# CERTIFICATE OF ANALYSIS

| | | | |
|---|---|---|---|
| **REPORTED TO** | Campbell Scientific Canada Corp.<br>1030 Sugar Lake Rd<br>Cherryville, BC V0E 2G2 | | |
| **ATTENTION** | Claude Labine. | **WORK ORDER** | 25H2416 |
| **PO NUMBER** | | **RECEIVED / TEMP** | 2025-08-18 13:11 / 7.1°C |
| **PROJECT** | Cherryville Waterways | **REPORTED** | 2025-09-02 16:38 |
| **PROJECT INFO** | | **COC NUMBER** | 40837.5581 |

**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.

*By engaging our services, you are agreeing to CARO Analytical Service's Standard Terms and Conditions outlined here: https://www.caro.ca/terms-conditions*

*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** | 25H2416 |
| **PROJECT** | Cherryville Waterways | **REPORTED** | 2025-09-02 16:38 |

| Analyte | Result | RL | Units | Analyzed | Qualifier |
|---|---|---|---|---|---|
| **Sugar Lake at Bridge (25H2416-01) \| Matrix: water \| Sampled: 2025-08-17 14:22** | | | | | FILT, PRES |
| ***Anions*** | | | | | |
| Nitrate (as N) | < 0.010 | 0.010 | mg/L | 2025-08-20 | |
| Nitrite (as N) | < 0.010 | 0.010 | mg/L | 2025-08-20 | |
| Sulfate | **3.2** | 1.0 | mg/L | 2025-08-20 | |
| ***Calculated Parameters*** | | | | | |
| Nitrate+Nitrite (as N) | < 0.0100 | 0.0100 | mg/L | N/A | |
| Nitrogen, Total | **0.151** | 0.0500 | mg/L | N/A | |
| ***General Parameters*** | | | | | |
| Ammonia, Total (as N) | < 0.050 | 0.050 | mg/L | 2025-08-22 | |
| Conductivity (EC) | **59.2** | 2.0 | µS/cm | 2025-08-21 | |
| Nitrogen, Total Kjeldahl | **0.151** | 0.050 | mg/L | 2025-08-23 | |
| pH | **7.77** | 0.10 | pH units | 2025-08-21 | HT2 |
| Phosphorus, Total (as P) | **0.0106** | 0.0050 | mg/L | 2025-08-21 | |
| Phosphorus, Total Dissolved | < 0.0050 | 0.0050 | mg/L | 2025-08-21 | |
| Solids, Total Dissolved | **22** | 15 | mg/L | 2025-08-22 | |
| Turbidity | **0.61** | 0.10 | NTU | 2025-08-19 | |
| ***Microbiological Parameters*** | | | | | |
| Coliforms, Total (Q-Tray) | **1410** | 1 | MPN/100 mL | 2025-08-18 | |
| E. coli (Q-Tray) | **5** | 1 | MPN/100 mL | 2025-08-18 | |
| ***Pharmaceuticals and Personal Care Products*** | | | | | |
| Acetaminophen | < 0.050 | 0.050 | µg/L | 2025-09-02 | HT1 |
| Caffeine | < 0.050 | 0.050 | µg/L | 2025-09-02 | HT1 |
| Carbamazepine | < 0.050 | 0.050 | µg/L | 2025-09-02 | HT1 |
| Fluoxetine | < 0.050 | 0.050 | µg/L | 2025-09-02 | HT1 |
| Primidone | < 0.050 | 0.050 | µg/L | 2025-09-02 | HT1 |
| Sildenafil | < 0.050 | 0.050 | µg/L | 2025-09-02 | HT1 |
| Sulfamethoxazole | < 0.050 | 0.050 | µg/L | 2025-09-02 | HT1 |
| Trimethoprim | < 0.050 | 0.050 | µg/L | 2025-09-02 | HT1 |
| **Shuswap River Sihlis Road (25H2416-02) \| Matrix: water \| Sampled: 2025-08-17 13:59** | | | | | FILT, PRES |
| ***Anions*** | | | | | |
| Nitrate (as N) | < 0.010 | 0.010 | mg/L | 2025-08-20 | |
| Nitrite (as N) | < 0.010 | 0.010 | mg/L | 2025-08-20 | |
| Sulfate | **3.6** | 1.0 | mg/L | 2025-08-20 | |
| ***Calculated Parameters*** | | | | | |
| Nitrate+Nitrite (as N) | < 0.0100 | 0.0100 | mg/L | N/A | |
| Nitrogen, Total | < 0.0500 | 0.0500 | mg/L | N/A | |
| ***General Parameters*** | | | | | |

# TEST RESULTS

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| Analyte | Result | RL | Units | Analyzed | Qualifier |
|---|---|---|---|---|---|
| **Shuswap River Sihlis Road (25H2416-02) \| Matrix: water \| Sampled: 2025-08-17 13:59, Continued** | | | | | FILT, PRES |
| ***General Parameters, Continued*** | | | | | |
| Ammonia, Total (as N) | < 0.050 | 0.050 | mg/L | 2025-08-22 | |
| Conductivity (EC) | **68.1** | 2.0 | µS/cm | 2025-08-21 | |
| Nitrogen, Total Kjeldahl | < 0.050 | 0.050 | mg/L | 2025-08-23 | |
| pH | **7.63** | 0.10 | pH units | 2025-08-21 | HT2 |
| Phosphorus, Total (as P) | **0.0095** | 0.0050 | mg/L | 2025-08-21 | |
| Phosphorus, Total Dissolved | **0.0122** | 0.0050 | mg/L | 2025-08-21 | |
| Solids, Total Dissolved | **37** | 15 | mg/L | 2025-08-22 | |
| Turbidity | **0.43** | 0.10 | NTU | 2025-08-19 | |
| ***Microbiological Parameters*** | | | | | |
| Coliforms, Total (Q-Tray) | **3150** | 1 | MPN/100 mL | 2025-08-18 | |
| E. coli (Q-Tray) | **5** | 1 | MPN/100 mL | 2025-08-18 | |
| ***Pharmaceuticals and Personal Care Products*** | | | | | |
| Acetaminophen | < 0.050 | 0.050 | µg/L | 2025-09-02 | HT1 |
| Caffeine | < 0.050 | 0.050 | µg/L | 2025-09-02 | HT1 |
| Carbamazepine | < 0.050 | 0.050 | µg/L | 2025-09-02 | HT1 |
| Fluoxetine | < 0.050 | 0.050 | µg/L | 2025-09-02 | HT1 |
| Primidone | < 0.050 | 0.050 | µg/L | 2025-09-02 | HT1 |
| Sildenafil | < 0.050 | 0.050 | µg/L | 2025-09-02 | HT1 |
| Sulfamethoxazole | < 0.050 | 0.050 | µg/L | 2025-09-02 | HT1 |
| Trimethoprim | < 0.050 | 0.050 | µg/L | 2025-09-02 | HT1 |
| **Reiter Creek @ Shuswap River (25H2416-03) \| Matrix: water \| Sampled: 2025-08-17 13:57** | | | | | FILT, PRES |
| ***Anions*** | | | | | |
| Nitrate (as N) | < 0.010 | 0.010 | mg/L | 2025-08-20 | |
| Nitrite (as N) | < 0.010 | 0.010 | mg/L | 2025-08-20 | |
| Sulfate | **8.0** | 1.0 | mg/L | 2025-08-20 | |
| ***Calculated Parameters*** | | | | | |
| Nitrate+Nitrite (as N) | < 0.0100 | 0.0100 | mg/L | N/A | |
| Nitrogen, Total | < 0.0500 | 0.0500 | mg/L | N/A | |
| ***General Parameters*** | | | | | |
| Ammonia, Total (as N) | < 0.050 | 0.050 | mg/L | 2025-08-22 | |
| Conductivity (EC) | **233** | 2.0 | µS/cm | 2025-08-21 | |
| Nitrogen, Total Kjeldahl | < 0.050 | 0.050 | mg/L | 2025-08-23 | |
| pH | **8.08** | 0.10 | pH units | 2025-08-21 | HT2 |
| Phosphorus, Total (as P) | **0.0091** | 0.0050 | mg/L | 2025-08-21 | |
| Phosphorus, Total Dissolved | **0.0094** | 0.0050 | mg/L | 2025-08-21 | |
| Solids, Total Dissolved | **130** | 15 | mg/L | 2025-08-20 | |
| Turbidity | **0.57** | 0.10 | NTU | 2025-08-19 | |

# TEST RESULTS

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| Analyte | Result | RL | Units | Analyzed | Qualifier |
|---|---|---|---|---|---|
| **Reiter Creek @ Shuswap River (25H2416-03) \| Matrix: water \| Sampled: 2025-08-17 13:57, Continued** | | | | | FILT, PRES |
| ***Microbiological Parameters*** | | | | | |
| Coliforms, Total (Q-Tray) | **517** | 1 | MPN/100 mL | 2025-08-18 | |
| E. coli (Q-Tray) | **10** | 1 | MPN/100 mL | 2025-08-18 | |
| **Culvert, Km 1, Sugar Lake Rd (25H2416-04) \| Matrix: water \| Sampled: 2025-08-17 15:12** | | | | | FILT, PRES |
| ***Anions*** | | | | | |
| Nitrate (as N) | **8.29** | 0.010 | mg/L | 2025-08-20 | |
| Nitrite (as N) | < 0.010 | 0.010 | mg/L | 2025-08-20 | |
| Sulfate | **33.6** | 1.0 | mg/L | 2025-08-20 | |
| ***Calculated Parameters*** | | | | | |
| Nitrate+Nitrite (as N) | **8.29** | 0.0100 | mg/L | N/A | |
| Nitrogen, Total | **8.73** | 0.0500 | mg/L | N/A | |
| ***General Parameters*** | | | | | |
| Ammonia, Total (as N) | < 0.050 | 0.050 | mg/L | 2025-08-22 | |
| Conductivity (EC) | **693** | 2.0 | µS/cm | 2025-08-21 | |
| Nitrogen, Total Kjeldahl | **0.446** | 0.050 | mg/L | 2025-08-23 | |
| pH | **8.18** | 0.10 | pH units | 2025-08-21 | HT2 |
| Phosphorus, Total (as P) | **0.0425** | 0.0050 | mg/L | 2025-08-21 | |
| Phosphorus, Total Dissolved | **0.0352** | 0.0050 | mg/L | 2025-08-21 | |
| Solids, Total Dissolved | **404** | 15 | mg/L | 2025-08-22 | |
| Turbidity | **2.55** | 0.10 | NTU | 2025-08-19 | |
| ***Microbiological Parameters*** | | | | | |
| Coliforms, Total (Q-Tray) | **199000** | 1 | MPN/100 mL | 2025-08-18 | |
| E. coli (Q-Tray) | **29** | 1 | MPN/100 mL | 2025-08-18 | |

**Sample Qualifiers:**

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|---|---|
| FILT | The sample has been filtered for DissP in the laboratory. Results may not reflect conditions at the time of sampling. |
| HT1 | The sample was prepared and/or analyzed past the recommended holding time. |
| HT2 | The 15 minute recommended holding time (from sampling to analysis) has been exceeded - field analysis is recommended. |
| PRES | Sample has been preserved for TKN, TP, NH3, and DissP in the laboratory and the holding time has been extended. |

# APPENDIX 1: SUPPORTING INFORMATION

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| **REPORTED TO** | Campbell Scientific Canada Corp. | **WORK ORDER** | 25H2416 |
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| Analysis Description | Method Ref. | Technique | Accredited | Location |
|---|---|---|---|---|
| Ammonia, Total in Water | SM 4500-NH3 G* (2021) | Automated Colorimetry (Phenate) | ✓ | Kelowna |
| Anions in Water | SM 4110 B (2020) | Ion Chromatography | ✓ | Kelowna |
| Coliforms, Total in Water | SM 9223 (2016) | Quanti-Tray / Enzyme Substrate Endo Agar | ✓ | Kelowna |
| Conductivity in Water | SM 2510 B (2021) | Conductivity Meter | ✓ | Kelowna |
| E. coli in Water | SM 9223 (2016) | Quanti-Tray / Enzyme Substrate Endo Agar | ✓ | Kelowna |
| Nitrogen, Total Kjeldahl in Water | SM 4500-Norg D* (2021) | Block Digestion and Flow Injection Analysis | ✓ | Kelowna |
| pH in Water | SM 4500-H+ B (2021) | Electrometry | ✓ | Kelowna |
| Pharmaceuticals and Personal Care Products in Water | EPA 1694 | LC-MS/MS | | Richmond |
| Phosphorus, Total Dissolved in Water | SM 4500-P B.5* (2011) / SM 4500-P F (2021) | Persulfate Digestion / Automated Colorimetry (Ascorbic Acid) | ✓ | Kelowna |
| Phosphorus, Total in Water | SM 4500-P B.5* (2011) / SM 4500-P F (2021) | Persulfate Digestion / Automated Colorimetry (Ascorbic Acid) | ✓ | Kelowna |
| Solids, Total Dissolved in Water | Solids in Water, Filtered / SM 2540 C* (2020) | Solids in Water, Filtered / Gravimetry (Dried at 103-105C) | ✓ | Kelowna |
| Turbidity in Water | SM 2130 B (2020) | Nephelometry | ✓ | Kelowna |

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

**Glossary of Terms:**

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|---|---|
| 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 |
| mg/L | Milligrams per litre |
| MPN/100 mL | Most Probable Number per 100 millilitres |
| NTU | Nephelometric Turbidity Units |
| pH units | pH < 7 = acidic, ph > 7 = basic |
| µg/L | Micrograms per litre |
| µS/cm | Microsiemens per centimetre |
| EPA | United States Environmental Protection Agency Test Methods |
| SM | Standard Methods for the Examination of Water and Wastewater, American Public Health Association |

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**General Comments:**

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Results in **Bold** indicate values that are above CARO's method reporting limits. Results in **red** indicate values above the regulatory limits where these have been included. 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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