

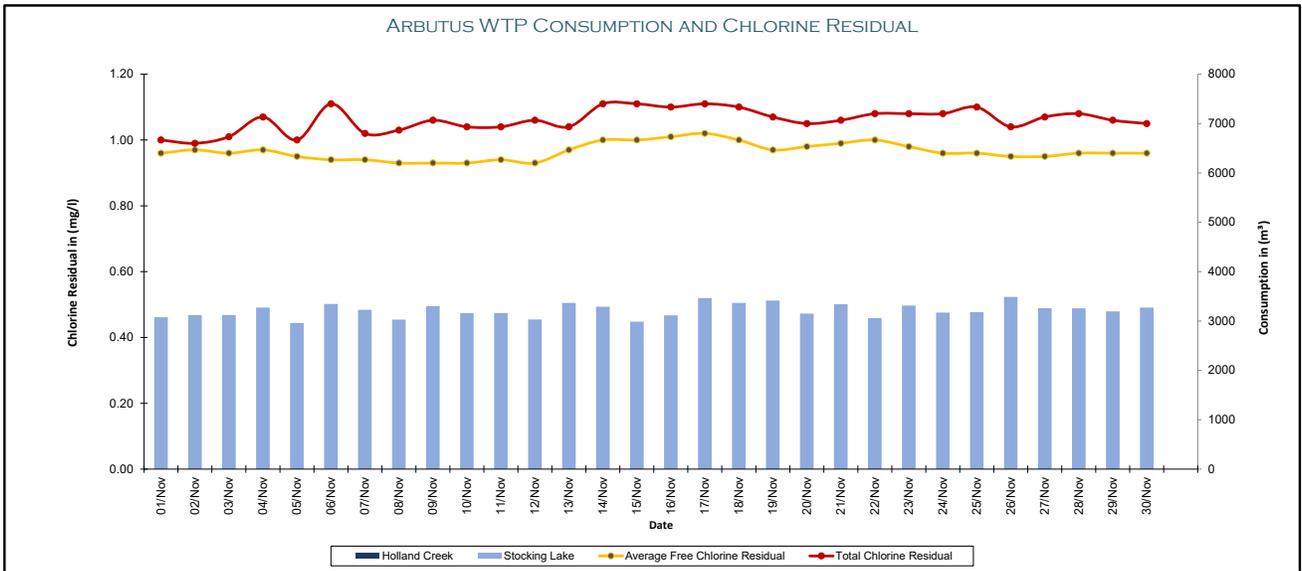
TOWN OF LADYSMITH - ARBUTUS WATER TREATMENT PLANT

NOVEMBER 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
	m³	m³	m³	mg/l	mg/l	mg/l	mg/l		CFU	MPN	MPN	mg/l	mg/l	mg/l
01-Nov	3077	0	3077	0.94	0.97	0.96	1.00	169						
02-Nov	3121	0	3121	0.94	0.97	0.97	0.99	150						
03-Nov	3120	0	3120	0.94	0.97	0.96	1.01	146						
04-Nov	3273	0	3273	0.95	0.96	0.97	1.07	155	< 1	< 1	< 1			
05-Nov	2960	0	2960	0.94	0.97	0.95	1.00	166						
06-Nov	3347	0	3347	0.92	0.95	0.94	1.11	129						
07-Nov	3228	0	3228	0.92	0.95	0.94	1.02	180						
08-Nov	3030	0	3030	0.92	0.94	0.93	1.03	177						
09-Nov	3302	0	3302	0.92	0.93	0.93	1.06	168						
10-Nov	3159	0	3159	0.92	0.94	0.93	1.04	172						
11-Nov	3162	0	3162	0.92	0.94	0.94	1.04	164						
12-Nov	3032	0	3032	0.92	0.94	0.93	1.06	160	4	< 1	< 1	0.0108	0.0232	0.0131
13-Nov	3368	0	3368	0.92	0.97	0.97	1.04	183						
14-Nov	3290	0	3290	0.96	1.00	1.00	1.11	151						
15-Nov	2986	0	2986	0.99	1.01	1.00	1.11	151						
16-Nov	3116	0	3116	0.98	1.02	1.01	1.10	157						
17-Nov	3465	0	3465	1.01	1.03	1.02	1.11	191						
18-Nov	3366	0	3366	0.99	1.03	1.00	1.10	145	< 1	< 1	< 1			
19-Nov	3413	0	3413	0.96	1.03	0.97	1.07	174						
20-Nov	3151	0	3151	0.96	0.98	0.98	1.05	170						
21-Nov	3339	0	3339	0.97	1.00	0.99	1.06	170						
22-Nov	3058	0	3058	0.98	1.01	1.00	1.08	163						
23-Nov	3314	0	3314	0.97	1.01	0.98	1.08	169						
24-Nov	3172	0	3172	0.97	1.00	0.96	1.08	149						
25-Nov	3181	0	3181	0.95	0.99	0.96	1.10	152						
26-Nov	3487	0	3487	0.94	0.97	0.95	1.04	153	1	< 1	< 1			
27-Nov	3260	0	3260	0.94	0.96	0.95	1.07	145						
28-Nov	3258	0	3258	0.94	0.96	0.96	1.08	133						
29-Nov	3194	0	3194	0.94	0.96	0.96	1.06	146						
30-Nov	3273	0	3273	0.94	0.96	0.96	1.05	138						

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

Total	96502	0	96502												
Average	3217	0	3217	0.95	0.98	0.97	1.06	159	< 1.75	< 1	< 1	0.0108	0.0232	0.01310	



Town of Ladysmith Arbutus DWTP

Monthly LRV and Turbidity Report

10/31/2025 - 12/01/2025

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	33	4.25	4.5	100 %	0 %	0 %	#
UF 2	LRV	●	5.0	0.0	32	4.25	4.5	100 %	0 %	0 %	#
UF 3	LRV	●	5.0	0.0	31	4.25	4.5	100 %	0 %	0 %	#

LRV Daily Values

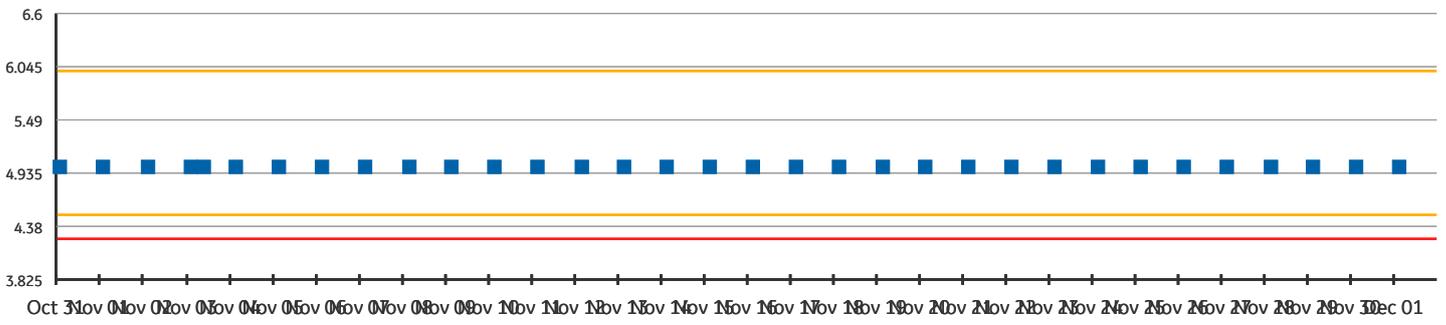
Asset	Parameter	Oct 31	Nov 0 1	Nov 0 2	Nov 0 3	Nov 0 4	Nov 0 5	Nov 0 6	Nov 0 7	Nov 0 8	Nov 0 9	Nov 1 0	Nov 1 1
UF 1	LRV	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
UF 2	LRV	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
UF 3	LRV	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0

Asset	Nov 1 2	Nov 1 3	Nov 1 4	Nov 1 5	Nov 1 6	Nov 1 7	Nov 1 8	Nov 1 9	Nov 2 0	Nov 2 1	Nov 2 2	Nov 2 3	Nov 2 4	Nov 2 5	Nov 2 6	Nov 2 7
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

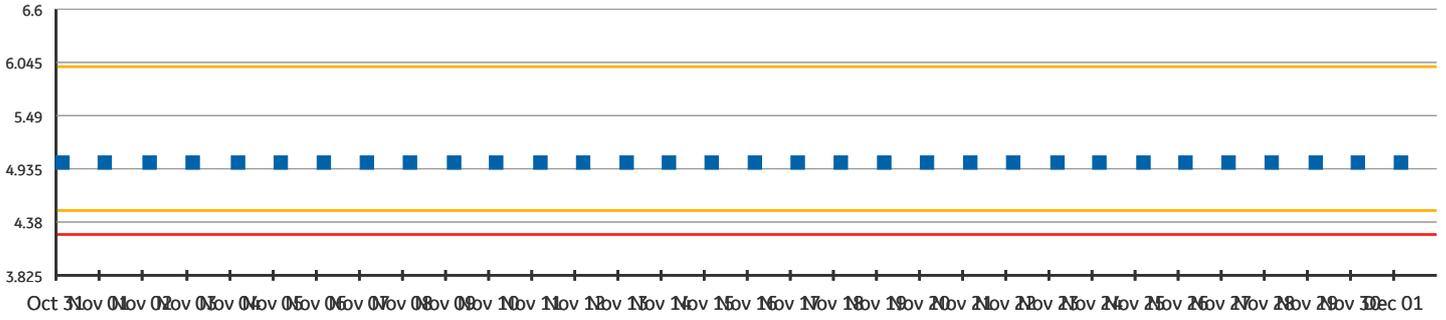
Asset	Nov 2 8	Nov 2 9	Nov 3 0	Dec 0 1
UF 1	5.0	5.0	5.0	5.0
UF 2	5.0	5.0	5.0	5.0
UF 3	5.0	5.0	5.0	--

LRV Raw Data

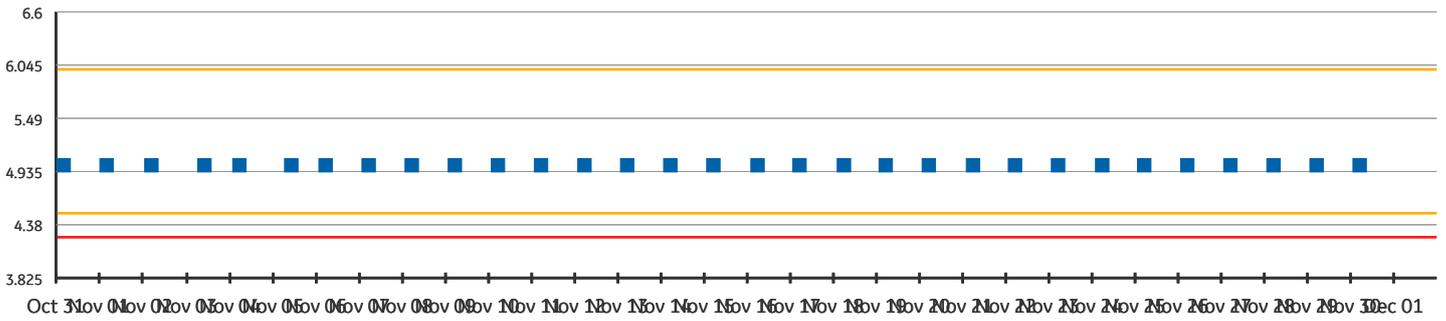
UF 1 - LRV (#)



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		0.016	0.0	45213	--	--	100 %	0 %	0 %	NTU
UF 2	PermeateTurbidity		0.015	0.0	45213	--	--	100 %	0 %	0 %	NTU
UF 3	PermeateTurbidity		0.012	0.0	45213	--	--	100 %	0 %	0 %	NTU
UF 1	PermeateTurbidityAfterBP	●	0.016	0.0	367	0.1	0.3	100 %	0 %	0 %	NTU
UF 2	PermeateTurbidityAfterBP	●	0.015	0.0	370	0.1	0.3	100 %	0 %	0 %	NTU
UF 3	PermeateTurbidityAfterBP	●	0.012	0.0	346	0.1	0.3	100 %	0 %	0 %	NTU

Turbidity Daily Averages

Asset	Parameter	Oct 31	Nov 01	Nov 02	Nov 03	Nov 04	Nov 05	Nov 06	Nov 07	Nov 08	Nov 09	Nov 10
UF 1	PermeateTurbidity	0.017	0.017	0.017	0.017	0.017	0.017	0.018	0.019	0.019	0.019	0.019
UF 2	PermeateTurbidity	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015
UF 3	PermeateTurbidity	0.018	0.016	0.017	0.014	0.011	0.011	0.011	0.011	0.011	0.012	0.011

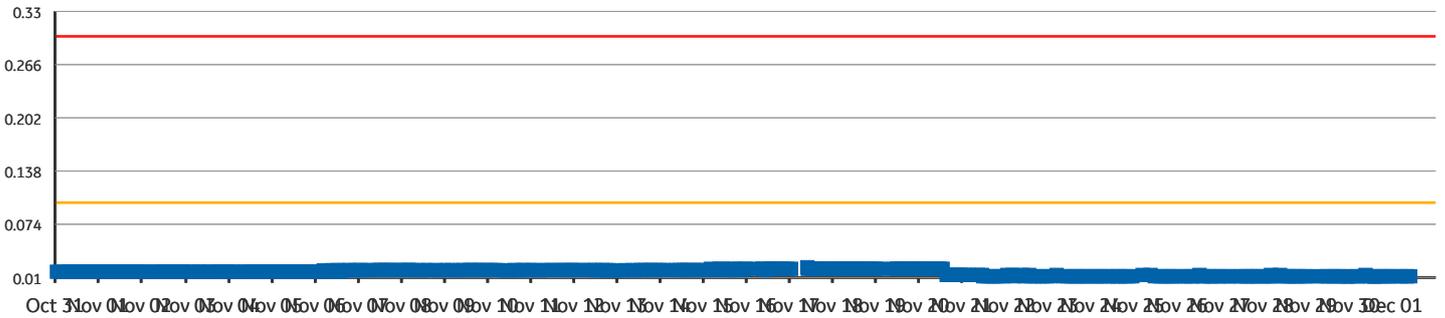
Asset	Parameter	Oct 31	Nov 01	Nov 02	Nov 03	Nov 04	Nov 05	Nov 06	Nov 07	Nov 08	Nov 09	Nov 10
UF 1	PermeateTurbidityAfterBP	0.017	0.017	0.017	0.017	0.017	0.017	0.018	0.019	0.019	0.019	0.019
UF 2	PermeateTurbidityAfterBP	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015
UF 3	PermeateTurbidityAfterBP	0.018	0.016	0.016	0.014	0.011	0.011	0.011	0.011	0.011	0.011	0.011

Asset	Nov 11	Nov 12	Nov 13	Nov 14	Nov 15	Nov 16	Nov 17	Nov 18	Nov 19	Nov 20	Nov 21	Nov 22	Nov 23	Nov 24	Nov 25
UF 1	0.019	0.019	0.019	0.019	0.019	0.02	0.02	0.02	0.02	0.017	0.012	0.012	0.012	0.011	0.012
UF 2	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015
UF 3	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011
UF 1	0.019	0.019	0.019	0.019	0.019	0.02	0.021	0.02	0.02	0.018	0.012	0.012	0.012	0.011	0.012
UF 2	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015
UF 3	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011

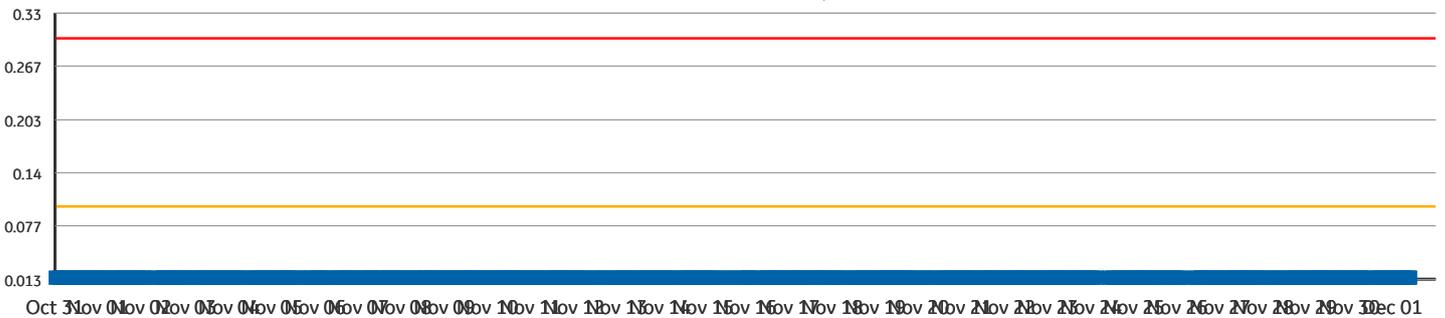
Asset	Nov 26	Nov 27	Nov 28	Nov 29	Nov 30	Dec 01
UF 1	0.012	0.011	0.011	0.011	0.012	0.011
UF 2	0.015	0.015	0.015	0.015	0.015	0.015
UF 3	0.011	0.011	0.011	0.011	0.011	0.011
UF 1	0.012	0.011	0.012	0.011	0.012	0.011
UF 2	0.015	0.015	0.015	0.015	0.015	0.015
UF 3	0.011	0.011	0.011	0.011	0.011	0.011

Turbidity Raw Data

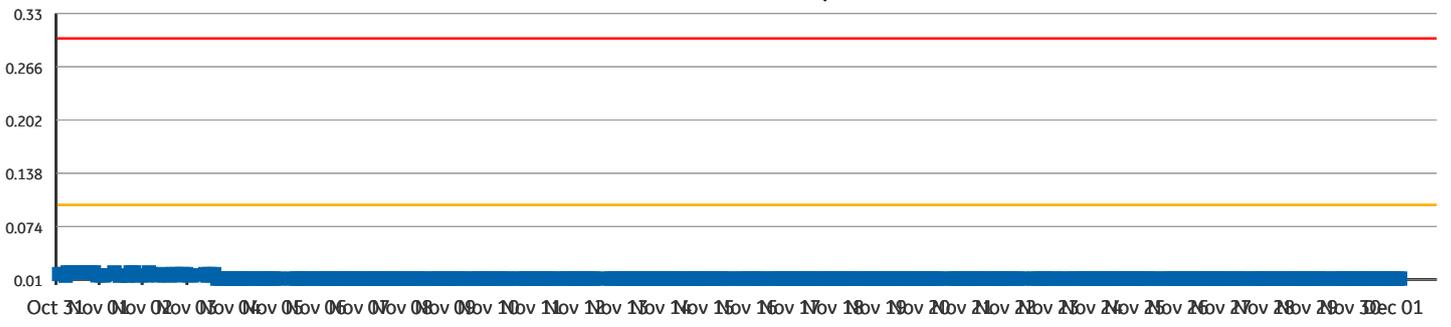
UF 1 - PermeateTurbidityAfterBP (NTU)



UF 2 - PermeateTurbidityAfterBP (NTU)



UF 3 - PermeateTurbidityAfterBP (NTU)





CERTIFICATE OF ANALYSIS

Work Order	: VA25C9543	Laboratory	: ALS Environmental - Vancouver
Client	: Town of Ladysmith	Account Manager	: Kevin Bhikadia
Contact	: Shawn Baker	Address	: 8081 Lougheed Highway
Address	: 410 Esplanade PO Box 220 Ladysmith British Columbia Canada V9G 1A2		: Burnaby BC Canada V5A 1W9
Telephone	: ----	E-mail	: Kevin.Bhikadia@alsglobal.com
Project	: Arbutus Water Treatment Plant - Monthly Sampling	Telephone	: +1 604 253 4188
PO	: 10940	Date Samples Received	: 05-Nov-2025 09:50
C-O-C number	: ----	Date Analysis Commenced	: 07-Nov-2025
Sampler	: ----	Issue Date	: 19-Nov-2025 13:03
Site	: Town of Ladysmith		
Quote number	: Town of Ladysmith Standing Offer		
No. of samples received	: 1		
No. of samples analysed	: 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>
Catherine DeMone	Laboratory Analyst	LCMS, Waterloo, Ontario
Dan Gebert	Supervisor - Metals Mercury & Speciation	Metals, Burnaby, British Columbia
Ophelia Chiu	Department Manager - Organics	Organics, 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>
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					04-Nov-2025 10:30	----	----	----	----	
Analyte	CAS Number	Method/Lab	LOR	Unit	VA25C9543-001	----	----	----	----	
					Result	----	----	----	----	
Total Metals										
Aluminum, total	7429-90-5	E420/VA	0.0030	mg/L	0.0108	----	----	----	----	
Volatile Organic Compounds [THMs]										
Bromodichloromethane	75-27-4	E611B/VA	1.0	µg/L	1.9	----	----	----	----	
Bromoform	75-25-2	E611B/VA	1.0	µg/L	<1.0	----	----	----	----	
Chloroform	67-66-3	E611B/VA	1.0	µg/L	21.3	----	----	----	----	
Dibromochloromethane	124-48-1	E611B/VA	1.0	µg/L	<1.0	----	----	----	----	
Trihalomethanes [THMs], total	----	E611B/VA	2.0	µg/L	23.2	----	----	----	----	
Volatile Organic Compounds [THMs] Surrogates										
Bromofluorobenzene, 4-	460-00-4	E611B/VA	1.0	%	102	----	----	----	----	
Difluorobenzene, 1,4-	540-36-3	E611B/VA	1.0	%	103	----	----	----	----	
Haloacetic Acids										
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	6.26	----	----	----	----	
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	6.81	----	----	----	----	
Haloacetic acids, total [HAA5]	n/a	E750/WT	5.00	µg/L	13.1	----	----	----	----	

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



QUALITY CONTROL INTERPRETIVE REPORT

<p>Work Order : VA25C9543</p> <p>Client : Town of Ladysmith</p> <p>Contact : Shawn Baker</p> <p>Address : 410 Esplanade PO Box 220 Ladysmith BC Canada V9G 1A2</p> <p>Telephone : ----</p> <p>Project : Arbutus Water Treatment Plant - Monthly Sampling</p> <p>PO : 10940</p> <p>C-O-C number : ----</p> <p>Sampler : ----</p> <p>Site : Town of Ladysmith</p> <p>Quote number : Town of Ladysmith Standing Offer_V2</p> <p>No. of samples received : 1</p> <p>No. of samples analysed : 1</p>	<p>Page : 1 of 5</p> <p>Laboratory : ALS Environmental - Vancouver</p> <p>Account Manager : Kevin Bhikadia</p> <p>Address : 8081 Lougheed Highway Burnaby, British Columbia Canada V5A 1W9</p> <p>Telephone : +1 604 253 4188</p> <p>Date Samples Received : 05-Nov-2025 09:50</p> <p>Issue Date : 19-Nov-2025 13:04</p>
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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 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 Matrix Spike Duplicate (MSD) outliers occur - please see following pages for full details.
- 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

Work Order	: VA25C9537		
Client	: Town of Ladysmith	Laboratory	: ALS Environmental - Vancouver
Contact	: Shawn Baker	Account Manager	: Kevin Bhikadia
Address	: 410 Esplanade PO Box 220 Ladysmith British Columbia Canada V9G 1A2	Address	: 8081 Lougheed Highway Burnaby BC Canada V5A 1W9
Telephone	: ----	E-mail	: Kevin.Bhikadia@alsglobal.com
Project	: Arbutus Water Treatment Plant- Weekly Sampling	Telephone	: +1 604 253 4188
PO	: 10940	Date Samples Received	: 05-Nov-2025 09:50
C-O-C number	: ----	Date Analysis Commenced	: 05-Nov-2025
Sampler	: ----	Issue Date	: 10-Nov-2025 15:34
Site	: Town of Ladysmith		
Quote number	: Town of Ladysmith Standing Offer		
No. of samples received	: 4		
No. of samples analysed	: 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>
Hyunduck Suk	Analyst- General	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.

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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 : VA25C9537
Client : Town of Ladysmith
Project : Arbutus Water Treatment Plant- Weekly Sampling





Analytical Results

Sub-Matrix: Water
 (Matrix: Water)

					Raw Water ----	DAF Effluent ----	UF Effluent ----	Treated Water (post reservoir) ----	----
					Client sample ID				
					Client sampling date / time				
Analyte	CAS Number	Method/Lab	LOR	Unit	VA25C9537-001	VA25C9537-002	VA25C9537-003	VA25C9537-004	----
					Result	Result	Result	Result	----
Sample Preparation									
Dissolved carbon filtration location	----	EP358/VA	-	-	lab	lab	lab	----	----
Physical Tests									
Alkalinity, total (as CaCO3)	----	E290/VA	1.0	mg/L	----	----	----	14.7	----
Colour, true	----	E329/VA	5.0	CU	----	----	----	<5.0	----
Conductivity	----	E100/VA	2.0	µS/cm	----	----	----	61.1	----
pH	----	E108/VA	0.10	pH units	----	----	----	7.26	----
Turbidity	----	E121/VA	0.10	NTU	----	----	----	<0.10	----
Organic / Inorganic Carbon									
Carbon, dissolved organic [DOC]	----	E358-L/VA	0.50	mg/L	2.64	1.54	1.35	----	----
Carbon, total organic [TOC]	----	E355-L/VA	0.50	mg/L	2.84	1.44	1.30	----	----
Microbiological Tests									
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

<p>Work Order : VA25C9537</p> <p>Client : Town of Ladysmith</p> <p>Contact : Shawn Baker</p> <p>Address : 410 Esplanade PO Box 220 Ladysmith BC Canada V9G 1A2</p> <p>Telephone : ----</p> <p>Project : Arbutus Water Treatment Plant- Weekly Sampling</p> <p>PO : 10940</p> <p>C-O-C number : ----</p> <p>Sampler : ----</p> <p>Site : Town of Ladysmith</p> <p>Quote number : Town of Ladysmith Standing Offer_V2</p> <p>No. of samples received : 4</p> <p>No. of samples analysed : 4</p>	<p>Page : 1 of 8</p> <p>Laboratory : ALS Environmental - Vancouver</p> <p>Account Manager : Kevin Bhikadia</p> <p>Address : 8081 Lougheed Highway Burnaby, British Columbia Canada V5A 1W9</p> <p>Telephone : +1 604 253 4188</p> <p>Date Samples Received : 05-Nov-2025 09:50</p> <p>Issue Date : 10-Nov-2025 15:31</p>
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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 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 Laboratory Control Sample (LCS) outliers occur
- No Matrix Spike outliers occur.
- Duplicate outliers occur - please see following pages for full details.
- 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

Work Order	: VA25D0300		
Client	: Town of Ladysmith	Laboratory	: ALS Environmental - Vancouver
Contact	: Shawn Baker	Account Manager	: Kevin Bhikadia
Address	: 410 Esplanade PO Box 220 Ladysmith British Columbia Canada V9G 1A2	Address	: 8081 Lougheed Highway Burnaby BC Canada V5A 1W9
Telephone	: ----	E-mail	: Kevin.Bhikadia@alsglobal.com
Project	: Arbutus Water Treatment Plant - Weekly Sampling	Telephone	: +1 604 253 4188
PO	: 10940	Date Samples Received	: 13-Nov-2025 11:45
C-O-C number	: ----	Date Analysis Commenced	: 13-Nov-2025
Sampler	: ----	Issue Date	: 17-Nov-2025 12:14
Site	: Town of Ladysmith		
Quote number	: Town of Ladysmith Standing Offer		
No. of samples received	: 4		
No. of samples analysed	: 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>
Anita Chuang	Lab Assistant	Inorganics, Burnaby, British Columbia
Lindsay Gung	Department Manager - Inorganics	Microbiology, Burnaby, British Columbia
Miles Gropen	Department Manager - Inorganics	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.

Workorder Comments

Sample Treated Water (post reservoir): HPC Exceeded Recommended Holding Time prior to receipt at the lab for Microbiology analysis. Testing will proceed.

Work Order : VA25D0300
Client : Town of Ladysmith
Project : Arbutus Water Treatment Plant - Weekly Sampling





Analytical Results

Sub-Matrix: Water
 (Matrix: Water)

					Client sample ID	Raw Water ----	DAF Effluent ----	UF Effluent ----	Treated Water (post reservoir) ----	----
					Client sampling date / time	12-Nov-2025 10:30	12-Nov-2025 10:30	12-Nov-2025 10:30	12-Nov-2025 10:30	----
Analyte	CAS Number	Method/Lab	LOR	Unit	VA25D0300-001	VA25D0300-002	VA25D0300-003	VA25D0300-004	----	----
					Result	Result	Result	Result	----	----
Sample Preparation										
Dissolved carbon filtration location	----	EP358/VA	-	-	lab	lab	lab	----	----	----
Physical Tests										
Alkalinity, total (as CaCO3)	----	E290/VA	1.0	mg/L	----	----	----	15.0	----	----
Colour, true	----	E329/VA	5.0	CU	----	----	----	<5.0	----	----
Conductivity	----	E100/VA	2.0	µS/cm	----	----	----	63.3	----	----
pH	----	E108/VA	0.10	pH units	----	----	----	7.44	----	----
Turbidity	----	E121/VA	0.10	NTU	----	----	----	<0.10	----	----
Organic / Inorganic Carbon										
Carbon, dissolved organic [DOC]	----	E358-L/VA	0.50	mg/L	3.16	1.33	1.29	----	----	----
Carbon, total organic [TOC]	----	E355-L/VA	0.50	mg/L	2.79	1.56	1.04	----	----	----
Microbiological Tests										
Heterotrophic plate count [HPC]	----	E020/VA	1	CFU/mL	----	----	----	4	----	----
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

<p>Work Order : VA25D0300</p> <p>Client : Town of Ladysmith</p> <p>Contact : Shawn Baker</p> <p>Address : 410 Esplanade PO Box 220 Ladysmith BC Canada V9G 1A2</p> <p>Telephone : ----</p> <p>Project : Arbutus Water Treatment Plant - Weekly Sampling</p> <p>PO : 10940</p> <p>C-O-C number : ----</p> <p>Sampler : ----</p> <p>Site : Town of Ladysmith</p> <p>Quote number : Town of Ladysmith Standing Offer_V2</p> <p>No. of samples received : 4</p> <p>No. of samples analysed : 4</p>	<p>Page : 1 of 8</p> <p>Laboratory : ALS Environmental - Vancouver</p> <p>Account Manager : Kevin Bhikadia</p> <p>Address : 8081 Lougheed Highway Burnaby, British Columbia Canada V5A 1W9</p> <p>Telephone : +1 604 253 4188</p> <p>Date Samples Received : 13-Nov-2025 11:45</p> <p>Issue Date : 17-Nov-2025 12:13</p>
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- 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 Laboratory Control Sample (LCS) outliers occur
- No Matrix Spike outliers occur.
- Duplicate outliers occur - please see following pages for full details.
- 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

- Quality Control Sample Frequency Outliers occur - please see following pages for full details.



CERTIFICATE OF ANALYSIS

Work Order	: VA25D0859	Laboratory	: ALS Environmental - Vancouver
Client	: Town of Ladysmith	Account Manager	: Kevin Bhikadia
Contact	: Shawn Baker	Address	: 8081 Lougheed Highway
Address	: 410 Esplanade PO Box 220 Ladysmith British Columbia Canada V9G 1A2		: Burnaby BC Canada V5A 1W9
Telephone	: ----	E-mail	: Kevin.Bhikadia@alsglobal.com
Project	: Arbutus Water Treatment - Weekly Sampling	Telephone	: +1 604 253 4188
PO	: 10940	Date Samples Received	: 19-Nov-2025 12:00
C-O-C number	: ----	Date Analysis Commenced	: 19-Nov-2025
Sampler	: ----	Issue Date	: 24-Nov-2025 16:20
Site	: Town of Ladysmith		
Quote number	: Town of Ladysmith Standing Offer		
No. of samples received	: 4		
No. of samples analysed	: 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:

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- 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>
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

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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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
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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) Treated Water: Exceeded Recommended Holding Time prior to receipt at the lab for HPC analysis.

Work Order : VA25D0859
Client : Town of Ladysmith
Project : Arbutus Water Treatment - Weekly Sampling





Analytical Results

Sub-Matrix: Water
 (Matrix: Water)

					Raw Water ----	DAF Effluent ----	UF Effluent ----	Treated Water (post reservoir) ----	----
					Client sample ID				
					Client sampling date / time				
Analyte	CAS Number	Method/Lab	LOR	Unit	VA25D0859-001	VA25D0859-002	VA25D0859-003	VA25D0859-004	----
					Result	Result	Result	Result	----
Sample Preparation									
Dissolved carbon filtration location	----	EP358/VA	-	-	lab	lab	lab	----	----
Physical Tests									
Alkalinity, total (as CaCO3)	----	E290/VA	1.0	mg/L	----	----	----	15.2	----
Colour, true	----	E329/VA	5.0	CU	----	----	----	<5.0	----
Conductivity	----	E100/VA	2.0	µS/cm	----	----	----	63.6	----
pH	----	E108/VA	0.10	pH units	----	----	----	7.44	----
Turbidity	----	E121/VA	0.10	NTU	----	----	----	<0.10	----
Organic / Inorganic Carbon									
Carbon, dissolved organic [DOC]	----	E358-L/VA	0.50	mg/L	2.67	1.13	1.12	----	----
Carbon, total organic [TOC]	----	E355-L/VA	0.50	mg/L	2.61	1.24	1.19	----	----
Microbiological Tests									
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

<p>Work Order : VA25D0859</p> <p>Client : Town of Ladysmith</p> <p>Contact : Shawn Baker</p> <p>Address : 410 Esplanade PO Box 220 Ladysmith BC Canada V9G 1A2</p> <p>Telephone : ----</p> <p>Project : Arbutus Water Treatment - Weekly Sampling</p> <p>PO : 10940</p> <p>C-O-C number : ----</p> <p>Sampler : ----</p> <p>Site : Town of Ladysmith</p> <p>Quote number : Town of Ladysmith Standing Offer_V2</p> <p>No. of samples received : 4</p> <p>No. of samples analysed : 4</p>	<p>Page : 1 of 7</p> <p>Laboratory : ALS Environmental - Vancouver</p> <p>Account Manager : Kevin Bhikadia</p> <p>Address : 8081 Lougheed Highway Burnaby, British Columbia Canada V5A 1W9</p> <p>Telephone : +1 604 253 4188</p> <p>Date Samples Received : 19-Nov-2025 12:00</p> <p>Issue Date : 24-Nov-2025 16:20</p>
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Workorder Comments

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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

Work Order	: VA25D1532	Laboratory	: ALS Environmental - Vancouver
Client	: Town of Ladysmith	Account Manager	: Kevin Bhikadia
Contact	: Shawn Baker	Address	: 8081 Lougheed Highway
Address	: 410 Esplanade PO Box 220 Ladysmith British Columbia Canada V9G 1A2		: Burnaby BC Canada V5A 1W9
Telephone	: ----	E-mail	: Kevin.Bhikadia@alsglobal.com
Project	: Arbutus Water Treatment Plant - Quarterly Lake Sampling	Telephone	: +1 604 253 4188
PO	: 10940	Date Samples Received	: 26-Nov-2025 10:20
C-O-C number	: ----	Date Analysis Commenced	: 26-Nov-2025
Sampler	: ----	Issue Date	: 04-Dec-2025 11:45
Site	: RFP Tender No. 2022-IS-20 Extension		
Quote number	: Town of Ladysmith Standing Offer		
No. of samples received	: 2		
No. of samples analysed	: 2		

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.

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- General Comments
- Analytical Results
- Surrogate Control Limits

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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
Kim Jensen	Department Manager - Metals	Metals, Burnaby, British Columbia
Lindsay Gung	Department Manager - Inorganics	Microbiology, Burnaby, British Columbia
Monica Ko	Supervisor - Inorganic	Inorganics, Burnaby, British Columbia
Robin Weeks	Supervisor - Organics Extractions	Organics, Burnaby, British Columbia



General Comments

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AU/cm	absorbance units per centimetre
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
µg/L	micrograms per litre

<: less than.

>: greater than.

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Work Order : VA25D1532
Client : Town of Ladysmith
Project : Arbutus Water Treatment Plant - Quarterly Lake Sampling





Analytical Results

Sub-Matrix: Water (Matrix: Water)					Client sample ID	Stocking Lake	Holland Lake	----	----	----
					Client sampling date / time	25-Nov-2025 10:30	25-Nov-2025 10:30	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit	VA25D1532-001	VA25D1532-002	----	----	----	
					Result	Result	----	----	----	
Sample Preparation										
Dissolved carbon filtration location	----	EP358/VA	-	-	lab	lab	----	----	----	
Physical Tests										
Absorbance, UV (@ 254nm)	----	E404/VA	0.0050	AU/cm	0.0620	0.0920	----	----	----	
Alkalinity, total (as CaCO3)	----	E290/VA	1.0	mg/L	9.8	4.3	----	----	----	
Colour, true	----	E329/VA	5.0	CU	6.8	10.5	----	----	----	
Hardness (as CaCO3), from total Ca/Mg	----	EC100A/VA	0.60	mg/L	11.3	5.00	----	----	----	
pH	----	E108/VA	0.10	pH units	7.17	6.77	----	----	----	
Solids, total dissolved [TDS]	----	E162/VA	10	mg/L	22	19	----	----	----	
Turbidity	----	E121/VA	0.10	NTU	0.70	1.35	----	----	----	
Transmittance, UV (@ 254nm)	----	E404/VA	1.0	% T/cm	86.7	80.9	----	----	----	
Anions and Nutrients										
Bromide	24959-67-9	E235.Br-L/VA	0.050	mg/L	<0.050	<0.050	----	----	----	
Organic / Inorganic Carbon										
Carbon, dissolved organic [DOC]	----	E358-L/VA	0.50	mg/L	2.68	3.82	----	----	----	
Carbon, total organic [TOC]	----	E355-L/VA	0.50	mg/L	2.67	4.88	----	----	----	
Microbiological Tests										
Coliforms, Escherichia coli [E. coli]	----	E010/VA	1	MPN/100 mL	2	<1	----	----	----	
Coliforms, total	----	E010/VA	1	MPN/100 mL	24	26	----	----	----	
Total Metals										
Aluminum, total	7429-90-5	E420/VA	0.0030	mg/L	0.0403	0.0764	----	----	----	
Antimony, total	7440-36-0	E420/VA	0.00010	mg/L	<0.00010	<0.00010	----	----	----	



Analytical Results

Sub-Matrix: Water
 (Matrix: Water)

					Client sample ID	Stocking Lake	Holland Lake	----	----	----
					Client sampling date / time	25-Nov-2025 10:30	25-Nov-2025 10:30	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit	VA25D1532-001	VA25D1532-002	----	----	----	----
					Result	Result	----	----	----	----
Total Metals										
Arsenic, total	7440-38-2	E420/VA	0.00010	mg/L	0.00012	<0.00010	----	----	----	----
Barium, total	7440-39-3	E420/VA	0.00010	mg/L	0.00292	0.00404	----	----	----	----
Beryllium, total	7440-41-7	E420/VA	0.000100	mg/L	<0.000100	<0.000100	----	----	----	----
Bismuth, total	7440-69-9	E420/VA	0.000050	mg/L	<0.000050	<0.000050	----	----	----	----
Boron, total	7440-42-8	E420/VA	0.010	mg/L	0.029	<0.010	----	----	----	----
Cadmium, total	7440-43-9	E420/VA	0.0000050	mg/L	<0.0000050	<0.0000050	----	----	----	----
Calcium, total	7440-70-2	E420/VA	0.050	mg/L	3.64	1.51	----	----	----	----
Cesium, total	7440-46-2	E420/VA	0.000010	mg/L	<0.000010	<0.000010	----	----	----	----
Chromium, total	7440-47-3	E420/VA	0.00050	mg/L	<0.00050	<0.00050	----	----	----	----
Cobalt, total	7440-48-4	E420/VA	0.00010	mg/L	<0.00010	<0.00010	----	----	----	----
Copper, total	7440-50-8	E420/VA	0.00050	mg/L	0.00056	0.00074	----	----	----	----
Iron, total	7439-89-6	E420/VA	0.010	mg/L	0.052	0.273	----	----	----	----
Lead, total	7439-92-1	E420/VA	0.000050	mg/L	<0.000050	<0.000050	----	----	----	----
Lithium, total	7439-93-2	E420/VA	0.0010	mg/L	<0.0010	<0.0010	----	----	----	----
Magnesium, total	7439-95-4	E420/VA	0.0050	mg/L	0.545	0.299	----	----	----	----
Manganese, total	7439-96-5	E420/VA	0.00010	mg/L	0.00588	0.0148	----	----	----	----
Mercury, total	7439-97-6	E508/VA	0.0000050	mg/L	<0.0000050	<0.0000050	----	----	----	----
Molybdenum, total	7439-98-7	E420/VA	0.000050	mg/L	0.000235	<0.000050	----	----	----	----
Nickel, total	7440-02-0	E420/VA	0.00050	mg/L	<0.00050	<0.00050	----	----	----	----
Phosphorus, total	7723-14-0	E420/VA	0.050	mg/L	<0.050	<0.050	----	----	----	----
Potassium, total	7440-09-7	E420/VA	0.050	mg/L	0.260	0.155	----	----	----	----



Analytical Results

Sub-Matrix: Water
 (Matrix: Water)

					Client sample ID	Stocking Lake	Holland Lake	----	----	----
					Client sampling date / time	25-Nov-2025 10:30	25-Nov-2025 10:30	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit	VA25D1532-001	VA25D1532-002	----	----	----	----
					Result	Result	----	----	----	----
Total Metals										
Rubidium, total	7440-17-7	E420/VA	0.00020	mg/L	0.00061	0.00038	----	----	----	----
Selenium, total	7782-49-2	E420/VA	0.000050	mg/L	<0.000050	<0.000050	----	----	----	----
Silicon, total	7440-21-3	E420/VA	0.10	mg/L	1.55	0.94	----	----	----	----
Silver, total	7440-22-4	E420/VA	0.000010	mg/L	<0.000010	<0.000010	----	----	----	----
Sodium, total	7440-23-5	E420/VA	0.050	mg/L	1.23	0.842	----	----	----	----
Strontium, total	7440-24-6	E420/VA	0.00020	mg/L	0.0111	0.00737	----	----	----	----
Sulfur, total	7704-34-9	E420/VA	0.50	mg/L	<0.50	<0.50	----	----	----	----
Tellurium, total	13494-80-9	E420/VA	0.00020	mg/L	<0.00020	<0.00020	----	----	----	----
Thallium, total	7440-28-0	E420/VA	0.000010	mg/L	<0.000010	<0.000010	----	----	----	----
Thorium, total	7440-29-1	E420/VA	0.00010	mg/L	<0.00010	<0.00010	----	----	----	----
Tin, total	7440-31-5	E420/VA	0.00010	mg/L	<0.00010	<0.00010	----	----	----	----
Titanium, total	7440-32-6	E420/VA	0.00030	mg/L	<0.00030	0.00123	----	----	----	----
Tungsten, total	7440-33-7	E420/VA	0.00010	mg/L	<0.00010	<0.00010	----	----	----	----
Uranium, total	7440-61-1	E420/VA	0.000010	mg/L	0.000026	<0.000010	----	----	----	----
Vanadium, total	7440-62-2	E420/VA	0.00050	mg/L	<0.00050	<0.00050	----	----	----	----
Zinc, total	7440-66-6	E420/VA	0.0030	mg/L	<0.0030	0.0036	----	----	----	----
Zirconium, total	7440-67-7	E420/VA	0.00020	mg/L	<0.00020	<0.00020	----	----	----	----
Hydrocarbons										
EPH (C10-C19)	----	E601A/VA	250	µg/L	<250	<250	----	----	----	----
EPH (C10-C32)	----	E601A/VA	400	µg/L	<400	<400	----	----	----	----
EPH (C19-C32)	----	E601A/VA	250	µg/L	<250	<250	----	----	----	----



Analytical Results

Sub-Matrix: Water
 (Matrix: Water)

					Client sample ID	Stocking Lake	Holland Lake	----	----	----
					Client sampling date / time	25-Nov-2025 10:30	25-Nov-2025 10:30	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit	VA25D1532-001	VA25D1532-002	----	----	----	----
					Result	Result	----	----	----	----
Hydrocarbons										
TEH (C10-C30), BC	----	E601A/VA	250	µg/L	<250	<250	----	----	----	----
Hydrocarbons Surrogates										
Bromobenzotrifluoride, 2- (EPH surrogate)	392-83-6	E601A/VA	1.0	%	85.3	86.8	----	----	----	----
Polycyclic Aromatic Hydrocarbons										
Acenaphthene	83-32-9	E641A/VA	0.010	µg/L	<0.010	<0.010	----	----	----	----
Acenaphthylene	208-96-8	E641A/VA	0.010	µg/L	<0.010	<0.010	----	----	----	----
Acridine	260-94-6	E641A/VA	0.010	µg/L	<0.010	<0.010	----	----	----	----
Anthracene	120-12-7	E641A/VA	0.010	µg/L	<0.010	<0.010	----	----	----	----
Benz(a)anthracene	56-55-3	E641A/VA	0.010	µg/L	<0.010	<0.010	----	----	----	----
Benzo(a)pyrene	50-32-8	E641A/VA	0.0050	µg/L	<0.0050	<0.0050	----	----	----	----
Benzo(b+j)fluoranthene	n/a	E641A/VA	0.010	µg/L	<0.010	<0.010	----	----	----	----
Benzo(b+j+k)fluoranthene	n/a	E641A/VA	0.015	µg/L	<0.015	<0.015	----	----	----	----
Benzo(g,h,i)perylene	191-24-2	E641A/VA	0.010	µg/L	<0.010	<0.010	----	----	----	----
Benzo(k)fluoranthene	207-08-9	E641A/VA	0.010	µg/L	<0.010	<0.010	----	----	----	----
Chrysene	218-01-9	E641A/VA	0.010	µg/L	<0.010	<0.010	----	----	----	----
Dibenz(a,h)anthracene	53-70-3	E641A/VA	0.0050	µg/L	<0.0050	<0.0050	----	----	----	----
Fluoranthene	206-44-0	E641A/VA	0.010	µg/L	<0.010	<0.010	----	----	----	----
Fluorene	86-73-7	E641A/VA	0.010	µg/L	<0.010	<0.010	----	----	----	----
Indeno(1,2,3-c,d)pyrene	193-39-5	E641A/VA	0.010	µg/L	<0.010	<0.010	----	----	----	----
Methylnaphthalene, 1-	90-12-0	E641A/VA	0.010	µg/L	<0.010	<0.010	----	----	----	----
Methylnaphthalene, 2-	91-57-6	E641A/VA	0.010	µg/L	<0.010	<0.010	----	----	----	----



Analytical Results

Sub-Matrix: Water
 (Matrix: Water)

					Client sample ID	Stocking Lake	Holland Lake	----	----	----
					Client sampling date / time	25-Nov-2025 10:30	25-Nov-2025 10:30	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit	VA25D1532-001	VA25D1532-002	----	----	----	----
					Result	Result	----	----	----	----
Polycyclic Aromatic Hydrocarbons										
Naphthalene	91-20-3	E641A/VA	0.050	µg/L	<0.050	<0.050	----	----	----	----
Phenanthrene	85-01-8	E641A/VA	0.020	µg/L	<0.020	<0.020	----	----	----	----
Pyrene	129-00-0	E641A/VA	0.010	µg/L	<0.010	<0.010	----	----	----	----
Quinoline	91-22-5	E641A/VA	0.050	µg/L	<0.050	<0.050	----	----	----	----
Polycyclic Aromatic Hydrocarbons Surrogates										
Chrysene-d12	1719-03-5	E641A/VA	0.1	%	85.7	96.1	----	----	----	----
Naphthalene-d8	1146-65-2	E641A/VA	0.1	%	93.4	99.0	----	----	----	----
Phenanthrene-d10	1517-22-2	E641A/VA	0.1	%	93.8	101	----	----	----	----

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



QUALITY CONTROL INTERPRETIVE REPORT

<p>Work Order : VA25D1532</p> <p>Client : Town of Ladysmith</p> <p>Contact : Shawn Baker</p> <p>Address : 410 Esplanade PO Box 220 Ladysmith BC Canada V9G 1A2</p> <p>Telephone : ----</p> <p>Project : Arbutus Water Treatment Plant - Quarterly Lake Sampling</p> <p>PO : 10940</p> <p>C-O-C number : ----</p> <p>Sampler : ----</p> <p>Site : RFP Tender No. 2022-IS-20 Extension</p> <p>Quote number : Town of Ladysmith Standing Offer_V2</p> <p>No. of samples received : 2</p> <p>No. of samples analysed : 2</p>	<p>Page : 1 of 11</p> <p>Laboratory : ALS Environmental - Vancouver</p> <p>Account Manager : Kevin Bhikadia</p> <p>Address : 8081 Lougheed Highway Burnaby, British Columbia Canada V5A 1W9</p> <p>Telephone : +1 604 253 4188</p> <p>Date Samples Received : 26-Nov-2025 10:20</p> <p>Issue Date : 04-Dec-2025 11:43</p>
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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 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

Work Order	: VA25D1704	Laboratory	: ALS Environmental - Vancouver
Client	: Town of Ladysmith	Account Manager	: Kevin Bhikadia
Contact	: Shawn Baker	Address	: 8081 Lougheed Highway
Address	: 410 Esplanade PO Box 220 Ladysmith British Columbia Canada V9G 1A2		: Burnaby BC Canada V5A 1W9
Telephone	: ----	E-mail	: Kevin.Bhikadia@alsglobal.com
Project	: Arbutus Water Treatment Plant-Weekly Sampling	Telephone	: +1 604 253 4188
PO	: 10940	Date Samples Received	: 27-Nov-2025 11:25
C-O-C number	: ----	Date Analysis Commenced	: 27-Nov-2025
Sampler	: ----	Issue Date	: 03-Dec-2025 09:59
Site	: RFP Tender No. 2022-IS-20 Extension		
Quote number	: Town of Ladysmith Standing Offer		
No. of samples received	: 4		
No. of samples analysed	: 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	Microbiology, 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.

Workorder Comments

Sample(s) Treated Water(Post Reservoir): Exceeded Recommended Holding Time prior to receipt at the lab for HPC. Analysis will be conducted from the expired samples.

Work Order : VA25D1704
Client : Town of Ladysmith
Project : Arbutus Water Treatment Plant-Weekly Sampling





Analytical Results

Sub-Matrix: Water
 (Matrix: Water)

					Raw Water ----	DAF Effluent ----	UF Effluent ----	Treated Water (post reservoir) ----	----
					Client sample ID				
					Client sampling date / time				
Analyte	CAS Number	Method/Lab	LOR	Unit	VA25D1704-001	VA25D1704-002	VA25D1704-003	VA25D1704-004	----
					Result	Result	Result	Result	----
Sample Preparation									
Dissolved carbon filtration location	----	EP358/VA	-	-	lab	lab	lab	----	----
Physical Tests									
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	----	----	----	62.5	----
pH	----	E108/VA	0.10	pH units	----	----	----	7.40	----
Turbidity	----	E121/VA	0.10	NTU	----	----	----	<0.10	----
Organic / Inorganic Carbon									
Carbon, dissolved organic [DOC]	----	E358-L/VA	0.50	mg/L	2.69	1.37	1.24	----	----
Carbon, total organic [TOC]	----	E355-L/VA	0.50	mg/L	3.19	1.89	1.46	----	----
Microbiological Tests									
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

<p>Work Order : VA25D1704</p> <p>Client : Town of Ladysmith</p> <p>Contact : Shawn Baker</p> <p>Address : 410 Esplanade PO Box 220 Ladysmith BC Canada V9G 1A2</p> <p>Telephone : ----</p> <p>Project : Arbutus Water Treatment Plant-Weekly Sampling</p> <p>PO : 10940</p> <p>C-O-C number : ----</p> <p>Sampler : ----</p> <p>Site : RFP Tender No. 2022-IS-20 Extension</p> <p>Quote number : Town of Ladysmith Standing Offer_V2</p> <p>No. of samples received : 4</p> <p>No. of samples analysed : 4</p>	<p>Page : 1 of 7</p> <p>Laboratory : ALS Environmental - Vancouver</p> <p>Account Manager : Kevin Bhikadia</p> <p>Address : 8081 Lougheed Highway Burnaby, British Columbia Canada V5A 1W9</p> <p>Telephone : +1 604 253 4188</p> <p>Date Samples Received : 27-Nov-2025 11:25</p> <p>Issue Date : 03-Dec-2025 09:59</p>
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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.