

ANNUAL REPORT

ONTARIO REGULATION 170/03
SECTION 11

COLGAN DRINKING WATER SYSTEM



FOR THE PERIOD:
JANUARY 1, 2019 – DECEMBER 31, 2019

*Prepared for the Corporation of the Township of Adjala-Tosorontio
by the Ontario Clean Water Agency*



| | |
|--|--|
| Drinking-Water System Number: | 220009933 |
| Drinking-Water System Name: | Colgan Drinking Water System |
| Drinking-Water System Owner: | The Corporation of the Township of Adjala-Tosorontio |
| Drinking-Water System Category: | Small Municipal Residential |
| Period being reported: | January 1, 2019 to December 31, 2019 |

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

No

Is your annual report available to the public at no charge on a web site on the Internet?

Yes

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

Summary Report is available for inspection at the Township of Adjala-Tosorontio Municipal Office at 7855 Side Road 30, Alliston, ON or on the following website: <http://www.adjtos.ca>

List all Drinking-Water Systems (if any), which receive all of their drinking water from your system:

| Drinking Water System Name | Drinking Water System Number |
|-----------------------------------|-------------------------------------|
| Not applicable | Not applicable |

Did you provide a copy of your annual report to all Drinking-Water System owners that are connected to you and to whom you provide all of its drinking water?

Not Applicable

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

- Public access/notice via the web**
- Public access/notice via Government Office**
- Public access/notice via a newspaper**
- Public access/notice via Public Request**
- Public access/notice via a Public Library**
- Public access/notice via other method**

Description of Drinking-Water System:

The Colgan water system is classified as a Small Municipal Residential water system with 72 services including a school and day nursery in the community of Colgan. Water is supplied via three (3) municipal wells, two (2) pumphouses and an in-ground reservoir. Inspections and maintenance duties are conducted by OCWA staff on a regular basis to maintain compliance with Ontario Regulation 170/03 to ensure that Colgan's water supply is safe to drink.

List of water treatment chemicals used during the reporting period:

- Ultraviolet Light, Disinfection
- Sodium Hypochlorite 12% Solution NSF, Primary Disinfection
- Sodium Silicate NSF, Iron Sequestering

Significant expenses incurred to:

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

Description of significant expenses incurred:

1. Drinking Water Quality Management Standard third-party certified audit of OCWA Quality & Environmental Management System.
2. Annual calibrations of handheld meters, backflow preventers, flow meters, etc.
3. Laboratory sample bottles and analysis.
4. Repaired smoke and fire alarms
5. Repaired generators
6. Repaired high-lift pumps
7. Repaired monitoring wells
8. Replaced pressure tanks
9. Repaired UV sensor

Details on the notices submitted in accordance with subsection 18(1) of the Safe Drinking-Water Act or section 16-4 of Schedule 16 of O.Reg.170/03 and reported to Spills Action Centre:

| Incident Date (yyyy/mm/dd) | Parameter | Result | Unit of Measure | Corrective Action | Corrective Action Date (yyyy/mm/dd) |
|----------------------------|-----------|--------|-----------------|-------------------|-------------------------------------|
| Not Applicable | | | | | |

Table 1: Microbiological testing done under the Schedule 11 of Regulation 170/03 during this reporting period.

| Location | Number of Samples | Range of E. Coli or Fecal Results | | Range of Total Coliform Results | | Number of HPC Samples | Range of HPC Samples | |
|-------------------|-------------------|-----------------------------------|-----|---------------------------------|-----|-----------------------|----------------------|-----|
| | | Min | Max | Min | Max | | Min | Max |
| Raw - RW1 | 12 | 0 | 0 | 0 | 0 | N/A | N/A | N/A |
| Raw - RW2 | 12 | 0 | 0 | 0 | 0 | N/A | N/A | N/A |
| Raw - RW3 | 12 | 0 | 0 | 0 | 0 | N/A | N/A | N/A |
| Distribution - DW | 27 | 0 | 0 | 0 | 0 | 27 | 0 | 1 |

Note:

- RW1 – Raw Water Well CW1
- RW2 – Raw Water Well CW2

- RW3 – Raw Water Well CW3

Table 2: Operational testing done under Schedule 7 of Regulation 170/03 during the period covered by this Annual Report.

| Location & Test | Number of Samples | Range of Results | |
|---|-------------------|------------------|---------|
| | | Minimum | Maximum |
| Turbidity, Raw CW1 (Grab) [NTU] | 12 | 0.23 | 2.88 |
| Turbidity, Raw CW2 (Grab) [NTU] | 12 | 0.51 | 6.56 |
| Turbidity, Raw CW3 (Grab) [NTU] | 12 | 0.34 | 1.64 |
| Free Chlorine Residual, Treated (Continuous) [mg/L] | 8760 | 0.13 | 5 |
| Free Chlorine Residual, Treated (Grab) [mg/L] | 167 | 0.78 | 3.9 |
| Total Chlorine Residual, Treated (Grab) [mg/L] | 167 | 0.53 | 4.2 |
| Free Chlorine Residual, Distribution (Grab) [mg/L] | 104 | 1.02 | 3.1 |

Note: The number of samples used for continuous monitoring units is 8760.

Table 3: Summary of additional testing and sampling carried out in accordance with the requirement of an approval, order or other legal instrument.

| Date of Legal Instrument Issued | Parameter | Date Sampled | Result | Unit of Measure |
|---------------------------------|-----------|--------------|--------|-----------------|
| Not Applicable | | | | |

Table 4: Summary of Inorganic parameters tested during this reporting period or the most recent sample results

| Parameter | Sample Date (yyyy/mm/dd) | Sample Result | Maximum Allowable Concentration (MAC) | Number of Exceedances | |
|--------------------------|--------------------------|---------------|---------------------------------------|-----------------------|-------|
| | | | | MAC | ½ MAC |
| Antimony: Sb (µg/L) - TW | 2019/10/07 | <MDL 0.093 | 6.0 | No | No |
| Arsenic: As (µg/L) - TW | 2019/10/07 | 0.4 | 10.0 | No | No |
| Barium: Ba (µg/L) - TW | 2019/10/07 | 87.5 | 1000.0 | No | No |
| Boron: B (µg/L) - TW | 2019/10/07 | 10.0 | 5000.0 | No | No |
| Cadmium: Cd (µg/L) - TW | 2019/10/07 | 0.003 | 5.0 | No | No |
| Chromium: Cr (µg/L) - TW | 2019/10/07 | 0.16 | 50.0 | No | No |
| Mercury: Hg (µg/L) - TW | 2019/10/07 | <MDL 0.01 | 1.0 | No | No |
| Selenium: Se (µg/L) - TW | 2019/10/07 | <MDL 0.04 | 50.0 | No | No |
| Uranium: U (µg/L) - TW | 2019/10/07 | 0.131 | 20.0 | No | No |
| Fluoride (mg/L) - TW | 2019/10/07 | 0.13 | 1.5 | No | No |
| Nitrite (mg/L) - TW | 2019/01/07 | <MDL 0.003 | 1.0 | No | No |
| Nitrite (mg/L) - TW | 2019/04/02 | <MDL 0.003 | 1.0 | No | No |
| Nitrite (mg/L) - TW | 2019/07/08 | <MDL 0.003 | 1.0 | No | No |
| Nitrite (mg/L) - TW | 2019/10/07 | <MDL 0.003 | 1.0 | No | No |
| Nitrate (mg/L) - TW | 2019/01/07 | <MDL 0.006 | 10.0 | No | No |
| Nitrate (mg/L) - TW | 2019/04/02 | <MDL 0.006 | 10.0 | No | No |
| Nitrate (mg/L) - TW | 2019/07/08 | <MDL 0.006 | 10.0 | No | No |
| Nitrate (mg/L) - TW | 2019/10/07 | <MDL 0.006 | 10.0 | No | No |
| Sodium: Na (mg/L) - TW | 2019/10/07 | 11.3 | 20* | No | Yes |

Note: MDL = Minimum Detection Limit

*There is no "MAC" for Sodium. The aesthetic objective 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.

Table 5: Summary of lead testing under Schedule 15.1 during this reporting period

| Location Type | Number of Samples | Range of Lead Results | | MAC | Number of Exceedances |
|------------------------------|---|-----------------------|---------|-----|-----------------------|
| | | Minimum | Maximum | | |
| Lead – Plumbing (µg/L) | Not Applicable - Relief from all Plumbing Requirements* | | | | |
| Lead – Distribution** (µg/L) | Not Applicable for Reporting Period | | | | |

Note: *The Alkalinity results for 2019 were 211 and 217 mg/L as CaCO₃.*

*This system qualifies for the plumbing exemption as per O. Regulation 170/03 Schedule 15.1-5 (9) (10).

**Distribution lead samples are taken every 36 months. The next set of distribution lead samples is scheduled for 2021.

Table 6: Summary of Organic parameters sampled during this reporting period or the most recent sample results

| Parameter | Sample Date (yyyy/mm/dd) | Sample Result | Maximum Allowable Concentration (MAC) | Number of Exceedances | |
|---|--------------------------|---------------|---------------------------------------|-----------------------|-------|
| | | | | MAC | ½ MAC |
| Alachlor (µg/L) - TW | 2019/10/07 | <MDL 0.02 | 5.0 | No | No |
| Atrazine + N-dealkylated metabolites (µg/L) - TW | 2019/10/07 | <MDL 0.01 | 5.0 | No | No |
| Azinphos-methyl (µg/L) - TW | 2019/10/07 | <MDL 0.05 | 20.0 | No | No |
| Benzene (µg/L) - TW | 2019/10/07 | <MDL 0.32 | 1.0 | No | No |
| Benzo(a)pyrene (µg/L) - TW | 2019/10/07 | <MDL 0.004 | 0.01 | No | No |
| Bromoxynil (µg/L) - TW | 2019/10/07 | <MDL 0.33 | 5.0 | No | No |
| Carbaryl (µg/L) - TW | 2019/10/07 | <MDL 0.05 | 90.0 | No | No |
| Carbofuran (µg/L) - TW | 2019/10/07 | <MDL 0.01 | 90.0 | No | No |
| Carbon Tetrachloride (µg/L) - TW | 2019/10/07 | <MDL 0.17 | 2.0 | No | No |
| Chlorpyrifos (µg/L) - TW | 2019/10/07 | <MDL 0.02 | 90.0 | No | No |
| Diazinon (µg/L) - TW | 2019/10/07 | <MDL 0.02 | 20.0 | No | No |
| Dicamba (µg/L) - TW | 2019/10/07 | <MDL 0.2 | 120.0 | No | No |
| 1,2-Dichlorobenzene (µg/L) - TW | 2019/10/07 | <MDL 0.41 | 200.0 | No | No |
| 1,4-Dichlorobenzene (µg/L) - TW | 2019/10/07 | <MDL 0.36 | 5.0 | No | No |
| 1,2-Dichloroethane (µg/L) - TW | 2019/10/07 | <MDL 0.35 | 5.0 | No | No |
| 1,1-Dichloroethylene (µg/L) - TW | 2019/10/07 | <MDL 0.33 | 14.0 | No | No |
| Dichloromethane (Methylene Chloride) (µg/L) - TW | 2019/10/07 | <MDL 0.35 | 50.0 | No | No |
| 2,4-Dichlorophenol (µg/L) - TW | 2019/10/07 | <MDL 0.15 | 900.0 | No | No |
| 2,4-Dichlorophenoxy acetic acid (2,4-D) (µg/L) - TW | 2019/10/07 | <MDL 0.19 | 100.0 | No | No |
| Diclofop-methyl (µg/L) - TW | 2019/10/07 | <MDL 0.4 | 9.0 | No | No |
| Dimethoate (µg/L) - TW | 2019/10/07 | <MDL 0.06 | 20.0 | No | No |
| Diquat (µg/L) - TW | 2019/10/07 | <MDL 1.0 | 70.0 | No | No |
| Diuron (µg/L) - TW | 2019/10/07 | <MDL 0.03 | 150.0 | No | No |
| Glyphosate (µg/L) - TW | 2019/10/07 | <MDL 1.0 | 280.0 | No | No |

| Parameter | Sample Date (yyyy/mm/dd) | Sample Result | Maximum Allowable Concentration (MAC) | Number of Exceedances | |
|--|-----------------------------|------------------|--|--------------------------|-------|
| | | | | MAC | ½ MAC |
| Malathion (µg/L) - TW | 2019/10/07 | <MDL 0.02 | 190.0 | No | No |
| Metolachlor (µg/L) - TW | 2019/10/07 | <MDL 0.01 | 50.0 | No | No |
| Metribuzin (µg/L) - TW | 2019/10/07 | <MDL 0.02 | 80.0 | No | No |
| Monochlorobenzene (Chlorobenzene) (µg/L) - TW | 2019/10/07 | <MDL 0.3 | 80.0 | No | No |
| Paraquat (µg/L) - TW | 2019/10/07 | <MDL 1.0 | 10.0 | No | No |
| PCB (µg/L) - TW | 2019/10/07 | <MDL 0.04 | 3.0 | No | No |
| Pentachlorophenol (µg/L) - TW | 2019/10/07 | <MDL 0.15 | 60.0 | No | No |
| Phorate (µg/L) - TW | 2019/10/07 | <MDL 0.01 | 2.0 | No | No |
| Picloram (µg/L) - TW | 2019/10/07 | <MDL 1.0 | 190.0 | No | No |
| Prometryne (µg/L) - TW | 2019/10/07 | <MDL 0.03 | 1.0 | No | No |
| Simazine (µg/L) - TW | 2019/10/07 | <MDL 0.01 | 10.0 | No | No |
| Terbufos (µg/L) - TW | 2019/10/07 | <MDL 0.01 | 1.0 | No | No |
| Tetrachloroethylene (µg/L) - TW | 2019/10/07 | <MDL 0.35 | 10.0 | No | No |
| 2,3,4,6-Tetrachlorophenol (µg/L) - TW | 2019/10/07 | <MDL 0.2 | 100.0 | No | No |
| Triallate (µg/L) - TW | 2019/10/07 | <MDL 0.01 | 230.0 | No | No |
| Trichloroethylene (µg/L) - TW | 2019/10/07 | <MDL 0.44 | 5.0 | No | No |
| 2,4,6-Trichlorophenol (µg/L) - TW | 2019/10/07 | <MDL 0.25 | 5.0 | No | No |
| Trifluralin (µg/L) - TW | 2019/10/07 | <MDL 0.12 | 100.0 | No | No |
| Vinyl Chloride (µg/L) - TW | 2019/10/07 | <MDL 0.02 | 45.0 | No | No |
| Trihalomethane: Total Annual Average (µg/L) - DW | 4 Quarters of 2019 | 10.7 | 100.0 | No | No |
| Haloacetic Acid: Total Annual Average (µg/L) - DW | 4 Quarters of 2019 | 5.3 | 80.0 | No | No |

Note: MDL = Minimum Detection Limit

Table 7: List of Inorganic or Organic parameter(s) that exceeded half the standard prescribed in Schedule 2 of Ontario Drinking Water Quality Standards.

| Parameter | Result Value | Unit of Measure | Date of Sample |
|-----------------|--------------|-----------------|----------------|
| Sodium: Na - TW | 11.3 | mg/L | 2019/10/07 |

Note: This table highlights the parameters with a "Yes" in the ½ MAC columns of Table 4 and Table 6.