island health

DRINKING WATER SYSTEM ANNUAL REPORT

Reporting Period: January 1st to December 31st, 2025 (year)

Water System Cumberland Lake Park Well

Water System Owner Village of Cumberland

Primary Contact Name (Operator or Manager) Gavin Murgatroyd

Phone Number (Operator or Manager) 250-792-1593

E-mail (Operator or Manager) gmurgatroyd@cumberland.ca

DESCRIBE YOUR WATER SUPPLY SYSTEM

What is the Source(s) of Raw Water?

☒ Deep Well ☐ Shallow Well ☐ Surface Water ☐ Other

If other, specify details: McGill's Well Service confirmed depth to be 54.5' on 26March2024.

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 of your Operating Permit (Contact the DWO for a copy if needed):

Permit attached to this report.

Are you in compliance with your Operating Permit? ☒ Yes ☐ No

BACTERIOLOGICAL TESTING AND DRINKING WATER PROTECTION REGULATION WATER QUALITY STANDARDS

How many bacteriological samples were collected during this reporting period? 10

What is the minimum required sampling frequency for this system? (#samples/month) 1

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

Parameter:	***Standard:***	**Did this system meet standard?**	
Escherichia coli (for all samples)	No detectable *Escherichia coli* per 100ml	☒ Yes	☐ No
Total Coliform Bacteria *(if only 1 sample collected in a 30 day period)*	No detectable total coliform bacteria per 100ml	☒ Yes	☐ 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, **and** No sample has more than 10 total coliform bacteria per 100ml	☒ Yes	☐ 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.

Date	TC/100ml	E.coli/100ml	Reason	Corrective Action

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
If yes, attach a list of the chemical results Attached.		
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.		
Next scheduled full chemical test (date) 2026		

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	Extended water distribution system West to the sleeping barrels.
Purchase or install new equipment	
Equipment repair or replacement	
Annual maintenance of system	System start-up (super chlorinate reservoir and distribution/supply mains / System shut down (drain reservoir and mains) / Reservoir inspection
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
Water system study	2026

Click here to enter a date. May 12th, 2025 **DATE COMPLETED:**	Gavin Murgatroyd **COMPLETED BY:**

VANCOUVER ISLAND health authority

HEALTH PROTECTION

PERMIT

to OPERATE

A WATER SUPPLY SYSTEM

FILE COPY

Water System Name:	**CUMBERLAND LAKE PARK WELL**
Premises Number:	14312
Premises Address:	1100 Comox Lake Road Cumberland, BC V0R 1S0
Water System Owner:	Village of Cumberland

Village of Cumberland is hereby permitted to operate the above potable water supply system and is required to operate this system in accordance with the Drinking Water Protection Act and in accordance with the conditions set out in this operating permit and conditions established as part of any construction permit.

The water supply system for which this operating permit applies is generally described as:

Service Delivery Area:	Cumberland
Source Water:	Cumberland Lake Park Well
Water Treatment methods are:	None
Water Disinfection methods are:	Chlorine
Number of Connections	2-14 (DWS)

Operating conditions specific to this water supply system are in Appendix A.

Date: May 1, 2011

Issued By: _____
Environmental Health Officer

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

Place Decal Here

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APPENDIX A

WATER SYSTEM OPERATING CONDITIONS FOR

CUMBERLAND LAKE PARK WELL
1100 Comox Lake Road
Cumberland, BC, V0R 1S0

1. In order to meet Ground Water Quality objectives, continue conducting routine source water quality analysis to identify additional treatment/disinfection technology that may be required.

Date: 25 June 2019

Environmental Health Officer

Health Protection & Environmental Services
355 11th Street, Courtenay BC V9N 1S4
Tel: 250-331-8518 | Fax: 250-331-8596
Excellent health and care for everyone, everywhere, every time.

Date Collected	Drinking Water System	Site Name	Total Coliform	Total E. Coli
5/13/2025	Cumberland Lake Park Well	RAW Monthly May to Sep	9.6	LT1
6/9/2025	Cumberland Lake Park Well	RAW Monthly May to Sep	10.9	LT1
7/21/2025	Cumberland Lake Park Well	RAW Monthly May to Sep	2.0	LT1
8/19/2025	Cumberland Lake Park Well	RAW Monthly May to Sep	LT1	LT1
9/16/2025	Cumberland Lake Park Well	RAW Monthly May to Sep	LT1	LT1
5/13/2025	Cumberland Lake Park Well	SITE B Monthly May to Sep	LT1	LT1
6/10/2025	Cumberland Lake Park Well	SITE B Monthly May to Sep	LT1	LT1
7/21/2025	Cumberland Lake Park Well	SITE B Monthly May to Sep	LT1	LT1
8/19/2025	Cumberland Lake Park Well	SITE B Monthly May to Sep	LT1	LT1
9/16/2025	Cumberland Lake Park Well	SITE B Monthly May to Sep	LT1	LT1

Your P.O. #: 2023-01
Your Project #: ANNUAL DRINKING WATER
Site Location: LAKE PARK WELL
Your C.O.C. #: 1 OF 1

Attention: Public Works

VILLAGE OF CUMBERLAND
PO BOX 340
CUMBERLAND, BC
CANADA V0R 1S0

Report Date: 2025/07/30
Report #: R3691038
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C564589
Received: 2025/07/23, 13:30

Sample Matrix: Drinking Water
Samples Received: 1

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Alkalinity @25C (pp, total), CO3,HCO3,OH (1)	1	N/A	2025/07/25	BBY6SOP-00026	SM 24 2320 B m
Chloride/Sulphate by Auto Colourimetry (1)	1	N/A	2025/07/25	BBY6SOP-00011 / BBY6SOP-00017	SM24-4500-Cl/SO4-E m
Color (True) by Automated Analyzer (1)	1	N/A	2025/07/24	BBY6SOP-00057	SM 24 2120 C m
Coliforms & E.coli by Quantitray (MPN)	1	2025/07/23	2025/07/24	CTYSOP-00002	SM 23 9223
Conductivity @25C (1)	1	N/A	2025/07/25	BBY6SOP-00026	SM 24 2510 B m
Fluoride (1)	1	N/A	2025/07/27	BBY6SOP-00037	SM 24 4500-F C m
Hardness Total (calculated as CaCO3) (1, 2)	1	N/A	2025/07/30	BBY WI-00033	Auto Calc
Mercury (Total) by CV (1)	1	2025/07/28	2025/07/28	BBY7SOP-00032	BCMOE LM 2023 C1.1.3
Na, K, Ca, Mg, S by CRC ICPMS (total) (1)	1	N/A	2025/07/30	BBY WI-00033	Auto Calc
Elements by CRC ICPMS (total) (1)	1	N/A	2025/07/29	BBY7SOP-00003 / BBY7SOP-00002	EPA 6020b R2 m
Nitrate + Nitrite (N) (1)	1	N/A	2025/07/25	BBY6SOP-00010	SM 24 4500-NO3- H m
Nitrite (N) Regular Level Water (1)	1	N/A	2025/07/25	BBY6SOP-00010	SM 24 4500-NO2- m
Nitrogen - Nitrate (as N) (1)	1	N/A	2025/07/26	BBY WI-00033	Auto Calc
pH @25°C (1, 3)	1	N/A	2025/07/25	BBY6SOP-00026	SM 24 4500-H+ B m
Total Dissolved Solids (Filt. Residue) (1)	1	2025/07/28	2025/07/29	BBY6SOP-00033	SM 24 2540 C m
Turbidity (1)	1	N/A	2025/07/24	BBY6SOP-00027	SM 24 2130 B m

Remarks:

Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Bureau Veritas are based upon recognized Provincial, Federal or US method compendia such as CCME, EPA, APHA or the Quebec Ministry of Environment.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Bureau Veritas' profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Bureau Veritas in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Bureau Veritas has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Bureau Veritas, unless otherwise agreed in writing. Bureau Veritas is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Bureau Veritas Courtenay: 2755B Moray Avenue V9N 8M9, Phone: (250) 338-7786. Toll free: (800) 665-8566

Your P.O. #: 2023-01
Your Project #: ANNUAL DRINKING WATER
Site Location: LAKE PARK WELL
Your C.O.C. #: 1 OF 1

Attention: Public Works

VILLAGE OF CUMBERLAND
PO BOX 340
CUMBERLAND, BC
CANADA V0R 1S0

Report Date: 2025/07/30
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CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C564589
Received: 2025/07/23, 13:30

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.
This Certificate shall not be reproduced except in full, without the written approval of the laboratory.
Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.
(1) This test was performed by Bureau Veritas Vancouver, 4606 Canada Way , Burnaby, BC, V5G 1K5
(2) "Total Hardness" was calculated from Total Ca and Mg concentrations and may be biased high (Hardness, or Dissolved Hardness, calculated from Dissolved Ca and Mg, should be used for compliance if available).
(3) The CCME method requires pH to be analysed within 15 minutes of sampling and therefore field analysis is required for compliance. All Laboratory pH analyses in this report are reported past the CCME holding time. Bureau Veritas endeavours to analyze samples as soon as possible after receipt.

Encryption Key

AUTHORIZED REPORT
RAPPORT AUTORISÉ

Bureau Veritas
30 Jul 2025 11:47:46

Please direct all questions regarding this Certificate of Analysis to:
Aldean Alicando, Customer Solutions Representative
Email: Aldean.ALICANDO@bureauveritas.com
Phone# (604)734-7276 Ext:7062605

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Bureau Veritas Job #: C564589
Report Date: 2025/07/30

VILLAGE OF CUMBERLAND
Client Project #: ANNUAL DRINKING WATER
Site Location: LAKE PARK WELL
Your P.O. #: 2023-01

DRINKING WATER SCAN - COURTENAY (DRINKING WATER)

Bureau Veritas ID					DPN187	
Sampling Date					2025/07/23 11:30	
COC Number					1 OF 1	
	UNITS	MAC	AO	OG	LAKE PARK WELL	RDL
ANIONS						
Nitrite (N)	mg/L	1	-	-	<0.0050	0.0050
Calculated Parameters						
Total Hardness (CaCO3)	mg/L	-	-	-	22.2	0.50
Nitrate (N)	mg/L	10	-	-	0.473	0.020
Misc. Inorganics						
Conductivity	uS/cm	-	-	-	53	2.0
pH	pH	-	-	7.0:10.5	**6.93**	N/A
Total Dissolved Solids	mg/L	-	500	-	32	10
Anions						
Alkalinity (PP as CaCO3)	mg/L	-	-	-	<1.0	1.0
Alkalinity (Total as CaCO3)	mg/L	-	-	-	23	1.0
Bicarbonate (HCO3)	mg/L	-	-	-	28	1.0
Carbonate (CO3)	mg/L	-	-	-	<1.0	1.0
Dissolved Fluoride (F)	mg/L	1.5	-	-	<0.050	0.050
Hydroxide (OH)	mg/L	-	-	-	<1.0	1.0
Chloride (Cl)	mg/L	-	250	-	<1.0	1.0
Sulphate (SO4)	mg/L	-	500	-	<1.0	1.0
MISCELLANEOUS						
True Colour	Col. Unit	-	15	-	<2.0	2.0
Nutrients						
Nitrate plus Nitrite (N)	mg/L	-	-	-	0.473	0.020
Physical Properties						
Turbidity	NTU	see remark	see remark	see remark	0.24	0.10
Elements						
Total Mercury (Hg)	ug/L	1	-	-	<0.0019	0.0019
Total Metals by ICPMS						
Total Aluminum (Al)	ug/L	2900	-	100	<3.0	3.0
Total Antimony (Sb)	ug/L	6	-	-	<0.50	0.50
Total Arsenic (As)	ug/L	10	-	-	<0.10	0.10
Total Barium (Ba)	ug/L	2000	-	-	<1.0	1.0

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
N/A = Not Applicable

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Bureau Veritas Job #: C564589
Report Date: 2025/07/30

VILLAGE OF CUMBERLAND
Client Project #: ANNUAL DRINKING WATER
Site Location: LAKE PARK WELL
Your P.O. #: 2023-01

DRINKING WATER SCAN - COURTENAY (DRINKING WATER)

Bureau Veritas ID					DPN187	
Sampling Date					2025/07/23 11:30	
COC Number					1 OF 1	
	UNITS	MAC	AO	OG	LAKE PARK WELL	RDL
Total Beryllium (Be)	ug/L	-	-	-	<0.10	0.10
Total Bismuth (Bi)	ug/L	-	-	-	<1.0	1.0
Total Boron (B)	ug/L	5000	-	-	<50	50
Total Cadmium (Cd)	ug/L	7	-	-	<0.010	0.010
Total Chromium (Cr)	ug/L	50	-	-	<1.0	1.0
Total Cobalt (Co)	ug/L	-	-	-	<0.20	0.20
Total Copper (Cu)	ug/L	2000	1000	-	0.68	0.20
Total Iron (Fe)	ug/L	-	100	-	11.2	5.0
Total Lead (Pb)	ug/L	5	-	-	<0.20	0.20
Total Manganese (Mn)	ug/L	120	20	-	<1.0	1.0
Total Molybdenum (Mo)	ug/L	-	-	-	<1.0	1.0
Total Nickel (Ni)	ug/L	-	-	-	<1.0	1.0
Total Selenium (Se)	ug/L	50	-	-	<0.10	0.10
Total Silicon (Si)	ug/L	-	-	-	6010	100
Total Silver (Ag)	ug/L	-	-	-	<0.020	0.020
Total Strontium (Sr)	ug/L	7000	-	-	9.0	1.0
Total Thallium (Tl)	ug/L	-	-	-	<0.010	0.010
Total Tin (Sn)	ug/L	-	-	-	<5.0	5.0
Total Titanium (Ti)	ug/L	-	-	-	<5.0	5.0
Total Uranium (U)	ug/L	20	-	-	<0.10	0.10
Total Vanadium (V)	ug/L	-	-	-	<5.0	5.0
Total Zinc (Zn)	ug/L	-	5000	-	20.9	5.0
Total Zirconium (Zr)	ug/L	-	-	-	<0.10	0.10
Total Calcium (Ca)	mg/L	-	-	-	6.00	0.050
Total Magnesium (Mg)	mg/L	-	-	-	1.74	0.050
Total Potassium (K)	mg/L	-	-	-	0.067	0.050
Total Sodium (Na)	mg/L	-	200	-	1.24	0.050
Total Sulphur (S)	mg/L	-	-	-	<3.0	3.0
Microbiological Param.						
Total Coliforms (QT)	MPN/100mL	0	-	-	0	N/A
E. coli (QT)	MPN/100mL	0	-	-	0	N/A

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
N/A = Not Applicable

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Bureau Veritas Job #: C564589
Report Date: 2025/07/30

VILLAGE OF CUMBERLAND
Client Project #: ANNUAL DRINKING WATER
Site Location: LAKE PARK WELL
Your P.O. #: 2023-01

GENERAL COMMENTS

MAC,AO,OG: The guidelines that have been included in this report have been taken from the Canadian Drinking Water Quality Summary Table, August 2024.

Criteria A = Maximum Acceptable Concentration (MAC) / Criteria B = Aesthetic Objectives (AO) / Criteria C = Operational Guidance Values (OG)
It is recommended to consult these guidelines when interpreting your data since there are non-numerical guidelines that are not included on this report.

Turbidity Guidelines:
1. Chemically assisted filtration: less than or equal to 0.3 NTU in 95% of the measurements or 95% of the time each month. Shall not exceed 1.0 NTU at any time.
2. Slow sand / diatomaceous earth filtration: less than or equal to 1.0 NTU in 95% of the measurements or 95% of the time each month. Shall not exceed 3.0 NTU at any time.
3. Membrane filtration: less than or equal to 0.1 NTU in 99% of the measurements made or at least 99% of the time each calendar month. Shall not exceed 0.3 NTU at any time.
4. To ensure effectiveness of disinfection and for good operation of the distribution system, it is recommended that water entering the distribution system have turbidity levels of 1.0 NTU or less.
Measurement of Uncertainty has not been accounted for when stating conformity to the selected criteria, where applicable.

Results relate only to the items tested.

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Bureau Veritas Job #: C564589
Report Date: 2025/07/30

VILLAGE OF CUMBERLAND
Client Project #: ANNUAL DRINKING WATER
Site Location: LAKE PARK WELL
Your P.O. #: 2023-01

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:

Mauro Oselin, P.Chem., QP, Scientific Specialist

Bureau Veritas Certified by David Huang, M.Sc., P.Chem., QP, Scientific Services Manager

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