SQUAMISH
HARDWIRED *for* ADVENTURE

2025 DRINKING WATER QUALITY

Drinking Water Quality Report

DISTRICT OF SQUAMISH
June 2026

District of Squamish 37955 Second Avenue PO Box 310 Squamish British Columbia V8B 0A3
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Contents

Executive Summary

This report details the District of Squamish's drinking water supply and distribution system operations for the 2025 calendar year. The District of Squamish is located within the unceded traditional territory of the Sḵwx̱wú7mesh (Squamish) and Tsleil-Waututh Nations. The District of Squamish's Water Supply and Distribution (WS&D) system is governed by the Province of British Columbia's Drinking Water Protection Act and Regulation (DWPA&R), Water Sustainability Act (WSA), Ground Water Protection Regulation (GWPR), an Environmental Assessment Act (EA) project approval certificate, as well as a Permit to Operate, issued by Vancouver Coastal Health. In 2025, water samples were tested weekly for *E. coli* and total coliform bacteria to ensure water quality parameters met the applicable Guidelines for Canadian Drinking Water Quality set out by Health Canada and the potable water quality standards of the BC Drinking Water Protection Act.

The Squamish WS&D system is operated and maintained by the District of Squamish Water Utility team and is monitored 24 hours/day, 365 days/year via a Supervisory Control and Data Acquisition (SCADA) system to ensure optimal and uninterrupted service to the community. The District of Squamish continues active programs relating to water quality, water conservation & loss prevention, water metering, unidirectional and dead-end flushing, and cross connection control in effort to reduce the demand on the water supply system and ensure the provision of clean and safe drinking water to the community. In addition, the District of Squamish delivers several annual operational, capital improvement, and renewal initiatives to enhance system reliability and support long-term service sustainability.

1.0 Introduction

The purpose of this report is to meet the requirements of the BC Drinking Water Protection Act and Regulation, the requirements of the District's permit to operate. This annual report is also a summary of the Districts ongoing sampling plan, infrastructure upgrades, water master plan and other undertakings by the District to ensure safe and reliable drinking water

The District of Squamish can supply water to the community from three sources. The District maintains a primary groundwater source and two surface water sources which are reserved for emergency backup. All water supplies are equipped with either primary or secondary chlorine disinfection. In 2025 the distribution system consisted of nine (9) reservoirs, twenty-two (22) pressure reducing valve (PRV) stations, four (4) pump stations, 854 fire hydrants, 8,742 service connections, and 182 km of watermain. The system delivered potable water to approximately 29,752 residents (DoS Projections), nearly 800 industrial, commercial and institutional (ICI) customers, and the Sťá7mes (Stawamus 24), Yékw'apsem (Yekwaupsum 18), Kaẇ tín (Kowtain 17), Siẏích'em (Seaichem 16) and Wíwk'em (Waiwaikum 14) First Nations Reserves within the District of Squamish. In 2025, the District supplied the community with 5.16 million cubic meters (m^3) of potable water. The system experienced an Average Daily Demand (ADD) of 14 ML/day and a Maximum Daily Demand (MDD) of 20.2 ML/day.

The District employs a Supervisory Control and Data Acquisition (SCADA) system that continuously monitors the WS&D system, records data, and alerts District staff to areas of concern, faults, and failures in the system.

2.0 Water Source

The District of Squamish can obtain its water from three sources:

- Primary Supply: Powerhouse Springs well field
- Emergency Backup Supply:
    - Stawamus River (South distribution Emergency Backup Water Supply)
    - Mashiter Creek (North distribution Emergency Backup Water supply)

The primary supply infrastructure is comprised of seven (7) groundwater wells at the Powerhouse Springs well field. If the well field is compromised or unable to meet the distribution system demands (due to a watermain break, pump failure, major fire flow demand, or other emergency), water can be drawn from Stawamus River and/or Mashiter Creek. These surface water sources are available as backup only and require boil water advisory if utilized. **In 2025, there was no surface water use in the District of Squamish's potable water system.**

2.1 Powerhouse Springs Well Site

In 2025, the Powerhouse Springs well site, located near the confluence of Ring Creek and the Mamquam River, operated seven (7) ground water wells which provide high quality potable water to the District of Squamish. A full description of the system's potential can be found in the District of Squamish – Water Master Plan, which was renewed in 2024. A well protection plan (WPP), completed by Piteau Associates Engineering LTD, was adopted in 2014. Both documents are publicly available on the District website. Due to the high quality of the PHS water source, primary treatment is not needed. Secondary chlorination is provided to ensure the microbial safety of the water as it travels throughout the distribution network. District staff work to maintain a minimum chlorine residual of 0.20mg/L at the end of the distribution network.

2.1.1 Ring Creek Aquifer

The Ring Creek Aquifer, the source for PHS, is recharged primarily by seepage from Ring Creek and Skookum Creek (69%). Rainfall and snowmelt seepage through the lava flow formation also recharges the aquifer (31%)[1]. A 2014 hydrogeological assessment concluded that water withdrawn from the aquifer at PHS poses a "low risk of containing pathogens"[1]. As such, primary disinfection of the water pumped from the Ring Creek Aquifer is not necessary. A groundwater protection zone has been established above the aquifer to limit land use activities within the 5-year well capture zone. The district has erected signs to inform the public and is working with commercial users in the area to prevent hazardous materials from entering the aquifer.

2.1.2 Powerhouse Springs Wells Rehabilitation

The District's Water Department retains a Professional Hydrogeologist and a qualified well maintenance contractor annually to conduct well rehabilitation work. In Spring of 2025 Wells No. 1 and No. 3, inspected, tested and were rehabilitated. A report detailing the results of well rehabilitation work was authored by Kalwij Water Dynamics (KWD) in October 2025 summarizing current well status and providing recommendations for work in 2026.

2.1.3 Chlorination of Powerhouse Springs Water

Groundwater pumped out of the Powerhouse Springs well field does not require primary disinfection. Sodium hypochlorite (NaClO) is used as a secondary disinfection method to prevent microbial growth in water travelling throughout the distribution system. Utilities staff strive to maintain a minimum concentration of 0.20 mg/l free residual chlorine at all points within the distribution system as per the Guidelines for Canadian Drinking Water Quality.

In addition to routine grab sample testing, free chlorine residuals are continuously measured using online chlorine analyzers monitored by SCADA at nine (9) locations throughout the distribution system.

[1] Powerhouse Springs Well Protection Plan, Piteau Associates Engineering Ltd, 2014

2.2 Emergency Surface Water Sources: Stawamus River & Mashiter Creek

In the event of an emergency or water demand exceeding the Powerhouse Springs well field capacity, water can be drawn from the Stawamus River and Mashiter Creek. Water from these two surface intakes is treated using sodium hypochlorite as a primary disinfectant prior to distribution. Surface water sources are prone to variable water quality, unlike groundwater taken from an aquifer. For this reason, if back-up sources are utilized, the District will immediately consult VCH to assess water quality conditions and obtain advice. It is likely that a Boil Water Advisory would be implemented should water from either of the surface water sources enter the distribution system. As such, a double block and bleed system is in place to ensure water from surface water sources cannot enter the WS&D system without on-site operator intervention. The District holds a water license for the Stawamus River and Mashiter Creek for 132 L/s and 184 L/s, respectively.

2.3 Risk Assessment and Mitigation

The District of Squamish is fortunate to have multiple sources of freshwater. However, the District is constantly monitoring the supply and distribution system for potential risks. Risks may include:

- Population growth causing increased consumption and requiring capital upgrades to maintain adequate fire flow capacity within the distribution system
- Aging infrastructure causing water loss and infrastructure failure
- Surface water sources are at risk of contamination from human and animal activity in the catchment area
- Increased development rates causing water main and service breaks during ground disturbance and construction activity
- Backflow / back-siphonage events from private property causing water system contamination
- Effect of climate change:
    - Glacier recession and lower than historical average snowpack reducing aquifer recharge rates
    - Increased likelihood of wildfire affecting critical infrastructure and watershed supply
    - Increased demand due to drought conditions
    - Increased Peak Hour Demand and Max Day Demand due to hot weather
- Water license reduction, revocation
    - The Provincial Ministry of Water, Lands, Resource Stewardship has indicated a desire to reduce and/or revoke the District of Squamish's existing surface water licenses on the Stawamus and Mashiter rivers via powers granted under the Water Sustainability Act and Regulation.
- Environmental Assessment Act Authorization limitations on groundwater extraction rates and allowable quantity of wells.

Proactive measures and ongoing maintenance programs in place to mitigate potential risks include:

- An update of the Water Master Plan (WMP) was completed and adopted by Council in 2024
- The District of Squamish Asset Management Plan (AMP) was revised and adopted by Council in 2022
- An observation well (OW 483) is installed upstream of the PHS well field to monitor for fluctuations in aquifer capacity and water quality
- Implementation of a Water Conservation Plan
- Implementation of a Well Protection Plan
- Community water supply land designations for both emergency surface water sources
- Implementation of a Cross Connection Control program and bylaw

3.0 Asset Management, Upgrades, Major Maintenance and Developer Contributions

The District of Squamish maintains and continues to improve its water distribution system to provide the best service possible. This section summarizes both District capital improvements and new developer contributed infrastructure.

3.1 Developer Infrastructure Contributions and District Capital improvements

Contribution	**Quantity**
400mm Watermain	100m
300mm Watermain	823m
250mm Watermain	257m
200mm Watermain	626m
150mm Watermain	64m
Total length of new Watermain	1870m
New Services	42 services
Fire Hydrants	15 hydrants

3.2 Capital Improvements

The District continues to upgrade and replace portions of the water distribution system to ensure consistent and safe delivery of potable water services to the community. In 2025, the following major upgrades were completed to the Districts WS&D system:

1. Commissioned additional pump station on Finch Drive providing additional capacity and redundancy to support pressure management and reliable water distribution to support ongoing growth in that development.

2. Renewed operational viability of the Stawamus intake back-up water source by removing accumulated gravel, cobble, and boulders that had rendered it largely inoperable; it is now ready to augment the well water supply in the event of an emergency with the primary water supply.
3. Completed Bills Place watermain and Pressure reducing valve upgrades improved system pressure control, service reliability, and distribution capacity in the Paco Road area.
4. Repaired and subsequently buried an exposed communications conduit under a Mashiter Creek tributary near Capilano University.
5. Replaced the aging underground chlorination chamber at Powerhouse Springs with a new above-ground kiosk. This project improved staff safety and supports reliable water system operation.
6. A new pressure reducing valve chamber was installed at Thunderbird Ridge to replace end-of-life infrastructure and improve safety for Operators.

   Throughout 2025 contractors and District staff installed more than 1800m of new watermain infrastructure across the District. These upgrades replaced aging watermains and improved fire flow capacity. System maintenance and upgrades will continue in the coming years in accordance with the District's Asset Management Plan and Water Master Plan recommendations.

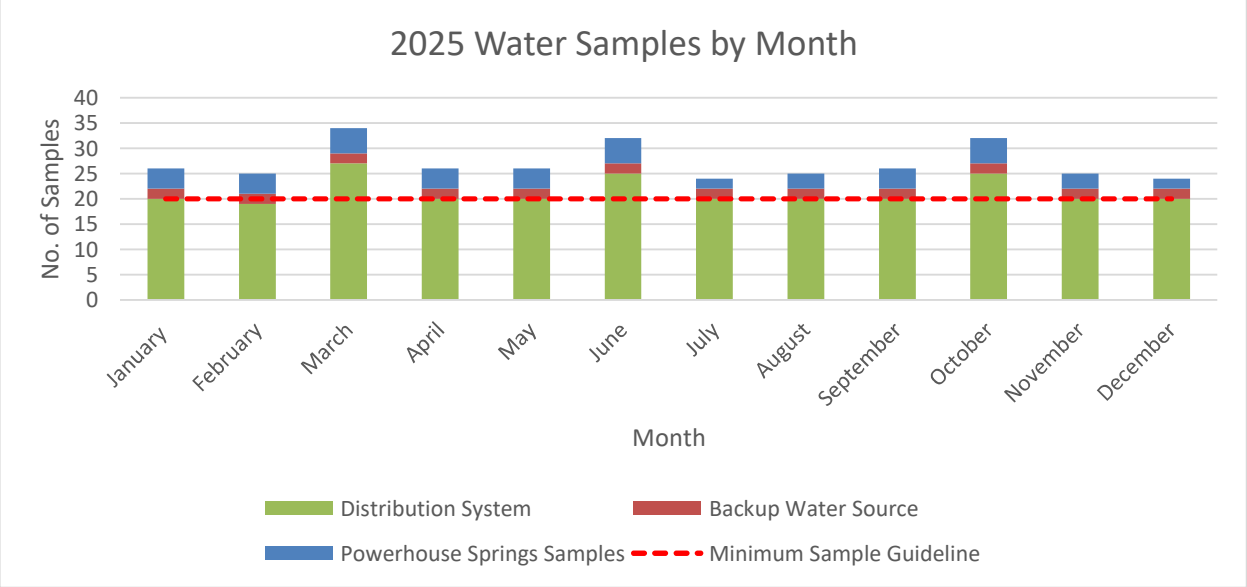
4.0 Standards & Testing Results for Water Supply System

The District of Squamish holds a "Permit to Operate" a water supply system under VCH. The permit includes conditions that must be met to maintain this permit in good standing which are outlined in the following subsections. A copy of the permit is included in Appendix A - Permit to Operate.

4.1 Bacteriological Sampling

The Districts Permit to Operate requires that the District collect and analyze a minimum of 20 bacteriological samples per month from the distribution system. In 2025 the average number of water samples tested per month was 27 Figure 1 shows the number of monthly samples analyzed for bacteriological parameters in 2025. Sample test results are provided in detail in Appendix C - Water Sample Station Locations, and Appendix E – Weekly Water Sample Results.

Figure 1. Number of monthly samples collected for bacteriological testing for the District of Squamish in 2025.



Water quality standards for potable water[2] are as follows:

Drinking Water Protection Act

DRINKING WATER PROTECTION REGULATION

[includes amendments up to B.C. Reg. 352/2005, December 9, 2005]

Parameter:	Standard:
Fecal coliform bacteria	No detectable fecal coliform bacteria per 100 ml
Escherichia coli	No detectable *Escherichia coli* per 100 ml
Total coliform bacteria	
(a) 1 sample in a 30 day period	No detectable total coliform bacteria per 100 ml
(b) more than 1 sample in a 30 day period	At least 90% of samples have no detectable total coliform bacteria per 100 ml and no sample has more than 10 total coliform bacteria per 100 ml

[2]*Drinking Water Protection Act, SBC 2001, c. 9.* BC Laws, Government of British Columbia, 2001, www.bclaws.gov.bc.ca/civix/document/id/complete/statreg/00_01009_01#part2.

Table 1. Summary of the bacteriological testing results for the District of Squamish in 2025.

Water Distribution Sample Location	# of Samples	*E. coli* (EC/100 mL)			Total Coliform (TCU/100 mL)		
		minimum	maximum	average	minimum	maximum	average
Birken	26	<1	<1	<1	<1	<1	<1
Rockridge	27	<1	<1	<1	<1	<1	<1
Perth	26	<1	<1	<1	<1	<1	<1
Progress Way	23	<1	<1	<1	<1	<1	<1
Guildford	27	<1	<1	<1	<1	<1	<1
Quest University	26	<1	<1	<1	<1	<1	<1
Lomond	25	<1	<1	<1	<1	<1	<1
Parkway	25	<1	<1	<1	<1	<1	<1
Pemberton	25	<1	<1	<1	<1	<1	<1
Crumpit Woods	26	<1	<1	<1	<1	<1	<1
Powerhouse Springs (Pre-chlorination)	45	<1	<1	<1	<1	<1	<1
Total Samples:	**301**						

100% of the total samples tested negative or <1 per/100 mL for *E.coli* and Total Coliform in the distribution system over the monitoring period in 2025.

4.2 Physical and Chemical Parameters

Water samples are analyzed for a wide range of physical and chemical parameters by an independent lab to ensure that potable water distributed within the District of Squamish meets the Guidelines for Canadian Drinking Water Quality (GCDWQ). Samples are tested semi-annually for physical and chemical parameters at Powerhouse Springs (the District's primary water source), and annually at Stawamus River and Mashiter Creek (emergency backup water sources).

In 2025 samples were also collected and analyzed for disinfection by-products at four (4) sample locations within the distribution system. Disinfection by-products (DPB's) are chemical compounds that form when chlorine compounds react with organic matter dissolved in water. All samples analyzed contained levels of disinfection by-products below the GCDWQ's maximum acceptable concentration (MAC) and detectable threshold.

4.2.1 Water Chemical Composition

The District's water source is soft (low in hardness), low in alkalinity, and exhibits a neutral to slightly basic pH (pH>7). The physical and chemical composition of the source water is tested biannually to ensure consistent quality. The District ensures that the supplied drinking water is in accordance with both Provincial and Federal guidelines. For further information, consult appendix F – Physical and Chemical Analysis and appendix G – Annual Surface Water Analysis. The District does not have any lead pipes or lead-based infrastructure and analysis has shown lead concentrations in drinking water below the

Maximum Acceptable Concentration (MAC) guideline of 0.005 mg/L. For further information on lead in domestic, please refer to VCH's flushing guideline in Appendix D.

5.0 Conditions of Permit to Operate a Water Supply System

Under permit from VCH, the District employs a variety of plans and programs to ensure safe and high-quality drinking water for its residents. These vary from physical mitigations, monitoring, and routine checks to ensure all aspects of the system are running smoothly.

5.1 Cross-Connection Control Program

The District of Squamish continues to operate its Cross Connection Control (CCC) Program to protect the safety of the drinking water system. Contamination of the potable water system can happen from backflow through cross connections with private plumbing systems. A cross connection is a physical connection between a potable water supply system and a source of contamination. A backflow or back-syphon event is the undesired reverse flow of water creating the potential for contaminants to be drawn back into the potable water supply system.

The District of Squamish is working to ensure the proper installation of backflow prevention assemblies to mitigate the hazards associated with cross connections. A backflow prevention assembly is a series of "one-way" valves that only allow water to flow in the desired direction and physically impede reverse flow conditions.

5.2 Well Protection Plan

The Powerhouse Springs Well Protection Plan (WPP) was developed in 2014 by Piteau Associates Engineering LTD. The Well Protection Plan can be found on the District's website. This plan follows the Province of BC "Well Protection Toolkit" which includes defining the well protection area, identifying potential contaminants, developing management strategies and contingency plans, and finally, implementing, monitoring and evaluating the plan.

In accordance with the recommendations of the WPP, the District of Squamish has obtained a community watershed land tenure from the Province for the Powerhouse Springs aquifer, controls access to the PHS, Stawamus and Mashiter sources and watersheds via various gates and fences, and has installed signage at the Powerhouse Springs well field to inform road and trail users that they are travelling through the groundwater protection zone. In addition, District staff regularly monitor the water supply sources for activities with the potential to impact water quality and/or quantity.

5.3 Dead-End and Unidirectional Flushing Program

The waterworks crew conducts an annual watermain flushing program to scour build-up and debris from water mains. The purpose of this program is to maintain water quality, distribution system capacity, and remove aged water. In 2025 100 % of watermains underwent unidirectional flushing and 100% of dead end watermains were flushed

5.4 Online Monitoring

District staff continuously monitor the operation of the water supply system using SCADA to monitor the water network in real-time. Collected data ranges from the well field pump output flow, chlorine concentrations in key areas of the distribution system, rainfall accumulation data, groundwater levels reservoir levels, PRV pressures, etc. Alarms are generated if control point values go below minimum or above maximum thresholds, if equipment fault codes are registered or if network connectivity with remote sites is lost. The SCADA system allows for operational optimization by automatically controlling variables such as reservoir levels and pump outputs to ensure that water is available to meet demand and, in some cases, allows for remote operator intervention.

As required in the District's Permit to Operate, surface water sources are monitored for turbidity at both the Stawamus River and Mashiter Creek using online analyzers. If a backup surface water source were to be used, the chlorine levels would also be measured by on-line analyzers and recorded by the SCADA system after chlorine is added to the water entering the distribution system.

5.5 Long-Term Water Supply Strategy

The District of Squamish – Water Master Plan revision was adopted by Council in December 2025. The Water Master Plan can be found on the District's website. This report analyzed the District's existing water system, estimated future demands to the year 2041, and provided recommendations for long-term sustainability. Recommendations identified in the Water Master Plan include a long-term source development strategy, a water meter implementation strategy, a water conservation plan, a watermain renewal program, and recommendations for Developer Cost Charge (DCC) projects.

Under current growth projections, the existing water source capacity at the Powerhouse Springs Well field will be able to service the District beyond 2041.

5.5.1 Water Conservation

An important factor considering the rate of growth of the community and aging infrastructure is the need to reduce per capita water consumption to assist in maintaining adequate water supply while reducing the substantial costs associated with building the required infrastructure to increase production and conveyance capacity. Outdoor water use is the primary target for reduction. In 2025 the total combined average day demand per capita was 475 L/c/d.

As part of the 2025 Water Master Plan update, there were updates to the Districts water conservation program. The target of the updated water conservation plan is to reduce per capita water demand by 20% 2041 which translates to 337 L/c/d. Key strategies in the updated plan include enhanced metering systems, modernized leak detection techniques, bylaw revisions, infrastructure improvements, and the implementation of conservation-focused rate structures. Collectively, these initiatives demonstrate a

strong commitment to the long-term sustainability and efficient management of the District's water resources.

5.5.2 Water Metering

All new ICI and multi-family properties are required to have a water meter included in their construction. A water rate study is currently being completed with the updates to the District's Water Master Plan. Additionally, meter setters are being installed at all single-family connections when services are upgraded or replaced. The District is currently working towards implementing metered water billing for ICI and multi-family properties in 2027.

5.6 Emergency Response and Contingency Plan

As per the requirements set out in the Districts' Permit to Operate, the District of Squamish reviews and submits updates to the Water System – Emergency Response and Contingency Plan (ERCP) annually. This document provides guidelines for action that will be taken by District staff in the event of an emergency.

The document outlines general actions that will be taken in the event there is a threat to the quality of drinking water and requires that VCH's Drinking Water Officer (DWO) be kept informed. During an emergency, the DWO and other health authority staff will provide advice about public notification and monitoring of water quality, however the District of Squamish Communications Department will take the lead role as spokesperson for media inquiries and releases.

6.0 Significant Events & Public Notification

Fortis BC began constructing a major natural gas pipeline project from Burnaby to Squamish in 2023. Fortis BC has installed a laydown yard near the intersection of the Mamquam FSR and Powerhouse Springs Road to support the pipeline construction project they are working on which is located near District of Squamish water transmission infrastructure. The District's Engineering and Public Works teams are working closely with Fortis BC representatives for the project to mitigate conflicts and protect the water supply and distribution system.

A tourism related project, Squamish Canyon, completed construction near Powerhouse Springs. The District's water transmission mains are buried within Powerhouse Springs Road and near the road bridge over the Mamquam river that carries the District's water transmission pipeline. The District worked with the proponent to locate and assess the condition of the transmission pipeline. Barriers were installed to protect sections of the pipeline that have minimal ground cover.

In spring of 2025, the Dubec's Hill wildfire required a significant response that included Public Works personnel and equipment and drew water from the system for an extended period. Water team members closely with fire crews and monitored the system for issues related to fire hydrant use and high-water velocities due to high water consumption during fire suppression efforts.

In the fall of 2025, the District experienced a labour dispute involving CUPE 2269, the bargaining unit representing approximately 250 municipal employees, including staff delivering water services. The dispute led to job action and a lockout/general strike, creating temporary operational challenges, but it was subsequently resolved through mediation and ratification of a new collective agreement. Service continuity was maintained during the dispute, and normal operations resumed following settlement of a 3-year deal.

7.0 Operator Qualifications and Training

In accordance with the Drinking Water Protection Regulation, under the Drinking Water Protection Act, staff working on the water system must have a minimum level of certification to match the facility classification and operators must be certified by the Environmental Operators Certification Program (EOCP). This ensures that District staff are adequately trained to operate, maintain, and repair water supply and distribution systems to protect the safety and quality of drinking water.

The District of Squamish Water Distribution System is classified by the EOCP as a Class 3 facility (WD-III). The District of Squamish provides regular training opportunities to ensure staff maintain their certifications and supports its staff in achieving further education and training in their respective fields to provide the best service to its residents. Environmental Operators Certifications for Water Distribution held for the District of Squamish in 2025 are shown in Table 2.

Table 2. EOCP Certified District Staff

Level of Certification	Water Distribution
Operator in Training	1
Level 1	2
Level 2	2
Level 3	3
Total	**8**

8.0 Closing

Residents of Squamish are fortunate to have access to a plentiful high-quality supply of groundwater from the Ring Creek Aquifer as the primary source for drinking water. Appendix H- Ring Creek Aquifer map.

In 2025 the District of Squamish met all the conditions set out by VCH in the Districts' Permit to Operate. Bacteriological sampling was completed weekly and met the potable water quality standards set out by the BC Drinking Water Protection Act and Regulation. The cross-connection control program, well protection plan, and flushing programs were all carried out as outlined in the conditions of the District's Permit to Operate. The SCADA system continues to monitor the water distribution system in real-time, and the District of Squamish has a long-term water supply strategy in place. Additionally, the District maintains an up-to-date Emergency Response and Contingency Plan to guide its response during emergency events.

The District continues to work to maintain, replace, and upgrade existing infrastructure, and to integrate operations and maintenance of new infrastructure, while reducing the overall demand on the system through the water conservation program and ongoing implementation of a water metering program. Overall, the District of Squamish is proud of the water it delivers to its customers and residents and will continue to strive for the highest quality service.

Appendix A - Permit to Operate

Vancouver CoastalHealth
Promoting wellness. Ensuring care.

HEALTH PROTECTION

PERMIT TO OPERATE

A Water Supply System

Purveyor: District Of Squamish
Facility Name: District Of Squamish Waterworks

Conditions of Permit

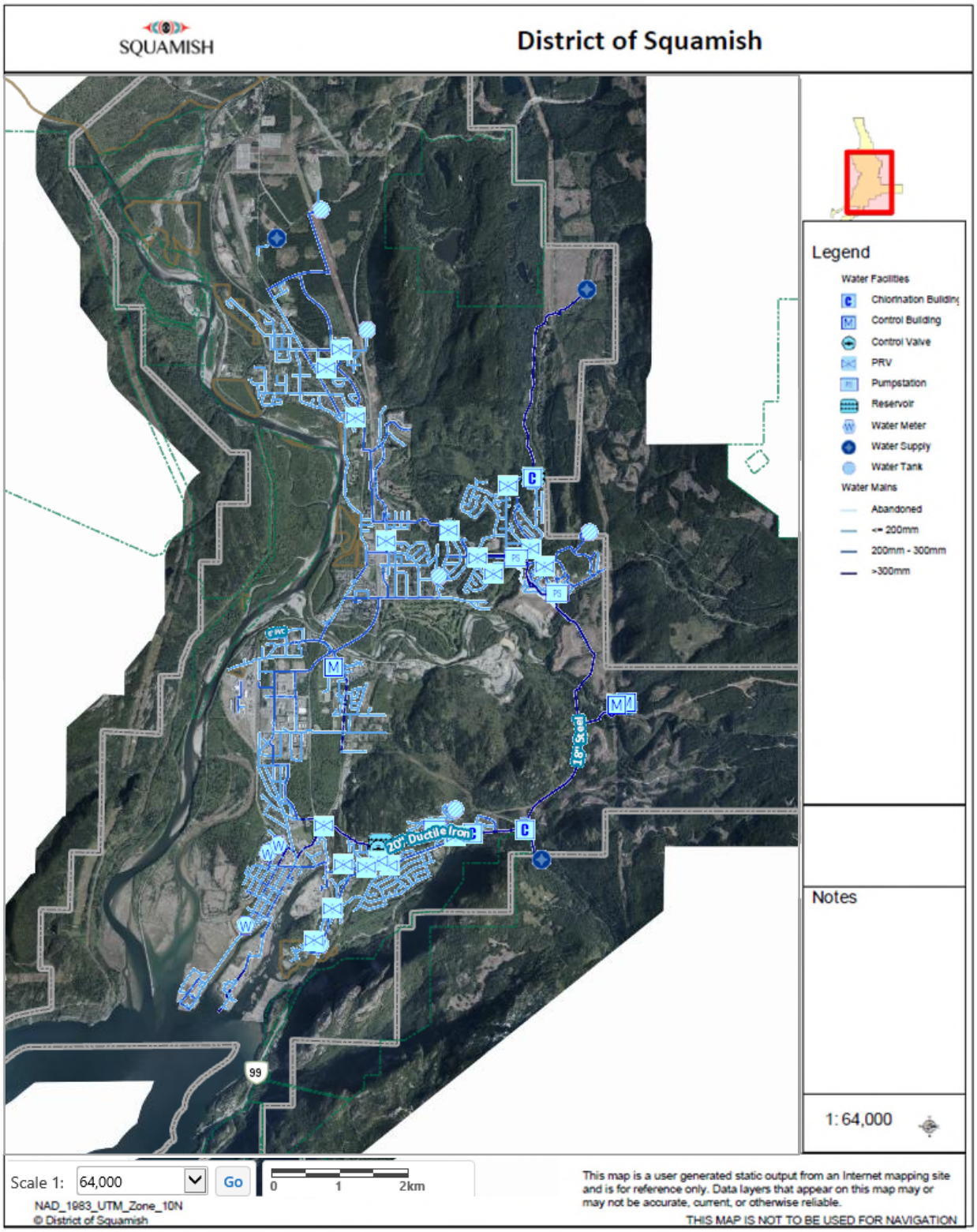
Minimum bacteriological sampling frequency is 20 / month (distribution).
Test for physical and chemical parameters in accordance with your monitoring plan.
Operate in accordance with your Cross-Connection Control Program.
Implement your Well Protection Plan.
Maintain your Unidirectional Flushing Program annually
Maintain continuous on-line monitoring of the water disinfection process.
Maintain continuous on-line turbidity sampling for each surface water source.
Review and update the Emergency Response and Contingency Plan annually.

May 21, 1997
Effective Date
June 29, 2021
Revised Date

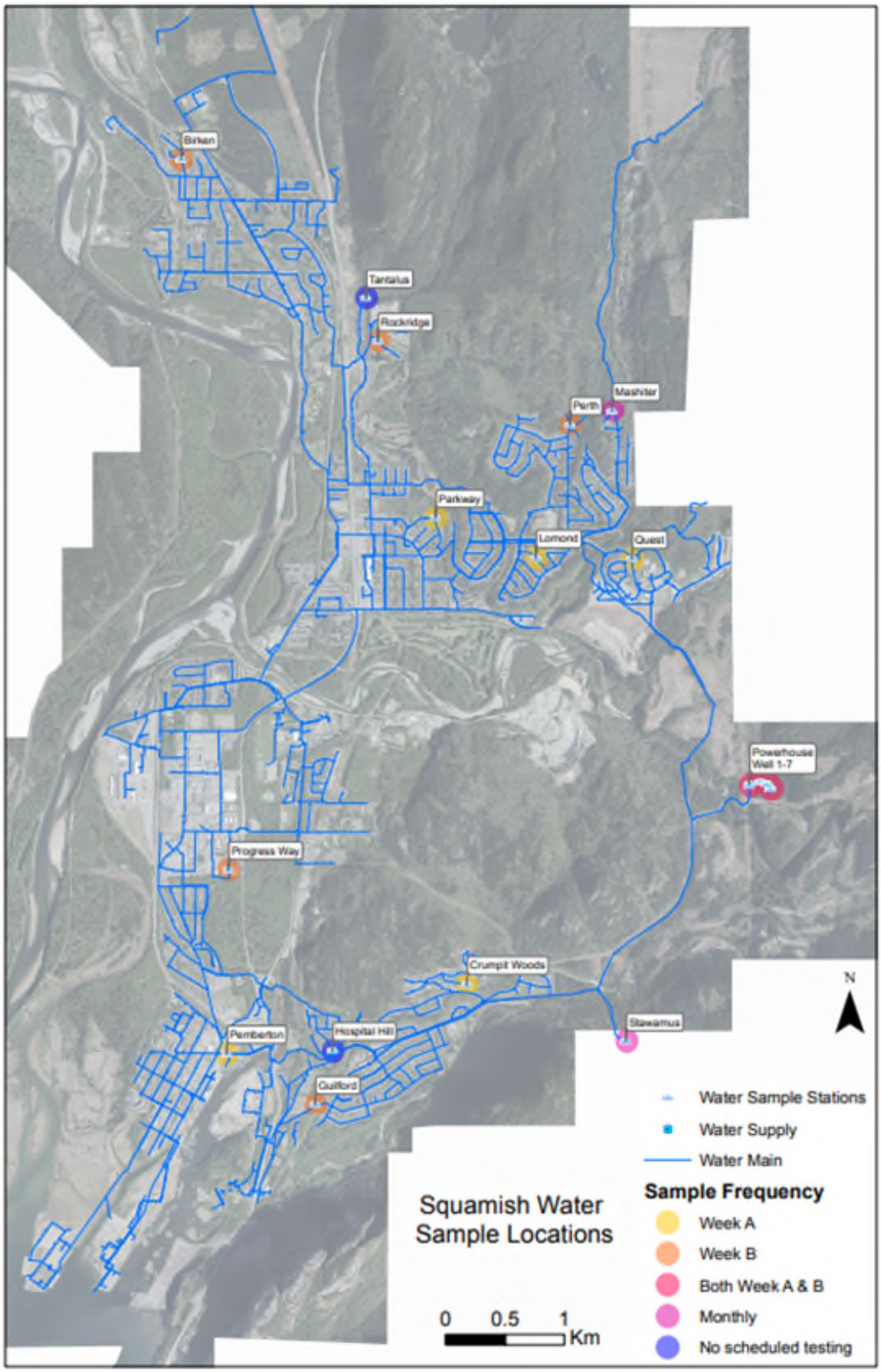
Drinking Water Officer

This permit must be displayed in a conspicuous place and is not transferable

Appendix B - District of Squamish Water Distribution Map



Appendix C - Water Sample Station Locations



Appendix D - VCH Advice re Lead in Drinking Water

Vancouver CoastalHealth
Promoting wellness. Ensuring care.

Office of the Chief Medical Health Officer
800, 601 West Broadway
Vancouver, BC V5Z 4C2
Tel: 604.675.3900 Toll free 1.855.675.3900
Fax: 604.731.2756

Lead in Drinking Water

Lead is harmful to human health. Health impacts include effects on neurological development and behaviour in children and increased blood pressure and kidney issues in adults. Lead exposure can impact the health of everyone, but lead is more of a risk for pregnant women and young children because infants and children absorb lead more easily than adults and are more susceptible to its harmful effects, such as effects on behaviour and intelligence. The public's overall exposure to lead has decreased over the years as some major sources of lead have been eliminated. However building plumbing systems can still be a source of lead for people consuming the water (in addition to other sources such as food, soil, paint and dust). When there is a risk of lead being present in a buildings water system, steps can be taken to reduce exposure to lead from the drinking water.

What is a safe level?

Health Canada has reduced the maximum acceptable concentration of lead in drinking water to 5 parts per billion while at the same stating that lead levels should be as low as reasonably achievable. There is no known safe level of lead exposure.

What can I do?

The BC Ministry of Health document titled *Lead in Drinking Water* provides details on the issue and steps that can be taken to reduce lead levels in your drinking water:

https://www.healthlinkbc.ca/hlbc/files/documents/healthfiles/hfile49e.pdf

Health Canada's document titled: *Drinking water: what about lead?* provides similar details as well as a good description of the sources of lead within a building's plumbing system:

https://www.canada.ca/content/dam/hc-sc/migration/hc-sc/ewh-semt/alt_formats/pdf/pubs/what-about-lead/drinking-water-lead-eng.pdf

Water in Daycares and Homes with Infants

Infants are vulnerable to the effects of lead exposure, and could be highly exposed if they are consuming formula made with tap water from a building plumbing system with lead. Reduction of lead levels by flushing water lines may not be enough to adequately reduce the risk to infants. Additional steps such as the use of filters capable of removing lead or an alternate water source known to be lead free may be required to adequately mitigate the risks.

For licenced daycares VCH staff will work with facility operators to ensure that lead removal procedures are being employed and managed properly.

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Office of the Chief Medical Health Officer
800, 601 West Broadway
Vancouver, BC V5Z 4C2
Tel: 604.675.3900 Toll free 1.855.675.3900
Fax: 604.731.2756

Testing in schools

Drinking water testing for lead is required in school buildings.
For more details see the Ministry of Education & Training website:

https://www2.gov.bc.ca/gov/content/education-training/k-12/administration/legislation-policy/public-schools/testing-lead-content-in-drinking-water?keyword=lead&keyword=testing

Additional Resources

Health Canada's Water Talk - The guideline for lead in drinking water:

https://www.canada.ca/en/health-canada/services/environmental-workplace-health/reports-publications/water-quality/water-talk-minimizing-exposure-lead-drinking-water-distribution-systems.html#s5

Guidelines for Canadian Drinking Water Quality: Guideline Technical Document – Lead:

https://www.canada.ca/en/health-canada/services/publications/healthy-living/guidelines-canadian-drinking-water-quality-guideline-technical-document-lead.html

Canadian water & Wastewater Association - Fact Sheet on LEAD (Pb)

http://www.cwwa.ca/pdf_files/CWWA_Lead%20_Facts_2019.pdf

Contact information for Vancouver Coastal Health Environmental Health:

Area	Phone Number
Central Coast	604-983-6700
North Vancouver	604-983-6700
Powell River	604-485-3310
Richmond	604-233-3147
Sechelt	604-885-5164
Squamish	604-892-2293
Vancouver	604-675-3800
Whistler	604-932-3202

Appendix E - Weekly Water Sample Results

Sample Range Report

Vancouver Coastal Health

Facility Name: District Of Squamish Waterworks
Date Range: Jan 1 2025 to Dec 31 2025

Operator Ben Kineshanko
Box 310
Squamish, BC V8B 0A3

Sampling Site	Date Collected	Total Coliform	E. Coli	Fecal Coliform
Rockridge sample station, across from 41215-Rockridge Pl.				
	1/6/2025 9:35:00 AM	LT1	LT1	
	1/20/2025 9:19:00 AM	LT1	LT1	
	1/27/2025 10:11:00 AM	LT1	LT1	
	2/4/2025 7:15:00 AM	LT1	LT1	
	2/18/2025 7:25:00 AM	LT1	LT1	
	3/3/2025 8:26:00 AM	LT1	LT1	
	3/17/2025 8:59:00 AM	LT1	LT1	
	3/31/2025 8:52:00 AM	LT1	LT1	
	4/14/2025 9:01:00 AM	LT1	LT1	
	4/28/2025 6:51:00 AM	LT1	LT1	
	5/12/2025 8:58:00 AM	LT1	LT1	
	5/26/2025 7:00:00 AM	LT1	LT1	
	6/9/2025 9:20:00 AM	LT1	LT1	
	6/23/2025 7:44:00 AM	LT1	LT1	
	7/7/2025 8:48:00 AM	LT1	LT1	
	7/21/2025 7:20:00 AM	LT1	LT1	
	8/5/2025 8:55:00 AM	LT1	LT1	
	8/18/2025 8:38:00 AM	LT1	LT1	
	9/2/2025 6:50:00 AM	LT1	LT1	
	9/15/2025 9:29:00 AM	LT1	LT1	
	10/1/2025 7:35:00 AM	LT1	LT1	
	10/14/2025 7:00:00 AM	LT1	LT1	
	10/27/2025 8:09:00	LT1	LT1	

	AM		
	11/12/2025 9:35:00 AM	LT1	LT1
	11/24/2025 8:22:00 AM	LT1	LT1
	12/8/2025 6:55:00 AM	LT1	LT1
	12/16/2025 7:00:00 AM	LT1	LT1
	Total Positive:	**0**	**0**
41974 Birken Rd, Brackendale			
	1/6/2025 9:14:00 AM	LT1	LT1
	1/20/2025 9:00:00 AM	LT1	LT1
	2/4/2025 7:35:00 AM	LT1	LT1
	2/18/2025 7:05:00 AM	LT1	LT1
	3/3/2025 8:39:00 AM	LT1	LT1
	3/17/2025 8:35:00 AM	LT1	LT1
	3/31/2025 8:30:00 AM	LT1	LT1
	4/14/2025 8:41:00 AM	LT1	LT1
	4/28/2025 6:30:00 AM	LT1	LT1
	5/12/2025 8:42:00 AM	LT1	LT1
	5/26/2025 6:40:00 AM	LT1	LT1
	6/9/2025 8:53:00 AM	LT1	LT1
	6/23/2025 7:20:00 AM	LT1	LT1
	7/7/2025 8:25:00 AM	LT1	LT1
	7/21/2025 6:55:00 AM	LT1	LT1
	8/5/2025 9:10:00 AM	LT1	LT1
	8/18/2025 8:22:00 AM	LT1	LT1
	9/2/2025 7:05:00 AM	LT1	LT1
	9/15/2025 9:04:00 AM	LT1	LT1
	10/1/2025 6:50:00 AM	LT1	LT1
	10/14/2025 6:41:00 AM	LT1	LT1
	10/27/2025 7:45:00 AM	LT1	LT1
	11/12/2025 6:50:00 AM	LT1	LT1
	11/24/2025 8:00:00 AM	LT1	LT1

	12/8/2025 7:15:00 AM	LT1	LT1
	12/16/2025 7:20:00 AM	LT1	LT1
	Total Positive:	**0**	**0**
Crumpet Woods sample station, 2252 Windsail Pl			
	1/14/2025 9:48:00 AM	LT1	LT1
	1/27/2025 11:34:00 AM	LT1	LT1
	2/10/2025 10:14:00 AM	LT1	LT1
	2/18/2025 9:30:00 AM	LT1	LT1
	2/24/2025 9:44:00 AM	LT1	LT1
	3/10/2025 9:40:00 AM	LT1	LT1
	3/24/2025 10:25:00 AM	LT1	LT1
	4/7/2025 10:54:00 AM	LT1	LT1
	4/22/2025 7:50:00 AM	LT1	LT1
	5/5/2025 9:55:00 AM	LT1	LT1
	5/20/2025 7:45:00 AM	LT1	LT1
	6/2/2025 9:55:00 AM	LT1	LT1
	6/16/2025 9:25:00 AM	LT1	LT1
	7/2/2025 9:45:00 AM	LT1	LT1
	7/14/2025 9:17:00 AM	LT1	LT1
	7/28/2025 9:00:00 AM	LT1	LT1
	8/11/2025 9:39:00 AM	LT1	LT1
	8/25/2025 9:05:00 AM	LT1	LT1
	9/8/2025 9:10:00 AM	LT1	LT1
	9/22/2025 8:20:00 AM	LT1	LT1
	10/6/2025 9:10:00 AM	LT1	LT1
	10/20/2025 9:36:00 AM	LT1	LT1
	11/3/2025 10:05:00 AM	LT1	LT1
	11/17/2025 9:15:00 AM	LT1	LT1
	12/1/2025 9:00:00	LT1	LT1

	AM		
	12/16/2025 9:30:00 AM	LT1	LT1
	Total Positive:	**0**	**0**
Perth Sample Station, Garibaldi Highlands			
	1/6/2025 9:55:00 AM	LT1	LT1
	1/20/2025 9:36:00 AM	LT1	LT1
	2/4/2025 8:30:00 AM	LT1	LT1
	2/18/2025 8:00:00 AM	LT1	LT1
	3/3/2025 9:57:00 AM	LT1	LT1
	3/17/2025 9:25:00 AM	LT1	LT1
	3/31/2025 9:27:00 AM	LT1	LT1
	4/14/2025 9:16:00 AM	LT1	LT1
	4/28/2025 7:15:00 AM	LT1	LT1
	5/12/2025 9:13:00 AM	LT1	LT1
	5/26/2025 7:30:00 AM	LT1	LT1
	6/9/2025 9:36:00 AM	LT1	LT1
	6/23/2025 8:05:00 AM	LT1	LT1
	7/7/2025 9:08:00 AM	LT1	LT1
	7/21/2025 7:40:00 AM	LT1	LT1
	8/5/2025 9:30:00 AM	LT1	LT1
	8/18/2025 8:56:00 AM	LT1	LT1
	9/2/2025 8:30:00 AM	LT1	LT1
	9/15/2025 9:45:00 AM	LT1	LT1
	10/1/2025 7:35:00 AM	LT1	LT1
	10/14/2025 7:30:00 AM	LT1	LT1
	10/27/2025 8:25:00 AM	LT1	LT1
	11/12/2025 7:10:00 AM	LT1	LT1
	11/24/2025 8:50:00 AM	LT1	LT1
	12/8/2025 7:35:00 AM	LT1	LT1
	12/16/2025 8:20:00 AM	LT1	LT1
	Total Positive:	**0**	**0**

Parkway Sample station, 40464 Park Crescent			
	1/14/2025 8:57:00 AM	LT1	LT1
	2/18/2025 7:45:00 AM	LT1	LT1
	2/24/2025 9:03:00 AM	LT1	LT1
	3/10/2025 8:52:00 AM	LT1	LT1
	3/24/2025 8:29:00 AM	LT1	LT1
	3/31/2025 9:10:00 AM	LT1	LT1
	4/7/2025 10:15:00 AM	LT1	LT1
	4/22/2025 6:53:00 AM	LT1	LT1
	5/5/2025 7:37:00 AM	LT1	LT1
	5/20/2025 6:25:00 AM	LT1	LT1
	6/2/2025 8:35:00 AM	LT1	LT1
	6/16/2025 8:00:00 AM	LT1	LT1
	7/2/2025 9:05:00 AM	LT1	LT1
	7/14/2025 8:32:00 AM	LT1	LT1
	7/28/2025 7:50:00 AM	LT1	LT1
	8/11/2025 8:25:00 AM	LT1	LT1
	8/25/2025 7:44:00 AM	LT1	LT1
	9/8/2025 8:15:00 AM	LT1	LT1
	9/22/2025 7:30:00 AM	LT1	LT1
	10/6/2025 8:15:00 AM	LT1	LT1
	10/20/2025 7:51:00 AM	LT1	LT1
	11/3/2025 9:22:00 AM	LT1	LT1
	11/17/2025 8:12:00 AM	LT1	LT1
	12/1/2025 7:50:00 AM	LT1	LT1
	12/16/2025 7:35:00 AM	LT1	LT1
	Total Positive:	**0**	**0**

Guilford sample

station, East of Guilford & Valley Dr.			
	1/6/2025 10:42:00 AM	LT1	LT1
	1/20/2025 11:26:00 AM	LT1	LT1
	2/4/2025 9:30:00 AM	LT1	LT1
	2/18/2025 8:29:00 AM	LT1	LT1
	3/3/2025 10:20:00 AM	LT1	LT1
	3/17/2025 10:13:00 AM	LT1	LT1
	3/24/2025 10:14:00 AM	LT1	LT1
	3/31/2025 10:18:00 AM	LT1	LT1
	4/14/2025 10:10:00 AM	LT1	LT1
	4/28/2025 10:00:00 AM	LT1	LT1
	5/12/2025 9:47:00 AM	LT1	LT1
	5/26/2025 8:29:00 AM	LT1	LT1
	6/9/2025 10:02:00 AM	LT1	LT1
	6/23/2025 9:30:00 AM	LT1	LT1
	7/7/2025 9:55:00 AM	LT1	LT1
	7/21/2025 8:29:00 AM	LT1	LT1
	8/5/2025 10:15:00 AM	LT1	LT1
	8/18/2025 9:32:00 AM	LT1	LT1
	9/2/2025 9:20:00 AM	LT1	LT1
	9/15/2025 10:30:00 AM	LT1	LT1
	10/1/2025 6:40:00 AM	LT1	LT1
	10/14/2025 7:59:00 AM	LT1	LT1
	10/27/2025 9:25:00 AM	LT1	LT1
	11/12/2025 7:40:00 AM	LT1	LT1
	11/24/2025 9:45:00 AM	LT1	LT1
	12/8/2025 8:50:00 AM	LT1	LT1
	12/16/2025 9:20:00 AM	LT1	LT1
	Total Positive:	**0**	**0**

Progress Way sample station, 38917 Progress Way			
	1/6/2025 10:30:00 AM	LT1	LT1
	3/3/2025 10:15:00 AM	LT1	LT1
	3/17/2025 9:56:00 AM	LT1	LT1
	3/31/2025 9:53:00 AM	LT1	LT1
	4/14/2025 9:48:00 AM	LT1	LT1
	4/28/2025 10:25:00 AM	LT1	LT1
	5/12/2025 9:35:00 AM	LT1	LT1
	5/26/2025 8:00:00 AM	LT1	LT1
	6/9/2025 9:52:00 AM	LT1	LT1
	6/23/2025 8:40:00 AM	LT1	LT1
	7/7/2025 9:32:00 AM	LT1	LT1
	7/21/2025 8:10:00 AM	LT1	LT1
	8/5/2025 10:00:00 AM	LT1	LT1
	8/18/2025 9:15:00 AM	LT1	LT1
	9/2/2025 8:45:00 AM	LT1	LT1
	9/15/2025 10:10:00 AM	LT1	LT1
	10/1/2025 6:20:00 AM	LT1	LT1
	10/14/2025 7:47:00 AM	LT1	LT1
	10/27/2025 9:08:00 AM	LT1	LT1
	11/12/2025 7:10:00 AM	LT1	LT1
	11/24/2025 9:15:00 AM	LT1	LT1
	12/8/2025 8:30:00 AM	LT1	LT1
	12/16/2025 8:50:00 AM	LT1	LT1
	Total Positive:	**0**	**0**
Quest University, University Lands			
	1/14/2025 8:29:00 AM	LT1	LT1
	1/27/2025 9:00:00	LT1	LT1

	AM		
	2/4/2025 8:15:00 AM	LT1	LT1
	2/10/2025 8:30:00 AM	LT1	LT1
	2/24/2025 8:53:00 AM	LT1	LT1
	3/10/2025 8:42:00 AM	LT1	LT1
	3/24/2025 8:41:00 AM	LT1	LT1
	4/7/2025 10:00:00 AM	LT1	LT1
	4/22/2025 6:32:00 AM	LT1	LT1
	5/5/2025 7:00:00 AM	LT1	LT1
	5/20/2025 6:45:00 AM	LT1	LT1
	6/2/2025 7:55:00 AM	LT1	LT1
	6/16/2025 7:35:00 AM	LT1	LT1
	7/2/2025 8:10:00 AM	LT1	LT1
	7/14/2025 8:45:00 AM	LT1	LT1
	7/28/2025 8:30:00 AM	LT1	LT1
	8/11/2025 8:39:00 AM	LT1	LT1
	8/25/2025 7:23:00 AM	LT1	LT1
	9/8/2025 7:30:00 AM	LT1	LT1
	9/22/2025 7:10:00 AM	LT1	LT1
	10/6/2025 7:45:00 AM	LT1	LT1
	10/20/2025 8:43:00 AM	LT1	LT1
	11/3/2025 8:53:00 AM	LT1	LT1
	11/17/2025 7:25:00 AM	LT1	LT1
	12/1/2025 7:30:00 AM	LT1	LT1
	12/16/2025 8:00:00 AM	LT1	LT1
	Total Positive:	**0**	**0**

Lomond Sample Station, Garibaldi Highlands			
	1/14/2025 8:41:00 AM	LT1	LT1
	1/27/2025 8:47:00 AM	LT1	LT1
	2/10/2025 8:43:00	LT1	LT1

	AM		
	2/24/2025 8:42:00 AM	LT1	LT1
	3/10/2025 8:32:00 AM	LT1	LT1
	3/24/2025 8:53:00 AM	LT1	LT1
	4/7/2025 10:06:00 AM	LT1	LT1
	4/22/2025 6:45:00 AM	LT1	LT1
	5/5/2025 7:20:00 AM	LT1	LT1
	5/20/2025 6:55:00 AM	LT1	LT1
	6/2/2025 8:10:00 AM	LT1	LT1
	6/16/2025 7:50:00 AM	LT1	LT1
	7/2/2025 8:00:00 AM	LT1	LT1
	7/14/2025 8:53:00 AM	LT1	LT1
	7/28/2025 7:30:00 AM	LT1	LT1
	8/11/2025 8:59:00 AM	LT1	LT1
	8/25/2025 6:55:00 AM	LT1	LT1
	9/8/2025 7:45:00 AM	LT1	LT1
	9/22/2025 6:50:00 AM	LT1	LT1
	10/6/2025 8:00:00 AM	LT1	LT1
	10/20/2025 8:05:00 AM	LT1	LT1
	11/3/2025 8:38:00 AM	LT1	LT1
	11/17/2025 7:40:00 AM	LT1	LT1
	12/1/2025 7:05:00 AM	LT1	LT1
	12/16/2025 7:50:00 AM	LT1	LT1
	Total Positive:	**0**	**0**

Pemberton sample station, across from 1551 Pemberton Ave			
	1/14/2025 9:29:00 AM	LT1	LT1
	1/27/2025 10:42:00 AM	LT1	LT1
	2/10/2025 10:25:00 AM	LT1	LT1
	2/24/2025 9:23:00 AM	LT1	LT1

3/10/2025 9:21:00 AM	LT1	LT1
3/24/2025 9:19:00 AM	LT1	LT1
4/7/2025 10:39:00 AM	LT1	LT1
4/22/2025 7:15:00 AM	LT1	LT1
5/5/2025 9:34:00 AM	LT1	LT1
5/20/2025 7:20:00 AM	LT1	LT1
6/2/2025 9:15:00 AM	LT1	LT1
6/16/2025 9:00:00 AM	LT1	LT1
7/2/2025 9:30:00 AM	LT1	LT1
7/14/2025 9:15:00 AM	LT1	LT1
7/28/2025 8:25:00 AM	LT1	LT1
8/11/2025 9:17:00 AM	LT1	LT1
8/25/2025 8:43:00 AM	LT1	LT1
9/8/2025 8:45:00 AM	LT1	LT1
9/22/2025 7:55:00 AM	LT1	LT1
10/6/2025 8:50:00 AM	LT1	LT1
10/20/2025 9:10:00 AM	LT1	LT1
11/3/2025 9:43:00 AM	LT1	LT1
11/17/2025 8:40:00 AM	LT1	LT1
12/1/2025 8:25:00 AM	LT1	LT1
12/16/2025 9:05:00 AM	LT1	LT1
Total Positive:	**0**	**0**

Result Values: **E - estimated** **L - less than** **G - greater than**

Samples that contain total coliform:	0	0.00% of total
Samples that contain e. coli:	0	0.00% of total
Samples that contain fecal coliform:	0	0.00% of total
Number of consecutive samples that contain total coliform:	0	
Number of samples that contain total coliform in last 30 days:	0/0	
Total number of samples:	256	

Comments:

_____
Environmental Health Officer
Mar 5 2026

FOR FURTHER INFORMATION PLEASE CALL: James Whalen (604) 932-3202

CERTIFICATE OF ANALYSIS

Work Order	:	**VA25B3933**			
Client	:	**District of Squamish**	Laboratory	:	ALS Environmental - Vancouver
Contact	:	Craig Halliday	Account Manager	:	Gulraj Dhanaua
Address	:	39907 Government Road PO Box 310 Squamish British Columbia Canada V8B 0A3	Address	:	8081 Lougheed Highway Burnaby BC Canada V5A 1W9
Telephone	:	604 815 6864	E-mail	:	Gulraj.Dhanaua@alsglobal.com
Project	:	Semi Annual Samples	Telephone	:	+1 604 253 4188
PO	:	504810	Date Samples Received	:	11-Jun-2025 12:15
C-O-C number	:	----	Date Analysis Commenced	:	14-Jun-2025
Sampler	:	BM, MB	Issue Date	:	25-Jun-2025 12:34
Site	:	----			
Quote number	:	VA23-DOSQ100-002			
No. of samples received	:	5			
No. of samples analysed	:	5			

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*
Janice Leung		Organics, Burnaby, British Columbia
Kim Jensen		Metals, Burnaby, British Columbia
Lindsay Gung		Inorganics, Burnaby, British Columbia
Miles Gropen		Inorganics, Burnaby, British Columbia
Monica Ko		Inorganics, Burnaby, British Columbia
Nik Perkio		Inorganics, Waterloo, Ontario
Sanja Risticevic		LCMS, Waterloo, Ontario

General Comments

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

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*
CU	colour units (1 cu = 1 mg/l pt)
mg/L	milligrams per litre
NTU	nephelometric turbidity units
pH units	pH units
µg/L	micrograms per litre
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.

Qualifiers

Qualifier	Description
DLI	Detection Limit Raised: Dilution required to address Internal Standard response problems caused by matrix interference.

Analytical Results

Sub-Matrix: Wastewater Grab
(Matrix: Water)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	PHS BLENDED	BIRKEN	MAMQUAM	CRUMPIT WOODS	3RD AVE
					Client sampling date / time	11-Jun-2025 08:40	11-Jun-2025 06:55	11-Jun-2025 07:15	11-Jun-2025 08:00	11-Jun-2025 07:45
						VA25B3933-001	VA25B3933-002	VA25B3933-003	VA25B3933-004	VA25B3933-005
						ResultMU	ResultMU	ResultMU	ResultMU	ResultMU
Physical Tests										
Colour, true	----	E329/VA	5.0	CU		<5.0	----	----	----	----
Conductivity	----	E100/VA	2.0	µS/cm		72.9	----	----	----	----
Hardness (as CaCO3), from total Ca/Mg	----	EC100A/VA	0.60	mg/L		21.9	----	----	----	----
pH	----	E108/VA	0.10	pH units		7.52	----	----	----	----
Solids, total dissolved [TDS]	----	E162/VA	10	mg/L		72	----	----	----	----
Turbidity	----	E121/VA	0.10	NTU		0.36	----	----	----	----
Alkalinity, total (as CaCO3)	----	E290/VA	2.0	mg/L		22.1	----	----	----	----
Anions and Nutrients										
Ammonia, total (as N)	7664-41-7	E298/VA	0.0050	mg/L		<0.0050	----	----	----	----
Bromide	24959-67-9	E235.Br-L/VA	0.050	mg/L		<0.050	----	----	----	----
Chloride	16887-00-6	E235.Cl/VA	0.50	mg/L		4.57	----	----	----	----
Fluoride	16984-48-8	E235.F/VA	0.020	mg/L		0.085	----	----	----	----
Kjeldahl nitrogen, total [TKN]	----	E318/VA	0.050	mg/L		<0.050	----	----	----	----
Nitrate (as N)	14797-55-8	E235.NO3-L/VA	0.0050	mg/L		0.0616	----	----	----	----
Nitrite (as N)	14797-65-0	E235.NO2-L/VA	0.0010	mg/L		<0.0010	----	----	----	----
Nitrogen, total	7727-37-9	E366/VA	0.030	mg/L		0.061	----	----	----	----
Phosphorus, total	7723-14-0	E372-U/VA	0.0020	mg/L		0.0387	----	----	----	----
Sulfate (as SO4)	14808-79-8	E235.SO4/VA	0.30	mg/L		8.06	----	----	----	----
Cyanides										
Cyanide, strong acid dissociable (Total)	----	E333/VA	0.0050	mg/L		<0.0050	----	----	----	----

Analytical Results

Sub-Matrix: Wastewater Grab
(Matrix: Water)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	PHS BLENDED	BIRKEN	MAMQUAM	CRUMPIT WOODS	3RD AVE
					Client sampling date / time	11-Jun-2025 08:40	11-Jun-2025 06:55	11-Jun-2025 07:15	11-Jun-2025 08:00	11-Jun-2025 07:45
						VA25B3933-001	VA25B3933-002	VA25B3933-003	VA25B3933-004	VA25B3933-005
						ResultMU	ResultMU	ResultMU	ResultMU	ResultMU
Organic / Inorganic Carbon										
Carbon, total organic [TOC]	----	E355-L/VA	0.50	mg/L		<0.50	----	----	----	----
Inorganics										
Chlorite	14998-27-7	E409.CLO2/WT	0.010	mg/L		<0.010	----	----	----	----
Total Metals										
Aluminum, total	7429-90-5	E420/VA	0.0030	mg/L		0.0044	----	----	----	----
Antimony, total	7440-36-0	E420/VA	0.00010	mg/L		<0.00010	----	----	----	----
Arsenic, total	7440-38-2	E420/VA	0.00010	mg/L		0.00065	----	----	----	----
Barium, total	7440-39-3	E420/VA	0.00010	mg/L		0.00150	----	----	----	----
Beryllium, total	7440-41-7	E420/VA	0.000100	mg/L		<0.000100	----	----	----	----
Bismuth, total	7440-69-9	E420/VA	0.000050	mg/L		<0.000050	----	----	----	----
Boron, total	7440-42-8	E420/VA	0.010	mg/L		0.020	----	----	----	----
Cadmium, total	7440-43-9	E420/VA	0.0000050	mg/L		<0.0000050	----	----	----	----
Calcium, total	7440-70-2	E420/VA	0.050	mg/L		6.68	----	----	----	----
Cesium, total	7440-46-2	E420/VA	0.000010	mg/L		0.000186	----	----	----	----
Chromium, total	7440-47-3	E420/VA	0.00050	mg/L		<0.00050	----	----	----	----
Cobalt, total	7440-48-4	E420/VA	0.00010	mg/L		<0.00010	----	----	----	----
Copper, total	7440-50-8	E420/VA	0.00050	mg/L		0.0131	----	----	----	----
Iron, total	7439-89-6	E420/VA	0.010	mg/L		0.032	----	----	----	----
Lead, total	7439-92-1	E420/VA	0.000050	mg/L		0.000091	----	----	----	----
Lithium, total	7439-93-2	E420/VA	0.0010	mg/L		0.0025	----	----	----	----
Magnesium, total	7439-95-4	E420/VA	0.0050	mg/L		1.26	----	----	----	----

Analytical Results

Sub-Matrix: Wastewater Grab (Matrix: Water)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	PHS BLENDED	BIRKEN	MAMQUAM	CRUMPIT WOODS	3RD AVE
					Client sampling date / time	11-Jun-2025 08:40	11-Jun-2025 06:55	11-Jun-2025 07:15	11-Jun-2025 08:00	11-Jun-2025 07:45
						VA25B3933-001	VA25B3933-002	VA25B3933-003	VA25B3933-004	VA25B3933-005
						ResultMU	ResultMU	ResultMU	ResultMU	ResultMU
Total Metals										
Manganese, total	7439-96-5	E420/VA	0.00010	mg/L		0.00143	----	----	----	----
Mercury, total	7439-97-6	E508/VA	0.0000050	mg/L		<0.0000050	----	----	----	----
Molybdenum, total	7439-98-7	E420/VA	0.000050	mg/L		0.000605	----	----	----	----
Nickel, total	7440-02-0	E420/VA	0.00050	mg/L		<0.00050	----	----	----	----
Phosphorus, total	7723-14-0	E420/VA	0.050	mg/L		<0.050	----	----	----	----
Potassium, total	7440-09-7	E420/VA	0.050	mg/L		1.32	----	----	----	----
Rubidium, total	7440-17-7	E420/VA	0.00020	mg/L		0.00374	----	----	----	----
Selenium, total	7782-49-2	E420/VA	0.000050	mg/L		0.000058	----	----	----	----
Silicon, total	7440-21-3	E420/VA	0.10	mg/L		15.2	----	----	----	----
Silver, total	7440-22-4	E420/VA	0.000010	mg/L		<0.000010	----	----	----	----
Sodium, total	7440-23-5	E420/VA	0.050	mg/L		5.12	----	----	----	----
Strontium, total	7440-24-6	E420/VA	0.00020	mg/L		0.0758	----	----	----	----
Sulfur, total	7704-34-9	E420/VA	0.50	mg/L		2.52	----	----	----	----
Tellurium, total	13494-80-9	E420/VA	0.00020	mg/L		<0.00020	----	----	----	----
Thallium, total	7440-28-0	E420/VA	0.000010	mg/L		<0.000010	----	----	----	----
Thorium, total	7440-29-1	E420/VA	0.00010	mg/L		<0.00010	----	----	----	----
Tin, total	7440-31-5	E420/VA	0.00010	mg/L		<0.00010	----	----	----	----
Titanium, total	7440-32-6	E420/VA	0.00030	mg/L		<0.00030	----	----	----	----
Tungsten, total	7440-33-7	E420/VA	0.00010	mg/L		<0.00010	----	----	----	----
Uranium, total	7440-61-1	E420/VA	0.000010	mg/L		0.000031	----	----	----	----
Vanadium, total	7440-62-2	E420/VA	0.00050	mg/L		0.0109	----	----	----	----

Analytical Results

Sub-Matrix: Wastewater Grab
(Matrix: Water)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	PHS BLENDED	BIRKEN	MAMQUAM	CRUMPIT WOODS	3RD AVE
					Client sampling date / time	11-Jun-2025 08:40	11-Jun-2025 06:55	11-Jun-2025 07:15	11-Jun-2025 08:00	11-Jun-2025 07:45
						VA25B3933-001	VA25B3933-002	VA25B3933-003	VA25B3933-004	VA25B3933-005
						ResultMU	ResultMU	ResultMU	ResultMU	ResultMU
Total Metals										
Zinc, total	7440-66-6	E420/VA	0.0030	mg/L		0.0031	----	----	----	----
Zirconium, total	7440-67-7	E420/VA	0.00020	mg/L		<0.00020	----	----	----	----
Aggregate Organics										
Chemical oxygen demand [COD]	----	E559-L/VA	10	mg/L		<10	----	----	----	----
Volatile Organic Compounds [THMs]										
Bromodichloromethane	75-27-4	E611B/VA	1.0	µg/L		----	<1.0	<1.0	<1.0	<1.0
Bromoform	75-25-2	E611B/VA	1.0	µg/L		----	<1.0	<1.0	<1.0	<1.0
Chloroform	67-66-3	E611B/VA	1.0	µg/L		----	<1.0	<1.0	<1.0	<1.0
Dibromochloromethane	124-48-1	E611B/VA	1.0	µg/L		----	<1.0	<1.0	<1.0	<1.0
Trihalomethanes [THMs], total	----	E611B/VA	2.0	µg/L		----	<2.0	<2.0	<2.0	<2.0
Volatile Organic Compounds [THMs] Surrogates										
Bromofluorobenzene, 4-	460-00-4	E611B/VA	1.0	%		----	81.8	88.0	86.0	85.3
Difluorobenzene, 1,4-	540-36-3	E611B/VA	1.0	%		----	98.2	97.2	96.6	97.3
DIsinfectant By-Products										
Bromate	15541-45-4	E722A/WT	0.00030	mg/L		<0.00030	----	----	----	----
Chlorate	14866-68-3	E409.CLO3/WT	0.010	mg/L		<0.010	----	----	----	----
Perchlorate	7601-90-3	E722A/WT	0.00020	mg/L		<0.00100 DLI	----	----	----	----
Haloacetic Acids										
Bromochloroacetic acid	5589-96-8	E750/WT	1.00	µg/L		----	<1.00	<1.00	<1.00	<1.00
Dibromoacetic acid	631-64-1	E750/WT	1.00	µg/L		----	<1.00	<1.00	<1.00	<1.00
Dichloroacetic acid	79-43-6	E750/WT	1.00	µg/L		----	<1.00	<1.00	<1.00	<1.00

Analytical Results

Sub-Matrix: Wastewater Grab
(Matrix: Water)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	PHS BLENDED	BIRKEN	MAMQUAM	CRUMPIT WOODS	3RD AVE
					Client sampling date / time	11-Jun-2025 08:40	11-Jun-2025 06:55	11-Jun-2025 07:15	11-Jun-2025 08:00	11-Jun-2025 07:45
						VA25B3933-001	VA25B3933-002	VA25B3933-003	VA25B3933-004	VA25B3933-005
						ResultMU	ResultMU	ResultMU	ResultMU	ResultMU
Haloacetic Acids										
Monobromoacetic acid	79-08-3	E750/WT	1.00	µg/L		----	<1.00	<1.00	<1.00	<1.00
Monochloroacetic acid	79-11-8	E750/WT	1.00	µg/L		----	<1.00	<1.00	<1.00	<1.00
Trichloroacetic acid	76-03-9	E750/WT	1.00	µg/L		----	<1.00	<1.00	<1.00	<1.00
Haloacetic acids, total [HAA5]	n/a	E750/WT	5.00	µg/L		----	<5.00	<5.00	<5.00	<5.00

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

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QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: **VA25B3933**	Page	: 1 of 13
Client	: **District of Squamish**	Laboratory	: ALS Environmental - Vancouver
Contact	: Craig Halliday	Account Manager	: Gulraj Dhanaua
Address	: 39907 Government Road PO Box 310 Squamish BC Canada V8B 0A3	Address	: 8081 Lougheed Highway Burnaby, British Columbia Canada V5A 1W9
Telephone	: 604 815 6864	Telephone	: +1 604 253 4188
Project	: Semi Annual Samples	Date Samples Received	: 11-Jun-2025 12:15
PO	: 504810	Issue Date	: 25-Jun-2025 12:34
C-O-C number	: ----		
Sampler	: BM, MB		
Site	: ----		
Quote number	: VA23-DOSQ100-002		
No. of samples received	: 5		
No. of samples analysed	: 5		

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)

- 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.

Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times, which are selected to meet known provincial and /or federal requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by organizations such as CCME, US EPA, APHA Standard Methods, ASTM, or Environment Canada (where available). Dates and holding times reported below represent the first dates of extraction or analysis. If subsequent tests or dilutions exceeded holding times, qualifiers are added (refer to COA).

If samples are identified below as having been analyzed or extracted outside of recommended holding times, measurement uncertainties may be increased, and this should be taken into consideration when interpreting results.

Where actual sampling date is not provided on the chain of custody, the date of receipt with time at 00:00 is used for calculation purposes.

Where only the sample date without time is provided on the chain of custody, the sampling date at 00:00 is used for calculation purposes.

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	*Method*	*Sampling Date*	*Extraction / Preparation*				*Analysis*			
			Preparation Date	*Holding Times* Rec	*Holding Times* Actual	*Eval*	*Analysis Date*	*Holding Times* Rec	*Holding Times* Actual	*Eval*
Aggregate Organics : Chemical Oxygen Demand by Colourimetry (Low Level)										
Amber glass total (sulfuric acid) PHS BLENDED	E559-L	11-Jun-2025	----	----	----		16-Jun-2025	28 days	5 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) PHS BLENDED	E298	11-Jun-2025	16-Jun-2025	28 days	5 days	✓	21-Jun-2025	28 days	5 days	✓
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE PHS BLENDED	E235.Br-L	11-Jun-2025	14-Jun-2025	28 days	3 days	✓	14-Jun-2025	28 days	3 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE PHS BLENDED	E235.Cl	11-Jun-2025	14-Jun-2025	28 days	3 days	✓	14-Jun-2025	28 days	3 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE PHS BLENDED	E235.F	11-Jun-2025	14-Jun-2025	28 days	3 days	✓	14-Jun-2025	28 days	3 days	✓
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE PHS BLENDED	E235.NO3-L	11-Jun-2025	14-Jun-2025	3 days	3 days	✓	14-Jun-2025	3 days	3 days	✓
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE PHS BLENDED	E235.NO2-L	11-Jun-2025	14-Jun-2025	3 days	3 days	✓	14-Jun-2025	3 days	3 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	*Method*	*Sampling Date*	*Extraction / Preparation*				*Analysis*			
			Preparation Date	*Holding Times* Rec	*Holding Times* Actual	*Eval*	*Analysis Date*	*Holding Times* Rec	*Holding Times* Actual	*Eval*
Anions and Nutrients : Sulfate in Water by IC										
HDPE PHS BLENDED	E235.SO4	11-Jun-2025	14-Jun-2025	28 days	3 days	✓	14-Jun-2025	28 days	3 days	✓
Anions and Nutrients : Total Kjeldahl Nitrogen by Fluorescence (Low Level)										
Amber glass total (sulfuric acid) PHS BLENDED	E318	11-Jun-2025	16-Jun-2025	28 days	5 days	✓	19-Jun-2025	28 days	5 days	✓
Anions and Nutrients : Total Nitrogen by Colourimetry										
Amber glass total (sulfuric acid) PHS BLENDED	E366	11-Jun-2025	16-Jun-2025	28 days	5 days	✓	18-Jun-2025	28 days	5 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) PHS BLENDED	E372-U	11-Jun-2025	16-Jun-2025	28 days	5 days	✓	18-Jun-2025	28 days	5 days	✓
Cyanides : Total Cyanide										
Opaque HDPE - total (sodium hydroxide) PHS BLENDED	E333	11-Jun-2025	16-Jun-2025	14 days	5 days	✓	16-Jun-2025	14 days	5 days	✓
DIsinfectant By-Products : Bromate and Perchlorate in Water by LC-MS-MS										
Opaque HDPE (EDA) PHS BLENDED	E722A	11-Jun-2025	16-Jun-2025	28 days	5 days	✓	16-Jun-2025	28 days	0 days	✓
DIsinfectant By-Products : Chlorate (CLO3) in Waters by Ion Chromatography										
Opaque HDPE (EDA) PHS BLENDED	E409.CLO3	11-Jun-2025	16-Jun-2025	28 days	5 days	✓	16-Jun-2025	28 days	5 days	✓
DIsinfectant By-Products : Chlorite (CLO2) in Waters by Ion Chromatography										
Opaque HDPE (EDA) PHS BLENDED	E409.CLO2	11-Jun-2025	16-Jun-2025	14 days	5 days	✓	16-Jun-2025	14 days	5 days	✓
Haloacetic Acids : Haloacetic Acids in Water by LC-MS/MS										
Glass vial (ammonium chloride) BIRKEN	E750	11-Jun-2025	16-Jun-2025	14 days	5 days	✓	16-Jun-2025	14 days	0 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	*Method*	*Sampling Date*	*Extraction / Preparation*				*Analysis*			
			Preparation Date	*Holding Times*		*Eval*	*Analysis Date*	*Holding Times*		*Eval*
				Rec	*Actual*			*Rec*	*Actual*	
Haloacetic Acids : Haloacetic Acids in Water by LC-MS/MS										
Glass vial (ammonium chloride) MAMQUAM	E750	11-Jun-2025	16-Jun-2025	14 days	5 days	✓	16-Jun-2025	14 days	0 days	✓
Haloacetic Acids : Haloacetic Acids in Water by LC-MS/MS										
Glass vial (ammonium chloride) 3RD AVE	E750	11-Jun-2025	18-Jun-2025	14 days	7 days	✓	18-Jun-2025	14 days	0 days	✓
Haloacetic Acids : Haloacetic Acids in Water by LC-MS/MS										
Glass vial (ammonium chloride) CRUMPIT WOODS	E750	11-Jun-2025	18-Jun-2025	14 days	7 days	✓	18-Jun-2025	14 days	0 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) PHS BLENDED	E355-L	11-Jun-2025	16-Jun-2025	28 days	5 days	✓	17-Jun-2025	28 days	5 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE PHS BLENDED	E290	11-Jun-2025	14-Jun-2025	14 days	3 days	✓	14-Jun-2025	14 days	3 days	✓
Physical Tests : Colour (True) by Spectrometer (5 CU)										
HDPE PHS BLENDED	E329	11-Jun-2025	14-Jun-2025	3 days	3 days	✓	14-Jun-2025	3 days	3 days	✓
Physical Tests : Conductivity in Water										
HDPE PHS BLENDED	E100	11-Jun-2025	14-Jun-2025	28 days	3 days	✓	14-Jun-2025	28 days	3 days	✓
Physical Tests : pH by Meter										
HDPE PHS BLENDED	E108	11-Jun-2025	14-Jun-2025	0.25 hrs	68 hrs	× EHTR-FM	14-Jun-2025	0.25 hrs	68 hrs	× EHTR-FM
Physical Tests : TDS by Gravimetry										
HDPE PHS BLENDED	E162	11-Jun-2025	----	----	----		18-Jun-2025	7 days	7 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	*Method*	*Sampling Date*	*Extraction / Preparation*				*Analysis*			
			Preparation Date	*Holding Times*		*Eval*	*Analysis Date*	*Holding Times*		*Eval*
				Rec	*Actual*			*Rec*	*Actual*	
Physical Tests : Turbidity by Nephelometry										
HDPE										
PHS BLENDED	E121	11-Jun-2025	----	----	----		14-Jun-2025	3 days	3 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial - total (lab preserved)										
PHS BLENDED	E508	11-Jun-2025	17-Jun-2025	28 days	6 days	✓	17-Jun-2025	28 days	6 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved)										
PHS BLENDED	E420	11-Jun-2025	17-Jun-2025	180 days	6 days	✓	18-Jun-2025	180 days	6 days	✓
Volatile Organic Compounds [THMs] : THMs by Headspace GC-MS										
Glass vial (sodium thiosulfate)										
3RD AVE	E611B	11-Jun-2025	16-Jun-2025	14 days	5 days	✓	16-Jun-2025	14 days	5 days	✓
Volatile Organic Compounds [THMs] : THMs by Headspace GC-MS										
Glass vial (sodium thiosulfate)										
BIRKEN	E611B	11-Jun-2025	16-Jun-2025	14 days	5 days	✓	16-Jun-2025	14 days	5 days	✓
Volatile Organic Compounds [THMs] : THMs by Headspace GC-MS										
Glass vial (sodium thiosulfate)										
CRUMPIT WOODS	E611B	11-Jun-2025	16-Jun-2025	14 days	5 days	✓	16-Jun-2025	14 days	5 days	✓
Volatile Organic Compounds [THMs] : THMs by Headspace GC-MS										
Glass vial (sodium thiosulfate)										
MAMQUAM	E611B	11-Jun-2025	16-Jun-2025	14 days	5 days	✓	16-Jun-2025	14 days	5 days	✓

Legend & Qualifier Definitions

EHTR-FM: Exceeded ALS recommended hold time prior to sample receipt. Field Measurement recommended

Rec. HT: ALS recommended hold time (see units).

Quality Control Parameter Frequency Compliance

The following report summarizes the frequency of laboratory QC samples analyzed within the analytical batches (QC lots) in which the submitted samples were processed. The actual frequency should be greater than or equal to the expected frequency.

Matrix: **Water**

Evaluation: × = QC frequency outside specification; ✓ = QC frequency within specification.

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	*Method*	*QC Lot #*	*QC*	*Regular*	*Actual*	*Expected*	*Evaluation*
Laboratory Duplicates (DUP)							
Conductivity in Water	E100	2052124	1	18	5.5	5.0	✓
pH by Meter	E108	2052122	1	15	6.6	5.0	✓
Turbidity by Nephelometry	E121	2052696	1	20	5.0	5.0	✓
TDS by Gravimetry	E162	2060270	1	20	5.0	5.0	✓
Bromide in Water by IC (Low Level)	E235.Br-L	2052127	1	12	8.3	5.0	✓
Chloride in Water by IC	E235.Cl	2052126	1	18	5.5	5.0	✓
Fluoride in Water by IC	E235.F	2052125	1	18	5.5	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	2052129	1	20	5.0	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	2052128	1	15	6.6	5.0	✓
Sulfate in Water by IC	E235.SO4	2052130	1	18	5.5	5.0	✓
Alkalinity Species by Titration	E290	2052123	1	17	5.8	5.0	✓
Ammonia by Fluorescence	E298	2055267	1	19	5.2	5.0	✓
Total Kjeldahl Nitrogen by Fluorescence (Low Level)	E318	2055263	1	11	9.0	5.0	✓
Colour (True) by Spectrometer (5 CU)	E329	2052133	1	2	50.0	5.0	✓
Total Cyanide	E333	2055537	1	20	5.0	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	2055264	1	17	5.8	5.0	✓
Total Nitrogen by Colourimetry	E366	2055265	1	12	8.3	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	2055266	1	20	5.0	5.0	✓
Chlorite (CLO2) in Waters by Ion Chromatography	E409.CLO2	2054974	1	11	9.0	5.0	✓
Chlorate (CLO3) in Waters by Ion Chromatography	E409.CLO3	2054973	1	13	7.6	5.0	✓
Total Metals in Water by CRC ICPMS	E420	2054570	1	18	5.5	5.0	✓
Total Mercury in Water by CVAAS	E508	2056785	1	20	5.0	5.0	✓
Chemical Oxygen Demand by Colourimetry (Low Level)	E559-L	2054916	1	19	5.2	5.0	✓
THMs by Headspace GC-MS	E611B	2054960	1	7	14.2	5.0	✓
Bromate and Perchlorate in Water by LC-MS-MS	E722A	2054180	1	20	5.0	5.0	✓
Laboratory Control Samples (LCS)							
Conductivity in Water	E100	2052124	1	18	5.5	5.0	✓
pH by Meter	E108	2052122	1	15	6.6	5.0	✓
Turbidity by Nephelometry	E121	2052696	1	20	5.0	5.0	✓
TDS by Gravimetry	E162	2060270	1	20	5.0	5.0	✓
Bromide in Water by IC (Low Level)	E235.Br-L	2052127	1	12	8.3	5.0	✓
Chloride in Water by IC	E235.Cl	2052126	1	18	5.5	5.0	✓
Fluoride in Water by IC	E235.F	2052125	1	18	5.5	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	2052129	1	20	5.0	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	2052128	1	15	6.6	5.0	✓
Sulfate in Water by IC	E235.SO4	2052130	1	18	5.5	5.0	✓

Matrix: **Water**

Evaluation: × = QC frequency outside specification; ✓ = QC frequency within specification.

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	*Method*	*QC Lot #*	*QC*	*Regular*	*Actual*	*Expected*	*Evaluation*
Laboratory Control Samples (LCS) - Continued							
Alkalinity Species by Titration	E290	2052123	1	17	5.8	5.0	✓
Ammonia by Fluorescence	E298	2055267	1	19	5.2	5.0	✓
Total Kjeldahl Nitrogen by Fluorescence (Low Level)	E318	2055263	1	11	9.0	5.0	✓
Colour (True) by Spectrometer (5 CU)	E329	2052133	1	2	50.0	5.0	✓
Total Cyanide	E333	2055537	1	20	5.0	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	2055264	1	17	5.8	5.0	✓
Total Nitrogen by Colourimetry	E366	2055265	1	12	8.3	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	2055266	1	20	5.0	5.0	✓
Chlorite (CLO2) in Waters by Ion Chromatography	E409.CLO2	2054974	1	11	9.0	5.0	✓
Chlorate (CLO3) in Waters by Ion Chromatography	E409.CLO3	2054973	1	13	7.6	5.0	✓
Total Metals in Water by CRC ICPMS	E420	2054570	1	18	5.5	5.0	✓
Total Mercury in Water by CVAAS	E508	2056785	1	20	5.0	5.0	✓
Chemical Oxygen Demand by Colourimetry (Low Level)	E559-L	2054916	1	19	5.2	5.0	✓
THMs by Headspace GC-MS	E611B	2054960	1	7	14.2	5.0	✓
Bromate and Perchlorate in Water by LC-MS-MS	E722A	2054180	1	20	5.0	5.0	✓
Haloacetic Acids in Water by LC-MS/MS	E750	2054154	2	39	5.1	4.7	✓
Method Blanks (MB)							
Conductivity in Water	E100	2052124	1	18	5.5	5.0	✓
Turbidity by Nephelometry	E121	2052696	1	20	5.0	5.0	✓
TDS by Gravimetry	E162	2060270	1	20	5.0	5.0	✓
Bromide in Water by IC (Low Level)	E235.Br-L	2052127	1	12	8.3	5.0	✓
Chloride in Water by IC	E235.Cl	2052126	1	18	5.5	5.0	✓
Fluoride in Water by IC	E235.F	2052125	1	18	5.5	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	2052129	1	20	5.0	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	2052128	1	15	6.6	5.0	✓
Sulfate in Water by IC	E235.SO4	2052130	1	18	5.5	5.0	✓
Alkalinity Species by Titration	E290	2052123	1	17	5.8	5.0	✓
Ammonia by Fluorescence	E298	2055267	1	19	5.2	5.0	✓
Total Kjeldahl Nitrogen by Fluorescence (Low Level)	E318	2055263	1	11	9.0	5.0	✓
Colour (True) by Spectrometer (5 CU)	E329	2052133	1	2	50.0	5.0	✓
Total Cyanide	E333	2055537	1	20	5.0	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	2055264	1	17	5.8	5.0	✓
Total Nitrogen by Colourimetry	E366	2055265	1	12	8.3	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	2055266	1	20	5.0	5.0	✓
Chlorite (CLO2) in Waters by Ion Chromatography	E409.CLO2	2054974	1	11	9.0	5.0	✓
Chlorate (CLO3) in Waters by Ion Chromatography	E409.CLO3	2054973	1	13	7.6	5.0	✓
Total Metals in Water by CRC ICPMS	E420	2054570	1	18	5.5	5.0	✓
Total Mercury in Water by CVAAS	E508	2056785	1	20	5.0	5.0	✓
Chemical Oxygen Demand by Colourimetry (Low Level)	E559-L	2054916	1	19	5.2	5.0	✓

Matrix: **Water**

Evaluation: × = QC frequency outside specification; ✓ = QC frequency within specification.

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	*Method*	*QC Lot #*	*QC*	*Regular*	*Actual*	*Expected*	*Evaluation*
Method Blanks (MB) - Continued							
THMs by Headspace GC-MS	E611B	2054960	1	7	14.2	5.0	✓
Bromate and Perchlorate in Water by LC-MS-MS	E722A	2054180	1	20	5.0	5.0	✓
Haloacetic Acids in Water by LC-MS/MS	E750	2054154	2	39	5.1	4.7	✓
Matrix Spikes (MS)							
Bromide in Water by IC (Low Level)	E235.Br-L	2052127	1	12	8.3	5.0	✓
Chloride in Water by IC	E235.Cl	2052126	1	18	5.5	5.0	✓
Fluoride in Water by IC	E235.F	2052125	1	18	5.5	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	2052129	1	20	5.0	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	2052128	1	15	6.6	5.0	✓
Sulfate in Water by IC	E235.SO4	2052130	1	18	5.5	5.0	✓
Ammonia by Fluorescence	E298	2055267	1	19	5.2	5.0	✓
Total Kjeldahl Nitrogen by Fluorescence (Low Level)	E318	2055263	1	11	9.0	5.0	✓
Total Cyanide	E333	2055537	1	20	5.0	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	2055264	1	17	5.8	5.0	✓
Total Nitrogen by Colourimetry	E366	2055265	1	12	8.3	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	2055266	1	20	5.0	5.0	✓
Chlorite (CLO2) in Waters by Ion Chromatography	E409.CLO2	2054974	1	11	9.0	5.0	✓
Chlorate (CLO3) in Waters by Ion Chromatography	E409.CLO3	2054973	1	13	7.6	5.0	✓
Total Metals in Water by CRC ICPMS	E420	2054570	1	18	5.5	5.0	✓
Total Mercury in Water by CVAAS	E508	2056785	1	20	5.0	5.0	✓
Chemical Oxygen Demand by Colourimetry (Low Level)	E559-L	2054916	1	19	5.2	5.0	✓
THMs by Headspace GC-MS	E611B	2054960	1	7	14.2	5.0	✓
Bromate and Perchlorate in Water by LC-MS-MS	E722A	2054180	1	20	5.0	5.0	✓
Haloacetic Acids in Water by LC-MS/MS	E750	2054154	2	39	5.1	4.7	✓
Matrix Spike Duplicates (MSD)							
Haloacetic Acids in Water by LC-MS/MS	E750	2054154	2	39	5.1	4.7	✓

Methodology References and Summaries

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. Reference methods may incorporate modifications to improve performance (indicated by "mod").

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Conductivity in Water	E100 ALS Environmental - Vancouver	Water	APHA 2510 (mod)	Conductivity, also known as Electrical Conductivity (EC) or Specific Conductance, is measured by immersion of a conductivity cell with platinum electrodes into a water sample. Conductivity measurements are temperature-compensated to 25°C.
pH by Meter	E108 ALS Environmental - Vancouver	Water	APHA 4500-H (mod)	pH is determined by potentiometric measurement with a pH electrode, and is conducted at ambient laboratory temperature (normally 20 ± 5°C). For high accuracy test results, pH should be measured in the field within the recommended 15 minute hold time.
Turbidity by Nephelometry	E121 ALS Environmental - Vancouver	Water	APHA 2130 B (mod)	Turbidity is measured by the nephelometric method, by measuring the intensity of light scatter under defined conditions.
TDS by Gravimetry	E162 ALS Environmental - Vancouver	Water	APHA 2540 C (mod)	Total Dissolved Solids (TDS) are determined by filtering a sample through a glass fibre filter, with evaporation of the filtrate at 180 ± 2°C for 16 hours or to constant weight, with gravimetric measurement of the residue.
Bromide in Water by IC (Low Level)	E235.Br-L ALS Environmental - Vancouver	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Chloride in Water by IC	E235.Cl ALS Environmental - Vancouver	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Fluoride in Water by IC	E235.F ALS Environmental - Vancouver	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Nitrite in Water by IC (Low Level)	E235.NO2-L ALS Environmental - Vancouver	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Nitrate in Water by IC (Low Level)	E235.NO3-L ALS Environmental - Vancouver	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Sulfate in Water by IC	E235.SO4 ALS Environmental - Vancouver	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Alkalinity Species by Titration	E290 ALS Environmental - Vancouver	Water	APHA 2320 B (mod)	Total alkalinity is determined by potentiometric titration to a pH 4.5 endpoint. Bicarbonate, carbonate and hydroxide alkalinity are calculated from phenolphthalein alkalinity and total alkalinity values.
Ammonia by Fluorescence	E298 ALS Environmental - Vancouver	Water	Method Fialab 100, 2018	Ammonia in water is determined by automated continuous flow analysis with membrane diffusion and fluorescence detection, after reaction with OPA (ortho-phthalaldehyde). This method is approved under US EPA 40 CFR Part 136 (May 2021)
Total Kjeldahl Nitrogen by Fluorescence (Low Level)	E318 ALS Environmental - Vancouver	Water	Method Fialab 100, 2018	TKN in water is determined by automated continuous flow analysis with membrane diffusion and fluorescence detection, after reaction with OPA (ortho-phthalaldehyde). This method is approved under US EPA 40 CFR Part 136 (May 2021).
Colour (True) by Spectrometer (5 CU)	E329 ALS Environmental - Vancouver	Water	APHA 2120 C (mod)	Colour (True Colour) is determined by filtering a sample through a 0.45 micron membrane filter followed by analysis of the filtrate using the platinum-cobalt colourimetric method. Colour measurements can be highly pH dependent, and apply to the pH of the sample as received (at time of testing), without pH adjustment.
Total Cyanide	E333 ALS Environmental - Vancouver	Water	ISO 14403 (mod)	Total or Strong Acid Dissociable (SAD) Cyanide is determined by Continuous Flow Analyzer (CFA) with in-line UV digestion followed by colourmetric analysis. Method Limitation: High levels of thiocyanate (SCN) may cause positive interference (up to 0.5% of SCN concentration).
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L ALS Environmental - Vancouver	Water	APHA 5310 B (mod)	Total Organic Carbon (Non-Purgeable), also known as NPOC (total), is a direct measurement of TOC after an acidified sample has been purged to remove carbonate-based Inorganic Carbon (IC). Analysis is by high temperature combustion with infrared detection of CO2. Forms of carbon associated with inorganic or organic molecules (e.g. SCN and CN) are included in NPOC if they are not removed by purging under acidic conditions. Notably, NPOC excludes most volatile organic compounds and free cyanide. For samples where the majority of Total Carbon is inorganic, this method provides greater accuracy and reliability versus the TOC by subtraction method (TC minus TIC).
Total Nitrogen by Colourimetry	E366 ALS Environmental - Vancouver	Water	Chinchilla Scientific Nitrate Method, 2011	Following digestion, total nitrogen is is determined colourimetrically using a discrete analyzer utilizing the vanadium chloride reduction method. This method of analysis is approved under US EPA 40 CFR Part 136 (May 2021).
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U ALS Environmental - Vancouver	Water	APHA 4500-P E (mod).	Total Phosphorus is determined colourimetrically using a discrete analyzer after heated persulfate digestion of the sample.
Chlorite (CLO2) in Waters by Ion Chromatography	E409.CLO2 ALS Environmental - Waterloo	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity detection.

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Chlorate (CLO3) in Waters by Ion Chromatography	E409.CLO3 ALS Environmental - Waterloo	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity detection.
Total Metals in Water by CRC ICPMS	E420 ALS Environmental - Vancouver	Water	EPA 200.2/6020B (mod)	Water samples are digested with nitric and hydrochloric acids, and analyzed by Collision/Reaction Cell ICPMS. Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method.
Total Mercury in Water by CVAAS	E508 ALS Environmental - Vancouver	Water	EPA 1631E (mod)	Water samples undergo a cold-oxidation using bromine monochloride prior to reduction with stannous chloride, and analyzed by CVAAS
Chemical Oxygen Demand by Colourimetry (Low Level)	E559-L ALS Environmental - Vancouver	Water	APHA 5220 D (mod)	Samples are analyzed using the closed reflux colourimetric method.
THMs by Headspace GC-MS	E611B ALS Environmental - Vancouver	Water	EPA 8260D (mod)	Volatile Organic Compounds (VOCs) are analyzed by static headspace GC-MS. Samples are prepared in headspace vials and are heated and agitated on the headspace autosampler, causing VOCs to partition between the aqueous phase and the headspace in accordance with Henry's law.
Bromate and Perchlorate in Water by LC-MS-MS	E722A ALS Environmental - Waterloo	Water	EPA 6850	A aliquot of the water sample is filtered and an internal standard is added. The sample is then analyzed by LC/MS/MS.
Haloacetic Acids in Water by LC-MS/MS	E750 ALS Environmental - Waterloo	Water	MOE E3478	An aliquot of sample is fortified with formic acid and internal standards and analyzed via direct injection by LCMSMS
Hardness (Calculated) from Total Ca/Mg	EC100A ALS Environmental - Vancouver	Water	APHA 2340B	"Hardness (as CaCO3), from total Ca/Mg" is calculated from the sum of total Calcium and Magnesium concentrations, expressed as $CaCO_3$ equivalents. "Total Hardness" refers to the sum of Calcium and Magnesium Hardness. Hardness is normally or preferentially calculated from dissolved Calcium and Magnesium concentrations, because hardness is a property of water due to dissolved divalent cations. In non-turbid waters, Hardness from total Ca/Mg is normally comparable to Dissolved Hardness, but may be biased high if particulate forms of Ca or Mg are present.

Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Preparation for Ammonia	EP298 ALS Environmental - Vancouver	Water		Sample preparation for Preserved Nutrients Water Quality Analysis.

Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Digestion for TKN in water	EP318 ALS Environmental - Vancouver	Water	APHA 4500-Norg D (mod)	Samples are digested at high temperature using Sulfuric Acid with Copper catalyst, which converts organic nitrogen sources to Ammonia, which is then quantified by the analytical method as TKN. This method is unsuitable for samples containing high levels of nitrate. If nitrate exceeds TKN concentration by ten times or more, results may be biased low.
Preparation for Total Organic Carbon by Combustion	EP355 ALS Environmental - Vancouver	Water		Preparation for Total Organic Carbon by Combustion
Digestion for Total Nitrogen in water	EP366 ALS Environmental - Vancouver	Water	APHA 4500-P J (mod)	Samples for total nitrogen analysis are digested using a heated persulfate digestion. Nitrogen compounds are converted to nitrate in this digestion.
Digestion for Total Phosphorus in water	EP372 ALS Environmental - Vancouver	Water	APHA 4500-P E (mod).	Samples are heated with a persulfate digestion reagent.
VOCs Preparation for Headspace Analysis	EP581 ALS Environmental - Vancouver	Water	EPA 5021A (mod)	Samples are prepared in headspace vials and are heated and agitated on the headspace autosampler. An aliquot of the headspace is then injected into a GC-MS-FID.
Preparation of Bromate and Perchlorate in Water by LC-MS-MS	EP722 ALS Environmental - Waterloo	Water	EPA 6850	An aliquot of the water sample is filtered if required and internal standard is added.
Preparation of Haloacetic acid in Water for LCMSMS	EP750 ALS Environmental - Waterloo	Water	E3478	An aliquot of samples is fortified with formic acid and internal standard to be analyzed by direct injection LCMSMS

QUALITY CONTROL REPORT

Work Order	: **VA25B3933**	Page	: 1 of 17
Client	: District of Squamish	Laboratory	: ALS Environmental - Vancouver
Contact	: Craig Halliday	Account Manager	: Gulraj Dhanaua
Address	: 39907 Government Road PO Box 310 Squamish BC Canada V8B 0A3	Address	: 8081 Lougheed Highway Burnaby, British Columbia Canada V5A 1W9
Telephone	: 604 815 6864	Telephone	: +1 604 253 4188
Project	: Semi Annual Samples	Date Samples Received	: 11-Jun-2025 12:15
PO	: 504810	Date Analysis Commenced	: 14-Jun-2025
C-O-C number	: ----	Issue Date	: 25-Jun-2025 12:33
Sampler	: BM, MB		
Site	: ----		
Quote number	: VA23-DOSQ100-002		
No. of samples received	: 5		
No. of samples analysed	: 5		

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 Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percent Difference (RPD) and Data Quality Objectives
- Matrix Spike (MS) Report; Recovery and Data Quality Objectives
- Matrix Spike Duplicate (MSD) Report; Relative Percent Difference (RPD)
- Method Blank (MB) Report; Recovery and Data Quality Objectives
- Laboratory Control Sample (LCS) Report; Recovery and Data Quality Objectives

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*
Janice Leung	Supervisor - Organics Instrumentation	Vancouver Organics, Burnaby, British Columbia
Kim Jensen	Department Manager - Metals	Vancouver Metals, Burnaby, British Columbia
Lindsay Gung	Department Manager - Inorganics	Vancouver Inorganics, Burnaby, British Columbia
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Sanja Risticevic	Department Manager - LCMS	Waterloo LCMS, Waterloo, Ontario

General Comments

The ALS Quality Control (QC) report is optionally provided to ALS clients upon request. ALS test methods include comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against predetermined Data Quality Objectives (DQOs) to provide confidence in the accuracy of associated test results. This report contains detailed results for all QC results applicable to this sample submission. Please refer to the ALS Quality Control Interpretation report (QCI) for applicable method references and methodology 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
# = Indicates a QC result that did not meet the ALS DQO.

Workorder Comments

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

Laboratory Duplicate (DUP) Report

A Laboratory Duplicate (DUP) is a randomly selected intralaboratory replicate sample. Laboratory Duplicates provide information regarding method precision and sample heterogeneity. ALS DQOs for Laboratory Duplicates are expressed as test-specific limits for Relative Percent Difference (RPD), or as an absolute difference limit of 2 times the LOR for low concentration duplicates within ~ 4-10 times the LOR (cut-off is test-specific).

Sub-Matrix: **Water**

					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	LOR	Unit	Original Result	Duplicate Result	RPD(%) or Difference	Duplicate Limits	Qualifier
Physical Tests (QC Lot: 2052122)											
VA25B4054-002	Anonymous	pH	----	E108	0.10	pH units	8.46	8.46	0.00%	4%	----
Physical Tests (QC Lot: 2052123)											
VA25B4054-002	Anonymous	Alkalinity, total (as CaCO3)	----	E290	1.0	mg/L	148	148	0.270%	20%	----
Physical Tests (QC Lot: 2052124)											
VA25B4054-002	Anonymous	Conductivity	----	E100	2.0	µS/cm	323	325	0.617%	10%	----
Physical Tests (QC Lot: 2052133)											
VA25B3933-001	PHS BLENDED	Colour, true	----	E329	5.0	CU	<5.0	<5.0	0	Diff <2x LOR	----
Physical Tests (QC Lot: 2052696)											
FJ2501753-002	Anonymous	Turbidity	----	E121	0.10	NTU	20.0	19.8	1.01%	15%	----
Physical Tests (QC Lot: 2060270)											
KS2502229-001	Anonymous	Solids, total dissolved [TDS]	----	E162	10	mg/L	205	206	0.243%	20%	----
Anions and Nutrients (QC Lot: 2052125)											
VA25B3933-001	PHS BLENDED	Fluoride	16984-48-8	E235.F	0.020	mg/L	0.085	0.085	0.0006	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 2052126)											
VA25B3933-001	PHS BLENDED	Chloride	16887-00-6	E235.Cl	0.50	mg/L	4.57	4.52	0.05	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 2052127)											
VA25B3933-001	PHS BLENDED	Bromide	24959-67-9	E235.Br-L	0.050	mg/L	<0.050	<0.050	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 2052128)											
VA25B3933-001	PHS BLENDED	Nitrate (as N)	14797-55-8	E235.NO3-L	0.0050	mg/L	0.0616	0.0591	4.13%	20%	----
Anions and Nutrients (QC Lot: 2052129)											
VA25B3933-001	PHS BLENDED	Nitrite (as N)	14797-65-0	E235.NO2-L	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 2052130)											
VA25B3933-001	PHS BLENDED	Sulfate (as SO4)	14808-79-8	E235.SO4	0.30	mg/L	8.06	7.95	1.33%	20%	----
Anions and Nutrients (QC Lot: 2055263)											
KS2502258-001	Anonymous	Kjeldahl nitrogen, total [TKN]	----	E318	0.050	mg/L	0.248	0.286	0.038	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 2055265)											
KS2502241-001	Anonymous	Nitrogen, total	7727-37-9	E366	0.030	mg/L	0.381	0.383	0.574%	20%	----
Anions and Nutrients (QC Lot: 2055266)											
KS2502241-001	Anonymous	Phosphorus, total	7723-14-0	E372-U	0.0020	mg/L	0.0095	0.0098	0.0003	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 2055267)											

Sub-Matrix: **Water**

					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	*Client sample ID*	*Analyte*	*CAS Number*	*Method*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD(%) or Difference*	*Duplicate Limits*	*Qualifier*
Anions and Nutrients (QC Lot: 2055267) - continued											
KS2502241-001	Anonymous	Ammonia, total (as N)	7664-41-7	E298	0.0050	mg/L	0.0070	0.0060	0.0010	Diff <2x LOR	----
Cyanides (QC Lot: 2055537)											
VA25B3978-004	Anonymous	Cyanide, strong acid dissociable (Total)	----	E333	0.0050	mg/L	<0.0050	<0.0050	0	Diff <2x LOR	----
Organic / Inorganic Carbon (QC Lot: 2055264)											
KS2502241-003	Anonymous	Carbon, total organic [TOC]	----	E355-L	0.50	mg/L	9.49	8.95	5.84%	20%	----
Total Metals (QC Lot: 2054570)											
YL2500396-001	Anonymous	Aluminum, total	7429-90-5	E420	0.0030	mg/L	0.0539	0.0547	1.40%	20%	----
		Antimony, total	7440-36-0	E420	0.00010	mg/L	0.00014	0.00014	0.000001	Diff <2x LOR	----
		Arsenic, total	7440-38-2	E420	0.00010	mg/L	0.00105	0.00096	9.13%	20%	----
		Barium, total	7440-39-3	E420	0.00010	mg/L	0.0381	0.0386	1.32%	20%	----
		Beryllium, total	7440-41-7	E420	0.000020	mg/L	<0.000020	<0.000020	0	Diff <2x LOR	----
		Bismuth, total	7440-69-9	E420	0.000050	mg/L	<0.000050	<0.000050	0	Diff <2x LOR	----
		Boron, total	7440-42-8	E420	0.010	mg/L	0.015	0.014	0.0005	Diff <2x LOR	----
		Cadmium, total	7440-43-9	E420	0.0000050	mg/L	0.0000075	0.0000078	0.0000004	Diff <2x LOR	----
		Calcium, total	7440-70-2	E420	0.050	mg/L	24.5	24.4	0.433%	20%	----
		Cesium, total	7440-46-2	E420	0.000010	mg/L	<0.000010	<0.000010	0	Diff <2x LOR	----
		Chromium, total	7440-47-3	E420	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Cobalt, total	7440-48-4	E420	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Copper, total	7440-50-8	E420	0.00050	mg/L	0.00133	0.00128	0.00005	Diff <2x LOR	----
		Iron, total	7439-89-6	E420	0.010	mg/L	0.056	0.055	0.002	Diff <2x LOR	----
		Lead, total	7439-92-1	E420	0.000050	mg/L	<0.000050	<0.000050	0	Diff <2x LOR	----
		Lithium, total	7439-93-2	E420	0.0010	mg/L	0.0038	0.0037	0.000006	Diff <2x LOR	----
		Magnesium, total	7439-95-4	E420	0.0050	mg/L	6.43	6.51	1.20%	20%	----
		Manganese, total	7439-96-5	E420	0.00010	mg/L	0.00344	0.00336	2.55%	20%	----
		Molybdenum, total	7439-98-7	E420	0.000050	mg/L	0.000671	0.000667	0.672%	20%	----
		Nickel, total	7440-02-0	E420	0.00050	mg/L	0.00109	0.00110	0.00001	Diff <2x LOR	----
		Phosphorus, total	7723-14-0	E420	0.050	mg/L	<0.050	<0.050	0	Diff <2x LOR	----
		Potassium, total	7440-09-7	E420	0.050	mg/L	1.16	1.15	1.11%	20%	----
		Rubidium, total	7440-17-7	E420	0.00020	mg/L	0.00100	0.00102	0.00002	Diff <2x LOR	----
		Selenium, total	7782-49-2	E420	0.000050	mg/L	0.000145	0.000122	0.000023	Diff <2x LOR	----
		Silicon, total	7440-21-3	E420	0.10	mg/L	1.36	1.31	3.28%	20%	----
		Silver, total	7440-22-4	E420	0.000010	mg/L	<0.000010	<0.000010	0	Diff <2x LOR	----
		Sodium, total	7440-23-5	E420	0.050	mg/L	7.83	7.60	2.95%	20%	----
		Strontium, total	7440-24-6	E420	0.00020	mg/L	0.132	0.132	0.170%	20%	----

Sub-Matrix: **Water**

					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	*Client sample ID*	*Analyte*	*CAS Number*	*Method*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD(%) or Difference*	*Duplicate Limits*	*Qualifier*
Total Metals (QC Lot: 2054570) - continued											
YL2500396-001	Anonymous	Sulfur, total	7704-34-9	E420	0.50	mg/L	7.81	7.34	6.25%	20%	----
		Tellurium, total	13494-80-9	E420	0.00020	mg/L	<0.00020	<0.00020	0	Diff <2x LOR	----
		Thallium, total	7440-28-0	E420	0.000010	mg/L	<0.000010	<0.000010	0	Diff <2x LOR	----
		Thorium, total	7440-29-1	E420	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Tin, total	7440-31-5	E420	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Titanium, total	7440-32-6	E420	0.00030	mg/L	<0.00180	0.00129	0.00051	Diff <2x LOR	----
		Tungsten, total	7440-33-7	E420	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Uranium, total	7440-61-1	E420	0.000010	mg/L	0.000396	0.000400	1.07%	20%	----
		Vanadium, total	7440-62-2	E420	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Zinc, total	7440-66-6	E420	0.0030	mg/L	<0.0030	<0.0030	0	Diff <2x LOR	----
		Zirconium, total	7440-67-7	E420	0.00020	mg/L	<0.00020	<0.00020	0	Diff <2x LOR	----
Total Metals (QC Lot: 2056785)											
KS2502244-001	Anonymous	Mercury, total	7439-97-6	E508	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	----
Aggregate Organics (QC Lot: 2054916)											
FJ2501752-001	Anonymous	Chemical oxygen demand [COD]	----	E559-L	10	mg/L	<10	<10	0	Diff <2x LOR	----
Volatile Organic Compounds [THMs] (QC Lot: 2054960)											
KS2502232-001	Anonymous	Bromodichloromethane	75-27-4	E611B	1.0	µg/L	1.1	1.1	0.0%	30%	----
		Bromoform	75-25-2	E611B	1.0	µg/L	<1.0	<1.0	0.0%	30%	----
		Chloroform	67-66-3	E611B	1.0	µg/L	31.7	32.5	2.4%	30%	----
		Dibromochloromethane	124-48-1	E611B	1.0	µg/L	<1.0	<1.0	0.0%	30%	----
DIsinfectant By-Products (QC Lot: 2054180)											
TY2506089-007	Anonymous	Bromate	15541-45-4	E722A	0.30	µg/L	<0.30	<0.30	0	Diff <2x LOR	----
		Perchlorate	7601-90-3	E722A	0.20	µg/L	<0.20	<0.20	0	Diff <2x LOR	----
DIsinfectant By-Products (QC Lot: 2054973)											
EO2504784-001	Anonymous	Chlorate	14866-68-3	E409.CLO3	0.010	mg/L	0.308	0.309	0.383%	20%	----
DIsinfectant By-Products (QC Lot: 2054974)											
EO2504784-001	Anonymous	Chlorite	14998-27-7	E409.CLO2	0.010	mg/L	<0.010	<0.010	0	Diff <2x LOR	----

Method Blank (MB) Report

A Method Blank is an analyte-free matrix that undergoes sample processing identical to that carried out for test samples. Method Blank results are used to monitor and control for potential contamination from the laboratory environment and reagents. For most tests, the DQO for Method Blanks is for the result to be < LOR.

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Physical Tests (QCLot: 2052123)						
Alkalinity, total (as CaCO3)	----	E290	1	mg/L	<1.0	----
Physical Tests (QCLot: 2052124)						
Conductivity	----	E100	1	µS/cm	<1.0	----
Physical Tests (QCLot: 2052133)						
Colour, true	----	E329	5	CU	<5.0	----
Physical Tests (QCLot: 2052696)						
Turbidity	----	E121	0.1	NTU	<0.10	----
Physical Tests (QCLot: 2060270)						
Solids, total dissolved [TDS]	----	E162	10	mg/L	<10	----
Anions and Nutrients (QCLot: 2052125)						
Fluoride	16984-48-8	E235.F	0.02	mg/L	<0.020	----
Anions and Nutrients (QCLot: 2052126)						
Chloride	16887-00-6	E235.Cl	0.5	mg/L	<0.50	----
Anions and Nutrients (QCLot: 2052127)						
Bromide	24959-67-9	E235.Br-L	0.05	mg/L	<0.050	----
Anions and Nutrients (QCLot: 2052128)						
Nitrate (as N)	14797-55-8	E235.NO3-L	0.005	mg/L	<0.0050	----
Anions and Nutrients (QCLot: 2052129)						
Nitrite (as N)	14797-65-0	E235.NO2-L	0.001	mg/L	<0.0010	----
Anions and Nutrients (QCLot: 2052130)						
Sulfate (as SO4)	14808-79-8	E235.SO4	0.3	mg/L	<0.30	----
Anions and Nutrients (QCLot: 2055263)						
Kjeldahl nitrogen, total [TKN]	----	E318	0.05	mg/L	<0.050	----
Anions and Nutrients (QCLot: 2055265)						
Nitrogen, total	7727-37-9	E366	0.03	mg/L	<0.030	----
Anions and Nutrients (QCLot: 2055266)						
Phosphorus, total	7723-14-0	E372-U	0.002	mg/L	<0.0020	----
Anions and Nutrients (QCLot: 2055267)						
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	<0.0050	----
Cyanides (QCLot: 2055537)						
Cyanide, strong acid dissociable (Total)	----	E333	0.002	mg/L	<0.0020	----
Organic / Inorganic Carbon (QCLot: 2055264)						

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Organic / Inorganic Carbon (QCLot: 2055264) - continued						
Carbon, total organic [TOC]	----	E355-L	0.5	mg/L	<0.50	----
Total Metals (QCLot: 2054570)						
Aluminum, total	7429-90-5	E420	0.003	mg/L	<0.0030	----
Antimony, total	7440-36-0	E420	0.0001	mg/L	<0.00010	----
Arsenic, total	7440-38-2	E420	0.0001	mg/L	<0.00010	----
Barium, total	7440-39-3	E420	0.0001	mg/L	<0.00010	----
Beryllium, total	7440-41-7	E420	0.00002	mg/L	<0.000020	----
Bismuth, total	7440-69-9	E420	0.00005	mg/L	<0.000050	----
Boron, total	7440-42-8	E420	0.01	mg/L	<0.010	----
Cadmium, total	7440-43-9	E420	0.000005	mg/L	<0.0000050	----
Calcium, total	7440-70-2	E420	0.05	mg/L	<0.050	----
Cesium, total	7440-46-2	E420	0.00001	mg/L	<0.000010	----
Chromium, total	7440-47-3	E420	0.0005	mg/L	<0.00050	----
Cobalt, total	7440-48-4	E420	0.0001	mg/L	<0.00010	----
Copper, total	7440-50-8	E420	0.0005	mg/L	<0.00050	----
Iron, total	7439-89-6	E420	0.01	mg/L	<0.010	----
Lead, total	7439-92-1	E420	0.00005	mg/L	<0.000050	----
Lithium, total	7439-93-2	E420	0.001	mg/L	<0.0010	----
Magnesium, total	7439-95-4	E420	0.005	mg/L	<0.0050	----
Manganese, total	7439-96-5	E420	0.0001	mg/L	<0.00010	----
Molybdenum, total	7439-98-7	E420	0.00005	mg/L	<0.000050	----
Nickel, total	7440-02-0	E420	0.0005	mg/L	<0.00050	----
Phosphorus, total	7723-14-0	E420	0.05	mg/L	<0.050	----
Potassium, total	7440-09-7	E420	0.05	mg/L	<0.050	----
Rubidium, total	7440-17-7	E420	0.0002	mg/L	<0.00020	----
Selenium, total	7782-49-2	E420	0.00005	mg/L	<0.000050	----
Silicon, total	7440-21-3	E420	0.1	mg/L	<0.10	----
Silver, total	7440-22-4	E420	0.00001	mg/L	<0.000010	----
Sodium, total	7440-23-5	E420	0.05	mg/L	<0.050	----
Strontium, total	7440-24-6	E420	0.0002	mg/L	<0.00020	----
Sulfur, total	7704-34-9	E420	0.5	mg/L	<0.50	----
Tellurium, total	13494-80-9	E420	0.0002	mg/L	<0.00020	----
Thallium, total	7440-28-0	E420	0.00001	mg/L	<0.000010	----
Thorium, total	7440-29-1	E420	0.0001	mg/L	<0.00010	----
Tin, total	7440-31-5	E420	0.0001	mg/L	<0.00010	----

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Total Metals (QCLot: 2054570) - continued						
Titanium, total	7440-32-6	E420	0.0003	mg/L	<0.00030	----
Tungsten, total	7440-33-7	E420	0.0001	mg/L	<0.00010	----
Uranium, total	7440-61-1	E420	0.00001	mg/L	<0.000010	----
Vanadium, total	7440-62-2	E420	0.0005	mg/L	<0.00050	----
Zinc, total	7440-66-6	E420	0.003	mg/L	<0.0030	----
Zirconium, total	7440-67-7	E420	0.0002	mg/L	<0.00020	----
Total Metals (QCLot: 2056785)						
Mercury, total	7439-97-6	E508	0.000005	mg/L	<0.0000050	----
Aggregate Organics (QCLot: 2054916)						
Chemical oxygen demand [COD]	----	E559-L	10	mg/L	<10	----
Volatile Organic Compounds [THMs] (QCLot: 2054960)						
Bromodichloromethane	75-27-4	E611B	1	µg/L	<1.0	----
Bromoform	75-25-2	E611B	1	µg/L	<1.0	----
Chloroform	67-66-3	E611B	1	µg/L	<1.0	----
Dibromochloromethane	124-48-1	E611B	1	µg/L	<1.0	----
DIsinfectant By-Products (QCLot: 2054180)						
Bromate	15541-45-4	E722A	0.3	µg/L	<0.30	----
Perchlorate	7601-90-3	E722A	0.2	µg/L	<0.20	----
DIsinfectant By-Products (QCLot: 2054973)						
Chlorate	14866-68-3	E409.CLO3	0.01	mg/L	<0.010	----
DIsinfectant By-Products (QCLot: 2054974)						
Chlorite	14998-27-7	E409.CLO2	0.01	mg/L	<0.010	----
Haloacetic Acids (QCLot: 2054154)						
Bromochloroacetic acid	5589-96-8	E750	0.5	µg/L	<0.50	----
Dibromoacetic acid	631-64-1	E750	1	µg/L	<1.00	----
Dichloroacetic acid	79-43-6	E750	1	µg/L	<1.00	----
Monobromoacetic acid	79-08-3	E750	0.2	µg/L	<0.20	----
Monochloroacetic acid	79-11-8	E750	0.5	µg/L	<0.50	----
Trichloroacetic acid	76-03-9	E750	1	µg/L	<1.00	----
Haloacetic Acids (QCLot: 2058382)						
Bromochloroacetic acid	5589-96-8	E750	0.5	µg/L	<0.50	----
Dibromoacetic acid	631-64-1	E750	1	µg/L	<1.00	----
Dichloroacetic acid	79-43-6	E750	1	µg/L	<1.00	----
Monobromoacetic acid	79-08-3	E750	0.2	µg/L	<0.20	----
Monochloroacetic acid	79-11-8	E750	0.5	µg/L	<0.50	----

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Haloacetic Acids (QCLot: 2058382) - continued						
Trichloroacetic acid	76-03-9	E750	1	µg/L	<1.00	----

Laboratory Control Sample (LCS) Report

A Laboratory Control Sample (LCS) is an analyte-free matrix that has been fortified (spiked) with test analytes at known concentration and processed in an identical manner to test samples. LCS results are expressed as percent recovery, and are used to monitor and control test method accuracy and precision, independent of test sample matrix.

Sub-Matrix: **Water**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Physical Tests (QCLot: 2052122)									
pH	----	E108	----	pH units	7 pH units	100	98.0	102	----
Physical Tests (QCLot: 2052123)									
Alkalinity, total (as CaCO3)	----	E290	1	mg/L	500 mg/L	105	85.0	115	----
Physical Tests (QCLot: 2052124)									
Conductivity	----	E100	1	µS/cm	147 µS/cm	97.1	90.0	110	----
Physical Tests (QCLot: 2052133)									
Colour, true	----	E329	5	CU	100 CU	103	85.0	115	----
Physical Tests (QCLot: 2052696)									
Turbidity	----	E121	0.1	NTU	200 NTU	99.5	85.0	115	----
Physical Tests (QCLot: 2060270)									
Solids, total dissolved [TDS]	----	E162	10	mg/L	1000 mg/L	104	85.0	115	----
Anions and Nutrients (QCLot: 2052125)									
Fluoride	16984-48-8	E235.F	0.02	mg/L	1 mg/L	95.2	90.0	110	----
Anions and Nutrients (QCLot: 2052126)									
Chloride	16887-00-6	E235.Cl	0.5	mg/L	100 mg/L	98.3	90.0	110	----
Anions and Nutrients (QCLot: 2052127)									
Bromide	24959-67-9	E235.Br-L	0.05	mg/L	0.5 mg/L	100	85.0	115	----
Anions and Nutrients (QCLot: 2052128)									
Nitrate (as N)	14797-55-8	E235.NO3-L	0.005	mg/L	2.5 mg/L	98.7	90.0	110	----
Anions and Nutrients (QCLot: 2052129)									
Nitrite (as N)	14797-65-0	E235.NO2-L	0.001	mg/L	0.5 mg/L	95.8	90.0	110	----
Anions and Nutrients (QCLot: 2052130)									
Sulfate (as SO4)	14808-79-8	E235.SO4	0.3	mg/L	100 mg/L	99.6	90.0	110	----
Anions and Nutrients (QCLot: 2055263)									
Kjeldahl nitrogen, total [TKN]	----	E318	0.05	mg/L	4 mg/L	95.6	75.0	125	----
Anions and Nutrients (QCLot: 2055265)									
Nitrogen, total	7727-37-9	E366	0.03	mg/L	0.5 mg/L	99.0	75.0	125	----
Anions and Nutrients (QCLot: 2055266)									
Phosphorus, total	7723-14-0	E372-U	0.002	mg/L	0.05 mg/L	96.7	80.0	120	----
Anions and Nutrients (QCLot: 2055267)									
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	0.2 mg/L	100	85.0	115	----

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
					Target Concentration	LCS	Low	High	Qualifier
Cyanides (QCLot: 2055537)									
Cyanide, strong acid dissociable (Total)	----	E333	0.002	mg/L	0.25 mg/L	92.0	80.0	120	----
Organic / Inorganic Carbon (QCLot: 2055264)									
Carbon, total organic [TOC]	----	E355-L	0.5	mg/L	8.57 mg/L	102	80.0	120	----
Total Metals (QCLot: 2054570)									
Aluminum, total	7429-90-5	E420	0.003	mg/L	2 mg/L	106	80.0	120	----
Antimony, total	7440-36-0	E420	0.0001	mg/L	1 mg/L	102	80.0	120	----
Arsenic, total	7440-38-2	E420	0.0001	mg/L	1 mg/L	109	80.0	120	----
Barium, total	7440-39-3	E420	0.0001	mg/L	0.25 mg/L	102	80.0	120	----
Beryllium, total	7440-41-7	E420	0.00002	mg/L	0.1 mg/L	100	80.0	120	----
Bismuth, total	7440-69-9	E420	0.00005	mg/L	1 mg/L	103	80.0	120	----
Boron, total	7440-42-8	E420	0.01	mg/L	1 mg/L	93.9	80.0	120	----
Cadmium, total	7440-43-9	E420	0.000005	mg/L	0.1 mg/L	103	80.0	120	----
Calcium, total	7440-70-2	E420	0.05	mg/L	50 mg/L	98.0	80.0	120	----
Cesium, total	7440-46-2	E420	0.00001	mg/L	0.05 mg/L	96.7	80.0	120	----
Chromium, total	7440-47-3	E420	0.0005	mg/L	0.25 mg/L	105	80.0	120	----
Cobalt, total	7440-48-4	E420	0.0001	mg/L	0.25 mg/L	104	80.0	120	----
Copper, total	7440-50-8	E420	0.0005	mg/L	0.25 mg/L	105	80.0	120	----
Iron, total	7439-89-6	E420	0.01	mg/L	1 mg/L	97.2	80.0	120	----
Lead, total	7439-92-1	E420	0.00005	mg/L	0.5 mg/L	98.3	80.0	120	----
Lithium, total	7439-93-2	E420	0.001	mg/L	0.25 mg/L	98.3	80.0	120	----
Magnesium, total	7439-95-4	E420	0.005	mg/L	50 mg/L	102	80.0	120	----
Manganese, total	7439-96-5	E420	0.0001	mg/L	0.25 mg/L	103	80.0	120	----
Molybdenum, total	7439-98-7	E420	0.00005	mg/L	0.25 mg/L	101	80.0	120	----
Nickel, total	7440-02-0	E420	0.0005	mg/L	0.5 mg/L	102	80.0	120	----
Phosphorus, total	7723-14-0	E420	0.05	mg/L	10 mg/L	110	80.0	120	----
Potassium, total	7440-09-7	E420	0.05	mg/L	50 mg/L	105	80.0	120	----
Rubidium, total	7440-17-7	E420	0.0002	mg/L	0.1 mg/L	104	80.0	120	----
Selenium, total	7782-49-2	E420	0.00005	mg/L	1 mg/L	102	80.0	120	----
Silicon, total	7440-21-3	E420	0.1	mg/L	10 mg/L	108	80.0	120	----
Silver, total	7440-22-4	E420	0.00001	mg/L	0.1 mg/L	93.7	80.0	120	----
Sodium, total	7440-23-5	E420	0.05	mg/L	50 mg/L	115	80.0	120	----
Strontium, total	7440-24-6	E420	0.0002	mg/L	0.25 mg/L	98.3	80.0	120	----
Sulfur, total	7704-34-9	E420	0.5	mg/L	50 mg/L	84.8	80.0	120	----

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
					Target Concentration	LCS	Low	High	Qualifier
Total Metals (QCLot: 2054570) - continued									
Tellurium, total	13494-80-9	E420	0.0002	mg/L	0.1 mg/L	101	80.0	120	----
Thallium, total	7440-28-0	E420	0.00001	mg/L	1 mg/L	102	80.0	120	----
Thorium, total	7440-29-1	E420	0.0001	mg/L	0.1 mg/L	97.7	80.0	120	----
Tin, total	7440-31-5	E420	0.0001	mg/L	0.5 mg/L	101	80.0	120	----
Titanium, total	7440-32-6	E420	0.0003	mg/L	0.25 mg/L	105	80.0	120	----
Tungsten, total	7440-33-7	E420	0.0001	mg/L	0.1 mg/L	100	80.0	120	----
Uranium, total	7440-61-1	E420	0.00001	mg/L	0.005 mg/L	102	80.0	120	----
Vanadium, total	7440-62-2	E420	0.0005	mg/L	0.5 mg/L	106	80.0	120	----
Zinc, total	7440-66-6	E420	0.003	mg/L	0.5 mg/L	108	80.0	120	----
Zirconium, total	7440-67-7	E420	0.0002	mg/L	0.1 mg/L	99.0	80.0	120	----
Total Metals (QCLot: 2056785)									
Mercury, total	7439-97-6	E508	0.000005	mg/L	0 mg/L	91.5	80.0	120	----
Aggregate Organics (QCLot: 2054916)									
Chemical oxygen demand [COD]	----	E559-L	10	mg/L	100 mg/L	98.6	85.0	115	----
Volatile Organic Compounds [THMs] (QCLot: 2054960)									
Bromodichloromethane	75-27-4	E611B	1	µg/L	100 µg/L	104	70.0	130	----
Bromoform	75-25-2	E611B	1	µg/L	100 µg/L	108	70.0	130	----
Chloroform	67-66-3	E611B	1	µg/L	100 µg/L	110	70.0	130	----
Dibromochloromethane	124-48-1	E611B	1	µg/L	100 µg/L	110	70.0	130	----
DIsinfectant By-Products (QCLot: 2054180)									
Bromate	15541-45-4	E722A	0.3	µg/L	4 µg/L	109	70.0	130	----
Perchlorate	7601-90-3	E722A	0.2	µg/L	4 µg/L	92.5	70.0	130	----
DIsinfectant By-Products (QCLot: 2054973)									
Chlorate	14866-68-3	E409.CLO3	0.01	mg/L	1 mg/L	102	85.0	115	----
DIsinfectant By-Products (QCLot: 2054974)									
Chlorite	14998-27-7	E409.CLO2	0.01	mg/L	1 mg/L	106	85.0	115	----
Haloacetic Acids (QCLot: 2054154)									
Bromochloroacetic acid	5589-96-8	E750	0.5	µg/L	2.5 µg/L	98.2	70.0	130	----
Dibromoacetic acid	631-64-1	E750	1	µg/L	5 µg/L	108	70.0	130	----
Dichloroacetic acid	79-43-6	E750	1	µg/L	5 µg/L	115	70.0	130	----
Monobromoacetic acid	79-08-3	E750	0.2	µg/L	1 µg/L	104	70.0	130	----
Monochloroacetic acid	79-11-8	E750	0.5	µg/L	2.5 µg/L	102	70.0	130	----

Sub-Matrix: **Water**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Haloacetic Acids (QCLot: 2054154) - continued									
Trichloroacetic acid	76-03-9	E750	1	µg/L	5 µg/L	114	70.0	130	----
Haloacetic Acids (QCLot: 2058382)									
Bromochloroacetic acid	5589-96-8	E750	0.5	µg/L	2.5 µg/L	97.8	70.0	130	----
Dibromoacetic acid	631-64-1	E750	1	µg/L	5 µg/L	113	70.0	130	----
Dichloroacetic acid	79-43-6	E750	1	µg/L	5 µg/L	111	70.0	130	----
Monobromoacetic acid	79-08-3	E750	0.2	µg/L	1 µg/L	105	70.0	130	----
Monochloroacetic acid	79-11-8	E750	0.5	µg/L	2.5 µg/L	116	70.0	130	----
Trichloroacetic acid	76-03-9	E750	1	µg/L	5 µg/L	103	70.0	130	----

Matrix Spike (MS) Report

A Matrix Spike (MS) is a randomly selected intra-laboratory replicate sample that has been fortified (spiked) with test analytes at known concentration, and processed in an identical manner to test samples. Matrix Spikes provide information regarding analyte recovery and potential matrix effects. MS DQO exceedances due to sample matrix may sometimes be unavoidable; in such cases, test results for the associated sample (or similar samples) may be subject to bias. ND – Recovery not determined, background level >= 1x spike level.

Sub-Matrix: **Water**

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Anions and Nutrients (QCLot: 2052125)										
VA25B4054-001	Anonymous	Fluoride	16984-48-8	E235.F	ND mg/L	----	ND	75.0	125	----
Anions and Nutrients (QCLot: 2052126)										
VA25B4054-001	Anonymous	Chloride	16887-00-6	E235.Cl	103 mg/L	100 mg/L	103	75.0	125	----
Anions and Nutrients (QCLot: 2052127)										
VA25B4054-001	Anonymous	Bromide	24959-67-9	E235.Br-L	0.518 mg/L	0.5 mg/L	104	75.0	125	----
Anions and Nutrients (QCLot: 2052128)										
VA25B4054-001	Anonymous	Nitrate (as N)	14797-55-8	E235.NO3-L	2.58 mg/L	2.5 mg/L	103	75.0	125	----
Anions and Nutrients (QCLot: 2052129)										
VA25B4054-001	Anonymous	Nitrite (as N)	14797-65-0	E235.NO2-L	0.506 mg/L	0.5 mg/L	101	75.0	125	----
Anions and Nutrients (QCLot: 2052130)										
VA25B4054-001	Anonymous	Sulfate (as SO4)	14808-79-8	E235.SO4	102 mg/L	100 mg/L	102	75.0	125	----
Anions and Nutrients (QCLot: 2055263)										
KS2502258-002	Anonymous	Kjeldahl nitrogen, total [TKN]	----	E318	3.08 mg/L	2.5 mg/L	123	70.0	130	----
Anions and Nutrients (QCLot: 2055265)										
KS2502241-002	Anonymous	Nitrogen, total	7727-37-9	E366	ND mg/L	----	ND	70.0	130	----
Anions and Nutrients (QCLot: 2055266)										
KS2502241-002	Anonymous	Phosphorus, total	7723-14-0	E372-U	0.0504 mg/L	0.05 mg/L	101	70.0	130	----
Anions and Nutrients (QCLot: 2055267)										
KS2502241-002	Anonymous	Ammonia, total (as N)	7664-41-7	E298	0.103 mg/L	0.1 mg/L	103	75.0	125	----
Cyanides (QCLot: 2055537)										
VA25B3978-010	Anonymous	Cyanide, strong acid dissociable (Total)	----	E333	0.234 mg/L	0.25 mg/L	93.8	75.0	125	----
Organic / Inorganic Carbon (QCLot: 2055264)										
KS2502241-004	Anonymous	Carbon, total organic [TOC]	----	E355-L	5.34 mg/L	5 mg/L	107	70.0	130	----
Total Metals (QCLot: 2054570)										
YL2500396-002	Anonymous	Aluminum, total	7429-90-5	E420	0.193 mg/L	0.2 mg/L	96.4	70.0	130	----
		Antimony, total	7440-36-0	E420	0.0202 mg/L	0.02 mg/L	101	70.0	130	----
		Arsenic, total	7440-38-2	E420	0.0202 mg/L	0.02 mg/L	101	70.0	130	----
		Barium, total	7440-39-3	E420	ND mg/L	----	ND	70.0	130	----
		Beryllium, total	7440-41-7	E420	0.0372 mg/L	0.04 mg/L	92.9	70.0	130	----
		Bismuth, total	7440-69-9	E420	0.00967 mg/L	0.01 mg/L	96.7	70.0	130	----
		Boron, total	7440-42-8	E420	0.089 mg/L	0.1 mg/L	89.4	70.0	130	----
		Cadmium, total	7440-43-9	E420	0.00390 mg/L	0.004 mg/L	97.5	70.0	130	----

Sub-Matrix: **Water**

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Total Metals (QCLot: 2054570) - continued										
YL2500396-002	Anonymous	Calcium, total	7440-70-2	E420	ND mg/L	----	ND	70.0	130	----
		Cesium, total	7440-46-2	E420	0.00989 mg/L	0.01 mg/L	98.9	70.0	130	----
		Chromium, total	7440-47-3	E420	0.0398 mg/L	0.04 mg/L	99.5	70.0	130	----
		Cobalt, total	7440-48-4	E420	0.0196 mg/L	0.02 mg/L	97.9	70.0	130	----
		Copper, total	7440-50-8	E420	0.0198 mg/L	0.02 mg/L	98.8	70.0	130	----
		Iron, total	7439-89-6	E420	1.91 mg/L	2 mg/L	95.3	70.0	130	----
		Lead, total	7439-92-1	E420	0.0186 mg/L	0.02 mg/L	93.3	70.0	130	----
		Lithium, total	7439-93-2	E420	0.0853 mg/L	0.1 mg/L	85.3	70.0	130	----
		Magnesium, total	7439-95-4	E420	ND mg/L	----	ND	70.0	130	----
		Manganese, total	7439-96-5	E420	0.0195 mg/L	0.02 mg/L	97.7	70.0	130	----
		Molybdenum, total	7439-98-7	E420	0.0201 mg/L	0.02 mg/L	100	70.0	130	----
		Nickel, total	7440-02-0	E420	0.0385 mg/L	0.04 mg/L	96.3	70.0	130	----
		Phosphorus, total	7723-14-0	E420	10.2 mg/L	10 mg/L	102	70.0	130	----
		Potassium, total	7440-09-7	E420	3.98 mg/L	4 mg/L	99.5	70.0	130	----
		Rubidium, total	7440-17-7	E420	0.0199 mg/L	0.02 mg/L	99.6	70.0	130	----
		Selenium, total	7782-49-2	E420	0.0400 mg/L	0.04 mg/L	99.9	70.0	130	----
		Silicon, total	7440-21-3	E420	9.68 mg/L	10 mg/L	96.8	70.0	130	----
		Silver, total	7440-22-4	E420	0.00406 mg/L	0.004 mg/L	101	70.0	130	----
		Sodium, total	7440-23-5	E420	ND mg/L	----	ND	70.0	130	----
		Strontium, total	7440-24-6	E420	ND mg/L	----	ND	70.0	130	----
		Sulfur, total	7704-34-9	E420	19.2 mg/L	20 mg/L	96.0	70.0	130	----
		Tellurium, total	13494-80-9	E420	0.0400 mg/L	0.04 mg/L	100	70.0	130	----
		Thallium, total	7440-28-0	E420	0.00378 mg/L	0.004 mg/L	94.5	70.0	130	----
		Thorium, total	7440-29-1	E420	0.0190 mg/L	0.02 mg/L	95.1	70.0	130	----
		Tin, total	7440-31-5	E420	0.0199 mg/L	0.02 mg/L	99.5	70.0	130	----
		Titanium, total	7440-32-6	E420	0.0392 mg/L	0.04 mg/L	97.9	70.0	130	----
		Tungsten, total	7440-33-7	E420	0.0191 mg/L	0.02 mg/L	95.4	70.0	130	----
		Uranium, total	7440-61-1	E420	0.00387 mg/L	0.004 mg/L	96.8	70.0	130	----
		Vanadium, total	7440-62-2	E420	0.0999 mg/L	0.1 mg/L	99.9	70.0	130	----
		Zinc, total	7440-66-6	E420	0.392 mg/L	0.4 mg/L	98.1	70.0	130	----
		Zirconium, total	7440-67-7	E420	0.0408 mg/L	0.04 mg/L	102	70.0	130	----
Total Metals (QCLot: 2056785)										
KS2502248-008	Anonymous	Mercury, total	7439-97-6	E508	0.0000892 mg/L	0 mg/L	89.2	70.0	130	----
Aggregate Organics (QCLot: 2054916)										
FJ2501752-002	Anonymous	Chemical oxygen demand [COD]	----	E559-L	101 mg/L	100 mg/L	101	75.0	125	----
Volatile Organic Compounds [THMs] (QCLot: 2054960)										
KS2502232-001	Anonymous	Bromodichloromethane	75-27-4	E611B	106 µg/L	100 µg/L	106	60.0	140	----
		Bromoform	75-25-2	E611B	105 µg/L	100 µg/L	105	60.0	140	----
		Chloroform	67-66-3	E611B	110 µg/L	100 µg/L	110	60.0	140	----
		Dibromochloromethane	124-48-1	E611B	109 µg/L	100 µg/L	109	60.0	140	----
DIsinfectant By-Products (QCLot: 2054180)										
TY2506089-007	Anonymous	Bromate	15541-45-4	E722A	4.06 µg/L	4 µg/L	101	70.0	130	----

Sub-Matrix: **Water**

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
DIsinfectant By-Products (QCLot: 2054180) - continued										
TY2506089-007	Anonymous	Perchlorate	7601-90-3	E722A	3.72 µg/L	4 µg/L	93.1	70.0	130	----
DIsinfectant By-Products (QCLot: 2054973)										
EO2504784-001	Anonymous	Chlorate	14866-68-3	E409.CLO3	1.03 mg/L	1 mg/L	103	75.0	125	----
DIsinfectant By-Products (QCLot: 2054974)										
EO2504784-001	Anonymous	Chlorite	14998-27-7	E409.CLO2	0.964 mg/L	1 mg/L	96.4	75.0	125	----
Haloacetic Acids (QCLot: 2054154)										
CG2507767-006	Anonymous	Bromochloroacetic acid	5589-96-8	E750	2.38 µg/L	2.5 µg/L	95.4	70.0	130	----
		Dibromoacetic acid	631-64-1	E750	5.61 µg/L	5 µg/L	112	70.0	130	----
		Dichloroacetic acid	79-43-6	E750	5.84 µg/L	5 µg/L	117	70.0	130	----
		Monobromoacetic acid	79-08-3	E750	1.03 µg/L	1 µg/L	103	70.0	130	----
		Monochloroacetic acid	79-11-8	E750	2.44 µg/L	2.5 µg/L	97.6	70.0	130	----
		Trichloroacetic acid	76-03-9	E750	5.78 µg/L	5 µg/L	116	70.0	130	----
Haloacetic Acids (QCLot: 2058382)										
EO2504857-001	Anonymous	Bromochloroacetic acid	5589-96-8	E750	ND µg/L	----	ND	70.0	130	----
		Dibromoacetic acid	631-64-1	E750	3.62 µg/L	5 µg/L	72.4	70.0	130	----
		Dichloroacetic acid	79-43-6	E750	ND µg/L	----	ND	70.0	130	----
		Monobromoacetic acid	79-08-3	E750	0.76 µg/L	1 µg/L	76.1	70.0	130	----
		Monochloroacetic acid	79-11-8	E750	ND µg/L	----	ND	70.0	130	----
		Trichloroacetic acid	76-03-9	E750	ND µg/L	----	ND	70.0	130	----

Matrix Spike Duplicate (MSD) Report

A Matrix Spike Duplicate (MSD) is a duplicate of a Matrix Spike (MS), which has been fortified (spiked) with test analytes at known concentration, and processed in an identical manner to test samples. Matrix Spike Duplicates provide information regarding method precision. ALS DQOs for Matrix Spike Duplicates are expressed as test-specific limits for Relative Percent Difference (RPD).

Sub-Matrix: **Water**

					Matrix Spike Duplicate (MSD) Report						
Laboratory sample ID	*Client sample ID*	*Analyte*	*CAS Number*	*Method*	*LOR*	*Unit*	*Original Result*	*MSD Result*	*RPD(%) or Difference*	*MSD Limits*	*Qualifier*
Haloacetic Acids (QC Lot: 2054154)											
QC-205415-004	Anonymous	Bromochloroacetic acid	5589-96-8	E750	1.00	µg/L	2.47	2.56	3.80%	200%	----
		Dibromoacetic acid	631-64-1	E750	1.00	µg/L	5.76	5.82	1.77%	200%	----
		Dichloroacetic acid	79-43-6	E750	1.00	µg/L	5.97	5.93	0.858%	200%	----
		Monobromoacetic acid	79-08-3	E750	1.00	µg/L	1.08	1.10	1.92%	200%	----
		Monochloroacetic acid	79-11-8	E750	1.00	µg/L	2.64	2.76	4.41%	200%	----
		Trichloroacetic acid	76-03-9	E750	1.00	µg/L	5.89	5.86	0.866%	200%	----
Haloacetic Acids (QC Lot: 2058382)											
QC-205838-004	Anonymous	Bromochloroacetic acid	5589-96-8	E750	1.00	µg/L	15.9	15.8	----%	Diff <2x LOR	----
		Dibromoacetic acid	631-64-1	E750	1.00	µg/L	4.74	5.22	12.6%	200%	----
		Dichloroacetic acid	79-43-6	E750	1.00	µg/L	25.9	25.6	----%	Diff <2x LOR	----
		Monobromoacetic acid	79-08-3	E750	1.00	µg/L	1.38	1.36	3.07%	200%	----
		Monochloroacetic acid	79-11-8	E750	1.00	µg/L	5.71	5.52	----%	Diff <2x LOR	----
		Trichloroacetic acid	76-03-9	E750	1.00	µg/L	29.6	30.3	----%	Diff <2x LOR	----

Chain of Custody (COC) / Analytical Request Form

COC Number:

Page

3933

www.alsglobal.com

Canada Toll Free: 1 800 668 9878

Environmental Division
Vancouver
Work Order Reference
VA25B3933

Telephone : +1 604 253 4188

Report To	Contact and company name below will appear on the final report
Company:	District of Squamish
Contact:	Craig Halliday
Phone:	604.815.9942
	Company address below will appear on the final report
Street:	39909 Government Rd
City/Province:	Squamish
Postal Code:	V8B 0A3
Invoice To	Same as Report To ☑ YES ☐ NO
	Copy of Invoice with Report ☑ YES ☐ NO
Company:	District of Squamish
Contact:	Craig Halliday

Reports / Recipients	
Select Report Format:	☑ PDF ☑ EXCEL ☐ EDD (DIGITAL)
Merge QC/QCI Reports with COA	☐ YES ☐ NO ☐ N/A
☐ Compare Results to Criteria on Report - provide details below if box checked	
Select Distribution:	☑ EMAIL ☐ MAIL ☐ FAX
Email 1 or Fax	challiday@squamish.ca
Email 2	
Email 3	

Invoice Recipients	
Select Invoice Distribution:	☑ EMAIL ☐ MAIL ☐ FAX
Email 1 or Fax	challiday@squamish.ca
Email 2	

Project Information	
ALS Account # / Quote #:	
Job #:	
PO / AFE:	504810
LSD:	

Oil and Gas Required Fields (client use)	
AFE/Cost Center:	PO#
Major/Minor Code:	Routing Code:
Requisitioner:	
Location:	

ALS Lab Work Order # (lab use only):

ALS Contact: Kaitlyn **Sampler:** BM/MB

Turnaround Time (TAT) Requested

- ☑ Routine [R] if received by 3pm M-F - no surcharges apply
- ☐ 4 day [P4] if received by 3pm M-F - 20% rush surcharge m
- ☐ 3 day [P3] if received by 3pm M-F - 25% rush surcharge n
- ☐ 2 day [P2] if received by 3pm M-F - 50% rush surcharge n
- ☐ 1 day [E] if received by 3pm M-F - 100% rush surcharge n
- Same day [E2] if received by 10am M-S - 200% rush surch
- ☐ fees may apply to rush resuests on weekends, statutory holi
- routine tests

Date and Time Required for all E&P TATs: dd-mmm-yy

For tests that can not be performed according to the TAT requested, you will be contacted.

Analysis Request

Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below

ALS Sample # (lab use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	NUMBER OF CONTAINERS	THM	BROMATE/CHLORITE CHLORATE	CYANIDES	GLYPHOSATE/SALTS	HAA	METALS/MERCURY	NUTRIENTS/COD/TKN/TP/NH3/PHENOLS	SAMPLES ON HOLD	EXTENDED STORAGE REQUIRED	SUSPECTED HAZARD (see notes)
	PHS BLENDED	11-06-25	0840	GRAB	6		✓	✓	✓		✓	✓			
	BIRKEN	11-06-25	0655	"	4	✓				✓					
	MAMQUAM	11-06-25	0715	"	4	✓				✓					
	CRUMPIT WOODS	11-06-25	0800	"	4	✓				✓					
	3RD AVE	11-06-25	0745	"	4	✓				✓					

Drinking Water (DW) Samples[1] (client use)

Are samples taken from a Regulated DW System? ☑ YES ☐ NO

Are samples for human consumption/ use? ☑ YES ☐ NO

Notes / Specify Limits for result evaluation by selecting from drop-down below (Excel COC only)

SAMPLE RECEIPT DETAILS (lab use only)

Cooling Method: ☐ NONE ☐ ICE ☑ ICE PACKS ☐ FROZEN ☐ COOLING INITIATED

Submission Comments identified on Sample Receipt Notification: ☐ YES ☐ NO

Cooler Custody Seals Intact: ☐ YES ☑ N/A Sample Custody Seals Intact: ☐ YES ☑ N/A

INITIAL COOLER TEMPERATURES °C				FINAL COOLER TEMPERATURES °C			
					7		

SHIPMENT RELEASE (client use)			INITIAL SHIPMENT RECEPTION (lab use only)			FINAL SHIPMENT		
		Time:	Received by:	Date:	Time:	Received by: JC	Date:	Time: 1215

Rcvd 11Jun2025

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY YELLOW - CLIENT COPY

AUG 2010 FRONT

Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY. By the use of this form the user acknowledges and agrees with the Terms and Conditions as specified on the back page of the white - report copy.

1. If any water samples are taken from a Regulated Drinking Water (DW) System, please submit using an Authorized DW COC form.

CERTIFICATE OF ANALYSIS

Work Order	:	**VA25C9638**			
Client	:	**District of Squamish**	Laboratory	:	ALS Environmental - Vancouver
Contact	:	Craig Halliday	Account Manager	:	Gulraj Dhanaua
Address	:	39907 Government Road PO Box 310 Squamish British Columbia Canada V8B 0A3	Address	:	8081 Lougheed Highway Burnaby BC Canada V5A 1W9
Telephone	:	604 815 6864	E-mail	:	Gulraj.Dhanaua@alsglobal.com
Project	:	----	Telephone	:	+1 604 253 4188
PO	:	505354	Date Samples Received	:	05-Nov-2025 12:10
C-O-C number	:	----	Date Analysis Commenced	:	06-Nov-2025
Sampler	:	MB	Issue Date	:	24-Nov-2025 09:03
Site	:	----			
Quote number	:	District of Squamish Standing Offer 2024			
No. of samples received	:	5			
No. of samples analysed	:	5			

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
Monica Ko	Supervisor - Inorganic	Inorganics, Burnaby, British Columbia
Nik Perkio	Senior Analyst	Inorganics, Waterloo, Ontario
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	Client sample ID	PHS Blended ----	Birken ----	Tantalus ----	Crumpit Woods ----	Guildford ----
					Client sampling date / time	05-Nov-2025 08:15	05-Nov-2025 07:00	05-Nov-2025 06:45	05-Nov-2025 07:40	05-Nov-2025 07:20
						VA25C9638-001	VA25C9638-002	VA25C9638-003	VA25C9638-004	VA25C9638-005
						Result	Result	Result	Result	Result
Physical Tests										
Hardness (as CaCO3), from total Ca/Mg	----	EC100A/VA	0.60	mg/L		22.9	----	----	----	----
Anions and Nutrients										
Ammonia, total (as N)	7664-41-7	E298/VA	0.0050	mg/L		0.0051	----	----	----	----
Kjeldahl nitrogen, total [TKN]	----	E318/VA	0.050	mg/L		<0.050	----	----	----	----
Nitrogen, total	7727-37-9	E366/VA	0.030	mg/L		0.076	----	----	----	----
Phosphorus, total	7723-14-0	E372-U/VA	0.0020	mg/L		0.0388	----	----	----	----
Cyanides										
Cyanide, strong acid dissociable (Total)	----	E333/VA	0.0050	mg/L		<0.0050	----	----	----	----
Organic / Inorganic Carbon										
Carbon, total organic [TOC]	----	E355-L/VA	0.50	mg/L		<0.50	----	----	----	----
Total Metals										
Aluminum, total	7429-90-5	E420/VA	0.0030	mg/L		0.0074	----	----	----	----
Antimony, total	7440-36-0	E420/VA	0.00010	mg/L		<0.00010	----	----	----	----
Arsenic, total	7440-38-2	E420/VA	0.00010	mg/L		0.00060	----	----	----	----
Barium, total	7440-39-3	E420/VA	0.00010	mg/L		0.00156	----	----	----	----
Beryllium, total	7440-41-7	E420/VA	0.000100	mg/L		<0.000100	----	----	----	----
Bismuth, total	7440-69-9	E420/VA	0.000050	mg/L		<0.000050	----	----	----	----
Boron, total	7440-42-8	E420/VA	0.010	mg/L		0.022	----	----	----	----
Cadmium, total	7440-43-9	E420/VA	0.0000050	mg/L		<0.0000050	----	----	----	----
Calcium, total	7440-70-2	E420/VA	0.050	mg/L		7.07	----	----	----	----
Cesium, total	7440-46-2	E420/VA	0.000010	mg/L		0.000183	----	----	----	----

Analytical Results

Sub-Matrix: Water
(Matrix: Water)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	PHS Blended ----	Birken ----	Tantalus ----	Crumpit Woods ----	Guildford ----
					Client sampling date / time	05-Nov-2025 08:15	05-Nov-2025 07:00	05-Nov-2025 06:45	05-Nov-2025 07:40	05-Nov-2025 07:20
						VA25C9638-001	VA25C9638-002	VA25C9638-003	VA25C9638-004	VA25C9638-005
						Result	Result	Result	Result	Result
Total Metals										
Chromium, total	7440-47-3	E420/VA	0.00050	mg/L		<0.00050	----	----	----	----
Cobalt, total	7440-48-4	E420/VA	0.00010	mg/L		<0.00010	----	----	----	----
Copper, total	7440-50-8	E420/VA	0.00050	mg/L		0.0166	----	----	----	----
Iron, total	7439-89-6	E420/VA	0.010	mg/L		0.033	----	----	----	----
Lead, total	7439-92-1	E420/VA	0.000050	mg/L		0.000164	----	----	----	----
Lithium, total	7439-93-2	E420/VA	0.0010	mg/L		0.0027	----	----	----	----
Magnesium, total	7439-95-4	E420/VA	0.0050	mg/L		1.27	----	----	----	----
Manganese, total	7439-96-5	E420/VA	0.00010	mg/L		0.00090	----	----	----	----
Mercury, total	7439-97-6	E508/VA	0.0000050	mg/L		<0.0000050	----	----	----	----
Molybdenum, total	7439-98-7	E420/VA	0.000050	mg/L		0.000595	----	----	----	----
Nickel, total	7440-02-0	E420/VA	0.00050	mg/L		<0.00050	----	----	----	----
Phosphorus, total	7723-14-0	E420/VA	0.050	mg/L		0.061	----	----	----	----
Potassium, total	7440-09-7	E420/VA	0.050	mg/L		1.27	----	----	----	----
Rubidium, total	7440-17-7	E420/VA	0.00020	mg/L		0.00350	----	----	----	----
Selenium, total	7782-49-2	E420/VA	0.000050	mg/L		<0.000050	----	----	----	----
Silicon, total	7440-21-3	E420/VA	0.10	mg/L		16.3	----	----	----	----
Silver, total	7440-22-4	E420/VA	0.000010	mg/L		<0.000010	----	----	----	----
Sodium, total	7440-23-5	E420/VA	0.050	mg/L		5.19	----	----	----	----
Strontium, total	7440-24-6	E420/VA	0.00020	mg/L		0.0733	----	----	----	----
Sulfur, total	7704-34-9	E420/VA	0.50	mg/L		2.35	----	----	----	----
Tellurium, total	13494-80-9	E420/VA	0.00020	mg/L		<0.00020	----	----	----	----

Analytical Results

Sub-Matrix: Water
(Matrix: Water)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	PHS Blended ----	Birken ----	Tantalus ----	Crumpit Woods ----	Guildford ----
					Client sampling date / time	05-Nov-2025 08:15	05-Nov-2025 07:00	05-Nov-2025 06:45	05-Nov-2025 07:40	05-Nov-2025 07:20
						VA25C9638-001	VA25C9638-002	VA25C9638-003	VA25C9638-004	VA25C9638-005
						Result	Result	Result	Result	Result
Total Metals										
Thallium, total	7440-28-0	E420/VA	0.000010	mg/L		<0.000010	----	----	----	----
Thorium, total	7440-29-1	E420/VA	0.00010	mg/L		<0.00010	----	----	----	----
Tin, total	7440-31-5	E420/VA	0.00010	mg/L		<0.00010	----	----	----	----
Titanium, total	7440-32-6	E420/VA	0.00030	mg/L		<0.00030	----	----	----	----
Tungsten, total	7440-33-7	E420/VA	0.00010	mg/L		<0.00010	----	----	----	----
Uranium, total	7440-61-1	E420/VA	0.000010	mg/L		0.000033	----	----	----	----
Vanadium, total	7440-62-2	E420/VA	0.00050	mg/L		0.0106	----	----	----	----
Zinc, total	7440-66-6	E420/VA	0.0030	mg/L		0.0044	----	----	----	----
Zirconium, total	7440-67-7	E420/VA	0.00020	mg/L		<0.00020	----	----	----	----
Aggregate Organics										
Chemical oxygen demand [COD]	----	E559-L/VA	10	mg/L		15	----	----	----	----
Phenols, total (4AAP)	----	E562/WT	0.0010	mg/L		<0.0010	----	----	----	----
Volatile Organic Compounds [THMs]										
Bromodichloromethane	75-27-4	E611B/VA	1.0	µg/L		----	<1.0	<1.0	<1.0	<1.0
Bromoform	75-25-2	E611B/VA	1.0	µg/L		----	<1.0	<1.0	<1.0	<1.0
Chloroform	67-66-3	E611B/VA	1.0	µg/L		----	<1.0	<1.0	<1.0	<1.0
Dibromochloromethane	124-48-1	E611B/VA	1.0	µg/L		----	<1.0	<1.0	<1.0	<1.0
Trihalomethanes [THMs], total	----	E611B/VA	2.0	µg/L		----	<2.0	<2.0	<2.0	<2.0
Volatile Organic Compounds [THMs] Surrogates										
Bromofluorobenzene, 4-	460-00-4	E611B/VA	1.0	%		----	103	100	100	102
Difluorobenzene, 1,4-	540-36-3	E611B/VA	1.0	%		----	103	103	103	104

Analytical Results

Sub-Matrix: Water
(Matrix: Water)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	PHS Blended ----	Birken ----	Tantalus ----	Crumpit Woods ----	Guildford ----
					Client sampling date / time	05-Nov-2025 08:15	05-Nov-2025 07:00	05-Nov-2025 06:45	05-Nov-2025 07:40	05-Nov-2025 07:20
						VA25C9638-001	VA25C9638-002	VA25C9638-003	VA25C9638-004	VA25C9638-005
						Result	Result	Result	Result	Result
DIsinfectant By-Products										
Bromate	15541-45-4	E722A/WT	0.30	µg/L		<0.30	----	----	----	----
Chlorate	14866-68-3	E409.CLO3/WT	0.010	mg/L		<0.010	----	----	----	----
Chlorite	14998-27-7	E409.CLO2/WT	0.010	mg/L		<0.010	----	----	----	----
Haloacetic Acids										
Bromochloroacetic acid	5589-96-8	E750/WT	1.00	µg/L		----	<1.00	<1.00	<1.00	<1.00
Dibromoacetic acid	631-64-1	E750/WT	1.00	µg/L		----	<1.00	<1.00	<1.00	<1.00
Dichloroacetic acid	79-43-6	E750/WT	1.00	µg/L		----	<1.00	<1.00	<1.00	<1.00
Monobromoacetic acid	79-08-3	E750/WT	1.00	µg/L		----	<1.00	<1.00	<1.00	<1.00
Monochloroacetic acid	79-11-8	E750/WT	1.00	µg/L		----	<1.00	<1.00	<1.00	<1.00
Trichloroacetic acid	76-03-9	E750/WT	1.00	µg/L		----	<1.00	<1.00	<1.00	<1.00
Haloacetic acids, total [HAA5]	n/a	E750/WT	5.00	µg/L		----	<5.00	<5.00	<5.00	<5.00

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

ALS Canada Ltd.

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QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: **VA25C9638**	Page	: 1 of 10
Client	: **District of Squamish**	Laboratory	: ALS Environmental - Vancouver
Contact	: Craig Halliday	Account Manager	: Gulraj Dhanaua
Address	: 39907 Government Road PO Box 310 Squamish BC Canada V8B 0A3	Address	: 8081 Lougheed Highway Burnaby, British Columbia Canada V5A 1W9
Telephone	: 604 815 6864	Telephone	: +1 604 253 4188
Project	: ----	Date Samples Received	: 05-Nov-2025 12:10
PO	: 505354	Issue Date	: 24-Nov-2025 09:03
C-O-C number	: ----		
Sampler	: MB		
Site	: ----		
Quote number	: District of Squamish Standing Offer 2024		
No. of samples received	: 5		
No. of samples analysed	: 5		

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

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

Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times, which are selected to meet known provincial and /or federal requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by organizations such as CCME, US EPA, APHA Standard Methods, ASTM, or Environment Canada (where available). Dates and holding times reported below represent the first dates of extraction or analysis. If subsequent tests or dilutions exceeded holding times, qualifiers are added (refer to COA).

If samples are identified below as having been analyzed or extracted outside of recommended holding times, measurement uncertainties may be increased, and this should be taken into consideration when interpreting results.

Where actual sampling date is not provided on the chain of custody, the date of receipt with time at 00:00 is used for calculation purposes.

Where only the sample date without time is provided on the chain of custody, the sampling date at 00:00 is used for calculation purposes.

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Aggregate Organics : Chemical Oxygen Demand by Colourimetry (Low Level)										
Amber glass total (sulfuric acid) PHS Blended	E559-L	05-Nov-2025	----	----	----		06-Nov-2025	28 days	1 days	✓
Aggregate Organics : Phenols (4AAP) in Water by Colorimetry										
Amber glass total (sulfuric acid) PHS Blended	E562	05-Nov-2025	10-Nov-2025	28 days	5 days	✓	13-Nov-2025	28 days	5 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) PHS Blended	E298	05-Nov-2025	06-Nov-2025	28 days	1 days	✓	10-Nov-2025	28 days	1 days	✓
Anions and Nutrients : Total Kjeldahl Nitrogen by Fluorescence (Low Level)										
Amber glass total (sulfuric acid) PHS Blended	E318	05-Nov-2025	06-Nov-2025	28 days	1 days	✓	08-Nov-2025	28 days	1 days	✓
Anions and Nutrients : Total Nitrogen by Colourimetry										
Amber glass total (sulfuric acid) PHS Blended	E366	05-Nov-2025	06-Nov-2025	28 days	1 days	✓	07-Nov-2025	28 days	1 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) PHS Blended	E372-U	05-Nov-2025	06-Nov-2025	28 days	1 days	✓	07-Nov-2025	28 days	1 days	✓
Cyanides : Total Cyanide										
Opaque HDPE - total (sodium hydroxide) PHS Blended	E333	05-Nov-2025	06-Nov-2025	14 days	1 days	✓	06-Nov-2025	14 days	1 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	*Method*	*Sampling Date*	*Extraction / Preparation*				*Analysis*			
			Preparation Date	*Holding Times*		*Eval*	*Analysis Date*	*Holding Times*		*Eval*
				Rec	*Actual*			*Rec*	*Actual*	
DIsinfectant By-Products : Bromate and Perchlorate in Water by LC-MS-MS										
Opaque HDPE (EDA) PHS Blended	E722A	05-Nov-2025	10-Nov-2025	28 days	5 days	✓	10-Nov-2025	28 days	0 days	✓
DIsinfectant By-Products : Chlorate (CLO3) in Waters by Ion Chromatography										
Opaque HDPE (EDA) PHS Blended	E409.CLO3	05-Nov-2025	13-Nov-2025	28 days	8 days	✓	13-Nov-2025	28 days	8 days	✓
DIsinfectant By-Products : Chlorite (CLO2) in Waters by Ion Chromatography										
Opaque HDPE (EDA) PHS Blended	E409.CLO2	05-Nov-2025	13-Nov-2025	14 days	8 days	✓	13-Nov-2025	14 days	8 days	✓
Haloacetic Acids : Haloacetic Acids in Water by LC-MS/MS										
Glass vial (ammonium chloride) Birken	E750	05-Nov-2025	10-Nov-2025	14 days	5 days	✓	10-Nov-2025	14 days	5 days	✓
Haloacetic Acids : Haloacetic Acids in Water by LC-MS/MS										
Glass vial (ammonium chloride) Crumpit Woods	E750	05-Nov-2025	10-Nov-2025	14 days	5 days	✓	10-Nov-2025	14 days	5 days	✓
Haloacetic Acids : Haloacetic Acids in Water by LC-MS/MS										
Glass vial (ammonium chloride) Guildford	E750	05-Nov-2025	10-Nov-2025	14 days	5 days	✓	10-Nov-2025	14 days	5 days	✓
Haloacetic Acids : Haloacetic Acids in Water by LC-MS/MS										
Glass vial (ammonium chloride) Tantalus	E750	05-Nov-2025	10-Nov-2025	14 days	5 days	✓	10-Nov-2025	14 days	5 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) PHS Blended	E355-L	05-Nov-2025	06-Nov-2025	28 days	1 days	✓	06-Nov-2025	28 days	1 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial - total (lab preserved) PHS Blended	E508	05-Nov-2025	11-Nov-2025	28 days	6 days	✓	11-Nov-2025	28 days	6 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	*Method*	*Sampling Date*	*Extraction / Preparation*				*Analysis*			
			Preparation Date	*Holding Times*		*Eval*	*Analysis Date*	*Holding Times*		*Eval*
				Rec	*Actual*			*Rec*	*Actual*	
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved)										
PHS Blended	E420	05-Nov-2025	07-Nov-2025	180 days	3 days	✓	10-Nov-2025	180 days	3 days	✓
Volatile Organic Compounds [THMs] : THMs by Headspace GC-MS										
Glass vial (sodium thiosulfate)										
Birken	E611B	05-Nov-2025	07-Nov-2025	14 days	2 days	✓	08-Nov-2025	14 days	2 days	✓
Volatile Organic Compounds [THMs] : THMs by Headspace GC-MS										
Glass vial (sodium thiosulfate)										
Crumpit Woods	E611B	05-Nov-2025	07-Nov-2025	14 days	2 days	✓	08-Nov-2025	14 days	2 days	✓
Volatile Organic Compounds [THMs] : THMs by Headspace GC-MS										
Glass vial (sodium thiosulfate)										
Guildford	E611B	05-Nov-2025	07-Nov-2025	14 days	2 days	✓	08-Nov-2025	14 days	2 days	✓
Volatile Organic Compounds [THMs] : THMs by Headspace GC-MS										
Glass vial (sodium thiosulfate)										
Tantalus	E611B	05-Nov-2025	07-Nov-2025	14 days	2 days	✓	08-Nov-2025	14 days	2 days	✓

Legend & Qualifier Definitions

Rec. HT: ALS recommended hold time (see units).

Quality Control Parameter Frequency Compliance

The following report summarizes the frequency of laboratory QC samples analyzed within the analytical batches (QC lots) in which the submitted samples were processed. The actual frequency should be greater than or equal to the expected frequency.

Matrix: **Water**

Evaluation: × = QC frequency outside specification; ✓ = QC frequency within specification.

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	*Method*	*QC Lot #*	*QC*	*Regular*	*Actual*	*Expected*	*Evaluation*
Laboratory Duplicates (DUP)							
Ammonia by Fluorescence	E298	2321427	1	18	5.5	5.0	✓
Total Kjeldahl Nitrogen by Fluorescence (Low Level)	E318	2321429	1	1	100.0	5.0	✓
Total Cyanide	E333	2322208	1	6	16.6	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	2321428	1	2	50.0	5.0	✓
Total Nitrogen by Colourimetry	E366	2321424	1	18	5.5	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	2321425	1	19	5.2	5.0	✓
Chlorite (CLO2) in Waters by Ion Chromatography	E409.CLO2	2333885	1	14	7.1	5.0	✓
Chlorate (CLO3) in Waters by Ion Chromatography	E409.CLO3	2333884	1	17	5.8	5.0	✓
Total Metals in Water by CRC ICPMS	E420	2322178	1	20	5.0	5.0	✓
Total Mercury in Water by CVAAS	E508	2330185	1	19	5.2	5.0	✓
Chemical Oxygen Demand by Colourimetry (Low Level)	E559-L	2322992	1	17	5.8	5.0	✓
Phenols (4AAP) in Water by Colorimetry	E562	2329349	1	16	6.2	5.0	✓
THMs by Headspace GC-MS	E611B	2324342	1	6	16.6	5.0	✓
Bromate and Perchlorate in Water by LC-MS-MS	E722A	2329417	1	12	8.3	5.0	✓
Laboratory Control Samples (LCS)							
Ammonia by Fluorescence	E298	2321427	1	18	5.5	5.0	✓
Total Kjeldahl Nitrogen by Fluorescence (Low Level)	E318	2321429	1	1	100.0	5.0	✓
Total Cyanide	E333	2322208	1	6	16.6	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	2321428	1	2	50.0	5.0	✓
Total Nitrogen by Colourimetry	E366	2321424	1	18	5.5	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	2321425	1	19	5.2	5.0	✓
Chlorite (CLO2) in Waters by Ion Chromatography	E409.CLO2	2333885	1	14	7.1	5.0	✓
Chlorate (CLO3) in Waters by Ion Chromatography	E409.CLO3	2333884	1	17	5.8	5.0	✓
Total Metals in Water by CRC ICPMS	E420	2322178	1	20	5.0	5.0	✓
Total Mercury in Water by CVAAS	E508	2330185	1	19	5.2	5.0	✓
Chemical Oxygen Demand by Colourimetry (Low Level)	E559-L	2322992	1	17	5.8	5.0	✓
Phenols (4AAP) in Water by Colorimetry	E562	2329349	1	16	6.2	5.0	✓
THMs by Headspace GC-MS	E611B	2324342	1	6	16.6	5.0	✓
Bromate and Perchlorate in Water by LC-MS-MS	E722A	2329417	1	12	8.3	5.0	✓
Haloacetic Acids in Water by LC-MS/MS	E750	2328432	1	20	5.0	4.7	✓
Method Blanks (MB)							
Ammonia by Fluorescence	E298	2321427	1	18	5.5	5.0	✓
Total Kjeldahl Nitrogen by Fluorescence (Low Level)	E318	2321429	1	1	100.0	5.0	✓
Total Cyanide	E333	2322208	1	6	16.6	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	2321428	1	2	50.0	5.0	✓

Matrix: **Water**

Evaluation: × = QC frequency outside specification; ✓ = QC frequency within specification.

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	*Method*	*QC Lot #*	*QC*	*Regular*	*Actual*	*Expected*	*Evaluation*
Method Blanks (MB) - Continued							
Total Nitrogen by Colourimetry	E366	2321424	1	18	5.5	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	2321425	1	19	5.2	5.0	✓
Chlorite (CLO2) in Waters by Ion Chromatography	E409.CLO2	2333885	1	14	7.1	5.0	✓
Chlorate (CLO3) in Waters by Ion Chromatography	E409.CLO3	2333884	1	17	5.8	5.0	✓
Total Metals in Water by CRC ICPMS	E420	2322178	1	20	5.0	5.0	✓
Total Mercury in Water by CVAAS	E508	2330185	1	19	5.2	5.0	✓
Chemical Oxygen Demand by Colourimetry (Low Level)	E559-L	2322992	1	17	5.8	5.0	✓
Phenols (4AAP) in Water by Colorimetry	E562	2329349	1	16	6.2	5.0	✓
THMs by Headspace GC-MS	E611B	2324342	1	6	16.6	5.0	✓
Bromate and Perchlorate in Water by LC-MS-MS	E722A	2329417	1	12	8.3	5.0	✓
Haloacetic Acids in Water by LC-MS/MS	E750	2328432	1	20	5.0	4.7	✓
Matrix Spikes (MS)							
Ammonia by Fluorescence	E298	2321427	1	18	5.5	5.0	✓
Total Kjeldahl Nitrogen by Fluorescence (Low Level)	E318	2321429	0	1	0.0	5.0	×
Total Cyanide	E333	2322208	1	6	16.6	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	2321428	1	2	50.0	5.0	✓
Total Nitrogen by Colourimetry	E366	2321424	1	18	5.5	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	2321425	1	19	5.2	5.0	✓
Chlorite (CLO2) in Waters by Ion Chromatography	E409.CLO2	2333885	1	14	7.1	5.0	✓
Chlorate (CLO3) in Waters by Ion Chromatography	E409.CLO3	2333884	1	17	5.8	5.0	✓
Total Metals in Water by CRC ICPMS	E420	2322178	1	20	5.0	5.0	✓
Total Mercury in Water by CVAAS	E508	2330185	1	19	5.2	5.0	✓
Chemical Oxygen Demand by Colourimetry (Low Level)	E559-L	2322992	1	17	5.8	5.0	✓
Phenols (4AAP) in Water by Colorimetry	E562	2329349	1	16	6.2	5.0	✓
THMs by Headspace GC-MS	E611B	2324342	1	6	16.6	5.0	✓
Bromate and Perchlorate in Water by LC-MS-MS	E722A	2329417	1	12	8.3	5.0	✓
Haloacetic Acids in Water by LC-MS/MS	E750	2328432	1	20	5.0	4.7	✓
Matrix Spike Duplicates (MSD)							
Haloacetic Acids in Water by LC-MS/MS	E750	2328432	1	20	5.0	4.7	✓

Methodology References and Summaries

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. Reference methods may incorporate modifications to improve performance (indicated by "mod").

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Ammonia by Fluorescence	E298 ALS Environmental - Vancouver	Water	Method Fialab 100, 2018	Ammonia in water is determined by automated continuous flow analysis with membrane diffusion and fluorescence detection, after reaction with OPA (ortho-phthalaldehyde). This method is approved under US EPA 40 CFR Part 136 (May 2021)
Total Kjeldahl Nitrogen by Fluorescence (Low Level)	E318 ALS Environmental - Vancouver	Water	Method Fialab 100, 2018	TKN in water is determined by automated continuous flow analysis with membrane diffusion and fluorescence detection, after reaction with OPA (ortho-phthalaldehyde). This method is approved under US EPA 40 CFR Part 136 (May 2021).
Total Cyanide	E333 ALS Environmental - Vancouver	Water	ISO 14403 (mod)	Total or Strong Acid Dissociable (SAD) Cyanide is determined by Continuous Flow Analyzer (CFA) with in-line UV digestion followed by colourmetric analysis. Method Limitation: High levels of thiocyanate (SCN) may cause positive interference (up to 0.5% of SCN concentration).
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L ALS Environmental - Vancouver	Water	APHA 5310 B (mod)	Total Organic Carbon (Non-Purgeable), also known as NPOC (total), is a direct measurement of TOC after an acidified sample has been purged to remove carbonate-based Inorganic Carbon (IC). Analysis is by high temperature combustion with infrared detection of CO2. Forms of carbon associated with inorganic or organic molecules (e.g. SCN and CN) are included in NPOC if they are not removed by purging under acidic conditions. Notably, NPOC excludes most volatile organic compounds and free cyanide. For samples where the majority of Total Carbon is inorganic, this method provides greater accuracy and reliability versus the TOC by subtraction method (TC minus TIC).
Total Nitrogen by Colourimetry	E366 ALS Environmental - Vancouver	Water	Chinchilla Scientific Nitrate Method, 2011	Following digestion, total nitrogen is is determined colourimetrically using a discrete analyzer utilizing the vanadium chloride reduction method. This method of analysis is approved under US EPA 40 CFR Part 136 (May 2021).
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U ALS Environmental - Vancouver	Water	APHA 4500-P E (mod).	Total Phosphorus is determined colourimetrically using a discrete analyzer after heated persulfate digestion of the sample.
Chlorite (CLO2) in Waters by Ion Chromatography	E409.CLO2 ALS Environmental - Waterloo	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity detection.
Chlorate (CLO3) in Waters by Ion Chromatography	E409.CLO3 ALS Environmental - Waterloo	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity detection.

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Total Metals in Water by CRC ICPMS	E420 ALS Environmental - Vancouver	Water	EPA 200.2/6020B (mod)	Water samples are digested with nitric and hydrochloric acids, and analyzed by Collision/Reaction Cell ICPMS. Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method.
Total Mercury in Water by CVAAS	E508 ALS Environmental - Vancouver	Water	EPA 1631E (mod)	Water samples undergo a cold-oxidation using bromine monochloride prior to reduction with stannous chloride, and analyzed by CVAAS
Chemical Oxygen Demand by Colourimetry (Low Level)	E559-L ALS Environmental - Vancouver	Water	APHA 5220 D (mod)	Samples are analyzed using the closed reflux colourimetric method.
Phenols (4AAP) in Water by Colorimetry	E562 ALS Environmental - Waterloo	Water	EPA 9066	This automated method is based on the distillation of phenol and subsequent reaction of the distillate with alkaline ferricyanide (K3Fe(CN)6) and 4-amino-antipyrine (4-AAP) to form a red complex which is measured colorimetrically.
THMs by Headspace GC-MS	E611B ALS Environmental - Vancouver	Water	EPA 8260D (mod)	Volatile Organic Compounds (VOCs) are analyzed by static headspace GC-MS. Samples are prepared in headspace vials and are heated and agitated on the headspace autosampler, causing VOCs to partition between the aqueous phase and the headspace in accordance with Henry's law.
Bromate and Perchlorate in Water by LC-MS-MS	E722A ALS Environmental - Waterloo	Water	EPA 6850	A aliquot of the water sample is filtered and an internal standard is added. The sample is then analyzed by LC/MS/MS.
Haloacetic Acids in Water by LC-MS/MS	E750 ALS Environmental - Waterloo	Water	MOE E3478	An aliquot of sample is fortified with formic acid and internal standards and analyzed via direct injection by LCMSMS
Hardness (Calculated) from Total Ca/Mg	EC100A ALS Environmental - Vancouver	Water	APHA 2340B	"Hardness (as CaCO3), from total Ca/Mg" is calculated from the sum of total Calcium and Magnesium concentrations, expressed as $CaCO_3$ equivalents. "Total Hardness" refers to the sum of Calcium and Magnesium Hardness. Hardness is normally or preferentially calculated from dissolved Calcium and Magnesium concentrations, because hardness is a property of water due to dissolved divalent cations. In non-turbid waters, Hardness from total Ca/Mg is normally comparable to Dissolved Hardness, but may be biased high if particulate forms of Ca or Mg are present.

Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Preparation for Ammonia	EP298 ALS Environmental - Vancouver	Water		Sample preparation for Preserved Nutrients Water Quality Analysis.

Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Digestion for TKN in water	EP318 ALS Environmental - Vancouver	Water	APHA 4500-Norg D (mod)	Samples are digested at high temperature using Sulfuric Acid with Copper catalyst, which converts organic nitrogen sources to Ammonia, which is then quantified by the analytical method as TKN. This method is unsuitable for samples containing high levels of nitrate. If nitrate exceeds TKN concentration by ten times or more, results may be biased low.
Preparation for Total Organic Carbon by Combustion	EP355 ALS Environmental - Vancouver	Water		Preparation for Total Organic Carbon by Combustion
Digestion for Total Nitrogen in water	EP366 ALS Environmental - Vancouver	Water	APHA 4500-P J (mod)	Samples for total nitrogen analysis are digested using a heated persulfate digestion. Nitrogen compounds are converted to nitrate in this digestion.
Digestion for Total Phosphorus in water	EP372 ALS Environmental - Vancouver	Water	APHA 4500-P E (mod).	Samples are heated with a persulfate digestion reagent.
VOCs Preparation for Headspace Analysis	EP581 ALS Environmental - Vancouver	Water	EPA 5021A (mod)	Samples are prepared in headspace vials and are heated and agitated on the headspace autosampler. An aliquot of the headspace is then injected into a GC-MS-FID.
Preparation of Bromate and Perchlorate in Water by LC-MS-MS	EP722 ALS Environmental - Waterloo	Water	EPA 6850	An aliquot of the water sample is filtered if required and internal standard is added.
Preparation of Haloacetic acid in Water for LCMSMS	EP750 ALS Environmental - Waterloo	Water	E3478	An aliquot of samples is fortified with formic acid and internal standard to be analyzed by direct injection LCMSMS

QUALITY CONTROL REPORT

Work Order	: **VA25C9638**	Page	: 1 of 14
Client	: District of Squamish	Laboratory	: ALS Environmental - Vancouver
Contact	: Craig Halliday	Account Manager	: Gulraj Dhanaua
Address	: 39907 Government Road PO Box 310 Squamish BC Canada V8B 0A3	Address	: 8081 Lougheed Highway Burnaby, British Columbia Canada V5A 1W9
Telephone	: 604 815 6864	Telephone	: +1 604 253 4188
Project	: ----	Date Samples Received	: 05-Nov-2025 12:10
PO	: 505354	Date Analysis Commenced	: 06-Nov-2025
C-O-C number	: ----	Issue Date	: 24-Nov-2025 09:07
Sampler	: MB		
Site	: ----		
Quote number	: District of Squamish Standing Offer 2024		
No. of samples received	: 5		
No. of samples analysed	: 5		

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 Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percent Difference (RPD) and Data Quality Objectives
- Matrix Spike (MS) Report; Recovery and Data Quality Objectives
- Matrix Spike Duplicate (MSD) Report; Relative Percent Difference (RPD)
- Method Blank (MB) Report; Recovery and Data Quality Objectives
- Laboratory Control Sample (LCS) Report; Recovery and Data Quality Objectives

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	Waterloo LCMS, Waterloo, Ontario
Kevin Duarte	Supervisor - Metals ICP Instrumentation	Vancouver Metals, Burnaby, British Columbia
Monica Ko	Supervisor - Inorganic	Vancouver Inorganics, Burnaby, British Columbia
Nik Perkio	Senior Analyst	Waterloo Inorganics, Waterloo, Ontario
Ophelia Chiu	Department Manager - Organics	Vancouver Organics, Burnaby, British Columbia

General Comments

The ALS Quality Control (QC) report is optionally provided to ALS clients upon request. ALS test methods include comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against predetermined Data Quality Objectives (DQOs) to provide confidence in the accuracy of associated test results. This report contains detailed results for all QC results applicable to this sample submission. Please refer to the ALS Quality Control Interpretation report (QCI) for applicable method references and methodology 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
# = Indicates a QC result that did not meet the ALS DQO.

Workorder Comments

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

Laboratory Duplicate (DUP) Report

A Laboratory Duplicate (DUP) is a randomly selected intralaboratory replicate sample. Laboratory Duplicates provide information regarding method precision and sample heterogeneity. ALS DQOs for Laboratory Duplicates are expressed as test-specific limits for Relative Percent Difference (RPD), or as an absolute difference limit of 2 times the LOR for low concentration duplicates within ~ 4-10 times the LOR (cut-off is test-specific).

Sub-Matrix: **Water**

					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	*Client sample ID*	*Analyte*	*CAS Number*	*Method*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD(%) or Difference*	*Duplicate Limits*	*Qualifier*
Anions and Nutrients (QC Lot: 2321424)											
VA25C9575-001	Anonymous	Nitrogen, total	7727-37-9	E366	0.030	mg/L	0.284	0.302	0.018	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 2321425)											
VA25C9575-001	Anonymous	Phosphorus, total	7723-14-0	E372-U	0.0020	mg/L	0.0494	0.0506	2.42%	20%	----
Anions and Nutrients (QC Lot: 2321427)											
VA25C9575-001	Anonymous	Ammonia, total (as N)	7664-41-7	E298	0.0050	mg/L	0.0065	0.0063	0.0002	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 2321429)											
VA25C9638-001	PHS Blended	Kjeldahl nitrogen, total [TKN]	----	E318	0.050	mg/L	<0.050	<0.050	0	Diff <2x LOR	----
Cyanides (QC Lot: 2322208)											
VA25C9610-001	Anonymous	Cyanide, strong acid dissociable (Total)	----	E333	0.0050	mg/L	0.0222	0.0219	0.0002	Diff <2x LOR	----
Organic / Inorganic Carbon (QC Lot: 2321428)											
VA25C9643-001	Anonymous	Carbon, total organic [TOC]	----	E355-L	0.50	mg/L	10.5	11.1	5.49%	20%	----
Total Metals (QC Lot: 2322178)											
VA25C9649-001	Anonymous	Aluminum, total	7429-90-5	E420	0.0600	mg/L	0.247	0.233	0.0138	Diff <2x LOR	----
		Antimony, total	7440-36-0	E420	0.00200	mg/L	0.0125	0.0123	0.00019	Diff <2x LOR	----
		Arsenic, total	7440-38-2	E420	0.00200	mg/L	0.0463	0.0456	1.67%	20%	----
		Barium, total	7440-39-3	E420	0.00200	mg/L	0.0130	0.0120	0.00100	Diff <2x LOR	----
		Beryllium, total	7440-41-7	E420	0.000400	mg/L	<0.000400	<0.000400	0	Diff <2x LOR	----
		Bismuth, total	7440-69-9	E420	0.00100	mg/L	<0.00100	<0.00100	0	Diff <2x LOR	----
		Boron, total	7440-42-8	E420	0.200	mg/L	0.902	0.868	0.034	Diff <2x LOR	----
		Cadmium, total	7440-43-9	E420	0.000122	mg/L	<0.000122	<0.000122	0.0000005	Diff <2x LOR	----
		Calcium, total	7440-70-2	E420	1.00	mg/L	465	454	2.36%	20%	----
		Cesium, total	7440-46-2	E420	0.000200	mg/L	0.000262	0.000270	0.000008	Diff <2x LOR	----
		Chromium, total	7440-47-3	E420	0.0100	mg/L	<0.0100	<0.0100	0	Diff <2x LOR	----
		Cobalt, total	7440-48-4	E420	0.00200	mg/L	<0.00200	<0.00200	0	Diff <2x LOR	----
		Copper, total	7440-50-8	E420	0.0100	mg/L	0.0642	0.0631	0.00115	Diff <2x LOR	----
		Iron, total	7439-89-6	E420	0.200	mg/L	0.328	0.339	0.012	Diff <2x LOR	----
		Lead, total	7439-92-1	E420	0.00100	mg/L	<0.00100	<0.00100	0	Diff <2x LOR	----
		Lithium, total	7439-93-2	E420	0.0200	mg/L	0.0254	0.0249	0.0004	Diff <2x LOR	----
		Magnesium, total	7439-95-4	E420	0.100	mg/L	199	189	4.97%	20%	----
		Manganese, total	7439-96-5	E420	0.00200	mg/L	0.0763	0.0757	0.869%	20%	----

Sub-Matrix: **Water**

					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	*Client sample ID*	*Analyte*	*CAS Number*	*Method*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD(%) or Difference*	*Duplicate Limits*	*Qualifier*
Total Metals (QC Lot: 2322178) - continued											
VA25C9649-001	Anonymous	Molybdenum, total	7439-98-7	E420	0.00100	mg/L	0.519	0.514	0.985%	20%	----
		Nickel, total	7440-02-0	E420	0.0100	mg/L	<0.0100	<0.0100	0	Diff <2x LOR	----
		Phosphorus, total	7723-14-0	E420	1.00	mg/L	<1.00	<1.00	0	Diff <2x LOR	----
		Potassium, total	7440-09-7	E420	1.00	mg/L	191	181	5.31%	20%	----
		Rubidium, total	7440-17-7	E420	0.00400	mg/L	0.0664	0.0719	7.99%	20%	----
		Selenium, total	7782-49-2	E420	0.00100	mg/L	0.00689	0.00741	0.000522	Diff <2x LOR	----
		Silicon, total	7440-21-3	E420	2.00	mg/L	4.38	4.30	0.07	Diff <2x LOR	----
		Silver, total	7440-22-4	E420	0.000200	mg/L	<0.000200	<0.000200	0	Diff <2x LOR	----
		Sodium, total	7440-23-5	E420	1.00	mg/L	3140	3050	2.92%	20%	----
		Strontium, total	7440-24-6	E420	0.00400	mg/L	17.3	17.2	0.415%	20%	----
		Sulfur, total	7704-34-9	E420	10.0	mg/L	3100	3190	3.07%	20%	----
		Tellurium, total	13494-80-9	E420	0.00400	mg/L	<0.00400	<0.00400	0	Diff <2x LOR	----
		Thallium, total	7440-28-0	E420	0.000200	mg/L	<0.000200	<0.000200	0	Diff <2x LOR	----
		Thorium, total	7440-29-1	E420	0.00200	mg/L	<0.00200	<0.00200	0	Diff <2x LOR	----
		Tin, total	7440-31-5	E420	0.00200	mg/L	<0.00200	<0.00200	0	Diff <2x LOR	----
		Titanium, total	7440-32-6	E420	0.00600	mg/L	0.00638	0.00603	0.00035	Diff <2x LOR	----
		Tungsten, total	7440-33-7	E420	0.00200	mg/L	0.00212	0.00213	0.000009	Diff <2x LOR	----
		Uranium, total	7440-61-1	E420	0.000200	mg/L	0.00230	0.00236	2.93%	20%	----
		Vanadium, total	7440-62-2	E420	0.0100	mg/L	<0.0100	<0.0100	0	Diff <2x LOR	----
		Zinc, total	7440-66-6	E420	0.0600	mg/L	<0.0600	<0.0600	0	Diff <2x LOR	----
		Zirconium, total	7440-67-7	E420	0.00400	mg/L	<0.00400	<0.00400	0	Diff <2x LOR	----
Total Metals (QC Lot: 2330185)											
VA25C9605-002	Anonymous	Mercury, total	7439-97-6	E508	0.00250	mg/L	0.0616	0.0618	0.324%	20%	----
Aggregate Organics (QC Lot: 2322992)											
VA25C9486-001	Anonymous	Chemical oxygen demand [COD]	----	E559-L	10	mg/L	58	54	4	Diff <2x LOR	----
Aggregate Organics (QC Lot: 2329349)											
VA25C9486-001	Anonymous	Phenols, total (4AAP)	----	E562	0.0010	mg/L	<0.0010	0.0010	0	Diff <2x LOR	----
Volatile Organic Compounds [THMs] (QC Lot: 2324342)											
VA25C9543-001	Anonymous	Bromodichloromethane	75-27-4	E611B	1.0	µg/L	1.9	1.8	7.2%	30%	----
		Bromoform	75-25-2	E611B	1.0	µg/L	<1.0	<1.0	0.0%	30%	----
		Chloroform	67-66-3	E611B	1.0	µg/L	21.3	20.3	5.0%	30%	----
		Dibromochloromethane	124-48-1	E611B	1.0	µg/L	<1.0	<1.0	0.0%	30%	----
DIsinfectant By-Products (QC Lot: 2329417)											
CG2516369-001	Anonymous	Bromate	15541-45-4	E722A	0.30	µg/L	0.00258 mg/L	2.52	2.44%	30%	----

Sub-Matrix: **Water**

					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	*Client sample ID*	*Analyte*	*CAS Number*	*Method*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD(%) or Difference*	*Duplicate Limits*	*Qualifier*
DIsinfectant By-Products (QC Lot: 2333884)											
HA2504917-001	Anonymous	Chlorate	14866-68-3	E409.CLO3	0.010	mg/L	0.159	0.158	0.441%	20%	----
DIsinfectant By-Products (QC Lot: 2333885)											
HA2504917-001	Anonymous	Chlorite	14998-27-7	E409.CLO2	0.010	mg/L	<0.010	<0.010	0	Diff <2x LOR	----

Method Blank (MB) Report

A Method Blank is an analyte-free matrix that undergoes sample processing identical to that carried out for test samples. Method Blank results are used to monitor and control for potential contamination from the laboratory environment and reagents. For most tests, the DQO for Method Blanks is for the result to be < LOR.

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Anions and Nutrients (QCLot: 2321424)						
Nitrogen, total	7727-37-9	E366	0.03	mg/L	<0.030	----
Anions and Nutrients (QCLot: 2321425)						
Phosphorus, total	7723-14-0	E372-U	0.002	mg/L	<0.0020	----
Anions and Nutrients (QCLot: 2321427)						
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	<0.0050	----
Anions and Nutrients (QCLot: 2321429)						
Kjeldahl nitrogen, total [TKN]	----	E318	0.05	mg/L	<0.050	----
Cyanides (QCLot: 2322208)						
Cyanide, strong acid dissociable (Total)	----	E333	0.002	mg/L	<0.0020	----
Organic / Inorganic Carbon (QCLot: 2321428)						
Carbon, total organic [TOC]	----	E355-L	0.5	mg/L	<0.50	----
Total Metals (QCLot: 2322178)						
Aluminum, total	7429-90-5	E420	0.003	mg/L	<0.0030	----
Antimony, total	7440-36-0	E420	0.0001	mg/L	<0.00010	----
Arsenic, total	7440-38-2	E420	0.0001	mg/L	<0.00010	----
Barium, total	7440-39-3	E420	0.0001	mg/L	<0.00010	----
Beryllium, total	7440-41-7	E420	0.00002	mg/L	<0.000020	----
Bismuth, total	7440-69-9	E420	0.00005	mg/L	<0.000050	----
Boron, total	7440-42-8	E420	0.01	mg/L	<0.010	----
Cadmium, total	7440-43-9	E420	0.000005	mg/L	<0.0000050	----
Calcium, total	7440-70-2	E420	0.05	mg/L	<0.050	----
Cesium, total	7440-46-2	E420	0.00001	mg/L	<0.000010	----
Chromium, total	7440-47-3	E420	0.0005	mg/L	<0.00050	----
Cobalt, total	7440-48-4	E420	0.0001	mg/L	<0.00010	----
Copper, total	7440-50-8	E420	0.0005	mg/L	<0.00050	----
Iron, total	7439-89-6	E420	0.01	mg/L	<0.010	----
Lead, total	7439-92-1	E420	0.00005	mg/L	<0.000050	----
Lithium, total	7439-93-2	E420	0.001	mg/L	<0.0010	----
Magnesium, total	7439-95-4	E420	0.005	mg/L	<0.0050	----
Manganese, total	7439-96-5	E420	0.0001	mg/L	<0.00010	----
Molybdenum, total	7439-98-7	E420	0.00005	mg/L	<0.000050	----
Nickel, total	7440-02-0	E420	0.0005	mg/L	<0.00050	----

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Total Metals (QCLot: 2322178) - continued						
Phosphorus, total	7723-14-0	E420	0.05	mg/L	<0.050	----
Potassium, total	7440-09-7	E420	0.05	mg/L	<0.050	----
Rubidium, total	7440-17-7	E420	0.0002	mg/L	<0.00020	----
Selenium, total	7782-49-2	E420	0.00005	mg/L	<0.000050	----
Silicon, total	7440-21-3	E420	0.1	mg/L	<0.10	----
Silver, total	7440-22-4	E420	0.00001	mg/L	<0.000010	----
Sodium, total	7440-23-5	E420	0.05	mg/L	<0.050	----
Strontium, total	7440-24-6	E420	0.0002	mg/L	<0.00020	----
Sulfur, total	7704-34-9	E420	0.5	mg/L	<0.50	----
Tellurium, total	13494-80-9	E420	0.0002	mg/L	<0.00020	----
Thallium, total	7440-28-0	E420	0.00001	mg/L	<0.000010	----
Thorium, total	7440-29-1	E420	0.0001	mg/L	<0.00010	----
Tin, total	7440-31-5	E420	0.0001	mg/L	<0.00010	----
Titanium, total	7440-32-6	E420	0.0003	mg/L	<0.00030	----
Tungsten, total	7440-33-7	E420	0.0001	mg/L	<0.00010	----
Uranium, total	7440-61-1	E420	0.00001	mg/L	<0.000010	----
Vanadium, total	7440-62-2	E420	0.0005	mg/L	<0.00050	----
Zinc, total	7440-66-6	E420	0.003	mg/L	<0.0030	----
Zirconium, total	7440-67-7	E420	0.0002	mg/L	<0.00020	----
Total Metals (QCLot: 2330185)						
Mercury, total	7439-97-6	E508	0.000005	mg/L	<0.0000050	----
Aggregate Organics (QCLot: 2322992)						
Chemical oxygen demand [COD]	----	E559-L	10	mg/L	<10	----
Aggregate Organics (QCLot: 2329349)						
Phenols, total (4AAP)	----	E562	0.001	mg/L	<0.0010	----
Volatile Organic Compounds [THMs] (QCLot: 2324342)						
Bromodichloromethane	75-27-4	E611B	1	µg/L	<1.0	----
Bromoform	75-25-2	E611B	1	µg/L	<1.0	----
Chloroform	67-66-3	E611B	1	µg/L	<1.0	----
Dibromochloromethane	124-48-1	E611B	1	µg/L	<1.0	----
DIsinfectant By-Products (QCLot: 2329417)						
Bromate	15541-45-4	E722A	0.3	µg/L	<0.30	----
DIsinfectant By-Products (QCLot: 2333884)						
Chlorate	14866-68-3	E409.CLO3	0.01	mg/L	<0.010	----
DIsinfectant By-Products (QCLot: 2333885)						

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
DIsinfectant By-Products (QCLot: 2333885) - continued						
Chlorite	14998-27-7	E409.CLO2	0.01	mg/L	<0.010	----
Haloacetic Acids (QCLot: 2328432)						
Bromochloroacetic acid	5589-96-8	E750	0.5	µg/L	<0.50	----
Dibromoacetic acid	631-64-1	E750	1	µg/L	<1.00	----
Dichloroacetic acid	79-43-6	E750	1	µg/L	<1.00	----
Monobromoacetic acid	79-08-3	E750	0.2	µg/L	<0.20	----
Monochloroacetic acid	79-11-8	E750	0.5	µg/L	<0.50	----
Trichloroacetic acid	76-03-9	E750	1	µg/L	<1.00	----

Laboratory Control Sample (LCS) Report

A Laboratory Control Sample (LCS) is an analyte-free matrix that has been fortified (spiked) with test analytes at known concentration and processed in an identical manner to test samples. LCS results are expressed as percent recovery, and are used to monitor and control test method accuracy and precision, independent of test sample matrix.

Sub-Matrix: **Water**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Anions and Nutrients (QCLot: 2321424)									
Nitrogen, total	7727-37-9	E366	0.03	mg/L	0.5 mg/L	103	75.0	125	----
Anions and Nutrients (QCLot: 2321425)									
Phosphorus, total	7723-14-0	E372-U	0.002	mg/L	0.05 mg/L	91.4	80.0	120	----
Anions and Nutrients (QCLot: 2321427)									
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	0.2 mg/L	102	85.0	115	----
Anions and Nutrients (QCLot: 2321429)									
Kjeldahl nitrogen, total [TKN]	----	E318	0.05	mg/L	4 mg/L	94.7	75.0	125	----
Cyanides (QCLot: 2322208)									
Cyanide, strong acid dissociable (Total)	----	E333	0.002	mg/L	0.25 mg/L	87.4	80.0	120	----
Organic / Inorganic Carbon (QCLot: 2321428)									
Carbon, total organic [TOC]	----	E355-L	0.5	mg/L	8.57 mg/L	111	80.0	120	----
Total Metals (QCLot: 2322178)									
Aluminum, total	7429-90-5	E420	0.003	mg/L	2 mg/L	106	80.0	120	----
Antimony, total	7440-36-0	E420	0.0001	mg/L	1 mg/L	104	80.0	120	----
Arsenic, total	7440-38-2	E420	0.0001	mg/L	1 mg/L	102	80.0	120	----
Barium, total	7440-39-3	E420	0.0001	mg/L	0.25 mg/L	106	80.0	120	----
Beryllium, total	7440-41-7	E420	0.00002	mg/L	0.1 mg/L	101	80.0	120	----
Bismuth, total	7440-69-9	E420	0.00005	mg/L	1 mg/L	93.8	80.0	120	----
Boron, total	7440-42-8	E420	0.01	mg/L	1 mg/L	101	80.0	120	----
Cadmium, total	7440-43-9	E420	0.000005	mg/L	0.1 mg/L	99.1	80.0	120	----
Calcium, total	7440-70-2	E420	0.05	mg/L	50 mg/L	99.7	80.0	120	----
Cesium, total	7440-46-2	E420	0.00001	mg/L	0.05 mg/L	102	80.0	120	----
Chromium, total	7440-47-3	E420	0.0005	mg/L	0.25 mg/L	104	80.0	120	----
Cobalt, total	7440-48-4	E420	0.0001	mg/L	0.25 mg/L	102	80.0	120	----
Copper, total	7440-50-8	E420	0.0005	mg/L	0.25 mg/L	102	80.0	120	----
Iron, total	7439-89-6	E420	0.01	mg/L	1 mg/L	102	80.0	120	----
Lead, total	7439-92-1	E420	0.00005	mg/L	0.5 mg/L	99.7	80.0	120	----
Lithium, total	7439-93-2	E420	0.001	mg/L	0.25 mg/L	98.8	80.0	120	----
Magnesium, total	7439-95-4	E420	0.005	mg/L	50 mg/L	103	80.0	120	----
Manganese, total	7439-96-5	E420	0.0001	mg/L	0.25 mg/L	105	80.0	120	----

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
					Target Concentration	LCS	Low	High	Qualifier
Total Metals (QCLot: 2322178) - continued									
Molybdenum, total	7439-98-7	E420	0.00005	mg/L	0.25 mg/L	103	80.0	120	----
Nickel, total	7440-02-0	E420	0.0005	mg/L	0.5 mg/L	102	80.0	120	----
Phosphorus, total	7723-14-0	E420	0.05	mg/L	10 mg/L	95.8	80.0	120	----
Potassium, total	7440-09-7	E420	0.05	mg/L	50 mg/L	99.5	80.0	120	----
Rubidium, total	7440-17-7	E420	0.0002	mg/L	0.1 mg/L	102	80.0	120	----
Selenium, total	7782-49-2	E420	0.00005	mg/L	1 mg/L	104	80.0	120	----
Silicon, total	7440-21-3	E420	0.1	mg/L	10 mg/L	105	80.0	120	----
Silver, total	7440-22-4	E420	0.00001	mg/L	0.1 mg/L	96.2	80.0	120	----
Sodium, total	7440-23-5	E420	0.05	mg/L	50 mg/L	106	80.0	120	----
Strontium, total	7440-24-6	E420	0.0002	mg/L	0.25 mg/L	98.4	80.0	120	----
Sulfur, total	7704-34-9	E420	0.5	mg/L	50 mg/L	89.9	80.0	120	----
Tellurium, total	13494-80-9	E420	0.0002	mg/L	0.1 mg/L	100	80.0	120	----
Thallium, total	7440-28-0	E420	0.00001	mg/L	1 mg/L	97.2	80.0	120	----
Thorium, total	7440-29-1	E420	0.0001	mg/L	0.1 mg/L	97.2	80.0	120	----
Tin, total	7440-31-5	E420	0.0001	mg/L	0.5 mg/L	102	80.0	120	----
Titanium, total	7440-32-6	E420	0.0003	mg/L	0.25 mg/L	100	80.0	120	----
Tungsten, total	7440-33-7	E420	0.0001	mg/L	0.1 mg/L	102	80.0	120	----
Uranium, total	7440-61-1	E420	0.00001	mg/L	0.005 mg/L	98.0	80.0	120	----
Vanadium, total	7440-62-2	E420	0.0005	mg/L	0.5 mg/L	102	80.0	120	----
Zinc, total	7440-66-6	E420	0.003	mg/L	0.5 mg/L	102	80.0	120	----
Zirconium, total	7440-67-7	E420	0.0002	mg/L	0.1 mg/L	98.5	80.0	120	----
Total Metals (QCLot: 2330185)									
Mercury, total	7439-97-6	E508	0.000005	mg/L	0 mg/L	94.2	80.0	120	----
Aggregate Organics (QCLot: 2322992)									
Chemical oxygen demand [COD]	----	E559-L	10	mg/L	100 mg/L	106	85.0	115	----
Aggregate Organics (QCLot: 2329349)									
Phenols, total (4AAP)	----	E562	0.001	mg/L	0.02 mg/L	107	85.0	115	----
Volatile Organic Compounds [THMs] (QCLot: 2324342)									
Bromodichloromethane	75-27-4	E611B	1	µg/L	100 µg/L	122	70.0	130	----
Bromoform	75-25-2	E611B	1	µg/L	100 µg/L	125	70.0	130	----
Chloroform	67-66-3	E611B	1	µg/L	100 µg/L	129	70.0	130	----
Dibromochloromethane	124-48-1	E611B	1	µg/L	100 µg/L	130	70.0	130	----
Disinfectant By-Products (QCLot: 2329417)									

Sub-Matrix: **Water**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
DIsinfectant By-Products (QCLot: 2329417) - continued									
Bromate	15541-45-4	E722A	0.3	µg/L	4 µg/L	104	70.0	130	----
DIsinfectant By-Products (QCLot: 2333884)									
Chlorate	14866-68-3	E409.CLO3	0.01	mg/L	1 mg/L	101	85.0	115	----
DIsinfectant By-Products (QCLot: 2333885)									
Chlorite	14998-27-7	E409.CLO2	0.01	mg/L	1 mg/L	104	85.0	115	----
Haloacetic Acids (QCLot: 2328432)									
Bromochloroacetic acid	5589-96-8	E750	0.5	µg/L	2.5 µg/L	113	70.0	130	----
Dibromoacetic acid	631-64-1	E750	1	µg/L	5 µg/L	112	70.0	130	----
Dichloroacetic acid	79-43-6	E750	1	µg/L	5 µg/L	107	70.0	130	----
Monobromoacetic acid	79-08-3	E750	0.2	µg/L	1 µg/L	108	70.0	130	----
Monochloroacetic acid	79-11-8	E750	0.5	µg/L	2.5 µg/L	111	70.0	130	----
Trichloroacetic acid	76-03-9	E750	1	µg/L	5 µg/L	110	70.0	130	----

Matrix Spike (MS) Report

A Matrix Spike (MS) is a randomly selected intra-laboratory replicate sample that has been fortified (spiked) with test analytes at known concentration, and processed in an identical manner to test samples. Matrix Spikes provide information regarding analyte recovery and potential matrix effects. MS DQO exceedances due to sample matrix may sometimes be unavoidable; in such cases, test results for the associated sample (or similar samples) may be subject to bias. ND – Recovery not determined, background level >= 1x spike level.

Sub-Matrix: **Water**

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Anions and Nutrients (QCLot: 2321424)										
VA25C9575-002	Anonymous	Nitrogen, total	7727-37-9	E366	ND mg/L	----	ND	70.0	130	----
Anions and Nutrients (QCLot: 2321425)										
VA25C9575-002	Anonymous	Phosphorus, total	7723-14-0	E372-U	ND mg/L	----	ND	70.0	130	----
Anions and Nutrients (QCLot: 2321427)										
VA25C9575-002	Anonymous	Ammonia, total (as N)	7664-41-7	E298	0.0989 mg/L	0.1 mg/L	98.9	75.0	125	----
Cyanides (QCLot: 2322208)										
VA25C9610-002	Anonymous	Cyanide, strong acid dissociable (Total)	----	E333	1.91 mg/L	2.5 mg/L	76.6	75.0	125	----
Organic / Inorganic Carbon (QCLot: 2321428)										
VA25C9643-001	Anonymous	Carbon, total organic [TOC]	----	E355-L	ND mg/L	----	ND	70.0	130	----
Total Metals (QCLot: 2322178)										
VA25C9649-002	Anonymous	Aluminum, total	7429-90-5	E420	2.01 mg/L	2 mg/L	101	70.0	130	----
		Antimony, total	7440-36-0	E420	0.201 mg/L	0.2 mg/L	101	70.0	130	----
		Arsenic, total	7440-38-2	E420	0.201 mg/L	0.2 mg/L	100	70.0	130	----
		Barium, total	7440-39-3	E420	0.206 mg/L	0.2 mg/L	103	70.0	130	----
		Beryllium, total	7440-41-7	E420	0.396 mg/L	0.4 mg/L	99.1	70.0	130	----
		Bismuth, total	7440-69-9	E420	0.0932 mg/L	0.1 mg/L	93.2	70.0	130	----
		Boron, total	7440-42-8	E420	1.04 mg/L	1 mg/L	104	70.0	130	----
		Cadmium, total	7440-43-9	E420	0.0398 mg/L	0.04 mg/L	99.6	70.0	130	----
		Calcium, total	7440-70-2	E420	ND mg/L	----	ND	70.0	130	----
		Cesium, total	7440-46-2	E420	0.0997 mg/L	0.1 mg/L	99.7	70.0	130	----
		Chromium, total	7440-47-3	E420	0.400 mg/L	0.4 mg/L	100	70.0	130	----
		Cobalt, total	7440-48-4	E420	0.198 mg/L	0.2 mg/L	98.8	70.0	130	----
		Copper, total	7440-50-8	E420	0.189 mg/L	0.2 mg/L	94.5	70.0	130	----
		Iron, total	7439-89-6	E420	18.8 mg/L	20 mg/L	94.2	70.0	130	----
		Lead, total	7439-92-1	E420	0.191 mg/L	0.2 mg/L	95.3	70.0	130	----
		Lithium, total	7439-93-2	E420	0.959 mg/L	1 mg/L	95.9	70.0	130	----
		Magnesium, total	7439-95-4	E420	ND mg/L	----	ND	70.0	130	----
		Manganese, total	7439-96-5	E420	0.198 mg/L	0.2 mg/L	98.8	70.0	130	----
		Molybdenum, total	7439-98-7	E420	ND mg/L	----	ND	70.0	130	----
		Nickel, total	7440-02-0	E420	0.391 mg/L	0.4 mg/L	97.8	70.0	130	----
		Phosphorus, total	7723-14-0	E420	105 mg/L	100 mg/L	105	70.0	130	----
		Potassium, total	7440-09-7	E420	ND mg/L	----	ND	70.0	130	----
		Rubidium, total	7440-17-7	E420	0.198 mg/L	0.2 mg/L	99.1	70.0	130	----
		Selenium, total	7782-49-2	E420	0.410 mg/L	0.4 mg/L	102	70.0	130	----
		Silicon, total	7440-21-3	E420	100 mg/L	100 mg/L	100	70.0	130	----
		Silver, total	7440-22-4	E420	0.0398 mg/L	0.04 mg/L	99.5	70.0	130	----
		Sodium, total	7440-23-5	E420	ND mg/L	----	ND	70.0	130	----

Sub-Matrix: **Water**

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Total Metals (QCLot: 2322178) - continued										
VA25C9649-002	Anonymous	Strontium, total	7440-24-6	E420	ND mg/L	----	ND	70.0	130	----
		Sulfur, total	7704-34-9	E420	ND mg/L	----	ND	70.0	130	----
		Tellurium, total	13494-80-9	E420	0.407 mg/L	0.4 mg/L	102	70.0	130	----
		Thallium, total	7440-28-0	E420	0.0373 mg/L	0.04 mg/L	93.2	70.0	130	----
		Thorium, total	7440-29-1	E420	0.206 mg/L	0.2 mg/L	103	70.0	130	----
		Tin, total	7440-31-5	E420	0.204 mg/L	0.2 mg/L	102	70.0	130	----
		Titanium, total	7440-32-6	E420	0.417 mg/L	0.4 mg/L	104	70.0	130	----
		Tungsten, total	7440-33-7	E420	0.211 mg/L	0.2 mg/L	105	70.0	130	----
		Uranium, total	7440-61-1	E420	0.0398 mg/L	0.04 mg/L	99.4	70.0	130	----
		Vanadium, total	7440-62-2	E420	1.02 mg/L	1 mg/L	102	70.0	130	----
		Zinc, total	7440-66-6	E420	3.97 mg/L	4 mg/L	99.2	70.0	130	----
		Zirconium, total	7440-67-7	E420	0.414 mg/L	0.4 mg/L	104	70.0	130	----
Total Metals (QCLot: 2330185)										
VA25C9605-003	Anonymous	Mercury, total	7439-97-6	E508	ND mg/L	----	ND	70.0	130	----
Aggregate Organics (QCLot: 2322992)										
VA25C9488-001	Anonymous	Chemical oxygen demand [COD]	----	E559-L	106 mg/L	100 mg/L	106	75.0	125	----
Aggregate Organics (QCLot: 2329349)										
VA25C9486-001	Anonymous	Phenols, total (4AAP)	----	E562	0.0218 mg/L	0.02 mg/L	109	75.0	125	----
Volatile Organic Compounds [THMs] (QCLot: 2324342)										
VA25C9638-002	Birken	Bromodichloromethane	75-27-4	E611B	99.3 µg/L	100 µg/L	99.3	60.0	140	----
		Bromoform	75-25-2	E611B	107 µg/L	100 µg/L	107	60.0	140	----
		Chloroform	67-66-3	E611B	106 µg/L	100 µg/L	106	60.0	140	----
		Dibromochloromethane	124-48-1	E611B	108 µg/L	100 µg/L	108	60.0	140	----
DIsinfectant By-Products (QCLot: 2329417)										
CG2516369-001	Anonymous	Bromate	15541-45-4	E722A	4.18 µg/L	4 µg/L	105	70.0	130	----
DIsinfectant By-Products (QCLot: 2333884)										
HA2504917-001	Anonymous	Chlorate	14866-68-3	E409.CLO3	1.07 mg/L	1 mg/L	107	75.0	125	----
DIsinfectant By-Products (QCLot: 2333885)										
HA2504917-001	Anonymous	Chlorite	14998-27-7	E409.CLO2	1.01 mg/L	1 mg/L	101	75.0	125	----
Haloacetic Acids (QCLot: 2328432)										
CG2516262-001	Anonymous	Bromochloroacetic acid	5589-96-8	E750	3.14 µg/L	2.5 µg/L	126	70.0	130	----
		Dibromoacetic acid	631-64-1	E750	5.80 µg/L	5 µg/L	116	70.0	130	----
		Dichloroacetic acid	79-43-6	E750	5.54 µg/L	5 µg/L	111	70.0	130	----
		Monobromoacetic acid	79-08-3	E750	1.06 µg/L	1 µg/L	106	70.0	130	----
		Monochloroacetic acid	79-11-8	E750	2.54 µg/L	2.5 µg/L	102	70.0	130	----
		Trichloroacetic acid	76-03-9	E750	5.59 µg/L	5 µg/L	112	70.0	130	----

Matrix Spike Duplicate (MSD) Report

A Matrix Spike Duplicate (MSD) is a duplicate of a Matrix Spike (MS), which has been fortified (spiked) with test analytes at known concentration, and processed in an identical manner to test samples. Matrix Spike Duplicates provide information regarding method precision. ALS DQOs for Matrix Spike Duplicates are expressed as test-specific limits for Relative Percent Difference (RPD).

Sub-Matrix: **Water**

					Matrix Spike Duplicate (MSD) Report						
Laboratory sample ID	*Client sample ID*	*Analyte*	*CAS Number*	*Method*	*LOR*	*Unit*	*Original Result*	*MSD Result*	*RPD(%) or Difference*	*MSD Limits*	*Qualifier*
Haloacetic Acids (QC Lot: 2328432)											
QC-232843-004	Anonymous	Bromochloroacetic acid	5589-96-8	E750	1.00	µg/L	3.63	3.41	7.41%	200%	----
		Dibromoacetic acid	631-64-1	E750	1.00	µg/L	6.06	5.81	4.41%	200%	----
		Dichloroacetic acid	79-43-6	E750	1.00	µg/L	6.21	6.04	3.67%	200%	----
		Monobromoacetic acid	79-08-3	E750	1.00	µg/L	1.12	1.18	5.50%	200%	----
		Monochloroacetic acid	79-11-8	E750	1.00	µg/L	2.82	2.68	6.16%	200%	----
		Trichloroacetic acid	76-03-9	E750	1.00	µg/L	5.94	5.95	0.00%	200%	----

Chain of Custody (COC) / Analytical Request Form

COC Number: 20 -

www.alsglobal.com

Canada Toll Free: 1 800 668 9878

Page 1 of 1

Environmental Division Vancouver
Work Order Reference
VA25C9638

Telephone : +1 604 253 4188

Report To	Contact and company name below will appear on the final report
Company:	District of Squamish
Contact:	Craig Halliday
Phone:	604.815.9942
	Company address below will appear on the final report
Street:	39909 Government Rd
City/Province:	Squamish
Postal Code:	V8B 0A3
Invoice To	Same as Report To ☑ YES ☐ NO
	Copy of Invoice with Report ☑ YES ☐ NO
Company:	District of Squamish
Contact:	Craig Halliday

Reports / Recipients

Select Report Format: ☑ PDF ☑ EXCEL ☐ EDD (DIGITAL)
Merge QC/QCI Reports with COA ☐ YES ☐ NO ☐ N/A
☐ Compare Results to Criteria on Report - provide details below if box checked
Select Distribution: ☑ EMAIL ☐ MAIL ☐ FAX
Email 1 or Fax challiday@squamish.ca
Email 2
Email 3

Invoice Recipients

Select Invoice Distribution: ☑ EMAIL ☐ MAIL ☐ FAX
Email 1 or Fax challiday@squamish.ca
Email 2

Turnaround Time (TAT) Requested

☑ Routine [R] if received by 3pm M-F - no surcharges apply
☐ 4 day [P4] if received by 3pm M-F - 20% rush surcharge minimum
☐ 3 day [P3] if received by 3pm M-F - 25% rush surcharge minimum
☐ 2 day [P2] if received by 3pm M-F - 50% rush surcharge minimum
☐ 1 day [E] if received by 3pm M-F - 100% rush surcharge minimum
☐ Same day [E2] if received by 10am M-S - 200% rush surcharge. Additional fees may apply to rush resuests on weekends, statutory holidays and routine tests

Date and Time Required for all E&P TATs:

For tests that can not be performed according to the

Project Information

ALS Account # / Quote #:	
Job #:	
PO / AFE:	505354
LSD:	

Oil and Gas Required Fields (client use)

AFE/Cost Center:	PO#
Major/Minor Code:	Routing Code:
Requisitioner:	
Location:	

ALS Lab Work Order # (lab use only): 9638

ALS Contact: Kaitlyn **Sampler:** MB

Analysis Requ

Indicate Filtered (F), Preserved (P) or Filtered and

ALS Sample # (lab use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	NUMBER OF CONTAINERS	THM	Bromate/Chlorite/Chlorate	Cyanides	General	HAA	Metals/Mercury	Nut/TOC/COD/TKN/TN/TP/NH3/PHE	SAMPLES ON HOLD	EXTENDED STORAGE REQU	SUSPECTED HAZARD (see n
	PHS Blended	05/11/25	08:15	Grab	6		✓	✓	✓		✓	✓			
	Birken	05/11/25	07:00	Grab	4	✓				✓					
	Tantalus	05/11/25	06:45	Grab	4	✓				✓					
	Crumpit Woods	05/11/25	07:40	Grab	4	✓				✓					
	Guilford	05/11/25	07:20	Grab	4	✓				✓					

Drinking Water (DW) Samples[1] (client use)

Are samples taken from a Regulated DW System? ☑ YES ☐ NO

Are samples for human consumption/ use? ☑ YES ☐ NO

Notes / Specify Limits for result evaluation by selecting from drop-down below (Excel COC only)

SAMPLE RECEIPT DETAILS (lab use only)

Cooling Method: ☐ NONE ☐ ICE ☒ ICE PACKS ☐ FROZEN ☑ COOLING INITIATED

Submission Comments identified on Sample Receipt Notification: ☐ YES ☐ NO

Cooler Custody Seals Intact: ☐ YES ☐ N/A Sample Custody Seals Intact: ☐ YES ☐ N/A

INITIAL COOLER TEMPERATURES °C			FINAL COOLER TEMPERATURES °C			14°

SHIPMENT RELEASE (client use)			INITIAL SHIPMENT RECEPTION (lab use only)			FINAL SHIPMENT RECEPTION (lab use only)		
		Time:	Received by:	Date:	Time:	Received by: RD	Date: Nov 5, 25	Time: 12:10 PM

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY YELLOW - CLIENT COPY

AUG 2020 FRONT

Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY. By the use of this form the user acknowledges and agrees with the Terms and Conditions as specified on the back page of the white - report copy.

1. If any water samples are taken from a **Regulated Drinking Water (DW) System**, please submit using an **Authorized DW COC form**.

Appendix G - Annual Surface Water Analysis - Mashiter Creek

Sample Range Report

Vancouver Coastal Health

Facility Name: Mashiter Creek Intake
Date Range: Jan 1 2025 to Dec 31 2025

Operator

,

Sampling Site	Date Collected	Total Coliform	E. Coli	Fecal Coliform
Mashiter Intake - emerg backup, Mashiter Intake				
	1/14/2025 7:10:00 AM	18.7	LT1	
	2/4/2025 8:50:00 AM	LT1	LT1	
	3/3/2025 9:15:00 AM	27.9	LT1	
	4/7/2025 9:12:00 AM	**98.5**	**LT1**	
	5/5/2025 8:40:00 AM	**46.4**	**LT1**	
	6/2/2025 7:00:00 AM	**56.3**	**LT1**	
	7/2/2025 7:20:00 AM	**261.3**	**18.9**	
	8/5/2025 7:10:00 AM	**547.5**	**93.3**	
	9/2/2025 7:50:00 AM	**1553.1**	**2.0**	
	10/6/2025 6:50:00 AM	**228.2**	**LT1**	
	11/3/2025 7:30:00 AM	**344.8**	**3.0**	
	12/8/2025 10:30:00 AM	**148.3**	**8.5**	
	Total Positive:	**11**	**5**	

Result Values: **E - estimated** **L - less than** **G - greater than**

Samples that contain total coliform:	11	91.67% of total
Samples that contain e. coli:	5	41.67% of total
Samples that contain fecal coliform:	0	0.00% of total
Number of consecutive samples that contain total coliform:	9	
Number of samples that contain total coliform in last 30 days:	0/0	
Total number of samples:	12	

Comments:

_____
Environmental Health Officer
Mar 5 2026

FOR FURTHER INFORMATION PLEASE CALL: James Whalen (604) 932-3202

Appendix G -Annual Surface Water Analysis- Stawamus Intake

Sample Range Report

Vancouver Coastal Health

Facility Name: Stawamus River Intake
Date Range: Jan 1 2025 to Dec 30 2025

Operator

,

Sampling Site	Date Collected	Total Coliform	E. Coli	Fecal Coliform
Stawamus Intake - emerg backup, Stawamus Intake				
	1/14/2025 10:59:00 AM	17.3	1.0	
	2/4/2025 10:35:00 AM	LT1	LT1	
	3/3/2025 10:45:00 AM	24.3	LT1	
	4/7/2025 11:30:00 AM	104.3	LT1	
	5/5/2025 10:25:00 AM	54.6	LT1	
	6/2/2025 10:15:00 AM	72.7	1.0	
	7/2/2025 10:11:00 AM	115.3	5.2	
	8/5/2025 8:15:00 AM	1203.3	12.2	
	9/2/2025 9:40:00 AM	816.4	1.0	
	10/6/2025 10:20:00 AM	307.6	9.6	
	11/3/2025 10:43:00 AM	104.3	5.2	
	12/8/2025 9:15:00 AM	166.4	12.1	
	Total Positive:	11	8	

Result Values: **E - estimated** **L - less than** **G - greater than**

Samples that contain total coliform:	11	91.67% of total
Samples that contain e. coli:	8	66.67% of total
Samples that contain fecal coliform:	0	0.00% of total
Number of consecutive samples that contain total coliform:	9	
Number of samples that contain total coliform in last 30 days:	0/0	
Total number of samples:	12	

Comments:

Environmental Health Officer
Mar 5 2026

FOR FURTHER INFORMATION PLEASE CALL: James Whalen (604) 932-3202

Sample Range Report

Vancouver Coastal Health

Facility Name: Mashiter Creek Intake
Date Range: Jan 1 2025 to Dec 31 2025

Operator

,

Sampling Site	Date Collected	Total Coliform	E. Coli	Fecal Coliform
Mashiter Intake - emerg backup, Mashiter Intake				
	1/14/2025 7:10:00 AM	18.7	LT1	
	2/4/2025 8:50:00 AM	LT1	LT1	
	3/3/2025 9:15:00 AM	27.9	LT1	
	4/7/2025 9:12:00 AM	98.5	LT1	
	5/5/2025 8:40:00 AM	46.4	LT1	
	6/2/2025 7:00:00 AM	56.3	LT1	
	7/2/2025 7:20:00 AM	261.3	18.9	
	8/5/2025 7:10:00 AM	547.5	93.3	
	9/2/2025 7:50:00 AM	1553.1	2.0	
	10/6/2025 6:50:00 AM	228.2	LT1	
	11/3/2025 7:30:00 AM	344.8	3.0	
	12/8/2025 10:30:00 AM	148.3	8.5	
	Total Positive:	11	5	

Result Values: **E - estimated** **L - less than** **G - greater than**

Samples that contain total coliform:	11	91.67% of total
Samples that contain e. coli:	5	41.67% of total
Samples that contain fecal coliform:	0	0.00% of total
Number of consecutive samples that contain total coliform:	9	
Number of samples that contain total coliform in last 30 days:	0/0	
Total number of samples:	12	

Comments:

_____
Environmental Health Officer
Mar 5 2026

FOR FURTHER INFORMATION PLEASE CALL: James Whalen (604) 932-3202

Appendix H - Watershed Boundary Map