



CERTIFICATE OF ANALYSIS

REPORTED TO Campbell Scientific Canada Corp.
1030 Sugar Lake Rd
Cherryville, BC V0E 2G2

ATTENTION Claude Labine

PO NUMBER

PROJECT Cherryville Water Stewart

PROJECT INFO

WORK ORDER 20K1589

RECEIVED / TEMP 2020-11-16 09:05 / 5°C

REPORTED 2020-11-18 16:16

COC NUMBER B93717

Introduction:

CARO Analytical Services is a testing laboratory full of smart, engaged scientists driven to make the world a safer and healthier place. Through our clients' projects we become an essential element for a better world. We employ methods conducted in accordance with recognized professional standards using accepted testing methodologies and quality control efforts. CARO is accredited by the Canadian Association for Laboratories Accreditation (CALA) to ISO/IEC 17025:2017 for specific tests listed in the scope of accreditation approved by CALA.

Big Picture Sidekicks



You know that the sample you collected after snowshoeing to site, digging 5 meters, and racing to get it on a plane so you can submit it to the lab for time sensitive results needed to make important and expensive decisions (whew) is VERY important. We know that too.

We've Got Chemistry



It's simple. We figure the more you enjoy working with our fun and engaged team members; the more likely you are to give us continued opportunities to support you.

Ahead of the Curve



Through research, regulation knowledge, and instrumentation, we are your analytical centre for the technical knowledge you need, BEFORE you need it, so you can stay up to date and in the know.

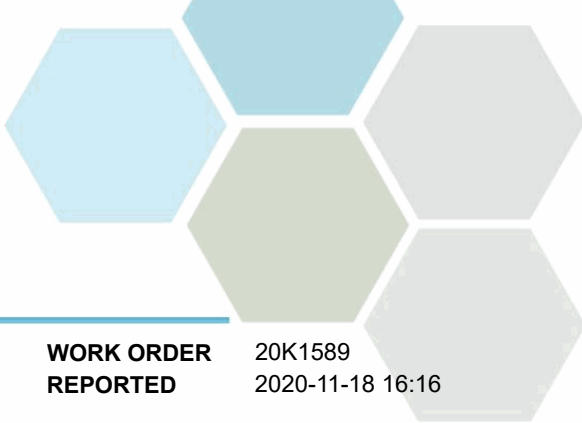
If you have any questions or concerns, please contact me at teamcaro@caro.ca

Authorized By:

Team CARO
Client Service Representative

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TEST RESULTS

REPORTED TO PROJECT Campbell Scientific Canada Corp.
Cherryville Water Stewart

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Analyte	Result	Guideline	RL	Units	Analyzed	Qualifier
Shuswap River @ Sihlis Rd (20K1589-01) Matrix: Water Sampled: 2020-11-15 13:07						PRES

Anions

Chloride	< 0.10	AO ≤ 250	0.10	mg/L	2020-11-16	
Nitrate (as N)	0.032	MAC = 10	0.010	mg/L	2020-11-16	
Nitrite (as N)	< 0.010	MAC = 1	0.010	mg/L	2020-11-16	

Calculated Parameters

Nitrate+Nitrite (as N)	0.0318	N/A	0.0100	mg/L	N/A	
Nitrogen, Total	0.0968	N/A	0.0500	mg/L	N/A	

General Parameters

Alkalinity, Total (as CaCO3)	32.6	N/A	1.0	mg/L	2020-11-18	
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	N/A	1.0	mg/L	2020-11-18	
Alkalinity, Bicarbonate (as CaCO3)	32.6	N/A	1.0	mg/L	2020-11-18	
Alkalinity, Carbonate (as CaCO3)	< 1.0	N/A	1.0	mg/L	2020-11-18	
Alkalinity, Hydroxide (as CaCO3)	< 1.0	N/A	1.0	mg/L	2020-11-18	
Ammonia, Total (as N)	< 0.050	None Required	0.050	mg/L	2020-11-18	
Conductivity (EC)	67.2	N/A	2.0	µS/cm	2020-11-18	
Nitrogen, Total Kjeldahl	0.065	N/A	0.050	mg/L	2020-11-18	
pH	7.42	7.0-10.5	0.10	pH units	2020-11-18	HT2

Microbiological Parameters

Coliforms, Total	62	N/A	1	MPN/100 mL	2020-11-16	
Coliforms, Fecal	< 1	N/A	1	MPN/100 mL	2020-11-16	
E. coli	< 1	N/A	1	MPN/100 mL	2020-11-16	

Reiter Creek @ Shuswap River (20K1589-02) | Matrix: Water | Sampled: 2020-11-15 13:07

PRES

Anions

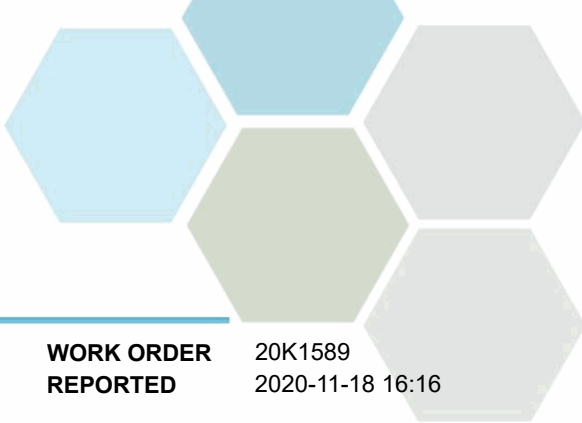
Chloride	0.17	AO ≤ 250	0.10	mg/L	2020-11-16	
Nitrate (as N)	< 0.010	MAC = 10	0.010	mg/L	2020-11-16	
Nitrite (as N)	< 0.010	MAC = 1	0.010	mg/L	2020-11-16	

Calculated Parameters

Nitrate+Nitrite (as N)	< 0.0100	N/A	0.0100	mg/L	N/A	
Nitrogen, Total	< 0.0500	N/A	0.0500	mg/L	N/A	

General Parameters

Alkalinity, Total (as CaCO3)	90.2	N/A	1.0	mg/L	2020-11-18	
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	N/A	1.0	mg/L	2020-11-18	
Alkalinity, Bicarbonate (as CaCO3)	90.2	N/A	1.0	mg/L	2020-11-18	
Alkalinity, Carbonate (as CaCO3)	< 1.0	N/A	1.0	mg/L	2020-11-18	
Alkalinity, Hydroxide (as CaCO3)	< 1.0	N/A	1.0	mg/L	2020-11-18	
Ammonia, Total (as N)	< 0.050	None Required	0.050	mg/L	2020-11-18	
Conductivity (EC)	183	N/A	2.0	µS/cm	2020-11-18	
Nitrogen, Total Kjeldahl	< 0.050	N/A	0.050	mg/L	2020-11-18	



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Analyte	Result	Guideline	RL	Units	Analyzed	Qualifier
Reiter Creek @ Shuswap River (20K1589-02) Matrix: Water Sampled: 2020-11-15 13:07, Continued						PRES

General Parameters, Continued

pH	7.91	7.0-10.5	0.10	pH units	2020-11-18	HT2
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Microbiological Parameters

Coliforms, Total	50	N/A	1	MPN/100 mL	2020-11-16	
Coliforms, Fecal	1	N/A	1	MPN/100 mL	2020-11-16	
E. coli	1	N/A	1	MPN/100 mL	2020-11-16	

Cherry Creek @ Sugar Lake Road (20K1589-03) Matrix: Water Sampled: 2020-11-15 13:07						PRES
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Anions

Chloride	1.21	AO ≤ 250	0.10	mg/L	2020-11-16	
Nitrate (as N)	0.013	MAC = 10	0.010	mg/L	2020-11-16	
Nitrite (as N)	< 0.010	MAC = 1	0.010	mg/L	2020-11-16	

Calculated Parameters

Nitrate+Nitrite (as N)	0.0132	N/A	0.0100	mg/L	N/A	
Nitrogen, Total	< 0.0500	N/A	0.0500	mg/L	N/A	

General Parameters

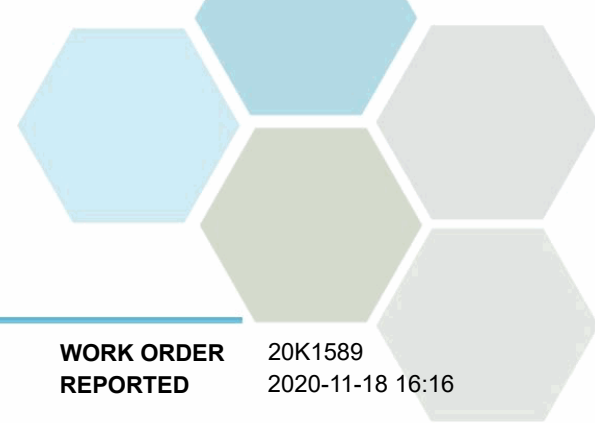
Alkalinity, Total (as CaCO3)	103	N/A	1.0	mg/L	2020-11-18	
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	N/A	1.0	mg/L	2020-11-18	
Alkalinity, Bicarbonate (as CaCO3)	103	N/A	1.0	mg/L	2020-11-18	
Alkalinity, Carbonate (as CaCO3)	< 1.0	N/A	1.0	mg/L	2020-11-18	
Alkalinity, Hydroxide (as CaCO3)	< 1.0	N/A	1.0	mg/L	2020-11-18	
Ammonia, Total (as N)	< 0.050	None Required	0.050	mg/L	2020-11-18	
Conductivity (EC)	218	N/A	2.0	µS/cm	2020-11-18	
Nitrogen, Total Kjeldahl	< 0.050	N/A	0.050	mg/L	2020-11-18	
pH	8.06	7.0-10.5	0.10	pH units	2020-11-18	HT2

Microbiological Parameters

Coliforms, Total	29	N/A	1	MPN/100 mL	2020-11-16	
Coliforms, Fecal	2	N/A	1	MPN/100 mL	2020-11-16	
E. coli	2	N/A	1	MPN/100 mL	2020-11-16	

Sample Qualifiers:

HT2 The 15 minute recommended holding time (from sampling to analysis) has been exceeded - field analysis is recommended.
PRES Sample has been preserved for NH3, TKN in the laboratory and the holding time has been extended.



APPENDIX 1: SUPPORTING INFORMATION

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Analysis Description	Method Ref.	Technique	Accredited	Location
Alkalinity in Water	SM 2320 B* (2017)	Titration with H2SO4	✓	Kelowna
Ammonia, Total in Water	SM 4500-NH3 G* (2017)	Automated Colorimetry (Phenate)	✓	Kelowna
Anions in Water	SM 4110 B (2017)	Ion Chromatography	✓	Kelowna
Coliforms, Fecal in Water	NA / SM 9223 (2017)	Quanti-Tray / Enzyme Substrate Endo Agar	✓	Kelowna
Coliforms, Total in Water	NA / SM 9223 (2017)	Quanti-Tray / Enzyme Substrate Endo Agar	✓	Kelowna
Conductivity in Water	SM 2510 B (2017)	Conductivity Meter	✓	Kelowna
E. coli in Water	NA / SM 9223 (2017)	Quanti-Tray / Enzyme Substrate Endo Agar	✓	Kelowna
Nitrogen, Total Kjeldahl in Water	SM 4500-Norg D* (2017)	Block Digestion and Flow Injection Analysis	✓	Kelowna
pH in Water	SM 4500-H+ B (2017)	Electrometry	✓	Kelowna

Note: An asterisk in the Method Reference indicates that the CARO method has been modified from the reference method

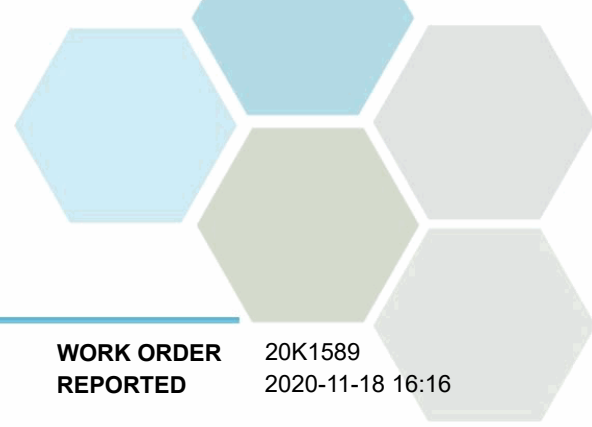
Glossary of Terms:

RL	Reporting Limit (default)
<	Less than the specified Reporting Limit (RL) - the actual RL may be higher than the default RL due to various factors
AO	Aesthetic Objective
MAC	Maximum Acceptable Concentration (health based)
mg/L	Milligrams per litre
MPN/100 mL	Most Probable Number per 100 millilitres
pH units	pH < 7 = acidic, pH > 7 = basic
µS/cm	Microsiemens per centimetre
SM	Standard Methods for the Examination of Water and Wastewater, American Public Health Association

Guidelines Referenced in this Report:

[Guidelines for Canadian Drinking Water Quality \(Health Canada, June 2019\)](#)

Note: In some cases, the values displayed on the report represent the lowest guideline and are to be verified by the end user



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General Comments:

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Results in **Bold** indicate values that are above CARO's method reporting limits. Any results that are above regulatory limits are highlighted **red**. Please note that results will only be highlighted red if the regulatory limits are included on the CARO report. Any Bold and/or highlighted results do not take into account method uncertainty. If you would like method uncertainty or regulatory limits to be included on your report, please contact your Account Manager: teamcaro@caro.ca

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