



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

Clarksville Subdivision Distribution System

# 2013 ANNUAL REPORT



Prepared by the Ontario Clean Water Agency  
on behalf of the Corporation of the Charlton and Dack (Owner Representative)



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## EXECUTIVE SUMMARY

Municipalities throughout Ontario have been required to comply with Ontario Regulation 170/03 made under the Safe Drinking Water Act (SDWA) since June 2003. The Act was enacted 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.

Section 11 of Regulation 170/03 requires the owner to produce an Annual Report. This report must include the following:

1. Description of system & 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 28th of each year.

The report also includes a review of inspection findings and operational highlights.

The Ontario Clean Water Agency (OCWA) prepared the 2013 Annual Report on behalf of the Owner Representative, the Municipality of Charlton and Dack.

The report is accessible at the Charlton and Dack municipal complex located at #287237 Spruce Grove Road in Englehart. The availability of the Annual Report is communicated to consumers via a notice on Charlton and Dack's radio bulletin and during public council meetings.



## REVIEW AND HIGHLIGHTS OF 2013

The Englehart drinking water system (DWS) supplied safe and reliable drinking water to the residents of the Clarksville Subdivision while meeting, exceeding, and continually improving on legal, operational, and quality management system requirements.

OCWA operators, certified by the Province of Ontario through the Ministry of the Environment (MOE) perform water sampling and testing, monitor test results to ensure compliance with regulatory requirements and conduct distribution flushing to ensure the delivery of high quality drinking water to the consumers.

### Inspections

According to records kept by OCWA, the last MOE inspection was performed on April 22, 2009. The inspection included a physical assessment of various components of the water distribution system and a document review for the period of January 1, 2007 to April 21, 2009. There were no non-compliance items identified in the inspection report.

### Operational Highlights

The Englehart Drinking Water System, the donor system which supplies potable water to the Clarksville Subdivision is operating well; however there are ongoing issues with elevated Total Trihalomethane (TTHM) levels in the distribution system. TTHMs are formed when natural organic matter such as total organic carbon (TOC) in water reacts with some chemicals used for disinfection such as sodium hypochlorite.

The Town of Englehart recently received a Water Treatment Plant Study conducted by AECOM Engineering which provided recommendations to control these elevated TTHM levels. OCWA is working in conjunction with the Town and AECOM Engineering to find a suitable solution.

Clarksville Subdivision Distribution System

Section 11

# 2013 ANNUAL REPORT





Section 11

**ANNUAL REPORT**

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**1.0 INTRODUCTION**

**Drinking-Water System Name:** CLARKSVILLE SUBDIVISION DISTRIBUTION SYSTEM  
**Drinking-Water System No.:** 260078741  
**Drinking-Water System Owner:** Each property owner of the Clarksville Subdivision (Owner Representative is The Corporation of the Municipality of Charlton & Dack)  
**Drinking-Water System Category:** Non-Municipal Year-Round Residential System  
**Period being reported:** January 1, 2013 to December 31, 2013

**Number of Designated Facilities served:** zero (0)

**Did you provide a copy of your annual report to all Designated Facilities you serve?** Not applicable

**Number of Interested Authorities you report to:** zero (0)

**Did you provide a copy of your annual report to all Interested Authorities you report to for each Designated Facility?** Not applicable

***Drinking Water Systems that receive drinking water from the Clarksville Subdivision Distribution System***

The Clarksville Subdivision does not provide drinking water to any other system.

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

The Ontario Clean Water Agency prepared the 2013 Annual Report for the Clarksville Subdivision Distribution System and provided a copy to the representative of the system owner; the Municipality of Charlton and Dack as well as to the system’s donor; the Town of Englehart.

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

A notice will be posted on Charlton and Dack’s Community Bulletin (CJBB radio) and through discussions during a public council meeting.



## 2.0 DESCRIPTION OF THE DRINKING WATER SYSTEM

The Clarksville Subdivision distribution system is a standalone system that is located in the Municipality of Charlton and Dack, directly adjacent to the northeast boundary of the Town of Englehart. It was constructed in the early 1950's by a private developer, but is currently owned by each property owner in the subdivision. The Ontario Clean Water Agency was contracted to perform water sampling, to monitor results, and to prepare regulatory reports.

The system has fifteen (15) residential service connections and four (4) non-residential service connections. Based on the number of residential service connections and the fact that the system is jointly owned by the property owners, the Clarksville Subdivision Distribution System is classified as a non-municipal year-round residential drinking water system.

The water mains and appurtenances that comprise this water distribution system are described as follows:

- 2 inch galvanized steel constructed water main that connects to the Englehart Well Supply at the west end of Second Avenue, in the area of the Junction Gas Bar and Restaurant.
- service connections consists of ¾ inch plastic constructed water line.
- no fire hydrants or blow-off valves are located in the system.

The system connects to and receives all water from the drinking water system owned by the Corporation of the Town of Englehart (Drinking Water System DWS #220000353). It is a communal ground water well supply that services the Town of Englehart and six (6) neighbouring distribution systems. The Englehart water treatment plant and the distribution system is operated by the Ontario Clean Water Agency. The water treatment facility has a maximum rated capacity of 45.4 liters per second or 2,488 cubic meters per day. It is located on 56 First Street in Evanturel Township in the district of Timiskaming.

The Englehart water system consists of two deep-drilled wells that feed the main treatment building that houses the pressure filtration system, chlorination system, pump station and reservoir. A 100 kW diesel generator is in place and has the capacity to maintain all aspects of the operation during power outages.

More details on the Englehart Drinking Water System are available in the 2013 Annual/Summary Report which can be viewed at the Charlton & Dack Municipal Complex or the Englehart Town Office.

## 3.0 LIST OF WATER TREATMENT CHEMICALS USED OVER THE REPORTING PERIOD

No chemicals are used in the Clarksville Subdivision, however sodium hypochlorite is used as a disinfectant at the Englehart Water Treatment Plant.

#### 4.0 SIGNIFICANT EXPENSES INCURRED IN THE DRINKING WATER SYSTEM

There were no significant installations, replacements or repairs conducted in the system during the reporting period.

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

Based on information kept on record by OCWA, two (2) adverse water quality incidents were reported to the MOE's Spills Action Centre.

##### AWQI #112502

On July 8, 2013, a drinking water sample collected at Peter's Garage on Highway 11 gave a Total Trihalomethane (TTHM) value of 121 ug/L. The four quarter running average was calculated to be 104.25 ug/L exceeding the allowable limit of 100 ug/L. The exceedance was reported to the MOE's Spills Action Centre and the Timiskaming Health Unit on July 16<sup>th</sup>.

A resample was collected on July 18<sup>th</sup> at Peter's Garage (result = 87.1 ug/L). The local health unit was notified of the result and no further instructions were provided. The issue was resolved on July 29, 2013.

##### AWQI #114675

On October 18, 2013, a drinking water sample collected at Peter's Garage on Highway 11 gave a TTHM value of 108 ug/L. The four quarter running average was calculated to be 106.6 ug/L exceeding the allowable limit of 100 ug/L. The exceedance was reported to the MOE's Spills Action Centre and the Timiskaming Health Unit on October 22<sup>nd</sup>.

A resample was collected on October 25<sup>th</sup> at Peter's Garage (result = 128 ug/L). The local health unit was notified of the results and no further instructions were provided. The issue was resolved on November 5, 2013.

#### 6.0 MICROBIOLOGICAL TESTING PERFORMED DURING THE REPORTING PERIOD

##### *Summary of Microbiological Data*

| Sample Type  | # of Samples | Range of <i>E. coli</i> Results<br>(min to max) | Range of Total Coliform Results<br>(min to max) | # of HPC Samples | Range of HPC Results<br>(min to max) |
|--------------|--------------|---|---|------------------|--------------------------------------|
| Distribution | 26           | <1 to <1  | <1 to <1  | 26               | <10 to <10                           |

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

**Note:** Bacteriological samples are collected and tested as described in Schedule 11-2 of Ontario Regulation 170/03. At least one distribution sample is taken every two weeks and is tested for *E. coli*, Total Coliforms and general bacteria population expressed as colony counts on a heterotrophic plate count (HPC).

Refer to *Appendix A* for a monthly summary of microbiological test results.





## 7.0 OPERATIONAL TESTING PERFORMED DURING THE REPORTING PERIOD

### Summary of Chlorine Residual Data in the Distribution System

| Parameter              | # of Samples | Range of Results<br>(min to max) | Unit of Measure | Standard |
|------------------------|--------------|----------------------------------|-----------------|----------|
| Free Chlorine Residual | 104          | 0.14 to 0.90                     | mg/L            | <0.05    |

**Note:** A total of two (2) operational checks for chlorine residual in the distribution system are taken each week. The samples are collected at least 48 hours apart.

Refer to *Appendix B* for a monthly summary of the above operational data.

### Summary of Total Trihalomethane Data (sampled in the distribution system)

| Date of Sample        | Result Value | Unit of Measure | Running Average | Exceedance |
|-----------------------|--------------|-----------------|-----------------|------------|
| January 14            | 92.5         | ug/L            | 106.6           | Yes        |
| April 2               | 105.0        |                 |                 |            |
| July 8                | 121          |                 |                 |            |
| July 18 (resample)    | 87.1         |                 |                 |            |
| October 18            | 108          |                 |                 |            |
| October 25 (resample) | 128          |                 |                 |            |

Maximum Allowable Concentration (MAC) for Total Trihalomethanes = 100 ug/L (Four Quarter Running Average)

**Note:** Results from re-samples taken specifically for corrective action purposes are not used to calculate the running annual average and are not used to determine routine compliance to the Ontario Drinking Water Quality Standard

Refer to the Section 5.0 of this report for further details on the adverse TTHM incidents,

### Summary of 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 Clarksville Subdivision Distribution System qualified for reduced sampling after the first two rounds of standard lead testing as prescribed in section 15.1-1 of Ontario Regulation 170/03 were conducted. The next scheduled sampling period should have occurred from December 15, 2010 to April 15, 2011 and June 15, 2011 to October 15, 2011. The performance of reduced lead testing was not approved by the owner's representative.

Therefore the two most recent rounds of community lead testing were conducted on April 3<sup>th</sup> and July 16<sup>th</sup> of 2008. The results of the testing are summarized in the tables below.

### Summary of Lead Data

| Location Type | # of Samples | Range of Lead Results<br>(min to max) | Unit of Measure | # of Exceedances |
|---------------|--------------|---------------------------------------|-----------------|------------------|
| Plumbing      | 24           | <1 to 1.5                             | ug/L            | 0                |
| Distribution  | 2            | <1 to <1                              | ug/L            | 0                |

Maximum Allowable Concentration (MAC) for Lead = 10 ug/L



**Summary of pH & Alkalinity Data**

| Location Type | # of Samples | Range of pH Results<br>(min to max) | Range of Alkalinity Results<br>(mg/L) (min to max) |
|---------------|--------------|-------------------------------------|--|
| Plumbing      | 12           | 7.82 to 7.90                        | N/A  |
| Distribution  | 2            | 7.83 to 7.89                        | 239 to 242   |

***Inorganic or Organic Test Results that Exceeded Half the Standard Prescribed in Schedule 2 of the Ontario Drinking Water Quality Standards.***

This section is not applicable to the Clarksville Subdivision Distribution System. Inorganic (Schedule 24) and Organic (Schedule 23) parameters are tested on treated water entering a distribution system.

***Summary of Additional Testing Performed in Accordance with a Legal Instrument.***

No additional sampling and testing was required for the Clarksville Subdivision Distribution System during the 2013 reporting period.

**8.0 CONCLUSION**

The Clarksville Subdivision Distribution System has not complied with all the requirements set out in the Safe Drinking Water Act and its Regulations having one incident of non-compliance. Sampling requirements for lead, alkalinity and pH were not met as prescribed by schedule 15.1 of Ontario Regulation 170/03.

The Clarksville Subdivision Distribution System qualified for reduced sampling after the first two rounds of standard lead testing as prescribed in section 15.1-1 of Ontario Regulation 170/03 were conducted. The next scheduled sampling period should have occurred from December 15, 2010 to April 15, 2011 and June 15, 2011 to October 15, 2011. The performance of reduced lead testing was not approved by the owner’s representative.

Two (2) adverse Total Trihalomethane results were reported to the MOE’s Spills Action Centre in 2013. Elevated TTHMs has been an ongoing issue in the distribution system and in response to these elevated results, the Town of Englehart approved the performance of a Water Study which was conducted in 2013 by AECOM Engineering. The study provided recommendations to control the high TTHM levels. OCWA is working in conjunction with the Town and AECOM Engineering to find the most suitable solution.



# **APPENDIX A**

Monthly Summary of Microbiological Test Results



# Ontario Clean Water Agency Monthly Process Data Report

Municipality: Town of Charlton  
 Facility: [5049] - Charlton Water Treatment Plant  
 Works: [260078741] - Clarksville Subdivision Distribution System  
 Classification: Class 1 Water Distribution, Class 3 Water Treatment  
 Water Source: Englehart River

Period: 01/01/2013 to 12/31/2013  
 Serviced Population: 250  
 Total Design Capacity(m<sup>3</sup>/day): 561.0

|   | Jan/2013 | Feb/2013 | Mar/2013 | Apr/2013 | May/2013 | Jun/2013 | Jul/2013 | Aug/2013 | Sep/2013 | Oct/2013 | Nov/2013 | Dec/2013 | <-- Summary --> |
|---|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|-----------------|
| <b>Distribution System\Microbiological - Distribution</b> |          |          |          |          |          |          |          |          |          |          |          |          |                 |
| <b>TC Samples (# collected)</b>                           |          |          |          |          |          |          |          |          |          |          |          |          |                 |
| Sum   | 2.0      | 2.0      | 2.0      | 3.0      | 2.0      | 2.0      | 2.0      | 2.0      | 3.0      | 2.0      | 2.0      | 2.0      | 26.0            |
| <b>TC (cfu/100 mL): Maximum</b>                           |          |          |          |          |          |          |          |          |          |          |          |          |                 |
| Max   | < 1.0    | < 1.0    | < 1.0    | < 1.0    | < 1.0    | < 1.0    | < 1.0    | < 1.0    | < 1.0    | < 1.0    | < 1.0    | < 1.0    | < 1.0           |
| <b>TC (cfu/100 mL): Minimum</b>                           |          |          |          |          |          |          |          |          |          |          |          |          |                 |
| Min   | < 1.0    | < 1.0    | < 1.0    | < 1.0    | < 1.0    | < 1.0    | < 1.0    | < 1.0    | < 1.0    | < 1.0    | < 1.0    | < 1.0    | < 1.0           |
| <b>E. Coli Samples (# collected)</b>                      |          |          |          |          |          |          |          |          |          |          |          |          |                 |
| Sum   | 2.0      | 2.0      | 2.0      | 3.0      | 2.0      | 2.0      | 2.0      | 2.0      | 3.0      | 2.0      | 2.0      | 2.0      | 26.0            |
| <b>E. Coli (cfu/100 mL): Maximum</b>                      |          |          |          |          |          |          |          |          |          |          |          |          |                 |
| Max   | < 1.0    | < 1.0    | < 1.0    | < 1.0    | < 1.0    | < 1.0    | < 1.0    | < 1.0    | < 1.0    | < 1.0    | < 1.0    | < 1.0    | < 1.0           |
| <b>E. Coli (cfu/100 mL): Minimum</b>                      |          |          |          |          |          |          |          |          |          |          |          |          |                 |
| Min   | < 1.0    | < 1.0    | < 1.0    | < 1.0    | < 1.0    | < 1.0    | < 1.0    | < 1.0    | < 1.0    | < 1.0    | < 1.0    | < 1.0    | < 1.0           |
| <b>HPC Samples (# collected)</b>                          |          |          |          |          |          |          |          |          |          |          |          |          |                 |
| Sum   | 2.0      | 2.0      | 2.0      | 3.0      | 2.0      | 2.0      | 2.0      | 2.0      | 3.0      | 2.0      | 2.0      | 2.0      | 26.0            |
| <b>HPC (cfu/mL): Maximum</b>                              |          |          |          |          |          |          |          |          |          |          |          |          |                 |
| Max   | < 10.0   | < 10.0   | < 10.0   | < 10.0   | < 10.0   | < 10.0   | < 10.0   | < 10.0   | < 10.0   | < 10.0   | < 10.0   | < 10.0   | < 10.0          |
| <b>HPC (cfu/mL): Minimum</b>                              |          |          |          |          |          |          |          |          |          |          |          |          |                 |
| Min   | < 10.0   | < 10.0   | < 10.0   | < 10.0   | < 10.0   | < 10.0   | < 10.0   | < 10.0   | < 10.0   | < 10.0   | < 10.0   | < 10.0   | < 10.0          |

Note: ? Calculation not verifiable. At least one result reported as < and at least one result reported >.



# **APPENDIX B**

Monthly Summary of Chlorine Residual Data



# Ontario Clean Water Agency Monthly Process Data Report

Municipality: Town of Charlton  
 Facility: [5049] - Charlton Water Treatment Plant  
 Works: [260078741] - Clarksville Subdivision Distribution System  
 Classification: Class 1 Water Distribution, Class 3 Water Treatment  
 Water Source: Englehart River

Period: 01/01/2013 to 12/31/2013  
 Served Population: 250  
 Total Design Capacity(m<sup>3</sup>/day): 561.0

|   | Jan/2013 | Feb/2013 | Mar/2013 | Apr/2013 | May/2013 | Jun/2013 | Jul/2013 | Aug/2013 | Sep/2013 | Oct/2013 | Nov/2013 | Dec/2013 | <-- Summary --> |
|---|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|-----------------|
| Distribution System\Health - Distribution |          |          |          |          |          |          |          |          |          |          |          |          |                 |
| Cl Res. Dist Samples (# collected)        |          |          |          |          |          |          |          |          |          |          |          |          |                 |
| Sum                                       | 9.0      | 8.0      | 8.0      | 9.0      | 9.0      | 8.0      | 9.0      | 9.0      | 9.0      | 9.0      | 8.0      | 9.0      | 104.0           |
| Cl Res. in Dist.: Free Min. (mg/L)        |          |          |          |          |          |          |          |          |          |          |          |          |                 |
| Min                                       | 0.43     | 0.51     | 0.28     | 0.22     | 0.29     | 0.23     | 0.16     | 0.26     | 0.16     | 0.22     | 0.24     | 0.14     | 0.14            |
| Cl Res. in Dist.: Free Max. (mg/L)        |          |          |          |          |          |          |          |          |          |          |          |          |                 |
| Max                                       | 0.75     | 0.9      | 0.88     | 0.48     | 0.61     | 0.48     | 0.83     | 0.66     | 0.45     | 0.61     | 0.45     | 0.42     | 0.9             |
| Cl Residual: Free Mean (mg/L)             |          |          |          |          |          |          |          |          |          |          |          |          |                 |
| Avg                                       | 0.529    | 0.693    | 0.508    | 0.328    | 0.379    | 0.353    | 0.5      | 0.414    | 0.29     | 0.429    | 0.346    | 0.286    | 0.419           |

Note: ? Calculation not verifiable. At least one result reported as < and at least one result reported >.