

Ministry of the Environment

Safe Drinking Water Branch
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Ministère de l'Environnement

Direction du contrôle de la qualité de l'eau potable
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October 10, 2013

File no. EL-AY-540

Town of Aylmer
46 Talbot Street
Aylmer, Ontario
N5H 1J7

Attention: Mr. Bill Berry
Manager of Water Operations
Re: Aylmer Distribution System (DWS #260002136)
Inspection conducted on September 4, 2013

The enclosed Drinking Water Inspection Report outlines non-compliance, if any, with Ministry legislation, and policies for the above noted water system. Violations noted in this report, if any, have been evaluated based on community risk. These violations will be monitored for compliance with the minimum standards for drinking water in Ontario as set forth under the *Safe Drinking Water Act* and associated regulations. Where risk is deemed to be high and/or compliance is an ongoing concern, violations will be forwarded to this Ministry's Investigation and Enforcement Branch.

In order to measure individual inspection results, the Ministry has established an inspection compliance risk framework based on the principles of the Inspection, Investigation & Enforcement (II&E) Secretariat and advice of internal/external risk experts. The Inspection Summary Rating Record (IRR), included as Appendix F of the inspection report, provides the Ministry, the system owner and the local Public Health Units with a summarized quantitative measure of the drinking water system's annual inspection and regulated water quality testing performance.

Please note the attached IRR methodology memo describing how the risk rating model has improved to better reflect the health related and administrative non-compliance found in an inspection report. IRR ratings are published (for the previous inspection year) in the Ministry's Chief Drinking Water Inspector's Annual Report.

"Section 19 of the Safe Drinking Water Act (Standard of Care) creates a number of obligations for individuals who exercise decision-making authority over municipal drinking water systems. Please be aware that the Ministry has encouraged such individuals, particularly municipal councillors, to take steps to be better informed about the drinking water systems over which they have decision-making authority. These steps could include asking for a copy of this inspection report and a review of its findings. Further information about Section 19 can be found in "*Taking Care of Your Drinking Water: A guide for members of municipal council*" found under "Resources" on the Drinking Water Ontario website at www.ontario.ca/drinkingwater."

If you have any questions regarding the report, please feel free to call me at (519) 873-5019.

Yours truly,

Stephen Dunn
Drinking Water Inspector
Ministry of Environment

cc. Elgin St. Thomas Public Health
Catfish Creek Conservation Authority



Ministry of the Environment

AYLMER DISTRIBUTION SYSTEM

Inspection Report

Site Number:	260002136
Inspection Number:	1-AO4KY
Date of Inspection:	Sep 04, 2013
Inspected By:	Stephen Dunn

OWNER INFORMATION:

Company Name: AYLMEER, THE CORPORATION OF THE TOWN OF
Street Number: 46 **Unit Identifier:**
Street Name: TALBOT St W
City: AYLMEER
Province: ON **Postal Code:** N5H 1J7

INSPECTION DETAILS:

Site Name: AYLMEER DISTRIBUTION SYSTEM
Site Address: AYLMEER
County/District: Aylmer
MOE District/Area Office: London District
Health Unit: ELGIN-ST. THOMAS HEALTH UNIT
Conservation Authority: N/A
MNR Office: N/A
Category: Large Municipal Residential
Site Number: 260002136
Inspection Type: Unannounced
Inspection Number: 1-AO4KY
Date of Inspection: Sep 04, 2013
Date of Previous Inspection: May 15, 2012

COMPONENTS DESCRIPTION

Site (Name): MOE DWS Mapping
Type: DWS Mapping Point **Sub Type:**
Comments:
 Not Applicable

Site (Name): Distribution System
Type: Other **Sub Type:** Other
Comments:

Treated water is supplied to the Town of Aylmer from the Elgin Water Treatment Plant via the Elgin Area Primary Water Supply System, the Elgin-Middlesex Reservoir, and the Aylmer Secondary System.

When required, two pumps, located at the Elgin-Middlesex Pumping Station in St. Thomas, pump water to Aylmer through a 450 millimetre diameter secondary transmission main (Aylmer Secondary System). Depending on system pressure and demand, the Secondary System may be used to directly feed the distribution system and/or may be used to fill the standpipe. Secondary disinfection is

provided at the Elgin Area Booster Station with dosing paced to a flow signal from the flow meter. The SCADA system records the chlorine residuals.

The Aylmer Distribution System consists of approximately 42 kilometers of watermain of varying sizes (50 millimetres to 450 millimetres) and types (cast iron, ductile iron, C900 plastic, transite, etc.). There are nine meter chambers, 200 fire hydrants and approximately 340 street valves within the system.

Site (Name): Standpipe Reservoir

Type: Other

Sub Type: Reservoir

Comments:

The standpipe located at 17 Myrtle Street, was constructed in 1986 and is 11 metres in diameter and 46 metres in height with a capacity of 4,300 cubic metres. There is a continuous chlorine analyzer on the intake/discharge line which is connected to the Supervisory Control and Data Acquisition (SCADA) System and remotely monitored at the Elgin Primary Water Treatment Plant. There is also a tower level indicator and pressure sensor.

INSPECTION SUMMARY

INTRODUCTION

- * The primary focus of this inspection is to confirm compliance with Ministry of the Environment legislation and authorizing documents such as Orders and Certificates of Approval, as well as evaluating conformance with Ministry drinking water related policies and guidelines during the inspection period.

This report is based on an inspection of a "stand alone connected distribution system". This type of system receives treated water from a separately owned "donor" system. This report contains all of the elements required to assess key compliance and conformance issues associated with a "receiver" system to ensure that the system was not being operated or managed in a "deficient" condition, as defined under O. Reg. 172/03. The report does not contain items associated with the inspection of the donor system, such as source waters, intakes/wells and treatment facilities.

This drinking water system is subject to the legislative requirements of the Safe Drinking Water Act, 2002 (SDWA) and regulations made therein, including Ontario Regulation 170/03, "Drinking Water Systems" (O.Reg.170/03). This inspection has been conducted pursuant to Section 81 of the SDWA.

Your system was chosen for a focused inspection during this inspection cycle because inspection findings over the past three years were such that the number of violations were minimal or non existent, there were few or no orders issued to you that were of significance in the maintenance of water potability and there were no deficiencies as defined in O. Reg. 172/03. The undertaking of a focused inspection at your drinking water system during this year's inspection cycle does not ensure that a similar type of inspection will be conducted at any point in the future.

Documents and records reviewed in association with this report include, but are not limited to:

- Municipal Drinking Water Licence (Licence No. 044-101, Issue No. 01)
- Drinking Water Works Permit (Permit No. 044-201, Issue No. 01)
- Town of Aylmer By-Law 09-09 to enact rules and regulations for the supply, operation and maintenance of the Municipal Water Works System
- Town of Aylmer Drinking Water System Operations Manual
- Ontario Safe Drinking Water Act (2002) O. Reg. 170/03 and O. Reg. 128/04 operational documents and records maintained by the owner and operating authority for the period from May 1, 2012 to Aug. 1, 2013.

TREATMENT PROCESSES

- * The owner had ensured that all equipment was installed in accordance with Schedule A and Schedule C of the Drinking Water Works Permit.
- * The owner/operating authority was in compliance with the requirement to prepare Form 1 documents as required by their Drinking Water Works Permit during the inspection period.

There were two Form 1's completed for watermains and appurtenances installed in the Bradley Park subdivision and the Jane Street subdivision in 2012.

TREATMENT PROCESS MONITORING

TREATMENT PROCESS MONITORING

- * The secondary disinfectant residual was measured as required for the distribution system.

The Town of Aylmer monitors free chlorine residual continuously at the standpipe located at 17 Myrtle Street.

- * Operators were examining continuous monitoring test results and they were examining the results within 72 hours of the test.
- * All continuous monitoring equipment utilized for sampling and testing required by O. Reg. 170/03, or approval or order, were equipped with alarms or shut-off mechanisms that satisfied the standards described in Schedule 6.
- * Continuous monitoring equipment that was being utilized to fulfill O. Reg. 170/03 requirements was performing tests for the parameters with at least the minimum frequency specified in the Table in Schedule 6 of O. Reg. 170/03 and recording data with the prescribed format.
- * All continuous analysers were calibrated, maintained, and operated, in accordance with the manufacturer's instructions or the regulation.

The CL17 Chlorine Analyzer has been calibrated and verified on October 5, 2012.

DISTRIBUTION SYSTEM

- * Existing parts of the distribution system that were taken out of service for inspection, repair or other activities that may lead to contamination, and all new parts of the distribution system that came in contact with drinking water, were disinfected in accordance with Schedule B, Condition 2.3 of the Drinking Water Works Permit.
- * Based on the records available the owner was able to maintain proper pressures in the distribution system.

OPERATIONS MANUALS

- * The operations and maintenance manuals contained plans, drawings and process descriptions sufficient for the safe and efficient operation of the system.

The operators and maintenance manual is available at the works office on Myrtle Street in Aylmer. All the operation and maintenance personnel have been made aware of the availability of the manual.

- * The operations and maintenance manuals did meet the requirements of the Permit and Licence or Approval issued under Part V of the SDWA.

LOGBOOKS

- * Records or other record keeping mechanisms confirmed that operational testing not performed by continuous monitoring equipment was being done by a certified operator, water quality analyst, or person who suffices the requirements of O. Reg. 170/03 7-5.

SECURITY

SECURITY

- * The owner had provided security measures to protect components of the drinking-water system.

CERTIFICATION AND TRAINING

- * The overall responsible operator had been designated for each subsystem.

At present the Overall Responsible Operator is the Manager of Water Operations who holds a certificate that is greater than the classification level of the system . The Aylmer Distribution System was classified as a Class 1 Water Distribution System (WD1) in January 2009.

- * Operators in charge had been designated for all subsystems which comprised the drinking-water system.

WATER QUALITY MONITORING

- * All microbiological water quality monitoring requirements for distribution samples were being met.

Based on a service population of 7500, the Town is required to take a minimum of 15 distribution samples each month. Every distribution sample must be analyzed for E. coli and total coliform, and 25% of the distribution samples must be analyzed for general bacteria expressed as colony counts on a heterotrophic plate count (HPC).

Laboratory data sheets for microbiological monitoring of the Aylmer Distribution System were reviewed from May 1, 2012 to August 1, 2013 and confirm that this requirement has been met.

- * All trihalomethanes water quality monitoring requirements prescribed by legislation were conducted within the required frequency.

In accordance with O. Reg. 170/03 Schedule 13-6, the owner of the Aylmer Distribution System shall ensure that a sample for trihalomethanes is collected and tested every three (3) months. Trihalomethanes monitoring was completed on the following dates during the inspection period: October 9, 2012 (42 ug/L), January 7, 2013 (18 ug/L), April 2th, 2013 (19 ug/L) and July 15, 2013 (35 ug/L).

- * All sampling requirements for lead prescribed by schedule 15.1 of O. Reg. 170/03 were being met.

Based on the information reviewed, sampling and testing for lead in the Aylmer Distribution System is not required until the June 15-Oct. 15th 2015 and December 15 - April 15 2016 periods. Alkalinity and pH testing is still required in every period at a minimum three locations in the distribution system.

- * Records confirmed that chlorine residual tests were being conducted at the same time and at the same location that microbiological samples were obtained.

WATER QUALITY ASSESSMENT

- * The audit samples collected by the inspector met the applicable Ontario Drinking Water Quality Standards and/or the aesthetic objectives or operation guidelines. The results of the audit sampling are summarized as follows:

Inspection audit samples were collected on September 4, 2013 and the results of these samples can be found in Appendix B.

WATER QUALITY ASSESSMENT

- * Records show that all water sample results taken during the review period met the Ontario Drinking Water Quality Standards (O. Reg. 169/03).

REPORTING & CORRECTIVE ACTIONS

- * Where required continuous monitoring equipment used for the monitoring of chlorine residual and/or turbidity triggered an alarm or an automatic shut-off, a qualified person responded in a timely manner and took appropriate actions.

NON-COMPLIANCE WITH REGULATORY REQUIREMENTS AND ACTIONS REQUIRED

This section provides a summary of all non-compliance with regulatory requirements identified during the inspection period, as well as actions required to address these issues. Further details pertaining to these items can be found in the body of the inspection report.

Not Applicable

SUMMARY OF RECOMMENDATIONS AND BEST PRACTICE ISSUES

This section provides a summary of all recommendations and best practice issues identified during the inspection period. Details pertaining to these items can be found in the body of the inspection report. In the interest of continuous improvement in the interim, it is recommended that owners and operators develop an awareness of the following issues and consider measures to address them.

Not Applicable

SIGNATURES

Inspected By:

Stephen Dunn

Signature: (Provincial Officer):



Reviewed & Approved By:

Tom Clubb

Signature: (Supervisor):



Review & Approval Date:

October 10, 2013

Note: This inspection does not in any way suggest that there is or has been compliance with applicable legislation and regulations as they apply or may apply to this facility. It is, and remains, the responsibility of the owner and/or operating authority to ensure compliance with all applicable legislative and regulatory requirements.



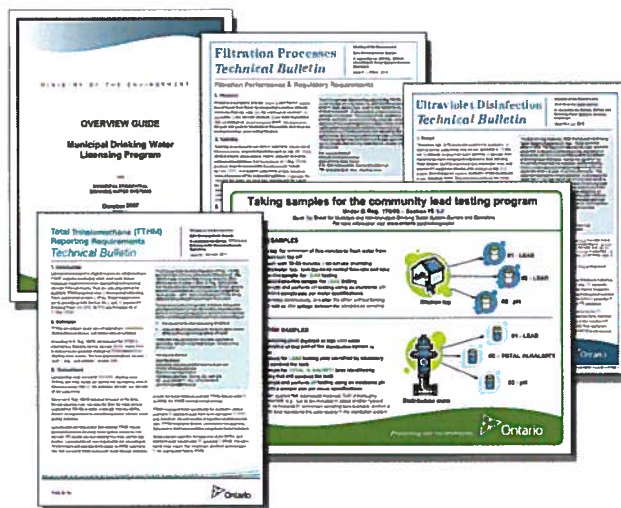
Stakeholder Appendix

Key Reference and Guidance Material for Municipal Residential Drinking Water Systems

Many useful materials are posted on the Ministry of the Environment's **Drinking Water Ontario** website at www.ontario.ca/drinkingwater to help in the operation of your drinking water system.

Below is a list of key materials frequently used by owners and operators of municipal drinking water systems. To read or download these materials, go to **Drinking Water Ontario** and search in the **Resources** section by **Publication Number**.

Visit **Drinking Water Ontario** for more useful materials. Contact the Public Information Centre if you need assistance or have questions at 1-800-565-4923/416-325-4000 or picemail.moe@ontario.ca.



PUBLICATION NUMBER	PUBLICATION TITLE
4448e01	Procedure for Disinfection of Drinking Water in Ontario
7152e	Strategies for Minimizing the Disinfection Products Trihalomethanes and Haloacetic Acids
7467	Filtration Processes Technical Bulletin
7685	Ultraviolet Disinfection Technical Bulletin
8215	Total Trihalomethane (TTHM) Reporting Requirements Technical Bulletin (February 2011)
2601e	Overview Guide: Municipal Drinking Water Licensing Program
0000	Municipal Drinking Water Licensing Program Bulletin, Issue 1, January 2011
0000	Certification Guide for Operators and Water Quality Analysts
6560e	Taking Samples for the Community Lead Testing Program
7423e	Community Sampling and Testing for Lead: Standard and Reduced Sampling and Eligibility for Exemption
7128e	Drinking Water System Contact List
4449e01	Technical Support Document for Ontario Drinking Water Quality Standards



MOE Audit Sample Results

**APPENDIX
TABLE 3
AYLMER DISTRIBUTION SYSTEM
AUDIT SAMPLE RESULTS - 04-SEP-2013
SUMMARY OF MICROBIOLOGICAL PARAMETERS - HEALTH RELATED**

Sample Legend:

Sample # 1 - 323 JOHN ST SOUTH DISTRIBUTION WATER

Sample # 2 - 50 SOUTH STR E ASSUMPTION CATHOLIC SCHOLL DISTRIBUTION

Sample # 3 - 80 RUTHERFORD AVE DAVENPORT PUBLIC SCHOOL DISTRIBUTION WATER

Parameter	Units	MC ¹	SAMPLE	SAMPLE	SAMPLE
			# 1	# 2	# 3
NT: ESCHERICHIA COLI	C/100ML	0	ABSENT	ABSENT	ABSENT
NT: TOTAL COLIFORMS	C/100ML	0	ABSENT	ABSENT	ABSENT

Notes:

- Escherichia coli is a more definitive indicator of fecal contamination than fecal coliforms or total coliforms.
- At elevated levels, the general bacterial population may interfere with the detection of coliforms. This general population can be estimated from either background colony counts on the total coliform membrane filters or heterotrophic plate counts (HPC).

Shortforms:

C/100mL - Count per 100 millilitre

C/mL - Count per millilitre

Footnotes:

- 1 Maximum Concentration as per O Reg 169/03.
- 2 Aesthetic Objective.

**APPENDIX
TABLE 5
AYLMER DISTRIBUTION SYSTEM
AUDIT SAMPLE RESULTS - 04-SEP-2013
SUMMARY OF MICRO, CHEMICAL / PHYSICAL PARAMETERS - NOT HEALTH RELATED**

Sample Legend:

Sample # 1 - 323 JOHN ST SOUTH DISTRIBUTION WATER

Sample # 2 - 50 SOUTH STR E ASSUMPTION CATHOLIC SCHOLL DISTRIBUTION

Sample # 3 - 80 RUTHERFORD AVE DAVENPORT PUBLIC SCHOOL DISTRIBUTION WATER

Parameter	Units	OBJECTIVE	TYPE OF OBJECTIVE	SAMPLE	SAMPLE	SAMPLE
				# 1	# 2	# 3
NT: DETERIORATION INDICATORS	C/100ML	0	AO	NOT DETECTED	NOT DETECTED	NOT DETECTED

Shortforms:

□T	- A measureable trace amount. Interpret with caution	AO	- Aesthetic Objective
□W	- No measurable response (zero). □Reported value	O□	- Operational □uideline
□□W	- No measurable response (zero). □Reported value	FTU □NTU	- Nephelometric Turbidity Unit
□	- Actual result is less than reported value	TCU	- True Colour Units
ND	- Not detected	N□/L	- Nanograms per litre
NA	- Result not available	U□/L	- Micrograms per litre
NS	- Not sampled	M□/L	- Milligrams per litre
DE□	- Degree celsius		

Footnotes:

- a Organic Nitrogen \square (Total Kjeldahl Nitrogen - (Ammonia \square Ammonium))
- b 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.
- c When sulphate levels exceed 500 mg/L, water may have a laxative effect on some people.
- d Applicable for all water at the point of consumption.

NO DATUM FOUND FOR THE FOLLOWING TABLE(S):

-TABLE 1 - SUMMARY OF PARAMETERS EXCEEDING ODWS

-TABLE 2 - SUMMARY OF PARAMETERS EXCEEDING HALF OF THEIR HEALTH-RELATED ODWS

-TABLE 3 - SUMMARY OF CHEMICAL/PHYSICAL PARAMETERS - HEALTH RELATED

-TABLE 6 - SUMMARY OF PARAMETERS WITH NO ODWS



Inspection Rating Record

Ministry of the Environment - Inspection Summary Rating Record (Reporting Year - 2013-2014)

DWS Name: AYLMER DISTRIBUTION SYSTEM
DWS Number: 260002136
DWS Owner: Aylmer, The Corporation Of The Town Of
Municipal Location: Aylmer

Regulation: O.REG 170/03
Category: Large Municipal Residential System
Type Of Inspection: Adhoc
Inspection Date: September 4, 2013
Ministry Office: London District

Maximum Question Rating: 237

Inspection Module	Non-Compliance Rating
Treatment Processes	0 / 18
Operations Manuals	0 / 28
Logbooks	0 / 14
Certification and Training	0 / 14
Water Quality Monitoring	0 / 51
Reporting & Corrective Actions	0 / 21
Treatment Process Monitoring	0 / 91
TOTAL	0 / 237

Inspection Risk Rating | 0.00%

FINAL INSPECTION RATING: | 100.00%

Ministry of the Environment - Detailed Inspection Rating Record (Reporting Year - 2013-2014)

DWS Name: AYLMER DISTRIBUTION SYSTEM
DWS Number: 260002136
DWS Owner: Aylmer, The Corporation Of The Town Of
Municipal Location: Aylmer

Regulation: O.REG 170/03
Category: Large Municipal Residential System
Type Of Inspection: Adhoc
Inspection Date: September 4, 2013
Ministry Office: London District

Maximum Question Rating: 237

Inspection Risk Rating | 0.00%

FINAL INSPECTION RATING: | 100.00%