VILLAGE OF LYTTON
2025 WATER SYSTEM REPORT

Kevin Vilac PO CWP CWWP

Village of Lytton

Community Water System

2025

Introduction

The Village of Lytton is the purveyor of drinking water to users connected to the Village of Lytton Community Water System. This report is provided to the Village of Lytton Council, Lytton First Nation, and Interior Health for their information, and in fulfillment of the Village's obligations under the Provincial Drinking Water Protection Act and associated regulations, the terms and conditions of the Village's Water Service Agreement with Lytton First Nation and the Village's Water System Operating Permit issued by Interior Health. Enforcement of the regulations and issuance of water system permits is the responsibility of Interior Health Authority's Drinking Water Officer.

Water Consumption

Raw water for the Village of Lytton water system is supplied from Lytton Creek. When the creek does not meet the required drinking water parameters, the Village of Lytton water system is supplied with water from two wells, Well #2 and Well #3. The Creek supplied 102 525 000 litres of water, and the Wells provided 71 448 000 litres of water for a total of 173 973 000 litres consumed within the Village of Lytton water system in 2025. This was an increase in consumption of 4 % from 2024. The maximum daily demand peaked at 908 000 litres on April 14, 2025, while the minimum daily demand occurred on December 1, 2025, at 126 000 litres.

The water consumption for the Village of Lytton in 2025 averaged 476 638 litres per day. The maximum day (April 14th) water consumption was 6 053 litres per person, while the minimum day (Dec 1st) consumption was 840 litres per person. The average was 3 178 litres per person in the Village of Lytton every day of the year (based on a population of 150); average daily consumption in British Columbia is only 465 litres per capita (2021 Stats Canada Survey of Drinking Water Plants). The consumption rate per person is extremely high for the Village of Lytton, some of this can be contributed to construction activities, Village maintenance/recovery operations and water leaks.

The Village of Lytton must continue to reduce water consumption through identifying and repairing water leaks and enforcing water restrictions. The Province of British Columbia faced its fourth consecutive year of drought in 2025 and to maintain water supplies entering another potential drought in 2026 the Village of Lytton must find ways to conserve water to ensure supply for the future.

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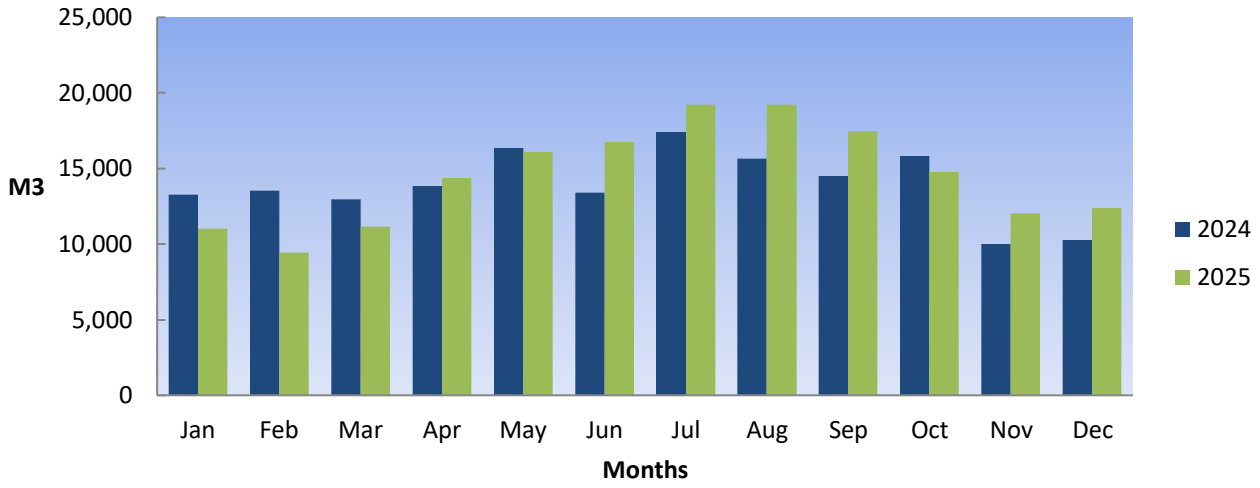
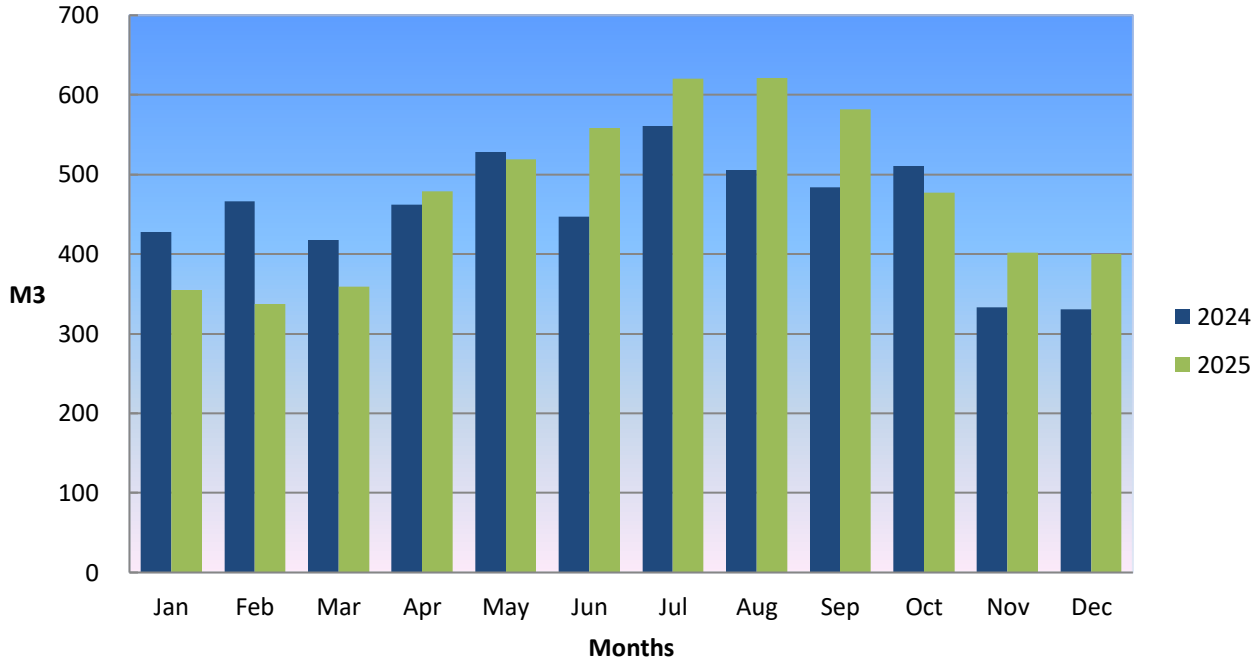
Total Water Use 2024-2025



Average Daily Water Use



Village of Lytton

Community Water System

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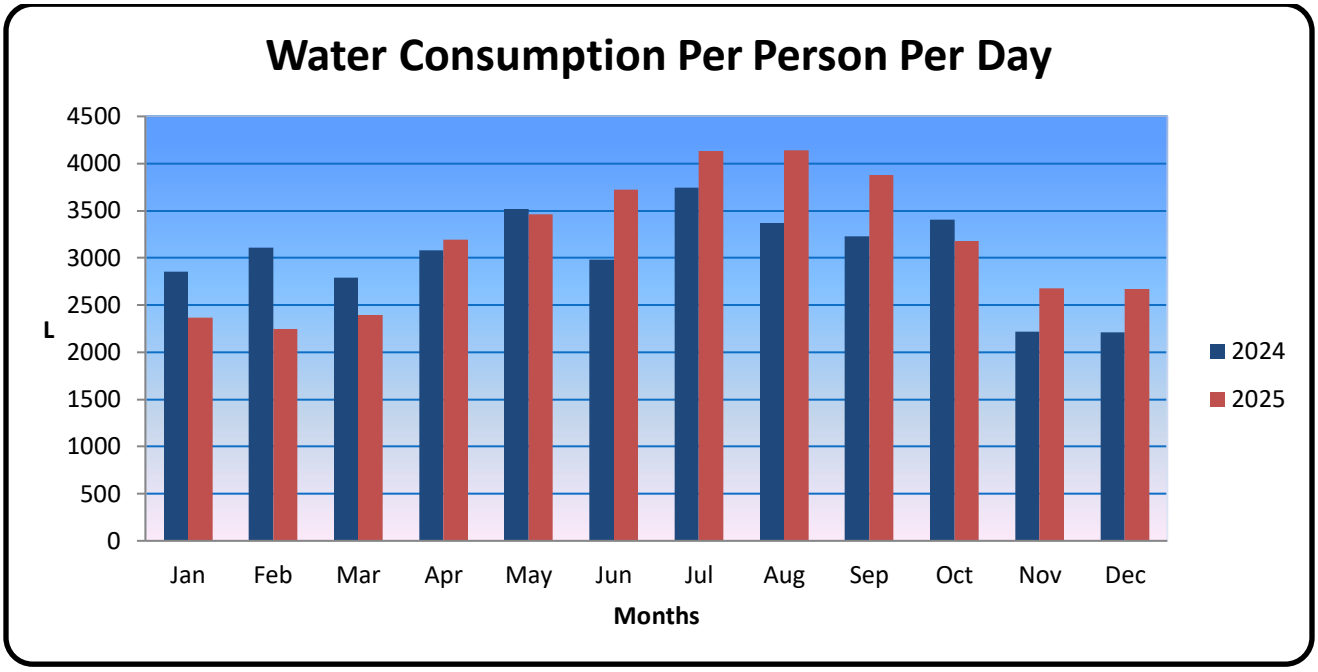

Water Storage

The water storage capacity is just over 1.3 million litres between three reservoirs, 345 North Reservoir 445 m3, 345 South Reservoir 480 m3, and 265 Reservoir 360 m3. The Village's distribution system accounts for another approximately 115 thousand litres. Distribution piping sizes range from 50mm to 200 mm, approximately 6.5 Km in total length.

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Water Production

The primary drinking water source is Lytton Creek. The intake is located approximately 1km upslope and east of the Trans-Canada Highway. The Village also has two backup sources, Well 2 and Well 3.

- **Lytton Creek – rated 20 L/sec**
- **Well #2 – rated 7 L/sec**
- **Well #3 – rated 7 L/sec**

In the event of a power outage the Water Treatment Plant is powered by a backup diesel generator. The Creek intake is a gravity fed system. The valve which controls the flow is located within the Water Treatment Plant. The Village also has a portable generator that can power one of the Well sites in the event of a power failure and the Creek supply does not meet the mandatory water quality guidelines.

Water Treatment Systems

The Village of Lytton has Trojan Swift low pressure UV reactors followed by Chlorination that is mixed within the 345 Reservoirs. The Reservoirs provide appropriate contact time before being distributed to ensure a minimum Free Chlorine residual of 1.20 mg/L as outlined within the Operating Permit.

Trojan Swift UV Reactors

The Village of Lytton follows Interior Health's 4-3-2-1-0 Drinking Water Objectives.

- 4 log inactivation of Viruses (99.99%)
- 3 log removal or inactivation of Giardia Lamblia and Cryptosporidium (99.9%)
- 2 refers to two treatment processes.
- 1 for less than 1 NTU of Turbidity
- 0 total and fecal coliforms and E. coli

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Quality Monitoring

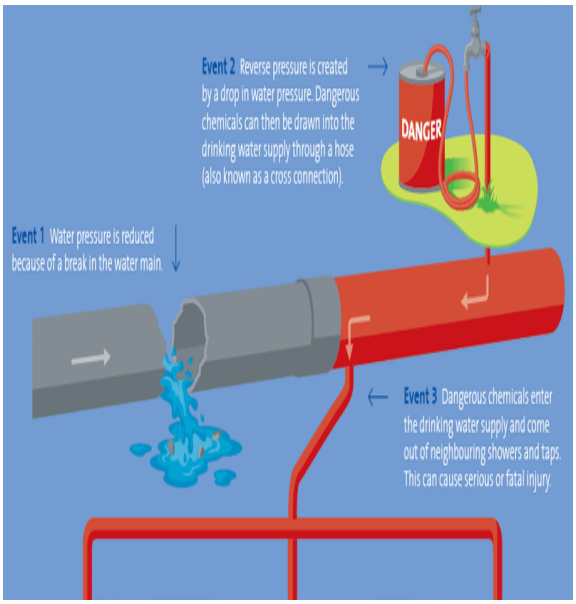
WTP Generator

Drinking water delivered to users of the Village's system is subject to a comprehensive and rigorous testing program that ensures quality drinking water. Water samples from up to seven (7) separate locations within the system were sent in 2025, on a weekly basis, to *Caro Analytical Services* laboratories to be tested for the presence/absence of E. coli and Total Coliform Bacteria. The Village also performs quarterly testing to monitor for any Disinfection Byproducts. The Village of Lytton staff also perform Chlorine residual testing, and Turbidity testing to ensure the water is potable.

The standard protocol when a water sample is found to contain the presence of Coliform (an early indicator that we could have a problem arising), however minute, is to flush and resample the water immediately at the same location and resubmit for testing. The Regional Drinking Water Officer will determine if any further action by the Village is necessary.

The water is monitored 24/7 with our water quality monitoring devices. These devices will monitor in real time Flow, Temperature, Turbidity, UVT, PH and Chlorine residual when the system is operating. The quality control and accuracy of monitoring increases with these devices online. All information is logged on the SCADA system in the Water Treatment Plant. With this real time monitoring the Operators can instantly check the water quality and tell if a problem is arising.

Cross Connection Control Program



As the Village is rebuilt it will have to develop a Cross-connection Control Program for the Village of Lytton. This program is designed to inspect and eliminate any possible connections between the potable water system and any other connections that are not potable. For example, a connection to potable water and a sprinkler system that injects fertilizer could possibly contaminate the whole water system without the proper back flow device in place.

Records

The Village of Lytton completed upgrading to an automated and continuous operating system to monitor Flow, Ph., Turbidity, Water temperature, Chlorine residual and Reservoir levels. This system is called SCADA, *Supervisory Control and Data Acquisition*, and it assists Village staff with maintaining a safe drinking water supply by advising of any monitored change within the water system. The SCADA system will alert staff to ensure that corrections can be made before water levels or water quality can be adversely affected.

Test records are stored on Interior Health's website
https://services.interiorhealth.ca/publichealthprotection/watersamples.aspx

Appendix A has the test results for disinfection by-products which was sampled March, June, September and December from 345 South Reservoir.

Operation

The Village of Lytton Community Water System and Water Treatment facilities are operated and maintained by highly trained and certified operators. The SCADA system will continuously monitor the water quality which in turn assists the operators to make necessary adjustments to meet or exceed the provincial drinking water quality objectives established by Interior Health as well as federal Canadian Drinking Water Quality objectives. Water distribution work is also carried out by staff certified for their tasks: water main leak repair, water service installation, and fire hydrant maintenance. Special tasks such as reservoir cleaning, leak detection and water main replacement are undertaken by qualified contractors with the proper equipment and experience to complete the work.

2025 Operations Staff

- Kevin Vilac - EOCP Wastewater Treatment IV
  - - EOCP Water Distribution IV
  - - EOCP Water Treatment MU II
  - - EOCP Wastewater Collections MU II
  - - BCWWA Chlorine Handling Certificate
  - - ABC Class II Wastewater Treatment Professional Operator
  - Cross Connection Control Inspector Certificate
- Morgan Heaster – EOCP Small Water Systems Certification
  - EOCP Small Wastewater Systems Certification
- Gene McArthur - EOCP Small Water Systems Certification
- Edmund Justice – Operator in Training

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Maintenance / Capital Projects – 2025

- Completed the replacement of the water main on Alonzo Way between 5th and 4th.
- Completed the replacement of the water main on Station Rd from 5th to 7th.
- Completed the replacement of the water main on 6th from Main St to Station Rd.
- Completed the water main loop on 7th St from Alonzo to Station Rd.
- Serviced UV reactors 1 & 2.
- Serviced the Altitude Valve at Reservoir 265
- Cleaned the Creek intake twice.
- Water Intake assessment completed.
- 166 Weekly water samples.

Initiatives – 2026

In 2026 the Village will continue to identify and repair water leaks and replace old infrastructure. The Village will also work towards a complete Source Water Protection Plan, Drought response plan and an Emergency Response Plan. With these plans and programs in place, it is a positive step forward in protecting the Village's drinking water system. The Village also has planned multiple water main upgrades, cooling for Well 2 kiosk and 5 water sampling stations throughout the Village. The Village is also planning to replace the water meter at IR 18 and install a water meter at IR 17.

Future Water Quality

The Village of Lytton will have to work towards finding and eliminating existing water leaks as the water consumption is far greater than it should be. Through ongoing training, monitoring and responsible planning the Village will be able to ensure potable water for its consumers. The Village will also have to implement water conservation strategies to ensure water for future generations.

Conclusion

The Village of Lytton Employees work hard in the effort to maintain, ensure proper water usage, identify and repair water leaks, monitor water quantity, monitor water quality, and educate the public whenever possible. With these goals the Village of Lytton should be able to maintain a quality water source and distribution system for many years to come.

This 2025 Village of Lytton Water System Report is presented to the public, by way of posting on the Village of Lytton website, as required by the British Columbia Drinking Water Protection Act and Regulations, as well as to meet the terms and conditions of the Village's Water System Operating Permit issued by Interior Health's Drinking Water Officer.

Appendix “A”

Page	:	3 of 3
Work Order	:	KS2500875
Client	:	Village of Lytton
Project	:	Quarterly Water Samples

Analytical Results

Sub-Matrix: Water (Matrix: Water)			Client sample ID	South Resevoir						
			Sampling date/time	13-Mar-2025 09:00						
Analyte	Method/Lab	LOR	Unit	KS2500875-001	BCDWQG MAC	--	--	--	--	--
Organic / Inorganic Carbon										
Carbon, dissolved organic [DOC]	E358-L/VA	0.50	mg/L	0.97 RRV	--	--	--	--	--	--
Carbon, total organic [TOC]	E355-L/VA	0.50	mg/L	0.53 RRV	--	--	--	--	--	--
Volatile Organic Compounds [THMs]										
Bromodichloromethane	E611B/VA	1.0	µg/L	<1.0	--	--	--	--	--	--
Bromoform	E611B/VA	1.0	µg/L	<1.0	--	--	--	--	--	--
Chloroform	E611B/VA	1.0	µg/L	1.7	--	--	--	--	--	--
Dibromochloromethane	E611B/VA	1.0	µg/L	<1.0	--	--	--	--	--	--
Trihalomethanes [THMs], total	E611B/VA	2.0	µg/L	<2.0	100 µg/L	--	--	--	--	--
Bromofluorobenzene, 4-	E611B/VA	1.0	%	82.8	--	--	--	--	--	--
Difluorobenzene, 1,4-	E611B/VA	1.0	%	97.7	--	--	--	--	--	--
Haloacetic Acids										
Bromochloroacetic acid	E750/WT	1.00	µg/L	<1.00	--	--	--	--	--	--
Dibromoacetic acid	E750/WT	1.00	µg/L	<1.00	--	--	--	--	--	--
Dichloroacetic acid	E750/WT	1.00	µg/L	<1.00	--	--	--	--	--	--
Monobromoacetic acid	E750/WT	1.00	µg/L	<1.00	--	--	--	--	--	--
Monochloroacetic acid	E750/WT	1.00	µg/L	<1.00	--	--	--	--	--	--
Trichloroacetic acid	E750/WT	1.00	µg/L	<1.00	--	--	--	--	--	--
Haloacetic acids, total [HAA5]	E750/WT	5.00	µg/L	<5.00	80 µg/L	--	--	--	--	--

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

Please refer to the Accreditation section for an explanation of analyte accreditations.

No Breaches Found

Key:

BCDWQG	British Columbia Drinking Water Quality Guidelines (JAN, 2023)
MAC	Maximium Acceptable Concentrations

Work Order : KS2502251
Client : Village of Lytton
Project : Quarterly Water Samples

Analytical Results

SubMatrix: Water
(Matrix: Water)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID: south reservoir Client sampling date / time: 12-Jun-2025 11:39 KS2502251-001	—	—	—	—	—	—
Sample Preparation											
Dissolved carbon filtration location	—	EP368/VA	-	-	field	—	—	—	—	—	—
Organic / Inorganic Carbon											
Carbon, dissolved organic [DOC]	—	E358-L/VA	0.50	mg/L	3.42	—	—	—	—	—	—
Carbon, total organic [TOC]	—	E355-L/VA	0.50	mg/L	2.78	—	—	—	—	—	—
Volatile Organic Compounds [THMs]											
Bromodichloromethane	75-27-4	E611B/VA	1.0	µg/L	<1.0	—	—	—	—	—	—
Bromoform	75-25-2	E611B/VA	1.0	µg/L	<1.0	—	—	—	—	—	—
Chloroform	67-66-3	E611B/VA	1.0	µg/L	103	—	—	—	—	—	—
Dibromochloromethane	124-48-1	E611B/VA	1.0	µg/L	<1.0	—	—	—	—	—	—
Trihalomethanes [THMs], total	—	E611B/VA	2.0	µg/L	103	—	—	—	—	—	—
Volatile Organic Compounds [THMs] Surrogates											
Bromofluorobenzene, 4-	460-00-4	E611B/VA	1.0	%	86.8	—	—	—	—	—	—
Difluorobenzene, 1,4-	540-36-3	E611B/VA	1.0	%	99.2	—	—	—	—	—	—
Haloacetic Acids											
Bromochloroacetic acid	5589-96-8	E750/WT	1.00	µg/L	<1.00	—	—	—	—	—	—
Dibromoacetic acid	631-64-1	E750/WT	1.00	µg/L	<1.00	—	—	—	—	—	—
Dichloroacetic acid	79-43-6	E750/WT	1.00	µg/L	38.7 DLHC	—	—	—	—	—	—
Monobromoacetic acid	79-08-3	E750/WT	1.00	µg/L	<1.00	—	—	—	—	—	—
Monochloroacetic acid	79-11-8	E750/WT	1.00	µg/L	2.07	—	—	—	—	—	—
Trichloroacetic acid	76-03-9	E750/WT	1.00	µg/L	62.5 DLHC	—	—	—	—	—	—
Haloacetic acids, total [HAA5]	n/a	E750/WT	5.00	µg/L	103	—	—	—	—	—	—

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

No Breaches Found

Work Order : KS2503695
Client : Village of Lytton
Project : Quarterly Water Samples

Analytical Results

SubMatrix: Water
(Matrix: Water)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID: south reservoir	BCDWQG / MAC					
					Client sampling date / time: 10-Sep-2025 08:30						
					KS2503695-001						
Sample Preparation											
Dissolved carbon filtration location	—	EP358/VA	-	-	field	—	—	—	—	—	—
Organic / Inorganic Carbon											
Carbon, dissolved organic [DOC]	—	E358-L/VA	0.50	mg/L	0.91	—	—	—	—	—	—
Carbon, total organic [TOC]	—	E358-L/VA	0.50	mg/L	0.66	—	—	—	—	—	—
Volatile Organic Compounds [THMs]											
Bromodichloromethane	75-27-4	E611B/VA	1.0	µg/L	<1.0	—	—	—	—	—	—
Bromoform	75-25-2	E611B/VA	1.0	µg/L	<1.0	—	—	—	—	—	—
Chloroform	67-66-3	E611B/VA	1.0	µg/L	2.1	—	—	—	—	—	—
Dibromochloromethane	124-48-1	E611B/VA	1.0	µg/L	<1.0	—	—	—	—	—	—
Trihalomethanes [THMs], total	—	E611B/VA	2.0	µg/L	2.1	100 µg/L	—	—	—	—	—
Volatile Organic Compounds [THMs] Surrogates											
Bromofluorobenzene, 4-	460-00-4	E611B/VA	1.0	%	84.1	—	—	—	—	—	—
Difluorobenzene, 1,4-	540-36-3	E611B/VA	1.0	%	98.9	—	—	—	—	—	—
Haloacetic Acids											
Bromochloroacetic acid	5589-96-8	E750/WT	1.00	µg/L	<1.00	—	—	—	—	—	—
Dibromoacetic acid	631-64-1	E750/WT	1.00	µg/L	<1.00	—	—	—	—	—	—
Dichloroacetic acid	79-43-6	E750/WT	1.00	µg/L	<1.00	—	—	—	—	—	—
Monobromoacetic acid	79-08-3	E750/WT	1.00	µg/L	<1.00	—	—	—	—	—	—
Monochloroacetic acid	79-11-8	E750/WT	1.00	µg/L	<1.00	—	—	—	—	—	—
Trichloroacetic acid	76-03-9	E750/WT	1.00	µg/L	<1.00	—	—	—	—	—	—
Haloacetic acids, total [HAA5]	n/a	E750/WT	5.00	µg/L	<5.00	80 µg/L	—	—	—	—	—

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

No Breaches Found

Work Order : KS2505160
Client : Village of Lytton
Project : Quarterly Water Samples

Analytical Results

SubMatrix: Water
(Matrix: Water)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID: south resevoir Client sampling date / time: 17-Dec-2025 08:20 KS2505160-001	BCDWQG MAC	----	----	----	----
Sample Preparation										
Dissolved carbon filtration location	----	EP358/VA	-	-	field	----	----	----	----	----
Organic / Inorganic Carbon										
Carbon, dissolved organic [DOC]	----	E358-L/VA	0.50	mg/L	0.88	----	----	----	----	----
Carbon, total organic [TOC]	----	E355-L/VA	0.50	mg/L	0.99	----	----	----	----	----
Volatile Organic Compounds [THMs]										
Bromodichloromethane	75-27-4	E611B/VA	1.0	µg/L	<1.0	----	----	----	----	----
Bromoform	75-25-2	E611B/VA	1.0	µg/L	<1.0	----	----	----	----	----
Chloroform	67-66-3	E611B/VA	1.0	µg/L	14.3	----	----	----	----	----
Dibromochloromethane	124-48-1	E611B/VA	1.0	µg/L	<1.0	----	----	----	----	----
Trihalomethanes [THMs], total	----	E611B/VA	2.0	µg/L	14.3	100 µg/L	----	----	----	----
Volatile Organic Compounds [THMs] Surrogates										
Bromofluorobenzene, 4-	460-00-4	E611B/VA	1.0	%	97.4	----	----	----	----	----
Difluorobenzene, 1,4-	540-36-3	E611B/VA	1.0	%	94.3	----	----	----	----	----
Haloacetic Acids										
Bromochloroacetic acid	5589-96-8	E750/WT	1.00	µg/L	<1.00	----	----	----	----	----
Dibromoacetic acid	631-64-1	E750/WT	1.00	µg/L	<1.00	----	----	----	----	----
Dichloroacetic acid	79-43-6	E750/WT	1.00	µg/L	6.37	----	----	----	----	----
Monobromoacetic acid	79-08-3	E750/WT	1.00	µg/L	<1.00	----	----	----	----	----
Monochloroacetic acid	79-11-8	E750/WT	1.00	µg/L	<1.00	----	----	----	----	----
Trichloroacetic acid	76-03-9	E750/WT	1.00	µg/L	10.6	----	----	----	----	----
Haloacetic acids, total [HAA5]	n/a	E750/WT	5.00	µg/L	17.0	80 µg/L	----	----	----	----

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

No Breaches Found