

## DRINKING WATER SYSTEM ANNUAL REPORT

**Reporting Period:** January 1<sup>st</sup> to December 31<sup>st</sup>, (year)

**Water System**

**Water System Owner**

**Primary Contact Name** (Operator or Manager)

**Phone Number** (Operator or Manager)

**E-mail** (Operator or Manager)

## DESCRIBE YOUR WATER SUPPLY SYSTEM

***What is the Source(s) of Raw Water?***

☐ Deep Well ☐ Shallow Well ☐ Surface Water ☐ Other

If other, specify details:

***Does the Drinking Water System have Primary Disinfection?***

☐ Yes ☐ No

☐ Chlorination ☐ Ultraviolet Light ☐ Ozone ☐ Other

If other, specify details:

***Does the Drinking Water System have Secondary Disinfection?***

☐ Yes ☐ No

☐ Chlorination ☐ Other

If other, specify details:

***Does the Drinking Water System have Filtration?***

☐ Yes ☐ No

Check all boxes that apply

☐ Cartridge Filter(s) ☐ Carbon Filter ☐ Sand Filtration ☐ Reverse Osmosis ☐ Other

If other, specify details:

## PUBLIC REPORTING

**Emergency Response & Contingency Plan (ERCP)**

***Is your ERCP up to Date?*** ☐ Yes ☐ No

***How do you Inform the System Users of the ERCP?***

☐ Hand Delivered ☐ Bulletin Board ☐ Newspaper ☐ Utility Bill Insert ☐ Website

☐ Other (specify details)

**Drinking Water System Annual Report**

***How do you Inform the System Users of the Annual Report?***

☐ Hand Delivered ☐ Bulletin Board ☐ Newspaper ☐ Utility Bill Insert ☐ Website

☐ Other (specify details)

## COMPLIANCE WITH OPERATING PERMIT

**List the conditions that have been placed on your Operating Permit** (if you have conditions, these will be stated on your permit):

**Are you in compliance with the conditions listed on your Operating Permit?** ☐ Yes ☐ No ☐ N/A

## BACTERIOLOGICAL TESTING AND DRINKING WATER PROTECTION REGULATION WATER QUALITY STANDARDS

**How many bacteriological samples were collected during this reporting period?** \_\_\_\_\_

**What is the minimum required sampling frequency for this system? (#samples/month)** \_\_\_\_\_

Additional sampling details: \_\_\_\_\_

**Was the minimum required sampling frequency achieved?** ☐ Yes ☐ No

Comments: \_\_\_\_\_

**Bacteriological summary attached to this report?** ☐ Yes ☐ No

**If no, how do the users of the system view the results?** \_\_\_\_\_

## WATER QUALITY STANDARDS FOR POTABLE WATER

<b>Parameter:</b>	<b>Standard:</b>	<b>Did this system meet standard?</b>	
Escherichia coli (for all samples)	No detectable <i>Escherichia coli</i> per 100ml	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Total Coliform Bacteria (if only 1 sample collected in a 30 day period)	No detectable total coliform bacteria per 100ml	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Total Coliform Bacteria (if more than 1 sample collected in a 30 day period)	No more than 10% of samples contain total coliform bacteria, <b>and</b> No sample has more than 10 total coliform bacteria per 100ml	<input type="checkbox"/> Yes	<input type="checkbox"/> No

**If the system did not meet any of above Drinking Water Protection Regulation standards, record the results in the table below; attach additional sheets if necessary.**

<b>Date</b>	<b>TC/100ml</b>	<b>E.coli/100ml</b>	<b>Reason</b>	<b>Corrective Action</b>

## CHEMICAL SAMPLING COMPLETED DURING THIS REPORTING PERIOD

**Was any chemical sampling conducted during reporting period?** ☐ Yes ☐ No

**If no, when were the last chemical samples conducted for this system?**

(date) ☐ Don't Know ☐ Never

**If yes, did all water samples meet the Guidelines for Canadian Drinking Water Quality?**

☐ Yes ☐ No

**If any water samples did not meet the Guidelines for Canadian Drinking Water Quality, record the results in the table below; attach additional sheets if necessary.**

Parameter	Result	Corrective Action / Treatment / Comments

## ADDITIONAL TESTING

**Does the system have analyzers for continuous monitoring?** ☐ Yes ☐ No

**If yes, check all boxes that apply:**

☐ Chlorine ☐ Turbidity ☐ Other (details)

**Are the results available on request?**

**If any additional testing or sampling was conducted, record results in the table below; attach additional sheets if necessary.**

Additional Testing & Reason for Sampling	Corrective Action Taken

## WATER QUALITY COMPLAINTS

**Were there any water quality complaints in this reporting period? (e.g. taste, odour, colour etc.)** ☐ Yes ☐ No

**If yes, complete the table below; attach additional sheets if necessary.**

Date	Water Quality Complaint	Corrective Action / Treatment

**OPERATIONAL PROBLEMS**

***Were there any operational problems during this reporting period? (e.g. insufficient water supply, malfunction of disinfection equipment, line breaks, elevated turbidity etc.).***

☐ Yes

☐ No

***If yes, complete the table below; attach additional sheets if necessary.***

Incident Date	Type of Operational Problem	Corrective Action Taken

**MAJOR UPGRADES/REPAIRS & EXPENSES**

***Were there any major upgrades/repairs or any major costs incurred during this reporting period?***

☐ Yes

☐ No

***If yes, complete the table below; attach additional sheets if necessary.***

Major Upgrades/Expenses	Details
Improvements required by DWO	
Additions/changes to system	
Purchase or install new equipment	
Equipment repair or replacement	
Annual maintenance of system	
Specialist report	
Other	

**FUTURE IMPROVEMENTS**

***Are there any plans for future improvements?***

☐ Yes

☐ No

***If yes, complete the table below; attach additional sheets if necessary.***

Future Upgrades or Improvements	Estimated Date of Completion

**DATE COMPLETED:**
**COMPLETED BY:**

## Sample Range Report

Fraser Health Authority

**Facility Name:** Village Of Harrison Hot Springs WS

**Date Range:** Jan 1 2022 to Dec 31 2022

**Operator** Tyler Simmonds  
BOX 160, 495 Hot Springs Rd  
Harrison Hot Springs, BC V0M 1K0

Sampling Site	Date Collected	Total Coliform	E. Coli	Fecal Coliform
<u>Boat Launch</u>				
<u>Washrooms,</u>				
<u>Harrison Hotsprings</u>				
	2-7-2022 8:11:00 AM	LT1	LT1	
	3-28-2022 8:45:00 AM	LT1	LT1	
	5-16-2022 8:52:00 AM	LT1	LT1	
	7-4-2022 9:22:00 AM	LT1	LT1	
	8-23-2022 9:39:00 AM	LT1	LT1	
	10-11-2022 9:00:00 AM	LT1	LT1	
	11-28-2022 10:30:00 AM	<u>LT1</u>	<u>LT1</u>	
	<b>Total Positive:</b>	<b>0</b>	<b>0</b>	<b>0</b>
<u>170 Cedar Avenue,</u>				
<u>170 Cedar Avenue</u>				
	3-21-2022 10:05:00 AM	LT1	LT1	
	5-9-2022 10:16:00 AM	LT1	LT1	
	6-27-2022 10:28:00 AM	LT1	LT1	
	8-15-2022 10:49:00 AM	LT1	LT1	
	10-3-2022 11:00:00 AM	LT1	LT1	
	11-21-2022 12:00:00 PM	<u>LT1</u>	<u>LT1</u>	
	<b>Total Positive:</b>	<b>0</b>	<b>0</b>	<b>0</b>
<u>459 Naismith West</u>				
<u>End, 459 Naismith</u>				
	2-22-2022 10:30:00 AM	LT1	LT1	
	4-11-2022 9:58:00	LT1	LT1	

AM			
5-30-2022 11:30:00	LT1 GTR200	LT1 GTR200	
AM			
6-6-2022 10:48:00	LT1	LT1	
AM			
7-19-2022 12:10:00	LT1	LT1	
PM			
9-6-2022 10:25:00	LT1	LT1	
AM			
10-25-2022 9:54:00	LT1	LT1	
AM			
12-12-2022 10:30:00	<u>LT1</u>	<u>LT1</u>	
AM			
<b>Total Positive:</b>	<b>0</b>	<b>0</b>	<b>0</b>

Beach Washrooms,  
Harrison Lake beach

1-10-2022 8:05:00	LT1	LT1	
AM			
2-28-2022 8:00:00	LT1	LT1	
AM			
4-19-2022 8:00:00	LT1	LT1	
AM			
6-6-2022 7:50:00	LT1	LT1	
AM			
7-26-2022 10:15:00	LT1	LT1	
AM			
9-12-2022 7:39:00	LT1	LT1	
AM			
11-1-2022 8:30:00	<u>LT1</u>	<u>LT1</u>	
AM			
<b>Total Positive:</b>	<b>0</b>	<b>0</b>	<b>0</b>

526 Driftwood, 526  
Driftwood

1-10-2022 8:51:00	LT1	LT1	
AM			
2-28-2022 10:10:00	LT1	LT1	
AM			
4-19-2022 9:55:00	LT1	LT1	
AM			
6-6-2022 10:36:00	LT1	LT1	
AM			
7-26-2022 10:30:00	LT1	LT1	
AM			
9-12-2022 10:15:00	LT1	LT1	
AM			
11-1-2022 8:30:00	<u>LT1</u>	<u>LT1</u>	
AM			
<b>Total Positive:</b>	<b>0</b>	<b>0</b>	<b>0</b>

973 Hotsprings  
Road Tap, 973

Hotsprings Road

1-17-2022 9:30:00 AM	LT1	LT1	
3-7-2022 8:45:00 AM	LT1	LT1	
4-25-2022 8:40:00 AM	LT1	LT1	
6-13-2022 10:12:00 AM	LT1	LT1	
8-2-2022 10:26:00 AM	LT1	LT1	
9-20-2022 9:40:00 AM	LT1	LT1	
11-8-2022 9:42:00 AM	<u>LT1</u>	<u>LT1</u>	
<b>Total Positive:</b>	<b>0</b>	<b>0</b>	<b>0</b>

Public Works Office,  
Public Works Office

1-17-2022 2:05:00 PM	LT1	LT1	
3-7-2022 7:05:00 AM	LT1	LT1	
4-25-2022 7:05:00 AM	LT1	LT1	
6-13-2022 7:20:00 AM	LT1	LT1	
8-2-2022 7:47:00 AM	LT1	LT1	
9-20-2022 7:10:00 AM	LT1	LT1	
11-8-2022 7:40:00 AM	<u>LT1</u>	<u>LT1</u>	
<b>Total Positive:</b>	<b>0</b>	<b>0</b>	<b>0</b>

Water Treatment  
Plant, Water  
Treatment Plant

2-14-2022 10:05:00 AM	LT1	LT1	
4-4-2022 7:30:00 AM	LT1	LT1	
5-24-2022 10:55:00 AM	LT1	LT1	
7-11-2022 10:28:00 AM	LT1	LT1	
8-29-2022 10:35:00 AM	LT1	LT1	
10-18-2022 10:10:00 AM	LT1	LT1	
12-5-2022 11:15:00 AM	<u>LT1</u>	<u>LT1</u>	
<b>Total Positive:</b>	<b>0</b>	<b>0</b>	<b>0</b>

290 Esplanade, 290  
Esplanade

2-22-2022 10:30:00 AM	LT1	LT1	
4-11-2022 7:58:00 AM	LT1	LT1	
5-30-2022 10:02:00 AM	LT1	LT1	
7-19-2022 8:55:00 AM	LT1	LT1	
9-6-2022 8:22:00 AM	LT1	LT1	
10-25-2022 8:06:00 AM	LT1	LT1	
12-12-2022 10:30:00 AM	<u>LT1</u>	<u>LT1</u>	
<b>Total Positive:</b>	<b>0</b>	<b>0</b>	<b>0</b>

Peace Park,

1-24-2022 9:31:00 AM	LT1	LT1	
3-14-2022 9:42:00 AM	LT1	LT1	
5-2-2022 10:20:00 AM	LT1	LT1	
6-20-2022 9:40:00 AM	LT1	LT1	
8-9-2022 8:15:00 AM	LT1	LT1	
9-26-2022 10:35:00 AM	LT1	LT1	
11-14-2022 11:00:00 AM	<u>LT1</u>	<u>LT1</u>	
<b>Total Positive:</b>	<b>0</b>	<b>0</b>	<b>0</b>

Echo Spring Park,

2-14-2022 8:22:00 AM	1	LT1	
4-4-2022 9:50:00 AM	LT1	LT1	
5-24-2022 9:23:00 AM	LT1	LT1	
7-11-2022 9:25:00 AM	LT1	LT1	
8-29-2022 9:35:00 AM	LT1	LT1	
10-18-2022 8:47:00 AM	LT1	LT1	
12-5-2022 11:15:00 AM	<u>LT1</u>	<u>LT1</u>	
<b>Total Positive:</b>	<b>1</b>	<b>0</b>	<b>0</b>



Community  
Gardens.

1-24-2022 10:00:00 AM	LT1	LT1	
3-14-2022 8:30:00 AM	LT1	LT1	
5-2-2022 9:46:00 AM	LT1	LT1	
6-20-2022 10:20:00 AM	LT1	LT1	
8-9-2022 8:30:00 AM	LT1	LT1	
9-26-2022 9:50:00 AM	LT1	LT1	
11-14-2022 11:00:00 AM	<u>LT1</u>	<u>LT1</u>	
<b>Total Positive:</b>	<b>0</b>	<b>0</b>	<b>0</b>

442 Pine, 442 Pine

3-21-2022 9:52:00 AM	LT1	LT1	
5-9-2022 10:31:00 AM	LT1	LT1	
6-27-2022 10:10:00 AM	LT1	LT1	
8-15-2022 10:36:00 AM	LT1	LT1	
10-3-2022 10:15:00 AM	LT1	LT1	
11-21-2022 12:00:00 PM	<u>LT1</u>	<u>LT1</u>	
<b>Total Positive:</b>	<b>0</b>	<b>0</b>	<b>0</b>

843 Myng, 843 Myng

2-7-2022 8:50:00 AM	LT1	LT1	
3-28-2022 9:53:00 AM	LT1	LT1	
5-16-2022 9:53:00 AM	LT1	LT1	
7-4-2022 10:14:00 AM	LT1	LT1	
8-23-2022 10:22:00 AM	LT1	LT1	
10-11-2022 9:15:00 AM	LT1	LT1	
11-28-2022 10:30:00 AM	<u>LT1</u>	<u>LT1</u>	
<b>Total Positive:</b>	<b>0</b>	<b>0</b>	<b>0</b>

**Result Values:**

**E - estimated**

**L - less than**

**G - greater than**

Samples that contain total coliform:	1	1.03% 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:	97	

**Comments:**

*David Fowler*

Environmental Health Officer

Feb 27 2023

FOR FURTHER INFORMATION PLEASE CALL: David Fowler



**Date: February 28, 2023 Permit:** \_\_\_\_\_

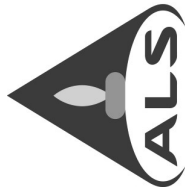
**Flows (m<sup>3</sup>)**

July		August		September		October		November		December	
Date	Flow (m³)	Date	Flow (m³)	Date	Flow (m³)	Date	Flow (m³)	Date	Flow (m³)	Date	Flow (m³)
Month total	45469	Month total	51689	Month total	38175	Month total	30556	Month total	18285	Month total	18522
Daily Avg.	1467	Daily Avg.	1667	Daily Avg.	1273	Daily Avg.	986	Daily Avg.	610	Daily Avg.	597
Daily Max	2220	Daily Max	2353	Daily Max	1639	Daily Max	1580	Daily Max	870	Daily Max	736
Daily Min	777	Daily Min	1001	Daily Min	874	Daily Min	545	Daily Min	342	Daily Min	313

Date	Flow (m³)	Date	Flow (m³)	Date	Flow (m³)	Date	Flow (m³)
Year total	322253	Daily Avg.	883	Daily Max	2353	Daily Min	313

Dec 6th

[illegible]



ALS Environmental

## CERTIFICATE OF ANALYSIS (GUIDELINE EVALUATION)

Work Order	: VA22B4651	Page	: 1 of 6
Amendment	: 1	Laboratory	: Vancouver - Environmental
Client	: Village of Harrison Hot Springs	Account Manager	: Sneha Sansare
Contact	: Tyler Simmonds	Address	: 8081 Lougheed Highway Burnaby, British Columbia Canada V5A 1W9
Address	: PO Box 160 495 Hot Springs Road Harrison Hot Springs BC Canada V0M 1K0	Telephone	: +1 604 253 4188
Telephone	: ---	Date Samples Received	: 28-Jun-2022 13:15
Project	: WTP June 2022	Date Analysis Commenced	: 28-Jun-2022
PO	: 18714	Issue Date	: 18-Jul-2022 12:57
C-O-C number	: ---		
Sampler	: ---		
Site	: ---		
Quote number	: Quote for Harrison Hot Springs		
No. of samples received	: 4		
No. of samples analysed	: 4		

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

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Guideline Comparison

**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
Angela Ren	Team Leader - Metals	Metals, Burnaby, British Columbia
Brieanna Allen	Production/Validation Manager	Inorganics, Burnaby, British Columbia
Brieanna Allen	Production/Validation Manager	Microbiology, Burnaby, British Columbia
Robin Weeks	Team Leader - Metals	Metals, Burnaby, British Columbia
Sandra Cummings	Department Manager - LCMS	LCMS, Waterloo, Ontario



## General Comments

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

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.

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Application of guidelines is provided "as is" without warranty of any kind, either expressed or implied, including, but not limited to fitness for a particular purpose, or non-infringement. ALS assumes no responsibility for errors or omissions in the information. Guidelines are not adjusted for the hardness, pH or temperature of the sample (the most conservative values are used). Measurement uncertainty is not applied to test results prior to comparison with specified criteria values.

Key : LOR: Limit of Reporting (detection limit).

Unit	Description
µg/L	micrograms per litre
µS/cm	Microsiemens per centimetre
CU	colour units (1 CU = 1 mg/L Pt)
mg/L	milligrams per litre
MPN/100mL	most probable number per 100 mL
NTU	nephelometric turbidity units
pH units	pH units

> : greater than.

< : less than.

Red shading is applied where the result is greater than the Guideline Upper Limit or the result is lower than the Guideline Lower Limit.

For drinking water samples, Red shading is applied where the result for E.coli, fecal or total coliforms is greater than or equal to the Guideline Upper Limit.

## Qualifiers

Qualifier	Description
DLM	Detection Limit Adjusted due to sample matrix effects (e.g. chemical interference, colour, turbidity).



## Analytical Results Evaluation

Matrix: **Water**

Client sample ID		Sampling date/time				Sub-Matrix				Unit			
Analyte	CAS Number	Treated water	Peace Park	Art Gallery									
Physical Tests													
alkalinity, total (as CaCO <sub>3</sub> )	---	16.8	16.6	38.3	---	---	---	---	---	mg/L	---	---	---
colour, true	---	<5.0	<5.0	7.6	---	---	---	---	---	CU	---	---	---
conductivity	---	53.0	53.1	109	---	---	---	---	---	µS/cm	---	---	---
pH	---	7.47	7.47	7.54	---	---	---	---	---	pH units	---	---	---
solids, total dissolved [TDS]	---	34	38	70	---	---	---	---	---	mg/L	---	---	---
turbidity	---	<0.10	<0.10	0.59	---	---	---	---	---	NTU	---	---	---
hardness (as CaCO <sub>3</sub> ), from total Ca/Mg	---	18.1	18.0	37.1	---	---	---	---	---	mg/L	---	---	---
Anions and Nutrients													
chloride	16887-00-6	1.87	1.88	5.95	---	---	---	---	---	mg/L	---	---	---
fluoride	16984-48-8	<0.020	<0.020	<0.020	---	---	---	---	---	mg/L	---	---	---
nitrate (as N)	14797-55-8	0.0620	0.0661	0.0061	---	---	---	---	---	mg/L	---	---	---
nitrite (as N)	14797-65-0	<0.0010	<0.0010	<0.0010	---	---	---	---	---	mg/L	---	---	---
sulfate (as SO <sub>4</sub> )	14808-79-8	5.16	5.16	6.11	---	---	---	---	---	mg/L	---	---	---
Microbiological Tests													
coliforms, total	---	<1	<1	<1	---	---	---	---	---	MPN/100mL	---	---	---
coliforms, Escherichia coli [E. coli]	---	<1	<1	<1	---	---	---	---	---	MPN/100mL	---	---	---
Total Metals													
aluminum, total	7429-90-5	0.0135	0.0126	0.0145	---	---	---	---	---	mg/L	---	---	---
antimony, total	7440-36-0	<0.00050	<0.00050	<0.00050	---	---	---	---	---	mg/L	---	---	---
arsenic, total	7440-38-2	0.00017	0.00018	0.00023	---	---	---	---	---	mg/L	---	---	---
barium, total	7440-39-3	<0.0200	<0.0200	<0.0200	---	---	---	---	---	mg/L	---	---	---
boron, total	7440-42-8	<0.100	<0.100	<0.100	---	---	---	---	---	mg/L	---	---	---
cadmium, total	7440-43-9	<0.000200	<0.000200	<0.000200	---	---	---	---	---	mg/L	---	---	---
calcium, total	7440-70-2	6.15	6.10	13.1	---	---	---	---	---	mg/L	---	---	---
chromium, total	7440-47-3	<0.00200	<0.00200	<0.00200	---	---	---	---	---	mg/L	---	---	---
copper, total	7440-50-8	<0.00100	0.00182	0.201	---	---	---	---	---	mg/L	---	---	---
iron, total	7439-89-6	<0.030	<0.030	0.232	---	---	---	---	---	mg/L	---	---	---



Analytical Results Evaluation

Matrix: Water

Matrix: <b>Water</b>													
Analyte	Client sample ID		Treated water	Peace Park	Art Gallery								
	CAS Number	Sub-Matrix	28-Jun-2022 07:00	28-Jun-2022 07:00	28-Jun-2022 07:00								
			Water	Water	Water								
		Unit	VA22B4651-002	VA22B4651-003	VA22B4651-004								
Total Metals													
lead, total	7439-92-1	mg/L	<0.000500	<0.000500	0.00561								
magnesium, total	7439-95-4	mg/L	0.676	0.673	1.06								
manganese, total	7439-96-5	mg/L	<0.00200	<0.00200	0.0116								
mercury, total	7439-97-6	mg/L	<0.0000050	<0.0000050	<0.0000050								
potassium, total	7440-09-7	mg/L	0.597	0.598	1.25								
selenium, total	7782-49-2	mg/L	<0.00100	<0.00100	<0.00100								
sodium, total	7440-23-5	mg/L	2.04	2.10	5.28								
uranium, total	7440-61-1	mg/L	<0.000100	<0.000100	<0.000100								
zinc, total	7440-66-6	mg/L	<0.0500	<0.0500	2.08								
Haloacetic Acids													
bromochloroacetic acid	5589-96-8	µg/L	<1.20	<1.26									
dibromoacetic acid	631-64-1	µg/L	<1.00	<1.00									
dichloroacetic acid	79-43-6	µg/L	11.2	12.2									
monobromoacetic acid	79-08-3	µg/L	<10.0	<10.0									
monochloroacetic acid	79-11-8	µg/L	4.56	<1.00									
trichloroacetic acid	76-03-9	µg/L	17.8	22.8									
haloacetic acids, total [HAA5]		µg/L	33.6	35.0									



## Summary of Guideline Limits

Analyte	CAS Number	Unit	BCDWQG AO	BCDWQG MAC	BCDWQG OG		
<b>Physical Tests</b>							
alkalinity, total (as CaCO <sub>3</sub> )	----	mg/L					
colour, true	----	CU	15 CU				
conductivity	----	µS/cm					
hardness (as CaCO <sub>3</sub> ), from total Ca/Mg	----	mg/L					
pH	----	pH units	7 - 10.5 pH units				
solids, total dissolved [TDS]	----	mg/L	500 mg/L				
turbidity	----	NTU			1 NTU		
<b>Anions and Nutrients</b>							
chloride	16887-00-6	mg/L	250 mg/L				
fluoride	16984-48-8	mg/L		1.5 mg/L			
nitrate (as N)	14797-55-8	mg/L		10 mg/L			
nitrite (as N)	14797-65-0	mg/L		1 mg/L			
sulfate (as SO <sub>4</sub> )	14808-79-8	mg/L					
<b>Microbiological Tests</b>							
coliforms, Escherichia coli [E. coli]	----	MPN/100mL		1 MPN/100mL			
coliforms, total	----	MPN/100mL		1 MPN/100mL			
<b>Total Metals</b>							
aluminum, total	7429-90-5	mg/L		2.9 mg/L			
antimony, total	7440-36-0	mg/L		0.006 mg/L			
arsenic, total	7440-38-2	mg/L		0.01 mg/L			
barium, total	7440-39-3	mg/L		2 mg/L			
boron, total	7440-42-8	mg/L		5 mg/L			
cadmium, total	7440-43-9	mg/L		0.007 mg/L			
calcium, total	7440-70-2	mg/L					
chromium, total	7440-47-3	mg/L		0.05 mg/L			
copper, total	7440-50-8	mg/L	1 mg/L	2 mg/L			
iron, total	7439-89-6	mg/L	0.3 mg/L				
lead, total	7439-92-1	mg/L		0.005 mg/L			
magnesium, total	7439-95-4	mg/L					
manganese, total	7439-96-5	mg/L	0.02 mg/L				
mercury, total	7439-97-6	mg/L		0.001 mg/L			
potassium, total	7440-09-7	mg/L					
selenium, total	7782-49-2	mg/L		0.01 mg/L			
sodium, total	7440-23-5	mg/L	200 mg/L				
uranium, total	7440-61-1	mg/L		0.02 mg/L			
zinc, total	7440-66-6	mg/L	5 mg/L	3 mg/L			





Analyte	CAS Number	Unit	BCDWQG AO	BCDWQG MAC	BCDWQG OG			
<b>Halocetic Acids</b>								
bromochloroacetic acid	5589-96-8	µg/L						
dibromoacetic acid	631-84-1	µg/L						
dichloroacetic acid	79-43-6	µg/L						
haloacetic acids, total [HAA5]	----	µg/L		80 µg/L				
monobromoacetic acid	79-08-3	µg/L						
monochloroacetic acid	79-11-8	µg/L						
trichloroacetic acid	76-03-9	µg/L						

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

Key:

BCDWQG

AO

MAC

OG

British Columbia Drinking Water Quality Guidelines (JAN, 2020)

Aesthetic Objective/Other Value

Maximum Acceptable Concentrations

Operational Guidance



## CERTIFICATE OF ANALYSIS

<b>Work Order</b>	<b>: VA22C8623</b>	<b>Page</b>	<b>: 1 of 4</b>
<b>Client</b>	<b>: Village of Harrison Hot Springs</b>	<b>Laboratory</b>	<b>: Vancouver - Environmental</b>
<b>Contact</b>	<b>: Tyler Simmonds</b>	<b>Account Manager</b>	<b>: Sneha Sansare</b>
<b>Address</b>	<b>: PO Box 160 495 Hot Springs Road Harrison Hot Springs BC Canada V0M 1K0</b>	<b>Address</b>	<b>: 8081 Lougheed Highway Burnaby BC Canada V5A 1W9</b>
<b>Telephone</b>	<b>: ----</b>	<b>Telephone</b>	<b>: +1 604 253 4188</b>
<b>Project</b>	<b>: WTP Nov 2022</b>	<b>Date Samples Received</b>	<b>: 24-Nov-2022 13:40</b>
<b>PO</b>	<b>: 19017</b>	<b>Date Analysis Commenced</b>	<b>: 24-Nov-2022</b>
<b>C-O-C number</b>	<b>: ----</b>	<b>Issue Date</b>	<b>: 02-Dec-2022 16:43</b>
<b>Sampler</b>	<b>: Tyler</b>		
<b>Site</b>	<b>:</b>		
<b>Quote number</b>	<b>: Quote for Harrison Hot Springs</b>		
<b>No. of samples received</b>	<b>: 3</b>		
<b>No. of samples analysed</b>	<b>: 3</b>		

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
Alex Thornton	Analyst	Metals, Burnaby, British Columbia
Caitlin Macey	Team Leader - Inorganics	Microbiology, Burnaby, British Columbia
Kevin Duarte	Supervisor - Metals ICP Instrumentation	Inorganics, Burnaby, British Columbia
Kevin Duarte	Supervisor - Metals ICP Instrumentation	Metals, Burnaby, British Columbia
Paul Cushing	Team Leader - 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
µg/L	micrograms per litre
µS/cm	microsiemens per centimetre
CU	colour units (1 cu = 1 mg/l pt)
mg/L	milligrams per litre
MPN/100mL	most probable number per hundred millilitres
NTU	nephelometric turbidity units
pH units	pH units

<: 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		Client sample ID					
(Matrix: Water)		Client sampling date / time					
Analyte	CAS Number	Method	LOR	Unit	RAW water	Treated water	Peace Park
					24-Nov-2022 08:00	24-Nov-2022 08:00	24-Nov-2022 08:00
					VA22C8623-001	VA22C8623-002	VA22C8623-003
					Result	Result	Result
Physical Tests							
alkalinity, total (as CaCO <sub>3</sub> )		E290	1.0	mg/L	15.4	15.7	15.9
colour, true		E329	5.0	CU	<5.0	<5.0	<5.0
conductivity		E100	2.0	µS/cm	44.8	48.9	49.5
pH		E108	0.10	pH units	7.42	7.45	7.45
solids, total dissolved [TDS]		E162	10	mg/L	50	41	44
turbidity		E121	0.10	NTU	0.42	<0.10	<0.10
hardness (as CaCO <sub>3</sub> ), from total Ca/Mg		EC100A	0.60	mg/L	18.7	18.1	18.5
Anions and Nutrients							
chloride	16887-00-6	E235.Cl	0.50	mg/L	0.56	1.73	1.75
fluoride	16984-48-8	E235.F	0.020	mg/L	0.020	<0.020	<0.020
nitrate (as N)	14797-55-8	E235.NO3-L	0.0050	mg/L	0.0415	0.0384	0.0360
nitrite (as N)	14797-65-0	E235.NO2-L	0.0010	mg/L	<0.0010	<0.0010	<0.0010
sulfate (as SO <sub>4</sub> )	14808-79-8	E235.SO4	0.30	mg/L	5.07	5.05	5.07
Microbiological Tests							
coliforms, total		E010	1	MPN/100mL	2	<1	<1
coliforms, Escherichia coli [E. coli]		E010	1	MPN/100mL	<1	<1	<1
Total Metals							
aluminum, total	7429-90-5	E420	0.0100	mg/L	0.0371	<0.0100	<0.0100
antimony, total	7440-36-0	E420	0.00050	mg/L	<0.00050	<0.00050	<0.00050
arsenic, total	7440-38-2	E420	0.00010	mg/L	0.00015	0.00016	0.00015
barium, total	7440-39-3	E420	0.0200	mg/L	<0.0200	<0.0200	<0.0200
boron, total	7440-42-8	E420	0.100	mg/L	<0.100	<0.100	<0.100
cadmium, total	7440-43-9	E420	0.000200	mg/L	<0.000200	<0.000200	<0.000200
calcium, total	7440-70-2	E420	0.100	mg/L	6.41	6.18	6.35
chromium, total	7440-47-3	E420	0.00200	mg/L	<0.00200	<0.00200	<0.00200
copper, total	7440-50-8	E420	0.00100	mg/L	<0.00100	<0.00100	0.00148
iron, total	7439-89-6	E420	0.030	mg/L	<0.030	<0.030	<0.030
lead, total	7439-92-1	E420	0.000500	mg/L	<0.000500	<0.000500	<0.000500
magnesium, total	7439-95-4	E420	0.100	mg/L	0.659	0.640	0.650



## Analytical Results

Sub-Matrix: Water				Client sample ID							
(Matrix: Water)											
Analyte	CAS Number	Method	LOR	Unit	RAW water	Treated water	Peace Park				
					24-Nov-2022 08:00	24-Nov-2022 08:00	24-Nov-2022 08:00				
					VA22C8623-001	VA22C8623-002	VA22C8623-003				
					Result	Result	Result				
<b>Total Metals</b>											
manganese, total	7439-96-5	E420	0.00200	mg/L	<0.00200	<0.00200	<0.00200				
mercury, total	7439-97-6	E508	0.0000050	mg/L	<0.0000050	<0.0000050	<0.0000050				
potassium, total	7440-09-7	E420	0.100	mg/L	0.611	0.573	0.598				
selenium, total	7782-49-2	E420	0.00100	mg/L	<0.00100	<0.00100	<0.00100				
sodium, total	7440-23-5	E420	2.00	mg/L	<2.00	2.08	2.19				
uranium, total	7440-61-1	E420	0.000100	mg/L	<0.000100	<0.000100	<0.000100				
zinc, total	7440-66-6	E420	0.0500	mg/L	<0.0500	<0.0500	<0.0500				
<b>Volatile Organic Compounds [THMs]</b>											
bromodichloromethane	75-27-4	E611B	1.0	µg/L		<1.0	<1.0				
bromoform	75-25-2	E611B	1.0	µg/L		<1.0	<1.0				
chloroform	67-66-3	E611B	1.0	µg/L		29.5	33.8				
dibromochloromethane	124-48-1	E611B	1.0	µg/L		<1.0	<1.0				
trihalomethanes [THMs], total		E611B	2.0	µg/L		29.5	33.8				
<b>Volatile Organic Compounds [THMs] Surrogates</b>											
bromofluorobenzene, 4-	460-00-4	E611B	1.0	%		100	98.0				
difluorobenzene, 1,4-	540-36-3	E611B	1.0	%		89.6	89.1				

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

February 1, 2022

Water System Operators

**Re: Metals in Drinking Water – “Flush” Message in Annual Reports**

---

Fraser Health has recently revised its metals at the tap “Flush” message and we are asking all water systems to please include the following health message with your next annual reports to your users.

***Anytime the water in a particular faucet has not been used for six hours or longer, “flush” your cold-water pipes by running the water until you notice a change in temperature. (This could take as little as five to thirty seconds if there has been recent heavy water use such as showering or toilet flushing. Otherwise, it could take two minutes or longer.) The more time water has been sitting in your home’s pipes, the more lead it may contain.***

***Use only water from the cold-tap for drinking, cooking, and especially making baby formula. Hot water is likely to contain higher levels of lead.***

***The two actions recommended above are very important to the health of your family. They will probably be effective in reducing lead levels because most of the lead in household water usually comes from the plumbing in your house, not from the local water supply.***

***Conserving water is still important. Rather than just running the water down the drain you could use the water for things such as watering your plants.***

If you have any questions, please contact our Drinking Water Program at 604-870-7903.

Sincerely,

Drinking Water Program  
Fraser Health Authority  
HPLand@fraserhealth.ca

# Village of Harrison Hot Springs

## Water Sample Schedule 2023

<b>Date</b>	<b>Site 1</b>	<b>Site 2</b>	<b>Site 3</b>	
January				
3	290 Esplanade	459 naismith	98 Rockwell Dr	
9	Beach Washrooms	526 Driftwood		
16	Public Works Office	973 Hotsprings Rd/Tap	98 Rockwell Dr	
23	Peace Park	Community Garden		
30	170 Cedar	442 Pine	98 Rockwell Dr	
February				
6	Boatlaunch Washrooms	843 Myng		
13	Echo (Spring Park)	Water Treatment Plant	98 Rockwell Dr	
20	290 Esplanade	459 naismith		
27	Beach Washrooms	526 Driftwood	98 Rockwell Dr	
March				
6	Public Works Office	973 Hotsprings Rd/Tap		
13	Peace Park	Community Garden	98 Rockwell Dr	
20	170 Cedar	442 Pine		
27	Boatlaunch Washrooms	843 Myng		
April				
3	Echo (Spring Park)	Water Treatment Plant	98 Rockwell Dr	
10	290 Esplanade	459 naismith		
17	Beach Washrooms	526 Driftwood	98 Rockwell Dr	
24	Public Works Office	973 Hotsprings Rd/Tap		
May				
1	Peace Park	Community Garden	98 Rockwell Dr	
8	170 Cedar	442 Pine		
15	Boatlaunch Washrooms	843 Myng	98 Rockwell Dr	
22	Echo (Spring Park)	Water Treatment Plant		
29	290 Esplanade	459 naismith	98 Rockwell Dr	
June				
5	Beach Washrooms	526 Driftwood		
12	Public Works Office	973 Hotsprings Rd/Tap	98 Rockwell Dr	
19	Peace Park	Community Garden		
26	170 Cedar	442 Pine		
July				
3	Boatlaunch Washrooms	843 Myng	98 Rockwell Dr	
10	Echo (Spring Park)	Water Treatment Plant		
17	290 Esplanade	459 naismith	98 Rockwell Dr	
24	Beach Washrooms	526 Driftwood		
31	Public Works Office	973 Hotsprings Rd/Tap	98 Rockwell Dr	
August				
7	Peace Park	Community Garden		
14	170 Cedar	442 Pine	98 Rockwell Dr	
21	Boatlaunch Washrooms	843 Myng		
28	Echo (Spring Park)	Water Treatment Plant		

# Village of Harrison Hot Springs

## Water Sample Schedule 2023

September				
4	290 Esplanade	459 naismith	98 Rockwell Dr	
11	Beach Washrooms	526 Driftwood		
18	Public Works Office	973 Hotsprings Rd/Tap	98 Rockwell Dr	
25	Peace Park	Community Garden		
October				
2	170 Cedar	442 Pine	98 Rockwell Dr	
9	Boatlaunch Washrooms	843 Myng		
16	Echo (Spring Park)	Water Treatment Plant	98 Rockwell Dr	
23	290 Esplanade	459 naismith		
30	Beach Washrooms	526 Driftwood	98 Rockwell Dr	
November				
6	Public Works Office	973 Hotsprings Rd/Tap		
13	Peace Park	Community Garden	98 Rockwell Dr	
20	170 Cedar	442 Pine		
27	Boatlaunch Washrooms	843 Myng		
December				
4	Echo (Spring Park)	Water Treatment Plant	98 Rockwell Dr	
11	290 Esplanade	459 naismith		
18	Beach Washrooms	526 Driftwood	98 rockwell Dr	
25	Public Works Office	973 Hotsprings Rd/Tap		