBLEMS REPORTED TO & SUBMITTED TO THE SPILLS ACTION CENTER

There was one report made during 2016:

Sample Date	Details (Parameter, Limit, Result, Corrective Action, Date, etc)
MAY 30	<p>Total Coliform Count was 1 cfu/100mL (AWQI 129628) <small>Total Coliform Count must zero or non-detectable</small></p> <p>June 1 – the lab reported to OCWA that the sample taken at 81 Queen St had 1 Total Coliform (TC). MOE SAC, PHU and Township of Chapleau were notified. Flushing was conducted.</p> <p>June 2 – Re-samples were collected at 109 Queen, 81 Queen and 61 Elgin.</p> <p>June 3 – results were received confirming the absence of TC and the resolution paperwork was completed on June 7</p>

7.0 SUMMARY OF INCIDENTS DURING THE REPORTING PERIOD

Incident Date	Details (Parameter, Limit, Result, Corrective Action, Date, etc)
SEPTEMBER 28	<p>Low Pressure Event – an electrician was in to work on low lift pump 1 and low lift pump 3. While working on the pumps a fuse blew, causing the high lifts to shut off. Pressure dropped below 20 psi for approximately 4 minutes with the lowest reading at 7.2 psi.</p> <p>When the operators noticed that the high lift pumps weren't running, they were put on hand and started right away. The electrician replaced the blown fuse and all settings were returned to normal.</p> <p>MOH (Tanya Samoylenko) was called at 11:08. A Boil Water Advisory was not issued.</p>



8.0 MICROBIOLOGICAL TESTING PERFORMED DURING THE REPORTING PERIOD

Sample Type	Number of Samples	<i>E.coli</i> Results (min to max)	Total Coliform Results (min to max)	Number of HPC Samples	Range of HPC Results (min to max)
Raw	52	0 – 35 NDOG/NDOGT	12 – 286 NDOG/NDOGT	N/A	N/A
Treated	52	0 – 0	0 – 0	52	<10 – 10
Distribution	165	0 – 0	0 – 1	104	<10 – 60

Maximum Acceptable Concentration (MAC) for *E. coli* = 0 Counts/100 mL

MAC for Total Coliforms = 0 Counts/100 mL

NDOGN - No Data, Overgrown with Non-Target

NDOGT - No Data, Overgrown with Target

Refer to Appendix A for a summary of microbiological testing

9.0 OPERATIONAL TESTING PERFORMED DURING THE REPORTING PERIOD

Continuous Flow Analyzers in Treatment Process

Parameter	Number of Samples	Range of Results (min to max)	Unit of Measure
Turbidity (Filter 1)	8760	0 to 2.0	NTU
Turbidity (Filter 2)	8760	0 to 1.9	NTU
Free Chlorine	8760	0.54 – 3.12	mg/L

Note: For continuous monitors use 8760 as the number samples for one year.

Effective backwash procedures are in place to ensure that the effluent turbidity requirements are met all times.

Refer to Appendix B for a summary of Operational Data

Combined Chlorine Residual in the Distribution System

Number of Samples	Combined Chlorine (min to max)	Unit of Measure	Standard
366	0.12 – 2.10	mg/L	≥ 0.25 and <3.0

Note: Combined chlorine residuals are collected and tested daily.

Nitrate & Nitrite at the Water Treatment Plant

Date of Sample	Nitrate Result (mg/L)	Nitrite Result (mg/L)	Exceedance
January 18	0.27	<0.03	No
April 11	0.3	<0.05	No
July 4	0.2	<0.03	No
October 17	0.2	<0.03	No

MAC for Nitrate = 10 mg/L

MAC for Nitrite = 1.0 mg/L



Total Trihalomethane in the Distribution System

Date of Sample	THM Result (ug/L)	Running Average	Exceedance
January 18	48.8	67	No
April 11	70.5	71	No
July 4	84.8	65	No
October 17	93.6	78	No

MAC for Trihalomethanes = 100 ug/L (Four Quarter Running Average)

Most Recent Lead Data

(Applicable to the following drinking water systems; large municipal residential systems, small, municipal residential systems, and non-municipal year-round residential systems)

The Chapleau Drinking Water System qualified for the ‘Exemption from Plumbing Sampling’ as described in section 15.1-5 (9-10) of Ontario Regulation 170/03. The exemption applies to a drinking water system if; in two consecutive periods at reduced sampling, not more than 10 % of all samples from plumbing exceed the maximum allowable concentration of 10 ug/L for lead. As such, the system is required to test for total alkalinity and pH in two distribution samples collected during the periods of December 15 to April 15 and June 15 to October 15. This testing is required in every 12-month period with lead testing in every third 12-month period.

pH & Alkalinity in the Distribution System

Sample Periods	# of Samples	Lead Results (ug/L)	pH Results (mg/L)	Alkalinity Results (mg/L)
December 15 to April 15	2	-	7.82 – 8.02	46.2 – 48.4
June 15 to October 15	2	-	7.61 – 7.69	45.3 – 50.5

Sample Dates: April 11, 2016 and October 4, 2016

Schedule 23 Inorganic at the Water Treatment Plant

Parameter	Result Value	Unit of Measure	MAC	Exceedance
Antimony	<0.5	ug/L	6	No
Arsenic	<1	ug/L	25	No
Barium	12.3	ug/L	1000	No
Boron	10	ug/L	5000	No
Cadmium	<0.1	ug/L	5	No
Chromium	<1	ug/L	50	No
Mercury	<0.1	ug/L	1	No
Selenium	<1	ug/L	10	No
Uranium	<1	ug/L	20	No

Sample Date: October 17, 2016

Note: Sample required every 12 months.



Schedule 24 Organic at the Water Treatment Plant

Parameter	Result Value	Unit of Measure	MAC	Exceedance
1,1-Dichloroethylene	<0.3	ug/L	14	No
1,2-Dichlorobenzene	<0.2	ug/L	200	No
1,2-Dichloroethane	<0.2	ug/L	5	No
1,4-Dichlorobenzene	<0.3	ug/L	5	No
2,3,4,6-Tetrachlorophenol	<0.5	ug/L	100	No
2,4,6-Trichlorophenol	<0.5	ug/L	5	No
2,4-D	<0.08	ug/L	100	No
2,4-Dichlorophenol	<0.2	ug/L	900	No
Alachlor	<0.5	ug/L	5	No
Atrazine	<0.5	ug/L	No MAC	No
Atrazine + N-dealkylated metabolites	<0.9	ug/L	5	No
Azinphos-methyl (Guthion)	<0.4	ug/L	20	No
Benzene	<0.2	ug/L	5	No
Benzo(a)pyrene	<0.005	ug/L	0.01	No
Bromoxynil	<0.09	ug/L	5	No
Carbaryl	<1	ug/L	90	No
Carbofuran	<1	ug/L	90	No
Carbon tetrachloride	<0.2	ug/L	5	No
Chlorobenzene	<0.5	ug/L	80	No
Chlorpyriphos (Dursban)	<0.4	ug/L	90	No
Desethyl atrazine	<0.6	ug/L	No MAC	No
Diazinon	<0.4	ug/L	20	No
Dicamba	<0.08	ug/L	120	No
Dichloromethane	<1	ug/L	50	No
Diclofop-methyl	<0.08	ug/L	9	No
Dimethoate	<0.4	ug/L	20	No
Diquat	<7	ug/L	70	No
Diuron	<6	ug/L	150	No
Glyphosate	<20	ug/L	280	No
Malathion	<0.4	ug/L	190	No
MCPA	<10	ug/L	100	No
Metolachlor	<0.2	ug/L	50	No
Metribuzin (Sencor)	<0.2	ug/L	80	No
Paraquat	<1	ug/L	10	No
Pentachlorophenol	<0.5	ug/L	60	No
Phorate	<0.2	ug/L	2	No
Picloram	<0.08	ug/L	190	No
Prometryne	<0.1	ug/L	1	No
Simazine	<0.4	ug/L	10	No
Terbufos	<0.1	ug/L	1	No
Tetrachloroethylene	<0.3	ug/L	30	No
Total PCBs	<0.06	ug/L	3	No
Triallate	<0.2	ug/L	230	No



Parameter	Result Value	Unit of Measure	MAC	Exceedance
Trichloroethylene	<0.2	ug/L	5	No
Trifluralin	<0.2	ug/L	45	No
Vinyl chloride	<0.2	ug/L	1	No

Sample Date: October 17, 2016

Note: Sample required every 12 months.

Inorganic or Organic Parameter(s) that Exceeded Half the Standard Prescribed in Schedule 2 of Ontario Drinking Water Quality Standards

No inorganic or organic parameter(s) listed in Schedule 23 and 24 of Ontario Regulation 170/03 exceeded half the standard found in Schedule 2 of the Ontario Drinking Water Standard (O. Reg. 169/03) during the reporting period.

Most Recent Sodium at the Water Treatment Plant

Date of Sample	Number of Samples	Result Value	Unit of Measure	MAC	Exceedance
October 21, 2013	1	23.7	mg/L	20	Yes
October 28, 2013	1	17.7	mg/L	20	<i>Re-sample</i>

Note: Sample required every 60 months. Next sampling scheduled for October 2018.

Most Recent Fluoride at the Water Treatment Plant

Date of Sample	Number of Samples	Result Value	Unit of Measure	MAC	Exceedance
October 21, 2013	1	<0.1	mg/L	1.5	No

Note: Sample required every 60 months. Next sampling scheduled for October 2018.

Additional Testing Performed in Accordance with a Legal Instrument

No additional sampling and testing was required for the Chapleau Drinking Water System during the 2016 reporting year.



Chapleau Drinking Water System

Schedule 22

2016 SUMMARY REPORT

for MUNICIPALITIES



Schedule 22

SUMMARY REPORTS for MUNICIPALITIES

1.0 INTRODUCTION

Drinking-Water System Name	CHAPLEAU DRINKING WATER SYSTEM
Municipal Drinking Water Licence (MDWL)	222-101 (issued March 9, 2016)
Drinking Water Works Permit (DWWP)	222-201 (issued March 8, 2016)
Permit to Take Water (PTTW)	1548-7PMKA4 (issued February 26, 2009)
Reporting Period	January 1, 2016 to December 31, 2016

2.0 REQUIREMENTS THE SYSTEM FAILED TO MEET

According to documentation available to the Ontario Clean Water Agency, there was one requirement the system failed to meet during the 2016 reporting period.

Drinking Water Legislation	Requirement(s) the System Failed to Meet, Corrective Actions and Status
May 20, 2016	72 hour review Despite the operator being at the plant and taking instantaneous readings, the operator was not able to review the data from the paperless chart recorders. The usual method of reviewing the data through OCWA’s Wonderware program was not working. Helpdesk determined it was a firewall issue with the remote desktop. Software to review the trends has now been installed on all the computers to review the paperless chart recorder trends.

3.0 SUMMARY OF QUANTITIES & FLOW RATES

The following Water Usage Tables summarize the quantities and flow rates of water taken and produced during the 2016 reporting period, including average monthly volumes, maximum monthly volumes, total monthly volumes and maximum flow rates.

2016 - Monthly Summary of Water Takings from the Kepsquasheshing River

Permit to Take Water (PTTW) #1548-7PMKA4, issued February 26, 2009.

Month	Total Volume (m ³)	Average Volume (m ³ /day)	Maximum Volume (m ³ /day)	Maximum Flow Rate (L/min)
January	37,964	1,225	1,394	2,399
February	38,884	1,341	1,509	2,312
March	39,415	1,271	1,475	2,399



Month	Total Volume (m ³)	Average Volume (m ³ /day)	Maximum Volume (m ³ /day)	Maximum Flow Rate (L/min)
April	34,469	1,149	1,334	2,399
May	32,937	1,062	1,303	2,399
June	33,628	1,121	1,356	2,400
July	34,019	1,097	1,427	2,201
August	33,826	1,091	1,528	2,158
September	29,456	985	1,497	2,400
October	27,995	933	1,348	2,400
November	30,803	1,027	1,643	2,231
December	33,689	1,087	1,246	2,149
Summary	407,085	1,116	1,643	2,400

2016 - Monthly Summary of Treated Water Supplied to the Distribution System

Governed by Municipal Drinking Water Licence #222-101, issued March 8, 2016

Month	Total Volume (m ³)	Average Volume (m ³ /day)	Maximum Volume (m ³ /day)
January	26,819	865	1,026
February	28,269	974	1,131
March	28,703	926	964
April	24,593	820	958
May	22,794	736	940
June	21,251	708	857
July	20,252	653	952
August	20,320	655	1,012
September	16,362	545	629
October	15,019	501	607
November	17,789	593	1,134
December	21,091	680	776
Summary	263,262	721	1,134

Flow Monitoring

Municipal Drinking Water Licence (MDWL) #222-101 requires the owner to install a sufficient number of flow measuring devices to permit the continuous measurement and recording of:

- the flow rate and daily volume of water conveyed from the treatment system to the distribution system, and
- the flow rate and daily volume of water conveyed into the treatment system.



The Chapleau drinking water system has two flow meters as listed in the MDWL; one installed to monitor raw water entering the treatment plant and one installed to monitor treated water entering the distribution system. Flow metering devices were calibrated in accordance to manufacturers’ specifications on an annual basis and are operating as required.

Comparison of Summary to the Rated Capacity & Flow Rates Approved in the Systems Approval, Licence and Permit

Chapleau DWS’ Permit to Take Water (PTTW) #1548-7PMKA4 issued February 26, 2009 allows the Township of Chapleau to withdraw water at a maximum flow rate of 4,419 L/minute and a maximum total daily volume of 4,400 m³/day from Keksquasheshing River. At no point during the reporting period did the system exceed these rates. The maximum flow rate was 2,400 L/minute and the maximum volume taken was 1,643 m³/day.

Schedule C, Section 1.1 of the MDWL requires that the maximum daily volume of treated water that flows to the distribution system shall not exceed 6,333 m³/day. This rate was not exceeded during the reporting period. The maximum recorded volume was 1,131 m³/day.

Summary of System Performance

The following information is provided to enable the Owner to assess the capability of the system to meet existing and future water usage needs:

Rated Capacity of the Plant (MDWL)	6,333 m³/day	
Average Daily Flow for 2016	721 m ³ /day	11 % of the rated capacity
Maximum Daily Flow for 2016	1,134 m ³ /day	18 % of the rated capacity
Total Treated Water Produced in 2016	263,262 m ³	

4.0 CONCLUSION

The Chapleau Drinking Water System addressed incidents of non-compliance with the regulatory requirements of the Safe Drinking Water Act and its Regulations and the terms and conditions outlined in its specific approval, drinking water works permit and municipal drinking water licence during the reporting period.

The system was able to operate in accordance with the terms and conditions of the Permit to Take Water and in accordance with the rate capacity of the approval and licence while meeting the community’s demand for water use.



Appendix A

Monthly Summary of Microbiological Test Results



Appendix B

Monthly Summary of Operational Data

Table B: Summary of 2016 Turbidity Readings

	01/2016	02/2016	03/2016	04/2016	05/2016	06/2016	07/2016	08/2016	09/2016	10/2016	11/2016	12/2016
Filter 1 / Turbidity - NTU												
Max OL	0.75	0.76	0.48	0.34	1.22	0.23	2.00	0.88	1.03	0.35	0.90	0.22
Mean OL	0.07	0.06	0.06	0.07	0.08	0.08	0.09	0.09	0.10	0.11	0.09	0.07
Min OL	0.04	0.04	0.00	0.05	0.00	0.05	0.00	0.06	0.07	0.00	0.04	0.05
Filter 2 / Turbidity - NTU												
Max OL	0.56	0.50	1.69	0.27	1.78	0.34	0.21	0.86	1.57	1.85	0.32	0.53
Mean OL	0.06	0.05	0.06	0.07	0.08	0.08	0.09	0.08	0.10	0.10	0.08	0.06
Min OL	0.04	0.04	0.00	0.05	0.06	0.05	0.06	0.06	0.07	0.08	0.06	0.05

Table C: Summary of 2016 Distribution Combined Residual Readings

	01/2016	02/2016	03/2016	04/2016	05/2016	06/2016	07/2016	08/2016	09/2016	10/2016	11/2016	12/2016
CI Residual: Combined - mg/L												
Count IH	31	29	31	30	31	30	31	31	30	31	30	31
Max IH	2.10	1.95	1.87	1.66	1.49	1.58	1.63	1.54	1.55	1.81	1.99	2.07
Mean IH	1.34	1.53	1.48	1.30	1.06	0.93	1.00	1.06	1.06	1.24	1.44	1.23
Min IH	0.17	1.10	1.01	0.97	0.13	0.42	0.12	0.62	0.63	0.59	0.63	0.72