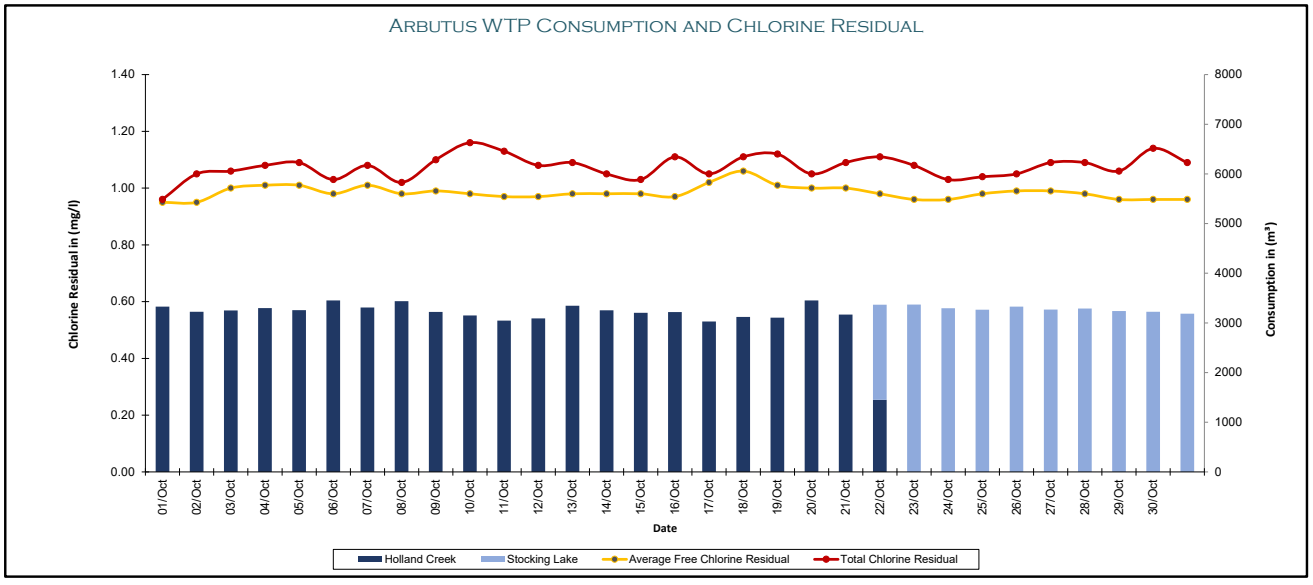
Town of Ladysmith - Arbutus Water treatment Plant

October 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	Minutes·mg/l	CFU	MPN	MPN	mg/l	mg/l	mg/l
01-Oct	0	3327	3327	0.88	0.95	0.95	0.96	222						
02-Oct	0	3224	3224	0.93	0.97	0.95	1.05	116	< 1	< 1	< 1			
03-Oct	0	3250	3250	0.95	1.00	1.00	1.06	161						
04-Oct	0	3299	3299	1.00	1.01	1.01	1.08	149						
05-Oct	0	3258	3258	1.00	1.02	1.01	1.09	147						
06-Oct	0	3452	3452	0.98	1.00	0.98	1.03	132						
07-Oct	0	3310	3310	0.56	2.63	1.01	1.08	114						
08-Oct	0	3439	3439	0.95	0.98	0.98	1.02	170	< 1	< 1	< 1	0.0124	0.0090	0.0131
09-Oct	0	3220	3220	0.98	1.00	0.99	1.10	119						
10-Oct	0	3151	3151	0.97	1.00	0.98	1.16	195						
11-Oct	0	3045	3045	0.96	0.98	0.97	1.13	150						
12-Oct	0	3090	3090	0.96	0.97	0.97	1.08	216						
13-Oct	0	3346	3346	0.96	0.98	0.98	1.09	174						
14-Oct	0	3254	3254	0.97	0.99	0.98	1.05	170						
15-Oct	0	3203	3203	0.97	0.99	0.98	1.03	213	< 1	< 1	< 1			
16-Oct	0	3217	3217	0.96	0.99	0.97	1.11	187						
17-Oct	0	3029	3029	0.96	1.03	1.02	1.05	79						
18-Oct	0	3120	3120	1.02	1.07	1.06	1.11	153						
19-Oct	0	3107	3107	1.01	1.07	1.01	1.12	135						
20-Oct	0	3454	3454	0.95	1.01	1.00	1.05	50						
21-Oct	0	3168	3168	0.99	1.01	1.00	1.09	205	< 1	< 1	< 1			
22-Oct	1916	1450	3366	0.97	1.00	0.98	1.11	212						
23-Oct	3371	0	3371	0.95	0.99	0.96	1.08	180						
24-Oct	3295	0	3295	0.93	0.96	0.96	1.03	233						
25-Oct	3266	0	3266	0.96	0.98	0.98	1.04	134						
26-Oct	3327	0	3327	0.96	1.00	0.99	1.05	124						
27-Oct	3269	0	3269	0.97	1.00	0.99	1.09	177						
28-Oct	3290	0	3290	0.97	1.01	0.98	1.09	174	< 1	< 1	< 1			
29-Oct	3238	0	3238	0.95	0.98	0.96	1.06	148						
30-Oct	3223	0	3223	0.95	0.97	0.96	1.14	117						
	3186	0	3186	0.96	0.96	0.96	1.09	163						
Total	31381	69413	100794											
Average	1012	2239	3251	0.95	1.05	0.98	1.07	159	< 1	< 1	< 1	0.0124	0.0090	0.01310

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



VEOLIA

InSight

Town of Ladysmith Arbutus DWTP

Monthly LRV and Turbidity Report

10/01/2025 - 11/01/2025

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	32	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	32	4.25	4.5	100 %	0 %	0 %	#

LRV Daily Values

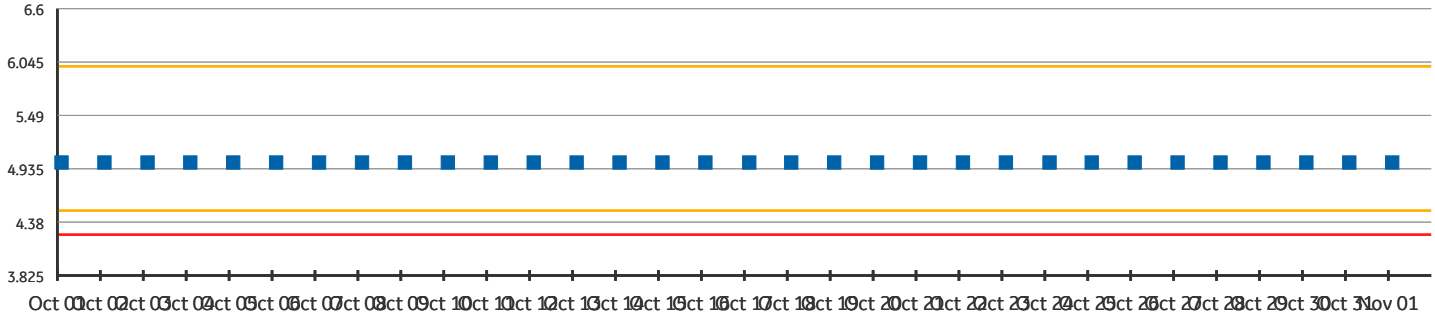
Asset	Parameter	Oct 01	Oct 02	Oct 03	Oct 04	Oct 05	Oct 06	Oct 07	Oct 08	Oct 09	Oct 10	Oct 11	Oct 12
UF 1	LRV	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
UF 2	LRV	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
UF 3	LRV	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0

Asset	Oct 13	Oct 14	Oct 15	Oct 16	Oct 17	Oct 18	Oct 19	Oct 20	Oct 21	Oct 22	Oct 23	Oct 24	Oct 25	Oct 26	Oct 27	Oct 28
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

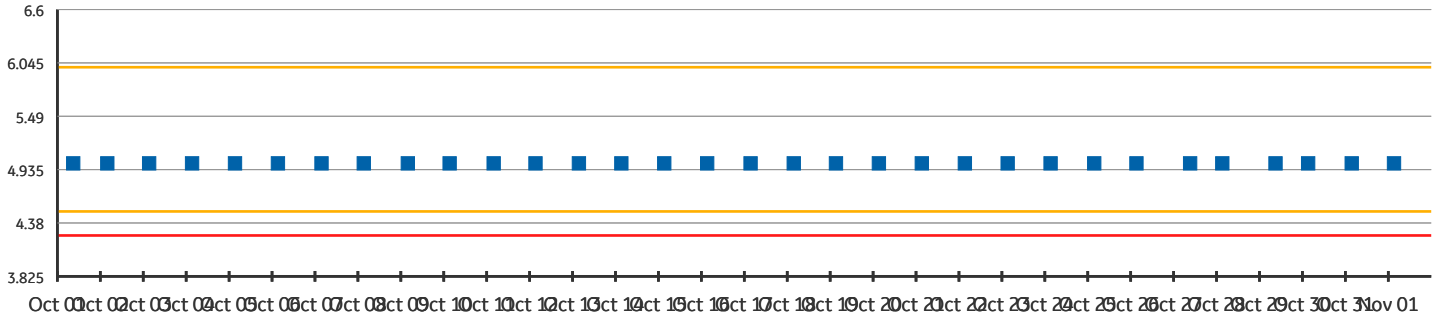
Asset	Oct 29	Oct 30	Oct 31	Nov 01
UF 1	5.0	5.0	5.0	5.0
UF 2	5.0	5.0	5.0	5.0
UF 3	5.0	5.0	5.0	5.0

LRV Raw Data

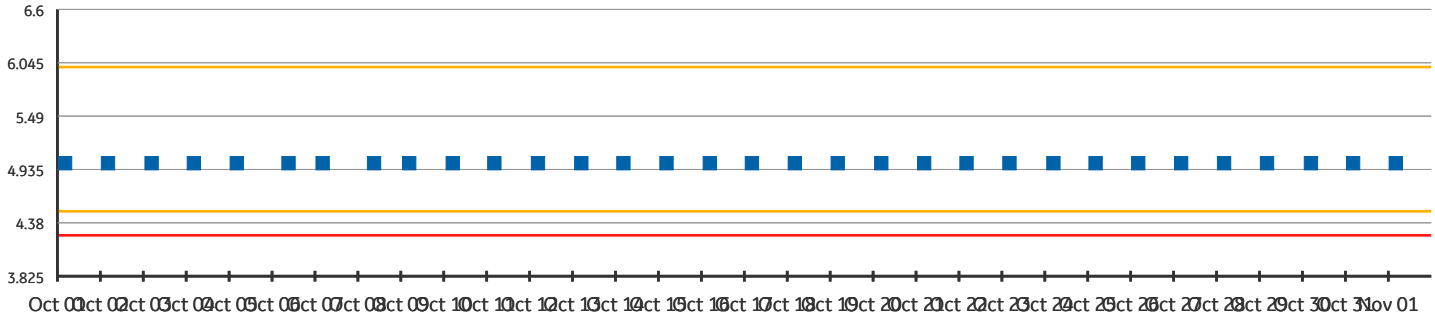
UF 1 - LRV (#)



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		0.014	0.0	45514	--	--	100 %	0 %	0 %	NTU
UF 2	PermeateTurbidity		0.015	0.0	45514	--	--	100 %	0 %	0 %	NTU
UF 3	PermeateTurbidity		0.019	0.0	45514	--	--	100 %	0 %	0 %	NTU
UF 1	PermeateTurbidityAfterBP	●	0.014	0.0	388	0.1	0.3	100 %	0 %	0 %	NTU
UF 2	PermeateTurbidityAfterBP	●	0.015	0.0	395	0.1	0.3	100 %	0 %	0 %	NTU
UF 3	PermeateTurbidityAfterBP	●	0.019	0.0	373	0.1	0.3	100 %	0 %	0 %	NTU

Turbidity Daily Averages

Asset	Parameter	Oct 01	Oct 02	Oct 03	Oct 04	Oct 05	Oct 06	Oct 07	Oct 08	Oct 09	Oct 10	Oct 11
UF 1	PermeateTurbidity	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013
UF 2	PermeateTurbidity	0.015	0.015	0.015	0.015	0.014	0.014	0.014	0.014	0.014	0.014	0.014
UF 3	PermeateTurbidity	0.015	0.015	0.016	0.017	0.017	0.017	0.017	0.017	0.017	0.017	0.018

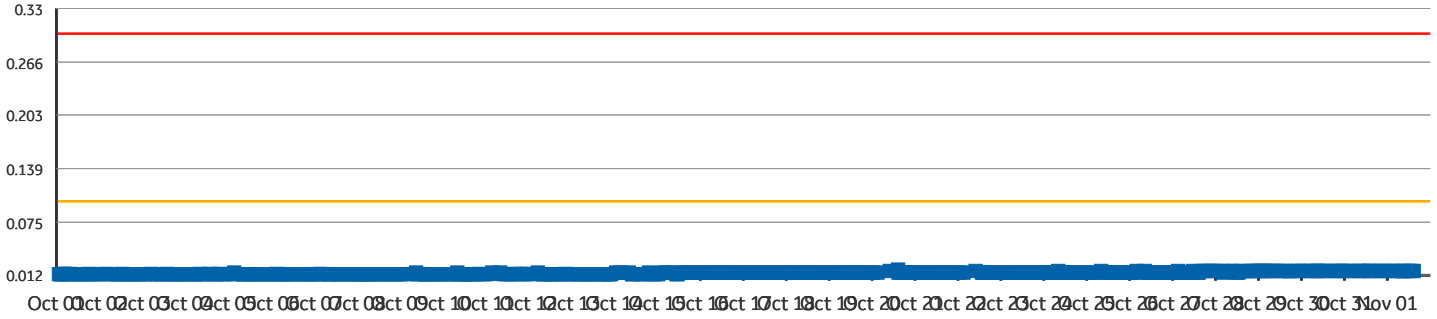
Asset	Parameter	Oct 01	Oct 02	Oct 03	Oct 04	Oct 05	Oct 06	Oct 07	Oct 08	Oct 09	Oct 10	Oct 11
UF 1	PermeateTurbidityAfterBP	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.014
UF 2	PermeateTurbidityAfterBP	0.015	0.015	0.015	0.015	0.015	0.014	0.014	0.014	0.014	0.014	0.014
UF 3	PermeateTurbidityAfterBP	0.015	0.015	0.017	0.017	0.017	0.017	0.017	0.017	0.017	0.017	0.018

Asset	Oct 12	Oct 13	Oct 14	Oct 15	Oct 16	Oct 17	Oct 18	Oct 19	Oct 20	Oct 21	Oct 22	Oct 23	Oct 24	Oct 25	Oct 26
UF 1	0.013	0.013	0.014	0.014	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015
UF 2	0.014	0.014	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	0.019	0.019	0.019	0.019	0.021	0.021	0.021	0.022	0.022	0.023	0.022	0.023	0.024	0.024	0.021
UF 1	0.013	0.013	0.014	0.014	0.015	0.015	0.015	0.015	0.016	0.015	0.015	0.015	0.015	0.015	0.015
UF 2	0.014	0.014	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	0.019	0.019	0.019	0.019	0.021	0.021	0.021	0.022	0.022	0.023	0.023	0.023	0.024	0.024	0.02

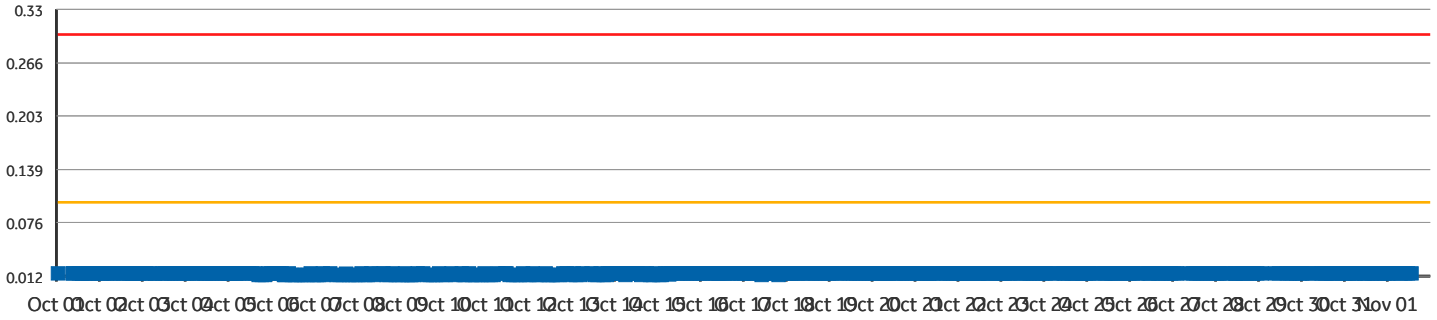
Asset	Oct 27	Oct 28	Oct 29	Oct 30	Oct 31	Nov 01
UF 1	0.015	0.016	0.017	0.017	0.017	0.017
UF 2	0.015	0.015	0.015	0.015	0.015	0.015
UF 3	0.016	0.017	0.017	0.018	0.018	0.016
UF 1	0.016	0.016	0.017	0.017	0.017	0.017
UF 2	0.015	0.015	0.015	0.015	0.015	0.015
UF 3	0.016	0.017	0.017	0.018	0.018	0.016

Turbidity Raw Data

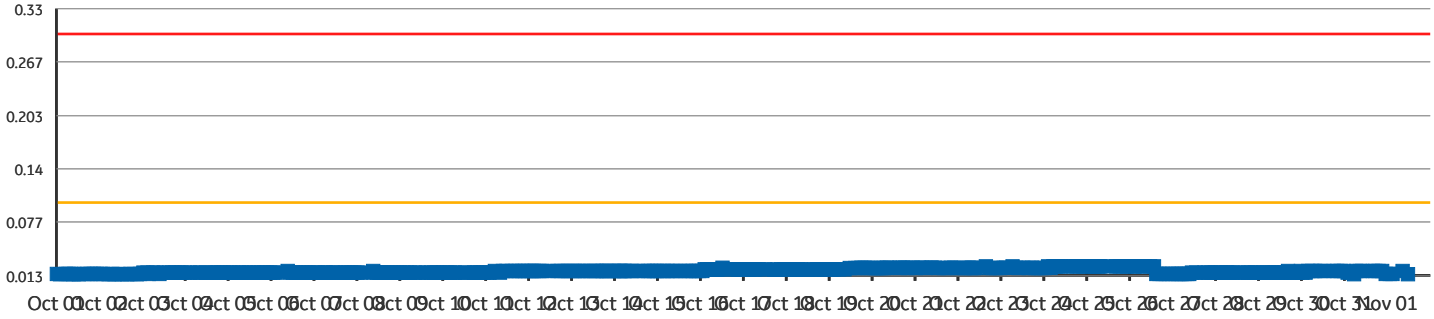
UF 1 - PermeateTurbidityAfterBP (NTU)



UF 2 - PermeateTurbidityAfterBP (NTU)



UF 3 - PermeateTurbidityAfterBP (NTU)



CERTIFICATE OF ANALYSIS

Work Order	:	**VA25C6147**			
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	:	03-Oct-2025 10:05
C-O-C number	:	----	Date Analysis Commenced	:	03-Oct-2025
Sampler	:	----	Issue Date	:	07-Oct-2025 09:24
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.

Signatories	*Position*	*Laboratory Department*
Lia Xie	Lab Assistant	Inorganics, Burnaby, British Columbia
Lindsay Gung	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).

Unit	*Description*
-	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.

Analytical Results

Sub-Matrix: Water
(Matrix: Water)

Analyte	CAS Number	Method/Lab	LOR	Unit	Raw Water ----	DAF Effluent ----	UF Effluent ----	Treated Water (post reservoir) ----	----
Client sampling date / time					02-Oct-2025 10:30	02-Oct-2025 10:30	02-Oct-2025 10:30	02-Oct-2025 10:30	----
					VA25C6147-001	**VA25C6147-002**	**VA25C6147-003**	**VA25C6147-004**	**----**
					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	----	----	----	11.7	----
Colour, true	----	E329/VA	5.0	CU	----	----	----	<5.0	----
Conductivity	----	E100/VA	2.0	µS/cm	----	----	----	54.9	----
pH	----	E108/VA	0.10	pH units	----	----	----	7.28	----
Turbidity	----	E121/VA	0.10	NTU	----	----	----	<0.10	----
Organic / Inorganic Carbon									
Carbon, dissolved organic [DOC]	----	E358-L/VA	0.50	mg/L	4.93	2.60	1.96	----	----
Carbon, total organic [TOC]	----	E355-L/VA	0.50	mg/L	4.93	3.44	2.08	----	----
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.

ALS Canada Ltd.

right solutions.
right partner.

QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: **VA25C6147**	Page	: 1 of 7
Client	: **Town of Ladysmith**	Laboratory	: ALS Environmental - Vancouver
Contact	: Shawn Baker	Account Manager	: Kevin Bhikadia
Address	: 410 Esplanade PO Box 220 Ladysmith BC Canada V9G 1A2	Address	: 8081 Lougheed Highway Burnaby, British Columbia Canada V5A 1W9
Telephone	: ----	Telephone	: +1 604 253 4188
Project	: Arbutus Water Treatment Plant - Weekly Sampling	Date Samples Received	: 03-Oct-2025 10:05
PO	: 10940	Issue Date	: 07-Oct-2025 09:23
C-O-C number	: ----		
Sampler	: ----		
Site	: Town of Ladysmith		
Quote number	: Town of Ladysmith Standing Offer_V2		
No. of samples received	: 4		
No. of samples analysed	: 4		

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	:	**VA25C6763**		
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	: 09-Oct-2025 11:20
C-O-C number	:	----	Date Analysis Commenced	: 09-Oct-2025
Sampler	:	----	Issue Date	: 15-Oct-2025 15:44
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.

Signatories	*Position*	*Laboratory Department*
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).

Unit	*Description*
-	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: Exceeded Recommended Holding Time prior to receipt at the lab for HPC analysis.

Analytical Results

Sub-Matrix: Water
(Matrix: Water)

Analyte	CAS Number	Method/Lab	LOR	Unit	Raw Water ----	DAF Effluent ----	UF Effluent ----	Treated Water (post reservoir) ----	----
Client sampling date / time					08-Oct-2025 10:30	08-Oct-2025 10:30	08-Oct-2025 10:30	08-Oct-2025 10:30	----
					VA25C6763-001	**VA25C6763-002**	**VA25C6763-003**	**VA25C6763-004**	**----**
					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	----	----	----	12.7	----
Colour, true	----	E329/VA	5.0	CU	----	----	----	<5.0	----
Conductivity	----	E100/VA	2.0	µS/cm	----	----	----	57.4	----
pH	----	E108/VA	0.10	pH units	----	----	----	7.46	----
Turbidity	----	E121/VA	0.10	NTU	----	----	----	<0.10	----
Organic / Inorganic Carbon									
Carbon, dissolved organic [DOC]	----	E358-L/VA	0.50	mg/L	2.20	0.99	0.88	----	----
Carbon, total organic [TOC]	----	E355-L/VA	0.50	mg/L	2.09	1.00	0.81	----	----
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.

ALS Canada Ltd.

right solutions.
right partner.

QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: **VA25C6763**	Page	: 1 of 7
Client	: **Town of Ladysmith**	Laboratory	: ALS Environmental - Vancouver
Contact	: Shawn Baker	Account Manager	: Kevin Bhikadia
Address	: 410 Esplanade PO Box 220 Ladysmith BC Canada V9G 1A2	Address	: 8081 Lougheed Highway Burnaby, British Columbia Canada V5A 1W9
Telephone	: ----	Telephone	: +1 604 253 4188
Project	: Arbutus Water Treatment Plant - Weekly Sampling	Date Samples Received	: 09-Oct-2025 11:20
PO	: 10940	Issue Date	: 15-Oct-2025 15:43
C-O-C number	: ----		
Sampler	: ----		
Site	: Town of Ladysmith		
Quote number	: Town of Ladysmith Standing Offer_V2		
No. of samples received	: 4		
No. of samples analysed	: 4		

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	:	**VA25C6768**		
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 - Monthly Sampling	Telephone	: +1 604 253 4188
PO	:	10940	Date Samples Received	: 09-Oct-2025 11:20
C-O-C number	:	----	Date Analysis Commenced	: 10-Oct-2025
Sampler	:	----	Issue Date	: 16-Oct-2025 09:49
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.

Signatories	*Position*	*Laboratory Department*
Catherine DeMone	Laboratory Analyst	LCMS, Waterloo, Ontario
Kevin Duarte	Supervisor - Metals ICP Instrumentation	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).

Unit	*Description*
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)

Analyte	CAS Number	Method/Lab	LOR	Unit	Treated Water (post reservoir) ----	----	----	----	----
Client sample ID					Treated Water (post reservoir) ----	----	----	----	----
Client sampling date / time					08-Oct-2025 10:30	----	----	----	----
					VA25C6768-001	----	----	----	----
					Result	----	----	----	----
Total Metals									
Aluminum, total	7429-90-5	E420/VA	0.0030	mg/L	0.0124	----	----	----	----
Volatile Organic Compounds [THMs]									
Bromodichloromethane	75-27-4	E611B/VA	1.0	µg/L	1.7	----	----	----	----
Bromoform	75-25-2	E611B/VA	1.0	µg/L	<1.0	----	----	----	----
Chloroform	67-66-3	E611B/VA	1.0	µg/L	11.4	----	----	----	----
Dibromochloromethane	124-48-1	E611B/VA	1.0	µg/L	<1.0	----	----	----	----
Trihalomethanes [THMs], total	----	E611B/VA	2.0	µg/L	13.1	----	----	----	----
Volatile Organic Compounds [THMs] Surrogates									
Bromofluorobenzene, 4-	460-00-4	E611B/VA	1.0	%	92.4	----	----	----	----
Difluorobenzene, 1,4-	540-36-3	E611B/VA	1.0	%	100	----	----	----	----
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	4.57	----	----	----	----
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	4.39	----	----	----	----
Haloacetic acids, total [HAA5]	n/a	E750/WT	5.00	µg/L	8.96	----	----	----	----

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

ALS Canada Ltd.

right solutions.
right partner.

QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: **VA25C6768**	Page	: 1 of 5
Client	: **Town of Ladysmith**	Laboratory	: ALS Environmental - Vancouver
Contact	: Shawn Baker	Account Manager	: Kevin Bhikadia
Address	: 410 Esplanade PO Box 220 Ladysmith BC Canada V9G 1A2	Address	: 8081 Lougheed Highway Burnaby, British Columbia Canada V5A 1W9
Telephone	: ----	Telephone	: +1 604 253 4188
Project	: Arbutus Water Treatment Plant - Monthly Sampling	Date Samples Received	: 09-Oct-2025 11:20
PO	: 10940	Issue Date	: 16-Oct-2025 09:49
C-O-C number	: ----		
Sampler	: ----		
Site	: Town of Ladysmith		
Quote number	: Town of Ladysmith Standing Offer_V2		
No. of samples received	: 1		
No. of samples analysed	: 1		

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	:	**VA25C7264**		
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	: 15-Oct-2025 10:45
C-O-C number	:	----	Date Analysis Commenced	: 15-Oct-2025
Sampler	:	----	Issue Date	: 21-Oct-2025 08:37
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.

Signatories	*Position*	*Laboratory Department*
Anita Chuang	Lab Assistant	Inorganics, Burnaby, British Columbia
Hyunduck Suk	Analyst- General	Inorganics, Burnaby, British Columbia
Miles Gropen	Department Manager - Inorganics	Microbiology, Burnaby, British Columbia
Monica Ko	Supervisor - Inorganic	Inorganics, Burnaby, British Columbia
Tracy Harley	Supervisor - Water Quality Instrumentation	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).

Unit	*Description*
-	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.

Analytical Results

Sub-Matrix: Water
(Matrix: Water)

Analyte	CAS Number	Method/Lab	LOR	Unit	Raw Water ----	DAF Effluent ----	UF Effluent ----	Treated Water (post reservoir) ----	----
Client sampling date / time					15-Oct-2025 10:30	15-Oct-2025 10:30	15-Oct-2025 10:30	15-Oct-2025 10:30	----
					VA25C7264-001	**VA25C7264-002**	**VA25C7264-003**	**VA25C7264-004**	**----**
					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	----	----	----	12.0	----
Colour, true	----	E329/VA	5.0	CU	----	----	----	<5.0	----
Conductivity	----	E100/VA	2.0	µS/cm	----	----	----	57.5	----
pH	----	E108/VA	0.10	pH units	----	----	----	6.49	----
Turbidity	----	E121/VA	0.10	NTU	----	----	----	<0.10	----
Organic / Inorganic Carbon									
Carbon, dissolved organic [DOC]	----	E358-L/VA	0.50	mg/L	2.40	1.13	1.26	----	----
Carbon, total organic [TOC]	----	E355-L/VA	0.50	mg/L	2.04	1.41	1.04	----	----
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.

ALS Canada Ltd.

right solutions.
right partner.

QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: **VA25C7264**	Page	: 1 of 7
Client	: **Town of Ladysmith**	Laboratory	: ALS Environmental - Vancouver
Contact	: Shawn Baker	Account Manager	: Kevin Bhikadia
Address	: 410 Esplanade PO Box 220 Ladysmith BC Canada V9G 1A2	Address	: 8081 Lougheed Highway Burnaby, British Columbia Canada V5A 1W9
Telephone	: ----	Telephone	: +1 604 253 4188
Project	: Arbutus Water Treatment Plant - Weekly Sampling	Date Samples Received	: 15-Oct-2025 10:45
PO	: 10940	Issue Date	: 21-Oct-2025 08:36
C-O-C number	: ----		
Sampler	: ----		
Site	: Town of Ladysmith		
Quote number	: Town of Ladysmith Standing Offer_V2		
No. of samples received	: 4		
No. of samples analysed	: 4		

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	:	**VA25C8074**		
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	: 22-Oct-2025 11:50
C-O-C number	:	----	Date Analysis Commenced	: 22-Oct-2025
Sampler	:	----	Issue Date	: 27-Oct-2025 11:54
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.

Signatories	*Position*	*Laboratory Department*
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).

Unit	*Description*
-	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 HPC analysis.

Analytical Results

Sub-Matrix: Water
(Matrix: Water)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID: Raw Water ----	DAF Effluent ----	UF Effluent ----	Treated Water (post reservoir) ----	----
					Client sampling date / time: 21-Oct-2025 10:30	21-Oct-2025 10:30	21-Oct-2025 10:30	21-Oct-2025 10:30	----
					VA25C8074-001	VA25C8074-002	VA25C8074-003	VA25C8074-004	----
					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	----	----	----	12.4	----
Colour, true	----	E329/VA	5.0	CU	----	----	----	<5.0	----
Conductivity	----	E100/VA	2.0	µS/cm	----	----	----	54.2	----
pH	----	E108/VA	0.10	pH units	----	----	----	7.36	----
Turbidity	----	E121/VA	0.10	NTU	----	----	----	<0.10	----
Organic / Inorganic Carbon									
Carbon, dissolved organic [DOC]	----	E358-L/VA	0.50	mg/L	2.69	1.26	1.24	----	----
Carbon, total organic [TOC]	----	E355-L/VA	0.50	mg/L	2.93	1.30	1.28	----	----
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.

ALS Canada Ltd.

right solutions.
right partner.

QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: **VA25C8074**	Page	: 1 of 7
Client	: **Town of Ladysmith**	Laboratory	: ALS Environmental - Vancouver
Contact	: Shawn Baker	Account Manager	: Kevin Bhikadia
Address	: 410 Esplanade PO Box 220 Ladysmith BC Canada V9G 1A2	Address	: 8081 Lougheed Highway Burnaby, British Columbia Canada V5A 1W9
Telephone	: ----	Telephone	: +1 604 253 4188
Project	: Arbutus Water Treatment Plant - Weekly Sampling	Date Samples Received	: 22-Oct-2025 11:50
PO	: 10940	Issue Date	: 27-Oct-2025 11:53
C-O-C number	: ----		
Sampler	: ----		
Site	: Town of Ladysmith		
Quote number	: Town of Ladysmith Standing Offer_V2		
No. of samples received	: 4		
No. of samples analysed	: 4		

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	:	**VA25C8822**		
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	: 29-Oct-2025 10:05
C-O-C number	:	----	Date Analysis Commenced	: 29-Oct-2025
Sampler	:	----	Issue Date	: 03-Nov-2025 16:19
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.

Signatories	*Position*	*Laboratory Department*
Claire Yang	Lab Assistant	Inorganics, Burnaby, British Columbia
Lindsay Gung	Department Manager - Inorganics	Microbiology, 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).

Unit	*Description*
-	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.

Analytical Results

Sub-Matrix: Water
(Matrix: Water)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID: Raw Water ----	DAF Effluent ----	UF Effluent ----	Treated Water (post reservoir) ----	----
					Client sampling date / time: 28-Oct-2025 10:30	28-Oct-2025 10:30	28-Oct-2025 10:30	28-Oct-2025 10:30	----
					VA25C8822-001	VA25C8822-002	VA25C8822-003	VA25C8822-004	----
					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	----	----	----	62.7	----
pH	----	E108/VA	0.10	pH units	----	----	----	7.46	----
Turbidity	----	E121/VA	0.10	NTU	----	----	----	<0.10	----
Organic / Inorganic Carbon									
Carbon, dissolved organic [DOC]	----	E358-L/VA	0.50	mg/L	2.91	1.51	1.51	----	----
Carbon, total organic [TOC]	----	E355-L/VA	0.50	mg/L	3.40	1.87	1.40	----	----
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.

ALS Canada Ltd.

right solutions.
right partner.

QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: **VA25C8822**	Page	: 1 of 7
Client	: **Town of Ladysmith**	Laboratory	: ALS Environmental - Vancouver
Contact	: Shawn Baker	Account Manager	: Kevin Bhikadia
Address	: 410 Esplanade PO Box 220 Ladysmith BC Canada V9G 1A2	Address	: 8081 Lougheed Highway Burnaby, British Columbia Canada V5A 1W9
Telephone	: ----	Telephone	: +1 604 253 4188
Project	: Arbutus Water Treatment Plant - Weekly Sampling	Date Samples Received	: 29-Oct-2025 10:05
PO	: 10940	Issue Date	: 03-Nov-2025 16:19
C-O-C number	: ----		
Sampler	: ----		
Site	: Town of Ladysmith		
Quote number	: Town of Ladysmith Standing Offer_V2		
No. of samples received	: 4		
No. of samples analysed	: 4		

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.