

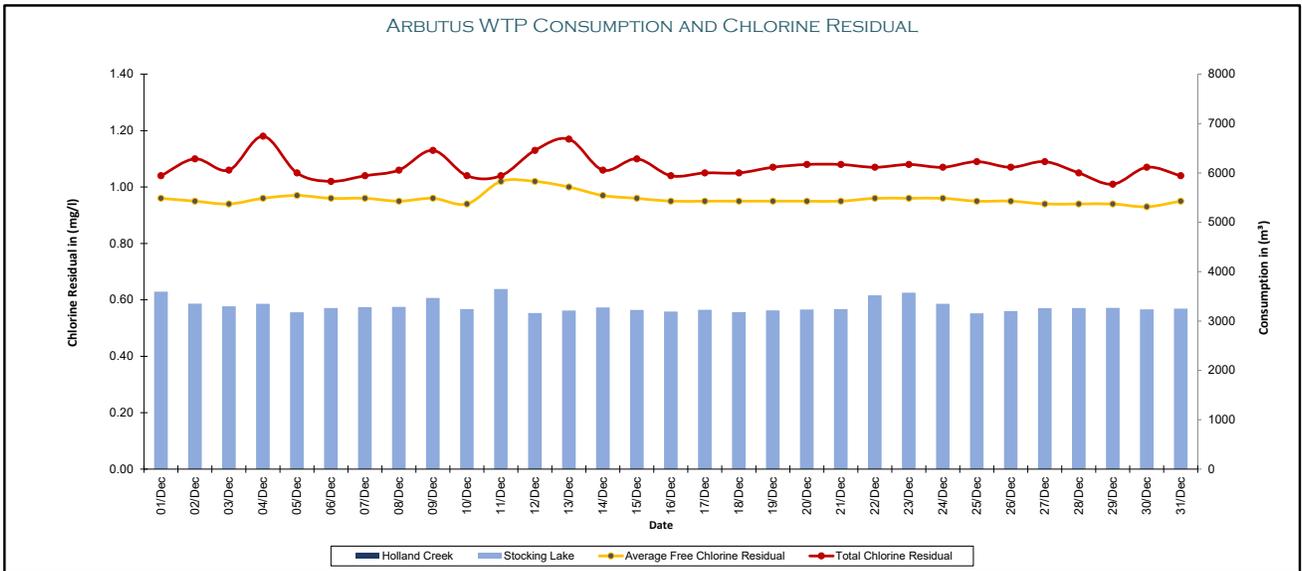
# TOWN OF LADYSMITH - ARBUTUS WATER TREATMENT PLANT

DECEMBER 2025 - MONTHLY REPORT

| Date   | Daily Flow     |                |                | Chlorine Residual |          |          |       | CT* | External Lab Testing |        |                 |          |        |        |
|--------|----------------|----------------|----------------|-------------------|----------|----------|-------|-----|----------------------|--------|-----------------|----------|--------|--------|
|        | Stocking Lake  | Holland Creek  | Combined Flow  | Free Min          | Free Max | Free Avg | Total |     | HPC                  | E.coli | Total Coliforms | Aluminum | THM    | HAA    |
|        | m <sup>3</sup> | m <sup>3</sup> | m <sup>3</sup> | mg/l              | mg/l     | mg/l     | mg/l  |     | CFU                  | MPN    | MPN             | mg/l     | mg/l   | mg/l   |
| 01-Dec | 3594           | 0              | 3594           | 0.94              | 0.97     | 0.96     | 1.04  | 145 |                      |        |                 |          |        |        |
| 02-Dec | 3352           | 0              | 3352           | 0.94              | 0.96     | 0.95     | 1.10  | 142 |                      |        |                 |          |        |        |
| 03-Dec | 3299           | 0              | 3299           | 0.94              | 0.96     | 0.94     | 1.06  | 137 | < 1                  | < 1    | < 1             |          |        |        |
| 04-Dec | 3349           | 0              | 3349           | 0.96              | 0.98     | 0.96     | 1.18  | 143 |                      |        |                 |          |        |        |
| 05-Dec | 3176           | 0              | 3176           | 0.96              | 0.98     | 0.97     | 1.05  | 141 |                      |        |                 |          |        |        |
| 06-Dec | 3264           | 0              | 3264           | 0.95              | 0.97     | 0.96     | 1.02  | 139 |                      |        |                 |          |        |        |
| 07-Dec | 3280           | 0              | 3280           | 0.94              | 0.97     | 0.96     | 1.04  | 138 |                      |        |                 |          |        |        |
| 08-Dec | 3287           | 0              | 3287           | 0.94              | 0.96     | 0.95     | 1.06  | 139 |                      |        |                 |          |        |        |
| 09-Dec | 3468           | 0              | 3468           | 0.94              | 0.96     | 0.96     | 1.13  | 134 |                      |        |                 |          |        |        |
| 10-Dec | 3241           | 0              | 3241           | 0.93              | 0.96     | 0.94     | 1.04  | 138 | < 1                  | < 1    | < 1             | 0.0092   | 0.0158 | 0.0097 |
| 11-Dec | 3649           | 0              | 3649           | 0.91              | 1.02     | 1.02     | 1.04  | 170 |                      |        |                 |          |        |        |
| 12-Dec | 3162           | 0              | 3162           | 1.01              | 1.03     | 1.02     | 1.13  | 140 |                      |        |                 |          |        |        |
| 13-Dec | 3211           | 0              | 3211           | 1.00              | 1.02     | 1.00     | 1.17  | 134 |                      |        |                 |          |        |        |
| 14-Dec | 3275           | 0              | 3275           | 0.97              | 1.00     | 0.97     | 1.06  | 128 |                      |        |                 |          |        |        |
| 15-Dec | 3223           | 0              | 3223           | 0.95              | 0.97     | 0.96     | 1.10  | 138 |                      |        |                 |          |        |        |
| 16-Dec | 3193           | 0              | 3193           | 0.94              | 0.96     | 0.95     | 1.04  | 134 | < 1                  | < 1    | < 1             |          |        |        |
| 17-Dec | 3228           | 0              | 3228           | 0.93              | 0.96     | 0.95     | 1.05  | 140 |                      |        |                 |          |        |        |
| 18-Dec | 3179           | 0              | 3179           | 0.93              | 0.96     | 0.95     | 1.05  | 131 |                      |        |                 |          |        |        |
| 19-Dec | 3214           | 0              | 3214           | 0.94              | 0.96     | 0.95     | 1.07  | 128 |                      |        |                 |          |        |        |
| 20-Dec | 3232           | 0              | 3232           | 0.94              | 0.96     | 0.95     | 1.08  | 125 |                      |        |                 |          |        |        |
| 21-Dec | 3241           | 0              | 3241           | 0.94              | 0.96     | 0.95     | 1.08  | 155 |                      |        |                 |          |        |        |
| 22-Dec | 3521           | 0              | 3521           | 0.94              | 0.96     | 0.96     | 1.07  | 124 |                      |        |                 |          |        |        |
| 23-Dec | 3574           | 0              | 3574           | 0.95              | 0.97     | 0.96     | 1.08  | 124 | < 1                  | < 1    | < 1             |          |        |        |
| 24-Dec | 3350           | 0              | 3350           | 0.95              | 0.97     | 0.96     | 1.07  | 129 |                      |        |                 |          |        |        |
| 25-Dec | 3156           | 0              | 3156           | 0.94              | 0.96     | 0.95     | 1.09  | 122 |                      |        |                 |          |        |        |
| 26-Dec | 3202           | 0              | 3202           | 0.93              | 0.95     | 0.95     | 1.07  | 131 |                      |        |                 |          |        |        |
| 27-Dec | 3261           | 0              | 3261           | 0.92              | 0.95     | 0.94     | 1.09  | 122 |                      |        |                 |          |        |        |
| 28-Dec | 3264           | 0              | 3264           | 0.93              | 0.95     | 0.94     | 1.05  | 116 |                      |        |                 |          |        |        |
| 29-Dec | 3266           | 0              | 3266           | 0.93              | 0.95     | 0.94     | 1.01  | 117 |                      |        |                 |          |        |        |
| 30-Dec | 3235           | 0              | 3235           | 0.92              | 0.94     | 0.93     | 1.07  | 160 |                      |        |                 |          |        |        |
| 31-Dec | 3250           | 0              | 3250           | 0.93              | 0.96     | 0.95     | 1.04  | 163 |                      |        |                 |          |        |        |

\*CT - Recorded as the minimum value at the highest daily flow \*\* Manual Residual were not taken

|                |        |   |        |      |      |      |      |     |     |     |     |        |        |         |
|----------------|--------|---|--------|------|------|------|------|-----|-----|-----|-----|--------|--------|---------|
| <b>Total</b>   | 102196 | 0 | 102196 | 0.94 | 0.97 | 0.96 | 1.07 | 136 | < 1 | < 1 | < 1 | 0.0092 | 0.0158 | 0.00968 |
| <b>Average</b> | 3297   | 0 | 3297   | 0.94 | 0.97 | 0.96 | 1.07 | 136 | < 1 | < 1 | < 1 | 0.0092 | 0.0158 | 0.00968 |



# Town of Ladysmith Arbutus DWTP

## Monthly LRV and Turbidity Report

### 12/01/2025 - 01/01/2026

#### LRV Monthly Average

| Asset | Parameter | Health | Avg | Std. Dev | Points | LL   | L   | %In   | % between L and LL | % < LL | Unit |
|-------|-----------|--------|-----|----------|--------|------|-----|-------|--------------------|--------|------|
| UF 1  | LRV       | ●      | 5.0 | 0.0      | 32     | 4.25 | 4.5 | 100 % | 0 %                | 0 %    | #    |
| UF 2  | LRV       | ●      | 5.0 | 0.0      | 34     | 4.25 | 4.5 | 100 % | 0 %                | 0 %    | #    |
| UF 3  | LRV       | ●      | 5.0 | 0.0      | 33     | 4.25 | 4.5 | 100 % | 0 %                | 0 %    | #    |

#### LRV Daily Values

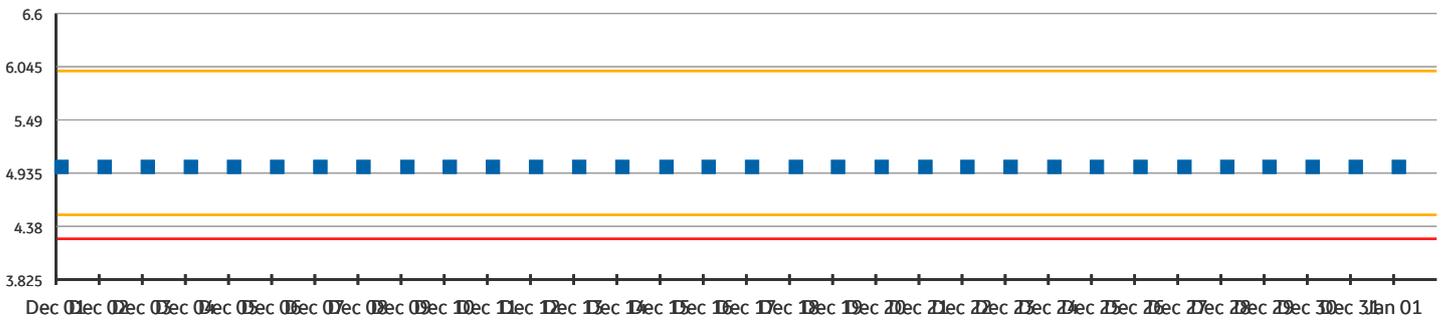
| Asset | Parameter | Dec 0 1 | Dec 0 2 | Dec 0 3 | Dec 0 4 | Dec 0 5 | Dec 0 6 | Dec 0 7 | Dec 0 8 | Dec 0 9 | Dec 1 0 | Dec 1 1 | Dec 1 2 |
|-------|-----------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| UF 1  | LRV       | 5.0     | 5.0     | 5.0     | 5.0     | 5.0     | 5.0     | 5.0     | 5.0     | 5.0     | 5.0     | 5.0     | 5.0     |
| UF 2  | LRV       | 5.0     | 5.0     | 5.0     | 5.0     | 5.0     | 5.0     | 5.0     | 5.0     | 5.0     | 5.0     | 5.0     | 5.0     |
| UF 3  | LRV       | 5.0     | 5.0     | 5.0     | 5.0     | 5.0     | 5.0     | 5.0     | 5.0     | 5.0     | 5.0     | 5.0     | 5.0     |

| Asset | Dec 1 3 | Dec 1 4 | Dec 1 5 | Dec 1 6 | Dec 1 7 | Dec 1 8 | Dec 1 9 | Dec 2 0 | Dec 2 1 | Dec 2 2 | Dec 2 3 | Dec 2 4 | Dec 2 5 | Dec 2 6 | Dec 2 7 | Dec 2 8 |
|-------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| UF 1  | 5.0     | 5.0     | 5.0     | 5.0     | 5.0     | 5.0     | 5.0     | 5.0     | 5.0     | 5.0     | 5.0     | 5.0     | 5.0     | 5.0     | 5.0     | 5.0     |
| UF 2  | 5.0     | 5.0     | 5.0     | 5.0     | 5.0     | 5.0     | 5.0     | 5.0     | 5.0     | 5.0     | 5.0     | 5.0     | 5.0     | 5.0     | 5.0     | 5.0     |
| UF 3  | 5.0     | 5.0     | 5.0     | 5.0     | 5.0     | 5.0     | 5.0     | 5.0     | 5.0     | 5.0     | 5.0     | 5.0     | 5.0     | 5.0     | 5.0     | 5.0     |

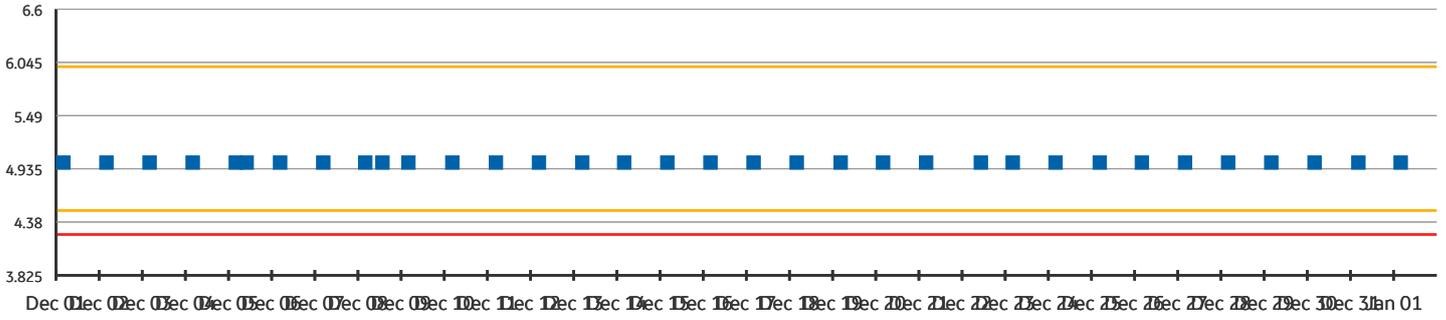
| Asset | Dec 2 9 | Dec 3 0 | Dec 3 1 | Jan 01 |
|-------|---------|---------|---------|--------|
| UF 1  | 5.0     | 5.0     | 5.0     | 5.0    |
| UF 2  | 5.0     | 5.0     | 5.0     | 5.0    |
| UF 3  | 5.0     | 5.0     | 5.0     | 5.0    |

#### LRV Raw Data

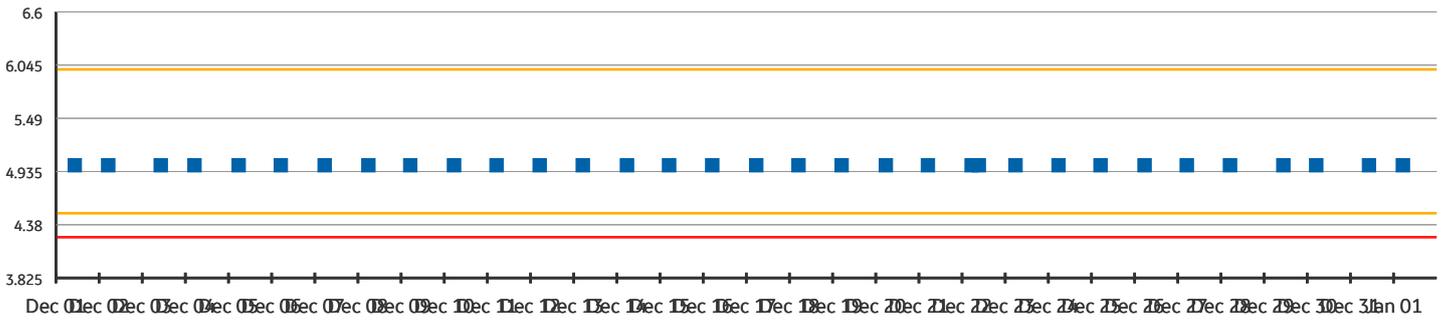
### UF 1 - LRV (#)



### UF 2 - LRV (#)



### UF 3 - LRV (#)



### Turbidity Monthly Average

| Asset | Parameter                | Health | Avg   | Std. Dev | Points | H   | HH  | %In   | % between H and HH | % > HH | Unit |
|-------|--------------------------|--------|-------|----------|--------|-----|-----|-------|--------------------|--------|------|
| UF 1  | PermeateTurbidity        |        | 0.012 | 0.0      | 45221  | --  | --  | 100 % | 0 %                | 0 %    | NTU  |
| UF 2  | PermeateTurbidity        |        | 0.013 | 0.0      | 45221  | --  | --  | 100 % | 0 %                | 0 %    | NTU  |
| UF 3  | PermeateTurbidity        |        | 0.013 | 0.0      | 45221  | --  | --  | 100 % | 0 %                | 0 %    | NTU  |
| UF 1  | PermeateTurbidityAfterBP | ●      | 0.013 | 0.0      | 368    | 0.1 | 0.3 | 100 % | 0 %                | 0 %    | NTU  |
| UF 2  | PermeateTurbidityAfterBP | ●      | 0.013 | 0.0      | 379    | 0.1 | 0.3 | 100 % | 0 %                | 0 %    | NTU  |
| UF 3  | PermeateTurbidityAfterBP | ●      | 0.013 | 0.0      | 359    | 0.1 | 0.3 | 100 % | 0 %                | 0 %    | NTU  |

## Turbidity Daily Averages

| Asset | Parameter                | Dec 01 | Dec 02 | Dec 03 | Dec 04 | Dec 05 | Dec 06 | Dec 07 | Dec 08 | Dec 09 | Dec 10 | Dec 11 |
|-------|--------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| UF 1  | PermeateTurbidity        | 0.012  | 0.011  | 0.012  | 0.012  | 0.011  | 0.011  | 0.012  | 0.012  | 0.012  | 0.012  | 0.012  |
| UF 2  | PermeateTurbidity        | 0.015  | 0.014  | 0.013  | 0.013  | 0.013  | 0.013  | 0.013  | 0.013  | 0.013  | 0.013  | 0.013  |
| UF 3  | PermeateTurbidity        | 0.012  | 0.011  | 0.012  | 0.011  | 0.012  | 0.012  | 0.012  | 0.012  | 0.012  | 0.012  | 0.013  |
| UF 1  | PermeateTurbidityAfterBP | 0.011  | 0.011  | 0.012  | 0.011  | 0.011  | 0.012  | 0.012  | 0.012  | 0.012  | 0.012  | 0.012  |
| UF 2  | PermeateTurbidityAfterBP | 0.015  | 0.014  | 0.013  | 0.013  | 0.013  | 0.013  | 0.013  | 0.013  | 0.013  | 0.013  | 0.013  |
| UF 3  | PermeateTurbidityAfterBP | 0.012  | 0.011  | 0.012  | 0.011  | 0.011  | 0.011  | 0.011  | 0.011  | 0.011  | 0.012  | 0.013  |

| Asset | Dec 12 | Dec 13 | Dec 14 | Dec 15 | Dec 16 | Dec 17 | Dec 18 | Dec 19 | Dec 20 | Dec 21 | Dec 22 | Dec 23 | Dec 24 | Dec 25 | Dec 26 |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| UF 1  | 0.012  | 0.012  | 0.013  | 0.013  | 0.013  | 0.013  | 0.013  | 0.013  | 0.013  | 0.013  | 0.013  | 0.013  | 0.013  | 0.013  | 0.013  |
| UF 2  | 0.013  | 0.013  | 0.013  | 0.013  | 0.013  | 0.013  | 0.013  | 0.013  | 0.013  | 0.013  | 0.013  | 0.013  | 0.013  | 0.013  | 0.013  |
| UF 3  | 0.013  | 0.013  | 0.013  | 0.013  | 0.013  | 0.013  | 0.013  | 0.013  | 0.013  | 0.013  | 0.013  | 0.013  | 0.013  | 0.013  | 0.013  |
| UF 1  | 0.013  | 0.013  | 0.013  | 0.013  | 0.013  | 0.013  | 0.013  | 0.013  | 0.013  | 0.013  | 0.013  | 0.013  | 0.013  | 0.013  | 0.013  |
| UF 2  | 0.013  | 0.013  | 0.013  | 0.013  | 0.013  | 0.013  | 0.013  | 0.013  | 0.013  | 0.013  | 0.013  | 0.013  | 0.013  | 0.013  | 0.013  |
| UF 3  | 0.013  | 0.013  | 0.013  | 0.013  | 0.013  | 0.013  | 0.013  | 0.013  | 0.013  | 0.013  | 0.013  | 0.013  | 0.013  | 0.013  | 0.013  |

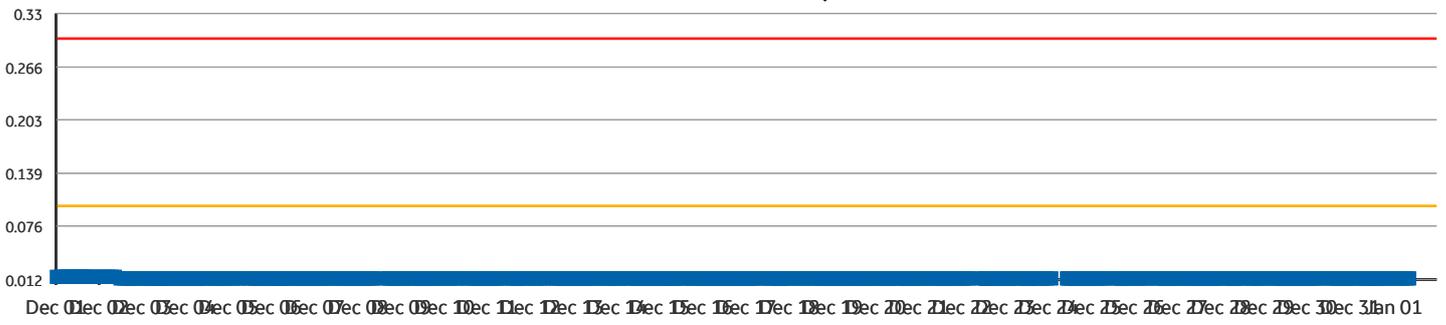
| Asset | Dec 27 | Dec 28 | Dec 29 | Dec 30 | Dec 31 | Jan 01 |
|-------|--------|--------|--------|--------|--------|--------|
| UF 1  | 0.013  | 0.013  | 0.013  | 0.013  | 0.013  | 0.014  |
| UF 2  | 0.013  | 0.013  | 0.013  | 0.013  | 0.013  | 0.013  |
| UF 3  | 0.013  | 0.013  | 0.013  | 0.013  | 0.014  | 0.013  |
| UF 1  | 0.013  | 0.013  | 0.013  | 0.013  | 0.013  | 0.014  |
| UF 2  | 0.013  | 0.013  | 0.013  | 0.013  | 0.013  | 0.013  |
| UF 3  | 0.013  | 0.013  | 0.013  | 0.013  | 0.013  | 0.013  |

## Turbidity Raw Data

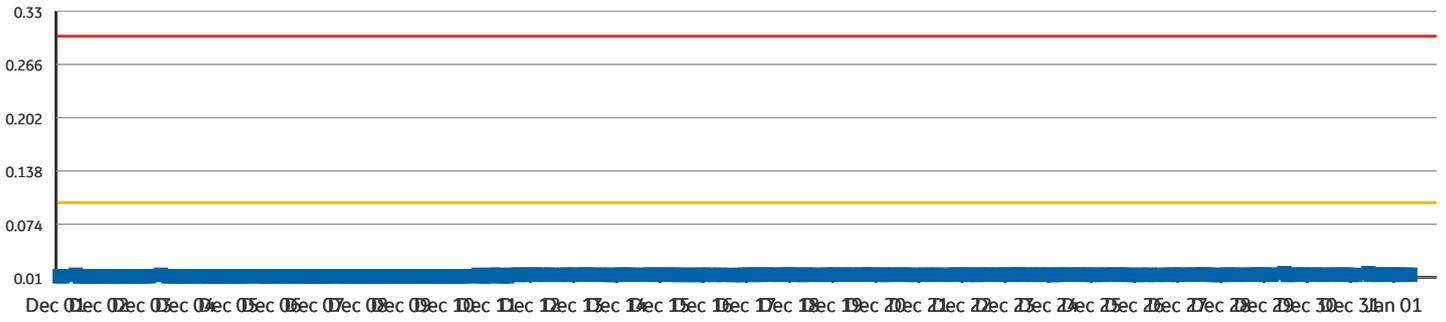
### UF 1 - PermeateTurbidityAfterBP (NTU)



## UF 2 - PermeateTurbidityAfterBP (NTU)



## UF 3 - PermeateTurbidityAfterBP (NTU)





**CERTIFICATE OF ANALYSIS**

|                                |                                                                         |                                |                                                      |
|--------------------------------|-------------------------------------------------------------------------|--------------------------------|------------------------------------------------------|
| <b>Work Order</b>              | : <b>VA25D2590</b>                                                      |                                |                                                      |
| <b>Client</b>                  | : <b>Town of Ladysmith</b>                                              | <b>Laboratory</b>              | : ALS Environmental - Vancouver                      |
| <b>Contact</b>                 | : Shawn Baker                                                           | <b>Account Manager</b>         | : Kevin Bhikadia                                     |
| <b>Address</b>                 | : 410 Esplanade PO Box 220<br>Ladysmith British Columbia Canada V9G 1A2 | <b>Address</b>                 | : 8081 Lougheed Highway<br>Burnaby BC Canada V5A 1W9 |
| <b>Telephone</b>               | : ----                                                                  | <b>E-mail</b>                  | : Kevin.Bhikadia@alsglobal.com                       |
| <b>Project</b>                 | : Arbutus Water Treatment Plant - Weekly Sampling                       | <b>Telephone</b>               | : +1 604 253 4188                                    |
| <b>PO</b>                      | : 10940                                                                 | <b>Date Samples Received</b>   | : 05-Dec-2025 11:05                                  |
| <b>C-O-C number</b>            | : ----                                                                  | <b>Date Analysis Commenced</b> | : 05-Dec-2025                                        |
| <b>Sampler</b>                 | : ----                                                                  | <b>Issue Date</b>              | : 08-Dec-2025 16:07                                  |
| <b>Site</b>                    | : Town of Ladysmith                                                     |                                |                                                      |
| <b>Quote number</b>            | : Town of Ladysmith Standing Offer                                      |                                |                                                      |
| <b>No. of samples received</b> | : 4                                                                     |                                |                                                      |
| <b>No. of samples analysed</b> | : 4                                                                     |                                |                                                      |

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QC Interpretive report to assist with Quality Review and Sample Receipt Notification (SRN).

**Signatories**

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

| <i>Signatories</i> | <i>Position</i>                 | <i>Laboratory Department</i>            |
|--------------------|---------------------------------|-----------------------------------------|
| Claire Yang        | Lab Assistant                   | Inorganics, Burnaby, British Columbia   |
| Miles Gropen       | Department Manager - Inorganics | Inorganics, Burnaby, British Columbia   |
| Miles Gropen       | Department Manager - Inorganics | Microbiology, Burnaby, British Columbia |



## General Comments

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Refer to the ALS Quality Control Interpretive report (QCI) for applicable references and methodology summaries. Reference methods may incorporate modifications to improve performance.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Please refer to Quality Control Interpretive report (QCI) for information regarding Holding Time compliance.

Key: CAS Number: Chemical Abstracts Services number is a unique identifier assigned to discrete substances.  
LOR: Limit of Reporting (detection limit).

| <i>Unit</i> | <i>Description</i>                           |
|-------------|----------------------------------------------|
| -           | no units                                     |
| CFU/mL      | colony forming units per millilitre          |
| CU          | colour units (1 cu = 1 mg/l pt)              |
| mg/L        | milligrams per litre                         |
| MPN/100mL   | most probable number per hundred millilitres |
| NTU         | nephelometric turbidity units                |
| pH units    | pH units                                     |
| µS/cm       | microsiemens per centimetre                  |

<: less than.

>: greater than.

Surrogate: An analyte that is similar in behavior to target analyte(s), but that does not occur naturally in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery.

Test results reported relate only to the samples as received by the laboratory.

UNLESS OTHERWISE STATED on SRN or QCI Report, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

## Workorder Comments

**Sample(s) 004: Exceeded Recommended Holding Time prior to receipt at the lab for Microbiology analysis.**

Work Order : VA25D2590  
Client : Town of Ladysmith  
Project : Arbutus Water Treatment Plant - Weekly Sampling

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## Analytical Results

Sub-Matrix: Water  
 (Matrix: Water)

|                                       |            |            |      |            | Raw Water<br>----           | DAF Effluent<br>---- | UF Effluent<br>---- | Treated Water (post<br>reservoir)<br>---- | ---- |
|---------------------------------------|------------|------------|------|------------|-----------------------------|----------------------|---------------------|-------------------------------------------|------|
|                                       |            |            |      |            | Client sample ID            |                      |                     |                                           |      |
|                                       |            |            |      |            | Client sampling date / time |                      |                     |                                           |      |
| Analyte                               | CAS Number | Method/Lab | LOR  | Unit       | VA25D2590-001               | VA25D2590-002        | VA25D2590-003       | VA25D2590-004                             | ---- |
|                                       |            |            |      |            | Result                      | Result               | Result              | Result                                    | ---- |
| <b>Sample Preparation</b>             |            |            |      |            |                             |                      |                     |                                           |      |
| Dissolved carbon filtration location  | ----       | EP358/VA   | -    | -          | lab                         | lab                  | lab                 | ----                                      | ---- |
| <b>Physical Tests</b>                 |            |            |      |            |                             |                      |                     |                                           |      |
| Alkalinity, total (as CaCO3)          | ----       | E290/VA    | 1.0  | mg/L       | ----                        | ----                 | ----                | 15.6                                      | ---- |
| Colour, true                          | ----       | E329/VA    | 5.0  | CU         | ----                        | ----                 | ----                | <5.0                                      | ---- |
| Conductivity                          | ----       | E100/VA    | 2.0  | µS/cm      | ----                        | ----                 | ----                | 63.1                                      | ---- |
| pH                                    | ----       | E108/VA    | 0.10 | pH units   | ----                        | ----                 | ----                | 7.25                                      | ---- |
| Turbidity                             | ----       | E121/VA    | 0.10 | NTU        | ----                        | ----                 | ----                | 1.25                                      | ---- |
| <b>Organic / Inorganic Carbon</b>     |            |            |      |            |                             |                      |                     |                                           |      |
| Carbon, dissolved organic [DOC]       | ----       | E358-L/VA  | 0.50 | mg/L       | 3.10                        | 1.19                 | 1.39                | ----                                      | ---- |
| Carbon, total organic [TOC]           | ----       | E355-L/VA  | 0.50 | mg/L       | 3.02                        | 1.43                 | 1.33                | ----                                      | ---- |
| <b>Microbiological Tests</b>          |            |            |      |            |                             |                      |                     |                                           |      |
| Heterotrophic plate count [HPC]       | ----       | E020/VA    | 1    | CFU/mL     | ----                        | ----                 | ----                | <1                                        | ---- |
| Coliforms, Escherichia coli [E. coli] | ----       | E010/VA    | 1    | MPN/100 mL | ----                        | ----                 | ----                | <1                                        | ---- |
| Coliforms, total                      | ----       | E010/VA    | 1    | MPN/100 mL | ----                        | ----                 | ----                | <1                                        | ---- |

Please refer to the General Comments section for an explanation of any qualifiers detected.




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## QUALITY CONTROL INTERPRETIVE REPORT

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|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                               |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><b>Work Order</b> : <b>VA25D2590</b></p> <p><b>Client</b> : <b>Town of Ladysmith</b></p> <p><b>Contact</b> : Shawn Baker</p> <p><b>Address</b> : 410 Esplanade PO Box 220<br/>Ladysmith BC Canada V9G 1A2</p> <p><b>Telephone</b> : ----</p> <p><b>Project</b> : Arbutus Water Treatment Plant - Weekly Sampling</p> <p><b>PO</b> : 10940</p> <p><b>C-O-C number</b> : ----</p> <p><b>Sampler</b> : ----</p> <p><b>Site</b> : Town of Ladysmith</p> <p><b>Quote number</b> : Town of Ladysmith Standing Offer_V2</p> <p><b>No. of samples received</b> : 4</p> <p><b>No. of samples analysed</b> : 4</p> | <p><b>Page</b> : 1 of 7</p> <p><b>Laboratory</b> : ALS Environmental - Vancouver</p> <p><b>Account Manager</b> : Kevin Bhikadia</p> <p><b>Address</b> : 8081 Lougheed Highway<br/>Burnaby, British Columbia Canada V5A 1W9</p> <p><b>Telephone</b> : +1 604 253 4188</p> <p><b>Date Samples Received</b> : 05-Dec-2025 11:05</p> <p><b>Issue Date</b> : 08-Dec-2025 15:59</p> |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

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**Key**

- Anonymous: Refers to samples which are not part of this work order, but which formed part of the QC process lot.
- CAS Number: Chemical Abstracts Service number is a unique identifier assigned to discrete substances.
- DQO: Data Quality Objective.
- LOR: Limit of Reporting (detection limit).
- RPD: Relative Percent Difference.

---

### ***Workorder Comments***

Holding times are displayed as "----" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

---

### ***Summary of Outliers***

#### ***Outliers : Quality Control Samples***

- No Method Blank value outliers occur.
- No Duplicate outliers occur.
- No Laboratory Control Sample (LCS) outliers occur
- No Matrix Spike outliers occur.
- No Test sample Surrogate recovery outliers exist.

#### ***Outliers: Reference Material (RM) Samples***

- No Reference Material (RM) Sample outliers occur.

***Outliers : Analysis Holding Time Compliance (Breaches)***

- Analysis Holding Time Outliers exist - please see following pages for full details.

***Outliers : Frequency of Quality Control Samples***

- No Quality Control Sample Frequency Outliers occur.



**CERTIFICATE OF ANALYSIS**

|                                |                                                                         |                                |                                 |
|--------------------------------|-------------------------------------------------------------------------|--------------------------------|---------------------------------|
| <b>Work Order</b>              | : <b>VA25D3103</b>                                                      | <b>Laboratory</b>              | : ALS Environmental - Vancouver |
| <b>Client</b>                  | : <b>Town of Ladysmith</b>                                              | <b>Account Manager</b>         | : Kevin Bhikadia                |
| <b>Contact</b>                 | : Shawn Baker                                                           | <b>Address</b>                 | : 8081 Lougheed Highway         |
| <b>Address</b>                 | : 410 Esplanade PO Box 220<br>Ladysmith British Columbia Canada V9G 1A2 |                                | : Burnaby BC Canada V5A 1W9     |
| <b>Telephone</b>               | : ----                                                                  | <b>E-mail</b>                  | : Kevin.Bhikadia@alsglobal.com  |
| <b>Project</b>                 | : Arbutus Water Treatment Plant-Monthly Sampling                        | <b>Telephone</b>               | : +1 604 253 4188               |
| <b>PO</b>                      | : 10940                                                                 | <b>Date Samples Received</b>   | : 11-Dec-2025 11:00             |
| <b>C-O-C number</b>            | : ----                                                                  | <b>Date Analysis Commenced</b> | : 12-Dec-2025                   |
| <b>Sampler</b>                 | : ----                                                                  | <b>Issue Date</b>              | : 23-Dec-2025 15:40             |
| <b>Site</b>                    | : Town of Ladysmith                                                     |                                |                                 |
| <b>Quote number</b>            | : Town of Ladysmith Standing Offer                                      |                                |                                 |
| <b>No. of samples received</b> | : 1                                                                     |                                |                                 |
| <b>No. of samples analysed</b> | : 1                                                                     |                                |                                 |

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QC Interpretive report to assist with Quality Review and Sample Receipt Notification (SRN).

**Signatories**

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

| <i>Signatories</i> | <i>Position</i>                         | <i>Laboratory Department</i>        |
|--------------------|-----------------------------------------|-------------------------------------|
| Kevin Duarte       | Supervisor - Metals ICP Instrumentation | Metals, Burnaby, British Columbia   |
| Robin Weeks        | Supervisor - Organics Extractions       | Organics, Burnaby, British Columbia |
| Sanja Risticjevic  | Department Manager - LCMS               | LCMS, Waterloo, Ontario             |



## General Comments

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Refer to the ALS Quality Control Interpretive report (QCI) for applicable references and methodology summaries. Reference methods may incorporate modifications to improve performance.

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Please refer to Quality Control Interpretive report (QCI) for information regarding Holding Time compliance.

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LOR: Limit of Reporting (detection limit).

| <i>Unit</i> | <i>Description</i>   |
|-------------|----------------------|
| mg/L        | milligrams per litre |
| µg/L        | micrograms per litre |

<: less than.

>: greater than.

Surrogate: An analyte that is similar in behavior to target analyte(s), but that does not occur naturally in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery.

Test results reported relate only to the samples as received by the laboratory.

UNLESS OTHERWISE STATED on SRN or QCI Report, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.



## Analytical Results

Sub-Matrix: Water  
 (Matrix: Water)

|                                                     |            |            |        |      | Client sample ID            | Treated Water (post reservoir) | ---- | ---- | ---- | ---- |
|-----------------------------------------------------|------------|------------|--------|------|-----------------------------|--------------------------------|------|------|------|------|
|                                                     |            |            |        |      | Client sampling date / time | 10-Dec-2025 10:30              | ---- | ---- | ---- | ---- |
| Analyte                                             | CAS Number | Method/Lab | LOR    | Unit | VA25D3103-001               | ----                           | ---- | ---- | ---- | ---- |
|                                                     |            |            |        |      |                             | Result                         | ---- | ---- | ---- | ---- |
| <b>Total Metals</b>                                 |            |            |        |      |                             |                                |      |      |      |      |
| Aluminum, total                                     | 7429-90-5  | E420/VA    | 0.0030 | mg/L | 0.0092                      | ----                           | ---- | ---- | ---- | ---- |
| <b>Volatile Organic Compounds [THMs]</b>            |            |            |        |      |                             |                                |      |      |      |      |
| Bromodichloromethane                                | 75-27-4    | E611B/VA   | 1.0    | µg/L | 1.5                         | ----                           | ---- | ---- | ---- | ---- |
| Bromoform                                           | 75-25-2    | E611B/VA   | 1.0    | µg/L | <1.0                        | ----                           | ---- | ---- | ---- | ---- |
| Chloroform                                          | 67-66-3    | E611B/VA   | 1.0    | µg/L | 14.3                        | ----                           | ---- | ---- | ---- | ---- |
| Dibromochloromethane                                | 124-48-1   | E611B/VA   | 1.0    | µg/L | <1.0                        | ----                           | ---- | ---- | ---- | ---- |
| Trihalomethanes [THMs], total                       | ----       | E611B/VA   | 2.0    | µg/L | 15.8                        | ----                           | ---- | ---- | ---- | ---- |
| <b>Volatile Organic Compounds [THMs] Surrogates</b> |            |            |        |      |                             |                                |      |      |      |      |
| Bromofluorobenzene, 4-                              | 460-00-4   | E611B/VA   | 1.0    | %    | 90.9                        | ----                           | ---- | ---- | ---- | ---- |
| Difluorobenzene, 1,4-                               | 540-36-3   | E611B/VA   | 1.0    | %    | 98.6                        | ----                           | ---- | ---- | ---- | ---- |
| <b>Haloacetic Acids</b>                             |            |            |        |      |                             |                                |      |      |      |      |
| Bromochloroacetic acid                              | 5589-96-8  | E750/WT    | 1.00   | µg/L | <1.00                       | ----                           | ---- | ---- | ---- | ---- |
| Dibromoacetic acid                                  | 631-64-1   | E750/WT    | 1.00   | µg/L | <1.00                       | ----                           | ---- | ---- | ---- | ---- |
| Dichloroacetic acid                                 | 79-43-6    | E750/WT    | 1.00   | µg/L | 5.05                        | ----                           | ---- | ---- | ---- | ---- |
| Monobromoacetic acid                                | 79-08-3    | E750/WT    | 1.00   | µg/L | <1.00                       | ----                           | ---- | ---- | ---- | ---- |
| Monochloroacetic acid                               | 79-11-8    | E750/WT    | 1.00   | µg/L | <1.00                       | ----                           | ---- | ---- | ---- | ---- |
| Trichloroacetic acid                                | 76-03-9    | E750/WT    | 1.00   | µg/L | 4.63                        | ----                           | ---- | ---- | ---- | ---- |
| Haloacetic acids, total [HAA5]                      | n/a        | E750/WT    | 5.00   | µg/L | 9.68                        | ----                           | ---- | ---- | ---- | ---- |

Please refer to the General Comments section for an explanation of any qualifiers detected.

---

## Quality Control Interpretive Report

---

**Work Order** : **VA25D3103**

Client : Town of Ladysmith  
 Contact : Shawn Baker  
 Address : 410 Esplanade PO Box 220  
 Ladysmith BC Canada V9G 1A2  
 Telephone : ----  
 Project : Arbutus Water Treatment Plant-Monthly Sampling  
 PO : 10940  
 C-O-C number : ----  
 Sampler : ----  
 Site : Town of Ladysmith  
 Quote number : Town of Ladysmith Standing Offer  
 No. of samples received : 1  
 No. of samples analysed : 1

Laboratory : ALS Environmental - Vancouver  
 Account Manager : Kevin Bhikadia  
 Address : 8081 Lougheed Highway  
 Burnaby British Columbia Canada V5A 1W9  
 Telephone : +1 604 253 4188  
 Date Samples Received : 11-Dec-2025 11:00  
 Issue Date : 23-Dec-2025 15:40

---

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**Key**

Anonymous: Refers to samples which are not part of this work order, but which formed part of the QC process lot.  
 CAS Number: Chemical Abstracts Services number is a unique identifier assigned to discrete substances.  
 DQO: Data Quality Objective.  
 LOR: Limit of Reporting (detection limit).  
 RPD: Relative Percent Difference.

---

***Workorder Comments***

Holding times are displayed as "---" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

---



## Summary of Outliers

### Outliers : Quality Control Samples

- No Method Blank value outliers occur.
- No Duplicate outliers occur.
- No Laboratory Control Sample (LCS) outliers occur
- No Laboratory Control Sample Duplicate (LCSD) outliers occur
- No Matrix Spike outliers occur.
- No Matrix Spike Duplicate (MSD) outliers occur.
- No Test sample Surrogate recovery outliers exist.

### Outliers: Reference Material (RM) Samples

- No Reference Material (RM) Sample outliers occur.

### Outliers : Analysis Holding Time Compliance (Breaches)

- No Analysis Holding Time Outliers exist.

### Outliers : Frequency of Quality Control Samples

- No Quality Control Sample Frequency Outliers occur.



**CERTIFICATE OF ANALYSIS**

|                                |                                                                         |                                |                                 |
|--------------------------------|-------------------------------------------------------------------------|--------------------------------|---------------------------------|
| <b>Work Order</b>              | : <b>VA25D3095</b>                                                      | <b>Laboratory</b>              | : ALS Environmental - Vancouver |
| <b>Client</b>                  | : <b>Town of Ladysmith</b>                                              | <b>Account Manager</b>         | : Kevin Bhikadia                |
| <b>Contact</b>                 | : Shawn Baker                                                           | <b>Address</b>                 | : 8081 Lougheed Highway         |
| <b>Address</b>                 | : 410 Esplanade PO Box 220<br>Ladysmith British Columbia Canada V9G 1A2 |                                | : Burnaby BC Canada V5A 1W9     |
| <b>Telephone</b>               | : ----                                                                  | <b>E-mail</b>                  | : Kevin.Bhikadia@alsglobal.com  |
| <b>Project</b>                 | : Arbutus Water Treatment Plant-Weekly Sampling                         | <b>Telephone</b>               | : +1 604 253 4188               |
| <b>PO</b>                      | : 10940                                                                 | <b>Date Samples Received</b>   | : 11-Dec-2025 11:00             |
| <b>C-O-C number</b>            | : ----                                                                  | <b>Date Analysis Commenced</b> | : 11-Dec-2025                   |
| <b>Sampler</b>                 | : ----                                                                  | <b>Issue Date</b>              | : 15-Dec-2025 15:48             |
| <b>Site</b>                    | : Town of Ladysmith                                                     |                                |                                 |
| <b>Quote number</b>            | : Town of Ladysmith Standing Offer                                      |                                |                                 |
| <b>No. of samples received</b> | : 4                                                                     |                                |                                 |
| <b>No. of samples analysed</b> | : 4                                                                     |                                |                                 |

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This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QC Interpretive report to assist with Quality Review and Sample Receipt Notification (SRN).

**Signatories**

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

| <i>Signatories</i> | <i>Position</i>                 | <i>Laboratory Department</i>            |
|--------------------|---------------------------------|-----------------------------------------|
| Anita Chuang       | Lab Assistant                   | Inorganics, Burnaby, British Columbia   |
| Miles Gropen       | Department Manager - Inorganics | Inorganics, Burnaby, British Columbia   |
| Miles Gropen       | Department Manager - Inorganics | Microbiology, Burnaby, British Columbia |



## General Comments

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Please refer to Quality Control Interpretive report (QCI) for information regarding Holding Time compliance.

Key: CAS Number: Chemical Abstracts Services number is a unique identifier assigned to discrete substances.  
LOR: Limit of Reporting (detection limit).

| <i>Unit</i> | <i>Description</i>                           |
|-------------|----------------------------------------------|
| -           | no units                                     |
| CFU/mL      | colony forming units per millilitre          |
| CU          | colour units (1 cu = 1 mg/l pt)              |
| mg/L        | milligrams per litre                         |
| MPN/100mL   | most probable number per hundred millilitres |
| NTU         | nephelometric turbidity units                |
| pH units    | pH units                                     |
| µS/cm       | microsiemens per centimetre                  |

<: less than.

>: greater than.

Surrogate: An analyte that is similar in behavior to target analyte(s), but that does not occur naturally in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery.

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## Workorder Comments

Sample(s) "Treated water":Exceeded Recommended Holding Time prior to receipt at the lab for HPC analysis.HPC analysis will be carried out from the provided expired sample.



---

### Qualifiers

| Qualifier | Description                                          |
|-----------|------------------------------------------------------|
| SFP       | Sample was filtered and preserved at the laboratory. |



## Analytical Results

Sub-Matrix: Water  
 (Matrix: Water)

|                                       |            |            |      |            | Raw Water<br>----           | DAF Effluent<br>---- | UF Effluent<br>---- | Treated Water (post<br>reservoir)<br>---- | ---- |
|---------------------------------------|------------|------------|------|------------|-----------------------------|----------------------|---------------------|-------------------------------------------|------|
|                                       |            |            |      |            | Client sample ID            |                      |                     |                                           |      |
|                                       |            |            |      |            | Client sampling date / time |                      |                     |                                           |      |
| Analyte                               | CAS Number | Method/Lab | LOR  | Unit       | VA25D3095-001               | VA25D3095-002        | VA25D3095-003       | VA25D3095-004                             | ---- |
|                                       |            |            |      |            | Result                      | Result               | Result              | Result                                    | ---- |
| <b>Sample Preparation</b>             |            |            |      |            |                             |                      |                     |                                           |      |
| Dissolved carbon filtration location  | ----       | EP358/VA   | -    | -          | lab                         | lab                  | lab                 | ----                                      | ---- |
| <b>Physical Tests</b>                 |            |            |      |            |                             |                      |                     |                                           |      |
| Alkalinity, total (as CaCO3)          | ----       | E290/VA    | 1.0  | mg/L       | ----                        | ----                 | ----                | 17.6                                      | ---- |
| Colour, true                          | ----       | E329/VA    | 5.0  | CU         | ----                        | ----                 | ----                | <5.0                                      | ---- |
| Conductivity                          | ----       | E100/VA    | 2.0  | µS/cm      | ----                        | ----                 | ----                | 68.1                                      | ---- |
| pH                                    | ----       | E108/VA    | 0.10 | pH units   | ----                        | ----                 | ----                | 7.44                                      | ---- |
| Turbidity                             | ----       | E121/VA    | 0.10 | NTU        | ----                        | ----                 | ----                | <0.10                                     | ---- |
| <b>Organic / Inorganic Carbon</b>     |            |            |      |            |                             |                      |                     |                                           |      |
| Carbon, dissolved organic [DOC]       | ----       | E358-L/VA  | 0.50 | mg/L       | 2.56 <sup>SFP</sup>         | 1.26 <sup>SFP</sup>  | 1.18 <sup>SFP</sup> | ----                                      | ---- |
| Carbon, total organic [TOC]           | ----       | E355-L/VA  | 0.50 | mg/L       | 2.50                        | 1.17                 | 1.52                | ----                                      | ---- |
| <b>Microbiological Tests</b>          |            |            |      |            |                             |                      |                     |                                           |      |
| Heterotrophic plate count [HPC]       | ----       | E020/VA    | 1    | CFU/mL     | ----                        | ----                 | ----                | <1                                        | ---- |
| Coliforms, Escherichia coli [E. coli] | ----       | E010/VA    | 1    | MPN/100 mL | ----                        | ----                 | ----                | <1                                        | ---- |
| Coliforms, total                      | ----       | E010/VA    | 1    | MPN/100 mL | ----                        | ----                 | ----                | <1                                        | ---- |

Please refer to the General Comments section for an explanation of any qualifiers detected.

---

## Quality Control Interpretive Report

---

**Work Order : VA25D3095**

Client : Town of Ladysmith  
 Contact : Shawn Baker  
 Address : 410 Esplanade PO Box 220  
 Ladysmith BC Canada V9G 1A2  
 Telephone : ----  
 Project : Arbutus Water Treatment Plant-Weekly Sampling  
 PO : 10940  
 C-O-C number : ----  
 Sampler : ----  
 Site : Town of Ladysmith  
 Quote number : Town of Ladysmith Standing Offer  
 No. of samples received : 4  
 No. of samples analysed : 4

Laboratory : ALS Environmental - Vancouver  
 Account Manager : Kevin Bhikadia  
 Address : 8081 Lougheed Highway  
 Burnaby British Columbia Canada V5A 1W9  
 Telephone : +1 604 253 4188  
 Date Samples Received : 11-Dec-2025 11:00  
 Issue Date : 15-Dec-2025 15:48

---

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Anonymous: Refers to samples which are not part of this work order, but which formed part of the QC process lot.  
 CAS Number: Chemical Abstracts Services number is a unique identifier assigned to discrete substances.  
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---

***Workorder Comments***

Holding times are displayed as "---" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

---



## Summary of Outliers

### Outliers : Quality Control Samples

- Method Blank value outliers occur - please see following pages for full details.
- No Duplicate outliers occur.
- No Laboratory Control Sample (LCS) outliers occur
- No Laboratory Control Sample Duplicate (LCSD) outliers occur
- No Matrix Spike outliers occur.
- No Matrix Spike Duplicate (MSD) outliers occur.
- No Test sample Surrogate recovery outliers exist.

### Outliers: Reference Material (RM) Samples

- No Reference Material (RM) Sample outliers occur.

### Outliers : Analysis Holding Time Compliance (Breaches)

- Analysis Holding Time Outliers exist.

### Outliers : Frequency of Quality Control Samples

- No Quality Control Sample Frequency Outliers occur.



**CERTIFICATE OF ANALYSIS**

|                                |                                                                         |                                |                                 |
|--------------------------------|-------------------------------------------------------------------------|--------------------------------|---------------------------------|
| <b>Work Order</b>              | : <b>VA25D3573</b>                                                      | <b>Laboratory</b>              | : ALS Environmental - Vancouver |
| <b>Client</b>                  | : <b>Town of Ladysmith</b>                                              | <b>Account Manager</b>         | : Kevin Bhikadia                |
| <b>Contact</b>                 | : Shawn Baker                                                           | <b>Address</b>                 | : 8081 Lougheed Highway         |
| <b>Address</b>                 | : 410 Esplanade PO Box 220<br>Ladysmith British Columbia Canada V9G 1A2 |                                | : Burnaby BC Canada V5A 1W9     |
| <b>Telephone</b>               | : ----                                                                  | <b>E-mail</b>                  | : Kevin.Bhikadia@alsglobal.com  |
| <b>Project</b>                 | : Arbutus Water Treatment Plant-Weekly Sampling                         | <b>Telephone</b>               | : +1 604 253 4188               |
| <b>PO</b>                      | : 10940                                                                 | <b>Date Samples Received</b>   | : 17-Dec-2025 10:22             |
| <b>C-O-C number</b>            | : ----                                                                  | <b>Date Analysis Commenced</b> | : 17-Dec-2025                   |
| <b>Sampler</b>                 | : ----                                                                  | <b>Issue Date</b>              | : 22-Dec-2025 10:08             |
| <b>Site</b>                    | : Town of Ladysmith                                                     |                                |                                 |
| <b>Quote number</b>            | : Town of Ladysmith Standing Offer                                      |                                |                                 |
| <b>No. of samples received</b> | : 4                                                                     |                                |                                 |
| <b>No. of samples analysed</b> | : 4                                                                     |                                |                                 |

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- Analytical Results

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**Signatories**

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| <i>Signatories</i> | <i>Position</i>                 | <i>Laboratory Department</i>            |
|--------------------|---------------------------------|-----------------------------------------|
| Miles Gropen       | Department Manager - Inorganics | Inorganics, Burnaby, British Columbia   |
| Miles Gropen       | Department Manager - Inorganics | Microbiology, Burnaby, British Columbia |



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Key: CAS Number: Chemical Abstracts Services number is a unique identifier assigned to discrete substances.  
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|-------------|----------------------------------------------|
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| mg/L        | milligrams per litre                         |
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| NTU         | nephelometric turbidity units                |
| pH units    | pH units                                     |
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<: less than.

>: greater than.

Surrogate: An analyte that is similar in behavior to target analyte(s), but that does not occur naturally in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery.

Test results reported relate only to the samples as received by the laboratory.

UNLESS OTHERWISE STATED on SRN or QCI Report, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

Work Order : VA25D3573  
Client : Town of Ladysmith  
Project : Arbutus Water Treatment Plant-Weekly Sampling

---





## Analytical Results

Sub-Matrix: Water  
 (Matrix: Water)

|                                       |            |            |      |            | Raw Water<br>----           | DAF Effluent<br>---- | UF Effluent<br>---- | Treated Water (post<br>reservoir)<br>---- | ---- |
|---------------------------------------|------------|------------|------|------------|-----------------------------|----------------------|---------------------|-------------------------------------------|------|
|                                       |            |            |      |            | Client sample ID            |                      |                     |                                           |      |
|                                       |            |            |      |            | Client sampling date / time |                      |                     |                                           |      |
| Analyte                               | CAS Number | Method/Lab | LOR  | Unit       | VA25D3573-001               | VA25D3573-002        | VA25D3573-003       | VA25D3573-004                             | ---- |
|                                       |            |            |      |            | Result                      | Result               | Result              | Result                                    | ---- |
| <b>Sample Preparation</b>             |            |            |      |            |                             |                      |                     |                                           |      |
| Dissolved carbon filtration location  | ----       | EP358/VA   | -    | -          | lab                         | lab                  | lab                 | ----                                      | ---- |
| <b>Physical Tests</b>                 |            |            |      |            |                             |                      |                     |                                           |      |
| Alkalinity, total (as CaCO3)          | ----       | E290/VA    | 1.0  | mg/L       | ----                        | ----                 | ----                | 18.3                                      | ---- |
| Colour, true                          | ----       | E329/VA    | 5.0  | CU         | ----                        | ----                 | ----                | <5.0                                      | ---- |
| Conductivity                          | ----       | E100/VA    | 2.0  | µS/cm      | ----                        | ----                 | ----                | 68.1                                      | ---- |
| pH                                    | ----       | E108/VA    | 0.10 | pH units   | ----                        | ----                 | ----                | 7.53                                      | ---- |
| Turbidity                             | ----       | E121/VA    | 0.10 | NTU        | ----                        | ----                 | ----                | <0.10                                     | ---- |
| <b>Organic / Inorganic Carbon</b>     |            |            |      |            |                             |                      |                     |                                           |      |
| Carbon, dissolved organic [DOC]       | ----       | E358-L/VA  | 0.50 | mg/L       | 2.39                        | 0.97                 | 1.06                | ----                                      | ---- |
| Carbon, total organic [TOC]           | ----       | E355-L/VA  | 0.50 | mg/L       | 2.67                        | 1.21                 | 1.13                | ----                                      | ---- |
| <b>Microbiological Tests</b>          |            |            |      |            |                             |                      |                     |                                           |      |
| Heterotrophic plate count [HPC]       | ----       | E020/VA    | 1    | CFU/mL     | ----                        | ----                 | ----                | <1                                        | ---- |
| Coliforms, Escherichia coli [E. coli] | ----       | E010/VA    | 1    | MPN/100 mL | ----                        | ----                 | ----                | <1                                        | ---- |
| Coliforms, total                      | ----       | E010/VA    | 1    | MPN/100 mL | ----                        | ----                 | ----                | <1                                        | ---- |

Please refer to the General Comments section for an explanation of any qualifiers detected.

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## Quality Control Interpretive Report

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**Work Order : VA25D3573**

Client : Town of Ladysmith  
 Contact : Shawn Baker  
 Address : 410 Esplanade PO Box 220  
 Ladysmith BC Canada V9G 1A2  
 Telephone : ----  
 Project : Arbutus Water Treatment Plant-Weekly Sampling  
 PO : 10940  
 C-O-C number : ----  
 Sampler : ----  
 Site : Town of Ladysmith  
 Quote number : Town of Ladysmith Standing Offer  
 No. of samples received : 4  
 No. of samples analysed : 4

Laboratory : ALS Environmental - Vancouver  
 Account Manager : Kevin Bhikadia  
 Address : 8081 Lougheed Highway  
 Burnaby British Columbia Canada V5A 1W9  
 Telephone : +1 604 253 4188  
 Date Samples Received : 17-Dec-2025 10:22  
 Issue Date : 22-Dec-2025 10:08

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**This report is automatically generated by the ALS LIMS (Laboratory Information Management System) through evaluation of Quality Control (QC) results and other QA parameters associated with this submission, and is intended to facilitate rapid data validation by auditors or reviewers. The report highlights any exceptions and outliers to ALS Data Quality Objectives, provides holding time details and exceptions, summarizes QC sample frequencies, and lists applicable methodology references and summaries.**

**Key**

Anonymous: Refers to samples which are not part of this work order, but which formed part of the QC process lot.  
 CAS Number: Chemical Abstracts Services number is a unique identifier assigned to discrete substances.  
 DQO: Data Quality Objective.  
 LOR: Limit of Reporting (detection limit).  
 RPD: Relative Percent Difference.

---

***Workorder Comments***

Holding times are displayed as "---" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

---



## Summary of Outliers

### Outliers : Quality Control Samples

- No Method Blank value outliers occur.
- No Duplicate outliers occur.
- No Laboratory Control Sample (LCS) outliers occur
- No Laboratory Control Sample Duplicate (LCSD) outliers occur
- No Matrix Spike outliers occur.
- No Matrix Spike Duplicate (MSD) outliers occur.
- No Test sample Surrogate recovery outliers exist.

### Outliers: Reference Material (RM) Samples

- No Reference Material (RM) Sample outliers occur.

### Outliers : Analysis Holding Time Compliance (Breaches)

- Analysis Holding Time Outliers exist.

### Outliers : Frequency of Quality Control Samples

- No Quality Control Sample Frequency Outliers occur.



**CERTIFICATE OF ANALYSIS**

|                                |                                                                         |                                |                                 |
|--------------------------------|-------------------------------------------------------------------------|--------------------------------|---------------------------------|
| <b>Work Order</b>              | : <b>VA25D4158</b>                                                      | <b>Laboratory</b>              | : ALS Environmental - Vancouver |
| <b>Client</b>                  | : <b>Town of Ladysmith</b>                                              | <b>Account Manager</b>         | : Kevin Bhikadia                |
| <b>Contact</b>                 | : Shawn Baker                                                           | <b>Address</b>                 | : 8081 Lougheed Highway         |
| <b>Address</b>                 | : 410 Esplanade PO Box 220<br>Ladysmith British Columbia Canada V9G 1A2 |                                | : Burnaby BC Canada V5A 1W9     |
| <b>Telephone</b>               | : ----                                                                  | <b>E-mail</b>                  | : Kevin.Bhikadia@alsglobal.com  |
| <b>Project</b>                 | : Arbutus Water Treatment - Weekly Sampling                             | <b>Telephone</b>               | : +1 604 253 4188               |
| <b>PO</b>                      | : 10940                                                                 | <b>Date Samples Received</b>   | : 24-Dec-2025 10:00             |
| <b>C-O-C number</b>            | : ----                                                                  | <b>Date Analysis Commenced</b> | : 24-Dec-2025                   |
| <b>Sampler</b>                 | : ----                                                                  | <b>Issue Date</b>              | : 06-Jan-2026 10:03             |
| <b>Site</b>                    | : Town of Ladysmith                                                     |                                |                                 |
| <b>Quote number</b>            | : Town of Ladysmith Standing Offer                                      |                                |                                 |
| <b>No. of samples received</b> | : 4                                                                     |                                |                                 |
| <b>No. of samples analysed</b> | : 4                                                                     |                                |                                 |

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QC Interpretive report to assist with Quality Review and Sample Receipt Notification (SRN).

**Signatories**

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

| <i>Signatories</i> | <i>Position</i>                 | <i>Laboratory Department</i>            |
|--------------------|---------------------------------|-----------------------------------------|
| Hdeep Kaur         | Lab Assistant                   | Inorganics, Burnaby, British Columbia   |
| Miles Gropen       | Department Manager - Inorganics | Microbiology, Burnaby, British Columbia |
| Miles Gropen       | Department Manager - Inorganics | Inorganics, Burnaby, British Columbia   |
| Monica Ko          | Supervisor - Inorganic          | Inorganics, Burnaby, British Columbia   |



## General Comments

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Refer to the ALS Quality Control Interpretive report (QCI) for applicable references and methodology summaries. Reference methods may incorporate modifications to improve performance.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Please refer to Quality Control Interpretive report (QCI) for information regarding Holding Time compliance.

Key: CAS Number: Chemical Abstracts Services number is a unique identifier assigned to discrete substances.  
LOR: Limit of Reporting (detection limit).

| <i>Unit</i> | <i>Description</i>                           |
|-------------|----------------------------------------------|
| -           | no units                                     |
| CFU/mL      | colony forming units per millilitre          |
| CU          | colour units (1 cu = 1 mg/l pt)              |
| mg/L        | milligrams per litre                         |
| MPN/100mL   | most probable number per hundred millilitres |
| NTU         | nephelometric turbidity units                |
| pH units    | pH units                                     |
| µS/cm       | microsiemens per centimetre                  |

<: less than.

>: greater than.

Surrogate: An analyte that is similar in behavior to target analyte(s), but that does not occur naturally in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery.

Test results reported relate only to the samples as received by the laboratory.

UNLESS OTHERWISE STATED on SRN or QCI Report, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

Work Order : VA25D4158  
Client : Town of Ladysmith  
Project : Arbutus Water Treatment - Weekly Sampling

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## Analytical Results

Sub-Matrix: Water  
 (Matrix: Water)

|                                       |            |            |      |            | Client sample ID            | Raw Water<br>---- | DAF Effluent<br>---- | UF Effluent<br>---- | Treated Water (post<br>reservoir)<br>---- | ---- |
|---------------------------------------|------------|------------|------|------------|-----------------------------|-------------------|----------------------|---------------------|-------------------------------------------|------|
|                                       |            |            |      |            | Client sampling date / time | 23-Dec-2025 10:00 | 23-Dec-2025 10:00    | 23-Dec-2025 10:00   | 23-Dec-2025 10:00                         | ---- |
| Analyte                               | CAS Number | Method/Lab | LOR  | Unit       | VA25D4158-001               | VA25D4158-002     | VA25D4158-003        | VA25D4158-004       | ----                                      | ---- |
|                                       |            |            |      |            | Result                      | Result            | Result               | Result              | ----                                      | ---- |
| <b>Sample Preparation</b>             |            |            |      |            |                             |                   |                      |                     |                                           |      |
| Dissolved carbon filtration location  | ----       | EP358/VA   | -    | -          | lab                         | lab               | lab                  | ----                | ----                                      | ---- |
| <b>Physical Tests</b>                 |            |            |      |            |                             |                   |                      |                     |                                           |      |
| Alkalinity, total (as CaCO3)          | ----       | E290/VA    | 1.0  | mg/L       | ----                        | ----              | ----                 | 18.2                | ----                                      | ---- |
| Colour, true                          | ----       | E329/VA    | 5.0  | CU         | ----                        | ----              | ----                 | <5.0                | ----                                      | ---- |
| Conductivity                          | ----       | E100/VA    | 2.0  | µS/cm      | ----                        | ----              | ----                 | 68.8                | ----                                      | ---- |
| pH                                    | ----       | E108/VA    | 0.10 | pH units   | ----                        | ----              | ----                 | 7.45                | ----                                      | ---- |
| Turbidity                             | ----       | E121/VA    | 0.10 | NTU        | ----                        | ----              | ----                 | 1.16                | ----                                      | ---- |
| <b>Organic / Inorganic Carbon</b>     |            |            |      |            |                             |                   |                      |                     |                                           |      |
| Carbon, dissolved organic [DOC]       | ----       | E358-L/VA  | 0.50 | mg/L       | 2.79                        | 1.11              | 1.22                 | ----                | ----                                      | ---- |
| Carbon, total organic [TOC]           | ----       | E355-L/VA  | 0.50 | mg/L       | 2.83                        | 1.13              | 1.26                 | ----                | ----                                      | ---- |
| <b>Microbiological Tests</b>          |            |            |      |            |                             |                   |                      |                     |                                           |      |
| Heterotrophic plate count [HPC]       | ----       | E020/VA    | 1    | CFU/mL     | ----                        | ----              | ----                 | <1                  | ----                                      | ---- |
| Coliforms, Escherichia coli [E. coli] | ----       | E010/VA    | 1    | MPN/100 mL | ----                        | ----              | ----                 | <1                  | ----                                      | ---- |
| Coliforms, total                      | ----       | E010/VA    | 1    | MPN/100 mL | ----                        | ----              | ----                 | <1                  | ----                                      | ---- |

Please refer to the General Comments section for an explanation of any qualifiers detected.

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## Quality Control Interpretive Report

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**Work Order : VA25D4158**

Client : Town of Ladysmith  
 Contact : Shawn Baker  
 Address : 410 Esplanade PO Box 220  
 Ladysmith BC Canada V9G 1A2  
 Telephone : ----  
 Project : Arbutus Water Treatment - Weekly Sampling  
 PO : 10940  
 C-O-C number : ----  
 Sampler : ----  
 Site : Town of Ladysmith  
 Quote number : Town of Ladysmith Standing Offer  
 No. of samples received : 4  
 No. of samples analysed : 4

Laboratory : ALS Environmental - Vancouver  
 Account Manager : Kevin Bhikadia  
 Address : 8081 Lougheed Highway  
 Burnaby British Columbia Canada V5A 1W9  
 Telephone : +1 604 253 4188  
 Date Samples Received : 24-Dec-2025 10:00  
 Issue Date : 06-Jan-2026 10:03

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**Key**

Anonymous: Refers to samples which are not part of this work order, but which formed part of the QC process lot.  
 CAS Number: Chemical Abstracts Services number is a unique identifier assigned to discrete substances.  
 DQO: Data Quality Objective.  
 LOR: Limit of Reporting (detection limit).  
 RPD: Relative Percent Difference.

---

***Workorder Comments***

Holding times are displayed as "---" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

---



## Summary of Outliers

### Outliers : Quality Control Samples

- No Method Blank value outliers occur.
- No Duplicate outliers occur.
- No Laboratory Control Sample (LCS) outliers occur
- No Laboratory Control Sample Duplicate (LCSD) outliers occur
- No Matrix Spike outliers occur.
- No Matrix Spike Duplicate (MSD) outliers occur.
- No Test sample Surrogate recovery outliers exist.

### Outliers: Reference Material (RM) Samples

- No Reference Material (RM) Sample outliers occur.

### Outliers : Analysis Holding Time Compliance (Breaches)

- Analysis Holding Time Outliers exist.

### Outliers : Frequency of Quality Control Samples

- No Quality Control Sample Frequency Outliers occur.



**CERTIFICATE OF ANALYSIS**

|                                |                                                                         |                                |                                 |
|--------------------------------|-------------------------------------------------------------------------|--------------------------------|---------------------------------|
| <b>Work Order</b>              | : <b>VA25D4348</b>                                                      | <b>Laboratory</b>              | : ALS Environmental - Vancouver |
| <b>Client</b>                  | : <b>Town of Ladysmith</b>                                              | <b>Account Manager</b>         | : Kevin Bhikadia                |
| <b>Contact</b>                 | : Shawn Baker                                                           | <b>Address</b>                 | : 8081 Lougheed Highway         |
| <b>Address</b>                 | : 410 Esplanade PO Box 220<br>Ladysmith British Columbia Canada V9G 1A2 |                                | : Burnaby BC Canada V5A 1W9     |
| <b>Telephone</b>               | : ----                                                                  | <b>E-mail</b>                  | : Kevin.Bhikadia@alsglobal.com  |
| <b>Project</b>                 | : Arbutus Water Treatment Plant - Weekly Sampling                       | <b>Telephone</b>               | : +1 604 253 4188               |
| <b>PO</b>                      | : 10940                                                                 | <b>Date Samples Received</b>   | : 31-Dec-2025 09:50             |
| <b>C-O-C number</b>            | : ----                                                                  | <b>Date Analysis Commenced</b> | : 31-Dec-2025                   |
| <b>Sampler</b>                 | : ----                                                                  | <b>Issue Date</b>              | : 06-Jan-2026 11:17             |
| <b>Site</b>                    | : Town of Ladysmith                                                     |                                |                                 |
| <b>Quote number</b>            | : Town of Ladysmith Standing Offer                                      |                                |                                 |
| <b>No. of samples received</b> | : 4                                                                     |                                |                                 |
| <b>No. of samples analysed</b> | : 4                                                                     |                                |                                 |

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This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results

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**Signatories**

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

| <i>Signatories</i> | <i>Position</i>        | <i>Laboratory Department</i>          |
|--------------------|------------------------|---------------------------------------|
| Hdeep Kaur         | Lab Assistant          | Inorganics, Burnaby, British Columbia |
| Monica Ko          | Supervisor - Inorganic | Inorganics, Burnaby, British Columbia |



## General Comments

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Refer to the ALS Quality Control Interpretive report (QCI) for applicable references and methodology summaries. Reference methods may incorporate modifications to improve performance.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Please refer to Quality Control Interpretive report (QCI) for information regarding Holding Time compliance.

Key: CAS Number: Chemical Abstracts Services number is a unique identifier assigned to discrete substances.  
LOR: Limit of Reporting (detection limit).

| <i>Unit</i> | <i>Description</i>              |
|-------------|---------------------------------|
| -           | no units                        |
| CU          | colour units (1 cu = 1 mg/l pt) |
| mg/L        | milligrams per litre            |
| NTU         | nephelometric turbidity units   |
| pH units    | pH units                        |
| µS/cm       | microsiemens per centimetre     |

<: less than.

>: greater than.

Surrogate: An analyte that is similar in behavior to target analyte(s), but that does not occur naturally in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery.

Test results reported relate only to the samples as received by the laboratory.

UNLESS OTHERWISE STATED on SRN or QCI Report, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.



## Analytical Results

Sub-Matrix: Water  
 (Matrix: Water)

|                                      |            |            |      |          | Raw Water<br>----           | DAF Effluent<br>---- | UF Effluent<br>---- | Treated Water (post<br>reservoir)<br>---- | ---- |
|--------------------------------------|------------|------------|------|----------|-----------------------------|----------------------|---------------------|-------------------------------------------|------|
|                                      |            |            |      |          | Client sample ID            |                      |                     |                                           |      |
|                                      |            |            |      |          | Client sampling date / time |                      |                     |                                           |      |
| Analyte                              | CAS Number | Method/Lab | LOR  | Unit     | VA25D4348-001               | VA25D4348-002        | VA25D4348-003       | VA25D4348-004                             | ---- |
|                                      |            |            |      |          | Result                      | Result               | Result              | Result                                    | ---- |
| <b>Sample Preparation</b>            |            |            |      |          |                             |                      |                     |                                           |      |
| Dissolved carbon filtration location | ----       | EP358/VA   | -    | -        | lab                         | lab                  | lab                 | ----                                      | ---- |
| <b>Physical Tests</b>                |            |            |      |          |                             |                      |                     |                                           |      |
| Alkalinity, total (as CaCO3)         | ----       | E290/VA    | 1.0  | mg/L     | ----                        | ----                 | ----                | 18.4                                      | ---- |
| Colour, true                         | ----       | E329/VA    | 5.0  | CU       | ----                        | ----                 | ----                | <5.0                                      | ---- |
| Conductivity                         | ----       | E100/VA    | 2.0  | µS/cm    | ----                        | ----                 | ----                | 69.5                                      | ---- |
| pH                                   | ----       | E108/VA    | 0.10 | pH units | ----                        | ----                 | ----                | 7.56                                      | ---- |
| Turbidity                            | ----       | E121/VA    | 0.10 | NTU      | ----                        | ----                 | ----                | 0.61                                      | ---- |
| <b>Organic / Inorganic Carbon</b>    |            |            |      |          |                             |                      |                     |                                           |      |
| Carbon, dissolved organic [DOC]      | ----       | E358-L/VA  | 0.50 | mg/L     | 2.62                        | 1.08                 | 1.05                | ----                                      | ---- |
| Carbon, total organic [TOC]          | ----       | E355-L/VA  | 0.50 | mg/L     | 3.14                        | 1.44                 | 1.22                | ----                                      | ---- |

Please refer to the General Comments section for an explanation of any qualifiers detected.

---

## Quality Control Interpretive Report

---

**Work Order : VA25D4348**

Client : Town of Ladysmith  
 Contact : Shawn Baker  
 Address : 410 Esplanade PO Box 220  
 Ladysmith BC Canada V9G 1A2  
 Telephone : ----  
 Project : Arbutus Water Treatment Plant - Weekly Sampling  
 PO : 10940  
 C-O-C number : ----  
 Sampler : ----  
 Site : Town of Ladysmith  
 Quote number : Town of Ladysmith Standing Offer  
 No. of samples received : 4  
 No. of samples analysed : 4

Laboratory : ALS Environmental - Vancouver  
 Account Manager : Kevin Bhikadia  
 Address : 8081 Lougheed Highway  
 Burnaby British Columbia Canada V5A 1W9  
 Telephone : +1 604 253 4188  
 Date Samples Received : 31-Dec-2025 09:50  
 Issue Date : 06-Jan-2026 11:17

---

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 LOR: Limit of Reporting (detection limit).  
 RPD: Relative Percent Difference.

---

***Workorder Comments***

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- No Duplicate outliers occur.
- No Laboratory Control Sample (LCS) outliers occur
- No Laboratory Control Sample Duplicate (LCSD) outliers occur
- No Matrix Spike outliers occur.
- No Matrix Spike Duplicate (MSD) outliers occur.
- No Test sample Surrogate recovery outliers exist.

### Outliers: Reference Material (RM) Samples

- No Reference Material (RM) Sample outliers occur.

### Outliers : Analysis Holding Time Compliance (Breaches)

- Analysis Holding Time Outliers exist.

### Outliers : Frequency of Quality Control Samples

- No Quality Control Sample Frequency Outliers occur.