# CERTIFICATE OF ANALYSIS

| | | | |
|---|---|---|---|
| **REPORTED TO** | Campbell Scientific Canada Corp.<br>1030 Sugar Lake Rd<br>Cherryville, BC V0E 2G2 | | |
| **ATTENTION** | Claude Labine | **WORK ORDER** | 9091134 |
| **PO NUMBER** | | **RECEIVED / TEMP** | 2019-09-12 15:02 / 11°C |
| **PROJECT** | Cherryville Water Stewart | **REPORTED** | 2019-09-19 09:41 |
| **PROJECT INFO** | | **COC NUMBER** | B82545 |

**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 17025:2005 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

CARO ANALYTICAL SERVICES

# TEST RESULTS

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| **REPORTED TO** | Campbell Scientific Canada Corp. | **WORK ORDER** | 9091134 |
| **PROJECT** | Cherryville Water Stewart | **REPORTED** | 2019-09-19 09:41 |

| Analyte | Result | Guideline | RL | Units | Analyzed | Qualifier |
|---|---|---|---|---|---|---|
| **Shuswap River 1 Above Sugar Lake (9091134-01) \| Matrix: Water \| Sampled: 2019-09-11 15:45** | | | | | | |
| ***Microbiological Parameters*** | | | | | | |
| Coliforms, Total | 250 | MAC = 0 | 1 | CFU/100 mL | 2019-09-12 | |
| Background Colonies | > 200 | N/A | 200 | CFU/100 mL | 2019-09-12 | |
| Coliforms, Fecal | 14 | N/A | 1 | CFU/100 mL | 2019-09-12 | |
| Heterotrophic Plate Count | 86 | N/A | 5 | CFU/mL | 2019-09-12 | |
| E. coli | 12 | MAC = 0 | 1 | CFU/100 mL | 2019-09-12 | |
| **Shuswap River 2 Blade Sugar Lake (9091134-02) \| Matrix: Water \| Sampled: 2019-09-11 16:22** | | | | | | |
| ***Microbiological Parameters*** | | | | | | |
| Coliforms, Total | 19 | MAC = 0 | 1 | CFU/100 mL | 2019-09-12 | |
| Background Colonies | > 200 | N/A | 200 | CFU/100 mL | 2019-09-12 | |
| Coliforms, Fecal | 1 | N/A | 1 | CFU/100 mL | 2019-09-12 | |
| Heterotrophic Plate Count | 59 | N/A | 5 | CFU/mL | 2019-09-12 | |
| E. coli | 1 | MAC = 0 | 1 | CFU/100 mL | 2019-09-12 | |
| **Shuswap River Sihlis Road (9091134-03) \| Matrix: Water \| Sampled: 2019-09-12 11:19** | | | | | | |
| ***Microbiological Parameters*** | | | | | | |
| Coliforms, Total | 300 | MAC = 0 | 1 | CFU/100 mL | 2019-09-13 | |
| Background Colonies | > 200 | N/A | 200 | CFU/100 mL | 2019-09-13 | |
| Coliforms, Fecal | 1 | N/A | 1 | CFU/100 mL | 2019-09-13 | |
| Heterotrophic Plate Count | 100 | N/A | 5 | CFU/mL | 2019-09-13 | |
| E. coli | 1 | MAC = 0 | 1 | CFU/100 mL | 2019-09-13 | |
| **Reactor Creek @ Shuswap River (9091134-04) \| Matrix: Water \| Sampled: 2019-09-12 11:18** | | | | | | |
| ***Microbiological Parameters*** | | | | | | |
| Coliforms, Total | 260 | MAC = 0 | 1 | CFU/100 mL | 2019-09-13 | |
| Background Colonies | > 200 | N/A | 200 | CFU/100 mL | 2019-09-13 | |
| Coliforms, Fecal | 5 | N/A | 1 | CFU/100 mL | 2019-09-13 | |
| Heterotrophic Plate Count | 61 | N/A | 5 | CFU/mL | 2019-09-13 | |
| E. coli | 5 | MAC = 0 | 1 | CFU/100 mL | 2019-09-13 | |
| **Cherry Creek @ Sugar Lake Road (9091134-05) \| Matrix: Water \| Sampled: 2019-09-12 11:36** | | | | | | |
| ***Microbiological Parameters*** | | | | | | |
| Coliforms, Total | 210 | MAC = 0 | 1 | CFU/100 mL | 2019-09-13 | |
| Background Colonies | > 200 | N/A | 200 | CFU/100 mL | 2019-09-13 | |
| Coliforms, Fecal | 13 | N/A | 1 | CFU/100 mL | 2019-09-13 | |
| Heterotrophic Plate Count | 100 | N/A | 5 | CFU/mL | 2019-09-13 | |
| E. coli | 12 | MAC = 0 | 1 | CFU/100 mL | 2019-09-13 | |

# TEST RESULTS

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| Analyte | Result | Guideline | RL | Units | Analyzed | Qualifier |
|---|---|---|---|---|---|---|
| **Ferry Creek @ Shuswap River (9091134-06) \| Matrix: Water \| Sampled: 2019-09-12 11:45** | | | | | | |
| ***Microbiological Parameters*** | | | | | | |
| Coliforms, Total | 230 | MAC = 0 | 1 | CFU/100 mL | 2019-09-13 | |
| Background Colonies | > 200 | N/A | 200 | CFU/100 mL | 2019-09-13 | |
| Coliforms, Fecal | 2 | N/A | 1 | CFU/100 mL | 2019-09-13 | |
| Heterotrophic Plate Count | 140 | N/A | 5 | CFU/mL | 2019-09-13 | |
| E. coli | 2 | MAC = 0 | 1 | CFU/100 mL | 2019-09-13 | |
| **Shuswap River Post Ferry Creek (9091134-07) \| Matrix: Water \| Sampled: 2019-09-12 11:50** | | | | | | |
| ***Microbiological Parameters*** | | | | | | |
| Coliforms, Total | 68 | MAC = 0 | 1 | CFU/100 mL | 2019-09-13 | |
| Background Colonies | > 200 | N/A | 200 | CFU/100 mL | 2019-09-13 | |
| Coliforms, Fecal | 3 | N/A | 1 | CFU/100 mL | 2019-09-13 | |
| Heterotrophic Plate Count | 130 | N/A | 5 | CFU/mL | 2019-09-13 | |
| E. coli | 3 | MAC = 0 | 1 | CFU/100 mL | 2019-09-13 | |
| **Shuswap River BC Hydro Picnic (9091134-08) \| Matrix: Water \| Sampled: 2019-09-12 12:00** | | | | | | |
| ***Microbiological Parameters*** | | | | | | |
| Coliforms, Total | 280 | MAC = 0 | 1 | CFU/100 mL | 2019-09-13 | |
| Background Colonies | > 200 | N/A | 200 | CFU/100 mL | 2019-09-13 | |
| Coliforms, Fecal | 5 | N/A | 1 | CFU/100 mL | 2019-09-13 | |
| Heterotrophic Plate Count | 160 | N/A | 5 | CFU/mL | 2019-09-13 | |
| E. coli | 4 | MAC = 0 | 1 | CFU/100 mL | 2019-09-13 | |

# APPENDIX 1: SUPPORTING INFORMATION

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| **REPORTED TO** | Campbell Scientific Canada Corp. | **WORK ORDER** | 9091134 |
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| Analysis Description | Method Ref. | Technique | Location |
|---|---|---|---|
| Coliforms, Fecal in Water | SM 9222 D (2017) | Membrane Filtration / m-FC Agar | Kelowna |
| Coliforms, Total in Water | SM 9222 B (2017) | Membrane Filtration / m-Endo Agar | Kelowna |
| E. coli in Water | SM 9222 G (2017) | Membrane Filtration / Nutrient Agar with MUG | Kelowna |
| Heterotrophic Plate Count in Water | SM 9215 D (2017) | Membrane Filtration / Membrane Filtration | Kelowna |

**Glossary of Terms:**

| | |
|---|---|
| RL | Reporting Limit (default) |
| > | Greater than the specified Result |
| CFU/100 mL | Colony Forming Units per 100 millilitres |
| CFU/mL | Colony Forming Units per millilitre |
| MAC | Maximum Acceptable Concentration (health based) |
| 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, Feb 2017)

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

**General Comments:**

The results in this report apply to the samples analyzed in accordance with the Chain of Custody document. This analytical report must be reproduced in its entirety. CARO is not responsible for any loss or damage resulting directly or indirectly from error or omission in the conduct of testing. Liability is limited to the cost of analysis. Samples will be disposed of 30 days after the test report has been issued unless otherwise agreed to in writing. The quality control (QC) data is available upon request

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