

DRINKING WATER SYSTEM ANNUAL REPORT

Reporting Period: January 1st to December 31st, (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 of your Operating Permit (Contact the DWO for a copy if needed):

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?

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

Parameter:	Standard:	Did this system meet standard?	
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, and 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.

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

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)

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

Click here to enter a date.

DATE COMPLETED:

COMPLETED BY:

Facility Sampling History

Buttle Lake Campground; Driftwood Bay Group Site and Service Yard

Location	Date	Total Coliform	E. Coli
Well #3, Well Plate #14048, Well #3, Well Plate #14048	30-Sep-2019	L1	L1
Driftwood Bay Well, Well Plate 14045, Driftwood Bay Well, Well Plate 14045	24-Sep-2019	L1	L1
Service Yard Well, Well Plate #14044, Service Yard Well, Well Plate #14044	24-Sep-2019	L1	L1
Well #1, Well Plate #14047, Well #1, Well Plate #14047	24-Sep-2019	L1	L1
Well #2, Well Plate #14041, Well #2, Well Plate #14041	24-Sep-2019	L1	L1
Driftwood Bay Well, Well Plate 14045, Driftwood Bay Well, Well Plate 14045	11-Sep-2019	L1	L1
Service Yard Well, Well Plate #14044, Service Yard Well, Well Plate #14044	11-Sep-2019	L1	L1
Well #1, Well Plate #14047, Well #1, Well Plate #14047	11-Sep-2019	L1	L1
Well #2, Well Plate #14041, Well #2, Well Plate #14041	11-Sep-2019	L1	L1
Driftwood Bay Well, Well Plate 14045, Driftwood Bay Well, Well Plate 14045	27-Aug-2019	L1	L1
Service Yard Well, Well Plate #14044, Service Yard Well, Well Plate #14044	27-Aug-2019	L1	L1
Well #1, Well Plate #14047, Well #1, Well Plate #14047	27-Aug-2019	L1	L1
Well #2, Well Plate #14041, Well #2, Well Plate #14041	27-Aug-2019	L1	L1
Driftwood Bay Well, Well Plate 14045, Driftwood Bay Well, Well Plate 14045	13-Aug-2019	L1	L1
Service Yard Well, Well Plate #14044, Service Yard Well, Well Plate #14044	13-Aug-2019	L1	L1
Well #1, Well Plate #14047, Well #1, Well Plate #14047	13-Aug-2019	L1	L1
Well #2, Well Plate #14041, Well #2, Well Plate #14041	13-Aug-2019	L1	L1
Well #1, Well Plate #14047, Well #1, Well Plate #14047	31-Jul-2019	L1	L1
Well #2, Well Plate #14041, Well #2, Well Plate #14041	31-Jul-2019	L1	L1
Driftwood Bay Well, Well Plate 14045, Driftwood Bay Well, Well Plate 14045	17-Jul-2019	L1	L1
Service Yard Well, Well Plate #14044, Service Yard Well, Well Plate #14044	17-Jul-2019	L1	L1
Well #1, Well Plate #14047, Well #1, Well Plate #14047	17-Jul-2019	35	0
Well #2, Well Plate #14041, Well #2, Well Plate #14041	17-Jul-2019	0	0
Driftwood Bay Well, Well Plate 14045, Driftwood Bay Well, Well Plate 14045	9-Jul-2019	L1	L1
Service Yard Well, Well Plate #14044, Service Yard Well, Well Plate #14044	9-Jul-2019	L1	L1
Well #1, Well Plate #14047, Well #1, Well Plate #14047	9-Jul-2019	L1	L1
Well #2, Well Plate #14041, Well #2, Well Plate #14041	9-Jul-2019	L1	L1
Well #3, Well Plate #14048, Well #3, Well Plate #14048	9-Jul-2019	L1	L1
Driftwood Bay Well, Well Plate 14045, Driftwood Bay Well, Well Plate 14045	3-Jul-2019	L1	L1
Service Yard Well, Well Plate #14044, Service Yard Well, Well Plate #14044	3-Jul-2019	L1	L1

Service Yard Well, Well Plate #14044, Service Yard Well, Well Plate #14044	3-Jul-2019	L1	L1
Well #1, Well Plate #14047, Well #1, Well Plate #14047	3-Jul-2019	L1	L1
Well #2, Well Plate #14041, Well #2, Well Plate #14041	3-Jul-2019	L1	L1
Well #3, Well Plate #14048, Well #3, Well Plate #14048	3-Jul-2019	L1	L1
Driftwood Bay Well, Well Plate 14045, Driftwood Bay Well, Well Plate 14045	18-Jun-2019	L1	L1
Service Yard Well, Well Plate #14044, Service Yard Well, Well Plate #14044	18-Jun-2019	L1	L1
Well #1, Well Plate #14047, Well #1, Well Plate #14047	18-Jun-2019	L1	L1
Well #2, Well Plate #14041, Well #2, Well Plate #14041	18-Jun-2019	L1	L1
Well #3, Well Plate #14048, Well #3, Well Plate #14048	18-Jun-2019	L1	L1
Driftwood Bay Well, Well Plate 14045, Driftwood Bay Well, Well Plate 14045	4-Jun-2019	L1	L1
Service Yard Well, Well Plate #14044, Service Yard Well, Well Plate #14044	4-Jun-2019	L1	L1
Well #1, Well Plate #14047, Well #1, Well Plate #14047	4-Jun-2019	L1	L1
Well #2, Well Plate #14041, Well #2, Well Plate #14041	4-Jun-2019	L1	L1
Well #3, Well Plate #14048, Well #3, Well Plate #14048	4-Jun-2019	L1	L1
Driftwood Bay Well, Well Plate 14045, Driftwood Bay Well, Well Plate 14045	27-May-2019	L1	L1
Service Yard Well, Well Plate #14044, Service Yard Well, Well Plate #14044	27-May-2019	L1	L1
Well #1, Well Plate #14047, Well #1, Well Plate #14047	27-May-2019	L1	L1
Well #3, Well Plate #14048, Well #3, Well Plate #14048	27-May-2019	L1	L1
Driftwood Bay Well, Well Plate 14045, Driftwood Bay Well, Well Plate 14045	7-May-2019	L1	L1
Service Yard Well, Well Plate #14044, Service Yard Well, Well Plate #14044	7-May-2019	L1	L1
Well #1, Well Plate #14047, Well #1, Well Plate #14047	7-May-2019	L1	L1
Well #3, Well Plate #14048, Well #3, Well Plate #14048	7-May-2019	L1	L1
Driftwood Bay Well, Well Plate 14045, Driftwood Bay Well, Well Plate 14045	30-Apr-2019	L1	L1
Service Yard Well, Well Plate #14044, Service Yard Well, Well Plate #14044	30-Apr-2019	L1	L1
Well #1, Well Plate #14047, Well #1, Well Plate #14047	30-Apr-2019	L1	L1
Well #3, Well Plate #14048, Well #3, Well Plate #14048	30-Apr-2019	L1	L1
Driftwood Bay Well, Well Plate 14045, Driftwood Bay Well, Well Plate 14045	10-Apr-2019	L1	L1
Service Yard Well, Well Plate #14044, Service Yard Well, Well Plate #14044	10-Apr-2019	L1	L1
Well #1, Well Plate #14047, Well #1, Well Plate #14047	10-Apr-2019	L1	L1
Well #3, Well Plate #14048, Well #3, Well Plate #14048	10-Apr-2019	L1	L1

Client/Code

43K Wilderness Solutions
Box 550
Port McNeill, BC
VON 2R0

Date 18Jul19 3:00p
Source Well
Type of Sample water
No. of Samples 7

No. W148625

TEL: 250-230-2087
ben@43k.ca

Comments Arrival temp.:
Pd Visa Batch 922

Sample: Strathcona Provincial Park - Well Heads

Site Code	Date	Time	CFU/100 ml		CFU/100 ml		CFU/100 ml
			TC	T-NC	FC	F-NC	E.coli
1 #1 Buttle Lake	14047	17Jul19 08:00a	35	5600	0	0	0
2 #2 Buttle Lake	14041	17Jul19 08:00a	0	800	0	0	0
4 #1 Ralph River	14046	17Jul19 09:30a	0	1800	0	0	0
5 #2 Ralph River	14042	17Jul19 09:45a	0	96	0	0	0
6 #3 Ralph River	14043	17Jul19 09:50a	0	40	0	0	0
7 #1 Driftwd Bay	14045	17Jul19 09:00a	0	3000	0	0	0
8 #1 Park HQ	14044	17Jul19 09:00a	0	2	0	0	0

WATER DISTRICT SCREEN

Sample	Date	Time	Lactose	Coliforms			Total	Sulfur Reducing/		TPC*
			Fermentors	Total	Fecal	E.coli	Aeromonas	Iron Bacteria	Yeast/Fungi	
1 #1 Buttle Lake	14047	17Jul19 08:00a	56.0	0.35	ND	ND	2.0	ND / ND	ND / ND	512
2 #2 Buttle Lake	14041	17Jul19 08:00a	8.00	ND	ND	ND	ND	ND / ND	ND / ND	976
4 #1 Ralph River	14046	17Jul19 09:30a	18.0	ND	ND	ND	ND	ND / ND	ND / ND	288
5 #2 Ralph River	14042	17Jul19 09:45a	0.96	ND	ND	ND	ND	ND / ND	ND / ND	80.0
6 #3 Ralph River	14043	17Jul19 09:50a	0.40	ND	ND	ND	ND	ND / ND	ND / ND	240
7 #1 Driftwd Bay	14045	17Jul19 09:00a	30.0	ND	ND	ND	ND	ND / ND	ND / ND	416
8 #1 Park HQ	14044	17Jul19 09:00a	ND	ND	ND	ND	ND	ND / ND	ND / ND	64.0

* all counts are colony forming units per milli-litre

TC = total coliform bacteria FC = fecal coliform bacteria (aka Thermotolerant Coliforms)

NC = non-coliform bacteria ND = none detected

TPC = total plate count- spread plate method - 35C/48hr TGEA FDA/BAM 8th ed, 1995 + Revision A, 1998, May 2009

CFU = colony forming units

Results may be adversely affected if samples are submitted to the laboratory more than 24 to 30 hours after collection.

E. coli = Escherichia coli, FDA/BAM 8th ed, 1995 + Revision A, 1998

Bergey's Manual of Systematic Bacteriology vol 1, AOAC 1984; J.Clin.Micro., J.Intern.Systm.Bact.

- see following page for chemistry results -

K. Paneque-Martinez
Microbiologist

W. Riggs
Sr. Microbiologist



Client/Code

43K Wilderness Solutions
Box 550
Port McNeill, BC
VON 2R0

Date 18Jul19 3:00p
Source Well
Type of Sample water
No. of Samples 7

No. W148625 pg2

TEL: 250-230-2087
ben@43k.ca

Comments Arrival temp.:
Pd Visa Batch 922

Sample: Strathcona Provincial Park - Well Heads - 1) #1 Buttle Lake 14047 17Jul19 08:00a

2) #2 Buttle Lake 14041 17Jul19 08:00a 3) #1 Ralph River 14046 17Jul19 09:30a 4) #2 Ralph River 14042 17Jul19 09:45a

ELEMENTS		1	2	3	4	UNITS	Max. for Aquatic Life		Maximum
		SAMPLE	SAMPLE	SAMPLE	SAMPLE		Freshwater	Marine	In Effluent **
1) Aluminium	Al	2.02	0.192	0.213	0.214	mg/L	n/a	1.50	4.00
2) Antimony	Sb	<0.500	<0.500	<0.500	<0.500	ug/L	n/a	200	5.00
3) Arsenic	As	<0.500	<0.500	<0.500	<0.500	ug/L	5.00	12.5	250
4) Barium	Ba	<0.009	<0.009	<0.009	<0.009	mg/L	n/a	1.00	1.00
5) Beryllium	Be	<0.003	<0.003	<0.003	<0.003	mg/L	0.010	1.50	no limit listed
6) Boron	B	0.678	0.588	0.665	0.723	mg/L	n/a	5.00	5.00
7) Cadmium	Cd	<0.010	<0.010	<0.010	<0.010	ug/L	1.05-2.11	0.12	10.0
8) Calcium	Ca	8.03	3.96	4.42	3.60	mg/L	n/a	n/a	no limit listed
9) Chromium	Cr	<0.010	<0.010	<0.010	<0.010	mg/L	0.100	0.050	0.030
10) Cobalt	Co	<0.020	<0.020	<0.020	<0.020	mg/L	1.32	n/a	0.500
11) Copper	Cu	0.019	<0.008	0.029	0.009	mg/L	0.030-0.127	0.050	0.500
12) Gold	Au	<0.040	<0.040	<0.040	<0.040	mg/L	n/a	n/a	no limit listed
13) Iron	Fe	2.92	0.421	0.035	0.079	mg/L	1.00	0.300	1.00
14) Lanthanum	La	<0.020	<0.020	<0.020	<0.020	mg/L	n/a	n/a	no limit listed
15) Lead	Pb	<0.500	<0.500	<0.500	<0.500	ug/L	30.0	50.0	100
16) Magnesium	Mg	2.05	0.710	0.420	0.330	mg/L	n/a	n/a	no limit listed
17) Manganese	Mn	0.051	0.048	<0.004	<0.004	mg/L	n/a	0.100	0.050
18) Mercury	Hg	<0.010	<0.010	<0.010	<0.010	ug/L	2.00	1.00	5.00
19) Molybdenum	Mo	<0.020	<0.020	<0.020	<0.020	mg/L	n/a	n/a	0.500
20) Nickel	Ni	<0.050	<0.050	<0.050	<0.050	mg/L	n/a	0.100	0.500
21) Phosphorus	P	0.063	<0.010	<0.010	<0.010	mg/L	n/a	0.050	1.50
22) Potassium	K	0.470	0.120	0.200	0.140	mg/L	n/a	n/a	no limit listed
23) Scandium	Sc	<0.050	<0.050	<0.050	<0.050	mg/L	n/a	n/a	no limit listed
24) Selenium	Se	<0.500	<0.500	<0.500	<0.500	ug/L	10.0	10.0	100
25) Silicon	Si	5.18	2.71	1.70	1.41	mg/L	n/a	n/a	no limit listed
26) Silver	Ag	<0.010	<0.010	<0.010	<0.010	mg/L	0.010	0.005	1.00
27) Sodium	Na	1.89	0.580	0.620	0.500	mg/L	n/a	n/a	no limit listed
28) Strontium	Sr	0.010	<0.002	<0.002	<0.002	mg/L	75.0	n/a	no limit listed
29) Tin	Sn	<0.020	<0.020	<0.020	<0.020	mg/L	n/a	n/a	no limit listed
30) Titanium	Ti	0.093	<0.010	<0.010	<0.010	mg/L	n/a	n/a	no limit listed
31) Tungsten	W	<0.050	<0.050	<0.050	<0.050	mg/L	n/a	n/a	no limit listed
32) Vanadium	V	<0.010	<0.010	<0.010	<0.010	mg/L	n/a	10.0	no limit listed
33) Zinc	Zn	0.065	0.038	0.048	0.017	mg/L	0.490-1.35	0.100	5.00
Hardness (mg/L CaCO3)		28.5	12.8	12.8	10.3	mg/L	0-75 mg/L = soft		
pH		6.28	6.32	6.35	6.93	units	6.5-9.0	6.5-9.0	5.5-11.0

As per Canadian or B.C. limits Ministry of Environment - Water Quality Criteria,
Report No. 80-9, 1980. Task Force of the Canadian Council of Resource & Envir. Min
- Guidelines for Can. Drinking Water Quality, 1996. Amend. Health Canada (2006)
As per Canadian Environmental Quality Guidelines Summary Table. Updated Dec 2003
Chapter 4, Water: Aquatic Life. EPA-822-R-02-07 & US EPA 822/R-85-100A WHO Env.134



R. Bilodeau
Analytical Chemist

H. Hartmann
Sr. Analytical Chemist

Client/Code

43K Wilderness Solutions
Box 550
Port McNeill, BC
VON 2R0

Date 18Jul19 3:00p
Source Well
Type of Sample water
No. of Samples 7

No. W148625 pg3

TEL: 250-230-2087
ben@43k.ca

Comments Arrival temp.:
Pd Visa Batch 922

Sample: Strathcona Provincial Park - Well Heads - 5) #3 Ralph River 14043 17Jul19 09:50a

6) #1 Driftwd Bay 14045 17Jul19 09:00a 7) #1 Park HQ 14044 17Jul19 09:00a

ELEMENTS		5	6	7	UNITS	Max. for Aquatic Life		Maximum
		SAMPLE	SAMPLE	SAMPLE		Freshwater	Marine	In Effluent **
1) Aluminium	Al	0.193	0.219	0.184	mg/L	n/a	1.50	4.00
2) Antimony	Sb	<0.500	<0.500	0.819	ug/L	n/a	200	5.00
3) Arsenic	As	<0.500	<0.500	<0.500	ug/L	5.00	12.5	250
4) Barium	Ba	<0.009	<0.009	<0.009	mg/L	n/a	1.00	1.00
5) Beryllium	Be	<0.003	<0.003	<0.003	mg/L	0.010	1.50	no limit listed
6) Boron	B	0.643	0.677	0.626	mg/L	n/a	5.00	5.00
7) Cadmium	Cd	<0.010	<0.010	<0.010	ug/L	1.05-2.11	0.12	10.0
8) Calcium	Ca	5.79	28.9	5.38	mg/L	n/a	n/a	no limit listed
9) Chromium	Cr	<0.010	<0.010	<0.010	mg/L	0.100	0.050	0.030
10) Cobalt	Co	<0.020	<0.020	<0.020	mg/L	1.32	n/a	0.500
11) Copper	Cu	0.023	0.013	0.190	mg/L	0.030-0.127	0.050	0.500
12) Gold	Au	<0.040	<0.040	<0.040	mg/L	n/a	n/a	no limit listed
13) Iron	Fe	0.282	0.753	0.096	mg/L	1.00	0.300	1.00
14) Lanthanum	La	<0.020	<0.020	<0.020	mg/L	n/a	n/a	no limit listed
15) Lead	Pb	0.743	0.792	3.04	ug/L	30.0	50.0	100
16) Magnesium	Mg	0.590	7.02	1.13	mg/L	n/a	n/a	no limit listed
17) Manganese	Mn	0.027	0.048	0.004	mg/L	n/a	0.100	0.050
18) Mercury	Hg	<0.010	<0.010	<0.010	ug/L	2.00	1.00	5.00
19) Molybdenum	Mo	<0.020	<0.020	<0.020	mg/L	n/a	n/a	0.500
20) Nickel	Ni	<0.050	<0.050	<0.050	mg/L	n/a	0.100	0.500
21) Phosphorus	P	<0.010	0.014	<0.010	mg/L	n/a	0.050	1.50
22) Potassium	K	0.160	0.350	0.160	mg/L	n/a	n/a	no limit listed
23) Scandium	Sc	<0.050	<0.050	<0.050	mg/L	n/a	n/a	no limit listed
24) Selenium	Se	<0.500	<0.500	<0.500	ug/L	10.0	10.0	100
25) Silicon	Si	2.05	5.28	3.68	mg/L	n/a	n/a	no limit listed
26) Silver	Ag	<0.010	<0.010	<0.010	mg/L	0.010	0.005	1.00
27) Sodium	Na	0.730	3.29	1.00	mg/L	n/a	n/a	no limit listed
28) Strontium	Sr	<0.002	0.030	0.010	mg/L	75.0	n/a	no limit listed
29) Tin	Sn	<0.020	<0.020	<0.020	mg/L	n/a	n/a	no limit listed
30) Titanium	Ti	<0.010	<0.010	<0.010	mg/L	n/a	n/a	no limit listed
31) Tungsten	W	<0.050	<0.050	<0.050	mg/L	n/a	n/a	no limit listed
32) Vanadium	V	<0.010	<0.010	<0.010	mg/L	n/a	10.0	no limit listed
33) Zinc	Zn	0.066	0.197	0.019	mg/L	0.490-1.35	0.100	5.00
Hardness (mg/L CaCO3)		16.9	101	18.1	mg/L	0-75 mg/L = soft		
pH		6.60	7.02	6.73	units	6.5-9.0	6.5-9.0	5.5-11.0

As per Canadian or B.C. limits Ministry of Environment - Water Quality Criteria,
Report No. 80-9, 1980. Task Force of the Canadian Council of Resource & Envir. Ministers
- Guidelines for Can. Drinking Water Quality, 1996. Ammend. Health Canada (2006)
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R. Bilodeau
Analytical Chemist

H. Hartmann
Sr. Analytical Chemist

Client/Code

43K Wilderness Solutions
Box 550
Port McNeill, BC
VON 2R0

Date 18Jul19 3:00p
Source Well
Type of Sample water
No. of Samples 7

No. W148625 pg4

TEL: 250-230-2087
ben@43k.ca

Comments Arrival temp.:
Pd Visa Batch 922

Sample: Strathcona Provincial Park - Well Heads

SAMPLE	DATE	TIME	Alkalinity (mg/L)	NH ₃ -N (ug/L)	Cl ⁻ (mg/L)	Colour (TCU)	E.C. (uS/cm)
1 #1 Buttle Lake 14047	17Jul19	08:00a	45.0	ND	1.23	0.490	61.3
2 #2 Buttle Lake 14041	17Jul19	08:00a	20.0	ND	0.680	0.870	36.6
3 #1 Ralph River 14046	17Jul19	09:30a	25.0	ND	0.280	0.680	32.8
4 #2 Ralph River 14042	17Jul19	09:45a	25.0	1.80	0.160	0.580	35.9
5 #3 Ralph River 14043	17Jul19	09:50a	25.0	ND	0.820	1.15	41.3
6 #1 Driftwd Bay 14045	17Jul19	09:00a	75.0	17.5	42.8	4.96	333
7 #1 Park HQ 14044	17Jul19	09:00a	30.0	ND	0.830	0.960	52.9
Lab Blank			ND	ND	ND	ND	ND
S _o			0.100	0.254	0.015	0.300	0.300
REF. VALUE			200	20.0	1.00	5.00	147
STD ± 2SD			199 ± 11.9	20.0 ± 1.45	0.988 ± 0.089	4.99 ± 0.362	147 ± 7.66

SAMPLE	DATE	TIME	CORROSIVITY (Is @20C)	F ⁻ (mg/L)	S ²⁻ (ug/L)	TKN (mg/L)	NO ₃ -N (ug/L)
1 #1 Buttle Lake 14047	17Jul19	08:00a	-2.55	ND	ND	ND	8.90
2 #2 Buttle Lake 14041	17Jul19	08:00a	-3.17	ND	ND	ND	20.8
3 #1 Ralph River 14046	17Jul19	09:30a	-2.99	ND	ND	ND	16.8
4 #2 Ralph River 14042	17Jul19	09:45a	-2.50	ND	ND	0.002	20.9
5 #3 Ralph River 14043	17Jul19	09:50a	-2.63	ND	ND	ND	28.5
6 #1 Driftwd Bay 14045	17Jul19	09:00a	-1.03	ND	ND	0.018	97.8
7 #1 Park HQ 14044	17Jul19	09:00a	-2.45	ND	ND	ND	31.1
Lab Blank				ND	ND	ND	ND
S _o				0.007 ug/L	0.007	0.012	0.160
REF. VALUE				1.00	50.0	0.100	20.0
STD ± 2SD				0.992 ± 0.090	49.0 ± 4.33	0.100 ± 0.007	19.9 ± 1.48

...cont/



Client/Code

43K Wilderness Solutions
Box 550
Port McNeill, BC
VON 2R0

Date 18Jul19 3:00p
Source Well
Type of Sample water
No. of Samples 7

No. W148625 pg5

TEL: 250-230-2087
ben@43k.ca

Comments Arrival temp.:
Pd Visa Batch 922

Sample: Strathcona Provincial Park - Well Heads

SAMPLE	DATE	TIME	NO ₂ -N (ug/L)	SO ₄ ²⁻ (mg/L)	T.O.C. (mg/L)	T&L (mg/L)	TDS (mg/L)
1 #1 Buttle Lake 14047	17Jul19	08:00a	9.80	3.19	3.35	ND	35.6
2 #2 Buttle Lake 14041	17Jul19	08:00a	3.60	1.10	0.860	ND	21.2
3 #1 Ralph River 14046	17Jul19	09:30a	5.00	1.23	1.34	ND	19.0
4 #2 Ralph River 14042	17Jul19	09:45a	22.1	1.06	0.500	ND	20.8
5 #3 Ralph River 14043	17Jul19	09:50a	11.9	1.33	ND	ND	24.0
6 #1 Driftwd Bay 14045	17Jul19	09:00a	3.60	1.20	0.500	0.440	193
7 #1 Park HQ 14044	17Jul19	09:00a	ND	1.13	ND	ND	30.7
Lab Blank			ND	ND	ND	ND	ND
S ₀			0.300	0.075	0.300	0.070	0.700
REF. VALUE			10.0	10.0	10.0	1.00	200
STD ± 2SD			9.94 ± 0.686	10.4 ± 1.01	9.99 ± 0.714	0.999 ± 0.063	206 ± 19.0

SAMPLE	DATE	TIME	Turbidity (NTU)	UVt (%)
1 #1 Buttle Lake 14047	17Jul19	08:00a	1.25	98.6
2 #2 Buttle Lake 14041	17Jul19	08:00a	5.19	96.1
3 #1 Ralph River 14046	17Jul19	09:30a	0.810	99.3
4 #2 Ralph River 14042	17Jul19	09:45a	1.02	98.2
5 #3 Ralph River 14043	17Jul19	09:50a	4.29	97.3
6 #1 Driftwd Bay 14045	17Jul19	09:00a	27.7	89.3
7 #1 Park HQ 14044	17Jul19	09:00a	0.980	98.4
Lab Blank			ND	ND
S ₀			0.015	0.003
REF. VALUE			0.500	90.0
STD ± 2SD			0.505 ± 0.043	90.1 ± 0.02

SD = standard deviation

STD = secondary standard calibrated to primary standard reference material

S₀ = standard deviation at zero analyte concentration; method detection limit
is generally considered to be 3x S₀ value

ND = none detected n/a = not applicable

R. Bilodeau
Analytical Chemist

H. Hartmann
Sr. Analytical Chemist

