



JOINT BIOSOLIDS ADVISORY COMMITTEE

WEDNESDAY, OCTOBER 25, 2023 AT 10:00 A.M.

REGIONAL COMPOSITNG FACILITY - 551 COMMONAGE ROAD

A G E N D A

1) **ORDER**

2) **LAND ACKNOWLEDGEMENT**

As Chair of the Joint Biosolids Advisory Committee, and in the spirit of this gathering, I recognize the Cities of Vernon and Kelowna are located in the traditional territory of the Syilx people of the Okanagan nation.

3) **ADOPTION OF AGENDA**

4) **ADOPTION OF MINUTES**

February 16, 2023 Regular (attached)

5) **BUSINESS ARISING FROM THE MINUTES**

6) **UNFINISHED BUSINESS**

- a) 2023 Update
- b) Regulatory Update
- c) Kelowna & Vernon Biosolids Update

7) **NEW BUSINESS**

- a) Regional Biosolids Facility Joint Operating Agreement Renewal
- b) Strategic Plan and Long-term Planning
- c) Marketing Strategies
- d) Fire Safety and Emergency Contingency Plan

8) **DATE OF NEXT MEETING:**

The next meeting is tentatively scheduled for April 2024; location, time and date to be determined.

9) **ADJOURNMENT**



MINUTES OF THE JOINT BIOSOLIDS ADVISORY COMMITTEE

HELD THURSDAY, FEBURARY 16, 2023

PRESENT: **VOTING**

Kelowna Councillor Loyal Woodridge
Kelowna Councillor Mohini Singh
Kelowna Councillor Gord Lovegrove
Vernon Councillor Brian Guy
Vernon Mayor Victor Cumming

ABSENT:

STAFF: Kevin Van Vliet, Utility Services Manager, Kelowna
Scott Hoekstra, Landfill and Compost Manager, Kelowna
Jose Garcia, Biosolids Supervisor, Kelowna
Chris Ovens, General Manager, Public Works, Vernon
Serge Kozin, Manager, Water Reclamation Centre, Vernon
Jade Adams-Longworth, Secretary I – Corporate Services, Vernon

ORDER The Committee Clerk called the meeting to order at 10:06 a.m.

**LAND
ACKNOWLEDGEMENT** *As the Committee Clerk of the Joint Biosolids Advisory Committee, and in the spirit of this gathering, I recognize the Cities of Vernon and Kelowna are located in the traditional territory of the Syilx people of the Okanagan nation.*

**INTRODUCTION OF
NEW MEMBERS** The Committee welcomed Councillor Mohini Singh, Councillor Gord Lovegrove, and Councillor Brian Guy to the Joint Biosolids Advisory Committee.

**ELECTION OF CHAIR
AND VICE-CHAIR** Nominations for the position of Chair and Vice-Chair were called for three times.

Councillor Brian Guy was nominated for the position of Committee Chair for 2023-2026.

Moved by Mayor Cumming, seconded by Councillor Singh:

THAT Councillor Guy be elected as Committee Chair for 2023-2026.

CARRIED.

Councillor Gord Lovegrove was nominated for the position of Committee Vice-Chair for 2023-2026.

Moved by Councillor Woolridge, seconded by Mayor Cumming:

THAT Councillor Lovegrove be elected as Committee Vice Chair for 2023-2026.

CARRIED.

ADOPTION OF AGENDA

Moved by Councillor Woolridge, seconded by Councillor Singh:

THAT the agenda for the Joint Biosolids Advisory Committee meeting of Thursday, February 16, 2023 be adopted.

CARRIED.

ADOPTION OF MINUTES

Moved by Councillor Woolridge, seconded by Mayor Cumming:

THAT the minutes for the Joint Biosolids Advisory Committee meeting of Tuesday, May 3, 2022 be adopted.

CARRIED.

UNFINISHED BUSINESS:

REGIONAL BIOSOLIDS BACKGROUND

Jose Garcia, Biosolids Supervisor and Kevin Van Vliet, Manager Utility Services, Kelowna provided background knowledge of the Regional Biosolids Facility and the following points were noted:

- The Facility has been operational since 2006
- Compost biosolids come from Kelowna, Vernon, Lake Country and Silver Star WWTP
- City of Kelowna, and City of Vernon jointly own the Facility and it is funded dually by both parties based on the amount of incoming material produced by each City
 - The amount of incoming material has been steady since 2014, and the breakdown is roughly 2/3 Kelowna, 1/3 Vernon
 - When Capital costs arise, they are shared dually as a budget item
- The Facility was upgraded in 2010

- Building relationships, increasing communication and trust with the neighbouring property owners has been a significant factor in the decreased number of complaints in the last five years
 - Having a dedicated Facility Supervisor and Senior Technologist has had a significant role in this
- Regulatory Changes triggered a permit to be acquired in 2017
 - Clarification was given on why the permit was required – the regulatory amount which a facility would need a permit to process a certain amount of product had changed, triggering the facility to acquire the permit.
 - Previously, the Facility was operating below the amount that required a permit.
- Regulatory changes imposed by the 2017 Air Discharge Permit included, but were not limited to:
 - Odour management plan update
 - Odour monitoring
 - Air emissions study
 - Secondary odour treatment
 - Leachate management plan
 - Design and Operations Plan
 - Submission of annual reports
- Biosolids are mixed with other feedstocks (i.e. hog fuel, ground branches, ash), this is key for air circulation
- Extended aerated static pile system
- Produces a Class A Compost, 'Ogogrow'

2022 SUMMARY

Jose Garcia, Biosolids Supervisor provided a summary of 2022 and the following points were noted:

Ogogrow 2022

- Processed 31, 200 wet tonnes of biosolids
- 3% reduction in biosolids received from the previous year (2021 – 32,121 m³; 2022 – 31,203 m³)
 - Kelowna had a reduction of -2%
 - Vernon had a reduction of -3%
 - Lake Country had a reduction of -10%
 - Silver Star had an increase of 126%
- 46,357m³ of Ogogrow sold
- \$329,320 in sales revenue
- Clarification was given on why the revenue was down, but the amount of product sold was up.
 - Bulk sales were responsible to help clear the overstocked product, and make the stockpile more manageable
 - Clearing of half the inventory is required by Permit
 - Max permitted capacity limit for the Regional Biosolids Facility is 36, 400 wet tonnes

- Operation issues have been experienced when levels were high (~ 33,000+ WMT) due to space limitations
- The City of Kelowna has updated their bylaws to allow for Odogrow to be sold outside of the original market for a negotiated price

2022 Financials – Operating

- Payroll: \$873,254
 - Budget: \$1,030,333
 - Under budget, struggled to fill vacancies
 - 5 Operators, 1 Coordinator, 1 Environmental Technician and 2 Open Vacancies filled late 2022
- Expenses: \$1,466,620
 - Budget: \$1,632,000

2022 Financials – Capital

Multi Year/Carried Over Projects

\$571,300 spent on 5 Capital Projects

1. Exterior tipping bay
 - Had to be reinforced, including the foundation in the ground
 2. Pond security fence
 3. Water line and curb-stop repairs
 4. Ongoing paving maintenance (2,700m²)
 - Ongoing permit requirement to maintain impervious surface
 5. Mix building envelope renewal
 - External bay mentioned before will allow the facility to not shut down while the internal bays require maintenance
 - Bucket mixing is not ideal, but if necessary the facility will be proactive, and give the neighbouring property owners appropriate notice and the timeline.
- Clarification was given on how capital costs were funded jointly by both municipalities, and how each of the municipalities treat it as a one-time budget expense.
 - When large budgetary items need to be purchased, the proactive approach has been to disperse large purchases every couple of years to prevent overwhelming costs in a short time period.
 - The Committee questioned whether or not the Facility should move towards an expense fund, have a regularized budget for future equipment needs, or have a capital reserve dedicated to the Regional Facility.

REGIONAL BIOSOLIDS FACILITY JOINT OPERATION AGREEMENT (NOT ON THE AGENDA)

The Committee discussed the Regional Biosolids Facility Joint Operation Agreement.

Moved by Councillor Lovegrove, seconded by Mayor Cumming:

THAT the Joint Biosolids Advisory Committee recommends to respective Councils of the City of Vernon and City of Kelowna, that staff be directed to jointly bring forward a Draft Extension for the operation of the Regional Biosolids Composting Facility, for the Committee's review.

CARRIED.

REGULATORY UPDATE

Jose Garcia, Biosolids Supervisor provided a Regulatory Update and the following points were noted:

Leachate Management

- High-strength leachate hauled to Vernon Water Reclamation Centre (1,640m³)
 - Piloting leachate re-use in mix
- Low-strength leachate (run-off) sent to Vernon's MacKay Reservoir (105,000m³)

Odour Management

- Envirosuite odour monitoring system
 - Odour intensity values come from the 'Enose' – it measures volatile organic compounds' and comes out with an approximate intensity with the inputted parameters.
- Updating Odour Management Plan (OMP)
 - The historical management plan and the current management plan use different terminology
 - The OMP and reporting limits need to be aligned with new odour monitoring system outputs (in progress)
- Misting system for odour control installed in late 2020
 - Operated from May to October
 - Odour mitigation efforts have decreased the number of odour reports (complaints) over the years:
 - In 2014, there was 1 complaint for every 211 WMT processed
 - In 2022, there was 1 complaint for every 15,600 WMT processed
- Continued focus on best practices, regular inspections, and asset service, maintenance and renewal
- Odour reports and complaints are down and composted material numbers are up

Ministry of Environment – Compliance Inspection Letter

- BC Ministry of Environment (ENV) performed a compliance inspection on October 13, 2022
 - Compliance Inspections are given at random, this was the first in five years.
 - When the Ministry does a compliance audit they tend to always find areas for improvement
- ENV produced an Advisory Letter December 2, 2022, which contained numerous interpretation errors on how the facility operates
- Staff scheduled a follow up call for January 5, 2023
 - Clarification was provided that the City and the Ministry do not have routine contact, due to the Ministries pre-existing processes.
- Advisory Letter was published online in mid-December
- Media requested comments and published an article on January 3, 2023
- Held pre-scheduled call with ENV on January 5, 2023
 - Led to immediate removal of December 2nd Advisory letter from the Ministry's online data-base
- Staff submitted formal written response with supporting documentation to ENV on January 12, 2023
- Revised Advisory Letter from ENV on January 26, 2023
 - 1 out of approximately 150 compost piles over the review period had lower nutrient content than required
 - A typical compost pile is 800 cubic yards
 - 1 pile approximately represents 0.6% of all material produced in the last 2 years
 - Material was mixed with many other piles in sales block as part of routine process
 - Requested more detailed analysis for annual summary on odour reports
 - Requested more detail in Odour Management Plan
- Advisory letter was at a Category A - Level 1, with **no risks to human health or the environment.**
- Additional feedback was given to the Ministry on their processes.

Organic Matter Recycling Regulation (OMRR)

- OMRR updates in progress, but not yet published
- Solid Waste Association of North America Regulatory Committee provided comments on proposed updates
- Staff participating in ENV Technical Working Group for biosolids and compost looking at PFAS

**KELOWNA AND
VERNON BIOSOLIDS
UPDATE**

Updates were provided on both Vernon and Kelowna's biosolids. The following points were noted:

City of Vernon – Update

- High-Rate Anaerobic Digester is semi-operational, and receiving via the installed line.
- Estimated 20-25% reduction in biosolids produced.
- Clarification was given that it is currently a stand-alone line for the brewery, but there is potential to add more customers.
- Confirmation was given that through the Vernon Reclamation process, effluent water is discharged into MacKay Reservoir and used for a Spray Irrigation Program
 - Vernon is currently in the situation where the demand is less than the supply – when the reservoir is full then a discharge into the lake is necessary
 - Irrigation water currently utilized for hay fields, cattle, golf courses and Regional Compost Facility.

City of Kelowna – Update

- Diverting approx. 2,800 wet tonnes annually to Ingerbelle Compost Facility near Princeton
 - Started to divert in October 2021, due to potential wildfire cutting off access to the facility
- The new organics program will be diverted and not mixed in with the biosolids, based on the feedback reviewed.
- Digester to be considered at a later date
- Working on bylaw amendment to revise compost price list
- Soil production pilot project with Kelowna Parks Department
 - Trying to find a sustainable way to use up the surplus of product
 - Ogogrow is provided free for both the City of Kelowna and City of Vernon's parks
- Clarification was given on whether or not Kelowna has looked into starting a Spray Irrigation Program and having a water Reservoir as means for water security
 - Kelowna currently has a pilot program for the lawns around their Water Reclamation Plant

Lake Country – Update

- Considering sending all their biosolids to alternate facility, starting some time in 2023
- Clarification was given that Lake Country is not represented on the Committee because they are not financially invested in the Regional Compost Facility, they are customers.

Regional Compost Facility – Long Term Goals

- The goal is to get biosolid inputs down to a sustainable rate that doesn't exceed market demand, and ensures we have sufficient "buffering" capacity to accommodate population growth.
 - Excess inputs lead to operational strain and surplus product leads to downstream impacts (storage costs & space).
- Continue to promote product and explore new markets
 - The Province has been pushing the Mining Industry to limit environmental impacts, creating another alternative market for organic materials
 - Three mines have expressed interest in taking organic materials
 - Beneficial to divert some of the Biosolids this way and to continue to operate the facility below capacity
- Decide on the optimal operational capacity for the Regional Compositing Facility to keep it at a sustainable level.

NEW BUSINESS:**INFORMATION ITEMS:****NEXT MEETING**

The next meeting is to be scheduled for 10:00 am October 11, 2023.

ADJOURNMENT

The meeting of the Biosolids Advisory Committee adjourned at 11:38 a.m.

CERTIFIED CORRECT:

Chair

**REGIONAL BIOSOLIDS COMPOSTING FACILITY
JOINT OPERATING AGREEMENT**

THIS AGREEMENT dated for reference November 1, 2011

BETWEEN:

CITY OF KELOWNA

City Hall
1435 Water Street
Kelowna, BC V1Y1J4
("Kelowna")

AND:

CITY OF VERNON

City Hall
3400 - 30th Street
Vernon, BC V1T5E6
("Vernon")

WHEREAS:

A. Kelowna and Vernon are both local governments pursuant to the *Local Government Act, R.S.B.C. 1996 c 323* (the "*Local Government Act*");

B. Both Kelowna and Vernon (referred to hereafter collectively as the "Municipalities" or individually as a "Municipality") are responsible for wastewater treatment and management within their respective corporate boundaries as well as limited areas outside of their corporate boundaries;

C. The parties have cooperated to establish a regional biosolids composting facility (hereinafter called the "Facility") which will serve the long term needs of both Municipalities in dealing with biosolids from their respective wastewater treatment facilities; the Vernon Water Reclamation Centre ("VWRC") and the Kelowna Wastewater Treatment Plant ("KWWTP");

D. The Facility is generally described as an aerated static pile biosolids composting facility designed to produce a Class A biosolids compost suitable for unrestricted distribution;

E. The Facility, as constructed, has processing capacity until and including the 2018 year for dewatered biosolids production from the KWWTP and VWRC;

F. The Facility has been designed to accommodate projected dewatered biosolids production in the 10 year horizon from the KWWTP and VWRC and incremental expansion of the aeration capacity at the Facility will be required;

G. Kelowna and Vernon have entered into a Regional Biosolids Composting Facility Joint Operating Agreement made the 1st day of June 2007, which outlines the obligations and commitments of each of them with respect to the Facility (the "Original Operating Agreement"), and now wish to enter into this agreement to modify and replace the Original Operating Agreement.

IN CONSIDERATION of the mutual premises and assurances set out herein, the Municipalities AGREE AS FOLLOWS:

1. NATURE OF AGREEMENT AND SCHEDULES

a. Vernon and Kelowna agree that this agreement sets out the mutual understanding of the two Municipalities with respect to the operation and future expansion of the Facility, and the future acquisition of the property on which a portion of the Facility has been constructed and other property to enable such expansion.

b. Each Municipality acknowledges and agrees that future expansion of the Facility or the future acquisition of the property on which a portion of the Facility has been constructed and certain other property for further Facility expansion may necessitate further approvals or consents of each Municipality and that this agreement does not in any way fetter or limit the discretion of the City Council of each Municipality to approve the need for further expenditures, borrowing or the need for third party consents with respect to such future expansion and acquisitions.

c. The following schedules shall form part of, and be incorporated into, the terms of this agreement:

Schedule A: Commonage Compost Site Equipment Allocation

Schedule B: Vernon Fees and Charges Bylaw No. 3909

Schedule C: Criteria Agreement

2. TERMS

a. Both Kelowna and Vernon agree to participate in the operation of the Facility and be bound by this agreement until at least December 31, 2018 and continuing after that date unless either Municipality withdraws in accordance with section 3 or this agreement is terminated in accordance with section 2.c. or section 21 below.

b. The effective date of this agreement is November 1, 2011.

c. This agreement will remain in effect until terminated by mutual agreement or until either Kelowna or Vernon wish to withdraw from the Facility as detailed in section 3 below.

d. Kelowna and Vernon agree to enter into negotiations to renew or extend this agreement at least one year in advance of December 31, 2018.

e. Vernon agrees and acknowledges that Kelowna is the day to day “Operator” of the Facility.

3. WITHDRAWAL FROM FACILITY

a. A Municipality may elect to withdraw from this agreement (hereinafter referred to as the “Withdrawing Municipality”) after December 31, 2018 provided that the Withdrawing Municipality provides at least one year’s written notice to the other Municipality (hereinafter referred to as the “Remaining Municipality”) and upon doing so, the Withdrawing Municipality’s obligations under this agreement will cease at the conclusion of the one year’s notice, save as expressly provided herein.

b. The Withdrawing Municipality will have no claim for compensation of any kind from the Remaining Municipality for any capital contributions, unless otherwise agreed to in writing by the Municipalities. With respect to any parcels of land upon which the Facility is located at the time of withdrawal that are jointly owned by the Municipalities, the Withdrawing Municipality will continue to have whatever ownership interest it has in such land pursuant to the Land Acquisition Agreement between the Municipalities dated for reference July 31, 2012 (the “Land Acquisition Agreement”), however, the Remaining Municipality will be permitted to continue to use such parcels of land for the purposes of the Facility.

c. The Remaining Municipality shall retain the Lease, the Option/RFR and the RFR (as per terms defined in section 5 below) to the extent they are still in force. The withdrawal by the Withdrawing Municipality shall operate as an assignment of all of its rights under those agreements to the Remaining Municipality. The Withdrawing Municipality shall execute and deliver to the Remaining Municipality any documents, deeds, instruments and do and perform such acts as may be reasonably necessary to permit the Remaining Municipality to exercise the rights given to it under those agreements. The Withdrawing Municipality shall have no claim for compensation of any kind from the Remaining Municipality with regards to these rights.

d. If, at any time, both Municipalities elect to no longer participate in the Facility, all costs associated with the demobilization of the Facility and restoration of the site will be shared as if they were a capital cost under section 14.d below and any revenue generated from the disposition of the assets of the Facility will be divided between the Municipalities in the same manner, except with respect to any parcels of land upon which the Facility is located, if such parcels are sold, the revenue generated from such sale will be shared in accordance with each Municipality’s ownership interest as determined under the Land Acquisition Agreement.

4. FACILITY LOCATION

a. The Facility is located within the Regional District of North Okanagan (“RDNO”) approximately 3.4 km southwest of the intersection of Bench Row Road and Commonage Road.

b. The Facility is located on two parcels legally described as follows:

i. Parcel Identifier: 005-037-506, Lot A, Section 7, Township 9, Osoyoos Division Yale District,

Plan 26702, except Plan KAP 64450 ("Lot A-1"); and
ii. Parcel Identifier: 026-463-971, Lot A, Section 7 and 8, Township 9 Osoyoos Division
Yale District, Plan KAP 79361 ("Lot A-2").

5. LEASE AND LAND OWNERSHIP

- a. Kelowna and Vernon are the registered owners in fee simple of Lot A-1.
- b. Kelowna and Vernon acknowledge and agree that they are both party to a right of first refusal agreement dated for reference September 23, 2005 for lands legally described as: Parcel Identifier: 006-518-656, Lot 1, Sections 7, 8 and 17, Township 9, Osoyoos Division, Yale District, Plan 23286 except plans 26702, KAP63396 and KAP79361 ("Lot 1") which is registered against title to Lot 1 as charge no. KX149499 (the "RFR").
- c. Vernon and Kelowna acknowledge and agree that they are both party to a lease agreement for Lot A-2 dated for reference September 23, 2005 and registered against title to Lot A-2 as charge no. KX149502 (the "Lease")
- d. Vernon and Kelowna acknowledge and agree that they are also both parties to an option to purchase and right of first refusal agreement dated for reference September 23, 2005 and registered against title to Lot A-2 as charge no. KX149500 (the "Option/RFR").

6. OPERATION OF THE FACILITY

- a. The Facility will be managed and operated by Kelowna. Where this agreement provides that "the Facility" may do something, Kelowna shall have authority to do such thing on behalf of the Facility.
- b. Kelowna will establish account numbers to track Facility operating costs including, but not limited to, wages, utilities, equipment, materials, laboratory analysis, etc.
- c. Kelowna will be responsible for ensuring that all bills associated with the operation of the Facility are paid in a timely fashion.
- d. Kelowna will be responsible for the preparation of the annual operating budget for the Facility.
- e. A common services allocation to cover costs borne by Kelowna's administration and finance divisions associated with operating the Facility will be included as part of the annual operating budget for the Facility.
- f. An appropriate amount will be included in the Facility annual operating budget allocation for equipment replacement, maintenance and overhead for those pieces of equipment that were acquired as part of the capital component of the Facility as set out in Schedule A attached to this agreement. Vernon will be informed of the amount of the equipment allocation through the annual operating budget. Kelowna will provide on an annual basis, a summary of the amount of funds in reserve to replace the Schedule A equipment.
- g. Other equipment required in the future either as a change in operations, as a required component due to "contracting in" or as a result of expansion will be deemed Facility operational requirements and be purchased and maintained by Kelowna. The Facility will pay either an annual equipment fee for

equipment reserve and maintenance to Kelowna or actual operating costs depending on the mutual agreement of both parties prior to the purchase. The three loaders currently used at the Facility will continue to be charged out at actual cost and their debt repayment will be provided for in the operating budget of the facility. A copy of the annual operating budget for the Facility will be provided for review and approval by Vernon at least 30 days prior to submission to Kelowna City Council. Should Vernon have questions regarding the annual operating budget for the Facility, Vernon may request that the Kelowna Utilities Services Manager or designate, present the annual operating budget for the Facility to Vernon and be available to answer questions.

i. The annual operating budget for the Facility will be subject to Kelowna and Vernon Council approvals.

j. If either Council fails to approve the annual Facility operating budget for a given year by January 31st of that year, the parties agree to resolve the matter via dispute resolution as described in section 25.

k. Vernon will provide reclaimed water from the VWRC to the Facility for the term of this agreement. The annual fee for the supply of reclaimed water to the Facility will be as per the Vernon Fees and Charges Bylaw No. 3909, a copy of which is attached to this agreement as Schedule B. For billing purposes, the Facility will be classified as a commercial operation with an equivalent irrigated area of 2.0 Ha.

l. Kelowna may use contractors or Kelowna staff to operate the Facility.

m. Kelowna will be responsible for the procurement, management and administration of all contract services. Vernon will not be a party to such contracts.

n. Kelowna will inform Vernon at least 30 days prior to the issuance of any tender, request for proposals, request for quotations or request for statement of qualifications related to the operation of the Facility.

o. Vernon and Kelowna management staff will meet at least every three months to review Facility operations and finances and each Municipality shall provide full disclosure and unfettered access to the other Municipality of all financial, operational and other records for the Facility.

7. DECISION MAKING

a. Unless otherwise indicated in this agreement, and without fettering the discretion of either Municipality's councils, the parties shall co-operate and agree on all major decisions and significant matters for the Facility including any matters relating to the lease, the RFR, the Option/RFR, land acquisition, any contracts or expenditures exceeding \$10,000, and any borrowing or any agreements where a liability is incurred for more than 5 years.

8. TERMS AND CONDITIONS UNDER WHICH DEWATERED BIOSOILDS WILL BE ACCEPTED AT THE FACILITY

a. Kelowna and Vernon acknowledge that the Facility operates independently of both the KWWTP and the VWRC and that the KWWTP and the VWRC are customers of the facility.

b. The Facility will set the terms and conditions upon which the Facility will accept dewatered biosolids from the KWWTP and the VWRC. The Facility may specify the following terms and conditions;

- i. The days and times during which dewatered biosolids may be discharged at the Facility;
- ii. The location at the Facility where dewatered biosolids must be discharged;
- iii. The minimum and maximum moisture content of dewatered biosolids that may be discharged at the Facility;
- iv. Requirements for analysis of dewatered biosolids including the frequency of analysis and analysis parameters; and
- v. Maximum metals content that may be present in the dewatered biosolids discharged at the Facility to ensure that Class A biosolids compost criteria are met in the end product.

c. The Facility will direct that Kelowna and Vernon are to weigh loads of dewatered biosolids from the KWWTP or the VWR, using a Certified Scale and that copies of the scale tape be provided to the Facility.

d. The Criteria for material acceptance and processing is set out in a separate "Criteria Agreement" between the Facility and the VWRC and WWTP attached to this agreement as Schedule C.

e. Kelowna and Vernon acknowledge that the Facility may impose surcharges for the discharge of dewatered biosolids or for criteria exceptions which do not meet the terms and conditions set by the Criteria Agreement. Any surcharges will reflect the additional cost of handling and processing such material in order to produce Class A Biosolids Compost.

9. ALLOCATION OF NET OPERATING COSTS

a. The operating costs for the Facility will be allocated between Vernon and Kelowna as follows:

i. Vernon's operating cost allocation shall be the fraction determined by the following: Total mass (in tonnes) of dewatered biosolids from the VWRC discharged at the Facility / Total mass (in tonnes) of dewatered biosolids from the KWWTP and the VWRC discharged at the Facility.

ii. Kelowna's operating cost allocation shall be the fraction determined by the following: Total mass (in tonnes) of dewatered biosolids from the KWWTP discharged at the Facility / Total mass (in tonnes) of dewatered biosolids from the KWWTP and the VWRC discharged at the Facility.

b. The Parties acknowledge and agree that since entering into the Original Operating Agreement, the share of net operating costs allocated to Kelowna and Vernon have been amended every six months with the share of net operating costs for the 1st and 2nd quarters of each calendar year based on the actual mass of dewatered biosolids discharged at the Facility for processing during the 3rd and 4th quarters of the preceding year and the share of net operating costs for 3rd and 4th quarters of each year based on the actual mass of dewatered biosolids discharged at the Facility for processing during the 1st and 2nd quarters of the same year. The Parties agree that they will continue this arrangement for the duration of this agreement.

c. Kelowna will provide Vernon with details of the calculation of the allocation of Facility operating costs within 45 days of the end of the 2nd quarter and the 4th quarter of each year during the term of this agreement.

10. ALLOCATION OF REVENUE FROM PRODUCT SALES

a. The Kelowna Finance Department will establish account numbers to track revenue generated from the sale of Class A biosolids compost produced at the Facility (the "Compost").

b. All revenue generated from the sale of the Compost will be applied to cover Facility operating costs during the quarter in which the revenue was received.

c. Kelowna will provide Vernon with details of the revenues generated from the sale of the Compost within 45 days at the end of the 2nd and 4th quarter each year during the term of this agreement.

d. All costs related to the marketing of the Compost will be included as an operating cost of the Facility.

e. If at the end of the calendar year, revenue for the year exceeds Facility operating costs for the year (including any amounts required to be set aside under this agreement for future expenditures), such excess revenue shall be allocated to each Party as follows:

i. Vernon's allocation of net revenues shall be the fraction determined by the following: Total mass (in tonnes) of dewatered biosolids from the VWRC discharged at the Facility for the

calendar year/ Total mass (in tonnes) of dewatered biosolids from the KWWTP and the VWRC discharged at the Facility for the calendar year; and

ii. Kelowna's allocation of net revenues shall be the fraction determined by the following:
Total mass (in tonnes) of dewatered biosolids from the KWWTP discharged at the Facility for the calendar year/ Total mass (in tones) of dewatered biosolids from the KWWTP and the VWRC discharged at the Facility for the calendar year.

11. DETERMINATION AND PAYMENT OF NET OPERATING COSTS

a. Vernon will pay to Kelowna, on a quarterly basis, its share of the annual net Facility operating costs allocated to it in accordance with section 9 above.

b. Kelowna will invoice Vernon prior to the end of each quarter during the term of this agreement for Vernon's quarterly share of the budgeted annual net operating costs of the Facility and Vernon shall pay the invoiced amount to Kelowna within 30 days of receipt of the invoice.

c. Within 45 days of each year during the term of this agreement or, if applicable, within 45 days of the termination of this agreement, Kelowna shall determine the actual net operating costs for the Facility during the previous year, or portion thereof in the event of termination, by subtracting all revenues generated from the sale of Compost and sales of service from total actual Facility operating costs expended during the same time period and shall provide written documentation to Vernon confirming the calculation of the actual operating costs during that time period.

d. Within 45 days of determining the actual net operating costs of the Facility in accordance with section 11.c. Kelowna and Vernon shall ensure that all necessary adjustments have been made to ensure that Vernon has paid the correct amounts for its allocation of actual annual net Facility operating costs. If it is determined that Vernon has paid an amount that is greater than required, any such overpayment will be applied to the first quarterly payment by Vernon during the following year. Or, if the agreement is terminated, Kelowna shall pay to Vernon the amount of the overpayment within 45 days of determining the amount of the adjustment. If it is determined that Vernon has paid an amount that is less than required, Kelowna will invoice Vernon for the amount owing, with payment to Kelowna by Vernon to be made within 45 days of receipt of the invoice.

12. OTHER CUSTOMERS

a. Local governments agencies located within the Regional District of North Okanagan ("RDNO") or the Central Okanagan Regional District ("CORD") may be permitted to discharge dewatered biosolids from municipal wastewater treatment facilities at the Facility with the mutual agreement of the Municipalities.

b. Acceptance of dewatered biosolids from other local government agencies located within the RDNO or the CORD at the Facility will be considered on a case by case basis. The Facility is under no obligation to accept dewatered biosolids from any other local government agencies but may accept biosolids from other jurisdictions with the mutual agreement of the

Municipalities if it benefits the Facility.

c. Should the Municipalities agree that the Facility accept dewatered biosolids from other local government agencies located within the RDNO or the CORD, a per tonne fee will be levied for all dewatered biosolids discharged at the Facility and those fees shall be considered as revenues in the same manner as those detailed in section 10 above. The per tonne fee will be determined by Kelowna and Vernon and may be reviewed and/or amended from time to time.

13. OTHER FACILITY PARTNERS

a. Kelowna and Vernon acknowledge that in the future, other local government agencies located within the RDNO or the CORD may have an interest in becoming partners in the Facility.

b. Kelowna and Vernon agree to consider allowing other local government agencies to become partners in the Facility on a case by case basis.

c. Specific terms and conditions under which other local government agencies would be allowed to become partners in the Facility will be compiled and subject to approval by the Councils of both Kelowna and Vernon.

d. Should other local government agencies become partners in the Facility, this agreement will be amended to include the new partners(s).

14. FACILITY EXPANSION, CONSULTING SERVICES AND LAND ACQUISITION

a. Kelowna and Vernon acknowledge that incremental expansion(s) of the Facility will be required in the future in order to accommodate increases in dewatered biosolids production at the KWWTP and the VWRC and that it is the desire of both Vernon and Kelowna to exercise the Option/RFR to purchase Lot A-2 once the Option/RFR can be exercised.

b. Vernon will be notified, in writing, by Kelowna of any requirements to undertake capital works to increase Facility capacity in advance of the additional works being required. The notification shall include justification for the works, a description of the required works and an order of magnitude cost estimate for the works. Unless otherwise agreed by the Municipalities, approval for the proposed capital works and any commitment of funds or expenditure for the capital works shall be subject to the approval of each of the Councils of Kelowna and Vernon in accordance with the provisions of the *Community Charter, S.B.C. 2003, c. 26* as amended from time to time (the "*Community Charter*") and the *Local Government Act*.

c. Kelowna and Vernon agree that from time to time, engineering consulting services will be required to review Facility operations and to assess needs for capital works. Costs for consulting services will be allocated between the Municipalities in the same manner as detailed in section 14.d. below.

d. Costs for capital works required under section 14.b. shall be allocated between Kelowna and Vernon using the same ratio determined under section 9 above provided that the calculation of the ratios will be based on the period from the date of this agreement until the end of the most recent quarter ending before the capital works are approved by both parties. For greater certainty, these ratios shall be as follows:

i. Vernon's capital cost allocation shall be the fraction determined by the following: Total mass (in tonnes) of dewatered biosolids from the VWRC discharged at the Facility for the period from the date of this agreement to the date that the capital works are agreed to/ Total mass (in tonnes) of dewatered biosolids from the KWWTP and the VWRC discharged at the Facility from the date of this agreement until the end of the most recent quarter ending before the capital works are approved by both parties; and

ii. Kelowna's capital cost allocation shall be the fraction determined by the following: Total mass (in tonnes) of dewatered biosolids from the KWWTP discharged at the Facility for the period from the date of this agreement to the date that the capital works are agreed to / Total mass (in tones) of dewatered biosolids from the KWWTP and the VWRC discharged at the Facility for the period from the date of this agreement until the end of the most recent quarter ending before the capital works are approved by both parties.

e. Kelowna and Vernon will each be responsible for their portion of future capital works and property acquisition costs and will make their own arrangements for funding, independent of the other regarding borrowing or other financing obligations necessary to fund future capital works and property acquisition.

f. Any further capital commitments in relation to the Facility will also be subject to approval by the Municipal councils of Kelowna and Vernon.

15. COMMUNICATIONS PROTOCOL

a. Kelowna staff will be responsible for dealing with inquiries/complaints received from the general public regarding the operation of the Facility.

b. Kelowna will coordinate public announcements or media releases in connection with the Facility and Vernon will be notified and reasonably consulted at least 7 days in advance of any such public announcement or media release.

16. COMPLIANCE WITH REGULATORY REQUIREMENTS

a. Kelowna and Vernon agree that the Facility will be operated so as to comply with all regulatory requirements and that both Municipalities will exercise all reasonable due diligence to comply with all regulatory requirements.

b. Kelowna and Vernon will work cooperatively to ensure that all necessary regulatory approvals are obtained and that both Kelowna and Vernon will be named in any regulatory approvals.

17. CONFIDENTIALITY

a. Kelowna and Vernon will at all times treat as confidential, all information or material supplied or obtained by either Municipality or its subcontractors as a result of this agreement and will not permit

the publication, release or disclosure of the same without the prior written consent of the other Municipality, subject always to the *Freedom of Information and Protection of Privacy Act, R.S.B.C., 1996, c. 165*.

18. CONFLICT OF INTEREST

a. Neither Kelowna nor Vernon will, during the term of this agreement, perform a service for or provide advice to any person, firm or corporation where the performance of the service or provision of the advice may, in the reasonable opinion of the other Municipality, give rise to a conflict of interest.

19. INDEMNIFICATION

a. Kelowna and Vernon will indemnify and save harmless the other Municipality and officials, employees and agents, from and against any and all losses, claims, damages, actions, causes of action, costs and expenses that such Municipality may sustain, incur, suffer or be put to at any time either before or after the expiration or termination of this agreement, where the same or any of them are based upon, arise out of or occur, directly or indirectly, by reason of any act or omission of the other Municipality or of any agent, employee, officer, director or subcontractor of the other Municipality pursuant to this agreement.

20. INSURANCE

a. Both parties will obtain, maintain and pay for during the term of this agreement the following insurance:

- i. Comprehensive Public Liability and Property Damage in the amount of \$5,000,000;
- ii. Automobile Insurance (owned and non-owned) in the amount of \$5,000,000;
- iii. Professional Liability in the amount of \$5,000,000.

b. In order to minimize costs, the parties shall co-operate with each other to seek mutual or joint insurance in respect of the Facility, including construction and operation of same.

21. TERMINATION

a. Notwithstanding any other provision of this agreement, either Municipality may terminate the agreement at any time upon one years' written notice delivered to the parties at the addresses shown in Section 25 of this agreement, or at such shorter time and in such a manner as may be mutually agreed upon by the parties provided that the parties shall act reasonably in negotiating any termination provision, including capital repayments.

22. NON-WAIVER

a. A waiver of any provision or breach by the parties of this agreement will be effective only if it is in writing and signed by the other Municipality and will not be deemed to be a waiver of any subsequent breach of the same or any other provision of this agreement.

23. FIRE PROTECTION

a. Vernon's Fire Rescue Services will provide emergency response-services to the Facility site. The level of service will be consistent with the Vernon Fire Rescue Services Emergency response policy. The cost of this service will be based on the assessed value of the site and invoiced annually to the Facility.

24. NOTICES

a. Any notice that either Municipality may be required or may desire to provide to the other Municipality will be deemed to have been delivered and received, if delivered personally on the date of such personal delivery or if mailed, on the third business day after mailing in British Columbia by pre-paid post addressed to either Municipality at its City Hall address, and to the attention of the following persons or their successors:

Don Degen
Utilities Services Manager
Kelowna

Shirley Koenig
Operation Services Manager
Vernon

25. DISPUTE RESOLUTION /ARBITRATION

a. Disputes arising out of or in connection with this agreement, or in respect of any defined legal relationship associated therewith or derived there from, may be referred to and finally resolved by arbitration under the rules of the British Columbia International Commercial Arbitration Centre ("BCICAC"). If either Kelowna or Vernon desires to have the dispute resolved by arbitration, they may submit the dispute to the BCICAC to appoint an arbitrator and the case will be administered by the BCICAC in accordance with its procedures and rules. Notwithstanding the foregoing, the parties may choose to submit to mediation prior to any arbitration proceedings as an initial step to resolving any such dispute. {00188168; 2}13

26. GENERAL TERMS

a. Nothing contained or implied herein shall derogate from the obligations of the Municipalities or prejudice or affect the Municipalities' rights, powers, duties or obligations in the exercise of their functions pursuant to the *Community Charter* and the *Local Government Act* and the rights, powers, duties and obligations of the Municipalities under all public and private statutes, by-laws, orders and regulations.

b. No amendment, supplement, restatement or termination of any provision of this Agreement is binding unless it is in writing and signed by the Municipalities to this Agreement at the time of the amendment, supplement, restatement or termination.

c. In the event of any strike, walkout or other labour dispute directly or indirectly involving the Municipalities that adversely affects the operation of the Facility, the Municipalities will seek such orders or relief as may be required to prevent the continuance of the strike, walkout or other labour dispute from adversely affecting the operation of the Facility.

d. Notwithstanding anything to the contrary contained in this agreement, if either Municipality is delayed or hindered in or prevented from the performance of any term, covenant or act required under this agreement, by reason of an act of God or public enemy, wars (declared or undeclared), revolution, riots, insurrections, civil commotions, fires, floods, slides, epidemics, quarantine restrictions, strikes or lockouts, including illegal work stoppages or slowdowns, or stop work orders issued by a court or statutory authorities, power failures, or any event or circumstance which is beyond the reasonable control of a Municipality, which does not arise from the neglect or default of a Municipality, and which results in material delay, interruption or failure by a Municipality in carrying out its duties, covenants or obligation under this agreement, the said Municipality will be relieved from the fulfillment of such term, covenant or act during the period of such interruption and the period for the performance of any such term, covenant or act will be extended for a period equivalent to the period of such delay.

e. The Municipalities will promptly execute and deliver all further documents and take all other action reasonably necessary or appropriate to give effect to the provisions and intent of this Agreement.

f. The rights and remedies under this agreement are cumulative and are in addition to and not in substitution for any other rights and remedies available at law or in equity or otherwise. No single or partial exercise by a Municipality of any right or remedy precludes or otherwise affects the exercise of any other right or remedy to which that Municipality may be entitled.

g. The Municipalities acknowledge and agree that they are entering into a long-term relationship and, from time to time, opportunities and issues will arise that are not contemplated in this agreement. The Municipalities covenant and agree to discuss and consider these matters in the spirit of cooperation and good faith.

h. This agreement shall be interpreted by the laws of British Columbia and Canada applicable therein.

i. This agreement shall binding upon and enure to the benefit of the Municipalities and their agents, assigns, and successors.

IN WITNESS WHEREOF, each of the Municipalities hereto has hereunto affixed its corporate seals on the presence of its duly authorized officers as of the day and year first written above. The Corporate Seal of the City of Vernon was hereunto affixed in the presence of:

CITY OF KELOWNA by its authorized signatories:

Walter Gray

Mayor: Walter Gray, MAYOR

Karen Needham

s/ Corporate Officer: Karen Needham, Deputy City Clerk

CITY OF VERNON by its authorized signatories:

Rob Sawatzky

Mayor: Rob SAWATZKY

Patricia Bridak

Corporate Officer: Patricia BRIDAK

Schedule A Equipment

<u>Vehicle #</u>	<u>Description</u>		<u>Original Cost</u>
V6384	2007 McCloskey Trommel Screen	(Trommel)	418,170
V6481	2009 Supreme 900ST Enviroprocessor	(Mixer)	236,000
V6511	Supreme EnviroProcessor 900 ST Compost Mixer	(Mixer)	209,000

Proposed Amendments to the Regional Biosolids Compost Facility’s Joint Operating Agreement

October 2023

Section	Current Wording	Proposing	Reason for Change
<p>1 - c. Nature of Agreement and Schedules</p>	<p>c. The following schedules shall form part of, and be incorporated into, the terms of this agreement: Schedule A: Commonage Compost Site Equipment Allocation Schedule B: Vernon Fees and Charges Bylaw No. 3909 Schedule C: Criteria Agreement</p>	<p>c. The following schedules shall form part of, and be incorporated into, the terms of this agreement: Schedule A: Commonage Compost Site Equipment Allocation Schedule B: Fire Protection Terms of Service</p>	<p>Schedules B and C were not included in our original PDF copy of the agreement. We propose removing Schedule B: Vernon Fees and Charges Bylaw (See Section 6 below) and replacing it with Schedule B: Fire Protection Terms of Service. Schedule C is effectively replaced by regulatory requirements in Permit and Regulation.</p>
<p>2. Terms</p>	<p>a. Both Kelowna and Vernon agree to participate in the operation of the Facility and be bound by this agreement until at least December 31, 2018 and continuing after that date unless either Municipality withdraws in accordance with section 3 or this agreement is terminated in accordance with section 2.c. or section 21 below.</p>	<p>a. Both Kelowna and Vernon agree to participate in the operation of the Facility unless either Municipality withdraws in accordance with section 3 or this agreement is terminated in accordance with section 2.c. or section 21 below.</p> <p>b. The effective date of this agreement is November 1, 2011.</p>	<p>Clarifies that agreement remains in place in perpetuity unless either party withdraws in accordance with Section 3</p>

	<p>b. The effective date of this agreement is November 1, 2011.</p> <p>c. This agreement will remain in effect until terminated by mutual agreement or until either Kelowna or Vernon wish to withdraw from the Facility as detailed in section 3 below.</p> <p>d. Kelowna and Vernon agree to enter into negotiations to renew or extend this agreement at least one year in advance of December 31, 2018.</p> <p>e. Vernon agrees and acknowledges that Kelowna is the day to day "Operator" of the Facility.</p>	<p>c. This agreement will remain in effect until terminated by mutual agreement or until either Kelowna or Vernon wish to withdraw from the Facility as detailed in section 3 below.</p> <p>d. Vernon agrees and acknowledges that Kelowna is the day to day "Operator" of the Facility.</p>	
5 - d. Lease and Ownership	<p>d. Vernon and Kelowna acknowledge and agree that they are also both parties to an option to purchase and right of first refusal agreement dated for reference September 23, 2005 and registered against title to Lot A-2 as charge no. KX149500 (the "Option/RFR").</p>	<p>Delete sub-section d.</p>	<p>Remove d. as charge is no longer on title</p>
6 - g. Operation of the Facility	<p>g. Other equipment required in the future either as a change in operations, as a required component due to "contracting in" or as a result of expansion will be deemed Facility operational requirements and be purchased and maintained by Kelowna. The Facility will</p>	<p>g. Other equipment required in the future either as a change in operations, as a required component due to "contracting in" or as a result of expansion will be deemed Facility operational requirements and be purchased and maintained by Kelowna. The Facility will</p>	<p>Reserve contributions are now made quarterly. The contribution amount and schedule are subject to change based on current best practices in Fleet</p>

	<p>pay either an annual equipment fee for equipment reserve and maintenance to Kelowna or actual operating costs depending on the mutual agreement of both parties prior to the purchase.</p> <p><i>The three loaders currently used at the Facility will continue to be charged out at actual cost and their debt repayment will be provided for in the operating budget of the facility.</i></p> <p>A copy of the annual operating budget for the Facility will be provided for review and approval by Vernon at least 30 days prior to submission to Kelowna City Council. Should Vernon have questions regarding the annual operating budget for the Facility, Vernon may request that the Kelowna Utilities Services Manager or designate, present the annual operating budget for the Facility to Vernon and be available to answer questions.</p>	<p>pay an equipment fee to Kelowna for equipment reserve and maintenance on an ongoing basis or actual operating costs depending on the mutual agreement of both parties.</p> <p>A copy of the annual operating budget for the Facility will be provided for review and approval by Vernon at least 30 days prior to submission to Kelowna City Council. Should Vernon have questions regarding the annual operating budget for the Facility, Vernon may request that the Kelowna Utilities Services Manager or designate, present the annual operating budget for the Facility to Vernon and be available to answer questions.</p>	<p>Services and Financial Services, and we propose amending the language to allow for this.</p> <p>We also propose including the front-end loaders in Schedule A, which includes the list of equipment eligible for the equipment reserve. The reserve contribution would be reconciled through quarterly operating invoices.</p>
6 – h. Operation of the Facility	[sub-section not included in original contract]	h. The three loaders currently used at the Facility will be included in Schedule A.	The loaders will now be included in Schedule A, which includes the list of equipment eligible for the equipment reserve.
6 – k. Operation of the Facility	k. Vernon will provide reclaimed water from the VWRC to the Facility for the term of this agreement. The annual fee for the supply of reclaimed water to the Facility will be as per the Vernon Fees and Charges Bylaw No. 3909, a copy of which is attached to this agreement	k. Vernon will provide reclaimed water from the VWRC to the Facility for the term of this agreement. The annual fee for the supply of reclaimed water to the Facility will be as per the Vernon Fees and Charges Bylaw No. 3909.	Schedule B was not included in our copy of the original agreement. We propose the agreement include a hyperlink to the

	<p>as Schedule B.</p> <p>For billing purposes, the Facility will be classified as a commercial operation with an equivalent irrigated area of 2.0 Ha.</p>	<p>For billing purposes, the Facility will be classified as a commercial operation with an equivalent irrigated area of 2.0 Ha.</p>	<p>bylaw, which may change over time.</p>
7. Decision Making	<p>a. Unless otherwise indicated in this agreement, and without fettering the discretion of either Municipality's councils, the parties shall co-operate and agree on all major decisions and significant matters for the Facility including any matters relating to the lease, the RFR, the Option/RFR, land acquisition, any contracts or expenditures exceeding \$10,000, and any borrowing or any agreements where a liability is incurred for more than 5 years.</p>	<p>a. Unless otherwise indicated in this agreement, and without fettering the discretion of either Municipality's councils, the parties shall co-operate and agree on all major decisions and significant matters for the Facility including any matters relating to the lease, the RFR, the Option/RFR, land acquisition, any contracts or expenditures exceeding \$100,000, and any borrowing or any agreements where a liability is incurred for more than 5 years.</p>	<p>Increase amount from \$10,000 to \$100,000 to be more in-line with current practices.</p>
8-d	<p>d. The Criteria for material acceptance and processing is set out in a separate "Criteria Agreement" between the Facility and the VWRC and WWTP attached to this agreement as Schedule C.</p>	<p>d. The Criteria for material acceptance and processing is set out in the Facility's ENV Permit 108537 and BC's <i>Organic Matter Recycling Regulation</i> under the Environmental Management Act.</p>	<p>Schedule C was not included in the agreement on file and was effectively replaced by ENV Permit in 2017, which outlines the criteria for material acceptance and processing at the Facility.</p>
20 - a. Insurance	<p>a. Both parties will obtain, maintain and pay for during the term of this agreement the following insurance:</p> <p>i. Comprehensive Public Liability and Property Damage in the amount of \$5,000,000;</p> <p>ii. Automobile Insurance (owned and non-</p>	<p>a. Both parties will obtain, maintain and pay for during the term of this agreement the following insurance:</p> <p>i. Comprehensive Public Liability and Property Damage in the amount of \$5,000,000;</p> <p>ii. Automobile Insurance (owned and non-</p>	<p>Kelowna's Risk Management group recommend keeping coverage of i, ii and iii at \$5,000,000, and adding Environmental Liability Insurance in an amount that is to be determined.</p>

	<p>owned) in the amount of \$5,000,000;</p> <p>iii. Professional Liability in the amount of \$5,000,000.</p>	<p>owned) in the amount of \$5,000,000;</p> <p>iii. Professional Liability in the amount of \$5,000,000.</p> <p>iv. Environmental Liability in the amount of \$ _____</p>	<p>We may have this ready by the time of the JBAC meeting.</p>
<p>23. Fire Protection</p>	<p>a. Vernon’s Fire Rescue Services will provide emergency response-services to the Facility site. The level of service will be consistent with the Vernon Fire Rescue Services Emergency response policy. The cost of this service will be based on the assessed value of the site and invoiced annually to the Facility.</p>	<p>a. Vernon’s Fire Rescue Services will provide emergency response-services to the Facility site. The level of service will be consistent with the Vernon Fire Rescue Services Emergency response policy. The cost of this service will be based on the cost of service and included in the operating budget. For the Service, Kelowna agrees to pay to Vernon, the fees and charges as contained in Schedule B attached hereto and forming part of this Agreement.</p>	<p>Revise wording to match current practice and make reference to a new Schedule B – Fire Protection Terms of Service.</p>
<p>24. Notices</p>	<p>a. Any notice that either Municipality may be required or may desire to provide to the other Municipality will be deemed to have been delivered and received, if delivered personally on the date of such personal delivery or if mailed, on the third business day after mailing in British Columbia by pre-paid post addressed to either Municipality at its City Hall address, and to the attention of the following persons or their successors:</p> <p>Don Degen Utilities Services Manager</p>	<p>a. Any notice that either Municipality may be required or may desire to provide to the other Municipality will be deemed to have been delivered and received, if delivered personally on the date of such personal delivery or if mailed, on the third business day after mailing in British Columbia by pre-paid post addressed to either Municipality at its City Hall address, and to the attention of the following or their designates:</p> <p>Utilities Services Manager Kelowna</p>	<p>Remove names and update titles</p>

	Kelowna Shirley Koenig Operation Services Manager Vernon	Director of Operations Vernon	
Schedule A			Replace Table SA-1 with Table SA-2 to include the 3 Front-End Loaders in asset renewal program.
Schedule B			Replace Schedule B with a new Schedule B – Fire Protection Terms of Service

Table SA-1 (current)

Schedule A Equipment

Vehicle #	Description		Original Cost
V6384	2007 McCloskey Trommel Screen	(Trommel)	418,170
V6481	2009 Supreme 900ST Enviroprocessor	(Mixer)	236,000
V6511	Supreme EnviroProcessor 900 ST Compost Mixer	(Mixer)	209,000

Table SA-2 (proposed)

Schedule A Equipment

Vehicle #	Description	Category	Original Cost (\$)
V6384	2007 McCloskey Trommel Screen	Trommel	418,170
V6481	2009 Supreme 900ST Feed Mixer	Mixer	236,000
V6511	2009 Supreme 900 ST Feed Mixer	Mixer	209,000
V6831	2016 Volvo L110H Front End Loader	Loader	403,100
V6881	2018 CAT 950M Front End Loader	Loader	463,390
V6963	2020 Volvo L110H Front End Loader	Loader	453,030

Schedule B – Fire Protection Terms of Service

The Facility (Customer) shall pay to the City of Vernon (Service Provider) an annual fee for each year of the Term (the "Annual Fee"). The Customer shall pay the Annual Fee for the first year of the Term upon execution of this Agreement in the amount of \$20,000.00. On each anniversary of the date of this Agreement during the Term, the Annual Fee shall be invoiced to the Customer and the rate per Service Site shall increase by three percent (3.0%) compounded.

2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
\$ 20,000.00	\$ 20,600.00	\$ 21,218.00	\$ 21,854.54	\$ 22,510.18	\$ 23,185.48	\$ 23,881.05	\$ 24,597.48	\$ 25,335.40	\$ 26,095.46
2033	2034	2035	2036	2037	2038	2039	2040	2041	2042
\$ 26,878.33	\$ 27,684.68	\$ 28,515.22	\$ 29,370.67	\$ 30,251.79	\$ 31,159.35	\$ 32,094.13	\$ 33,056.95	\$ 34,048.66	\$ 35,070.12

Regional Biosolids Compost Facility 2022 Annual Report



Prepared for: BC Ministry of Environment and Climate Change Strategy

Prepared by: City of Kelowna

Report Submitted: March 27, 2023

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Appendix A – Air Discharge Permit #108537

Appendix B – 2022 Water Quality Report

Appendix C – CQA Compost Analytical Results

Executive Summary

The Regional Biosolids Compost Facility (RBCF) is located at 551 Commonage Road (site reference #E307813) in Vernon, BC. The facility is jointly owned by the City of Kelowna (COK) and the City of Vernon (COV), and is operated by COK staff. The facility receives stabilized sewage sludge (biosolids) from the Kelowna, Vernon, Silver Hawk Utilities (Silver Star Ski Hill), and Lake Country Wastewater Treatment Facilities (WWTF). Biosolids are mixed with wood chips (hog fuel) and unprocessed/untreated wood residuals. The mixture is composted in an Extended Aerated Static Pile system to produce Class-A Compost as defined by the Organic Matter Recycling Regulation (OMRR).

The facility is operated pursuant to Air Discharge Permit #108537 (the Permit), issued by the Ministry of Environment and Climate Change Strategy (ENV) under the provisions of the *Environmental Management Act*. This annual report covers the period between January 1 to December 31, 2022.

Biosolids Received

The total volume of biosolids received at the RBCF in 2022 was 31,203 wet metric tonnes, or 86% of the maximum allowed by Permit (36,400 wet tonnes).

Finished Compost

Finished compost was continuously produced and tested throughout 2022, with off-site transportation and product sales peaking April through August. More than 50% of the finished product was removed from site in 2022 as required by Permit. Compost volumes produced, stored and transported off-site in 2022 are shown in Table 1 below.

Table 1. Compost volume produced and stored at the RBCF

Finished Compost	Volume (m³)
Stored on-site as of Jan 1, 2022	8,422
Produced on-site between Jan 1-Dec 31, 2022	52,125
Transported off-site between Jan 1-Dec 31, 2022	49,308
Stored on-site as of Dec 31, 2022	11,239



Introduction

The RBCF operates under Permit 108537, which mandates under Section 5.5, that annual reports be submitted to ENV on or before March 31st of each year for the previous calendar year, and must include the following information at a minimum:

- The type and tonnage of compostable materials received for the preceding calendar year;
- The quantity of finished compost transported off-site, and the amount stored on site at the end of each calendar year;
- The results of monitoring programs as specified in the authorization. The Permittee must ensure that data interpretation and trend analysis, as well as an evaluation of the impacts of the discharges on the receiving environment in the previous calendar year must be carried out by a qualified professional;
- A summary and analysis of all complaints received in the previous calendar year; and
- Any improvements made to the facility or operations to reduce and control odour.

This report addresses the above-noted items and provides an overview of the facility, processing volumes, odour and air emissions management, residual management, leachate management, sampling procedures, analytical testing results, staffing, and operational maintenance.

This annual report applies to the 2022 calendar year from January 1st to December 31st.

Compost Facility Overview

The RBCF is situated in a rural area between Vernon and Kelowna and was officially opened in 2006 as a partnership between the two municipalities. The purpose of the facility is to process the biosolids produced at each of the respective wastewater treatment facilities, into nutrient rich, high-quality Class-A Compost that is sold under the OgoGrow™ brand.

The site underwent a significant upgrade in 2010 to increase the receiving capacity of biosolids, expand the processing area, and increase the on-site storage capacity for the finished product.



Biosolids are also received from smaller wastewater treatment facilities in Lake Country and Silver Star (Vernon).

Site Plan

The site primarily consists of an administration building for staff, booster pump and drainage pump houses that manage water flows, enclosed mixing building, maintenance shop, leachate collection system, aeration fan system, local weather station and odour sensors (Figure 1).

Each of the buildings, monitors, and collection systems are designed to provide efficient management, measurement, and containment of each of the compost production stages. This consists of initial mixing of biosolids and woody biomass in the mixing building, primary and secondary aeration zones areas for processing and curing and finished product storage area.

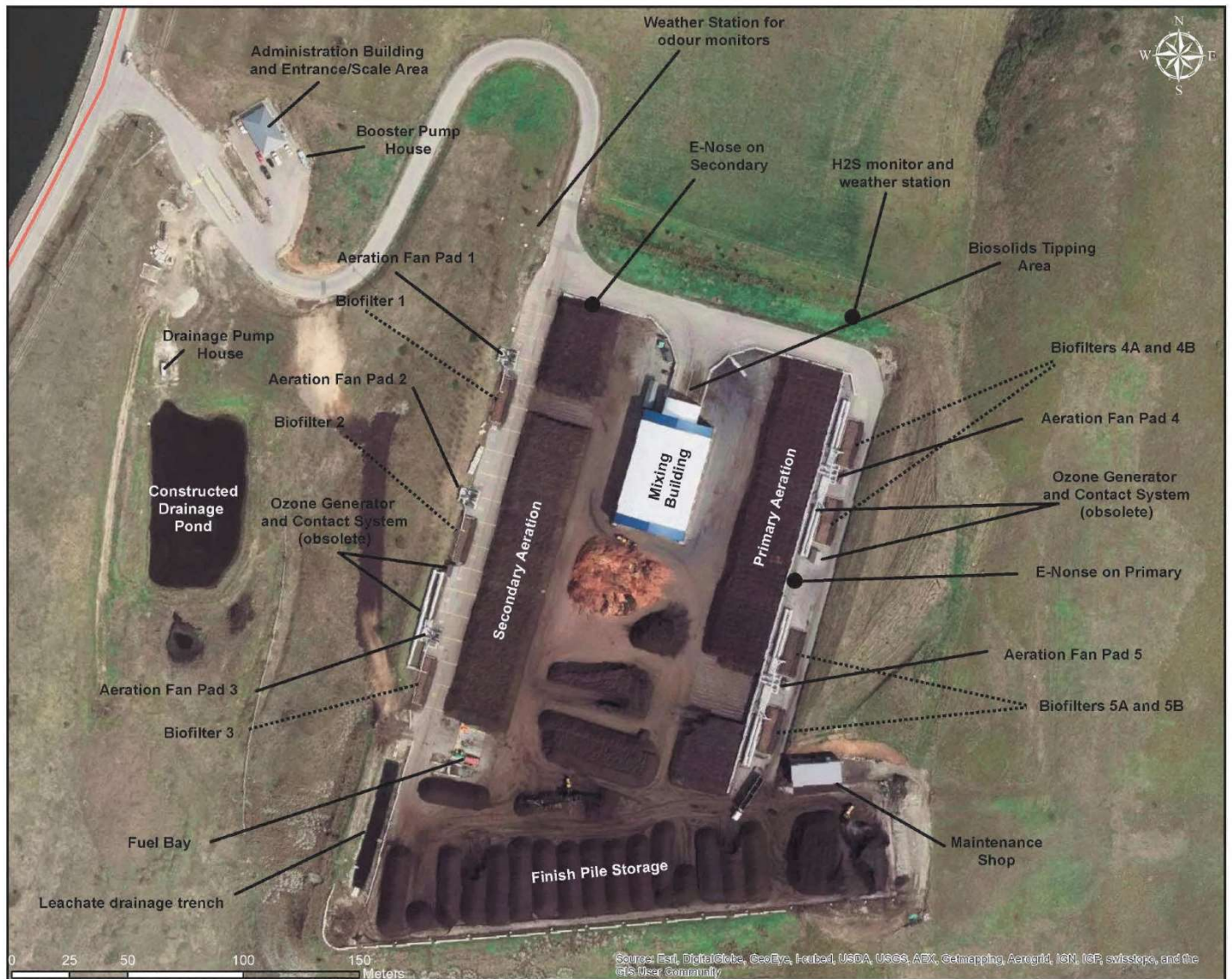


Figure 1. Regional Compost Facility Site Plan

Signage and Security

The compost facility has signage erected near the entrance that clearly identifies the site name, owner and operator, contact phone number for the public, hours of operation, and prohibition of hazardous waste notification.

The operation runs seven days a week and is secured by a perimeter fence and automated gate, which remains open during regular business hours on weekdays, closed on weekends (accessible by authorized staff and contractors), and is monitored 24-hours a day by a surveillance camera.



Contracted haulers have access to the site after hours through use of proximity tags that open and close the gate automatically. Communication on site is through radio system control that staff and haulers are equipped with.

Residual Management

Feedstocks are generally very clean and contain minimal litter or plastic debris. Any litter found on-site is collected and disposed of on an ongoing basis. In addition, a coordinated clean-up effort is made each spring that consists of staff walking the north perimeter berm and adjacent field to pick up any plastic fragments or residuals and dispose of them off-site. All retained residual on premise is limited to less than 15 m³.

Vehicles that make deliveries on and off-site drive on a dedicated paved surface that is frequently maintained and cleaned when needed. Biosolids are tipped into the mixing building, where they are mixed as soon as possible with woody feedstocks, after which the mix is transported to the primary composting area. Feedstock and compost hauling trucks travel around the perimeter of the site and do not travel across areas where raw biosolids are stored or mixed. The roadways are cleared and kept as clean as possible to minimize tracking of compost by tires or undercarriages, which could be transported off-site.

Operations

The COK operates the RBCF in accordance with its Operating and Design Plan (2019), which contains the design, operations, acceptable materials, leachate management, monitoring program, reporting requirements and performance requirements for the RBCF. No changes in operations occurred in 2022.

Compostable Material

Activated sewage sludge is extracted from wastewater through a series of clarifiers, bioreactors, fermenters, and settling basins to physically remove solids from the waste stream at the various wastewater treatment facilities. The thickened sludge is centrifuged and dewatered to a consistency of 15-20 % solids.

Kelowna and Vernon wastewater treatment facilities use Bioxide®, a calcium nitrate solution, mixed into the biosolids to control odours during transport.



In 2022, the RBCF received 31,203 wet tonnes of biosolids, which is approximately 86% of the allowable permit limit of 36,400 wet tonnes. This marked a 2.9% decrease from the previous year, attributed to lower biosolids loads from the Kelowna, Vernon, and Lake Country wastewater treatment plants.

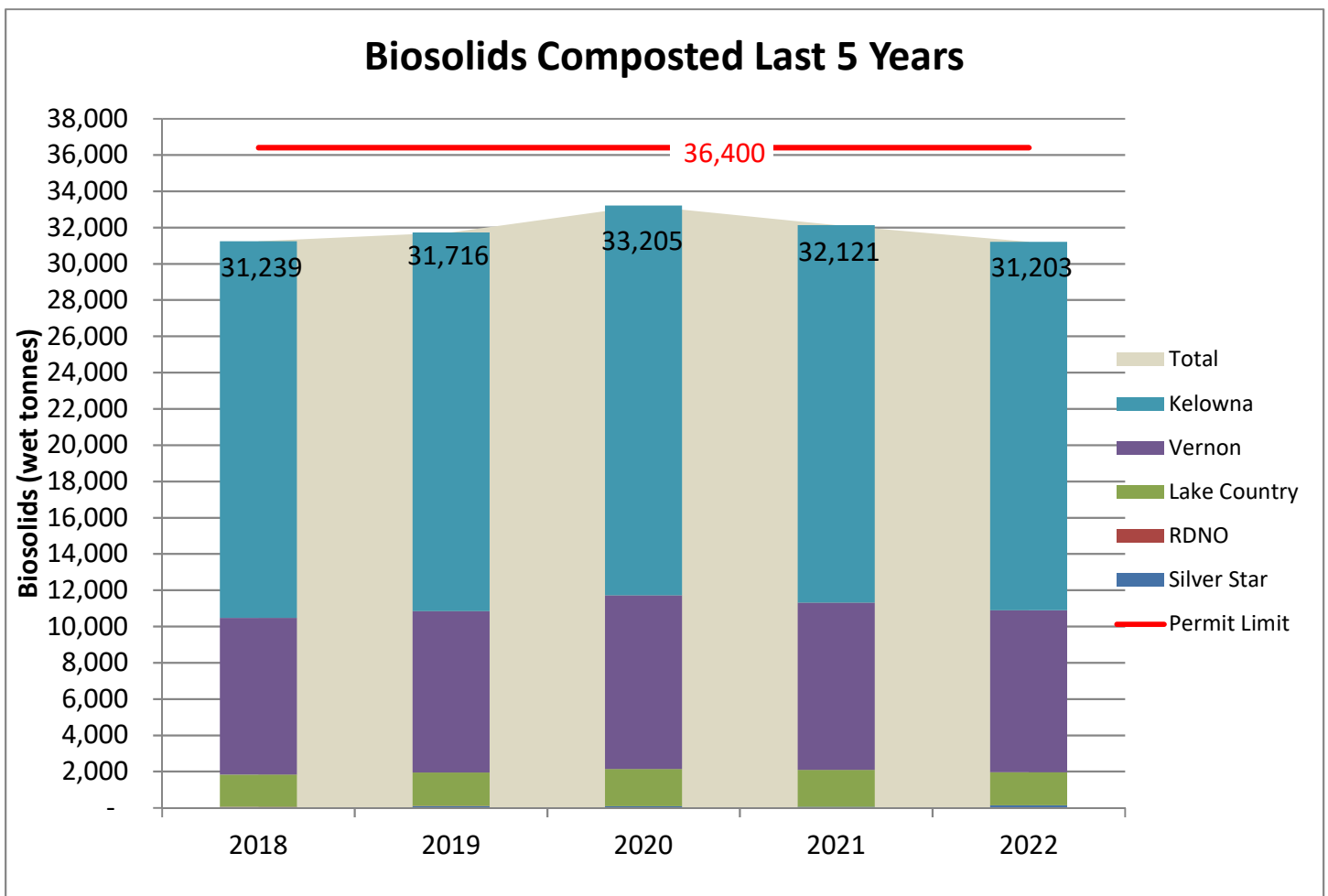


Figure 2. Volume of biosolids processed at the RBCF, year over year relative to permit.

Table 2. Weight of Biosolids Processed (wet tonnes).

	Silver Star	RDNO	Lake Country	Vernon	Kelowna	Total	Permit Limit
2017	0	63	1,703	8,449	20,153	30,368	36,400
2018	38.3	19	1,770	8,645	20,767	31,239	
2019	88	11	1,847	8,887	20,883	31,716	
2020	80	0	2,056	9,581	21,488	33,205	
2021	58	0	2,026	9,220	20,817	32,121	
2022	131	0	1,833	8,925	20,314	31,203	

Table 3. Average Metal Concentrations (mg/dry kg) in Biosolids Accepted by RBCF in 2022.

Parameter	Kelowna WWTF	Vernon Water Reclamation Centre	Lake Country WWTF	Silver Star Ski Hill WWTF	Schedule 4 OMRR Class B Biosolids Limits
Arsenic	1.61	1.47	1.66	2.37	75
Cadmium	0.53	0.73	1.02	0.85	20
Chromium	10.64	8.72	11.93	10.7	1,060
Cobalt	1.21	1.76	1.35	2.84	150
Copper	410.67	229.42	329	259	2,200
Lead	8.00	5.83	8.04	4.02	500
Mercury	1.56	0.32	0.37	0.11	15
Molybdenum	5.43	5.37	8.77	5.05	20
Nickel	8.76	9.09	9.88	12.8	180
Selenium	2.53	3.69	3.03	11.2	14
Zinc	273.42	368.92	624	270	1,850

Table 4. Wood Feedstocks Processed 2022.

Hog fuel – m ³	41,265
Ground Dimensional Lumber – m ³	29,085
Ground Branches - m ³	14,800
Wood Fly Ash - m ³	4,236
Oversize compost from screening (recycle estimate) – m ³	34,060

Compost Blending Process

The raw materials used to blend with the biosolids include wood chips (hog fuel), untreated and unprocessed ground dimensional lumber, ground branches/prunings, and oversized wood chips screened from previously composted material. Fly ash from the burning of unprocessed and untreated wood is added as an additive for pH control, colour, and odour mitigation. Each of these materials are pre-mixed at a ratio of 3-parts hog fuel/ground branches, 2-parts oversize screenings, and 1-part ground dimensional lumber on-site. The pre-mix is then blended with the biosolids at a prescribed rate to optimize the nutrient balance of carbon to nitrogen to produce the OgoGrow mix (Table 5).



Table 5. Mixing ratio of material

OgoGrow mix
5000-5500 kg of pre-mix wood
500 kg of fly ash
3500 kg of biosolids

The RBCF employs the Extended Aerated Static Pile technique to optimize biodegradation of biosolids and feedstock materials into compost. After initial mixing, the material is added to an ever-extending pile in a primary aeration zone. Air is either blown upwards (positive direction) or downwards (negative direction) through the pile, ensuring ideal aerobic and temperature conditions for efficient biodegradation and pathogen and vector reduction.

The internal temperatures of each pile are monitored to determine whether Process to Further Reduce Pathogens (PFRP) and Vector Attraction Reduction (VAR) targets are met. These targets are typically met within 25-28 days, after which the material is pulled from primary and re-built into a new pile in the secondary aeration area where the process is repeated. After the secondary composting is completed, the material is then screened to 5/8-inch in size and arranged into windrows where rows are turned and watered when water is available to enhance final curing.

Before being approved for sale, the completed rows of compost are tested to confirm they meet the OMRR Class-A Compost standards. Rows that have not yet met the standards undergo additional turning and watering to facilitate the curing process. In 2019 the City of Kelowna began participation in the Compost Council of Canada Compost Quality Alliance (CQA) Program and compost tests met CQA Class A results. Sample reports are attached in Appendix C.



More than 50% of the compost produced by the RBCF was removed from site in 2022. This was mainly due to a successful bulk purchase opportunity offered by the City of Kelowna and sales to local landscapers and wholesalers.

Table 6. OgoGrow Average Analytical Results 2022.

mg/kg	Result	OMRR Class A Compost Limits
Arsenic (As)	2.31	13
Cadmium (Cd)	Not detected	3
Chromium (Cr)	21.11	100
Cobalt (Co)	2.29	34
Copper (Cu)	138.69	400
Lead (Pb)	3.88	150
Mercury	0.26	2
Molybdenum (Mo)	3.23	5
Nickel (Ni)	11.45	62
Selenium (Se)	1.4	2
Zinc (Zn)	185.95	500
PCB's	Not detected	2
Foreign Matter	0.08	1%
Foreign Matter - Sharps	0	<1
Moisture %	40.29	35-60%
pH	7.13	
Organic Matter %	78.15	
Total Nitrogen %	2.2	
Phosphate (Available P ₂ O ₅) %	1.08	
Potassium (Soluble K ₂ O) %	0.41	
C:N Ratio	22.93	15-35

Each 500 tonne (wet wt) batch of OgoGrow is individually tested for pathogens including fecal coliform & salmonella. Compost is only cleared for sale when it has met Class A Compost OMMR requirements, including <1000 MPN/g coliform. The compost is also tested for Salmonella to comply with Canadian Food Inspection requirements (<3 MPN/g salmonella). Averages are calculated based on the results of monthly composite tests. Results are reported on a dry weight basis.

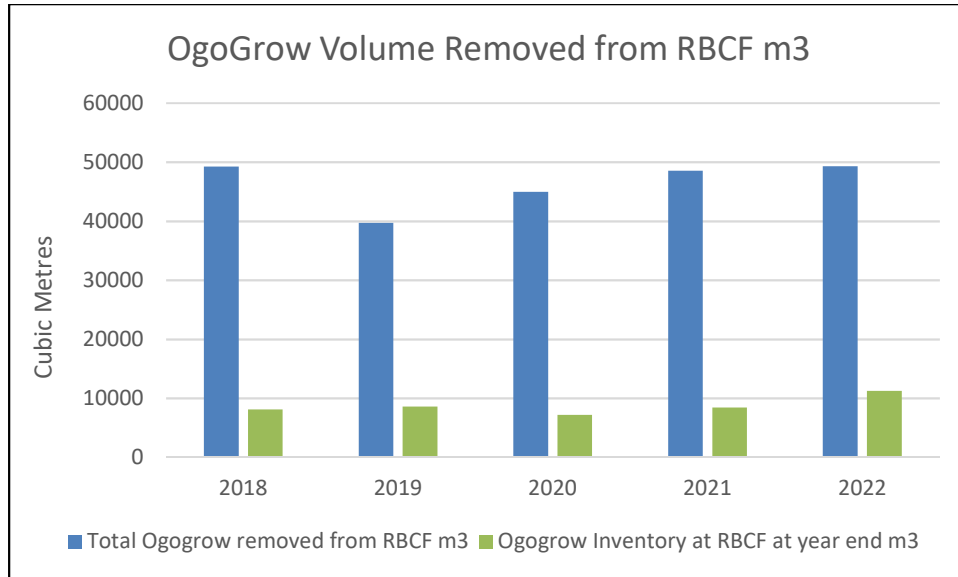


Figure 3. Volume of OgoGrow removed from site and inventory at year end.

Odour Management

The RBCF operates the facility in accordance with an Odour Management Plan (OMP), which lays out best management practices to mitigate on-site odour generation and monitor off-site impacts. The most recent update to the OMP was completed and submitted to ENV in October 2020.

The RBCF previously used a customized odour monitoring system (OdoWatch™), which consisted of two odour detecting sensors (E-Noses) calibrated for the site, and a weather station. A separate hydrogen sulphide (H₂S) monitor continuously collected data on any detectable H₂S concentrations and calculated a rolling 2-hour average.

Technical issues were experienced with the OdoWatch system throughout 2020 and 2021, which the manufacturer (OdoTech) could not resolve. Moreover, OdoTech was acquired by a larger corporation (EnviroSuite), which discontinued support for the OdoWatch platform. Following the procurement process, the City selected EnviroSuite’s odour monitoring system to replace OdoWatch. Installation of the new hardware occurred in August 2021. Due to changes to the reporting thresholds resulting from this upgrade, updates to the OMP are currently being completed with an updated OMP planned for 2023.

Odour Control

To help control odours, an enclosed Coverall Building (mixing building) was erected in 2006 to receive and mix the biosolids and feedstocks. The structure allows heavy machinery to mix and transport the initial compost mix without direct wind exposure and helps reduce the migration of odours to surrounding areas. Front end loaders used at the site have pressurized cabins and cabin-air filtration systems to minimize equipment operators’ exposure to dust and airborne material generated by the mixing process. The building membrane was



initially slated for replacement in 2022, but due to supply chain disruptions and weather constraints, the project has been rescheduled for spring 2023.

After blending and transferring the compost to the primary aeration cell area, odours are managed by applying a 0.3-meter thick biocover, which is composed of oversized material from the screening process and mature unscreened compost from secondary. This biocover absorbs much of the odour produced by the freshly mixed piles, particularly when the system is set to positive aeration.

When operating in negative mode, the aeration fans draw air downward through the piles, which is then exhausted through one of seven biofilters. Four of these filters are dedicated to primary composting, while the remaining three handle air from secondary composting. Results of the 2018 RBCF Air Emissions Study supports the effectiveness of biofiltering as an odour control method.

Secondary Odour Treatment

Following a feasibility study conducted by WSP an odour-control misting system was selected as the secondary odour treatment process as required by Permit.

The misting system covers the primary composting area and the mix building and helps neutralize odours by means of a non-toxic solution dispersed into the air. This misting system was installed in late October 2020, used for the first time between May and October 2021, and seasonally between these months in future years as required by Permit.

The misting system complements improvements to the aeration system, operating practices, and other infrastructure upgrades at the RBCF.

Odour Reports

The RBCF maintains records of odour reports from neighbours. The number of odour incidents reported against the facility peaked in 2014 with 130 reports, followed closely by 118 reports in 2015. In 2016, 2017, 2018, 2019, 2020, and 2021 the total number of odour complaints were 71, 65, 32, 16, 18 and 9 respectively.

The total number of odour reports received in 2022 was 2, the lowest on record. A brief description of the complaints and resulting actions are presented below:

Report Date	Description	Actions/Comments
July 22, 2022	Medium to strong compost and wood chip odours reported to be occurring in the evenings and occasionally during the day.	City staff identified the power had been out at the facility due to a lightning strike earlier in the week. This could have led to an increase in odour emissions, as the operation of the aeration system (and flow through biofilters) would have been disrupted. No other process issues were identified during the complaint timeline. As a response, the operating hours of the odour-control misting system were extended further into the evening.
July 25, 2022	Strong odours between 7:30pm and 10:30pm were reported by the same complainant as the previous odour report.	No activities or issues that could have contributed to increased odour production were observed on site. A review of the weather data from site identified swirling wind conditions that put both the Regional Compost Facility and another nearby

		waste management facility upwind of the complainant.
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Figure 4 below shows the pronounced decrease in odour reports received over the past nine years.

Despite the number odour reports received, the reporting thresholds specified in the Odour Management Plan have never been exceeded, and consequently, there hasn't been a need to report to ENV. Considering the recent upgrade to Envirosuite's odour monitoring system, the Odour Management Plan and reporting thresholds will be updated for compatibility with the new system.

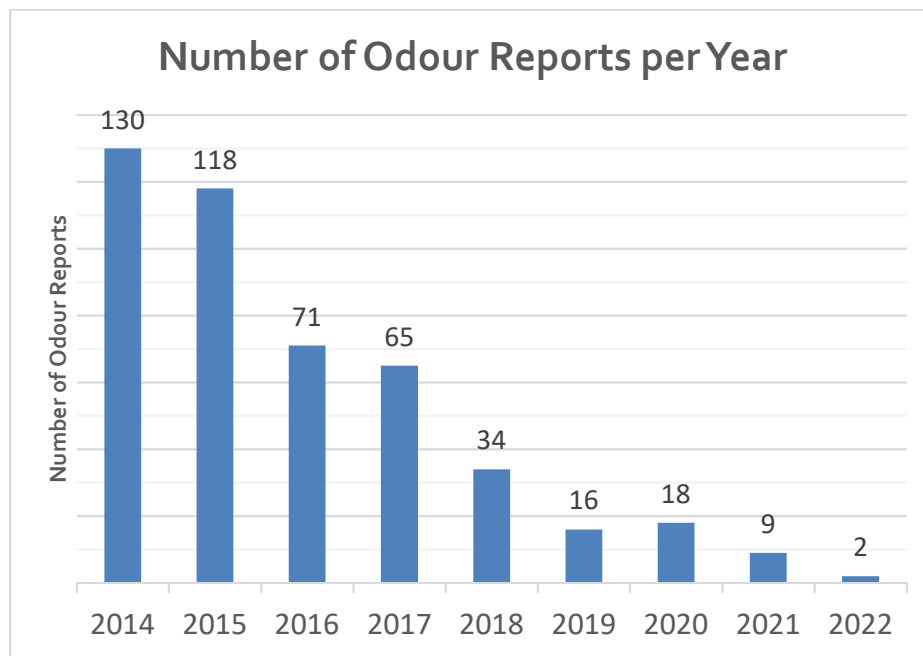


Figure 5. Number of odour reports received by RBCF per year.

Leachate Management

The RBCF operates the facility in accordance with its 2018 Leachate Management Plan (LMP) and employs best management practices for the collection and treatment of all leachate collected on-site. As mandated by Permit, the re-lining of the RBCF leachate drainage trench and pond was completed in fall 2019 by OK Excavating, under the supervision of WSP engineering consultants.

Low-strength Leachate

All authorized works are carried out on an impervious surface. Runoff is directed to a drainage trench along the site's southwestern boundary and into the Drainage Pond (Figure 1). Water entering the drainage trench and pond consists primarily of stormwater runoff that may contain leachate from the compost, and (to a lesser extent) some irrigation water runoff that is applied regularly to the compost piles in the summer months.

As required by Permit, impervious surface repairs are conducted on an annual basis. In addition, a Geotechnical Investigation and Asphalt Assessment was conducted in 2021 to help guide repairs over the next five years.

Analytical testing is carried out on the drainage pond water and neighbouring ponds to assess for the potential infiltration of leachate and impacts to the surrounding area. As a condition on permit, Keltech Environmental Ltd., were contracted to review, report, and make recommendations based on the water testing results from the 2022 calendar year (Appendix B).

High-strength Leachate

Higher-strength leachate (richer in organic content) from the primary and secondary aeration cells drains through the aeration channels and is directed to holding tanks. These tanks are regularly emptied with the leachate hauled by truck off-site for treatment at Vernon Water Reclamation Facility. A summary of the leachate volume produced and hauled off-site is summarized in Figure 5.

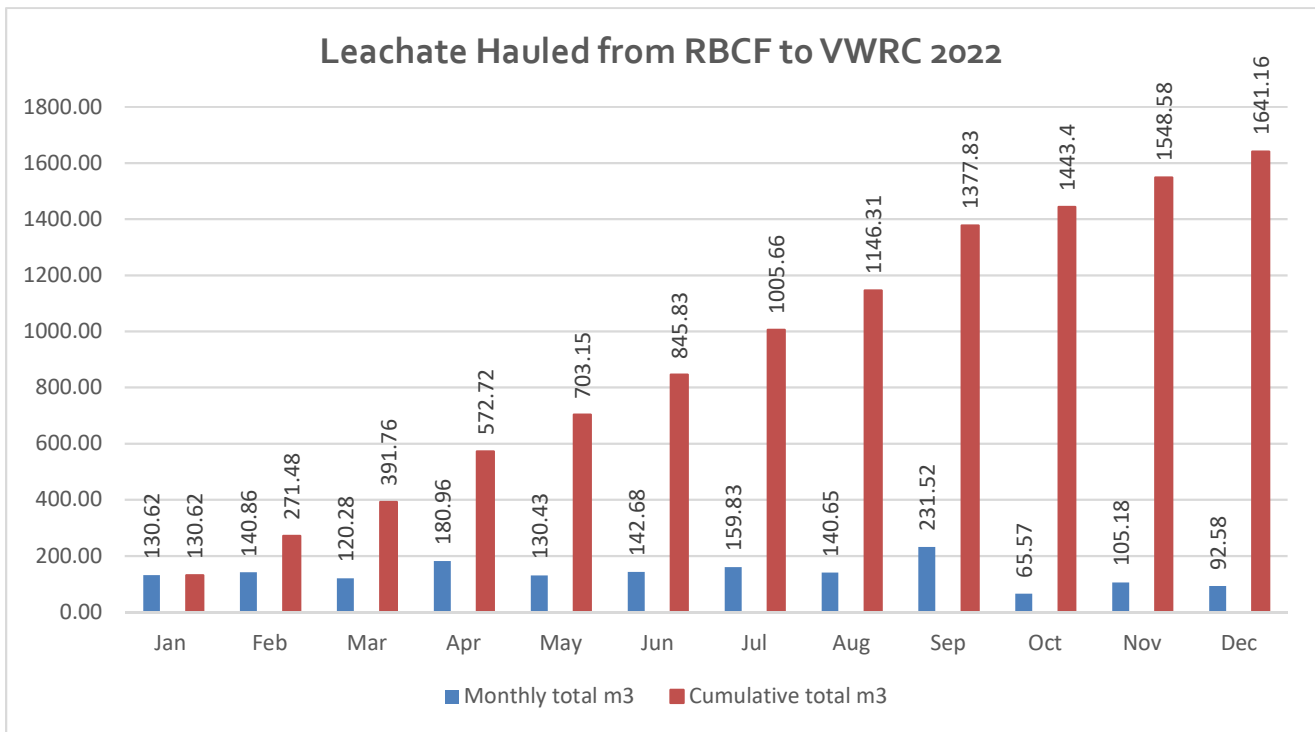


Figure 5. High-strength Leachate volume transported for treatment in 2021.

Operational Maintenance

The COK regularly inspected all authorized works and equipment on-site and maintained them in good working order.

All equipment was routinely serviced at the prescribed schedules or as needed at the on-site maintenance shop. All service records and activities are available upon request by ENV. During 2022, the asphalt along the in-road was replaced. Additionally, 165 m² of the access road to the composting area and 980 m² of the secondary work area were repaved as part of routine and proactive maintenance as recommended in the Geotechnical Investigation and Report for Regional Biosolids Compost Facility Asphalt Assessment completed in March of 2022. An engineered



exterior tipping bay was also constructed northeast of the mix building in spring 2022 for better storage for fly ash.

Staffing

The RBCF operates with experienced personnel that include one Site Supervisor, one Compost Coordinator one Equipment Level II Operator, five Equipment Level IV Operators, and one Environmental Level I Technician for a total of nine staff. The RBCF staff is supported by a team of COK mechanics, millwrights and electricians, and external consultants and contractors as needed.

Monitoring and Testing

All sampling of compost, feedstock materials, water and air, conducted on-site is carried out in accordance with the British Columbia Field Sampling Manual for Continuous Monitoring and the Collection of Air, Air-Emission, Water, Wastewater, Soil, Sediment, and Biological Samples (2013).

Sample analysis is contracted to a third-party accredited laboratory that provides testing in accordance with OMRR and the BC Environmental Laboratory Manual (2015) analytical methods or equivalent. All reports are retained and available upon request by ENV.

Environmental Impact Study

An initial Environmental Impact Study (EIS) was completed by Golder Associates prior to the initial construction of the facility in 2006, and was further amended in 2010 by MMM Group to coincide with the operational expansion at that time. These two combined documents identify and address environmental impacts of the compost operation to the aquatic, terrestrial and atmospheric environments, and to vegetative and wildlife species in the surrounding area. The original and amended EIS provide recommendations as to biosolids diversion planning, best management practices, design capacity, leachate collection and treatment, and odour management to minimize environmental impacts.

The resulting recommendations were addressed in the Design and Operations Plan, carried out through the planning and actions of management and staff, and works inspected on site periodically by ENV staff. Copies of the Environmental Impact Studies are kept on site and are available upon request by ENV. An updated Environmental Impact Study will be commissioned prior to the construction of any significant site upgrades.

Closure

This Annual Report has been prepared to comply with reporting requirements outlined in Section 5.5 of Air Discharge Permit #08537 for the City of Kelowna's Regional Biosolids Composting Facility located at 551 Commonage Road, Vernon, BC.

The City of Kelowna is committed to continual improvement of its practices and policies at the RBCF, to ensure the facility meets all permitting requirements, minimizes its impact on the natural environment and the surrounding community, and provides a safe and sustainable work environment for its workers as it conducts an essential service for the Okanagan communities it serves.

For further details on the content of this report, please contact Scott Hoekstra, Landfill and Compost Manager by phone at 250-469-8588 or by email at shoekstra@kelowna.ca

Appendix A

Air Discharge Permit

Appendix B

2022 Water Quality Report

Appendix C

CQA Compost Analytical Results



July 12, 2017

Tracking Number: 352392
Authorization Number: 108537

REGISTERED MAIL

CITY OF KELOWNA
1435 WATER STREET
KELOWNA, BC
V1Y 1J4

Dear Permittee:

Enclosed is Permit 108537 issued under the provisions of the *Environmental Management Act*. Your attention is respectfully directed to the terms and conditions outlined in the permit. An annual fee will be determined according to the Permit Fees Regulation.

This permit does not authorize entry upon, crossing over, or use for any purpose of private or Crown lands or works, unless and except as authorized by the owner of such lands or works. The responsibility for obtaining such authority rests with the permittee. This permit is issued pursuant to the provisions of the *Environmental Management Act* to ensure compliance with Section 120(3) of that statute, which makes it an offence to discharge waste, from a prescribed industry or activity, without proper authorization. It is also the responsibility of the permittee to ensure that all activities conducted under this authorization are carried out with regard to the rights of third parties, and comply with other applicable legislation that may be in force.

This decision may be appealed to the Environmental Appeal Board in accordance with Part 8 of the *Environmental Management Act*. An appeal must be delivered within 30 days from the date that notice of this decision is given. For further information, please contact the Environmental Appeal Board at (250) 387-3464.

Administration of this permit will be carried out by staff from the Environmental Protection Division's Regional Operations Branch. Plans, data and reports pertinent to the permit are to be submitted by email or electronic transfer to the Director, designated Officer, or as further instructed.

Yours truly,

A handwritten signature in black ink, appearing to be 'Luc Lachance', written in a cursive style.

Luc Lachance, P.Eng
for Director, *Environmental Management Act*
Authorizations - South Region

Enclosure

cc: Environment Canada



**MINISTRY OF
ENVIRONMENT**

PERMIT

108537

Under the Provisions of the Environmental Management Act

**City of Kelowna
551 Commonage Road
Vernon, B.C. V1H 1G3**

is authorized to discharge contaminants to the air from a composting facility located at 551 Commonage Vernon, British Columbia subject to the requirements listed below. Contravention of any of these requirements is a violation of the *Environmental Management Act* and may lead to prosecution.

Unless otherwise defined in this authorization, terms used in this authorization have the same meaning as those defined in the *Environmental Management Act* and Organic Matter Recycling Regulation.

1. AUTHORIZED DISCHARGES

1.1. Authorized Source

This section applies to the discharge of air contaminants from various areas of the composting facility. The site reference number for this discharge is E307813.

1.1.1. The rate of the discharge is variable.

1.1.2. The authorized discharge period is continuous.

1.1.3. The characteristics of the discharge are that of typical emissions of a biosolids composting facility.

1.1.4. The authorized works are all paved surfaces, the aeration pads, one (1) primary receiving building, one (1) water supply pump house including the pumps, chlorination and filtration apparatus, one (1) drainage pump house, one (1) ECS Aerated Static Pile System comprised of 18 zones for primary composting and 18 zones for secondary composting, four (4) biofilters for primary composting area and

Date issued: July 12, 2017

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L. Lachance, P. Eng.
For Director, *Environmental Management Act*
Authorizations – South Region
Permit Number: 108537

three (3) biofilters for secondary composting area, related sumps, pipes, holding tanks and related appurtenances.

1.1.5. The Permittee must not operate under this authorization unless the authorized works are complete and fully operational.

1.1.6. The location of the authorized works approximately located as shown on Site Plan attached.

2. GENERAL REQUIREMENTS

2.1. Maintenance of Works and Emergency Procedures

The Permittee must regularly inspect the authorized works and maintain them in good working order. The Permittee must maintain all asphalt surfaces and must repair cracks and significant damages to prevent and avoid leachate infiltration. Records of inspection and maintenance activities must be kept and made available upon request.

In the event of an emergency or condition beyond the control of the Permittee including, but not limited to, unauthorized fires arising from spontaneous combustion or other causes, or the detection of leachate migration outside of onsite confinement, the Permittee must take remedial action to prevent any unauthorized discharges. The Permittee must immediately report the emergency or condition and the remedial action that has and will be taken to the RAPP line (1-877-952-7277, #7272 from mobile phone) or electronically at this link: <http://www.env.gov.bc.ca/cos/rapp/form.htm>.

The Director may require the Permittee to reduce or suspend operations until corrective steps have been taken to prevent unauthorized discharges.

2.2. Bypasses

The Permittee must not allow any discharge authorized by this authorization to bypass the authorized works, except with the prior written approval of the Director.

2.3. Signage

The Permittee must erect a sign at the main entrance to the site which identifies the following: site name, owner and operator, contact phone number and address, hours of operation, tipping fees (if applicable) and prohibition of hazardous wastes. The lettering on the sign must be such that it is clearly readable from a distance of 3 meters by the public when they approach the entrance of the site.

Date issued: July 12, 2017



L. Lachance, P. Eng.
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2.4. Access Security

The Permittee must provide adequate security for the facility and restrict access to authorized personnel.

2.5. Qualified Professionals

The Permittee must cause a qualified professional to certify that all new works are constructed in accordance with submitted plans and specifications. All documents submitted to the Director by a qualified professional must be signed by the author(s).

2.6. Litter Control

The Permittee must use the best practical means available to prevent the scatter of litter at the site. The Permittee must clean up any litter that may have escaped the site and scattered into the neighbouring property, along access roads, in drainage ditches, along fences, into surrounding trees or elsewhere on the site. The Director may require the Permittee to implement a specified frequency of clean-up and other additional requirements for litter control.

2.7. Vehicle Leaving Site

The Permittee must ensure, before any vehicle transporting compostable materials leaves the site, that the wheels of the vehicle do not contain compostable materials. If tracking of compostable material outside of the facility becomes a problem the Director may require that a wheel rinsing station be installed at the facility.

2.8. Air Quality

The Permittee must suppress odours created within the compost area to the satisfaction of the Director. If air quality becomes a concern, the Director may require the Permittee to implement additional control measures on emission sources.

3. OPERATIONAL REQUIREMENTS

3.1. Compostable Materials

3.1.1. The Permittee is only authorized to process the stabilized municipal sewage sludge, unprocessed and untreated wood residuals and yard waste.

Date issued: July 12, 2017



L. Lachance, P. Eng.
For Director, *Environmental Management Act*
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3.1.2. The Permittee must not receive or process more than 36,400 wet tonnes of stabilized sewage sludge per year.

3.1.3. Primary Composting Area

The Permittee must select and implement a secondary odour treatment for all primary composting piles to complement the biofilters for the period of May to October of each year. The Permittee must select a secondary odour treatment by October 31, 2018 and submit to the Director for approval. If the selected and approved secondary odour treatment is not implemented by June 30th, 2019, the Permittee will have to use a cover for all primary composting piles from May to October each year.

3.2. Biofiltration Cover

The Permittee must maintain at all times, for the purpose of odour control, a biofiltration cover for all compost piles located in the primary and secondary compost areas, consisting of:

- 0.3 m secondary teardown, or
- 0.3 m oversized material (overs), or
- A blend of secondary teardown and overs, or
- Another covering layer of a type and thickness that is acceptable to the Director.

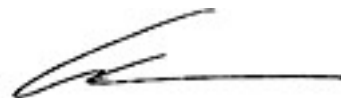
The Permittee must account for the biofiltration cover when calculating the carbon to nitrogen ratio to ensure that optimal composting conditions are maintained throughout the process. In order for the biofiltration cover to be effective, the Permittee must maintain optimal moisture content in the biofiltration material.

3.3. Design and Operating Plan

The Permittee must submit an updated design and operating plan by May 31, 2019. The plan must be prepared by a qualified professional. The plan must describe, but not be limited to, the design, operations, acceptable materials, leachate management, monitoring programs, reporting requirements and performance requirements. In addition, the operating plan must:

- 3.3.1. Demonstrate that the biofilters are of adequate size and capacity for the facility's design;
- 3.3.2. Establish a schedule of site-specific maintenance activities for the biofilters;
- 3.3.3. Describe how records are kept for all maintenance activities performed on site;

Date issued: July 12, 2017



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3.3.4. Explain how the biofiltration cover is integrated in the C:N ratio;

3.3.5. Include contingency plans in case of supply shortage (hog, ash) ; and,

3.3.6. Include an asphalt maintenance program, which describes inspection protocols and maintenance activities.

The Permittee must operate the facility in accordance with the design and operating plan. The Director may request additional information with respect to the design and operating plan and specifications that he or she considers necessary for the protection of human health and the environment, and may specify particular concerns or questions that the plans and specifications must address.

3.4. Leachate Management

The Permittee must ensure that all leachate generated from the composting operation, buildings, paved open surface areas, outdoor curing areas, finished compost storage areas, and truck marshalling area is collected and directed to the leachate collection system. The Permittee must maintain all collection channels and catch basins to ensure proper drainage.

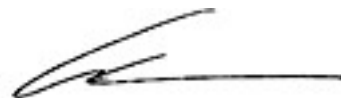
The Permittee must select an impermeable containment system to store leachate, or the contact water from the curing areas or other water that may have come in contact with the organic waste or compost. The Permittee must submit the new Leachate Management System Plan to the Director for approval before November 30, 2017. The Permittee must cease to use the drainage trench or the drainage pond after October 31, 2018 to store leachate, or the contact water from the curing areas or other water that may have come in contact with the organic waste unless the drainage trench and the drainage pond are lined with an impermeable liner.

3.5. Odour Management

The Permittee must submit to the Director for approval an updated odour management plan by November 30, 2017. The plan must be prepared by a qualified professional and must do the following:

3.5.1. Identify all odour generating areas including, but not limited to: receiving, mixing, primary composting, curing or secondary composting, screening, leachate collection system, aeration systems, biofilters, grinding and storage.

Date issued: July 12, 2017



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- 3.5.2. Identify appropriate mitigating strategies employed for each area and provide a summary table in the plan.
- 3.5.3. Identify all parameters and optimal ranges in the compost process needed to limit odour generation. Compost process parameters to be identified include, but are not limited to, feedstock type, bulking materials, bulk density, particle size, carbon to nitrogen ratios, moisture, temperature, oxygen, peak odour times (i.e. Day 3 or 7), pile turning schedules.
- 3.5.4. Outline all best management practices and emission control technologies aimed at reducing odour generation being employed at the facility.
- 3.5.5. Identify other best management practices and emission control technologies that could potentially be used on site to further reduce and control odour.
- 3.5.6. Include an odour monitoring program. The program must describe how odours are monitored on-site and off-site.
- 3.5.7. Include a complaint management process which includes a complaint form, any investigative actions to be taken and any mitigation actions to be taken.

The Permittee must operate the facility in accordance with the approved odour management plan, and any requirements which the Director may attach to the odour management plan as a condition of approval.

3.6. Change to Plans

The Permittee must keep the design and operating plan up to date and must notify the Director of any changes to the plan within 30 days of the change.

3.7. Closure of the Facility

Before closure of the facility, the Permittee must apply or distribute all compost in accordance with the Organic Matter Recycling Regulation, and all unprocessed organic matter must be removed from the facility and dealt with in accordance with the *Environmental Management Act*.

A final closure plan must be submitted 90 days prior to deactivation of the site to the Director for review and approval. The final closure plan and associated engineered closure works must be compatible with the planned end-use of the compost facility.

3.8. Additional Requirements

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The Permittee must ensure the following requirements are met:

- 3.8.1. Class A compost must meet the requirements of pathogen reduction processes, vector attraction reduction, pathogen reduction limits, quality criteria, sampling and analysis – protocols and frequency, and record keeping as outlined in the Organic Matter Recycling Regulation.
- 3.8.2. Biosolids used as feedstock for the production of Class A compost must not exceed the standards for Class B biosolids set out in Column 3 of Schedule 4.
- 3.8.3. At least half of the compost stored at 551 Commonage Road, Vernon, BC must be removed annually from the facility.
- 3.8.4. The receiving, storage, processing and curing areas of the composting facility must be located on asphalt, concrete or another similar impermeable surface that is capable of withstanding wear and tear from normal operations and that will prevent the release of leachate into the environment.
- 3.8.5. Residuals from the composting process must be stored so as to prevent vector attraction, and be disposed of on a regular basis in accordance with the *Environmental Management Act*.
- 3.8.6. Residuals that are stored at a composting facility must not at any time exceed 15 cubic meters in total.

4. MONITORING REQUIREMENTS

4.1. Odour emissions

The Permittee must continue to monitor air emissions at the facility and in the surrounding areas using existing e-noses and H₂S monitors. The Permittee must monitor odour emissions in accordance with the approved odour management plan and results must be presented and interpreted in the annual report.

4.2. Surface Water Monitoring

The Permittee must continue to implement a surface water monitor program as required in writing by the Director and in accordance with recommendations from a Qualified Professional. The Director may request additional information or changes with respect to the monitoring program based on monitoring results and upon submission and review of the Leachate Management System Plan, required under Section 3.5.

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4.3. Environmental Impact Study

The Permittee must retain on site a copy of the most recently submitted environmental impact study for inspection. The Director may request additional information with respect to the environmental impact study that he or she considers necessary for the protection of human health and the environment, and may specify particular concerns or questions that the impact study must address.

4.4. Air Emissions Review Study

The Permittee must retain the services of a qualified professional to review and analyze all emissions data collected at the facility with e-noses, H₂S monitors and odorous gas measurements. The report must be submitted by March 31, 2018 and must:

- 4.4.1. Describe odour emissions on-site for each odour generating area;
- 4.4.2. Describe how odours are migrating off-site and identify all affected areas;
- 4.4.3. Use quantitative and qualitative units for descriptions;
- 4.4.4. Include daily, seasonal and annual trends;
- 4.4.5. Discuss how meteorological conditions effect odour generation and dispersion;
- 4.4.6. Provide a qualitative assessment of how odours have improved since 2010;
- 4.4.7. Report on the effectiveness of odour mitigation strategies used at the facility;
- 4.4.8. Discuss calibration schedule/requirements of the OdoWatch system; and
- 4.4.9. Make recommendations on how the facility could further reduce its odour emissions.

4.5. Foul Air Study

The Director may request the Permittee to conduct a foul air study or similar study to measure the effectiveness of the facility's odour management plan and to quantify the odours migrating off-site.

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4.6. Sampling Procedures

The Permittee must carry out sampling in accordance with the procedures described in the "British Columbia Field Sampling Manual for Continuous Monitoring and the Collection of Air, Air-Emission, Water, Wastewater, Soil, Sediment, and Biological Samples, 2013", or the most recent edition, or by alternative procedures as authorized by the Director. A copy of the above manual is available on the Ministry web page at: <http://www2.gov.bc.ca/gov/content/environment/research-monitoring-reporting/monitoring/sampling-methods-quality-assurance/bc-field-sampling-manual>

4.7. Analytical Procedures

The Permittee must carry out analyses in accordance with the procedures described in the "British Columbia Laboratory Manual, 2015 ", or the most current edition, or by suitable alternative procedures as authorized by the Director.

A copy of the above manual is available on the Ministry web page at: <http://www2.gov.bc.ca/gov/content/environment/research-monitoring-reporting/monitoring/sampling-methods-quality-assurance/bc-environmental-laboratory-manual>

5. REPORTING REQUIREMENTS

5.1. Maintenance of Records

The Permittee must maintain all records and plans required by this authorization and produce them for inspection by an officer when requested.

5.2. Electronic Submission

The Permittee must submit all data required to be submitted under this permit by email to the Ministry's Routine Environmental Reporting Submission Mailbox (RERSM) at Envauthorizationsreporting@gov.bc.ca. For guidelines on how to properly name the files and email subject lines or for more information visit the Ministry website: <http://www2.gov.bc.ca/gov/content/environment/waste-management/waste-discharge-authorization/data-and-report-submissions/routine-environmental-reporting-submission-mailbox>

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5.3. Spill Reporting

The Permittee must immediately report all spills to the environment (as defined in the Spill Reporting Regulation) in accordance with the Spill Reporting Regulation, which among other things, requires notification to the Provincial Emergency Program at 1-800-663-3456.

5.4. Non-Compliance

The Permittee must immediately notify the Director or designate by email at EnvironmentalCompliance@gov.bc.ca of any non-compliance with the requirements of this authorization by the Permittee and take remedial action to remedy any effects of such non-compliance. The Permittee must immediately notify the Director or designate of any non-compliance with the requirements of this Permit and take appropriate remedial action. Written confirmation of all non-compliance events, including available test results is required within 24 hours of the original notification unless otherwise directed by the Director, Environmental Protection.

Within 30 days of the non-compliant event, the Permittee must submit to the Director, Environmental Protection, a written report including, but not necessarily limited to, the following:

- (a) all relevant test results related to the noncompliance;
- (b) an explanation of the most probable cause(s) of the noncompliance; and
- (c) remedial action planned and/or taken to prevent similar noncompliance(s) in the future.

5.5. Annual Reporting

The Permittee must submit a comprehensive annual report to the Director, on or before March 31st of each year for the previous calendar year. The annual report must include but not be limited to:

- 5.5.1. The type and tonnage of compostable materials received for the preceding calendar year;
- 5.5.2. The quantity of finished compost transported off site and the amount stored on site at the end of each calendar year;
- 5.5.3. The results of all monitoring programs as specified in this authorization. The Permittee must ensure that data interpretation and trend analysis, as well as an

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evaluation of the impacts of the discharges on the receiving environment in the previous calendar year must be carried out by a qualified professional;

5.5.4. A summary and analysis of all complaints received in the previous calendar year; and

5.5.5. Any improvements made to the facility or operations to reduce and control odour.

6. LICENCE TO PUBLISH DOCUMENTS

6.1. Subject to 6.2, the Permittee authorizes the Province to publish on the Ministry of Environment website the entirety of any Regulatory Document.

6.2. The Province will not publish any information that could not, if it were subject to a request under section 5 of the Freedom of Information and Protection of Privacy Act, be disclosed under that Act.

6.3. The Permittee will indemnify and save harmless the Province and the Province's employees and agents from any claim for infringement of copyright or other intellectual property rights that the Province or any of the Province's employees or agents may sustain, incur, suffer or be put to at any time that arise from the publication of a Regulatory Document.

GLOSSARY

“Foreign matter” means a contaminant that is not readily decomposed during the composting process, and includes demolition waste, metal, glass, plastic, rubber and leather, but does not include silt, sand, rocks or stones, or gravel less than 2.5 centimeters in diameter, or other similar mineral materials naturally found in soil;

“Oversized material” or “overs” means the product resulting from secondary teardown screening which removes the compost particles smaller than 19 mm.

“Province” means Her Majesty the Queen in right of British Columbia;

“Regulatory Document” means any document that the permittee is required to provide to the Director or the Province pursuant to:

(i) this authorization;

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- (ii) any regulation made under the *Environmental Management Act* that regulates the facility described in this authorization or the discharge of waste from that facility; or,
- (iii) any order issued under the *Environmental Management Act* directed against the Permittee that is related to the facility described in this authorization or the discharge of waste from that facility;

“Residuals” means material that can’t be used in the composting process and includes organic material that can’t be composted because it is unauthorized, or fails to meet OMRR standards, or is defined as foreign matter;

“Secondary teardown” means unscreened compost that has been processed for 24 to 28 days on the primary zone to achieve process to further reduce pathogens (PFRP) and vector attraction reduction (VAR) requirements, then moved to the secondary composting zone where aeration is continued for an additional 24 to 30 days of curing. The secondary teardown at the end of this process is approximately 56 days old and has met OMRR requirements;

“Stabilized municipal sewage sludge” means sludge resulting from a municipal waste water treatment process or septage treatment process which has been sufficiently treated through biological, thermal or chemical stabilization to allow the sludge to be beneficially recycled.

“Untreated and unprocessed wood residuals” means clean (non-contaminated and untreated) wood from lumber manufacture, including: shavings, sawdust, chips, hog fuel, ground mill ends and land clearing waste which has been ground with the majority of the greenery removed and no soil present but does not include construction and demolition debris;

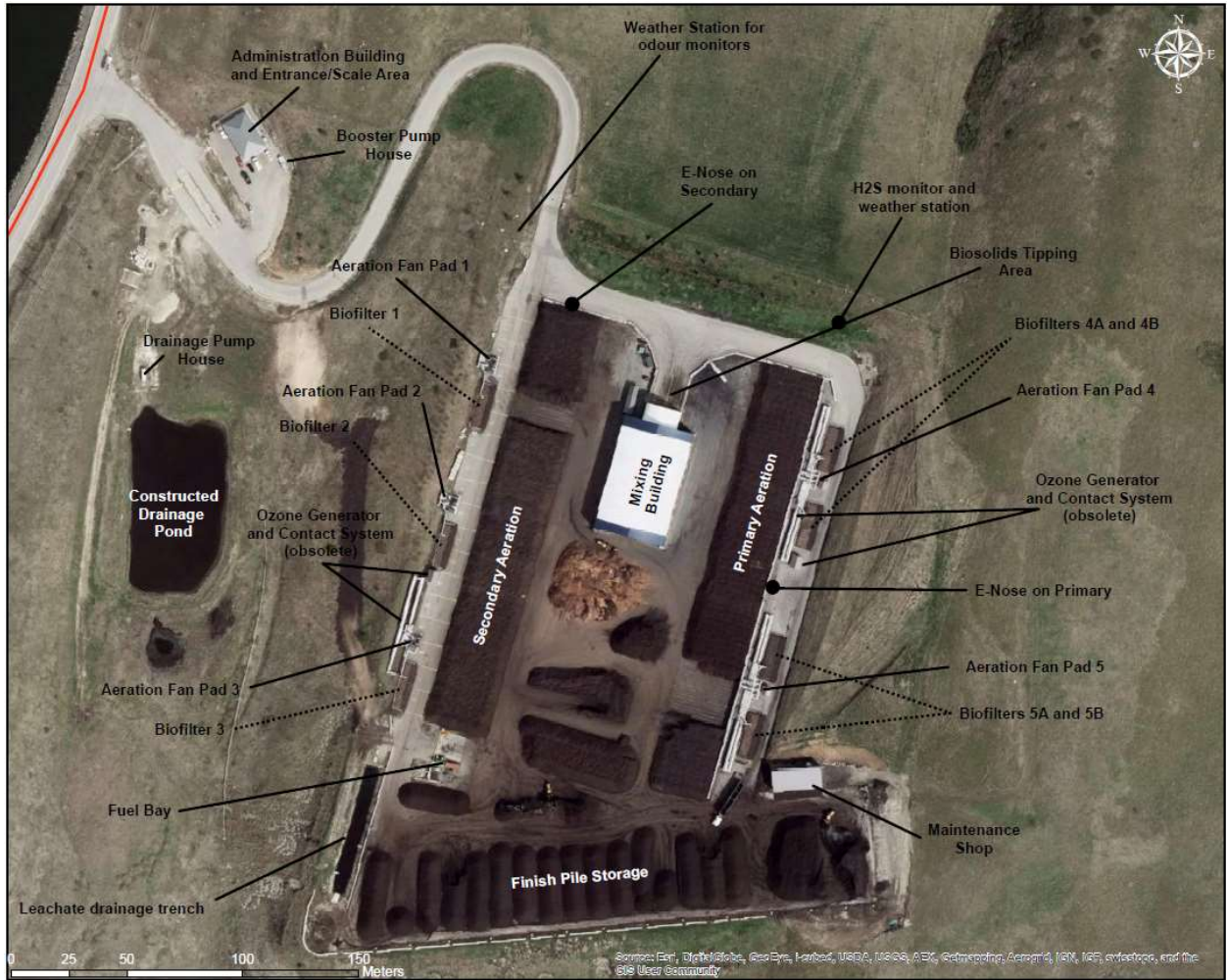
“Yard waste” means clean and untreated wood waste or non-food vegetative matter resulting from gardening operations, landscaping, and land clearing; yard waste does not include wood waste derived from construction or demolition. Neither human or animal food waste that is diverted from residential, commercial or institutional sources, nor manure, is yard waste.

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SITE PLAN



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FINAL REPORT

2022 WATER QUALITY MONITORING REPORT

CITY OF KELOWNA REGIONAL BIOSOLIDS COMPOSTING FACILITY
551 COMMONAGE ROAD, VERNON, BRITISH COLUMBIA



Prepared for:
City of Kelowna
Attention: Mr. Jose Garcia, Supervisor
551 Commonage Road
Vernon, BC
V1H 1G3

Distribution:
1 Copy City of Kelowna
1 E-Copy: Keltech Environmental Ltd.

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Revision Number	Edited By:	Checked By:	Published Date:	Description of Changes

1.0 INTRODUCTION

Keltech Environmental Ltd. (Keltech) was retained by City of Kelowna (CoK) to complete the 2022 Annual Surface Water Monitoring Report for the City of Kelowna Regional Biosolids Compost Facility (RBCF, the Subject Facility) located at 551 Commonage Road, Vernon, BC. The annual monitoring report is part of the RBCF discharge permitting requirements by the Ministry of Environment and Climate Change Strategy (ENV) to assess the potential for leachate infiltration in nearby ponds.

CoK staff collected the monitoring data and provided it to Keltech for use in this report. CoK also provided Keltech with the Keltech Environmental Ltd. 2021 report (Keltech 2021 report) titled “2021 Water Quality Monitoring Report, City of Kelowna Regional Biosolids Composting Facility, 551 Commonage Road, Vernon, BC” dated February 16, 2022, for reference in preparation of this report.

2.0 PURPOSE

The RBCF is authorized to discharge contaminants to air under the Permit PE 108537 (the Permit), last amended July 12, 2017, issued by the Ministry of Environment and Climate Change Strategy (ENV) under the Waste Management Act (WMA). Under the Permit (section 4.2) CoK is required to monitor and assess possible leachate infiltration of stormwater runoff and leachate that is generated at the Site. A copy of the discharge permit is provided in Appendix A.

This report is intended to comply with the Permit’s annual reporting requirements (Section 5.5.3.) and presents the results of the 2022 monitoring program.

3.0 BACKGROUND

3.1 Site Description

The Site (RBCF) is a wastewater biosolids composting facility, constructed in 2006, and is located on Commonage Road in Vernon, BC (Figures 1 and 2). The RBCF is located in a rural area and surrounded primarily by agricultural land. The RBCF composts wastewater biosolids obtained primarily from Kelowna, Vernon and Lake Country, BC. Composting at the Site includes mixing of biosolids with hog fuel, ground dimensional lumber, ash and water and an engineered extended aerated static pile system. Site facilities include an administration building, weigh scale, enclosed biosolids receiving and mixing building, maintenance shop, leachate collection system, primary and secondary aeration cells, and a compost curing area.

The Site underwent a facility expansion and facility upgrades in 2010 to increase the receiving capacity of biosolids, expand the processing area, and increase on-Site storage. The upgrades included paving of the composting curing area.

Prior to the construction of the RBCF, a septage disposal facility was operated at the Site by the City of Vernon (CoV) and the Regional District of North Okanagan (RDNO).

3.2 Nearby Surface Water Bodies

Three (3) surface water bodies are located within approximately 200 m of the Site, as follows:

- Drainage Pond: a constructed, lined pond located on site approximately 100 m west of the active composting area, south of the Administration Building between the Site & Commonage Road..

- Davidson Pond: a privately owned pond located approximately 100 m south of site and approximately 200 m south and southwest of the Drainage Pond.
- Rose's Pond: located approximately 200 m northwest of the active composting area and approximately 100 m northwest of the Drainage Pond, on the northwest side of Commonage Road.

A fourth surface water body, MacKay Reservoir, is associated with the Site Operations and is located approximately 2 km southwest of the Site.

3.3 Leachate and Stormwater Management

Leachate at the Site is managed under a Leachate Management Plan (LMP). Site activities are carried out on an impervious (paved) surface with drainage features for generated runoff. Generated runoff at the Site generally consists of stormwater which can contain leachate (generally low-strength leachate from compost materials) and irrigation water (from watering of compost materials, primarily in summer months). Stormwater runoff and leachate is generally managed at the Site as follows:

- Stormwater runoff is directed into a lined drainage trench and lined sedimentation pond ('upper pond'), then fed into the lined Drainage Pond by a gravity pipe (refer to Figure 2). The drainage trench is located at the southwestern corner of the active composting area.
- Leachate generated at the primary and secondary aeration cells (high-strength leachate) is directed to a holding tank and then hauled off-Site by truck for treatment at the Vernon Water Reclamation Centre (VWRC).
- In the summer, treated (chlorinated) effluent from the CoV's MacKay Reservoir is periodically used to flush the drainage trench.
- In the winter, effluent sent to the MacKay Reservoir from the VWRC is diverted and treated (filtered and/or chlorinated) at the Site.
- When nearing capacity, water from the Drainage Pond is pumped to the MacKay Reservoir.

In 2022, the total volume of water discharged from the Drainage Pond to MacKay reservoir was 102,070.2 m³ with the discharge slowing from November to March.

3.4 History of Key Site Events 2009 to 2021

A detailed description of key events (i.e.: events that may be related to surface water quality at the Site) that occurred at the RBCF from 2009 to 2021 was provided in the Keltech 2021 Report. The chronological events have been briefly summarized below:

- 2009 – CoK retained Golder to complete an initial review of the Site which included compiling local and regional data on hydrogeology in the area, monitor water quality, and monitor drainage and pond water levels to assess potential infiltration of leachate. The report is titled "*Interim Report on Leachate Drainage Pond, Kelowna – Vernon Compost Facility*", dated February 17, 2010.
- 2010 to 2022 – The CoK conducted monitoring programs at the Drainage Pond, Davidson Pond and Rose's Pond (except 2013 and 2016), annual reports are available and further discuss their findings.
- 2017 – Amendments to the Organic Matter Recycling Regulation, Permit 108537 was issued by ENV to the CoK on July 12, 2017.
- 2018 – Silt fencing was installed around the Drainage Pond by CoK to support future construction works of re-lining the Drainage Pond.

- 2019 – A turtle and wildlife removal program was completed by Associated Environmental Consultants for the Drainage Pond re-lining, an associate report was submitted to the Ministry of Forest, Lands and Natural Resource Operations.
- 2019 – Under the supervision of WSP construction work to re-line the Drainage Pond and the drainage trench along the Site’s south-western boundary commenced.
- 2020 – In the Spring, a strong organic odour was noted for a short period of time at the Drainage Pond after the ice surface had melted.
- 2020 – In September minor repairs were completed on the liner of the Drainage Pond, as it was slightly compromised by marmots with repairs to only 2 to 3 spots above the water surface.
- 2020 – In the Fall, CoK staff noted strong organic odours at the Drainage Pond. An aerator in the pond was subsequently installed on October 16, 2020 and was successful in eliminating the odours from the Drainage Pond.
- 2021 – In July, the lined upper (sedimentation) pond, which flows into the drainage pond, was drained and sludge was removed.
- 2021 – In July, the swale, located within the asphalt pad between the active composting area was repaved

3.5 2022 Key Site Events and Operational Changes

Based on information provided by CoK, the following key events occurred in 2022:

- 2022 – In April, an aerator with two air diffusers was added to the drainage pond.
- 2022 – In October, the upper sedimentation pond was drained and cleaned.
- 2022 – Monitoring of sludge levels by CoK at least twice a year and de-sludge when required.

No other key Site events or operational changes were reported by CoK for 2022.

4.0 2022 SCOPE OF WORK

CoK completed the 2022 field monitoring program based on the recommendations provided in Keltech 2021 annual monitoring report entitled “2021 Water Quality Monitoring Program, Regional Biosolids Composting Facility, 551 Commonage Road, Vernon, BC” dated February 16, 2021, which included the following:

- Monthly monitoring at the Drainage Pond and neighbouring Davidson Pond and Rose’s Pond generally between March and November (or when the ponds are not frozen).
- Collection and analysis of samples for potential sewage or biosolids contaminants including:
 - Total phosphorous (using the total persulfate test method), chloride, ammonia, nitrate, nitrite, and total kjeldahl nitrogen.
 - Biochemical oxygen demand (BOD), dissolved organic carbon (DOC) and chemical oxygen demand (COD).
 - Metals (total and dissolved).
 - pH, total dissolved solids (TDS), total suspended solids (TSS) and hardness.
 - Microbiological parameters (total coliforms and *Escherichia coli* [*E. coli*]).

- Collect field pH and temperature of the water samples.
- Implementation of a QA/QC program to minimize errors in the field and obtain accurate monitoring results.

As requested by CoK, Keltech's scope of work for the 2022 Annual Surface Water Monitoring Report included the following:

- Tabulation of the ponds water levels (as available) and surface water analytical results.
- Preparation of the annual monitoring report, discussing:
 - Water levels (as available) and water quality results for the drainage pond.
 - Water quality results for Rose's Pond and Davidson Pond, including the potential impacts from the Drainage Pond (if any) and comparison of the results to applicable regulatory standards.
 - Operational changes, significant precipitation events, or other activities in 2022 that may have affected the surface water quality of the Site.
 - Recommendations for the 2023 surface water monitoring program.

Keltech compiled this annual report with the comparison of surface water sample results to applicable criteria for the submission to ENV.

5.0 REGULATORY GUIDELINES

In British Columbia, environmental matters pertaining to contaminated sites generally fall under the jurisdiction of the ENV, pursuant to the Environmental Management Act (EMA). The key regulation under the EMA relating to the Contaminated Sites Regulation ("CSR"; BC Reg. 375/96, enacted in 1997 and includes amendments up to July 7, 2021 by BC Reg. 179/2021), specifically, analytical results for the water samples collected have been compared against the following: i) the protection of surface water used by Aquatic Life (AW); and ii) the protection of Drinking Water (DW).

The BC Technical Guidance Document 15 (TG15): Concentration Limits for the Protection of Aquatic Receiving Environments, Version 2.0, dated November 1, 2017, provides the following:

- For maintained watercourses, the CSR AW standards apply to surface water, porewater and groundwater.
- Surface water and porewater in aquatic receiving environments other than maintained watercourses should be evaluated against the BC (Approved and Working) Water Quality Guidelines (BC WQGs).

The Drainage Pond is considered to be a maintained watercourse, as there is no overland flow from the Drainage Pond. As such, potential contaminants can only migrate through groundwater to other surface water bodies or drinking water wells. The Drainage Pond water quality data has been compared to the CSR AW and DW standards.

Davidson Pond and Rose's Pond are considered to be aquatic receiving environments and as such, analytical results for Davidson Pond and Rose's Pond were compared against the BC WQGs as per the ENV's TG15 as well as conservatively compared to the CSR AW and DW Standards.

Regarding BC WQGs, both long-term average (LT) and short-term maximum (ST) guidelines are referenced. BC WQG LT allows concentrations of a substance to fluctuate above and below the guideline provided that the BC WQG ST is never exceeded and the long-term average is met over the specified averaging period.

Both total (unfiltered) and dissolved (filtered) metal concentrations were analyzed. As per CSR for surface water samples, total metals concentrations were compared to the CSR standards and also with the BC WQGs. Total

metals concentrations that exceeded the applicable criteria are shown in tables and discussed within this report. Dissolved metals concentrations are conservatively compared to the CSR standards and BC WQGs and shown in the applicable table; however, are not further discussed within this report.

5.1 Regional Background Concentrations

The ENV issued Protocol 9 for Contaminated Sites: “Establishing Local Background Concentrations in Groundwater”, dated May 13, 2021, which establishes regional background concentrations estimates for inorganic substances in groundwater in several regions in British Columbia. For the Site to qualify for the regional background groundwater concentrations the following must apply:

- Fall within the geographic boundaries of one of the regions identified;
- Concentration estimates must be applied to groundwater obtained from a non-consolidated overburden aquifer, not a bedrock aquifer; and
- Concentrations estimates must be applied to groundwater, not surface water.

As such the Protocol 9 concentration estimates for the selected inorganic substances can be used as a reference check for comparing water quality at Drainage Pond, Davidson Pond and Rose’s Pond as there are no regional background concentrations prescribed for surface water in British Columbia.

6.0 FIELD MONITORING PROGRAM

6.1 Field Monitoring

CoK staff conducted the monitoring at the Drainage Pond, Davidson Pond and Rose’s Pond each month between March and November 2022. The samples were analyzed for septic parameters listed under Section 4.0 of this report.

6.1.1 2022 Pond Observations and Water Levels

Pond water level and field observations were recorded by CoK during each of the sampling events. The recorded observations provided by CoK are included in Appendix B. The following is a summary of the recorded observations for 2022:

Drainage Pond

- Waterfowl were visible in April, June, July, and October sampling events.
- Pond clarity ranged between slightly turbid to tea-like brown. Murky scum was observed in August and September and pollen was observed on the water surface in June.
- Water levels were measured from the staff gauge and water was observed in the pond during all sampling events.

Davidson Pond

- Waterfowl were visible during all sampling events except in June.
- Cattle or evidence of cattle was observed in June and October.
- Pond clarity ranged between clear to slightly murky green.
- Algal bloom was noted in June.
- Water levels were measured from a cattle trail and water was observed from March to October.

Rose's Pond

- Waterfowl was visible during all sampling events.
- Many turtles were observed in June.
- Pond clarity ranged between clear and greenish opaque.
- The pond water level was noted as being high in July and was measured from a vertical rebar stake.

The Drainage Pond uses a staff gauge for measuring water levels, whereas Rose's Pond uses a rebar stake and Davidson Pond measures water level based on cattle trail. Rose's and Davidson ponds do not have an accurately surveyed benchmark or staff gauge installed, resulting in variable and incomparable water level references. Recorded water levels for 2022 are generally unreliable for the purpose of reporting or comparison of data. Water levels within the ponds are likely influenced by seasonal runoff and precipitation.

6.1.2 Methodology

CoK personnel collected the water samples as grab samples below water surface near the shoreline in a way to minimize suspended particles or disturbed sediment and surface matter (algae) from entering into the bottles. CoK staff collected the samples into clean, laboratory supplied bottles and submitted them to CARO Analytical Services (CARO) of Kelowna, BC for analysis. CoK provided the Laboratory Certificate of Analysis (COAs) reports to Keltech and are provided in Appendix C.

7.0 2022 MONITORING PROGRAM RESULTS

The 2022 water quality results for the Drainage Pond, Davidson Pond and Rose's Pond are discussed in this section and are provided in Tables 1a, 1b, and 1c, respectively. Historical water quality data (2014 to 2021) is presented in Table 2.

7.1 Drainage Pond

Keltech summarized and tabulated the 2022 analytical results for the Drainage Pond and compared the results to the CSR DW and AW standards. The following is a summary of the results:

- Ammonia (as N) concentrations exceeded the CSR AW standard of 1.31 - 3.7 mg/L during all sampling events in 2022 with a peak concentration of 53.3 mg/L (March) and a minimum concentration of 7.33 mg/L (June). Ammonia (as N) concentrations at the Drainage Pond were greater than nitrate (as N) and nitrite (as N) concentrations, consistent with the previous years.

- Total lithium exceeded the CSR DW standard of 0.008 mg/L during all sampling events with concentrations ranging between 0.0099 mg/L (November) to 0.0177 mg/L (March). However, if compared to the regional background (Protocol 9) of 0.096 mg/L, all concentrations would be below the applicable standards.
- Total cobalt concentrations exceeded the CSR DW standard of 0.001 mg/L during the March sampling event with a concentration of 0.0015 mg/L and September with a concentration of 0.0014 mg/L. However, if compared to the regional background (Protocol 9) of 0.016 mg/L, all concentrations would be below the applicable standards.
- Total coliforms and *E. coli* were detected during all the sampling events. It is likely that the wildlife using the pond and/or Site generated runoff may be contributing to the elevated total coliforms and *E. coli* counts. The lowest total coliforms and *E. coli* concentration were observed in August (2720 MPN/100mL) and April (96 MPN/100 mL). The highest total coliforms concentration was >242,000 MPN/100 mL observed in April, July and September. The highest *E. coli* concentration of >242,000 MPN/100 was observed in April and September. There are no CSR standards for total coliforms or *E. coli*.
- The remaining parameters analyzed at the Drainage Pond had concentrations below the applicable CSR DW and AW standards.

7.2 Davidson Pond and Rose's Pond

Keltech summarized and tabulated the 2022 analytical results for Davidson Pond and Rose's Pond and compared the results the CSR DW and CSR AW standards, and BC WQG AW LT and BC WQG AW ST, where applicable.

Davidson Pond

The following summarizes the results for Davidson Pond:

- Chloride exceeded the CSR DW standard of 250 mg/L and BC WQG AW LT standard of 150 mg/L during all sampling events. Although the chloride concentrations did not fluctuate above and below the BC WQG AW LT, all of these concentrations were lower than BC WQG AW ST (600 mg/L). Chloride concentrations range between 255 mg/L (March) and 382 mg/L (August).
- Total sodium exceeded the CSR DW standard of 200 mg/L in all samples with concentrations ranging between 482 mg/L (March) and 648 mg/L (October). However, if compared to the regional background (Protocol 9) of 1600 mg/L, all concentrations would be below the applicable standards.
- Total lithium exceeded the CSR DW standard of 0.008 mg/L during all sampling events with concentrations ranging between 0.0364 mg/L (March) to 0.0532 mg/L (October). However, if compared to the regional background (Protocol 9) of 0.096 mg/L, all concentrations would be below the applicable standards.
- Ammonia (as N) concentrations exceeded the BC WQG AW LT standard of 0.102 - 2.01 mg/L during all sampling events except in March (<0.050 mg/L), June (<0.050 mg/L), and July (<0.050 mg/L). The concentrations of ammonia (as N) range from <0.050 mg/L (March, June, and July) to 0.631 mg/L (October) in 2022.
- pH exceeded BCWQG AW ST standard of 6.5 - 9.0 pH units in all sampling event, except for October pH of 8.56 units. The pH values ranged from 8.56 units in October to 9.63 units in March. Moreover, the pH higher than 9.0 units can also be within the BCWQG AW ST if the increase in pH from the background (upgradient) water is not statistically significant. However, the background pH level for the site is not available for statistical test.

- Total phosphorus concentrations exceeded BCWQG AW ST (0.005 mg/L) in all sampling events. However, June (<0.1 mg/L), July (<0.1 mg/L), and September (<0.1 mg/L) laboratory reporting limit was raised from 0.05 mg/L to 0.1 mg/L. The concentrations of total phosphorus ranged from 0.08 mg/L (June, July, and September) to 0.224 mg/L (August).
- Total aluminum concentrations exceeded BCWQG AW LT (0.05 mg/L) and ST (0.1 mg/L) in August sampling event with the concentration of 1.61 mg/L, and exceeded BCWQG AW LT standard in September (0.0627 mg/L).
- Total uranium concentration exceeded BCWQG AW LT (0.0085 mg/L) in August sampling event with the concentration of 0.0103 mg/L.
- Total iron concentrations exceeded BCWQG AW ST (0.35 mg/L) in August sampling event with the concentration of 2.27 mg/L.
- Dissolved oxygen concentrations were lower than BC WQG AW LT (8 mg/L) in all sampling events, and lower than BC WQG ST (5 mg/L) in June (4.6 mg/L), August (2.85 mg/L), and October (0.55 mg/L) only. The concentrations of dissolved oxygen range 0.55 mg/L (October) to 7.33 mg/L (August).
- Total coliforms and *E. coli* were detected in the Pond during all the sampling events in 2022; however, *E. coli* concentration was reported as <1 MPN/100 mL in March and April sampling events. It is likely the wildlife observed at the pond could be contributing to the elevated concentrations of total coliforms and *E. coli*. The lowest total coliforms concentration was observed in April with a concentration of 9 MPN/100 mL and the highest total coliforms concentration was >24,200 MPN/100ml observed in July. The highest *E. coli* concentration of 4,370 MPN/100ml was observed in August. There are no CSR standards or BC WQG for total coliforms or *E. coli*.
- The remaining parameters analyzed at the Davidson Pond had concentrations below the applicable CSR DW and AW standards, and BC WQG.

Rose's Pond

The following is a summary of the Rose's Pond results:

- Chloride exceeded the CSR DW standard (250 mg/L) and BC WQG AW LT (150 mg/L) during all sampling events. Although the chloride concentrations did fluctuate above the BC WQG AW LT standard, all concentrations were lower than BC WQG AW ST (600 mg/L). Chloride concentrations range between 349 mg/L (March) and 496 mg/L (September).
- Total sodium exceeded the CSR DW standard of 200 mg/L in all samples with concentrations ranging between 680 mg/L (July) and 841 mg/L (June). However, if compared to the regional background (Protocol 9) of 1600 mg/L, all concentrations would be below the applicable standards.
- Total lithium exceeded the CSR DW standard of 0.008 mg/L during all sampling events with concentrations ranging between 0.04 mg/L (July) to 0.0501 mg/L (August). However, if compared to the regional background (Protocol 9) of 0.096 mg/L, all concentrations would be below the applicable standards.
- pH exceeded BCWQG AW ST (6.5 - 9.0 pH units) in sampling events in June (9.19 pH units), July (9.21 pH units), August (9.36 pH units), and September (9.38 pH units). The pH ranges from 8.66 pH units in April to 9.38 pH units in September. Moreover, the pH values higher than 9.0 units can also be within the BC WQG AW ST standard if the increase in pH from the background (upgradient) water is not statistically significant. However, the background pH level for the site is not available for statistical test.

- Although dissolved oxygen concentrations were lower than BC WQG AW LT (8 mg/L) in all sampling events except in March, they were lower than BC WQG ST (5 mg/L) in August (4.47 mg/L) and September (4.39 mg/L) only. The concentrations of dissolved oxygen ranged from 4.39 mg/L (September) to 8.61 mg/L (March).
- Total coliforms and *E. coli* were detected in the Pond during all the sampling events in 2022, with the exception of *E. coli* concentration of <1 MPN/100 mL in March and April sampling events. It is likely the wildlife observed at the pond could be contributing to the elevated concentrations of total coliforms and *E. coli*. The lowest total coliforms concentration was observed in March with concentrations of 12 MPN/100 mL and the highest total coliforms concentration was 7,270 MPN/100ml observed in August. The highest *E. coli* concentration of 56 MPN/100ml was observed in July. There are no CSR standards or BC WQG for total coliforms or *E. coli*.
- The remaining parameters analyzed at the Rose's Pond had concentrations below the applicable CSR DW and AW standards, and BC WQG.

7.3 Historical Data Trends from 2014 to 2022

Drainage Pond

Notable trends observed between 2014 and 2022 at the Drainage Pond are summarized below and historical graphs for ammonia (as N), chloride and sodium are provided in Figures 3, 5 and 7, respectively:

- Concentrations in 2022 for typical sewage contaminants (BOD, COD, nitrate, nitrite and total nitrogen) and total and dissolved metals were generally within the range of concentrations previously measured in 2014 through 2021.
- Ammonia (as N) concentrations exhibit an increasing trend with a wider fluctuation since 2016, with a peak concentration of 53.3 mg/L observed on March 29, 2022. Ammonia (as N) concentrations in 2022 are generally higher than concentrations observed in 2014 to 2017.
- Chloride and sodium concentrations show a generally stable to slightly decreasing trend since 2014.

Davidson Pond

Notable trends observed between 2014 and 2022 at the Davidson Pond are summarized below and historical graphs for ammonia (as N), chloride and sodium are provided in Figures 4, 6, and 8, respectively:

- Concentrations in 2022 for typical sewage contaminants (BOD, COD, nitrate, nitrite and total nitrogen) and total and dissolved metals were generally within the range of concentrations previously measured in 2014 through 2021.
- Ammonia (as N) concentration at Davidson Pond have two notable spikes in November 2020 (1.40 mg/L) and October 2021 (1.33 mg/L); however, the 2022 concentrations are generally remained similar to that observed from 2019 to 2021.
- Chloride and sodium concentrations in 2022 are similar to previous years and no trend is apparent.
- Total coliforms in 2022 were generally higher than the concentrations from 2018 to 2020; however, were similar to the concentrations observed from 2014 to 2018 and in 2021.

Rose's Pond

Notable trends observed between 2014 and 2022 at the Rose's Pond are summarized below and historical graphs for ammonia (as N), chloride and sodium are provided in Figures 4, 6, and 8, respectively:

- Concentrations in 2022 for typical sewage contaminants (BOD, COD, nitrate, nitrite and total nitrogen) and total and dissolved metals were generally within the range of concentrations previously measured in 2014 through 2021.
- Ammonia (as N) concentration in 2022 at Rose's Pond decreased from the November 2021 concentration spike of 0.291 mg/L and further decreased from June 2022.
- Chloride and sodium concentrations in 2022 are similar to previous years; however, less than the concentrations observed in 2014 to 2017. No specific trend is apparent.
- Total coliforms in 2022 were generally higher than the concentrations from 2018 to 2020; however, were similar to the concentrations observed from 2014 to 2018 and in 2021.

8.0 QUALITY ASSURANCE AND QUALITY CONTROL

The details of the recommended and implemented QA/QC program are provided in Appendix D.

9.0 SUMMARY AND CONCLUSIONS

In accordance with the Permit requirements, water sampling events were conducted between March and October 2022. The samples were analyzed for parameters intended to show potential water quality effects from on-Site (RBCF) operations. Based on the sampling and analytical program findings, the following conclusions are made:

- Water from the Drainage Pond does not appear to be adversely impacting the water quality at Davidson Pond and Rose's Pond, based on the following observations:
 - Ammonia (as N) concentrations are approximately two (2) orders of a magnitude greater in the Drainage Pond than in Davidson Pond and Rose's Pond.
 - Total nitrogen is generally an order of magnitude greater in the Drainage Pond than in Davidson Pond and Rose's Pond.
 - BOD concentrations were generally higher with concentrations ranging between <7.0 mg/L to 49.5 mg/L in the Drainage Pond, compared to a concentration range of <5.9 mg/L to 22.7 mg/L in Davidson Pond and Rose's Pond.
 - COD concentrations were at most ten (10) times greater in the Drainage Pond in September 2022 than they were in Davidson Pond and Rose's Pond. On average COD concentrations are approximately three (3) to four (4) times greater in the Drainage Pond.
 - Total coliforms and *E. coli* concentrations are largely higher in the Drainage Pond than in Davidson Pond and Rose's Pond.
 - Chloride concentrations were approximately three (3) to four (4) times higher at Davidson Pond and approximately three (3) to five (5) times higher at Rose's Pond than the Drainage Pond.
 - Sodium concentrations were approximately three (3) to eight (8) times higher at Davidson Pond, and approximately five (5) to ten (10) times higher at Rose's Pond than at the Drainage Pond. The elevated

chloride and sodium concentrations at Rose's Pond could be attributed to the application of road salt on Commonage Road.

- Lithium concentrations were approximately two (2) to five (5) times higher at Davidson Pond and Rose's Pond than at the Drainage Pond.
- Ammonia (as N) and total lithium continue to exceed applicable standards at the Drainage Pond. Ammonia had a peak concentration of 53.3 mg/L in March, the highest concentration to date. Chloride, total lithium and total sodium continue to exceed applicable standards and guidelines at Davidson Pond and Rose's Pond.
 - The regional background concentration for lithium of 0.096 mg/L in groundwater as per Protocol 9 that is not actually applicable to the surface waters at the Site. It is possible that the regional background concentration in groundwater is indicative of background lithium concentration in surface water at the Site; however, this would need to be confirmed by further assessment of background water quality (lithium) of the Site. If the regional background concentration for lithium is representative of the Site, lithium concentrations at the Drainage Pond, Davidson Pond and Rose's Pond would be below the regional background concentration, as the maximum concentration observed during 2022 was 0.0532 mg/L.
- Total coliforms and *E.coli* were detected in all sampling events at all three (3) ponds except for *E.coli* at Davidson Pond and Rose's Pond (March and April). The elevated concentrations of microbiological parameters may be attributed to the wildlife observed at the ponds throughout the year.
- Given the Drainage Pond is lined and routinely checked for leaks and holes it is considered to have a low risk of infiltration into the ground. Losses from the pond continue to be primarily attributed to evaporation. Infiltration of water from the Drainage Pond, even at a low risk, remains a potential source of groundwater contamination.

10.0 RECOMMENDATIONS

Based on the results of the 2022 water quality monitoring program, Keltech recommends the following:

- Continue monthly monitoring at the Drainage Pond, Davidson Pond and Rose's Pond in 2023, whenever the pond is not frozen (generally March through to November).
- During sample collection, CoK to continue to collect samples following appropriate sample collection techniques (refer to BC Field Sampling Manual) in a way that minimizes suspended particles/ sediment from entering the laboratory supplied sampling container.
- Samples should continue to be analyzed for potential sewage contaminants including:
 - Total Phosphorus (using the total persulfate test method), chloride, ammonia (as N), nitrate (as N), nitrite (as N), and total kjeldahl nitrogen.
 - BOD and COD
 - DOC
 - Metals (total and dissolved)
 - pH, TDS, TSS and hardness
 - Total coliforms and *E. coli*
- Continue to record field pH and temperature of water at the time of sample collection (immediately before or after), using a properly calibrated meter. Also, record ambient air temperature as it affects the BC Water Quality Guideline for temperature. Calibration records for the field meters should be retained on file by the CoK.

- Continue to implement a QA/QC program to validate field techniques and to obtain accurate monitoring results. The QA/QC program is outlined in Appendix D.
- As part of the QA/QC program, continue to use the dedicated field sampling sheets during the collection of water samples, and the sheets should be provided for reference in preparation of the annual report. Sampling sheets should be completed at the time of sampling and should include the following:
 - date and time of sample collection
 - weather conditions
 - ambient air temperature (newly added)
 - surface water conditions/observations
 - pond water levels (measurement from staff gauge, if possible)
 - equipment used for sampling
 - field parameters (pH and water temperature at a minimum)
 - sample turbidity
 - bottle type, bottle volume, preservatives used, and whether sample was field filtered.
- Continue monitoring the Drainage Pond, upper (sedimentation) pond, and drainage trench for any potential leaks, as well as any possible damage due to animals or sun.
- Continue monitoring and assessing pavement condition across the composting curing area. Record notable cracks or damages, and repair as early as possible.
- During monthly sampling events, continue to monitor and record any operational changes, significant precipitation events, or other events/activities that may have a potential to affect the surface water quality at the Site. Provide the records for use in the annual report.
- A staff gauge should be installed at all three (3) ponds, to allow for more accurate water level measurements.
- Considering water from the Drainage Pond is periodically pumped into the CoV's MacKay Reservoir, CoK should confirm the quality of water to ensure acceptable concentrations, particularly ammonia (as N) concentrations, are achieved.
- Compile an annual report for submission to the ENV that satisfies the Permit requirements.

11.0 LIMITATIONS

This report is intended and restricted for the sole use of City of Kelowna (the Client). Any use of this document by a third party, or any reliance on or decisions made based on findings described in this report, are the sole responsibility of such parties, and Keltech Environmental Ltd. accepts no responsibility for damages, suffered by any third party as a result of decisions made or actions conducted based on this report. No other warranties are implied or expressed.

Keltech Environmental Ltd. makes no representations, warranties, or guarantees as to any given sample (whether it be obtained by Keltech Environmental Ltd. or by the Client being representative of any given contaminant, handled, or otherwise managed by the Client. With regard to site assessment work, this report therefore cannot warranty that all building conditions are represented by those identified at specific test locations. All liability is limited to the fee charged.

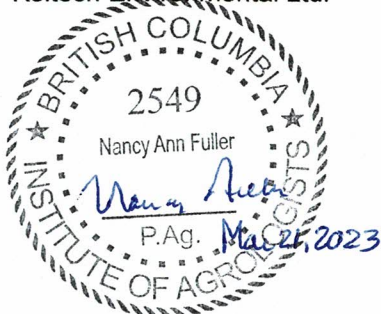
The conclusions presented in this report represent the judgement of Keltech's assessor based on current environmental and health and safety standards, and on-site conditions on the date(s) cited in this report. While attempts have been made to relate the data and findings to applicable health, safety or environmental laws and regulations, the report shall not be construed to offer legal opinion, advice or representations as to the requirements of, or compliance with, environmental laws, rules, regulations or policies of federal, provincial or local government agencies.

12.0 CLOSURE

We trust the information contained herein meets your needs. Should you have any questions or comments, please do not hesitate to contact the undersigned at your earliest convenience.

Yours truly,

Keltech Environmental Ltd.



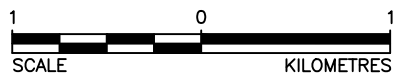
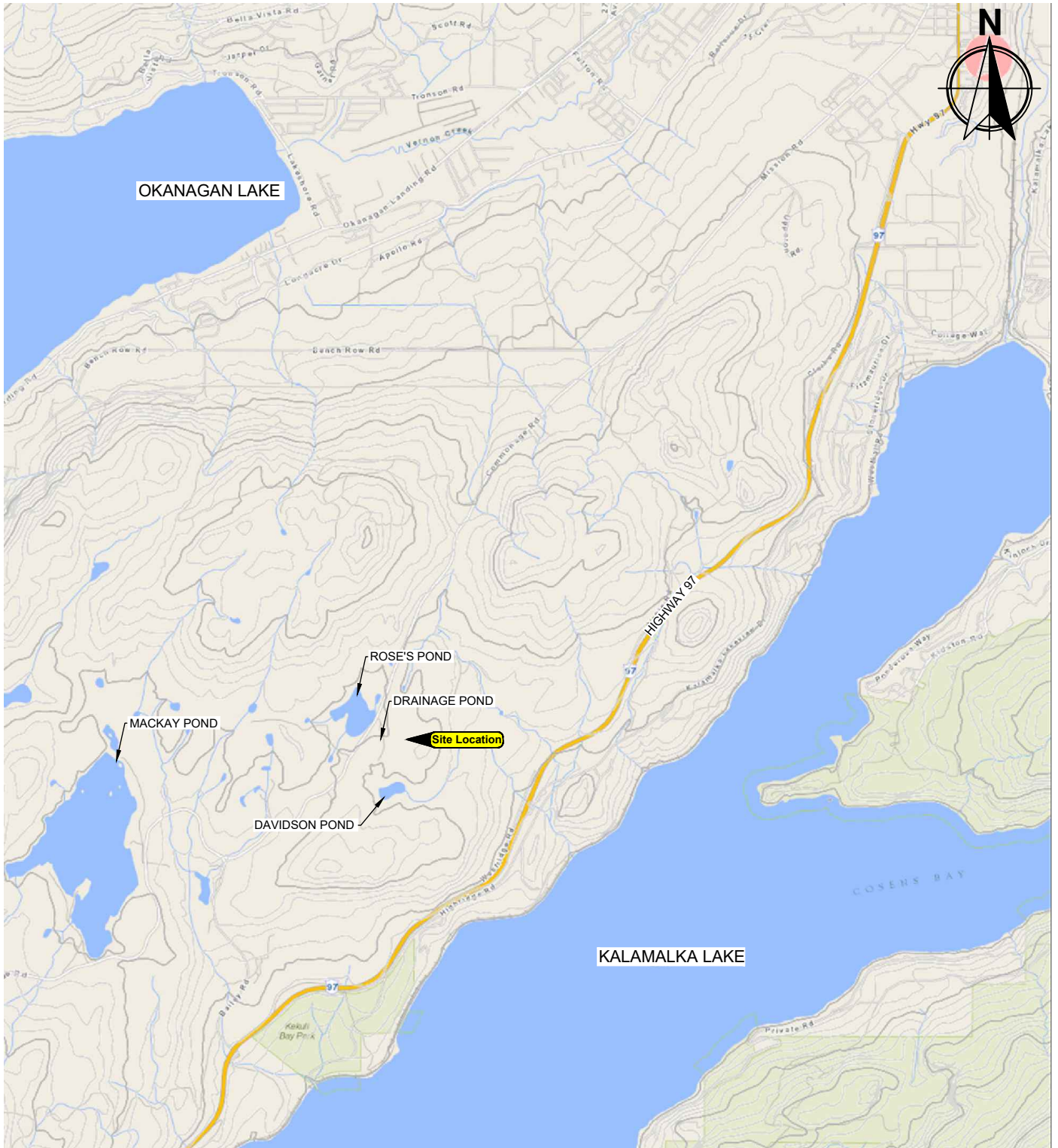
Nancy Fuller, P.Ag.
Project Scientist

A handwritten signature in blue ink, appearing to read "Allan Robison".

Allan Robison, ASCT, EP
Principal, Senior Environmental Consultant

NF/AR

[https://keltechenvironmental-my.sharepoint.com/personal/arobison_keltechenvironmental_com/Documents/Keltech/Projects/Active/2022/Projects/2022-074 2022 Annual Monitoring Report CoK Compost Facility/12 Report/FINAL/2022-074_RBCF 2022 Annual Report_CoK Ogogrow Facility_Feb23.docx](https://keltechenvironmental-my.sharepoint.com/personal/arobison_keltechenvironmental_com/Documents/Keltech/Projects/Active/2022/Projects/2022-074%202022%20Annual%20Monitoring%20Report%20CoK%20Compost%20Facility/12%20Report/FINAL/2022-074_RBCF%202022%20Annual%20Report_CoK%20Ogogrow%20Facility_Feb23.docx)



LEGEND

	GROUND SURFACE CONTOURS (20 m)
	HIGHWAY 97

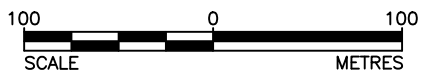
- REFERENCES**
1. REFERENCE IMAGE OBTAINED FROM IMAPBC
 2. GROUND SURFACE CONTOURS REFERENCED FROM BRITISH COLUMBIA GeoBC

PROJECT
2022 WATER QUALITY MONITORING REPORT
 CITY OF KELOWNA REGIONAL BIOSOLIDS COMPOSTING FACILITY
 551 COMMONAGE ROAD, VERNON, BC

TITLE
KEY PLAN

CLIENT
 CITY OF KELOWNA

CONSULTANT KTE Keltech Environmental Ltd.	PROJECT No.	2022-074	FIGURE 1
	REVISION	00	
	DATE	02-27-2023	
	CADD	AR	
	CHECK	GCS	



- NOTES
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 2. COORDINATE SYSTEM NAD 83 UTM ZONE 11

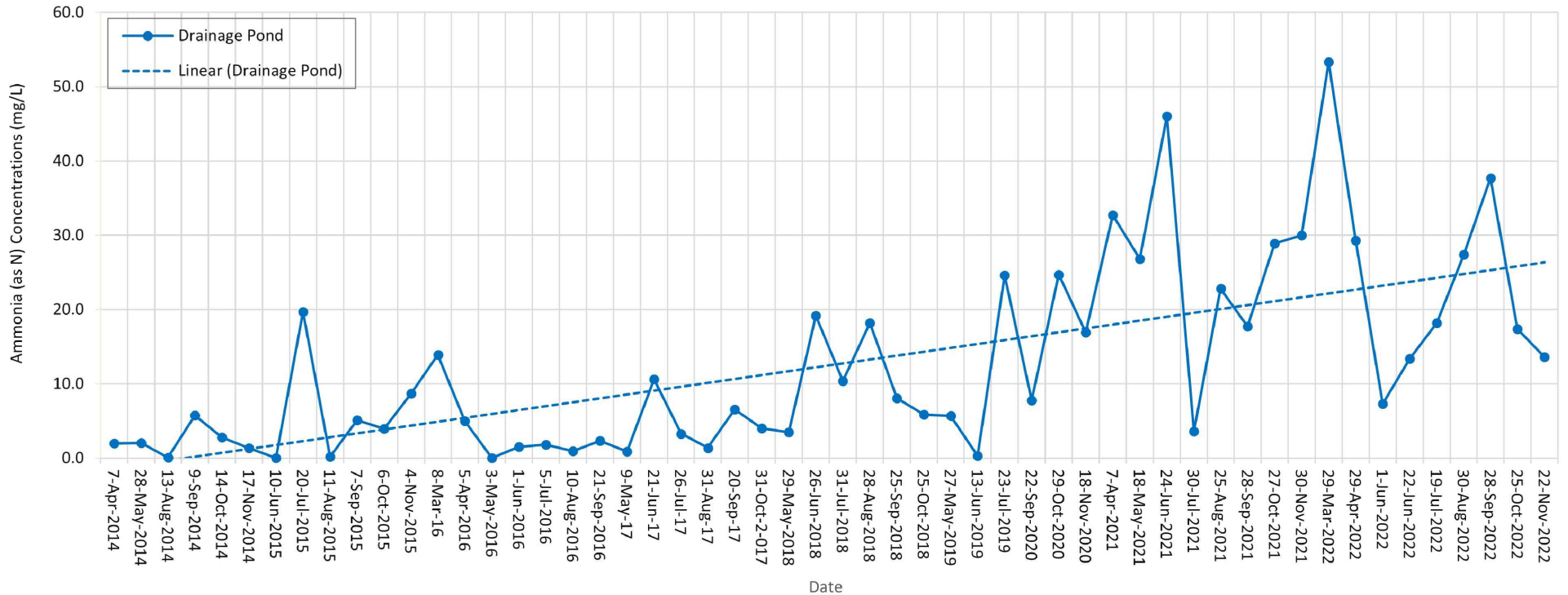
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 CITY OF KELOWNA REGIONAL BIOSOLIDS COMPOSTING FACILITY
 551 COMMONAGE ROAD, VERNON, BC

TITLE
 SITE PLAN

CLIENT
 CITY OF KELOWNA

CONSULTANT 	PROJECT No.	2022-074	FIGURE <h1 style="font-size: 2em; margin: 0;">2</h1>
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	DATE	02-27-2022	
	CADD	AR	
	CHECK	GCS	

Ammonia (as N) Concentrations in Drainage Pond



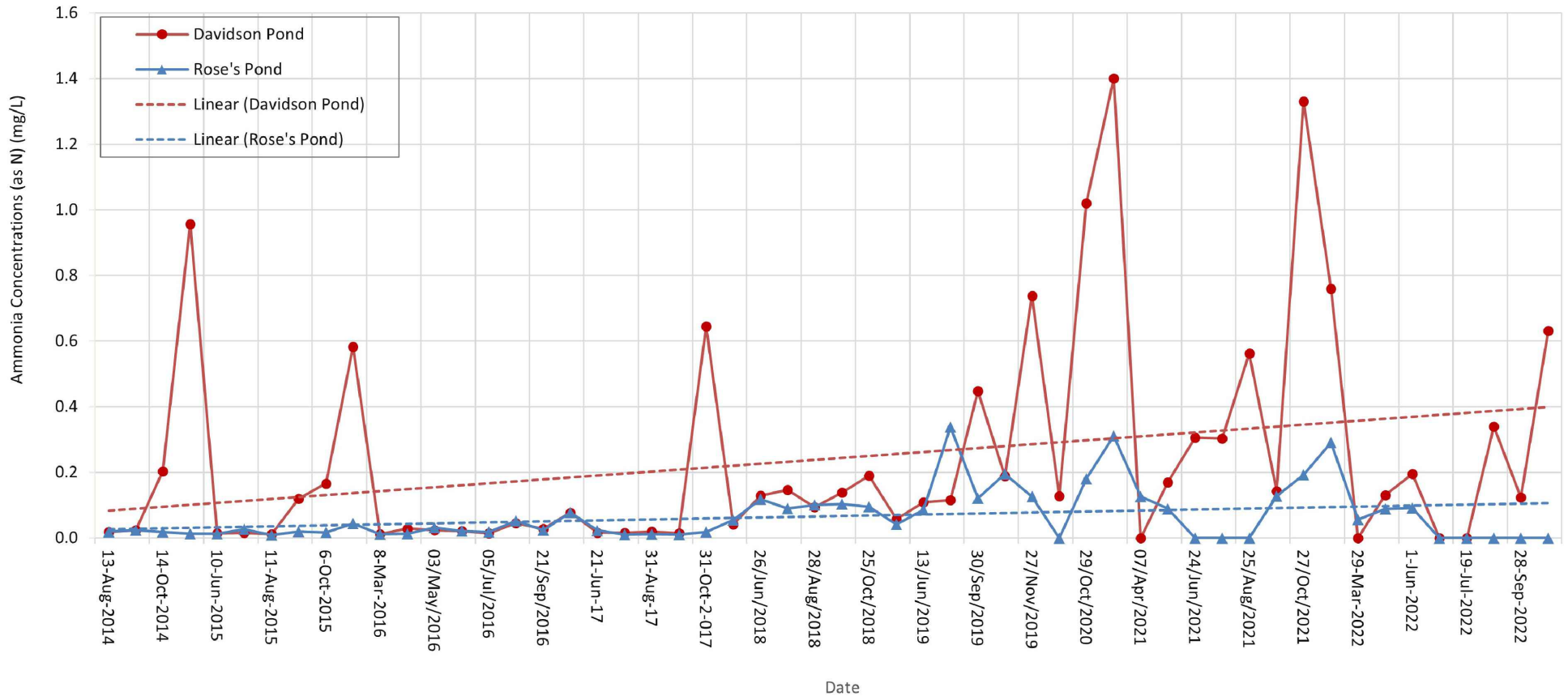
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 CITY OF KELOWNA REGIONAL BIOSOLIDS COMPOSTING FACILITY
 551 COMMONAGE ROAD, VERNON, BC

TITLE
 DRAINAGE POND AMMONIA CONCENTRATION TRENDS
 (2014 - 2022 DATA)

CLIENT
 CITY OF KELOWNA

CONSULTANT 	PROJECT No.	2022-074	FIGURE 3
	REVISION	00	
	DATE	02-27-2022	
	CADD	AR	
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Ammonia (as N) Concentrations in Davidson and Rose's Pond



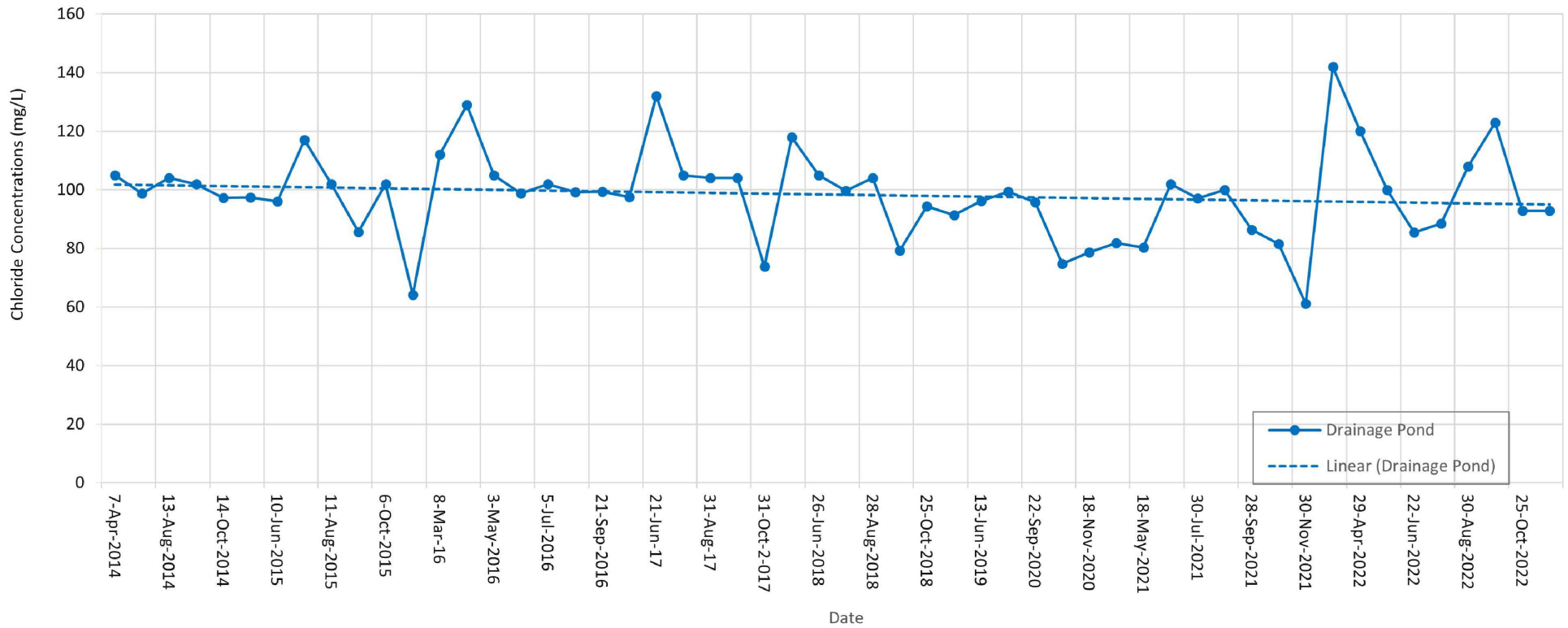
PROJECT
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 CITY OF KELOWNA REGIONAL BIOSOLIDS COMPOSTING FACILITY
 551 COMMONAGE ROAD, VERNON, BC

TITLE
 DAVIDSON AND ROSE'S POND AMMONIA CONCENTRATION
 TRENDS (2014 - 2022 DATA)

CLIENT
 CITY OF KELOWNA

CONSULTANT KTE Keltech Environmental Ltd.	PROJECT No.	2022-074	FIGURE 4
	REVISION	00	
	DATE	02-27-2022	
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Chloride Concentrations in Drainage Pond



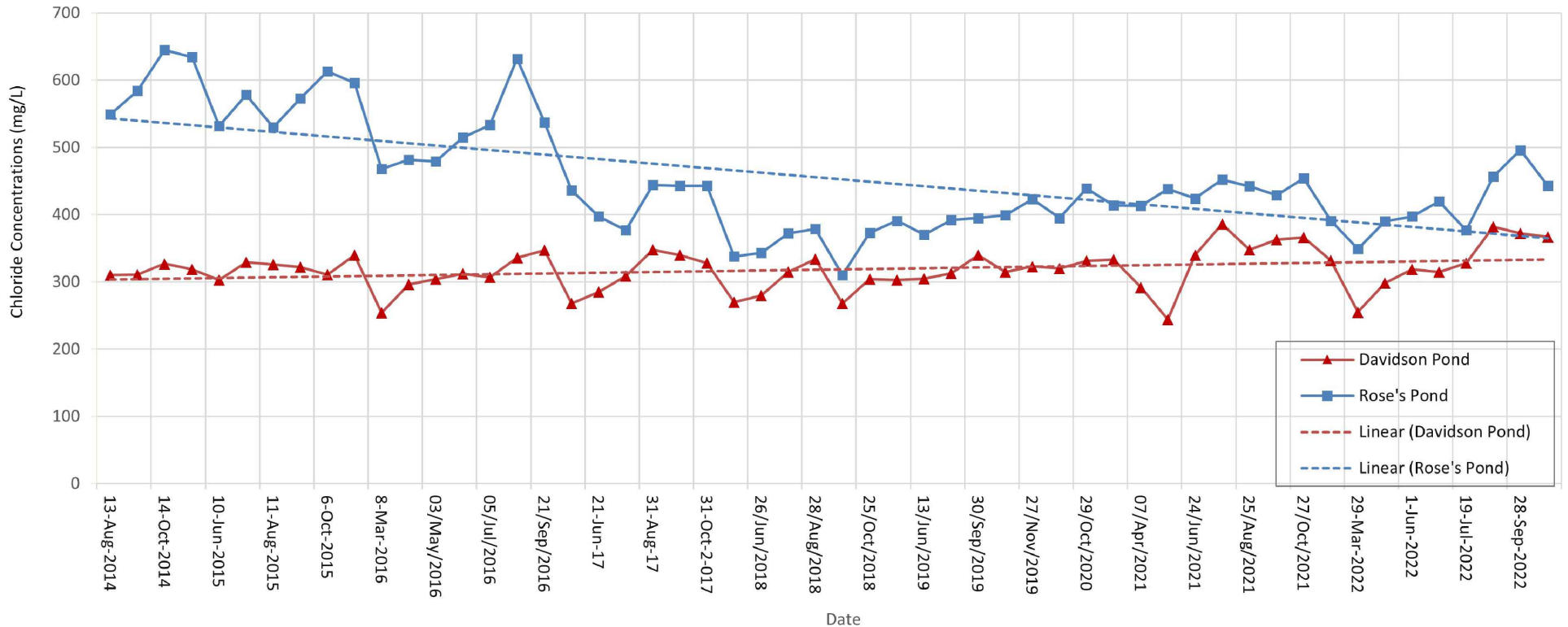
PROJECT
 2022 WATER QUALITY MONITORING REPORT
 CITY OF KELOWNA REGIONAL BIOSOLIDS COMPOSTING FACILITY
 551 COMMONAGE ROAD, VERNON, BC

TITLE
 DRAINAGE POND CHLORIDE CONCENTRATION TRENDS
 (2014 - 2022 DATA)

CLIENT
 CITY OF KELOWNA

CONSULTANT 	PROJECT No.	2022-074	FIGURE <h1>5</h1>
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	DATE	02-27-2022	
	CADD	AR	
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Chloride Concentrations in Davidson and Rose's Pond



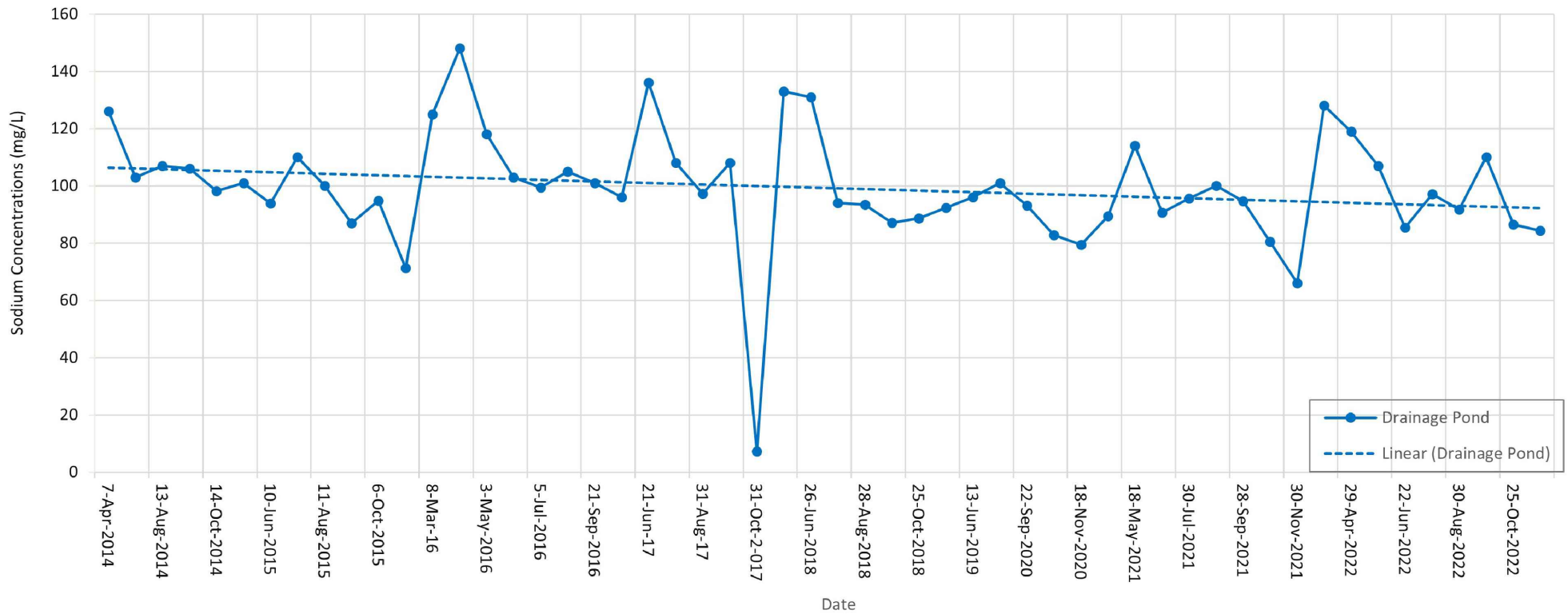
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 CITY OF KELOWNA REGIONAL BIOSOLIDS COMPOSTING FACILITY
 551 COMMONAGE ROAD, VERNON, BC

TITLE
 DAVIDSON AND ROSE'S POND CHLORIDE CONCENTRATION
 TRENDS (2014 - 2022 DATA)

CLIENT
 CITY OF KELOWNA

CONSULTANT KTE Keltech Environmental Ltd.	PROJECT No.	2022-074	FIGURE 6
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	DATE	02-27-2022	
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Sodium Concentrations in Drainage Pond



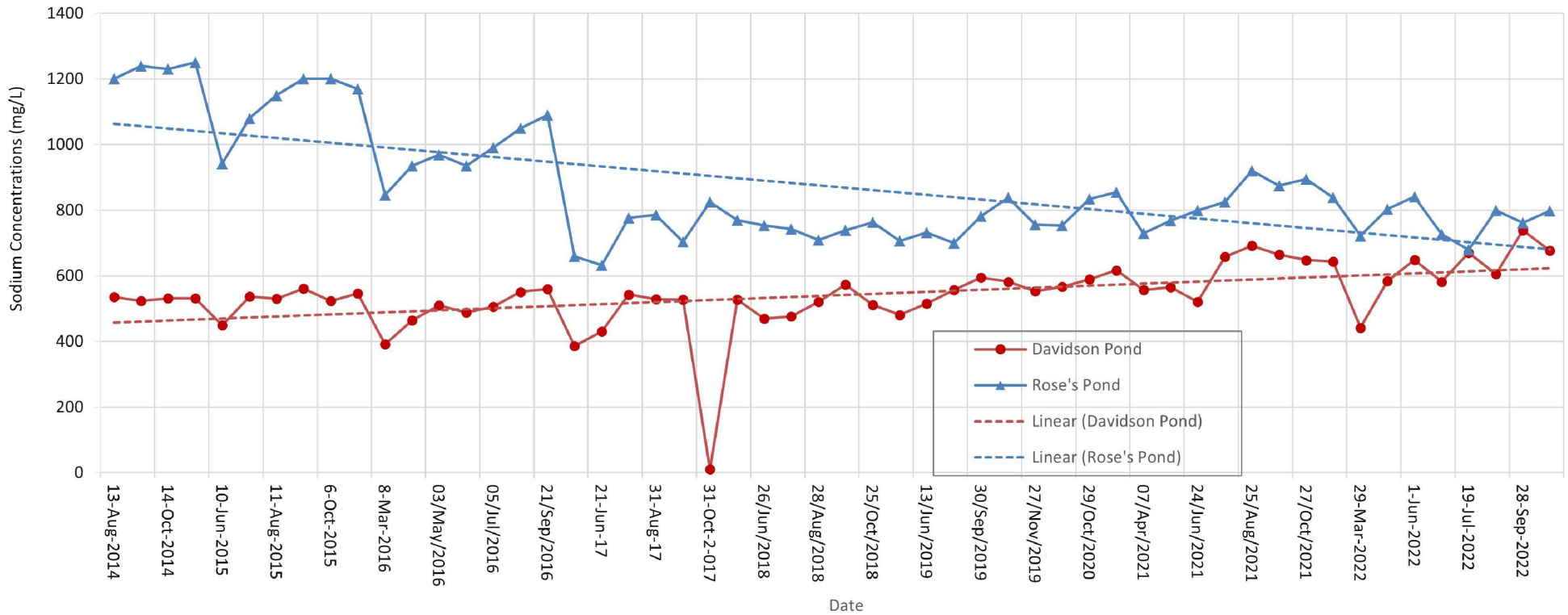
PROJECT
 2022 WATER QUALITY MONITORING REPORT
 CITY OF KELOWNA REGIONAL BIOSOLIDS COMPOSTING FACILITY
 551 COMMONAGE ROAD, VERNON, BC

TITLE
 DRAINAGE POND SODIUM CONCENTRATION TRENDS
 (2014 - 2022 DATA)

CLIENT
 CITY OF KELOWNA

CONSULTANT 	PROJECT No.	2022-074	FIGURE <div style="font-size: 2em; font-weight: bold; text-align: center;">7</div>
	REVISION	00	
	DATE	02-27-2022	
	CADD	AR	
	CHECK	GCS	

Sodium Concentrations in Davidson and Rose's Pond



PROJECT
 2022 WATER QUALITY MONITORING REPORT
 CITY OF KELOWNA REGIONAL BIOSOLIDS COMPOSTING FACILITY
 551 COMMONAGE ROAD, VERNON, BC

TITLE
 DAVIDSON AND ROSE'S POND SODIUM CONCENTRATION
 TRENDS (2014 - 2022 DATA)

CLIENT
 CITY OF KELOWNA

CONSULTANT 	PROJECT No.	2022-074	FIGURE 8
	REVISION	00	
	DATE	02-27-2022	
	CADD	AR	
	CHECK	GCS	

Table 2
Historical Analytical Results (2014 - 2022)
City of Kelowna Regional Biosolids Composting Facility
Vernon, British Columbia

Table with 13 columns (Client Sample ID, Date Sampled, Time Sampled, ALS Sample ID, Parameter, Units, Water, Water, Water, Water, Water, Water, Water, Water, Water, Water, Water) and numerous rows of analytical data categorized by Physical Tests, Anions and Nutrients, Bacteriological Tests, Total Metals, and Dissolved Metals.

Table 2
Historical Analytical Results (2014 - 2022)
City of Kelowna Regional Biosolids Composting Facility
Vernon, British Columbia

Table with 14 columns: Client Sample ID, Date Sampled, Time Sampled, ALS Sample ID, Parameter, Units, and 12 columns of data for DAVIDSON POND (5/9/2017 to 25-Oct-2018). Rows include Physical Tests (Water), Anions and Nutrients (Water), Bacteriological Tests (Water), Total Metals (Water), and Dissolved Metals (Water).

Table 2
Historical Analytical Results (2014 - 2022)
City of Kelowna Regional Biosolids Composting Facility
Vernon, British Columbia

Table with columns for Client Sample ID, Date Sampled, Time Sampled, ALS Sample ID, and parameters for ROSE'S POND (Water) from 2019 to 2020. Includes sub-sections for Physical Tests, Anions and Nutrients, Bacteriological Tests, Total Metals, and Dissolved Metals.

APPENDIX A
PERMIT 108537



July 12, 2017

Tracking Number: 352392
Authorization Number: 108537

REGISTERED MAIL

CITY OF KELOWNA
1435 WATER STREET
KELOWNA, BC
V1Y 1J4

Dear Permittee:

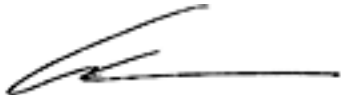
Enclosed is Permit 108537 issued under the provisions of the *Environmental Management Act*. Your attention is respectfully directed to the terms and conditions outlined in the permit. An annual fee will be determined according to the Permit Fees Regulation.

This permit does not authorize entry upon, crossing over, or use for any purpose of private or Crown lands or works, unless and except as authorized by the owner of such lands or works. The responsibility for obtaining such authority rests with the permittee. This permit is issued pursuant to the provisions of the *Environmental Management Act* to ensure compliance with Section 120(3) of that statute, which makes it an offence to discharge waste, from a prescribed industry or activity, without proper authorization. It is also the responsibility of the permittee to ensure that all activities conducted under this authorization are carried out with regard to the rights of third parties, and comply with other applicable legislation that may be in force.

This decision may be appealed to the Environmental Appeal Board in accordance with Part 8 of the *Environmental Management Act*. An appeal must be delivered within 30 days from the date that notice of this decision is given. For further information, please contact the Environmental Appeal Board at (250) 387-3464.

Administration of this permit will be carried out by staff from the Environmental Protection Division's Regional Operations Branch. Plans, data and reports pertinent to the permit are to be submitted by email or electronic transfer to the Director, designated Officer, or as further instructed.

Yours truly,

A handwritten signature in black ink, appearing to read 'Luc Lachance', with a long horizontal stroke extending to the right.

Luc Lachance, P.Eng
for Director, *Environmental Management Act*
Authorizations - South Region

Enclosure

cc: Environment Canada



**MINISTRY OF
ENVIRONMENT**

**PERMIT
108537**

Under the Provisions of the Environmental Management Act

**City of Kelowna
551 Commonage Road
Vernon, B.C. V1H 1G3**

is authorized to discharge contaminants to the air from a composting facility located at 551 Commonage Vernon, British Columbia subject to the requirements listed below. Contravention of any of these requirements is a violation of the *Environmental Management Act* and may lead to prosecution.

Unless otherwise defined in this authorization, terms used in this authorization have the same meaning as those defined in the *Environmental Management Act* and Organic Matter Recycling Regulation.

1. AUTHORIZED DISCHARGES

1.1. Authorized Source

This section applies to the discharge of air contaminants from various areas of the composting facility. The site reference number for this discharge is E307813.

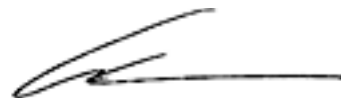
1.1.1. The rate of the discharge is variable.

1.1.2. The authorized discharge period is continuous.

1.1.3. The characteristics of the discharge are that of typical emissions of a biosolids composting facility.

1.1.4. The authorized works are all paved surfaces, the aeration pads, one (1) primary receiving building, one (1) water supply pump house including the pumps, chlorination and filtration apparatus, one (1) drainage pump house, one (1) ECS Aerated Static Pile System comprised of 18 zones for primary composting and 18 zones for secondary composting, four (4) biofilters for primary composting area and

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three (3) biofilters for secondary composting area, related sumps, pipes, holding tanks and related appurtenances.

1.1.5. The Permittee must not operate under this authorization unless the authorized works are complete and fully operational.

1.1.6. The location of the authorized works approximately located as shown on Site Plan attached.

2. GENERAL REQUIREMENTS

2.1. Maintenance of Works and Emergency Procedures

The Permittee must regularly inspect the authorized works and maintain them in good working order. The Permittee must maintain all asphalt surfaces and must repair cracks and significant damages to prevent and avoid leachate infiltration. Records of inspection and maintenance activities must be kept and made available upon request.

In the event of an emergency or condition beyond the control of the Permittee including, but not limited to, unauthorized fires arising from spontaneous combustion or other causes, or the detection of leachate migration outside of onsite confinement, the Permittee must take remedial action to prevent any unauthorized discharges. The Permittee must immediately report the emergency or condition and the remedial action that has and will be taken to the RAPP line (1-877-952-7277, #7272 from mobile phone) or electronically at this link: <http://www.env.gov.bc.ca/cos/rapp/form.htm>.

The Director may require the Permittee to reduce or suspend operations until corrective steps have been taken to prevent unauthorized discharges.

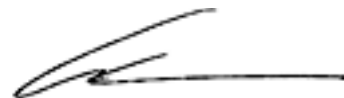
2.2. Bypasses

The Permittee must not allow any discharge authorized by this authorization to bypass the authorized works, except with the prior written approval of the Director.

2.3. Signage

The Permittee must erect a sign at the main entrance to the site which identifies the following: site name, owner and operator, contact phone number and address, hours of operation, tipping fees (if applicable) and prohibition of hazardous wastes. The lettering on the sign must be such that it is clearly readable from a distance of 3 meters by the public when they approach the entrance of the site.

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2.4. Access Security

The Permittee must provide adequate security for the facility and restrict access to authorized personnel.

2.5. Qualified Professionals

The Permittee must cause a qualified professional to certify that all new works are constructed in accordance with submitted plans and specifications. All documents submitted to the Director by a qualified professional must be signed by the author(s).

2.6. Litter Control

The Permittee must use the best practical means available to prevent the scatter of litter at the site. The Permittee must clean up any litter that may have escaped the site and scattered into the neighbouring property, along access roads, in drainage ditches, along fences, into surrounding trees or elsewhere on the site. The Director may require the Permittee to implement a specified frequency of clean-up and other additional requirements for litter control.

2.7. Vehicle Leaving Site

The Permittee must ensure, before any vehicle transporting compostable materials leaves the site, that the wheels of the vehicle do not contain compostable materials. If tracking of compostable material outside of the facility becomes a problem the Director may require that a wheel rinsing station be installed at the facility.

2.8. Air Quality

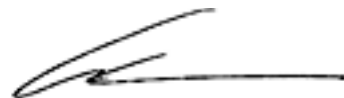
The Permittee must suppress odours created within the compost area to the satisfaction of the Director. If air quality becomes a concern, the Director may require the Permittee to implement additional control measures on emission sources.

3. OPERATIONAL REQUIREMENTS

3.1. Compostable Materials

3.1.1. The Permittee is only authorized to process the stabilized municipal sewage sludge, unprocessed and untreated wood residuals and yard waste.

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3.1.2. The Permittee must not receive or process more than 36,400 wet tonnes of stabilized sewage sludge per year.

3.1.3. Primary Composting Area

The Permittee must select and implement a secondary odour treatment for all primary composting piles to complement the biofilters for the period of May to October of each year. The Permittee must select a secondary odour treatment by October 31, 2018 and submit to the Director for approval. If the selected and approved secondary odour treatment is not implemented by June 30th, 2019, the Permittee will have to use a cover for all primary composting piles from May to October each year.

3.2. Biofiltration Cover

The Permittee must maintain at all times, for the purpose of odour control, a biofiltration cover for all compost piles located in the primary and secondary compost areas, consisting of:

- 0.3 m secondary teardown, or
- 0.3 m oversized material (overs), or
- A blend of secondary teardown and overs, or
- Another covering layer of a type and thickness that is acceptable to the Director.

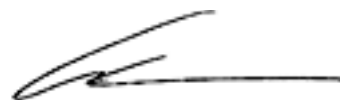
The Permittee must account for the biofiltration cover when calculating the carbon to nitrogen ratio to ensure that optimal composting conditions are maintained throughout the process. In order for the biofiltration cover to be effective, the Permittee must maintain optimal moisture content in the biofiltration material.

3.3. Design and Operating Plan

The Permittee must submit an updated design and operating plan by May 31, 2019. The plan must be prepared by a qualified professional. The plan must describe, but not be limited to, the design, operations, acceptable materials, leachate management, monitoring programs, reporting requirements and performance requirements. In addition, the operating plan must:

- 3.3.1. Demonstrate that the biofilters are of adequate size and capacity for the facility's design;
- 3.3.2. Establish a schedule of site-specific maintenance activities for the biofilters;
- 3.3.3. Describe how records are kept for all maintenance activities performed on site;

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3.3.4. Explain how the biofiltration cover is integrated in the C:N ratio;

3.3.5. Include contingency plans in case of supply shortage (hog, ash) ; and,

3.3.6. Include an asphalt maintenance program, which describes inspection protocols and maintenance activities.

The Permittee must operate the facility in accordance with the design and operating plan. The Director may request additional information with respect to the design and operating plan and specifications that he or she considers necessary for the protection of human health and the environment, and may specify particular concerns or questions that the plans and specifications must address.

3.4. Leachate Management

The Permittee must ensure that all leachate generated from the composting operation, buildings, paved open surface areas, outdoor curing areas, finished compost storage areas, and truck marshalling area is collected and directed to the leachate collection system. The Permittee must maintain all collection channels and catch basins to ensure proper drainage.

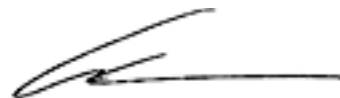
The Permittee must select an impermeable containment system to store leachate, or the contact water from the curing areas or other water that may have come in contact with the organic waste or compost. The Permittee must submit the new Leachate Management System Plan to the Director for approval before November 30, 2017. The Permittee must cease to use the drainage trench or the drainage pond after October 31, 2018 to store leachate, or the contact water from the curing areas or other water that may have come in contact with the organic waste unless the drainage trench and the drainage pond are lined with an impermeable liner.

3.5. Odour Management

The Permittee must submit to the Director for approval an updated odour management plan by November 30, 2017. The plan must be prepared by a qualified professional and must do the following:

3.5.1. Identify all odour generating areas including, but not limited to: receiving, mixing, primary composting, curing or secondary composting, screening, leachate collection system, aeration systems, biofilters, grinding and storage.

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- 3.5.2. Identify appropriate mitigating strategies employed for each area and provide a summary table in the plan.
- 3.5.3. Identify all parameters and optimal ranges in the compost process needed to limit odour generation. Compost process parameters to be identified include, but are not limited to, feedstock type, bulking materials, bulk density, particle size, carbon to nitrogen ratios, moisture, temperature, oxygen, peak odour times (i.e. Day 3 or 7), pile turning schedules.
- 3.5.4. Outline all best management practices and emission control technologies aimed at reducing odour generation being employed at the facility.
- 3.5.5. Identify other best management practices and emission control technologies that could potentially be used on site to further reduce and control odour.
- 3.5.6. Include an odour monitoring program. The program must describe how odours are monitored on-site and off-site.
- 3.5.7. Include a complaint management process which includes a complaint form, any investigative actions to be taken and any mitigation actions to be taken.

The Permittee must operate the facility in accordance with the approved odour management plan, and any requirements which the Director may attach to the odour management plan as a condition of approval.

3.6. Change to Plans

The Permittee must keep the design and operating plan up to date and must notify the Director of any changes to the plan within 30 days of the change.

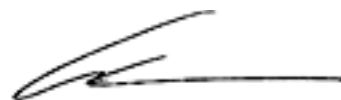
3.7. Closure of the Facility

Before closure of the facility, the Permittee must apply or distribute all compost in accordance with the Organic Matter Recycling Regulation, and all unprocessed organic matter must be removed from the facility and dealt with in accordance with the *Environmental Management Act*.

A final closure plan must be submitted 90 days prior to deactivation of the site to the Director for review and approval. The final closure plan and associated engineered closure works must be compatible with the planned end-use of the compost facility.

3.8. Additional Requirements

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The Permittee must ensure the following requirements are met:

- 3.8.1. Class A compost must meet the requirements of pathogen reduction processes, vector attraction reduction, pathogen reduction limits, quality criteria, sampling and analysis – protocols and frequency, and record keeping as outlined in the Organic Matter Recycling Regulation.
- 3.8.2. Biosolids used as feedstock for the production of Class A compost must not exceed the standards for Class B biosolids set out in Column 3 of Schedule 4.
- 3.8.3. At least half of the compost stored at 551 Commonage Road, Vernon, BC must be removed annually from the facility.
- 3.8.4. The receiving, storage, processing and curing areas of the composting facility must be located on asphalt, concrete or another similar impermeable surface that is capable of withstanding wear and tear from normal operations and that will prevent the release of leachate into the environment.
- 3.8.5. Residuals from the composting process must be stored so as to prevent vector attraction, and be disposed of on a regular basis in accordance with the *Environmental Management Act*.
- 3.8.6. Residuals that are stored at a composting facility must not at any time exceed 15 cubic meters in total.

4. MONITORING REQUIREMENTS

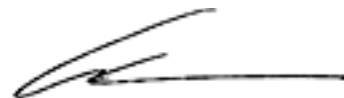
4.1. Odour emissions

The Permittee must continue to monitor air emissions at the facility and in the surrounding areas using existing e-noses and H₂S monitors. The Permittee must monitor odour emissions in accordance with the approved odour management plan and results must be presented and interpreted in the annual report.

4.2. Surface Water Monitoring

The Permittee must continue to implement a surface water monitor program as required in writing by the Director and in accordance with recommendations from a Qualified Professional. The Director may request additional information or changes with respect to the monitoring program based on monitoring results and upon submission and review of the Leachate Management System Plan, required under Section 3.5.

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4.3. Environmental Impact Study

The Permittee must retain on site a copy of the most recently submitted environmental impact study for inspection. The Director may request additional information with respect to the environmental impact study that he or she considers necessary for the protection of human health and the environment, and may specify particular concerns or questions that the impact study must address.

4.4. Air Emissions Review Study

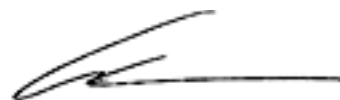
The Permittee must retain the services of a qualified professional to review and analyze all emissions data collected at the facility with e-noses, H₂S monitors and odorous gas measurements. The report must be submitted by March 31, 2018 and must:

- 4.4.1. Describe odour emissions on-site for each odour generating area;
- 4.4.2. Describe how odours are migrating off-site and identify all affected areas;
- 4.4.3. Use quantitative and qualitative units for descriptions;
- 4.4.4. Include daily, seasonal and annual trends;
- 4.4.5. Discuss how meteorological conditions effect odour generation and dispersion;
- 4.4.6. Provide a qualitative assessment of how odours have improved since 2010;
- 4.4.7. Report on the effectiveness of odour mitigation strategies used at the facility;
- 4.4.8. Discuss calibration schedule/requirements of the OdoWatch system; and
- 4.4.9. Make recommendations on how the facility could further reduce its odour emissions.

4.5. Foul Air Study

The Director may request the Permittee to conduct a foul air study or similar study to measure the effectiveness of the facility's odour management plan and to quantify the odours migrating off-site.

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4.6. Sampling Procedures

The Permittee must carry out sampling in accordance with the procedures described in the "British Columbia Field Sampling Manual for Continuous Monitoring and the Collection of Air, Air-Emission, Water, Wastewater, Soil, Sediment, and Biological Samples, 2013", or the most recent edition, or by alternative procedures as authorized by the Director. A copy of the above manual is available on the Ministry web page at: <http://www2.gov.bc.ca/gov/content/environment/research-monitoring-reporting/monitoring/sampling-methods-quality-assurance/bc-field-sampling-manual>

4.7. Analytical Procedures

The Permittee must carry out analyses in accordance with the procedures described in the "British Columbia Laboratory Manual, 2015 ", or the most current edition, or by suitable alternative procedures as authorized by the Director. A copy of the above manual is available on the Ministry web page at: <http://www2.gov.bc.ca/gov/content/environment/research-monitoring-reporting/monitoring/sampling-methods-quality-assurance/bc-environmental-laboratory-manual>

5. REPORTING REQUIREMENTS

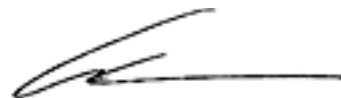
5.1. Maintenance of Records

The Permittee must maintain all records and plans required by this authorization and produce them for inspection by an officer when requested.

5.2. Electronic Submission

The Permittee must submit all data required to be submitted under this permit by email to the Ministry's Routine Environmental Reporting Submission Mailbox (RERSM) at Envauthorizationsreporting@gov.bc.ca. For guidelines on how to properly name the files and email subject lines or for more information visit the Ministry website: <http://www2.gov.bc.ca/gov/content/environment/waste-management/waste-discharge-authorization/data-and-report-submissions/routine-environmental-reporting-submission-mailbox>

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5.3. Spill Reporting

The Permittee must immediately report all spills to the environment (as defined in the Spill Reporting Regulation) in accordance with the Spill Reporting Regulation, which among other things, requires notification to the Provincial Emergency Program at 1-800-663-3456.

5.4. Non-Compliance

The Permittee must immediately notify the Director or designate by email at EnvironmentalCompliance@gov.bc.ca of any non-compliance with the requirements of this authorization by the Permittee and take remedial action to remedy any effects of such non-compliance. The Permittee must immediately notify the Director or designate of any non-compliance with the requirements of this Permit and take appropriate remedial action. Written confirmation of all non-compliance events, including available test results is required within 24 hours of the original notification unless otherwise directed by the Director, Environmental Protection.

Within 30 days of the non-compliant event, the Permittee must submit to the Director, Environmental Protection, a written report including, but not necessarily limited to, the following:

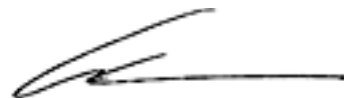
- (a) all relevant test results related to the noncompliance;
- (b) an explanation of the most probable cause(s) of the noncompliance; and
- (c) remedial action planned and/or taken to prevent similar noncompliance(s) in the future.

5.5. Annual Reporting

The Permittee must submit a comprehensive annual report to the Director, on or before March 31st of each year for the previous calendar year. The annual report must include but not be limited to:

- 5.5.1. The type and tonnage of compostable materials received for the preceding calendar year;
- 5.5.2. The quantity of finished compost transported off site and the amount stored on site at the end of each calendar year;
- 5.5.3. The results of all monitoring programs as specified in this authorization. The Permittee must ensure that data interpretation and trend analysis, as well as an

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evaluation of the impacts of the discharges on the receiving environment in the previous calendar year must be carried out by a qualified professional;

5.5.4. A summary and analysis of all complaints received in the previous calendar year; and

5.5.5. Any improvements made to the facility or operations to reduce and control odour.

6. LICENCE TO PUBLISH DOCUMENTS

6.1. Subject to 6.2, the Permittee authorizes the Province to publish on the Ministry of Environment website the entirety of any Regulatory Document.

6.2. The Province will not publish any information that could not, if it were subject to a request under section 5 of the Freedom of Information and Protection of Privacy Act, be disclosed under that Act.

6.3. The Permittee will indemnify and save harmless the Province and the Province's employees and agents from any claim for infringement of copyright or other intellectual property rights that the Province or any of the Province's employees or agents may sustain, incur, suffer or be put to at any time that arise from the publication of a Regulatory Document.

GLOSSARY

“Foreign matter” means a contaminant that is not readily decomposed during the composting process, and includes demolition waste, metal, glass, plastic, rubber and leather, but does not include silt, sand, rocks or stones, or gravel less than 2.5 centimeters in diameter, or other similar mineral materials naturally found in soil;

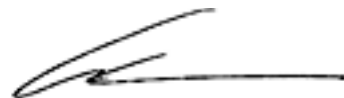
“Oversized material” or “overs” means the product resulting from secondary teardown screening which removes the compost particles smaller than 19 mm.

“Province” means Her Majesty the Queen in right of British Columbia;

“Regulatory Document” means any document that the permittee is required to provide to the Director or the Province pursuant to:

(i) this authorization;

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- (ii) any regulation made under the *Environmental Management Act* that regulates the facility described in this authorization or the discharge of waste from that facility; or,
- (iii) any order issued under the *Environmental Management Act* directed against the Permittee that is related to the facility described in this authorization or the discharge of waste from that facility;

“Residuals” means material that can’t be used in the composting process and includes organic material that can’t be composted because it is unauthorized, or fails to meet OMRR standards, or is defined as foreign matter;

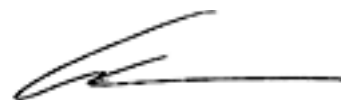
“Secondary teardown” means unscreened compost that has been processed for 24 to 28 days on the primary zone to achieve process to further reduce pathogens (PFRP) and vector attraction reduction (VAR) requirements, then moved to the secondary composting zone where aeration is continued for an additional 24 to 30 days of curing. The secondary teardown at the end of this process is approximately 56 days old and has met OMRR requirements;

“Stabilized municipal sewage sludge” means sludge resulting from a municipal waste water treatment process or septage treatment process which has been sufficiently treated through biological, thermal or chemical stabilization to allow the sludge to be beneficially recycled.

“Untreated and unprocessed wood residuals” means clean (non-contaminated and untreated) wood from lumber manufacture, including: shavings, sawdust, chips, hog fuel, ground mill ends and land clearing waste which has been ground with the majority of the greenery removed and no soil present but does not include construction and demolition debris;

“Yard waste” means clean and untreated wood waste or non-food vegetative matter resulting from gardening operations, landscaping, and land clearing; yard waste does not include wood waste derived from construction or demolition. Neither human or animal food waste that is diverted from residential, commercial or institutional sources, nor manure, is yard waste.

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SITE PLAN



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APPENDIX B

2022 COK FIELD OBSERVATIONS

Appendix B
Field Records 2022

Day	Weather	Davidson Pond	Roses Pond	Drainage Pond
March 29, 2022	Sunny	<ul style="list-style-type: none"> • Canada Geese visible/signs • Water is clear, shallow, murky green elsewhere • Water level is about 1.5 m from cattle trail 	<ul style="list-style-type: none"> • Birds visible/signs • Water has slight cloudiness • Water level is at rebar stake 	<ul style="list-style-type: none"> • No birds visible • Water is very murky, scum on surface • Water level is 0.54 m
April 29, 2022	Sunny	<ul style="list-style-type: none"> • Waterflow present • Water is clear, no odour or sheen • Water level is about 4 ft from the trail 	<ul style="list-style-type: none"> • Waterflow present • Water is clear, no odour or sheen • 14 inch above rebar 	<ul style="list-style-type: none"> • Waterflow present • Water is slightly turbid • Water level is 0.58 m
June 1, 2022		<ul style="list-style-type: none"> • Water fowl and fresh cattle sign • Clear water, vegetation starting to grow, no odour • Water level is about 1 m from lower cattle trail 	<ul style="list-style-type: none"> • Water fowl visible/sign • Clear water, vegetation starting to grow, no odour • Water level is 1 ft above rebar stake 	<ul style="list-style-type: none"> • Water fowl present • Water is very murky, scum on surface • Water level is 0.58 m on gauge
June 22, 2022		<ul style="list-style-type: none"> • No water fowl or cattle visible or their signs • Water is clear, algae on surface and below around entire shore • Water level is about 1 m from the trail 	<ul style="list-style-type: none"> • One loon, many turtles, and one duck observed • Water is clear, some algae along shores and below the surface • Water level is about 2 ft above the rebar 	<ul style="list-style-type: none"> • Sparrows visible/signs • Tea like pollen on water surface • Water level is 0.536 m
July 19, 2022	Sunny and warm	<ul style="list-style-type: none"> • Ducks visible/signs • Water is of murky green • Water level is about 2.5m 	<ul style="list-style-type: none"> • Ducks visible/signs • Water is opaque, greenish • Water level is 2.25 ft above rebar stake 	<ul style="list-style-type: none"> • Ducks visible/signs • Water is of dark brown as usual • Water level is 0.52 m on staff gauge
August 30, 2022		<ul style="list-style-type: none"> • Canada Geese visible/signs • Water is clear, shallow, murky green elsewhere <p>Water level is about 1.5 m from cattle trail</p>	<ul style="list-style-type: none"> • Birds visible/signs • Water has slight cloudiness <p>Water level is at rebar stake</p>	<ul style="list-style-type: none"> • No birds visible • Water is very murky, scum on surface <p>Water level is 0.54 m</p>

Appendix B
Field Records 2022

Day	Weather	Davidson Pond	Roses Pond	Drainage Pond
September 20, 2022		<ul style="list-style-type: none"> • Ducks visible/signs • Water is mostly clear with small flotsam • Water level is about 5 m from cattle trail 	<ul style="list-style-type: none"> • Osprey visible/signs • Water is clear • Water level is about 1 m at rebar stake 	<ul style="list-style-type: none"> • No visible/signs of birds • Water is very dark with scum and bubbles dock • Water level is 0.57 m
October 25, 2022	Sunny with clouds	<ul style="list-style-type: none"> • Water fowl and cattle present • Water is clear, not weeds • Water level is about 5.5 ft below cattle trail 	<ul style="list-style-type: none"> • Water flow visible/signs • Water is clear, no odour • Water level is 3.5 ft below rebar 	<ul style="list-style-type: none"> • Water flow visible/signs • Water is of tea color • Water level is 0.51 m on staff gauge
November 22, 2022		<ul style="list-style-type: none"> • Pond is frozen 	<ul style="list-style-type: none"> • Pond is frozen 	<ul style="list-style-type: none"> • No birds/cattle visible • Surface partly frozen; Water of tea colour • Water level is very low, about 1 ft below bottom of staff gauge

APPENDIX C
LABORATORY ANALYTICAL RESULTS



CERTIFICATE OF ANALYSIS

REPORTED TO Kelowna, City of
1435 Water Street
KELOWNA, BC V1Y 1J4

ATTENTION Jose Garcia

PO NUMBER 535828

PROJECT RBCF Ponds

PROJECT INFO

WORK ORDER 22C3973

RECEIVED / TEMP 2022-03-29 13:23 / 9.2°C

REPORTED 2022-04-05 16:19

COC NUMBER 44649.35992

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.

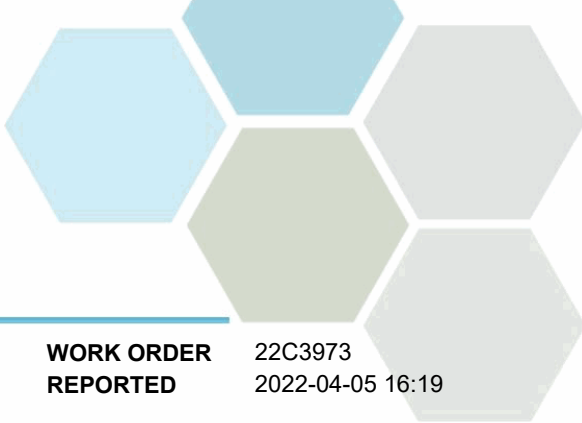
If you have any questions or concerns, please contact me at bwhitehead@caro.ca

Authorized By:

Brent Whitehead
Account Manager

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#110 4011 Viking Way Richmond, BC V6V 2K9 | #102 3677 Highway 97N Kelowna, BC V1X 5C3 | 17225 109 Avenue Edmonton, AB T5S 1H7 | #108 4475 Wayburne Drive Burnaby, BC V5G 4X4

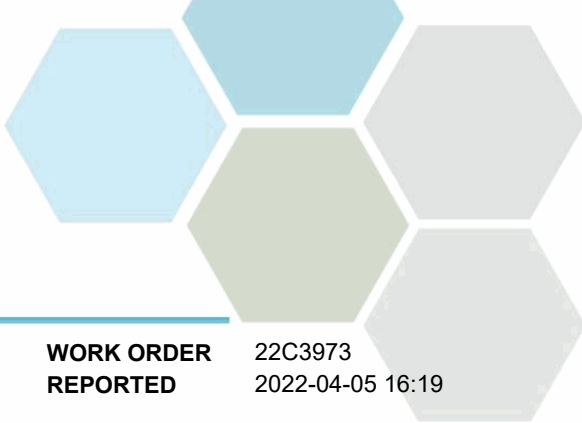


TEST RESULTS

REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

WORK ORDER REPORTED 22C3973
2022-04-05 16:19

Analyte	Result	RL	Units	Analyzed	Qualifier
Rose's Pond (22C3973-01) Matrix: Water Sampled: 2022-03-29 10:00					
Anions					
Chloride	349	0.10	mg/L	2022-03-31	
Nitrate (as N)	0.181	0.010	mg/L	2022-03-31	
Nitrite (as N)	< 0.100	0.010	mg/L	2022-03-31	RA1
Calculated Parameters					
Hardness, Total (as CaCO3)	1060	0.500	mg/L	N/A	
Nitrate+Nitrite (as N)	0.181	0.100	mg/L	N/A	
Nitrogen, Total	1.62	0.100	mg/L	N/A	
Dissolved Metals					
Aluminum, dissolved	< 0.0050	0.0050	mg/L	2022-04-01	
Antimony, dissolved	0.00024	0.00020	mg/L	2022-04-01	
Arsenic, dissolved	0.00266	0.00050	mg/L	2022-04-01	
Barium, dissolved	0.0157	0.0050	mg/L	2022-04-01	
Beryllium, dissolved	< 0.00010	0.00010	mg/L	2022-04-01	
Bismuth, dissolved	< 0.00010	0.00010	mg/L	2022-04-01	
Boron, dissolved	0.0829	0.0500	mg/L	2022-04-01	
Cadmium, dissolved	< 0.000010	0.000010	mg/L	2022-04-01	
Calcium, dissolved	59.7	0.20	mg/L	2022-04-01	
Chromium, dissolved	0.00447	0.00050	mg/L	2022-04-01	
Cobalt, dissolved	< 0.00010	0.00010	mg/L	2022-04-01	
Copper, dissolved	0.00047	0.00040	mg/L	2022-04-01	
Iron, dissolved	0.030	0.010	mg/L	2022-04-01	
Lead, dissolved	< 0.00020	0.00020	mg/L	2022-04-01	
Lithium, dissolved	0.0380	0.00010	mg/L	2022-04-01	
Magnesium, dissolved	222	0.010	mg/L	2022-04-01	
Manganese, dissolved	0.0540	0.00020	mg/L	2022-04-01	
Mercury, dissolved	< 0.000010	0.000010	mg/L	2022-04-01	
Molybdenum, dissolved	0.00114	0.00010	mg/L	2022-04-01	
Nickel, dissolved	0.00060	0.00040	mg/L	2022-04-01	
Phosphorus, dissolved	< 0.050	0.050	mg/L	2022-04-01	
Potassium, dissolved	65.4	0.10	mg/L	2022-04-01	
Selenium, dissolved	< 0.00050	0.00050	mg/L	2022-04-01	
Silicon, dissolved	< 1.0	1.0	mg/L	2022-04-01	
Silver, dissolved	< 0.000050	0.000050	mg/L	2022-04-01	
Sodium, dissolved	631	0.10	mg/L	2022-04-01	
Strontium, dissolved	0.498	0.0010	mg/L	2022-04-01	
Sulfur, dissolved	535	3.0	mg/L	2022-04-01	
Tellurium, dissolved	< 0.00050	0.00050	mg/L	2022-04-01	
Thallium, dissolved	< 0.000020	0.000020	mg/L	2022-04-01	
Thorium, dissolved	< 0.00010	0.00010	mg/L	2022-04-01	
Tin, dissolved	< 0.00020	0.00020	mg/L	2022-04-01	
Titanium, dissolved	< 0.0050	0.0050	mg/L	2022-04-01	
Tungsten, dissolved	< 0.0010	0.0010	mg/L	2022-04-01	



TEST RESULTS

REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

WORK ORDER REPORTED 22C3973
2022-04-05 16:19

Analyte	Result	RL	Units	Analyzed	Qualifier
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Rose's Pond (22C3973-01) | Matrix: Water | Sampled: 2022-03-29 10:00, Continued

Dissolved Metals, Continued

Uranium, dissolved	0.00321	0.000020	mg/L	2022-04-01	
Vanadium, dissolved	< 0.0010	0.0250	mg/L	2022-04-01	
Zinc, dissolved	< 0.0040	0.0040	mg/L	2022-04-01	
Zirconium, dissolved	0.00024	0.00010	mg/L	2022-04-01	

General Parameters

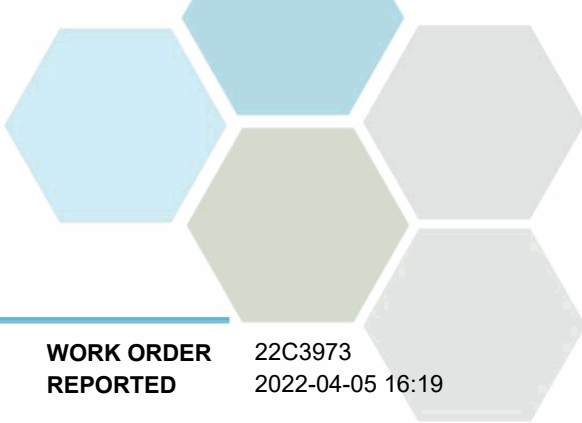
Ammonia, Total (as N)	0.056	0.050	mg/L	2022-04-03	
BOD, 5-day	< 5.9	2.0	mg/L	2022-04-05	
Carbon, Dissolved Organic	16.2	0.50	mg/L	2022-03-30	
Chemical Oxygen Demand	58	20	mg/L	2022-04-04	
Conductivity (EC)	4290	2.0	µS/cm	2022-04-04	
Nitrogen, Total Kjeldahl	1.44	0.050	mg/L	2022-04-04	
pH	8.34	0.10	pH units	2022-04-04	HT2
Phosphorus, Total (as P)	0.0412	0.0050	mg/L	2022-04-04	
Solids, Total Dissolved	2850	15	mg/L	2022-04-05	
Solids, Total Suspended	2.8	2.0	mg/L	2022-04-01	

Microbiological Parameters

Coliforms, Total (Q-Tray)	12	1	MPN/100 mL	2022-03-30	
E. coli (Q-Tray)	< 1	1	MPN/100 mL	2022-03-30	

Total Metals

Aluminum, total	0.0144	0.0050	mg/L	2022-04-04	
Antimony, total	0.00022	0.00020	mg/L	2022-04-04	
Arsenic, total	0.00295	0.00050	mg/L	2022-04-04	
Barium, total	0.0179	0.0050	mg/L	2022-04-04	
Beryllium, total	< 0.00010	0.00010	mg/L	2022-04-04	
Bismuth, total	< 0.00010	0.00010	mg/L	2022-04-04	
Boron, total	0.0908	0.0500	mg/L	2022-04-04	
Cadmium, total	< 0.000010	0.000010	mg/L	2022-04-04	
Calcium, total	67.1	0.20	mg/L	2022-04-04	
Chromium, total	< 0.00050	0.00050	mg/L	2022-04-04	
Cobalt, total	0.00011	0.00010	mg/L	2022-04-04	
Copper, total	0.00046	0.00040	mg/L	2022-04-04	
Iron, total	0.036	0.010	mg/L	2022-04-04	
Lead, total	< 0.00020	0.00020	mg/L	2022-04-04	
Lithium, total	0.0405	0.00010	mg/L	2022-04-04	
Magnesium, total	237	0.010	mg/L	2022-04-04	
Manganese, total	0.0744	0.00020	mg/L	2022-04-04	
Mercury, total	< 0.000010	0.000010	mg/L	2022-04-02	
Molybdenum, total	0.00125	0.00010	mg/L	2022-04-04	
Nickel, total	0.00081	0.00040	mg/L	2022-04-04	
Phosphorus, total	< 0.050	0.050	mg/L	2022-04-04	
Potassium, total	71.4	0.10	mg/L	2022-04-04	



TEST RESULTS

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RBCF Ponds

WORK ORDER REPORTED 22C3973
2022-04-05 16:19

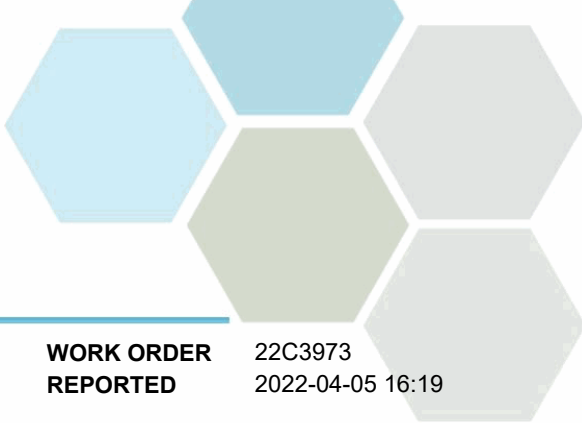
Analyte	Result	RL	Units	Analyzed	Qualifier
Rose's Pond (22C3973-01) Matrix: Water Sampled: 2022-03-29 10:00, Continued					
<i>Total Metals, Continued</i>					
Selenium, total	< 0.00050	0.00050	mg/L	2022-04-04	
Silicon, total	< 1.0	1.0	mg/L	2022-04-04	
Silver, total	< 0.000050	0.000050	mg/L	2022-04-04	
Sodium, total	722	0.10	mg/L	2022-04-04	
Strontium, total	0.544	0.0010	mg/L	2022-04-04	
Sulfur, total	617	3.0	mg/L	2022-04-04	
Tellurium, total	< 0.00050	0.00050	mg/L	2022-04-04	
Thallium, total	< 0.000020	0.000020	mg/L	2022-04-04	
Thorium, total	< 0.00010	0.00010	mg/L	2022-04-04	
Tin, total	< 0.00020	0.00020	mg/L	2022-04-04	
Titanium, total	< 0.0050	0.0050	mg/L	2022-04-04	
Tungsten, total	< 0.0010	0.0010	mg/L	2022-04-04	
Uranium, total	0.00363	0.000020	mg/L	2022-04-04	
Vanadium, total	< 0.0010	0.0050	mg/L	2022-04-04	
Zinc, total	0.0058	0.0040	mg/L	2022-04-04	
Zirconium, total	0.00032	0.00010	mg/L	2022-04-04	

Drainage Pond (22C3973-02) | Matrix: Water | Sampled: 2022-03-29 10:00

<i>Anions</i>					
Chloride	142	0.10	mg/L	2022-03-31	
Nitrate (as N)	< 0.010	0.010	mg/L	2022-03-31	
Nitrite (as N)	< 0.010	0.010	mg/L	2022-03-31	

<i>Calculated Parameters</i>					
Hardness, Total (as CaCO3)	519	0.500	mg/L	N/A	
Nitrate+Nitrite (as N)	< 0.0100	0.0100	mg/L	N/A	
Nitrogen, Total	62.8	1.00	mg/L	N/A	

<i>Dissolved Metals</i>					
Aluminum, dissolved	0.0657	0.0050	mg/L	2022-04-01	
Antimony, dissolved	0.00027	0.00020	mg/L	2022-04-01	
Arsenic, dissolved	0.00382	0.00050	mg/L	2022-04-01	
Barium, dissolved	0.0287	0.0050	mg/L	2022-04-01	
Beryllium, dissolved	< 0.00010	0.00010	mg/L	2022-04-01	
Bismuth, dissolved	0.00017	0.00010	mg/L	2022-04-01	
Boron, dissolved	0.131	0.0500	mg/L	2022-04-01	
Cadmium, dissolved	0.000019	0.000010	mg/L	2022-04-01	
Calcium, dissolved	111	0.20	mg/L	2022-04-01	
Chromium, dissolved	0.00062	0.00050	mg/L	2022-04-01	
Cobalt, dissolved	0.00091	0.00010	mg/L	2022-04-01	
Copper, dissolved	0.00753	0.00040	mg/L	2022-04-01	
Iron, dissolved	0.300	0.010	mg/L	2022-04-01	



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RBCF Ponds

WORK ORDER REPORTED 22C3973
2022-04-05 16:19

Analyte	Result	RL	Units	Analyzed	Qualifier
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Drainage Pond (22C3973-02) | Matrix: Water | Sampled: 2022-03-29 10:00, Continued

Dissolved Metals, Continued

Lead, dissolved	0.00021	0.00020	mg/L	2022-04-01	
Lithium, dissolved	0.0182	0.00010	mg/L	2022-04-01	
Magnesium, dissolved	59.0	0.010	mg/L	2022-04-01	
Manganese, dissolved	0.343	0.00020	mg/L	2022-04-01	
Mercury, dissolved	< 0.000010	0.000010	mg/L	2022-04-01	
Molybdenum, dissolved	0.00419	0.00010	mg/L	2022-04-01	
Nickel, dissolved	0.00299	0.00040	mg/L	2022-04-01	
Phosphorus, dissolved	7.54	0.050	mg/L	2022-04-01	
Potassium, dissolved	43.6	0.10	mg/L	2022-04-01	
Selenium, dissolved	0.00143	0.00050	mg/L	2022-04-01	
Silicon, dissolved	6.7	1.0	mg/L	2022-04-01	
Silver, dissolved	< 0.000050	0.000050	mg/L	2022-04-01	
Sodium, dissolved	128	0.10	mg/L	2022-04-01	
Strontium, dissolved	1.10	0.0010	mg/L	2022-04-01	
Sulfur, dissolved	108	3.0	mg/L	2022-04-01	
Tellurium, dissolved	< 0.00050	0.00050	mg/L	2022-04-01	
Thallium, dissolved	< 0.000020	0.000020	mg/L	2022-04-01	
Thorium, dissolved	< 0.00010	0.00010	mg/L	2022-04-01	
Tin, dissolved	0.00024	0.00020	mg/L	2022-04-01	
Titanium, dissolved	< 0.0050	0.0050	mg/L	2022-04-01	
Tungsten, dissolved	< 0.0010	0.0010	mg/L	2022-04-01	
Uranium, dissolved	0.00473	0.000020	mg/L	2022-04-01	
Vanadium, dissolved	< 0.0010	0.0250	mg/L	2022-04-01	
Zinc, dissolved	0.0157	0.0040	mg/L	2022-04-01	
Zirconium, dissolved	0.00045	0.00010	mg/L	2022-04-01	

General Parameters

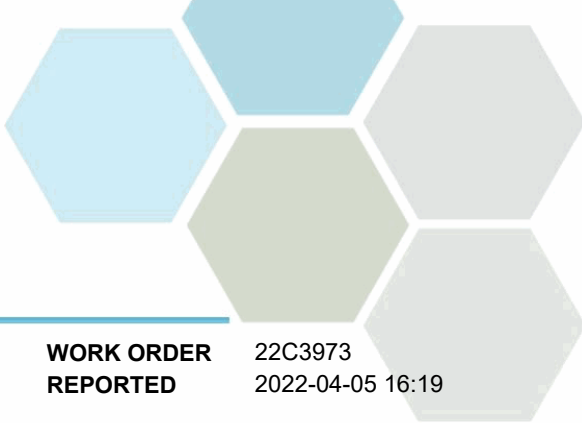
Ammonia, Total (as N)	53.3	0.050	mg/L	2022-04-03	
BOD, 5-day	49.5	2.0	mg/L	2022-04-05	
Carbon, Dissolved Organic	53.8	0.50	mg/L	2022-03-30	
Chemical Oxygen Demand	288	20	mg/L	2022-04-04	
Conductivity (EC)	1920	2.0	µS/cm	2022-04-04	
Nitrogen, Total Kjeldahl	62.8	0.050	mg/L	2022-04-04	
pH	7.92	0.10	pH units	2022-04-04	HT2
Phosphorus, Total (as P)	8.12	0.0050	mg/L	2022-04-04	
Solids, Total Dissolved	1150	15	mg/L	2022-04-05	
Solids, Total Suspended	36.1	2.0	mg/L	2022-04-01	

Microbiological Parameters

Coliforms, Total (Q-Tray)	> 24200	1	MPN/100 mL	2022-03-30	
E. coli (Q-Tray)	> 24200	1	MPN/100 mL	2022-03-30	

Total Metals

Aluminum, total	0.160	0.0050	mg/L	2022-04-04	
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TEST RESULTS

REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

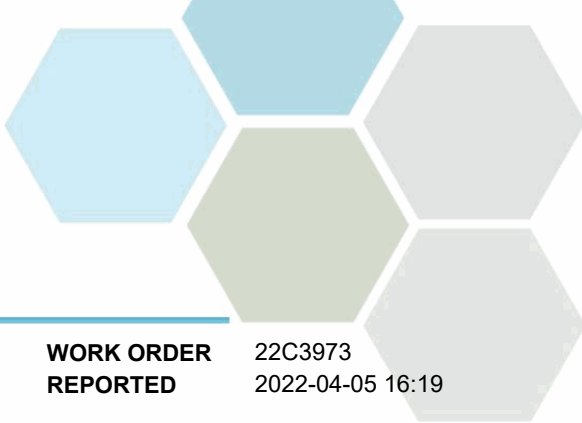
WORK ORDER REPORTED 22C3973
2022-04-05 16:19

Analyte	Result	RL	Units	Analyzed	Qualifier
Drainage Pond (22C3973-02) Matrix: Water Sampled: 2022-03-29 10:00, Continued					
<i>Total Metals, Continued</i>					
Antimony, total	0.00037	0.00020	mg/L	2022-04-04	
Arsenic, total	0.00467	0.00050	mg/L	2022-04-04	
Barium, total	0.0389	0.0050	mg/L	2022-04-04	
Beryllium, total	< 0.00010	0.00010	mg/L	2022-04-04	
Bismuth, total	0.00070	0.00010	mg/L	2022-04-04	
Boron, total	0.130	0.0500	mg/L	2022-04-04	
Cadmium, total	0.000116	0.000010	mg/L	2022-04-04	
Calcium, total	113	0.20	mg/L	2022-04-04	
Chromium, total	0.00109	0.00050	mg/L	2022-04-04	
Cobalt, total	0.00150	0.00010	mg/L	2022-04-04	
Copper, total	0.0279	0.00040	mg/L	2022-04-04	
Iron, total	0.736	0.010	mg/L	2022-04-04	
Lead, total	0.00078	0.00020	mg/L	2022-04-04	
Lithium, total	0.0177	0.00010	mg/L	2022-04-04	
Magnesium, total	55.9	0.010	mg/L	2022-04-04	
Manganese, total	0.361	0.00020	mg/L	2022-04-04	
Mercury, total	< 0.000010	0.000010	mg/L	2022-04-02	
Molybdenum, total	0.00659	0.00010	mg/L	2022-04-04	
Nickel, total	0.00454	0.00040	mg/L	2022-04-04	
Phosphorus, total	8.70	0.050	mg/L	2022-04-04	
Potassium, total	41.9	0.10	mg/L	2022-04-04	
Selenium, total	0.00202	0.00050	mg/L	2022-04-04	
Silicon, total	6.7	1.0	mg/L	2022-04-04	
Silver, total	0.000093	0.000050	mg/L	2022-04-04	
Sodium, total	127	0.10	mg/L	2022-04-04	
Strontium, total	1.07	0.0010	mg/L	2022-04-04	
Sulfur, total	114	3.0	mg/L	2022-04-04	
Tellurium, total	< 0.00050	0.00050	mg/L	2022-04-04	
Thallium, total	< 0.000020	0.000020	mg/L	2022-04-04	
Thorium, total	< 0.00010	0.00010	mg/L	2022-04-04	
Tin, total	0.00041	0.00020	mg/L	2022-04-04	
Titanium, total	< 0.0050	0.0050	mg/L	2022-04-04	
Tungsten, total	< 0.0010	0.0010	mg/L	2022-04-04	
Uranium, total	0.00540	0.000020	mg/L	2022-04-04	
Vanadium, total	< 0.0010	0.0050	mg/L	2022-04-04	
Zinc, total	0.0615	0.0040	mg/L	2022-04-04	
Zirconium, total	0.00048	0.00010	mg/L	2022-04-04	

Davidson Pond (22C3973-03) | Matrix: Water | Sampled: 2022-03-29 10:00

Anions

Chloride	255	0.10	mg/L	2022-03-31	
Nitrate (as N)	< 0.100	0.010	mg/L	2022-03-31	RA1

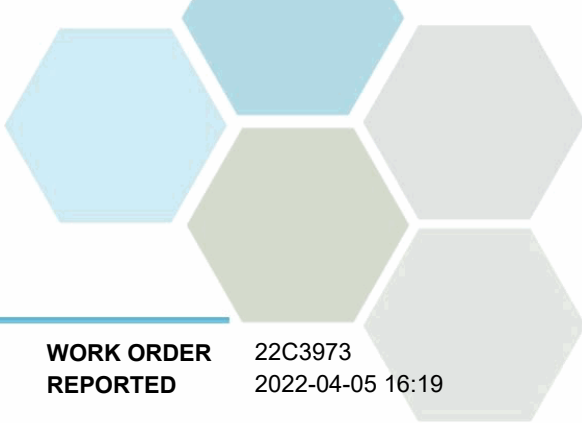


TEST RESULTS

REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

WORK ORDER REPORTED 22C3973
2022-04-05 16:19

Analyte	Result	RL	Units	Analyzed	Qualifier
Davidson Pond (22C3973-03) Matrix: Water Sampled: 2022-03-29 10:00, Continued					
<i>Anions, Continued</i>					
Nitrite (as N)	< 0.010	0.010	mg/L	2022-03-31	
<i>Calculated Parameters</i>					
Hardness, Total (as CaCO3)	533	0.500	mg/L	N/A	
Nitrate+Nitrite (as N)	< 0.100	0.100	mg/L	N/A	
Nitrogen, Total	2.70	0.100	mg/L	N/A	
<i>Dissolved Metals</i>					
Aluminum, dissolved	< 0.0050	0.0050	mg/L	2022-04-01	
Antimony, dissolved	0.00030	0.00020	mg/L	2022-04-01	
Arsenic, dissolved	0.00261	0.00050	mg/L	2022-04-01	
Barium, dissolved	0.0147	0.0050	mg/L	2022-04-01	
Beryllium, dissolved	< 0.00010	0.00010	mg/L	2022-04-01	
Bismuth, dissolved	< 0.00010	0.00010	mg/L	2022-04-01	
Boron, dissolved	< 0.0500	0.0500	mg/L	2022-04-01	
Cadmium, dissolved	< 0.000010	0.000010	mg/L	2022-04-01	
Calcium, dissolved	54.1	0.20	mg/L	2022-04-01	
Chromium, dissolved	< 0.00050	0.00050	mg/L	2022-04-01	
Cobalt, dissolved	< 0.00010	0.00010	mg/L	2022-04-01	
Copper, dissolved	< 0.00040	0.00040	mg/L	2022-04-01	
Iron, dissolved	< 0.010	0.010	mg/L	2022-04-01	
Lead, dissolved	< 0.00020	0.00020	mg/L	2022-04-01	
Lithium, dissolved	0.0356	0.00010	mg/L	2022-04-01	
Magnesium, dissolved	96.7	0.010	mg/L	2022-04-01	
Manganese, dissolved	0.00924	0.00020	mg/L	2022-04-01	
Mercury, dissolved	< 0.000010	0.000010	mg/L	2022-04-01	
Molybdenum, dissolved	0.00109	0.00010	mg/L	2022-04-01	
Nickel, dissolved	0.00134	0.00040	mg/L	2022-04-01	
Phosphorus, dissolved	< 0.050	0.050	mg/L	2022-04-01	
Potassium, dissolved	34.6	0.10	mg/L	2022-04-01	
Selenium, dissolved	< 0.00050	0.00050	mg/L	2022-04-01	
Silicon, dissolved	3.4	1.0	mg/L	2022-04-01	
Silver, dissolved	< 0.000050	0.000050	mg/L	2022-04-01	
Sodium, dissolved	442	0.10	mg/L	2022-04-01	
Strontium, dissolved	0.743	0.0010	mg/L	2022-04-01	
Sulfur, dissolved	285	3.0	mg/L	2022-04-01	
Tellurium, dissolved	< 0.00050	0.00050	mg/L	2022-04-01	
Thallium, dissolved	< 0.000020	0.000020	mg/L	2022-04-01	
Thorium, dissolved	< 0.00010	0.00010	mg/L	2022-04-01	
Tin, dissolved	< 0.00020	0.00020	mg/L	2022-04-01	
Titanium, dissolved	< 0.0050	0.0050	mg/L	2022-04-01	
Tungsten, dissolved	< 0.0010	0.0010	mg/L	2022-04-01	
Uranium, dissolved	0.00556	0.000020	mg/L	2022-04-01	
Vanadium, dissolved	< 0.0010	0.0250	mg/L	2022-04-01	



TEST RESULTS

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RBCF Ponds

WORK ORDER REPORTED 22C3973
2022-04-05 16:19

Analyte	Result	RL	Units	Analyzed	Qualifier
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Davidson Pond (22C3973-03) | Matrix: Water | Sampled: 2022-03-29 10:00, Continued

Dissolved Metals, Continued

Zinc, dissolved	< 0.0040	0.0040	mg/L	2022-04-01	
Zirconium, dissolved	0.00016	0.00010	mg/L	2022-04-01	

General Parameters

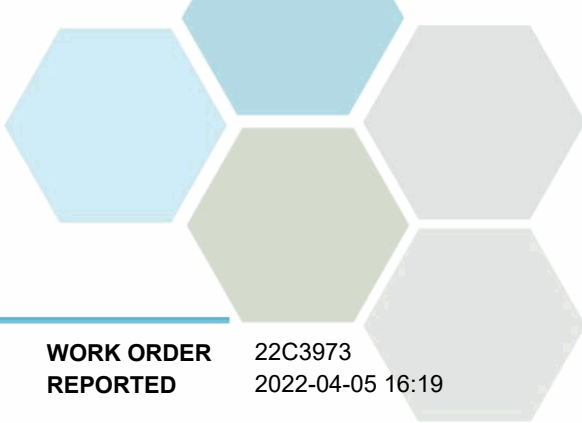
Ammonia, Total (as N)	< 0.050	0.050	mg/L	2022-04-03	
BOD, 5-day	22.7	2.0	mg/L	2022-04-05	
Carbon, Dissolved Organic	20.5	0.50	mg/L	2022-03-30	
Chemical Oxygen Demand	84	20	mg/L	2022-04-04	
Conductivity (EC)	2780	2.0	µS/cm	2022-04-04	
Nitrogen, Total Kjeldahl	2.70	0.050	mg/L	2022-04-04	
pH	9.04	0.10	pH units	2022-04-04	HT2
Phosphorus, Total (as P)	0.226	0.0050	mg/L	2022-04-04	
Solids, Total Dissolved	1900	15	mg/L	2022-04-05	
Solids, Total Suspended	9.4	2.0	mg/L	2022-04-01	

Microbiological Parameters

Coliforms, Total (Q-Tray)	59	1	MPN/100 mL	2022-03-30	
E. coli (Q-Tray)	< 1	1	MPN/100 mL	2022-03-30	

Total Metals

Aluminum, total	0.0139	0.0050	mg/L	2022-04-04	
Antimony, total	0.00035	0.00020	mg/L	2022-04-04	
Arsenic, total	0.00307	0.00050	mg/L	2022-04-04	
Barium, total	0.0154	0.0050	mg/L	2022-04-04	
Beryllium, total	< 0.00010	0.00010	mg/L	2022-04-04	
Bismuth, total	< 0.00010	0.00010	mg/L	2022-04-04	
Boron, total	< 0.0500	0.0500	mg/L	2022-04-04	
Cadmium, total	< 0.000010	0.000010	mg/L	2022-04-04	
Calcium, total	58.5	0.20	mg/L	2022-04-04	
Chromium, total	< 0.00050	0.00050	mg/L	2022-04-04	
Cobalt, total	0.00013	0.00010	mg/L	2022-04-04	
Copper, total	0.00079	0.00040	mg/L	2022-04-04	
Iron, total	0.019	0.010	mg/L	2022-04-04	
Lead, total	< 0.00020	0.00020	mg/L	2022-04-04	
Lithium, total	0.0364	0.00010	mg/L	2022-04-04	
Magnesium, total	99.7	0.010	mg/L	2022-04-04	
Manganese, total	0.0431	0.00020	mg/L	2022-04-04	
Mercury, total	< 0.000010	0.000010	mg/L	2022-04-02	
Molybdenum, total	0.00125	0.00010	mg/L	2022-04-04	
Nickel, total	0.00167	0.00040	mg/L	2022-04-04	
Phosphorus, total	0.221	0.050	mg/L	2022-04-04	
Potassium, total	38.9	0.10	mg/L	2022-04-04	
Selenium, total	< 0.00050	0.00050	mg/L	2022-04-04	
Silicon, total	3.5	1.0	mg/L	2022-04-04	



TEST RESULTS

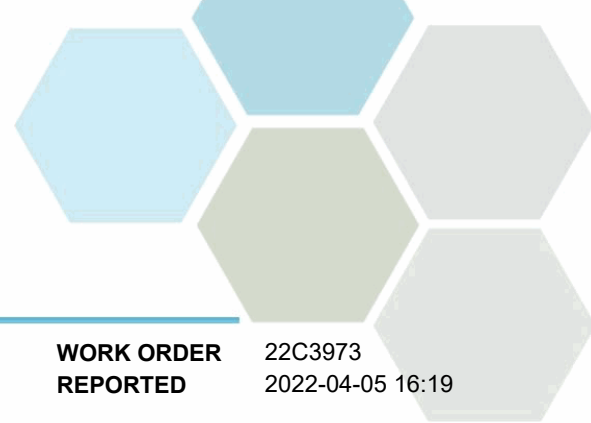
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Analyte	Result	RL	Units	Analyzed	Qualifier
Davidson Pond (22C3973-03) Matrix: Water Sampled: 2022-03-29 10:00, Continued					
<i>Total Metals, Continued</i>					
Silver, total	< 0.000050	0.000050	mg/L	2022-04-04	
Sodium, total	482	0.10	mg/L	2022-04-04	
Strontium, total	0.767	0.0010	mg/L	2022-04-04	
Sulfur, total	316	3.0	mg/L	2022-04-04	
Tellurium, total	< 0.00050	0.00050	mg/L	2022-04-04	
Thallium, total	< 0.000020	0.000020	mg/L	2022-04-04	
Thorium, total	< 0.00010	0.00010	mg/L	2022-04-04	
Tin, total	< 0.00020	0.00020	mg/L	2022-04-04	
Titanium, total	< 0.0050	0.0050	mg/L	2022-04-04	
Tungsten, total	< 0.0010	0.0010	mg/L	2022-04-04	
Uranium, total	0.00551	0.000020	mg/L	2022-04-04	
Vanadium, total	< 0.0010	0.0050	mg/L	2022-04-04	
Zinc, total	< 0.0040	0.0040	mg/L	2022-04-04	
Zirconium, total	0.00017	0.00010	mg/L	2022-04-04	

Sample Qualifiers:

- HT2 The 15 minute recommended holding time (from sampling to analysis) has been exceeded - field analysis is recommended.
- RA1 The Reporting Limit has been raised due to matrix interference.



APPENDIX 1: SUPPORTING INFORMATION

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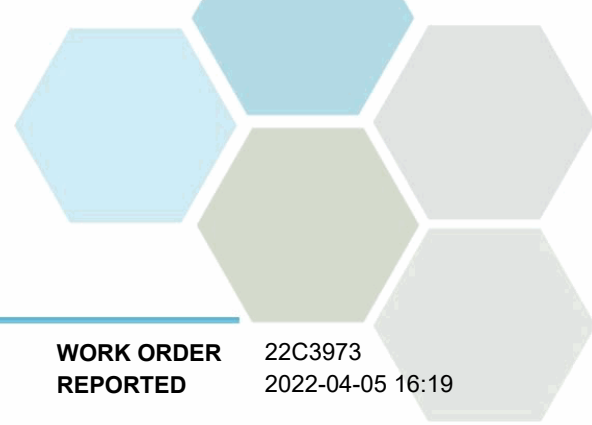
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Analysis Description	Method Ref.	Technique	Accredited	Location
Ammonia, Total in Water	SM 4500-NH3 G* (2017)	Automated Colorimetry (Phenate)	✓	Kelowna
Anions in Water	SM 4110 B (2017)	Ion Chromatography	✓	Kelowna
Biochemical Oxygen Demand in Water	SM 5210 B (2017)	Dissolved Oxygen Meter	✓	Kelowna
Carbon, Dissolved Organic in Water	SM 5310 B (2017)	Combustion, Infrared CO2 Detection	✓	Kelowna
Chemical Oxygen Demand in Water	SM 5220 D* (2017)	Closed Reflux, Colorimetry	✓	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
Dissolved Metals in Water	EPA 200.8 / EPA 6020B	0.45 µm Filtration / Inductively Coupled Plasma-Mass Spectroscopy (ICP-MS)	✓	Richmond
E. coli in Water	NA / SM 9223 (2017)	Quanti-Tray / Enzyme Substrate Endo Agar	✓	Kelowna
Hardness in Water	SM 2340 B (2017)	Calculation: 2.497 [diss Ca] + 4.118 [diss Mg]	✓	N/A
Mercury, dissolved in Water	EPA 245.7*	BrCl2 Oxidation / Cold Vapor Atomic Fluorescence Spectrometry (CVAFS)	✓	Richmond
Mercury, total in Water	EPA 245.7*	BrCl2 Oxidation / Cold Vapor Atomic Fluorescence Spectrometry (CVAFS)	✓	Richmond
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
Phosphorus, Total in Water	SM 4500-P B.5* (2011) / SM 4500-P F (2017)	Persulfate Digestion / Automated Colorimetry (Ascorbic Acid)	✓	Kelowna
Solids, Total Dissolved in Water	Solids in Water, Filtered / SM 2540 C* (2017)	Solids in Water, Filtered / Gravimetry (Dried at 103-105C)	✓	Kelowna
Solids, Total Suspended in Water	Solids in Water, Filtered / SM 2540 D* (2017)	Solids in Water, Filtered / Gravimetry (Dried at 103-105C)	✓	Kelowna
Total Metals in Water	EPA 200.2 / EPA 6020B	HNO3+HCl Hot Block Digestion / Inductively Coupled Plasma-Mass Spectroscopy (ICP-MS)	✓	Richmond

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
>	Greater than the specified Result
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
EPA	United States Environmental Protection Agency Test Methods
SM	Standard Methods for the Examination of Water and Wastewater, American Public Health Association



APPENDIX 1: SUPPORTING INFORMATION

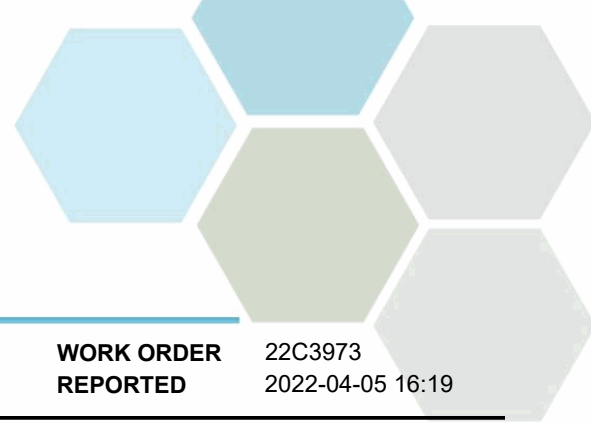
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WORK ORDER 22C3973
REPORTED 2022-04-05 16:19

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 or once samples expire, whichever comes first. Longer hold is possible if agreed to in writing.

Please note any regulatory guidelines applied to this report are added as a convenience to the client, at their request, to help provide some initial context to analytical results obtained. Although CARO makes every effort to ensure accuracy of the associated regulatory guideline(s) applied, the guidelines applied cannot be assumed to be correct due to a variety of factors and as such CARO Analytical Services assumes no liability or responsibility for the use of those guidelines to make any decisions. The original source of the regulation should be verified and a review of the guideline(s) should be validated as correct in order to make any decisions arising from the comparison of the analytical data obtained to the relevant regulatory guideline for one's particular circumstances. Further, CARO Analytical Services assumes no liability or responsibility for any loss attributed from the use of these guidelines in any way.



APPENDIX 2: QUALITY CONTROL RESULTS

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RBCF Ponds

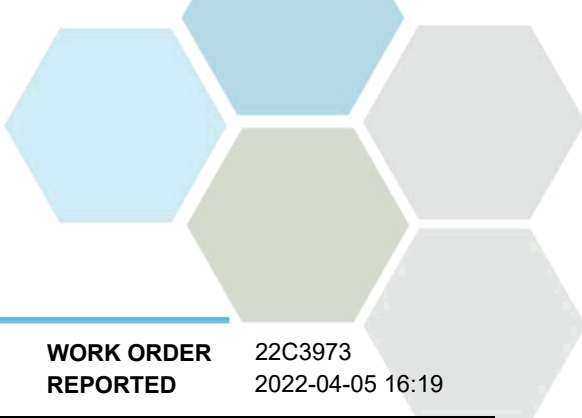
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The following section displays the quality control (QC) data that is associated with your sample data. Groups of samples are prepared in "batches" and analyzed in conjunction with QC samples that ensure your data is of the highest quality. Common QC types include:

- **Method Blank (Blk):** A blank sample that undergoes sample processing identical to that carried out for the test samples. Method blank results are used to assess contamination from the laboratory environment and reagents.
- **Duplicate (Dup):** An additional or second portion of a randomly selected sample in the analytical run carried through the entire analytical process. Duplicates provide a measure of the analytical method's precision (reproducibility).
- **Blank Spike (BS):** A sample of known concentration which undergoes processing identical to that carried out for test samples, also referred to as a laboratory control sample (LCS). Blank spikes provide a measure of the analytical method's accuracy.
- **Matrix Spike (MS):** A second aliquot of sample is fortified with a known concentration of target analytes and carried through the entire analytical process. Matrix spikes evaluate potential matrix effects that may affect the analyte recovery.
- **Reference Material (SRM):** A homogenous material of similar matrix to the samples, certified for the parameter(s) listed. Reference Materials ensure that the analytical process is adequate to achieve acceptable recoveries of the parameter(s) tested.

Each QC type is analyzed at a 5-10% frequency, i.e. one blank/duplicate/spike for every 10-20 samples. For all types of QC, the specified recovery (% Rec) and relative percent difference (RPD) limits are derived from long-term method performance averages and/or prescribed by the reference method.

Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Anions, Batch B2C3297									
Blank (B2C3297-BLK1)			Prepared: 2022-03-31, Analyzed: 2022-03-31						
Chloride	< 0.10	0.10 mg/L							
Nitrate (as N)	< 0.010	0.010 mg/L							
Nitrite (as N)	< 0.010	0.010 mg/L							
Blank (B2C3297-BLK2)			Prepared: 2022-04-01, Analyzed: 2022-04-01						
Chloride	< 0.10	0.10 mg/L							
Nitrate (as N)	< 0.010	0.010 mg/L							
Nitrite (as N)	< 0.010	0.010 mg/L							
LCS (B2C3297-BS1)			Prepared: 2022-03-31, Analyzed: 2022-03-31						
Chloride	15.5	0.10 mg/L	16.0		97	90-110			
Nitrate (as N)	3.93	0.010 mg/L	4.00		98	90-110			
Nitrite (as N)	1.96	0.010 mg/L	2.00		98	85-115			
LCS (B2C3297-BS2)			Prepared: 2022-04-01, Analyzed: 2022-04-01						
Chloride	15.9	0.10 mg/L	16.0		100	90-110			
Nitrate (as N)	3.82	0.010 mg/L	4.00		95	90-110			
Nitrite (as N)	1.96	0.010 mg/L	2.00		98	85-115			
Dissolved Metals, Batch B2C3505									
Blank (B2C3505-BLK1)			Prepared: 2022-03-31, Analyzed: 2022-04-01						
Mercury, dissolved	< 0.000010	0.000010 mg/L							
Blank (B2C3505-BLK2)			Prepared: 2022-03-31, Analyzed: 2022-04-01						
Mercury, dissolved	< 0.000010	0.000010 mg/L							
Blank (B2C3505-BLK3)			Prepared: 2022-03-31, Analyzed: 2022-04-01						
Mercury, dissolved	< 0.000010	0.000010 mg/L							
Blank (B2C3505-BLK4)			Prepared: 2022-03-31, Analyzed: 2022-04-01						
Mercury, dissolved	< 0.000010	0.000010 mg/L							
Reference (B2C3505-SRM1)			Prepared: 2022-03-31, Analyzed: 2022-04-01						
Mercury, dissolved	0.000224	0.000010 mg/L	0.000250		89	0-200			

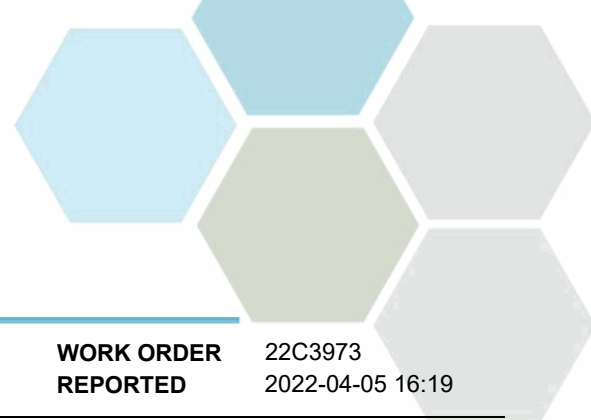


APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

WORK ORDER REPORTED 22C3973
2022-04-05 16:19

Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Dissolved Metals, Batch B2C3505, Continued									
Reference (B2C3505-SRM2)			Prepared: 2022-03-31, Analyzed: 2022-04-01						
Mercury, dissolved	0.000223	0.000010 mg/L	0.000250		89	0-200			
Reference (B2C3505-SRM3)			Prepared: 2022-03-31, Analyzed: 2022-04-01						
Mercury, dissolved	0.000230	0.000010 mg/L	0.000250		92	0-200			
Reference (B2C3505-SRM4)			Prepared: 2022-03-31, Analyzed: 2022-04-01						
Mercury, dissolved	0.000234	0.000010 mg/L	0.000250		94	0-200			
Dissolved Metals, Batch B2D0102									
Blank (B2D0102-BLK1)			Prepared: 2022-04-01, Analyzed: 2022-04-01						
Aluminum, dissolved	< 0.0050	0.0050 mg/L							
Antimony, dissolved	< 0.00020	0.00020 mg/L							
Arsenic, dissolved	< 0.00050	0.00050 mg/L							
Barium, dissolved	< 0.0050	0.0050 mg/L							
Beryllium, dissolved	< 0.00010	0.00010 mg/L							
Bismuth, dissolved	< 0.00010	0.00010 mg/L							
Boron, dissolved	< 0.0500	0.0500 mg/L							
Cadmium, dissolved	< 0.000010	0.000010 mg/L							
Calcium, dissolved, dissolved	< 0.20	0.20 mg/L							
Chromium, dissolved	< 0.00050	0.00050 mg/L							
Cobalt, dissolved	< 0.00010	0.00010 mg/L							
Copper, dissolved	< 0.00040	0.00040 mg/L							
Iron, dissolved	< 0.010	0.010 mg/L							
Lead, dissolved	< 0.00020	0.00020 mg/L							
Lithium, dissolved	< 0.00010	0.00010 mg/L							
Magnesium, dissolved, dissolved	< 0.010	0.010 mg/L							
Manganese, dissolved	< 0.00020	0.00020 mg/L							
Molybdenum, dissolved	< 0.00010	0.00010 mg/L							
Nickel, dissolved	< 0.00040	0.00040 mg/L							
Phosphorus, dissolved	< 0.050	0.050 mg/L							
Potassium, dissolved	< 0.10	0.10 mg/L							
Selenium, dissolved	< 0.00050	0.00050 mg/L							
Silicon, dissolved	< 1.0	1.0 mg/L							
Silver, dissolved	< 0.000050	0.000050 mg/L							
Sodium, dissolved	< 0.10	0.10 mg/L							
Strontium, dissolved	< 0.0010	0.0010 mg/L							
Sulfur, dissolved	< 3.0	3.0 mg/L							
Tellurium, dissolved	< 0.00050	0.00050 mg/L							
Thallium, dissolved	< 0.000020	0.000020 mg/L							
Thorium, dissolved	< 0.00010	0.00010 mg/L							
Tin, dissolved	< 0.00020	0.00020 mg/L							
Titanium, dissolved	< 0.0050	0.0050 mg/L							
Tungsten, dissolved	< 0.0010	0.0010 mg/L							
Uranium, dissolved	< 0.000020	0.000020 mg/L							
Vanadium, dissolved	< 0.0010	0.0010 mg/L							
Zinc, dissolved	< 0.0040	0.0040 mg/L							
Zirconium, dissolved	< 0.00010	0.00010 mg/L							
Blank (B2D0102-BLK2)			Prepared: 2022-04-01, Analyzed: 2022-04-01						
Aluminum, dissolved	< 0.0050	0.0050 mg/L							
Antimony, dissolved	< 0.00020	0.00020 mg/L							
Arsenic, dissolved	< 0.00050	0.00050 mg/L							
Barium, dissolved	< 0.0050	0.0050 mg/L							
Beryllium, dissolved	< 0.00010	0.00010 mg/L							
Bismuth, dissolved	< 0.00010	0.00010 mg/L							



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Kelowna, City of RBCF Ponds

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Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
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Dissolved Metals, Batch B2D0102, Continued

Blank (B2D0102-BLK2), Continued

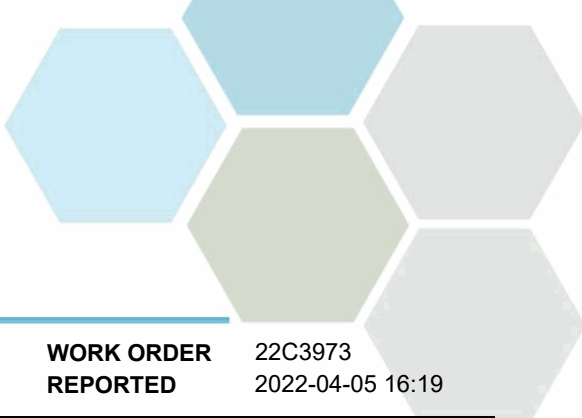
Prepared: 2022-04-01, Analyzed: 2022-04-01

Boron, dissolved	< 0.0500	0.0500 mg/L							
Cadmium, dissolved	< 0.000010	0.000010 mg/L							
Calcium, dissolved, dissolved	< 0.20	0.20 mg/L							
Chromium, dissolved	< 0.00050	0.00050 mg/L							
Cobalt, dissolved	< 0.00010	0.00010 mg/L							
Copper, dissolved	< 0.00040	0.00040 mg/L							
Iron, dissolved	< 0.010	0.010 mg/L							
Lead, dissolved	< 0.00020	0.00020 mg/L							
Lithium, dissolved	< 0.00010	0.00010 mg/L							
Magnesium, dissolved, dissolved	< 0.010	0.010 mg/L							
Manganese, dissolved	< 0.00020	0.00020 mg/L							
Molybdenum, dissolved	< 0.00010	0.00010 mg/L							
Nickel, dissolved	< 0.00040	0.00040 mg/L							
Phosphorus, dissolved	< 0.050	0.050 mg/L							
Potassium, dissolved	< 0.10	0.10 mg/L							
Selenium, dissolved	< 0.00050	0.00050 mg/L							
Silicon, dissolved	< 1.0	1.0 mg/L							
Silver, dissolved	< 0.000050	0.000050 mg/L							
Sodium, dissolved	< 0.10	0.10 mg/L							
Strontium, dissolved	< 0.0010	0.0010 mg/L							
Sulfur, dissolved	< 3.0	3.0 mg/L							
Tellurium, dissolved	< 0.00050	0.00050 mg/L							
Thallium, dissolved	< 0.000020	0.000020 mg/L							
Thorium, dissolved	< 0.00010	0.00010 mg/L							
Tin, dissolved	< 0.00020	0.00020 mg/L							
Titanium, dissolved	< 0.0050	0.0050 mg/L							
Tungsten, dissolved	< 0.0010	0.0010 mg/L							
Uranium, dissolved	< 0.000020	0.000020 mg/L							
Vanadium, dissolved	< 0.0010	0.0010 mg/L							
Zinc, dissolved	< 0.0040	0.0040 mg/L							
Zirconium, dissolved	< 0.00010	0.00010 mg/L							

LCS (B2D0102-BS1)

Prepared: 2022-04-01, Analyzed: 2022-04-01

Aluminum, dissolved	0.0170	0.0050 mg/L	0.0200		85	80-120			
Antimony, dissolved	0.0171	0.00020 mg/L	0.0200		85	80-120			
Arsenic, dissolved	0.0178	0.00050 mg/L	0.0200		89	80-120			
Barium, dissolved	0.0166	0.0050 mg/L	0.0200		83	80-120			
Beryllium, dissolved	0.0196	0.00010 mg/L	0.0200		98	80-120			
Bismuth, dissolved	0.0193	0.00010 mg/L	0.0200		96	80-120			
Boron, dissolved	< 0.0500	0.0500 mg/L	0.0200		98	80-120			
Cadmium, dissolved	0.0181	0.000010 mg/L	0.0200		90	80-120			
Calcium, dissolved, dissolved	1.87	0.20 mg/L	2.00		94	80-120			
Chromium, dissolved	0.0184	0.00050 mg/L	0.0200		92	80-120			
Cobalt, dissolved	0.0194	0.00010 mg/L	0.0200		97	80-120			
Copper, dissolved	0.0204	0.00040 mg/L	0.0200		102	80-120			
Iron, dissolved	1.86	0.010 mg/L	2.00		93	80-120			
Lead, dissolved	0.0186	0.00020 mg/L	0.0200		93	80-120			
Lithium, dissolved	0.0201	0.00010 mg/L	0.0200		101	80-120			
Magnesium, dissolved, dissolved	1.92	0.010 mg/L	2.00		96	80-120			
Manganese, dissolved	0.0181	0.00020 mg/L	0.0200		90	80-120			
Molybdenum, dissolved	0.0186	0.00010 mg/L	0.0200		93	80-120			
Nickel, dissolved	0.0195	0.00040 mg/L	0.0200		97	80-120			
Phosphorus, dissolved	1.75	0.050 mg/L	2.00		88	80-120			
Potassium, dissolved	1.78	0.10 mg/L	2.00		89	80-120			
Selenium, dissolved	0.0187	0.00050 mg/L	0.0200		93	80-120			
Silicon, dissolved	2.1	1.0 mg/L	2.00		103	80-120			



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Kelowna, City of RBCF Ponds
WORK ORDER REPORTED 22C3973 2022-04-05 16:19

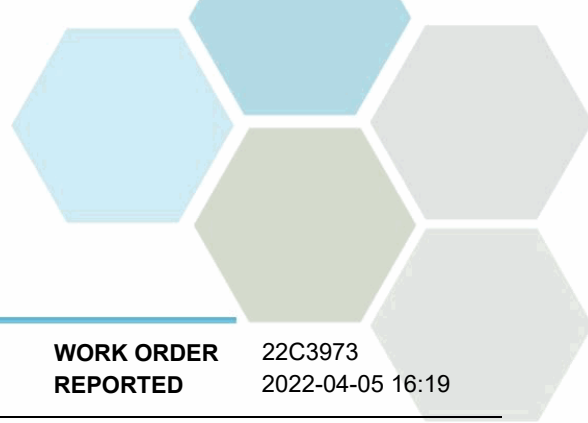
Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
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Dissolved Metals, Batch B2D0102, Continued

LCS (B2D0102-BS1), Continued				Prepared: 2022-04-01, Analyzed: 2022-04-01					
Silver, dissolved	0.0184	0.000050	mg/L	0.0200	92	80-120			
Sodium, dissolved	1.93	0.10	mg/L	2.00	96	80-120			
Strontium, dissolved	0.0176	0.0010	mg/L	0.0200	88	80-120			
Sulfur, dissolved	4.4	3.0	mg/L	5.00	88	80-120			
Tellurium, dissolved	0.0183	0.00050	mg/L	0.0200	92	80-120			
Thallium, dissolved	0.0189	0.000020	mg/L	0.0200	95	80-120			
Thorium, dissolved	0.0182	0.00010	mg/L	0.0200	91	80-120			
Tin, dissolved	0.0190	0.00020	mg/L	0.0200	95	80-120			
Titanium, dissolved	0.0182	0.0050	mg/L	0.0200	91	80-120			
Tungsten, dissolved	0.0179	0.0010	mg/L	0.0200	89	80-120			
Uranium, dissolved	0.0176	0.000020	mg/L	0.0200	88	80-120			
Vanadium, dissolved	0.0178	0.0010	mg/L	0.0200	89	80-120			
Zinc, dissolved	0.0194	0.0040	mg/L	0.0200	97	80-120			
Zirconium, dissolved	0.0191	0.00010	mg/L	0.0200	96	80-120			

LCS (B2D0102-BS2)				Prepared: 2022-04-01, Analyzed: 2022-04-01					
Aluminum, dissolved	0.0185	0.0050	mg/L	0.0200	92	80-120			
Antimony, dissolved	0.0178	0.00020	mg/L	0.0200	89	80-120			
Arsenic, dissolved	0.0178	0.00050	mg/L	0.0200	89	80-120			
Barium, dissolved	0.0179	0.0050	mg/L	0.0200	90	80-120			
Beryllium, dissolved	0.0190	0.00010	mg/L	0.0200	95	80-120			
Bismuth, dissolved	0.0193	0.00010	mg/L	0.0200	96	80-120			
Boron, dissolved	< 0.0500	0.0500	mg/L	0.0200	96	80-120			
Cadmium, dissolved	0.0184	0.000010	mg/L	0.0200	92	80-120			
Calcium, dissolved, dissolved	1.88	0.20	mg/L	2.00	94	80-120			
Chromium, dissolved	0.0183	0.00050	mg/L	0.0200	91	80-120			
Cobalt, dissolved	0.0194	0.00010	mg/L	0.0200	97	80-120			
Copper, dissolved	0.0204	0.00040	mg/L	0.0200	102	80-120			
Iron, dissolved	1.87	0.010	mg/L	2.00	93	80-120			
Lead, dissolved	0.0189	0.00020	mg/L	0.0200	95	80-120			
Lithium, dissolved	0.0195	0.00010	mg/L	0.0200	97	80-120			
Magnesium, dissolved, dissolved	1.89	0.010	mg/L	2.00	95	80-120			
Manganese, dissolved	0.0181	0.00020	mg/L	0.0200	91	80-120			
Molybdenum, dissolved	0.0187	0.00010	mg/L	0.0200	94	80-120			
Nickel, dissolved	0.0195	0.00040	mg/L	0.0200	98	80-120			
Phosphorus, dissolved	1.73	0.050	mg/L	2.00	86	80-120			
Potassium, dissolved	1.78	0.10	mg/L	2.00	89	80-120			
Selenium, dissolved	0.0185	0.00050	mg/L	0.0200	93	80-120			
Silicon, dissolved	2.1	1.0	mg/L	2.00	103	80-120			
Silver, dissolved	0.0188	0.000050	mg/L	0.0200	94	80-120			
Sodium, dissolved	1.91	0.10	mg/L	2.00	95	80-120			
Strontium, dissolved	0.0174	0.0010	mg/L	0.0200	87	80-120			
Sulfur, dissolved	4.6	3.0	mg/L	5.00	92	80-120			
Tellurium, dissolved	0.0188	0.00050	mg/L	0.0200	94	80-120			
Thallium, dissolved	0.0192	0.000020	mg/L	0.0200	96	80-120			
Thorium, dissolved	0.0184	0.00010	mg/L	0.0200	92	80-120			
Tin, dissolved	0.0195	0.00020	mg/L	0.0200	97	80-120			
Titanium, dissolved	0.0185	0.0050	mg/L	0.0200	93	80-120			
Tungsten, dissolved	0.0176	0.0010	mg/L	0.0200	88	80-120			
Uranium, dissolved	0.0182	0.000020	mg/L	0.0200	91	80-120			
Vanadium, dissolved	0.0179	0.0010	mg/L	0.0200	90	80-120			
Zinc, dissolved	0.0193	0.0040	mg/L	0.0200	96	80-120			
Zirconium, dissolved	0.0196	0.00010	mg/L	0.0200	98	80-120			

Duplicate (B2D0102-DUP2)				Source: 22C3973-01		Prepared: 2022-04-01, Analyzed: 2022-04-01			
Aluminum, dissolved	< 0.0050	0.0050	mg/L	< 0.0050					20
Antimony, dissolved	0.00021	0.00020	mg/L	0.00024					20



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Kelowna, City of RBCF Ponds

WORK ORDER REPORTED 22C3973 2022-04-05 16:19

Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Dissolved Metals, Batch B2D0102, Continued									
Duplicate (B2D0102-DUP2), Continued		Source: 22C3973-01		Prepared: 2022-04-01, Analyzed: 2022-04-01					
Arsenic, dissolved	0.00238	0.00050 mg/L		0.00266			11	20	
Barium, dissolved	0.0151	0.0050 mg/L		0.0157				20	
Beryllium, dissolved	< 0.00010	0.00010 mg/L		< 0.00010				20	
Bismuth, dissolved	< 0.00010	0.00010 mg/L		< 0.00010				20	
Boron, dissolved	0.0796	0.0500 mg/L		0.0829				20	
Cadmium, dissolved	< 0.000010	0.000010 mg/L		< 0.000010				20	
Calcium, dissolved, dissolved	60.5	0.20 mg/L		59.7			1	20	
Chromium, dissolved	< 0.00050	0.00050 mg/L		0.00447				20	
Cobalt, dissolved	< 0.00010	0.00010 mg/L		< 0.00010				20	
Copper, dissolved	0.00057	0.00040 mg/L		0.00047				20	
Iron, dissolved	< 0.010	0.010 mg/L		0.030				20	
Lead, dissolved	< 0.00020	0.00020 mg/L		< 0.00020				20	
Lithium, dissolved	0.0372	0.00010 mg/L		0.0380			2	20	
Magnesium, dissolved, dissolved	217	0.010 mg/L		222			2	20	
Manganese, dissolved	0.0536	0.00020 mg/L		0.0540			< 1	20	
Molybdenum, dissolved	0.00116	0.00010 mg/L		0.00114			2	20	
Nickel, dissolved	0.00075	0.00040 mg/L		0.00060				20	
Phosphorus, dissolved	< 0.050	0.050 mg/L		< 0.050				20	
Potassium, dissolved	63.4	0.10 mg/L		65.4			3	20	
Selenium, dissolved	< 0.00050	0.00050 mg/L		< 0.00050				20	
Silicon, dissolved	< 1.0	1.0 mg/L		< 1.0				20	
Silver, dissolved	< 0.000050	0.000050 mg/L		< 0.000050				20	
Sodium, dissolved	629	0.10 mg/L		631			< 1	20	
Strontium, dissolved	0.490	0.0010 mg/L		0.498			2	20	
Sulfur, dissolved	533	3.0 mg/L		535			< 1	20	
Tellurium, dissolved	< 0.00050	0.00050 mg/L		< 0.00050				20	
Thallium, dissolved	< 0.000020	0.000020 mg/L		< 0.000020				20	
Thorium, dissolved	< 0.00010	0.00010 mg/L		< 0.00010				20	
Tin, dissolved	< 0.00020	0.00020 mg/L		< 0.00020				20	
Titanium, dissolved	< 0.0050	0.0050 mg/L		< 0.0050				20	
Tungsten, dissolved	< 0.0010	0.0010 mg/L		< 0.0010				20	
Uranium, dissolved	0.00318	0.000020 mg/L		0.00321			< 1	20	
Vanadium, dissolved	< 0.0010	0.0250 mg/L		< 0.0010				20	
Zinc, dissolved	< 0.0040	0.0040 mg/L		< 0.0040				20	
Zirconium, dissolved	0.00017	0.00010 mg/L		0.00024				20	

Reference (B2D0102-SRM1)			Prepared: 2022-04-01, Analyzed: 2022-04-01						
Aluminum, dissolved	0.204	0.0050 mg/L	0.235	87	70-130				
Antimony, dissolved	0.0415	0.00020 mg/L	0.0431	96	70-130				
Arsenic, dissolved	0.404	0.00050 mg/L	0.423	96	70-130				
Barium, dissolved	2.82	0.0050 mg/L	3.30	86	70-130				
Beryllium, dissolved	0.205	0.00010 mg/L	0.209	98	70-130				
Boron, dissolved	1.71	0.0500 mg/L	1.65	104	70-130				
Cadmium, dissolved	0.203	0.000010 mg/L	0.221	92	70-130				
Calcium, dissolved, dissolved	6.96	0.20 mg/L	7.72	90	70-130				
Chromium, dissolved	0.409	0.00050 mg/L	0.434	94	70-130				
Cobalt, dissolved	0.124	0.00010 mg/L	0.124	100	70-130				
Copper, dissolved	0.834	0.00040 mg/L	0.815	102	70-130				
Iron, dissolved	1.21	0.010 mg/L	1.27	95	70-130				
Lead, dissolved	0.108	0.00020 mg/L	0.110	98	70-130				
Lithium, dissolved	0.100	0.00010 mg/L	0.100	100	70-130				
Magnesium, dissolved, dissolved	6.36	0.010 mg/L	6.59	97	70-130				
Manganese, dissolved	0.310	0.00020 mg/L	0.342	91	70-130				
Molybdenum, dissolved	0.383	0.00010 mg/L	0.404	95	70-130				
Nickel, dissolved	0.845	0.00040 mg/L	0.835	101	70-130				
Phosphorus, dissolved	0.432	0.050 mg/L	0.499	87	70-130				

APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

WORK ORDER REPORTED 22C3973
2022-04-05 16:19

Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
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Dissolved Metals, Batch B2D0102, Continued

Reference (B2D0102-SRM1), Continued

Prepared: 2022-04-01, Analyzed: 2022-04-01

Potassium, dissolved	2.68	0.10 mg/L	2.88	93	70-130
Selenium, dissolved	0.0314	0.00050 mg/L	0.0324	97	70-130
Sodium, dissolved	17.7	0.10 mg/L	18.0	98	70-130
Strontium, dissolved	0.813	0.0010 mg/L	0.935	87	70-130
Thallium, dissolved	0.0383	0.000020 mg/L	0.0385	100	70-130
Uranium, dissolved	0.231	0.000020 mg/L	0.258	89	70-130
Vanadium, dissolved	0.771	0.0010 mg/L	0.873	88	70-130
Zinc, dissolved	0.834	0.0040 mg/L	0.848	98	70-130

Reference (B2D0102-SRM2)

Prepared: 2022-04-01, Analyzed: 2022-04-01

Aluminum, dissolved	0.205	0.0050 mg/L	0.235	87	70-130
Antimony, dissolved	0.0417	0.00020 mg/L	0.0431	97	70-130
Arsenic, dissolved	0.398	0.00050 mg/L	0.423	94	70-130
Barium, dissolved	2.82	0.0050 mg/L	3.30	85	70-130
Beryllium, dissolved	0.200	0.00010 mg/L	0.209	96	70-130
Boron, dissolved	1.66	0.0500 mg/L	1.65	101	70-130
Cadmium, dissolved	0.202	0.000010 mg/L	0.221	92	70-130
Calcium, dissolved, dissolved	7.08	0.20 mg/L	7.72	92	70-130
Chromium, dissolved	0.397	0.00050 mg/L	0.434	92	70-130
Cobalt, dissolved	0.122	0.00010 mg/L	0.124	99	70-130
Copper, dissolved	0.828	0.00040 mg/L	0.815	102	70-130
Iron, dissolved	1.18	0.010 mg/L	1.27	93	70-130
Lead, dissolved	0.104	0.00020 mg/L	0.110	95	70-130
Lithium, dissolved	0.0985	0.00010 mg/L	0.100	99	70-130
Magnesium, dissolved, dissolved	6.27	0.010 mg/L	6.59	95	70-130
Manganese, dissolved	0.309	0.00020 mg/L	0.342	90	70-130
Molybdenum, dissolved	0.383	0.00010 mg/L	0.404	95	70-130
Nickel, dissolved	0.833	0.00040 mg/L	0.835	100	70-130
Phosphorus, dissolved	0.407	0.050 mg/L	0.499	82	70-130
Potassium, dissolved	2.65	0.10 mg/L	2.88	92	70-130
Selenium, dissolved	0.0310	0.00050 mg/L	0.0324	96	70-130
Sodium, dissolved	17.8	0.10 mg/L	18.0	99	70-130
Strontium, dissolved	0.804	0.0010 mg/L	0.935	86	70-130
Thallium, dissolved	0.0371	0.000020 mg/L	0.0385	96	70-130
Uranium, dissolved	0.222	0.000020 mg/L	0.258	86	70-130
Vanadium, dissolved	0.756	0.0010 mg/L	0.873	87	70-130
Zinc, dissolved	0.819	0.0040 mg/L	0.848	97	70-130

General Parameters, Batch B2C3101

Blank (B2C3101-BLK1)

Prepared: 2022-03-30, Analyzed: 2022-03-30

Carbon, Dissolved Organic	< 0.50	0.50 mg/L		
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Blank (B2C3101-BLK2)

Prepared: 2022-03-30, Analyzed: 2022-03-30

Carbon, Dissolved Organic	< 0.50	0.50 mg/L		
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LCS (B2C3101-BS1)

Prepared: 2022-03-30, Analyzed: 2022-03-30

Carbon, Dissolved Organic	9.57	0.50 mg/L	10.0	96	78-116
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LCS (B2C3101-BS2)

Prepared: 2022-03-30, Analyzed: 2022-03-30

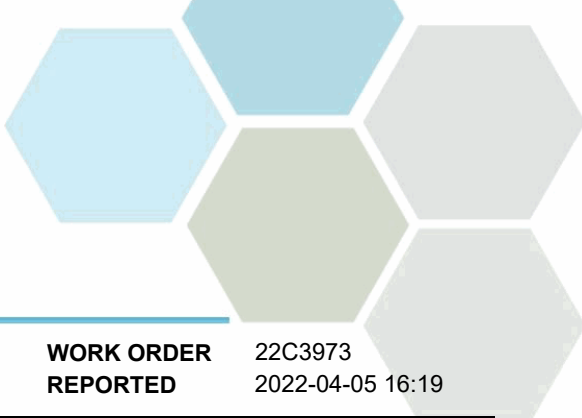
Carbon, Dissolved Organic	9.44	0.50 mg/L	10.0	94	78-116
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General Parameters, Batch B2C3456

Blank (B2C3456-BLK1)

Prepared: 2022-03-31, Analyzed: 2022-04-05

BOD, 5-day	< 2.0	2.0 mg/L		
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APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT	Kelowna, City of RBCF Ponds	WORK ORDER REPORTED	22C3973 2022-04-05 16:19
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Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
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General Parameters, Batch B2C3456, Continued

LCS (B2C3456-BS1)			Prepared: 2022-03-31, Analyzed: 2022-04-05						
BOD, 5-day	185	48.9 mg/L	180		103	85-115			
Duplicate (B2C3456-DUP1)			Source: 22C3973-01 Prepared: 2022-03-31, Analyzed: 2022-04-05						
BOD, 5-day	< 5.9	2.0 mg/L		< 5.9				22	

General Parameters, Batch B2D0028

Blank (B2D0028-BLK1)			Prepared: 2022-04-01, Analyzed: 2022-04-01						
Solids, Total Suspended	< 2.0	2.0 mg/L							
Blank (B2D0028-BLK2)			Prepared: 2022-04-01, Analyzed: 2022-04-01						
Solids, Total Suspended	< 2.0	2.0 mg/L							
LCS (B2D0028-BS1)			Prepared: 2022-04-01, Analyzed: 2022-04-01						
Solids, Total Suspended	105	10.0 mg/L	100		105	85-115			
LCS (B2D0028-BS2)			Prepared: 2022-04-01, Analyzed: 2022-04-01						
Solids, Total Suspended	113	10.0 mg/L	100		113	85-115			

General Parameters, Batch B2D0059

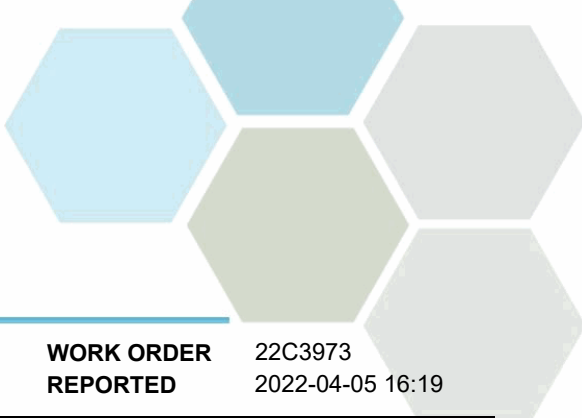
Blank (B2D0059-BLK1)			Prepared: 2022-04-01, Analyzed: 2022-04-04						
Nitrogen, Total Kjeldahl	< 0.050	0.050 mg/L							
Blank (B2D0059-BLK2)			Prepared: 2022-04-01, Analyzed: 2022-04-04						
Nitrogen, Total Kjeldahl	< 0.050	0.050 mg/L							
LCS (B2D0059-BS1)			Prepared: 2022-04-01, Analyzed: 2022-04-04						
Nitrogen, Total Kjeldahl	1.02	0.050 mg/L	1.00		102	85-115			
LCS (B2D0059-BS2)			Prepared: 2022-04-01, Analyzed: 2022-04-04						
Nitrogen, Total Kjeldahl	1.02	0.050 mg/L	1.00		102	85-115			

General Parameters, Batch B2D0178

Blank (B2D0178-BLK1)			Prepared: 2022-04-04, Analyzed: 2022-04-04						
Chemical Oxygen Demand	< 20	20 mg/L							
LCS (B2D0178-BS1)			Prepared: 2022-04-04, Analyzed: 2022-04-04						
Chemical Oxygen Demand	530	20 mg/L	500		106	89-115			
Duplicate (B2D0178-DUP1)			Source: 22C3973-02 Prepared: 2022-04-04, Analyzed: 2022-04-04						
Chemical Oxygen Demand	287	20 mg/L		288			< 1	14	
Matrix Spike (B2D0178-MS1)			Source: 22C3973-02 Prepared: 2022-04-04, Analyzed: 2022-04-04						
Chemical Oxygen Demand	419	20 mg/L	125	288	104	75-125			

General Parameters, Batch B2D0180

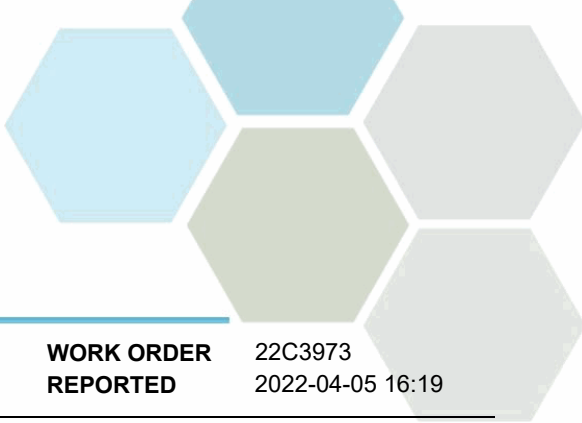
Blank (B2D0180-BLK1)			Prepared: 2022-04-03, Analyzed: 2022-04-03						
Ammonia, Total (as N)	< 0.050	0.050 mg/L							
Blank (B2D0180-BLK2)			Prepared: 2022-04-03, Analyzed: 2022-04-03						
Ammonia, Total (as N)	< 0.050	0.050 mg/L							



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT	Kelowna, City of RBCF Ponds	WORK ORDER REPORTED	22C3973 2022-04-05 16:19
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Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
General Parameters, Batch B2D0180, Continued									
Blank (B2D0180-BLK3)			Prepared: 2022-04-03, Analyzed: 2022-04-03						
Ammonia, Total (as N)	< 0.050	0.050 mg/L							
Blank (B2D0180-BLK4)			Prepared: 2022-04-03, Analyzed: 2022-04-03						
Ammonia, Total (as N)	< 0.050	0.050 mg/L							
LCS (B2D0180-BS1)			Prepared: 2022-04-03, Analyzed: 2022-04-03						
Ammonia, Total (as N)	0.973	0.050 mg/L	1.00		97	90-115			
LCS (B2D0180-BS2)			Prepared: 2022-04-03, Analyzed: 2022-04-03						
Ammonia, Total (as N)	0.968	0.050 mg/L	1.00		97	90-115			
LCS (B2D0180-BS3)			Prepared: 2022-04-03, Analyzed: 2022-04-03						
Ammonia, Total (as N)	0.962	0.050 mg/L	1.00		96	90-115			
LCS (B2D0180-BS4)			Prepared: 2022-04-03, Analyzed: 2022-04-03						
Ammonia, Total (as N)	0.967	0.050 mg/L	1.00		97	90-115			
General Parameters, Batch B2D0202									
Blank (B2D0202-BLK2)			Prepared: 2022-04-04, Analyzed: 2022-04-04						
Phosphorus, Total (as P)	< 0.0050	0.0050 mg/L							
LCS (B2D0202-BS2)			Prepared: 2022-04-04, Analyzed: 2022-04-04						
Phosphorus, Total (as P)	0.0928	0.0050 mg/L	0.100		93	85-115			
General Parameters, Batch B2D0248									
Blank (B2D0248-BLK1)			Prepared: 2022-04-04, Analyzed: 2022-04-05						
Solids, Total Dissolved	< 15	15 mg/L							
LCS (B2D0248-BS1)			Prepared: 2022-04-04, Analyzed: 2022-04-05						
Solids, Total Dissolved	227	15 mg/L	240		95	85-115			
General Parameters, Batch B2D0263									
Blank (B2D0263-BLK1)			Prepared: 2022-04-04, Analyzed: 2022-04-04						
Conductivity (EC)	< 2.0	2.0 µS/cm							
Blank (B2D0263-BLK2)			Prepared: 2022-04-04, Analyzed: 2022-04-04						
Conductivity (EC)	< 2.0	2.0 µS/cm							
Blank (B2D0263-BLK3)			Prepared: 2022-04-04, Analyzed: 2022-04-04						
Conductivity (EC)	< 2.0	2.0 µS/cm							
LCS (B2D0263-BS4)			Prepared: 2022-04-04, Analyzed: 2022-04-04						
Conductivity (EC)	1390	2.0 µS/cm	1410		99	95-105			
LCS (B2D0263-BS5)			Prepared: 2022-04-04, Analyzed: 2022-04-04						
Conductivity (EC)	1380	2.0 µS/cm	1410		98	95-105			
LCS (B2D0263-BS6)			Prepared: 2022-04-04, Analyzed: 2022-04-04						
Conductivity (EC)	1390	2.0 µS/cm	1410		99	95-105			
Reference (B2D0263-SRM1)			Prepared: 2022-04-04, Analyzed: 2022-04-04						
pH	7.01	0.10 pH units	7.01		100	98-102			



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

WORK ORDER REPORTED 22C3973
2022-04-05 16:19

Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
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General Parameters, Batch B2D0263, Continued

Reference (B2D0263-SRM2)			Prepared: 2022-04-04, Analyzed: 2022-04-04						
pH	7.00	0.10 pH units	7.01		100	98-102			
Reference (B2D0263-SRM3)			Prepared: 2022-04-04, Analyzed: 2022-04-04						
pH	7.00	0.10 pH units	7.01		100	98-102			

Microbiological Parameters, Batch B2C3313

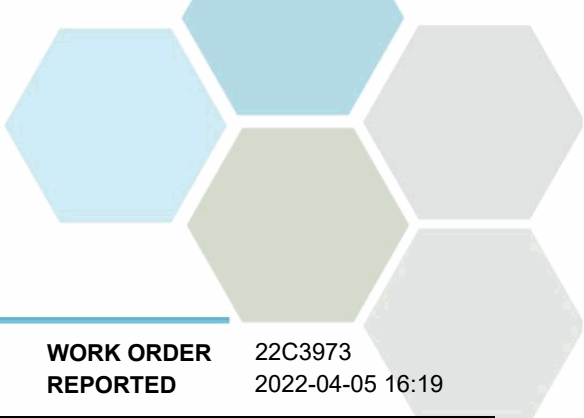
Blank (B2C3313-BLK1)			Prepared: 2022-03-30, Analyzed: 2022-03-30						
Coliforms, Total (Q-Tray)	< 1	1 MPN/100 mL							
E. coli (Q-Tray)	< 1	1 MPN/100 mL							
Blank (B2C3313-BLK2)			Prepared: 2022-03-30, Analyzed: 2022-03-30						
E. coli (Q-Tray)	< 1	1 MPN/100 mL							
Blank (B2C3313-BLK3)			Prepared: 2022-03-30, Analyzed: 2022-03-30						
Coliforms, Total (Q-Tray)	< 1	1 MPN/100 mL							
E. coli (Q-Tray)	< 1	1 MPN/100 mL							

Total Metals, Batch B2C3506

Blank (B2C3506-BLK1)			Prepared: 2022-03-31, Analyzed: 2022-04-01						
Mercury, total	< 0.000010	0.000010 mg/L							
Reference (B2C3506-SRM1)			Prepared: 2022-03-31, Analyzed: 2022-04-01						
Mercury, total	0.000231	0.000010 mg/L	0.000250		92	0-200			

Total Metals, Batch B2D0182

Blank (B2D0182-BLK1)			Prepared: 2022-04-03, Analyzed: 2022-04-04						
Aluminum, total	< 0.0050	0.0050 mg/L							
Antimony, total	< 0.00020	0.00020 mg/L							
Arsenic, total	< 0.00050	0.00050 mg/L							
Barium, total	< 0.0050	0.0050 mg/L							
Beryllium, total	< 0.00010	0.00010 mg/L							
Bismuth, total	< 0.00010	0.00010 mg/L							
Boron, total	< 0.0500	0.0500 mg/L							
Cadmium, total	< 0.000010	0.000010 mg/L							
Calcium, total	< 0.20	0.20 mg/L							
Chromium, total	< 0.00050	0.00050 mg/L							
Cobalt, total	< 0.00010	0.00010 mg/L							
Copper, total	< 0.00040	0.00040 mg/L							
Iron, total	< 0.010	0.010 mg/L							
Lead, total	< 0.00020	0.00020 mg/L							
Lithium, total	< 0.00010	0.00010 mg/L							
Magnesium, total	< 0.010	0.010 mg/L							
Manganese, total	< 0.00020	0.00020 mg/L							
Molybdenum, total	< 0.00010	0.00010 mg/L							
Nickel, total	< 0.00040	0.00040 mg/L							
Phosphorus, total	< 0.050	0.050 mg/L							
Potassium, total	< 0.10	0.10 mg/L							
Selenium, total	< 0.00050	0.00050 mg/L							
Silicon, total	< 1.0	1.0 mg/L							
Silver, total	< 0.000050	0.000050 mg/L							
Sodium, total	< 0.10	0.10 mg/L							
Strontium, total	< 0.0010	0.0010 mg/L							



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Kelowna, City of RBCF Ponds

WORK ORDER REPORTED 22C3973
2022-04-05 16:19

Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Total Metals, Batch B2D0182, Continued									
Blank (B2D0182-BLK1), Continued					Prepared: 2022-04-03, Analyzed: 2022-04-04				
Sulfur, total	< 3.0	3.0 mg/L							
Tellurium, total	< 0.00050	0.00050 mg/L							
Thallium, total	< 0.000020	0.000020 mg/L							
Thorium, total	< 0.00010	0.00010 mg/L							
Tin, total	< 0.00020	0.00020 mg/L							
Titanium, total	< 0.0050	0.0050 mg/L							
Tungsten, total	< 0.0010	0.0010 mg/L							
Uranium, total	< 0.000020	0.000020 mg/L							
Vanadium, total	< 0.0010	0.0010 mg/L							
Zinc, total	< 0.0040	0.0040 mg/L							
Zirconium, total	< 0.00010	0.00010 mg/L							

LCS (B2D0182-BS1)					Prepared: 2022-04-03, Analyzed: 2022-04-04				
Aluminum, total	0.0235	0.0050 mg/L	0.0200		117	80-120			
Antimony, total	0.0204	0.00020 mg/L	0.0200		102	80-120			
Arsenic, total	0.0193	0.00050 mg/L	0.0200		96	80-120			
Barium, total	0.0193	0.0050 mg/L	0.0200		97	80-120			
Beryllium, total	0.0188	0.00010 mg/L	0.0200		94	80-120			
Bismuth, total	0.0208	0.00010 mg/L	0.0200		104	80-120			
Boron, total	< 0.0500	0.0500 mg/L	0.0200		98	80-120			
Cadmium, total	0.0192	0.000010 mg/L	0.0200		96	80-120			
Calcium, total	1.95	0.20 mg/L	2.00		98	80-120			
Chromium, total	0.0198	0.00050 mg/L	0.0200		99	80-120			
Cobalt, total	0.0212	0.00010 mg/L	0.0200		106	80-120			
Copper, total	0.0220	0.00040 mg/L	0.0200		110	80-120			
Iron, total	2.05	0.010 mg/L	2.00		102	80-120			
Lead, total	0.0211	0.00020 mg/L	0.0200		106	80-120			
Lithium, total	0.0192	0.00010 mg/L	0.0200		96	80-120			
Magnesium, total	1.99	0.010 mg/L	2.00		100	80-120			
Manganese, total	0.0194	0.00020 mg/L	0.0200		97	80-120			
Molybdenum, total	0.0200	0.00010 mg/L	0.0200		100	80-120			
Nickel, total	0.0219	0.00040 mg/L	0.0200		109	80-120			
Phosphorus, total	1.97	0.050 mg/L	2.00		99	80-120			
Potassium, total	1.94	0.10 mg/L	2.00		97	80-120			
Selenium, total	0.0189	0.00050 mg/L	0.0200		95	80-120			
Silicon, total	2.0	1.0 mg/L	2.00		102	80-120			
Silver, total	0.0199	0.000050 mg/L	0.0200		99	80-120			
Sodium, total	2.17	0.10 mg/L	2.00		108	80-120			
Strontium, total	0.0188	0.0010 mg/L	0.0200		94	80-120			
Sulfur, total	4.7	3.0 mg/L	5.00		95	80-120			
Tellurium, total	0.0195	0.00050 mg/L	0.0200		98	80-120			
Thallium, total	0.0191	0.000020 mg/L	0.0200		96	80-120			
Thorium, total	0.0185	0.00010 mg/L	0.0200		93	80-120			
Tin, total	0.0207	0.00004 mg/L	0.0200		103	80-120			
Titanium, total	0.0212	0.0050 mg/L	0.0200		106	80-120			
Tungsten, total	0.0194	0.0002 mg/L	0.0200		97	80-120			
Uranium, total	0.0193	0.000020 mg/L	0.0200		96	80-120			
Vanadium, total	0.0195	0.0010 mg/L	0.0200		98	80-120			
Zinc, total	0.0214	0.0040 mg/L	0.0200		107	80-120			
Zirconium, total	0.0206	0.00010 mg/L	0.0200		103	80-120			

Duplicate (B2D0182-DUP1)			Source: 22C3973-01	Prepared: 2022-04-03, Analyzed: 2022-04-04					
Aluminum, total	0.0164	0.0050 mg/L		0.0144					20
Antimony, total	0.00031	0.00020 mg/L		0.00022					20
Arsenic, total	0.00230	0.00050 mg/L		0.00295		25			20
Barium, total	0.0157	0.0050 mg/L		0.0179					20
Beryllium, total	< 0.00010	0.00010 mg/L		< 0.00010					20



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

WORK ORDER REPORTED 22C3973
2022-04-05 16:19

Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
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Total Metals, Batch B2D0182, Continued

Duplicate (B2D0182-DUP1), Continued

Source: 22C3973-01

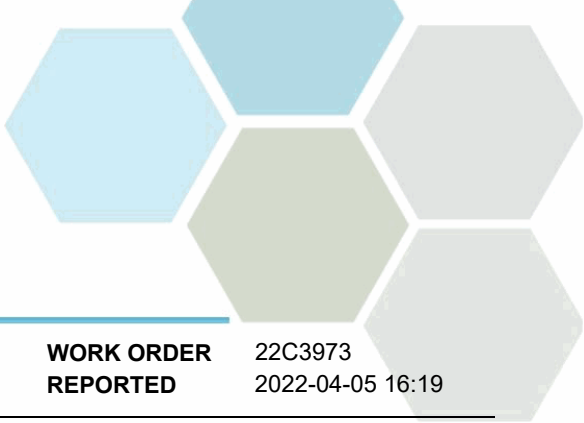
Prepared: 2022-04-03, Analyzed: 2022-04-04

Bismuth, total	< 0.00010	0.00010 mg/L		< 0.00010				20	
Boron, total	0.0739	0.0500 mg/L		0.0908				20	
Cadmium, total	< 0.000010	0.000010 mg/L		< 0.000010				20	
Calcium, total	55.4	0.20 mg/L		67.1			19	20	
Chromium, total	< 0.00050	0.00050 mg/L		< 0.00050				20	
Cobalt, total	< 0.00010	0.00010 mg/L		0.00011				20	
Copper, total	< 0.00040	0.00040 mg/L		0.00046				20	
Iron, total	0.031	0.010 mg/L		0.036				20	
Lead, total	< 0.00020	0.00020 mg/L		< 0.00020				20	
Lithium, total	0.0332	0.00010 mg/L		0.0405			20	20	
Magnesium, total	197	0.010 mg/L		237			18	20	
Manganese, total	0.0622	0.00020 mg/L		0.0744			18	20	
Molybdenum, total	0.00110	0.00010 mg/L		0.00125			13	20	
Nickel, total	0.00088	0.00040 mg/L		0.00081				20	
Phosphorus, total	< 0.050	0.050 mg/L		< 0.050				20	
Potassium, total	60.4	0.10 mg/L		71.4			17	20	
Selenium, total	< 0.00050	0.00050 mg/L		< 0.00050				20	
Silicon, total	< 1.0	1.0 mg/L		< 1.0				20	
Silver, total	< 0.000050	0.000050 mg/L		< 0.000050				20	
Sodium, total	596	0.10 mg/L		722			19	20	
Strontium, total	0.443	0.0010 mg/L		0.544			20	20	
Sulfur, total	508	3.0 mg/L		617			19	20	
Tellurium, total	< 0.00050	0.00050 mg/L		< 0.00050				20	
Thallium, total	< 0.000020	0.000020 mg/L		< 0.000020				20	
Thorium, total	< 0.00010	0.00010 mg/L		< 0.00010				20	
Tin, total	< 0.00020	0.00020 mg/L		< 0.00020				20	
Titanium, total	< 0.0050	0.0050 mg/L		< 0.0050				20	
Tungsten, total	< 0.0010	0.0010 mg/L		< 0.0010				20	
Uranium, total	0.00299	0.000020 mg/L		0.00363			19	20	
Vanadium, total	< 0.0010	0.0050 mg/L		< 0.0010				20	
Zinc, total	0.0051	0.0040 mg/L		0.0058				20	
Zirconium, total	0.00031	0.00010 mg/L		0.00032				20	

Reference (B2D0182-SRM1)

Prepared: 2022-04-03, Analyzed: 2022-04-04

Aluminum, total	0.189	0.0050 mg/L		0.198		95	70-130		
Antimony, total	0.0242	0.00020 mg/L		0.0230		105	70-130		
Arsenic, total	0.0189	0.00050 mg/L		0.0200		95	70-130		
Barium, total	0.0144	0.0050 mg/L		0.0161		90	70-130		
Beryllium, total	0.00371	0.00010 mg/L		0.00384		97	70-130		
Boron, total	0.179	0.0500 mg/L		0.191		94	70-130		
Cadmium, total	0.00377	0.000010 mg/L		0.00404		93	70-130		
Calcium, total	0.90	0.20 mg/L		0.938		95	70-130		
Chromium, total	0.0250	0.00050 mg/L		0.0256		98	70-130		
Cobalt, total	0.0231	0.00010 mg/L		0.0214		108	70-130		
Copper, total	0.0345	0.00040 mg/L		0.0322		107	70-130		
Iron, total	0.066	0.010 mg/L		0.0580		114	70-130		
Lead, total	0.00848	0.00020 mg/L		0.00796		107	70-130		
Lithium, total	0.00961	0.00010 mg/L		0.0102		95	70-130		
Magnesium, total	0.117	0.010 mg/L		0.112		105	70-130		
Manganese, total	0.0111	0.00020 mg/L		0.0120		92	70-130		
Molybdenum, total	0.0445	0.00010 mg/L		0.0438		102	70-130		
Nickel, total	0.0409	0.00040 mg/L		0.0394		104	70-130		
Potassium, total	0.74	0.10 mg/L		0.820		90	70-130		
Selenium, total	0.111	0.00050 mg/L		0.117		95	70-130		
Sodium, total	0.53	0.10 mg/L		0.490		107	70-130		
Strontium, total	0.252	0.0010 mg/L		0.276		91	70-130		



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

WORK ORDER REPORTED 22C3973
2022-04-05 16:19

Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Total Metals, Batch B2D0182, Continued									
Reference (B2D0182-SRM1), Continued					Prepared: 2022-04-03, Analyzed: 2022-04-04				
Thallium, total	0.0116	0.000020 mg/L	0.0118		98	70-130			
Uranium, total	0.00939	0.000020 mg/L	0.00970		97	70-130			
Vanadium, total	0.0276	0.0010 mg/L	0.0274		101	70-130			
Zinc, total	0.0901	0.0040 mg/L	0.0884		102	70-130			



CERTIFICATE OF ANALYSIS

REPORTED TO Kelowna, City of
1435 Water Street
KELOWNA, BC V1Y 1J4

ATTENTION Morgan Lewis

PO NUMBER 535828

PROJECT RBCF Ponds

PROJECT INFO

WORK ORDER 22D3807

RECEIVED / TEMP 2022-04-29 15:39 / 8.5°C

REPORTED 2022-05-09 13:30

COC NUMBER 44680.55938

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.

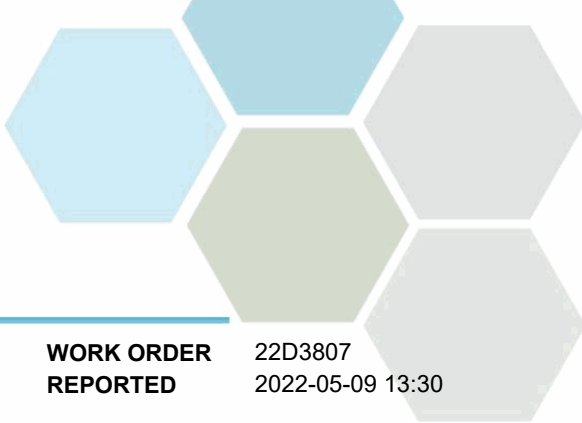
If you have any questions or concerns, please contact me at bwhitehead@caro.ca

Authorized By:

Brent Whitehead
Account Manager

1-888-311-8846 | www.caro.ca

#110 4011 Viking Way Richmond, BC V6V 2K9 | #102 3677 Highway 97N Kelowna, BC V1X 5C3 | 17225 109 Avenue Edmonton, AB T5S 1H7 | #108 4475 Wayburne Drive Burnaby, BC V5G 4X4



TEST RESULTS

REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

WORK ORDER REPORTED 22D3807
2022-05-09 13:30

Analyte	Result	RL	Units	Analyzed	Qualifier
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Rose's Pond (22D3807-01) | Matrix: Water | Sampled: 2022-04-29

Anions

Chloride	390	0.10	mg/L	2022-05-01	
Nitrate (as N)	0.398	0.010	mg/L	2022-05-01	
Nitrite (as N)	< 0.100	0.010	mg/L	2022-05-01	

Calculated Parameters

Hardness, Total (as CaCO3)	1220	0.500	mg/L	N/A	
Nitrate+Nitrite (as N)	0.398	0.100	mg/L	N/A	
Nitrogen, Total	2.09	0.100	mg/L	N/A	

Dissolved Metals

Aluminum, dissolved	0.0075	0.0050	mg/L	2022-05-05	
Antimony, dissolved	0.00035	0.00020	mg/L	2022-05-05	
Arsenic, dissolved	0.00349	0.00050	mg/L	2022-05-05	
Barium, dissolved	0.0194	0.0050	mg/L	2022-05-05	
Beryllium, dissolved	< 0.00010	0.00010	mg/L	2022-05-05	
Bismuth, dissolved	< 0.00010	0.00010	mg/L	2022-05-05	
Boron, dissolved	0.0979	0.0500	mg/L	2022-05-05	
Cadmium, dissolved	< 0.000010	0.000010	mg/L	2022-05-05	
Calcium, dissolved	65.8	0.20	mg/L	2022-05-05	
Chromium, dissolved	< 0.00050	0.00050	mg/L	2022-05-05	
Cobalt, dissolved	< 0.00010	0.00010	mg/L	2022-05-05	
Copper, dissolved	< 0.00040	0.00040	mg/L	2022-05-05	
Iron, dissolved	0.010	0.010	mg/L	2022-05-05	
Lead, dissolved	< 0.00020	0.00020	mg/L	2022-05-05	
Lithium, dissolved	0.0437	0.00010	mg/L	2022-05-05	
Magnesium, dissolved	257	0.010	mg/L	2022-05-05	
Manganese, dissolved	0.0829	0.00020	mg/L	2022-05-05	
Mercury, dissolved	< 0.000010	0.000010	mg/L	2022-05-07	
Molybdenum, dissolved	0.00153	0.00010	mg/L	2022-05-05	
Nickel, dissolved	0.00074	0.00040	mg/L	2022-05-05	
Phosphorus, dissolved	< 0.050	0.050	mg/L	2022-05-05	
Potassium, dissolved	80.1	0.10	mg/L	2022-05-05	
Selenium, dissolved	< 0.00050	0.00050	mg/L	2022-05-05	
Silicon, dissolved	< 1.0	1.0	mg/L	2022-05-05	
Silver, dissolved	< 0.000050	0.000050	mg/L	2022-05-05	
Sodium, dissolved	768	0.10	mg/L	2022-05-05	
Strontium, dissolved	0.591	0.0010	mg/L	2022-05-05	
Sulfur, dissolved	686	3.0	mg/L	2022-05-05	
Tellurium, dissolved	< 0.00050	0.00050	mg/L	2022-05-05	
Thallium, dissolved	< 0.000020	0.000020	mg/L	2022-05-05	
Thorium, dissolved	< 0.00010	0.00010	mg/L	2022-05-05	
Tin, dissolved	< 0.00020	0.00020	mg/L	2022-05-05	
Titanium, dissolved	< 0.0050	0.0050	mg/L	2022-05-05	
Tungsten, dissolved	< 0.0010	0.0010	mg/L	2022-05-05	

TEST RESULTS

REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

WORK ORDER REPORTED 22D3807
2022-05-09 13:30

Analyte	Result	RL	Units	Analyzed	Qualifier
Rose's Pond (22D3807-01) Matrix: Water Sampled: 2022-04-29, Continued					
Dissolved Metals, Continued					
Uranium, dissolved	0.00365	0.000020	mg/L	2022-05-05	
Vanadium, dissolved	< 0.0050	0.0050	mg/L	2022-05-05	
Zinc, dissolved	0.0115	0.0040	mg/L	2022-05-05	
Zirconium, dissolved	0.00024	0.00010	mg/L	2022-05-05	
General Parameters					
Ammonia, Total (as N)	0.088	0.050	mg/L	2022-05-02	
BOD, 5-day	< 7.3	2.0	mg/L	2022-05-05	
Carbon, Dissolved Organic	20.4	0.50	mg/L	2022-05-05	
Chemical Oxygen Demand	60	20	mg/L	2022-05-04	
Conductivity (EC)	4990	2.0	µS/cm	2022-05-05	
Nitrogen, Total Kjeldahl	1.69	0.050	mg/L	2022-05-06	
pH	8.32	0.10	pH units	2022-05-05	HT2
Phosphorus, Total (as P)	0.0293	0.0050	mg/L	2022-05-06	
Solids, Total Dissolved	3600	15	mg/L	2022-05-06	
Solids, Total Suspended	4.7	2.0	mg/L	2022-05-06	
Microbiological Parameters					
Coliforms, Total (Q-Tray)	185	1	MPN/100 mL	2022-04-30	
E. coli (Q-Tray)	< 1	1	MPN/100 mL	2022-04-30	
Total Metals					
Aluminum, total	0.0124	0.0050	mg/L	2022-05-05	
Antimony, total	0.00031	0.00020	mg/L	2022-05-05	
Arsenic, total	0.00370	0.00050	mg/L	2022-05-05	
Barium, total	0.0189	0.0050	mg/L	2022-05-05	
Beryllium, total	< 0.00010	0.00010	mg/L	2022-05-05	
Bismuth, total	< 0.00010	0.00010	mg/L	2022-05-05	
Boron, total	0.109	0.0500	mg/L	2022-05-05	
Cadmium, total	< 0.000010	0.000010	mg/L	2022-05-05	
Calcium, total	67.9	0.20	mg/L	2022-05-05	
Chromium, total	< 0.00050	0.00050	mg/L	2022-05-05	
Cobalt, total	< 0.00010	0.00010	mg/L	2022-05-05	
Copper, total	0.00049	0.00040	mg/L	2022-05-05	
Iron, total	0.023	0.010	mg/L	2022-05-05	
Lead, total	< 0.00020	0.00020	mg/L	2022-05-05	
Lithium, total	0.0434	0.00010	mg/L	2022-05-05	
Magnesium, total	267	0.010	mg/L	2022-05-05	
Manganese, total	0.0947	0.00020	mg/L	2022-05-05	
Mercury, total	< 0.000010	0.000010	mg/L	2022-05-07	
Molybdenum, total	0.00133	0.00010	mg/L	2022-05-05	
Nickel, total	0.00086	0.00040	mg/L	2022-05-05	
Phosphorus, total	< 0.050	0.050	mg/L	2022-05-05	
Potassium, total	83.6	0.10	mg/L	2022-05-05	

TEST RESULTS

REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

WORK ORDER REPORTED 22D3807
2022-05-09 13:30

Analyte	Result	RL	Units	Analyzed	Qualifier
Rose's Pond (22D3807-01) Matrix: Water Sampled: 2022-04-29, Continued					
<i>Total Metals, Continued</i>					
Selenium, total	< 0.00050	0.00050	mg/L	2022-05-05	
Silicon, total	< 1.0	1.0	mg/L	2022-05-05	
Silver, total	< 0.000050	0.000050	mg/L	2022-05-05	
Sodium, total	804	0.10	mg/L	2022-05-05	
Strontium, total	0.619	0.0010	mg/L	2022-05-05	
Sulfur, total	698	3.0	mg/L	2022-05-05	
Tellurium, total	< 0.00050	0.00050	mg/L	2022-05-05	
Thallium, total	< 0.000020	0.000020	mg/L	2022-05-05	
Thorium, total	< 0.00010	0.00010	mg/L	2022-05-05	
Tin, total	< 0.00020	0.00020	mg/L	2022-05-05	
Titanium, total	< 0.0050	0.0050	mg/L	2022-05-05	
Tungsten, total	< 0.0010	0.0010	mg/L	2022-05-05	
Uranium, total	0.00377	0.000020	mg/L	2022-05-05	
Vanadium, total	< 0.0050	0.0050	mg/L	2022-05-05	
Zinc, total	0.0056	0.0040	mg/L	2022-05-05	
Zirconium, total	0.00024	0.00010	mg/L	2022-05-05	

Drainage Pond (22D3807-02) | Matrix: Water | Sampled: 2022-04-29

Anions

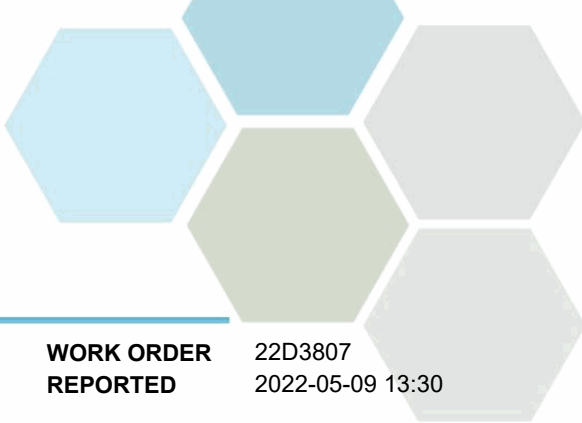
Chloride	120	0.10	mg/L	2022-05-01	
Nitrate (as N)	1.21	0.010	mg/L	2022-05-01	
Nitrite (as N)	0.400	0.010	mg/L	2022-05-01	

Calculated Parameters

Hardness, Total (as CaCO ₃)	441	0.500	mg/L	N/A	
Nitrate+Nitrite (as N)	1.61	0.100	mg/L	N/A	
Nitrogen, Total	34.5	0.500	mg/L	N/A	

Dissolved Metals

Aluminum, dissolved	0.0258	0.0050	mg/L	2022-05-05	
Antimony, dissolved	0.00046	0.00020	mg/L	2022-05-05	
Arsenic, dissolved	0.00283	0.00050	mg/L	2022-05-05	
Barium, dissolved	0.0250	0.0050	mg/L	2022-05-05	
Beryllium, dissolved	< 0.00010	0.00010	mg/L	2022-05-05	
Bismuth, dissolved	< 0.00010	0.00010	mg/L	2022-05-05	
Boron, dissolved	0.162	0.0500	mg/L	2022-05-05	
Cadmium, dissolved	0.000039	0.000010	mg/L	2022-05-05	
Calcium, dissolved	93.5	0.20	mg/L	2022-05-05	
Chromium, dissolved	< 0.00050	0.00050	mg/L	2022-05-05	
Cobalt, dissolved	0.00083	0.00010	mg/L	2022-05-05	
Copper, dissolved	0.00653	0.00040	mg/L	2022-05-05	
Iron, dissolved	0.068	0.010	mg/L	2022-05-05	



TEST RESULTS

REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

WORK ORDER REPORTED 22D3807
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Analyte	Result	RL	Units	Analyzed	Qualifier
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Drainage Pond (22D3807-02) | Matrix: Water | Sampled: 2022-04-29, Continued

Dissolved Metals, Continued

Lead, dissolved	< 0.00020	0.00020	mg/L	2022-05-05	
Lithium, dissolved	0.0156	0.00010	mg/L	2022-05-05	
Magnesium, dissolved	50.3	0.010	mg/L	2022-05-05	
Manganese, dissolved	0.0590	0.00020	mg/L	2022-05-05	
Mercury, dissolved	< 0.000010	0.000010	mg/L	2022-05-07	
Molybdenum, dissolved	0.00600	0.00010	mg/L	2022-05-05	
Nickel, dissolved	0.00255	0.00040	mg/L	2022-05-05	
Phosphorus, dissolved	4.42	0.050	mg/L	2022-05-05	
Potassium, dissolved	31.9	0.10	mg/L	2022-05-05	
Selenium, dissolved	0.00131	0.00050	mg/L	2022-05-05	
Silicon, dissolved	5.7	1.0	mg/L	2022-05-05	
Silver, dissolved	< 0.000050	0.000050	mg/L	2022-05-05	
Sodium, dissolved	119	0.10	mg/L	2022-05-05	
Strontium, dissolved	0.988	0.0010	mg/L	2022-05-05	
Sulfur, dissolved	104	3.0	mg/L	2022-05-05	
Tellurium, dissolved	< 0.00050	0.00050	mg/L	2022-05-05	
Thallium, dissolved	< 0.000020	0.000020	mg/L	2022-05-05	
Thorium, dissolved	< 0.00010	0.00010	mg/L	2022-05-05	
Tin, dissolved	0.00022	0.00020	mg/L	2022-05-05	
Titanium, dissolved	< 0.0050	0.0050	mg/L	2022-05-05	
Tungsten, dissolved	< 0.0010	0.0010	mg/L	2022-05-05	
Uranium, dissolved	0.00506	0.000020	mg/L	2022-05-05	
Vanadium, dissolved	< 0.0050	0.0050	mg/L	2022-05-05	
Zinc, dissolved	0.0401	0.0040	mg/L	2022-05-05	
Zirconium, dissolved	0.00019	0.00010	mg/L	2022-05-05	

General Parameters

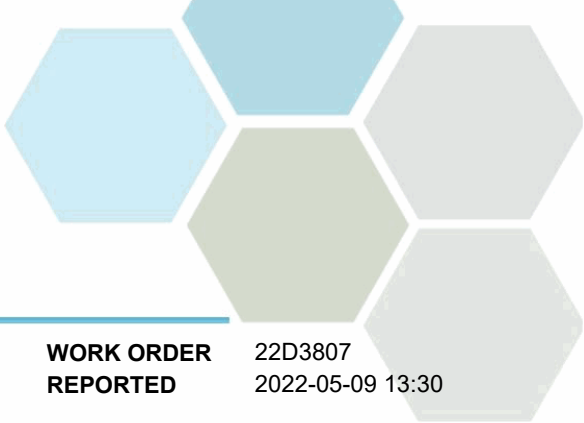
Ammonia, Total (as N)	29.3	0.050	mg/L	2022-05-02	
BOD, 5-day	< 7.3	2.0	mg/L	2022-05-05	
Carbon, Dissolved Organic	27.8	0.50	mg/L	2022-05-05	
Chemical Oxygen Demand	100	20	mg/L	2022-05-04	
Conductivity (EC)	1550	2.0	µS/cm	2022-05-05	
Nitrogen, Total Kjeldahl	32.9	0.050	mg/L	2022-05-06	
pH	7.96	0.10	pH units	2022-05-05	HT2
Phosphorus, Total (as P)	4.50	0.0050	mg/L	2022-05-06	
Solids, Total Dissolved	913	15	mg/L	2022-05-06	
Solids, Total Suspended	7.5	2.0	mg/L	2022-05-06	

Microbiological Parameters

Coliforms, Total (Q-Tray)	9900	1	MPN/100 mL	2022-04-30	
E. coli (Q-Tray)	96	1	MPN/100 mL	2022-04-30	

Total Metals

Aluminum, total	0.0598	0.0050	mg/L	2022-05-05	
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TEST RESULTS

REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

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Analyte	Result	RL	Units	Analyzed	Qualifier
Drainage Pond (22D3807-02) Matrix: Water Sampled: 2022-04-29, Continued					
<i>Total Metals, Continued</i>					
Antimony, total	0.00044	0.00020	mg/L	2022-05-05	
Arsenic, total	0.00286	0.00050	mg/L	2022-05-05	
Barium, total	0.0305	0.0050	mg/L	2022-05-05	
Beryllium, total	< 0.00010	0.00010	mg/L	2022-05-05	
Bismuth, total	0.00018	0.00010	mg/L	2022-05-05	
Boron, total	0.172	0.0500	mg/L	2022-05-05	
Cadmium, total	0.000046	0.000010	mg/L	2022-05-05	
Calcium, total	94.0	0.20	mg/L	2022-05-05	
Chromium, total	0.00065	0.00050	mg/L	2022-05-05	
Cobalt, total	0.00087	0.00010	mg/L	2022-05-05	
Copper, total	0.00976	0.00040	mg/L	2022-05-05	
Iron, total	0.172	0.010	mg/L	2022-05-05	
Lead, total	0.00029	0.00020	mg/L	2022-05-05	
Lithium, total	0.0155	0.00010	mg/L	2022-05-05	
Magnesium, total	50.1	0.010	mg/L	2022-05-05	
Manganese, total	0.154	0.00020	mg/L	2022-05-05	
Mercury, total	< 0.000010	0.000010	mg/L	2022-05-07	
Molybdenum, total	0.00633	0.00010	mg/L	2022-05-05	
Nickel, total	0.00309	0.00040	mg/L	2022-05-05	
Phosphorus, total	4.66	0.050	mg/L	2022-05-05	
Potassium, total	31.7	0.10	mg/L	2022-05-05	
Selenium, total	0.00147	0.00050	mg/L	2022-05-05	
Silicon, total	5.8	1.0	mg/L	2022-05-05	
Silver, total	< 0.000050	0.000050	mg/L	2022-05-05	
Sodium, total	119	0.10	mg/L	2022-05-05	
Strontium, total	0.999	0.0010	mg/L	2022-05-05	
Sulfur, total	103	3.0	mg/L	2022-05-05	
Tellurium, total	< 0.00050	0.00050	mg/L	2022-05-05	
Thallium, total	< 0.000020	0.000020	mg/L	2022-05-05	
Thorium, total	< 0.00010	0.00010	mg/L	2022-05-05	
Tin, total	0.00054	0.00020	mg/L	2022-05-05	
Titanium, total	< 0.0050	0.0050	mg/L	2022-05-05	
Tungsten, total	< 0.0010	0.0010	mg/L	2022-05-05	
Uranium, total	0.00517	0.000020	mg/L	2022-05-05	
Vanadium, total	< 0.0050	0.0050	mg/L	2022-05-05	
Zinc, total	0.0459	0.0040	mg/L	2022-05-05	
Zirconium, total	0.00020	0.00010	mg/L	2022-05-05	

Davidson Pond (22D3807-03) | Matrix: Water | Sampled: 2022-04-29

Anions

Chloride	298	0.10	mg/L	2022-05-01	
Nitrate (as N)	0.212	0.010	mg/L	2022-05-01	

TEST RESULTS

REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

WORK ORDER REPORTED 22D3807
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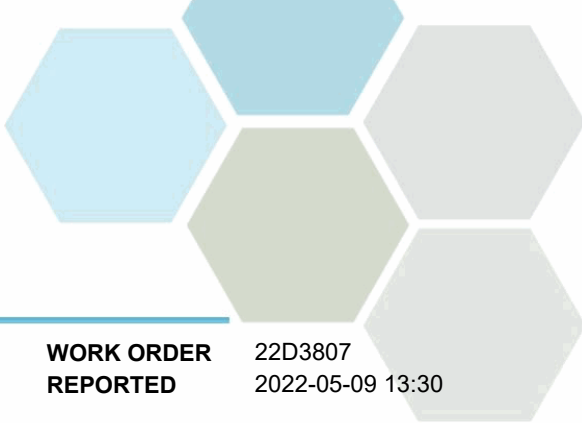
Analyte	Result	RL	Units	Analyzed	Qualifier
Davidson Pond (22D3807-03) Matrix: Water Sampled: 2022-04-29, Continued					
Anions, Continued					
Nitrite (as N)	< 0.100	0.010	mg/L	2022-05-01	
Calculated Parameters					
Hardness, Total (as CaCO ₃)	677	0.500	mg/L	N/A	
Nitrate+Nitrite (as N)	0.212	0.100	mg/L	N/A	
Nitrogen, Total	2.76	0.100	mg/L	N/A	
Dissolved Metals					
Aluminum, dissolved	0.0052	0.0050	mg/L	2022-05-05	
Antimony, dissolved	0.00039	0.00020	mg/L	2022-05-05	
Arsenic, dissolved	0.00387	0.00050	mg/L	2022-05-05	
Barium, dissolved	0.0197	0.0050	mg/L	2022-05-05	
Beryllium, dissolved	< 0.00010	0.00010	mg/L	2022-05-05	
Bismuth, dissolved	< 0.00010	0.00010	mg/L	2022-05-05	
Boron, dissolved	< 0.0500	0.0500	mg/L	2022-05-05	
Cadmium, dissolved	< 0.000010	0.000010	mg/L	2022-05-05	
Calcium, dissolved	67.4	0.20	mg/L	2022-05-05	
Chromium, dissolved	< 0.00050	0.00050	mg/L	2022-05-05	
Cobalt, dissolved	0.00011	0.00010	mg/L	2022-05-05	
Copper, dissolved	< 0.00040	0.00040	mg/L	2022-05-05	
Iron, dissolved	< 0.010	0.010	mg/L	2022-05-05	
Lead, dissolved	< 0.00020	0.00020	mg/L	2022-05-05	
Lithium, dissolved	0.0430	0.00010	mg/L	2022-05-05	
Magnesium, dissolved	124	0.010	mg/L	2022-05-05	
Manganese, dissolved	0.00633	0.00020	mg/L	2022-05-05	
Mercury, dissolved	< 0.000010	0.000010	mg/L	2022-05-07	
Molybdenum, dissolved	0.00133	0.00010	mg/L	2022-05-05	
Nickel, dissolved	0.00147	0.00040	mg/L	2022-05-05	
Phosphorus, dissolved	< 0.050	0.050	mg/L	2022-05-05	
Potassium, dissolved	48.1	0.10	mg/L	2022-05-05	
Selenium, dissolved	< 0.00050	0.00050	mg/L	2022-05-05	
Silicon, dissolved	1.3	1.0	mg/L	2022-05-05	
Silver, dissolved	< 0.000050	0.000050	mg/L	2022-05-05	
Sodium, dissolved	584	0.10	mg/L	2022-05-05	
Strontium, dissolved	0.996	0.0010	mg/L	2022-05-05	
Sulfur, dissolved	392	3.0	mg/L	2022-05-05	
Tellurium, dissolved	< 0.00050	0.00050	mg/L	2022-05-05	
Thallium, dissolved	< 0.000020	0.000020	mg/L	2022-05-05	
Thorium, dissolved	< 0.00010	0.00010	mg/L	2022-05-05	
Tin, dissolved	< 0.00020	0.00020	mg/L	2022-05-05	
Titanium, dissolved	< 0.0050	0.0050	mg/L	2022-05-05	
Tungsten, dissolved	< 0.0010	0.0010	mg/L	2022-05-05	
Uranium, dissolved	0.00710	0.000020	mg/L	2022-05-05	
Vanadium, dissolved	< 0.0050	0.0050	mg/L	2022-05-05	

TEST RESULTS

REPORTED TO PROJECT Kelowna, City of
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Analyte	Result	RL	Units	Analyzed	Qualifier
Davidson Pond (22D3807-03) Matrix: Water Sampled: 2022-04-29, Continued					
<i>Dissolved Metals, Continued</i>					
Zinc, dissolved	< 0.0040	0.0040	mg/L	2022-05-05	
Zirconium, dissolved	0.00018	0.00010	mg/L	2022-05-05	
<i>General Parameters</i>					
Ammonia, Total (as N)	0.130	0.050	mg/L	2022-05-02	
BOD, 5-day	< 7.3	2.0	mg/L	2022-05-05	
Carbon, Dissolved Organic	28.4	0.50	mg/L	2022-05-05	
Chemical Oxygen Demand	65	20	mg/L	2022-05-04	
Conductivity (EC)	3550	2.0	µS/cm	2022-05-05	
Nitrogen, Total Kjeldahl	2.54	0.050	mg/L	2022-05-06	
pH	8.95	0.10	pH units	2022-05-05	HT2
Phosphorus, Total (as P)	0.143	0.0050	mg/L	2022-05-06	
Solids, Total Dissolved	2180	15	mg/L	2022-05-06	
Solids, Total Suspended	4.7	2.0	mg/L	2022-05-06	
<i>Microbiological Parameters</i>					
Coliforms, Total (Q-Tray)	9	1	MPN/100 mL	2022-04-30	
E. coli (Q-Tray)	< 1	1	MPN/100 mL	2022-04-30	
<i>Total Metals</i>					
Aluminum, total	0.0226	0.0050	mg/L	2022-05-05	
Antimony, total	0.00043	0.00020	mg/L	2022-05-05	
Arsenic, total	0.00416	0.00050	mg/L	2022-05-05	
Barium, total	0.0203	0.0050	mg/L	2022-05-05	
Beryllium, total	< 0.00010	0.00010	mg/L	2022-05-05	
Bismuth, total	< 0.00010	0.00010	mg/L	2022-05-05	
Boron, total	< 0.0500	0.0500	mg/L	2022-05-05	
Cadmium, total	< 0.000010	0.000010	mg/L	2022-05-05	
Calcium, total	68.0	0.20	mg/L	2022-05-05	
Chromium, total	< 0.00050	0.00050	mg/L	2022-05-05	
Cobalt, total	0.00012	0.00010	mg/L	2022-05-05	
Copper, total	< 0.00040	0.00040	mg/L	2022-05-05	
Iron, total	0.028	0.010	mg/L	2022-05-05	
Lead, total	< 0.00020	0.00020	mg/L	2022-05-05	
Lithium, total	0.0444	0.00010	mg/L	2022-05-05	
Magnesium, total	132	0.010	mg/L	2022-05-05	
Manganese, total	0.0191	0.00020	mg/L	2022-05-05	
Mercury, total	< 0.000010	0.000010	mg/L	2022-05-07	
Molybdenum, total	0.00139	0.00010	mg/L	2022-05-05	
Nickel, total	0.00154	0.00040	mg/L	2022-05-05	
Phosphorus, total	0.080	0.050	mg/L	2022-05-05	
Potassium, total	50.2	0.10	mg/L	2022-05-05	
Selenium, total	< 0.00050	0.00050	mg/L	2022-05-05	
Silicon, total	1.4	1.0	mg/L	2022-05-05	



TEST RESULTS

REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

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Analyte	Result	RL	Units	Analyzed	Qualifier
Davidson Pond (22D3807-03) Matrix: Water Sampled: 2022-04-29, Continued					
<i>Total Metals, Continued</i>					
Silver, total	< 0.000050	0.000050	mg/L	2022-05-05	
Sodium, total	624	0.10	mg/L	2022-05-05	
Strontium, total	1.06	0.0010	mg/L	2022-05-05	
Sulfur, total	410	3.0	mg/L	2022-05-05	
Tellurium, total	< 0.00050	0.00050	mg/L	2022-05-05	
Thallium, total	< 0.000020	0.000020	mg/L	2022-05-05	
Thorium, total	< 0.00010	0.00010	mg/L	2022-05-05	
Tin, total	< 0.00020	0.00020	mg/L	2022-05-05	
Titanium, total	< 0.0050	0.0050	mg/L	2022-05-05	
Tungsten, total	< 0.0010	0.0010	mg/L	2022-05-05	
Uranium, total	0.00756	0.000020	mg/L	2022-05-05	
Vanadium, total	< 0.0050	0.0050	mg/L	2022-05-05	
Zinc, total	< 0.0040	0.0040	mg/L	2022-05-05	
Zirconium, total	0.00019	0.00010	mg/L	2022-05-05	

DUP 1 (22D3807-04) | Matrix: Water | Sampled: 2022-04-29

Anions

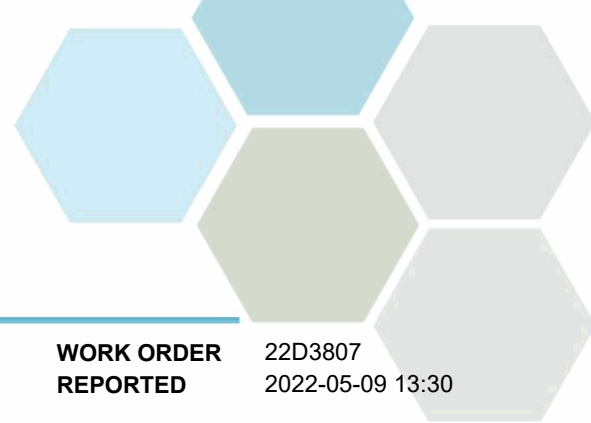
Chloride	117	0.10	mg/L	2022-05-01	
Nitrate (as N)	1.28	0.010	mg/L	2022-05-01	
Nitrite (as N)	0.322	0.010	mg/L	2022-05-01	

Calculated Parameters

Hardness, Total (as CaCO3)	432	0.500	mg/L	N/A	
Nitrate+Nitrite (as N)	1.60	0.100	mg/L	N/A	
Nitrogen, Total	36.0	0.500	mg/L	N/A	

Dissolved Metals

Aluminum, dissolved	0.0255	0.0050	mg/L	2022-05-05	
Antimony, dissolved	0.00036	0.00020	mg/L	2022-05-05	
Arsenic, dissolved	0.00283	0.00050	mg/L	2022-05-05	
Barium, dissolved	0.0231	0.0050	mg/L	2022-05-05	
Beryllium, dissolved	< 0.00010	0.00010	mg/L	2022-05-05	
Bismuth, dissolved	< 0.00010	0.00010	mg/L	2022-05-05	
Boron, dissolved	0.157	0.0500	mg/L	2022-05-05	
Cadmium, dissolved	0.000035	0.000010	mg/L	2022-05-05	
Calcium, dissolved	92.2	0.20	mg/L	2022-05-05	
Chromium, dissolved	< 0.00050	0.00050	mg/L	2022-05-05	
Cobalt, dissolved	0.00078	0.00010	mg/L	2022-05-05	
Copper, dissolved	0.00632	0.00040	mg/L	2022-05-05	
Iron, dissolved	0.070	0.010	mg/L	2022-05-05	
Lead, dissolved	< 0.00020	0.00020	mg/L	2022-05-05	
Lithium, dissolved	0.0150	0.00010	mg/L	2022-05-05	



TEST RESULTS

REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

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Analyte	Result	RL	Units	Analyzed	Qualifier
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DUP 1 (22D3807-04) | Matrix: Water | Sampled: 2022-04-29, Continued

Dissolved Metals, Continued

Magnesium, dissolved	48.9	0.010	mg/L	2022-05-05	
Manganese, dissolved	0.0578	0.00020	mg/L	2022-05-05	
Mercury, dissolved	< 0.000010	0.000010	mg/L	2022-05-07	
Molybdenum, dissolved	0.00573	0.00010	mg/L	2022-05-05	
Nickel, dissolved	0.00242	0.00040	mg/L	2022-05-05	
Phosphorus, dissolved	4.26	0.050	mg/L	2022-05-05	
Potassium, dissolved	30.6	0.10	mg/L	2022-05-05	
Selenium, dissolved	0.00121	0.00050	mg/L	2022-05-05	
Silicon, dissolved	5.5	1.0	mg/L	2022-05-05	
Silver, dissolved	< 0.000050	0.000050	mg/L	2022-05-05	
Sodium, dissolved	113	0.10	mg/L	2022-05-05	
Strontium, dissolved	0.942	0.0010	mg/L	2022-05-05	
Sulfur, dissolved	98.1	3.0	mg/L	2022-05-05	
Tellurium, dissolved	< 0.00050	0.00050	mg/L	2022-05-05	
Thallium, dissolved	< 0.000020	0.000020	mg/L	2022-05-05	
Thorium, dissolved	< 0.00010	0.00010	mg/L	2022-05-05	
Tin, dissolved	< 0.00020	0.00020	mg/L	2022-05-05	
Titanium, dissolved	< 0.0050	0.0050	mg/L	2022-05-05	
Tungsten, dissolved	< 0.0010	0.0010	mg/L	2022-05-05	
Uranium, dissolved	0.00478	0.000020	mg/L	2022-05-05	
Vanadium, dissolved	< 0.0050	0.0050	mg/L	2022-05-05	
Zinc, dissolved	0.0393	0.0040	mg/L	2022-05-05	
Zirconium, dissolved	0.00022	0.00010	mg/L	2022-05-05	

General Parameters

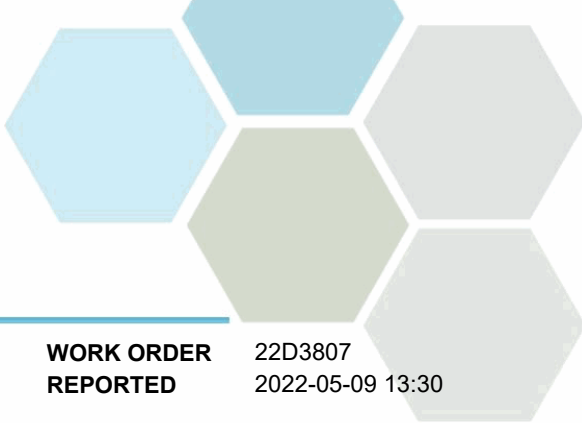
Ammonia, Total (as N)	28.7	0.050	mg/L	2022-05-02	
BOD, 5-day	< 7.3	2.0	mg/L	2022-05-05	
Carbon, Dissolved Organic	27.8	0.50	mg/L	2022-05-05	
Chemical Oxygen Demand	96	20	mg/L	2022-05-04	
Conductivity (EC)	1540	2.0	µS/cm	2022-05-05	
Nitrogen, Total Kjeldahl	34.4	0.050	mg/L	2022-05-06	
pH	7.96	0.10	pH units	2022-05-05	HT2
Phosphorus, Total (as P)	4.68	0.0050	mg/L	2022-05-06	
Solids, Total Dissolved	906	15	mg/L	2022-05-06	
Solids, Total Suspended	7.7	2.0	mg/L	2022-05-06	

Microbiological Parameters

Coliforms, Total (Q-Tray)	8050	1	MPN/100 mL	2022-04-30	
E. coli (Q-Tray)	118	1	MPN/100 mL	2022-04-30	

Total Metals

Aluminum, total	0.0591	0.0050	mg/L	2022-05-05	
Antimony, total	0.00040	0.00020	mg/L	2022-05-05	
Arsenic, total	0.00305	0.00050	mg/L	2022-05-05	



TEST RESULTS

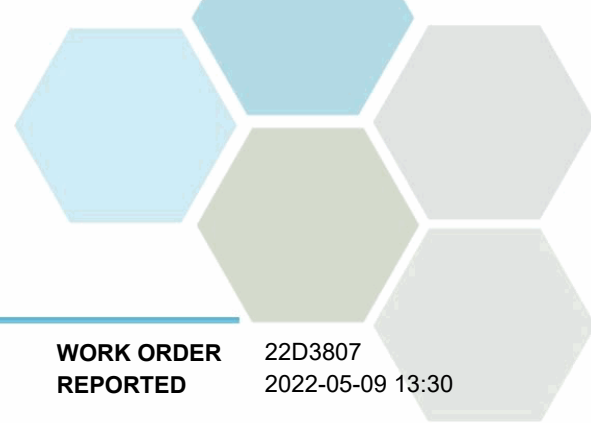
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Analyte	Result	RL	Units	Analyzed	Qualifier
DUP 1 (22D3807-04) Matrix: Water Sampled: 2022-04-29, Continued					
<i>Total Metals, Continued</i>					
Barium, total	0.0289	0.0050	mg/L	2022-05-05	
Beryllium, total	< 0.00010	0.00010	mg/L	2022-05-05	
Bismuth, total	0.00020	0.00010	mg/L	2022-05-05	
Boron, total	0.174	0.0500	mg/L	2022-05-05	
Cadmium, total	0.000052	0.000010	mg/L	2022-05-05	
Calcium, total	97.2	0.20	mg/L	2022-05-05	
Chromium, total	0.00070	0.00050	mg/L	2022-05-05	
Cobalt, total	0.00088	0.00010	mg/L	2022-05-05	
Copper, total	0.0102	0.00040	mg/L	2022-05-05	
Iron, total	0.175	0.010	mg/L	2022-05-05	
Lead, total	0.00030	0.00020	mg/L	2022-05-05	
Lithium, total	0.0160	0.00010	mg/L	2022-05-05	
Magnesium, total	50.5	0.010	mg/L	2022-05-05	
Manganese, total	0.155	0.00020	mg/L	2022-05-05	
Mercury, total	< 0.000010	0.000010	mg/L	2022-05-07	
Molybdenum, total	0.00632	0.00010	mg/L	2022-05-05	
Nickel, total	0.00287	0.00040	mg/L	2022-05-05	
Phosphorus, total	4.66	0.050	mg/L	2022-05-05	
Potassium, total	32.3	0.10	mg/L	2022-05-05	
Selenium, total	0.00154	0.00050	mg/L	2022-05-05	
Silicon, total	5.7	1.0	mg/L	2022-05-05	
Silver, total	< 0.000050	0.000050	mg/L	2022-05-05	
Sodium, total	119	0.10	mg/L	2022-05-05	
Strontium, total	1.00	0.0010	mg/L	2022-05-05	
Sulfur, total	103	3.0	mg/L	2022-05-05	
Tellurium, total	< 0.00050	0.00050	mg/L	2022-05-05	
Thallium, total	< 0.000020	0.000020	mg/L	2022-05-05	
Thorium, total	< 0.00010	0.00010	mg/L	2022-05-05	
Tin, total	0.00047	0.00020	mg/L	2022-05-05	
Titanium, total	< 0.0050	0.0050	mg/L	2022-05-05	
Tungsten, total	< 0.0010	0.0010	mg/L	2022-05-05	
Uranium, total	0.00534	0.000020	mg/L	2022-05-05	
Vanadium, total	< 0.0050	0.0050	mg/L	2022-05-05	
Zinc, total	0.0466	0.0040	mg/L	2022-05-05	
Zirconium, total	0.00026	0.00010	mg/L	2022-05-05	

Sample Qualifiers:

HT2 The 15 minute recommended holding time (from sampling to analysis) has been exceeded - field analysis is recommended.



APPENDIX 1: SUPPORTING INFORMATION

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RBCF Ponds

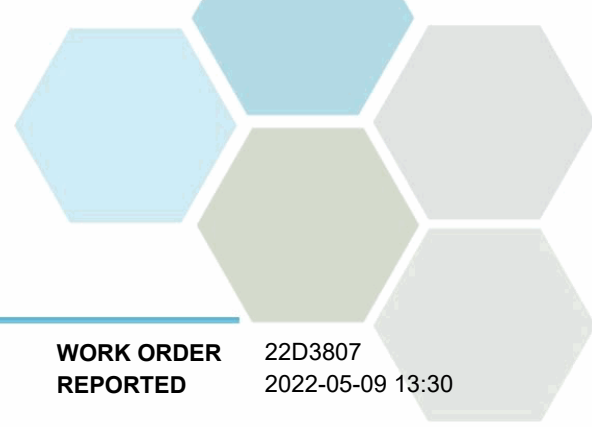
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Analysis Description	Method Ref.	Technique	Accredited	Location
Ammonia, Total in Water	SM 4500-NH3 G* (2017)	Automated Colorimetry (Phenate)	✓	Kelowna
Anions in Water	SM 4110 B (2017)	Ion Chromatography	✓	Kelowna
Biochemical Oxygen Demand in Water	SM 5210 B (2017)	Dissolved Oxygen Meter	✓	Kelowna
Carbon, Dissolved Organic in Water	SM 5310 B (2017)	Combustion, Infrared CO2 Detection	✓	Kelowna
Chemical Oxygen Demand in Water	SM 5220 D* (2017)	Closed Reflux, Colorimetry	✓	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
Dissolved Metals in Water	EPA 200.8 / EPA 6020B	0.45 µm Filtration / Inductively Coupled Plasma-Mass Spectrometry (ICP-MS)	✓	Richmond
E. coli in Water	NA / SM 9223 (2017)	Quanti-Tray / Enzyme Substrate Endo Agar	✓	Kelowna
Hardness in Water	SM 2340 B (2017)	Calculation: 2.497 [diss Ca] + 4.118 [diss Mg]	✓	N/A
Mercury, dissolved in Water	EPA 245.7*	BrCl2 Oxidation / Cold Vapor Atomic Fluorescence Spectrometry (CVAFS)	✓	Richmond
Mercury, total in Water	EPA 245.7*	BrCl2 Oxidation / Cold Vapor Atomic Fluorescence Spectrometry (CVAFS)	✓	Richmond
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
Phosphorus, Total in Water	SM 4500-P B.5* (2011) / SM 4500-P F (2017)	Persulfate Digestion / Automated Colorimetry (Ascorbic Acid)	✓	Kelowna
Solids, Total Dissolved in Water	Solids in Water, Filtered / SM 2540 C* (2017)	Solids in Water, Filtered / Gravimetry (Dried at 103-105C)	✓	Kelowna
Solids, Total Suspended in Water	Solids in Water, Filtered / SM 2540 D* (2017)	Solids in Water, Filtered / Gravimetry (Dried at 103-105C)	✓	Kelowna
Total Metals in Water	EPA 200.2 / EPA 6020B	HNO3+HCl Hot Block Digestion / Inductively Coupled Plasma-Mass Spectrometry (ICP-MS)	✓	Richmond

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
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
EPA	United States Environmental Protection Agency Test Methods
SM	Standard Methods for the Examination of Water and Wastewater, American Public Health Association



APPENDIX 1: SUPPORTING INFORMATION

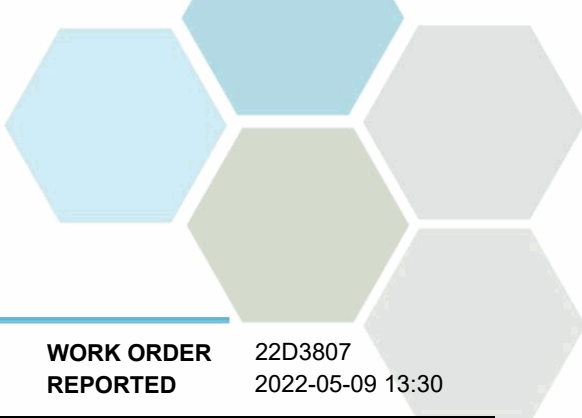
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PROJECT RBCF Ponds

WORK ORDER 22D3807
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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 or once samples expire, whichever comes first. Longer hold is possible if agreed to in writing.

Please note any regulatory guidelines applied to this report are added as a convenience to the client, at their request, to help provide some initial context to analytical results obtained. Although CARO makes every effort to ensure accuracy of the associated regulatory guideline(s) applied, the guidelines applied cannot be assumed to be correct due to a variety of factors and as such CARO Analytical Services assumes no liability or responsibility for the use of those guidelines to make any decisions. The original source of the regulation should be verified and a review of the guideline(s) should be validated as correct in order to make any decisions arising from the comparison of the analytical data obtained to the relevant regulatory guideline for one's particular circumstances. Further, CARO Analytical Services assumes no liability or responsibility for any loss attributed from the use of these guidelines in any way.



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

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The following section displays the quality control (QC) data that is associated with your sample data. Groups of samples are prepared in “batches” and analyzed in conjunction with QC samples that ensure your data is of the highest quality. Common QC types include:

- **Method Blank (Blk):** A blank sample that undergoes sample processing identical to that carried out for the test samples. Method blank results are used to assess contamination from the laboratory environment and reagents.
- **Duplicate (Dup):** An additional or second portion of a randomly selected sample in the analytical run carried through the entire analytical process. Duplicates provide a measure of the analytical method's precision (reproducibility).
- **Blank Spike (BS):** A sample of known concentration which undergoes processing identical to that carried out for test samples, also referred to as a laboratory control sample (LCS). Blank spikes provide a measure of the analytical method's accuracy.
- **Matrix Spike (MS):** A second aliquot of sample is fortified with a known concentration of target analytes and carried through the entire analytical process. Matrix spikes evaluate potential matrix effects that may affect the analyte recovery.
- **Reference Material (SRM):** A homogenous material of similar matrix to the samples, certified for the parameter(s) listed. Reference Materials ensure that the analytical process is adequate to achieve acceptable recoveries of the parameter(s) tested.

Each QC type is analyzed at a 5-10% frequency, i.e. one blank/duplicate/spike for every 10-20 samples. For all types of QC, the specified recovery (% Rec) and relative percent difference (RPD) limits are derived from long-term method performance averages and/or prescribed by the reference method.

Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Anions, Batch B2D3083									
Blank (B2D3083-BLK1)			Prepared: 2022-04-30, Analyzed: 2022-05-01						
Chloride	< 0.10	0.10 mg/L							
Nitrate (as N)	< 0.010	0.010 mg/L							
Nitrite (as N)	< 0.010	0.010 mg/L							
Blank (B2D3083-BLK2)			Prepared: 2022-04-30, Analyzed: 2022-05-01						
Chloride	< 0.10	0.10 mg/L							
Nitrate (as N)	< 0.010	0.010 mg/L							
Nitrite (as N)	< 0.010	0.010 mg/L							
LCS (B2D3083-BS1)			Prepared: 2022-04-30, Analyzed: 2022-05-01						
Chloride	15.8	0.10 mg/L	16.0		99	90-110			
Nitrate (as N)	3.89	0.010 mg/L	4.00		97	90-110			
Nitrite (as N)	2.02	0.010 mg/L	2.00		101	85-115			
LCS (B2D3083-BS2)			Prepared: 2022-04-30, Analyzed: 2022-05-01						
Chloride	15.6	0.10 mg/L	16.0		97	90-110			
Nitrate (as N)	3.91	0.010 mg/L	4.00		98	90-110			
Nitrite (as N)	2.03	0.010 mg/L	2.00		102	85-115			

Dissolved Metals, Batch B2E0269

Blank (B2E0269-BLK1)			Prepared: 2022-05-04, Analyzed: 2022-05-04						
Aluminum, dissolved	< 0.0050	0.0050 mg/L							
Antimony, dissolved	< 0.00020	0.00020 mg/L							
Arsenic, dissolved	< 0.00050	0.00050 mg/L							
Barium, dissolved	< 0.0050	0.0050 mg/L							
Beryllium, dissolved	< 0.00010	0.00010 mg/L							
Bismuth, dissolved	< 0.00010	0.00010 mg/L							
Boron, dissolved	< 0.0500	0.0500 mg/L							
Cadmium, dissolved	< 0.000010	0.000010 mg/L							
Calcium, dissolved	< 0.20	0.20 mg/L							
Chromium, dissolved	< 0.00050	0.00050 mg/L							
Cobalt, dissolved	< 0.00010	0.00010 mg/L							
Copper, dissolved	< 0.00040	0.00040 mg/L							
Iron, dissolved	< 0.010	0.010 mg/L							
Lead, dissolved	< 0.00020	0.00020 mg/L							

APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Kelowna, City of RBCF Ponds

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Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
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Dissolved Metals, Batch B2E0269, Continued

Blank (B2E0269-BLK1), Continued

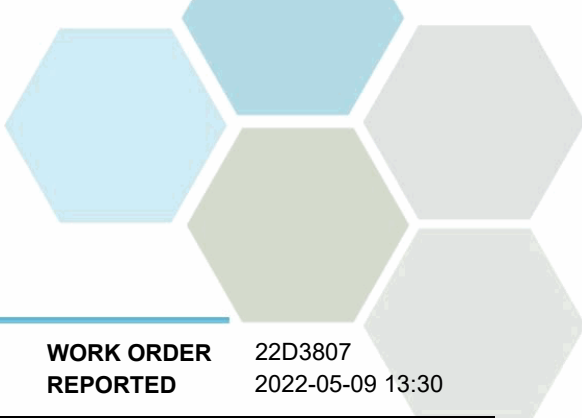
Prepared: 2022-05-04, Analyzed: 2022-05-04

Lithium, dissolved	< 0.00010	0.00010 mg/L							
Magnesium, dissolved	< 0.010	0.010 mg/L							
Manganese, dissolved	< 0.00020	0.00020 mg/L							
Molybdenum, dissolved	< 0.00010	0.00010 mg/L							
Nickel, dissolved	< 0.00040	0.00040 mg/L							
Phosphorus, dissolved	< 0.050	0.050 mg/L							
Potassium, dissolved	< 0.10	0.10 mg/L							
Selenium, dissolved	< 0.00050	0.00050 mg/L							
Silicon, dissolved	< 1.0	1.0 mg/L							
Silver, dissolved	< 0.000050	0.000050 mg/L							
Sodium, dissolved	< 0.10	0.10 mg/L							
Strontium, dissolved	< 0.0010	0.0010 mg/L							
Sulfur, dissolved	< 3.0	3.0 mg/L							
Tellurium, dissolved	< 0.00050	0.00050 mg/L							
Thallium, dissolved	< 0.000020	0.000020 mg/L							
Thorium, dissolved	< 0.00010	0.00010 mg/L							
Tin, dissolved	< 0.00020	0.00020 mg/L							
Titanium, dissolved	< 0.0050	0.0050 mg/L							
Tungsten, dissolved	< 0.0010	0.0010 mg/L							
Uranium, dissolved	< 0.000020	0.000020 mg/L							
Vanadium, dissolved	< 0.0010	0.0010 mg/L							
Zinc, dissolved	< 0.0040	0.0040 mg/L							
Zirconium, dissolved	< 0.00010	0.00010 mg/L							

LCS (B2E0269-BS1)

Prepared: 2022-05-04, Analyzed: 2022-05-04

Aluminum, dissolved	0.0214	0.0050 mg/L	0.0200	107	80-120
Antimony, dissolved	0.0164	0.00020 mg/L	0.0200	82	80-120
Arsenic, dissolved	0.0182	0.00050 mg/L	0.0200	91	80-120
Barium, dissolved	0.0166	0.0050 mg/L	0.0200	83	80-120
Beryllium, dissolved	0.0176	0.00010 mg/L	0.0200	88	80-120
Bismuth, dissolved	0.0172	0.00010 mg/L	0.0200	86	80-120
Boron, dissolved	< 0.0500	0.0500 mg/L	0.0200	114	80-120
Cadmium, dissolved	0.0177	0.000010 mg/L	0.0200	89	80-120
Calcium, dissolved	1.70	0.20 mg/L	2.00	85	80-120
Chromium, dissolved	0.0178	0.00050 mg/L	0.0200	89	80-120
Cobalt, dissolved	0.0181	0.00010 mg/L	0.0200	91	80-120
Copper, dissolved	0.0180	0.00040 mg/L	0.0200	90	80-120
Iron, dissolved	1.83	0.010 mg/L	2.00	91	80-120
Lead, dissolved	0.0167	0.00020 mg/L	0.0200	83	80-120
Lithium, dissolved	0.0179	0.00010 mg/L	0.0200	89	80-120
Magnesium, dissolved	1.84	0.010 mg/L	2.00	92	80-120
Manganese, dissolved	0.0185	0.00020 mg/L	0.0200	92	80-120
Molybdenum, dissolved	0.0174	0.00010 mg/L	0.0200	87	80-120
Nickel, dissolved	0.0181	0.00040 mg/L	0.0200	91	80-120
Phosphorus, dissolved	1.86	0.050 mg/L	2.00	93	80-120
Potassium, dissolved	1.75	0.10 mg/L	2.00	87	80-120
Selenium, dissolved	0.0182	0.00050 mg/L	0.0200	91	80-120
Silicon, dissolved	1.8	1.0 mg/L	2.00	92	80-120
Silver, dissolved	0.0179	0.000050 mg/L	0.0200	89	80-120
Sodium, dissolved	1.95	0.10 mg/L	2.00	97	80-120
Strontium, dissolved	0.0182	0.0010 mg/L	0.0200	91	80-120
Sulfur, dissolved	4.6	3.0 mg/L	5.00	91	80-120
Tellurium, dissolved	0.0182	0.00050 mg/L	0.0200	91	80-120
Thallium, dissolved	0.0174	0.000020 mg/L	0.0200	87	80-120
Thorium, dissolved	0.0171	0.00010 mg/L	0.0200	86	80-120
Tin, dissolved	0.0182	0.00020 mg/L	0.0200	91	80-120



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Kelowna, City of RBCF Ponds **WORK ORDER REPORTED** 22D3807 2022-05-09 13:30

Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
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Dissolved Metals, Batch B2E0269, Continued

LCS (B2E0269-BS1), Continued Prepared: 2022-05-04, Analyzed: 2022-05-04

Titanium, dissolved	0.0182	0.0050 mg/L	0.0200		91	80-120			
Tungsten, dissolved	0.0180	0.0010 mg/L	0.0200		90	80-120			
Uranium, dissolved	0.0174	0.000020 mg/L	0.0200		87	80-120			
Vanadium, dissolved	0.0183	0.0010 mg/L	0.0200		91	80-120			
Zinc, dissolved	0.0181	0.0040 mg/L	0.0200		90	80-120			
Zirconium, dissolved	0.0177	0.00010 mg/L	0.0200		88	80-120			

Reference (B2E0269-SRM1) Prepared: 2022-05-04, Analyzed: 2022-05-04

Aluminum, dissolved	0.231	0.0050 mg/L	0.235		98	70-130			
Antimony, dissolved	0.0413	0.00020 mg/L	0.0431		96	70-130			
Arsenic, dissolved	0.429	0.00050 mg/L	0.423		101	70-130			
Barium, dissolved	3.24	0.0050 mg/L	3.30		98	70-130			
Beryllium, dissolved	0.201	0.00010 mg/L	0.209		96	70-130			
Boron, dissolved	1.76	0.0500 mg/L	1.65		107	70-130			
Cadmium, dissolved	0.211	0.000010 mg/L	0.221		95	70-130			
Calcium, dissolved	7.39	0.20 mg/L	7.72		96	70-130			
Chromium, dissolved	0.415	0.00050 mg/L	0.434		96	70-130			
Cobalt, dissolved	0.122	0.00010 mg/L	0.124		98	70-130			
Copper, dissolved	0.786	0.00040 mg/L	0.815		96	70-130			
Iron, dissolved	1.19	0.010 mg/L	1.27		93	70-130			
Lead, dissolved	0.104	0.00020 mg/L	0.110		94	70-130			
Lithium, dissolved	0.0981	0.00010 mg/L	0.100		98	70-130			
Magnesium, dissolved	6.57	0.010 mg/L	6.59		100	70-130			
Manganese, dissolved	0.332	0.00020 mg/L	0.342		97	70-130			
Molybdenum, dissolved	0.379	0.00010 mg/L	0.404		94	70-130			
Nickel, dissolved	0.815	0.00040 mg/L	0.835		98	70-130			
Phosphorus, dissolved	0.459	0.050 mg/L	0.499		92	70-130			
Potassium, dissolved	2.86	0.10 mg/L	2.88		99	70-130			
Selenium, dissolved	0.0308	0.00050 mg/L	0.0324		95	70-130			
Sodium, dissolved	18.4	0.10 mg/L	18.0		102	70-130			
Strontium, dissolved	0.891	0.0010 mg/L	0.935		95	70-130			
Thallium, dissolved	0.0379	0.000020 mg/L	0.0385		99	70-130			
Uranium, dissolved	0.255	0.000020 mg/L	0.258		99	70-130			
Vanadium, dissolved	0.819	0.0050 mg/L	0.873		94	70-130			
Zinc, dissolved	0.837	0.0040 mg/L	0.848		99	70-130			

Dissolved Metals, Batch B2E0720

Blank (B2E0720-BLK1) Prepared: 2022-05-06, Analyzed: 2022-05-07

Mercury, dissolved	< 0.000010	0.000010 mg/L							
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Blank (B2E0720-BLK2) Prepared: 2022-05-06, Analyzed: 2022-05-07

Mercury, dissolved	< 0.000010	0.000010 mg/L							
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Blank (B2E0720-BLK3) Prepared: 2022-05-06, Analyzed: 2022-05-07

Mercury, dissolved	< 0.000010	0.000010 mg/L							
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Blank (B2E0720-BLK4) Prepared: 2022-05-06, Analyzed: 2022-05-07

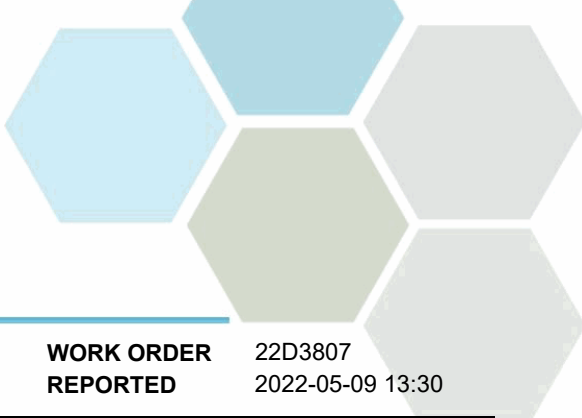
Mercury, dissolved	< 0.000010	0.000010 mg/L							
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Blank (B2E0720-BLK5) Prepared: 2022-05-06, Analyzed: 2022-05-07

Mercury, dissolved	< 0.000010	0.000010 mg/L							
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Reference (B2E0720-SRM1) Prepared: 2022-05-06, Analyzed: 2022-05-07

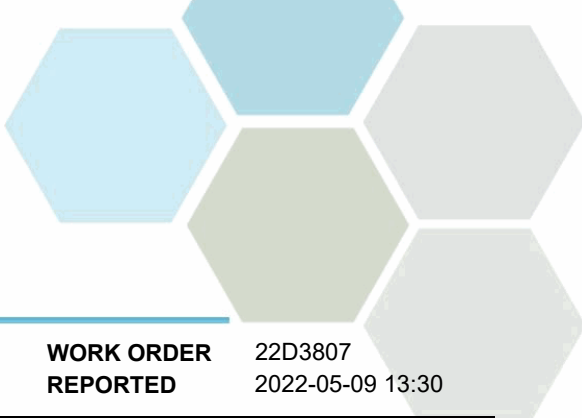
Mercury, dissolved	0.000253	0.000010 mg/L	0.000250		101	70-130			
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APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT	Kelowna, City of RBCF Ponds	WORK ORDER REPORTED	22D3807 2022-05-09 13:30
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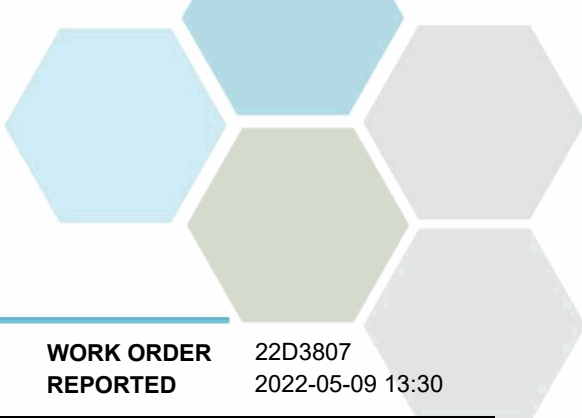
Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Dissolved Metals, Batch B2E0720, Continued									
Reference (B2E0720-SRM2)			Prepared: 2022-05-06, Analyzed: 2022-05-07						
Mercury, dissolved	0.000253	0.000010 mg/L	0.000250		101	70-130			
Reference (B2E0720-SRM3)			Prepared: 2022-05-06, Analyzed: 2022-05-07						
Mercury, dissolved	0.000257	0.000010 mg/L	0.000250		103	70-130			
Reference (B2E0720-SRM4)			Prepared: 2022-05-06, Analyzed: 2022-05-07						
Mercury, dissolved	0.000255	0.000010 mg/L	0.000250		102	70-130			
Reference (B2E0720-SRM5)			Prepared: 2022-05-06, Analyzed: 2022-05-07						
Mercury, dissolved	0.000252	0.000010 mg/L	0.000250		101	70-130			
General Parameters, Batch B2D3025									
Blank (B2D3025-BLK1)			Prepared: 2022-05-05, Analyzed: 2022-05-05						
Carbon, Dissolved Organic	< 0.50	0.50 mg/L							
Blank (B2D3025-BLK2)			Prepared: 2022-05-05, Analyzed: 2022-05-05						
Carbon, Dissolved Organic	< 0.50	0.50 mg/L							
Blank (B2D3025-BLK3)			Prepared: 2022-05-05, Analyzed: 2022-05-05						
Carbon, Dissolved Organic	< 0.50	0.50 mg/L							
LCS (B2D3025-BS1)			Prepared: 2022-05-05, Analyzed: 2022-05-05						
Carbon, Dissolved Organic	9.05	0.50 mg/L	10.0		90	78-116			
LCS (B2D3025-BS2)			Prepared: 2022-05-05, Analyzed: 2022-05-05						
Carbon, Dissolved Organic	9.02	0.50 mg/L	10.0		90	78-116			
LCS (B2D3025-BS3)			Prepared: 2022-05-05, Analyzed: 2022-05-05						
Carbon, Dissolved Organic	9.08	0.50 mg/L	10.0		91	78-116			
General Parameters, Batch B2D3049									
Blank (B2D3049-BLK1)			Prepared: 2022-04-30, Analyzed: 2022-05-05						
BOD, 5-day	< 2.0	2.0 mg/L							
LCS (B2D3049-BS1)			Prepared: 2022-04-30, Analyzed: 2022-05-05						
BOD, 5-day	198	61.2 mg/L	180		110	85-115			
General Parameters, Batch B2E0104									
Blank (B2E0104-BLK1)			Prepared: 2022-05-02, Analyzed: 2022-05-02						
Ammonia, Total (as N)	< 0.050	0.050 mg/L							
Blank (B2E0104-BLK2)			Prepared: 2022-05-02, Analyzed: 2022-05-02						
Ammonia, Total (as N)	< 0.050	0.050 mg/L							
Blank (B2E0104-BLK3)			Prepared: 2022-05-02, Analyzed: 2022-05-02						
Ammonia, Total (as N)	< 0.050	0.050 mg/L							
Blank (B2E0104-BLK4)			Prepared: 2022-05-02, Analyzed: 2022-05-02						
Ammonia, Total (as N)	< 0.050	0.050 mg/L							
LCS (B2E0104-BS1)			Prepared: 2022-05-02, Analyzed: 2022-05-02						
Ammonia, Total (as N)	0.964	0.050 mg/L	1.00		96	90-115			



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT	Kelowna, City of RBCF Ponds	WORK ORDER REPORTED	22D3807 2022-05-09 13:30
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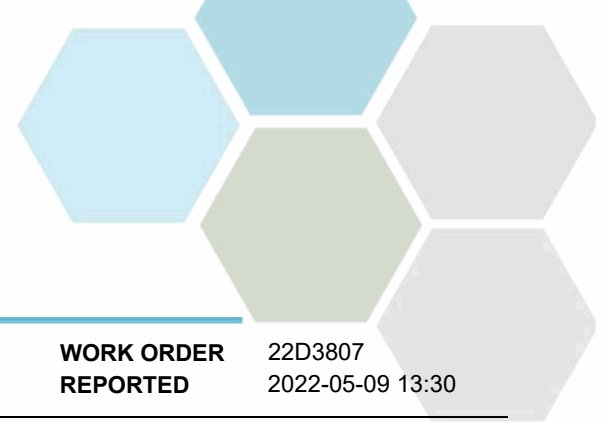
Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
General Parameters, Batch B2E0104, Continued									
LCS (B2E0104-BS2)			Prepared: 2022-05-02, Analyzed: 2022-05-02						
Ammonia, Total (as N)	0.959	0.050 mg/L	1.00		96	90-115			
LCS (B2E0104-BS3)			Prepared: 2022-05-02, Analyzed: 2022-05-02						
Ammonia, Total (as N)	1.01	0.050 mg/L	1.00		101	90-115			
LCS (B2E0104-BS4)			Prepared: 2022-05-02, Analyzed: 2022-05-02						
Ammonia, Total (as N)	1.01	0.050 mg/L	1.00		101	90-115			
General Parameters, Batch B2E0410									
Blank (B2E0410-BLK1)			Prepared: 2022-05-04, Analyzed: 2022-05-04						
Chemical Oxygen Demand	< 20	20 mg/L							
LCS (B2E0410-BS1)			Prepared: 2022-05-04, Analyzed: 2022-05-04						
Chemical Oxygen Demand	497	20 mg/L	500		99	89-115			
General Parameters, Batch B2E0544									
Blank (B2E0544-BLK1)			Prepared: 2022-05-05, Analyzed: 2022-05-05						
Conductivity (EC)	< 2.0	2.0 µS/cm							
Blank (B2E0544-BLK2)			Prepared: 2022-05-05, Analyzed: 2022-05-05						
Conductivity (EC)	< 2.0	2.0 µS/cm							
LCS (B2E0544-BS3)			Prepared: 2022-05-05, Analyzed: 2022-05-05						
Conductivity (EC)	1400	2.0 µS/cm	1410		99	95-105			
LCS (B2E0544-BS4)			Prepared: 2022-05-05, Analyzed: 2022-05-05						
Conductivity (EC)	1410	2.0 µS/cm	1410		100	95-105			
Reference (B2E0544-SRM1)			Prepared: 2022-05-05, Analyzed: 2022-05-05						
pH	7.02	0.10 pH units	7.01		100	98-102			
Reference (B2E0544-SRM2)			Prepared: 2022-05-05, Analyzed: 2022-05-05						
pH	7.02	0.10 pH units	7.01		100	98-102			
General Parameters, Batch B2E0595									
Blank (B2E0595-BLK1)			Prepared: 2022-05-05, Analyzed: 2022-05-06						
Nitrogen, Total Kjeldahl	< 0.050	0.050 mg/L							
Blank (B2E0595-BLK2)			Prepared: 2022-05-05, Analyzed: 2022-05-06						
Nitrogen, Total Kjeldahl	< 0.050	0.050 mg/L							
LCS (B2E0595-BS1)			Prepared: 2022-05-05, Analyzed: 2022-05-06						
Nitrogen, Total Kjeldahl	0.984	0.050 mg/L	1.00		98	85-115			
LCS (B2E0595-BS2)			Prepared: 2022-05-05, Analyzed: 2022-05-06						
Nitrogen, Total Kjeldahl	0.995	0.050 mg/L	1.00		100	85-115			
Duplicate (B2E0595-DUP1)			Source: 22D3807-01		Prepared: 2022-05-05, Analyzed: 2022-05-06				
Nitrogen, Total Kjeldahl	1.57	0.050 mg/L		1.69			7	15	
Matrix Spike (B2E0595-MS1)			Source: 22D3807-01		Prepared: 2022-05-05, Analyzed: 2022-05-06				
Nitrogen, Total Kjeldahl	3.38	0.100 mg/L	2.00	1.69	84	65-135			



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT	Kelowna, City of RBCF Ponds	WORK ORDER REPORTED	22D3807 2022-05-09 13:30
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Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
General Parameters, Batch B2E0665									
Blank (B2E0665-BLK1)			Prepared: 2022-05-05, Analyzed: 2022-05-06						
Phosphorus, Total (as P)	< 0.0050	0.0050 mg/L							
Blank (B2E0665-BLK2)			Prepared: 2022-05-05, Analyzed: 2022-05-06						
Phosphorus, Total (as P)	< 0.0050	0.0050 mg/L							
Blank (B2E0665-BLK3)			Prepared: 2022-05-05, Analyzed: 2022-05-06						
Phosphorus, Total (as P)	< 0.0050	0.0050 mg/L							
LCS (B2E0665-BS1)			Prepared: 2022-05-05, Analyzed: 2022-05-06						
Phosphorus, Total (as P)	0.102	0.0050 mg/L	0.100		102	85-115			
LCS (B2E0665-BS2)			Prepared: 2022-05-05, Analyzed: 2022-05-06						
Phosphorus, Total (as P)	0.104	0.0050 mg/L	0.100		104	85-115			
LCS (B2E0665-BS3)			Prepared: 2022-05-05, Analyzed: 2022-05-06						
Phosphorus, Total (as P)	0.104	0.0050 mg/L	0.100		104	85-115			
General Parameters, Batch B2E0736									
Blank (B2E0736-BLK1)			Prepared: 2022-05-06, Analyzed: 2022-05-06						
Solids, Total Dissolved	< 15	15 mg/L							
LCS (B2E0736-BS1)			Prepared: 2022-05-06, Analyzed: 2022-05-06						
Solids, Total Dissolved	229	15 mg/L	240		95	85-115			
Duplicate (B2E0736-DUP1)			Source: 22D3807-03		Prepared: 2022-05-06, Analyzed: 2022-05-06				
Solids, Total Dissolved	2360	15 mg/L		2180			8	15	
General Parameters, Batch B2E0751									
Blank (B2E0751-BLK1)			Prepared: 2022-05-06, Analyzed: 2022-05-06						
Solids, Total Suspended	< 2.0	2.0 mg/L							
Microbiological Parameters, Batch B2D3082									
Blank (B2D3082-BLK1)			Prepared: 2022-04-30, Analyzed: 2022-04-30						
E. coli (Q-Tray)	< 1	1 MPN/100 mL							
Blank (B2D3082-BLK2)			Prepared: 2022-04-30, Analyzed: 2022-04-30						
Coliforms, Total (Q-Tray)	< 1	1 MPN/100 mL							
E. coli (Q-Tray)	< 1	1 MPN/100 mL							
Blank (B2D3082-BLK3)			Prepared: 2022-04-30, Analyzed: 2022-04-30						
Coliforms, Total (Q-Tray)	< 1	1 MPN/100 mL							
E. coli (Q-Tray)	< 1	1 MPN/100 mL							
Total Metals, Batch B2E0313									
Blank (B2E0313-BLK1)			Prepared: 2022-05-03, Analyzed: 2022-05-04						
Aluminum, total	< 0.0050	0.0050 mg/L							
Antimony, total	< 0.00020	0.00020 mg/L							
Arsenic, total	< 0.00050	0.00050 mg/L							
Barium, total	< 0.0050	0.0050 mg/L							
Beryllium, total	< 0.00010	0.00010 mg/L							
Bismuth, total	< 0.00010	0.00010 mg/L							
Boron, total	< 0.0500	0.0500 mg/L							



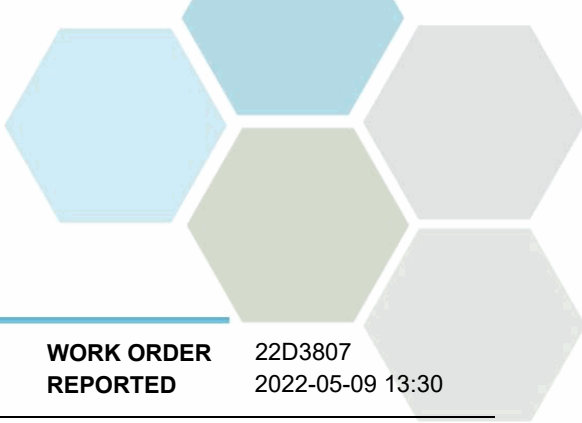
APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

WORK ORDER REPORTED 22D3807
2022-05-09 13:30

Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Total Metals, Batch B2E0313, Continued									
Blank (B2E0313-BLK1), Continued					Prepared: 2022-05-03, Analyzed: 2022-05-04				
Cadmium, total	< 0.000010	0.000010 mg/L							
Calcium, total	< 0.20	0.20 mg/L							
Chromium, total	< 0.00050	0.00050 mg/L							
Cobalt, total	< 0.00010	0.00010 mg/L							
Copper, total	< 0.00040	0.00040 mg/L							
Iron, total	< 0.010	0.010 mg/L							
Lead, total	< 0.00020	0.00020 mg/L							
Lithium, total	< 0.00010	0.00010 mg/L							
Magnesium, total	< 0.010	0.010 mg/L							
Manganese, total	< 0.00020	0.00020 mg/L							
Molybdenum, total	< 0.00010	0.00010 mg/L							
Nickel, total	< 0.00040	0.00040 mg/L							
Phosphorus, total	< 0.050	0.050 mg/L							
Potassium, total	< 0.10	0.10 mg/L							
Selenium, total	< 0.00050	0.00050 mg/L							
Silicon, total	< 1.0	1.0 mg/L							
Silver, total	< 0.000050	0.000050 mg/L							
Sodium, total	< 0.10	0.10 mg/L							
Strontium, total	< 0.0010	0.0010 mg/L							
Sulfur, total	< 3.0	3.0 mg/L							
Tellurium, total	< 0.00050	0.00050 mg/L							
Thallium, total	< 0.000020	0.000020 mg/L							
Thorium, total	< 0.00010	0.00010 mg/L							
Tin, total	< 0.00004	0.00004 mg/L							
Titanium, total	< 0.0050	0.0050 mg/L							
Tungsten, total	< 0.0002	0.0002 mg/L							
Uranium, total	< 0.000020	0.000020 mg/L							
Vanadium, total	< 0.0010	0.0010 mg/L							
Zinc, total	< 0.0040	0.0040 mg/L							
Zirconium, total	< 0.00010	0.00010 mg/L							

LCS (B2E0313-BS1)					Prepared: 2022-05-03, Analyzed: 2022-05-04				
Aluminum, total	0.0220	0.0050 mg/L	0.0200		110	80-120			
Antimony, total	0.0190	0.00020 mg/L	0.0200		95	80-120			
Arsenic, total	0.0195	0.00050 mg/L	0.0200		97	80-120			
Barium, total	0.0180	0.0050 mg/L	0.0200		90	80-120			
Beryllium, total	0.0189	0.00010 mg/L	0.0200		95	80-120			
Bismuth, total	0.0188	0.00010 mg/L	0.0200		94	80-120			
Boron, total	< 0.0500	0.0500 mg/L	0.0200		96	80-120			
Cadmium, total	0.0188	0.000010 mg/L	0.0200		94	80-120			
Calcium, total	1.83	0.20 mg/L	2.00		92	80-120			
Chromium, total	0.0191	0.00050 mg/L	0.0200		96	80-120			
Cobalt, total	0.0197	0.00010 mg/L	0.0200		98	80-120			
Copper, total	0.0196	0.00040 mg/L	0.0200		98	80-120			
Iron, total	1.97	0.010 mg/L	2.00		99	80-120			
Lead, total	0.0178	0.00020 mg/L	0.0200		89	80-120			
Lithium, total	0.0190	0.00010 mg/L	0.0200		95	80-120			
Magnesium, total	1.96	0.010 mg/L	2.00		98	80-120			
Manganese, total	0.0197	0.00020 mg/L	0.0200		98	80-120			
Molybdenum, total	0.0184	0.00010 mg/L	0.0200		92	80-120			
Nickel, total	0.0197	0.00040 mg/L	0.0200		98	80-120			
Phosphorus, total	2.00	0.050 mg/L	2.00		100	80-120			
Potassium, total	1.86	0.10 mg/L	2.00		93	80-120			
Selenium, total	0.0190	0.00050 mg/L	0.0200		95	80-120			
Silicon, total	1.9	1.0 mg/L	2.00		95	80-120			
Silver, total	0.0191	0.000050 mg/L	0.0200		95	80-120			



APPENDIX 2: QUALITY CONTROL RESULTS

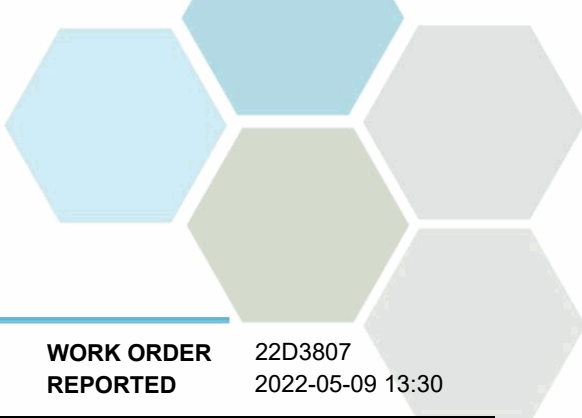
REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

WORK ORDER REPORTED 22D3807
2022-05-09 13:30

Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Total Metals, Batch B2E0313, Continued									
LCS (B2E0313-BS1), Continued					Prepared: 2022-05-03, Analyzed: 2022-05-04				
Sodium, total	2.05	0.10 mg/L	2.00		102	80-120			
Strontium, total	0.0195	0.0010 mg/L	0.0200		98	80-120			
Sulfur, total	4.8	3.0 mg/L	5.00		95	80-120			
Tellurium, total	0.0189	0.00050 mg/L	0.0200		95	80-120			
Thallium, total	0.0189	0.000020 mg/L	0.0200		94	80-120			
Thorium, total	0.0188	0.00010 mg/L	0.0200		94	80-120			
Tin, total	0.0193	0.00004 mg/L	0.0200		97	80-120			
Titanium, total	0.0195	0.0050 mg/L	0.0200		98	80-120			
Tungsten, total	0.0191	0.0002 mg/L	0.0200		95	80-120			
Uranium, total	0.0187	0.000020 mg/L	0.0200		94	80-120			
Vanadium, total	0.0203	0.0010 mg/L	0.0200		102	80-120			
Zinc, total	0.0191	0.0040 mg/L	0.0200		96	80-120			
Zirconium, total	0.0193	0.00010 mg/L	0.0200		96	80-120			

Reference (B2E0313-SRM1)					Prepared: 2022-05-03, Analyzed: 2022-05-04				
Aluminum, total	0.207	0.0050 mg/L	0.198		104	70-130			
Antimony, total	0.0214	0.00020 mg/L	0.0230		93	70-130			
Arsenic, total	0.0196	0.00050 mg/L	0.0200		98	70-130			
Barium, total	0.0138	0.0050 mg/L	0.0161		86	70-130			
Beryllium, total	0.00381	0.00010 mg/L	0.00384		99	70-130			
Boron, total	0.180	0.0500 mg/L	0.191		94	70-130			
Cadmium, total	0.00365	0.000010 mg/L	0.00404		90	70-130			
Calcium, total	1.00	0.20 mg/L	0.938		107	70-130			
Chromium, total	0.0258	0.00050 mg/L	0.0256		101	70-130			
Cobalt, total	0.0217	0.00010 mg/L	0.0214		101	70-130			
Copper, total	0.0316	0.00040 mg/L	0.0322		98	70-130			
Iron, total	0.060	0.010 mg/L	0.0580		104	70-130			
Lead, total	0.00694	0.00020 mg/L	0.00796		87	70-130			
Lithium, total	0.0101	0.00010 mg/L	0.0102		99	70-130			
Magnesium, total	0.191	0.010 mg/L	0.112		170	70-130			CAR, SRM
Manganese, total	0.0121	0.00020 mg/L	0.0120		100	70-130			
Molybdenum, total	0.0413	0.00010 mg/L	0.0438		94	70-130			
Nickel, total	0.0387	0.00040 mg/L	0.0394		98	70-130			
Potassium, total	0.76	0.10 mg/L	0.820		93	70-130			
Selenium, total	0.112	0.00050 mg/L	0.117		96	70-130			
Sodium, total	0.56	0.10 mg/L	0.490		115	70-130			
Strontium, total	0.275	0.0010 mg/L	0.276		100	70-130			
Thallium, total	0.0110	0.000020 mg/L	0.0118		93	70-130			
Uranium, total	0.00898	0.000020 mg/L	0.00970		93	70-130			
Vanadium, total	0.0292	0.0050 mg/L	0.0274		107	70-130			
Zinc, total	0.0857	0.0040 mg/L	0.0884		97	70-130			

Total Metals, Batch B2E0721									
Blank (B2E0721-BLK1)					Prepared: 2022-05-06, Analyzed: 2022-05-07				
Mercury, total	< 0.000010	0.000010 mg/L							
Blank (B2E0721-BLK2)					Prepared: 2022-05-06, Analyzed: 2022-05-07				
Mercury, total	< 0.000010	0.000010 mg/L							
Blank (B2E0721-BLK3)					Prepared: 2022-05-06, Analyzed: 2022-05-08				
Mercury, total	< 0.000010	0.000010 mg/L							
Reference (B2E0721-SRM1)					Prepared: 2022-05-06, Analyzed: 2022-05-07				
Mercury, total	0.000249	0.000010 mg/L	0.000250		100	70-130			



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT	Kelowna, City of RBCF Ponds	WORK ORDER REPORTED	22D3807 2022-05-09 13:30
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Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Total Metals, Batch B2E0721, Continued									
Reference (B2E0721-SRM2)				Prepared: 2022-05-06, Analyzed: 2022-05-07					
Mercury, total	0.000243	0.000010 mg/L	0.000250		97	70-130			
Reference (B2E0721-SRM3)				Prepared: 2022-05-06, Analyzed: 2022-05-08					
Mercury, total	0.000267	0.000010 mg/L	0.000250		107	70-130			

QC Qualifiers:

CAR Result is biased high due to carryover from previous sample.
 SRM Recovery of one or more analytes on Standard Reference Material (SRM) analysis are outside of control limits.



CERTIFICATE OF ANALYSIS

REPORTED TO Kelowna, City of
1435 Water Street
KELOWNA, BC V1Y 1J4

ATTENTION Jose Garcia

PO NUMBER 535828

PROJECT RBCF Ponds

PROJECT INFO

WORK ORDER 22F0291

RECEIVED / TEMP 2022-06-01 16:00 / 8.4°C

REPORTED 2022-06-09 13:45

COC NUMBER 44713.57981

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.

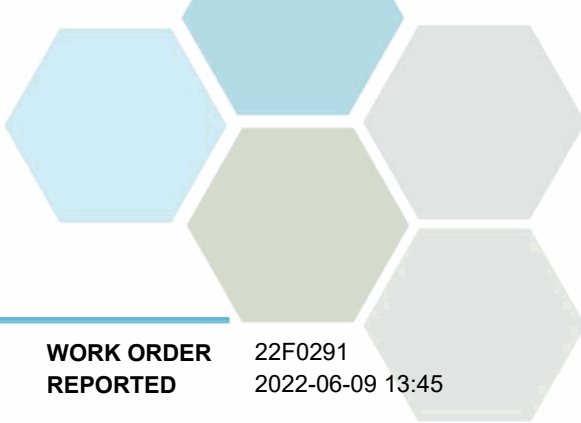
If you have any questions or concerns, please contact me at bwhitehead@caro.ca

Authorized By:

Brent Whitehead
Account Manager

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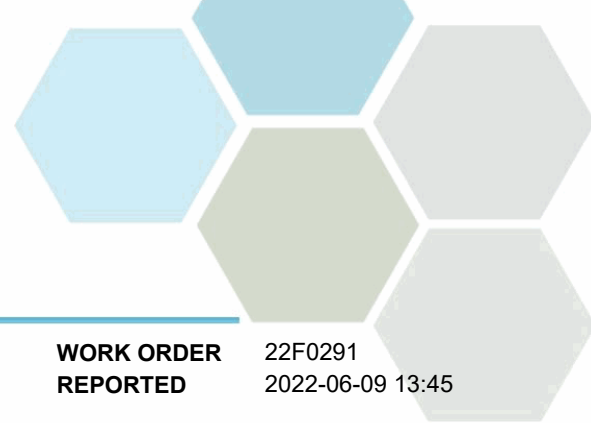


TEST RESULTS

REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

WORK ORDER REPORTED 22F0291
2022-06-09 13:45

Analyte	Result	RL	Units	Analyzed	Qualifier
Rose's Pond (22F0291-01) Matrix: Water Sampled: 2022-06-01					
Anions					
Chloride	397	0.10	mg/L	2022-06-02	
Nitrate (as N)	< 0.100	0.010	mg/L	2022-06-02	RA1
Nitrite (as N)	< 0.100	0.010	mg/L	2022-06-02	RA1
Calculated Parameters					
Hardness, Total (as CaCO3)	1340	1.00	mg/L	N/A	
Nitrate+Nitrite (as N)	< 0.100	0.100	mg/L	N/A	
Nitrogen, Total	1.52	0.100	mg/L	N/A	
Dissolved Metals					
Aluminum, dissolved	< 0.0100	0.0050	mg/L	2022-06-05	RS1
Antimony, dissolved	< 0.00040	0.00020	mg/L	2022-06-05	RS1
Arsenic, dissolved	0.00324	0.00050	mg/L	2022-06-05	RS1
Barium, dissolved	0.0207	0.0050	mg/L	2022-06-05	RS1
Beryllium, dissolved	< 0.00020	0.00010	mg/L	2022-06-05	RS1
Bismuth, dissolved	< 0.00020	0.00010	mg/L	2022-06-05	RS1
Boron, dissolved	< 0.100	0.0500	mg/L	2022-06-05	RS1
Cadmium, dissolved	< 0.000020	0.000010	mg/L	2022-06-05	RS1
Calcium, dissolved	59.8	0.20	mg/L	2022-06-05	RS1
Chromium, dissolved	< 0.00100	0.00050	mg/L	2022-06-05	RS1
Cobalt, dissolved	< 0.00020	0.00010	mg/L	2022-06-05	RS1
Copper, dissolved	0.00131	0.00040	mg/L	2022-06-05	RS1
Iron, dissolved	< 0.020	0.010	mg/L	2022-06-05	RS1
Lead, dissolved	< 0.00040	0.00020	mg/L	2022-06-05	RS1
Lithium, dissolved	0.0447	0.00010	mg/L	2022-06-05	RS1
Magnesium, dissolved	290	0.010	mg/L	2022-06-05	RS1
Manganese, dissolved	0.0557	0.00020	mg/L	2022-06-05	RS1
Mercury, dissolved	< 0.000010	0.000010	mg/L	2022-06-07	
Molybdenum, dissolved	0.00133	0.00010	mg/L	2022-06-05	RS1
Nickel, dissolved	0.00085	0.00040	mg/L	2022-06-05	RS1
Phosphorus, dissolved	< 0.100	0.050	mg/L	2022-06-05	RS1
Potassium, dissolved	71.5	0.10	mg/L	2022-06-05	RS1
Selenium, dissolved	< 0.00100	0.00050	mg/L	2022-06-05	RS1
Silicon, dissolved	< 2.0	1.0	mg/L	2022-06-05	RS1
Silver, dissolved	< 0.000100	0.000050	mg/L	2022-06-05	RS1
Sodium, dissolved	825	0.10	mg/L	2022-06-05	RS1
Strontium, dissolved	0.570	0.0010	mg/L	2022-06-05	RS1
Sulfur, dissolved	676	3.0	mg/L	2022-06-05	RS1
Tellurium, dissolved	< 0.00100	0.00050	mg/L	2022-06-05	RS1
Thallium, dissolved	< 0.000040	0.000020	mg/L	2022-06-05	RS1
Thorium, dissolved	< 0.00020	0.00010	mg/L	2022-06-05	RS1
Tin, dissolved	< 0.00040	0.00020	mg/L	2022-06-05	RS1
Titanium, dissolved	< 0.0100	0.0050	mg/L	2022-06-05	RS1
Tungsten, dissolved	< 0.0020	0.0010	mg/L	2022-06-05	RS1

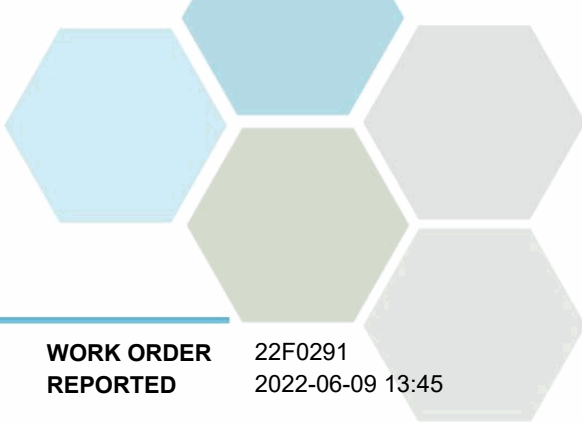


TEST RESULTS

REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

WORK ORDER REPORTED 22F0291
2022-06-09 13:45

Analyte	Result	RL	Units	Analyzed	Qualifier
Rose's Pond (22F0291-01) Matrix: Water Sampled: 2022-06-01, Continued					
<i>Dissolved Metals, Continued</i>					
Uranium, dissolved	0.00313	0.000020	mg/L	2022-06-05	RS1
Vanadium, dissolved	< 0.0100	0.0050	mg/L	2022-06-05	RS1
Zinc, dissolved	< 0.0080	0.0040	mg/L	2022-06-05	RS1
Zirconium, dissolved	0.00022	0.00010	mg/L	2022-06-05	RS1
<i>General Parameters</i>					
Ammonia, Total (as N)	0.091	0.050	mg/L	2022-06-02	
BOD, 5-day	< 7.0	2.0	mg/L	2022-06-08	
Carbon, Dissolved Organic	24.2	0.50	mg/L	2022-06-03	
Chemical Oxygen Demand	40	20	mg/L	2022-06-04	
Conductivity (EC)	5260	2.0	µS/cm	2022-06-06	
Nitrogen, Total Kjeldahl	1.52	0.050	mg/L	2022-06-08	
pH	8.55	0.10	pH units	2022-06-06	HT2
Phosphorus, Total (as P)	0.0224	0.0050	mg/L	2022-06-08	
Solids, Total Dissolved	4080	15	mg/L	2022-06-07	
Solids, Total Suspended	3.0	2.0	mg/L	2022-06-07	
<i>Microbiological Parameters</i>					
Coliforms, Total (Q-Tray)	1120	1	MPN/100 mL	2022-06-02	
E. coli (Q-Tray)	20	1	MPN/100 mL	2022-06-02	
<i>Total Metals</i>					
Aluminum, total	0.0161	0.0050	mg/L	2022-06-05	RS1
Antimony, total	< 0.00040	0.00020	mg/L	2022-06-05	RS1
Arsenic, total	0.00344	0.00050	mg/L	2022-06-05	RS1
Barium, total	0.0166	0.0050	mg/L	2022-06-05	RS1
Beryllium, total	< 0.00020	0.00010	mg/L	2022-06-05	RS1
Bismuth, total	< 0.00020	0.00010	mg/L	2022-06-05	RS1
Boron, total	< 0.100	0.0500	mg/L	2022-06-05	RS1
Cadmium, total	< 0.000020	0.000010	mg/L	2022-06-05	RS1
Calcium, total	63.1	0.20	mg/L	2022-06-05	RS1
Chromium, total	< 0.00100	0.00050	mg/L	2022-06-05	RS1
Cobalt, total	< 0.00020	0.00010	mg/L	2022-06-05	RS1
Copper, total	< 0.00080	0.00040	mg/L	2022-06-05	RS1
Iron, total	0.027	0.010	mg/L	2022-06-05	RS1
Lead, total	< 0.00040	0.00020	mg/L	2022-06-05	RS1
Lithium, total	0.0461	0.00010	mg/L	2022-06-05	RS1
Magnesium, total	306	0.010	mg/L	2022-06-05	RS1
Manganese, total	0.0826	0.00020	mg/L	2022-06-05	RS1
Mercury, total	< 0.000010	0.000010	mg/L	2022-06-06	
Molybdenum, total	0.00124	0.00010	mg/L	2022-06-05	RS1
Nickel, total	0.00100	0.00040	mg/L	2022-06-05	RS1
Phosphorus, total	< 0.100	0.050	mg/L	2022-06-05	RS1
Potassium, total	77.1	0.10	mg/L	2022-06-05	RS1



TEST RESULTS

REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

WORK ORDER REPORTED 22F0291
2022-06-09 13:45

Analyte	Result	RL	Units	Analyzed	Qualifier
Rose's Pond (22F0291-01) Matrix: Water Sampled: 2022-06-01, Continued					
<i>Total Metals, Continued</i>					
Selenium, total	< 0.00100	0.00050	mg/L	2022-06-05	RS1
Silicon, total	< 2.0	1.0	mg/L	2022-06-05	RS1
Silver, total	< 0.000100	0.000050	mg/L	2022-06-05	RS1
Sodium, total	841	0.10	mg/L	2022-06-05	RS1
Strontium, total	0.586	0.0010	mg/L	2022-06-05	RS1
Sulfur, total	691	3.0	mg/L	2022-06-05	RS1
Tellurium, total	< 0.00100	0.00050	mg/L	2022-06-05	RS1
Thallium, total	< 0.000040	0.000020	mg/L	2022-06-05	RS1
Thorium, total	< 0.00020	0.00010	mg/L	2022-06-05	RS1
Tin, total	< 0.00040	0.00020	mg/L	2022-06-05	RS1
Titanium, total	< 0.0100	0.0050	mg/L	2022-06-05	RS1
Tungsten, total	< 0.0004	0.0002	mg/L	2022-06-05	RS1
Uranium, total	0.00334	0.000020	mg/L	2022-06-05	RS1
Vanadium, total	< 0.0100	0.0050	mg/L	2022-06-05	RS1
Zinc, total	< 0.0080	0.0040	mg/L	2022-06-05	RS1
Zirconium, total	< 0.00020	0.00010	mg/L	2022-06-05	RS1

Drainage Pond (22F0291-02) | Matrix: Water | Sampled: 2022-06-01

Anions

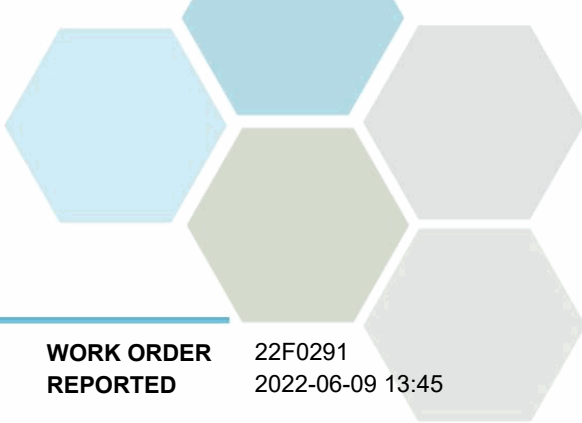
Chloride	100	0.10	mg/L	2022-06-02	
Nitrate (as N)	1.40	0.010	mg/L	2022-06-02	
Nitrite (as N)	< 0.010	0.010	mg/L	2022-06-02	

Calculated Parameters

Hardness, Total (as CaCO3)	284	0.500	mg/L	N/A	
Nitrate+Nitrite (as N)	1.40	0.0100	mg/L	N/A	
Nitrogen, Total	14.6	2.00	mg/L	N/A	

Dissolved Metals

Aluminum, dissolved	0.0137	0.0050	mg/L	2022-06-05	
Antimony, dissolved	0.00050	0.00020	mg/L	2022-06-05	
Arsenic, dissolved	0.00379	0.00050	mg/L	2022-06-05	
Barium, dissolved	0.0238	0.0050	mg/L	2022-06-05	
Beryllium, dissolved	< 0.00010	0.00010	mg/L	2022-06-05	
Bismuth, dissolved	< 0.00010	0.00010	mg/L	2022-06-05	
Boron, dissolved	0.156	0.0500	mg/L	2022-06-05	
Cadmium, dissolved	0.000026	0.000010	mg/L	2022-06-05	
Calcium, dissolved	58.9	0.20	mg/L	2022-06-05	
Chromium, dissolved	< 0.00050	0.00050	mg/L	2022-06-05	
Cobalt, dissolved	0.00038	0.00010	mg/L	2022-06-05	
Copper, dissolved	0.00495	0.00040	mg/L	2022-06-05	
Iron, dissolved	0.040	0.010	mg/L	2022-06-05	

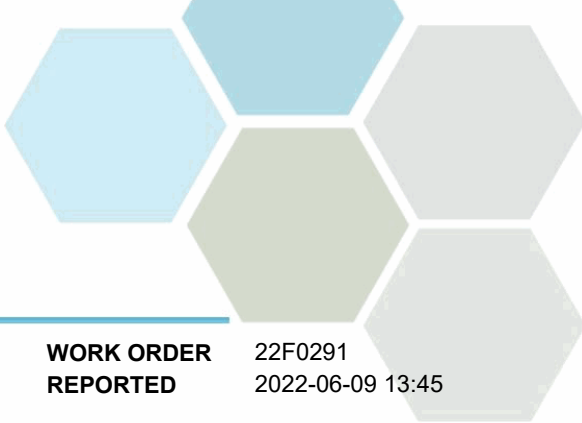


TEST RESULTS

REPORTED TO PROJECT Kelowna, City of RBCF Ponds

WORK ORDER REPORTED 22F0291 2022-06-09 13:45

Analyte	Result	RL	Units	Analyzed	Qualifier
Drainage Pond (22F0291-02) Matrix: Water Sampled: 2022-06-01, Continued					
<i>Dissolved Metals, Continued</i>					
Lead, dissolved	< 0.00020	0.00020	mg/L	2022-06-05	
Lithium, dissolved	0.0113	0.00010	mg/L	2022-06-05	
Magnesium, dissolved	33.2	0.010	mg/L	2022-06-05	
Manganese, dissolved	0.161	0.00020	mg/L	2022-06-05	
Mercury, dissolved	< 0.000010	0.000010	mg/L	2022-06-07	
Molybdenum, dissolved	0.00780	0.00010	mg/L	2022-06-05	
Nickel, dissolved	0.00211	0.00040	mg/L	2022-06-05	
Phosphorus, dissolved	2.65	0.050	mg/L	2022-06-05	
Potassium, dissolved	24.3	0.10	mg/L	2022-06-05	
Selenium, dissolved	0.00052	0.00050	mg/L	2022-06-05	
Silicon, dissolved	1.6	1.0	mg/L	2022-06-05	
Silver, dissolved	< 0.000050	0.000050	mg/L	2022-06-05	
Sodium, dissolved	107	0.10	mg/L	2022-06-05	
Strontium, dissolved	0.672	0.0010	mg/L	2022-06-05	
Sulfur, dissolved	55.3	3.0	mg/L	2022-06-05	
Tellurium, dissolved	< 0.00050	0.00050	mg/L	2022-06-05	
Thallium, dissolved	< 0.000020	0.000020	mg/L	2022-06-05	
Thorium, dissolved	< 0.00010	0.00010	mg/L	2022-06-05	
Tin, dissolved	< 0.00020	0.00020	mg/L	2022-06-05	
Titanium, dissolved	< 0.0050	0.0050	mg/L	2022-06-05	
Tungsten, dissolved	< 0.0010	0.0010	mg/L	2022-06-05	
Uranium, dissolved	0.00383	0.000020	mg/L	2022-06-05	
Vanadium, dissolved	< 0.0050	0.0050	mg/L	2022-06-05	
Zinc, dissolved	0.0306	0.0040	mg/L	2022-06-05	
Zirconium, dissolved	0.00015	0.00010	mg/L	2022-06-05	
<i>General Parameters</i>					
Ammonia, Total (as N)	7.33	0.050	mg/L	2022-06-02	
BOD, 5-day	< 7.0	2.0	mg/L	2022-06-08	
Carbon, Dissolved Organic	26.2	0.50	mg/L	2022-06-03	
Chemical Oxygen Demand	89	20	mg/L	2022-06-04	
Conductivity (EC)	1160	2.0	µS/cm	2022-06-06	
Nitrogen, Total Kjeldahl	13.2	0.050	mg/L	2022-06-08	
pH	8.10	0.10	pH units	2022-06-06	HT2
Phosphorus, Total (as P)	3.01	0.0050	mg/L	2022-06-08	
Solids, Total Dissolved	719	15	mg/L	2022-06-07	
Solids, Total Suspended	4.7	2.0	mg/L	2022-06-06	
<i>Microbiological Parameters</i>					
Coliforms, Total (Q-Tray)	6460	1	MPN/100 mL	2022-06-02	
E. coli (Q-Tray)	1400	1	MPN/100 mL	2022-06-02	
<i>Total Metals</i>					
Aluminum, total	0.0480	0.0050	mg/L	2022-06-05	



TEST RESULTS

REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

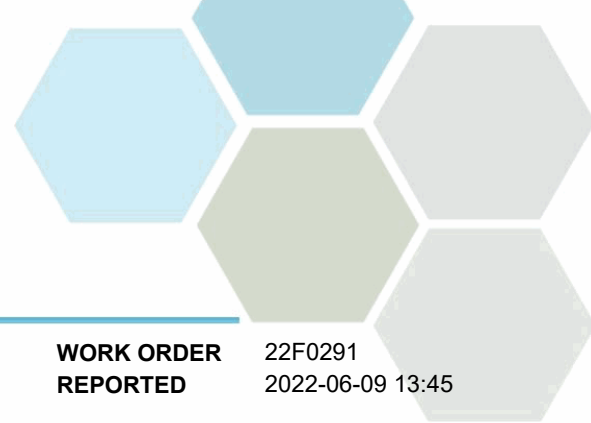
WORK ORDER REPORTED 22F0291
2022-06-09 13:45

Analyte	Result	RL	Units	Analyzed	Qualifier
Drainage Pond (22F0291-02) Matrix: Water Sampled: 2022-06-01, Continued					
<i>Total Metals, Continued</i>					
Antimony, total	0.00052	0.00020	mg/L	2022-06-05	
Arsenic, total	0.00387	0.00050	mg/L	2022-06-05	
Barium, total	0.0278	0.0050	mg/L	2022-06-05	
Beryllium, total	< 0.00010	0.00010	mg/L	2022-06-05	
Bismuth, total	0.00027	0.00010	mg/L	2022-06-05	
Boron, total	0.169	0.0500	mg/L	2022-06-05	
Cadmium, total	0.000062	0.000010	mg/L	2022-06-05	
Calcium, total	60.5	0.20	mg/L	2022-06-05	
Chromium, total	< 0.00050	0.00050	mg/L	2022-06-05	
Cobalt, total	0.00045	0.00010	mg/L	2022-06-05	
Copper, total	0.0134	0.00040	mg/L	2022-06-05	
Iron, total	0.116	0.010	mg/L	2022-06-05	
Lead, total	0.00034	0.00020	mg/L	2022-06-05	
Lithium, total	0.0115	0.00010	mg/L	2022-06-05	
Magnesium, total	32.8	0.010	mg/L	2022-06-05	
Manganese, total	0.175	0.00020	mg/L	2022-06-05	
Mercury, total	< 0.000010	0.000010	mg/L	2022-06-06	
Molybdenum, total	0.00854	0.00010	mg/L	2022-06-05	
Nickel, total	0.00227	0.00040	mg/L	2022-06-05	
Phosphorus, total	2.76	0.050	mg/L	2022-06-05	
Potassium, total	25.6	0.10	mg/L	2022-06-05	
Selenium, total	0.00063	0.00050	mg/L	2022-06-05	
Silicon, total	1.6	1.0	mg/L	2022-06-05	
Silver, total	< 0.000050	0.000050	mg/L	2022-06-05	
Sodium, total	105	0.10	mg/L	2022-06-05	
Strontium, total	0.682	0.0010	mg/L	2022-06-05	
Sulfur, total	57.2	3.0	mg/L	2022-06-05	
Tellurium, total	< 0.00050	0.00050	mg/L	2022-06-05	
Thallium, total	< 0.000020	0.000020	mg/L	2022-06-05	
Thorium, total	< 0.00010	0.00010	mg/L	2022-06-05	
Tin, total	0.00026	0.00020	mg/L	2022-06-05	
Titanium, total	< 0.0050	0.0050	mg/L	2022-06-05	
Tungsten, total	0.0003	0.0002	mg/L	2022-06-05	
Uranium, total	0.00441	0.000020	mg/L	2022-06-05	
Vanadium, total	< 0.0050	0.0050	mg/L	2022-06-05	
Zinc, total	0.0395	0.0040	mg/L	2022-06-05	
Zirconium, total	0.00017	0.00010	mg/L	2022-06-05	

Davidson Pond (22F0291-03) | Matrix: Water | Sampled: 2022-06-01

Anions

Chloride	319	0.10	mg/L	2022-06-02	
Nitrate (as N)	< 0.010	0.010	mg/L	2022-06-02	

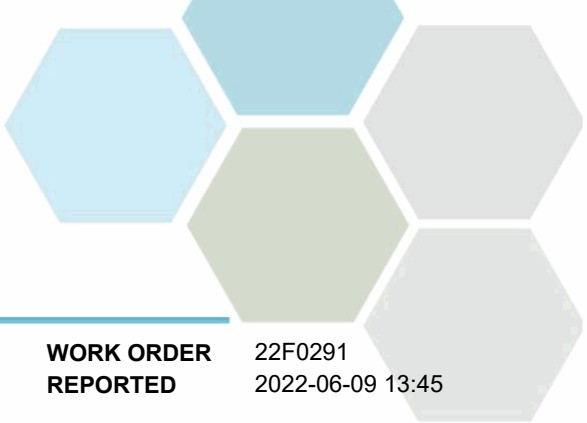


TEST RESULTS

REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

WORK ORDER REPORTED 22F0291
2022-06-09 13:45

Analyte	Result	RL	Units	Analyzed	Qualifier
Davidson Pond (22F0291-03) Matrix: Water Sampled: 2022-06-01, Continued					
<i>Anions, Continued</i>					
Nitrite (as N)	< 0.010	0.010	mg/L	2022-06-02	
<i>Calculated Parameters</i>					
Hardness, Total (as CaCO3)	732	1.00	mg/L	N/A	
Nitrate+Nitrite (as N)	< 0.0100	0.0100	mg/L	N/A	
Nitrogen, Total	2.33	0.0500	mg/L	N/A	
<i>Dissolved Metals</i>					
Aluminum, dissolved	< 0.0100	0.0050	mg/L	2022-06-05	RS1
Antimony, dissolved	0.00043	0.00020	mg/L	2022-06-05	RS1
Arsenic, dissolved	0.00373	0.00050	mg/L	2022-06-05	RS1
Barium, dissolved	0.0190	0.0050	mg/L	2022-06-05	RS1
Beryllium, dissolved	< 0.00020	0.00010	mg/L	2022-06-05	RS1
Bismuth, dissolved	< 0.00020	0.00010	mg/L	2022-06-05	RS1
Boron, dissolved	< 0.100	0.0500	mg/L	2022-06-05	RS1
Cadmium, dissolved	< 0.000020	0.000010	mg/L	2022-06-05	RS1
Calcium, dissolved	59.6	0.20	mg/L	2022-06-05	RS1
Chromium, dissolved	< 0.00100	0.00050	mg/L	2022-06-05	RS1
Cobalt, dissolved	< 0.00020	0.00010	mg/L	2022-06-05	RS1
Copper, dissolved	< 0.00080	0.00040	mg/L	2022-06-05	RS1
Iron, dissolved	0.032	0.010	mg/L	2022-06-05	RS1
Lead, dissolved	< 0.00040	0.00020	mg/L	2022-06-05	RS1
Lithium, dissolved	0.0449	0.00010	mg/L	2022-06-05	RS1
Magnesium, dissolved	142	0.010	mg/L	2022-06-05	RS1
Manganese, dissolved	0.0498	0.00020	mg/L	2022-06-05	RS1
Mercury, dissolved	< 0.000010	0.000010	mg/L	2022-06-07	
Molybdenum, dissolved	0.00159	0.00010	mg/L	2022-06-05	RS1
Nickel, dissolved	0.00149	0.00040	mg/L	2022-06-05	RS1
Phosphorus, dissolved	< 0.100	0.050	mg/L	2022-06-05	RS1
Potassium, dissolved	44.5	0.10	mg/L	2022-06-05	RS1
Selenium, dissolved	< 0.00100	0.00050	mg/L	2022-06-05	RS1
Silicon, dissolved	< 2.0	1.0	mg/L	2022-06-05	RS1
Silver, dissolved	< 0.000100	0.000050	mg/L	2022-06-05	RS1
Sodium, dissolved	649	0.10	mg/L	2022-06-05	RS1
Strontium, dissolved	0.980	0.0010	mg/L	2022-06-05	RS1
Sulfur, dissolved	404	3.0	mg/L	2022-06-05	RS1
Tellurium, dissolved	< 0.00100	0.00050	mg/L	2022-06-05	RS1
Thallium, dissolved	< 0.000040	0.000020	mg/L	2022-06-05	RS1
Thorium, dissolved	< 0.00020	0.00010	mg/L	2022-06-05	RS1
Tin, dissolved	< 0.00040	0.00020	mg/L	2022-06-05	RS1
Titanium, dissolved	< 0.0100	0.0050	mg/L	2022-06-05	RS1
Tungsten, dissolved	< 0.0020	0.0010	mg/L	2022-06-05	RS1
Uranium, dissolved	0.00680	0.000020	mg/L	2022-06-05	RS1
Vanadium, dissolved	< 0.0100	0.0050	mg/L	2022-06-05	RS1

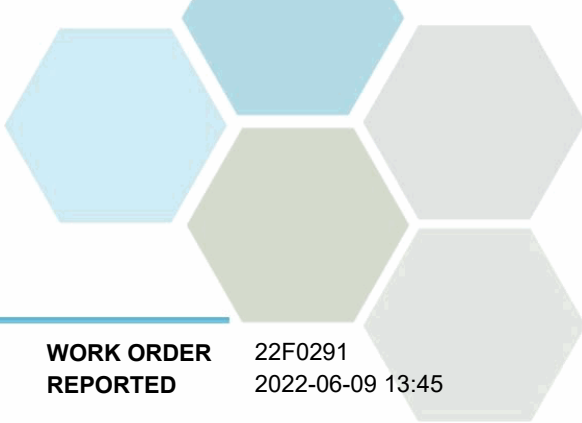


TEST RESULTS

REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

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Analyte	Result	RL	Units	Analyzed	Qualifier
Davidson Pond (22F0291-03) Matrix: Water Sampled: 2022-06-01, Continued					
<i>Dissolved Metals, Continued</i>					
Zinc, dissolved	< 0.0080	0.0040	mg/L	2022-06-05	RS1
Zirconium, dissolved	0.00032	0.00010	mg/L	2022-06-05	RS1
<i>General Parameters</i>					
Ammonia, Total (as N)	0.195	0.050	mg/L	2022-06-02	
BOD, 5-day	< 7.0	2.0	mg/L	2022-06-08	
Carbon, Dissolved Organic	30.8	0.50	mg/L	2022-06-03	
Chemical Oxygen Demand	77	20	mg/L	2022-06-06	
Conductivity (EC)	3750	2.0	µS/cm	2022-06-06	
Nitrogen, Total Kjeldahl	2.33	0.050	mg/L	2022-06-08	
pH	8.74	0.10	pH units	2022-06-06	HT2
Phosphorus, Total (as P)	0.0769	0.0050	mg/L	2022-06-08	
Solids, Total Dissolved	2750	15	mg/L	2022-06-07	
Solids, Total Suspended	8.7	2.0	mg/L	2022-06-06	
<i>Microbiological Parameters</i>					
Coliforms, Total (Q-Tray)	387	1	MPN/100 mL	2022-06-02	
E. coli (Q-Tray)	219	1	MPN/100 mL	2022-06-02	
<i>Total Metals</i>					
Aluminum, total	0.0431	0.0050	mg/L	2022-06-05	RS1
Antimony, total	0.00045	0.00020	mg/L	2022-06-05	RS1
Arsenic, total	0.00381	0.00050	mg/L	2022-06-05	RS1
Barium, total	0.0197	0.0050	mg/L	2022-06-05	RS1
Beryllium, total	< 0.00020	0.00010	mg/L	2022-06-05	RS1
Bismuth, total	< 0.00020	0.00010	mg/L	2022-06-05	RS1
Boron, total	< 0.100	0.0500	mg/L	2022-06-05	RS1
Cadmium, total	< 0.000020	0.000010	mg/L	2022-06-05	RS1
Calcium, total	61.6	0.20	mg/L	2022-06-05	RS1
Chromium, total	< 0.00100	0.00050	mg/L	2022-06-05	RS1
Cobalt, total	< 0.00020	0.00010	mg/L	2022-06-05	RS1
Copper, total	0.0185	0.00040	mg/L	2022-06-05	RS1
Iron, total	0.081	0.010	mg/L	2022-06-05	RS1
Lead, total	< 0.00040	0.00020	mg/L	2022-06-05	RS1
Lithium, total	0.0462	0.00010	mg/L	2022-06-05	RS1
Magnesium, total	144	0.010	mg/L	2022-06-05	RS1
Manganese, total	0.0565	0.00020	mg/L	2022-06-05	RS1
Mercury, total	< 0.000010	0.000010	mg/L	2022-06-06	
Molybdenum, total	0.00162	0.00010	mg/L	2022-06-05	RS1
Nickel, total	0.00178	0.00040	mg/L	2022-06-05	RS1
Phosphorus, total	0.102	0.050	mg/L	2022-06-05	RS1
Potassium, total	46.3	0.10	mg/L	2022-06-05	RS1
Selenium, total	< 0.00100	0.00050	mg/L	2022-06-05	RS1
Silicon, total	< 2.0	1.0	mg/L	2022-06-05	RS1



TEST RESULTS

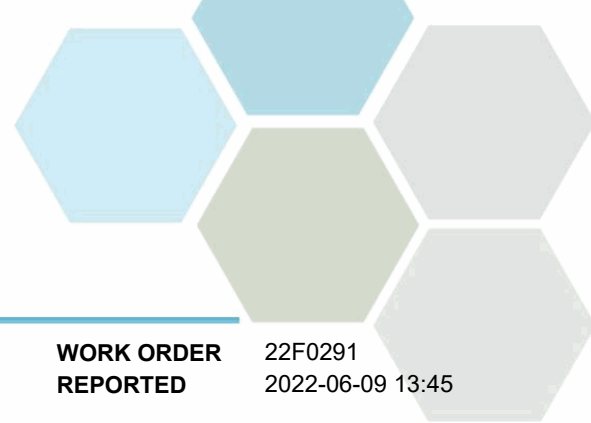
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Analyte	Result	RL	Units	Analyzed	Qualifier
Davidson Pond (22F0291-03) Matrix: Water Sampled: 2022-06-01, Continued					
<i>Total Metals, Continued</i>					
Silver, total	< 0.000100	0.000050	mg/L	2022-06-05	RS1
Sodium, total	643	0.10	mg/L	2022-06-05	RS1
Strontium, total	1.00	0.0010	mg/L	2022-06-05	RS1
Sulfur, total	413	3.0	mg/L	2022-06-05	RS1
Tellurium, total	< 0.00100	0.00050	mg/L	2022-06-05	RS1
Thallium, total	< 0.000040	0.000020	mg/L	2022-06-05	RS1
Thorium, total	< 0.00020	0.00010	mg/L	2022-06-05	RS1
Tin, total	< 0.00040	0.00020	mg/L	2022-06-05	RS1
Titanium, total	< 0.0100	0.0050	mg/L	2022-06-05	RS1
Tungsten, total	< 0.0004	0.0002	mg/L	2022-06-05	RS1
Uranium, total	0.00736	0.000020	mg/L	2022-06-05	RS1
Vanadium, total	< 0.0100	0.0050	mg/L	2022-06-05	RS1
Zinc, total	0.0112	0.0040	mg/L	2022-06-05	RS1
Zirconium, total	0.00028	0.00010	mg/L	2022-06-05	RS1

Sample Qualifiers:

- HT2 The 15 minute recommended holding time (from sampling to analysis) has been exceeded - field analysis is recommended.
- RA1 The Reporting Limit has been raised due to matrix interference.
- RS1 The Reporting Limits for this sample have been raised due to high analyte concentration and/or matrix interference.



APPENDIX 1: SUPPORTING INFORMATION

REPORTED TO PROJECT Kelowna, City of
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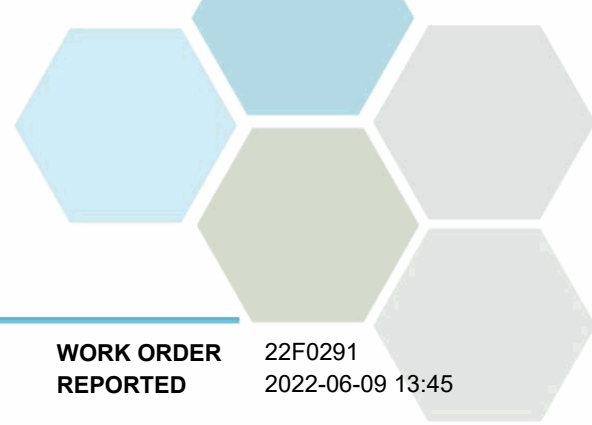
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Analysis Description	Method Ref.	Technique	Accredited	Location
Ammonia, Total in Water	SM 4500-NH3 G* (2017)	Automated Colorimetry (Phenate)	✓	Kelowna
Anions in Water	SM 4110 B (2017)	Ion Chromatography	✓	Kelowna
Biochemical Oxygen Demand in Water	SM 5210 B (2017)	Dissolved Oxygen Meter	✓	Kelowna
Carbon, Dissolved Organic in Water	SM 5310 B (2017)	Combustion, Infrared CO2 Detection	✓	Kelowna
Chemical Oxygen Demand in Water	SM 5220 D* (2017)	Closed Reflux, Colorimetry	✓	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
Dissolved Metals in Water	EPA 200.8 / EPA 6020B	0.45 µm Filtration / Inductively Coupled Plasma-Mass Spectroscopy (ICP-MS)	✓	Richmond
E. coli in Water	NA / SM 9223 (2017)	Quanti-Tray / Enzyme Substrate Endo Agar	✓	Kelowna
Hardness in Water	SM 2340 B (2017)	Calculation: 2.497 [diss Ca] + 4.118 [diss Mg]	✓	N/A
Mercury, dissolved in Water	EPA 245.7*	BrCl2 Oxidation / Cold Vapor Atomic Fluorescence Spectrometry (CVAFS)	✓	Richmond
Mercury, total in Water	EPA 245.7*	BrCl2 Oxidation / Cold Vapor Atomic Fluorescence Spectrometry (CVAFS)	✓	Richmond
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
Phosphorus, Total in Water	SM 4500-P B.5* (2011) / SM 4500-P F (2017)	Persulfate Digestion / Automated Colorimetry (Ascorbic Acid)	✓	Kelowna
Solids, Total Dissolved in Water	Solids in Water, Filtered / SM 2540 C* (2017)	Solids in Water, Filtered / Gravimetry (Dried at 103-105C)	✓	Kelowna
Solids, Total Suspended in Water	Solids in Water, Filtered / SM 2540 D* (2017)	Solids in Water, Filtered / Gravimetry (Dried at 103-105C)	✓	Kelowna
Total Metals in Water	EPA 200.2 / EPA 6020B	HNO3+HCl Hot Block Digestion / Inductively Coupled Plasma-Mass Spectroscopy (ICP-MS)	✓	Richmond

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
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
EPA	United States Environmental Protection Agency Test Methods
SM	Standard Methods for the Examination of Water and Wastewater, American Public Health Association



APPENDIX 1: SUPPORTING INFORMATION

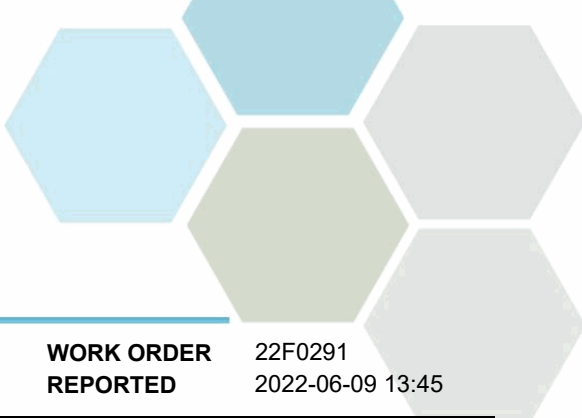
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General Comments:

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 or once samples expire, whichever comes first. Longer hold is possible if agreed to in writing.

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APPENDIX 2: QUALITY CONTROL RESULTS

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The following section displays the quality control (QC) data that is associated with your sample data. Groups of samples are prepared in “batches” and analyzed in conjunction with QC samples that ensure your data is of the highest quality. Common QC types include:

- **Method Blank (Blk):** A blank sample that undergoes sample processing identical to that carried out for the test samples. Method blank results are used to assess contamination from the laboratory environment and reagents.
- **Duplicate (Dup):** An additional or second portion of a randomly selected sample in the analytical run carried through the entire analytical process. Duplicates provide a measure of the analytical method's precision (reproducibility).
- **Blank Spike (BS):** A sample of known concentration which undergoes processing identical to that carried out for test samples, also referred to as a laboratory control sample (LCS). Blank spikes provide a measure of the analytical method's accuracy.
- **Matrix Spike (MS):** A second aliquot of sample is fortified with a known concentration of target analytes and carried through the entire analytical process. Matrix spikes evaluate potential matrix effects that may affect the analyte recovery.
- **Reference Material (SRM):** A homogenous material of similar matrix to the samples, certified for the parameter(s) listed. Reference Materials ensure that the analytical process is adequate to achieve acceptable recoveries of the parameter(s) tested.

Each QC type is analyzed at a 5-10% frequency, i.e. one blank/duplicate/spike for every 10-20 samples. For all types of QC, the specified recovery (% Rec) and relative percent difference (RPD) limits are derived from long-term method performance averages and/or prescribed by the reference method.

Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Anions, Batch B2F0077									
Blank (B2F0077-BLK1)			Prepared: 2022-06-02, Analyzed: 2022-06-02						
Chloride	< 0.10	0.10 mg/L							
Nitrate (as N)	< 0.010	0.010 mg/L							
Nitrite (as N)	< 0.010	0.010 mg/L							
Blank (B2F0077-BLK2)			Prepared: 2022-06-02, Analyzed: 2022-06-02						
Chloride	< 0.10	0.10 mg/L							
Nitrate (as N)	< 0.010	0.010 mg/L							
Nitrite (as N)	< 0.010	0.010 mg/L							
LCS (B2F0077-BS1)			Prepared: 2022-06-02, Analyzed: 2022-06-02						
Chloride	16.1	0.10 mg/L	16.0		101	90-110			
Nitrate (as N)	4.06	0.010 mg/L	4.00		102	90-110			
Nitrite (as N)	1.81	0.010 mg/L	2.00		91	85-115			
LCS (B2F0077-BS2)			Prepared: 2022-06-02, Analyzed: 2022-06-02						
Chloride	16.3	0.10 mg/L	16.0		102	90-110			
Nitrate (as N)	3.99	0.010 mg/L	4.00		100	90-110			
Nitrite (as N)	1.96	0.010 mg/L	2.00		98	85-115			

Dissolved Metals, Batch B2F0535

Blank (B2F0535-BLK1)			Prepared: 2022-06-05, Analyzed: 2022-06-05						
Aluminum, dissolved	< 0.0050	0.0050 mg/L							
Antimony, dissolved	< 0.00020	0.00020 mg/L							
Arsenic, dissolved	< 0.00050	0.00050 mg/L							
Barium, dissolved	< 0.0050	0.0050 mg/L							
Beryllium, dissolved	< 0.00010	0.00010 mg/L							
Bismuth, dissolved	< 0.00010	0.00010 mg/L							
Boron, dissolved	< 0.0500	0.0500 mg/L							
Cadmium, dissolved	< 0.000010	0.000010 mg/L							
Calcium, dissolved	< 0.20	0.20 mg/L							
Chromium, dissolved	< 0.00050	0.00050 mg/L							
Cobalt, dissolved	< 0.00010	0.00010 mg/L							
Copper, dissolved	< 0.00040	0.00040 mg/L							
Iron, dissolved	< 0.010	0.010 mg/L							
Lead, dissolved	< 0.00020	0.00020 mg/L							

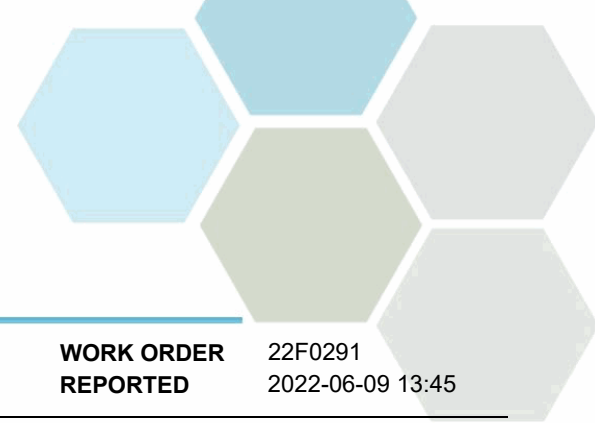
APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Kelowna, City of
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Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Dissolved Metals, Batch B2F0535, Continued									
Blank (B2F0535-BLK1), Continued					Prepared: 2022-06-05, Analyzed: 2022-06-05				
Lithium, dissolved	< 0.00010	0.00010 mg/L							
Magnesium, dissolved	0.032	0.010 mg/L							BLK
Manganese, dissolved	< 0.00020	0.00020 mg/L							
Molybdenum, dissolved	< 0.00010	0.00010 mg/L							
Nickel, dissolved	< 0.00040	0.00040 mg/L							
Phosphorus, dissolved	< 0.050	0.050 mg/L							
Potassium, dissolved	< 0.10	0.10 mg/L							
Selenium, dissolved	< 0.00050	0.00050 mg/L							
Silicon, dissolved	< 1.0	1.0 mg/L							
Silver, dissolved	< 0.000050	0.000050 mg/L							
Sodium, dissolved	0.12	0.10 mg/L							BLK
Strontium, dissolved	< 0.0010	0.0010 mg/L							
Sulfur, dissolved	< 3.0	3.0 mg/L							
Tellurium, dissolved	< 0.00050	0.00050 mg/L							
Thallium, dissolved	< 0.000020	0.000020 mg/L							
Thorium, dissolved	< 0.00010	0.00010 mg/L							
Tin, dissolved	< 0.00020	0.00020 mg/L							
Titanium, dissolved	< 0.0050	0.0050 mg/L							
Tungsten, dissolved	< 0.0010	0.0010 mg/L							
Uranium, dissolved	< 0.000020	0.000020 mg/L							
Vanadium, dissolved	< 0.0050	0.0050 mg/L							
Zinc, dissolved	< 0.0040	0.0040 mg/L							
Zirconium, dissolved	< 0.00010	0.00010 mg/L							

LCS (B2F0535-BS1)					Prepared: 2022-06-05, Analyzed: 2022-06-05				
Aluminum, dissolved	4.16	0.0050 mg/L	4.00		104	80-120			
Antimony, dissolved	0.0399	0.00020 mg/L	0.0400		100	80-120			
Arsenic, dissolved	0.0413	0.00050 mg/L	0.0400		103	80-120			
Barium, dissolved	0.0393	0.0050 mg/L	0.0400		98	80-120			
Beryllium, dissolved	0.0421	0.00010 mg/L	0.0400		105	80-120			
Bismuth, dissolved	0.0393	0.00010 mg/L	0.0400		98	80-120			
Boron, dissolved	< 0.0500	0.0500 mg/L	0.0400		101	80-120			
Cadmium, dissolved	0.0397	0.000010 mg/L	0.0400		99	80-120			
Calcium, dissolved	3.92	0.20 mg/L	4.00		98	80-120			
Chromium, dissolved	0.0410	0.00050 mg/L	0.0400		102	80-120			
Cobalt, dissolved	0.0398	0.00010 mg/L	0.0400		100	80-120			
Copper, dissolved	0.0399	0.00040 mg/L	0.0400		100	80-120			
Iron, dissolved	4.02	0.010 mg/L	4.00		100	80-120			
Lead, dissolved	0.0392	0.00020 mg/L	0.0400		98	80-120			
Lithium, dissolved	0.0417	0.00010 mg/L	0.0400		104	80-120			
Magnesium, dissolved	4.13	0.010 mg/L	4.00		103	80-120			
Manganese, dissolved	0.0404	0.00020 mg/L	0.0400		101	80-120			
Molybdenum, dissolved	0.0390	0.00010 mg/L	0.0400		97	80-120			
Nickel, dissolved	0.0395	0.00040 mg/L	0.0400		99	80-120			
Phosphorus, dissolved	4.03	0.050 mg/L	4.00		101	80-120			
Potassium, dissolved	3.97	0.10 mg/L	4.00		99	80-120			
Selenium, dissolved	0.0410	0.00050 mg/L	0.0400		102	80-120			
Silicon, dissolved	4.2	1.0 mg/L	4.00		105	80-120			
Silver, dissolved	0.0400	0.000050 mg/L	0.0400		100	80-120			
Sodium, dissolved	4.30	0.10 mg/L	4.00		108	80-120			
Strontium, dissolved	0.0411	0.0010 mg/L	0.0400		103	80-120			
Sulfur, dissolved	41.1	3.0 mg/L	40.0		103	80-120			
Tellurium, dissolved	0.0398	0.00050 mg/L	0.0400		100	80-120			
Thallium, dissolved	0.0389	0.000020 mg/L	0.0400		97	80-120			
Thorium, dissolved	0.0403	0.00010 mg/L	0.0400		101	80-120			
Tin, dissolved	0.0402	0.00020 mg/L	0.0400		100	80-120			



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Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
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Dissolved Metals, Batch B2F0535, Continued

LCS (B2F0535-BS1), Continued Prepared: 2022-06-05, Analyzed: 2022-06-05

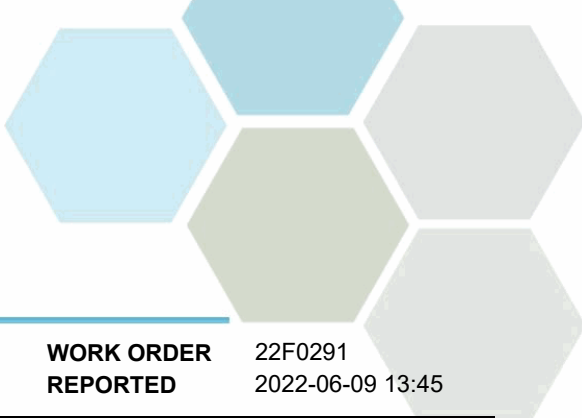
Titanium, dissolved	0.0399	0.0050 mg/L	0.0400		100	80-120			
Tungsten, dissolved	0.0407	0.0010 mg/L	0.0400		102	80-120			
Uranium, dissolved	0.0389	0.000020 mg/L	0.0400		97	80-120			
Vanadium, dissolved	0.0405	0.0050 mg/L	0.0400		101	80-120			
Zinc, dissolved	0.0399	0.0040 mg/L	0.0400		100	80-120			
Zirconium, dissolved	0.0402	0.00010 mg/L	0.0400		101	80-120			

Duplicate (B2F0535-DUP1) **Source: 22F0291-01** Prepared: 2022-06-05, Analyzed: 2022-06-05

Aluminum, dissolved	< 0.0100	0.0050 mg/L	< 0.0100					20	
Antimony, dissolved	< 0.00040	0.00020 mg/L	< 0.00040					20	
Arsenic, dissolved	0.00346	0.00050 mg/L	0.00324					20	
Barium, dissolved	0.0231	0.0050 mg/L	0.0207					20	
Beryllium, dissolved	< 0.00020	0.00010 mg/L	< 0.00020					20	
Bismuth, dissolved	< 0.00020	0.00010 mg/L	< 0.00020					20	
Boron, dissolved	< 0.100	0.0500 mg/L	< 0.100					20	
Cadmium, dissolved	< 0.000020	0.000010 mg/L	< 0.000020					20	
Calcium, dissolved	69.1	0.20 mg/L	59.8				15	20	
Chromium, dissolved	< 0.00100	0.00050 mg/L	< 0.00100					20	
Cobalt, dissolved	< 0.00020	0.00010 mg/L	< 0.00020					20	
Copper, dissolved	0.00147	0.00040 mg/L	0.00131					20	
Iron, dissolved	< 0.020	0.010 mg/L	< 0.020					20	
Lead, dissolved	< 0.00040	0.00020 mg/L	< 0.00040					20	
Lithium, dissolved	0.0491	0.00010 mg/L	0.0447				9	20	
Magnesium, dissolved	319	0.010 mg/L	290				10	20	
Manganese, dissolved	0.0601	0.00020 mg/L	0.0557				8	20	
Molybdenum, dissolved	0.00147	0.00010 mg/L	0.00133				10	20	
Nickel, dissolved	0.00098	0.00040 mg/L	0.00085					20	
Phosphorus, dissolved	< 0.100	0.050 mg/L	< 0.100					20	
Potassium, dissolved	82.1	0.10 mg/L	71.5				14	20	
Selenium, dissolved	< 0.00100	0.00050 mg/L	< 0.00100					20	
Silicon, dissolved	< 2.0	1.0 mg/L	< 2.0					20	
Silver, dissolved	< 0.000100	0.000050 mg/L	< 0.000100					20	
Sodium, dissolved	917	0.10 mg/L	825				11	20	
Strontium, dissolved	0.621	0.0010 mg/L	0.570				9	20	
Sulfur, dissolved	731	3.0 mg/L	676				8	20	
Tellurium, dissolved	< 0.00100	0.00050 mg/L	< 0.00100					20	
Thallium, dissolved	< 0.000040	0.000020 mg/L	< 0.000040					20	
Thorium, dissolved	< 0.00020	0.00010 mg/L	< 0.00020					20	
Tin, dissolved	< 0.00040	0.00020 mg/L	< 0.00040					20	
Titanium, dissolved	< 0.0100	0.0050 mg/L	< 0.0100					20	
Tungsten, dissolved	< 0.0020	0.0010 mg/L	< 0.0020					20	
Uranium, dissolved	0.00348	0.000020 mg/L	0.00313				11	20	
Vanadium, dissolved	< 0.0100	0.0050 mg/L	< 0.0100					20	
Zinc, dissolved	< 0.0080	0.0040 mg/L	< 0.0080					20	
Zirconium, dissolved	0.00021	0.00010 mg/L	0.00022					20	

Matrix Spike (B2F0535-MS1) **Source: 22F0291-02** Prepared: 2022-06-05, Analyzed: 2022-06-05

Aluminum, dissolved	3.88	0.0050 mg/L	4.00	0.0137	97	70-130			
Antimony, dissolved	0.0391	0.00020 mg/L	0.0400	0.00050	97	70-130			
Arsenic, dissolved	0.0434	0.00050 mg/L	0.0400	0.00379	99	70-130			
Barium, dissolved	0.0631	0.0050 mg/L	0.0400	0.0238	98	70-130			
Beryllium, dissolved	0.0367	0.00010 mg/L	0.0400	< 0.00010	92	70-130			
Bismuth, dissolved	0.0351	0.00010 mg/L	0.0400	< 0.00010	88	70-130			
Boron, dissolved	0.186	0.0500 mg/L	0.0400	0.156	73	70-130			
Cadmium, dissolved	0.0379	0.000010 mg/L	0.0400	0.000026	95	70-130			
Calcium, dissolved	65.3	0.20 mg/L	4.00	58.9	162	70-130			MS2
Chromium, dissolved	0.0392	0.00050 mg/L	0.0400	< 0.00050	97	70-130			



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

WORK ORDER REPORTED 22F0291
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Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
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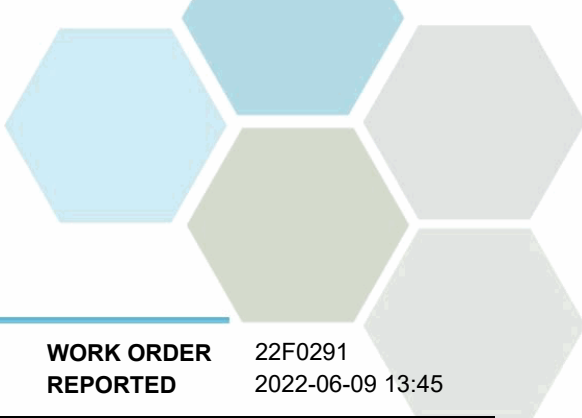
Dissolved Metals, Batch B2F0535, Continued

Matrix Spike (B2F0535-MS1), Continued	Source: 22F0291-02		Prepared: 2022-06-05, Analyzed: 2022-06-05						
Cobalt, dissolved	0.0379	0.00010 mg/L	0.0400	0.00038	94	70-130			
Copper, dissolved	0.0410	0.00040 mg/L	0.0400	0.00495	90	70-130			
Iron, dissolved	3.78	0.010 mg/L	4.00	0.040	93	70-130			
Lead, dissolved	0.0362	0.00020 mg/L	0.0400	< 0.00020	90	70-130			
Lithium, dissolved	0.0476	0.00010 mg/L	0.0400	0.0113	91	70-130			
Magnesium, dissolved	35.3	0.010 mg/L	4.00	33.2	52	70-130			MS2
Manganese, dissolved	0.195	0.00020 mg/L	0.0400	0.161	84	70-130			
Molybdenum, dissolved	0.0477	0.00010 mg/L	0.0400	0.00780	100	70-130			
Nickel, dissolved	0.0391	0.00040 mg/L	0.0400	0.00211	93	70-130			
Phosphorus, dissolved	6.60	0.050 mg/L	4.00	2.65	99	70-130			
Potassium, dissolved	26.8	0.10 mg/L	4.00	24.3	64	70-130			MS2
Selenium, dissolved	0.0405	0.00050 mg/L	0.0400	0.00052	100	70-130			
Silicon, dissolved	5.9	1.0 mg/L	4.00	1.6	107	70-130			
Silver, dissolved	0.0334	0.000050 mg/L	0.0400	< 0.000050	84	70-130			
Sodium, dissolved	103	0.10 mg/L	4.00	107	NR	70-130			MS2
Strontium, dissolved	0.695	0.0010 mg/L	0.0400	0.672	56	70-130			MS2
Sulfur, dissolved	94.1	3.0 mg/L	40.0	55.3	97	70-130			
Tellurium, dissolved	0.0394	0.00050 mg/L	0.0400	< 0.00050	98	70-130			
Thallium, dissolved	0.0361	0.000020 mg/L	0.0400	< 0.000020	90	70-130			
Thorium, dissolved	0.0382	0.00010 mg/L	0.0400	< 0.00010	96	70-130			
Tin, dissolved	0.0415	0.00020 mg/L	0.0400	< 0.00020	103	70-130			
Titanium, dissolved	0.0384	0.0050 mg/L	0.0400	< 0.0050	95	70-130			
Tungsten, dissolved	0.0420	0.0010 mg/L	0.0400	< 0.0010	104	70-130			
Uranium, dissolved	0.0409	0.000020 mg/L	0.0400	0.00383	93	70-130			
Vanadium, dissolved	0.0401	0.0050 mg/L	0.0400	< 0.0050	98	70-130			
Zinc, dissolved	0.0662	0.0040 mg/L	0.0400	0.0306	89	70-130			
Zirconium, dissolved	0.0421	0.00010 mg/L	0.0400	0.00015	105	70-130			

Dissolved Metals, Batch B2F0711

Blank (B2F0711-BLK1)			Prepared: 2022-06-06, Analyzed: 2022-06-07						
Mercury, dissolved	< 0.000010	0.000010 mg/L							
Blank (B2F0711-BLK2)			Prepared: 2022-06-06, Analyzed: 2022-06-07						
Mercury, dissolved	< 0.000010	0.000010 mg/L							
Blank (B2F0711-BLK3)			Prepared: 2022-06-06, Analyzed: 2022-06-07						
Mercury, dissolved	< 0.000010	0.000010 mg/L							
Blank (B2F0711-BLK4)			Prepared: 2022-06-06, Analyzed: 2022-06-07						
Mercury, dissolved	< 0.000010	0.000010 mg/L							
LCS (B2F0711-BS1)			Prepared: 2022-06-06, Analyzed: 2022-06-07						
Mercury, dissolved	0.000434	0.000010 mg/L	0.000500		87	80-120			
LCS (B2F0711-BS2)			Prepared: 2022-06-06, Analyzed: 2022-06-07						
Mercury, dissolved	0.000446	0.000010 mg/L	0.000500		89	80-120			
LCS (B2F0711-BS3)			Prepared: 2022-06-06, Analyzed: 2022-06-07						
Mercury, dissolved	0.000452	0.000010 mg/L	0.000500		90	80-120			
LCS (B2F0711-BS4)			Prepared: 2022-06-06, Analyzed: 2022-06-07						
Mercury, dissolved	0.000436	0.000010 mg/L	0.000500		87	80-120			

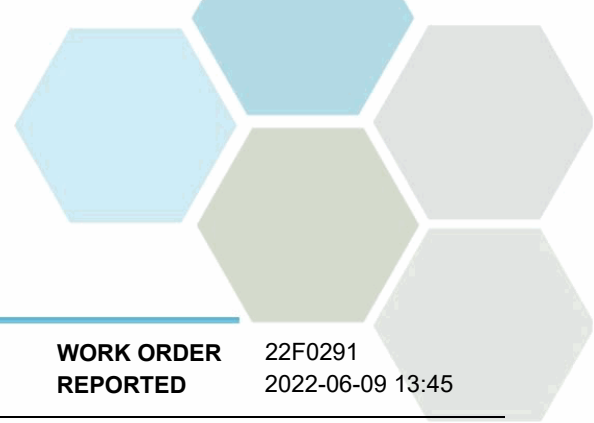
General Parameters, Batch B2F0094



APPENDIX 2: QUALITY CONTROL RESULTS

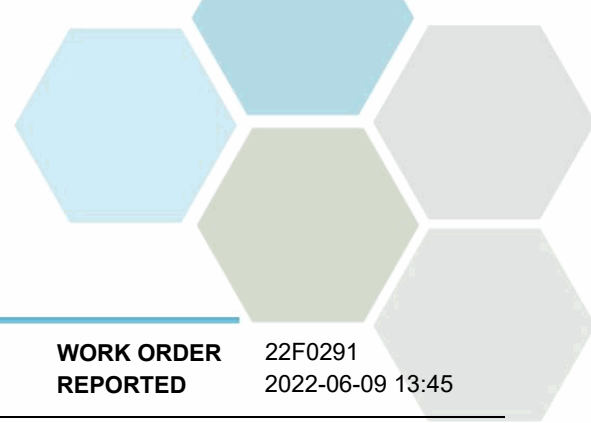
REPORTED TO PROJECT	Kelowna, City of RBCF Ponds	WORK ORDER REPORTED	22F0291 2022-06-09 13:45
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Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
General Parameters, Batch B2F0094, Continued									
Blank (B2F0094-BLK1)			Prepared: 2022-06-03, Analyzed: 2022-06-03						
Carbon, Dissolved Organic	< 0.50	0.50 mg/L							
Blank (B2F0094-BLK2)			Prepared: 2022-06-03, Analyzed: 2022-06-03						
Carbon, Dissolved Organic	< 0.50	0.50 mg/L							
Blank (B2F0094-BLK3)			Prepared: 2022-06-03, Analyzed: 2022-06-03						
Carbon, Dissolved Organic	< 0.50	0.50 mg/L							
LCS (B2F0094-BS1)			Prepared: 2022-06-03, Analyzed: 2022-06-03						
Carbon, Dissolved Organic	10.1	0.50 mg/L	10.0		101	78-116			
LCS (B2F0094-BS2)			Prepared: 2022-06-03, Analyzed: 2022-06-03						
Carbon, Dissolved Organic	10.2	0.50 mg/L	10.0		102	78-116			
LCS (B2F0094-BS3)			Prepared: 2022-06-03, Analyzed: 2022-06-03						
Carbon, Dissolved Organic	10.3	0.50 mg/L	10.0		103	78-116			
General Parameters, Batch B2F0219									
Blank (B2F0219-BLK1)			Prepared: 2022-06-02, Analyzed: 2022-06-02						
Ammonia, Total (as N)	< 0.050	0.050 mg/L							
Blank (B2F0219-BLK2)			Prepared: 2022-06-02, Analyzed: 2022-06-02						
Ammonia, Total (as N)	< 0.050	0.050 mg/L							
Blank (B2F0219-BLK3)			Prepared: 2022-06-02, Analyzed: 2022-06-02						
Ammonia, Total (as N)	< 0.050	0.050 mg/L							
LCS (B2F0219-BS1)			Prepared: 2022-06-02, Analyzed: 2022-06-02						
Ammonia, Total (as N)	0.938	0.050 mg/L	1.00		94	90-115			
LCS (B2F0219-BS2)			Prepared: 2022-06-02, Analyzed: 2022-06-02						
Ammonia, Total (as N)	0.901	0.050 mg/L	1.00		90	90-115			
LCS (B2F0219-BS3)			Prepared: 2022-06-02, Analyzed: 2022-06-02						
Ammonia, Total (as N)	0.907	0.050 mg/L	1.00		91	90-115			
General Parameters, Batch B2F0294									
Blank (B2F0294-BLK1)			Prepared: 2022-06-04, Analyzed: 2022-06-04						
Chemical Oxygen Demand	< 20	20 mg/L							
LCS (B2F0294-BS1)			Prepared: 2022-06-04, Analyzed: 2022-06-04						
Chemical Oxygen Demand	493	20 mg/L	500		99	89-115			
General Parameters, Batch B2F0440									
Blank (B2F0440-BLK1)			Prepared: 2022-06-03, Analyzed: 2022-06-08						
BOD, 5-day	< 2.0	2.0 mg/L							
LCS (B2F0440-BS1)			Prepared: 2022-06-03, Analyzed: 2022-06-08						
BOD, 5-day	192	46.3 mg/L	180		107	85-115			
General Parameters, Batch B2F0630									



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT	Kelowna, City of RBCF Ponds	WORK ORDER REPORTED	22F0291 2022-06-09 13:45						
Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
General Parameters, Batch B2F0630, Continued									
Blank (B2F0630-BLK1)			Prepared: 2022-06-06, Analyzed: 2022-06-06						
Conductivity (EC)	< 2.0	2.0 µS/cm							
Blank (B2F0630-BLK2)			Prepared: 2022-06-06, Analyzed: 2022-06-06						
Conductivity (EC)	< 2.0	2.0 µS/cm							
Blank (B2F0630-BLK3)			Prepared: 2022-06-06, Analyzed: 2022-06-06						
Conductivity (EC)	< 2.0	2.0 µS/cm							
LCS (B2F0630-BS4)			Prepared: 2022-06-06, Analyzed: 2022-06-06						
Conductivity (EC)	1410	2.0 µS/cm	1410		100	95-105			
LCS (B2F0630-BS5)			Prepared: 2022-06-06, Analyzed: 2022-06-06						
Conductivity (EC)	1420	2.0 µS/cm	1410		100	95-105			
LCS (B2F0630-BS6)			Prepared: 2022-06-06, Analyzed: 2022-06-06						
Conductivity (EC)	1430	2.0 µS/cm	1410		101	95-105			
Reference (B2F0630-SRM1)			Prepared: 2022-06-06, Analyzed: 2022-06-06						
pH	7.04	0.10 pH units	7.01		100	98-102			
Reference (B2F0630-SRM2)			Prepared: 2022-06-06, Analyzed: 2022-06-06						
pH	7.05	0.10 pH units	7.01		101	98-102			
Reference (B2F0630-SRM3)			Prepared: 2022-06-06, Analyzed: 2022-06-06						
pH	7.03	0.10 pH units	7.01		100	98-102			
General Parameters, Batch B2F0727									
Blank (B2F0727-BLK1)			Prepared: 2022-06-06, Analyzed: 2022-06-06						
Chemical Oxygen Demand	< 20	20 mg/L							
LCS (B2F0727-BS1)			Prepared: 2022-06-06, Analyzed: 2022-06-06						
Chemical Oxygen Demand	516	20 mg/L	500		103	89-115			
General Parameters, Batch B2F0732									
Blank (B2F0732-BLK1)			Prepared: 2022-06-06, Analyzed: 2022-06-06						
Solids, Total Suspended	< 2.0	2.0 mg/L							
LCS (B2F0732-BS1)			Prepared: 2022-06-06, Analyzed: 2022-06-06						
Solids, Total Suspended	101	10.0 mg/L	100		101	85-115			
General Parameters, Batch B2F0736									
Blank (B2F0736-BLK1)			Prepared: 2022-06-06, Analyzed: 2022-06-08						
Nitrogen, Total Kjeldahl	< 0.050	0.050 mg/L							
Blank (B2F0736-BLK2)			Prepared: 2022-06-06, Analyzed: 2022-06-08						
Nitrogen, Total Kjeldahl	< 0.050	0.050 mg/L							
LCS (B2F0736-BS1)			Prepared: 2022-06-06, Analyzed: 2022-06-08						
Nitrogen, Total Kjeldahl	1.03	0.050 mg/L	1.00		103	85-115			
LCS (B2F0736-BS2)			Prepared: 2022-06-06, Analyzed: 2022-06-08						
Nitrogen, Total Kjeldahl	1.03	0.050 mg/L	1.00		103	85-115			



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT	Kelowna, City of RBCF Ponds	WORK ORDER REPORTED	22F0291 2022-06-09 13:45
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Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
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General Parameters, Batch B2F0736, Continued

Duplicate (B2F0736-DUP1)		Source: 22F0291-01		Prepared: 2022-06-06, Analyzed: 2022-06-08					
Nitrogen, Total Kjeldahl	1.48	0.050 mg/L		1.52			2	15	
Matrix Spike (B2F0736-MS1)		Source: 22F0291-01		Prepared: 2022-06-06, Analyzed: 2022-06-08					
Nitrogen, Total Kjeldahl	3.46	0.100 mg/L	2.00	1.52	97	65-135			

General Parameters, Batch B2F0796

Blank (B2F0796-BLK1)		Prepared: 2022-06-07, Analyzed: 2022-06-07							
Solids, Total Dissolved	< 15	15 mg/L							
LCS (B2F0796-BS1)		Prepared: 2022-06-07, Analyzed: 2022-06-07							
Solids, Total Dissolved	243	15 mg/L	240		101	85-115			
Duplicate (B2F0796-DUP1)		Source: 22F0291-01		Prepared: 2022-06-07, Analyzed: 2022-06-07					
Solids, Total Dissolved	4200	15 mg/L		4080			3	15	

General Parameters, Batch B2F0812

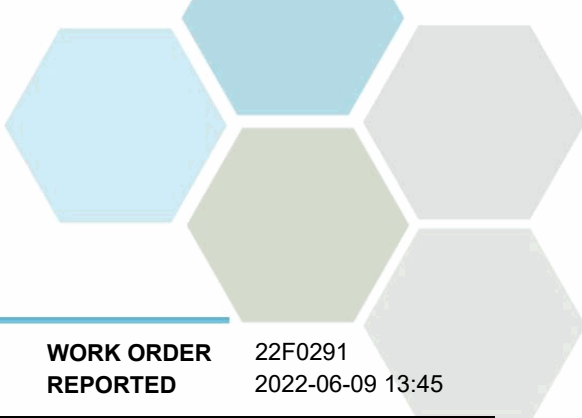
Blank (B2F0812-BLK1)		Prepared: 2022-06-07, Analyzed: 2022-06-07							
Solids, Total Suspended	< 2.0	2.0 mg/L							
LCS (B2F0812-BS1)		Prepared: 2022-06-07, Analyzed: 2022-06-07							
Solids, Total Suspended	88.5	5.0 mg/L	100		88	85-115			

General Parameters, Batch B2F0903

Blank (B2F0903-BLK1)		Prepared: 2022-06-07, Analyzed: 2022-06-08							
Phosphorus, Total (as P)	< 0.0050	0.0050 mg/L							
Blank (B2F0903-BLK3)		Prepared: 2022-06-07, Analyzed: 2022-06-08							
Phosphorus, Total (as P)	< 0.0050	0.0050 mg/L							
LCS (B2F0903-BS1)		Prepared: 2022-06-07, Analyzed: 2022-06-08							
Phosphorus, Total (as P)	0.106	0.0050 mg/L	0.100		106	85-115			
LCS (B2F0903-BS3)		Prepared: 2022-06-07, Analyzed: 2022-06-08							
Phosphorus, Total (as P)	0.108	0.0050 mg/L	0.100		108	85-115			

Microbiological Parameters, Batch B2F0241

Blank (B2F0241-BLK1)		Prepared: 2022-06-02, Analyzed: 2022-06-02							
E. coli (Q-Tray)	< 1	1 MPN/100 mL							
Blank (B2F0241-BLK2)		Prepared: 2022-06-02, Analyzed: 2022-06-02							
Coliforms, Total (Q-Tray)	< 1	1 MPN/100 mL							
E. coli (Q-Tray)	< 1	1 MPN/100 mL							
Blank (B2F0241-BLK3)		Prepared: 2022-06-02, Analyzed: 2022-06-02							
E. coli (Q-Tray)	< 1	1 MPN/100 mL							
Blank (B2F0241-BLK4)		Prepared: 2022-06-02, Analyzed: 2022-06-02							
Coliforms, Total (Q-Tray)	< 1	1 MPN/100 mL							
E. coli (Q-Tray)	< 1	1 MPN/100 mL							
Blank (B2F0241-BLK5)		Prepared: 2022-06-02, Analyzed: 2022-06-02							
Coliforms, Total (Q-Tray)	< 1	1 MPN/100 mL							



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Kelowna, City of
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WORK ORDER REPORTED 22F0291
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Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
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Microbiological Parameters, Batch B2F0241, Continued

Blank (B2F0241-BLK5), Continued

Prepared: 2022-06-02, Analyzed: 2022-06-02

E. coli (Q-Tray)	< 1	1 MPN/100 mL							
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Total Metals, Batch B2F0531

Blank (B2F0531-BLK1)

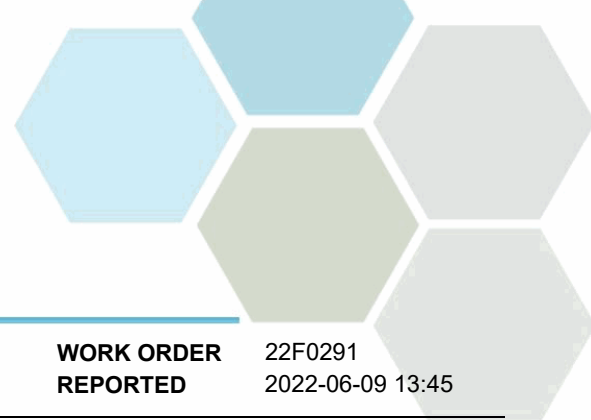
Prepared: 2022-06-03, Analyzed: 2022-06-05

Aluminum, total	< 0.0050	0.0050 mg/L							
Antimony, total	< 0.00020	0.00020 mg/L							
Arsenic, total	< 0.00050	0.00050 mg/L							
Barium, total	< 0.0050	0.0050 mg/L							
Beryllium, total	< 0.00010	0.00010 mg/L							
Bismuth, total	< 0.00010	0.00010 mg/L							
Boron, total	< 0.0500	0.0500 mg/L							
Cadmium, total	< 0.000010	0.000010 mg/L							
Calcium, total	< 0.20	0.20 mg/L							
Chromium, total	< 0.00050	0.00050 mg/L							
Cobalt, total	< 0.00010	0.00010 mg/L							
Copper, total	< 0.00040	0.00040 mg/L							
Iron, total	< 0.010	0.010 mg/L							
Lead, total	< 0.00020	0.00020 mg/L							
Lithium, total	< 0.00010	0.00010 mg/L							
Magnesium, total	< 0.010	0.010 mg/L							
Manganese, total	< 0.00020	0.00020 mg/L							
Molybdenum, total	< 0.00010	0.00010 mg/L							
Nickel, total	< 0.00040	0.00040 mg/L							
Phosphorus, total	< 0.050	0.050 mg/L							
Potassium, total	< 0.10	0.10 mg/L							
Selenium, total	< 0.00050	0.00050 mg/L							
Silicon, total	< 1.0	1.0 mg/L							
Silver, total	< 0.000050	0.000050 mg/L							
Sodium, total	< 0.10	0.10 mg/L							
Strontium, total	< 0.0010	0.0010 mg/L							
Sulfur, total	< 3.0	3.0 mg/L							
Tellurium, total	< 0.00050	0.00050 mg/L							
Thallium, total	< 0.000020	0.000020 mg/L							
Thorium, total	< 0.00010	0.00010 mg/L							
Tin, total	< 0.00020	0.00020 mg/L							
Titanium, total	< 0.0050	0.0050 mg/L							
Tungsten, total	< 0.0002	0.0002 mg/L							
Uranium, total	< 0.000020	0.000020 mg/L							
Vanadium, total	< 0.0050	0.0050 mg/L							
Zinc, total	< 0.0040	0.0040 mg/L							
Zirconium, total	< 0.00010	0.00010 mg/L							

LCS (B2F0531-BS1)

Prepared: 2022-06-03, Analyzed: 2022-06-05

Aluminum, total	4.06	0.0050 mg/L	4.00	101	80-120
Antimony, total	0.0402	0.00020 mg/L	0.0400	100	80-120
Arsenic, total	0.0417	0.00050 mg/L	0.0400	104	80-120
Barium, total	0.0406	0.0050 mg/L	0.0400	102	80-120
Beryllium, total	0.0391	0.00010 mg/L	0.0400	98	80-120
Bismuth, total	0.0391	0.00010 mg/L	0.0400	98	80-120
Boron, total	< 0.0500	0.0500 mg/L	0.0400	99	80-120
Cadmium, total	0.0399	0.000010 mg/L	0.0400	100	80-120
Calcium, total	3.96	0.20 mg/L	4.00	99	80-120
Chromium, total	0.0412	0.00050 mg/L	0.0400	103	80-120
Cobalt, total	0.0401	0.00010 mg/L	0.0400	100	80-120
Copper, total	0.0402	0.00040 mg/L	0.0400	101	80-120



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Kelowna, City of RBCF Ponds

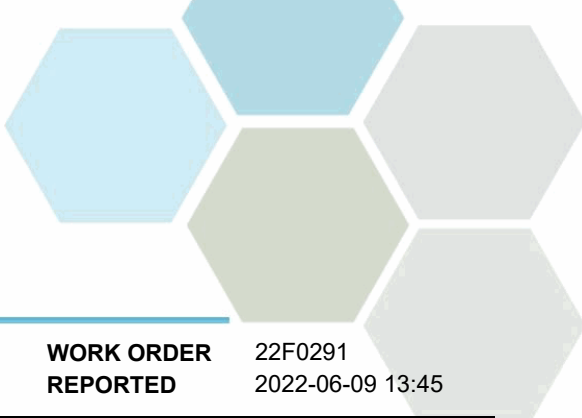
WORK ORDER REPORTED 22F0291
2022-06-09 13:45

Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
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Total Metals, Batch B2F0531, Continued

LCS (B2F0531-BS1), Continued				Prepared: 2022-06-03, Analyzed: 2022-06-05					
Iron, total	4.03	0.010 mg/L	4.00		101	80-120			
Lead, total	0.0389	0.00020 mg/L	0.0400		97	80-120			
Lithium, total	0.0400	0.00010 mg/L	0.0400		100	80-120			
Magnesium, total	4.06	0.010 mg/L	4.00		102	80-120			
Manganese, total	0.0405	0.00020 mg/L	0.0400		101	80-120			
Molybdenum, total	0.0391	0.00010 mg/L	0.0400		98	80-120			
Nickel, total	0.0399	0.00040 mg/L	0.0400		100	80-120			
Phosphorus, total	3.97	0.050 mg/L	4.00		99	80-120			
Potassium, total	4.00	0.10 mg/L	4.00		100	80-120			
Selenium, total	0.0402	0.00050 mg/L	0.0400		101	80-120			
Silicon, total	4.2	1.0 mg/L	4.00		104	80-120			
Silver, total	0.0401	0.000050 mg/L	0.0400		100	80-120			
Sodium, total	4.23	0.10 mg/L	4.00		106	80-120			
Strontium, total	0.0409	0.0010 mg/L	0.0400		102	80-120			
Sulfur, total	41.0	3.0 mg/L	40.0		103	80-120			
Tellurium, total	0.0402	0.00050 mg/L	0.0400		100	80-120			
Thallium, total	0.0386	0.000020 mg/L	0.0400		96	80-120			
Thorium, total	0.0393	0.00010 mg/L	0.0400		98	80-120			
Tin, total	0.0407	0.00020 mg/L	0.0400		102	80-120			
Titanium, total	0.0405	0.00050 mg/L	0.0400		101	80-120			
Tungsten, total	0.0396	0.0002 mg/L	0.0400		99	80-120			
Uranium, total	0.0385	0.000020 mg/L	0.0400		96	80-120			
Vanadium, total	0.0404	0.00050 mg/L	0.0400		101	80-120			
Zinc, total	0.0399	0.0040 mg/L	0.0400		100	80-120			
Zirconium, total	0.0400	0.00010 mg/L	0.0400		100	80-120			

Duplicate (B2F0531-DUP1)		Source: 22F0291-01		Prepared: 2022-06-03, Analyzed: 2022-06-05					
Aluminum, total	0.0160	0.0050 mg/L		0.0161					20
Antimony, total	< 0.00040	0.00020 mg/L		< 0.00040					20
Arsenic, total	0.00337	0.00050 mg/L		0.00344					20
Barium, total	0.0161	0.0050 mg/L		0.0166					20
Beryllium, total	< 0.00020	0.00010 mg/L		< 0.00020					20
Bismuth, total	< 0.00020	0.00010 mg/L		< 0.00020					20
Boron, total	< 0.100	0.0500 mg/L		< 0.100					20
Cadmium, total	< 0.000020	0.000010 mg/L		< 0.000020					20
Calcium, total	65.0	0.20 mg/L		63.1			3		20
Chromium, total	< 0.00100	0.00050 mg/L		< 0.00100					20
Cobalt, total	< 0.00020	0.00010 mg/L		< 0.00020					20
Copper, total	< 0.00080	0.00040 mg/L		< 0.00080					20
Iron, total	0.025	0.010 mg/L		0.027					20
Lead, total	< 0.00040	0.00020 mg/L		< 0.00040					20
Lithium, total	0.0457	0.00010 mg/L		0.0461			< 1		20
Magnesium, total	291	0.010 mg/L		306			5		20
Manganese, total	0.0799	0.00020 mg/L		0.0826			3		20
Molybdenum, total	0.00122	0.00010 mg/L		0.00124			1		20
Nickel, total	0.00088	0.00040 mg/L		0.00100					20
Phosphorus, total	< 0.100	0.050 mg/L		< 0.100					20
Potassium, total	75.0	0.10 mg/L		77.1			3		20
Selenium, total	< 0.00100	0.00050 mg/L		< 0.00100					20
Silicon, total	< 2.0	1.0 mg/L		< 2.0					20
Silver, total	< 0.000100	0.000050 mg/L		< 0.000100					20
Sodium, total	810	0.10 mg/L		841			4		20
Strontium, total	0.570	0.0010 mg/L		0.586			3		20
Sulfur, total	686	3.0 mg/L		691			< 1		20
Tellurium, total	< 0.00100	0.00050 mg/L		< 0.00100					20
Thallium, total	< 0.000040	0.000020 mg/L		< 0.000040					20



APPENDIX 2: QUALITY CONTROL RESULTS

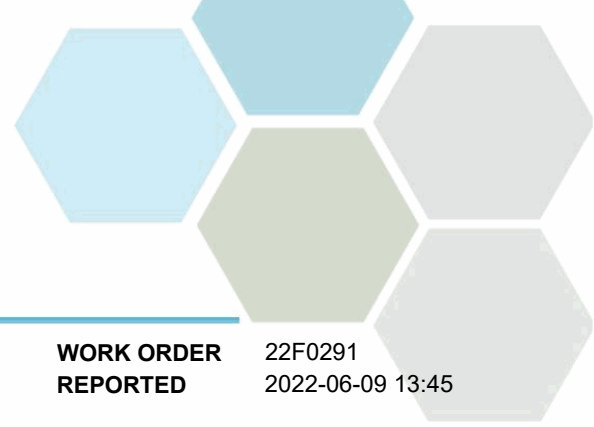
REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

WORK ORDER REPORTED 22F0291
2022-06-09 13:45

Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Total Metals, Batch B2F0531, Continued									
Duplicate (B2F0531-DUP1), Continued		Source: 22F0291-01		Prepared: 2022-06-03, Analyzed: 2022-06-05					
Thorium, total	< 0.00020	0.00010 mg/L		< 0.00020				20	
Tin, total	< 0.00040	0.00020 mg/L		< 0.00040				20	
Titanium, total	< 0.0100	0.0050 mg/L		< 0.0100				20	
Tungsten, total	< 0.0004	0.0002 mg/L		< 0.0004				20	
Uranium, total	0.00329	0.000020 mg/L		0.00334			2	20	
Vanadium, total	< 0.0100	0.0050 mg/L		< 0.0100				20	
Zinc, total	< 0.0080	0.0040 mg/L		< 0.0080				20	
Zirconium, total	< 0.00020	0.00010 mg/L		< 0.00020				20	
Matrix Spike (B2F0531-MS1)									
Source: 22F0291-02		Prepared: 2022-06-03, Analyzed: 2022-06-05							
Aluminum, total	4.55	0.0050 mg/L	4.00	0.0480	113	70-130			
Antimony, total	0.0382	0.00020 mg/L	0.0400	0.00052	94	70-130			
Arsenic, total	0.0499	0.00050 mg/L	0.0400	0.00387	115	70-130			
Barium, total	0.0728	0.0050 mg/L	0.0400	0.0278	112	70-130			
Beryllium, total	0.0428	0.00010 mg/L	0.0400	< 0.00010	107	70-130			
Bismuth, total	0.0364	0.00010 mg/L	0.0400	0.00027	90	70-130			
Boron, total	0.205	0.0500 mg/L	0.0400	0.169	91	70-130			
Cadmium, total	0.0437	0.000010 mg/L	0.0400	0.000062	109	70-130			
Calcium, total	66.4	0.20 mg/L	4.00	60.5	147	70-130			MS2
Chromium, total	0.0458	0.00050 mg/L	0.0400	< 0.00050	113	70-130			
Cobalt, total	0.0442	0.00010 mg/L	0.0400	0.00045	109	70-130			
Copper, total	0.0557	0.00040 mg/L	0.0400	0.0134	106	70-130			
Iron, total	4.54	0.010 mg/L	4.00	0.116	111	70-130			
Lead, total	0.0409	0.00020 mg/L	0.0400	0.00034	101	70-130			
Lithium, total	0.0549	0.00010 mg/L	0.0400	0.0115	108	70-130			
Magnesium, total	35.0	0.010 mg/L	4.00	32.8	55	70-130			MS2
Manganese, total	0.212	0.00020 mg/L	0.0400	0.175	92	70-130			
Molybdenum, total	0.0489	0.00010 mg/L	0.0400	0.00854	101	70-130			
Nickel, total	0.0446	0.00040 mg/L	0.0400	0.00227	106	70-130			
Phosphorus, total	7.19	0.050 mg/L	4.00	2.76	111	70-130			
Potassium, total	29.7	0.10 mg/L	4.00	25.6	101	70-130			
Selenium, total	0.0457	0.00050 mg/L	0.0400	0.00063	113	70-130			
Silicon, total	6.0	1.0 mg/L	4.00	1.6	109	70-130			
Silver, total	0.0385	0.000050 mg/L	0.0400	< 0.000050	96	70-130			
Sodium, total	107	0.10 mg/L	4.00	105	29	70-130			MS2
Strontium, total	0.719	0.0010 mg/L	0.0400	0.682	93	70-130			
Sulfur, total	103	3.0 mg/L	40.0	57.2	114	70-130			
Tellurium, total	0.0399	0.00050 mg/L	0.0400	< 0.00050	100	70-130			
Thallium, total	0.0404	0.000020 mg/L	0.0400	< 0.000020	101	70-130			
Thorium, total	0.0416	0.00010 mg/L	0.0400	< 0.00010	104	70-130			
Tin, total	0.0416	0.00020 mg/L	0.0400	0.00026	103	70-130			
Titanium, total	0.0421	0.0050 mg/L	0.0400	< 0.0050	102	70-130			
Tungsten, total	0.0403	0.0002 mg/L	0.0400	0.0003	100	70-130			
Uranium, total	0.0456	0.000020 mg/L	0.0400	0.00441	103	70-130			
Vanadium, total	0.0464	0.0050 mg/L	0.0400	< 0.0050	113	70-130			
Zinc, total	0.0817	0.0040 mg/L	0.0400	0.0395	106	70-130			
Zirconium, total	0.0410	0.00010 mg/L	0.0400	0.00017	102	70-130			

Total Metals, Batch B2F0649

Blank (B2F0649-BLK1)		Prepared: 2022-06-06, Analyzed: 2022-06-06							
Mercury, total	< 0.000010	0.000010 mg/L							
LCS (B2F0649-BS1)		Prepared: 2022-06-06, Analyzed: 2022-06-06							
Mercury, total	0.000478	0.000010 mg/L	0.000500		96	80-120			



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO Kelowna, City of
PROJECT RBCF Ponds

WORK ORDER 22F0291
REPORTED 2022-06-09 13:45

QC Qualifiers:

BLK Analyte concentration in the Method Blank is above the Reporting Limit (RL).
MS2 The native sample concentration is greater than the spike concentration hence the matrix spike limits do not apply.



CERTIFICATE OF ANALYSIS

REPORTED TO Kelowna, City of
1435 Water Street
KELOWNA, BC V1Y 1J4

ATTENTION Jose Garcia

PO NUMBER 535828

PROJECT RBCF Ponds

PROJECT INFO

WORK ORDER 22F3398

RECEIVED / TEMP 2022-06-22 16:51 / 8.4°C

REPORTED 2022-06-30 14:40

COC NUMBER 44734.45489

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.

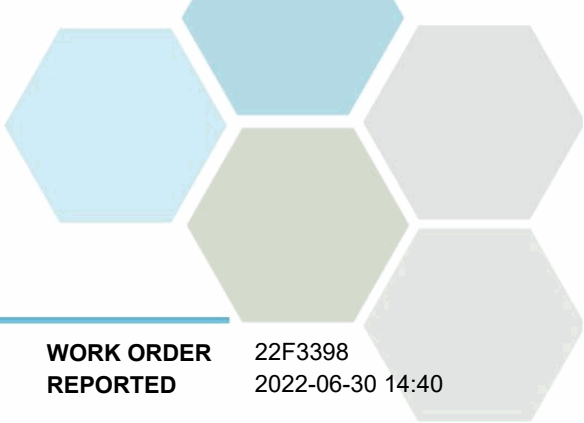
If you have any questions or concerns, please contact me at bwhitehead@caro.ca

Authorized By:

Brent Whitehead
Account Manager

1-888-311-8846 | www.caro.ca

#110 4011 Viking Way Richmond, BC V6V 2K9 | #102 3677 Highway 97N Kelowna, BC V1X 5C3 | 17225 109 Avenue Edmonton, AB T5S 1H7 | #108 4475 Wayburne Drive Burnaby, BC V5G 4X4

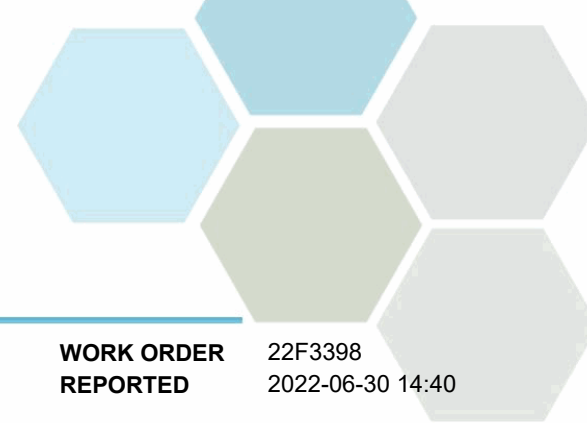


TEST RESULTS

REPORTED TO PROJECT Kelowna, City of RBCF Ponds

WORK ORDER REPORTED 22F3398 2022-06-30 14:40

Analyte	Result	RL	Units	Analyzed	Qualifier
Rose's Pond (22F3398-01) Matrix: Water Sampled: 2022-06-22					
Anions					
Chloride	420	0.10	mg/L	2022-06-24	
Nitrate (as N)	0.105	0.010	mg/L	2022-06-24	
Nitrite (as N)	< 0.100	0.010	mg/L	2022-06-24	RA1
Calculated Parameters					
Hardness, Total (as CaCO3)	1250	1.00	mg/L	N/A	
Nitrate+Nitrite (as N)	0.105	0.100	mg/L	N/A	
Nitrogen, Total	1.56	0.100	mg/L	N/A	
Dissolved Metals					
Aluminum, dissolved	< 0.0100	0.0050	mg/L	2022-06-26	RS1
Antimony, dissolved	< 0.00040	0.00020	mg/L	2022-06-26	RS1
Arsenic, dissolved	0.00341	0.00050	mg/L	2022-06-26	RS1
Barium, dissolved	0.0137	0.0050	mg/L	2022-06-26	RS1
Beryllium, dissolved	< 0.00020	0.00010	mg/L	2022-06-26	RS1
Bismuth, dissolved	< 0.00020	0.00010	mg/L	2022-06-26	RS1
Boron, dissolved	< 0.100	0.0500	mg/L	2022-06-26	RS1
Cadmium, dissolved	< 0.000020	0.000010	mg/L	2022-06-26	RS1
Calcium, dissolved	68.6	0.20	mg/L	2022-06-26	RS1
Chromium, dissolved	< 0.00100	0.00050	mg/L	2022-06-26	RS1
Cobalt, dissolved	< 0.00020	0.00010	mg/L	2022-06-26	RS1
Copper, dissolved	< 0.00080	0.00040	mg/L	2022-06-26	RS1
Iron, dissolved	< 0.020	0.010	mg/L	2022-06-26	RS1
Lead, dissolved	< 0.00040	0.00020	mg/L	2022-06-26	RS1
Lithium, dissolved	0.0502	0.00010	mg/L	2022-06-26	RS1
Magnesium, dissolved	262	0.010	mg/L	2022-06-26	RS1
Manganese, dissolved	0.00800	0.00020	mg/L	2022-06-26	RS1
Mercury, dissolved	< 0.000010	0.000010	mg/L	2022-06-28	
Molybdenum, dissolved	0.00127	0.00010	mg/L	2022-06-26	RS1
Nickel, dissolved	< 0.00080	0.00040	mg/L	2022-06-26	RS1
Phosphorus, dissolved	< 0.100	0.050	mg/L	2022-06-26	RS1
Potassium, dissolved	78.6	0.10	mg/L	2022-06-26	RS1
Selenium, dissolved	< 0.00100	0.00050	mg/L	2022-06-26	RS1
Silicon, dissolved	< 2.0	1.0	mg/L	2022-06-26	RS1
Silver, dissolved	< 0.000100	0.000050	mg/L	2022-06-26	RS1
Sodium, dissolved	768	0.10	mg/L	2022-06-26	RS1
Strontium, dissolved	0.568	0.0010	mg/L	2022-06-26	RS1
Sulfur, dissolved	739	3.0	mg/L	2022-06-26	RS1
Tellurium, dissolved	< 0.00100	0.00050	mg/L	2022-06-26	RS1
Thallium, dissolved	< 0.000040	0.000020	mg/L	2022-06-26	RS1
Thorium, dissolved	< 0.00020	0.00010	mg/L	2022-06-26	RS1
Tin, dissolved	< 0.00040	0.00020	mg/L	2022-06-26	RS1
Titanium, dissolved	< 0.0100	0.0050	mg/L	2022-06-26	RS1
Tungsten, dissolved	< 0.0020	0.0010	mg/L	2022-06-26	RS1

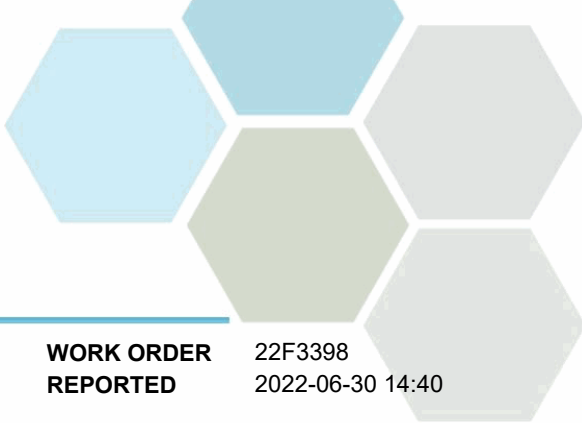


TEST RESULTS

REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

WORK ORDER REPORTED 22F3398
2022-06-30 14:40

Analyte	Result	RL	Units	Analyzed	Qualifier
Rose's Pond (22F3398-01) Matrix: Water Sampled: 2022-06-22, Continued					
<i>Dissolved Metals, Continued</i>					
Uranium, dissolved	0.00379	0.000020	mg/L	2022-06-26	RS1
Vanadium, dissolved	< 0.0100	0.0050	mg/L	2022-06-26	RS1
Zinc, dissolved	< 0.0080	0.0040	mg/L	2022-06-26	RS1
Zirconium, dissolved	0.00020	0.00010	mg/L	2022-06-26	RS1
<i>General Parameters</i>					
Ammonia, Total (as N)	< 0.050	0.050	mg/L	2022-06-27	
BOD, 5-day	< 7.1	2.0	mg/L	2022-06-28	
Carbon, Dissolved Organic	20.5	0.50	mg/L	2022-06-27	
Chemical Oxygen Demand	54	20	mg/L	2022-06-24	
Conductivity (EC)	4940	2.0	µS/cm	2022-06-27	
Nitrogen, Total Kjeldahl	1.46	0.050	mg/L	2022-06-28	
pH	8.50	0.10	pH units	2022-06-27	HT2
Phosphorus, Total (as P)	0.0229	0.0050	mg/L	2022-06-28	
Solids, Total Dissolved	3760	15	mg/L	2022-06-29	
Solids, Total Suspended	3.4	2.0	mg/L	2022-06-28	
<i>Microbiological Parameters</i>					
Coliforms, Total (Q-Tray)	770	1	MPN/100 mL	2022-06-23	
E. coli (Q-Tray)	5	1	MPN/100 mL	2022-06-23	
<i>Total Metals</i>					
Aluminum, total	0.0102	0.0050	mg/L	2022-06-26	RS1
Antimony, total	< 0.00040	0.00020	mg/L	2022-06-26	RS1
Arsenic, total	0.00359	0.00050	mg/L	2022-06-26	RS1
Barium, total	0.0138	0.0050	mg/L	2022-06-26	RS1
Beryllium, total	< 0.00020	0.00010	mg/L	2022-06-26	RS1
Bismuth, total	< 0.00020	0.00010	mg/L	2022-06-26	RS1
Boron, total	< 0.100	0.0500	mg/L	2022-06-26	RS1
Cadmium, total	< 0.000020	0.000010	mg/L	2022-06-26	RS1
Calcium, total	65.3	0.20	mg/L	2022-06-26	RS1
Chromium, total	< 0.00100	0.00050	mg/L	2022-06-26	RS1
Cobalt, total	< 0.00020	0.00010	mg/L	2022-06-26	RS1
Copper, total	< 0.00080	0.00040	mg/L	2022-06-26	RS1
Iron, total	< 0.020	0.010	mg/L	2022-06-26	RS1
Lead, total	< 0.00040	0.00020	mg/L	2022-06-26	RS1
Lithium, total	0.0444	0.00010	mg/L	2022-06-26	RS1
Magnesium, total	248	0.010	mg/L	2022-06-26	RS1
Manganese, total	0.0652	0.00020	mg/L	2022-06-26	RS1
Mercury, total	< 0.000010	0.000010	mg/L	2022-06-28	
Molybdenum, total	0.00135	0.00010	mg/L	2022-06-26	RS1
Nickel, total	< 0.00080	0.00040	mg/L	2022-06-26	RS1
Phosphorus, total	< 0.100	0.050	mg/L	2022-06-26	RS1
Potassium, total	75.7	0.10	mg/L	2022-06-26	RS1



TEST RESULTS

REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

WORK ORDER REPORTED 22F3398
2022-06-30 14:40

Analyte	Result	RL	Units	Analyzed	Qualifier
Rose's Pond (22F3398-01) Matrix: Water Sampled: 2022-06-22, Continued					
<i>Total Metals, Continued</i>					
Selenium, total	< 0.00100	0.00050	mg/L	2022-06-26	RS1
Silicon, total	< 2.0	1.0	mg/L	2022-06-26	RS1
Silver, total	< 0.000100	0.000050	mg/L	2022-06-26	RS1
Sodium, total	727	0.10	mg/L	2022-06-26	RS1
Strontium, total	0.553	0.0010	mg/L	2022-06-26	RS1
Sulfur, total	700	3.0	mg/L	2022-06-26	RS1
Tellurium, total	< 0.00100	0.00050	mg/L	2022-06-26	RS1
Thallium, total	< 0.000040	0.000020	mg/L	2022-06-26	RS1
Thorium, total	< 0.00020	0.00010	mg/L	2022-06-26	RS1
Tin, total	< 0.00040	0.00020	mg/L	2022-06-26	RS1
Titanium, total	< 0.0100	0.0050	mg/L	2022-06-26	RS1
Tungsten, total	< 0.0004	0.0002	mg/L	2022-06-26	RS1
Uranium, total	0.00351	0.000020	mg/L	2022-06-26	RS1
Vanadium, total	< 0.0100	0.0050	mg/L	2022-06-26	RS1
Zinc, total	< 0.0080	0.0040	mg/L	2022-06-26	RS1
Zirconium, total	< 0.00020	0.00010	mg/L	2022-06-26	RS1

Drainage Pond (22F3398-02) | Matrix: Water | Sampled: 2022-06-22

Anions

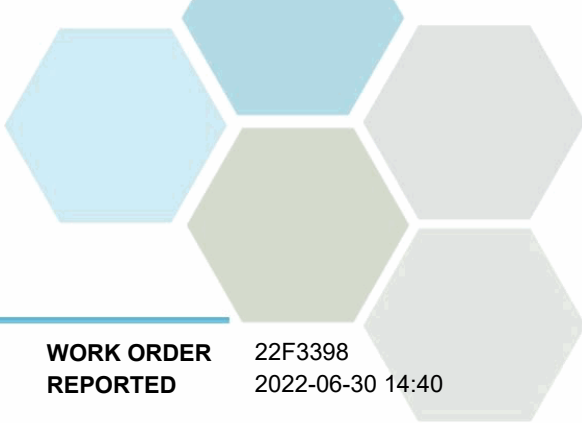
Chloride	85.4	0.10	mg/L	2022-06-24	
Nitrate (as N)	0.475	0.010	mg/L	2022-06-24	
Nitrite (as N)	< 0.100	0.010	mg/L	2022-06-24	RA1

Calculated Parameters

Hardness, Total (as CaCO ₃)	215	0.500	mg/L	N/A	
Nitrate+Nitrite (as N)	0.475	0.100	mg/L	N/A	
Nitrogen, Total	21.6	1.00	mg/L	N/A	

Dissolved Metals

Aluminum, dissolved	0.0441	0.0050	mg/L	2022-06-26	
Antimony, dissolved	0.00023	0.00020	mg/L	2022-06-26	
Arsenic, dissolved	0.00358	0.00050	mg/L	2022-06-26	
Barium, dissolved	0.0191	0.0050	mg/L	2022-06-26	
Beryllium, dissolved	< 0.00010	0.00010	mg/L	2022-06-26	
Bismuth, dissolved	0.00021	0.00010	mg/L	2022-06-26	
Boron, dissolved	0.151	0.0500	mg/L	2022-06-26	
Cadmium, dissolved	0.000054	0.000010	mg/L	2022-06-26	
Calcium, dissolved	49.9	0.20	mg/L	2022-06-26	
Chromium, dissolved	0.00051	0.00050	mg/L	2022-06-26	
Cobalt, dissolved	0.00054	0.00010	mg/L	2022-06-26	
Copper, dissolved	0.0112	0.00040	mg/L	2022-06-26	
Iron, dissolved	0.201	0.010	mg/L	2022-06-26	

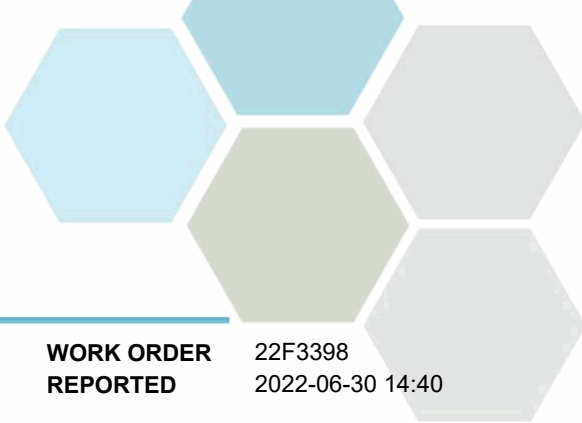


TEST RESULTS

REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

WORK ORDER REPORTED 22F3398
2022-06-30 14:40

Analyte	Result	RL	Units	Analyzed	Qualifier
Drainage Pond (22F3398-02) Matrix: Water Sampled: 2022-06-22, Continued					
<i>Dissolved Metals, Continued</i>					
Lead, dissolved	0.00026	0.00020	mg/L	2022-06-26	
Lithium, dissolved	0.0119	0.00010	mg/L	2022-06-26	
Magnesium, dissolved	21.9	0.010	mg/L	2022-06-26	
Manganese, dissolved	0.109	0.00020	mg/L	2022-06-26	
Mercury, dissolved	< 0.000040	0.000010	mg/L	2022-06-28	
Molybdenum, dissolved	0.00345	0.00010	mg/L	2022-06-26	
Nickel, dissolved	0.00242	0.00040	mg/L	2022-06-26	
Phosphorus, dissolved	7.08	0.050	mg/L	2022-06-26	
Potassium, dissolved	34.5	0.10	mg/L	2022-06-26	
Selenium, dissolved	0.00058	0.00050	mg/L	2022-06-26	
Silicon, dissolved	2.4	1.0	mg/L	2022-06-26	
Silver, dissolved	< 0.000050	0.000050	mg/L	2022-06-26	
Sodium, dissolved	85.5	0.10	mg/L	2022-06-26	
Strontium, dissolved	0.463	0.0010	mg/L	2022-06-26	
Sulfur, dissolved	34.0	3.0	mg/L	2022-06-26	
Tellurium, dissolved	< 0.00050	0.00050	mg/L	2022-06-26	
Thallium, dissolved	< 0.000020	0.000020	mg/L	2022-06-26	
Thorium, dissolved	< 0.00010	0.00010	mg/L	2022-06-26	
Tin, dissolved	0.00035	0.00020	mg/L	2022-06-26	
Titanium, dissolved	< 0.0050	0.0050	mg/L	2022-06-26	
Tungsten, dissolved	< 0.0010	0.0010	mg/L	2022-06-26	
Uranium, dissolved	0.00135	0.000020	mg/L	2022-06-26	
Vanadium, dissolved	< 0.0050	0.0050	mg/L	2022-06-26	
Zinc, dissolved	0.0258	0.0040	mg/L	2022-06-26	
Zirconium, dissolved	0.00032	0.00010	mg/L	2022-06-26	
<i>General Parameters</i>					
Ammonia, Total (as N)	13.4	0.050	mg/L	2022-06-27	
BOD, 5-day	22.8	2.0	mg/L	2022-06-28	
Carbon, Dissolved Organic	40.0	0.50	mg/L	2022-06-27	
Chemical Oxygen Demand	193	20	mg/L	2022-06-24	
Conductivity (EC)	879	2.0	µS/cm	2022-06-27	
Nitrogen, Total Kjeldahl	21.1	0.050	mg/L	2022-06-28	
pH	7.78	0.10	pH units	2022-06-27	HT2
Phosphorus, Total (as P)	7.41	0.0050	mg/L	2022-06-28	
Solids, Total Dissolved	560	15	mg/L	2022-06-28	
Solids, Total Suspended	14.3	2.0	mg/L	2022-06-28	
<i>Microbiological Parameters</i>					
Coliforms, Total (Q-Tray)	155000	1	MPN/100 mL	2022-06-23	
E. coli (Q-Tray)	14000	1	MPN/100 mL	2022-06-23	
<i>Total Metals</i>					
Aluminum, total	0.107	0.0050	mg/L	2022-06-26	



TEST RESULTS

REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

WORK ORDER REPORTED 22F3398
2022-06-30 14:40

Analyte	Result	RL	Units	Analyzed	Qualifier
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Drainage Pond (22F3398-02) | Matrix: Water | Sampled: 2022-06-22, Continued

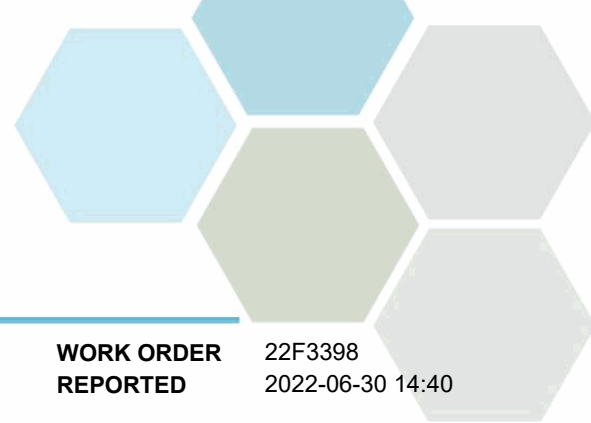
Total Metals, Continued

Antimony, total	0.00027	0.00020	mg/L	2022-06-26	
Arsenic, total	0.00356	0.00050	mg/L	2022-06-26	
Barium, total	0.0277	0.0050	mg/L	2022-06-26	
Beryllium, total	< 0.00010	0.00010	mg/L	2022-06-26	
Bismuth, total	0.00054	0.00010	mg/L	2022-06-26	
Boron, total	0.162	0.0500	mg/L	2022-06-26	
Cadmium, total	0.000137	0.000010	mg/L	2022-06-26	
Calcium, total	51.9	0.20	mg/L	2022-06-26	
Chromium, total	0.00076	0.00050	mg/L	2022-06-26	
Cobalt, total	0.00069	0.00010	mg/L	2022-06-26	
Copper, total	0.0285	0.00040	mg/L	2022-06-26	
Iron, total	0.463	0.010	mg/L	2022-06-26	
Lead, total	0.00052	0.00020	mg/L	2022-06-26	
Lithium, total	0.0116	0.00010	mg/L	2022-06-26	
Magnesium, total	20.8	0.010	mg/L	2022-06-26	
Manganese, total	0.216	0.00020	mg/L	2022-06-26	
Mercury, total	< 0.000040	0.000010	mg/L	2022-06-28	
Molybdenum, total	0.00449	0.00010	mg/L	2022-06-26	
Nickel, total	0.00287	0.00040	mg/L	2022-06-26	
Phosphorus, total	7.46	0.050	mg/L	2022-06-26	
Potassium, total	34.1	0.10	mg/L	2022-06-26	
Selenium, total	0.00085	0.00050	mg/L	2022-06-26	
Silicon, total	2.5	1.0	mg/L	2022-06-26	
Silver, total	0.000090	0.000050	mg/L	2022-06-26	
Sodium, total	81.3	0.10	mg/L	2022-06-26	
Strontium, total	0.462	0.0010	mg/L	2022-06-26	
Sulfur, total	35.7	3.0	mg/L	2022-06-26	
Tellurium, total	< 0.00050	0.00050	mg/L	2022-06-26	
Thallium, total	< 0.000020	0.000020	mg/L	2022-06-26	
Thorium, total	0.00017	0.00010	mg/L	2022-06-26	
Tin, total	0.00044	0.00020	mg/L	2022-06-26	
Titanium, total	< 0.0050	0.0050	mg/L	2022-06-26	
Tungsten, total	0.0004	0.0002	mg/L	2022-06-26	
Uranium, total	0.00157	0.000020	mg/L	2022-06-26	
Vanadium, total	< 0.0050	0.0050	mg/L	2022-06-26	
Zinc, total	0.0378	0.0040	mg/L	2022-06-26	
Zirconium, total	0.00048	0.00010	mg/L	2022-06-26	

Davidson Pond (22F3398-03) | Matrix: Water | Sampled: 2022-06-22

Anions

Chloride	315	0.10	mg/L	2022-06-24	
Nitrate (as N)	< 0.100	0.010	mg/L	2022-06-24	RA1

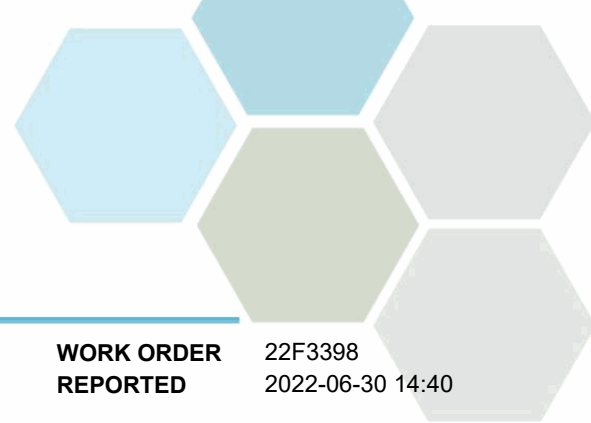


TEST RESULTS

REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

WORK ORDER REPORTED 22F3398
2022-06-30 14:40

Analyte	Result	RL	Units	Analyzed	Qualifier
Davidson Pond (22F3398-03) Matrix: Water Sampled: 2022-06-22, Continued					
<i>Anions, Continued</i>					
Nitrite (as N)	< 0.100	0.010	mg/L	2022-06-24	RA1
<i>Calculated Parameters</i>					
Hardness, Total (as CaCO3)	681	1.00	mg/L	N/A	
Nitrate+Nitrite (as N)	< 0.100	0.100	mg/L	N/A	
Nitrogen, Total	2.31	0.200	mg/L	N/A	
<i>Dissolved Metals</i>					
Aluminum, dissolved	< 0.0100	0.0050	mg/L	2022-06-26	RS1
Antimony, dissolved	< 0.00040	0.00020	mg/L	2022-06-26	RS1
Arsenic, dissolved	0.00368	0.00050	mg/L	2022-06-26	RS1
Barium, dissolved	0.0149	0.0050	mg/L	2022-06-26	RS1
Beryllium, dissolved	< 0.00020	0.00010	mg/L	2022-06-26	RS1
Bismuth, dissolved	< 0.00020	0.00010	mg/L	2022-06-26	RS1
Boron, dissolved	< 0.100	0.0500	mg/L	2022-06-26	RS1
Cadmium, dissolved	< 0.000020	0.000010	mg/L	2022-06-26	RS1
Calcium, dissolved	64.8	0.20	mg/L	2022-06-26	RS1
Chromium, dissolved	< 0.00100	0.00050	mg/L	2022-06-26	RS1
Cobalt, dissolved	< 0.00020	0.00010	mg/L	2022-06-26	RS1
Copper, dissolved	< 0.00080	0.00040	mg/L	2022-06-26	RS1
Iron, dissolved	0.033	0.010	mg/L	2022-06-26	RS1
Lead, dissolved	< 0.00040	0.00020	mg/L	2022-06-26	RS1
Lithium, dissolved	0.0498	0.00010	mg/L	2022-06-26	RS1
Magnesium, dissolved	126	0.010	mg/L	2022-06-26	RS1
Manganese, dissolved	0.0166	0.00020	mg/L	2022-06-26	RS1
Mercury, dissolved	< 0.000010	0.000010	mg/L	2022-06-28	
Molybdenum, dissolved	0.00169	0.00010	mg/L	2022-06-26	RS1
Nickel, dissolved	0.00135	0.00040	mg/L	2022-06-26	RS1
Phosphorus, dissolved	< 0.100	0.050	mg/L	2022-06-26	RS1
Potassium, dissolved	46.3	0.10	mg/L	2022-06-26	RS1
Selenium, dissolved	< 0.00100	0.00050	mg/L	2022-06-26	RS1
Silicon, dissolved	< 2.0	1.0	mg/L	2022-06-26	RS1
Silver, dissolved	< 0.000100	0.000050	mg/L	2022-06-26	RS1
Sodium, dissolved	582	0.10	mg/L	2022-06-26	RS1
Strontium, dissolved	0.898	0.0010	mg/L	2022-06-26	RS1
Sulfur, dissolved	431	3.0	mg/L	2022-06-26	RS1
Tellurium, dissolved	< 0.00100	0.00050	mg/L	2022-06-26	RS1
Thallium, dissolved	< 0.000040	0.000020	mg/L	2022-06-26	RS1
Thorium, dissolved	< 0.00020	0.00010	mg/L	2022-06-26	RS1
Tin, dissolved	< 0.00040	0.00020	mg/L	2022-06-26	RS1
Titanium, dissolved	< 0.0100	0.0050	mg/L	2022-06-26	RS1
Tungsten, dissolved	< 0.0020	0.0010	mg/L	2022-06-26	RS1
Uranium, dissolved	0.00834	0.000020	mg/L	2022-06-26	RS1
Vanadium, dissolved	< 0.0100	0.0050	mg/L	2022-06-26	RS1

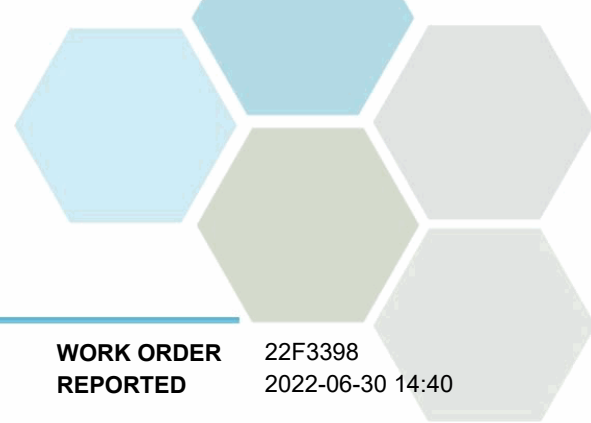


TEST RESULTS

REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

WORK ORDER REPORTED 22F3398
2022-06-30 14:40

Analyte	Result	RL	Units	Analyzed	Qualifier
Davidson Pond (22F3398-03) Matrix: Water Sampled: 2022-06-22, Continued					
<i>Dissolved Metals, Continued</i>					
Zinc, dissolved	< 0.0080	0.0040	mg/L	2022-06-26	RS1
Zirconium, dissolved	0.00025	0.00010	mg/L	2022-06-26	RS1
<i>General Parameters</i>					
Ammonia, Total (as N)	< 0.050	0.050	mg/L	2022-06-27	
BOD, 5-day	13.3	2.0	mg/L	2022-06-28	
Carbon, Dissolved Organic	25.1	0.50	mg/L	2022-06-27	
Chemical Oxygen Demand	81	20	mg/L	2022-06-24	
Conductivity (EC)	3270	2.0	µS/cm	2022-06-27	
Nitrogen, Total Kjeldahl	2.31	0.050	mg/L	2022-06-28	
pH	8.82	0.10	pH units	2022-06-27	HT2
Phosphorus, Total (as P)	0.0615	0.0050	mg/L	2022-06-28	
Solids, Total Dissolved	2270	15	mg/L	2022-06-28	
Solids, Total Suspended	8.0	2.0	mg/L	2022-06-28	
<i>Microbiological Parameters</i>					
Coliforms, Total (Q-Tray)	> 2420	1	MPN/100 mL	2022-06-23	
E. coli (Q-Tray)	96	1	MPN/100 mL	2022-06-23	
<i>Total Metals</i>					
Aluminum, total	0.0496	0.0050	mg/L	2022-06-26	RS1
Antimony, total	0.00050	0.00020	mg/L	2022-06-26	RS1
Arsenic, total	0.00370	0.00050	mg/L	2022-06-26	RS1
Barium, total	0.0139	0.0050	mg/L	2022-06-26	RS1
Beryllium, total	< 0.00020	0.00010	mg/L	2022-06-26	RS1
Bismuth, total	< 0.00020	0.00010	mg/L	2022-06-26	RS1
Boron, total	< 0.100	0.0500	mg/L	2022-06-26	RS1
Cadmium, total	< 0.000020	0.000010	mg/L	2022-06-26	RS1
Calcium, total	63.2	0.20	mg/L	2022-06-26	RS1
Chromium, total	< 0.00100	0.00050	mg/L	2022-06-26	RS1
Cobalt, total	< 0.00020	0.00010	mg/L	2022-06-26	RS1
Copper, total	< 0.00080	0.00040	mg/L	2022-06-26	RS1
Iron, total	0.092	0.010	mg/L	2022-06-26	RS1
Lead, total	< 0.00040	0.00020	mg/L	2022-06-26	RS1
Lithium, total	0.0453	0.00010	mg/L	2022-06-26	RS1
Magnesium, total	119	0.010	mg/L	2022-06-26	RS1
Manganese, total	0.0289	0.00020	mg/L	2022-06-26	RS1
Mercury, total	< 0.000010	0.000010	mg/L	2022-06-28	
Molybdenum, total	0.00168	0.00010	mg/L	2022-06-26	RS1
Nickel, total	0.00138	0.00040	mg/L	2022-06-26	RS1
Phosphorus, total	< 0.100	0.050	mg/L	2022-06-26	RS1
Potassium, total	44.7	0.10	mg/L	2022-06-26	RS1
Selenium, total	< 0.00100	0.00050	mg/L	2022-06-26	RS1
Silicon, total	< 2.0	1.0	mg/L	2022-06-26	RS1



TEST RESULTS

REPORTED TO PROJECT Kelowna, City of RBCF Ponds

WORK ORDER REPORTED 22F3398
2022-06-30 14:40

Analyte	Result	RL	Units	Analyzed	Qualifier
Davidson Pond (22F3398-03) Matrix: Water Sampled: 2022-06-22, Continued					
<i>Total Metals, Continued</i>					
Silver, total	< 0.000100	0.000050	mg/L	2022-06-26	RS1
Sodium, total	551	0.10	mg/L	2022-06-26	RS1
Strontium, total	0.881	0.0010	mg/L	2022-06-26	RS1
Sulfur, total	417	3.0	mg/L	2022-06-26	RS1
Tellurium, total	< 0.00100	0.00050	mg/L	2022-06-26	RS1
Thallium, total	< 0.000040	0.000020	mg/L	2022-06-26	RS1
Thorium, total	< 0.00020	0.00010	mg/L	2022-06-26	RS1
Tin, total	< 0.00040	0.00020	mg/L	2022-06-26	RS1
Titanium, total	< 0.0100	0.0050	mg/L	2022-06-26	RS1
Tungsten, total	< 0.0004	0.0002	mg/L	2022-06-26	RS1
Uranium, total	0.00790	0.000020	mg/L	2022-06-26	RS1
Vanadium, total	< 0.0100	0.0050	mg/L	2022-06-26	RS1
Zinc, total	< 0.0080	0.0040	mg/L	2022-06-26	RS1
Zirconium, total	0.00022	0.00010	mg/L	2022-06-26	RS1

DUP 1 (22F3398-04) | Matrix: Water | Sampled: 2022-06-22

Anions

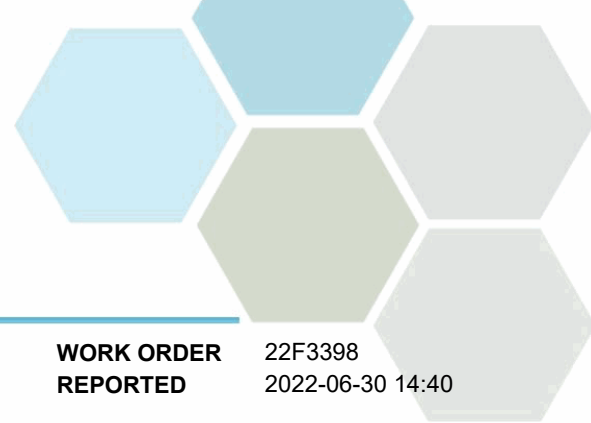
Chloride	316	0.10	mg/L	2022-06-24	
Nitrate (as N)	< 0.100	0.010	mg/L	2022-06-24	RA1
Nitrite (as N)	< 0.100	0.010	mg/L	2022-06-24	RA1

Calculated Parameters

Hardness, Total (as CaCO3)	668	1.00	mg/L	N/A	
Nitrate+Nitrite (as N)	< 0.100	0.100	mg/L	N/A	
Nitrogen, Total	2.03	0.100	mg/L	N/A	

Dissolved Metals

Aluminum, dissolved	< 0.0100	0.0050	mg/L	2022-06-26	RS1
Antimony, dissolved	0.00043	0.00020	mg/L	2022-06-26	RS1
Arsenic, dissolved	0.00367	0.00050	mg/L	2022-06-26	RS1
Barium, dissolved	0.0138	0.0050	mg/L	2022-06-26	RS1
Beryllium, dissolved	< 0.00020	0.00010	mg/L	2022-06-26	RS1
Bismuth, dissolved	< 0.00020	0.00010	mg/L	2022-06-26	RS1
Boron, dissolved	< 0.100	0.0500	mg/L	2022-06-26	RS1
Cadmium, dissolved	< 0.000020	0.000010	mg/L	2022-06-26	RS1
Calcium, dissolved	64.6	0.20	mg/L	2022-06-26	RS1
Chromium, dissolved	< 0.00100	0.00050	mg/L	2022-06-26	RS1
Cobalt, dissolved	< 0.00020	0.00010	mg/L	2022-06-26	RS1
Copper, dissolved	< 0.00080	0.00040	mg/L	2022-06-26	RS1
Iron, dissolved	0.033	0.010	mg/L	2022-06-26	RS1
Lead, dissolved	< 0.00040	0.00020	mg/L	2022-06-26	RS1
Lithium, dissolved	0.0503	0.00010	mg/L	2022-06-26	RS1



TEST RESULTS

REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

WORK ORDER REPORTED 22F3398
2022-06-30 14:40

Analyte	Result	RL	Units	Analyzed	Qualifier
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DUP 1 (22F3398-04) | Matrix: Water | Sampled: 2022-06-22, Continued

Dissolved Metals, Continued

Magnesium, dissolved	123	0.010	mg/L	2022-06-26	RS1
Manganese, dissolved	0.0168	0.00020	mg/L	2022-06-26	RS1
Mercury, dissolved	< 0.000010	0.000010	mg/L	2022-06-28	
Molybdenum, dissolved	0.00168	0.00010	mg/L	2022-06-26	RS1
Nickel, dissolved	0.00139	0.00040	mg/L	2022-06-26	RS1
Phosphorus, dissolved	< 0.100	0.050	mg/L	2022-06-26	RS1
Potassium, dissolved	44.9	0.10	mg/L	2022-06-26	RS1
Selenium, dissolved	< 0.00100	0.00050	mg/L	2022-06-26	RS1
Silicon, dissolved	< 2.0	1.0	mg/L	2022-06-26	RS1
Silver, dissolved	< 0.000100	0.000050	mg/L	2022-06-26	RS1
Sodium, dissolved	566	0.10	mg/L	2022-06-26	RS1
Strontium, dissolved	0.873	0.0010	mg/L	2022-06-26	RS1
Sulfur, dissolved	433	3.0	mg/L	2022-06-26	RS1
Tellurium, dissolved	< 0.00100	0.00050	mg/L	2022-06-26	RS1
Thallium, dissolved	< 0.000040	0.000020	mg/L	2022-06-26	RS1
Thorium, dissolved	< 0.00020	0.00010	mg/L	2022-06-26	RS1
Tin, dissolved	< 0.00040	0.00020	mg/L	2022-06-26	RS1
Titanium, dissolved	< 0.0100	0.0050	mg/L	2022-06-26	RS1
Tungsten, dissolved	< 0.0020	0.0010	mg/L	2022-06-26	RS1
Uranium, dissolved	0.00809	0.000020	mg/L	2022-06-26	RS1
Vanadium, dissolved	< 0.0100	0.0050	mg/L	2022-06-26	RS1
Zinc, dissolved	< 0.0080	0.0040	mg/L	2022-06-26	RS1
Zirconium, dissolved	0.00026	0.00010	mg/L	2022-06-26	RS1

General Parameters

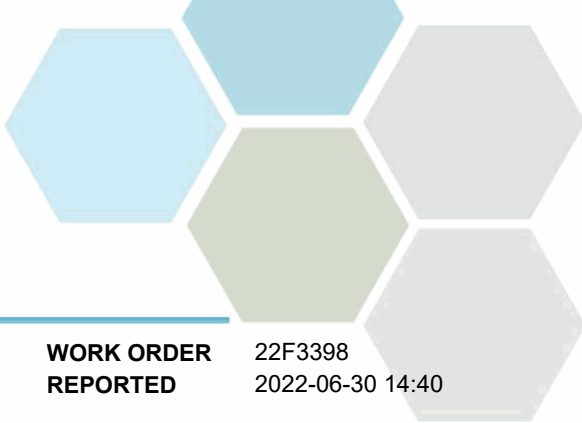
Ammonia, Total (as N)	0.055	0.050	mg/L	2022-06-27	
BOD, 5-day	< 7.1	2.0	mg/L	2022-06-28	
Carbon, Dissolved Organic	27.5	0.50	mg/L	2022-06-27	
Chemical Oxygen Demand	75	20	mg/L	2022-06-24	
Conductivity (EC)	3400	2.0	µS/cm	2022-06-27	
Nitrogen, Total Kjeldahl	2.03	0.050	mg/L	2022-06-28	
pH	8.93	0.10	pH units	2022-06-27	HT2
Phosphorus, Total (as P)	0.0578	0.0050	mg/L	2022-06-28	
Solids, Total Dissolved	2320	15	mg/L	2022-06-28	
Solids, Total Suspended	4.6	2.0	mg/L	2022-06-28	

Microbiological Parameters

Coliforms, Total (Q-Tray)	978	1	MPN/100 mL	2022-06-23	
E. coli (Q-Tray)	40	1	MPN/100 mL	2022-06-23	

Total Metals

Aluminum, total	0.0480	0.0050	mg/L	2022-06-26	RS1
Antimony, total	0.00047	0.00020	mg/L	2022-06-26	RS1
Arsenic, total	0.00376	0.00050	mg/L	2022-06-26	RS1



TEST RESULTS

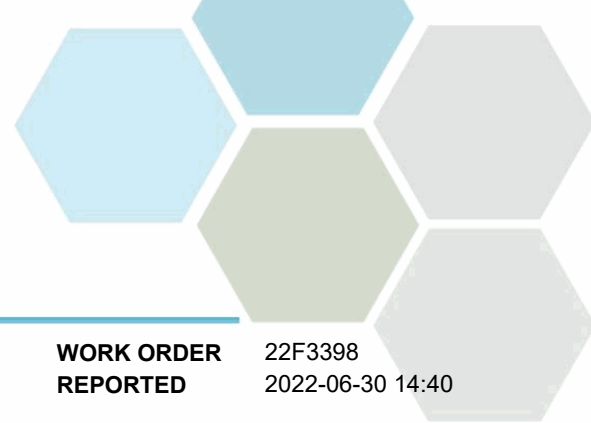
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Analyte	Result	RL	Units	Analyzed	Qualifier
DUP 1 (22F3398-04) Matrix: Water Sampled: 2022-06-22, Continued					
<i>Total Metals, Continued</i>					
Barium, total	0.0150	0.0050	mg/L	2022-06-26	RS1
Beryllium, total	< 0.00020	0.00010	mg/L	2022-06-26	RS1
Bismuth, total	< 0.00020	0.00010	mg/L	2022-06-26	RS1
Boron, total	< 0.100	0.0500	mg/L	2022-06-26	RS1
Cadmium, total	< 0.000020	0.000010	mg/L	2022-06-26	RS1
Calcium, total	62.8	0.20	mg/L	2022-06-26	RS1
Chromium, total	< 0.00100	0.00050	mg/L	2022-06-26	RS1
Cobalt, total	< 0.00020	0.00010	mg/L	2022-06-26	RS1
Copper, total	< 0.00080	0.00040	mg/L	2022-06-26	RS1
Iron, total	0.089	0.010	mg/L	2022-06-26	RS1
Lead, total	< 0.00040	0.00020	mg/L	2022-06-26	RS1
Lithium, total	0.0458	0.00010	mg/L	2022-06-26	RS1
Magnesium, total	121	0.010	mg/L	2022-06-26	RS1
Manganese, total	0.0278	0.00020	mg/L	2022-06-26	RS1
Mercury, total	< 0.000010	0.000010	mg/L	2022-06-28	
Molybdenum, total	0.00165	0.00010	mg/L	2022-06-26	RS1
Nickel, total	0.00135	0.00040	mg/L	2022-06-26	RS1
Phosphorus, total	< 0.100	0.050	mg/L	2022-06-26	RS1
Potassium, total	44.9	0.10	mg/L	2022-06-26	RS1
Selenium, total	< 0.00100	0.00050	mg/L	2022-06-26	RS1
Silicon, total	< 2.0	1.0	mg/L	2022-06-26	RS1
Silver, total	< 0.000100	0.000050	mg/L	2022-06-26	RS1
Sodium, total	559	0.10	mg/L	2022-06-26	RS1
Strontium, total	0.871	0.0010	mg/L	2022-06-26	RS1
Sulfur, total	407	3.0	mg/L	2022-06-26	RS1
Tellurium, total	< 0.00100	0.00050	mg/L	2022-06-26	RS1
Thallium, total	< 0.000040	0.000020	mg/L	2022-06-26	RS1
Thorium, total	< 0.00020	0.00010	mg/L	2022-06-26	RS1
Tin, total	< 0.00040	0.00020	mg/L	2022-06-26	RS1
Titanium, total	< 0.0100	0.0050	mg/L	2022-06-26	RS1
Tungsten, total	< 0.0004	0.0002	mg/L	2022-06-26	RS1
Uranium, total	0.00790	0.000020	mg/L	2022-06-26	RS1
Vanadium, total	< 0.0100	0.0050	mg/L	2022-06-26	RS1
Zinc, total	< 0.0080	0.0040	mg/L	2022-06-26	RS1
Zirconium, total	< 0.00020	0.00010	mg/L	2022-06-26	RS1

Sample Qualifiers:

- HT2 The 15 minute recommended holding time (from sampling to analysis) has been exceeded - field analysis is recommended.
- RA1 The Reporting Limit has been raised due to matrix interference.
- RS1 The Reporting Limits for this sample have been raised due to high analyte concentration and/or matrix interference.



APPENDIX 1: SUPPORTING INFORMATION

REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

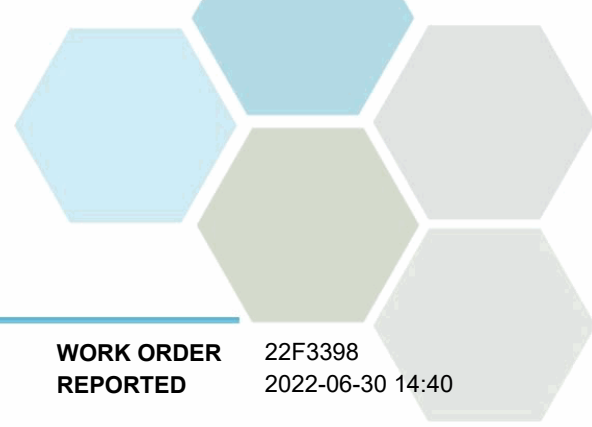
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Analysis Description	Method Ref.	Technique	Accredited	Location
Ammonia, Total in Water	SM 4500-NH3 G* (2017)	Automated Colorimetry (Phenate)	✓	Kelowna
Anions in Water	SM 4110 B (2017)	Ion Chromatography	✓	Kelowna
Biochemical Oxygen Demand in Water	SM 5210 B (2017)	Dissolved Oxygen Meter	✓	Kelowna
Carbon, Dissolved Organic in Water	SM 5310 B (2017)	Combustion, Infrared CO2 Detection	✓	Kelowna
Chemical Oxygen Demand in Water	SM 5220 D* (2017)	Closed Reflux, Colorimetry	✓	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
Dissolved Metals in Water	EPA 200.8 / EPA 6020B	0.45 µm Filtration / Inductively Coupled Plasma-Mass Spectroscopy (ICP-MS)	✓	Richmond
E. coli in Water	NA / SM 9223 (2017)	Quanti-Tray / Enzyme Substrate Endo Agar	✓	Kelowna
Hardness in Water	SM 2340 B (2017)	Calculation: 2.497 [diss Ca] + 4.118 [diss Mg]	✓	N/A
Mercury, dissolved in Water	EPA 245.7*	BrCl2 Oxidation / Cold Vapor Atomic Fluorescence Spectrometry (CVAFS)	✓	Richmond
Mercury, total in Water	EPA 245.7*	BrCl2 Oxidation / Cold Vapor Atomic Fluorescence Spectrometry (CVAFS)	✓	Richmond
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
Phosphorus, Total in Water	SM 4500-P B.5* (2011) / SM 4500-P F (2017)	Persulfate Digestion / Automated Colorimetry (Ascorbic Acid)	✓	Kelowna
Solids, Total Dissolved in Water	Solids in Water, Filtered / SM 2540 C* (2017)	Solids in Water, Filtered / Gravimetry (Dried at 103-105C)	✓	Kelowna
Solids, Total Suspended in Water	Solids in Water, Filtered / SM 2540 D* (2017)	Solids in Water, Filtered / Gravimetry (Dried at 103-105C)	✓	Kelowna
Total Metals in Water	EPA 200.2 / EPA 6020B	HNO3+HCl Hot Block Digestion / Inductively Coupled Plasma-Mass Spectroscopy (ICP-MS)	✓	Richmond

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
>	Greater than the specified Result
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
EPA	United States Environmental Protection Agency Test Methods
SM	Standard Methods for the Examination of Water and Wastewater, American Public Health Association



APPENDIX 1: SUPPORTING INFORMATION

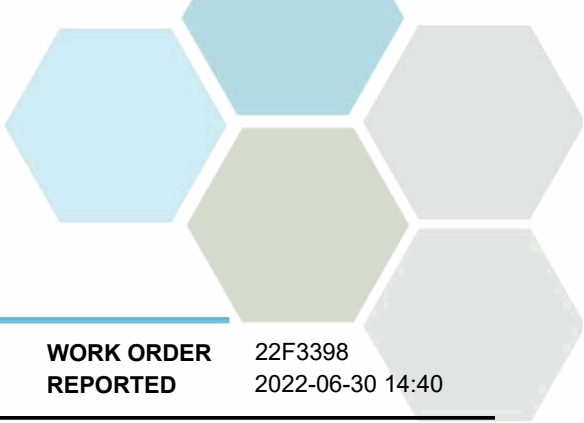
REPORTED TO Kelowna, City of
PROJECT RBCF Ponds

WORK ORDER 22F3398
REPORTED 2022-06-30 14:40

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 or once samples expire, whichever comes first. Longer hold is possible if agreed to in writing.

Please note any regulatory guidelines applied to this report are added as a convenience to the client, at their request, to help provide some initial context to analytical results obtained. Although CARO makes every effort to ensure accuracy of the associated regulatory guideline(s) applied, the guidelines applied cannot be assumed to be correct due to a variety of factors and as such CARO Analytical Services assumes no liability or responsibility for the use of those guidelines to make any decisions. The original source of the regulation should be verified and a review of the guideline(s) should be validated as correct in order to make any decisions arising from the comparison of the analytical data obtained to the relevant regulatory guideline for one's particular circumstances. Further, CARO Analytical Services assumes no liability or responsibility for any loss attributed from the use of these guidelines in any way.



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

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The following section displays the quality control (QC) data that is associated with your sample data. Groups of samples are prepared in “batches” and analyzed in conjunction with QC samples that ensure your data is of the highest quality. Common QC types include:

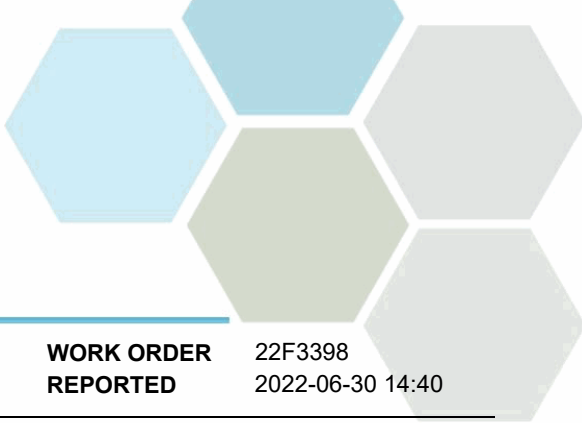
- **Method Blank (Blk):** A blank sample that undergoes sample processing identical to that carried out for the test samples. Method blank results are used to assess contamination from the laboratory environment and reagents.
- **Duplicate (Dup):** An additional or second portion of a randomly selected sample in the analytical run carried through the entire analytical process. Duplicates provide a measure of the analytical method's precision (reproducibility).
- **Blank Spike (BS):** A sample of known concentration which undergoes processing identical to that carried out for test samples, also referred to as a laboratory control sample (LCS). Blank spikes provide a measure of the analytical method's accuracy.
- **Matrix Spike (MS):** A second aliquot of sample is fortified with a known concentration of target analytes and carried through the entire analytical process. Matrix spikes evaluate potential matrix effects that may affect the analyte recovery.
- **Reference Material (SRM):** A homogenous material of similar matrix to the samples, certified for the parameter(s) listed. Reference Materials ensure that the analytical process is adequate to achieve acceptable recoveries of the parameter(s) tested.

Each QC type is analyzed at a 5-10% frequency, i.e. one blank/duplicate/spike for every 10-20 samples. For all types of QC, the specified recovery (% Rec) and relative percent difference (RPD) limits are derived from long-term method performance averages and/or prescribed by the reference method.

Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Anions, Batch B2F3011									
Blank (B2F3011-BLK1)			Prepared: 2022-06-24, Analyzed: 2022-06-24						
Chloride	< 0.10	0.10 mg/L							
Nitrate (as N)	< 0.010	0.010 mg/L							
Nitrite (as N)	< 0.010	0.010 mg/L							
Blank (B2F3011-BLK2)			Prepared: 2022-06-24, Analyzed: 2022-06-24						
Chloride	< 0.10	0.10 mg/L							
Nitrate (as N)	< 0.010	0.010 mg/L							
Nitrite (as N)	< 0.010	0.010 mg/L							
LCS (B2F3011-BS1)			Prepared: 2022-06-24, Analyzed: 2022-06-24						
Chloride	16.0	0.10 mg/L	16.0		100	90-110			
Nitrate (as N)	4.06	0.010 mg/L	4.00		101	90-110			
Nitrite (as N)	2.03	0.010 mg/L	2.00		102	85-115			
LCS (B2F3011-BS2)			Prepared: 2022-06-24, Analyzed: 2022-06-24						
Chloride	16.2	0.10 mg/L	16.0		101	90-110			
Nitrate (as N)	4.08	0.010 mg/L	4.00		102	90-110			
Nitrite (as N)	2.02	0.010 mg/L	2.00		101	85-115			

Dissolved Metals, Batch B2F3286

Blank (B2F3286-BLK1)			Prepared: 2022-06-26, Analyzed: 2022-06-26						
Aluminum, dissolved	< 0.0050	0.0050 mg/L							
Antimony, dissolved	< 0.00020	0.00020 mg/L							
Arsenic, dissolved	< 0.00050	0.00050 mg/L							
Barium, dissolved	< 0.0050	0.0050 mg/L							
Beryllium, dissolved	< 0.00010	0.00010 mg/L							
Bismuth, dissolved	< 0.00010	0.00010 mg/L							
Boron, dissolved	< 0.0500	0.0500 mg/L							
Cadmium, dissolved	< 0.000010	0.000010 mg/L							
Calcium, dissolved	< 0.20	0.20 mg/L							
Chromium, dissolved	< 0.00050	0.00050 mg/L							
Cobalt, dissolved	< 0.00010	0.00010 mg/L							
Copper, dissolved	< 0.00040	0.00040 mg/L							
Iron, dissolved	< 0.010	0.010 mg/L							
Lead, dissolved	< 0.00020	0.00020 mg/L							



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Kelowna, City of
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Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
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Dissolved Metals, Batch B2F3286, Continued

Blank (B2F3286-BLK1), Continued

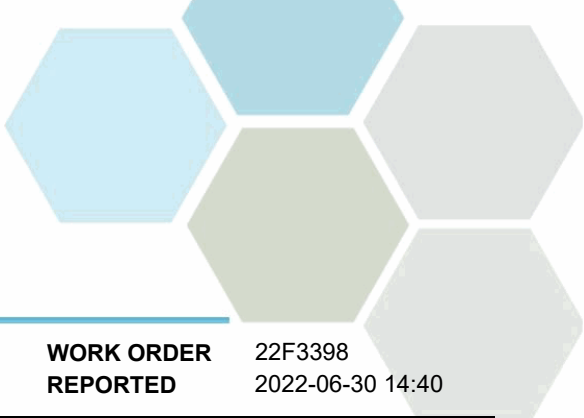
Prepared: 2022-06-26, Analyzed: 2022-06-26

Lithium, dissolved	< 0.00010	0.00010 mg/L							
Magnesium, dissolved	< 0.010	0.010 mg/L							
Manganese, dissolved	< 0.00020	0.00020 mg/L							
Molybdenum, dissolved	< 0.00010	0.00010 mg/L							
Nickel, dissolved	< 0.00040	0.00040 mg/L							
Phosphorus, dissolved	< 0.050	0.050 mg/L							
Potassium, dissolved	< 0.10	0.10 mg/L							
Selenium, dissolved	< 0.00050	0.00050 mg/L							
Silicon, dissolved	< 1.0	1.0 mg/L							
Silver, dissolved	< 0.000050	0.000050 mg/L							
Sodium, dissolved	< 0.10	0.10 mg/L							
Strontium, dissolved	< 0.0010	0.0010 mg/L							
Sulfur, dissolved	< 3.0	3.0 mg/L							
Tellurium, dissolved	< 0.00050	0.00050 mg/L							
Thallium, dissolved	< 0.000020	0.000020 mg/L							
Thorium, dissolved	< 0.00010	0.00010 mg/L							
Tin, dissolved	< 0.00020	0.00020 mg/L							
Titanium, dissolved	< 0.0050	0.0050 mg/L							
Tungsten, dissolved	< 0.0010	0.0010 mg/L							
Uranium, dissolved	< 0.000020	0.000020 mg/L							
Vanadium, dissolved	< 0.0050	0.0050 mg/L							
Zinc, dissolved	< 0.0040	0.0040 mg/L							
Zirconium, dissolved	< 0.00010	0.00010 mg/L							

LCS (B2F3286-BS1)

Prepared: 2022-06-26, Analyzed: 2022-06-26

Aluminum, dissolved	4.08	0.0050 mg/L	4.00		102	80-120			
Antimony, dissolved	0.0401	0.00020 mg/L	0.0400		100	80-120			
Arsenic, dissolved	0.0421	0.00050 mg/L	0.0400		105	80-120			
Barium, dissolved	0.0379	0.0050 mg/L	0.0400		95	80-120			
Beryllium, dissolved	0.0405	0.00010 mg/L	0.0400		101	80-120			
Bismuth, dissolved	0.0422	0.00010 mg/L	0.0400		106	80-120			
Boron, dissolved	< 0.0500	0.0500 mg/L	0.0400		94	80-120			
Cadmium, dissolved	0.0405	0.000010 mg/L	0.0400		101	80-120			
Calcium, dissolved	4.07	0.20 mg/L	4.00		102	80-120			
Chromium, dissolved	0.0412	0.00050 mg/L	0.0400		103	80-120			
Cobalt, dissolved	0.0406	0.00010 mg/L	0.0400		101	80-120			
Copper, dissolved	0.0406	0.00040 mg/L	0.0400		102	80-120			
Iron, dissolved	4.05	0.010 mg/L	4.00		101	80-120			
Lead, dissolved	0.0424	0.00020 mg/L	0.0400		106	80-120			
Lithium, dissolved	0.0417	0.00010 mg/L	0.0400		104	80-120			
Magnesium, dissolved	4.15	0.010 mg/L	4.00		104	80-120			
Manganese, dissolved	0.0413	0.00020 mg/L	0.0400		103	80-120			
Molybdenum, dissolved	0.0400	0.00010 mg/L	0.0400		100	80-120			
Nickel, dissolved	0.0408	0.00040 mg/L	0.0400		102	80-120			
Phosphorus, dissolved	4.15	0.050 mg/L	4.00		104	80-120			
Potassium, dissolved	4.20	0.10 mg/L	4.00		105	80-120			
Selenium, dissolved	0.0397	0.00050 mg/L	0.0400		99	80-120			
Silicon, dissolved	4.2	1.0 mg/L	4.00		105	80-120			
Silver, dissolved	0.0402	0.000050 mg/L	0.0400		100	80-120			
Sodium, dissolved	4.20	0.10 mg/L	4.00		105	80-120			
Strontium, dissolved	0.0418	0.0010 mg/L	0.0400		105	80-120			
Sulfur, dissolved	41.3	3.0 mg/L	40.0		103	80-120			
Tellurium, dissolved	0.0391	0.00050 mg/L	0.0400		98	80-120			
Thallium, dissolved	0.0420	0.000020 mg/L	0.0400		105	80-120			
Thorium, dissolved	0.0427	0.00010 mg/L	0.0400		107	80-120			
Tin, dissolved	0.0405	0.00020 mg/L	0.0400		101	80-120			



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

WORK ORDER REPORTED 22F3398
2022-06-30 14:40

Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
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Dissolved Metals, Batch B2F3286, Continued

LCS (B2F3286-BS1), Continued

Prepared: 2022-06-26, Analyzed: 2022-06-26

Titanium, dissolved	0.0403	0.0050 mg/L	0.0400		101	80-120			
Tungsten, dissolved	0.0422	0.0010 mg/L	0.0400		105	80-120			
Uranium, dissolved	0.0433	0.000020 mg/L	0.0400		108	80-120			
Vanadium, dissolved	0.0411	0.0050 mg/L	0.0400		103	80-120			
Zinc, dissolved	0.0436	0.0040 mg/L	0.0400		109	80-120			
Zirconium, dissolved	0.0400	0.00010 mg/L	0.0400		100	80-120			

Duplicate (B2F3286-DUP1)

Source: 22F3398-01

Prepared: 2022-06-26, Analyzed: 2022-06-26

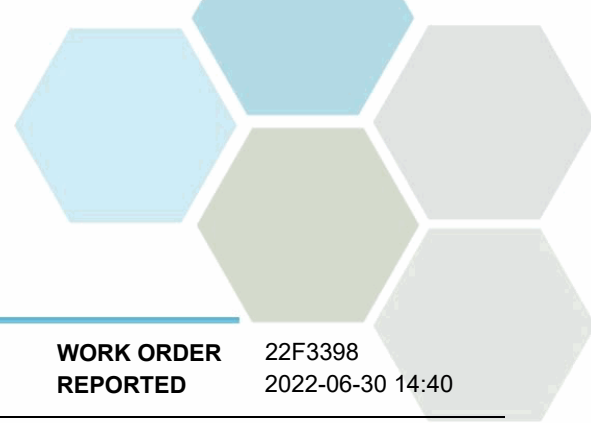
Aluminum, dissolved	< 0.0100	0.0050 mg/L	< 0.0100					20	
Antimony, dissolved	< 0.00040	0.00020 mg/L	< 0.00040					20	
Arsenic, dissolved	0.00336	0.00050 mg/L	0.00341					20	
Barium, dissolved	0.0132	0.0050 mg/L	0.0137					20	
Beryllium, dissolved	< 0.00020	0.00010 mg/L	< 0.00020					20	
Bismuth, dissolved	< 0.00020	0.00010 mg/L	< 0.00020					20	
Boron, dissolved	< 0.100	0.0500 mg/L	< 0.100					20	
Cadmium, dissolved	< 0.000020	0.000010 mg/L	< 0.000020					20	
Calcium, dissolved	66.1	0.20 mg/L	68.6				4	20	
Chromium, dissolved	< 0.00100	0.00050 mg/L	< 0.00100					20	
Cobalt, dissolved	< 0.00020	0.00010 mg/L	< 0.00020					20	
Copper, dissolved	< 0.00080	0.00040 mg/L	< 0.00080					20	
Iron, dissolved	< 0.020	0.010 mg/L	< 0.020					20	
Lead, dissolved	< 0.00040	0.00020 mg/L	< 0.00040					20	
Lithium, dissolved	0.0472	0.00010 mg/L	0.0502				6	20	
Magnesium, dissolved	253	0.010 mg/L	262				3	20	
Manganese, dissolved	0.00780	0.00020 mg/L	0.00800				3	20	
Molybdenum, dissolved	0.00127	0.00010 mg/L	0.00127				< 1	20	
Nickel, dissolved	< 0.00080	0.00040 mg/L	< 0.00080					20	
Phosphorus, dissolved	< 0.100	0.050 mg/L	< 0.100					20	
Potassium, dissolved	76.2	0.10 mg/L	78.6				3	20	
Selenium, dissolved	< 0.00100	0.00050 mg/L	< 0.00100					20	
Silicon, dissolved	< 2.0	1.0 mg/L	< 2.0					20	
Silver, dissolved	< 0.000100	0.000050 mg/L	< 0.000100					20	
Sodium, dissolved	744	0.10 mg/L	768				3	20	
Strontium, dissolved	0.548	0.0010 mg/L	0.568				4	20	
Sulfur, dissolved	720	3.0 mg/L	739				3	20	
Tellurium, dissolved	< 0.00100	0.00050 mg/L	< 0.00100					20	
Thallium, dissolved	< 0.000040	0.000020 mg/L	< 0.000040					20	
Thorium, dissolved	< 0.00020	0.00010 mg/L	< 0.00020					20	
Tin, dissolved	< 0.00040	0.00020 mg/L	< 0.00040					20	
Titanium, dissolved	< 0.0100	0.0050 mg/L	< 0.0100					20	
Tungsten, dissolved	< 0.0020	0.0010 mg/L	< 0.0020					20	
Uranium, dissolved	0.00364	0.000020 mg/L	0.00379				4	20	
Vanadium, dissolved	< 0.0100	0.0050 mg/L	< 0.0100					20	
Zinc, dissolved	< 0.0080	0.0040 mg/L	< 0.0080					20	
Zirconium, dissolved	0.00021	0.00010 mg/L	0.00020					20	

Matrix Spike (B2F3286-MS1)

Source: 22F3398-02

Prepared: 2022-06-27, Analyzed: 2022-06-26

Aluminum, dissolved	4.36	0.0050 mg/L	4.00	0.0441	108	70-130			
Antimony, dissolved	0.0312	0.00020 mg/L	0.0400	0.00023	78	70-130			
Arsenic, dissolved	0.0475	0.00050 mg/L	0.0400	0.00358	110	70-130			
Barium, dissolved	0.0591	0.0050 mg/L	0.0400	0.0191	100	70-130			
Beryllium, dissolved	0.0429	0.00010 mg/L	0.0400	< 0.00010	107	70-130			
Bismuth, dissolved	0.0362	0.00010 mg/L	0.0400	0.00021	90	70-130			
Boron, dissolved	0.191	0.0500 mg/L	0.0400	0.151	100	70-130			
Cadmium, dissolved	0.0420	0.000010 mg/L	0.0400	0.000054	105	70-130			
Calcium, dissolved	53.0	0.20 mg/L	4.00	49.9	77	70-130			
Chromium, dissolved	0.0415	0.00050 mg/L	0.0400	0.00051	103	70-130			



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

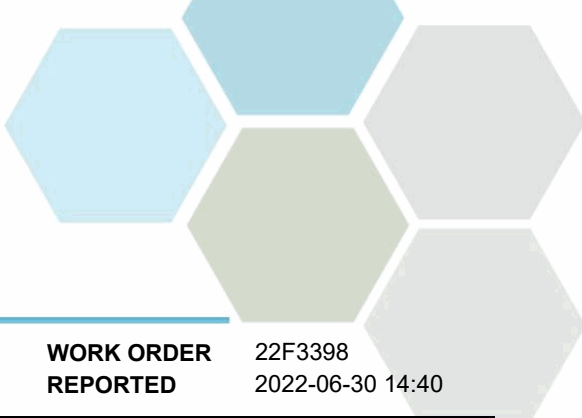
WORK ORDER REPORTED 22F3398
2022-06-30 14:40

Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Dissolved Metals, Batch B2F3286, Continued									
Matrix Spike (B2F3286-MS1), Continued		Source: 22F3398-02		Prepared: 2022-06-27, Analyzed: 2022-06-26					
Cobalt, dissolved	0.0419	0.00010 mg/L	0.0400	0.00054	103	70-130			
Copper, dissolved	0.0460	0.00040 mg/L	0.0400	0.0112	87	70-130			
Iron, dissolved	4.19	0.010 mg/L	4.00	0.201	100	70-130			
Lead, dissolved	0.0405	0.00020 mg/L	0.0400	0.00026	100	70-130			
Lithium, dissolved	0.0547	0.00010 mg/L	0.0400	0.0119	107	70-130			
Magnesium, dissolved	25.2	0.010 mg/L	4.00	21.9	84	70-130			
Manganese, dissolved	0.148	0.00020 mg/L	0.0400	0.109	100	70-130			
Molybdenum, dissolved	0.0339	0.00010 mg/L	0.0400	0.00345	76	70-130			
Nickel, dissolved	0.0423	0.00040 mg/L	0.0400	0.00242	100	70-130			
Phosphorus, dissolved	11.4	0.050 mg/L	4.00	7.08	107	70-130			
Potassium, dissolved	38.0	0.10 mg/L	4.00	34.5	88	70-130			
Selenium, dissolved	0.0428	0.00050 mg/L	0.0400	0.00058	105	70-130			
Silicon, dissolved	6.7	1.0 mg/L	4.00	2.4	108	70-130			
Silver, dissolved	0.0358	0.000050 mg/L	0.0400	< 0.000050	90	70-130			
Sodium, dissolved	87.7	0.10 mg/L	4.00	85.5	56	70-130			MS2
Strontium, dissolved	0.488	0.0010 mg/L	0.0400	0.463	62	70-130			MS2
Sulfur, dissolved	75.4	3.0 mg/L	40.0	34.0	104	70-130			
Tellurium, dissolved	0.0388	0.00050 mg/L	0.0400	< 0.00050	97	70-130			
Thallium, dissolved	0.0417	0.000020 mg/L	0.0400	< 0.000020	104	70-130			
Thorium, dissolved	0.0430	0.00010 mg/L	0.0400	< 0.00010	107	70-130			
Tin, dissolved	0.0387	0.00020 mg/L	0.0400	0.00035	96	70-130			
Titanium, dissolved	0.0431	0.0050 mg/L	0.0400	< 0.0050	103	70-130			
Tungsten, dissolved	0.0353	0.0010 mg/L	0.0400	< 0.0010	88	70-130			
Uranium, dissolved	0.0429	0.000020 mg/L	0.0400	0.00135	104	70-130			
Vanadium, dissolved	0.0436	0.0050 mg/L	0.0400	< 0.0050	108	70-130			
Zinc, dissolved	0.0673	0.0040 mg/L	0.0400	0.0258	104	70-130			
Zirconium, dissolved	0.0405	0.00010 mg/L	0.0400	0.00032	101	70-130			

Dissolved Metals, Batch B2F3462

Blank (B2F3462-BLK1)			Prepared: 2022-06-27, Analyzed: 2022-06-28						
Mercury, dissolved	< 0.000010	0.000010 mg/L							
Blank (B2F3462-BLK2)			Prepared: 2022-06-27, Analyzed: 2022-06-28						
Mercury, dissolved	< 0.000010	0.000010 mg/L							
Blank (B2F3462-BLK3)			Prepared: 2022-06-27, Analyzed: 2022-06-28						
Mercury, dissolved	< 0.000010	0.000010 mg/L							
Blank (B2F3462-BLK4)			Prepared: 2022-06-27, Analyzed: 2022-06-28						
Mercury, dissolved	< 0.000010	0.000010 mg/L							
LCS (B2F3462-BS1)			Prepared: 2022-06-27, Analyzed: 2022-06-28						
Mercury, dissolved	0.000466	0.000010 mg/L	0.000500	93	80-120				
LCS (B2F3462-BS2)			Prepared: 2022-06-27, Analyzed: 2022-06-28						
Mercury, dissolved	0.000474	0.000010 mg/L	0.000500	95	80-120				
LCS (B2F3462-BS3)			Prepared: 2022-06-27, Analyzed: 2022-06-28						
Mercury, dissolved	0.000462	0.000010 mg/L	0.000500	92	80-120				
LCS (B2F3462-BS4)			Prepared: 2022-06-27, Analyzed: 2022-06-28						
Mercury, dissolved	0.000462	0.000010 mg/L	0.000500	92	80-120				

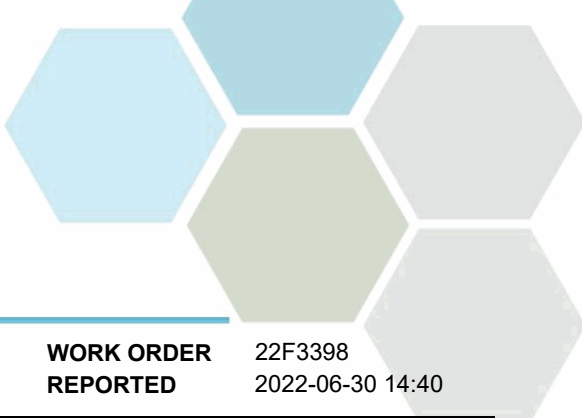
General Parameters, Batch B2F2911



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT	Kelowna, City of RBCF Ponds	WORK ORDER REPORTED	22F3398 2022-06-30 14:40
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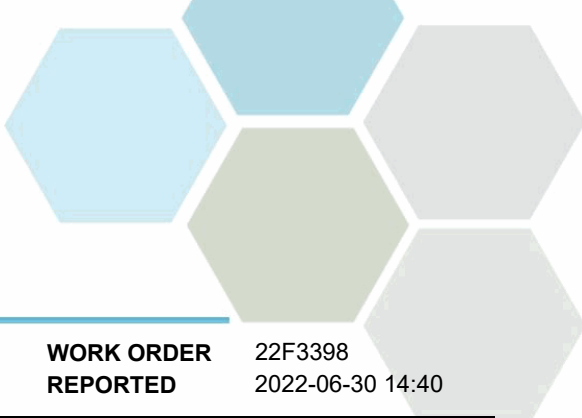
Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
General Parameters, Batch B2F2911, Continued									
Blank (B2F2911-BLK1)			Prepared: 2022-06-27, Analyzed: 2022-06-27						
Carbon, Dissolved Organic	< 0.50	0.50 mg/L							
Blank (B2F2911-BLK2)			Prepared: 2022-06-27, Analyzed: 2022-06-27						
Carbon, Dissolved Organic	< 0.50	0.50 mg/L							
Blank (B2F2911-BLK3)			Prepared: 2022-06-27, Analyzed: 2022-06-27						
Carbon, Dissolved Organic	< 0.50	0.50 mg/L							
Blank (B2F2911-BLK4)			Prepared: 2022-06-27, Analyzed: 2022-06-27						
Carbon, Dissolved Organic	< 0.50	0.50 mg/L							
Blank (B2F2911-BLK5)			Prepared: 2022-06-27, Analyzed: 2022-06-27						
Carbon, Dissolved Organic	< 0.50	0.50 mg/L							
LCS (B2F2911-BS1)			Prepared: 2022-06-27, Analyzed: 2022-06-27						
Carbon, Dissolved Organic	9.29	0.50 mg/L	10.0		93	78-116			
LCS (B2F2911-BS2)			Prepared: 2022-06-27, Analyzed: 2022-06-27						
Carbon, Dissolved Organic	9.96	0.50 mg/L	10.0		100	78-116			
LCS (B2F2911-BS3)			Prepared: 2022-06-27, Analyzed: 2022-06-27						
Carbon, Dissolved Organic	9.78	0.50 mg/L	10.0		98	78-116			
LCS (B2F2911-BS4)			Prepared: 2022-06-27, Analyzed: 2022-06-27						
Carbon, Dissolved Organic	9.58	0.50 mg/L	10.0		96	78-116			
LCS (B2F2911-BS5)			Prepared: 2022-06-27, Analyzed: 2022-06-27						
Carbon, Dissolved Organic	9.65	0.50 mg/L	10.0		96	78-116			
General Parameters, Batch B2F2992									
Blank (B2F2992-BLK1)			Prepared: 2022-06-23, Analyzed: 2022-06-28						
BOD, 5-day	< 2.0	2.0 mg/L							
LCS (B2F2992-BS1)			Prepared: 2022-06-23, Analyzed: 2022-06-28						
BOD, 5-day	175	34.9 mg/L	180		97	85-115			
General Parameters, Batch B2F3112									
Blank (B2F3112-BLK1)			Prepared: 2022-06-24, Analyzed: 2022-06-24						
Chemical Oxygen Demand	< 20	20 mg/L							
LCS (B2F3112-BS1)			Prepared: 2022-06-24, Analyzed: 2022-06-24						
Chemical Oxygen Demand	506	20 mg/L	500		101	89-115			
Duplicate (B2F3112-DUP1)			Source: 22F3398-02 Prepared: 2022-06-24, Analyzed: 2022-06-24						
Chemical Oxygen Demand	189	20 mg/L		193			2	14	
Matrix Spike (B2F3112-MS1)			Source: 22F3398-02 Prepared: 2022-06-24, Analyzed: 2022-06-24						
Chemical Oxygen Demand	323	20 mg/L	125	193	104	75-125			
General Parameters, Batch B2F3339									
Blank (B2F3339-BLK1)			Prepared: 2022-06-27, Analyzed: 2022-06-27						
Ammonia, Total (as N)	< 0.050	0.050 mg/L							



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT	Kelowna, City of RBCF Ponds	WORK ORDER REPORTED	22F3398 2022-06-30 14:40
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Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
General Parameters, Batch B2F3339, Continued									
Blank (B2F3339-BLK2)			Prepared: 2022-06-27, Analyzed: 2022-06-27						
Ammonia, Total (as N)	< 0.050	0.050 mg/L							
Blank (B2F3339-BLK3)			Prepared: 2022-06-27, Analyzed: 2022-06-27						
Ammonia, Total (as N)	< 0.050	0.050 mg/L							
Blank (B2F3339-BLK4)			Prepared: 2022-06-27, Analyzed: 2022-06-27						
Ammonia, Total (as N)	< 0.050	0.050 mg/L							
LCS (B2F3339-BS1)			Prepared: 2022-06-27, Analyzed: 2022-06-27						
Ammonia, Total (as N)	0.909	0.050 mg/L	1.00		91	90-115			
LCS (B2F3339-BS2)			Prepared: 2022-06-27, Analyzed: 2022-06-27						
Ammonia, Total (as N)	0.939	0.050 mg/L	1.00		94	90-115			
LCS (B2F3339-BS3)			Prepared: 2022-06-27, Analyzed: 2022-06-27						
Ammonia, Total (as N)	0.941	0.050 mg/L	1.00		94	90-115			
LCS (B2F3339-BS4)			Prepared: 2022-06-27, Analyzed: 2022-06-27						
Ammonia, Total (as N)	0.943	0.050 mg/L	1.00		94	90-115			
General Parameters, Batch B2F3379									
Blank (B2F3379-BLK1)			Prepared: 2022-06-27, Analyzed: 2022-06-28						
Nitrogen, Total Kjeldahl	< 0.050	0.050 mg/L							
Blank (B2F3379-BLK2)			Prepared: 2022-06-27, Analyzed: 2022-06-28						
Nitrogen, Total Kjeldahl	< 0.050	0.050 mg/L							
LCS (B2F3379-BS1)			Prepared: 2022-06-27, Analyzed: 2022-06-28						
Nitrogen, Total Kjeldahl	1.11	0.050 mg/L	1.00		111	85-115			
LCS (B2F3379-BS2)			Prepared: 2022-06-27, Analyzed: 2022-06-28						
Nitrogen, Total Kjeldahl	1.06	0.050 mg/L	1.00		106	85-115			
Duplicate (B2F3379-DUP1)			Source: 22F3398-01		Prepared: 2022-06-27, Analyzed: 2022-06-28				
Nitrogen, Total Kjeldahl	1.41	0.050 mg/L		1.46			3	15	
Matrix Spike (B2F3379-MS1)			Source: 22F3398-01		Prepared: 2022-06-27, Analyzed: 2022-06-28				
Nitrogen, Total Kjeldahl	3.27	0.100 mg/L	2.00	1.46	91	65-135			
General Parameters, Batch B2F3380									
Blank (B2F3380-BLK1)			Prepared: 2022-06-27, Analyzed: 2022-06-27						
Conductivity (EC)	< 2.0	2.0 µS/cm							
LCS (B2F3380-BS2)			Prepared: 2022-06-27, Analyzed: 2022-06-27						
Conductivity (EC)	1390	2.0 µS/cm	1410		98	95-105			
Reference (B2F3380-SRM1)			Prepared: 2022-06-27, Analyzed: 2022-06-27						
pH	7.03	0.10 pH units	7.01		100	98-102			
General Parameters, Batch B2F3418									
Blank (B2F3418-BLK1)			Prepared: 2022-06-27, Analyzed: 2022-06-27						
Conductivity (EC)	< 2.0	2.0 µS/cm							

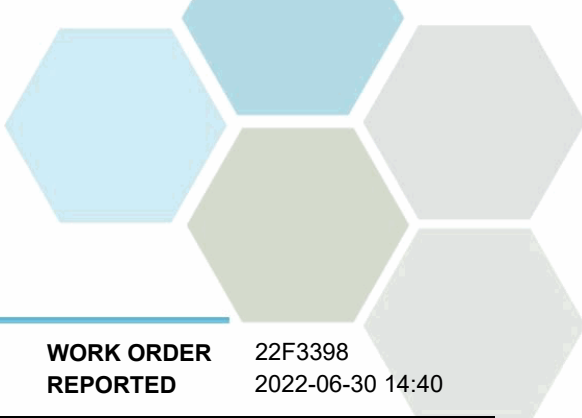


APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT	Kelowna, City of RBCF Ponds	WORK ORDER REPORTED	22F3398 2022-06-30 14:40
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Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
General Parameters, Batch B2F3418, Continued									
Blank (B2F3418-BLK2)			Prepared: 2022-06-27, Analyzed: 2022-06-27						
Conductivity (EC)	< 2.0	2.0 µS/cm							
Blank (B2F3418-BLK3)			Prepared: 2022-06-27, Analyzed: 2022-06-27						
Conductivity (EC)	< 2.0	2.0 µS/cm							
LCS (B2F3418-BS4)			Prepared: 2022-06-27, Analyzed: 2022-06-27						
Conductivity (EC)	1410	2.0 µS/cm	1410		100	95-105			
LCS (B2F3418-BS5)			Prepared: 2022-06-27, Analyzed: 2022-06-27						
Conductivity (EC)	1400	2.0 µS/cm	1410		99	95-105			
LCS (B2F3418-BS6)			Prepared: 2022-06-27, Analyzed: 2022-06-27						
Conductivity (EC)	1430	2.0 µS/cm	1410		101	95-105			
Reference (B2F3418-SRM1)			Prepared: 2022-06-27, Analyzed: 2022-06-27						
pH	7.03	0.10 pH units	7.01		100	98-102			
Reference (B2F3418-SRM2)			Prepared: 2022-06-27, Analyzed: 2022-06-27						
pH	7.02	0.10 pH units	7.01		100	98-102			
Reference (B2F3418-SRM3)			Prepared: 2022-06-27, Analyzed: 2022-06-27						
pH	7.04	0.10 pH units	7.01		100	98-102			
General Parameters, Batch B2F3442									
Blank (B2F3442-BLK1)			Prepared: 2022-06-28, Analyzed: 2022-06-28						
Solids, Total Dissolved	< 15	15 mg/L							
LCS (B2F3442-BS1)			Prepared: 2022-06-28, Analyzed: 2022-06-28						
Solids, Total Dissolved	240	15 mg/L	240		100	85-115			
Duplicate (B2F3442-DUP1)			Source: 22F3398-03		Prepared: 2022-06-28, Analyzed: 2022-06-28				
Solids, Total Dissolved	2400	15 mg/L		2270			6	15	
General Parameters, Batch B2F3444									
Blank (B2F3444-BLK1)			Prepared: 2022-06-27, Analyzed: 2022-06-28						
Phosphorus, Total (as P)	< 0.0050	0.0050 mg/L							
Blank (B2F3444-BLK3)			Prepared: 2022-06-27, Analyzed: 2022-06-28						
Phosphorus, Total (as P)	< 0.0050	0.0050 mg/L							
LCS (B2F3444-BS1)			Prepared: 2022-06-27, Analyzed: 2022-06-28						
Phosphorus, Total (as P)	0.0927	0.0050 mg/L	0.100		93	85-115			
LCS (B2F3444-BS3)			Prepared: 2022-06-27, Analyzed: 2022-06-28						
Phosphorus, Total (as P)	0.0910	0.0050 mg/L	0.100		91	85-115			
Duplicate (B2F3444-DUP1)			Source: 22F3398-03		Prepared: 2022-06-27, Analyzed: 2022-06-28				
Phosphorus, Total (as P)	0.0616	0.0050 mg/L		0.0615			< 1	15	
Matrix Spike (B2F3444-MS1)			Source: 22F3398-03		Prepared: 2022-06-27, Analyzed: 2022-06-28				
Phosphorus, Total (as P)	0.180	0.0050 mg/L	0.102	0.0615	116	70-125			

General Parameters, Batch B2F3484



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT	Kelowna, City of RBCF Ponds	WORK ORDER REPORTED	22F3398 2022-06-30 14:40
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Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
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General Parameters, Batch B2F3484, Continued

Blank (B2F3484-BLK1)			Prepared: 2022-06-28, Analyzed: 2022-06-28						
Solids, Total Suspended	< 2.0	2.0 mg/L							
LCS (B2F3484-BS1)			Prepared: 2022-06-28, Analyzed: 2022-06-28						
Solids, Total Suspended	92.5	5.0 mg/L	100	92	85-115				

General Parameters, Batch B2F3528

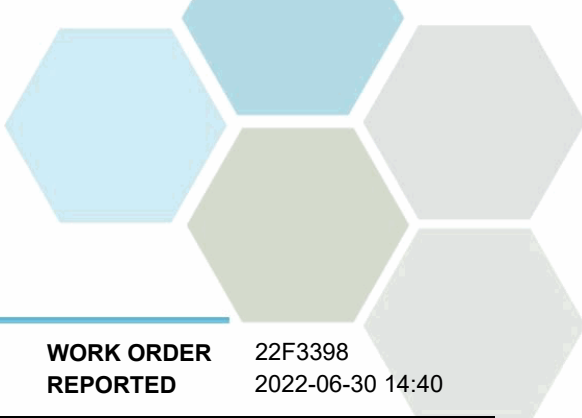
Blank (B2F3528-BLK1)			Prepared: 2022-06-29, Analyzed: 2022-06-29						
Solids, Total Dissolved	< 15	15 mg/L							
LCS (B2F3528-BS1)			Prepared: 2022-06-29, Analyzed: 2022-06-29						
Solids, Total Dissolved	234	15 mg/L	240	98	85-115				
Duplicate (B2F3528-DUP1)			Source: 22F3398-01		Prepared: 2022-06-29, Analyzed: 2022-06-29				
Solids, Total Dissolved	3780	15 mg/L	3760	< 1	15				

Microbiological Parameters, Batch B2F2957

Blank (B2F2957-BLK1)			Prepared: 2022-06-23, Analyzed: 2022-06-23						
Coliforms, Total (Q-Tray)	< 1	1 MPN/100 mL							
E. coli (Q-Tray)	< 1	1 MPN/100 mL							
Blank (B2F2957-BLK2)			Prepared: 2022-06-23, Analyzed: 2022-06-23						
E. coli (Q-Tray)	< 1	1 MPN/100 mL							

Total Metals, Batch B2F3287

Blank (B2F3287-BLK1)			Prepared: 2022-06-26, Analyzed: 2022-06-26						
Aluminum, total	< 0.0050	0.0050 mg/L							
Antimony, total	< 0.00020	0.00020 mg/L							
Arsenic, total	< 0.00050	0.00050 mg/L							
Barium, total	< 0.0050	0.0050 mg/L							
Beryllium, total	< 0.00010	0.00010 mg/L							
Bismuth, total	< 0.00010	0.00010 mg/L							
Boron, total	< 0.0500	0.0500 mg/L							
Cadmium, total	< 0.000010	0.000010 mg/L							
Calcium, total	< 0.20	0.20 mg/L							
Chromium, total	< 0.00050	0.00050 mg/L							
Cobalt, total	< 0.00010	0.00010 mg/L							
Copper, total	< 0.00040	0.00040 mg/L							
Iron, total	< 0.010	0.010 mg/L							
Lead, total	< 0.00020	0.00020 mg/L							
Lithium, total	< 0.00010	0.00010 mg/L							
Magnesium, total	< 0.010	0.010 mg/L							
Manganese, total	< 0.00020	0.00020 mg/L							
Molybdenum, total	< 0.00010	0.00010 mg/L							
Nickel, total	< 0.00040	0.00040 mg/L							
Phosphorus, total	< 0.050	0.050 mg/L							
Potassium, total	< 0.10	0.10 mg/L							
Selenium, total	< 0.00050	0.00050 mg/L							
Silicon, total	< 1.0	1.0 mg/L							
Silver, total	< 0.000050	0.000050 mg/L							
Sodium, total	< 0.10	0.10 mg/L							
Strontium, total	< 0.0010	0.0010 mg/L							
Sulfur, total	< 3.0	3.0 mg/L							



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REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

WORK ORDER REPORTED 22F3398
2022-06-30 14:40

Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
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Total Metals, Batch B2F3287, Continued

Blank (B2F3287-BLK1), Continued

Prepared: 2022-06-26, Analyzed: 2022-06-26

Tellurium, total	< 0.00050	0.00050 mg/L							
Thallium, total	0.000026	0.000020 mg/L							BLK
Thorium, total	< 0.00010	0.00010 mg/L							
Tin, total	< 0.00020	0.00020 mg/L							
Titanium, total	< 0.0050	0.0050 mg/L							
Tungsten, total	< 0.0002	0.0002 mg/L							
Uranium, total	< 0.000020	0.000020 mg/L							
Vanadium, total	< 0.0050	0.0050 mg/L							
Zinc, total	< 0.0040	0.0040 mg/L							
Zirconium, total	< 0.00010	0.00010 mg/L							

LCS (B2F3287-BS1)

Prepared: 2022-06-26, Analyzed: 2022-06-26

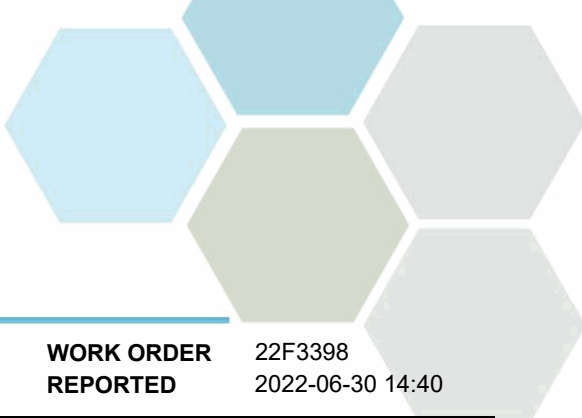
Aluminum, total	3.94	0.0050 mg/L	4.00		99	80-120			
Antimony, total	0.0392	0.00020 mg/L	0.0400		98	80-120			
Arsenic, total	0.0410	0.00050 mg/L	0.0400		102	80-120			
Barium, total	0.0403	0.0050 mg/L	0.0400		101	80-120			
Beryllium, total	0.0379	0.00010 mg/L	0.0400		95	80-120			
Bismuth, total	0.0410	0.00010 mg/L	0.0400		103	80-120			
Boron, total	< 0.0500	0.0500 mg/L	0.0400		101	80-120			
Cadmium, total	0.0401	0.000010 mg/L	0.0400		100	80-120			
Calcium, total	3.88	0.20 mg/L	4.00		97	80-120			
Chromium, total	0.0405	0.00050 mg/L	0.0400		101	80-120			
Cobalt, total	0.0393	0.00010 mg/L	0.0400		98	80-120			
Copper, total	0.0390	0.00040 mg/L	0.0400		98	80-120			
Iron, total	3.94	0.010 mg/L	4.00		98	80-120			
Lead, total	0.0412	0.00020 mg/L	0.0400		103	80-120			
Lithium, total	0.0392	0.00010 mg/L	0.0400		98	80-120			
Magnesium, total	3.93	0.010 mg/L	4.00		98	80-120			
Manganese, total	0.0402	0.00020 mg/L	0.0400		101	80-120			
Molybdenum, total	0.0396	0.00010 mg/L	0.0400		99	80-120			
Nickel, total	0.0397	0.00040 mg/L	0.0400		99	80-120			
Phosphorus, total	4.00	0.050 mg/L	4.00		100	80-120			
Potassium, total	3.99	0.10 mg/L	4.00		100	80-120			
Selenium, total	0.0401	0.00050 mg/L	0.0400		100	80-120			
Silicon, total	4.2	1.0 mg/L	4.00		104	80-120			
Silver, total	0.0402	0.000050 mg/L	0.0400		100	80-120			
Sodium, total	4.06	0.10 mg/L	4.00		102	80-120			
Strontium, total	0.0408	0.0010 mg/L	0.0400		102	80-120			
Sulfur, total	41.7	3.0 mg/L	40.0		104	80-120			
Tellurium, total	0.0387	0.00050 mg/L	0.0400		97	80-120			
Thallium, total	0.0413	0.000020 mg/L	0.0400		103	80-120			
Thorium, total	0.0403	0.00010 mg/L	0.0400		101	80-120			
Tin, total	0.0402	0.00020 mg/L	0.0400		101	80-120			
Titanium, total	0.0395	0.0050 mg/L	0.0400		99	80-120			
Tungsten, total	0.0410	0.0002 mg/L	0.0400		102	80-120			
Uranium, total	0.0423	0.000020 mg/L	0.0400		106	80-120			
Vanadium, total	0.0397	0.0050 mg/L	0.0400		99	80-120			
Zinc, total	0.0403	0.0040 mg/L	0.0400		101	80-120			
Zirconium, total	0.0394	0.00010 mg/L	0.0400		99	80-120			

Total Metals, Batch B2F3463

Blank (B2F3463-BLK1)

Prepared: 2022-06-27, Analyzed: 2022-06-28

Mercury, total	< 0.000010	0.000010 mg/L							
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APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT	Kelowna, City of RBCF Ponds	WORK ORDER REPORTED	22F3398 2022-06-30 14:40
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Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Total Metals, Batch B2F3463, Continued									
Blank (B2F3463-BLK2)			Prepared: 2022-06-27, Analyzed: 2022-06-28						
Mercury, total	< 0.000010	0.000010 mg/L							
Blank (B2F3463-BLK3)			Prepared: 2022-06-27, Analyzed: 2022-06-28						
Mercury, total	< 0.000010	0.000010 mg/L							
Blank (B2F3463-BLK4)			Prepared: 2022-06-27, Analyzed: 2022-06-28						
Mercury, total	< 0.000010	0.000010 mg/L							
LCS (B2F3463-BS1)			Prepared: 2022-06-27, Analyzed: 2022-06-28						
Mercury, total	0.000449	0.000010 mg/L	0.000500		90	80-120			
LCS (B2F3463-BS2)			Prepared: 2022-06-27, Analyzed: 2022-06-28						
Mercury, total	0.000441	0.000010 mg/L	0.000500		88	80-120			
LCS (B2F3463-BS3)			Prepared: 2022-06-27, Analyzed: 2022-06-28						
Mercury, total	0.000452	0.000010 mg/L	0.000500		90	80-120			
LCS (B2F3463-BS4)			Prepared: 2022-06-27, Analyzed: 2022-06-28						
Mercury, total	0.000423	0.000010 mg/L	0.000500		85	80-120			

QC Qualifiers:

BLK Analyte concentration in the Method Blank is above the Reporting Limit (RL).
 MS2 The native sample concentration is greater than the spike concentration hence the matrix spike limits do not apply.



CERTIFICATE OF ANALYSIS

REPORTED TO Kelowna, City of
1435 Water Street
KELOWNA, BC V1Y 1J4

ATTENTION Jose Garcia

PO NUMBER 535828

PROJECT RBCF Ponds

PROJECT INFO

WORK ORDER 22G2467

RECEIVED / TEMP 2022-07-19 15:59 / - 4.3°C

REPORTED 2022-08-06 14:09

COC NUMBER 44762.31399

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.

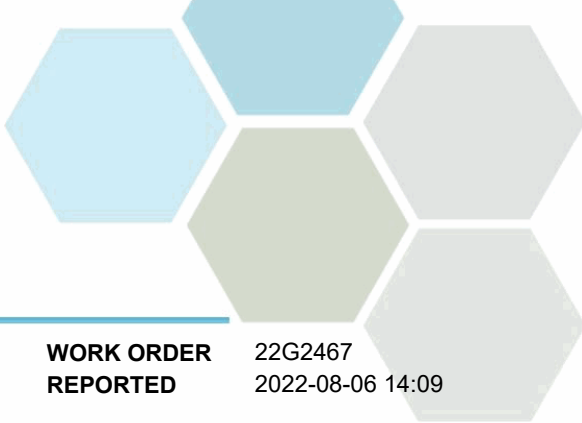
If you have any questions or concerns, please contact me at bwhitehead@caro.ca

Authorized By:

Brent Whitehead
Account Manager

1-888-311-8846 | www.caro.ca

#110 4011 Viking Way Richmond, BC V6V 2K9 | #102 3677 Highway 97N Kelowna, BC V1X 5C3 | 17225 109 Avenue Edmonton, AB T5S 1H7 | #108 4475 Wayburne Drive Burnaby, BC V5G 4X4

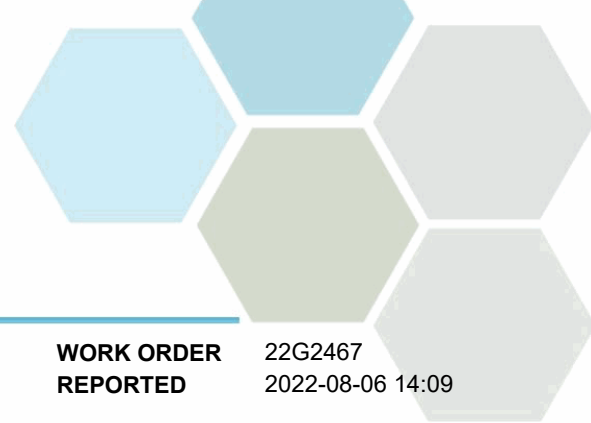


TEST RESULTS

REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

WORK ORDER REPORTED 22G2467
2022-08-06 14:09

Analyte	Result	RL	Units	Analyzed	Qualifier
Rose's Pond (22G2467-01) Matrix: Water Sampled: 2022-07-19					
Anions					
Chloride	377	0.10	mg/L	2022-07-20	
Nitrate (as N)	< 0.100	0.010	mg/L	2022-07-20	RA1
Nitrite (as N)	< 0.100	0.010	mg/L	2022-07-20	RA1
Calculated Parameters					
Hardness, Total (as CaCO3)	1220	1.00	mg/L	N/A	
Nitrate+Nitrite (as N)	< 0.100	0.100	mg/L	N/A	
Nitrogen, Total	1.14	0.100	mg/L	N/A	
Dissolved Metals					
Aluminum, dissolved	< 0.0100	0.0050	mg/L	2022-08-05	RS1
Antimony, dissolved	< 0.00040	0.00020	mg/L	2022-08-05	RS1
Arsenic, dissolved	0.00350	0.00050	mg/L	2022-08-05	RS1
Barium, dissolved	0.0119	0.0050	mg/L	2022-08-05	RS1
Beryllium, dissolved	< 0.00020	0.00010	mg/L	2022-08-05	RS1
Bismuth, dissolved	< 0.00020	0.00010	mg/L	2022-08-05	RS1
Boron, dissolved	< 0.100	0.0500	mg/L	2022-08-05	RS1
Cadmium, dissolved	< 0.000020	0.000010	mg/L	2022-08-05	RS1
Calcium, dissolved	58.7	0.20	mg/L	2022-08-05	RS1
Chromium, dissolved	< 0.00100	0.00050	mg/L	2022-08-05	RS1
Cobalt, dissolved	< 0.00020	0.00010	mg/L	2022-08-05	RS1
Copper, dissolved	< 0.00080	0.00040	mg/L	2022-08-05	RS1
Iron, dissolved	< 0.020	0.010	mg/L	2022-08-05	RS1
Lead, dissolved	< 0.00040	0.00020	mg/L	2022-08-05	RS1
Lithium, dissolved	0.0422	0.00010	mg/L	2022-08-05	RS1
Magnesium, dissolved	261	0.010	mg/L	2022-08-05	RS1
Manganese, dissolved	0.0310	0.00020	mg/L	2022-08-05	RS1
Mercury, dissolved	< 0.000010	0.000010	mg/L	2022-07-22	
Molybdenum, dissolved	0.00134	0.00010	mg/L	2022-08-05	RS1
Nickel, dissolved	0.00082	0.00040	mg/L	2022-08-05	RS1
Phosphorus, dissolved	< 0.100	0.050	mg/L	2022-08-05	RS1
Potassium, dissolved	77.3	0.10	mg/L	2022-08-05	RS1
Selenium, dissolved	< 0.00100	0.00050	mg/L	2022-08-05	RS1
Silicon, dissolved	< 2.0	1.0	mg/L	2022-08-05	RS1
Silver, dissolved	< 0.000100	0.000050	mg/L	2022-08-05	RS1
Sodium, dissolved	771	0.10	mg/L	2022-08-05	RS1
Strontium, dissolved	0.457	0.0010	mg/L	2022-08-05	RS1
Sulfur, dissolved	635	3.0	mg/L	2022-08-05	RS1
Tellurium, dissolved	< 0.00100	0.00050	mg/L	2022-08-05	RS1
Thallium, dissolved	< 0.000040	0.000020	mg/L	2022-08-05	RS1
Thorium, dissolved	< 0.00020	0.00010	mg/L	2022-08-05	RS1
Tin, dissolved	< 0.00040	0.00020	mg/L	2022-08-05	RS1
Titanium, dissolved	< 0.0100	0.0050	mg/L	2022-08-05	RS1
Tungsten, dissolved	< 0.0020	0.0010	mg/L	2022-08-05	RS1



TEST RESULTS

REPORTED TO PROJECT Kelowna, City of RBCF Ponds

WORK ORDER REPORTED 22G2467
2022-08-06 14:09

Analyte	Result	RL	Units	Analyzed	Qualifier
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Rose's Pond (22G2467-01) | Matrix: Water | Sampled: 2022-07-19, Continued

Dissolved Metals, Continued

Uranium, dissolved	0.00358	0.000020	mg/L	2022-08-05	RS1
Vanadium, dissolved	< 0.0100	0.0050	mg/L	2022-08-05	RS1
Zinc, dissolved	< 0.0080	0.0040	mg/L	2022-08-05	RS1
Zirconium, dissolved	< 0.00020	0.00010	mg/L	2022-08-05	RS1

General Parameters

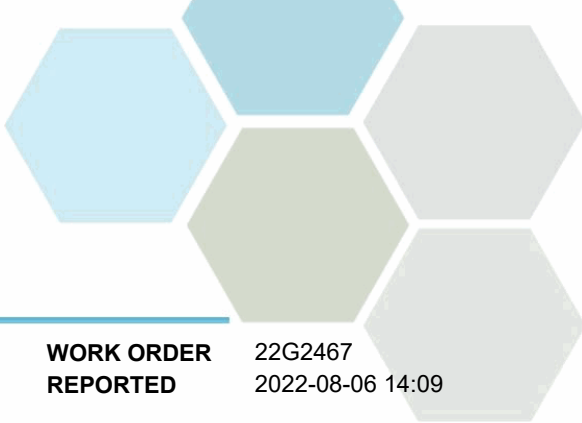
Ammonia, Total (as N)	< 0.050	0.050	mg/L	2022-07-20	
BOD, 5-day	11.7	2.0	mg/L	2022-07-25	
Carbon, Dissolved Organic	17.1	0.50	mg/L	2022-07-21	
Chemical Oxygen Demand	50	20	mg/L	2022-07-21	
Conductivity (EC)	4580	2.0	µS/cm	2022-07-22	
Nitrogen, Total Kjeldahl	1.14	0.050	mg/L	2022-07-24	
pH	8.72	0.10	pH units	2022-07-22	HT2
Phosphorus, Total (as P)	0.0318	0.0050	mg/L	2022-07-25	
Solids, Total Dissolved	3360	15	mg/L	2022-07-26	HT1
Solids, Total Suspended	5.6	2.0	mg/L	2022-07-26	

Microbiological Parameters

Coliforms, Total (Q-Tray)	> 2420	1	MPN/100 mL	2022-07-20	
E. coli (Q-Tray)	56	1	MPN/100 mL	2022-07-20	

Total Metals

Aluminum, total	0.0352	0.0050	mg/L	2022-08-01	RS1
Antimony, total	< 0.00100	0.00020	mg/L	2022-08-01	RS1
Arsenic, total	0.00340	0.00050	mg/L	2022-08-01	RS1
Barium, total	< 0.0250	0.0050	mg/L	2022-08-01	RS1
Beryllium, total	< 0.00050	0.00010	mg/L	2022-08-01	RS1
Bismuth, total	< 0.00050	0.00010	mg/L	2022-08-01	RS1
Boron, total	< 0.250	0.0500	mg/L	2022-08-01	RS1
Cadmium, total	< 0.000050	0.000010	mg/L	2022-08-01	RS1
Calcium, total	57.1	0.20	mg/L	2022-08-01	RS1
Chromium, total	< 0.00250	0.00050	mg/L	2022-08-01	RS1
Cobalt, total	< 0.00050	0.00010	mg/L	2022-08-01	RS1
Copper, total	< 0.00200	0.00040	mg/L	2022-08-01	RS1
Iron, total	< 0.050	0.010	mg/L	2022-08-01	RS1
Lead, total	< 0.00100	0.00020	mg/L	2022-08-01	RS1
Lithium, total	0.0400	0.00010	mg/L	2022-08-01	RS1
Magnesium, total	233	0.010	mg/L	2022-08-01	RS1
Manganese, total	0.0720	0.00020	mg/L	2022-08-01	RS1
Mercury, total	< 0.000010	0.000010	mg/L	2022-07-22	
Molybdenum, total	0.00137	0.00010	mg/L	2022-08-01	RS1
Nickel, total	< 0.00200	0.00040	mg/L	2022-08-01	RS1
Phosphorus, total	< 0.250	0.050	mg/L	2022-08-01	RS1
Potassium, total	70.0	0.10	mg/L	2022-08-01	RS1



TEST RESULTS

REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

WORK ORDER REPORTED 22G2467
2022-08-06 14:09

Analyte	Result	RL	Units	Analyzed	Qualifier
Rose's Pond (22G2467-01) Matrix: Water Sampled: 2022-07-19, Continued					
<i>Total Metals, Continued</i>					
Selenium, total	< 0.00250	0.00050	mg/L	2022-08-01	RS1
Silicon, total	< 5.0	1.0	mg/L	2022-08-01	RS1
Silver, total	< 0.000250	0.000050	mg/L	2022-08-01	RS1
Sodium, total	680	0.10	mg/L	2022-08-01	RS1
Strontium, total	0.431	0.0010	mg/L	2022-08-01	RS1
Sulfur, total	626	3.0	mg/L	2022-08-01	RS1
Tellurium, total	< 0.00250	0.00050	mg/L	2022-08-01	RS1
Thallium, total	< 0.000100	0.000020	mg/L	2022-08-01	RS1
Thorium, total	< 0.00050	0.00010	mg/L	2022-08-01	RS1
Tin, total	< 0.00100	0.00020	mg/L	2022-08-01	RS1
Titanium, total	< 0.0250	0.0050	mg/L	2022-08-01	RS1
Tungsten, total	< 0.0010	0.0002	mg/L	2022-08-01	RS1
Uranium, total	0.00368	0.000020	mg/L	2022-08-01	RS1
Vanadium, total	< 0.0250	0.0050	mg/L	2022-08-01	RS1
Zinc, total	< 0.0200	0.0040	mg/L	2022-08-01	RS1
Zirconium, total	< 0.00050	0.00010	mg/L	2022-08-01	RS1

Drainage Pond (22G2467-02) | Matrix: Water | Sampled: 2022-07-19

Anions

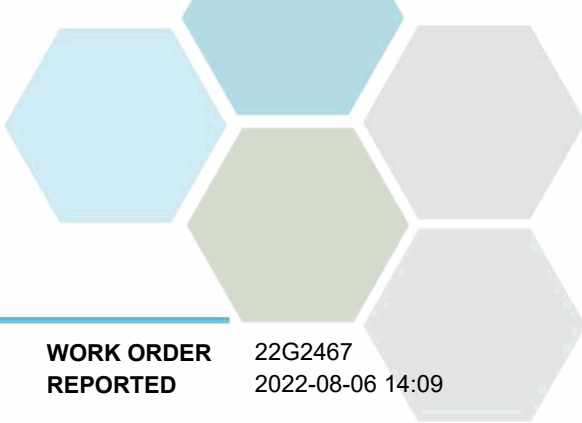
Chloride	88.5	0.10	mg/L	2022-07-20	
Nitrate (as N)	< 0.010	0.010	mg/L	2022-07-20	
Nitrite (as N)	< 0.010	0.010	mg/L	2022-07-20	

Calculated Parameters

Hardness, Total (as CaCO3)	228	0.500	mg/L	N/A	
Nitrate+Nitrite (as N)	< 0.0100	0.0100	mg/L	N/A	
Nitrogen, Total	29.1	1.00	mg/L	N/A	

Dissolved Metals

Aluminum, dissolved	0.0389	0.0050	mg/L	2022-08-05	
Antimony, dissolved	0.00022	0.00020	mg/L	2022-08-05	
Arsenic, dissolved	0.00328	0.00050	mg/L	2022-08-05	
Barium, dissolved	0.0274	0.0050	mg/L	2022-08-05	
Beryllium, dissolved	< 0.00010	0.00010	mg/L	2022-08-05	
Bismuth, dissolved	< 0.00010	0.00010	mg/L	2022-08-05	
Boron, dissolved	0.178	0.0500	mg/L	2022-08-05	
Cadmium, dissolved	0.000036	0.000010	mg/L	2022-08-05	
Calcium, dissolved	53.7	0.20	mg/L	2022-08-05	
Chromium, dissolved	< 0.00050	0.00050	mg/L	2022-08-05	
Cobalt, dissolved	0.00052	0.00010	mg/L	2022-08-05	
Copper, dissolved	0.00542	0.00040	mg/L	2022-08-05	
Iron, dissolved	0.123	0.010	mg/L	2022-08-05	

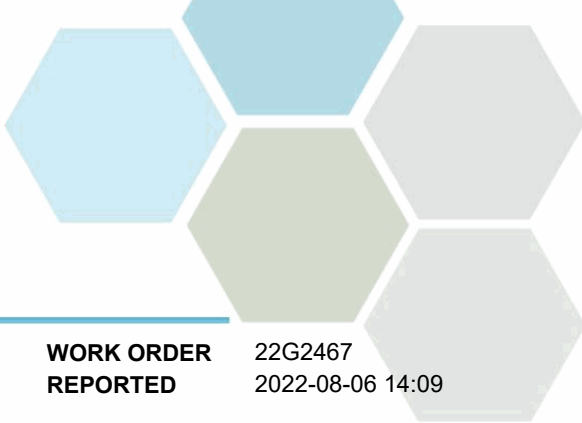


TEST RESULTS

REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

WORK ORDER REPORTED 22G2467
2022-08-06 14:09

Analyte	Result	RL	Units	Analyzed	Qualifier
Drainage Pond (22G2467-02) Matrix: Water Sampled: 2022-07-19, Continued					
<i>Dissolved Metals, Continued</i>					
Lead, dissolved	< 0.00020	0.00020	mg/L	2022-08-05	
Lithium, dissolved	0.0118	0.00010	mg/L	2022-08-05	
Magnesium, dissolved	22.9	0.010	mg/L	2022-08-05	
Manganese, dissolved	0.169	0.00020	mg/L	2022-08-05	
Mercury, dissolved	< 0.000040	0.000010	mg/L	2022-07-22	RS1
Molybdenum, dissolved	0.00208	0.00010	mg/L	2022-08-05	
Nickel, dissolved	0.00234	0.00040	mg/L	2022-08-05	
Phosphorus, dissolved	7.88	0.050	mg/L	2022-08-05	
Potassium, dissolved	40.2	0.10	mg/L	2022-08-05	
Selenium, dissolved	0.00057	0.00050	mg/L	2022-08-05	
Silicon, dissolved	2.9	1.0	mg/L	2022-08-05	
Silver, dissolved	< 0.000050	0.000050	mg/L	2022-08-05	
Sodium, dissolved	97.1	0.10	mg/L	2022-08-05	
Strontium, dissolved	0.509	0.0010	mg/L	2022-08-05	
Sulfur, dissolved	33.4	3.0	mg/L	2022-08-05	
Tellurium, dissolved	< 0.00050	0.00050	mg/L	2022-08-05	
Thallium, dissolved	< 0.000020	0.000020	mg/L	2022-08-05	
Thorium, dissolved	< 0.00010	0.00010	mg/L	2022-08-05	
Tin, dissolved	< 0.00020	0.00020	mg/L	2022-08-05	
Titanium, dissolved	< 0.0050	0.0050	mg/L	2022-08-05	
Tungsten, dissolved	< 0.0010	0.0010	mg/L	2022-08-05	
Uranium, dissolved	0.00103	0.000020	mg/L	2022-08-05	
Vanadium, dissolved	< 0.0050	0.0050	mg/L	2022-08-05	
Zinc, dissolved	0.0243	0.0040	mg/L	2022-08-05	
Zirconium, dissolved	0.00037	0.00010	mg/L	2022-08-05	
<i>General Parameters</i>					
Ammonia, Total (as N)	18.2	0.050	mg/L	2022-07-20	
BOD, 5-day	20.1	2.0	mg/L	2022-07-25	
Carbon, Dissolved Organic	39.6	0.50	mg/L	2022-07-21	
Chemical Oxygen Demand	185	20	mg/L	2022-07-21	
Conductivity (EC)	1060	2.0	µS/cm	2022-07-22	
Nitrogen, Total Kjeldahl	29.1	0.050	mg/L	2022-07-24	
pH	8.00	0.10	pH units	2022-07-22	HT2
Phosphorus, Total (as P)	7.93	0.0050	mg/L	2022-07-25	
Solids, Total Dissolved	650	15	mg/L	2022-07-26	HT1
Solids, Total Suspended	11.3	2.0	mg/L	2022-07-26	
<i>Microbiological Parameters</i>					
Coliforms, Total (Q-Tray)	> 242000	1	MPN/100 mL	2022-07-20	
E. coli (Q-Tray)	18100	1	MPN/100 mL	2022-07-20	
<i>Total Metals</i>					
Aluminum, total	0.0797	0.0050	mg/L	2022-08-01	



TEST RESULTS

REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

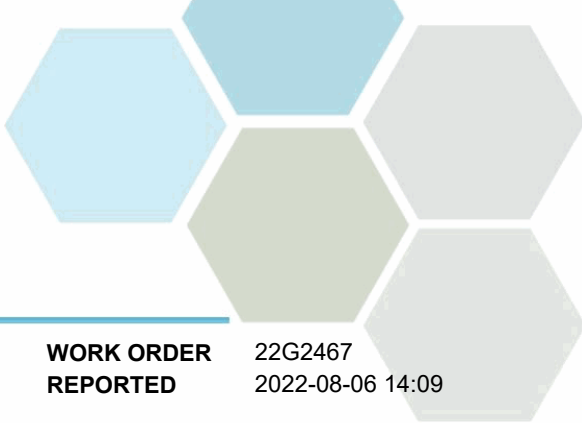
WORK ORDER REPORTED 22G2467
2022-08-06 14:09

Analyte	Result	RL	Units	Analyzed	Qualifier
Drainage Pond (22G2467-02) Matrix: Water Sampled: 2022-07-19, Continued					
<i>Total Metals, Continued</i>					
Antimony, total	0.00024	0.00020	mg/L	2022-08-01	
Arsenic, total	0.00337	0.00050	mg/L	2022-08-01	
Barium, total	0.0307	0.0050	mg/L	2022-08-01	
Beryllium, total	< 0.00010	0.00010	mg/L	2022-08-01	
Bismuth, total	0.00041	0.00010	mg/L	2022-08-01	
Boron, total	0.171	0.0500	mg/L	2022-08-01	
Cadmium, total	0.000096	0.000010	mg/L	2022-08-01	
Calcium, total	49.7	0.20	mg/L	2022-08-01	
Chromium, total	0.00069	0.00050	mg/L	2022-08-01	
Cobalt, total	0.00062	0.00010	mg/L	2022-08-01	
Copper, total	0.0187	0.00040	mg/L	2022-08-01	
Iron, total	0.265	0.010	mg/L	2022-08-01	
Lead, total	0.00036	0.00020	mg/L	2022-08-01	
Lithium, total	0.0109	0.00010	mg/L	2022-08-01	
Magnesium, total	21.6	0.010	mg/L	2022-08-01	
Manganese, total	0.183	0.00020	mg/L	2022-08-01	
Mercury, total	< 0.000040	0.000010	mg/L	2022-07-22	RS1
Molybdenum, total	0.00342	0.00010	mg/L	2022-08-01	
Nickel, total	0.00276	0.00040	mg/L	2022-08-01	
Phosphorus, total	7.67	0.050	mg/L	2022-08-01	
Potassium, total	36.5	0.10	mg/L	2022-08-01	
Selenium, total	0.00080	0.00050	mg/L	2022-08-01	
Silicon, total	2.8	1.0	mg/L	2022-08-01	
Silver, total	0.000062	0.000050	mg/L	2022-08-01	
Sodium, total	84.3	0.10	mg/L	2022-08-01	
Strontium, total	0.487	0.0010	mg/L	2022-08-01	
Sulfur, total	33.8	3.0	mg/L	2022-08-01	
Tellurium, total	< 0.00050	0.00050	mg/L	2022-08-01	
Thallium, total	< 0.000020	0.000020	mg/L	2022-08-01	
Thorium, total	< 0.00010	0.00010	mg/L	2022-08-01	
Tin, total	0.00032	0.00020	mg/L	2022-08-01	
Titanium, total	< 0.0050	0.0050	mg/L	2022-08-01	
Tungsten, total	0.0003	0.0002	mg/L	2022-08-01	
Uranium, total	0.00135	0.000020	mg/L	2022-08-01	
Vanadium, total	< 0.0050	0.0050	mg/L	2022-08-01	
Zinc, total	0.0349	0.0040	mg/L	2022-08-01	
Zirconium, total	0.00020	0.00010	mg/L	2022-08-01	

Davidson Pond (22G2467-03) | Matrix: Water | Sampled: 2022-07-19

Anions

Chloride	328	0.10	mg/L	2022-07-20	
Nitrate (as N)	< 0.010	0.010	mg/L	2022-07-20	

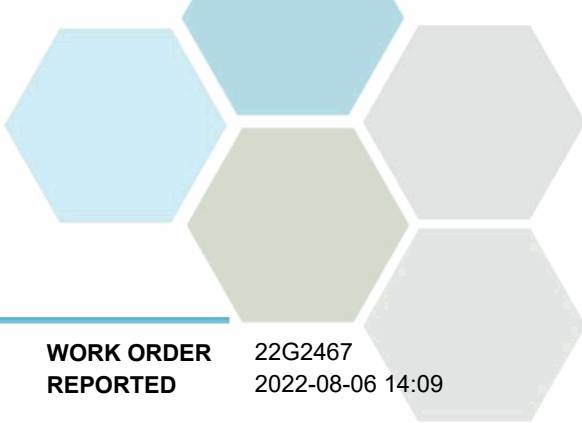


TEST RESULTS

REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

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Analyte	Result	RL	Units	Analyzed	Qualifier
Davidson Pond (22G2467-03) Matrix: Water Sampled: 2022-07-19, Continued					
<i>Anions, Continued</i>					
Nitrite (as N)	< 0.010	0.010	mg/L	2022-07-20	
<i>Calculated Parameters</i>					
Hardness, Total (as CaCO3)	724	1.00	mg/L	N/A	
Nitrate+Nitrite (as N)	< 0.0100	0.0100	mg/L	N/A	
Nitrogen, Total	2.21	0.200	mg/L	N/A	
<i>Dissolved Metals</i>					
Aluminum, dissolved	< 0.0100	0.0050	mg/L	2022-08-05	RS1
Antimony, dissolved	0.00040	0.00020	mg/L	2022-08-05	RS1
Arsenic, dissolved	0.00396	0.00050	mg/L	2022-08-05	RS1
Barium, dissolved	0.0125	0.0050	mg/L	2022-08-05	RS1
Beryllium, dissolved	< 0.00020	0.00010	mg/L	2022-08-05	RS1
Bismuth, dissolved	< 0.00020	0.00010	mg/L	2022-08-05	RS1
Boron, dissolved	< 0.100	0.0500	mg/L	2022-08-05	RS1
Cadmium, dissolved	< 0.000020	0.000010	mg/L	2022-08-05	RS1
Calcium, dissolved	57.9	0.20	mg/L	2022-08-05	RS1
Chromium, dissolved	< 0.00100	0.00050	mg/L	2022-08-05	RS1
Cobalt, dissolved	< 0.00020	0.00010	mg/L	2022-08-05	RS1
Copper, dissolved	0.00141	0.00040	mg/L	2022-08-05	RS1
Iron, dissolved	< 0.020	0.010	mg/L	2022-08-05	RS1
Lead, dissolved	< 0.00040	0.00020	mg/L	2022-08-05	RS1
Lithium, dissolved	0.0480	0.00010	mg/L	2022-08-05	RS1
Magnesium, dissolved	141	0.010	mg/L	2022-08-05	RS1
Manganese, dissolved	0.00886	0.00020	mg/L	2022-08-05	RS1
Mercury, dissolved	< 0.000010	0.000010	mg/L	2022-07-22	
Molybdenum, dissolved	0.00159	0.00010	mg/L	2022-08-05	RS1
Nickel, dissolved	0.00140	0.00040	mg/L	2022-08-05	RS1
Phosphorus, dissolved	< 0.100	0.050	mg/L	2022-08-05	RS1
Potassium, dissolved	51.0	0.10	mg/L	2022-08-05	RS1
Selenium, dissolved	< 0.00100	0.00050	mg/L	2022-08-05	RS1
Silicon, dissolved	< 2.0	1.0	mg/L	2022-08-05	RS1
Silver, dissolved	< 0.000100	0.000050	mg/L	2022-08-05	RS1
Sodium, dissolved	670	0.10	mg/L	2022-08-05	RS1
Strontium, dissolved	0.803	0.0010	mg/L	2022-08-05	RS1
Sulfur, dissolved	425	3.0	mg/L	2022-08-05	RS1
Tellurium, dissolved	< 0.00100	0.00050	mg/L	2022-08-05	RS1
Thallium, dissolved	< 0.000040	0.000020	mg/L	2022-08-05	RS1
Thorium, dissolved	< 0.00020	0.00010	mg/L	2022-08-05	RS1
Tin, dissolved	< 0.00040	0.00020	mg/L	2022-08-05	RS1
Titanium, dissolved	< 0.0100	0.0050	mg/L	2022-08-05	RS1
Tungsten, dissolved	< 0.0020	0.0010	mg/L	2022-08-05	RS1
Uranium, dissolved	0.00751	0.000020	mg/L	2022-08-05	RS1
Vanadium, dissolved	< 0.0100	0.0050	mg/L	2022-08-05	RS1



TEST RESULTS

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Analyte	Result	RL	Units	Analyzed	Qualifier
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Davidson Pond (22G2467-03) | Matrix: Water | Sampled: 2022-07-19, Continued

Dissolved Metals, Continued

Zinc, dissolved	< 0.0080	0.0040	mg/L	2022-08-05	RS1
Zirconium, dissolved	< 0.00020	0.00010	mg/L	2022-08-05	RS1

General Parameters

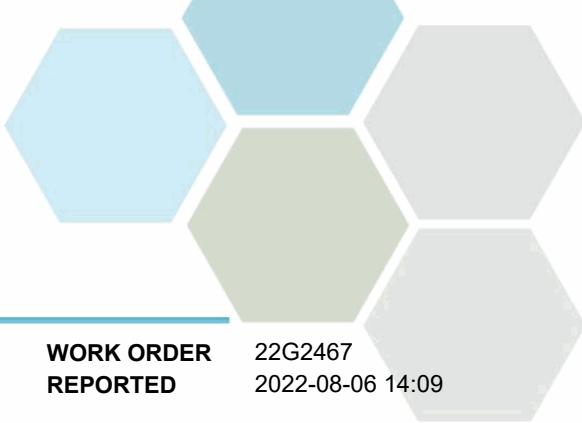
Ammonia, Total (as N)	< 0.050	0.050	mg/L	2022-07-20	
BOD, 5-day	16.1	2.0	mg/L	2022-07-25	
Carbon, Dissolved Organic	25.5	0.50	mg/L	2022-07-21	
Chemical Oxygen Demand	87	20	mg/L	2022-07-21	
Conductivity (EC)	3650	2.0	µS/cm	2022-07-22	
Nitrogen, Total Kjeldahl	2.21	0.050	mg/L	2022-07-24	
pH	9.07	0.10	pH units	2022-07-22	HT2
Phosphorus, Total (as P)	0.0606	0.0050	mg/L	2022-07-25	
Solids, Total Dissolved	2440	15	mg/L	2022-07-26	HT1
Solids, Total Suspended	9.2	2.0	mg/L	2022-07-26	

Microbiological Parameters

Coliforms, Total (Q-Tray)	> 24200	1	MPN/100 mL	2022-07-20	
E. coli (Q-Tray)	20	1	MPN/100 mL	2022-07-20	

Total Metals

Aluminum, total	0.0210	0.0050	mg/L	2022-08-01	RS1
Antimony, total	0.00040	0.00020	mg/L	2022-08-01	RS1
Arsenic, total	0.00382	0.00050	mg/L	2022-08-01	RS1
Barium, total	< 0.0100	0.0050	mg/L	2022-08-01	RS1
Beryllium, total	< 0.00020	0.00010	mg/L	2022-08-01	RS1
Bismuth, total	< 0.00020	0.00010	mg/L	2022-08-01	RS1
Boron, total	< 0.100	0.0500	mg/L	2022-08-01	RS1
Cadmium, total	< 0.000020	0.000010	mg/L	2022-08-01	RS1
Calcium, total	53.5	0.20	mg/L	2022-08-01	RS1
Chromium, total	< 0.00100	0.00050	mg/L	2022-08-01	RS1
Cobalt, total	< 0.00020	0.00010	mg/L	2022-08-01	RS1
Copper, total	< 0.00080	0.00040	mg/L	2022-08-01	RS1
Iron, total	0.042	0.010	mg/L	2022-08-01	RS1
Lead, total	< 0.00040	0.00020	mg/L	2022-08-01	RS1
Lithium, total	0.0441	0.00010	mg/L	2022-08-01	RS1
Magnesium, total	128	0.010	mg/L	2022-08-01	RS1
Manganese, total	0.0170	0.00020	mg/L	2022-08-01	RS1
Mercury, total	< 0.000010	0.000010	mg/L	2022-07-22	
Molybdenum, total	0.00161	0.00010	mg/L	2022-08-01	RS1
Nickel, total	0.00154	0.00040	mg/L	2022-08-01	RS1
Phosphorus, total	< 0.100	0.050	mg/L	2022-08-01	RS1
Potassium, total	45.9	0.10	mg/L	2022-08-01	RS1
Selenium, total	< 0.00100	0.00050	mg/L	2022-08-01	RS1
Silicon, total	< 2.0	1.0	mg/L	2022-08-01	RS1



TEST RESULTS

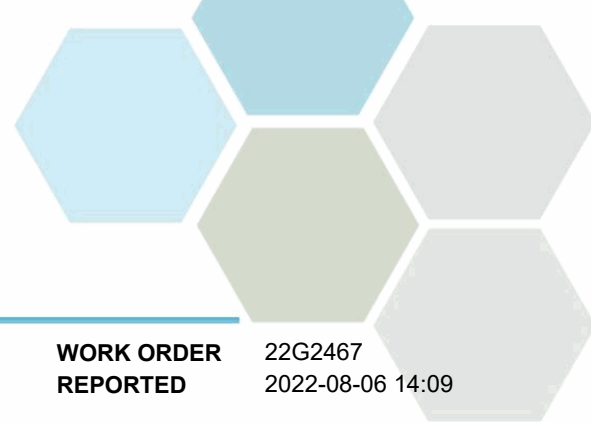
REPORTED TO PROJECT Kelowna, City of
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Analyte	Result	RL	Units	Analyzed	Qualifier
Davidson Pond (22G2467-03) Matrix: Water Sampled: 2022-07-19, Continued					
<i>Total Metals, Continued</i>					
Silver, total	< 0.000100	0.000050	mg/L	2022-08-01	RS1
Sodium, total	567	0.10	mg/L	2022-08-01	RS1
Strontium, total	0.769	0.0010	mg/L	2022-08-01	RS1
Sulfur, total	419	3.0	mg/L	2022-08-01	RS1
Tellurium, total	< 0.00100	0.00050	mg/L	2022-08-01	RS1
Thallium, total	< 0.000040	0.000020	mg/L	2022-08-01	RS1
Thorium, total	< 0.00020	0.00010	mg/L	2022-08-01	RS1
Tin, total	< 0.00040	0.00020	mg/L	2022-08-01	RS1
Titanium, total	< 0.0100	0.0050	mg/L	2022-08-01	RS1
Tungsten, total	< 0.0004	0.0002	mg/L	2022-08-01	RS1
Uranium, total	0.00777	0.000020	mg/L	2022-08-01	RS1
Vanadium, total	< 0.0100	0.0050	mg/L	2022-08-01	RS1
Zinc, total	< 0.0080	0.0040	mg/L	2022-08-01	RS1
Zirconium, total	< 0.00020	0.00010	mg/L	2022-08-01	RS1

Sample Qualifiers:

- 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.
- RA1 The Reporting Limit has been raised due to matrix interference.
- RS1 The Reporting Limits for this sample have been raised due to high analyte concentration and/or matrix interference.



APPENDIX 1: SUPPORTING INFORMATION

REPORTED TO PROJECT Kelowna, City of
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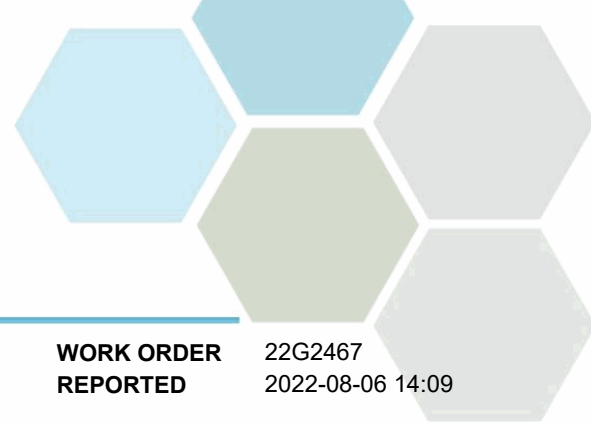
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Analysis Description	Method Ref.	Technique	Accredited	Location
Ammonia, Total in Water	SM 4500-NH3 G* (2017)	Automated Colorimetry (Phenate)	✓	Kelowna
Anions in Water	SM 4110 B (2017)	Ion Chromatography	✓	Kelowna
Biochemical Oxygen Demand in Water	SM 5210 B (2017)	Dissolved Oxygen Meter	✓	Kelowna
Carbon, Dissolved Organic in Water	SM 5310 B (2017)	Combustion, Infrared CO2 Detection	✓	Kelowna
Chemical Oxygen Demand in Water	SM 5220 D* (2017)	Closed Reflux, Colorimetry	✓	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
Dissolved Metals in Water	EPA 200.8 / EPA 6020B	0.45 µm Filtration / Inductively Coupled Plasma-Mass Spectroscopy (ICP-MS)	✓	Richmond
E. coli in Water	NA / SM 9223 (2017)	Quanti-Tray / Enzyme Substrate Endo Agar	✓	Kelowna
Hardness in Water	SM 2340 B (2017)	Calculation: 2.497 [diss Ca] + 4.118 [diss Mg]	✓	N/A
Mercury, dissolved in Water	EPA 245.7*	BrCl2 Oxidation / Cold Vapor Atomic Fluorescence Spectrometry (CVAFS)	✓	Richmond
Mercury, total in Water	EPA 245.7*	BrCl2 Oxidation / Cold Vapor Atomic Fluorescence Spectrometry (CVAFS)	✓	Richmond
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
Phosphorus, Total in Water	SM 4500-P B.5* (2011) / SM 4500-P F (2017)	Persulfate Digestion / Automated Colorimetry (Ascorbic Acid)	✓	Kelowna
Solids, Total Dissolved in Water	Solids in Water, Filtered / SM 2540 C* (2017)	Solids in Water, Filtered / Gravimetry (Dried at 103-105C)	✓	Kelowna
Solids, Total Suspended in Water	Solids in Water, Filtered / SM 2540 D* (2017)	Solids in Water, Filtered / Gravimetry (Dried at 103-105C)	✓	Kelowna
Total Metals in Water	EPA 200.2 / EPA 6020B	HNO3+HCl Hot Block Digestion / Inductively Coupled Plasma-Mass Spectroscopy (ICP-MS)	✓	Richmond

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
>	Greater than the specified Result
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
EPA	United States Environmental Protection Agency Test Methods
SM	Standard Methods for the Examination of Water and Wastewater, American Public Health Association



APPENDIX 1: SUPPORTING INFORMATION

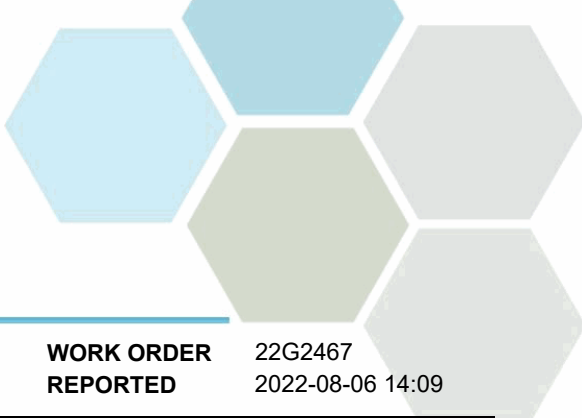
REPORTED TO Kelowna, City of
PROJECT RBCF Ponds

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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 or once samples expire, whichever comes first. Longer hold is possible if agreed to in writing.

Please note any regulatory guidelines applied to this report are added as a convenience to the client, at their request, to help provide some initial context to analytical results obtained. Although CARO makes every effort to ensure accuracy of the associated regulatory guideline(s) applied, the guidelines applied cannot be assumed to be correct due to a variety of factors and as such CARO Analytical Services assumes no liability or responsibility for the use of those guidelines to make any decisions. The original source of the regulation should be verified and a review of the guideline(s) should be validated as correct in order to make any decisions arising from the comparison of the analytical data obtained to the relevant regulatory guideline for one's particular circumstances. Further, CARO Analytical Services assumes no liability or responsibility for any loss attributed from the use of these guidelines in any way.



APPENDIX 2: QUALITY CONTROL RESULTS

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The following section displays the quality control (QC) data that is associated with your sample data. Groups of samples are prepared in “batches” and analyzed in conjunction with QC samples that ensure your data is of the highest quality. Common QC types include:

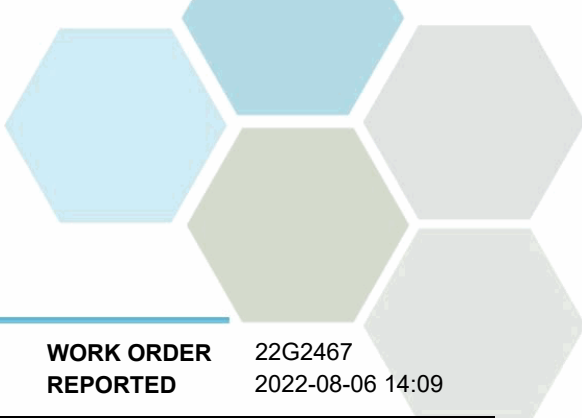
- **Method Blank (Blk):** A blank sample that undergoes sample processing identical to that carried out for the test samples. Method blank results are used to assess contamination from the laboratory environment and reagents.
- **Duplicate (Dup):** An additional or second portion of a randomly selected sample in the analytical run carried through the entire analytical process. Duplicates provide a measure of the analytical method's precision (reproducibility).
- **Blank Spike (BS):** A sample of known concentration which undergoes processing identical to that carried out for test samples, also referred to as a laboratory control sample (LCS). Blank spikes provide a measure of the analytical method's accuracy.
- **Matrix Spike (MS):** A second aliquot of sample is fortified with a known concentration of target analytes and carried through the entire analytical process. Matrix spikes evaluate potential matrix effects that may affect the analyte recovery.
- **Reference Material (SRM):** A homogenous material of similar matrix to the samples, certified for the parameter(s) listed. Reference Materials ensure that the analytical process is adequate to achieve acceptable recoveries of the parameter(s) tested.

Each QC type is analyzed at a 5-10% frequency, i.e. one blank/duplicate/spike for every 10-20 samples. For all types of QC, the specified recovery (% Rec) and relative percent difference (RPD) limits are derived from long-term method performance averages and/or prescribed by the reference method.

Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Anions, Batch B2G2306									
Blank (B2G2306-BLK1)			Prepared: 2022-07-20, Analyzed: 2022-07-20						
Chloride	< 0.10	0.10 mg/L							
Nitrate (as N)	< 0.010	0.010 mg/L							
Nitrite (as N)	< 0.010	0.010 mg/L							
LCS (B2G2306-BS1)			Prepared: 2022-07-20, Analyzed: 2022-07-20						
Chloride	16.1	0.10 mg/L	16.0		101	90-110			
Nitrate (as N)	4.01	0.010 mg/L	4.00		100	90-110			
Nitrite (as N)	1.93	0.010 mg/L	2.00		97	85-115			

Dissolved Metals, Batch B2G2664

Blank (B2G2664-BLK1)			Prepared: 2022-08-05, Analyzed: 2022-08-05						
Aluminum, dissolved	< 0.0050	0.0050 mg/L							
Antimony, dissolved	< 0.00020	0.00020 mg/L							
Arsenic, dissolved	< 0.00050	0.00050 mg/L							
Barium, dissolved	< 0.0050	0.0050 mg/L							
Beryllium, dissolved	< 0.00010	0.00010 mg/L							
Bismuth, dissolved	< 0.00010	0.00010 mg/L							
Boron, dissolved	< 0.0500	0.0500 mg/L							
Cadmium, dissolved	< 0.000010	0.000010 mg/L							
Calcium, dissolved	< 0.20	0.20 mg/L							
Chromium, dissolved	< 0.00050	0.00050 mg/L							
Cobalt, dissolved	< 0.00010	0.00010 mg/L							
Copper, dissolved	< 0.00040	0.00040 mg/L							
Iron, dissolved	< 0.010	0.010 mg/L							
Lead, dissolved	< 0.00020	0.00020 mg/L							
Lithium, dissolved	< 0.00010	0.00010 mg/L							
Magnesium, dissolved	< 0.010	0.010 mg/L							
Manganese, dissolved	< 0.00020	0.00020 mg/L							
Molybdenum, dissolved	< 0.00010	0.00010 mg/L							
Nickel, dissolved	< 0.00040	0.00040 mg/L							
Phosphorus, dissolved	< 0.050	0.050 mg/L							
Potassium, dissolved	< 0.10	0.10 mg/L							
Selenium, dissolved	< 0.00050	0.00050 mg/L							
Silicon, dissolved	< 1.0	1.0 mg/L							
Silver, dissolved	< 0.000050	0.000050 mg/L							



APPENDIX 2: QUALITY CONTROL RESULTS

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Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
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Dissolved Metals, Batch B2G2664, Continued

Blank (B2G2664-BLK1), Continued

Prepared: 2022-08-05, Analyzed: 2022-08-05

Sodium, dissolved	< 0.10	0.10 mg/L							
Strontium, dissolved	< 0.0010	0.0010 mg/L							
Sulfur, dissolved	< 3.0	3.0 mg/L							
Tellurium, dissolved	< 0.00050	0.00050 mg/L							
Thallium, dissolved	< 0.000020	0.000020 mg/L							
Thorium, dissolved	< 0.00010	0.00010 mg/L							
Tin, dissolved	< 0.00020	0.00020 mg/L							
Titanium, dissolved	< 0.0050	0.0050 mg/L							
Tungsten, dissolved	< 0.0010	0.0010 mg/L							
Uranium, dissolved	< 0.000020	0.000020 mg/L							
Vanadium, dissolved	< 0.0050	0.0050 mg/L							
Zinc, dissolved	< 0.0040	0.0040 mg/L							
Zirconium, dissolved	< 0.00010	0.00010 mg/L							

LCS (B2G2664-BS1)

Prepared: 2022-08-05, Analyzed: 2022-08-05

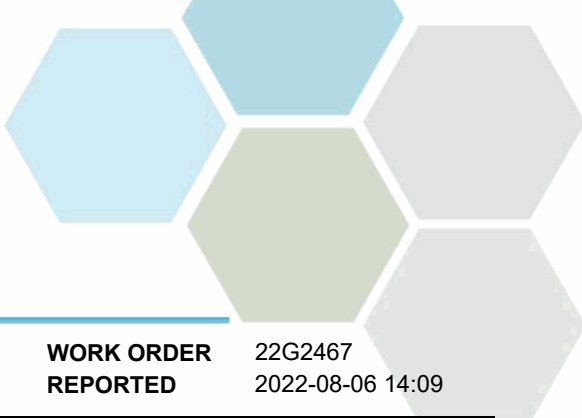
Aluminum, dissolved	4.23	0.0050 mg/L	4.00		106	80-120			
Antimony, dissolved	0.0396	0.00020 mg/L	0.0400		99	80-120			
Arsenic, dissolved	0.0423	0.00050 mg/L	0.0400		106	80-120			
Barium, dissolved	0.0396	0.0050 mg/L	0.0400		99	80-120			
Beryllium, dissolved	0.0399	0.00010 mg/L	0.0400		100	80-120			
Bismuth, dissolved	0.0399	0.00010 mg/L	0.0400		100	80-120			
Boron, dissolved	< 0.0500	0.0500 mg/L	0.0400		99	80-120			
Cadmium, dissolved	0.0400	0.000010 mg/L	0.0400		100	80-120			
Calcium, dissolved	4.01	0.20 mg/L	4.00		100	80-120			
Chromium, dissolved	0.0422	0.00050 mg/L	0.0400		106	80-120			
Cobalt, dissolved	0.0418	0.00010 mg/L	0.0400		104	80-120			
Copper, dissolved	0.0419	0.00040 mg/L	0.0400		105	80-120			
Iron, dissolved	4.14	0.010 mg/L	4.00		103	80-120			
Lead, dissolved	0.0404	0.00020 mg/L	0.0400		101	80-120			
Lithium, dissolved	0.0412	0.00010 mg/L	0.0400		103	80-120			
Magnesium, dissolved	4.26	0.010 mg/L	4.00		106	80-120			
Manganese, dissolved	0.0424	0.00020 mg/L	0.0400		106	80-120			
Molybdenum, dissolved	0.0399	0.00010 mg/L	0.0400		100	80-120			
Nickel, dissolved	0.0418	0.00040 mg/L	0.0400		104	80-120			
Phosphorus, dissolved	4.27	0.050 mg/L	4.00		107	80-120			
Potassium, dissolved	4.20	0.10 mg/L	4.00		105	80-120			
Selenium, dissolved	0.0418	0.00050 mg/L	0.0400		104	80-120			
Silicon, dissolved	4.4	1.0 mg/L	4.00		110	80-120			
Silver, dissolved	0.0413	0.000050 mg/L	0.0400		103	80-120			
Sodium, dissolved	4.41	0.10 mg/L	4.00		110	80-120			
Strontium, dissolved	0.0414	0.0010 mg/L	0.0400		104	80-120			
Sulfur, dissolved	40.7	3.0 mg/L	40.0		102	80-120			
Tellurium, dissolved	0.0391	0.00050 mg/L	0.0400		98	80-120			
Thallium, dissolved	0.0397	0.000020 mg/L	0.0400		99	80-120			
Thorium, dissolved	0.0412	0.00010 mg/L	0.0400		103	80-120			
Tin, dissolved	0.0396	0.00020 mg/L	0.0400		99	80-120			
Titanium, dissolved	0.0437	0.0050 mg/L	0.0400		109	80-120			
Tungsten, dissolved	0.0403	0.0010 mg/L	0.0400		101	80-120			
Uranium, dissolved	0.0409	0.000020 mg/L	0.0400		102	80-120			
Vanadium, dissolved	0.0423	0.0050 mg/L	0.0400		106	80-120			
Zinc, dissolved	0.0413	0.0040 mg/L	0.0400		103	80-120			
Zirconium, dissolved	0.0403	0.00010 mg/L	0.0400		101	80-120			

Duplicate (B2G2664-DUP1)

Source: 22G2467-01

Prepared: 2022-08-05, Analyzed: 2022-08-05

Aluminum, dissolved	< 0.0100	0.0050 mg/L	< 0.0100					20	
Antimony, dissolved	< 0.00040	0.00020 mg/L	< 0.00040					20	
Arsenic, dissolved	0.00352	0.00050 mg/L	0.00350					20	



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

WORK ORDER REPORTED 22G2467
2022-08-06 14:09

Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
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Dissolved Metals, Batch B2G2664, Continued

Duplicate (B2G2664-DUP1), Continued		Source: 22G2467-01		Prepared: 2022-08-05, Analyzed: 2022-08-05					
Barium, dissolved	0.0114	0.0050 mg/L		0.0119				20	
Beryllium, dissolved	< 0.00020	0.00010 mg/L		< 0.00020				20	
Bismuth, dissolved	< 0.00020	0.00010 mg/L		< 0.00020				20	
Boron, dissolved	0.100	0.0500 mg/L		< 0.100				20	
Cadmium, dissolved	< 0.000020	0.000010 mg/L		< 0.000020				20	
Calcium, dissolved	57.2	0.20 mg/L		58.7			3	20	
Chromium, dissolved	< 0.00100	0.00050 mg/L		< 0.00100				20	
Cobalt, dissolved	< 0.00020	0.00010 mg/L		< 0.00020				20	
Copper, dissolved	< 0.00080	0.00040 mg/L		< 0.00080				20	
Iron, dissolved	< 0.020	0.010 mg/L		< 0.020				20	
Lead, dissolved	< 0.00040	0.00020 mg/L		< 0.00040				20	
Lithium, dissolved	0.0414	0.00010 mg/L		0.0422			2	20	
Magnesium, dissolved	257	0.010 mg/L		261			1	20	
Manganese, dissolved	0.0302	0.00020 mg/L		0.0310			2	20	
Molybdenum, dissolved	0.00134	0.00010 mg/L		0.00134			< 1	20	
Nickel, dissolved	0.00082	0.00040 mg/L		0.00082				20	
Phosphorus, dissolved	< 0.100	0.050 mg/L		< 0.100				20	
Potassium, dissolved	75.9	0.10 mg/L		77.3			2	20	
Selenium, dissolved	< 0.00100	0.00050 mg/L		< 0.00100				20	
Silicon, dissolved	< 2.0	1.0 mg/L		< 2.0				20	
Silver, dissolved	< 0.000100	0.000050 mg/L		< 0.000100				20	
Sodium, dissolved	768	0.10 mg/L		771			< 1	20	
Strontium, dissolved	0.446	0.0010 mg/L		0.457			2	20	
Sulfur, dissolved	621	3.0 mg/L		635			2	20	
Tellurium, dissolved	< 0.00100	0.00050 mg/L		< 0.00100				20	
Thallium, dissolved	< 0.000040	0.000020 mg/L		< 0.000040				20	
Thorium, dissolved	< 0.00020	0.00010 mg/L		< 0.00020				20	
Tin, dissolved	< 0.00040	0.00020 mg/L		< 0.00040				20	
Titanium, dissolved	< 0.0100	0.0050 mg/L		< 0.0100				20	
Tungsten, dissolved	< 0.0020	0.0010 mg/L		< 0.0020				20	
Uranium, dissolved	0.00355	0.000020 mg/L		0.00358			< 1	20	
Vanadium, dissolved	< 0.0100	0.0050 mg/L		< 0.0100				20	
Zinc, dissolved	< 0.0080	0.0040 mg/L		< 0.0080				20	
Zirconium, dissolved	< 0.00020	0.00010 mg/L		< 0.00020				20	

Matrix Spike (B2G2664-MS1)		Source: 22G2467-02		Prepared: 2022-08-05, Analyzed: 2022-08-05					
Aluminum, dissolved	4.31	0.0050 mg/L		4.00	0.0389	107	70-130		
Antimony, dissolved	0.0388	0.00020 mg/L		0.0400	0.00022	96	70-130		
Arsenic, dissolved	0.0462	0.00050 mg/L		0.0400	0.00328	107	70-130		
Barium, dissolved	0.0669	0.0050 mg/L		0.0400	0.0274	99	70-130		
Beryllium, dissolved	0.0393	0.00010 mg/L		0.0400	< 0.00010	98	70-130		
Bismuth, dissolved	0.0369	0.00010 mg/L		0.0400	< 0.00010	92	70-130		
Boron, dissolved	0.208	0.0500 mg/L		0.0400	0.178	76	70-130		
Cadmium, dissolved	0.0390	0.000010 mg/L		0.0400	0.000036	97	70-130		
Calcium, dissolved	57.0	0.20 mg/L		4.00	53.7	83	70-130		
Chromium, dissolved	0.0424	0.00050 mg/L		0.0400	< 0.00050	105	70-130		
Cobalt, dissolved	0.0414	0.00010 mg/L		0.0400	0.00052	102	70-130		
Copper, dissolved	0.0452	0.00040 mg/L		0.0400	0.00542	99	70-130		
Iron, dissolved	4.22	0.010 mg/L		4.00	0.123	102	70-130		
Lead, dissolved	0.0387	0.00020 mg/L		0.0400	< 0.00020	96	70-130		
Lithium, dissolved	0.0499	0.00010 mg/L		0.0400	0.0118	95	70-130		
Magnesium, dissolved	26.4	0.010 mg/L		4.00	22.9	89	70-130		
Manganese, dissolved	0.208	0.00020 mg/L		0.0400	0.169	98	70-130		
Molybdenum, dissolved	0.0411	0.00010 mg/L		0.0400	0.00208	98	70-130		
Nickel, dissolved	0.0426	0.00040 mg/L		0.0400	0.00234	101	70-130		
Phosphorus, dissolved	12.3	0.050 mg/L		4.00	7.88	110	70-130		



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Kelowna, City of RBCF Ponds **WORK ORDER REPORTED** 22G2467 2022-08-06 14:09

Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Dissolved Metals, Batch B2G2664, Continued									
Matrix Spike (B2G2664-MS1), Continued		Source: 22G2467-02		Prepared: 2022-08-05, Analyzed: 2022-08-05					
Potassium, dissolved	43.8	0.10 mg/L	4.00	40.2	91	70-130			
Selenium, dissolved	0.0424	0.00050 mg/L	0.0400	0.00057	105	70-130			
Silicon, dissolved	7.3	1.0 mg/L	4.00	2.9	109	70-130			
Silver, dissolved	0.0325	0.000050 mg/L	0.0400	< 0.000050	81	70-130			
Sodium, dissolved	98.1	0.10 mg/L	4.00	97.1	26	70-130			MS2
Strontium, dissolved	0.560	0.0010 mg/L	0.0400	0.509	128	70-130			
Sulfur, dissolved	77.1	3.0 mg/L	40.0	33.4	109	70-130			
Tellurium, dissolved	0.0391	0.00050 mg/L	0.0400	< 0.00050	98	70-130			
Thallium, dissolved	0.0378	0.000020 mg/L	0.0400	< 0.000020	95	70-130			
Thorium, dissolved	0.0409	0.00010 mg/L	0.0400	< 0.00010	102	70-130			
Tin, dissolved	0.0399	0.00020 mg/L	0.0400	< 0.00020	100	70-130			
Titanium, dissolved	0.0441	0.0050 mg/L	0.0400	< 0.0050	107	70-130			
Tungsten, dissolved	0.0400	0.0010 mg/L	0.0400	< 0.0010	99	70-130			
Uranium, dissolved	0.0412	0.000020 mg/L	0.0400	0.00103	100	70-130			
Vanadium, dissolved	0.0437	0.0050 mg/L	0.0400	< 0.0050	108	70-130			
Zinc, dissolved	0.0646	0.0040 mg/L	0.0400	0.0243	101	70-130			
Zirconium, dissolved	0.0411	0.00010 mg/L	0.0400	0.00037	102	70-130			

Dissolved Metals, Batch B2G2775

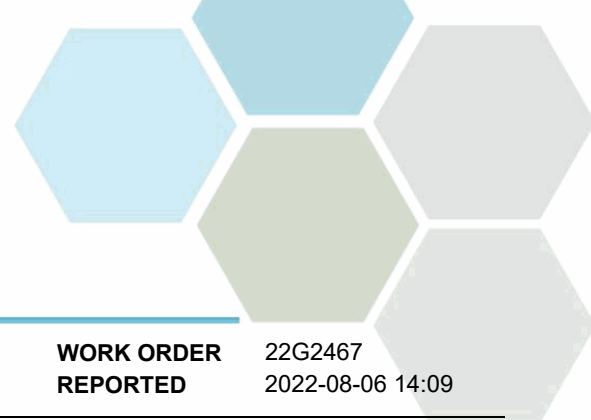
Blank (B2G2775-BLK1)		Prepared: 2022-07-22, Analyzed: 2022-07-22							
Mercury, dissolved	< 0.000010	0.000010 mg/L							
Blank (B2G2775-BLK2)		Prepared: 2022-07-22, Analyzed: 2022-07-22							
Mercury, dissolved	< 0.000010	0.000010 mg/L							
LCS (B2G2775-BS1)		Prepared: 2022-07-22, Analyzed: 2022-07-22							
Mercury, dissolved	0.000465	0.000010 mg/L	0.000500	93	80-120				
LCS (B2G2775-BS2)		Prepared: 2022-07-22, Analyzed: 2022-07-22							
Mercury, dissolved	0.000451	0.000010 mg/L	0.000500	90	80-120				
Duplicate (B2G2775-DUP1)		Source: 22G2467-01		Prepared: 2022-07-22, Analyzed: 2022-07-22					
Mercury, dissolved	< 0.000010	0.000010 mg/L	< 0.000010	20					
Matrix Spike (B2G2775-MS1)		Source: 22G2467-03		Prepared: 2022-07-22, Analyzed: 2022-07-22					
Mercury, dissolved	0.000205	0.000010 mg/L	0.000250	< 0.000010	82	70-130			

General Parameters, Batch B2G2364

Blank (B2G2364-BLK1)		Prepared: 2022-07-20, Analyzed: 2022-07-20							
Ammonia, Total (as N)	< 0.050	0.050 mg/L							
Blank (B2G2364-BLK2)		Prepared: 2022-07-20, Analyzed: 2022-07-20							
Ammonia, Total (as N)	< 0.050	0.050 mg/L							
LCS (B2G2364-BS1)		Prepared: 2022-07-20, Analyzed: 2022-07-20							
Ammonia, Total (as N)	0.914	0.050 mg/L	1.00	91	90-115				
LCS (B2G2364-BS2)		Prepared: 2022-07-20, Analyzed: 2022-07-20							
Ammonia, Total (as N)	0.953	0.050 mg/L	1.00	95	90-115				

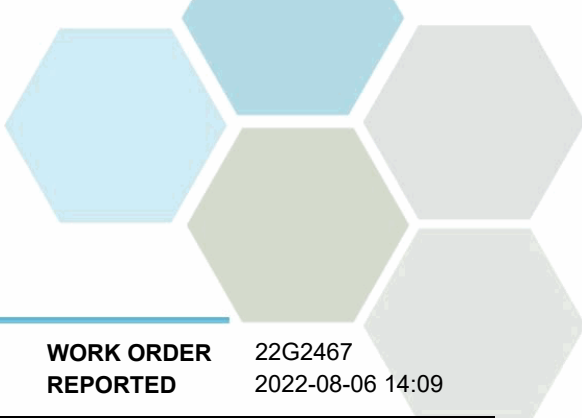
General Parameters, Batch B2G2390

Blank (B2G2390-BLK1)		Prepared: 2022-07-21, Analyzed: 2022-07-21							
Carbon, Dissolved Organic	< 0.50	0.50 mg/L							



APPENDIX 2: QUALITY CONTROL RESULTS

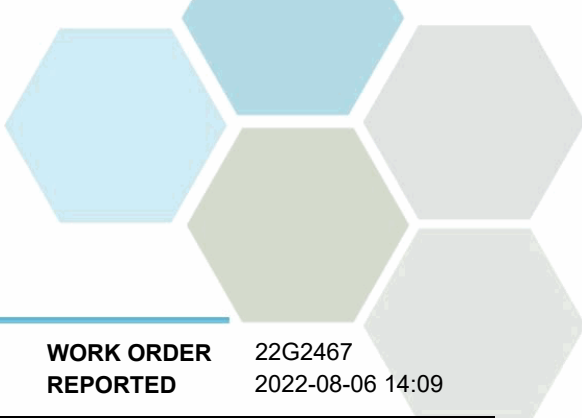
REPORTED TO PROJECT	Kelowna, City of RBCF Ponds		WORK ORDER REPORTED	22G2467 2022-08-06 14:09					
Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
General Parameters, Batch B2G2390, Continued									
Blank (B2G2390-BLK2)			Prepared: 2022-07-21, Analyzed: 2022-07-21						
Carbon, Dissolved Organic	< 0.50	0.50 mg/L							
Blank (B2G2390-BLK3)			Prepared: 2022-07-21, Analyzed: 2022-07-21						
Carbon, Dissolved Organic	< 0.50	0.50 mg/L							
Blank (B2G2390-BLK4)			Prepared: 2022-07-21, Analyzed: 2022-07-21						
Carbon, Dissolved Organic	< 0.50	0.50 mg/L							
LCS (B2G2390-BS1)			Prepared: 2022-07-21, Analyzed: 2022-07-21						
Carbon, Dissolved Organic	9.71	0.50 mg/L	10.0		97	78-116			
LCS (B2G2390-BS2)			Prepared: 2022-07-21, Analyzed: 2022-07-21						
Carbon, Dissolved Organic	9.27	0.50 mg/L	10.0		93	78-116			
LCS (B2G2390-BS3)			Prepared: 2022-07-21, Analyzed: 2022-07-21						
Carbon, Dissolved Organic	9.23	0.50 mg/L	10.0		92	78-116			
LCS (B2G2390-BS4)			Prepared: 2022-07-21, Analyzed: 2022-07-21						
Carbon, Dissolved Organic	9.12	0.50 mg/L	10.0		91	78-116			
Duplicate (B2G2390-DUP2)			Source: 22G2467-01		Prepared: 2022-07-21, Analyzed: 2022-07-21				
Carbon, Dissolved Organic	16.9	0.50 mg/L		17.1				15	
Matrix Spike (B2G2390-MS2)			Source: 22G2467-01		Prepared: 2022-07-21, Analyzed: 2022-07-21				
Carbon, Dissolved Organic	24.8	5.00 mg/L	10.0	17.1	76	70-130			
General Parameters, Batch B2G2445									
Blank (B2G2445-BLK1)			Prepared: 2022-07-20, Analyzed: 2022-07-25						
BOD, 5-day	< 2.0	2.0 mg/L							
LCS (B2G2445-BS1)			Prepared: 2022-07-20, Analyzed: 2022-07-25						
BOD, 5-day	158	38.7 mg/L	180		88	85-115			
Duplicate (B2G2445-DUP2)			Source: 22G2467-02		Prepared: 2022-07-20, Analyzed: 2022-07-25				
BOD, 5-day	23.0	2.0 mg/L		20.1			14	22	
General Parameters, Batch B2G2449									
Blank (B2G2449-BLK1)			Prepared: 2022-07-21, Analyzed: 2022-07-21						
Chemical Oxygen Demand	< 20	20 mg/L							
LCS (B2G2449-BS1)			Prepared: 2022-07-21, Analyzed: 2022-07-21						
Chemical Oxygen Demand	509	20 mg/L	500		102	89-115			
General Parameters, Batch B2G2625									
Blank (B2G2625-BLK1)			Prepared: 2022-07-21, Analyzed: 2022-07-24						
Nitrogen, Total Kjeldahl	< 0.050	0.050 mg/L							
Blank (B2G2625-BLK2)			Prepared: 2022-07-21, Analyzed: 2022-07-24						
Nitrogen, Total Kjeldahl	< 0.050	0.050 mg/L							
LCS (B2G2625-BS1)			Prepared: 2022-07-21, Analyzed: 2022-07-24						
Nitrogen, Total Kjeldahl	0.868	0.050 mg/L	1.00		87	85-115			



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT	Kelowna, City of RBCF Ponds	WORK ORDER REPORTED	22G2467 2022-08-06 14:09
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Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
General Parameters, Batch B2G2625, Continued									
LCS (B2G2625-BS2)			Prepared: 2022-07-21, Analyzed: 2022-07-24						
Nitrogen, Total Kjeldahl	0.904	0.050 mg/L	1.00		90	85-115			
Duplicate (B2G2625-DUP1)			Source: 22G2467-01 Prepared: 2022-07-21, Analyzed: 2022-07-24						
Nitrogen, Total Kjeldahl	1.07	0.050 mg/L		1.14			7	15	
Matrix Spike (B2G2625-MS1)			Source: 22G2467-01 Prepared: 2022-07-21, Analyzed: 2022-07-24						
Nitrogen, Total Kjeldahl	2.23	0.050 mg/L	1.00	1.14	110	65-135			
General Parameters, Batch B2G2686									
Blank (B2G2686-BLK1)			Prepared: 2022-07-22, Analyzed: 2022-07-22						
Conductivity (EC)	< 2.0	2.0 µS/cm							
Blank (B2G2686-BLK2)			Prepared: 2022-07-22, Analyzed: 2022-07-22						
Conductivity (EC)	< 2.0	2.0 µS/cm							
LCS (B2G2686-BS3)			Prepared: 2022-07-22, Analyzed: 2022-07-22						
Conductivity (EC)	1400	2.0 µS/cm	1410		99	95-105			
LCS (B2G2686-BS4)			Prepared: 2022-07-22, Analyzed: 2022-07-22						
Conductivity (EC)	1410	2.0 µS/cm	1410		100	95-105			
Reference (B2G2686-SRM1)			Prepared: 2022-07-22, Analyzed: 2022-07-22						
pH	7.04	0.10 pH units	7.01		100	98-102			
Reference (B2G2686-SRM2)			Prepared: 2022-07-22, Analyzed: 2022-07-22						
pH	7.04	0.10 pH units	7.01		100	98-102			
General Parameters, Batch B2G2869									
Blank (B2G2869-BLK1)			Prepared: 2022-07-24, Analyzed: 2022-07-25						
Phosphorus, Total (as P)	< 0.0050	0.0050 mg/L							
LCS (B2G2869-BS1)			Prepared: 2022-07-24, Analyzed: 2022-07-25						
Phosphorus, Total (as P)	0.0970	0.0050 mg/L	0.100		97	85-115			
LCS (B2G2869-BS2)			Prepared: 2022-07-24, Analyzed: 2022-07-25						
Phosphorus, Total (as P)	0.0974	0.0050 mg/L	0.100		97	85-115			
General Parameters, Batch B2G2922									
Blank (B2G2922-BLK1)			Prepared: 2022-07-26, Analyzed: 2022-07-26						
Solids, Total Dissolved	< 15	15 mg/L							
LCS (B2G2922-BS1)			Prepared: 2022-07-26, Analyzed: 2022-07-26						
Solids, Total Dissolved	233	15 mg/L	240		97	85-115			
Duplicate (B2G2922-DUP1)			Source: 22G2467-01 Prepared: 2022-07-26, Analyzed: 2022-07-26						
Solids, Total Dissolved	3400	15 mg/L		3360			1	15	
General Parameters, Batch B2G3073									
Blank (B2G3073-BLK1)			Prepared: 2022-07-26, Analyzed: 2022-07-26						
Solids, Total Suspended	< 2.0	2.0 mg/L							



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT	Kelowna, City of RBCF Ponds	WORK ORDER REPORTED	22G2467 2022-08-06 14:09
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Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
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General Parameters, Batch B2G3073, Continued

LCS (B2G3073-BS1)				Prepared: 2022-07-26, Analyzed: 2022-07-26					
Solids, Total Suspended	94.0	10.0 mg/L	100		94	85-115			

Microbiological Parameters, Batch B2G2378

Blank (B2G2378-BLK1)				Prepared: 2022-07-20, Analyzed: 2022-07-20					
E. coli (Q-Tray)	< 1	1 MPN/100 mL							

Blank (B2G2378-BLK2)				Prepared: 2022-07-20, Analyzed: 2022-07-20					
Coliforms, Total (Q-Tray)	< 1	1 MPN/100 mL							
E. coli (Q-Tray)	< 1	1 MPN/100 mL							

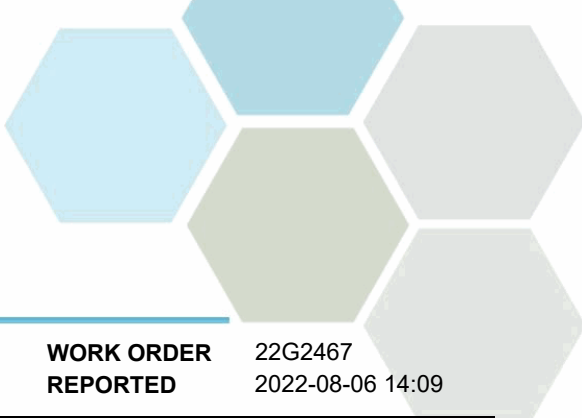
Blank (B2G2378-BLK3)				Prepared: 2022-07-20, Analyzed: 2022-07-20					
Coliforms, Total (Q-Tray)	< 1	1 MPN/100 mL							
E. coli (Q-Tray)	< 1	1 MPN/100 mL							

Blank (B2G2378-BLK4)				Prepared: 2022-07-20, Analyzed: 2022-07-20					
Coliforms, Total (Q-Tray)	< 1	1 MPN/100 mL							
E. coli (Q-Tray)	< 1	1 MPN/100 mL							

Blank (B2G2378-BLK5)				Prepared: 2022-07-20, Analyzed: 2022-07-20					
E. coli (Q-Tray)	< 1	1 MPN/100 mL							

Total Metals, Batch B2G2656

Blank (B2G2656-BLK1)				Prepared: 2022-07-21, Analyzed: 2022-08-01					
Aluminum, total	< 0.0050	0.0050 mg/L							
Antimony, total	< 0.00020	0.00020 mg/L							
Arsenic, total	< 0.00050	0.00050 mg/L							
Barium, total	< 0.0050	0.0050 mg/L							
Beryllium, total	< 0.00010	0.00010 mg/L							
Bismuth, total	< 0.00010	0.00010 mg/L							
Boron, total	< 0.0500	0.0500 mg/L							
Cadmium, total	< 0.000010	0.000010 mg/L							
Calcium, total	< 0.20	0.20 mg/L							
Chromium, total	< 0.00050	0.00050 mg/L							
Cobalt, total	< 0.00010	0.00010 mg/L							
Copper, total	< 0.00040	0.00040 mg/L							
Iron, total	< 0.010	0.010 mg/L							
Lead, total	< 0.00020	0.00020 mg/L							
Lithium, total	< 0.00010	0.00010 mg/L							
Magnesium, total	< 0.010	0.010 mg/L							
Manganese, total	< 0.00020	0.00020 mg/L							
Molybdenum, total	< 0.00010	0.00010 mg/L							
Nickel, total	< 0.00040	0.00040 mg/L							
Phosphorus, total	< 0.050	0.050 mg/L							
Potassium, total	< 0.10	0.10 mg/L							
Selenium, total	< 0.00050	0.00050 mg/L							
Silicon, total	< 1.0	1.0 mg/L							
Silver, total	< 0.000050	0.000050 mg/L							
Sodium, total	< 0.10	0.10 mg/L							
Strontium, total	< 0.0010	0.0010 mg/L							
Sulfur, total	< 3.0	3.0 mg/L							
Tellurium, total	< 0.00050	0.00050 mg/L							
Thallium, total	< 0.000020	0.000020 mg/L							
Thorium, total	< 0.00010	0.00010 mg/L							
Tin, total	< 0.00020	0.00020 mg/L							



APPENDIX 2: QUALITY CONTROL RESULTS

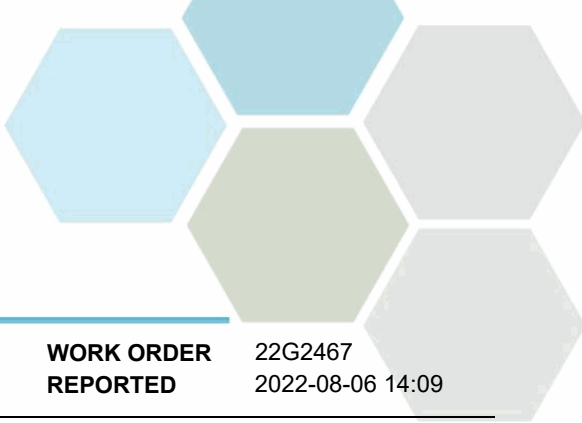
REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

WORK ORDER REPORTED 22G2467
2022-08-06 14:09

Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Total Metals, Batch B2G2656, Continued									
Blank (B2G2656-BLK1), Continued					Prepared: 2022-07-21, Analyzed: 2022-08-01				
Titanium, total	< 0.0050	0.0050 mg/L							
Tungsten, total	< 0.0002	0.0002 mg/L							
Uranium, total	< 0.000020	0.000020 mg/L							
Vanadium, total	< 0.0050	0.0050 mg/L							
Zinc, total	< 0.0040	0.0040 mg/L							
Zirconium, total	< 0.00010	0.00010 mg/L							
LCS (B2G2656-BS1)									
					Prepared: 2022-07-21, Analyzed: 2022-07-29				
Aluminum, total	3.97	0.0050 mg/L	4.00		99	80-120			
Antimony, total	0.0382	0.00020 mg/L	0.0400		95	80-120			
Arsenic, total	0.0405	0.00050 mg/L	0.0400		101	80-120			
Barium, total	0.0395	0.0050 mg/L	0.0400		99	80-120			
Beryllium, total	0.0405	0.00010 mg/L	0.0400		101	80-120			
Bismuth, total	0.0377	0.00010 mg/L	0.0400		94	80-120			
Boron, total	< 0.0500	0.0500 mg/L	0.0400		101	80-120			
Cadmium, total	0.0390	0.000010 mg/L	0.0400		97	80-120			
Calcium, total	4.09	0.20 mg/L	4.00		102	80-120			
Chromium, total	0.0399	0.00050 mg/L	0.0400		100	80-120			
Cobalt, total	0.0401	0.00010 mg/L	0.0400		100	80-120			
Copper, total	0.0393	0.00040 mg/L	0.0400		98	80-120			
Iron, total	3.91	0.010 mg/L	4.00		98	80-120			
Lead, total	0.0387	0.00020 mg/L	0.0400		97	80-120			
Lithium, total	0.0414	0.00010 mg/L	0.0400		104	80-120			
Magnesium, total	4.15	0.010 mg/L	4.00		104	80-120			
Manganese, total	0.0446	0.00020 mg/L	0.0400		112	80-120			
Molybdenum, total	0.0386	0.00010 mg/L	0.0400		96	80-120			
Nickel, total	0.0399	0.00040 mg/L	0.0400		100	80-120			
Phosphorus, total	3.98	0.050 mg/L	4.00		99	80-120			
Potassium, total	3.94	0.10 mg/L	4.00		99	80-120			
Selenium, total	0.0374	0.00050 mg/L	0.0400		93	80-120			
Silicon, total	4.5	1.0 mg/L	4.00		112	80-120			
Silver, total	0.0389	0.000050 mg/L	0.0400		97	80-120			
Sodium, total	3.86	0.10 mg/L	4.00		97	80-120			
Strontium, total	0.0403	0.0010 mg/L	0.0400		101	80-120			
Sulfur, total	43.5	3.0 mg/L	40.0		109	80-120			
Tellurium, total	0.0382	0.00050 mg/L	0.0400		96	80-120			
Thallium, total	0.0384	0.000020 mg/L	0.0400		96	80-120			
Thorium, total	0.0387	0.00010 mg/L	0.0400		97	80-120			
Tin, total	0.0386	0.00020 mg/L	0.0400		96	80-120			
Titanium, total	0.0391	0.0050 mg/L	0.0400		98	80-120			
Tungsten, total	0.0392	0.0002 mg/L	0.0400		98	80-120			
Uranium, total	0.0388	0.000020 mg/L	0.0400		97	80-120			
Vanadium, total	0.0400	0.0050 mg/L	0.0400		100	80-120			
Zinc, total	0.0445	0.0040 mg/L	0.0400		111	80-120			
Zirconium, total	0.0395	0.00010 mg/L	0.0400		99	80-120			

Total Metals, Batch B2G2777

Blank (B2G2777-BLK1)					Prepared: 2022-07-22, Analyzed: 2022-07-22				
Mercury, total	< 0.000010	0.000010 mg/L							
Blank (B2G2777-BLK2)					Prepared: 2022-07-22, Analyzed: 2022-07-22				
Mercury, total	< 0.000010	0.000010 mg/L							
LCS (B2G2777-BS1)					Prepared: 2022-07-22, Analyzed: 2022-07-22				
Mercury, total	0.000473	0.000010 mg/L	0.000500		95	80-120			



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT	Kelowna, City of RBCF Ponds	WORK ORDER REPORTED	22G2467 2022-08-06 14:09
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Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Total Metals, Batch B2G2777, Continued									
LCS (B2G2777-BS2)				Prepared: 2022-07-22, Analyzed: 2022-07-22					
Mercury, total	0.000477	0.000010 mg/L	0.000500		95	80-120			
Matrix Spike (B2G2777-MS1)				Source: 22G2467-01		Prepared: 2022-07-22, Analyzed: 2022-07-22			
Mercury, total	0.000223	0.000010 mg/L	0.000250	< 0.000010	89	70-130			

QC Qualifiers:

MS2 The native sample concentration is greater than the spike concentration hence the matrix spike limits do not apply.



CERTIFICATE OF ANALYSIS

REPORTED TO Kelowna, City of
1435 Water Street
KELOWNA, BC V1Y 1J4

ATTENTION Jose Garcia

PO NUMBER 535828
PROJECT RBCF Ponds

PROJECT INFO

WORK ORDER 22H4315

RECEIVED / TEMP 2022-08-30 14:53 / 19.0°C
REPORTED 2022-09-07 09:59

COC NUMBER 44803.42232

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>

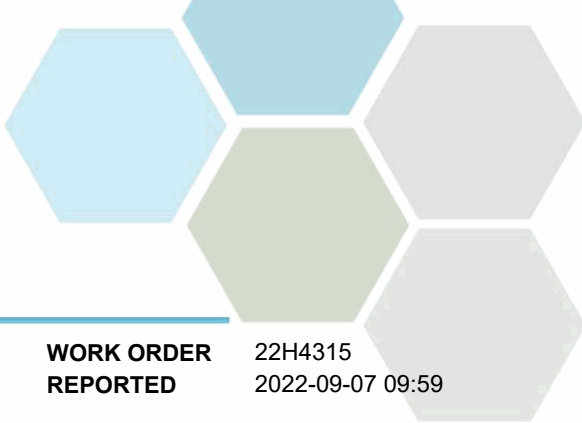
If you have any questions or concerns, please contact me at bwhitehead@caro.ca

Authorized By:

Brent Whitehead
Account Manager

1-888-311-8846 | www.caro.ca

#110 4011 Viking Way Richmond, BC V6V 2K9 | #102 3677 Highway 97N Kelowna, BC V1X 5C3 | 17225 109 Avenue Edmonton, AB T5S 1H7 | #108 4475 Wayburne Drive Burnaby, BC V5G 4X4



TEST RESULTS

REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

WORK ORDER REPORTED 22H4315
2022-09-07 09:59

Analyte	Result	RL	Units	Analyzed	Qualifier
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Rose's Pond (22H4315-01) | Matrix: Water | Sampled: 2022-08-30

Anions

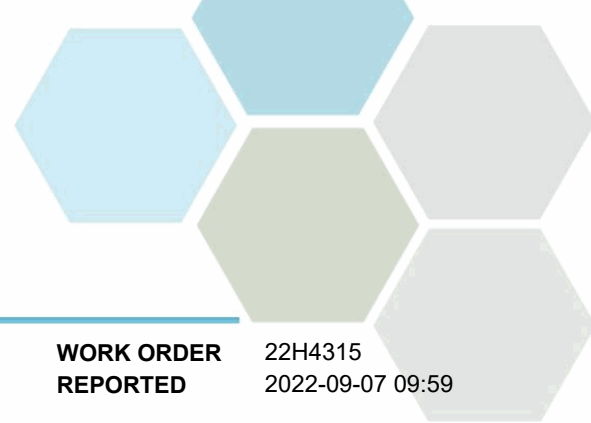
Chloride	457	0.10	mg/L	2022-09-01	
Nitrate (as N)	< 0.100	0.010	mg/L	2022-09-01	RA1
Nitrite (as N)	< 0.100	0.010	mg/L	2022-09-01	RA1

Calculated Parameters

Hardness, Total (as CaCO3)	1250	1.00	mg/L	N/A	
Nitrate+Nitrite (as N)	< 0.100	0.100	mg/L	N/A	
Nitrogen, Total	1.49	0.100	mg/L	N/A	

Dissolved Metals

Aluminum, dissolved	< 0.0100	0.0050	mg/L	2022-09-03	RS1
Antimony, dissolved	0.00041	0.00020	mg/L	2022-09-03	RS1
Arsenic, dissolved	0.00359	0.00050	mg/L	2022-09-03	RS1
Barium, dissolved	< 0.0100	0.0050	mg/L	2022-09-03	RS1
Beryllium, dissolved	< 0.00020	0.00010	mg/L	2022-09-03	RS1
Bismuth, dissolved	< 0.00020	0.00010	mg/L	2022-09-03	RS1
Boron, dissolved	0.108	0.0500	mg/L	2022-09-03	RS1
Cadmium, dissolved	< 0.000020	0.000010	mg/L	2022-09-03	RS1
Calcium, dissolved	54.3	0.20	mg/L	2022-09-03	RS1
Chromium, dissolved	< 0.00100	0.00050	mg/L	2022-09-03	RS1
Cobalt, dissolved	< 0.00020	0.00010	mg/L	2022-09-03	RS1
Copper, dissolved	< 0.00080	0.00040	mg/L	2022-09-03	RS1
Iron, dissolved	< 0.020	0.010	mg/L	2022-09-03	RS1
Lead, dissolved	< 0.00040	0.00020	mg/L	2022-09-03	RS1
Lithium, dissolved	0.0483	0.00010	mg/L	2022-09-03	RS1
Magnesium, dissolved	269	0.010	mg/L	2022-09-03	RS1
Manganese, dissolved	0.00281	0.00020	mg/L	2022-09-03	RS1
Mercury, dissolved	< 0.000010	0.000010	mg/L	2022-09-01	
Molybdenum, dissolved	0.00136	0.00010	mg/L	2022-09-03	RS1
Nickel, dissolved	< 0.00080	0.00040	mg/L	2022-09-03	RS1
Phosphorus, dissolved	< 0.100	0.050	mg/L	2022-09-03	RS1
Potassium, dissolved	87.7	0.10	mg/L	2022-09-03	RS1
Selenium, dissolved	< 0.00100	0.00050	mg/L	2022-09-03	RS1
Silicon, dissolved	< 2.0	1.0	mg/L	2022-09-03	RS1
Silver, dissolved	< 0.000100	0.000050	mg/L	2022-09-03	RS1
Sodium, dissolved	767	0.10	mg/L	2022-09-03	RS1
Strontium, dissolved	0.393	0.0010	mg/L	2022-09-03	RS1
Sulfur, dissolved	781	3.0	mg/L	2022-09-03	RS1
Tellurium, dissolved	< 0.00100	0.00050	mg/L	2022-09-03	RS1
Thallium, dissolved	< 0.000040	0.000020	mg/L	2022-09-03	RS1
Thorium, dissolved	< 0.00020	0.00010	mg/L	2022-09-03	RS1
Tin, dissolved	< 0.00040	0.00020	mg/L	2022-09-03	RS1
Titanium, dissolved	< 0.0100	0.0050	mg/L	2022-09-03	RS1
Tungsten, dissolved	< 0.0020	0.0010	mg/L	2022-09-03	RS1



TEST RESULTS

REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

WORK ORDER REPORTED 22H4315
2022-09-07 09:59

Analyte	Result	RL	Units	Analyzed	Qualifier
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Rose's Pond (22H4315-01) | Matrix: Water | Sampled: 2022-08-30, Continued

Dissolved Metals, Continued

Uranium, dissolved	0.00369	0.000020	mg/L	2022-09-03	RS1
Vanadium, dissolved	< 0.0100	0.0050	mg/L	2022-09-03	RS1
Zinc, dissolved	< 0.0080	0.0040	mg/L	2022-09-03	RS1
Zirconium, dissolved	< 0.00020	0.00010	mg/L	2022-09-03	RS1

General Parameters

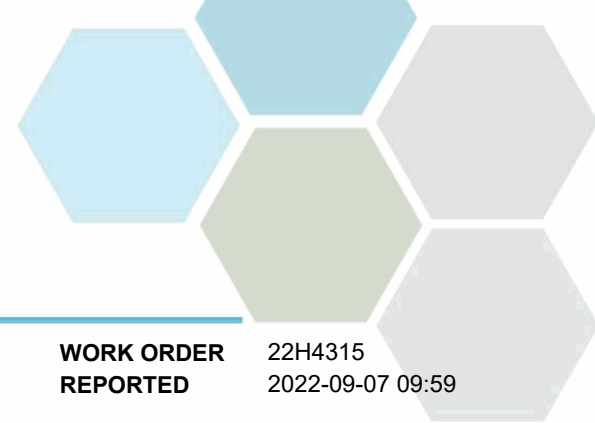
Ammonia, Total (as N)	< 0.050	0.050	mg/L	2022-08-31	
BOD, 5-day	< 7.5	2.0	mg/L	2022-09-05	
Carbon, Dissolved Organic	19.0	0.50	mg/L	2022-08-31	
Chemical Oxygen Demand	61	20	mg/L	2022-08-31	
Conductivity (EC)	5160	2.0	µS/cm	2022-09-02	
Nitrogen, Total Kjeldahl	1.49	0.050	mg/L	2022-09-04	
pH	8.81	0.10	pH units	2022-09-02	HT2
Phosphorus, Total (as P)	0.0231	0.0050	mg/L	2022-09-06	
Solids, Total Dissolved	3910	15	mg/L	2022-09-02	
Solids, Total Suspended	6.4	2.0	mg/L	2022-09-01	

Microbiological Parameters

Coliforms, Total (Q-Tray)	7270	1	MPN/100 mL	2022-08-31	
E. coli (Q-Tray)	7	1	MPN/100 mL	2022-08-31	

Total Metals

Aluminum, total	< 0.0100	0.0050	mg/L	2022-09-03	RS1
Antimony, total	0.00041	0.00020	mg/L	2022-09-03	RS1
Arsenic, total	0.00397	0.00050	mg/L	2022-09-03	RS1
Barium, total	0.0120	0.0050	mg/L	2022-09-03	RS1
Beryllium, total	< 0.00020	0.00010	mg/L	2022-09-03	RS1
Bismuth, total	< 0.00020	0.00010	mg/L	2022-09-03	RS1
Boron, total	0.113	0.0500	mg/L	2022-09-03	RS1
Cadmium, total	< 0.000020	0.000010	mg/L	2022-09-03	RS1
Calcium, total	56.2	0.20	mg/L	2022-09-03	RS1
Chromium, total	< 0.00100	0.00050	mg/L	2022-09-03	RS1
Cobalt, total	< 0.00020	0.00010	mg/L	2022-09-03	RS1
Copper, total	< 0.00080	0.00040	mg/L	2022-09-03	RS1
Iron, total	< 0.020	0.010	mg/L	2022-09-03	RS1
Lead, total	< 0.00040	0.00020	mg/L	2022-09-03	RS1
Lithium, total	0.0501	0.00010	mg/L	2022-09-03	RS1
Magnesium, total	280	0.010	mg/L	2022-09-03	RS1
Manganese, total	0.0315	0.00020	mg/L	2022-09-03	RS1
Mercury, total	< 0.000010	0.000010	mg/L	2022-09-01	
Molybdenum, total	0.00143	0.00010	mg/L	2022-09-03	RS1
Nickel, total	0.00092	0.00040	mg/L	2022-09-03	RS1
Phosphorus, total	< 0.100	0.050	mg/L	2022-09-03	RS1
Potassium, total	91.6	0.10	mg/L	2022-09-03	RS1



TEST RESULTS

REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

WORK ORDER REPORTED 22H4315
2022-09-07 09:59

Analyte	Result	RL	Units	Analyzed	Qualifier
Rose's Pond (22H4315-01) Matrix: Water Sampled: 2022-08-30, Continued					
<i>Total Metals, Continued</i>					
Selenium, total	< 0.00100	0.00050	mg/L	2022-09-03	RS1
Silicon, total	< 2.0	1.0	mg/L	2022-09-03	RS1
Silver, total	< 0.000100	0.000050	mg/L	2022-09-03	RS1
Sodium, total	800	0.10	mg/L	2022-09-03	RS1
Strontium, total	0.411	0.0010	mg/L	2022-09-03	RS1
Sulfur, total	839	3.0	mg/L	2022-09-03	RS1
Tellurium, total	< 0.00100	0.00050	mg/L	2022-09-03	RS1
Thallium, total	< 0.000040	0.000020	mg/L	2022-09-03	RS1
Thorium, total	< 0.00020	0.00010	mg/L	2022-09-03	RS1
Tin, total	< 0.00040	0.00020	mg/L	2022-09-03	RS1
Titanium, total	< 0.0100	0.0050	mg/L	2022-09-03	RS1
Tungsten, total	< 0.0004	0.0002	mg/L	2022-09-03	RS1
Uranium, total	0.00386	0.000020	mg/L	2022-09-03	RS1
Vanadium, total	< 0.0100	0.0050	mg/L	2022-09-03	RS1
Zinc, total	< 0.0080	0.0040	mg/L	2022-09-03	RS1
Zirconium, total	< 0.00020	0.00010	mg/L	2022-09-03	RS1

Drainage Pond (22H4315-02) | Matrix: Water | Sampled: 2022-08-30

Anions

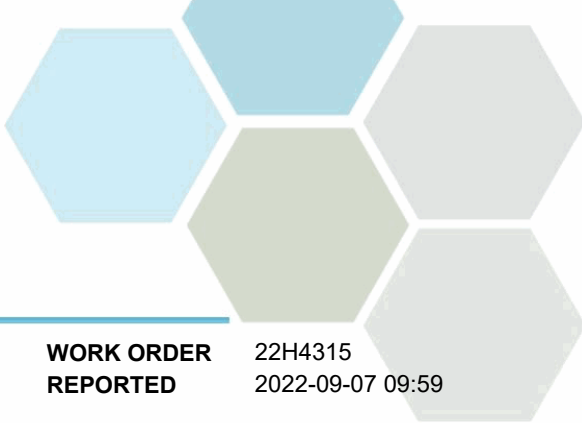
Chloride	108	0.10	mg/L	2022-09-01	
Nitrate (as N)	0.110	0.010	mg/L	2022-09-01	
Nitrite (as N)	0.029	0.010	mg/L	2022-09-01	

Calculated Parameters

Hardness, Total (as CaCO3)	237	0.500	mg/L	N/A	
Nitrate+Nitrite (as N)	0.140	0.0100	mg/L	N/A	
Nitrogen, Total	38.1	1.00	mg/L	N/A	

Dissolved Metals

Aluminum, dissolved	0.0514	0.0050	mg/L	2022-09-03	
Antimony, dissolved	0.00030	0.00020	mg/L	2022-09-03	
Arsenic, dissolved	0.00352	0.00050	mg/L	2022-09-03	
Barium, dissolved	0.0314	0.0050	mg/L	2022-09-03	
Beryllium, dissolved	< 0.00010	0.00010	mg/L	2022-09-03	
Bismuth, dissolved	0.00012	0.00010	mg/L	2022-09-03	
Boron, dissolved	0.185	0.0500	mg/L	2022-09-03	
Cadmium, dissolved	0.000039	0.000010	mg/L	2022-09-03	
Calcium, dissolved	56.1	0.20	mg/L	2022-09-03	
Chromium, dissolved	0.00056	0.00050	mg/L	2022-09-03	
Cobalt, dissolved	0.00057	0.00010	mg/L	2022-09-03	
Copper, dissolved	0.00459	0.00040	mg/L	2022-09-03	
Iron, dissolved	0.188	0.010	mg/L	2022-09-03	



TEST RESULTS

REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

WORK ORDER REPORTED 22H4315
2022-09-07 09:59

Analyte	Result	RL	Units	Analyzed	Qualifier
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Drainage Pond (22H4315-02) | Matrix: Water | Sampled: 2022-08-30, Continued

Dissolved Metals, Continued

Lead, dissolved	< 0.00020	0.00020	mg/L	2022-09-03	
Lithium, dissolved	0.0123	0.00010	mg/L	2022-09-03	
Magnesium, dissolved	23.4	0.010	mg/L	2022-09-03	
Manganese, dissolved	0.157	0.00020	mg/L	2022-09-03	
Mercury, dissolved	< 0.000040	0.000010	mg/L	2022-09-01	RS1
Molybdenum, dissolved	0.00138	0.00010	mg/L	2022-09-03	
Nickel, dissolved	0.00238	0.00040	mg/L	2022-09-03	
Phosphorus, dissolved	6.52	0.050	mg/L	2022-09-03	
Potassium, dissolved	49.1	0.10	mg/L	2022-09-03	
Selenium, dissolved	0.00073	0.00050	mg/L	2022-09-03	
Silicon, dissolved	3.1	1.0	mg/L	2022-09-03	
Silver, dissolved	< 0.000050	0.000050	mg/L	2022-09-03	
Sodium, dissolved	91.8	0.10	mg/L	2022-09-03	
Strontium, dissolved	0.533	0.0010	mg/L	2022-09-03	
Sulfur, dissolved	33.6	3.0	mg/L	2022-09-03	
Tellurium, dissolved	< 0.00050	0.00050	mg/L	2022-09-03	
Thallium, dissolved	< 0.000020	0.000020	mg/L	2022-09-03	
Thorium, dissolved	< 0.00010	0.00010	mg/L	2022-09-03	
Tin, dissolved	0.00024	0.00020	mg/L	2022-09-03	
Titanium, dissolved	< 0.0050	0.0050	mg/L	2022-09-03	
Tungsten, dissolved	< 0.0010	0.0010	mg/L	2022-09-03	
Uranium, dissolved	0.000839	0.000020	mg/L	2022-09-03	
Vanadium, dissolved	< 0.0050	0.0050	mg/L	2022-09-03	
Zinc, dissolved	0.0305	0.0040	mg/L	2022-09-03	
Zirconium, dissolved	0.00043	0.00010	mg/L	2022-09-03	

General Parameters

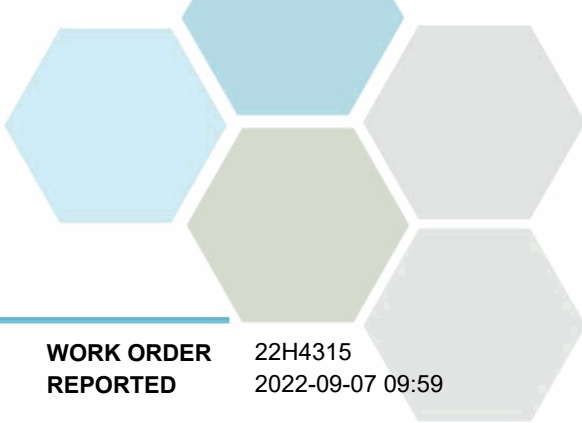
Ammonia, Total (as N)	27.4	0.050	mg/L	2022-08-31	
BOD, 5-day	13.3	2.0	mg/L	2022-09-05	
Carbon, Dissolved Organic	57.4	0.50	mg/L	2022-08-31	
Chemical Oxygen Demand	275	20	mg/L	2022-08-31	
Conductivity (EC)	1160	2.0	µS/cm	2022-09-02	
Nitrogen, Total Kjeldahl	38.0	0.050	mg/L	2022-09-04	
pH	8.07	0.10	pH units	2022-09-02	HT2
Phosphorus, Total (as P)	6.88	0.0050	mg/L	2022-09-06	
Solids, Total Dissolved	767	15	mg/L	2022-09-02	
Solids, Total Suspended	7.6	2.0	mg/L	2022-09-01	

Microbiological Parameters

Coliforms, Total (Q-Tray)	2720	1	MPN/100 mL	2022-08-31	
E. coli (Q-Tray)	407	1	MPN/100 mL	2022-08-31	

Total Metals

Aluminum, total	0.0957	0.0050	mg/L	2022-09-03	
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TEST RESULTS

REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

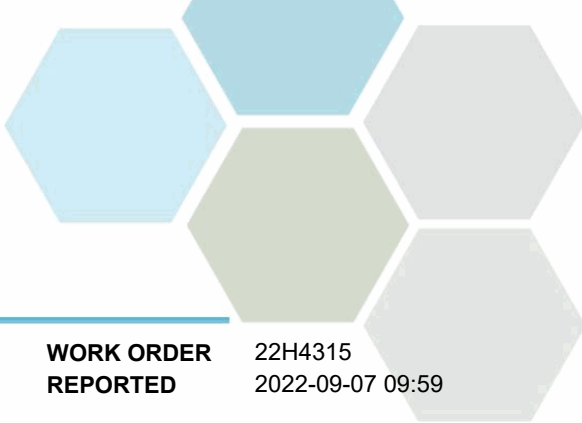
WORK ORDER REPORTED 22H4315
2022-09-07 09:59

Analyte	Result	RL	Units	Analyzed	Qualifier
Drainage Pond (22H4315-02) Matrix: Water Sampled: 2022-08-30, Continued					
<i>Total Metals, Continued</i>					
Antimony, total	0.00029	0.00020	mg/L	2022-09-03	
Arsenic, total	0.00358	0.00050	mg/L	2022-09-03	
Barium, total	0.0367	0.0050	mg/L	2022-09-03	
Beryllium, total	< 0.00010	0.00010	mg/L	2022-09-03	
Bismuth, total	0.00057	0.00010	mg/L	2022-09-03	
Boron, total	0.195	0.0500	mg/L	2022-09-03	
Cadmium, total	0.000180	0.000010	mg/L	2022-09-03	
Calcium, total	54.9	0.20	mg/L	2022-09-03	
Chromium, total	0.00108	0.00050	mg/L	2022-09-03	
Cobalt, total	0.00081	0.00010	mg/L	2022-09-03	
Copper, total	0.0262	0.00040	mg/L	2022-09-03	
Iron, total	0.327	0.010	mg/L	2022-09-03	
Lead, total	0.00063	0.00020	mg/L	2022-09-03	
Lithium, total	0.0119	0.00010	mg/L	2022-09-03	
Magnesium, total	22.2	0.010	mg/L	2022-09-03	
Manganese, total	0.186	0.00020	mg/L	2022-09-03	
Mercury, total	< 0.000040	0.000010	mg/L	2022-09-01	RS1
Molybdenum, total	0.00353	0.00010	mg/L	2022-09-03	
Nickel, total	0.00337	0.00040	mg/L	2022-09-03	
Phosphorus, total	6.74	0.050	mg/L	2022-09-03	
Potassium, total	46.4	0.10	mg/L	2022-09-03	
Selenium, total	0.00096	0.00050	mg/L	2022-09-03	
Silicon, total	3.1	1.0	mg/L	2022-09-03	
Silver, total	0.000081	0.000050	mg/L	2022-09-03	
Sodium, total	86.8	0.10	mg/L	2022-09-03	
Strontium, total	0.518	0.0010	mg/L	2022-09-03	
Sulfur, total	33.7	3.0	mg/L	2022-09-03	
Tellurium, total	< 0.00050	0.00050	mg/L	2022-09-03	
Thallium, total	< 0.000020	0.000020	mg/L	2022-09-03	
Thorium, total	< 0.00010	0.00010	mg/L	2022-09-03	
Tin, total	0.00066	0.00020	mg/L	2022-09-03	
Titanium, total	< 0.0050	0.0050	mg/L	2022-09-03	
Tungsten, total	0.0003	0.0002	mg/L	2022-09-03	
Uranium, total	0.00153	0.000020	mg/L	2022-09-03	
Vanadium, total	< 0.0050	0.0050	mg/L	2022-09-03	
Zinc, total	0.0592	0.0040	mg/L	2022-09-03	
Zirconium, total	0.00035	0.00010	mg/L	2022-09-03	

Davidson Pond (22H4315-03) | Matrix: Water | Sampled: 2022-08-30

Anions

Chloride	382	0.10	mg/L	2022-09-01	
Nitrate (as N)	< 0.100	0.010	mg/L	2022-09-01	RA5, RA1

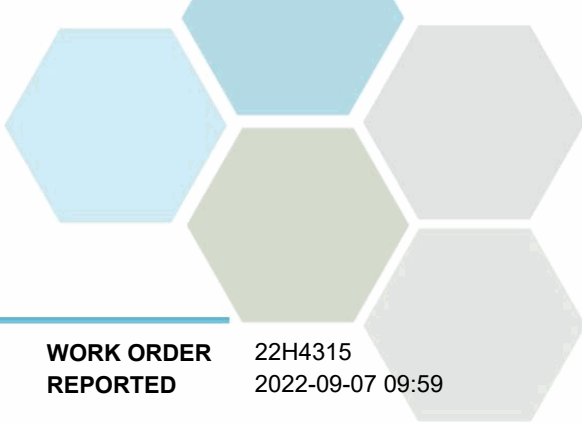


TEST RESULTS

REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

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Analyte	Result	RL	Units	Analyzed	Qualifier
Davidson Pond (22H4315-03) Matrix: Water Sampled: 2022-08-30, Continued					
<i>Anions, Continued</i>					
Nitrite (as N)	< 0.010	0.010	mg/L	2022-09-01	
<i>Calculated Parameters</i>					
Hardness, Total (as CaCO3)	708	1.00	mg/L	N/A	
Nitrate+Nitrite (as N)	< 0.100	0.100	mg/L	N/A	
Nitrogen, Total	3.18	0.100	mg/L	N/A	
<i>Dissolved Metals</i>					
Aluminum, dissolved	< 0.0100	0.0050	mg/L	2022-09-03	RS1
Antimony, dissolved	0.00054	0.00020	mg/L	2022-09-03	RS1
Arsenic, dissolved	0.00412	0.00050	mg/L	2022-09-03	RS1
Barium, dissolved	0.0267	0.0050	mg/L	2022-09-03	RS1
Beryllium, dissolved	< 0.00020	0.00010	mg/L	2022-09-03	RS1
Bismuth, dissolved	< 0.00020	0.00010	mg/L	2022-09-03	RS1
Boron, dissolved	< 0.100	0.0500	mg/L	2022-09-03	RS1
Cadmium, dissolved	< 0.000020	0.000010	mg/L	2022-09-03	RS1
Calcium, dissolved	63.6	0.20	mg/L	2022-09-03	RS1
Chromium, dissolved	< 0.00100	0.00050	mg/L	2022-09-03	RS1
Cobalt, dissolved	< 0.00020	0.00010	mg/L	2022-09-03	RS1
Copper, dissolved	< 0.00080	0.00040	mg/L	2022-09-03	RS1
Iron, dissolved	0.028	0.010	mg/L	2022-09-03	RS1
Lead, dissolved	< 0.00040	0.00020	mg/L	2022-09-03	RS1
Lithium, dissolved	0.0500	0.00010	mg/L	2022-09-03	RS1
Magnesium, dissolved	133	0.010	mg/L	2022-09-03	RS1
Manganese, dissolved	0.0540	0.00020	mg/L	2022-09-03	RS1
Mercury, dissolved	< 0.000010	0.000010	mg/L	2022-09-01	
Molybdenum, dissolved	0.00249	0.00010	mg/L	2022-09-03	RS1
Nickel, dissolved	0.00151	0.00040	mg/L	2022-09-03	RS1
Phosphorus, dissolved	< 0.100	0.050	mg/L	2022-09-03	RS1
Potassium, dissolved	53.7	0.10	mg/L	2022-09-03	RS1
Selenium, dissolved	< 0.00100	0.00050	mg/L	2022-09-03	RS1
Silicon, dissolved	3.2	1.0	mg/L	2022-09-03	RS1
Silver, dissolved	< 0.000100	0.000050	mg/L	2022-09-03	RS1
Sodium, dissolved	605	0.10	mg/L	2022-09-03	RS1
Strontium, dissolved	0.893	0.0010	mg/L	2022-09-03	RS1
Sulfur, dissolved	484	3.0	mg/L	2022-09-03	RS1
Tellurium, dissolved	< 0.00100	0.00050	mg/L	2022-09-03	RS1
Thallium, dissolved	< 0.000040	0.000020	mg/L	2022-09-03	RS1
Thorium, dissolved	< 0.00020	0.00010	mg/L	2022-09-03	RS1
Tin, dissolved	< 0.00040	0.00020	mg/L	2022-09-03	RS1
Titanium, dissolved	< 0.0100	0.0050	mg/L	2022-09-03	RS1
Tungsten, dissolved	< 0.0020	0.0010	mg/L	2022-09-03	RS1
Uranium, dissolved	0.0101	0.000020	mg/L	2022-09-03	RS1
Vanadium, dissolved	< 0.0100	0.0050	mg/L	2022-09-03	RS1

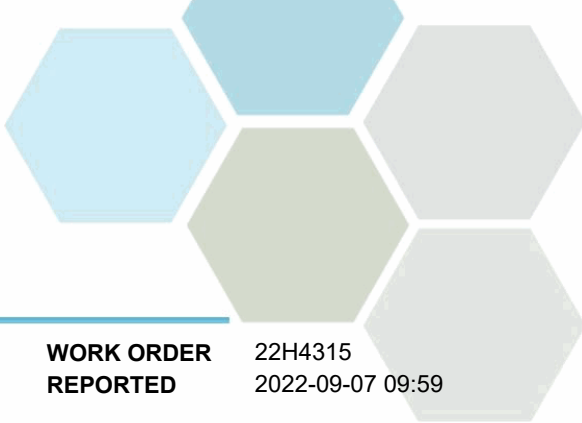


TEST RESULTS

REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

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Analyte	Result	RL	Units	Analyzed	Qualifier
Davidson Pond (22H4315-03) Matrix: Water Sampled: 2022-08-30, Continued					
<i>Dissolved Metals, Continued</i>					
Zinc, dissolved	< 0.0080	0.0040	mg/L	2022-09-03	RS1
Zirconium, dissolved	0.00027	0.00010	mg/L	2022-09-03	RS1
<i>General Parameters</i>					
Ammonia, Total (as N)	0.339	0.050	mg/L	2022-08-31	
BOD, 5-day	< 7.5	2.0	mg/L	2022-09-05	
Carbon, Dissolved Organic	30.2	0.50	mg/L	2022-08-31	
Chemical Oxygen Demand	116	20	mg/L	2022-08-31	
Conductivity (EC)	3880	2.0	µS/cm	2022-09-02	
Nitrogen, Total Kjeldahl	3.18	0.050	mg/L	2022-09-04	
pH	8.69	0.10	pH units	2022-09-02	HT2
Phosphorus, Total (as P)	0.142	0.0050	mg/L	2022-09-06	
Solids, Total Dissolved	2380	15	mg/L	2022-09-02	
Solids, Total Suspended	69.6	2.0	mg/L	2022-09-01	
<i>Microbiological Parameters</i>					
Coliforms, Total (Q-Tray)	92100	1	MPN/100 mL	2022-08-31	
E. coli (Q-Tray)	4370	1	MPN/100 mL	2022-08-31	
<i>Total Metals</i>					
Aluminum, total	1.61	0.0050	mg/L	2022-09-03	RS1
Antimony, total	0.00055	0.00020	mg/L	2022-09-03	RS1
Arsenic, total	0.00469	0.00050	mg/L	2022-09-03	RS1
Barium, total	0.0406	0.0050	mg/L	2022-09-03	RS1
Beryllium, total	< 0.00020	0.00010	mg/L	2022-09-03	RS1
Bismuth, total	< 0.00020	0.00010	mg/L	2022-09-03	RS1
Boron, total	< 0.100	0.0500	mg/L	2022-09-03	RS1
Cadmium, total	0.000054	0.000010	mg/L	2022-09-03	RS1
Calcium, total	70.9	0.20	mg/L	2022-09-03	RS1
Chromium, total	0.00205	0.00050	mg/L	2022-09-03	RS1
Cobalt, total	0.00088	0.00010	mg/L	2022-09-03	RS1
Copper, total	0.00357	0.00040	mg/L	2022-09-03	RS1
Iron, total	2.27	0.010	mg/L	2022-09-03	RS1
Lead, total	0.00115	0.00020	mg/L	2022-09-03	RS1
Lithium, total	0.0504	0.00010	mg/L	2022-09-03	RS1
Magnesium, total	131	0.010	mg/L	2022-09-03	RS1
Manganese, total	0.156	0.00020	mg/L	2022-09-03	RS1
Mercury, total	< 0.000010	0.000010	mg/L	2022-09-01	
Molybdenum, total	0.00256	0.00010	mg/L	2022-09-03	RS1
Nickel, total	0.00282	0.00040	mg/L	2022-09-03	RS1
Phosphorus, total	0.224	0.050	mg/L	2022-09-03	RS1
Potassium, total	54.2	0.10	mg/L	2022-09-03	RS1
Selenium, total	< 0.00100	0.00050	mg/L	2022-09-03	RS1
Silicon, total	6.1	1.0	mg/L	2022-09-03	RS1



TEST RESULTS

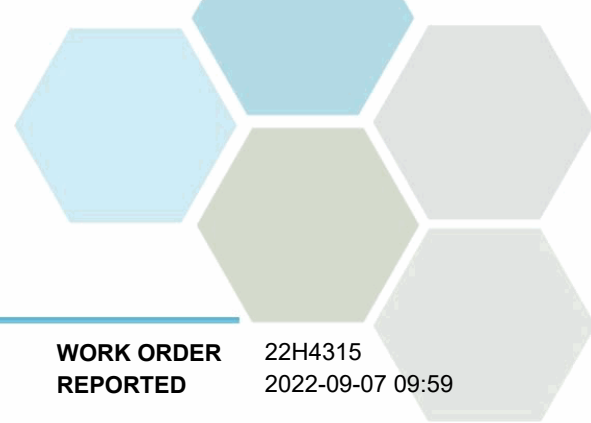
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Analyte	Result	RL	Units	Analyzed	Qualifier
Davidson Pond (22H4315-03) Matrix: Water Sampled: 2022-08-30, Continued					
<i>Total Metals, Continued</i>					
Silver, total	< 0.000100	0.000050	mg/L	2022-09-03	RS1
Sodium, total	596	0.10	mg/L	2022-09-03	RS1
Strontium, total	0.971	0.0010	mg/L	2022-09-03	RS1
Sulfur, total	481	3.0	mg/L	2022-09-03	RS1
Tellurium, total	< 0.00100	0.00050	mg/L	2022-09-03	RS1
Thallium, total	< 0.000040	0.000020	mg/L	2022-09-03	RS1
Thorium, total	< 0.00020	0.00010	mg/L	2022-09-03	RS1
Tin, total	< 0.00040	0.00020	mg/L	2022-09-03	RS1
Titanium, total	0.0622	0.0050	mg/L	2022-09-03	RS1
Tungsten, total	< 0.0004	0.0002	mg/L	2022-09-03	RS1
Uranium, total	0.0103	0.000020	mg/L	2022-09-03	RS1
Vanadium, total	< 0.0100	0.0050	mg/L	2022-09-03	RS1
Zinc, total	0.0106	0.0040	mg/L	2022-09-03	RS1
Zirconium, total	0.00105	0.00010	mg/L	2022-09-03	RS1

Sample Qualifiers:

- HT2 The 15 minute recommended holding time (from sampling to analysis) has been exceeded - field analysis is recommended.
- RA1 The Reporting Limit has been raised due to matrix interference.
- RA5 The sample cannot be accurately quantified due to matrix interference. Result is Semi-Quantitative.
- RS1 The Reporting Limits for this sample have been raised due to high analyte concentration and/or matrix interference.



APPENDIX 1: SUPPORTING INFORMATION

REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

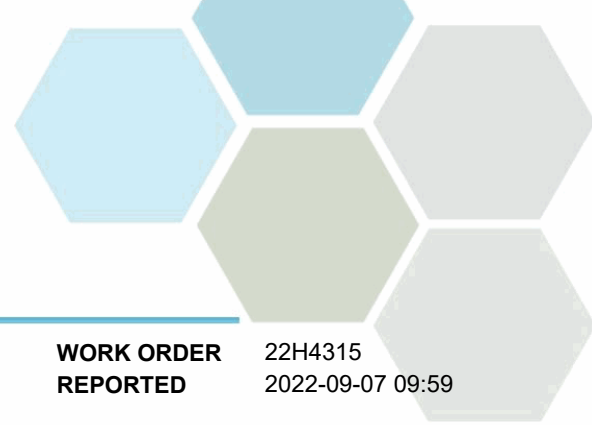
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Analysis Description	Method Ref.	Technique	Accredited	Location
Ammonia, Total in Water	SM 4500-NH3 G* (2017)	Automated Colorimetry (Phenate)	✓	Kelowna
Anions in Water	SM 4110 B (2017)	Ion Chromatography	✓	Kelowna
Biochemical Oxygen Demand in Water	SM 5210 B (2017)	Dissolved Oxygen Meter	✓	Kelowna
Carbon, Dissolved Organic in Water	SM 5310 B (2017)	Combustion, Infrared CO2 Detection	✓	Kelowna
Chemical Oxygen Demand in Water	SM 5220 D* (2017)	Closed Reflux, Colorimetry	✓	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
Dissolved Metals in Water	EPA 200.8 / EPA 6020B	0.45 µm Filtration / Inductively Coupled Plasma-Mass Spectroscopy (ICP-MS)	✓	Richmond
E. coli in Water	NA / SM 9223 (2017)	Quanti-Tray / Enzyme Substrate Endo Agar	✓	Kelowna
Hardness in Water	SM 2340 B (2017)	Calculation: 2.497 [diss Ca] + 4.118 [diss Mg]	✓	N/A
Mercury, dissolved in Water	EPA 245.7*	BrCl2 Oxidation / Cold Vapor Atomic Fluorescence Spectrometry (CVAFS)	✓	Richmond
Mercury, total in Water	EPA 245.7*	BrCl2 Oxidation / Cold Vapor Atomic Fluorescence Spectrometry (CVAFS)	✓	Richmond
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
Phosphorus, Total in Water	SM 4500-P B.5* (2011) / SM 4500-P F (2017)	Persulfate Digestion / Automated Colorimetry (Ascorbic Acid)	✓	Kelowna
Solids, Total Dissolved in Water	Solids in Water, Filtered / SM 2540 C* (2017)	Solids in Water, Filtered / Gravimetry (Dried at 103-105C)	✓	Kelowna
Solids, Total Suspended in Water	Solids in Water, Filtered / SM 2540 D* (2017)	Solids in Water, Filtered / Gravimetry (Dried at 103-105C)	✓	Kelowna
Total Metals in Water	EPA 200.2 / EPA 6020B	HNO3+HCl Hot Block Digestion / Inductively Coupled Plasma-Mass Spectroscopy (ICP-MS)	✓	Richmond

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
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
EPA	United States Environmental Protection Agency Test Methods
SM	Standard Methods for the Examination of Water and Wastewater, American Public Health Association



APPENDIX 1: SUPPORTING INFORMATION

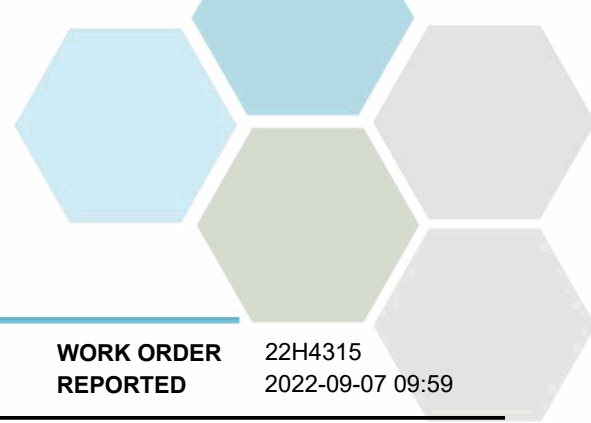
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PROJECT RBCF Ponds

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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 or once samples expire, whichever comes first. Longer hold is possible if agreed to in writing.

Please note any regulatory guidelines applied to this report are added as a convenience to the client, at their request, to help provide some initial context to analytical results obtained. Although CARO makes every effort to ensure accuracy of the associated regulatory guideline(s) applied, the guidelines applied cannot be assumed to be correct due to a variety of factors and as such CARO Analytical Services assumes no liability or responsibility for the use of those guidelines to make any decisions. The original source of the regulation should be verified and a review of the guideline(s) should be validated as correct in order to make any decisions arising from the comparison of the analytical data obtained to the relevant regulatory guideline for one's particular circumstances. Further, CARO Analytical Services assumes no liability or responsibility for any loss attributed from the use of these guidelines in any way.



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Kelowna, City of
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The following section displays the quality control (QC) data that is associated with your sample data. Groups of samples are prepared in "batches" and analyzed in conjunction with QC samples that ensure your data is of the highest quality. Common QC types include:

- **Method Blank (Blk):** A blank sample that undergoes sample processing identical to that carried out for the test samples. Method blank results are used to assess contamination from the laboratory environment and reagents.
- **Duplicate (Dup):** An additional or second portion of a randomly selected sample in the analytical run carried through the entire analytical process. Duplicates provide a measure of the analytical method's precision (reproducibility).
- **Blank Spike (BS):** A sample of known concentration which undergoes processing identical to that carried out for test samples, also referred to as a laboratory control sample (LCS). Blank spikes provide a measure of the analytical method's accuracy.
- **Matrix Spike (MS):** A second aliquot of sample is fortified with a known concentration of target analytes and carried through the entire analytical process. Matrix spikes evaluate potential matrix effects that may affect the analyte recovery.
- **Reference Material (SRM):** A homogenous material of similar matrix to the samples, certified for the parameter(s) listed. Reference Materials ensure that the analytical process is adequate to achieve acceptable recoveries of the parameter(s) tested.

Each QC type is analyzed at a 5-10% frequency, i.e. one blank/duplicate/spike for every 10-20 samples. For all types of QC, the specified recovery (% Rec) and relative percent difference (RPD) limits are derived from long-term method performance averages and/or prescribed by the reference method.

Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
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Anions, Batch B2H3837

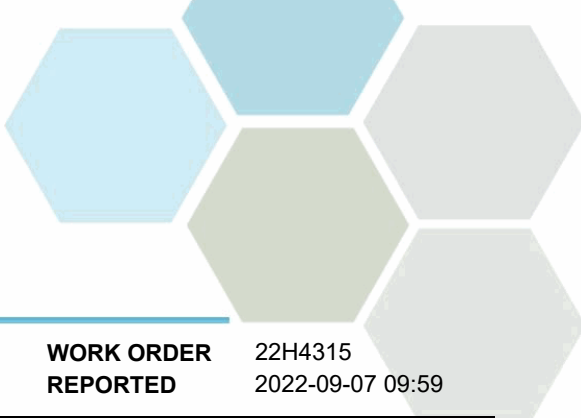
Blank (B2H3837-BLK1)		Prepared: 2022-08-31, Analyzed: 2022-08-31							
Chloride	< 0.10	0.10 mg/L							
Nitrate (as N)	< 0.010	0.010 mg/L							
Nitrite (as N)	< 0.010	0.010 mg/L							
LCS (B2H3837-BS1)		Prepared: 2022-09-01, Analyzed: 2022-09-01							
Chloride	16.2	0.10 mg/L	16.0		102	90-110			
Nitrate (as N)	4.09	0.010 mg/L	4.00		102	90-110			
Nitrite (as N)	1.94	0.010 mg/L	2.00		97	85-115			

Dissolved Metals, Batch B2I0114

Blank (B2I0114-BLK1)		Prepared: 2022-09-01, Analyzed: 2022-09-01							
Mercury, dissolved	< 0.000010	0.000010 mg/L							
Blank (B2I0114-BLK2)		Prepared: 2022-09-01, Analyzed: 2022-09-01							
Mercury, dissolved	< 0.000010	0.000010 mg/L							
LCS (B2I0114-BS1)		Prepared: 2022-09-01, Analyzed: 2022-09-01							
Mercury, dissolved	0.000530	0.000010 mg/L	0.000500		106	80-120			
LCS (B2I0114-BS2)		Prepared: 2022-09-01, Analyzed: 2022-09-01							
Mercury, dissolved	0.000502	0.000010 mg/L	0.000500		100	80-120			

Dissolved Metals, Batch B2I0157

Blank (B2I0157-BLK1)		Prepared: 2022-09-03, Analyzed: 2022-09-03							
Aluminum, dissolved	< 0.0050	0.0050 mg/L							
Antimony, dissolved	< 0.00020	0.00020 mg/L							
Arsenic, dissolved	< 0.00050	0.00050 mg/L							
Barium, dissolved	< 0.0050	0.0050 mg/L							
Beryllium, dissolved	< 0.00010	0.00010 mg/L							
Bismuth, dissolved	< 0.00010	0.00010 mg/L							
Boron, dissolved	< 0.0500	0.0500 mg/L							
Cadmium, dissolved	< 0.000010	0.000010 mg/L							
Calcium, dissolved	< 0.20	0.20 mg/L							
Chromium, dissolved	< 0.00050	0.00050 mg/L							



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

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Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
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Dissolved Metals, Batch B210157, Continued

Blank (B210157-BLK1), Continued

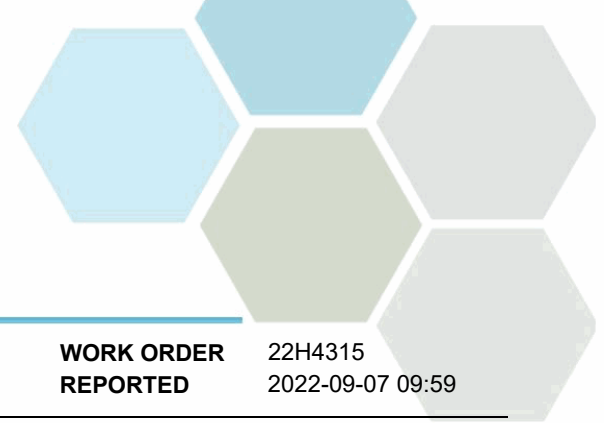
Prepared: 2022-09-03, Analyzed: 2022-09-03

Cobalt, dissolved	< 0.00010	0.00010 mg/L							
Copper, dissolved	< 0.00040	0.00040 mg/L							
Iron, dissolved	< 0.010	0.010 mg/L							
Lead, dissolved	< 0.00020	0.00020 mg/L							
Lithium, dissolved	< 0.00010	0.00010 mg/L							
Magnesium, dissolved	< 0.010	0.010 mg/L							
Manganese, dissolved	< 0.00020	0.00020 mg/L							
Molybdenum, dissolved	< 0.00010	0.00010 mg/L							
Nickel, dissolved	< 0.00040	0.00040 mg/L							
Phosphorus, dissolved	< 0.050	0.050 mg/L							
Potassium, dissolved	< 0.10	0.10 mg/L							
Selenium, dissolved	< 0.00050	0.00050 mg/L							
Silicon, dissolved	< 1.0	1.0 mg/L							
Silver, dissolved	< 0.000050	0.000050 mg/L							
Sodium, dissolved	< 0.10	0.10 mg/L							
Strontium, dissolved	< 0.0010	0.0010 mg/L							
Sulfur, dissolved	< 3.0	3.0 mg/L							
Tellurium, dissolved	< 0.00050	0.00050 mg/L							
Thallium, dissolved	< 0.000020	0.000020 mg/L							
Thorium, dissolved	< 0.00010	0.00010 mg/L							
Tin, dissolved	< 0.00020	0.00020 mg/L							
Titanium, dissolved	< 0.0050	0.0050 mg/L							
Tungsten, dissolved	< 0.0010	0.0010 mg/L							
Uranium, dissolved	< 0.000020	0.000020 mg/L							
Vanadium, dissolved	< 0.0050	0.0050 mg/L							
Zinc, dissolved	< 0.0040	0.0040 mg/L							
Zirconium, dissolved	< 0.00010	0.00010 mg/L							

LCS (B210157-BS1)

Prepared: 2022-09-03, Analyzed: 2022-09-03

Aluminum, dissolved	3.87	0.0050 mg/L	4.00		97	80-120			
Antimony, dissolved	0.0410	0.00020 mg/L	0.0400		103	80-120			
Arsenic, dissolved	0.0390	0.00050 mg/L	0.0400		98	80-120			
Barium, dissolved	0.0401	0.0050 mg/L	0.0400		100	80-120			
Beryllium, dissolved	0.0405	0.00010 mg/L	0.0400		101	80-120			
Bismuth, dissolved	0.0399	0.00010 mg/L	0.0400		100	80-120			
Boron, dissolved	< 0.0500	0.0500 mg/L	0.0400		103	80-120			
Cadmium, dissolved	0.0405	0.000010 mg/L	0.0400		101	80-120			
Calcium, dissolved	4.03	0.20 mg/L	4.00		101	80-120			
Chromium, dissolved	0.0394	0.00050 mg/L	0.0400		99	80-120			
Cobalt, dissolved	0.0382	0.00010 mg/L	0.0400		95	80-120			
Copper, dissolved	0.0396	0.00040 mg/L	0.0400		99	80-120			
Iron, dissolved	3.84	0.010 mg/L	4.00		96	80-120			
Lead, dissolved	0.0400	0.00020 mg/L	0.0400		100	80-120			
Lithium, dissolved	0.0401	0.00010 mg/L	0.0400		100	80-120			
Magnesium, dissolved	3.92	0.010 mg/L	4.00		98	80-120			
Manganese, dissolved	0.0394	0.00020 mg/L	0.0400		99	80-120			
Molybdenum, dissolved	0.0401	0.00010 mg/L	0.0400		100	80-120			
Nickel, dissolved	0.0379	0.00040 mg/L	0.0400		95	80-120			
Phosphorus, dissolved	3.92	0.050 mg/L	4.00		98	80-120			
Potassium, dissolved	3.88	0.10 mg/L	4.00		97	80-120			
Selenium, dissolved	0.0400	0.00050 mg/L	0.0400		100	80-120			
Silicon, dissolved	4.2	1.0 mg/L	4.00		104	80-120			
Silver, dissolved	0.0402	0.000050 mg/L	0.0400		101	80-120			
Sodium, dissolved	3.88	0.10 mg/L	4.00		97	80-120			
Strontium, dissolved	0.0407	0.0010 mg/L	0.0400		102	80-120			
Sulfur, dissolved	40.5	3.0 mg/L	40.0		101	80-120			

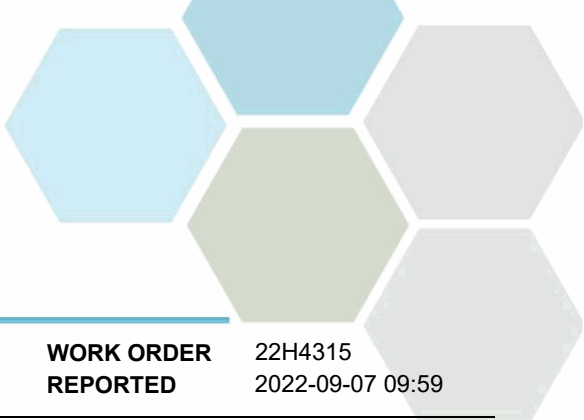


APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Kelowna, City of RBCF Ponds

WORK ORDER REPORTED 22H4315
2022-09-07 09:59

Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
<i>Dissolved Metals, Batch B2I0157, Continued</i>									
LCS (B2I0157-BS1), Continued					Prepared: 2022-09-03, Analyzed: 2022-09-03				
Tellurium, dissolved	0.0399	0.00050 mg/L	0.0400		100	80-120			
Thallium, dissolved	0.0400	0.000020 mg/L	0.0400		100	80-120			
Thorium, dissolved	0.0402	0.00010 mg/L	0.0400		101	80-120			
Tin, dissolved	0.0414	0.00020 mg/L	0.0400		104	80-120			
Titanium, dissolved	0.0380	0.0050 mg/L	0.0400		95	80-120			
Tungsten, dissolved	0.0405	0.0010 mg/L	0.0400		101	80-120			
Uranium, dissolved	0.0400	0.000020 mg/L	0.0400		100	80-120			
Vanadium, dissolved	0.0382	0.0050 mg/L	0.0400		95	80-120			
Zinc, dissolved	0.0401	0.0040 mg/L	0.0400		100	80-120			
Zirconium, dissolved	0.0418	0.00010 mg/L	0.0400		104	80-120			
Duplicate (B2I0157-DUP1)			Source: 22H4315-01		Prepared: 2022-09-03, Analyzed: 2022-09-03				
Aluminum, dissolved	< 0.0100	0.0050 mg/L		< 0.0100				20	
Antimony, dissolved	0.00041	0.00020 mg/L		0.00041				20	
Arsenic, dissolved	0.00368	0.00050 mg/L		0.00359				20	
Barium, dissolved	< 0.0100	0.0050 mg/L		< 0.0100				20	
Beryllium, dissolved	< 0.00020	0.00010 mg/L		< 0.00020				20	
Bismuth, dissolved	< 0.00020	0.00010 mg/L		< 0.00020				20	
Boron, dissolved	0.103	0.0500 mg/L		0.108				20	
Cadmium, dissolved	< 0.000020	0.000010 mg/L		< 0.000020				20	
Calcium, dissolved	52.8	0.20 mg/L		54.3			3	20	
Chromium, dissolved	< 0.00100	0.00050 mg/L		< 0.00100				20	
Cobalt, dissolved	< 0.00020	0.00010 mg/L		< 0.00020				20	
Copper, dissolved	< 0.00080	0.00040 mg/L		< 0.00080				20	
Iron, dissolved	< 0.020	0.010 mg/L		< 0.020				20	
Lead, dissolved	< 0.00040	0.00020 mg/L		< 0.00040				20	
Lithium, dissolved	0.0476	0.00010 mg/L		0.0483			1	20	
Magnesium, dissolved	270	0.010 mg/L		269			< 1	20	
Manganese, dissolved	0.00279	0.00020 mg/L		0.00281			< 1	20	
Molybdenum, dissolved	0.00139	0.00010 mg/L		0.00136			2	20	
Nickel, dissolved	< 0.00080	0.00040 mg/L		< 0.00080				20	
Phosphorus, dissolved	< 0.100	0.050 mg/L		< 0.100				20	
Potassium, dissolved	87.0	0.10 mg/L		87.7			< 1	20	
Selenium, dissolved	< 0.00100	0.00050 mg/L		< 0.00100				20	
Silicon, dissolved	< 2.0	1.0 mg/L		< 2.0				20	
Silver, dissolved	< 0.000100	0.000050 mg/L		< 0.000100				20	
Sodium, dissolved	770	0.10 mg/L		767			< 1	20	
Strontium, dissolved	0.394	0.0010 mg/L		0.393			< 1	20	
Sulfur, dissolved	793	3.0 mg/L		781			1	20	
Tellurium, dissolved	< 0.00100	0.00050 mg/L		< 0.00100				20	
Thallium, dissolved	< 0.000040	0.000020 mg/L		< 0.000040				20	
Thorium, dissolved	< 0.00020	0.00010 mg/L		< 0.00020				20	
Tin, dissolved	< 0.00040	0.00020 mg/L		< 0.00040				20	
Titanium, dissolved	< 0.0100	0.0050 mg/L		< 0.0100				20	
Tungsten, dissolved	< 0.0020	0.0010 mg/L		< 0.0020				20	
Uranium, dissolved	0.00371	0.000020 mg/L		0.00369			< 1	20	
Vanadium, dissolved	< 0.0100	0.0050 mg/L		< 0.0100				20	
Zinc, dissolved	< 0.0080	0.0040 mg/L		< 0.0080				20	
Zirconium, dissolved	< 0.00020	0.00010 mg/L		< 0.00020				20	
Matrix Spike (B2I0157-MS1)			Source: 22H4315-02		Prepared: 2022-09-03, Analyzed: 2022-09-03				
Aluminum, dissolved	4.02	0.0050 mg/L	4.00	0.0514	99	70-130			
Antimony, dissolved	0.0407	0.00020 mg/L	0.0400	0.00030	101	70-130			
Arsenic, dissolved	0.0434	0.00050 mg/L	0.0400	0.00352	100	70-130			
Barium, dissolved	0.0723	0.0050 mg/L	0.0400	0.0314	102	70-130			
Beryllium, dissolved	0.0403	0.00010 mg/L	0.0400	< 0.00010	101	70-130			



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Kelowna, City of RBCF Ponds

WORK ORDER REPORTED 22H4315
2022-09-07 09:59

Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
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Dissolved Metals, Batch B2I0157, Continued

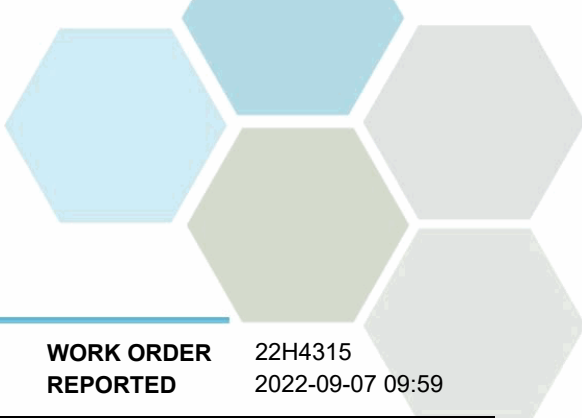
Matrix Spike (B2I0157-MS1), Continued	Source: 22H4315-02	Prepared: 2022-09-03, Analyzed: 2022-09-03
Bismuth, dissolved	0.0358 0.00010 mg/L	0.0400 0.00012
Boron, dissolved	0.220 0.0500 mg/L	0.0400 0.185
Cadmium, dissolved	0.0408 0.000010 mg/L	0.0400 0.000039
Calcium, dissolved	58.7 0.20 mg/L	4.00 56.1
Chromium, dissolved	0.0386 0.00050 mg/L	0.0400 0.00056
Cobalt, dissolved	0.0383 0.00010 mg/L	0.0400 0.00057
Copper, dissolved	0.0412 0.00040 mg/L	0.0400 0.00459
Iron, dissolved	4.02 0.010 mg/L	4.00 0.188
Lead, dissolved	0.0393 0.00020 mg/L	0.0400 < 0.00020
Lithium, dissolved	0.0529 0.00010 mg/L	0.0400 0.0123
Magnesium, dissolved	27.0 0.010 mg/L	4.00 23.4
Manganese, dissolved	0.192 0.00020 mg/L	0.0400 0.157
Molybdenum, dissolved	0.0418 0.00010 mg/L	0.0400 0.00138
Nickel, dissolved	0.0395 0.00040 mg/L	0.0400 0.00238
Phosphorus, dissolved	10.7 0.050 mg/L	4.00 6.52
Potassium, dissolved	50.8 0.10 mg/L	4.00 49.1
Selenium, dissolved	0.0412 0.00050 mg/L	0.0400 0.00073
Silicon, dissolved	7.8 1.0 mg/L	4.00 3.1
Silver, dissolved	0.0333 0.000050 mg/L	0.0400 < 0.000050
Sodium, dissolved	92.6 0.10 mg/L	4.00 91.8
Strontium, dissolved	0.561 0.0010 mg/L	0.0400 0.533
Sulfur, dissolved	75.5 3.0 mg/L	40.0 33.6
Tellurium, dissolved	0.0419 0.00050 mg/L	0.0400 < 0.00050
Thallium, dissolved	0.0394 0.000020 mg/L	0.0400 < 0.000020
Thorium, dissolved	0.0401 0.00010 mg/L	0.0400 < 0.00010
Tin, dissolved	0.0431 0.00020 mg/L	0.0400 0.00024
Titanium, dissolved	0.0414 0.0050 mg/L	0.0400 < 0.0050
Tungsten, dissolved	0.0402 0.0010 mg/L	0.0400 < 0.0010
Uranium, dissolved	0.0409 0.000020 mg/L	0.0400 0.000839
Vanadium, dissolved	0.0400 0.0050 mg/L	0.0400 < 0.0050
Zinc, dissolved	0.0687 0.0040 mg/L	0.0400 0.0305
Zirconium, dissolved	0.0436 0.00010 mg/L	0.0400 0.00043

General Parameters, Batch B2H3638

Blank (B2H3638-BLK1)	Prepared: 2022-08-31, Analyzed: 2022-08-31
Carbon, Dissolved Organic	< 0.50 0.50 mg/L
Blank (B2H3638-BLK2)	Prepared: 2022-08-31, Analyzed: 2022-08-31
Carbon, Dissolved Organic	< 0.50 0.50 mg/L
LCS (B2H3638-BS1)	Prepared: 2022-08-31, Analyzed: 2022-08-31
Carbon, Dissolved Organic	10.1 0.50 mg/L 10.0 101 78-116
LCS (B2H3638-BS2)	Prepared: 2022-08-31, Analyzed: 2022-08-31
Carbon, Dissolved Organic	9.72 0.50 mg/L 10.0 97 78-116

General Parameters, Batch B2H3898

Blank (B2H3898-BLK1)	Prepared: 2022-08-31, Analyzed: 2022-09-05
BOD, 5-day	< 2.0 2.0 mg/L
LCS (B2H3898-BS1)	Prepared: 2022-08-31, Analyzed: 2022-09-05
BOD, 5-day	224 62.5 mg/L 198 113 85-115



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT	Kelowna, City of RBCF Ponds	WORK ORDER REPORTED	22H4315 2022-09-07 09:59
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Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
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General Parameters, Batch B2H3898, Continued

Duplicate (B2H3898-DUP2)		Source: 22H4315-03		Prepared: 2022-08-31, Analyzed: 2022-09-05					
BOD, 5-day	7.9	2.0 mg/L		< 7.5				22	

General Parameters, Batch B2H3899

Blank (B2H3899-BLK1)		Prepared: 2022-08-31, Analyzed: 2022-08-31							
Ammonia, Total (as N)	< 0.050	0.050 mg/L							

Blank (B2H3899-BLK2)		Prepared: 2022-08-31, Analyzed: 2022-08-31							
Ammonia, Total (as N)	< 0.050	0.050 mg/L							

LCS (B2H3899-BS1)		Prepared: 2022-08-31, Analyzed: 2022-08-31							
Ammonia, Total (as N)	0.954	0.050 mg/L	1.00		95	90-115			

LCS (B2H3899-BS2)		Prepared: 2022-08-31, Analyzed: 2022-08-31							
Ammonia, Total (as N)	0.933	0.050 mg/L	1.00		93	90-115			

General Parameters, Batch B2H3937

Blank (B2H3937-BLK1)		Prepared: 2022-08-31, Analyzed: 2022-08-31							
Chemical Oxygen Demand	< 20	20 mg/L							

LCS (B2H3937-BS1)		Prepared: 2022-08-31, Analyzed: 2022-08-31							
Chemical Oxygen Demand	532	20 mg/L	500		106	89-115			

Duplicate (B2H3937-DUP1)		Source: 22H4315-02		Prepared: 2022-08-31, Analyzed: 2022-08-31					
Chemical Oxygen Demand	281	20 mg/L		275			2	14	

Matrix Spike (B2H3937-MS1)		Source: 22H4315-02		Prepared: 2022-08-31, Analyzed: 2022-08-31					
Chemical Oxygen Demand	412	20 mg/L	125	275	110	75-125			

General Parameters, Batch B2I0048

Blank (B2I0048-BLK1)		Prepared: 2022-09-01, Analyzed: 2022-09-01							
Solids, Total Suspended	< 2.0	2.0 mg/L							

LCS (B2I0048-BS1)		Prepared: 2022-09-01, Analyzed: 2022-09-01							
Solids, Total Suspended	97.0	10.0 mg/L	100		97	85-115			

General Parameters, Batch B2I0176

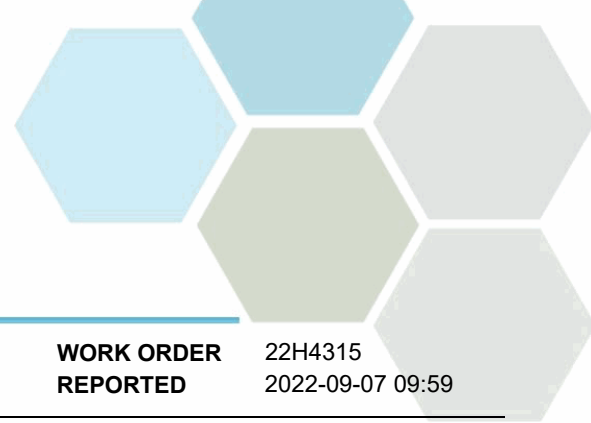
Blank (B2I0176-BLK1)		Prepared: 2022-09-02, Analyzed: 2022-09-02							
Solids, Total Dissolved	< 15	15 mg/L							

LCS (B2I0176-BS1)		Prepared: 2022-09-02, Analyzed: 2022-09-02							
Solids, Total Dissolved	232	15 mg/L	240		97	85-115			

Duplicate (B2I0176-DUP1)		Source: 22H4315-01		Prepared: 2022-09-02, Analyzed: 2022-09-02					
Solids, Total Dissolved	3920	15 mg/L		3910			< 1	15	

General Parameters, Batch B2I0227

LCS (B2I0227-BS1)		Prepared: 2022-09-02, Analyzed: 2022-09-04							
Nitrogen, Total Kjeldahl	1.04	0.050 mg/L	1.00		104	85-115			



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT	Kelowna, City of RBCF Ponds	WORK ORDER REPORTED	22H4315 2022-09-07 09:59
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Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
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General Parameters, Batch B2I0227, Continued

LCS (B2I0227-BS2)			Prepared: 2022-09-02, Analyzed: 2022-09-04						
Nitrogen, Total Kjeldahl	1.04	0.050 mg/L	1.00		104	85-115			

General Parameters, Batch B2I0259

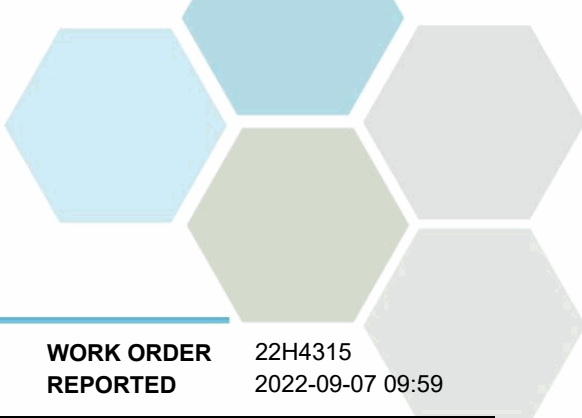
Blank (B2I0259-BLK1)			Prepared: 2022-09-02, Analyzed: 2022-09-02						
Conductivity (EC)	< 2.0	2.0 µS/cm							
Blank (B2I0259-BLK2)			Prepared: 2022-09-02, Analyzed: 2022-09-02						
Conductivity (EC)	< 2.0	2.0 µS/cm							
Blank (B2I0259-BLK3)			Prepared: 2022-09-02, Analyzed: 2022-09-02						
Conductivity (EC)	< 2.0	2.0 µS/cm							
LCS (B2I0259-BS4)			Prepared: 2022-09-02, Analyzed: 2022-09-02						
Conductivity (EC)	1400	2.0 µS/cm	1410		99	95-105			
LCS (B2I0259-BS5)			Prepared: 2022-09-02, Analyzed: 2022-09-02						
Conductivity (EC)	1400	2.0 µS/cm	1410		99	95-105			
LCS (B2I0259-BS6)			Prepared: 2022-09-02, Analyzed: 2022-09-02						
Conductivity (EC)	1400	2.0 µS/cm	1410		99	95-105			
Reference (B2I0259-SRM1)			Prepared: 2022-09-02, Analyzed: 2022-09-02						
pH	7.03	0.10 pH units	7.01		100	98-102			
Reference (B2I0259-SRM2)			Prepared: 2022-09-02, Analyzed: 2022-09-02						
pH	7.04	0.10 pH units	7.01		100	98-102			
Reference (B2I0259-SRM3)			Prepared: 2022-09-02, Analyzed: 2022-09-02						
pH	7.04	0.10 pH units	7.01		100	98-102			

General Parameters, Batch B2I0435

Blank (B2I0435-BLK1)			Prepared: 2022-09-06, Analyzed: 2022-09-06						
Phosphorus, Total (as P)	< 0.0050	0.0050 mg/L							
LCS (B2I0435-BS1)			Prepared: 2022-09-06, Analyzed: 2022-09-06						
Phosphorus, Total (as P)	0.102	0.0050 mg/L	0.100		102	85-115			
Duplicate (B2I0435-DUP1)			Source: 22H4315-01		Prepared: 2022-09-06, Analyzed: 2022-09-06				
Phosphorus, Total (as P)	0.0239	0.0050 mg/L		0.0231					15
Matrix Spike (B2I0435-MS1)			Source: 22H4315-01		Prepared: 2022-09-06, Analyzed: 2022-09-06				
Phosphorus, Total (as P)	0.132	0.0050 mg/L	0.102	0.0231	107	70-125			

Microbiological Parameters, Batch B2H3933

Blank (B2H3933-BLK1)			Prepared: 2022-08-31, Analyzed: 2022-08-31						
Coliforms, Total (Q-Tray)	< 1	1 MPN/100 mL							
E. coli (Q-Tray)	< 1	1 MPN/100 mL							
Blank (B2H3933-BLK2)			Prepared: 2022-08-31, Analyzed: 2022-08-31						
E. coli (Q-Tray)	< 1	1 MPN/100 mL							
Blank (B2H3933-BLK3)			Prepared: 2022-08-31, Analyzed: 2022-08-31						
Coliforms, Total (Q-Tray)	< 1	1 MPN/100 mL							



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT	Kelowna, City of RBCF Ponds	WORK ORDER REPORTED	22H4315 2022-09-07 09:59
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Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
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Microbiological Parameters, Batch B2H3933, Continued

Blank (B2H3933-BLK3), Continued			Prepared: 2022-08-31, Analyzed: 2022-08-31						
E. coli (Q-Tray)	< 1	1 MPN/100 mL							

Total Metals, Batch B2I0115

Blank (B2I0115-BLK1)			Prepared: 2022-09-01, Analyzed: 2022-09-01						
Mercury, total	< 0.000010	0.000010 mg/L							

Blank (B2I0115-BLK2)			Prepared: 2022-09-01, Analyzed: 2022-09-01						
Mercury, total	< 0.000010	0.000010 mg/L							

Blank (B2I0115-BLK3)			Prepared: 2022-09-01, Analyzed: 2022-09-01						
Mercury, total	< 0.000010	0.000010 mg/L							

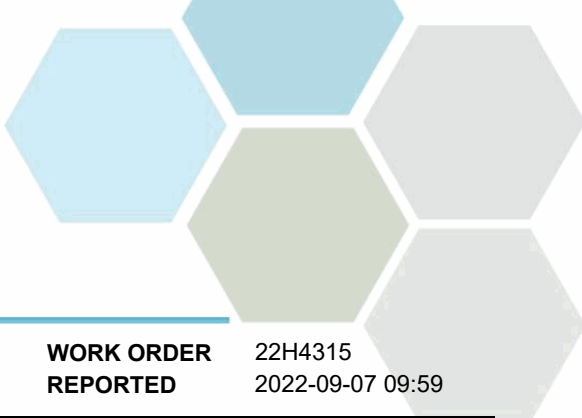
LCS (B2I0115-BS1)			Prepared: 2022-09-01, Analyzed: 2022-09-01						
Mercury, total	0.000497	0.000010 mg/L	0.000500	99	80-120				

LCS (B2I0115-BS2)			Prepared: 2022-09-01, Analyzed: 2022-09-01						
Mercury, total	0.000501	0.000010 mg/L	0.000500	100	80-120				

LCS (B2I0115-BS3)			Prepared: 2022-09-01, Analyzed: 2022-09-01						
Mercury, total	0.000481	0.000010 mg/L	0.000500	96	80-120				

Total Metals, Batch B2I0210

Blank (B2I0210-BLK1)			Prepared: 2022-09-02, Analyzed: 2022-09-03						
Aluminum, total	< 0.0050	0.0050 mg/L							
Antimony, total	< 0.00020	0.00020 mg/L							
Arsenic, total	< 0.00050	0.00050 mg/L							
Barium, total	< 0.0050	0.0050 mg/L							
Beryllium, total	< 0.00010	0.00010 mg/L							
Bismuth, total	< 0.00010	0.00010 mg/L							
Boron, total	< 0.0500	0.0500 mg/L							
Cadmium, total	< 0.000010	0.000010 mg/L							
Calcium, total	< 0.20	0.20 mg/L							
Chromium, total	< 0.00050	0.00050 mg/L							
Cobalt, total	< 0.00010	0.00010 mg/L							
Copper, total	< 0.00040	0.00040 mg/L							
Iron, total	< 0.010	0.010 mg/L							
Lead, total	< 0.00020	0.00020 mg/L							
Lithium, total	< 0.00010	0.00010 mg/L							
Magnesium, total	< 0.010	0.010 mg/L							
Manganese, total	< 0.00020	0.00020 mg/L							
Molybdenum, total	< 0.00010	0.00010 mg/L							
Nickel, total	< 0.00040	0.00040 mg/L							
Phosphorus, total	< 0.050	0.050 mg/L							
Potassium, total	< 0.10	0.10 mg/L							
Selenium, total	< 0.00050	0.00050 mg/L							
Silicon, total	< 1.0	1.0 mg/L							
Silver, total	< 0.000050	0.000050 mg/L							
Sodium, total	< 0.10	0.10 mg/L							
Strontium, total	< 0.0010	0.0010 mg/L							
Sulfur, total	< 3.0	3.0 mg/L							
Tellurium, total	< 0.00050	0.00050 mg/L							
Thallium, total	< 0.000020	0.000020 mg/L							
Thorium, total	< 0.00010	0.00010 mg/L							
Tin, total	< 0.00020	0.00020 mg/L							



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Kelowna, City of RBCF Ponds

WORK ORDER REPORTED 22H4315
2022-09-07 09:59

Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Total Metals, Batch B2I0210, Continued									
Blank (B2I0210-BLK1), Continued					Prepared: 2022-09-02, Analyzed: 2022-09-03				
Titanium, total	< 0.0050	0.0050 mg/L							
Tungsten, total	< 0.0002	0.0002 mg/L							
Uranium, total	< 0.000020	0.000020 mg/L							
Vanadium, total	< 0.0050	0.0050 mg/L							
Zinc, total	< 0.0040	0.0040 mg/L							
Zirconium, total	< 0.00010	0.00010 mg/L							
LCS (B2I0210-BS1)					Prepared: 2022-09-02, Analyzed: 2022-09-03				
Aluminum, total	3.91	0.0050 mg/L	4.00		98	80-120			
Antimony, total	0.0410	0.00020 mg/L	0.0400		103	80-120			
Arsenic, total	0.0399	0.00050 mg/L	0.0400		100	80-120			
Barium, total	0.0394	0.0050 mg/L	0.0400		98	80-120			
Beryllium, total	0.0395	0.00010 mg/L	0.0400		99	80-120			
Bismuth, total	0.0399	0.00010 mg/L	0.0400		100	80-120			
Boron, total	< 0.0500	0.0500 mg/L	0.0400		102	80-120			
Cadmium, total	0.0401	0.000010 mg/L	0.0400		100	80-120			
Calcium, total	3.93	0.20 mg/L	4.00		98	80-120			
Chromium, total	0.0393	0.00050 mg/L	0.0400		98	80-120			
Cobalt, total	0.0390	0.00010 mg/L	0.0400		98	80-120			
Copper, total	0.0396	0.00040 mg/L	0.0400		99	80-120			
Iron, total	3.96	0.010 mg/L	4.00		99	80-120			
Lead, total	0.0402	0.00020 mg/L	0.0400		101	80-120			
Lithium, total	0.0389	0.00010 mg/L	0.0400		97	80-120			
Magnesium, total	3.96	0.010 mg/L	4.00		99	80-120			
Manganese, total	0.0395	0.00020 mg/L	0.0400		99	80-120			
Molybdenum, total	0.0402	0.00010 mg/L	0.0400		101	80-120			
Nickel, total	0.0392	0.00040 mg/L	0.0400		98	80-120			
Phosphorus, total	3.98	0.050 mg/L	4.00		99	80-120			
Potassium, total	3.89	0.10 mg/L	4.00		97	80-120			
Selenium, total	0.0394	0.00050 mg/L	0.0400		98	80-120			
Silicon, total	4.2	1.0 mg/L	4.00		105	80-120			
Silver, total	0.0408	0.000050 mg/L	0.0400		102	80-120			
Sodium, total	4.01	0.10 mg/L	4.00		100	80-120			
Strontium, total	0.0409	0.0010 mg/L	0.0400		102	80-120			
Sulfur, total	40.2	3.0 mg/L	40.0		101	80-120			
Tellurium, total	0.0394	0.00050 mg/L	0.0400		99	80-120			
Thallium, total	0.0403	0.000020 mg/L	0.0400		101	80-120			
Thorium, total	0.0406	0.00010 mg/L	0.0400		101	80-120			
Tin, total	0.0414	0.00020 mg/L	0.0400		104	80-120			
Titanium, total	0.0385	0.0050 mg/L	0.0400		96	80-120			
Tungsten, total	0.0407	0.0002 mg/L	0.0400		102	80-120			
Uranium, total	0.0405	0.000020 mg/L	0.0400		101	80-120			
Vanadium, total	0.0380	0.0050 mg/L	0.0400		95	80-120			
Zinc, total	0.0392	0.0040 mg/L	0.0400		98	80-120			
Zirconium, total	0.0413	0.00010 mg/L	0.0400		103	80-120			

QC Qualifiers:

MS2 The native sample concentration is greater than the spike concentration hence the matrix spike limits do not apply.



CERTIFICATE OF ANALYSIS

REPORTED TO Kelowna, City of
1435 Water Street
KELOWNA, BC V1Y 1J4

ATTENTION Jose Garcia

PO NUMBER 535828

PROJECT RBCF Ponds

PROJECT INFO

WORK ORDER 2213957

RECEIVED / TEMP 2022-09-28 16:11 / 8.6°C

REPORTED 2022-10-07 11:50

COC NUMBER 44832.62217

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>

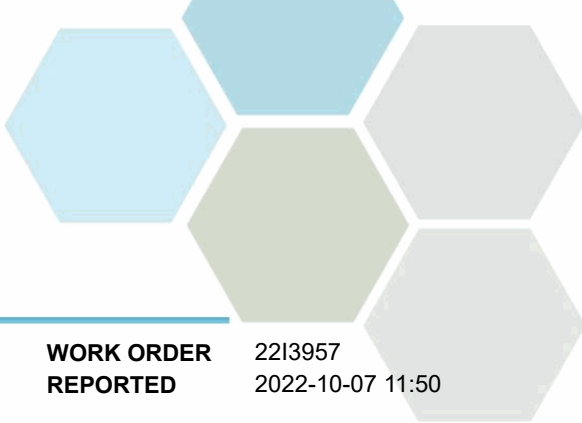
If you have any questions or concerns, please contact me at bwhitehead@caro.ca

Authorized By:

Brent Whitehead
Account Manager

1-888-311-8846 | www.caro.ca

#110 4011 Viking Way Richmond, BC V6V 2K9 | #102 3677 Highway 97N Kelowna, BC V1X 5C3 | 17225 109 Avenue Edmonton, AB T5S 1H7 | #108 4475 Wayburne Drive Burnaby, BC V5G 4X4

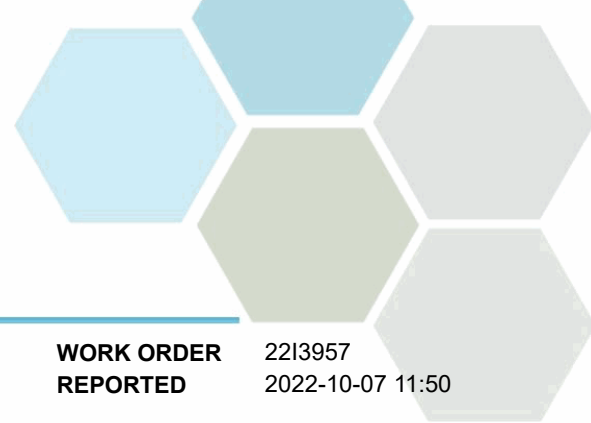


TEST RESULTS

REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

WORK ORDER REPORTED 2213957
2022-10-07 11:50

Analyte	Result	RL	Units	Analyzed	Qualifier
Rose's Pond (2213957-01) Matrix: Water Sampled: 2022-09-28					
Anions					
Chloride	496	0.10	mg/L	2022-10-04	
Nitrate (as N)	0.239	0.010	mg/L	2022-10-04	HT1
Nitrite (as N)	< 0.100	0.010	mg/L	2022-10-04	HT1, RA1
Calculated Parameters					
Hardness, Total (as CaCO3)	1410	0.500	mg/L	N/A	
Nitrate+Nitrite (as N)	0.239	0.100	mg/L	N/A	
Nitrogen, Total	1.82	0.100	mg/L	N/A	
Dissolved Metals					
Aluminum, dissolved	< 0.0050	0.0050	mg/L	2022-10-05	
Antimony, dissolved	0.00038	0.00020	mg/L	2022-10-05	
Arsenic, dissolved	0.00385	0.00050	mg/L	2022-10-05	
Barium, dissolved	0.0117	0.0050	mg/L	2022-10-05	
Beryllium, dissolved	< 0.00010	0.00010	mg/L	2022-10-05	
Bismuth, dissolved	< 0.00010	0.00010	mg/L	2022-10-05	
Boron, dissolved	0.0995	0.0500	mg/L	2022-10-05	
Cadmium, dissolved	< 0.000010	0.000010	mg/L	2022-10-05	
Calcium, dissolved	53.4	0.20	mg/L	2022-10-05	
Chromium, dissolved	< 0.00050	0.00050	mg/L	2022-10-05	
Cobalt, dissolved	< 0.00010	0.00010	mg/L	2022-10-05	
Copper, dissolved	< 0.00040	0.00040	mg/L	2022-10-05	
Iron, dissolved	< 0.010	0.010	mg/L	2022-10-05	
Lead, dissolved	< 0.00020	0.00020	mg/L	2022-10-05	
Lithium, dissolved	0.0546	0.00010	mg/L	2022-10-05	
Magnesium, dissolved	311	0.010	mg/L	2022-10-05	
Manganese, dissolved	0.0122	0.00020	mg/L	2022-10-05	
Mercury, dissolved	< 0.000010	0.000010	mg/L	2022-10-04	
Molybdenum, dissolved	0.00143	0.00010	mg/L	2022-10-05	
Nickel, dissolved	0.00082	0.00040	mg/L	2022-10-05	
Phosphorus, dissolved	< 0.050	0.050	mg/L	2022-10-05	
Potassium, dissolved	82.4	0.10	mg/L	2022-10-05	
Selenium, dissolved	< 0.00050	0.00050	mg/L	2022-10-05	
Silicon, dissolved	1.2	1.0	mg/L	2022-10-05	
Silver, dissolved	< 0.000050	0.000050	mg/L	2022-10-05	
Sodium, dissolved	894	0.10	mg/L	2022-10-05	
Strontium, dissolved	0.414	0.0010	mg/L	2022-10-05	
Sulfur, dissolved	734	3.0	mg/L	2022-10-05	
Tellurium, dissolved	< 0.00050	0.00050	mg/L	2022-10-05	
Thallium, dissolved	< 0.000020	0.000020	mg/L	2022-10-05	
Thorium, dissolved	< 0.00010	0.00010	mg/L	2022-10-05	
Tin, dissolved	< 0.00020	0.00020	mg/L	2022-10-05	
Titanium, dissolved	< 0.0050	0.0050	mg/L	2022-10-05	
Tungsten, dissolved	< 0.0010	0.0010	mg/L	2022-10-05	



TEST RESULTS

REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

WORK ORDER REPORTED 2213957
2022-10-07 11:50

Analyte	Result	RL	Units	Analyzed	Qualifier
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Rose's Pond (2213957-01) | Matrix: Water | Sampled: 2022-09-28, Continued

Dissolved Metals, Continued

Uranium, dissolved	0.00369	0.000020	mg/L	2022-10-05	
Vanadium, dissolved	< 0.0050	0.0050	mg/L	2022-10-05	
Zinc, dissolved	< 0.0040	0.0040	mg/L	2022-10-05	
Zirconium, dissolved	0.00016	0.00010	mg/L	2022-10-05	

General Parameters

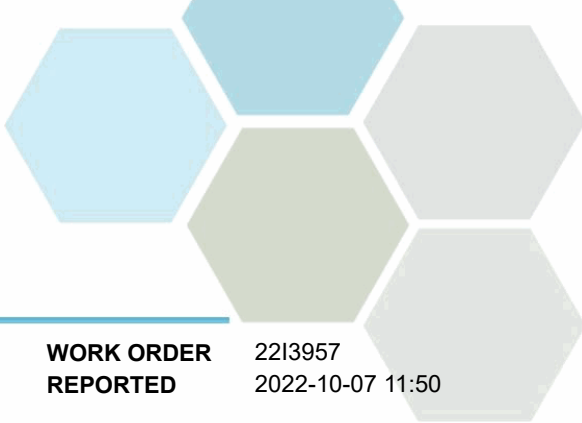
Ammonia, Total (as N)	< 0.050	0.050	mg/L	2022-09-30	
BOD, 5-day	< 6.7	2.0	mg/L	2022-10-05	
Carbon, Dissolved Organic	18.0	0.50	mg/L	2022-10-03	
Chemical Oxygen Demand	61	20	mg/L	2022-10-04	
Conductivity (EC)	5140	2.0	µS/cm	2022-10-03	
Nitrogen, Total Kjeldahl	1.58	0.050	mg/L	2022-10-06	
pH	8.75	0.10	pH units	2022-10-03	HT2
Phosphorus, Total (as P)	0.0349	0.0050	mg/L	2022-10-05	
Solids, Total Dissolved	4090	15	mg/L	2022-10-05	
Solids, Total Suspended	10.2	2.0	mg/L	2022-10-06	

Microbiological Parameters

Coliforms, Total (Q-Tray)	3870	1	MPN/100 mL	2022-09-29	
E. coli (Q-Tray)	12	1	MPN/100 mL	2022-09-29	

Total Metals

Aluminum, total	< 0.0100	0.0050	mg/L	2022-10-06	RS1
Antimony, total	0.00042	0.00020	mg/L	2022-10-06	RS1
Arsenic, total	0.00365	0.00050	mg/L	2022-10-06	RS1
Barium, total	0.0122	0.0050	mg/L	2022-10-06	RS1
Beryllium, total	< 0.00020	0.00010	mg/L	2022-10-06	RS1
Bismuth, total	< 0.00020	0.00010	mg/L	2022-10-06	RS1
Boron, total	< 0.100	0.0500	mg/L	2022-10-06	RS1
Cadmium, total	< 0.000020	0.000010	mg/L	2022-10-06	RS1
Calcium, total	53.5	0.20	mg/L	2022-10-06	RS1
Chromium, total	< 0.00100	0.00050	mg/L	2022-10-06	RS1
Cobalt, total	< 0.00020	0.00010	mg/L	2022-10-06	RS1
Copper, total	< 0.00080	0.00040	mg/L	2022-10-06	RS1
Iron, total	< 0.020	0.010	mg/L	2022-10-06	RS1
Lead, total	< 0.00040	0.00020	mg/L	2022-10-06	RS1
Lithium, total	0.0463	0.00010	mg/L	2022-10-06	RS1
Magnesium, total	243	0.010	mg/L	2022-10-06	RS1
Manganese, total	0.0578	0.00020	mg/L	2022-10-06	RS1
Mercury, total	< 0.000010	0.000010	mg/L	2022-10-04	
Molybdenum, total	0.00139	0.00010	mg/L	2022-10-06	RS1
Nickel, total	< 0.00080	0.00040	mg/L	2022-10-06	RS1
Phosphorus, total	< 0.100	0.050	mg/L	2022-10-06	RS1
Potassium, total	76.0	0.10	mg/L	2022-10-06	RS1



TEST RESULTS

REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

WORK ORDER REPORTED 2213957
2022-10-07 11:50

Analyte	Result	RL	Units	Analyzed	Qualifier
Rose's Pond (2213957-01) Matrix: Water Sampled: 2022-09-28, Continued					
<i>Total Metals, Continued</i>					
Selenium, total	< 0.00100	0.00050	mg/L	2022-10-06	RS1
Silicon, total	< 2.0	1.0	mg/L	2022-10-06	RS1
Silver, total	< 0.000100	0.000050	mg/L	2022-10-06	RS1
Sodium, total	762	0.10	mg/L	2022-10-06	RS1
Strontium, total	0.401	0.0010	mg/L	2022-10-06	RS1
Sulfur, total	734	3.0	mg/L	2022-10-06	RS1
Tellurium, total	< 0.00100	0.00050	mg/L	2022-10-06	RS1
Thallium, total	< 0.000040	0.000020	mg/L	2022-10-06	RS1
Thorium, total	< 0.00020	0.00010	mg/L	2022-10-06	RS1
Tin, total	< 0.00040	0.00020	mg/L	2022-10-06	RS1
Titanium, total	< 0.0100	0.0050	mg/L	2022-10-06	RS1
Tungsten, total	< 0.0004	0.0002	mg/L	2022-10-06	RS1
Uranium, total	0.00386	0.000020	mg/L	2022-10-06	RS1
Vanadium, total	< 0.0100	0.0050	mg/L	2022-10-06	RS1
Zinc, total	< 0.0080	0.0040	mg/L	2022-10-06	RS1
Zirconium, total	< 0.00020	0.00010	mg/L	2022-10-06	RS1

Drainage Pond (2213957-02) | Matrix: Water | Sampled: 2022-09-28

Anions

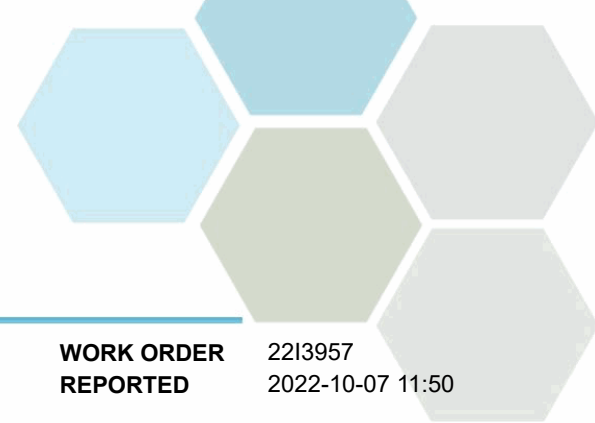
Chloride	123	0.10	mg/L	2022-10-04	
Nitrate (as N)	< 0.010	0.010	mg/L	2022-10-04	HT1
Nitrite (as N)	0.283	0.010	mg/L	2022-10-04	HT1

Calculated Parameters

Hardness, Total (as CaCO3)	239	0.500	mg/L	N/A	
Nitrate+Nitrite (as N)	0.283	0.0100	mg/L	N/A	
Nitrogen, Total	66.5	1.00	mg/L	N/A	

Dissolved Metals

Aluminum, dissolved	0.132	0.0050	mg/L	2022-10-05	
Antimony, dissolved	0.00029	0.00020	mg/L	2022-10-05	
Arsenic, dissolved	0.00487	0.00050	mg/L	2022-10-05	
Barium, dissolved	0.0303	0.0050	mg/L	2022-10-05	
Beryllium, dissolved	< 0.00010	0.00010	mg/L	2022-10-05	
Bismuth, dissolved	0.00014	0.00010	mg/L	2022-10-05	
Boron, dissolved	0.201	0.0500	mg/L	2022-10-05	
Cadmium, dissolved	0.000112	0.000010	mg/L	2022-10-05	
Calcium, dissolved	50.8	0.20	mg/L	2022-10-05	
Chromium, dissolved	0.00081	0.00050	mg/L	2022-10-05	
Cobalt, dissolved	0.00093	0.00010	mg/L	2022-10-05	
Copper, dissolved	0.00848	0.00040	mg/L	2022-10-05	
Iron, dissolved	0.461	0.010	mg/L	2022-10-05	



TEST RESULTS

REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

WORK ORDER REPORTED 2213957
2022-10-07 11:50

Analyte	Result	RL	Units	Analyzed	Qualifier
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Drainage Pond (2213957-02) | Matrix: Water | Sampled: 2022-09-28, Continued

Dissolved Metals, Continued

Lead, dissolved	0.00028	0.00020	mg/L	2022-10-05	
Lithium, dissolved	0.0129	0.00010	mg/L	2022-10-07	RE2
Magnesium, dissolved	27.1	0.010	mg/L	2022-10-05	
Manganese, dissolved	0.221	0.00020	mg/L	2022-10-05	
Mercury, dissolved	0.000026	0.000010	mg/L	2022-10-04	
Molybdenum, dissolved	0.00074	0.00010	mg/L	2022-10-05	
Nickel, dissolved	0.00392	0.00040	mg/L	2022-10-05	
Phosphorus, dissolved	15.0	0.050	mg/L	2022-10-05	
Potassium, dissolved	55.2	0.10	mg/L	2022-10-05	
Selenium, dissolved	0.00088	0.00050	mg/L	2022-10-05	
Silicon, dissolved	3.8	1.0	mg/L	2022-10-05	
Silver, dissolved	< 0.000050	0.000050	mg/L	2022-10-05	
Sodium, dissolved	110	0.10	mg/L	2022-10-05	
Strontium, dissolved	0.517	0.0010	mg/L	2022-10-05	
Sulfur, dissolved	37.9	3.0	mg/L	2022-10-05	
Tellurium, dissolved	< 0.00050	0.00050	mg/L	2022-10-05	
Thallium, dissolved	< 0.000020	0.000020	mg/L	2022-10-05	
Thorium, dissolved	< 0.00010	0.00010	mg/L	2022-10-05	
Tin, dissolved	0.00027	0.00020	mg/L	2022-10-05	
Titanium, dissolved	< 0.0050	0.0050	mg/L	2022-10-05	
Tungsten, dissolved	< 0.0010	0.0010	mg/L	2022-10-05	
Uranium, dissolved	0.000574	0.000020	mg/L	2022-10-05	
Vanadium, dissolved	< 0.0050	0.0050	mg/L	2022-10-05	
Zinc, dissolved	0.0606	0.0040	mg/L	2022-10-05	
Zirconium, dissolved	0.00070	0.00010	mg/L	2022-10-05	

General Parameters

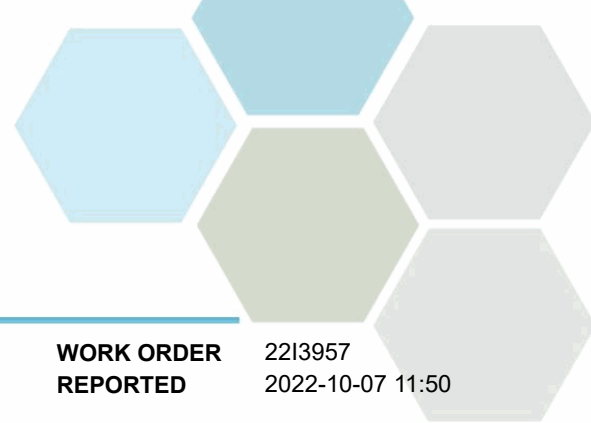
Ammonia, Total (as N)	37.7	0.050	mg/L	2022-09-30	
BOD, 5-day	37.7	2.0	mg/L	2022-10-05	
Carbon, Dissolved Organic	95.4	0.50	mg/L	2022-10-03	
Chemical Oxygen Demand	569	20	mg/L	2022-10-04	
Conductivity (EC)	1260	2.0	µS/cm	2022-10-03	
Nitrogen, Total Kjeldahl	66.3	0.050	mg/L	2022-10-06	
pH	7.86	0.10	pH units	2022-10-03	HT2
Phosphorus, Total (as P)	14.9	0.0050	mg/L	2022-10-05	
Solids, Total Dissolved	975	15	mg/L	2022-10-05	
Solids, Total Suspended	18.5	2.0	mg/L	2022-10-06	

Microbiological Parameters

Coliforms, Total (Q-Tray)	> 24200	1	MPN/100 mL	2022-09-29	
E. coli (Q-Tray)	> 24200	1	MPN/100 mL	2022-09-29	

Total Metals

Aluminum, total	0.220	0.0050	mg/L	2022-10-06	RS1
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TEST RESULTS

REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

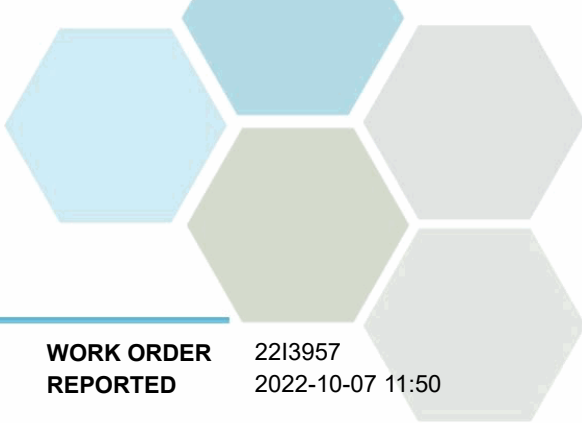
WORK ORDER REPORTED 2213957
2022-10-07 11:50

Analyte	Result	RL	Units	Analyzed	Qualifier
Drainage Pond (2213957-02) Matrix: Water Sampled: 2022-09-28, Continued					
<i>Total Metals, Continued</i>					
Antimony, total	0.00048	0.00020	mg/L	2022-10-06	RS1
Arsenic, total	0.00548	0.00050	mg/L	2022-10-06	RS1
Barium, total	0.0421	0.0050	mg/L	2022-10-06	RS1
Beryllium, total	< 0.00010	0.00010	mg/L	2022-10-06	RS1
Bismuth, total	0.00148	0.00010	mg/L	2022-10-06	RS1
Boron, total	0.193	0.0500	mg/L	2022-10-06	RS1
Cadmium, total	0.000476	0.000010	mg/L	2022-10-06	RS1
Calcium, total	54.7	0.20	mg/L	2022-10-06	RS1
Chromium, total	0.00178	0.00050	mg/L	2022-10-06	RS1
Cobalt, total	0.00145	0.00010	mg/L	2022-10-06	RS1
Copper, total	0.0830	0.00040	mg/L	2022-10-06	RS1
Iron, total	0.806	0.010	mg/L	2022-10-06	RS1
Lead, total	0.00185	0.00020	mg/L	2022-10-06	RS1
Lithium, total	0.0120	0.00010	mg/L	2022-10-06	RS1
Magnesium, total	21.0	0.010	mg/L	2022-10-06	RS1
Manganese, total	0.253	0.00020	mg/L	2022-10-06	RS1
Mercury, total	0.000046	0.000010	mg/L	2022-10-04	
Molybdenum, total	0.00467	0.00010	mg/L	2022-10-06	RS1
Nickel, total	0.00634	0.00040	mg/L	2022-10-06	RS1
Phosphorus, total	15.1	0.050	mg/L	2022-10-06	RS1
Potassium, total	52.3	0.10	mg/L	2022-10-06	RS1
Selenium, total	0.00149	0.00050	mg/L	2022-10-06	RS1
Silicon, total	3.8	1.0	mg/L	2022-10-06	RS1
Silver, total	0.000252	0.000050	mg/L	2022-10-06	RS1
Sodium, total	88.9	0.10	mg/L	2022-10-06	RS1
Strontium, total	0.614	0.0010	mg/L	2022-10-06	RS1
Sulfur, total	36.6	3.0	mg/L	2022-10-06	RS1
Tellurium, total	< 0.00050	0.00050	mg/L	2022-10-06	RS1
Thallium, total	0.000022	0.000020	mg/L	2022-10-06	RS1
Thorium, total	< 0.00010	0.00010	mg/L	2022-10-06	RS1
Tin, total	0.00078	0.00020	mg/L	2022-10-06	RS1
Titanium, total	0.0098	0.0050	mg/L	2022-10-06	RS1
Tungsten, total	0.0005	0.0002	mg/L	2022-10-06	RS1
Uranium, total	0.00211	0.000020	mg/L	2022-10-06	RS1
Vanadium, total	< 0.0050	0.0050	mg/L	2022-10-06	RS1
Zinc, total	0.116	0.0040	mg/L	2022-10-06	RS1
Zirconium, total	0.00055	0.00010	mg/L	2022-10-06	RS1

Davidson Pond (2213957-03) | Matrix: Water | Sampled: 2022-09-28

Anions

Chloride	372	0.10	mg/L	2022-10-04	
Nitrate (as N)	< 0.100	0.010	mg/L	2022-10-04	HT1, RA1



TEST RESULTS

REPORTED TO PROJECT Kelowna, City of
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Analyte	Result	RL	Units	Analyzed	Qualifier
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Davidson Pond (2213957-03) | Matrix: Water | Sampled: 2022-09-28, Continued

Anions, Continued

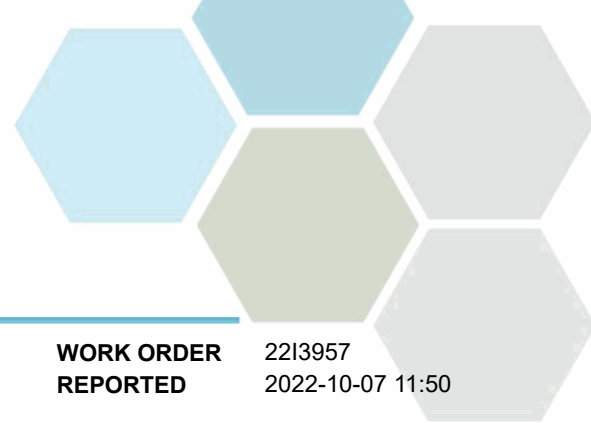
Nitrite (as N)	< 0.010	0.010	mg/L	2022-10-04	HT1
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Calculated Parameters

Hardness, Total (as CaCO3)	803	0.500	mg/L	N/A	
Nitrate+Nitrite (as N)	< 0.100	0.100	mg/L	N/A	
Nitrogen, Total	2.79	0.100	mg/L	N/A	

Dissolved Metals

Aluminum, dissolved	0.0090	0.0050	mg/L	2022-10-05	
Antimony, dissolved	0.00052	0.00020	mg/L	2022-10-05	
Arsenic, dissolved	0.00468	0.00050	mg/L	2022-10-05	
Barium, dissolved	0.0113	0.0050	mg/L	2022-10-05	
Beryllium, dissolved	< 0.00010	0.00010	mg/L	2022-10-05	
Bismuth, dissolved	< 0.00010	0.00010	mg/L	2022-10-05	
Boron, dissolved	< 0.0500	0.0500	mg/L	2022-10-05	
Cadmium, dissolved	< 0.000010	0.000010	mg/L	2022-10-05	
Calcium, dissolved	58.8	0.20	mg/L	2022-10-05	
Chromium, dissolved	< 0.00050	0.00050	mg/L	2022-10-05	
Cobalt, dissolved	0.00013	0.00010	mg/L	2022-10-05	
Copper, dissolved	< 0.00040	0.00040	mg/L	2022-10-05	
Iron, dissolved	0.014	0.010	mg/L	2022-10-05	
Lead, dissolved	< 0.00020	0.00020	mg/L	2022-10-05	
Lithium, dissolved	0.0644	0.00010	mg/L	2022-10-05	
Magnesium, dissolved	159	0.010	mg/L	2022-10-05	
Manganese, dissolved	0.163	0.00020	mg/L	2022-10-05	
Mercury, dissolved	< 0.000010	0.000010	mg/L	2022-10-04	
Molybdenum, dissolved	0.00155	0.00010	mg/L	2022-10-05	
Nickel, dissolved	0.00144	0.00040	mg/L	2022-10-05	
Phosphorus, dissolved	< 0.050	0.050	mg/L	2022-10-05	
Potassium, dissolved	51.8	0.10	mg/L	2022-10-05	
Selenium, dissolved	< 0.00050	0.00050	mg/L	2022-10-05	
Silicon, dissolved	3.6	1.0	mg/L	2022-10-05	
Silver, dissolved	< 0.000050	0.000050	mg/L	2022-10-05	
Sodium, dissolved	739	0.10	mg/L	2022-10-05	
Strontium, dissolved	1.03	0.0010	mg/L	2022-10-05	
Sulfur, dissolved	468	3.0	mg/L	2022-10-05	
Tellurium, dissolved	< 0.00050	0.00050	mg/L	2022-10-05	
Thallium, dissolved	< 0.000020	0.000020	mg/L	2022-10-05	
Thorium, dissolved	< 0.00010	0.00010	mg/L	2022-10-05	
Tin, dissolved	< 0.00020	0.00020	mg/L	2022-10-05	
Titanium, dissolved	< 0.0050	0.0050	mg/L	2022-10-05	
Tungsten, dissolved	< 0.0010	0.0010	mg/L	2022-10-05	
Uranium, dissolved	0.00773	0.000020	mg/L	2022-10-05	
Vanadium, dissolved	< 0.0050	0.0050	mg/L	2022-10-05	

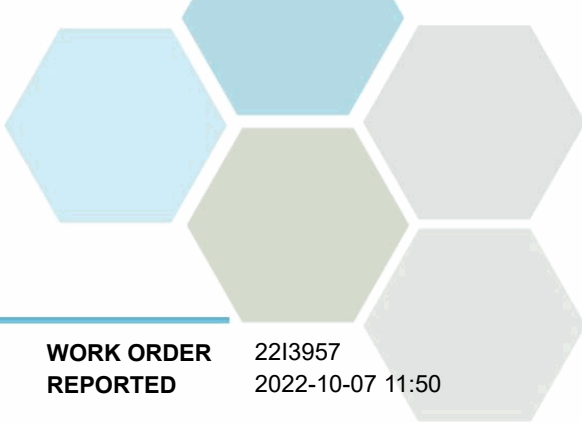


TEST RESULTS

REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

WORK ORDER REPORTED 2213957
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Analyte	Result	RL	Units	Analyzed	Qualifier
Davidson Pond (2213957-03) Matrix: Water Sampled: 2022-09-28, Continued					
<i>Dissolved Metals, Continued</i>					
Zinc, dissolved	< 0.0040	0.0040	mg/L	2022-10-05	
Zirconium, dissolved	0.00027	0.00010	mg/L	2022-10-05	
<i>General Parameters</i>					
Ammonia, Total (as N)	0.123	0.050	mg/L	2022-09-30	
BOD, 5-day	< 6.7	2.0	mg/L	2022-10-05	
Carbon, Dissolved Organic	26.1	0.50	mg/L	2022-10-03	
Chemical Oxygen Demand	85	20	mg/L	2022-10-04	
Conductivity (EC)	3920	2.0	µS/cm	2022-10-03	
Nitrogen, Total Kjeldahl	2.79	0.050	mg/L	2022-10-06	
pH	8.81	0.10	pH units	2022-10-03	HT2
Phosphorus, Total (as P)	0.0878	0.0050	mg/L	2022-10-05	
Solids, Total Dissolved	2870	15	mg/L	2022-10-05	
Solids, Total Suspended	18.0	2.0	mg/L	2022-10-06	
<i>Microbiological Parameters</i>					
Coliforms, Total (Q-Tray)	16000	1	MPN/100 mL	2022-09-29	
E. coli (Q-Tray)	31	1	MPN/100 mL	2022-09-29	
<i>Total Metals</i>					
Aluminum, total	0.0627	0.0050	mg/L	2022-10-06	RS1
Antimony, total	0.00045	0.00020	mg/L	2022-10-06	RS1
Arsenic, total	0.00451	0.00050	mg/L	2022-10-06	RS1
Barium, total	0.0121	0.0050	mg/L	2022-10-06	RS1
Beryllium, total	< 0.00020	0.00010	mg/L	2022-10-06	RS1
Bismuth, total	< 0.00020	0.00010	mg/L	2022-10-06	RS1
Boron, total	< 0.100	0.0500	mg/L	2022-10-06	RS1
Cadmium, total	< 0.000020	0.000010	mg/L	2022-10-06	RS1
Calcium, total	64.4	0.20	mg/L	2022-10-06	RS1
Chromium, total	< 0.00100	0.00050	mg/L	2022-10-06	RS1
Cobalt, total	< 0.00020	0.00010	mg/L	2022-10-06	RS1
Copper, total	< 0.00080	0.00040	mg/L	2022-10-06	RS1
Iron, total	0.095	0.010	mg/L	2022-10-06	RS1
Lead, total	< 0.00040	0.00020	mg/L	2022-10-06	RS1
Lithium, total	0.0519	0.00010	mg/L	2022-10-06	RS1
Magnesium, total	128	0.010	mg/L	2022-10-06	RS1
Manganese, total	0.187	0.00020	mg/L	2022-10-06	RS1
Mercury, total	< 0.000010	0.000010	mg/L	2022-10-04	
Molybdenum, total	0.00161	0.00010	mg/L	2022-10-06	RS1
Nickel, total	0.00167	0.00040	mg/L	2022-10-06	RS1
Phosphorus, total	< 0.100	0.050	mg/L	2022-10-06	RS1
Potassium, total	50.3	0.10	mg/L	2022-10-06	RS1
Selenium, total	< 0.00100	0.00050	mg/L	2022-10-06	RS1
Silicon, total	3.6	1.0	mg/L	2022-10-06	RS1



TEST RESULTS

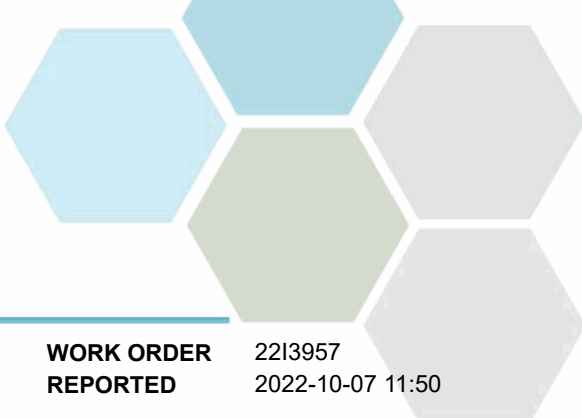
REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

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Analyte	Result	RL	Units	Analyzed	Qualifier
Davidson Pond (2213957-03) Matrix: Water Sampled: 2022-09-28, Continued					
<i>Total Metals, Continued</i>					
Silver, total	< 0.000100	0.000050	mg/L	2022-10-06	RS1
Sodium, total	642	0.10	mg/L	2022-10-06	RS1
Strontium, total	1.04	0.0010	mg/L	2022-10-06	RS1
Sulfur, total	482	3.0	mg/L	2022-10-06	RS1
Tellurium, total	< 0.00100	0.00050	mg/L	2022-10-06	RS1
Thallium, total	< 0.000040	0.000020	mg/L	2022-10-06	RS1
Thorium, total	< 0.00020	0.00010	mg/L	2022-10-06	RS1
Tin, total	< 0.00040	0.00020	mg/L	2022-10-06	RS1
Titanium, total	< 0.0100	0.0050	mg/L	2022-10-06	RS1
Tungsten, total	< 0.0004	0.0002	mg/L	2022-10-06	RS1
Uranium, total	0.00823	0.000020	mg/L	2022-10-06	RS1
Vanadium, total	< 0.0100	0.0050	mg/L	2022-10-06	RS1
Zinc, total	< 0.0080	0.0040	mg/L	2022-10-06	RS1
Zirconium, total	0.00027	0.00010	mg/L	2022-10-06	RS1

Sample Qualifiers:

- 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.
- RA1 The Reporting Limit has been raised due to matrix interference.
- RE2 Result was confirmed by re-analysis prior to reporting.
- RS1 The Reporting Limits for this sample have been raised due to high analyte concentration and/or matrix interference.



APPENDIX 1: SUPPORTING INFORMATION

REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

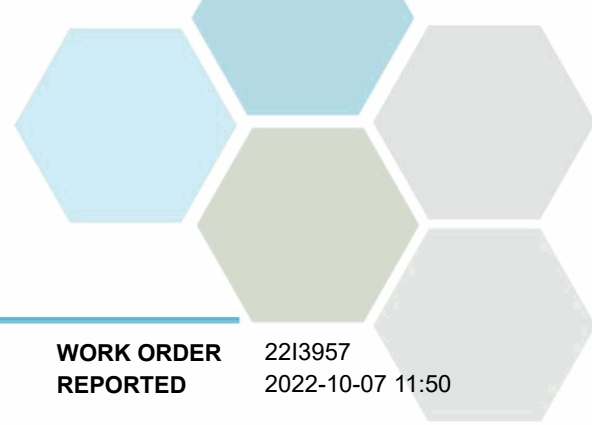
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Analysis Description	Method Ref.	Technique	Accredited	Location
Ammonia, Total in Water	SM 4500-NH3 G* (2017)	Automated Colorimetry (Phenate)	✓	Kelowna
Anions in Water	SM 4110 B (2017)	Ion Chromatography	✓	Kelowna
Biochemical Oxygen Demand in Water	SM 5210 B (2017)	Dissolved Oxygen Meter	✓	Kelowna
Carbon, Dissolved Organic in Water	SM 5310 B (2017)	Combustion, Infrared CO2 Detection	✓	Kelowna
Chemical Oxygen Demand in Water	SM 5220 D* (2017)	Closed Reflux, Colorimetry	✓	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
Dissolved Metals in Water	EPA 200.8 / EPA 6020B	0.45 µm Filtration / Inductively Coupled Plasma-Mass Spectroscopy (ICP-MS)	✓	Richmond
E. coli in Water	NA / SM 9223 (2017)	Quanti-Tray / Enzyme Substrate Endo Agar	✓	Kelowna
Hardness in Water	SM 2340 B (2017)	Calculation: 2.497 [diss Ca] + 4.118 [diss Mg]	✓	N/A
Mercury, dissolved in Water	EPA 245.7*	BrCl2 Oxidation / Cold Vapor Atomic Fluorescence Spectrometry (CVAFS)	✓	Richmond
Mercury, total in Water	EPA 245.7*	BrCl2 Oxidation / Cold Vapor Atomic Fluorescence Spectrometry (CVAFS)	✓	Richmond
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
Phosphorus, Total in Water	SM 4500-P B.5* (2011) / SM 4500-P F (2017)	Persulfate Digestion / Automated Colorimetry (Ascorbic Acid)	✓	Kelowna
Solids, Total Dissolved in Water	Solids in Water, Filtered / SM 2540 C* (2017)	Solids in Water, Filtered / Gravimetry (Dried at 103-105C)	✓	Kelowna
Solids, Total Suspended in Water	Solids in Water, Filtered / SM 2540 D* (2017)	Solids in Water, Filtered / Gravimetry (Dried at 103-105C)	✓	Kelowna
Total Metals in Water	EPA 200.2 / EPA 6020B	HNO3+HCl Hot Block Digestion / Inductively Coupled Plasma-Mass Spectroscopy (ICP-MS)	✓	Richmond

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
>	Greater than the specified Result
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
EPA	United States Environmental Protection Agency Test Methods
SM	Standard Methods for the Examination of Water and Wastewater, American Public Health Association



APPENDIX 1: SUPPORTING INFORMATION

REPORTED TO Kelowna, City of
PROJECT RBCF Ponds

WORK ORDER 2213957
REPORTED 2022-10-07 11:50

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 or once samples expire, whichever comes first. Longer hold is possible if agreed to in writing.

Please note any regulatory guidelines applied to this report are added as a convenience to the client, at their request, to help provide some initial context to analytical results obtained. Although CARO makes every effort to ensure accuracy of the associated regulatory guideline(s) applied, the guidelines applied cannot be assumed to be correct due to a variety of factors and as such CARO Analytical Services assumes no liability or responsibility for the use of those guidelines to make any decisions. The original source of the regulation should be verified and a review of the guideline(s) should be validated as correct in order to make any decisions arising from the comparison of the analytical data obtained to the relevant regulatory guideline for one's particular circumstances. Further, CARO Analytical Services assumes no liability or responsibility for any loss attributed from the use of these guidelines in any way.



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

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The following section displays the quality control (QC) data that is associated with your sample data. Groups of samples are prepared in "batches" and analyzed in conjunction with QC samples that ensure your data is of the highest quality. Common QC types include:

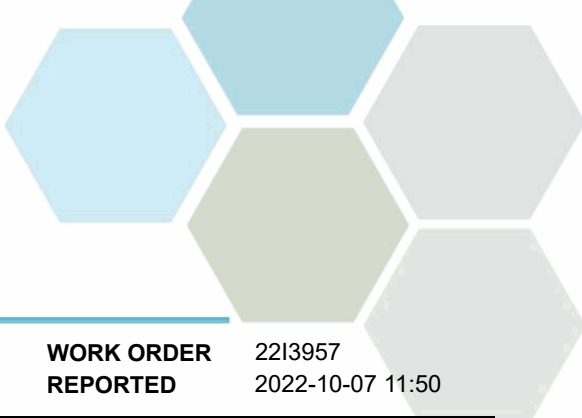
- **Method Blank (Blk):** A blank sample that undergoes sample processing identical to that carried out for the test samples. Method blank results are used to assess contamination from the laboratory environment and reagents.
- **Duplicate (Dup):** An additional or second portion of a randomly selected sample in the analytical run carried through the entire analytical process. Duplicates provide a measure of the analytical method's precision (reproducibility).
- **Blank Spike (BS):** A sample of known concentration which undergoes processing identical to that carried out for test samples, also referred to as a laboratory control sample (LCS). Blank spikes provide a measure of the analytical method's accuracy.
- **Matrix Spike (MS):** A second aliquot of sample is fortified with a known concentration of target analytes and carried through the entire analytical process. Matrix spikes evaluate potential matrix effects that may affect the analyte recovery.
- **Reference Material (SRM):** A homogenous material of similar matrix to the samples, certified for the parameter(s) listed. Reference Materials ensure that the analytical process is adequate to achieve acceptable recoveries of the parameter(s) tested.

Each QC type is analyzed at a 5-10% frequency, i.e. one blank/duplicate/spike for every 10-20 samples. For all types of QC, the specified recovery (% Rec) and relative percent difference (RPD) limits are derived from long-term method performance averages and/or prescribed by the reference method.

Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Anions, Batch B2I3540									
Blank (B2I3540-BLK1)			Prepared: 2022-10-04, Analyzed: 2022-10-04						
Chloride	< 0.10	0.10 mg/L							
Nitrate (as N)	< 0.010	0.010 mg/L							
Nitrite (as N)	< 0.010	0.010 mg/L							
Blank (B2I3540-BLK2)			Prepared: 2022-10-04, Analyzed: 2022-10-04						
Chloride	< 0.10	0.10 mg/L							
Nitrate (as N)	< 0.010	0.010 mg/L							
Nitrite (as N)	< 0.010	0.010 mg/L							
Blank (B2I3540-BLK3)			Prepared: 2022-10-05, Analyzed: 2022-10-05						
Chloride	< 0.10	0.10 mg/L							
Nitrate (as N)	< 0.010	0.010 mg/L							
Nitrite (as N)	< 0.010	0.010 mg/L							
LCS (B2I3540-BS1)			Prepared: 2022-10-04, Analyzed: 2022-10-04						
Chloride	16.1	0.10 mg/L	16.0		101	90-110			
Nitrate (as N)	4.07	0.010 mg/L	4.00		102	90-110			
Nitrite (as N)	2.08	0.010 mg/L	2.00		104	85-115			
LCS (B2I3540-BS2)			Prepared: 2022-10-04, Analyzed: 2022-10-04						
Chloride	15.0	0.10 mg/L	16.0		94	90-110			
Nitrate (as N)	3.91	0.010 mg/L	4.00		98	90-110			
Nitrite (as N)	1.82	0.010 mg/L	2.00		91	85-115			
LCS (B2I3540-BS3)			Prepared: 2022-10-05, Analyzed: 2022-10-05						
Chloride	15.6	0.10 mg/L	16.0		98	90-110			
Nitrate (as N)	3.93	0.010 mg/L	4.00		98	90-110			
Nitrite (as N)	1.83	0.010 mg/L	2.00		91	85-115			

Dissolved Metals, Batch B2J0333

Blank (B2J0333-BLK1)			Prepared: 2022-10-04, Analyzed: 2022-10-04						
Mercury, dissolved	< 0.000010	0.000010 mg/L							
Blank (B2J0333-BLK2)			Prepared: 2022-10-04, Analyzed: 2022-10-04						
Mercury, dissolved	< 0.000010	0.000010 mg/L							

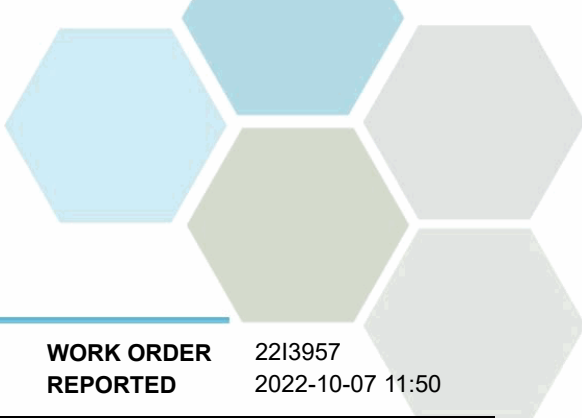


APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

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Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Dissolved Metals, Batch B2J0333, Continued									
LCS (B2J0333-BS1)			Prepared: 2022-10-04, Analyzed: 2022-10-04						
Mercury, dissolved	0.000541	0.000010 mg/L	0.000500		108	80-120			
LCS (B2J0333-BS2)			Prepared: 2022-10-04, Analyzed: 2022-10-04						
Mercury, dissolved	0.000538	0.000010 mg/L	0.000500		108	80-120			
Dissolved Metals, Batch B2J0371									
Blank (B2J0371-BLK1)			Prepared: 2022-10-05, Analyzed: 2022-10-05						
Aluminum, dissolved	< 0.0050	0.0050 mg/L							
Antimony, dissolved	< 0.00020	0.00020 mg/L							
Arsenic, dissolved	< 0.00050	0.00050 mg/L							
Barium, dissolved	< 0.0050	0.0050 mg/L							
Beryllium, dissolved	< 0.00010	0.00010 mg/L							
Bismuth, dissolved	< 0.00010	0.00010 mg/L							
Boron, dissolved	< 0.0500	0.0500 mg/L							
Cadmium, dissolved	< 0.000010	0.000010 mg/L							
Calcium, dissolved	< 0.20	0.20 mg/L							
Chromium, dissolved	< 0.00050	0.00050 mg/L							
Cobalt, dissolved	< 0.00010	0.00010 mg/L							
Copper, dissolved	< 0.00040	0.00040 mg/L							
Iron, dissolved	< 0.010	0.010 mg/L							
Lead, dissolved	< 0.00020	0.00020 mg/L							
Lithium, dissolved	< 0.00010	0.00010 mg/L							
Magnesium, dissolved	< 0.010	0.010 mg/L							
Manganese, dissolved	< 0.00020	0.00020 mg/L							
Molybdenum, dissolved	< 0.00010	0.00010 mg/L							
Nickel, dissolved	< 0.00040	0.00040 mg/L							
Phosphorus, dissolved	< 0.050	0.050 mg/L							
Potassium, dissolved	< 0.10	0.10 mg/L							
Selenium, dissolved	< 0.00050	0.00050 mg/L							
Silicon, dissolved	< 1.0	1.0 mg/L							
Silver, dissolved	< 0.000050	0.000050 mg/L							
Sodium, dissolved	< 0.10	0.10 mg/L							
Strontium, dissolved	< 0.0010	0.0010 mg/L							
Sulfur, dissolved	< 3.0	3.0 mg/L							
Tellurium, dissolved	< 0.00050	0.00050 mg/L							
Thallium, dissolved	< 0.000020	0.000020 mg/L							
Thorium, dissolved	< 0.00010	0.00010 mg/L							
Tin, dissolved	< 0.00020	0.00020 mg/L							
Titanium, dissolved	< 0.0050	0.0050 mg/L							
Tungsten, dissolved	< 0.0010	0.0010 mg/L							
Uranium, dissolved	< 0.000020	0.000020 mg/L							
Vanadium, dissolved	< 0.0050	0.0050 mg/L							
Zinc, dissolved	< 0.0040	0.0040 mg/L							
Zirconium, dissolved	< 0.00010	0.00010 mg/L							
LCS (B2J0371-BS1)			Prepared: 2022-10-05, Analyzed: 2022-10-05						
Aluminum, dissolved	4.41	0.0050 mg/L	4.00		110	80-120			
Antimony, dissolved	0.0426	0.00020 mg/L	0.0400		107	80-120			
Arsenic, dissolved	0.0432	0.00050 mg/L	0.0400		108	80-120			
Barium, dissolved	0.0411	0.0050 mg/L	0.0400		103	80-120			
Beryllium, dissolved	0.0436	0.00010 mg/L	0.0400		109	80-120			
Bismuth, dissolved	0.0413	0.00010 mg/L	0.0400		103	80-120			
Boron, dissolved	< 0.0500	0.0500 mg/L	0.0400		115	80-120			
Cadmium, dissolved	0.0418	0.000010 mg/L	0.0400		104	80-120			
Calcium, dissolved	4.09	0.20 mg/L	4.00		102	80-120			



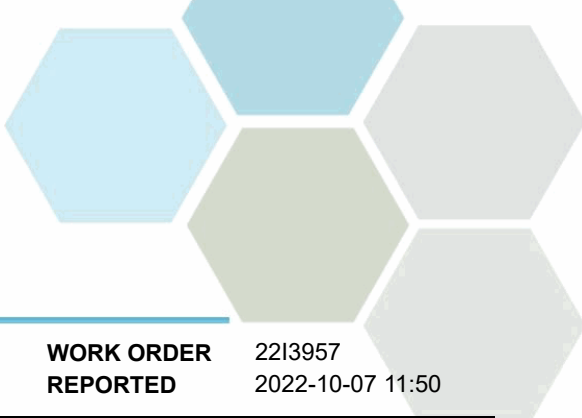
APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Kelowna, City of RBCF Ponds **WORK ORDER REPORTED** 2213957 2022-10-07 11:50

Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Dissolved Metals, Batch B2J0371, Continued									
LCS (B2J0371-BS1), Continued					Prepared: 2022-10-05, Analyzed: 2022-10-05				
Chromium, dissolved	0.0421	0.00050 mg/L	0.0400		105	80-120			
Cobalt, dissolved	0.0419	0.00010 mg/L	0.0400		105	80-120			
Copper, dissolved	0.0421	0.00040 mg/L	0.0400		105	80-120			
Iron, dissolved	4.18	0.010 mg/L	4.00		104	80-120			
Lead, dissolved	0.0414	0.00020 mg/L	0.0400		103	80-120			
Lithium, dissolved	0.0452	0.00010 mg/L	0.0400		113	80-120			
Magnesium, dissolved	4.42	0.010 mg/L	4.00		110	80-120			
Manganese, dissolved	0.0421	0.00020 mg/L	0.0400		105	80-120			
Molybdenum, dissolved	0.0402	0.00010 mg/L	0.0400		101	80-120			
Nickel, dissolved	0.0415	0.00040 mg/L	0.0400		104	80-120			
Phosphorus, dissolved	4.30	0.050 mg/L	4.00		107	80-120			
Potassium, dissolved	4.20	0.10 mg/L	4.00		105	80-120			
Selenium, dissolved	0.0425	0.00050 mg/L	0.0400		106	80-120			
Silicon, dissolved	4.5	1.0 mg/L	4.00		111	80-120			
Silver, dissolved	0.0414	0.000050 mg/L	0.0400		103	80-120			
Sodium, dissolved	4.33	0.10 mg/L	4.00		108	80-120			
Strontium, dissolved	0.0422	0.0010 mg/L	0.0400		105	80-120			
Sulfur, dissolved	43.0	3.0 mg/L	40.0		108	80-120			
Tellurium, dissolved	0.0426	0.00050 mg/L	0.0400		107	80-120			
Thallium, dissolved	0.0412	0.000020 mg/L	0.0400		103	80-120			
Thorium, dissolved	0.0417	0.00010 mg/L	0.0400		104	80-120			
Tin, dissolved	0.0420	0.00020 mg/L	0.0400		105	80-120			
Titanium, dissolved	0.0413	0.0050 mg/L	0.0400		103	80-120			
Tungsten, dissolved	0.0415	0.0010 mg/L	0.0400		104	80-120			
Uranium, dissolved	0.0411	0.000020 mg/L	0.0400		103	80-120			
Vanadium, dissolved	0.0419	0.0050 mg/L	0.0400		105	80-120			
Zinc, dissolved	0.0414	0.0040 mg/L	0.0400		104	80-120			
Zirconium, dissolved	0.0413	0.00010 mg/L	0.0400		103	80-120			

General Parameters, Batch B2I3500

Blank (B2I3500-BLK1)					Prepared: 2022-10-03, Analyzed: 2022-10-03				
Carbon, Dissolved Organic	< 0.50	0.50 mg/L							
Blank (B2I3500-BLK2)					Prepared: 2022-10-03, Analyzed: 2022-10-03				
Carbon, Dissolved Organic	< 0.50	0.50 mg/L							
Blank (B2I3500-BLK3)					Prepared: 2022-10-03, Analyzed: 2022-10-03				
Carbon, Dissolved Organic	< 0.50	0.50 mg/L							
Blank (B2I3500-BLK4)					Prepared: 2022-10-03, Analyzed: 2022-10-03				
Carbon, Dissolved Organic	< 0.50	0.50 mg/L							
Blank (B2I3500-BLK5)					Prepared: 2022-10-03, Analyzed: 2022-10-03				
Carbon, Dissolved Organic	< 0.50	0.50 mg/L							
LCS (B2I3500-BS1)					Prepared: 2022-10-03, Analyzed: 2022-10-03				
Carbon, Dissolved Organic	9.06	0.50 mg/L	10.0		91	78-116			
LCS (B2I3500-BS2)					Prepared: 2022-10-03, Analyzed: 2022-10-03				
Carbon, Dissolved Organic	10.9	0.50 mg/L	10.0		109	78-116			
LCS (B2I3500-BS3)					Prepared: 2022-10-03, Analyzed: 2022-10-03				
Carbon, Dissolved Organic	9.37	0.50 mg/L	10.0		94	78-116			
LCS (B2I3500-BS4)					Prepared: 2022-10-03, Analyzed: 2022-10-03				
Carbon, Dissolved Organic	9.40	0.50 mg/L	10.0		94	78-116			



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT	Kelowna, City of RBCF Ponds	WORK ORDER REPORTED	2213957 2022-10-07 11:50
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Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
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General Parameters, Batch B2I3500, Continued

LCS (B2I3500-BS5)				Prepared: 2022-10-03, Analyzed: 2022-10-03
Carbon, Dissolved Organic	9.46	0.50 mg/L	10.0	95 78-116

General Parameters, Batch B2I3594

Blank (B2I3594-BLK1)				Prepared: 2022-09-30, Analyzed: 2022-09-30
Ammonia, Total (as N)	< 0.050	0.050 mg/L		

Blank (B2I3594-BLK2)				Prepared: 2022-09-30, Analyzed: 2022-09-30
Ammonia, Total (as N)	< 0.050	0.050 mg/L		

LCS (B2I3594-BS1)				Prepared: 2022-09-30, Analyzed: 2022-09-30
Ammonia, Total (as N)	0.944	0.050 mg/L	1.00	94 90-115

LCS (B2I3594-BS2)				Prepared: 2022-09-30, Analyzed: 2022-09-30
Ammonia, Total (as N)	0.932	0.050 mg/L	1.00	93 90-115

General Parameters, Batch B2I3621

Blank (B2I3621-BLK1)				Prepared: 2022-09-30, Analyzed: 2022-10-05
BOD, 5-day	< 2.0	2.0 mg/L		

LCS (B2I3621-BS1)				Prepared: 2022-09-30, Analyzed: 2022-10-05
BOD, 5-day	178	55.6 mg/L	198	90 85-115

General Parameters, Batch B2J0081

Blank (B2J0081-BLK1)				Prepared: 2022-10-03, Analyzed: 2022-10-03
Conductivity (EC)	< 2.0	2.0 µS/cm		

LCS (B2J0081-BS2)				Prepared: 2022-10-03, Analyzed: 2022-10-03
Conductivity (EC)	1400	2.0 µS/cm	1410	100 95-105

Reference (B2J0081-SRM1)				Prepared: 2022-10-03, Analyzed: 2022-10-03
pH	7.03	0.10 pH units	7.01	100 98-102

General Parameters, Batch B2J0142

Blank (B2J0142-BLK1)				Prepared: 2022-10-03, Analyzed: 2022-10-03
Conductivity (EC)	< 2.0	2.0 µS/cm		

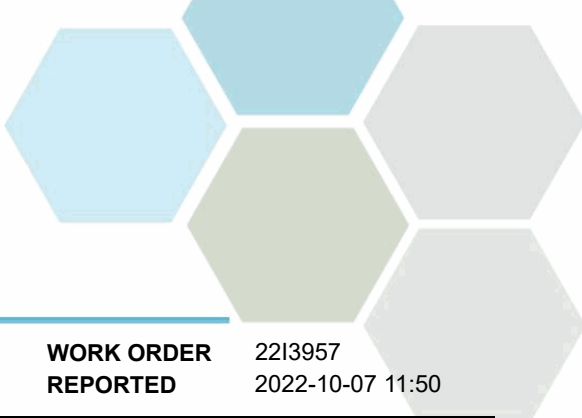
Blank (B2J0142-BLK2)				Prepared: 2022-10-03, Analyzed: 2022-10-03
Conductivity (EC)	< 2.0	2.0 µS/cm		

Blank (B2J0142-BLK3)				Prepared: 2022-10-03, Analyzed: 2022-10-03
Conductivity (EC)	< 2.0	2.0 µS/cm		

LCS (B2J0142-BS4)				Prepared: 2022-10-03, Analyzed: 2022-10-03
Conductivity (EC)	1400	2.0 µS/cm	1410	100 95-105

LCS (B2J0142-BS5)				Prepared: 2022-10-03, Analyzed: 2022-10-03
Conductivity (EC)	1410	2.0 µS/cm	1410	100 95-105

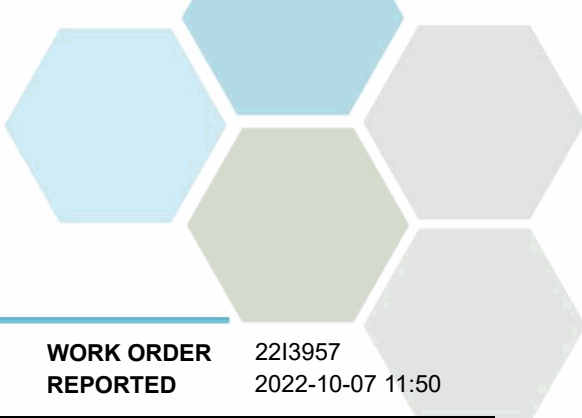
LCS (B2J0142-BS6)				Prepared: 2022-10-03, Analyzed: 2022-10-03
Conductivity (EC)	1420	2.0 µS/cm	1410	101 95-105



APPENDIX 2: QUALITY CONTROL RESULTS

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Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
General Parameters, Batch B2J0142, Continued									
Duplicate (B2J0142-DUP1)		Source: 2213957-03		Prepared: 2022-10-03, Analyzed: 2022-10-03					
Conductivity (EC)	3930	2.0 µS/cm		3920			< 1	5	
pH	8.80	0.10 pH units		8.81			< 1	4	
Reference (B2J0142-SRM1)				Prepared: 2022-10-03, Analyzed: 2022-10-03					
pH	7.04	0.10 pH units	7.01		100	98-102			
Reference (B2J0142-SRM2)				Prepared: 2022-10-03, Analyzed: 2022-10-03					
pH	7.04	0.10 pH units	7.01		100	98-102			
Reference (B2J0142-SRM3)				Prepared: 2022-10-03, Analyzed: 2022-10-03					
pH	7.04	0.10 pH units	7.01		100	98-102			
General Parameters, Batch B2J0277									
Blank (B2J0277-BLK1)				Prepared: 2022-10-04, Analyzed: 2022-10-04					
Chemical Oxygen Demand	< 20	20 mg/L							
LCS (B2J0277-BS1)				Prepared: 2022-10-04, Analyzed: 2022-10-04					
Chemical Oxygen Demand	520	20 mg/L	500		104	89-115			
General Parameters, Batch B2J0360									
Blank (B2J0360-BLK1)				Prepared: 2022-10-04, Analyzed: 2022-10-06					
Nitrogen, Total Kjeldahl	< 0.050	0.050 mg/L							
Blank (B2J0360-BLK2)				Prepared: 2022-10-04, Analyzed: 2022-10-06					
Nitrogen, Total Kjeldahl	< 0.050	0.050 mg/L							
LCS (B2J0360-BS1)				Prepared: 2022-10-04, Analyzed: 2022-10-06					
Nitrogen, Total Kjeldahl	0.978	0.050 mg/L	1.00		98	85-115			
LCS (B2J0360-BS2)				Prepared: 2022-10-04, Analyzed: 2022-10-06					
Nitrogen, Total Kjeldahl	0.967	0.050 mg/L	1.00		97	85-115			
Duplicate (B2J0360-DUP2)		Source: 2213957-01		Prepared: 2022-10-04, Analyzed: 2022-10-06					
Nitrogen, Total Kjeldahl	1.62	0.050 mg/L		1.58			2	15	
Matrix Spike (B2J0360-MS2)		Source: 2213957-01		Prepared: 2022-10-04, Analyzed: 2022-10-06					
Nitrogen, Total Kjeldahl	2.33	0.050 mg/L	1.00	1.58	75	65-135			
General Parameters, Batch B2J0372									
Blank (B2J0372-BLK1)				Prepared: 2022-10-04, Analyzed: 2022-10-05					
Phosphorus, Total (as P)	< 0.0050	0.0050 mg/L							
Blank (B2J0372-BLK3)				Prepared: 2022-10-04, Analyzed: 2022-10-05					
Phosphorus, Total (as P)	< 0.0050	0.0050 mg/L							
LCS (B2J0372-BS1)				Prepared: 2022-10-04, Analyzed: 2022-10-05					
Phosphorus, Total (as P)	0.103	0.0050 mg/L	0.100		103	85-115			
LCS (B2J0372-BS3)				Prepared: 2022-10-04, Analyzed: 2022-10-05					
Phosphorus, Total (as P)	0.102	0.0050 mg/L	0.100		102	85-115			
General Parameters, Batch B2J0430									



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT	Kelowna, City of RBCF Ponds	WORK ORDER REPORTED	2213957 2022-10-07 11:50
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Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
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General Parameters, Batch B2J0430, Continued

Blank (B2J0430-BLK1)			Prepared: 2022-10-05, Analyzed: 2022-10-05						
Solids, Total Dissolved	< 15	15 mg/L							
LCS (B2J0430-BS1)			Prepared: 2022-10-05, Analyzed: 2022-10-05						
Solids, Total Dissolved	249	15 mg/L	240	104	85-115				

General Parameters, Batch B2J0432

Blank (B2J0432-BLK1)			Prepared: 2022-10-05, Analyzed: 2022-10-06						
Solids, Total Suspended	< 2.0	2.0 mg/L							
LCS (B2J0432-BS1)			Prepared: 2022-10-05, Analyzed: 2022-10-06						
Solids, Total Suspended	76.0	10.0 mg/L	100	76	85-115				

Microbiological Parameters, Batch B2I3472

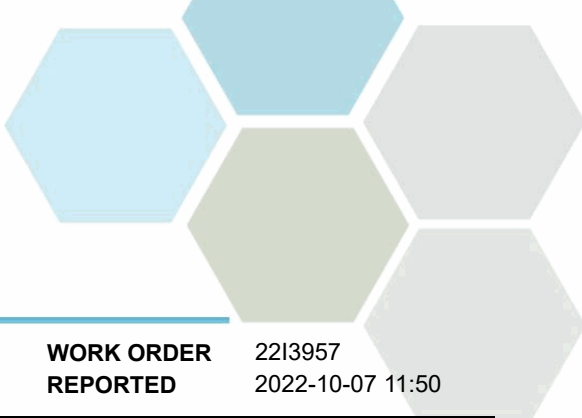
Blank (B2I3472-BLK1)			Prepared: 2022-09-29, Analyzed: 2022-09-29						
Coliforms, Total (Q-Tray)	< 1	1 MPN/100 mL							
E. coli (Q-Tray)	< 1	1 MPN/100 mL							
Blank (B2I3472-BLK3)			Prepared: 2022-09-29, Analyzed: 2022-09-29						
Coliforms, Total (Q-Tray)	< 1	1 MPN/100 mL							
E. coli (Q-Tray)	< 1	1 MPN/100 mL							
Blank (B2I3472-BLK5)			Prepared: 2022-09-29, Analyzed: 2022-09-29						
Coliforms, Total (Q-Tray)	< 1	1 MPN/100 mL							
E. coli (Q-Tray)	< 1	1 MPN/100 mL							

Total Metals, Batch B2J0334

Blank (B2J0334-BLK1)			Prepared: 2022-10-04, Analyzed: 2022-10-04						
Mercury, total	< 0.000010	0.000010 mg/L							
Blank (B2J0334-BLK2)			Prepared: 2022-10-04, Analyzed: 2022-10-04						
Mercury, total	< 0.000010	0.000010 mg/L							
Blank (B2J0334-BLK3)			Prepared: 2022-10-04, Analyzed: 2022-10-04						
Mercury, total	< 0.000010	0.000010 mg/L							
LCS (B2J0334-BS1)			Prepared: 2022-10-04, Analyzed: 2022-10-04						
Mercury, total	0.000446	0.000010 mg/L	0.000500	89	80-120				
LCS (B2J0334-BS2)			Prepared: 2022-10-04, Analyzed: 2022-10-04						
Mercury, total	0.000494	0.000010 mg/L	0.000500	99	80-120				
LCS (B2J0334-BS3)			Prepared: 2022-10-04, Analyzed: 2022-10-04						
Mercury, total	0.000490	0.000010 mg/L	0.000500	98	80-120				

Total Metals, Batch B2J0481

Blank (B2J0481-BLK1)			Prepared: 2022-10-05, Analyzed: 2022-10-06						
Aluminum, total	< 0.0050	0.0050 mg/L							
Antimony, total	< 0.00020	0.00020 mg/L							
Arsenic, total	< 0.00050	0.00050 mg/L							
Barium, total	< 0.0050	0.0050 mg/L							
Beryllium, total	< 0.00010	0.00010 mg/L							



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

WORK ORDER REPORTED 2213957
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Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
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Total Metals, Batch B2J0481, Continued

Blank (B2J0481-BLK1), Continued

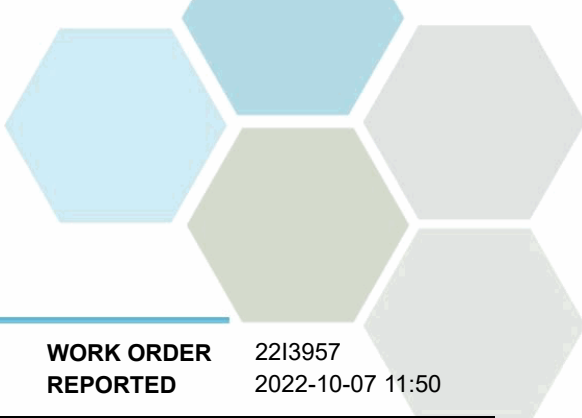
Prepared: 2022-10-05, Analyzed: 2022-10-06

Bismuth, total	< 0.00010	0.00010 mg/L							
Boron, total	< 0.0500	0.0500 mg/L							
Cadmium, total	< 0.000010	0.000010 mg/L							
Calcium, total	< 0.20	0.20 mg/L							
Chromium, total	< 0.00050	0.00050 mg/L							
Cobalt, total	< 0.00010	0.00010 mg/L							
Copper, total	< 0.00040	0.00040 mg/L							
Iron, total	< 0.010	0.010 mg/L							
Lead, total	< 0.00020	0.00020 mg/L							
Lithium, total	< 0.00010	0.00010 mg/L							
Magnesium, total	< 0.010	0.010 mg/L							
Manganese, total	< 0.00020	0.00020 mg/L							
Molybdenum, total	< 0.00010	0.00010 mg/L							
Nickel, total	< 0.00040	0.00040 mg/L							
Phosphorus, total	< 0.050	0.050 mg/L							
Potassium, total	< 0.10	0.10 mg/L							
Selenium, total	< 0.00050	0.00050 mg/L							
Silicon, total	< 1.0	1.0 mg/L							
Silver, total	< 0.000050	0.000050 mg/L							
Sodium, total	< 0.10	0.10 mg/L							
Strontium, total	< 0.0010	0.0010 mg/L							
Sulfur, total	< 3.0	3.0 mg/L							
Tellurium, total	< 0.00050	0.00050 mg/L							
Thallium, total	< 0.000020	0.000020 mg/L							
Thorium, total	< 0.00010	0.00010 mg/L							
Tin, total	< 0.00020	0.00020 mg/L							
Titanium, total	< 0.0050	0.0050 mg/L							
Tungsten, total	< 0.0002	0.0002 mg/L							
Uranium, total	< 0.000020	0.000020 mg/L							
Vanadium, total	< 0.0050	0.0050 mg/L							
Zinc, total	< 0.0040	0.0040 mg/L							
Zirconium, total	< 0.00010	0.00010 mg/L							

LCS (B2J0481-BS1)

Prepared: 2022-10-05, Analyzed: 2022-10-06

Aluminum, total	4.14	0.0050 mg/L	4.00		104	80-120			
Antimony, total	0.0402	0.00020 mg/L	0.0400		100	80-120			
Arsenic, total	0.0418	0.00050 mg/L	0.0400		105	80-120			
Barium, total	0.0406	0.0050 mg/L	0.0400		102	80-120			
Beryllium, total	0.0410	0.00010 mg/L	0.0400		103	80-120			
Bismuth, total	0.0404	0.00010 mg/L	0.0400		101	80-120			
Boron, total	< 0.0500	0.0500 mg/L	0.0400		106	80-120			
Cadmium, total	0.0409	0.000010 mg/L	0.0400		102	80-120			
Calcium, total	4.11	0.20 mg/L	4.00		103	80-120			
Chromium, total	0.0420	0.00050 mg/L	0.0400		105	80-120			
Cobalt, total	0.0414	0.00010 mg/L	0.0400		103	80-120			
Copper, total	0.0416	0.00040 mg/L	0.0400		104	80-120			
Iron, total	4.22	0.010 mg/L	4.00		106	80-120			
Lead, total	0.0413	0.00020 mg/L	0.0400		103	80-120			
Lithium, total	0.0423	0.00010 mg/L	0.0400		106	80-120			
Magnesium, total	4.15	0.010 mg/L	4.00		104	80-120			
Manganese, total	0.0416	0.00020 mg/L	0.0400		104	80-120			
Molybdenum, total	0.0404	0.00010 mg/L	0.0400		101	80-120			
Nickel, total	0.0417	0.00040 mg/L	0.0400		104	80-120			
Phosphorus, total	4.15	0.050 mg/L	4.00		104	80-120			
Potassium, total	4.26	0.10 mg/L	4.00		106	80-120			
Selenium, total	0.0402	0.00050 mg/L	0.0400		100	80-120			



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Kelowna, City of
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WORK ORDER REPORTED 2213957
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Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Total Metals, Batch B2J0481, Continued									
LCS (B2J0481-BS1), Continued					Prepared: 2022-10-05, Analyzed: 2022-10-06				
Silicon, total	4.1	1.0 mg/L	4.00		102	80-120			
Silver, total	0.0412	0.000050 mg/L	0.0400		103	80-120			
Sodium, total	4.11	0.10 mg/L	4.00		103	80-120			
Strontium, total	0.0421	0.0010 mg/L	0.0400		105	80-120			
Sulfur, total	41.5	3.0 mg/L	40.0		104	80-120			
Tellurium, total	0.0387	0.00050 mg/L	0.0400		97	80-120			
Thallium, total	0.0410	0.000020 mg/L	0.0400		102	80-120			
Thorium, total	0.0405	0.00010 mg/L	0.0400		101	80-120			
Tin, total	0.0411	0.00020 mg/L	0.0400		103	80-120			
Titanium, total	0.0406	0.0050 mg/L	0.0400		101	80-120			
Tungsten, total	0.0413	0.0002 mg/L	0.0400		103	80-120			
Uranium, total	0.0415	0.000020 mg/L	0.0400		104	80-120			
Vanadium, total	0.0413	0.0050 mg/L	0.0400		103	80-120			
Zinc, total	0.0400	0.0040 mg/L	0.0400		100	80-120			
Zirconium, total	0.0413	0.00010 mg/L	0.0400		103	80-120			



CERTIFICATE OF ANALYSIS

REPORTED TO Kelowna, City of
1435 Water Street
KELOWNA, BC V1Y 1J4

ATTENTION Jose Garcia

PO NUMBER 535828

PROJECT RBCF Ponds

PROJECT INFO

WORK ORDER 22J3243

RECEIVED / TEMP 2022-10-25 15:51 / 7.1°C

REPORTED 2022-11-02 14:58

COC NUMBER 44859.53218

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.

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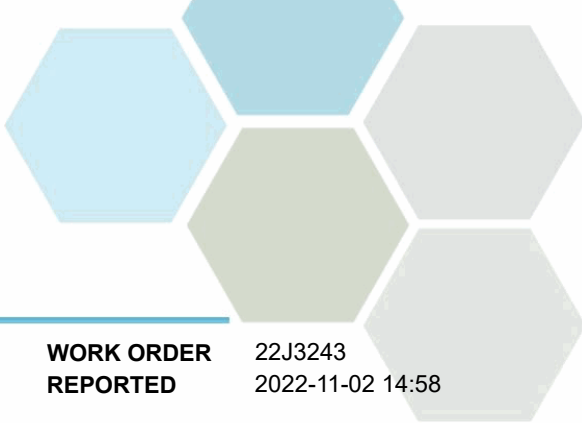
If you have any questions or concerns, please contact me at bwhitehead@caro.ca

Authorized By:

Brent Whitehead
Account Manager

1-888-311-8846 | www.caro.ca

#110 4011 Viking Way Richmond, BC V6V 2K9 | #102 3677 Highway 97N Kelowna, BC V1X 5C3 | 17225 109 Avenue Edmonton, AB T5S 1H7 | #108 4475 Wayburne Drive Burnaby, BC V5G 4X4



TEST RESULTS

REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

WORK ORDER REPORTED 22J3243
2022-11-02 14:58

Analyte	Result	RL	Units	Analyzed	Qualifier
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Rose's Pond (22J3243-01) | Matrix: Water | Sampled: 2022-10-25 11:15

Anions

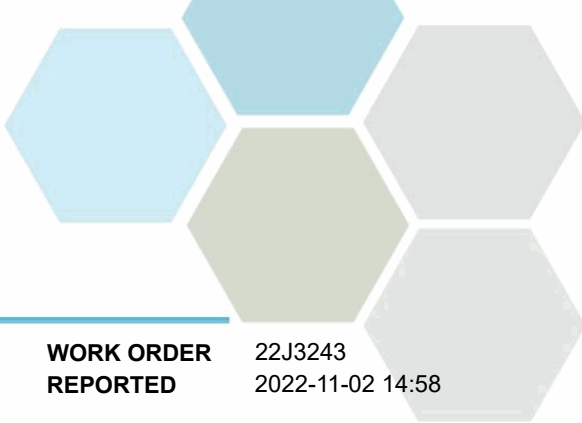
Chloride	443	0.10	mg/L	2022-10-27	
Nitrate (as N)	0.148	0.010	mg/L	2022-10-27	
Nitrite (as N)	< 0.100	0.010	mg/L	2022-10-27	RA1

Calculated Parameters

Hardness, Total (as CaCO3)	1380	1.00	mg/L	N/A	
Nitrate+Nitrite (as N)	0.148	0.100	mg/L	N/A	
Nitrogen, Total	1.94	0.100	mg/L	N/A	

Dissolved Metals

Aluminum, dissolved	< 0.0100	0.0050	mg/L	2022-10-30	RS1
Antimony, dissolved	< 0.00040	0.00020	mg/L	2022-10-30	RS1
Arsenic, dissolved	0.00393	0.00050	mg/L	2022-10-30	RS1
Barium, dissolved	0.0122	0.0050	mg/L	2022-10-30	RS1
Beryllium, dissolved	< 0.00020	0.00010	mg/L	2022-10-30	RS1
Bismuth, dissolved	< 0.00020	0.00010	mg/L	2022-10-30	RS1
Boron, dissolved	0.102	0.0500	mg/L	2022-10-30	RS1
Cadmium, dissolved	< 0.000020	0.000010	mg/L	2022-10-30	RS1
Calcium, dissolved	56.8	0.20	mg/L	2022-10-30	RS1
Chromium, dissolved	< 0.00100	0.00050	mg/L	2022-10-30	RS1
Cobalt, dissolved	< 0.00020	0.00010	mg/L	2022-10-30	RS1
Copper, dissolved	< 0.00080	0.00040	mg/L	2022-10-30	RS1
Iron, dissolved	< 0.020	0.010	mg/L	2022-10-30	RS1
Lead, dissolved	< 0.00040	0.00020	mg/L	2022-10-30	RS1
Lithium, dissolved	0.0491	0.00010	mg/L	2022-10-30	RS1
Magnesium, dissolved	300	0.010	mg/L	2022-10-30	RS1
Manganese, dissolved	0.116	0.00020	mg/L	2022-10-30	RS1
Mercury, dissolved	< 0.000010	0.000010	mg/L	2022-11-01	
Molybdenum, dissolved	0.00133	0.00010	mg/L	2022-10-30	RS1
Nickel, dissolved	< 0.00080	0.00040	mg/L	2022-10-30	RS1
Phosphorus, dissolved	< 0.100	0.050	mg/L	2022-10-30	RS1
Potassium, dissolved	88.4	0.10	mg/L	2022-10-30	RS1
Selenium, dissolved	< 0.00100	0.00050	mg/L	2022-10-30	RS1
Silicon, dissolved	< 2.0	1.0	mg/L	2022-10-30	RS1
Silver, dissolved	< 0.000100	0.000050	mg/L	2022-10-30	RS1
Sodium, dissolved	858	0.10	mg/L	2022-10-30	RS1
Strontium, dissolved	0.407	0.0010	mg/L	2022-10-30	RS1
Sulfur, dissolved	772	3.0	mg/L	2022-10-30	RS1
Tellurium, dissolved	< 0.00100	0.00050	mg/L	2022-10-30	RS1
Thallium, dissolved	< 0.000040	0.000020	mg/L	2022-10-30	RS1
Thorium, dissolved	< 0.00020	0.00010	mg/L	2022-10-30	RS1
Tin, dissolved	< 0.00040	0.00020	mg/L	2022-10-30	RS1
Titanium, dissolved	< 0.0100	0.0050	mg/L	2022-10-30	RS1
Tungsten, dissolved	< 0.0020	0.0010	mg/L	2022-10-30	RS1



TEST RESULTS

REPORTED TO PROJECT Kelowna, City of RBCF Ponds

WORK ORDER REPORTED 22J3243
2022-11-02 14:58

Analyte	Result	RL	Units	Analyzed	Qualifier
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Rose's Pond (22J3243-01) | Matrix: Water | Sampled: 2022-10-25 11:15, Continued

Dissolved Metals, Continued

Uranium, dissolved	0.00383	0.000020	mg/L	2022-10-30	RS1
Vanadium, dissolved	< 0.0100	0.0050	mg/L	2022-10-30	RS1
Zinc, dissolved	< 0.0080	0.0040	mg/L	2022-10-30	RS1
Zirconium, dissolved	< 0.00020	0.00010	mg/L	2022-10-30	RS1

General Parameters

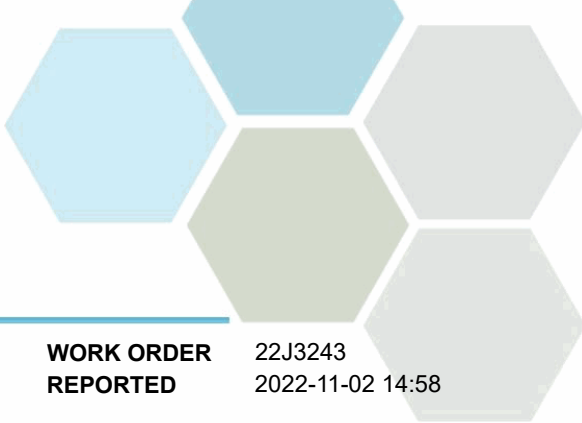
Ammonia, Total (as N)	< 0.050	0.050	mg/L	2022-10-26	
BOD, 5-day	< 6.8	2.0	mg/L	2022-10-31	
Carbon, Dissolved Organic	18.7	0.50	mg/L	2022-10-28	
Chemical Oxygen Demand	59	20	mg/L	2022-10-26	
Conductivity (EC)	5260	2.0	µS/cm	2022-10-29	
Nitrogen, Total Kjeldahl	1.79	0.050	mg/L	2022-10-30	
pH	8.62	0.10	pH units	2022-10-30	HT2
Phosphorus, Total (as P)	0.0411	0.0050	mg/L	2022-10-28	
Solids, Total Dissolved	4170	15	mg/L	2022-10-31	
Solids, Total Suspended	7.2	2.0	mg/L	2022-10-31	

Microbiological Parameters

Coliforms, Total (Q-Tray)	442	1	MPN/100 mL	2022-10-26	
E. coli (Q-Tray)	1	1	MPN/100 mL	2022-10-26	

Total Metals

Aluminum, total	< 0.0100	0.0050	mg/L	2022-11-01	RS1
Antimony, total	< 0.00040	0.00020	mg/L	2022-11-01	RS1
Arsenic, total	0.00394	0.00050	mg/L	2022-11-01	RS1
Barium, total	0.0122	0.0050	mg/L	2022-11-01	RS1
Beryllium, total	< 0.00020	0.00010	mg/L	2022-11-01	RS1
Bismuth, total	< 0.00020	0.00010	mg/L	2022-11-01	RS1
Boron, total	0.108	0.0500	mg/L	2022-11-01	RS1
Cadmium, total	< 0.000020	0.000010	mg/L	2022-11-01	RS1
Calcium, total	56.0	0.20	mg/L	2022-11-01	RS1
Chromium, total	< 0.00100	0.00050	mg/L	2022-11-01	RS1
Cobalt, total	< 0.00020	0.00010	mg/L	2022-11-01	RS1
Copper, total	< 0.00080	0.00040	mg/L	2022-11-01	RS1
Iron, total	< 0.020	0.010	mg/L	2022-11-01	RS1
Lead, total	< 0.00040	0.00020	mg/L	2022-11-01	RS1
Lithium, total	0.0498	0.00010	mg/L	2022-11-01	RS1
Magnesium, total	265	0.010	mg/L	2022-11-01	RS1
Manganese, total	0.169	0.00020	mg/L	2022-11-01	RS1
Mercury, total	< 0.000010	0.000010	mg/L	2022-11-02	
Molybdenum, total	0.00134	0.00010	mg/L	2022-11-01	RS1
Nickel, total	0.00089	0.00040	mg/L	2022-11-01	RS1
Phosphorus, total	< 0.100	0.050	mg/L	2022-11-01	RS1
Potassium, total	83.3	0.10	mg/L	2022-11-01	RS1



TEST RESULTS

REPORTED TO PROJECT Kelowna, City of RBCF Ponds

WORK ORDER REPORTED 22J3243
2022-11-02 14:58

Analyte	Result	RL	Units	Analyzed	Qualifier
Rose's Pond (22J3243-01) Matrix: Water Sampled: 2022-10-25 11:15, Continued					
<i>Total Metals, Continued</i>					
Selenium, total	< 0.00100	0.00050	mg/L	2022-11-01	RS1
Silicon, total	< 2.0	1.0	mg/L	2022-11-01	RS1
Silver, total	< 0.000100	0.000050	mg/L	2022-11-01	RS1
Sodium, total	798	0.10	mg/L	2022-11-01	RS1
Strontium, total	0.418	0.0010	mg/L	2022-11-01	RS1
Sulfur, total	773	3.0	mg/L	2022-11-01	RS1
Tellurium, total	< 0.00100	0.00050	mg/L	2022-11-01	RS1
Thallium, total	< 0.000040	0.000020	mg/L	2022-11-01	RS1
Thorium, total	< 0.00020	0.00010	mg/L	2022-11-01	RS1
Tin, total	< 0.00040	0.00020	mg/L	2022-11-01	RS1
Titanium, total	< 0.0100	0.0050	mg/L	2022-11-01	RS1
Tungsten, total	< 0.0004	0.0002	mg/L	2022-11-01	RS1
Uranium, total	0.00366	0.000020	mg/L	2022-11-01	RS1
Vanadium, total	< 0.0100	0.0050	mg/L	2022-11-01	RS1
Zinc, total	< 0.0080	0.0040	mg/L	2022-11-01	RS1
Zirconium, total	< 0.00020	0.00010	mg/L	2022-11-01	RS1

Drainage Pond (22J3243-02) | Matrix: Water | Sampled: 2022-10-25 11:45

Anions

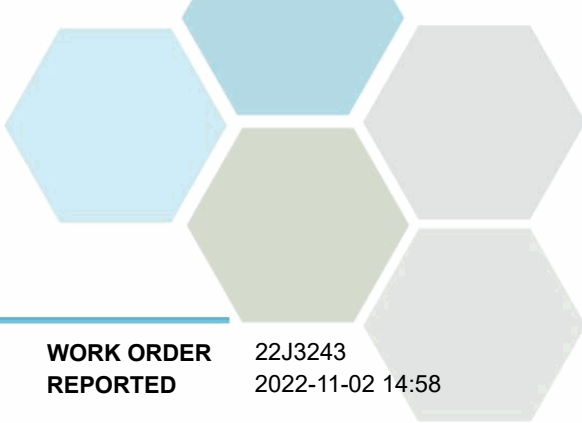
Chloride	92.9	0.10	mg/L	2022-10-27	
Nitrate (as N)	1.75	0.010	mg/L	2022-10-27	
Nitrite (as N)	0.177	0.010	mg/L	2022-10-27	

Calculated Parameters

Hardness, Total (as CaCO3)	227	0.500	mg/L	N/A	
Nitrate+Nitrite (as N)	1.93	0.0100	mg/L	N/A	
Nitrogen, Total	31.2	1.00	mg/L	N/A	

Dissolved Metals

Aluminum, dissolved	0.0489	0.0050	mg/L	2022-10-30	
Antimony, dissolved	0.00039	0.00020	mg/L	2022-10-30	
Arsenic, dissolved	0.00270	0.00050	mg/L	2022-10-30	
Barium, dissolved	0.0236	0.0050	mg/L	2022-10-30	
Beryllium, dissolved	< 0.00010	0.00010	mg/L	2022-10-30	
Bismuth, dissolved	0.00025	0.00010	mg/L	2022-10-30	
Boron, dissolved	0.208	0.0500	mg/L	2022-10-30	
Cadmium, dissolved	0.000054	0.000010	mg/L	2022-10-30	
Calcium, dissolved	53.6	0.20	mg/L	2022-10-30	
Chromium, dissolved	0.00104	0.00050	mg/L	2022-10-30	
Cobalt, dissolved	0.00064	0.00010	mg/L	2022-10-30	
Copper, dissolved	0.0144	0.00040	mg/L	2022-10-30	
Iron, dissolved	0.176	0.010	mg/L	2022-10-30	



TEST RESULTS

REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

WORK ORDER REPORTED 22J3243
2022-11-02 14:58

Analyte	Result	RL	Units	Analyzed	Qualifier
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Drainage Pond (22J3243-02) | Matrix: Water | Sampled: 2022-10-25 11:45, Continued

Dissolved Metals, Continued

Lead, dissolved	0.00038	0.00020	mg/L	2022-10-30	
Lithium, dissolved	0.0120	0.00010	mg/L	2022-10-30	
Magnesium, dissolved	22.6	0.010	mg/L	2022-10-30	
Manganese, dissolved	0.0919	0.00020	mg/L	2022-10-30	
Mercury, dissolved	< 0.000010	0.000010	mg/L	2022-11-01	
Molybdenum, dissolved	0.00372	0.00010	mg/L	2022-10-30	
Nickel, dissolved	0.00267	0.00040	mg/L	2022-10-30	
Phosphorus, dissolved	6.79	0.050	mg/L	2022-10-30	
Potassium, dissolved	35.6	0.10	mg/L	2022-10-30	
Selenium, dissolved	0.00073	0.00050	mg/L	2022-10-30	
Silicon, dissolved	3.7	1.0	mg/L	2022-10-30	
Silver, dissolved	< 0.000050	0.000050	mg/L	2022-10-30	
Sodium, dissolved	86.5	0.10	mg/L	2022-10-30	
Strontium, dissolved	0.499	0.0010	mg/L	2022-10-30	
Sulfur, dissolved	32.9	3.0	mg/L	2022-10-30	
Tellurium, dissolved	< 0.00050	0.00050	mg/L	2022-10-30	
Thallium, dissolved	< 0.000020	0.000020	mg/L	2022-10-30	
Thorium, dissolved	< 0.00010	0.00010	mg/L	2022-10-30	
Tin, dissolved	0.00050	0.00020	mg/L	2022-10-30	
Titanium, dissolved	< 0.0050	0.0050	mg/L	2022-10-30	
Tungsten, dissolved	< 0.0010	0.0010	mg/L	2022-10-30	
Uranium, dissolved	0.00141	0.000020	mg/L	2022-10-30	
Vanadium, dissolved	< 0.0050	0.0050	mg/L	2022-10-30	
Zinc, dissolved	0.0415	0.0040	mg/L	2022-10-30	
Zirconium, dissolved	0.00026	0.00010	mg/L	2022-10-30	

General Parameters

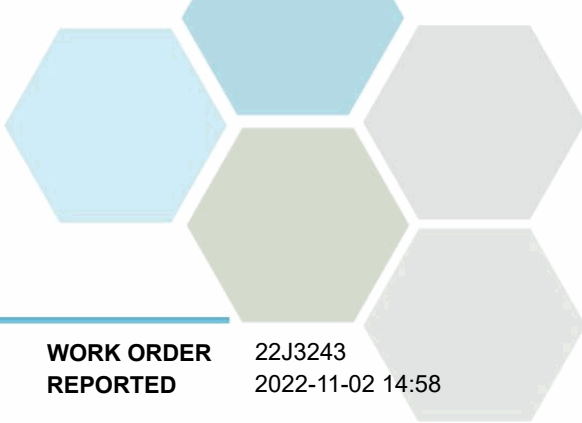
Ammonia, Total (as N)	17.4	0.050	mg/L	2022-10-26	
BOD, 5-day	13.8	2.0	mg/L	2022-10-31	
Carbon, Dissolved Organic	38.8	0.50	mg/L	2022-10-28	
Chemical Oxygen Demand	198	20	mg/L	2022-10-26	
Conductivity (EC)	1060	2.0	µS/cm	2022-10-29	
Nitrogen, Total Kjeldahl	29.3	0.050	mg/L	2022-10-30	
pH	8.13	0.10	pH units	2022-10-30	HT2
Phosphorus, Total (as P)	6.97	0.0050	mg/L	2022-10-28	
Solids, Total Dissolved	661	15	mg/L	2022-10-31	
Solids, Total Suspended	5.3	2.0	mg/L	2022-10-30	

Microbiological Parameters

Coliforms, Total (Q-Tray)	105000	1	MPN/100 mL	2022-10-26	
E. coli (Q-Tray)	589	1	MPN/100 mL	2022-10-26	

Total Metals

Aluminum, total	0.117	0.0050	mg/L	2022-11-01	
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TEST RESULTS

REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

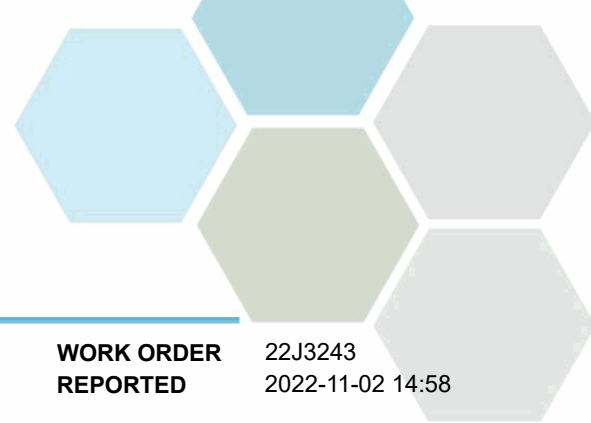
WORK ORDER REPORTED 22J3243
2022-11-02 14:58

Analyte	Result	RL	Units	Analyzed	Qualifier
Drainage Pond (22J3243-02) Matrix: Water Sampled: 2022-10-25 11:45, Continued					
<i>Total Metals, Continued</i>					
Antimony, total	0.00041	0.00020	mg/L	2022-11-01	
Arsenic, total	0.00288	0.00050	mg/L	2022-11-01	
Barium, total	0.0308	0.0050	mg/L	2022-11-01	
Beryllium, total	< 0.00010	0.00010	mg/L	2022-11-01	
Bismuth, total	0.00053	0.00010	mg/L	2022-11-01	
Boron, total	0.215	0.0500	mg/L	2022-11-01	
Cadmium, total	0.000093	0.000010	mg/L	2022-11-01	
Calcium, total	54.1	0.20	mg/L	2022-11-01	
Chromium, total	0.00123	0.00050	mg/L	2022-11-01	
Cobalt, total	0.00079	0.00010	mg/L	2022-11-01	
Copper, total	0.0245	0.00040	mg/L	2022-11-01	
Iron, total	0.324	0.010	mg/L	2022-11-01	
Lead, total	0.00061	0.00020	mg/L	2022-11-01	
Lithium, total	0.0115	0.00010	mg/L	2022-11-01	
Magnesium, total	21.5	0.010	mg/L	2022-11-01	
Manganese, total	0.117	0.00020	mg/L	2022-11-01	
Mercury, total	< 0.000010	0.000010	mg/L	2022-11-02	
Molybdenum, total	0.00399	0.00010	mg/L	2022-11-01	
Nickel, total	0.00340	0.00040	mg/L	2022-11-01	
Phosphorus, total	7.11	0.050	mg/L	2022-11-01	
Potassium, total	34.6	0.10	mg/L	2022-11-01	
Selenium, total	0.00097	0.00050	mg/L	2022-11-01	
Silicon, total	3.5	1.0	mg/L	2022-11-01	
Silver, total	0.000066	0.000050	mg/L	2022-11-01	
Sodium, total	85.9	0.10	mg/L	2022-11-01	
Strontium, total	0.543	0.0010	mg/L	2022-11-01	
Sulfur, total	32.9	3.0	mg/L	2022-11-01	
Tellurium, total	< 0.00050	0.00050	mg/L	2022-11-01	
Thallium, total	< 0.000020	0.000020	mg/L	2022-11-01	
Thorium, total	< 0.00010	0.00010	mg/L	2022-11-01	
Tin, total	0.00088	0.00020	mg/L	2022-11-01	
Titanium, total	< 0.0050	0.0050	mg/L	2022-11-01	
Tungsten, total	0.0002	0.0002	mg/L	2022-11-01	
Uranium, total	0.00147	0.000020	mg/L	2022-11-01	
Vanadium, total	< 0.0050	0.0050	mg/L	2022-11-01	
Zinc, total	0.0561	0.0040	mg/L	2022-11-01	
Zirconium, total	0.00031	0.00010	mg/L	2022-11-01	

Davidson Pond (22J3243-03) | Matrix: Water | Sampled: 2022-10-25 10:45

Anions

Chloride	367	0.10	mg/L	2022-10-27	
Nitrate (as N)	0.157	0.010	mg/L	2022-10-27	



TEST RESULTS

REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

WORK ORDER REPORTED 22J3243
2022-11-02 14:58

Analyte	Result	RL	Units	Analyzed	Qualifier
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Davidson Pond (22J3243-03) | Matrix: Water | Sampled: 2022-10-25 10:45, Continued

Anions, Continued

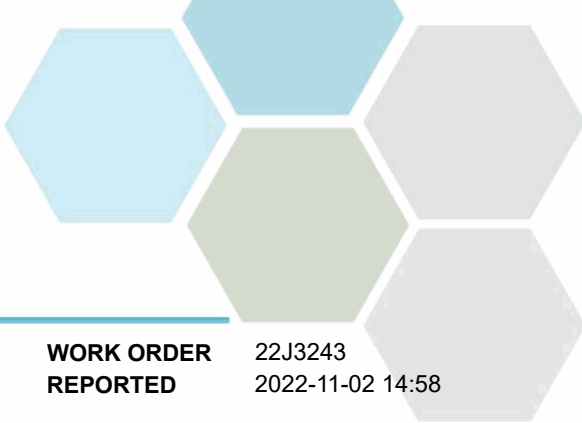
Nitrite (as N)	< 0.010	0.010	mg/L	2022-10-27	
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Calculated Parameters

Hardness, Total (as CaCO3)	793	1.00	mg/L	N/A	
Nitrate+Nitrite (as N)	0.157	0.100	mg/L	N/A	
Nitrogen, Total	3.14	0.100	mg/L	N/A	

Dissolved Metals

Aluminum, dissolved	< 0.0100	0.0050	mg/L	2022-10-30	RS1
Antimony, dissolved	0.00052	0.00020	mg/L	2022-10-30	RS1
Arsenic, dissolved	0.00494	0.00050	mg/L	2022-10-30	RS1
Barium, dissolved	0.0113	0.0050	mg/L	2022-10-30	RS1
Beryllium, dissolved	< 0.00020	0.00010	mg/L	2022-10-30	RS1
Bismuth, dissolved	< 0.00020	0.00010	mg/L	2022-10-30	RS1
Boron, dissolved	< 0.100	0.0500	mg/L	2022-10-30	RS1
Cadmium, dissolved	< 0.000020	0.000010	mg/L	2022-10-30	RS1
Calcium, dissolved	71.6	0.20	mg/L	2022-10-30	RS1
Chromium, dissolved	< 0.00100	0.00050	mg/L	2022-10-30	RS1
Cobalt, dissolved	< 0.00020	0.00010	mg/L	2022-10-30	RS1
Copper, dissolved	0.00136	0.00040	mg/L	2022-11-02	RE2, RS1
Iron, dissolved	0.021	0.010	mg/L	2022-10-30	RS1
Lead, dissolved	< 0.00040	0.00020	mg/L	2022-10-30	RS1
Lithium, dissolved	0.0548	0.00010	mg/L	2022-10-30	RS1
Magnesium, dissolved	149	0.010	mg/L	2022-10-30	RS1
Manganese, dissolved	0.265	0.00020	mg/L	2022-10-30	RS1
Mercury, dissolved	< 0.000010	0.000010	mg/L	2022-11-01	
Molybdenum, dissolved	0.00153	0.00010	mg/L	2022-10-30	RS1
Nickel, dissolved	0.00159	0.00040	mg/L	2022-10-30	RS1
Phosphorus, dissolved	0.124	0.050	mg/L	2022-10-30	RS1
Potassium, dissolved	55.0	0.10	mg/L	2022-10-30	RS1
Selenium, dissolved	< 0.00100	0.00050	mg/L	2022-10-30	RS1
Silicon, dissolved	5.1	1.0	mg/L	2022-10-30	RS1
Silver, dissolved	< 0.000100	0.000050	mg/L	2022-10-30	RS1
Sodium, dissolved	677	0.10	mg/L	2022-10-30	RS1
Strontium, dissolved	0.968	0.0010	mg/L	2022-10-30	RS1
Sulfur, dissolved	505	3.0	mg/L	2022-10-30	RS1
Tellurium, dissolved	< 0.00100	0.00050	mg/L	2022-10-30	RS1
Thallium, dissolved	< 0.000040	0.000020	mg/L	2022-10-30	RS1
Thorium, dissolved	< 0.00020	0.00010	mg/L	2022-10-30	RS1
Tin, dissolved	< 0.00040	0.00020	mg/L	2022-10-30	RS1
Titanium, dissolved	< 0.0100	0.0050	mg/L	2022-10-30	RS1
Tungsten, dissolved	< 0.0020	0.0010	mg/L	2022-10-30	RS1
Uranium, dissolved	0.00779	0.000020	mg/L	2022-10-30	RS1
Vanadium, dissolved	< 0.0100	0.0050	mg/L	2022-10-30	RS1

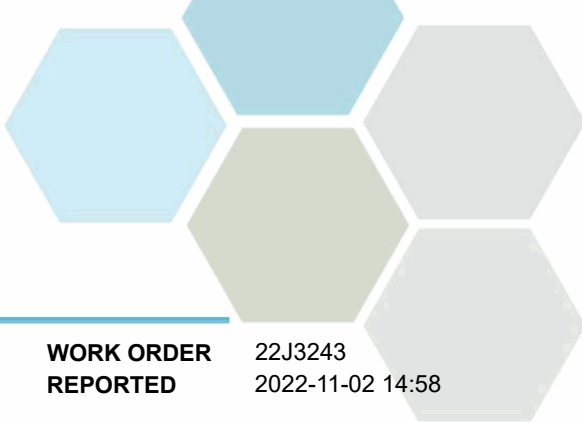


TEST RESULTS

REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

WORK ORDER REPORTED 22J3243
2022-11-02 14:58

Analyte	Result	RL	Units	Analyzed	Qualifier
Davidson Pond (22J3243-03) Matrix: Water Sampled: 2022-10-25 10:45, Continued					
<i>Dissolved Metals, Continued</i>					
Zinc, dissolved	< 0.0080	0.0040	mg/L	2022-10-30	RS1
Zirconium, dissolved	0.00026	0.00010	mg/L	2022-11-02	RS1
<i>General Parameters</i>					
Ammonia, Total (as N)	0.631	0.050	mg/L	2022-10-26	
BOD, 5-day	9.2	2.0	mg/L	2022-10-31	
Carbon, Dissolved Organic	26.5	0.50	mg/L	2022-10-28	
Chemical Oxygen Demand	86	20	mg/L	2022-10-26	
Conductivity (EC)	4010	2.0	µS/cm	2022-10-29	
Nitrogen, Total Kjeldahl	2.98	0.050	mg/L	2022-10-30	
pH	8.45	0.10	pH units	2022-10-30	HT2
Phosphorus, Total (as P)	0.138	0.0050	mg/L	2022-10-28	
Solids, Total Dissolved	2920	15	mg/L	2022-10-31	
Solids, Total Suspended	< 3.3	2.0	mg/L	2022-10-30	
<i>Microbiological Parameters</i>					
Coliforms, Total (Q-Tray)	339	1	MPN/100 mL	2022-10-26	
E. coli (Q-Tray)	2	1	MPN/100 mL	2022-10-26	
<i>Total Metals</i>					
Aluminum, total	0.0204	0.0050	mg/L	2022-11-01	RS1
Antimony, total	0.00055	0.00020	mg/L	2022-11-01	RS1
Arsenic, total	0.00501	0.00050	mg/L	2022-11-01	RS1
Barium, total	0.0110	0.0050	mg/L	2022-11-01	RS1
Beryllium, total	< 0.00020	0.00010	mg/L	2022-11-01	RS1
Bismuth, total	< 0.00020	0.00010	mg/L	2022-11-01	RS1
Boron, total	< 0.100	0.0500	mg/L	2022-11-01	RS1
Cadmium, total	< 0.000020	0.000010	mg/L	2022-11-01	RS1
Calcium, total	69.0	0.20	mg/L	2022-11-01	RS1
Chromium, total	< 0.00100	0.00050	mg/L	2022-11-01	RS1
Cobalt, total	< 0.00020	0.00010	mg/L	2022-11-01	RS1
Copper, total	< 0.00080	0.00040	mg/L	2022-11-01	RS1
Iron, total	0.047	0.010	mg/L	2022-11-01	RS1
Lead, total	< 0.00040	0.00020	mg/L	2022-11-01	RS1
Lithium, total	0.0532	0.00010	mg/L	2022-11-01	RS1
Magnesium, total	133	0.010	mg/L	2022-11-01	RS1
Manganese, total	0.267	0.00020	mg/L	2022-11-01	RS1
Mercury, total	< 0.000010	0.000010	mg/L	2022-11-02	
Molybdenum, total	0.00146	0.00010	mg/L	2022-11-01	RS1
Nickel, total	0.00164	0.00040	mg/L	2022-11-01	RS1
Phosphorus, total	0.152	0.050	mg/L	2022-11-01	RS1
Potassium, total	52.8	0.10	mg/L	2022-11-01	RS1
Selenium, total	< 0.00100	0.00050	mg/L	2022-11-01	RS1
Silicon, total	4.8	1.0	mg/L	2022-11-01	RS1



TEST RESULTS

REPORTED TO PROJECT Kelowna, City of RBCF Ponds

WORK ORDER REPORTED 22J3243
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Analyte	Result	RL	Units	Analyzed	Qualifier
Davidson Pond (22J3243-03) Matrix: Water Sampled: 2022-10-25 10:45, Continued					
<i>Total Metals, Continued</i>					
Silver, total	< 0.000100	0.000050	mg/L	2022-11-01	RS1
Sodium, total	648	0.10	mg/L	2022-11-01	RS1
Strontium, total	1.04	0.0010	mg/L	2022-11-01	RS1
Sulfur, total	498	3.0	mg/L	2022-11-01	RS1
Tellurium, total	< 0.00100	0.00050	mg/L	2022-11-01	RS1
Thallium, total	< 0.000040	0.000020	mg/L	2022-11-01	RS1
Thorium, total	< 0.00020	0.00010	mg/L	2022-11-01	RS1
Tin, total	< 0.00040	0.00020	mg/L	2022-11-01	RS1
Titanium, total	< 0.0100	0.0050	mg/L	2022-11-01	RS1
Tungsten, total	< 0.0004	0.0002	mg/L	2022-11-01	RS1
Uranium, total	0.00768	0.000020	mg/L	2022-11-01	RS1
Vanadium, total	< 0.0100	0.0050	mg/L	2022-11-01	RS1
Zinc, total	< 0.0080	0.0040	mg/L	2022-11-01	RS1
Zirconium, total	0.00022	0.00010	mg/L	2022-11-01	RS1

DUP 3 (22J3243-04) | Matrix: Water | Sampled: 2022-10-25 11:45

Anions

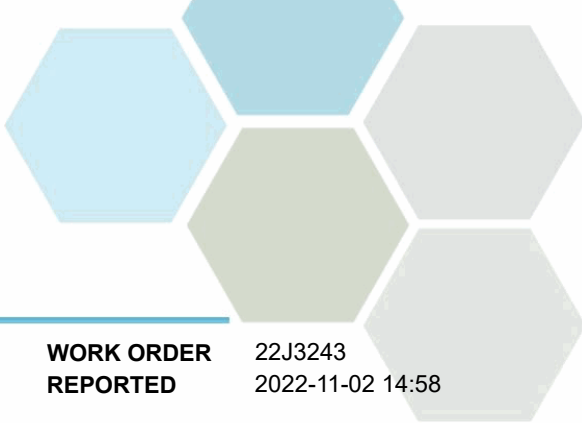
Chloride	95.0	0.10	mg/L	2022-10-27	
Nitrate (as N)	1.76	0.010	mg/L	2022-10-27	
Nitrite (as N)	0.182	0.010	mg/L	2022-10-27	

Calculated Parameters

Hardness, Total (as CaCO3)	227	0.500	mg/L	N/A	
Nitrate+Nitrite (as N)	1.94	0.0100	mg/L	N/A	
Nitrogen, Total	33.3	1.00	mg/L	N/A	

Dissolved Metals

Aluminum, dissolved	0.0587	0.0050	mg/L	2022-10-30	
Antimony, dissolved	0.00036	0.00020	mg/L	2022-10-30	
Arsenic, dissolved	0.00278	0.00050	mg/L	2022-10-30	
Barium, dissolved	0.0244	0.0050	mg/L	2022-10-30	
Beryllium, dissolved	< 0.00010	0.00010	mg/L	2022-10-30	
Bismuth, dissolved	0.00030	0.00010	mg/L	2022-10-30	
Boron, dissolved	0.206	0.0500	mg/L	2022-10-30	
Cadmium, dissolved	0.000068	0.000010	mg/L	2022-10-30	
Calcium, dissolved	54.1	0.20	mg/L	2022-10-30	
Chromium, dissolved	0.00108	0.00050	mg/L	2022-10-30	
Cobalt, dissolved	0.00067	0.00010	mg/L	2022-10-30	
Copper, dissolved	0.0152	0.00040	mg/L	2022-10-30	
Iron, dissolved	0.203	0.010	mg/L	2022-10-30	
Lead, dissolved	0.00037	0.00020	mg/L	2022-10-30	
Lithium, dissolved	0.0117	0.00010	mg/L	2022-10-30	



TEST RESULTS

REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

WORK ORDER REPORTED 22J3243
2022-11-02 14:58

Analyte	Result	RL	Units	Analyzed	Qualifier
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DUP 3 (22J3243-04) | Matrix: Water | Sampled: 2022-10-25 11:45, Continued

Dissolved Metals, Continued

Magnesium, dissolved	22.3	0.010	mg/L	2022-10-30	
Manganese, dissolved	0.0946	0.00020	mg/L	2022-10-30	
Mercury, dissolved	< 0.000010	0.000010	mg/L	2022-11-01	
Molybdenum, dissolved	0.00374	0.00010	mg/L	2022-10-30	
Nickel, dissolved	0.00294	0.00040	mg/L	2022-10-30	
Phosphorus, dissolved	6.71	0.050	mg/L	2022-10-30	
Potassium, dissolved	34.9	0.10	mg/L	2022-10-30	
Selenium, dissolved	0.00077	0.00050	mg/L	2022-10-30	
Silicon, dissolved	3.7	1.0	mg/L	2022-10-30	
Silver, dissolved	< 0.000050	0.000050	mg/L	2022-10-30	
Sodium, dissolved	85.5	0.10	mg/L	2022-10-30	
Strontium, dissolved	0.499	0.0010	mg/L	2022-10-30	
Sulfur, dissolved	33.0	3.0	mg/L	2022-10-30	
Tellurium, dissolved	< 0.00050	0.00050	mg/L	2022-10-30	
Thallium, dissolved	< 0.000020	0.000020	mg/L	2022-10-30	
Thorium, dissolved	< 0.00010	0.00010	mg/L	2022-10-30	
Tin, dissolved	0.00052	0.00020	mg/L	2022-10-30	
Titanium, dissolved	< 0.0050	0.0050	mg/L	2022-10-30	
Tungsten, dissolved	< 0.0010	0.0010	mg/L	2022-10-30	
Uranium, dissolved	0.00141	0.000020	mg/L	2022-10-30	
Vanadium, dissolved	< 0.0050	0.0050	mg/L	2022-10-30	
Zinc, dissolved	0.0445	0.0040	mg/L	2022-10-30	
Zirconium, dissolved	0.00028	0.00010	mg/L	2022-10-30	

General Parameters

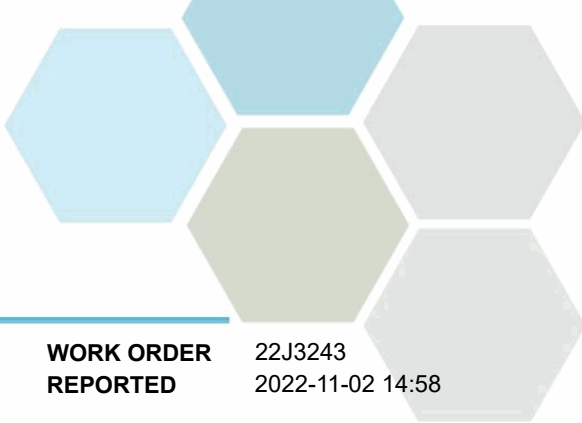
Ammonia, Total (as N)	17.1	0.050	mg/L	2022-10-26	
BOD, 5-day	15.2	2.0	mg/L	2022-10-31	
Carbon, Dissolved Organic	40.8	0.50	mg/L	2022-10-28	
Chemical Oxygen Demand	202	20	mg/L	2022-10-26	
Conductivity (EC)	1060	2.0	µS/cm	2022-10-29	
Nitrogen, Total Kjeldahl	31.3	0.050	mg/L	2022-10-30	
pH	8.12	0.10	pH units	2022-10-30	HT2
Phosphorus, Total (as P)	6.91	0.0050	mg/L	2022-10-28	
Solids, Total Dissolved	672	15	mg/L	2022-10-31	
Solids, Total Suspended	4.7	2.0	mg/L	2022-10-30	

Microbiological Parameters

Coliforms, Total (Q-Tray)	155000	1	MPN/100 mL	2022-10-26	
E. coli (Q-Tray)	727	1	MPN/100 mL	2022-10-26	

Total Metals

Aluminum, total	0.121	0.0050	mg/L	2022-11-01	
Antimony, total	0.00041	0.00020	mg/L	2022-11-01	
Arsenic, total	0.00288	0.00050	mg/L	2022-11-01	



TEST RESULTS

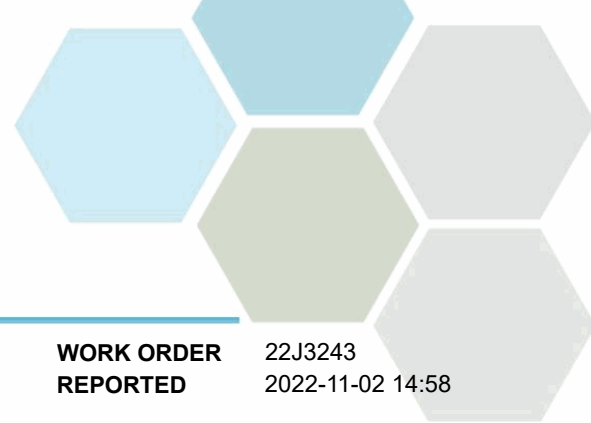
REPORTED TO PROJECT Kelowna, City of RBCF Ponds

WORK ORDER REPORTED 22J3243
2022-11-02 14:58

Analyte	Result	RL	Units	Analyzed	Qualifier
DUP 3 (22J3243-04) Matrix: Water Sampled: 2022-10-25 11:45, Continued					
<i>Total Metals, Continued</i>					
Barium, total	0.0311	0.0050	mg/L	2022-11-01	
Beryllium, total	< 0.00010	0.00010	mg/L	2022-11-01	
Bismuth, total	0.00057	0.00010	mg/L	2022-11-01	
Boron, total	0.219	0.0500	mg/L	2022-11-01	
Cadmium, total	0.000107	0.000010	mg/L	2022-11-01	
Calcium, total	54.0	0.20	mg/L	2022-11-01	
Chromium, total	0.00141	0.00050	mg/L	2022-11-01	
Cobalt, total	0.00080	0.00010	mg/L	2022-11-01	
Copper, total	0.0262	0.00040	mg/L	2022-11-01	
Iron, total	0.328	0.010	mg/L	2022-11-01	
Lead, total	0.00062	0.00020	mg/L	2022-11-01	
Lithium, total	0.0117	0.00010	mg/L	2022-11-01	
Magnesium, total	21.7	0.010	mg/L	2022-11-01	
Manganese, total	0.119	0.00020	mg/L	2022-11-01	
Mercury, total	< 0.000010	0.000010	mg/L	2022-11-02	
Molybdenum, total	0.00397	0.00010	mg/L	2022-11-01	
Nickel, total	0.00354	0.00040	mg/L	2022-11-01	
Phosphorus, total	7.14	0.050	mg/L	2022-11-01	
Potassium, total	34.7	0.10	mg/L	2022-11-01	
Selenium, total	0.00101	0.00050	mg/L	2022-11-01	
Silicon, total	3.5	1.0	mg/L	2022-11-01	
Silver, total	0.000073	0.000050	mg/L	2022-11-01	
Sodium, total	87.1	0.10	mg/L	2022-11-01	
Strontium, total	0.557	0.0010	mg/L	2022-11-01	
Sulfur, total	33.4	3.0	mg/L	2022-11-01	
Tellurium, total	< 0.00050	0.00050	mg/L	2022-11-01	
Thallium, total	< 0.000020	0.000020	mg/L	2022-11-01	
Thorium, total	< 0.00010	0.00010	mg/L	2022-11-01	
Tin, total	0.00093	0.00020	mg/L	2022-11-01	
Titanium, total	0.0055	0.0050	mg/L	2022-11-01	
Tungsten, total	0.0002	0.0002	mg/L	2022-11-01	
Uranium, total	0.00153	0.000020	mg/L	2022-11-01	
Vanadium, total	< 0.0050	0.0050	mg/L	2022-11-01	
Zinc, total	0.0570	0.0040	mg/L	2022-11-01	
Zirconium, total	0.00029	0.00010	mg/L	2022-11-01	

Sample Qualifiers:

- HT2 The 15 minute recommended holding time (from sampling to analysis) has been exceeded - field analysis is recommended.
- RA1 The Reporting Limit has been raised due to matrix interference.
- RE2 Result was confirmed by re-analysis prior to reporting.
- RS1 The Reporting Limits for this sample have been raised due to high analyte concentration and/or matrix interference.



APPENDIX 1: SUPPORTING INFORMATION

REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

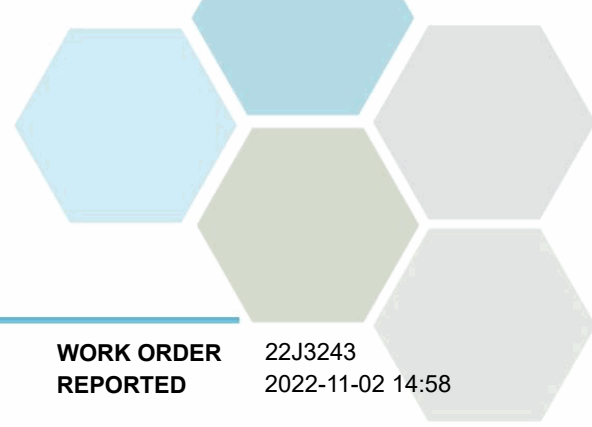
WORK ORDER REPORTED 22J3243
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Analysis Description	Method Ref.	Technique	Accredited	Location
Ammonia, Total in Water	SM 4500-NH3 G* (2017)	Automated Colorimetry (Phenate)	✓	Kelowna
Anions in Water	SM 4110 B (2017)	Ion Chromatography	✓	Kelowna
Biochemical Oxygen Demand in Water	SM 5210 B (2017)	Dissolved Oxygen Meter	✓	Kelowna
Carbon, Dissolved Organic in Water	SM 5310 B (2017)	Combustion, Infrared CO2 Detection	✓	Kelowna
Chemical Oxygen Demand in Water	SM 5220 D* (2017)	Closed Reflux, Colorimetry	✓	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
Dissolved Metals in Water	EPA 200.8 / EPA 6020B	0.45 µm Filtration / Inductively Coupled Plasma-Mass Spectroscopy (ICP-MS)	✓	Richmond
E. coli in Water	NA / SM 9223 (2017)	Quanti-Tray / Enzyme Substrate Endo Agar	✓	Kelowna
Hardness in Water	SM 2340 B (2017)	Calculation: 2.497 [diss Ca] + 4.118 [diss Mg]	✓	N/A
Mercury, dissolved in Water	EPA 245.7*	BrCl2 Oxidation / Cold Vapor Atomic Fluorescence Spectrometry (CVAFS)	✓	Richmond
Mercury, total in Water	EPA 245.7*	BrCl2 Oxidation / Cold Vapor Atomic Fluorescence Spectrometry (CVAFS)	✓	Richmond
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
Phosphorus, Total in Water	SM 4500-P B.5* (2011) / SM 4500-P F (2017)	Persulfate Digestion / Automated Colorimetry (Ascorbic Acid)	✓	Kelowna
Solids, Total Dissolved in Water	Solids in Water, Filtered / SM 2540 C* (2017)	Solids in Water, Filtered / Gravimetry (Dried at 103-105C)	✓	Kelowna
Solids, Total Suspended in Water	Solids in Water, Filtered / SM 2540 D* (2017)	Solids in Water, Filtered / Gravimetry (Dried at 103-105C)	✓	Kelowna
Total Metals in Water	EPA 200.2 / EPA 6020B	HNO3+HCl Hot Block Digestion / Inductively Coupled Plasma-Mass Spectroscopy (ICP-MS)	✓	Richmond

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
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
EPA	United States Environmental Protection Agency Test Methods
SM	Standard Methods for the Examination of Water and Wastewater, American Public Health Association



APPENDIX 1: SUPPORTING INFORMATION

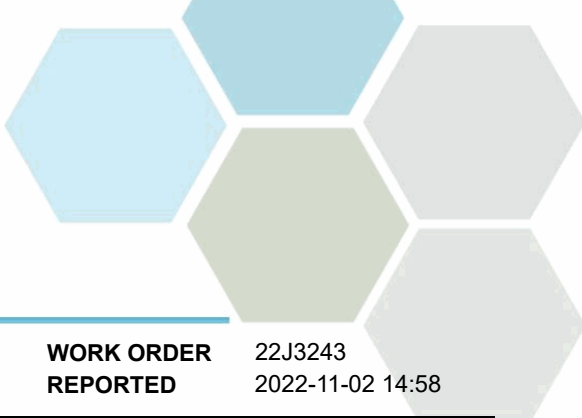
REPORTED TO Kelowna, City of
PROJECT RBCF Ponds

WORK ORDER 22J3243
REPORTED 2022-11-02 14:58

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 or once samples expire, whichever comes first. Longer hold is possible if agreed to in writing.

Please note any regulatory guidelines applied to this report are added as a convenience to the client, at their request, to help provide some initial context to analytical results obtained. Although CARO makes every effort to ensure accuracy of the associated regulatory guideline(s) applied, the guidelines applied cannot be assumed to be correct due to a variety of factors and as such CARO Analytical Services assumes no liability or responsibility for the use of those guidelines to make any decisions. The original source of the regulation should be verified and a review of the guideline(s) should be validated as correct in order to make any decisions arising from the comparison of the analytical data obtained to the relevant regulatory guideline for one's particular circumstances. Further, CARO Analytical Services assumes no liability or responsibility for any loss attributed from the use of these guidelines in any way.



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

WORK ORDER REPORTED 22J3243
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The following section displays the quality control (QC) data that is associated with your sample data. Groups of samples are prepared in "batches" and analyzed in conjunction with QC samples that ensure your data is of the highest quality. Common QC types include:

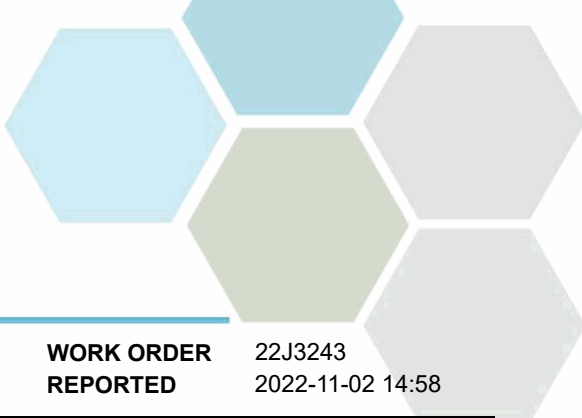
- **Method Blank (Blk):** A blank sample that undergoes sample processing identical to that carried out for the test samples. Method blank results are used to assess contamination from the laboratory environment and reagents.
- **Duplicate (Dup):** An additional or second portion of a randomly selected sample in the analytical run carried through the entire analytical process. Duplicates provide a measure of the analytical method's precision (reproducibility).
- **Blank Spike (BS):** A sample of known concentration which undergoes processing identical to that carried out for test samples, also referred to as a laboratory control sample (LCS). Blank spikes provide a measure of the analytical method's accuracy.
- **Matrix Spike (MS):** A second aliquot of sample is fortified with a known concentration of target analytes and carried through the entire analytical process. Matrix spikes evaluate potential matrix effects that may affect the analyte recovery.
- **Reference Material (SRM):** A homogenous material of similar matrix to the samples, certified for the parameter(s) listed. Reference Materials ensure that the analytical process is adequate to achieve acceptable recoveries of the parameter(s) tested.

Each QC type is analyzed at a 5-10% frequency, i.e. one blank/duplicate/spike for every 10-20 samples. For all types of QC, the specified recovery (% Rec) and relative percent difference (RPD) limits are derived from long-term method performance averages and/or prescribed by the reference method.

Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Anions, Batch B2J3015									
Blank (B2J3015-BLK1)			Prepared: 2022-10-26, Analyzed: 2022-10-26						
Chloride	< 0.10	0.10 mg/L							
Nitrate (as N)	< 0.010	0.010 mg/L							
Nitrite (as N)	< 0.010	0.010 mg/L							
Blank (B2J3015-BLK2)			Prepared: 2022-10-26, Analyzed: 2022-10-26						
Chloride	< 0.10	0.10 mg/L							
Nitrate (as N)	< 0.010	0.010 mg/L							
Nitrite (as N)	< 0.010	0.010 mg/L							
LCS (B2J3015-BS1)			Prepared: 2022-10-26, Analyzed: 2022-10-26						
Chloride	15.6	0.10 mg/L	16.0		97	90-110			
Nitrate (as N)	4.08	0.010 mg/L	4.00		102	90-110			
Nitrite (as N)	1.94	0.010 mg/L	2.00		97	85-115			
LCS (B2J3015-BS2)			Prepared: 2022-10-26, Analyzed: 2022-10-26						
Chloride	15.6	0.10 mg/L	16.0		98	90-110			
Nitrate (as N)	4.07	0.010 mg/L	4.00		102	90-110			
Nitrite (as N)	1.95	0.010 mg/L	2.00		98	85-115			

Dissolved Metals, Batch B2J3474

Blank (B2J3474-BLK1)			Prepared: 2022-10-30, Analyzed: 2022-10-30						
Aluminum, dissolved	< 0.0050	0.0050 mg/L							
Antimony, dissolved	< 0.00020	0.00020 mg/L							
Arsenic, dissolved	< 0.00050	0.00050 mg/L							
Barium, dissolved	< 0.0050	0.0050 mg/L							
Beryllium, dissolved	< 0.00010	0.00010 mg/L							
Bismuth, dissolved	< 0.00010	0.00010 mg/L							
Boron, dissolved	< 0.0500	0.0500 mg/L							
Cadmium, dissolved	< 0.000010	0.000010 mg/L							
Calcium, dissolved	< 0.20	0.20 mg/L							
Chromium, dissolved	< 0.00050	0.00050 mg/L							
Cobalt, dissolved	< 0.00010	0.00010 mg/L							
Copper, dissolved	< 0.00040	0.00040 mg/L							
Iron, dissolved	< 0.010	0.010 mg/L							
Lead, dissolved	< 0.00020	0.00020 mg/L							



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

WORK ORDER REPORTED 22J3243
2022-11-02 14:58

Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
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Dissolved Metals, Batch B2J3474, Continued

Blank (B2J3474-BLK1), Continued

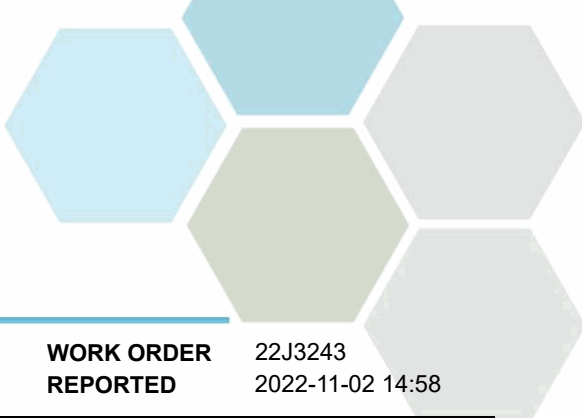
Prepared: 2022-10-30, Analyzed: 2022-10-30

Lithium, dissolved	< 0.00010	0.00010 mg/L							
Magnesium, dissolved	< 0.010	0.010 mg/L							
Manganese, dissolved	< 0.00020	0.00020 mg/L							
Molybdenum, dissolved	< 0.00010	0.00010 mg/L							
Nickel, dissolved	< 0.00040	0.00040 mg/L							
Phosphorus, dissolved	< 0.050	0.050 mg/L							
Potassium, dissolved	< 0.10	0.10 mg/L							
Selenium, dissolved	< 0.00050	0.00050 mg/L							
Silicon, dissolved	< 1.0	1.0 mg/L							
Silver, dissolved	< 0.000050	0.000050 mg/L							
Sodium, dissolved	< 0.10	0.10 mg/L							
Strontium, dissolved	< 0.0010	0.0010 mg/L							
Sulfur, dissolved	< 3.0	3.0 mg/L							
Tellurium, dissolved	< 0.00050	0.00050 mg/L							
Thallium, dissolved	< 0.000020	0.000020 mg/L							
Thorium, dissolved	< 0.00010	0.00010 mg/L							
Tin, dissolved	< 0.00020	0.00020 mg/L							
Titanium, dissolved	< 0.0050	0.0050 mg/L							
Tungsten, dissolved	< 0.0010	0.0010 mg/L							
Uranium, dissolved	< 0.000020	0.000020 mg/L							
Vanadium, dissolved	< 0.0050	0.0050 mg/L							
Zinc, dissolved	< 0.0040	0.0040 mg/L							
Zirconium, dissolved	< 0.00010	0.00010 mg/L							

LCS (B2J3474-BS1)

Prepared: 2022-10-30, Analyzed: 2022-10-30

Aluminum, dissolved	4.14	0.0050 mg/L	4.00		104	80-120			
Antimony, dissolved	0.0410	0.00020 mg/L	0.0400		102	80-120			
Arsenic, dissolved	0.0418	0.00050 mg/L	0.0400		105	80-120			
Barium, dissolved	0.0408	0.0050 mg/L	0.0400		102	80-120			
Beryllium, dissolved	0.0429	0.00010 mg/L	0.0400		107	80-120			
Bismuth, dissolved	0.0400	0.00010 mg/L	0.0400		100	80-120			
Boron, dissolved	< 0.0500	0.0500 mg/L	0.0400		108	80-120			
Cadmium, dissolved	0.0412	0.000010 mg/L	0.0400		103	80-120			
Calcium, dissolved	4.19	0.20 mg/L	4.00		105	80-120			
Chromium, dissolved	0.0413	0.00050 mg/L	0.0400		103	80-120			
Cobalt, dissolved	0.0412	0.00010 mg/L	0.0400		103	80-120			
Copper, dissolved	0.0406	0.00040 mg/L	0.0400		101	80-120			
Iron, dissolved	4.12	0.010 mg/L	4.00		103	80-120			
Lead, dissolved	0.0404	0.00020 mg/L	0.0400		101	80-120			
Lithium, dissolved	0.0434	0.00010 mg/L	0.0400		109	80-120			
Magnesium, dissolved	4.20	0.010 mg/L	4.00		105	80-120			
Manganese, dissolved	0.0415	0.00020 mg/L	0.0400		104	80-120			
Molybdenum, dissolved	0.0407	0.00010 mg/L	0.0400		102	80-120			
Nickel, dissolved	0.0400	0.00040 mg/L	0.0400		100	80-120			
Phosphorus, dissolved	4.14	0.050 mg/L	4.00		104	80-120			
Potassium, dissolved	4.16	0.10 mg/L	4.00		104	80-120			
Selenium, dissolved	0.0407	0.00050 mg/L	0.0400		102	80-120			
Silicon, dissolved	4.4	1.0 mg/L	4.00		109	80-120			
Silver, dissolved	0.0420	0.000050 mg/L	0.0400		105	80-120			
Sodium, dissolved	4.14	0.10 mg/L	4.00		104	80-120			
Strontium, dissolved	0.0400	0.0010 mg/L	0.0400		100	80-120			
Sulfur, dissolved	42.8	3.0 mg/L	40.0		107	80-120			
Tellurium, dissolved	0.0405	0.00050 mg/L	0.0400		101	80-120			
Thallium, dissolved	0.0398	0.000020 mg/L	0.0400		99	80-120			
Thorium, dissolved	0.0411	0.00010 mg/L	0.0400		103	80-120			
Tin, dissolved	0.0411	0.00020 mg/L	0.0400		103	80-120			



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT	Kelowna, City of RBCF Ponds	WORK ORDER REPORTED	22J3243 2022-11-02 14:58
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Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
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Dissolved Metals, Batch B2J3474, Continued

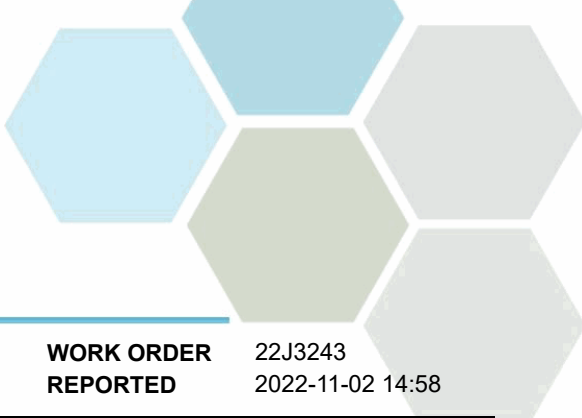
LCS (B2J3474-BS1), Continued				Prepared: 2022-10-30, Analyzed: 2022-10-30					
Titanium, dissolved	0.0415	0.0050 mg/L	0.0400		104	80-120			
Tungsten, dissolved	0.0409	0.0010 mg/L	0.0400		102	80-120			
Uranium, dissolved	0.0408	0.000020 mg/L	0.0400		102	80-120			
Vanadium, dissolved	0.0408	0.0050 mg/L	0.0400		102	80-120			
Zinc, dissolved	0.0404	0.0040 mg/L	0.0400		101	80-120			
Zirconium, dissolved	0.0419	0.00010 mg/L	0.0400		105	80-120			

Dissolved Metals, Batch B2J3667

Blank (B2J3667-BLK1)				Prepared: 2022-10-31, Analyzed: 2022-11-01					
Mercury, dissolved	< 0.000010	0.000010 mg/L							
Blank (B2J3667-BLK2)				Prepared: 2022-10-31, Analyzed: 2022-11-01					
Mercury, dissolved	< 0.000010	0.000010 mg/L							
Blank (B2J3667-BLK3)				Prepared: 2022-10-31, Analyzed: 2022-11-01					
Mercury, dissolved	< 0.000010	0.000010 mg/L							
Blank (B2J3667-BLK4)				Prepared: 2022-10-31, Analyzed: 2022-11-01					
Mercury, dissolved	< 0.000010	0.000010 mg/L							
Blank (B2J3667-BLK5)				Prepared: 2022-10-31, Analyzed: 2022-11-01					
Mercury, dissolved	< 0.000010	0.000010 mg/L							
LCS (B2J3667-BS1)				Prepared: 2022-10-31, Analyzed: 2022-11-01					
Mercury, dissolved	0.000489	0.000010 mg/L	0.000500		98	80-120			
LCS (B2J3667-BS2)				Prepared: 2022-10-31, Analyzed: 2022-11-01					
Mercury, dissolved	0.000486	0.000010 mg/L	0.000500		97	80-120			
LCS (B2J3667-BS3)				Prepared: 2022-10-31, Analyzed: 2022-11-01					
Mercury, dissolved	0.000491	0.000010 mg/L	0.000500		98	80-120			
LCS (B2J3667-BS4)				Prepared: 2022-10-31, Analyzed: 2022-11-01					
Mercury, dissolved	0.000493	0.000010 mg/L	0.000500		99	80-120			
LCS (B2J3667-BS5)				Prepared: 2022-10-31, Analyzed: 2022-11-01					
Mercury, dissolved	0.000505	0.000010 mg/L	0.000500		101	80-120			
Duplicate (B2J3667-DUP1)				Source: 22J3243-03		Prepared: 2022-10-31, Analyzed: 2022-11-01			
Mercury, dissolved	< 0.000010	0.000010 mg/L		< 0.000010					20

General Parameters, Batch B2J2947

Blank (B2J2947-BLK1)				Prepared: 2022-10-26, Analyzed: 2022-10-26					
Chemical Oxygen Demand	< 20	20 mg/L							
LCS (B2J2947-BS1)				Prepared: 2022-10-26, Analyzed: 2022-10-26					
Chemical Oxygen Demand	517	20 mg/L	500		103	89-115			
Duplicate (B2J2947-DUP1)				Source: 22J3243-02		Prepared: 2022-10-26, Analyzed: 2022-10-26			
Chemical Oxygen Demand	197	20 mg/L		198			< 1		14
Matrix Spike (B2J2947-MS1)				Source: 22J3243-02		Prepared: 2022-10-26, Analyzed: 2022-10-26			
Chemical Oxygen Demand	317	20 mg/L	125	198	96	75-125			

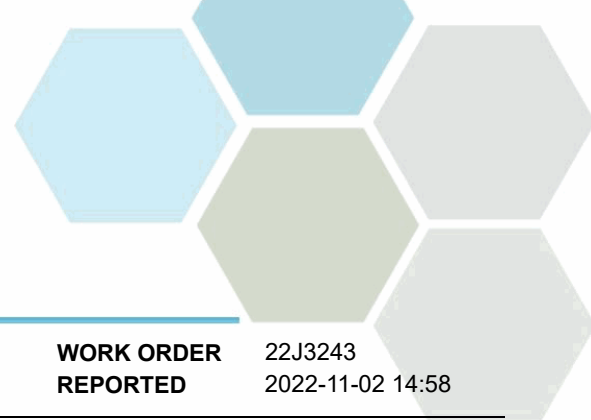


APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT	Kelowna, City of RBCF Ponds	WORK ORDER REPORTED	22J3243 2022-11-02 14:58
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Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
General Parameters, Batch B2J3066									
Blank (B2J3066-BLK1)			Prepared: 2022-10-26, Analyzed: 2022-10-31						
BOD, 5-day	< 2.0	2.0 mg/L							
LCS (B2J3066-BS1)			Prepared: 2022-10-26, Analyzed: 2022-10-31						
BOD, 5-day	184	37.5 mg/L	198		93	85-115			
Duplicate (B2J3066-DUP1)			Source: 22J3243-04 Prepared: 2022-10-26, Analyzed: 2022-10-31						
BOD, 5-day	14.1	2.0 mg/L		15.2				22	
General Parameters, Batch B2J3068									
Blank (B2J3068-BLK1)			Prepared: 2022-10-26, Analyzed: 2022-10-26						
Ammonia, Total (as N)	< 0.050	0.050 mg/L							
Blank (B2J3068-BLK2)			Prepared: 2022-10-26, Analyzed: 2022-10-26						
Ammonia, Total (as N)	< 0.050	0.050 mg/L							
LCS (B2J3068-BS1)			Prepared: 2022-10-26, Analyzed: 2022-10-26						
Ammonia, Total (as N)	0.962	0.050 mg/L	1.00		96	90-115			
LCS (B2J3068-BS2)			Prepared: 2022-10-26, Analyzed: 2022-10-26						
Ammonia, Total (as N)	1.04	0.050 mg/L	1.00		104	90-115			
General Parameters, Batch B2J3132									
Blank (B2J3132-BLK1)			Prepared: 2022-10-28, Analyzed: 2022-10-28						
Carbon, Dissolved Organic	< 0.50	0.50 mg/L							
Blank (B2J3132-BLK2)			Prepared: 2022-10-28, Analyzed: 2022-10-28						
Carbon, Dissolved Organic	< 0.50	0.50 mg/L							
Blank (B2J3132-BLK3)			Prepared: 2022-10-28, Analyzed: 2022-10-28						
Carbon, Dissolved Organic	< 0.50	0.50 mg/L							
Blank (B2J3132-BLK4)			Prepared: 2022-10-28, Analyzed: 2022-10-28						
Carbon, Dissolved Organic	< 0.50	0.50 mg/L							
Blank (B2J3132-BLK5)			Prepared: 2022-10-28, Analyzed: 2022-10-28						
Carbon, Dissolved Organic	< 0.50	0.50 mg/L							
LCS (B2J3132-BS1)			Prepared: 2022-10-28, Analyzed: 2022-10-28						
Carbon, Dissolved Organic	9.09	0.50 mg/L	10.0		91	78-116			
LCS (B2J3132-BS2)			Prepared: 2022-10-28, Analyzed: 2022-10-28						
Carbon, Dissolved Organic	9.24	0.50 mg/L	10.0		92	78-116			
LCS (B2J3132-BS3)			Prepared: 2022-10-28, Analyzed: 2022-10-28						
Carbon, Dissolved Organic	9.05	0.50 mg/L	10.0		90	78-116			
LCS (B2J3132-BS4)			Prepared: 2022-10-28, Analyzed: 2022-10-28						
Carbon, Dissolved Organic	9.61	0.50 mg/L	10.0		96	78-116			
LCS (B2J3132-BS5)			Prepared: 2022-10-28, Analyzed: 2022-10-28						
Carbon, Dissolved Organic	9.35	0.50 mg/L	10.0		94	78-116			

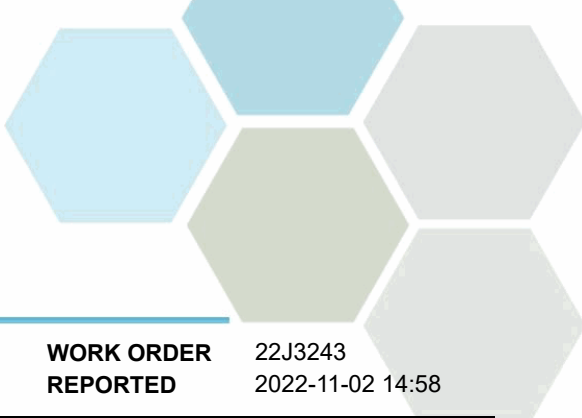
General Parameters, Batch B2J3275



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Kelowna, City of RBCF Ponds
WORK ORDER REPORTED 22J3243 2022-11-02 14:58

Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
General Parameters, Batch B2J3275, Continued									
Blank (B2J3275-BLK1)			Prepared: 2022-10-27, Analyzed: 2022-10-28						
Phosphorus, Total (as P)	< 0.0050	0.0050 mg/L							
Blank (B2J3275-BLK2)			Prepared: 2022-10-27, Analyzed: 2022-10-28						
Phosphorus, Total (as P)	< 0.0050	0.0050 mg/L							
Blank (B2J3275-BLK3)			Prepared: 2022-10-27, Analyzed: 2022-10-28						
Phosphorus, Total (as P)	< 0.0050	0.0050 mg/L							
LCS (B2J3275-BS1)			Prepared: 2022-10-27, Analyzed: 2022-10-28						
Phosphorus, Total (as P)	0.110	0.0050 mg/L	0.100		110	85-115			
LCS (B2J3275-BS2)			Prepared: 2022-10-27, Analyzed: 2022-10-28						
Phosphorus, Total (as P)	0.112	0.0050 mg/L	0.100		112	85-115			
LCS (B2J3275-BS3)			Prepared: 2022-10-27, Analyzed: 2022-10-28						
Phosphorus, Total (as P)	0.110	0.0050 mg/L	0.100		110	85-115			
General Parameters, Batch B2J3347									
Blank (B2J3347-BLK1)			Prepared: 2022-10-30, Analyzed: 2022-10-30						
Solids, Total Suspended	< 2.0	2.0 mg/L							
LCS (B2J3347-BS1)			Prepared: 2022-10-30, Analyzed: 2022-10-30						
Solids, Total Suspended	90.0	10.0 mg/L	100		90	85-115			
Duplicate (B2J3347-DUP1)			Source: 22J3243-02		Prepared: 2022-10-30, Analyzed: 2022-10-30				
Solids, Total Suspended	7.0	2.0 mg/L		5.3				20	
General Parameters, Batch B2J3395									
Blank (B2J3395-BLK1)			Prepared: 2022-10-28, Analyzed: 2022-10-30						
Nitrogen, Total Kjeldahl	< 0.050	0.050 mg/L							
Blank (B2J3395-BLK2)			Prepared: 2022-10-28, Analyzed: 2022-10-30						
Nitrogen, Total Kjeldahl	< 0.050	0.050 mg/L							
LCS (B2J3395-BS1)			Prepared: 2022-10-28, Analyzed: 2022-10-30						
Nitrogen, Total Kjeldahl	1.08	0.050 mg/L	1.00		108	85-115			
LCS (B2J3395-BS2)			Prepared: 2022-10-28, Analyzed: 2022-10-30						
Nitrogen, Total Kjeldahl	1.08	0.050 mg/L	1.00		108	85-115			
Duplicate (B2J3395-DUP2)			Source: 22J3243-01		Prepared: 2022-10-28, Analyzed: 2022-10-30				
Nitrogen, Total Kjeldahl	1.78	0.050 mg/L		1.79			< 1	15	
Matrix Spike (B2J3395-MS2)			Source: 22J3243-01		Prepared: 2022-10-28, Analyzed: 2022-10-30				
Nitrogen, Total Kjeldahl	2.55	0.050 mg/L	1.00	1.79	76	65-135			
General Parameters, Batch B2J3488									
Blank (B2J3488-BLK1)			Prepared: 2022-10-29, Analyzed: 2022-10-29						
Conductivity (EC)	< 2.0	2.0 µS/cm							
Blank (B2J3488-BLK2)			Prepared: 2022-10-29, Analyzed: 2022-10-29						
Conductivity (EC)	< 2.0	2.0 µS/cm							



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT	Kelowna, City of RBCF Ponds	WORK ORDER REPORTED	22J3243 2022-11-02 14:58
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Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
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General Parameters, Batch B2J3488, Continued

LCS (B2J3488-BS3)			Prepared: 2022-10-29, Analyzed: 2022-10-29						
Conductivity (EC)	1400	2.0 µS/cm	1410		100	95-105			
LCS (B2J3488-BS4)			Prepared: 2022-10-29, Analyzed: 2022-10-29						
Conductivity (EC)	1410	2.0 µS/cm	1410		100	95-105			

General Parameters, Batch B2J3543

Duplicate (B2J3543-DUP1)			Source: 22J3243-01		Prepared: 2022-10-30, Analyzed: 2022-10-30				
Conductivity (EC)	5180	2.0 µS/cm		5260			2	5	
pH	8.62	0.10 pH units		8.62			< 1	4	
Reference (B2J3543-SRM1)			Prepared: 2022-10-30, Analyzed: 2022-10-30						
pH	7.02	0.10 pH units	7.01		100	98-102			
Reference (B2J3543-SRM2)			Prepared: 2022-10-30, Analyzed: 2022-10-30						
pH	7.02	0.10 pH units	7.01		100	98-102			
Reference (B2J3543-SRM3)			Prepared: 2022-10-30, Analyzed: 2022-10-30						
pH	7.02	0.10 pH units	7.01		100	98-102			

General Parameters, Batch B2J3601

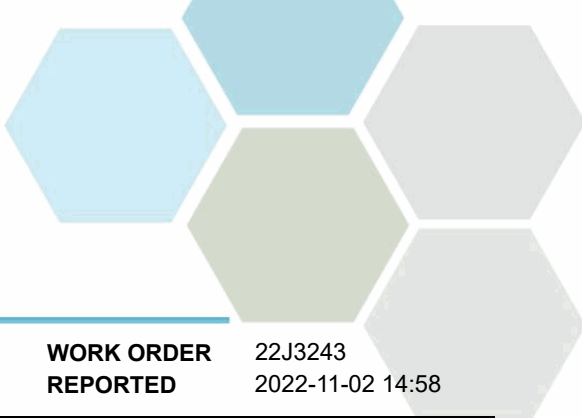
Blank (B2J3601-BLK1)			Prepared: 2022-10-31, Analyzed: 2022-10-31						
Solids, Total Dissolved	< 15	15 mg/L							
LCS (B2J3601-BS1)			Prepared: 2022-10-31, Analyzed: 2022-10-31						
Solids, Total Dissolved	255	15 mg/L	240		106	85-115			
Duplicate (B2J3601-DUP1)			Source: 22J3243-01		Prepared: 2022-10-31, Analyzed: 2022-10-31				
Solids, Total Dissolved	4150	15 mg/L		4170			< 1	15	

General Parameters, Batch B2J3613

Blank (B2J3613-BLK1)			Prepared: 2022-10-31, Analyzed: 2022-10-31						
Solids, Total Suspended	< 2.0	2.0 mg/L							
LCS (B2J3613-BS1)			Prepared: 2022-10-31, Analyzed: 2022-10-31						
Solids, Total Suspended	90.0	10.0 mg/L	100		90	85-115			

Microbiological Parameters, Batch B2J3038

Blank (B2J3038-BLK1)			Prepared: 2022-10-26, Analyzed: 2022-10-26						
Coliforms, Total (Q-Tray)	< 1	1 MPN/100 mL							
E. coli (Q-Tray)	< 1	1 MPN/100 mL							
Blank (B2J3038-BLK2)			Prepared: 2022-10-26, Analyzed: 2022-10-26						
Coliforms, Total (Q-Tray)	< 1	1 MPN/100 mL							
E. coli (Q-Tray)	< 1	1 MPN/100 mL							
Blank (B2J3038-BLK3)			Prepared: 2022-10-26, Analyzed: 2022-10-26						
E. coli (Q-Tray)	< 1	1 MPN/100 mL							
Duplicate (B2J3038-DUP1)			Source: 22J3243-01		Prepared: 2022-10-26, Analyzed: 2022-10-26				
Coliforms, Total (Q-Tray)	376	1 MPN/100 mL		442			16	80	
E. coli (Q-Tray)	< 1	1 MPN/100 mL		1				80	MIC29



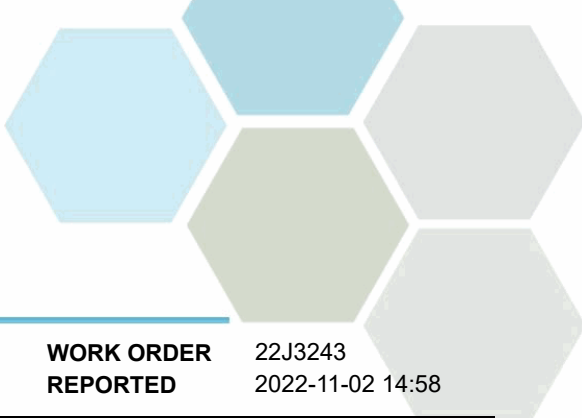
APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

WORK ORDER REPORTED 22J3243
2022-11-02 14:58

Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Total Metals, Batch B2J3332									
Blank (B2J3332-BLK1)					Prepared: 2022-10-28, Analyzed: 2022-10-29				
Aluminum, total	< 0.0050	0.0050 mg/L							
Antimony, total	< 0.00020	0.00020 mg/L							
Arsenic, total	< 0.00050	0.00050 mg/L							
Barium, total	< 0.0050	0.0050 mg/L							
Beryllium, total	< 0.00010	0.00010 mg/L							
Bismuth, total	< 0.00010	0.00010 mg/L							
Boron, total	< 0.0500	0.0500 mg/L							
Cadmium, total	< 0.000010	0.000010 mg/L							
Calcium, total	< 0.20	0.20 mg/L							
Chromium, total	< 0.00050	0.00050 mg/L							
Cobalt, total	< 0.00010	0.00010 mg/L							
Copper, total	< 0.00040	0.00040 mg/L							
Iron, total	< 0.010	0.010 mg/L							
Lead, total	< 0.00020	0.00020 mg/L							
Lithium, total	< 0.00010	0.00010 mg/L							
Magnesium, total	< 0.010	0.010 mg/L							
Manganese, total	< 0.00020	0.00020 mg/L							
Molybdenum, total	< 0.00010	0.00010 mg/L							
Nickel, total	< 0.00040	0.00040 mg/L							
Phosphorus, total	< 0.050	0.050 mg/L							
Potassium, total	< 0.10	0.10 mg/L							
Selenium, total	< 0.00050	0.00050 mg/L							
Silicon, total	< 1.0	1.0 mg/L							
Silver, total	< 0.000050	0.000050 mg/L							
Sodium, total	< 0.10	0.10 mg/L							
Strontium, total	< 0.0010	0.0010 mg/L							
Sulfur, total	< 3.0	3.0 mg/L							
Tellurium, total	< 0.00050	0.00050 mg/L							
Thallium, total	< 0.000020	0.000020 mg/L							
Thorium, total	< 0.00010	0.00010 mg/L							
Tin, total	< 0.00020	0.00020 mg/L							
Titanium, total	< 0.0050	0.0050 mg/L							
Tungsten, total	< 0.0002	0.0002 mg/L							
Uranium, total	< 0.000020	0.000020 mg/L							
Vanadium, total	< 0.0050	0.0050 mg/L							
Zinc, total	< 0.0040	0.0040 mg/L							
Zirconium, total	< 0.00010	0.00010 mg/L							

LCS (B2J3332-BS1)					Prepared: 2022-10-28, Analyzed: 2022-10-29				
Aluminum, total	4.01	0.0050 mg/L	4.00		100	80-120			
Antimony, total	0.0391	0.00020 mg/L	0.0400		98	80-120			
Arsenic, total	0.0414	0.00050 mg/L	0.0400		103	80-120			
Barium, total	0.0396	0.0050 mg/L	0.0400		99	80-120			
Beryllium, total	0.0387	0.00010 mg/L	0.0400		97	80-120			
Bismuth, total	0.0391	0.00010 mg/L	0.0400		98	80-120			
Boron, total	< 0.0500	0.0500 mg/L	0.0400		102	80-120			
Cadmium, total	0.0396	0.000010 mg/L	0.0400		99	80-120			
Calcium, total	3.93	0.20 mg/L	4.00		98	80-120			
Chromium, total	0.0413	0.00050 mg/L	0.0400		103	80-120			
Cobalt, total	0.0411	0.00010 mg/L	0.0400		103	80-120			
Copper, total	0.0406	0.00040 mg/L	0.0400		101	80-120			
Iron, total	4.06	0.010 mg/L	4.00		101	80-120			
Lead, total	0.0399	0.00020 mg/L	0.0400		100	80-120			
Lithium, total	0.0386	0.00010 mg/L	0.0400		96	80-120			
Magnesium, total	4.05	0.010 mg/L	4.00		101	80-120			
Manganese, total	0.0411	0.00020 mg/L	0.0400		103	80-120			



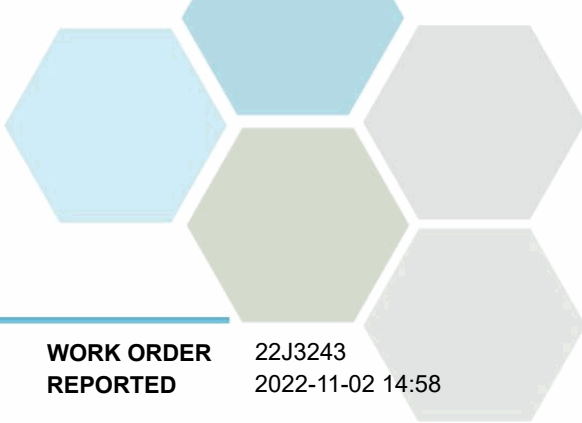
APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Kelowna, City of RBCF Ponds **WORK ORDER REPORTED** 22J3243 2022-11-02 14:58

Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Total Metals, Batch B2J3332, Continued									
LCS (B2J3332-BS1), Continued					Prepared: 2022-10-28, Analyzed: 2022-10-29				
Molybdenum, total	0.0391	0.00010 mg/L	0.0400		98	80-120			
Nickel, total	0.0412	0.00040 mg/L	0.0400		103	80-120			
Phosphorus, total	3.96	0.050 mg/L	4.00		99	80-120			
Potassium, total	4.04	0.10 mg/L	4.00		101	80-120			
Selenium, total	0.0409	0.00050 mg/L	0.0400		102	80-120			
Silicon, total	4.1	1.0 mg/L	4.00		104	80-120			
Silver, total	0.0407	0.000050 mg/L	0.0400		102	80-120			
Sodium, total	4.01	0.10 mg/L	4.00		100	80-120			
Strontium, total	0.0406	0.0010 mg/L	0.0400		102	80-120			
Sulfur, total	41.6	3.0 mg/L	40.0		104	80-120			
Tellurium, total	0.0391	0.00050 mg/L	0.0400		98	80-120			
Thallium, total	0.0390	0.000020 mg/L	0.0400		98	80-120			
Thorium, total	0.0398	0.00010 mg/L	0.0400		100	80-120			
Tin, total	0.0389	0.00020 mg/L	0.0400		97	80-120			
Titanium, total	0.0402	0.0050 mg/L	0.0400		100	80-120			
Tungsten, total	0.0396	0.0002 mg/L	0.0400		99	80-120			
Uranium, total	0.0399	0.000020 mg/L	0.0400		100	80-120			
Vanadium, total	0.0411	0.0050 mg/L	0.0400		103	80-120			
Zinc, total	0.0406	0.0040 mg/L	0.0400		101	80-120			
Zirconium, total	0.0399	0.00010 mg/L	0.0400		100	80-120			

Total Metals, Batch B2J3668

Blank (B2J3668-BLK1)					Prepared: 2022-10-31, Analyzed: 2022-11-02				
Mercury, total	< 0.000010	0.000010 mg/L							
Blank (B2J3668-BLK2)					Prepared: 2022-10-31, Analyzed: 2022-11-02				
Mercury, total	< 0.000010	0.000010 mg/L							
Blank (B2J3668-BLK3)					Prepared: 2022-10-31, Analyzed: 2022-11-02				
Mercury, total	< 0.000010	0.000010 mg/L							
Blank (B2J3668-BLK4)					Prepared: 2022-10-31, Analyzed: 2022-11-02				
Mercury, total	< 0.000010	0.000010 mg/L							
Blank (B2J3668-BLK5)					Prepared: 2022-10-31, Analyzed: 2022-11-02				
Mercury, total	< 0.000010	0.000010 mg/L							
LCS (B2J3668-BS1)					Prepared: 2022-10-31, Analyzed: 2022-11-02				
Mercury, total	0.000507	0.000010 mg/L	0.000500		101	80-120			
LCS (B2J3668-BS2)					Prepared: 2022-10-31, Analyzed: 2022-11-02				
Mercury, total	0.000486	0.000010 mg/L	0.000500		97	80-120			
LCS (B2J3668-BS3)					Prepared: 2022-10-31, Analyzed: 2022-11-02				
Mercury, total	0.000497	0.000010 mg/L	0.000500		99	80-120			
LCS (B2J3668-BS4)					Prepared: 2022-10-31, Analyzed: 2022-11-02				
Mercury, total	0.000494	0.000010 mg/L	0.000500		99	80-120			
LCS (B2J3668-BS5)					Prepared: 2022-10-31, Analyzed: 2022-11-02				
Mercury, total	0.000502	0.000010 mg/L	0.000500		100	80-120			



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REPORTED TO Kelowna, City of
PROJECT RBCF Ponds

WORK ORDER 22J3243
REPORTED 2022-11-02 14:58

QC Qualifiers:

MIC29 The difference in logs is less than the R value.

APPENDIX D

QUALITY ASSURANCE AND QUALITY CONTROL

APPENDIX A
PERMIT 108537



July 12, 2017

Tracking Number: 352392
Authorization Number: 108537

REGISTERED MAIL

CITY OF KELOWNA
1435 WATER STREET
KELOWNA, BC
V1Y 1J4

Dear Permittee:

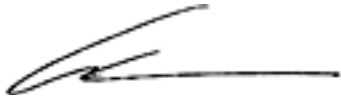
Enclosed is Permit 108537 issued under the provisions of the *Environmental Management Act*. Your attention is respectfully directed to the terms and conditions outlined in the permit. An annual fee will be determined according to the Permit Fees Regulation.

This permit does not authorize entry upon, crossing over, or use for any purpose of private or Crown lands or works, unless and except as authorized by the owner of such lands or works. The responsibility for obtaining such authority rests with the permittee. This permit is issued pursuant to the provisions of the *Environmental Management Act* to ensure compliance with Section 120(3) of that statute, which makes it an offence to discharge waste, from a prescribed industry or activity, without proper authorization. It is also the responsibility of the permittee to ensure that all activities conducted under this authorization are carried out with regard to the rights of third parties, and comply with other applicable legislation that may be in force.

This decision may be appealed to the Environmental Appeal Board in accordance with Part 8 of the *Environmental Management Act*. An appeal must be delivered within 30 days from the date that notice of this decision is given. For further information, please contact the Environmental Appeal Board at (250) 387-3464.

Administration of this permit will be carried out by staff from the Environmental Protection Division's Regional Operations Branch. Plans, data and reports pertinent to the permit are to be submitted by email or electronic transfer to the Director, designated Officer, or as further instructed.

Yours truly,

A handwritten signature in black ink, appearing to read 'Luc Lachance', with a long horizontal stroke extending to the right.

Luc Lachance, P.Eng
for Director, *Environmental Management Act*
Authorizations - South Region

Enclosure

cc: Environment Canada



**MINISTRY OF
ENVIRONMENT**

PERMIT

108537

Under the Provisions of the Environmental Management Act

**City of Kelowna
551 Commonage Road
Vernon, B.C. V1H 1G3**

is authorized to discharge contaminants to the air from a composting facility located at 551 Commonage Vernon, British Columbia subject to the requirements listed below. Contravention of any of these requirements is a violation of the *Environmental Management Act* and may lead to prosecution.

Unless otherwise defined in this authorization, terms used in this authorization have the same meaning as those defined in the *Environmental Management Act* and Organic Matter Recycling Regulation.

1. AUTHORIZED DISCHARGES

1.1. Authorized Source

This section applies to the discharge of air contaminants from various areas of the composting facility. The site reference number for this discharge is E307813.

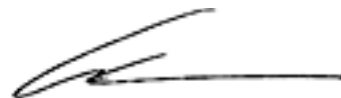
1.1.1. The rate of the discharge is variable.

1.1.2. The authorized discharge period is continuous.

1.1.3. The characteristics of the discharge are that of typical emissions of a biosolids composting facility.

1.1.4. The authorized works are all paved surfaces, the aeration pads, one (1) primary receiving building, one (1) water supply pump house including the pumps, chlorination and filtration apparatus, one (1) drainage pump house, one (1) ECS Aerated Static Pile System comprised of 18 zones for primary composting and 18 zones for secondary composting, four (4) biofilters for primary composting area and

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For Director, *Environmental Management Act*
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three (3) biofilters for secondary composting area, related sumps, pipes, holding tanks and related appurtenances.

1.1.5. The Permittee must not operate under this authorization unless the authorized works are complete and fully operational.

1.1.6. The location of the authorized works approximately located as shown on Site Plan attached.

2. GENERAL REQUIREMENTS

2.1. Maintenance of Works and Emergency Procedures

The Permittee must regularly inspect the authorized works and maintain them in good working order. The Permittee must maintain all asphalt surfaces and must repair cracks and significant damages to prevent and avoid leachate infiltration. Records of inspection and maintenance activities must be kept and made available upon request.

In the event of an emergency or condition beyond the control of the Permittee including, but not limited to, unauthorized fires arising from spontaneous combustion or other causes, or the detection of leachate migration outside of onsite confinement, the Permittee must take remedial action to prevent any unauthorized discharges. The Permittee must immediately report the emergency or condition and the remedial action that has and will be taken to the RAPP line (1-877-952-7277, #7272 from mobile phone) or electronically at this link: <http://www.env.gov.bc.ca/cos/rapp/form.htm>.

The Director may require the Permittee to reduce or suspend operations until corrective steps have been taken to prevent unauthorized discharges.

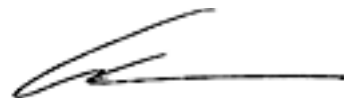
2.2. Bypasses

The Permittee must not allow any discharge authorized by this authorization to bypass the authorized works, except with the prior written approval of the Director.

2.3. Signage

The Permittee must erect a sign at the main entrance to the site which identifies the following: site name, owner and operator, contact phone number and address, hours of operation, tipping fees (if applicable) and prohibition of hazardous wastes. The lettering on the sign must be such that it is clearly readable from a distance of 3 meters by the public when they approach the entrance of the site.

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2.4. Access Security

The Permittee must provide adequate security for the facility and restrict access to authorized personnel.

2.5. Qualified Professionals

The Permittee must cause a qualified professional to certify that all new works are constructed in accordance with submitted plans and specifications. All documents submitted to the Director by a qualified professional must be signed by the author(s).

2.6. Litter Control

The Permittee must use the best practical means available to prevent the scatter of litter at the site. The Permittee must clean up any litter that may have escaped the site and scattered into the neighbouring property, along access roads, in drainage ditches, along fences, into surrounding trees or elsewhere on the site. The Director may require the Permittee to implement a specified frequency of clean-up and other additional requirements for litter control.

2.7. Vehicle Leaving Site

The Permittee must ensure, before any vehicle transporting compostable materials leaves the site, that the wheels of the vehicle do not contain compostable materials. If tracking of compostable material outside of the facility becomes a problem the Director may require that a wheel rinsing station be installed at the facility.

2.8. Air Quality

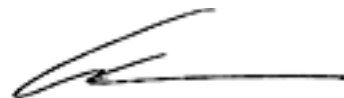
The Permittee must suppress odours created within the compost area to the satisfaction of the Director. If air quality becomes a concern, the Director may require the Permittee to implement additional control measures on emission sources.

3. OPERATIONAL REQUIREMENTS

3.1. Compostable Materials

3.1.1. The Permittee is only authorized to process the stabilized municipal sewage sludge, unprocessed and untreated wood residuals and yard waste.

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3.1.2. The Permittee must not receive or process more than 36,400 wet tonnes of stabilized sewage sludge per year.

3.1.3. Primary Composting Area

The Permittee must select and implement a secondary odour treatment for all primary composting piles to complement the biofilters for the period of May to October of each year. The Permittee must select a secondary odour treatment by October 31, 2018 and submit to the Director for approval. If the selected and approved secondary odour treatment is not implemented by June 30th, 2019, the Permittee will have to use a cover for all primary composting piles from May to October each year.

3.2. Biofiltration Cover

The Permittee must maintain at all times, for the purpose of odour control, a biofiltration cover for all compost piles located in the primary and secondary compost areas, consisting of:

- 0.3 m secondary teardown, or
- 0.3 m oversized material (overs), or
- A blend of secondary teardown and overs, or
- Another covering layer of a type and thickness that is acceptable to the Director.

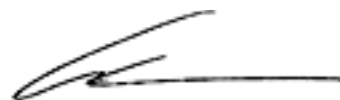
The Permittee must account for the biofiltration cover when calculating the carbon to nitrogen ratio to ensure that optimal composting conditions are maintained throughout the process. In order for the biofiltration cover to be effective, the Permittee must maintain optimal moisture content in the biofiltration material.

3.3. Design and Operating Plan

The Permittee must submit an updated design and operating plan by May 31, 2019. The plan must be prepared by a qualified professional. The plan must describe, but not be limited to, the design, operations, acceptable materials, leachate management, monitoring programs, reporting requirements and performance requirements. In addition, the operating plan must:

- 3.3.1. Demonstrate that the biofilters are of adequate size and capacity for the facility's design;
- 3.3.2. Establish a schedule of site-specific maintenance activities for the biofilters;
- 3.3.3. Describe how records are kept for all maintenance activities performed on site;

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3.3.4. Explain how the biofiltration cover is integrated in the C:N ratio;

3.3.5. Include contingency plans in case of supply shortage (hog, ash) ; and,

3.3.6. Include an asphalt maintenance program, which describes inspection protocols and maintenance activities.

The Permittee must operate the facility in accordance with the design and operating plan. The Director may request additional information with respect to the design and operating plan and specifications that he or she considers necessary for the protection of human health and the environment, and may specify particular concerns or questions that the plans and specifications must address.

3.4. Leachate Management

The Permittee must ensure that all leachate generated from the composting operation, buildings, paved open surface areas, outdoor curing areas, finished compost storage areas, and truck marshalling area is collected and directed to the leachate collection system. The Permittee must maintain all collection channels and catch basins to ensure proper drainage.

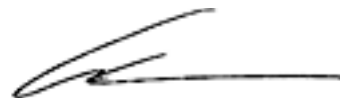
The Permittee must select an impermeable containment system to store leachate, or the contact water from the curing areas or other water that may have come in contact with the organic waste or compost. The Permittee must submit the new Leachate Management System Plan to the Director for approval before November 30, 2017. The Permittee must cease to use the drainage trench or the drainage pond after October 31, 2018 to store leachate, or the contact water from the curing areas or other water that may have come in contact with the organic waste unless the drainage trench and the drainage pond are lined with an impermeable liner.

3.5. Odour Management

The Permittee must submit to the Director for approval an updated odour management plan by November 30, 2017. The plan must be prepared by a qualified professional and must do the following:

3.5.1. Identify all odour generating areas including, but not limited to: receiving, mixing, primary composting, curing or secondary composting, screening, leachate collection system, aeration systems, biofilters, grinding and storage.

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- 3.5.2. Identify appropriate mitigating strategies employed for each area and provide a summary table in the plan.
- 3.5.3. Identify all parameters and optimal ranges in the compost process needed to limit odour generation. Compost process parameters to be identified include, but are not limited to, feedstock type, bulking materials, bulk density, particle size, carbon to nitrogen ratios, moisture, temperature, oxygen, peak odour times (i.e. Day 3 or 7), pile turning schedules.
- 3.5.4. Outline all best management practices and emission control technologies aimed at reducing odour generation being employed at the facility.
- 3.5.5. Identify other best management practices and emission control technologies that could potentially be used on site to further reduce and control odour.
- 3.5.6. Include an odour monitoring program. The program must describe how odours are monitored on-site and off-site.
- 3.5.7. Include a complaint management process which includes a complaint form, any investigative actions to be taken and any mitigation actions to be taken.

The Permittee must operate the facility in accordance with the approved odour management plan, and any requirements which the Director may attach to the odour management plan as a condition of approval.

3.6. Change to Plans

The Permittee must keep the design and operating plan up to date and must notify the Director of any changes to the plan within 30 days of the change.

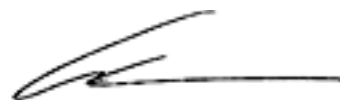
3.7. Closure of the Facility

Before closure of the facility, the Permittee must apply or distribute all compost in accordance with the Organic Matter Recycling Regulation, and all unprocessed organic matter must be removed from the facility and dealt with in accordance with the *Environmental Management Act*.

A final closure plan must be submitted 90 days prior to deactivation of the site to the Director for review and approval. The final closure plan and associated engineered closure works must be compatible with the planned end-use of the compost facility.

3.8. Additional Requirements

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The Permittee must ensure the following requirements are met:

- 3.8.1. Class A compost must meet the requirements of pathogen reduction processes, vector attraction reduction, pathogen reduction limits, quality criteria, sampling and analysis – protocols and frequency, and record keeping as outlined in the Organic Matter Recycling Regulation.
- 3.8.2. Biosolids used as feedstock for the production of Class A compost must not exceed the standards for Class B biosolids set out in Column 3 of Schedule 4.
- 3.8.3. At least half of the compost stored at 551 Commonage Road, Vernon, BC must be removed annually from the facility.
- 3.8.4. The receiving, storage, processing and curing areas of the composting facility must be located on asphalt, concrete or another similar impermeable surface that is capable of withstanding wear and tear from normal operations and that will prevent the release of leachate into the environment.
- 3.8.5. Residuals from the composting process must be stored so as to prevent vector attraction, and be disposed of on a regular basis in accordance with the *Environmental Management Act*.
- 3.8.6. Residuals that are stored at a composting facility must not at any time exceed 15 cubic meters in total.

4. MONITORING REQUIREMENTS

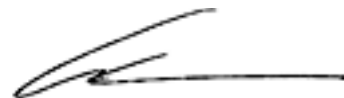
4.1. Odour emissions

The Permittee must continue to monitor air emissions at the facility and in the surrounding areas using existing e-noses and H₂S monitors. The Permittee must monitor odour emissions in accordance with the approved odour management plan and results must be presented and interpreted in the annual report.

4.2. Surface Water Monitoring

The Permittee must continue to implement a surface water monitor program as required in writing by the Director and in accordance with recommendations from a Qualified Professional. The Director may request additional information or changes with respect to the monitoring program based on monitoring results and upon submission and review of the Leachate Management System Plan, required under Section 3.5.

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4.3. Environmental Impact Study

The Permittee must retain on site a copy of the most recently submitted environmental impact study for inspection. The Director may request additional information with respect to the environmental impact study that he or she considers necessary for the protection of human health and the environment, and may specify particular concerns or questions that the impact study must address.

4.4. Air Emissions Review Study

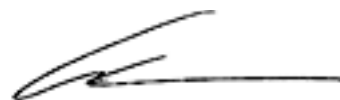
The Permittee must retain the services of a qualified professional to review and analyze all emissions data collected at the facility with e-noses, H₂S monitors and odorous gas measurements. The report must be submitted by March 31, 2018 and must:

- 4.4.1. Describe odour emissions on-site for each odour generating area;
- 4.4.2. Describe how odours are migrating off-site and identify all affected areas;
- 4.4.3. Use quantitative and qualitative units for descriptions;
- 4.4.4. Include daily, seasonal and annual trends;
- 4.4.5. Discuss how meteorological conditions effect odour generation and dispersion;
- 4.4.6. Provide a qualitative assessment of how odours have improved since 2010;
- 4.4.7. Report on the effectiveness of odour mitigation strategies used at the facility;
- 4.4.8. Discuss calibration schedule/requirements of the OdoWatch system; and
- 4.4.9. Make recommendations on how the facility could further reduce its odour emissions.

4.5. Foul Air Study

The Director may request the Permittee to conduct a foul air study or similar study to measure the effectiveness of the facility's odour management plan and to quantify the odours migrating off-site.

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L. Lachance, P. Eng.
For Director, *Environmental Management Act*
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4.6. Sampling Procedures

The Permittee must carry out sampling in accordance with the procedures described in the "British Columbia Field Sampling Manual for Continuous Monitoring and the Collection of Air, Air-Emission, Water, Wastewater, Soil, Sediment, and Biological Samples, 2013", or the most recent edition, or by alternative procedures as authorized by the Director. A copy of the above manual is available on the Ministry web page at: <http://www2.gov.bc.ca/gov/content/environment/research-monitoring-reporting/monitoring/sampling-methods-quality-assurance/bc-field-sampling-manual>

4.7. Analytical Procedures

The Permittee must carry out analyses in accordance with the procedures described in the "British Columbia Laboratory Manual, 2015 ", or the most current edition, or by suitable alternative procedures as authorized by the Director.

A copy of the above manual is available on the Ministry web page at: <http://www2.gov.bc.ca/gov/content/environment/research-monitoring-reporting/monitoring/sampling-methods-quality-assurance/bc-environmental-laboratory-manual>

5. REPORTING REQUIREMENTS

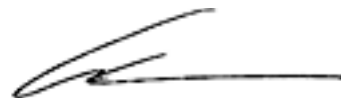
5.1. Maintenance of Records

The Permittee must maintain all records and plans required by this authorization and produce them for inspection by an officer when requested.

5.2. Electronic Submission

The Permittee must submit all data required to be submitted under this permit by email to the Ministry's Routine Environmental Reporting Submission Mailbox (RERSM) at Envauthorizationsreporting@gov.bc.ca. For guidelines on how to properly name the files and email subject lines or for more information visit the Ministry website: <http://www2.gov.bc.ca/gov/content/environment/waste-management/waste-discharge-authorization/data-and-report-submissions/routine-environmental-reporting-submission-mailbox>

Date issued: July 12, 2017



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5.3. Spill Reporting

The Permittee must immediately report all spills to the environment (as defined in the Spill Reporting Regulation) in accordance with the Spill Reporting Regulation, which among other things, requires notification to the Provincial Emergency Program at 1-800-663-3456.

5.4. Non-Compliance

The Permittee must immediately notify the Director or designate by email at EnvironmentalCompliance@gov.bc.ca of any non-compliance with the requirements of this authorization by the Permittee and take remedial action to remedy any effects of such non-compliance. The Permittee must immediately notify the Director or designate of any non-compliance with the requirements of this Permit and take appropriate remedial action. Written confirmation of all non-compliance events, including available test results is required within 24 hours of the original notification unless otherwise directed by the Director, Environmental Protection.

Within 30 days of the non-compliant event, the Permittee must submit to the Director, Environmental Protection, a written report including, but not necessarily limited to, the following:

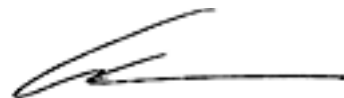
- (a) all relevant test results related to the noncompliance;
- (b) an explanation of the most probable cause(s) of the noncompliance; and
- (c) remedial action planned and/or taken to prevent similar noncompliance(s) in the future.

5.5. Annual Reporting

The Permittee must submit a comprehensive annual report to the Director, on or before March 31st of each year for the previous calendar year. The annual report must include but not be limited to:

- 5.5.1. The type and tonnage of compostable materials received for the preceding calendar year;
- 5.5.2. The quantity of finished compost transported off site and the amount stored on site at the end of each calendar year;
- 5.5.3. The results of all monitoring programs as specified in this authorization. The Permittee must ensure that data interpretation and trend analysis, as well as an

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evaluation of the impacts of the discharges on the receiving environment in the previous calendar year must be carried out by a qualified professional;

5.5.4. A summary and analysis of all complaints received in the previous calendar year; and

5.5.5. Any improvements made to the facility or operations to reduce and control odour.

6. LICENCE TO PUBLISH DOCUMENTS

6.1. Subject to 6.2, the Permittee authorizes the Province to publish on the Ministry of Environment website the entirety of any Regulatory Document.

6.2. The Province will not publish any information that could not, if it were subject to a request under section 5 of the Freedom of Information and Protection of Privacy Act, be disclosed under that Act.

6.3. The Permittee will indemnify and save harmless the Province and the Province's employees and agents from any claim for infringement of copyright or other intellectual property rights that the Province or any of the Province's employees or agents may sustain, incur, suffer or be put to at any time that arise from the publication of a Regulatory Document.

GLOSSARY

“Foreign matter” means a contaminant that is not readily decomposed during the composting process, and includes demolition waste, metal, glass, plastic, rubber and leather, but does not include silt, sand, rocks or stones, or gravel less than 2.5 centimeters in diameter, or other similar mineral materials naturally found in soil;

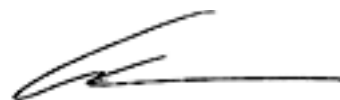
“Oversized material” or “overs” means the product resulting from secondary teardown screening which removes the compost particles smaller than 19 mm.

“Province” means Her Majesty the Queen in right of British Columbia;

“Regulatory Document” means any document that the permittee is required to provide to the Director or the Province pursuant to:

(i) this authorization;

Date issued: July 12, 2017



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For Director, *Environmental Management Act*
Authorizations – South Region
Permit Number: 108537

- (ii) any regulation made under the *Environmental Management Act* that regulates the facility described in this authorization or the discharge of waste from that facility; or,
- (iii) any order issued under the *Environmental Management Act* directed against the Permittee that is related to the facility described in this authorization or the discharge of waste from that facility;

“Residuals” means material that can’t be used in the composting process and includes organic material that can’t be composted because it is unauthorized, or fails to meet OMRR standards, or is defined as foreign matter;

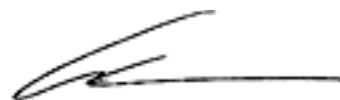
“Secondary teardown” means unscreened compost that has been processed for 24 to 28 days on the primary zone to achieve process to further reduce pathogens (PFRP) and vector attraction reduction (VAR) requirements, then moved to the secondary composting zone where aeration is continued for an additional 24 to 30 days of curing. The secondary teardown at the end of this process is approximately 56 days old and has met OMRR requirements;

“Stabilized municipal sewage sludge” means sludge resulting from a municipal waste water treatment process or septage treatment process which has been sufficiently treated through biological, thermal or chemical stabilization to allow the sludge to be beneficially recycled.

“Untreated and unprocessed wood residuals” means clean (non-contaminated and untreated) wood from lumber manufacture, including: shavings, sawdust, chips, hog fuel, ground mill ends and land clearing waste which has been ground with the majority of the greenery removed and no soil present but does not include construction and demolition debris;

“Yard waste” means clean and untreated wood waste or non-food vegetative matter resulting from gardening operations, landscaping, and land clearing; yard waste does not include wood waste derived from construction or demolition. Neither human or animal food waste that is diverted from residential, commercial or institutional sources, nor manure, is yard waste.

Date issued: July 12, 2017



L. Lachance, P. Eng.
For Director, *Environmental Management Act*
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Permit Number: 108537

SITE PLAN



Date issued: July 12, 2017

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For Director, *Environmental Management Act*
Authorizations – South Region
Permit Number: 108537

APPENDIX B

2022 COK FIELD OBSERVATIONS

Appendix B
Field Records 2022

Day	Weather	Davidson Pond	Roses Pond	Drainage Pond
March 29, 2022	Sunny	<ul style="list-style-type: none"> • Canada Geese visible/signs • Water is clear, shallow, murky green elsewhere • Water level is about 1.5 m from cattle trail 	<ul style="list-style-type: none"> • Birds visible/signs • Water has slight cloudiness • Water level is at rebar stake 	<ul style="list-style-type: none"> • No birds visible • Water is very murky, scum on surface • Water level is 0.54 m
April 29, 2022	Sunny	<ul style="list-style-type: none"> • Waterflow present • Water is clear, no odour or sheen • Water level is about 4 ft from the trail 	<ul style="list-style-type: none"> • Waterflow present • Water is clear, no odour or sheen • 14 inch above rebar 	<ul style="list-style-type: none"> • Waterflow present • Water is slightly turbid • Water level is 0.58 m
June 1, 2022		<ul style="list-style-type: none"> • Water fowl and fresh cattle sign • Clear water, vegetation starting to grow, no odour • Water level is about 1 m from lower cattle trail 	<ul style="list-style-type: none"> • Water fowl visible/sign • Clear water, vegetation starting to grow, no odour • Water level is 1 ft above rebar stake 	<ul style="list-style-type: none"> • Water fowl present • Water is very murky, scum on surface • Water level is 0.58 m on gauge
June 22, 2022		<ul style="list-style-type: none"> • No water fowl or cattle visible or their signs • Water is clear, algae on surface and below around entire shore • Water level is about 1 m from the trail 	<ul style="list-style-type: none"> • One loon, many turtles, and one duck observed • Water is clear, some algae along shores and below the surface • Water level is about 2 ft above the rebar 	<ul style="list-style-type: none"> • Sparrows visible/signs • Tea like pollen on water surface • Water level is 0.536 m
July 19, 2022	Sunny and warm	<ul style="list-style-type: none"> • Ducks visible/signs • Water is of murky green • Water level is about 2.5m 	<ul style="list-style-type: none"> • Ducks visible/signs • Water is opaque, greenish • Water level is 2.25 ft above rebar stake 	<ul style="list-style-type: none"> • Ducks visible/signs • Water is of dark brown as usual • Water level is 0.52 m on staff gauge
August 30, 2022		<ul style="list-style-type: none"> • Canada Geese visible/signs • Water is clear, shallow, murky green elsewhere <p>Water level is about 1.5 m from cattle trail</p>	<ul style="list-style-type: none"> • Birds visible/signs • Water has slight cloudiness <p>Water level is at rebar stake</p>	<ul style="list-style-type: none"> • No birds visible • Water is very murky, scum on surface <p>Water level is 0.54 m</p>

Appendix B
Field Records 2022

Day	Weather	Davidson Pond	Roses Pond	Drainage Pond
September 20, 2022		<ul style="list-style-type: none"> • Ducks visible/signs • Water is mostly clear with small flotsam • Water level is about 5 m from cattle trail 	<ul style="list-style-type: none"> • Osprey visible/signs • Water is clear • Water level is about 1 m at rebar stake 	<ul style="list-style-type: none"> • No visible/signs of birds • Water is very dark with scum and bubbles dock • Water level is 0.57 m
October 25, 2022	Sunny with clouds	<ul style="list-style-type: none"> • Water fowl and cattle present • Water is clear, not weeds • Water level is about 5.5 ft below cattle trail 	<ul style="list-style-type: none"> • Water flow visible/signs • Water is clear, no odour • Water level is 3.5 ft below rebar 	<ul style="list-style-type: none"> • Water flow visible/signs • Water is of tea color • Water level is 0.51 m on staff gauge
November 22, 2022		<ul style="list-style-type: none"> • Pond is frozen 	<ul style="list-style-type: none"> • Pond is frozen 	<ul style="list-style-type: none"> • No birds/cattle visible • Surface partly frozen; Water of tea colour • Water level is very low, about 1 ft below bottom of staff gauge

APPENDIX C
LABORATORY ANALYTICAL RESULTS



CERTIFICATE OF ANALYSIS

REPORTED TO Kelowna, City of
1435 Water Street
KELOWNA, BC V1Y 1J4

ATTENTION Jose Garcia

PO NUMBER 535828

PROJECT RBCF Ponds

PROJECT INFO

WORK ORDER 22C3973

RECEIVED / TEMP 2022-03-29 13:23 / 9.2°C

REPORTED 2022-04-05 16:19

COC NUMBER 44649.35992

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.

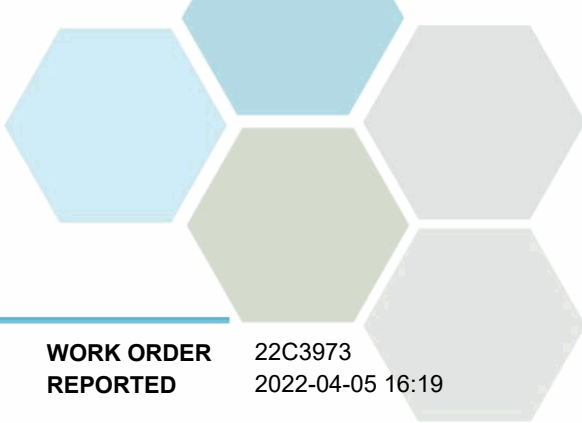
If you have any questions or concerns, please contact me at bwhitehead@caro.ca

Authorized By:

Brent Whitehead
Account Manager

1-888-311-8846 | www.caro.ca

#110 4011 Viking Way Richmond, BC V6V 2K9 | #102 3677 Highway 97N Kelowna, BC V1X 5C3 | 17225 109 Avenue Edmonton, AB T5S 1H7 | #108 4475 Wayburne Drive Burnaby, BC V5G 4X4



TEST RESULTS

REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

WORK ORDER REPORTED 22C3973
2022-04-05 16:19

Analyte	Result	RL	Units	Analyzed	Qualifier
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Rose's Pond (22C3973-01) | Matrix: Water | Sampled: 2022-03-29 10:00

Anions

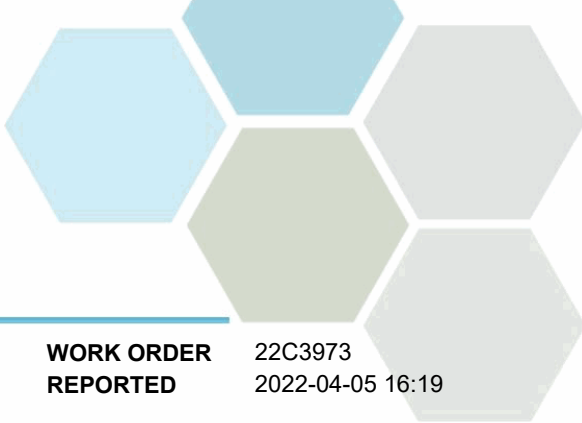
Chloride	349	0.10	mg/L	2022-03-31	
Nitrate (as N)	0.181	0.010	mg/L	2022-03-31	
Nitrite (as N)	< 0.100	0.010	mg/L	2022-03-31	RA1

Calculated Parameters

Hardness, Total (as CaCO3)	1060	0.500	mg/L	N/A	
Nitrate+Nitrite (as N)	0.181	0.100	mg/L	N/A	
Nitrogen, Total	1.62	0.100	mg/L	N/A	

Dissolved Metals

Aluminum, dissolved	< 0.0050	0.0050	mg/L	2022-04-01	
Antimony, dissolved	0.00024	0.00020	mg/L	2022-04-01	
Arsenic, dissolved	0.00266	0.00050	mg/L	2022-04-01	
Barium, dissolved	0.0157	0.0050	mg/L	2022-04-01	
Beryllium, dissolved	< 0.00010	0.00010	mg/L	2022-04-01	
Bismuth, dissolved	< 0.00010	0.00010	mg/L	2022-04-01	
Boron, dissolved	0.0829	0.0500	mg/L	2022-04-01	
Cadmium, dissolved	< 0.000010	0.000010	mg/L	2022-04-01	
Calcium, dissolved	59.7	0.20	mg/L	2022-04-01	
Chromium, dissolved	0.00447	0.00050	mg/L	2022-04-01	
Cobalt, dissolved	< 0.00010	0.00010	mg/L	2022-04-01	
Copper, dissolved	0.00047	0.00040	mg/L	2022-04-01	
Iron, dissolved	0.030	0.010	mg/L	2022-04-01	
Lead, dissolved	< 0.00020	0.00020	mg/L	2022-04-01	
Lithium, dissolved	0.0380	0.00010	mg/L	2022-04-01	
Magnesium, dissolved	222	0.010	mg/L	2022-04-01	
Manganese, dissolved	0.0540	0.00020	mg/L	2022-04-01	
Mercury, dissolved	< 0.000010	0.000010	mg/L	2022-04-01	
Molybdenum, dissolved	0.00114	0.00010	mg/L	2022-04-01	
Nickel, dissolved	0.00060	0.00040	mg/L	2022-04-01	
Phosphorus, dissolved	< 0.050	0.050	mg/L	2022-04-01	
Potassium, dissolved	65.4	0.10	mg/L	2022-04-01	
Selenium, dissolved	< 0.00050	0.00050	mg/L	2022-04-01	
Silicon, dissolved	< 1.0	1.0	mg/L	2022-04-01	
Silver, dissolved	< 0.000050	0.000050	mg/L	2022-04-01	
Sodium, dissolved	631	0.10	mg/L	2022-04-01	
Strontium, dissolved	0.498	0.0010	mg/L	2022-04-01	
Sulfur, dissolved	535	3.0	mg/L	2022-04-01	
Tellurium, dissolved	< 0.00050	0.00050	mg/L	2022-04-01	
Thallium, dissolved	< 0.000020	0.000020	mg/L	2022-04-01	
Thorium, dissolved	< 0.00010	0.00010	mg/L	2022-04-01	
Tin, dissolved	< 0.00020	0.00020	mg/L	2022-04-01	
Titanium, dissolved	< 0.0050	0.0050	mg/L	2022-04-01	
Tungsten, dissolved	< 0.0010	0.0010	mg/L	2022-04-01	



TEST RESULTS

REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

WORK ORDER REPORTED 22C3973
2022-04-05 16:19

Analyte	Result	RL	Units	Analyzed	Qualifier
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Rose's Pond (22C3973-01) | Matrix: Water | Sampled: 2022-03-29 10:00, Continued

Dissolved Metals, Continued

Uranium, dissolved	0.00321	0.000020	mg/L	2022-04-01	
Vanadium, dissolved	< 0.0010	0.0250	mg/L	2022-04-01	
Zinc, dissolved	< 0.0040	0.0040	mg/L	2022-04-01	
Zirconium, dissolved	0.00024	0.00010	mg/L	2022-04-01	

General Parameters

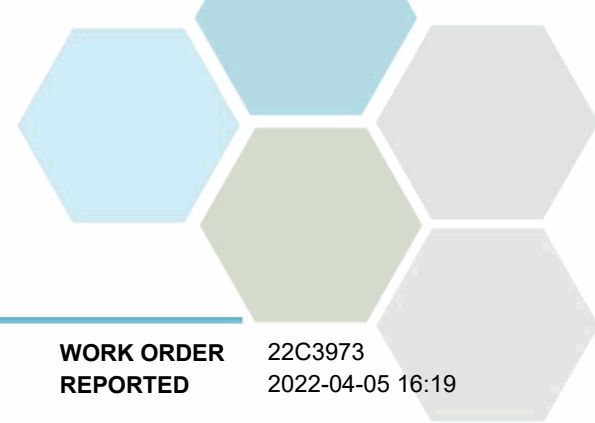
Ammonia, Total (as N)	0.056	0.050	mg/L	2022-04-03	
BOD, 5-day	< 5.9	2.0	mg/L	2022-04-05	
Carbon, Dissolved Organic	16.2	0.50	mg/L	2022-03-30	
Chemical Oxygen Demand	58	20	mg/L	2022-04-04	
Conductivity (EC)	4290	2.0	µS/cm	2022-04-04	
Nitrogen, Total Kjeldahl	1.44	0.050	mg/L	2022-04-04	
pH	8.34	0.10	pH units	2022-04-04	HT2
Phosphorus, Total (as P)	0.0412	0.0050	mg/L	2022-04-04	
Solids, Total Dissolved	2850	15	mg/L	2022-04-05	
Solids, Total Suspended	2.8	2.0	mg/L	2022-04-01	

Microbiological Parameters

Coliforms, Total (Q-Tray)	12	1	MPN/100 mL	2022-03-30	
E. coli (Q-Tray)	< 1	1	MPN/100 mL	2022-03-30	

Total Metals

Aluminum, total	0.0144	0.0050	mg/L	2022-04-04	
Antimony, total	0.00022	0.00020	mg/L	2022-04-04	
Arsenic, total	0.00295	0.00050	mg/L	2022-04-04	
Barium, total	0.0179	0.0050	mg/L	2022-04-04	
Beryllium, total	< 0.00010	0.00010	mg/L	2022-04-04	
Bismuth, total	< 0.00010	0.00010	mg/L	2022-04-04	
Boron, total	0.0908	0.0500	mg/L	2022-04-04	
Cadmium, total	< 0.000010	0.000010	mg/L	2022-04-04	
Calcium, total	67.1	0.20	mg/L	2022-04-04	
Chromium, total	< 0.00050	0.00050	mg/L	2022-04-04	
Cobalt, total	0.00011	0.00010	mg/L	2022-04-04	
Copper, total	0.00046	0.00040	mg/L	2022-04-04	
Iron, total	0.036	0.010	mg/L	2022-04-04	
Lead, total	< 0.00020	0.00020	mg/L	2022-04-04	
Lithium, total	0.0405	0.00010	mg/L	2022-04-04	
Magnesium, total	237	0.010	mg/L	2022-04-04	
Manganese, total	0.0744	0.00020	mg/L	2022-04-04	
Mercury, total	< 0.000010	0.000010	mg/L	2022-04-02	
Molybdenum, total	0.00125	0.00010	mg/L	2022-04-04	
Nickel, total	0.00081	0.00040	mg/L	2022-04-04	
Phosphorus, total	< 0.050	0.050	mg/L	2022-04-04	
Potassium, total	71.4	0.10	mg/L	2022-04-04	



TEST RESULTS

REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

WORK ORDER REPORTED 22C3973
2022-04-05 16:19

Analyte	Result	RL	Units	Analyzed	Qualifier
Rose's Pond (22C3973-01) Matrix: Water Sampled: 2022-03-29 10:00, Continued					
<i>Total Metals, Continued</i>					
Selenium, total	< 0.00050	0.00050	mg/L	2022-04-04	
Silicon, total	< 1.0	1.0	mg/L	2022-04-04	
Silver, total	< 0.000050	0.000050	mg/L	2022-04-04	
Sodium, total	722	0.10	mg/L	2022-04-04	
Strontium, total	0.544	0.0010	mg/L	2022-04-04	
Sulfur, total	617	3.0	mg/L	2022-04-04	
Tellurium, total	< 0.00050	0.00050	mg/L	2022-04-04	
Thallium, total	< 0.000020	0.000020	mg/L	2022-04-04	
Thorium, total	< 0.00010	0.00010	mg/L	2022-04-04	
Tin, total	< 0.00020	0.00020	mg/L	2022-04-04	
Titanium, total	< 0.0050	0.0050	mg/L	2022-04-04	
Tungsten, total	< 0.0010	0.0010	mg/L	2022-04-04	
Uranium, total	0.00363	0.000020	mg/L	2022-04-04	
Vanadium, total	< 0.0010	0.0050	mg/L	2022-04-04	
Zinc, total	0.0058	0.0040	mg/L	2022-04-04	
Zirconium, total	0.00032	0.00010	mg/L	2022-04-04	

Drainage Pond (22C3973-02) | Matrix: Water | Sampled: 2022-03-29 10:00

Anions

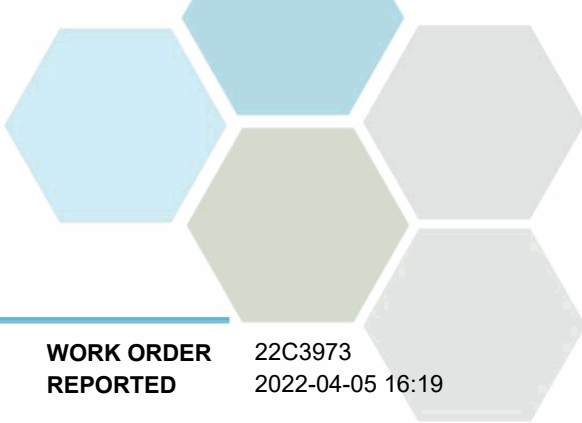
Chloride	142	0.10	mg/L	2022-03-31	
Nitrate (as N)	< 0.010	0.010	mg/L	2022-03-31	
Nitrite (as N)	< 0.010	0.010	mg/L	2022-03-31	

Calculated Parameters

Hardness, Total (as CaCO3)	519	0.500	mg/L	N/A	
Nitrate+Nitrite (as N)	< 0.0100	0.0100	mg/L	N/A	
Nitrogen, Total	62.8	1.00	mg/L	N/A	

Dissolved Metals

Aluminum, dissolved	0.0657	0.0050	mg/L	2022-04-01	
Antimony, dissolved	0.00027	0.00020	mg/L	2022-04-01	
Arsenic, dissolved	0.00382	0.00050	mg/L	2022-04-01	
Barium, dissolved	0.0287	0.0050	mg/L	2022-04-01	
Beryllium, dissolved	< 0.00010	0.00010	mg/L	2022-04-01	
Bismuth, dissolved	0.00017	0.00010	mg/L	2022-04-01	
Boron, dissolved	0.131	0.0500	mg/L	2022-04-01	
Cadmium, dissolved	0.000019	0.000010	mg/L	2022-04-01	
Calcium, dissolved	111	0.20	mg/L	2022-04-01	
Chromium, dissolved	0.00062	0.00050	mg/L	2022-04-01	
Cobalt, dissolved	0.00091	0.00010	mg/L	2022-04-01	
Copper, dissolved	0.00753	0.00040	mg/L	2022-04-01	
Iron, dissolved	0.300	0.010	mg/L	2022-04-01	



TEST RESULTS

REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

WORK ORDER REPORTED 22C3973
2022-04-05 16:19

Analyte	Result	RL	Units	Analyzed	Qualifier
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Drainage Pond (22C3973-02) | Matrix: Water | Sampled: 2022-03-29 10:00, Continued

Dissolved Metals, Continued

Lead, dissolved	0.00021	0.00020	mg/L	2022-04-01	
Lithium, dissolved	0.0182	0.00010	mg/L	2022-04-01	
Magnesium, dissolved	59.0	0.010	mg/L	2022-04-01	
Manganese, dissolved	0.343	0.00020	mg/L	2022-04-01	
Mercury, dissolved	< 0.000010	0.000010	mg/L	2022-04-01	
Molybdenum, dissolved	0.00419	0.00010	mg/L	2022-04-01	
Nickel, dissolved	0.00299	0.00040	mg/L	2022-04-01	
Phosphorus, dissolved	7.54	0.050	mg/L	2022-04-01	
Potassium, dissolved	43.6	0.10	mg/L	2022-04-01	
Selenium, dissolved	0.00143	0.00050	mg/L	2022-04-01	
Silicon, dissolved	6.7	1.0	mg/L	2022-04-01	
Silver, dissolved	< 0.000050	0.000050	mg/L	2022-04-01	
Sodium, dissolved	128	0.10	mg/L	2022-04-01	
Strontium, dissolved	1.10	0.0010	mg/L	2022-04-01	
Sulfur, dissolved	108	3.0	mg/L	2022-04-01	
Tellurium, dissolved	< 0.00050	0.00050	mg/L	2022-04-01	
Thallium, dissolved	< 0.000020	0.000020	mg/L	2022-04-01	
Thorium, dissolved	< 0.00010	0.00010	mg/L	2022-04-01	
Tin, dissolved	0.00024	0.00020	mg/L	2022-04-01	
Titanium, dissolved	< 0.0050	0.0050	mg/L	2022-04-01	
Tungsten, dissolved	< 0.0010	0.0010	mg/L	2022-04-01	
Uranium, dissolved	0.00473	0.000020	mg/L	2022-04-01	
Vanadium, dissolved	< 0.0010	0.0250	mg/L	2022-04-01	
Zinc, dissolved	0.0157	0.0040	mg/L	2022-04-01	
Zirconium, dissolved	0.00045	0.00010	mg/L	2022-04-01	

General Parameters

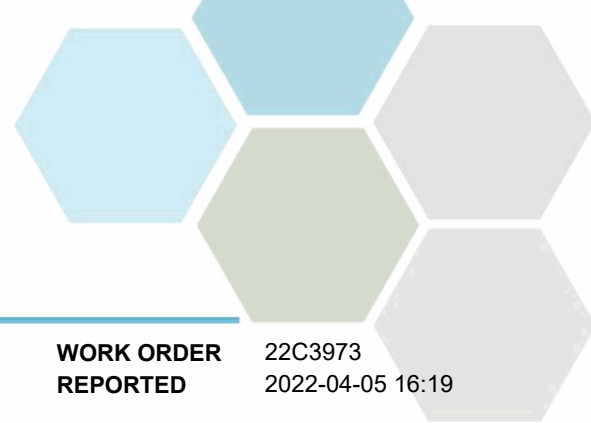
Ammonia, Total (as N)	53.3	0.050	mg/L	2022-04-03	
BOD, 5-day	49.5	2.0	mg/L	2022-04-05	
Carbon, Dissolved Organic	53.8	0.50	mg/L	2022-03-30	
Chemical Oxygen Demand	288	20	mg/L	2022-04-04	
Conductivity (EC)	1920	2.0	µS/cm	2022-04-04	
Nitrogen, Total Kjeldahl	62.8	0.050	mg/L	2022-04-04	
pH	7.92	0.10	pH units	2022-04-04	HT2
Phosphorus, Total (as P)	8.12	0.0050	mg/L	2022-04-04	
Solids, Total Dissolved	1150	15	mg/L	2022-04-05	
Solids, Total Suspended	36.1	2.0	mg/L	2022-04-01	

Microbiological Parameters

Coliforms, Total (Q-Tray)	> 24200	1	MPN/100 mL	2022-03-30	
E. coli (Q-Tray)	> 24200	1	MPN/100 mL	2022-03-30	

Total Metals

Aluminum, total	0.160	0.0050	mg/L	2022-04-04	
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TEST RESULTS

REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

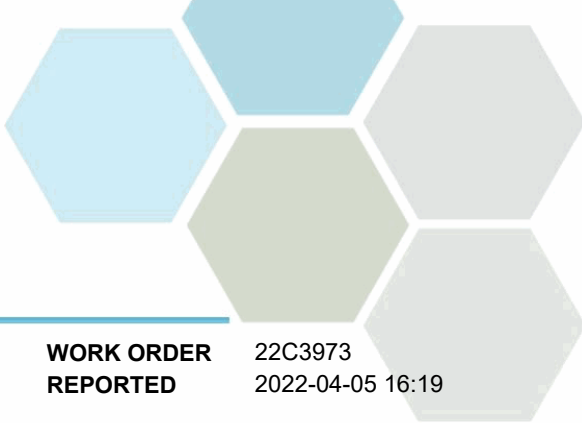
WORK ORDER REPORTED 22C3973
2022-04-05 16:19

Analyte	Result	RL	Units	Analyzed	Qualifier
Drainage Pond (22C3973-02) Matrix: Water Sampled: 2022-03-29 10:00, Continued					
<i>Total Metals, Continued</i>					
Antimony, total	0.00037	0.00020	mg/L	2022-04-04	
Arsenic, total	0.00467	0.00050	mg/L	2022-04-04	
Barium, total	0.0389	0.0050	mg/L	2022-04-04	
Beryllium, total	< 0.00010	0.00010	mg/L	2022-04-04	
Bismuth, total	0.00070	0.00010	mg/L	2022-04-04	
Boron, total	0.130	0.0500	mg/L	2022-04-04	
Cadmium, total	0.000116	0.000010	mg/L	2022-04-04	
Calcium, total	113	0.20	mg/L	2022-04-04	
Chromium, total	0.00109	0.00050	mg/L	2022-04-04	
Cobalt, total	0.00150	0.00010	mg/L	2022-04-04	
Copper, total	0.0279	0.00040	mg/L	2022-04-04	
Iron, total	0.736	0.010	mg/L	2022-04-04	
Lead, total	0.00078	0.00020	mg/L	2022-04-04	
Lithium, total	0.0177	0.00010	mg/L	2022-04-04	
Magnesium, total	55.9	0.010	mg/L	2022-04-04	
Manganese, total	0.361	0.00020	mg/L	2022-04-04	
Mercury, total	< 0.000010	0.000010	mg/L	2022-04-02	
Molybdenum, total	0.00659	0.00010	mg/L	2022-04-04	
Nickel, total	0.00454	0.00040	mg/L	2022-04-04	
Phosphorus, total	8.70	0.050	mg/L	2022-04-04	
Potassium, total	41.9	0.10	mg/L	2022-04-04	
Selenium, total	0.00202	0.00050	mg/L	2022-04-04	
Silicon, total	6.7	1.0	mg/L	2022-04-04	
Silver, total	0.000093	0.000050	mg/L	2022-04-04	
Sodium, total	127	0.10	mg/L	2022-04-04	
Strontium, total	1.07	0.0010	mg/L	2022-04-04	
Sulfur, total	114	3.0	mg/L	2022-04-04	
Tellurium, total	< 0.00050	0.00050	mg/L	2022-04-04	
Thallium, total	< 0.000020	0.000020	mg/L	2022-04-04	
Thorium, total	< 0.00010	0.00010	mg/L	2022-04-04	
Tin, total	0.00041	0.00020	mg/L	2022-04-04	
Titanium, total	< 0.0050	0.0050	mg/L	2022-04-04	
Tungsten, total	< 0.0010	0.0010	mg/L	2022-04-04	
Uranium, total	0.00540	0.000020	mg/L	2022-04-04	
Vanadium, total	< 0.0010	0.0050	mg/L	2022-04-04	
Zinc, total	0.0615	0.0040	mg/L	2022-04-04	
Zirconium, total	0.00048	0.00010	mg/L	2022-04-04	

Davidson Pond (22C3973-03) | Matrix: Water | Sampled: 2022-03-29 10:00

Anions

Chloride	255	0.10	mg/L	2022-03-31	
Nitrate (as N)	< 0.100	0.010	mg/L	2022-03-31	RA1

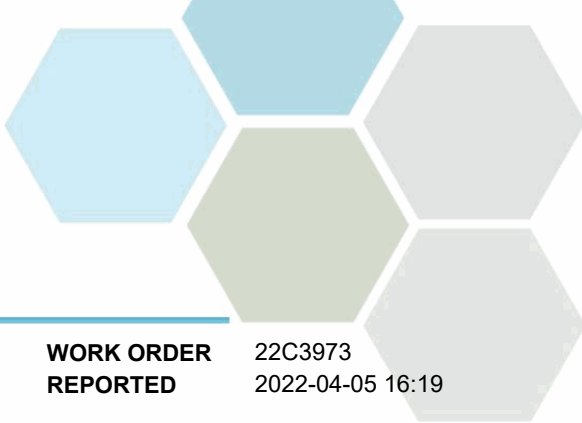


TEST RESULTS

REPORTED TO PROJECT Kelowna, City of RBCF Ponds

WORK ORDER REPORTED 22C3973
2022-04-05 16:19

Analyte	Result	RL	Units	Analyzed	Qualifier
Davidson Pond (22C3973-03) Matrix: Water Sampled: 2022-03-29 10:00, Continued					
<i>Anions, Continued</i>					
Nitrite (as N)	< 0.010	0.010	mg/L	2022-03-31	
<i>Calculated Parameters</i>					
Hardness, Total (as CaCO3)	533	0.500	mg/L	N/A	
Nitrate+Nitrite (as N)	< 0.100	0.100	mg/L	N/A	
Nitrogen, Total	2.70	0.100	mg/L	N/A	
<i>Dissolved Metals</i>					
Aluminum, dissolved	< 0.0050	0.0050	mg/L	2022-04-01	
Antimony, dissolved	0.00030	0.00020	mg/L	2022-04-01	
Arsenic, dissolved	0.00261	0.00050	mg/L	2022-04-01	
Barium, dissolved	0.0147	0.0050	mg/L	2022-04-01	
Beryllium, dissolved	< 0.00010	0.00010	mg/L	2022-04-01	
Bismuth, dissolved	< 0.00010	0.00010	mg/L	2022-04-01	
Boron, dissolved	< 0.0500	0.0500	mg/L	2022-04-01	
Cadmium, dissolved	< 0.000010	0.000010	mg/L	2022-04-01	
Calcium, dissolved	54.1	0.20	mg/L	2022-04-01	
Chromium, dissolved	< 0.00050	0.00050	mg/L	2022-04-01	
Cobalt, dissolved	< 0.00010	0.00010	mg/L	2022-04-01	
Copper, dissolved	< 0.00040	0.00040	mg/L	2022-04-01	
Iron, dissolved	< 0.010	0.010	mg/L	2022-04-01	
Lead, dissolved	< 0.00020	0.00020	mg/L	2022-04-01	
Lithium, dissolved	0.0356	0.00010	mg/L	2022-04-01	
Magnesium, dissolved	96.7	0.010	mg/L	2022-04-01	
Manganese, dissolved	0.00924	0.00020	mg/L	2022-04-01	
Mercury, dissolved	< 0.000010	0.000010	mg/L	2022-04-01	
Molybdenum, dissolved	0.00109	0.00010	mg/L	2022-04-01	
Nickel, dissolved	0.00134	0.00040	mg/L	2022-04-01	
Phosphorus, dissolved	< 0.050	0.050	mg/L	2022-04-01	
Potassium, dissolved	34.6	0.10	mg/L	2022-04-01	
Selenium, dissolved	< 0.00050	0.00050	mg/L	2022-04-01	
Silicon, dissolved	3.4	1.0	mg/L	2022-04-01	
Silver, dissolved	< 0.000050	0.000050	mg/L	2022-04-01	
Sodium, dissolved	442	0.10	mg/L	2022-04-01	
Strontium, dissolved	0.743	0.0010	mg/L	2022-04-01	
Sulfur, dissolved	285	3.0	mg/L	2022-04-01	
Tellurium, dissolved	< 0.00050	0.00050	mg/L	2022-04-01	
Thallium, dissolved	< 0.000020	0.000020	mg/L	2022-04-01	
Thorium, dissolved	< 0.00010	0.00010	mg/L	2022-04-01	
Tin, dissolved	< 0.00020	0.00020	mg/L	2022-04-01	
Titanium, dissolved	< 0.0050	0.0050	mg/L	2022-04-01	
Tungsten, dissolved	< 0.0010	0.0010	mg/L	2022-04-01	
Uranium, dissolved	0.00556	0.000020	mg/L	2022-04-01	
Vanadium, dissolved	< 0.0010	0.0250	mg/L	2022-04-01	



TEST RESULTS

REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

WORK ORDER REPORTED 22C3973
2022-04-05 16:19

Analyte	Result	RL	Units	Analyzed	Qualifier
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Davidson Pond (22C3973-03) | Matrix: Water | Sampled: 2022-03-29 10:00, Continued

Dissolved Metals, Continued

Zinc, dissolved	< 0.0040	0.0040	mg/L	2022-04-01	
Zirconium, dissolved	0.00016	0.00010	mg/L	2022-04-01	

General Parameters

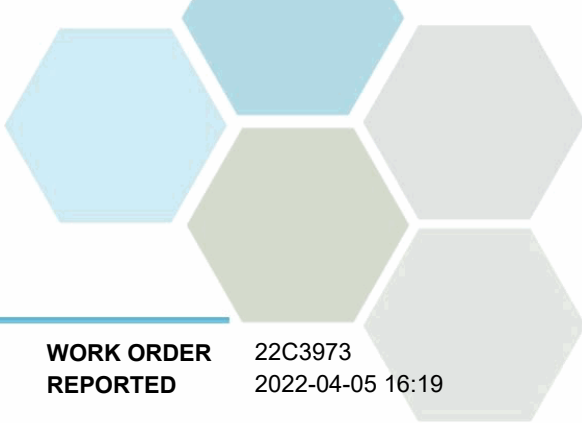
Ammonia, Total (as N)	< 0.050	0.050	mg/L	2022-04-03	
BOD, 5-day	22.7	2.0	mg/L	2022-04-05	
Carbon, Dissolved Organic	20.5	0.50	mg/L	2022-03-30	
Chemical Oxygen Demand	84	20	mg/L	2022-04-04	
Conductivity (EC)	2780	2.0	µS/cm	2022-04-04	
Nitrogen, Total Kjeldahl	2.70	0.050	mg/L	2022-04-04	
pH	9.04	0.10	pH units	2022-04-04	HT2
Phosphorus, Total (as P)	0.226	0.0050	mg/L	2022-04-04	
Solids, Total Dissolved	1900	15	mg/L	2022-04-05	
Solids, Total Suspended	9.4	2.0	mg/L	2022-04-01	

Microbiological Parameters

Coliforms, Total (Q-Tray)	59	1	MPN/100 mL	2022-03-30	
E. coli (Q-Tray)	< 1	1	MPN/100 mL	2022-03-30	

Total Metals

Aluminum, total	0.0139	0.0050	mg/L	2022-04-04	
Antimony, total	0.00035	0.00020	mg/L	2022-04-04	
Arsenic, total	0.00307	0.00050	mg/L	2022-04-04	
Barium, total	0.0154	0.0050	mg/L	2022-04-04	
Beryllium, total	< 0.00010	0.00010	mg/L	2022-04-04	
Bismuth, total	< 0.00010	0.00010	mg/L	2022-04-04	
Boron, total	< 0.0500	0.0500	mg/L	2022-04-04	
Cadmium, total	< 0.000010	0.000010	mg/L	2022-04-04	
Calcium, total	58.5	0.20	mg/L	2022-04-04	
Chromium, total	< 0.00050	0.00050	mg/L	2022-04-04	
Cobalt, total	0.00013	0.00010	mg/L	2022-04-04	
Copper, total	0.00079	0.00040	mg/L	2022-04-04	
Iron, total	0.019	0.010	mg/L	2022-04-04	
Lead, total	< 0.00020	0.00020	mg/L	2022-04-04	
Lithium, total	0.0364	0.00010	mg/L	2022-04-04	
Magnesium, total	99.7	0.010	mg/L	2022-04-04	
Manganese, total	0.0431	0.00020	mg/L	2022-04-04	
Mercury, total	< 0.000010	0.000010	mg/L	2022-04-02	
Molybdenum, total	0.00125	0.00010	mg/L	2022-04-04	
Nickel, total	0.00167	0.00040	mg/L	2022-04-04	
Phosphorus, total	0.221	0.050	mg/L	2022-04-04	
Potassium, total	38.9	0.10	mg/L	2022-04-04	
Selenium, total	< 0.00050	0.00050	mg/L	2022-04-04	
Silicon, total	3.5	1.0	mg/L	2022-04-04	



TEST RESULTS

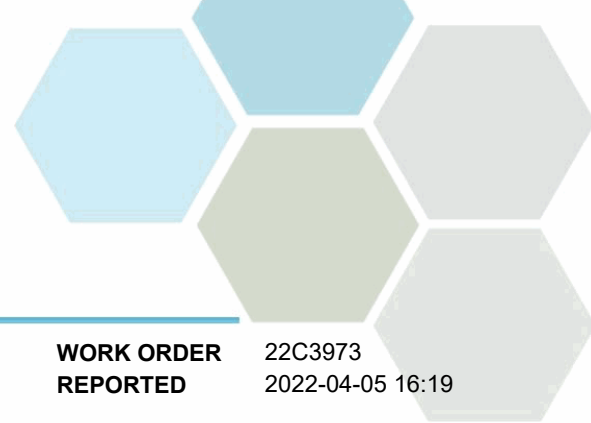
REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

WORK ORDER REPORTED 22C3973
2022-04-05 16:19

Analyte	Result	RL	Units	Analyzed	Qualifier
Davidson Pond (22C3973-03) Matrix: Water Sampled: 2022-03-29 10:00, Continued					
<i>Total Metals, Continued</i>					
Silver, total	< 0.000050	0.000050	mg/L	2022-04-04	
Sodium, total	482	0.10	mg/L	2022-04-04	
Strontium, total	0.767	0.0010	mg/L	2022-04-04	
Sulfur, total	316	3.0	mg/L	2022-04-04	
Tellurium, total	< 0.00050	0.00050	mg/L	2022-04-04	
Thallium, total	< 0.000020	0.000020	mg/L	2022-04-04	
Thorium, total	< 0.00010	0.00010	mg/L	2022-04-04	
Tin, total	< 0.00020	0.00020	mg/L	2022-04-04	
Titanium, total	< 0.0050	0.0050	mg/L	2022-04-04	
Tungsten, total	< 0.0010	0.0010	mg/L	2022-04-04	
Uranium, total	0.00551	0.000020	mg/L	2022-04-04	
Vanadium, total	< 0.0010	0.0050	mg/L	2022-04-04	
Zinc, total	< 0.0040	0.0040	mg/L	2022-04-04	
Zirconium, total	0.00017	0.00010	mg/L	2022-04-04	

Sample Qualifiers:

- HT2 The 15 minute recommended holding time (from sampling to analysis) has been exceeded - field analysis is recommended.
- RA1 The Reporting Limit has been raised due to matrix interference.



APPENDIX 1: SUPPORTING INFORMATION

REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

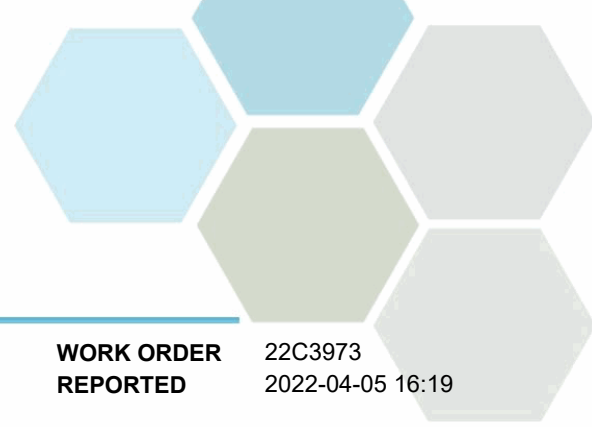
WORK ORDER REPORTED 22C3973
2022-04-05 16:19

Analysis Description	Method Ref.	Technique	Accredited	Location
Ammonia, Total in Water	SM 4500-NH3 G* (2017)	Automated Colorimetry (Phenate)	✓	Kelowna
Anions in Water	SM 4110 B (2017)	Ion Chromatography	✓	Kelowna
Biochemical Oxygen Demand in Water	SM 5210 B (2017)	Dissolved Oxygen Meter	✓	Kelowna
Carbon, Dissolved Organic in Water	SM 5310 B (2017)	Combustion, Infrared CO2 Detection	✓	Kelowna
Chemical Oxygen Demand in Water	SM 5220 D* (2017)	Closed Reflux, Colorimetry	✓	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
Dissolved Metals in Water	EPA 200.8 / EPA 6020B	0.45 µm Filtration / Inductively Coupled Plasma-Mass Spectroscopy (ICP-MS)	✓	Richmond
E. coli in Water	NA / SM 9223 (2017)	Quanti-Tray / Enzyme Substrate Endo Agar	✓	Kelowna
Hardness in Water	SM 2340 B (2017)	Calculation: 2.497 [diss Ca] + 4.118 [diss Mg]	✓	N/A
Mercury, dissolved in Water	EPA 245.7*	BrCl2 Oxidation / Cold Vapor Atomic Fluorescence Spectrometry (CVAFS)	✓	Richmond
Mercury, total in Water	EPA 245.7*	BrCl2 Oxidation / Cold Vapor Atomic Fluorescence Spectrometry (CVAFS)	✓	Richmond
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
Phosphorus, Total in Water	SM 4500-P B.5* (2011) / SM 4500-P F (2017)	Persulfate Digestion / Automated Colorimetry (Ascorbic Acid)	✓	Kelowna
Solids, Total Dissolved in Water	Solids in Water, Filtered / SM 2540 C* (2017)	Solids in Water, Filtered / Gravimetry (Dried at 103-105C)	✓	Kelowna
Solids, Total Suspended in Water	Solids in Water, Filtered / SM 2540 D* (2017)	Solids in Water, Filtered / Gravimetry (Dried at 103-105C)	✓	Kelowna
Total Metals in Water	EPA 200.2 / EPA 6020B	HNO3+HCl Hot Block Digestion / Inductively Coupled Plasma-Mass Spectroscopy (ICP-MS)	✓	Richmond

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
>	Greater than the specified Result
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
EPA	United States Environmental Protection Agency Test Methods
SM	Standard Methods for the Examination of Water and Wastewater, American Public Health Association



APPENDIX 1: SUPPORTING INFORMATION

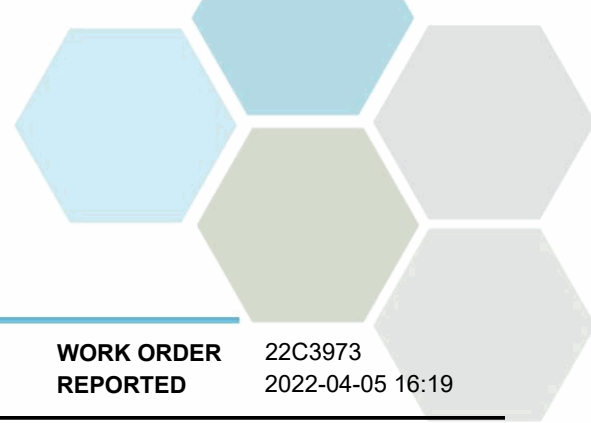
REPORTED TO Kelowna, City of
PROJECT RBCF Ponds

WORK ORDER 22C3973
REPORTED 2022-04-05 16:19

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 or once samples expire, whichever comes first. Longer hold is possible if agreed to in writing.

Please note any regulatory guidelines applied to this report are added as a convenience to the client, at their request, to help provide some initial context to analytical results obtained. Although CARO makes every effort to ensure accuracy of the associated regulatory guideline(s) applied, the guidelines applied cannot be assumed to be correct due to a variety of factors and as such CARO Analytical Services assumes no liability or responsibility for the use of those guidelines to make any decisions. The original source of the regulation should be verified and a review of the guideline(s) should be validated as correct in order to make any decisions arising from the comparison of the analytical data obtained to the relevant regulatory guideline for one's particular circumstances. Further, CARO Analytical Services assumes no liability or responsibility for any loss attributed from the use of these guidelines in any way.



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

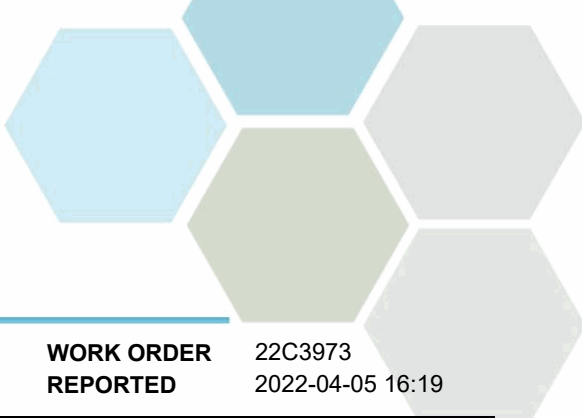
WORK ORDER REPORTED 22C3973
2022-04-05 16:19

The following section displays the quality control (QC) data that is associated with your sample data. Groups of samples are prepared in "batches" and analyzed in conjunction with QC samples that ensure your data is of the highest quality. Common QC types include:

- **Method Blank (Blk):** A blank sample that undergoes sample processing identical to that carried out for the test samples. Method blank results are used to assess contamination from the laboratory environment and reagents.
- **Duplicate (Dup):** An additional or second portion of a randomly selected sample in the analytical run carried through the entire analytical process. Duplicates provide a measure of the analytical method's precision (reproducibility).
- **Blank Spike (BS):** A sample of known concentration which undergoes processing identical to that carried out for test samples, also referred to as a laboratory control sample (LCS). Blank spikes provide a measure of the analytical method's accuracy.
- **Matrix Spike (MS):** A second aliquot of sample is fortified with a known concentration of target analytes and carried through the entire analytical process. Matrix spikes evaluate potential matrix effects that may affect the analyte recovery.
- **Reference Material (SRM):** A homogenous material of similar matrix to the samples, certified for the parameter(s) listed. Reference Materials ensure that the analytical process is adequate to achieve acceptable recoveries of the parameter(s) tested.

Each QC type is analyzed at a 5-10% frequency, i.e. one blank/duplicate/spike for every 10-20 samples. For all types of QC, the specified recovery (% Rec) and relative percent difference (RPD) limits are derived from long-term method performance averages and/or prescribed by the reference method.

Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Anions, Batch B2C3297									
Blank (B2C3297-BLK1)			Prepared: 2022-03-31, Analyzed: 2022-03-31						
Chloride	< 0.10	0.10 mg/L							
Nitrate (as N)	< 0.010	0.010 mg/L							
Nitrite (as N)	< 0.010	0.010 mg/L							
Blank (B2C3297-BLK2)			Prepared: 2022-04-01, Analyzed: 2022-04-01						
Chloride	< 0.10	0.10 mg/L							
Nitrate (as N)	< 0.010	0.010 mg/L							
Nitrite (as N)	< 0.010	0.010 mg/L							
LCS (B2C3297-BS1)			Prepared: 2022-03-31, Analyzed: 2022-03-31						
Chloride	15.5	0.10 mg/L	16.0		97	90-110			
Nitrate (as N)	3.93	0.010 mg/L	4.00		98	90-110			
Nitrite (as N)	1.96	0.010 mg/L	2.00		98	85-115			
LCS (B2C3297-BS2)			Prepared: 2022-04-01, Analyzed: 2022-04-01						
Chloride	15.9	0.10 mg/L	16.0		100	90-110			
Nitrate (as N)	3.82	0.010 mg/L	4.00		95	90-110			
Nitrite (as N)	1.96	0.010 mg/L	2.00		98	85-115			
Dissolved Metals, Batch B2C3505									
Blank (B2C3505-BLK1)			Prepared: 2022-03-31, Analyzed: 2022-04-01						
Mercury, dissolved	< 0.000010	0.000010 mg/L							
Blank (B2C3505-BLK2)			Prepared: 2022-03-31, Analyzed: 2022-04-01						
Mercury, dissolved	< 0.000010	0.000010 mg/L							
Blank (B2C3505-BLK3)			Prepared: 2022-03-31, Analyzed: 2022-04-01						
Mercury, dissolved	< 0.000010	0.000010 mg/L							
Blank (B2C3505-BLK4)			Prepared: 2022-03-31, Analyzed: 2022-04-01						
Mercury, dissolved	< 0.000010	0.000010 mg/L							
Reference (B2C3505-SRM1)			Prepared: 2022-03-31, Analyzed: 2022-04-01						
Mercury, dissolved	0.000224	0.000010 mg/L	0.000250		89	0-200			



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

WORK ORDER REPORTED 22C3973
2022-04-05 16:19

Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
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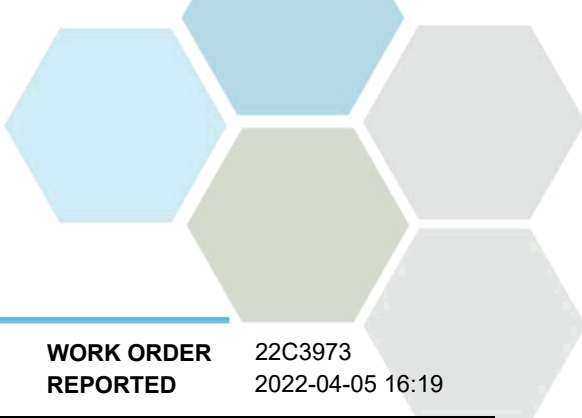
Dissolved Metals, Batch B2C3505, Continued

Reference (B2C3505-SRM2)			Prepared: 2022-03-31, Analyzed: 2022-04-01						
Mercury, dissolved	0.000223	0.000010 mg/L	0.000250		89	0-200			
Reference (B2C3505-SRM3)			Prepared: 2022-03-31, Analyzed: 2022-04-01						
Mercury, dissolved	0.000230	0.000010 mg/L	0.000250		92	0-200			
Reference (B2C3505-SRM4)			Prepared: 2022-03-31, Analyzed: 2022-04-01						
Mercury, dissolved	0.000234	0.000010 mg/L	0.000250		94	0-200			

Dissolved Metals, Batch B2D0102

Blank (B2D0102-BLK1)			Prepared: 2022-04-01, Analyzed: 2022-04-01						
Aluminum, dissolved	< 0.0050	0.0050 mg/L							
Antimony, dissolved	< 0.00020	0.00020 mg/L							
Arsenic, dissolved	< 0.00050	0.00050 mg/L							
Barium, dissolved	< 0.0050	0.0050 mg/L							
Beryllium, dissolved	< 0.00010	0.00010 mg/L							
Bismuth, dissolved	< 0.00010	0.00010 mg/L							
Boron, dissolved	< 0.0500	0.0500 mg/L							
Cadmium, dissolved	< 0.000010	0.000010 mg/L							
Calcium, dissolved, dissolved	< 0.20	0.20 mg/L							
Chromium, dissolved	< 0.00050	0.00050 mg/L							
Cobalt, dissolved	< 0.00010	0.00010 mg/L							
Copper, dissolved	< 0.00040	0.00040 mg/L							
Iron, dissolved	< 0.010	0.010 mg/L							
Lead, dissolved	< 0.00020	0.00020 mg/L							
Lithium, dissolved	< 0.00010	0.00010 mg/L							
Magnesium, dissolved, dissolved	< 0.010	0.010 mg/L							
Manganese, dissolved	< 0.00020	0.00020 mg/L							
Molybdenum, dissolved	< 0.00010	0.00010 mg/L							
Nickel, dissolved	< 0.00040	0.00040 mg/L							
Phosphorus, dissolved	< 0.050	0.050 mg/L							
Potassium, dissolved	< 0.10	0.10 mg/L							
Selenium, dissolved	< 0.00050	0.00050 mg/L							
Silicon, dissolved	< 1.0	1.0 mg/L							
Silver, dissolved	< 0.000050	0.000050 mg/L							
Sodium, dissolved	< 0.10	0.10 mg/L							
Strontium, dissolved	< 0.0010	0.0010 mg/L							
Sulfur, dissolved	< 3.0	3.0 mg/L							
Tellurium, dissolved	< 0.00050	0.00050 mg/L							
Thallium, dissolved	< 0.000020	0.000020 mg/L							
Thorium, dissolved	< 0.00010	0.00010 mg/L							
Tin, dissolved	< 0.00020	0.00020 mg/L							
Titanium, dissolved	< 0.0050	0.0050 mg/L							
Tungsten, dissolved	< 0.0010	0.0010 mg/L							
Uranium, dissolved	< 0.000020	0.000020 mg/L							
Vanadium, dissolved	< 0.0010	0.0010 mg/L							
Zinc, dissolved	< 0.0040	0.0040 mg/L							
Zirconium, dissolved	< 0.00010	0.00010 mg/L							

Blank (B2D0102-BLK2)			Prepared: 2022-04-01, Analyzed: 2022-04-01						
Aluminum, dissolved	< 0.0050	0.0050 mg/L							
Antimony, dissolved	< 0.00020	0.00020 mg/L							
Arsenic, dissolved	< 0.00050	0.00050 mg/L							
Barium, dissolved	< 0.0050	0.0050 mg/L							
Beryllium, dissolved	< 0.00010	0.00010 mg/L							
Bismuth, dissolved	< 0.00010	0.00010 mg/L							



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

WORK ORDER REPORTED 22C3973
2022-04-05 16:19

Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
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Dissolved Metals, Batch B2D0102, Continued

Blank (B2D0102-BLK2), Continued

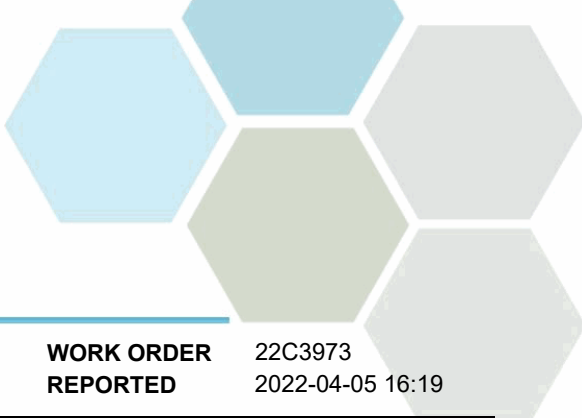
Prepared: 2022-04-01, Analyzed: 2022-04-01

Boron, dissolved	< 0.0500	0.0500 mg/L							
Cadmium, dissolved	< 0.000010	0.000010 mg/L							
Calcium, dissolved, dissolved	< 0.20	0.20 mg/L							
Chromium, dissolved	< 0.00050	0.00050 mg/L							
Cobalt, dissolved	< 0.00010	0.00010 mg/L							
Copper, dissolved	< 0.00040	0.00040 mg/L							
Iron, dissolved	< 0.010	0.010 mg/L							
Lead, dissolved	< 0.00020	0.00020 mg/L							
Lithium, dissolved	< 0.00010	0.00010 mg/L							
Magnesium, dissolved, dissolved	< 0.010	0.010 mg/L							
Manganese, dissolved	< 0.00020	0.00020 mg/L							
Molybdenum, dissolved	< 0.00010	0.00010 mg/L							
Nickel, dissolved	< 0.00040	0.00040 mg/L							
Phosphorus, dissolved	< 0.050	0.050 mg/L							
Potassium, dissolved	< 0.10	0.10 mg/L							
Selenium, dissolved	< 0.00050	0.00050 mg/L							
Silicon, dissolved	< 1.0	1.0 mg/L							
Silver, dissolved	< 0.000050	0.000050 mg/L							
Sodium, dissolved	< 0.10	0.10 mg/L							
Strontium, dissolved	< 0.0010	0.0010 mg/L							
Sulfur, dissolved	< 3.0	3.0 mg/L							
Tellurium, dissolved	< 0.00050	0.00050 mg/L							
Thallium, dissolved	< 0.000020	0.000020 mg/L							
Thorium, dissolved	< 0.00010	0.00010 mg/L							
Tin, dissolved	< 0.00020	0.00020 mg/L							
Titanium, dissolved	< 0.0050	0.0050 mg/L							
Tungsten, dissolved	< 0.0010	0.0010 mg/L							
Uranium, dissolved	< 0.000020	0.000020 mg/L							
Vanadium, dissolved	< 0.0010	0.0010 mg/L							
Zinc, dissolved	< 0.0040	0.0040 mg/L							
Zirconium, dissolved	< 0.00010	0.00010 mg/L							

LCS (B2D0102-BS1)

Prepared: 2022-04-01, Analyzed: 2022-04-01

Aluminum, dissolved	0.0170	0.0050 mg/L	0.0200		85	80-120			
Antimony, dissolved	0.0171	0.00020 mg/L	0.0200		85	80-120			
Arsenic, dissolved	0.0178	0.00050 mg/L	0.0200		89	80-120			
Barium, dissolved	0.0166	0.0050 mg/L	0.0200		83	80-120			
Beryllium, dissolved	0.0196	0.00010 mg/L	0.0200		98	80-120			
Bismuth, dissolved	0.0193	0.00010 mg/L	0.0200		96	80-120			
Boron, dissolved	< 0.0500	0.0500 mg/L	0.0200		98	80-120			
Cadmium, dissolved	0.0181	0.000010 mg/L	0.0200		90	80-120			
Calcium, dissolved, dissolved	1.87	0.20 mg/L	2.00		94	80-120			
Chromium, dissolved	0.0184	0.00050 mg/L	0.0200		92	80-120			
Cobalt, dissolved	0.0194	0.00010 mg/L	0.0200		97	80-120			
Copper, dissolved	0.0204	0.00040 mg/L	0.0200		102	80-120			
Iron, dissolved	1.86	0.010 mg/L	2.00		93	80-120			
Lead, dissolved	0.0186	0.00020 mg/L	0.0200		93	80-120			
Lithium, dissolved	0.0201	0.00010 mg/L	0.0200		101	80-120			
Magnesium, dissolved, dissolved	1.92	0.010 mg/L	2.00		96	80-120			
Manganese, dissolved	0.0181	0.00020 mg/L	0.0200		90	80-120			
Molybdenum, dissolved	0.0186	0.00010 mg/L	0.0200		93	80-120			
Nickel, dissolved	0.0195	0.00040 mg/L	0.0200		97	80-120			
Phosphorus, dissolved	1.75	0.050 mg/L	2.00		88	80-120			
Potassium, dissolved	1.78	0.10 mg/L	2.00		89	80-120			
Selenium, dissolved	0.0187	0.00050 mg/L	0.0200		93	80-120			
Silicon, dissolved	2.1	1.0 mg/L	2.00		103	80-120			



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

WORK ORDER REPORTED 22C3973
2022-04-05 16:19

Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
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Dissolved Metals, Batch B2D0102, Continued

LCS (B2D0102-BS1), Continued

Prepared: 2022-04-01, Analyzed: 2022-04-01

Silver, dissolved	0.0184	0.000050 mg/L	0.0200		92	80-120			
Sodium, dissolved	1.93	0.10 mg/L	2.00		96	80-120			
Strontium, dissolved	0.0176	0.0010 mg/L	0.0200		88	80-120			
Sulfur, dissolved	4.4	3.0 mg/L	5.00		88	80-120			
Tellurium, dissolved	0.0183	0.00050 mg/L	0.0200		92	80-120			
Thallium, dissolved	0.0189	0.000020 mg/L	0.0200		95	80-120			
Thorium, dissolved	0.0182	0.00010 mg/L	0.0200		91	80-120			
Tin, dissolved	0.0190	0.00020 mg/L	0.0200		95	80-120			
Titanium, dissolved	0.0182	0.0050 mg/L	0.0200		91	80-120			
Tungsten, dissolved	0.0179	0.0010 mg/L	0.0200		89	80-120			
Uranium, dissolved	0.0176	0.000020 mg/L	0.0200		88	80-120			
Vanadium, dissolved	0.0178	0.0010 mg/L	0.0200		89	80-120			
Zinc, dissolved	0.0194	0.0040 mg/L	0.0200		97	80-120			
Zirconium, dissolved	0.0191	0.00010 mg/L	0.0200		96	80-120			

LCS (B2D0102-BS2)

Prepared: 2022-04-01, Analyzed: 2022-04-01

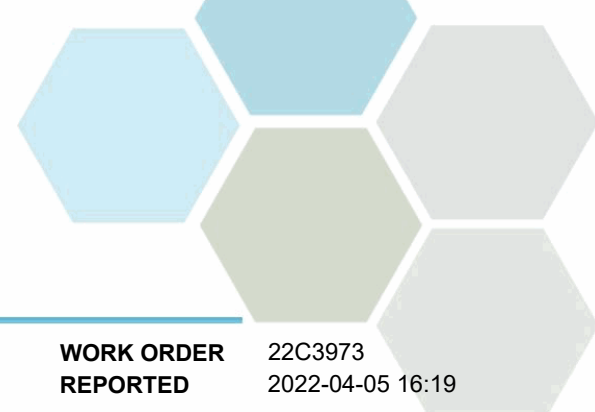
Aluminum, dissolved	0.0185	0.0050 mg/L	0.0200		92	80-120			
Antimony, dissolved	0.0178	0.00020 mg/L	0.0200		89	80-120			
Arsenic, dissolved	0.0178	0.00050 mg/L	0.0200		89	80-120			
Barium, dissolved	0.0179	0.0050 mg/L	0.0200		90	80-120			
Beryllium, dissolved	0.0190	0.00010 mg/L	0.0200		95	80-120			
Bismuth, dissolved	0.0193	0.00010 mg/L	0.0200		96	80-120			
Boron, dissolved	< 0.0500	0.0500 mg/L	0.0200		96	80-120			
Cadmium, dissolved	0.0184	0.000010 mg/L	0.0200		92	80-120			
Calcium, dissolved, dissolved	1.88	0.20 mg/L	2.00		94	80-120			
Chromium, dissolved	0.0183	0.00050 mg/L	0.0200		91	80-120			
Cobalt, dissolved	0.0194	0.00010 mg/L	0.0200		97	80-120			
Copper, dissolved	0.0204	0.00040 mg/L	0.0200		102	80-120			
Iron, dissolved	1.87	0.010 mg/L	2.00		93	80-120			
Lead, dissolved	0.0189	0.00020 mg/L	0.0200		95	80-120			
Lithium, dissolved	0.0195	0.00010 mg/L	0.0200		97	80-120			
Magnesium, dissolved, dissolved	1.89	0.010 mg/L	2.00		95	80-120			
Manganese, dissolved	0.0181	0.00020 mg/L	0.0200		91	80-120			
Molybdenum, dissolved	0.0187	0.00010 mg/L	0.0200		94	80-120			
Nickel, dissolved	0.0195	0.00040 mg/L	0.0200		98	80-120			
Phosphorus, dissolved	1.73	0.050 mg/L	2.00		86	80-120			
Potassium, dissolved	1.78	0.10 mg/L	2.00		89	80-120			
Selenium, dissolved	0.0185	0.00050 mg/L	0.0200		93	80-120			
Silicon, dissolved	2.1	1.0 mg/L	2.00		103	80-120			
Silver, dissolved	0.0188	0.000050 mg/L	0.0200		94	80-120			
Sodium, dissolved	1.91	0.10 mg/L	2.00		95	80-120			
Strontium, dissolved	0.0174	0.0010 mg/L	0.0200		87	80-120			
Sulfur, dissolved	4.6	3.0 mg/L	5.00		92	80-120			
Tellurium, dissolved	0.0188	0.00050 mg/L	0.0200		94	80-120			
Thallium, dissolved	0.0192	0.000020 mg/L	0.0200		96	80-120			
Thorium, dissolved	0.0184	0.00010 mg/L	0.0200		92	80-120			
Tin, dissolved	0.0195	0.00020 mg/L	0.0200		97	80-120			
Titanium, dissolved	0.0185	0.0050 mg/L	0.0200		93	80-120			
Tungsten, dissolved	0.0176	0.0010 mg/L	0.0200		88	80-120			
Uranium, dissolved	0.0182	0.000020 mg/L	0.0200		91	80-120			
Vanadium, dissolved	0.0179	0.0010 mg/L	0.0200		90	80-120			
Zinc, dissolved	0.0193	0.0040 mg/L	0.0200		96	80-120			
Zirconium, dissolved	0.0196	0.00010 mg/L	0.0200		98	80-120			

Duplicate (B2D0102-DUP2)

Source: 22C3973-01

Prepared: 2022-04-01, Analyzed: 2022-04-01

Aluminum, dissolved	< 0.0050	0.0050 mg/L		< 0.0050				20	
Antimony, dissolved	0.00021	0.00020 mg/L		0.00024				20	



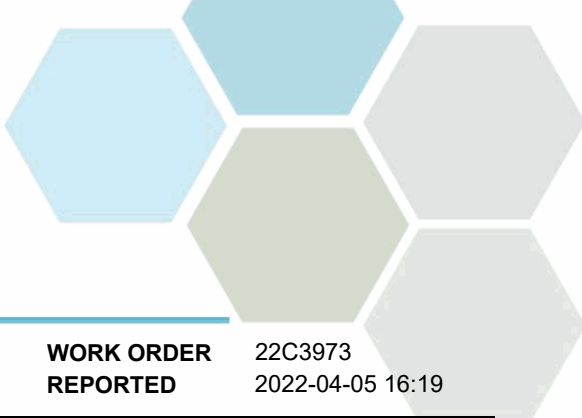
APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

WORK ORDER REPORTED 22C3973
2022-04-05 16:19

Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
<i>Dissolved Metals, Batch B2D0102, Continued</i>									
Duplicate (B2D0102-DUP2), Continued		Source: 22C3973-01		Prepared: 2022-04-01, Analyzed: 2022-04-01					
Arsenic, dissolved	0.00238	0.00050 mg/L		0.00266			11	20	
Barium, dissolved	0.0151	0.0050 mg/L		0.0157				20	
Beryllium, dissolved	< 0.00010	0.00010 mg/L		< 0.00010				20	
Bismuth, dissolved	< 0.00010	0.00010 mg/L		< 0.00010				20	
Boron, dissolved	0.0796	0.0500 mg/L		0.0829				20	
Cadmium, dissolved	< 0.000010	0.000010 mg/L		< 0.000010				20	
Calcium, dissolved, dissolved	60.5	0.20 mg/L		59.7			1	20	
Chromium, dissolved	< 0.00050	0.00050 mg/L		0.00447				20	
Cobalt, dissolved	< 0.00010	0.00010 mg/L		< 0.00010				20	
Copper, dissolved	0.00057	0.00040 mg/L		0.00047				20	
Iron, dissolved	< 0.010	0.010 mg/L		0.030				20	
Lead, dissolved	< 0.00020	0.00020 mg/L		< 0.00020				20	
Lithium, dissolved	0.0372	0.00010 mg/L		0.0380			2	20	
Magnesium, dissolved, dissolved	217	0.010 mg/L		222			2	20	
Manganese, dissolved	0.0536	0.00020 mg/L		0.0540			< 1	20	
Molybdenum, dissolved	0.00116	0.00010 mg/L		0.00114			2	20	
Nickel, dissolved	0.00075	0.00040 mg/L		0.00060				20	
Phosphorus, dissolved	< 0.050	0.050 mg/L		< 0.050				20	
Potassium, dissolved	63.4	0.10 mg/L		65.4			3	20	
Selenium, dissolved	< 0.00050	0.00050 mg/L		< 0.00050				20	
Silicon, dissolved	< 1.0	1.0 mg/L		< 1.0				20	
Silver, dissolved	< 0.000050	0.000050 mg/L		< 0.000050				20	
Sodium, dissolved	629	0.10 mg/L		631			< 1	20	
Strontium, dissolved	0.490	0.0010 mg/L		0.498			2	20	
Sulfur, dissolved	533	3.0 mg/L		535			< 1	20	
Tellurium, dissolved	< 0.00050	0.00050 mg/L		< 0.00050				20	
Thallium, dissolved	< 0.000020	0.000020 mg/L		< 0.000020				20	
Thorium, dissolved	< 0.00010	0.00010 mg/L		< 0.00010				20	
Tin, dissolved	< 0.00020	0.00020 mg/L		< 0.00020				20	
Titanium, dissolved	< 0.0050	0.0050 mg/L		< 0.0050				20	
Tungsten, dissolved	< 0.0010	0.0010 mg/L		< 0.0010				20	
Uranium, dissolved	0.00318	0.000020 mg/L		0.00321			< 1	20	
Vanadium, dissolved	< 0.0010	0.0250 mg/L		< 0.0010				20	
Zinc, dissolved	< 0.0040	0.0040 mg/L		< 0.0040				20	
Zirconium, dissolved	0.00017	0.00010 mg/L		0.00024				20	

Reference (B2D0102-SRM1)		Prepared: 2022-04-01, Analyzed: 2022-04-01							
Aluminum, dissolved	0.204	0.0050 mg/L		0.235	87	70-130			
Antimony, dissolved	0.0415	0.00020 mg/L		0.0431	96	70-130			
Arsenic, dissolved	0.404	0.00050 mg/L		0.423	96	70-130			
Barium, dissolved	2.82	0.0050 mg/L		3.30	86	70-130			
Beryllium, dissolved	0.205	0.00010 mg/L		0.209	98	70-130			
Boron, dissolved	1.71	0.0500 mg/L		1.65	104	70-130			
Cadmium, dissolved	0.203	0.000010 mg/L		0.221	92	70-130			
Calcium, dissolved, dissolved	6.96	0.20 mg/L		7.72	90	70-130			
Chromium, dissolved	0.409	0.00050 mg/L		0.434	94	70-130			
Cobalt, dissolved	0.124	0.00010 mg/L		0.124	100	70-130			
Copper, dissolved	0.834	0.00040 mg/L		0.815	102	70-130			
Iron, dissolved	1.21	0.010 mg/L		1.27	95	70-130			
Lead, dissolved	0.108	0.00020 mg/L		0.110	98	70-130			
Lithium, dissolved	0.100	0.00010 mg/L		0.100	100	70-130			
Magnesium, dissolved, dissolved	6.36	0.010 mg/L		6.59	97	70-130			
Manganese, dissolved	0.310	0.00020 mg/L		0.342	91	70-130			
Molybdenum, dissolved	0.383	0.00010 mg/L		0.404	95	70-130			
Nickel, dissolved	0.845	0.00040 mg/L		0.835	101	70-130			
Phosphorus, dissolved	0.432	0.050 mg/L		0.499	87	70-130			



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Kelowna, City of RBCF Ponds **WORK ORDER REPORTED** 22C3973 2022-04-05 16:19

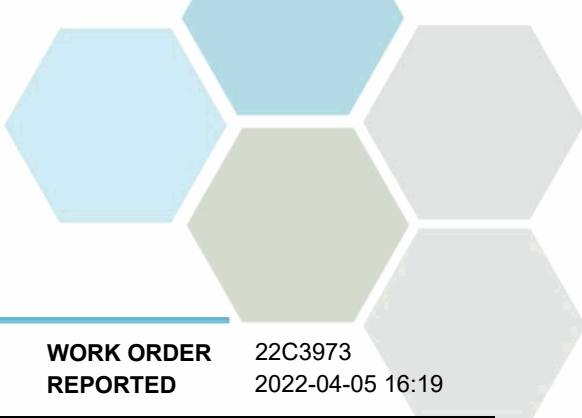
Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Dissolved Metals, Batch B2D0102, Continued									
Reference (B2D0102-SRM1), Continued					Prepared: 2022-04-01, Analyzed: 2022-04-01				
Potassium, dissolved	2.68	0.10 mg/L	2.88		93	70-130			
Selenium, dissolved	0.0314	0.00050 mg/L	0.0324		97	70-130			
Sodium, dissolved	17.7	0.10 mg/L	18.0		98	70-130			
Strontium, dissolved	0.813	0.0010 mg/L	0.935		87	70-130			
Thallium, dissolved	0.0383	0.000020 mg/L	0.0385		100	70-130			
Uranium, dissolved	0.231	0.000020 mg/L	0.258		89	70-130			
Vanadium, dissolved	0.771	0.0010 mg/L	0.873		88	70-130			
Zinc, dissolved	0.834	0.0040 mg/L	0.848		98	70-130			
Reference (B2D0102-SRM2)					Prepared: 2022-04-01, Analyzed: 2022-04-01				
Aluminum, dissolved	0.205	0.0050 mg/L	0.235		87	70-130			
Antimony, dissolved	0.0417	0.00020 mg/L	0.0431		97	70-130			
Arsenic, dissolved	0.398	0.00050 mg/L	0.423		94	70-130			
Barium, dissolved	2.82	0.0050 mg/L	3.30		85	70-130			
Beryllium, dissolved	0.200	0.00010 mg/L	0.209		96	70-130			
Boron, dissolved	1.66	0.0500 mg/L	1.65		101	70-130			
Cadmium, dissolved	0.202	0.000010 mg/L	0.221		92	70-130			
Calcium, dissolved, dissolved	7.08	0.20 mg/L	7.72		92	70-130			
Chromium, dissolved	0.397	0.00050 mg/L	0.434		92	70-130			
Cobalt, dissolved	0.122	0.00010 mg/L	0.124		99	70-130			
Copper, dissolved	0.828	0.00040 mg/L	0.815		102	70-130			
Iron, dissolved	1.18	0.010 mg/L	1.27		93	70-130			
Lead, dissolved	0.104	0.00020 mg/L	0.110		95	70-130			
Lithium, dissolved	0.0985	0.00010 mg/L	0.100		99	70-130			
Magnesium, dissolved, dissolved	6.27	0.010 mg/L	6.59		95	70-130			
Manganese, dissolved	0.309	0.00020 mg/L	0.342		90	70-130			
Molybdenum, dissolved	0.383	0.00010 mg/L	0.404		95	70-130			
Nickel, dissolved	0.833	0.00040 mg/L	0.835		100	70-130			
Phosphorus, dissolved	0.407	0.050 mg/L	0.499		82	70-130			
Potassium, dissolved	2.65	0.10 mg/L	2.88		92	70-130			
Selenium, dissolved	0.0310	0.00050 mg/L	0.0324		96	70-130			
Sodium, dissolved	17.8	0.10 mg/L	18.0		99	70-130			
Strontium, dissolved	0.804	0.0010 mg/L	0.935		86	70-130			
Thallium, dissolved	0.0371	0.000020 mg/L	0.0385		96	70-130			
Uranium, dissolved	0.222	0.000020 mg/L	0.258		86	70-130			
Vanadium, dissolved	0.756	0.0010 mg/L	0.873		87	70-130			
Zinc, dissolved	0.819	0.0040 mg/L	0.848		97	70-130			

General Parameters, Batch B2C3101

Blank (B2C3101-BLK1)					Prepared: 2022-03-30, Analyzed: 2022-03-30				
Carbon, Dissolved Organic	< 0.50	0.50 mg/L							
Blank (B2C3101-BLK2)					Prepared: 2022-03-30, Analyzed: 2022-03-30				
Carbon, Dissolved Organic	< 0.50	0.50 mg/L							
LCS (B2C3101-BS1)					Prepared: 2022-03-30, Analyzed: 2022-03-30				
Carbon, Dissolved Organic	9.57	0.50 mg/L	10.0		96	78-116			
LCS (B2C3101-BS2)					Prepared: 2022-03-30, Analyzed: 2022-03-30				
Carbon, Dissolved Organic	9.44	0.50 mg/L	10.0		94	78-116			

General Parameters, Batch B2C3456

Blank (B2C3456-BLK1)					Prepared: 2022-03-31, Analyzed: 2022-04-05				
BOD, 5-day	< 2.0	2.0 mg/L							



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT	Kelowna, City of RBCF Ponds	WORK ORDER REPORTED	22C3973 2022-04-05 16:19
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Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
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General Parameters, Batch B2C3456, Continued

LCS (B2C3456-BS1)			Prepared: 2022-03-31, Analyzed: 2022-04-05						
BOD, 5-day	185	48.9 mg/L	180		103	85-115			
Duplicate (B2C3456-DUP1)			Source: 22C3973-01 Prepared: 2022-03-31, Analyzed: 2022-04-05						
BOD, 5-day	< 5.9	2.0 mg/L		< 5.9				22	

General Parameters, Batch B2D0028

Blank (B2D0028-BLK1)			Prepared: 2022-04-01, Analyzed: 2022-04-01						
Solids, Total Suspended	< 2.0	2.0 mg/L							
Blank (B2D0028-BLK2)			Prepared: 2022-04-01, Analyzed: 2022-04-01						
Solids, Total Suspended	< 2.0	2.0 mg/L							
LCS (B2D0028-BS1)			Prepared: 2022-04-01, Analyzed: 2022-04-01						
Solids, Total Suspended	105	10.0 mg/L	100		105	85-115			
LCS (B2D0028-BS2)			Prepared: 2022-04-01, Analyzed: 2022-04-01						
Solids, Total Suspended	113	10.0 mg/L	100		113	85-115			

General Parameters, Batch B2D0059

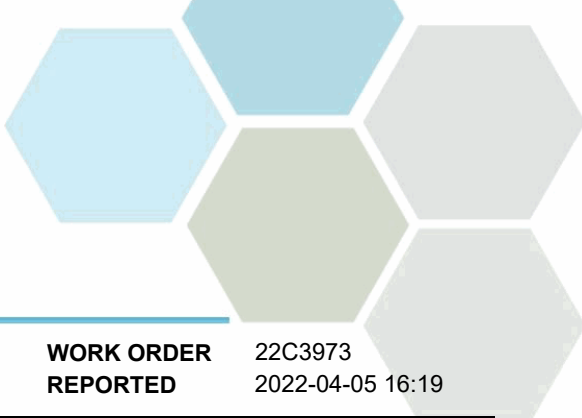
Blank (B2D0059-BLK1)			Prepared: 2022-04-01, Analyzed: 2022-04-04						
Nitrogen, Total Kjeldahl	< 0.050	0.050 mg/L							
Blank (B2D0059-BLK2)			Prepared: 2022-04-01, Analyzed: 2022-04-04						
Nitrogen, Total Kjeldahl	< 0.050	0.050 mg/L							
LCS (B2D0059-BS1)			Prepared: 2022-04-01, Analyzed: 2022-04-04						
Nitrogen, Total Kjeldahl	1.02	0.050 mg/L	1.00		102	85-115			
LCS (B2D0059-BS2)			Prepared: 2022-04-01, Analyzed: 2022-04-04						
Nitrogen, Total Kjeldahl	1.02	0.050 mg/L	1.00		102	85-115			

General Parameters, Batch B2D0178

Blank (B2D0178-BLK1)			Prepared: 2022-04-04, Analyzed: 2022-04-04						
Chemical Oxygen Demand	< 20	20 mg/L							
LCS (B2D0178-BS1)			Prepared: 2022-04-04, Analyzed: 2022-04-04						
Chemical Oxygen Demand	530	20 mg/L	500		106	89-115			
Duplicate (B2D0178-DUP1)			Source: 22C3973-02 Prepared: 2022-04-04, Analyzed: 2022-04-04						
Chemical Oxygen Demand	287	20 mg/L		288			< 1	14	
Matrix Spike (B2D0178-MS1)			Source: 22C3973-02 Prepared: 2022-04-04, Analyzed: 2022-04-04						
Chemical Oxygen Demand	419	20 mg/L	125	288	104	75-125			

General Parameters, Batch B2D0180

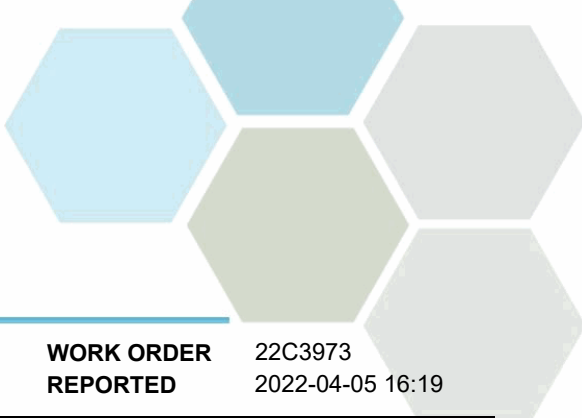
Blank (B2D0180-BLK1)			Prepared: 2022-04-03, Analyzed: 2022-04-03						
Ammonia, Total (as N)	< 0.050	0.050 mg/L							
Blank (B2D0180-BLK2)			Prepared: 2022-04-03, Analyzed: 2022-04-03						
Ammonia, Total (as N)	< 0.050	0.050 mg/L							



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT	Kelowna, City of RBCF Ponds	WORK ORDER REPORTED	22C3973 2022-04-05 16:19
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Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
General Parameters, Batch B2D0180, Continued									
Blank (B2D0180-BLK3)			Prepared: 2022-04-03, Analyzed: 2022-04-03						
Ammonia, Total (as N)	< 0.050	0.050 mg/L							
Blank (B2D0180-BLK4)			Prepared: 2022-04-03, Analyzed: 2022-04-03						
Ammonia, Total (as N)	< 0.050	0.050 mg/L							
LCS (B2D0180-BS1)			Prepared: 2022-04-03, Analyzed: 2022-04-03						
Ammonia, Total (as N)	0.973	0.050 mg/L	1.00		97	90-115			
LCS (B2D0180-BS2)			Prepared: 2022-04-03, Analyzed: 2022-04-03						
Ammonia, Total (as N)	0.968	0.050 mg/L	1.00		97	90-115			
LCS (B2D0180-BS3)			Prepared: 2022-04-03, Analyzed: 2022-04-03						
Ammonia, Total (as N)	0.962	0.050 mg/L	1.00		96	90-115			
LCS (B2D0180-BS4)			Prepared: 2022-04-03, Analyzed: 2022-04-03						
Ammonia, Total (as N)	0.967	0.050 mg/L	1.00		97	90-115			
General Parameters, Batch B2D0202									
Blank (B2D0202-BLK2)			Prepared: 2022-04-04, Analyzed: 2022-04-04						
Phosphorus, Total (as P)	< 0.0050	0.0050 mg/L							
LCS (B2D0202-BS2)			Prepared: 2022-04-04, Analyzed: 2022-04-04						
Phosphorus, Total (as P)	0.0928	0.0050 mg/L	0.100		93	85-115			
General Parameters, Batch B2D0248									
Blank (B2D0248-BLK1)			Prepared: 2022-04-04, Analyzed: 2022-04-05						
Solids, Total Dissolved	< 15	15 mg/L							
LCS (B2D0248-BS1)			Prepared: 2022-04-04, Analyzed: 2022-04-05						
Solids, Total Dissolved	227	15 mg/L	240		95	85-115			
General Parameters, Batch B2D0263									
Blank (B2D0263-BLK1)			Prepared: 2022-04-04, Analyzed: 2022-04-04						
Conductivity (EC)	< 2.0	2.0 µS/cm							
Blank (B2D0263-BLK2)			Prepared: 2022-04-04, Analyzed: 2022-04-04						
Conductivity (EC)	< 2.0	2.0 µS/cm							
Blank (B2D0263-BLK3)			Prepared: 2022-04-04, Analyzed: 2022-04-04						
Conductivity (EC)	< 2.0	2.0 µS/cm							
LCS (B2D0263-BS4)			Prepared: 2022-04-04, Analyzed: 2022-04-04						
Conductivity (EC)	1390	2.0 µS/cm	1410		99	95-105			
LCS (B2D0263-BS5)			Prepared: 2022-04-04, Analyzed: 2022-04-04						
Conductivity (EC)	1380	2.0 µS/cm	1410		98	95-105			
LCS (B2D0263-BS6)			Prepared: 2022-04-04, Analyzed: 2022-04-04						
Conductivity (EC)	1390	2.0 µS/cm	1410		99	95-105			
Reference (B2D0263-SRM1)			Prepared: 2022-04-04, Analyzed: 2022-04-04						
pH	7.01	0.10 pH units	7.01		100	98-102			



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT	Kelowna, City of RBCF Ponds	WORK ORDER REPORTED	22C3973 2022-04-05 16:19
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Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
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General Parameters, Batch B2D0263, Continued

Reference (B2D0263-SRM2)			Prepared: 2022-04-04, Analyzed: 2022-04-04						
pH	7.00	0.10 pH units	7.01		100	98-102			
Reference (B2D0263-SRM3)			Prepared: 2022-04-04, Analyzed: 2022-04-04						
pH	7.00	0.10 pH units	7.01		100	98-102			

Microbiological Parameters, Batch B2C3313

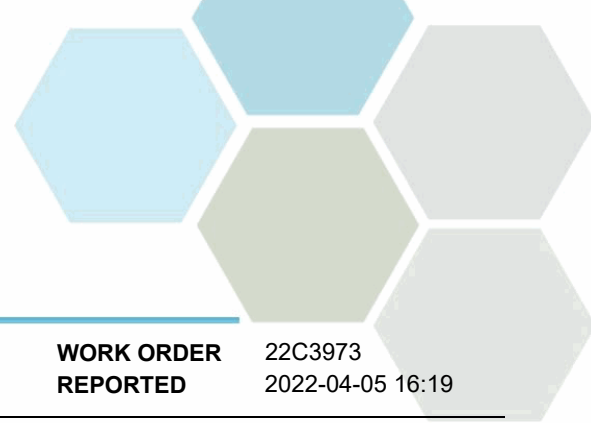
Blank (B2C3313-BLK1)			Prepared: 2022-03-30, Analyzed: 2022-03-30						
Coliforms, Total (Q-Tray)	< 1	1 MPN/100 mL							
E. coli (Q-Tray)	< 1	1 MPN/100 mL							
Blank (B2C3313-BLK2)			Prepared: 2022-03-30, Analyzed: 2022-03-30						
E. coli (Q-Tray)	< 1	1 MPN/100 mL							
Blank (B2C3313-BLK3)			Prepared: 2022-03-30, Analyzed: 2022-03-30						
Coliforms, Total (Q-Tray)	< 1	1 MPN/100 mL							
E. coli (Q-Tray)	< 1	1 MPN/100 mL							

Total Metals, Batch B2C3506

Blank (B2C3506-BLK1)			Prepared: 2022-03-31, Analyzed: 2022-04-01						
Mercury, total	< 0.000010	0.000010 mg/L							
Reference (B2C3506-SRM1)			Prepared: 2022-03-31, Analyzed: 2022-04-01						
Mercury, total	0.000231	0.000010 mg/L	0.000250		92	0-200			

Total Metals, Batch B2D0182

Blank (B2D0182-BLK1)			Prepared: 2022-04-03, Analyzed: 2022-04-04						
Aluminum, total	< 0.0050	0.0050 mg/L							
Antimony, total	< 0.00020	0.00020 mg/L							
Arsenic, total	< 0.00050	0.00050 mg/L							
Barium, total	< 0.0050	0.0050 mg/L							
Beryllium, total	< 0.00010	0.00010 mg/L							
Bismuth, total	< 0.00010	0.00010 mg/L							
Boron, total	< 0.0500	0.0500 mg/L							
Cadmium, total	< 0.000010	0.000010 mg/L							
Calcium, total	< 0.20	0.20 mg/L							
Chromium, total	< 0.00050	0.00050 mg/L							
Cobalt, total	< 0.00010	0.00010 mg/L							
Copper, total	< 0.00040	0.00040 mg/L							
Iron, total	< 0.010	0.010 mg/L							
Lead, total	< 0.00020	0.00020 mg/L							
Lithium, total	< 0.00010	0.00010 mg/L							
Magnesium, total	< 0.010	0.010 mg/L							
Manganese, total	< 0.00020	0.00020 mg/L							
Molybdenum, total	< 0.00010	0.00010 mg/L							
Nickel, total	< 0.00040	0.00040 mg/L							
Phosphorus, total	< 0.050	0.050 mg/L							
Potassium, total	< 0.10	0.10 mg/L							
Selenium, total	< 0.00050	0.00050 mg/L							
Silicon, total	< 1.0	1.0 mg/L							
Silver, total	< 0.000050	0.000050 mg/L							
Sodium, total	< 0.10	0.10 mg/L							
Strontium, total	< 0.0010	0.0010 mg/L							



APPENDIX 2: QUALITY CONTROL RESULTS

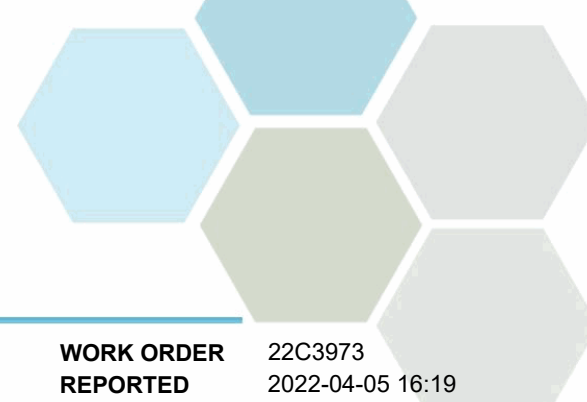
REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

WORK ORDER REPORTED 22C3973
2022-04-05 16:19

Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Total Metals, Batch B2D0182, Continued									
Blank (B2D0182-BLK1), Continued					Prepared: 2022-04-03, Analyzed: 2022-04-04				
Sulfur, total	< 3.0	3.0 mg/L							
Tellurium, total	< 0.00050	0.00050 mg/L							
Thallium, total	< 0.000020	0.000020 mg/L							
Thorium, total	< 0.00010	0.00010 mg/L							
Tin, total	< 0.00020	0.00020 mg/L							
Titanium, total	< 0.0050	0.0050 mg/L							
Tungsten, total	< 0.0010	0.0010 mg/L							
Uranium, total	< 0.000020	0.000020 mg/L							
Vanadium, total	< 0.0010	0.0010 mg/L							
Zinc, total	< 0.0040	0.0040 mg/L							
Zirconium, total	< 0.00010	0.00010 mg/L							

LCS (B2D0182-BS1)					Prepared: 2022-04-03, Analyzed: 2022-04-04				
Aluminum, total	0.0235	0.0050 mg/L	0.0200		117	80-120			
Antimony, total	0.0204	0.00020 mg/L	0.0200		102	80-120			
Arsenic, total	0.0193	0.00050 mg/L	0.0200		96	80-120			
Barium, total	0.0193	0.0050 mg/L	0.0200		97	80-120			
Beryllium, total	0.0188	0.00010 mg/L	0.0200		94	80-120			
Bismuth, total	0.0208	0.00010 mg/L	0.0200		104	80-120			
Boron, total	< 0.0500	0.0500 mg/L	0.0200		98	80-120			
Cadmium, total	0.0192	0.000010 mg/L	0.0200		96	80-120			
Calcium, total	1.95	0.20 mg/L	2.00		98	80-120			
Chromium, total	0.0198	0.00050 mg/L	0.0200		99	80-120			
Cobalt, total	0.0212	0.00010 mg/L	0.0200		106	80-120			
Copper, total	0.0220	0.00040 mg/L	0.0200		110	80-120			
Iron, total	2.05	0.010 mg/L	2.00		102	80-120			
Lead, total	0.0211	0.00020 mg/L	0.0200		106	80-120			
Lithium, total	0.0192	0.00010 mg/L	0.0200		96	80-120			
Magnesium, total	1.99	0.010 mg/L	2.00		100	80-120			
Manganese, total	0.0194	0.00020 mg/L	0.0200		97	80-120			
Molybdenum, total	0.0200	0.00010 mg/L	0.0200		100	80-120			
Nickel, total	0.0219	0.00040 mg/L	0.0200		109	80-120			
Phosphorus, total	1.97	0.050 mg/L	2.00		99	80-120			
Potassium, total	1.94	0.10 mg/L	2.00		97	80-120			
Selenium, total	0.0189	0.00050 mg/L	0.0200		95	80-120			
Silicon, total	2.0	1.0 mg/L	2.00		102	80-120			
Silver, total	0.0199	0.000050 mg/L	0.0200		99	80-120			
Sodium, total	2.17	0.10 mg/L	2.00		108	80-120			
Strontium, total	0.0188	0.0010 mg/L	0.0200		94	80-120			
Sulfur, total	4.7	3.0 mg/L	5.00		95	80-120			
Tellurium, total	0.0195	0.00050 mg/L	0.0200		98	80-120			
Thallium, total	0.0191	0.000020 mg/L	0.0200		96	80-120			
Thorium, total	0.0185	0.00010 mg/L	0.0200		93	80-120			
Tin, total	0.0207	0.00004 mg/L	0.0200		103	80-120			
Titanium, total	0.0212	0.0050 mg/L	0.0200		106	80-120			
Tungsten, total	0.0194	0.0002 mg/L	0.0200		97	80-120			
Uranium, total	0.0193	0.000020 mg/L	0.0200		96	80-120			
Vanadium, total	0.0195	0.0010 mg/L	0.0200		98	80-120			
Zinc, total	0.0214	0.0040 mg/L	0.0200		107	80-120			
Zirconium, total	0.0206	0.00010 mg/L	0.0200		103	80-120			

Duplicate (B2D0182-DUP1)			Source: 22C3973-01		Prepared: 2022-04-03, Analyzed: 2022-04-04				
Aluminum, total	0.0164	0.0050 mg/L		0.0144					20
Antimony, total	0.00031	0.00020 mg/L		0.00022					20
Arsenic, total	0.00230	0.00050 mg/L		0.00295			25		20
Barium, total	0.0157	0.0050 mg/L		0.0179					20
Beryllium, total	< 0.00010	0.00010 mg/L		< 0.00010					20



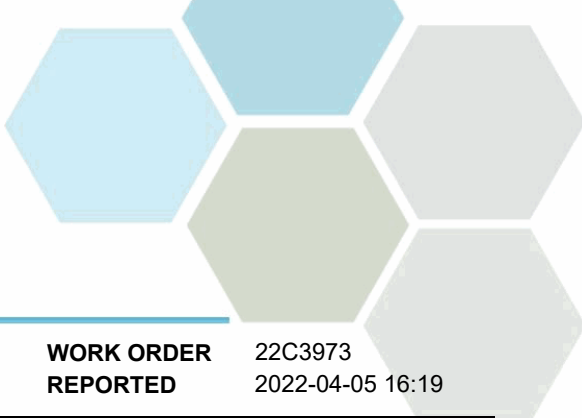
APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Kelowna, City of RBCF Ponds

WORK ORDER REPORTED 22C3973 2022-04-05 16:19

Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Total Metals, Batch B2D0182, Continued									
Duplicate (B2D0182-DUP1), Continued		Source: 22C3973-01		Prepared: 2022-04-03, Analyzed: 2022-04-04					
Bismuth, total	< 0.00010	0.00010 mg/L		< 0.00010				20	
Boron, total	0.0739	0.0500 mg/L		0.0908				20	
Cadmium, total	< 0.000010	0.000010 mg/L		< 0.000010				20	
Calcium, total	55.4	0.20 mg/L		67.1			19	20	
Chromium, total	< 0.00050	0.00050 mg/L		< 0.00050				20	
Cobalt, total	< 0.00010	0.00010 mg/L		0.00011				20	
Copper, total	< 0.00040	0.00040 mg/L		0.00046				20	
Iron, total	0.031	0.010 mg/L		0.036				20	
Lead, total	< 0.00020	0.00020 mg/L		< 0.00020				20	
Lithium, total	0.0332	0.00010 mg/L		0.0405			20	20	
Magnesium, total	197	0.010 mg/L		237			18	20	
Manganese, total	0.0622	0.00020 mg/L		0.0744			18	20	
Molybdenum, total	0.00110	0.00010 mg/L		0.00125			13	20	
Nickel, total	0.00088	0.00040 mg/L		0.00081				20	
Phosphorus, total	< 0.050	0.050 mg/L		< 0.050				20	
Potassium, total	60.4	0.10 mg/L		71.4			17	20	
Selenium, total	< 0.00050	0.00050 mg/L		< 0.00050				20	
Silicon, total	< 1.0	1.0 mg/L		< 1.0				20	
Silver, total	< 0.000050	0.000050 mg/L		< 0.000050				20	
Sodium, total	596	0.10 mg/L		722			19	20	
Strontium, total	0.443	0.0010 mg/L		0.544			20	20	
Sulfur, total	508	3.0 mg/L		617			19	20	
Tellurium, total	< 0.00050	0.00050 mg/L		< 0.00050				20	
Thallium, total	< 0.000020	0.000020 mg/L		< 0.000020				20	
Thorium, total	< 0.00010	0.00010 mg/L		< 0.00010				20	
Tin, total	< 0.00020	0.00020 mg/L		< 0.00020				20	
Titanium, total	< 0.0050	0.0050 mg/L		< 0.0050				20	
Tungsten, total	< 0.0010	0.0010 mg/L		< 0.0010				20	
Uranium, total	0.00299	0.000020 mg/L		0.00363			19	20	
Vanadium, total	< 0.0010	0.0050 mg/L		< 0.0010				20	
Zinc, total	0.0051	0.0040 mg/L		0.0058				20	
Zirconium, total	0.00031	0.00010 mg/L		0.00032				20	

Reference (B2D0182-SRM1)				Prepared: 2022-04-03, Analyzed: 2022-04-04					
Aluminum, total	0.189	0.0050 mg/L		0.198	95	70-130			
Antimony, total	0.0242	0.00020 mg/L		0.0230	105	70-130			
Arsenic, total	0.0189	0.00050 mg/L		0.0200	95	70-130			
Barium, total	0.0144	0.0050 mg/L		0.0161	90	70-130			
Beryllium, total	0.00371	0.00010 mg/L		0.00384	97	70-130			
Boron, total	0.179	0.0500 mg/L		0.191	94	70-130			
Cadmium, total	0.00377	0.000010 mg/L		0.00404	93	70-130			
Calcium, total	0.90	0.20 mg/L		0.938	95	70-130			
Chromium, total	0.0250	0.00050 mg/L		0.0256	98	70-130			
Cobalt, total	0.0231	0.00010 mg/L		0.0214	108	70-130			
Copper, total	0.0345	0.00040 mg/L		0.0322	107	70-130			
Iron, total	0.066	0.010 mg/L		0.0580	114	70-130			
Lead, total	0.00848	0.00020 mg/L		0.00796	107	70-130			
Lithium, total	0.00961	0.00010 mg/L		0.0102	95	70-130			
Magnesium, total	0.117	0.010 mg/L		0.112	105	70-130			
Manganese, total	0.0111	0.00020 mg/L		0.0120	92	70-130			
Molybdenum, total	0.0445	0.00010 mg/L		0.0438	102	70-130			
Nickel, total	0.0409	0.00040 mg/L		0.0394	104	70-130			
Potassium, total	0.74	0.10 mg/L		0.820	90	70-130			
Selenium, total	0.111	0.00050 mg/L		0.117	95	70-130			
Sodium, total	0.53	0.10 mg/L		0.490	107	70-130			
Strontium, total	0.252	0.0010 mg/L		0.276	91	70-130			



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

WORK ORDER REPORTED 22C3973
2022-04-05 16:19

Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Total Metals, Batch B2D0182, Continued									
Reference (B2D0182-SRM1), Continued					Prepared: 2022-04-03, Analyzed: 2022-04-04				
Thallium, total	0.0116	0.000020 mg/L	0.0118		98	70-130			
Uranium, total	0.00939	0.000020 mg/L	0.00970		97	70-130			
Vanadium, total	0.0276	0.0010 mg/L	0.0274		101	70-130			
Zinc, total	0.0901	0.0040 mg/L	0.0884		102	70-130			



CERTIFICATE OF ANALYSIS

REPORTED TO Kelowna, City of
1435 Water Street
KELOWNA, BC V1Y 1J4

ATTENTION Morgan Lewis

PO NUMBER 535828

PROJECT RBCF Ponds

PROJECT INFO

WORK ORDER 22D3807

RECEIVED / TEMP 2022-04-29 15:39 / 8.5°C

REPORTED 2022-05-09 13:30

COC NUMBER 44680.55938

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.

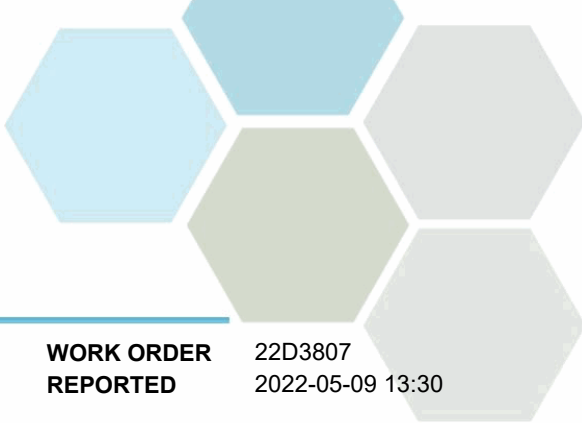
If you have any questions or concerns, please contact me at bwhitehead@caro.ca

Authorized By:

Brent Whitehead
Account Manager

1-888-311-8846 | www.caro.ca

#110 4011 Viking Way Richmond, BC V6V 2K9 | #102 3677 Highway 97N Kelowna, BC V1X 5C3 | 17225 109 Avenue Edmonton, AB T5S 1H7 | #108 4475 Wayburne Drive Burnaby, BC V5G 4X4



TEST RESULTS

REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

WORK ORDER REPORTED 22D3807
2022-05-09 13:30

Analyte	Result	RL	Units	Analyzed	Qualifier
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Rose's Pond (22D3807-01) | Matrix: Water | Sampled: 2022-04-29

Anions

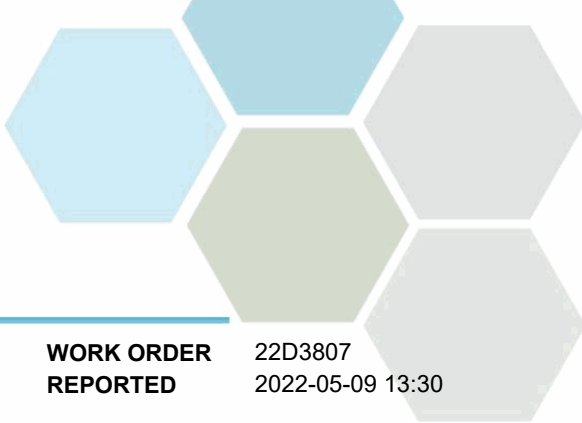
Chloride	390	0.10	mg/L	2022-05-01	
Nitrate (as N)	0.398	0.010	mg/L	2022-05-01	
Nitrite (as N)	< 0.100	0.010	mg/L	2022-05-01	

Calculated Parameters

Hardness, Total (as CaCO3)	1220	0.500	mg/L	N/A	
Nitrate+Nitrite (as N)	0.398	0.100	mg/L	N/A	
Nitrogen, Total	2.09	0.100	mg/L	N/A	

Dissolved Metals

Aluminum, dissolved	0.0075	0.0050	mg/L	2022-05-05	
Antimony, dissolved	0.00035	0.00020	mg/L	2022-05-05	
Arsenic, dissolved	0.00349	0.00050	mg/L	2022-05-05	
Barium, dissolved	0.0194	0.0050	mg/L	2022-05-05	
Beryllium, dissolved	< 0.00010	0.00010	mg/L	2022-05-05	
Bismuth, dissolved	< 0.00010	0.00010	mg/L	2022-05-05	
Boron, dissolved	0.0979	0.0500	mg/L	2022-05-05	
Cadmium, dissolved	< 0.000010	0.000010	mg/L	2022-05-05	
Calcium, dissolved	65.8	0.20	mg/L	2022-05-05	
Chromium, dissolved	< 0.00050	0.00050	mg/L	2022-05-05	
Cobalt, dissolved	< 0.00010	0.00010	mg/L	2022-05-05	
Copper, dissolved	< 0.00040	0.00040	mg/L	2022-05-05	
Iron, dissolved	0.010	0.010	mg/L	2022-05-05	
Lead, dissolved	< 0.00020	0.00020	mg/L	2022-05-05	
Lithium, dissolved	0.0437	0.00010	mg/L	2022-05-05	
Magnesium, dissolved	257	0.010	mg/L	2022-05-05	
Manganese, dissolved	0.0829	0.00020	mg/L	2022-05-05	
Mercury, dissolved	< 0.000010	0.000010	mg/L	2022-05-07	
Molybdenum, dissolved	0.00153	0.00010	mg/L	2022-05-05	
Nickel, dissolved	0.00074	0.00040	mg/L	2022-05-05	
Phosphorus, dissolved	< 0.050	0.050	mg/L	2022-05-05	
Potassium, dissolved	80.1	0.10	mg/L	2022-05-05	
Selenium, dissolved	< 0.00050	0.00050	mg/L	2022-05-05	
Silicon, dissolved	< 1.0	1.0	mg/L	2022-05-05	
Silver, dissolved	< 0.000050	0.000050	mg/L	2022-05-05	
Sodium, dissolved	768	0.10	mg/L	2022-05-05	
Strontium, dissolved	0.591	0.0010	mg/L	2022-05-05	
Sulfur, dissolved	686	3.0	mg/L	2022-05-05	
Tellurium, dissolved	< 0.00050	0.00050	mg/L	2022-05-05	
Thallium, dissolved	< 0.000020	0.000020	mg/L	2022-05-05	
Thorium, dissolved	< 0.00010	0.00010	mg/L	2022-05-05	
Tin, dissolved	< 0.00020	0.00020	mg/L	2022-05-05	
Titanium, dissolved	< 0.0050	0.0050	mg/L	2022-05-05	
Tungsten, dissolved	< 0.0010	0.0010	mg/L	2022-05-05	



TEST RESULTS

REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

WORK ORDER REPORTED 22D3807
2022-05-09 13:30

Analyte	Result	RL	Units	Analyzed	Qualifier
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Rose's Pond (22D3807-01) | Matrix: Water | Sampled: 2022-04-29, Continued

Dissolved Metals, Continued

Uranium, dissolved	0.00365	0.000020	mg/L	2022-05-05	
Vanadium, dissolved	< 0.0050	0.0050	mg/L	2022-05-05	
Zinc, dissolved	0.0115	0.0040	mg/L	2022-05-05	
Zirconium, dissolved	0.00024	0.00010	mg/L	2022-05-05	

General Parameters

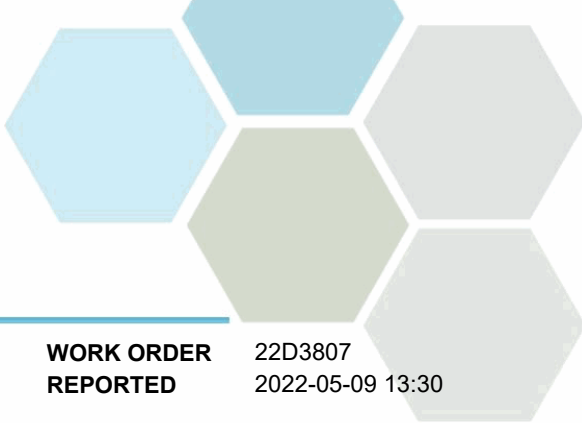
Ammonia, Total (as N)	0.088	0.050	mg/L	2022-05-02	
BOD, 5-day	< 7.3	2.0	mg/L	2022-05-05	
Carbon, Dissolved Organic	20.4	0.50	mg/L	2022-05-05	
Chemical Oxygen Demand	60	20	mg/L	2022-05-04	
Conductivity (EC)	4990	2.0	µS/cm	2022-05-05	
Nitrogen, Total Kjeldahl	1.69	0.050	mg/L	2022-05-06	
pH	8.32	0.10	pH units	2022-05-05	HT2
Phosphorus, Total (as P)	0.0293	0.0050	mg/L	2022-05-06	
Solids, Total Dissolved	3600	15	mg/L	2022-05-06	
Solids, Total Suspended	4.7	2.0	mg/L	2022-05-06	

Microbiological Parameters

Coliforms, Total (Q-Tray)	185	1	MPN/100 mL	2022-04-30	
E. coli (Q-Tray)	< 1	1	MPN/100 mL	2022-04-30	

Total Metals

Aluminum, total	0.0124	0.0050	mg/L	2022-05-05	
Antimony, total	0.00031	0.00020	mg/L	2022-05-05	
Arsenic, total	0.00370	0.00050	mg/L	2022-05-05	
Barium, total	0.0189	0.0050	mg/L	2022-05-05	
Beryllium, total	< 0.00010	0.00010	mg/L	2022-05-05	
Bismuth, total	< 0.00010	0.00010	mg/L	2022-05-05	
Boron, total	0.109	0.0500	mg/L	2022-05-05	
Cadmium, total	< 0.000010	0.000010	mg/L	2022-05-05	
Calcium, total	67.9	0.20	mg/L	2022-05-05	
Chromium, total	< 0.00050	0.00050	mg/L	2022-05-05	
Cobalt, total	< 0.00010	0.00010	mg/L	2022-05-05	
Copper, total	0.00049	0.00040	mg/L	2022-05-05	
Iron, total	0.023	0.010	mg/L	2022-05-05	
Lead, total	< 0.00020	0.00020	mg/L	2022-05-05	
Lithium, total	0.0434	0.00010	mg/L	2022-05-05	
Magnesium, total	267	0.010	mg/L	2022-05-05	
Manganese, total	0.0947	0.00020	mg/L	2022-05-05	
Mercury, total	< 0.000010	0.000010	mg/L	2022-05-07	
Molybdenum, total	0.00133	0.00010	mg/L	2022-05-05	
Nickel, total	0.00086	0.00040	mg/L	2022-05-05	
Phosphorus, total	< 0.050	0.050	mg/L	2022-05-05	
Potassium, total	83.6	0.10	mg/L	2022-05-05	



TEST RESULTS

REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

WORK ORDER REPORTED 22D3807
2022-05-09 13:30

Analyte	Result	RL	Units	Analyzed	Qualifier
Rose's Pond (22D3807-01) Matrix: Water Sampled: 2022-04-29, Continued					
<i>Total Metals, Continued</i>					
Selenium, total	< 0.00050	0.00050	mg/L	2022-05-05	
Silicon, total	< 1.0	1.0	mg/L	2022-05-05	
Silver, total	< 0.000050	0.000050	mg/L	2022-05-05	
Sodium, total	804	0.10	mg/L	2022-05-05	
Strontium, total	0.619	0.0010	mg/L	2022-05-05	
Sulfur, total	698	3.0	mg/L	2022-05-05	
Tellurium, total	< 0.00050	0.00050	mg/L	2022-05-05	
Thallium, total	< 0.000020	0.000020	mg/L	2022-05-05	
Thorium, total	< 0.00010	0.00010	mg/L	2022-05-05	
Tin, total	< 0.00020	0.00020	mg/L	2022-05-05	
Titanium, total	< 0.0050	0.0050	mg/L	2022-05-05	
Tungsten, total	< 0.0010	0.0010	mg/L	2022-05-05	
Uranium, total	0.00377	0.000020	mg/L	2022-05-05	
Vanadium, total	< 0.0050	0.0050	mg/L	2022-05-05	
Zinc, total	0.0056	0.0040	mg/L	2022-05-05	
Zirconium, total	0.00024	0.00010	mg/L	2022-05-05	

Drainage Pond (22D3807-02) | Matrix: Water | Sampled: 2022-04-29

Anions

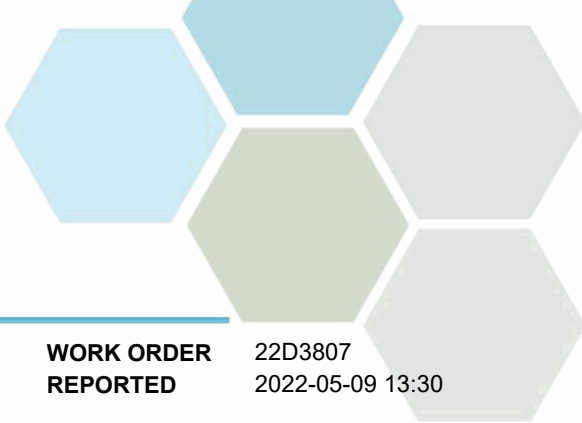
Chloride	120	0.10	mg/L	2022-05-01	
Nitrate (as N)	1.21	0.010	mg/L	2022-05-01	
Nitrite (as N)	0.400	0.010	mg/L	2022-05-01	

Calculated Parameters

Hardness, Total (as CaCO3)	441	0.500	mg/L	N/A	
Nitrate+Nitrite (as N)	1.61	0.100	mg/L	N/A	
Nitrogen, Total	34.5	0.500	mg/L	N/A	

Dissolved Metals

Aluminum, dissolved	0.0258	0.0050	mg/L	2022-05-05	
Antimony, dissolved	0.00046	0.00020	mg/L	2022-05-05	
Arsenic, dissolved	0.00283	0.00050	mg/L	2022-05-05	
Barium, dissolved	0.0250	0.0050	mg/L	2022-05-05	
Beryllium, dissolved	< 0.00010	0.00010	mg/L	2022-05-05	
Bismuth, dissolved	< 0.00010	0.00010	mg/L	2022-05-05	
Boron, dissolved	0.162	0.0500	mg/L	2022-05-05	
Cadmium, dissolved	0.000039	0.000010	mg/L	2022-05-05	
Calcium, dissolved	93.5	0.20	mg/L	2022-05-05	
Chromium, dissolved	< 0.00050	0.00050	mg/L	2022-05-05	
Cobalt, dissolved	0.00083	0.00010	mg/L	2022-05-05	
Copper, dissolved	0.00653	0.00040	mg/L	2022-05-05	
Iron, dissolved	0.068	0.010	mg/L	2022-05-05	



TEST RESULTS

REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

WORK ORDER REPORTED 22D3807
2022-05-09 13:30

Analyte	Result	RL	Units	Analyzed	Qualifier
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Drainage Pond (22D3807-02) | Matrix: Water | Sampled: 2022-04-29, Continued

Dissolved Metals, Continued

Lead, dissolved	< 0.00020	0.00020	mg/L	2022-05-05	
Lithium, dissolved	0.0156	0.00010	mg/L	2022-05-05	
Magnesium, dissolved	50.3	0.010	mg/L	2022-05-05	
Manganese, dissolved	0.0590	0.00020	mg/L	2022-05-05	
Mercury, dissolved	< 0.000010	0.000010	mg/L	2022-05-07	
Molybdenum, dissolved	0.00600	0.00010	mg/L	2022-05-05	
Nickel, dissolved	0.00255	0.00040	mg/L	2022-05-05	
Phosphorus, dissolved	4.42	0.050	mg/L	2022-05-05	
Potassium, dissolved	31.9	0.10	mg/L	2022-05-05	
Selenium, dissolved	0.00131	0.00050	mg/L	2022-05-05	
Silicon, dissolved	5.7	1.0	mg/L	2022-05-05	
Silver, dissolved	< 0.000050	0.000050	mg/L	2022-05-05	
Sodium, dissolved	119	0.10	mg/L	2022-05-05	
Strontium, dissolved	0.988	0.0010	mg/L	2022-05-05	
Sulfur, dissolved	104	3.0	mg/L	2022-05-05	
Tellurium, dissolved	< 0.00050	0.00050	mg/L	2022-05-05	
Thallium, dissolved	< 0.000020	0.000020	mg/L	2022-05-05	
Thorium, dissolved	< 0.00010	0.00010	mg/L	2022-05-05	
Tin, dissolved	0.00022	0.00020	mg/L	2022-05-05	
Titanium, dissolved	< 0.0050	0.0050	mg/L	2022-05-05	
Tungsten, dissolved	< 0.0010	0.0010	mg/L	2022-05-05	
Uranium, dissolved	0.00506	0.000020	mg/L	2022-05-05	
Vanadium, dissolved	< 0.0050	0.0050	mg/L	2022-05-05	
Zinc, dissolved	0.0401	0.0040	mg/L	2022-05-05	
Zirconium, dissolved	0.00019	0.00010	mg/L	2022-05-05	

General Parameters

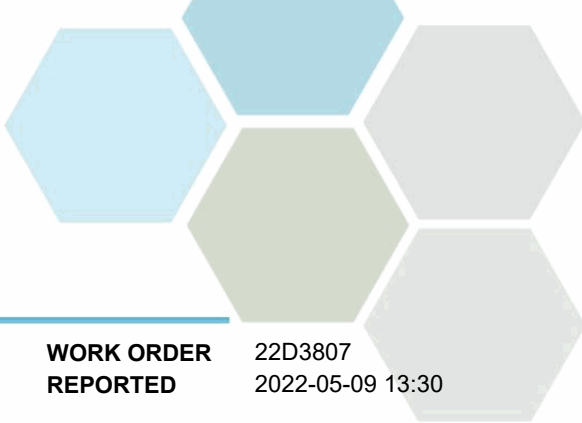
Ammonia, Total (as N)	29.3	0.050	mg/L	2022-05-02	
BOD, 5-day	< 7.3	2.0	mg/L	2022-05-05	
Carbon, Dissolved Organic	27.8	0.50	mg/L	2022-05-05	
Chemical Oxygen Demand	100	20	mg/L	2022-05-04	
Conductivity (EC)	1550	2.0	µS/cm	2022-05-05	
Nitrogen, Total Kjeldahl	32.9	0.050	mg/L	2022-05-06	
pH	7.96	0.10	pH units	2022-05-05	HT2
Phosphorus, Total (as P)	4.50	0.0050	mg/L	2022-05-06	
Solids, Total Dissolved	913	15	mg/L	2022-05-06	
Solids, Total Suspended	7.5	2.0	mg/L	2022-05-06	

Microbiological Parameters

Coliforms, Total (Q-Tray)	9900	1	MPN/100 mL	2022-04-30	
E. coli (Q-Tray)	96	1	MPN/100 mL	2022-04-30	

Total Metals

Aluminum, total	0.0598	0.0050	mg/L	2022-05-05	
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TEST RESULTS

REPORTED TO PROJECT Kelowna, City of RBCF Ponds

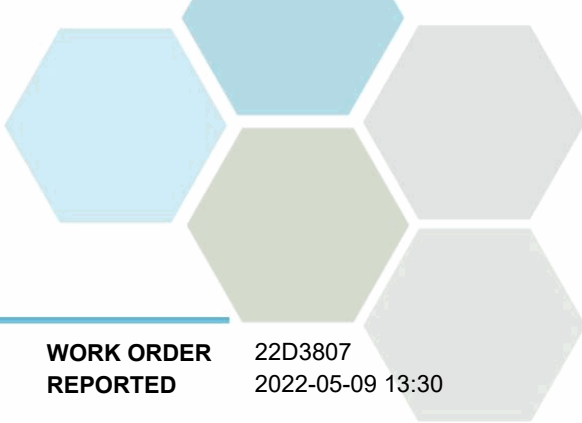
WORK ORDER REPORTED 22D3807
2022-05-09 13:30

Analyte	Result	RL	Units	Analyzed	Qualifier
Drainage Pond (22D3807-02) Matrix: Water Sampled: 2022-04-29, Continued					
<i>Total Metals, Continued</i>					
Antimony, total	0.00044	0.00020	mg/L	2022-05-05	
Arsenic, total	0.00286	0.00050	mg/L	2022-05-05	
Barium, total	0.0305	0.0050	mg/L	2022-05-05	
Beryllium, total	< 0.00010	0.00010	mg/L	2022-05-05	
Bismuth, total	0.00018	0.00010	mg/L	2022-05-05	
Boron, total	0.172	0.0500	mg/L	2022-05-05	
Cadmium, total	0.000046	0.000010	mg/L	2022-05-05	
Calcium, total	94.0	0.20	mg/L	2022-05-05	
Chromium, total	0.00065	0.00050	mg/L	2022-05-05	
Cobalt, total	0.00087	0.00010	mg/L	2022-05-05	
Copper, total	0.00976	0.00040	mg/L	2022-05-05	
Iron, total	0.172	0.010	mg/L	2022-05-05	
Lead, total	0.00029	0.00020	mg/L	2022-05-05	
Lithium, total	0.0155	0.00010	mg/L	2022-05-05	
Magnesium, total	50.1	0.010	mg/L	2022-05-05	
Manganese, total	0.154	0.00020	mg/L	2022-05-05	
Mercury, total	< 0.000010	0.000010	mg/L	2022-05-07	
Molybdenum, total	0.00633	0.00010	mg/L	2022-05-05	
Nickel, total	0.00309	0.00040	mg/L	2022-05-05	
Phosphorus, total	4.66	0.050	mg/L	2022-05-05	
Potassium, total	31.7	0.10	mg/L	2022-05-05	
Selenium, total	0.00147	0.00050	mg/L	2022-05-05	
Silicon, total	5.8	1.0	mg/L	2022-05-05	
Silver, total	< 0.000050	0.000050	mg/L	2022-05-05	
Sodium, total	119	0.10	mg/L	2022-05-05	
Strontium, total	0.999	0.0010	mg/L	2022-05-05	
Sulfur, total	103	3.0	mg/L	2022-05-05	
Tellurium, total	< 0.00050	0.00050	mg/L	2022-05-05	
Thallium, total	< 0.000020	0.000020	mg/L	2022-05-05	
Thorium, total	< 0.00010	0.00010	mg/L	2022-05-05	
Tin, total	0.00054	0.00020	mg/L	2022-05-05	
Titanium, total	< 0.0050	0.0050	mg/L	2022-05-05	
Tungsten, total	< 0.0010	0.0010	mg/L	2022-05-05	
Uranium, total	0.00517	0.000020	mg/L	2022-05-05	
Vanadium, total	< 0.0050	0.0050	mg/L	2022-05-05	
Zinc, total	0.0459	0.0040	mg/L	2022-05-05	
Zirconium, total	0.00020	0.00010	mg/L	2022-05-05	

Davidson Pond (22D3807-03) | Matrix: Water | Sampled: 2022-04-29

Anions

Chloride	298	0.10	mg/L	2022-05-01	
Nitrate (as N)	0.212	0.010	mg/L	2022-05-01	



TEST RESULTS

REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

WORK ORDER REPORTED 22D3807
2022-05-09 13:30

Analyte	Result	RL	Units	Analyzed	Qualifier
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Davidson Pond (22D3807-03) | Matrix: Water | Sampled: 2022-04-29, Continued

Anions, Continued

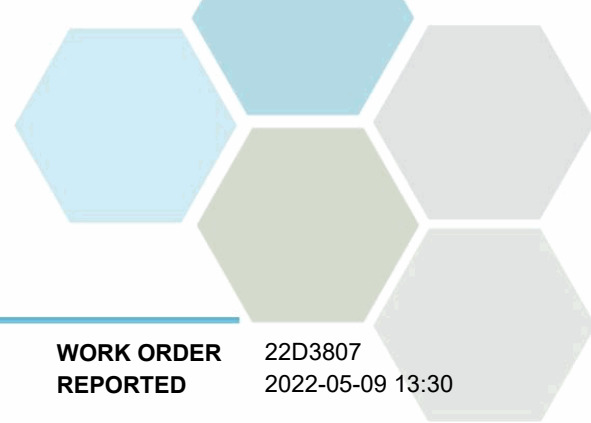
Nitrite (as N)	< 0.100	0.010	mg/L	2022-05-01	
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Calculated Parameters

Hardness, Total (as CaCO3)	677	0.500	mg/L	N/A	
Nitrate+Nitrite (as N)	0.212	0.100	mg/L	N/A	
Nitrogen, Total	2.76	0.100	mg/L	N/A	

Dissolved Metals

Aluminum, dissolved	0.0052	0.0050	mg/L	2022-05-05	
Antimony, dissolved	0.00039	0.00020	mg/L	2022-05-05	
Arsenic, dissolved	0.00387	0.00050	mg/L	2022-05-05	
Barium, dissolved	0.0197	0.0050	mg/L	2022-05-05	
Beryllium, dissolved	< 0.00010	0.00010	mg/L	2022-05-05	
Bismuth, dissolved	< 0.00010	0.00010	mg/L	2022-05-05	
Boron, dissolved	< 0.0500	0.0500	mg/L	2022-05-05	
Cadmium, dissolved	< 0.000010	0.000010	mg/L	2022-05-05	
Calcium, dissolved	67.4	0.20	mg/L	2022-05-05	
Chromium, dissolved	< 0.00050	0.00050	mg/L	2022-05-05	
Cobalt, dissolved	0.00011	0.00010	mg/L	2022-05-05	
Copper, dissolved	< 0.00040	0.00040	mg/L	2022-05-05	
Iron, dissolved	< 0.010	0.010	mg/L	2022-05-05	
Lead, dissolved	< 0.00020	0.00020	mg/L	2022-05-05	
Lithium, dissolved	0.0430	0.00010	mg/L	2022-05-05	
Magnesium, dissolved	124	0.010	mg/L	2022-05-05	
Manganese, dissolved	0.00633	0.00020	mg/L	2022-05-05	
Mercury, dissolved	< 0.000010	0.000010	mg/L	2022-05-07	
Molybdenum, dissolved	0.00133	0.00010	mg/L	2022-05-05	
Nickel, dissolved	0.00147	0.00040	mg/L	2022-05-05	
Phosphorus, dissolved	< 0.050	0.050	mg/L	2022-05-05	
Potassium, dissolved	48.1	0.10	mg/L	2022-05-05	
Selenium, dissolved	< 0.00050	0.00050	mg/L	2022-05-05	
Silicon, dissolved	1.3	1.0	mg/L	2022-05-05	
Silver, dissolved	< 0.000050	0.000050	mg/L	2022-05-05	
Sodium, dissolved	584	0.10	mg/L	2022-05-05	
Strontium, dissolved	0.996	0.0010	mg/L	2022-05-05	
Sulfur, dissolved	392	3.0	mg/L	2022-05-05	
Tellurium, dissolved	< 0.00050	0.00050	mg/L	2022-05-05	
Thallium, dissolved	< 0.000020	0.000020	mg/L	2022-05-05	
Thorium, dissolved	< 0.00010	0.00010	mg/L	2022-05-05	
Tin, dissolved	< 0.00020	0.00020	mg/L	2022-05-05	
Titanium, dissolved	< 0.0050	0.0050	mg/L	2022-05-05	
Tungsten, dissolved	< 0.0010	0.0010	mg/L	2022-05-05	
Uranium, dissolved	0.00710	0.000020	mg/L	2022-05-05	
Vanadium, dissolved	< 0.0050	0.0050	mg/L	2022-05-05	

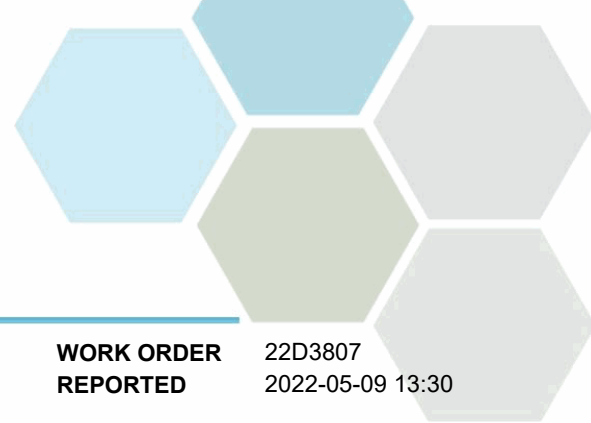


TEST RESULTS

REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

WORK ORDER REPORTED 22D3807
2022-05-09 13:30

Analyte	Result	RL	Units	Analyzed	Qualifier
Davidson Pond (22D3807-03) Matrix: Water Sampled: 2022-04-29, Continued					
<i>Dissolved Metals, Continued</i>					
Zinc, dissolved	< 0.0040	0.0040	mg/L	2022-05-05	
Zirconium, dissolved	0.00018	0.00010	mg/L	2022-05-05	
<i>General Parameters</i>					
Ammonia, Total (as N)	0.130	0.050	mg/L	2022-05-02	
BOD, 5-day	< 7.3	2.0	mg/L	2022-05-05	
Carbon, Dissolved Organic	28.4	0.50	mg/L	2022-05-05	
Chemical Oxygen Demand	65	20	mg/L	2022-05-04	
Conductivity (EC)	3550	2.0	µS/cm	2022-05-05	
Nitrogen, Total Kjeldahl	2.54	0.050	mg/L	2022-05-06	
pH	8.95	0.10	pH units	2022-05-05	HT2
Phosphorus, Total (as P)	0.143	0.0050	mg/L	2022-05-06	
Solids, Total Dissolved	2180	15	mg/L	2022-05-06	
Solids, Total Suspended	4.7	2.0	mg/L	2022-05-06	
<i>Microbiological Parameters</i>					
Coliforms, Total (Q-Tray)	9	1	MPN/100 mL	2022-04-30	
E. coli (Q-Tray)	< 1	1	MPN/100 mL	2022-04-30	
<i>Total Metals</i>					
Aluminum, total	0.0226	0.0050	mg/L	2022-05-05	
Antimony, total	0.00043	0.00020	mg/L	2022-05-05	
Arsenic, total	0.00416	0.00050	mg/L	2022-05-05	
Barium, total	0.0203	0.0050	mg/L	2022-05-05	
Beryllium, total	< 0.00010	0.00010	mg/L	2022-05-05	
Bismuth, total	< 0.00010	0.00010	mg/L	2022-05-05	
Boron, total	< 0.0500	0.0500	mg/L	2022-05-05	
Cadmium, total	< 0.000010	0.000010	mg/L	2022-05-05	
Calcium, total	68.0	0.20	mg/L	2022-05-05	
Chromium, total	< 0.00050	0.00050	mg/L	2022-05-05	
Cobalt, total	0.00012	0.00010	mg/L	2022-05-05	
Copper, total	< 0.00040	0.00040	mg/L	2022-05-05	
Iron, total	0.028	0.010	mg/L	2022-05-05	
Lead, total	< 0.00020	0.00020	mg/L	2022-05-05	
Lithium, total	0.0444	0.00010	mg/L	2022-05-05	
Magnesium, total	132	0.010	mg/L	2022-05-05	
Manganese, total	0.0191	0.00020	mg/L	2022-05-05	
Mercury, total	< 0.000010	0.000010	mg/L	2022-05-07	
Molybdenum, total	0.00139	0.00010	mg/L	2022-05-05	
Nickel, total	0.00154	0.00040	mg/L	2022-05-05	
Phosphorus, total	0.080	0.050	mg/L	2022-05-05	
Potassium, total	50.2	0.10	mg/L	2022-05-05	
Selenium, total	< 0.00050	0.00050	mg/L	2022-05-05	
Silicon, total	1.4	1.0	mg/L	2022-05-05	



TEST RESULTS

REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

WORK ORDER REPORTED 22D3807
2022-05-09 13:30

Analyte	Result	RL	Units	Analyzed	Qualifier
Davidson Pond (22D3807-03) Matrix: Water Sampled: 2022-04-29, Continued					
<i>Total Metals, Continued</i>					
Silver, total	< 0.000050	0.000050	mg/L	2022-05-05	
Sodium, total	624	0.10	mg/L	2022-05-05	
Strontium, total	1.06	0.0010	mg/L	2022-05-05	
Sulfur, total	410	3.0	mg/L	2022-05-05	
Tellurium, total	< 0.00050	0.00050	mg/L	2022-05-05	
Thallium, total	< 0.000020	0.000020	mg/L	2022-05-05	
Thorium, total	< 0.00010	0.00010	mg/L	2022-05-05	
Tin, total	< 0.00020	0.00020	mg/L	2022-05-05	
Titanium, total	< 0.0050	0.0050	mg/L	2022-05-05	
Tungsten, total	< 0.0010	0.0010	mg/L	2022-05-05	
Uranium, total	0.00756	0.000020	mg/L	2022-05-05	
Vanadium, total	< 0.0050	0.0050	mg/L	2022-05-05	
Zinc, total	< 0.0040	0.0040	mg/L	2022-05-05	
Zirconium, total	0.00019	0.00010	mg/L	2022-05-05	

DUP 1 (22D3807-04) | Matrix: Water | Sampled: 2022-04-29

Anions

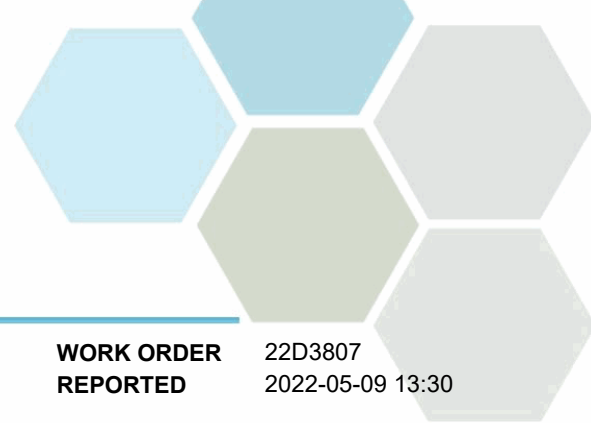
Chloride	117	0.10	mg/L	2022-05-01	
Nitrate (as N)	1.28	0.010	mg/L	2022-05-01	
Nitrite (as N)	0.322	0.010	mg/L	2022-05-01	

Calculated Parameters

Hardness, Total (as CaCO ₃)	432	0.500	mg/L	N/A	
Nitrate+Nitrite (as N)	1.60	0.100	mg/L	N/A	
Nitrogen, Total	36.0	0.500	mg/L	N/A	

Dissolved Metals

Aluminum, dissolved	0.0255	0.0050	mg/L	2022-05-05	
Antimony, dissolved	0.00036	0.00020	mg/L	2022-05-05	
Arsenic, dissolved	0.00283	0.00050	mg/L	2022-05-05	
Barium, dissolved	0.0231	0.0050	mg/L	2022-05-05	
Beryllium, dissolved	< 0.00010	0.00010	mg/L	2022-05-05	
Bismuth, dissolved	< 0.00010	0.00010	mg/L	2022-05-05	
Boron, dissolved	0.157	0.0500	mg/L	2022-05-05	
Cadmium, dissolved	0.000035	0.000010	mg/L	2022-05-05	
Calcium, dissolved	92.2	0.20	mg/L	2022-05-05	
Chromium, dissolved	< 0.00050	0.00050	mg/L	2022-05-05	
Cobalt, dissolved	0.00078	0.00010	mg/L	2022-05-05	
Copper, dissolved	0.00632	0.00040	mg/L	2022-05-05	
Iron, dissolved	0.070	0.010	mg/L	2022-05-05	
Lead, dissolved	< 0.00020	0.00020	mg/L	2022-05-05	
Lithium, dissolved	0.0150	0.00010	mg/L	2022-05-05	



TEST RESULTS

REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

WORK ORDER REPORTED 22D3807
2022-05-09 13:30

Analyte	Result	RL	Units	Analyzed	Qualifier
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DUP 1 (22D3807-04) | Matrix: Water | Sampled: 2022-04-29, Continued

Dissolved Metals, Continued

Magnesium, dissolved	48.9	0.010	mg/L	2022-05-05	
Manganese, dissolved	0.0578	0.00020	mg/L	2022-05-05	
Mercury, dissolved	< 0.000010	0.000010	mg/L	2022-05-07	
Molybdenum, dissolved	0.00573	0.00010	mg/L	2022-05-05	
Nickel, dissolved	0.00242	0.00040	mg/L	2022-05-05	
Phosphorus, dissolved	4.26	0.050	mg/L	2022-05-05	
Potassium, dissolved	30.6	0.10	mg/L	2022-05-05	
Selenium, dissolved	0.00121	0.00050	mg/L	2022-05-05	
Silicon, dissolved	5.5	1.0	mg/L	2022-05-05	
Silver, dissolved	< 0.000050	0.000050	mg/L	2022-05-05	
Sodium, dissolved	113	0.10	mg/L	2022-05-05	
Strontium, dissolved	0.942	0.0010	mg/L	2022-05-05	
Sulfur, dissolved	98.1	3.0	mg/L	2022-05-05	
Tellurium, dissolved	< 0.00050	0.00050	mg/L	2022-05-05	
Thallium, dissolved	< 0.000020	0.000020	mg/L	2022-05-05	
Thorium, dissolved	< 0.00010	0.00010	mg/L	2022-05-05	
Tin, dissolved	< 0.00020	0.00020	mg/L	2022-05-05	
Titanium, dissolved	< 0.0050	0.0050	mg/L	2022-05-05	
Tungsten, dissolved	< 0.0010	0.0010	mg/L	2022-05-05	
Uranium, dissolved	0.00478	0.000020	mg/L	2022-05-05	
Vanadium, dissolved	< 0.0050	0.0050	mg/L	2022-05-05	
Zinc, dissolved	0.0393	0.0040	mg/L	2022-05-05	
Zirconium, dissolved	0.00022	0.00010	mg/L	2022-05-05	

General Parameters

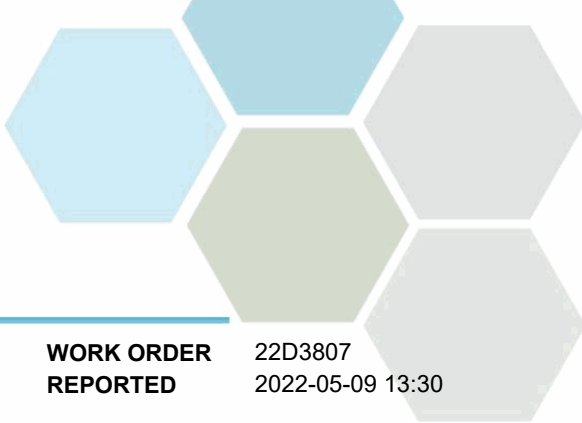
Ammonia, Total (as N)	28.7	0.050	mg/L	2022-05-02	
BOD, 5-day	< 7.3	2.0	mg/L	2022-05-05	
Carbon, Dissolved Organic	27.8	0.50	mg/L	2022-05-05	
Chemical Oxygen Demand	96	20	mg/L	2022-05-04	
Conductivity (EC)	1540	2.0	µS/cm	2022-05-05	
Nitrogen, Total Kjeldahl	34.4	0.050	mg/L	2022-05-06	
pH	7.96	0.10	pH units	2022-05-05	HT2
Phosphorus, Total (as P)	4.68	0.0050	mg/L	2022-05-06	
Solids, Total Dissolved	906	15	mg/L	2022-05-06	
Solids, Total Suspended	7.7	2.0	mg/L	2022-05-06	

Microbiological Parameters

Coliforms, Total (Q-Tray)	8050	1	MPN/100 mL	2022-04-30	
E. coli (Q-Tray)	118	1	MPN/100 mL	2022-04-30	

Total Metals

Aluminum, total	0.0591	0.0050	mg/L	2022-05-05	
Antimony, total	0.00040	0.00020	mg/L	2022-05-05	
Arsenic, total	0.00305	0.00050	mg/L	2022-05-05	



TEST RESULTS

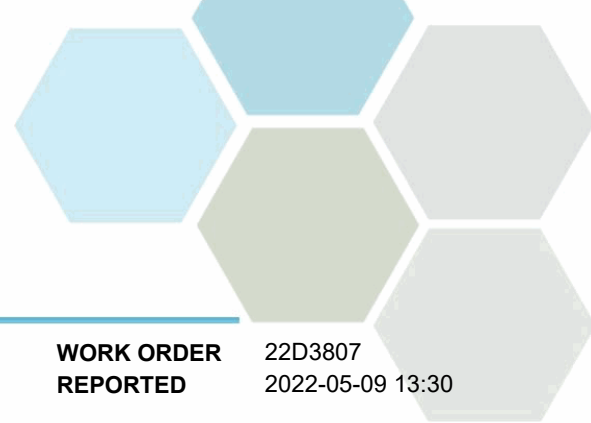
REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

WORK ORDER REPORTED 22D3807
2022-05-09 13:30

Analyte	Result	RL	Units	Analyzed	Qualifier
DUP 1 (22D3807-04) Matrix: Water Sampled: 2022-04-29, Continued					
<i>Total Metals, Continued</i>					
Barium, total	0.0289	0.0050	mg/L	2022-05-05	
Beryllium, total	< 0.00010	0.00010	mg/L	2022-05-05	
Bismuth, total	0.00020	0.00010	mg/L	2022-05-05	
Boron, total	0.174	0.0500	mg/L	2022-05-05	
Cadmium, total	0.000052	0.000010	mg/L	2022-05-05	
Calcium, total	97.2	0.20	mg/L	2022-05-05	
Chromium, total	0.00070	0.00050	mg/L	2022-05-05	
Cobalt, total	0.00088	0.00010	mg/L	2022-05-05	
Copper, total	0.0102	0.00040	mg/L	2022-05-05	
Iron, total	0.175	0.010	mg/L	2022-05-05	
Lead, total	0.00030	0.00020	mg/L	2022-05-05	
Lithium, total	0.0160	0.00010	mg/L	2022-05-05	
Magnesium, total	50.5	0.010	mg/L	2022-05-05	
Manganese, total	0.155	0.00020	mg/L	2022-05-05	
Mercury, total	< 0.000010	0.000010	mg/L	2022-05-07	
Molybdenum, total	0.00632	0.00010	mg/L	2022-05-05	
Nickel, total	0.00287	0.00040	mg/L	2022-05-05	
Phosphorus, total	4.66	0.050	mg/L	2022-05-05	
Potassium, total	32.3	0.10	mg/L	2022-05-05	
Selenium, total	0.00154	0.00050	mg/L	2022-05-05	
Silicon, total	5.7	1.0	mg/L	2022-05-05	
Silver, total	< 0.000050	0.000050	mg/L	2022-05-05	
Sodium, total	119	0.10	mg/L	2022-05-05	
Strontium, total	1.00	0.0010	mg/L	2022-05-05	
Sulfur, total	103	3.0	mg/L	2022-05-05	
Tellurium, total	< 0.00050	0.00050	mg/L	2022-05-05	
Thallium, total	< 0.000020	0.000020	mg/L	2022-05-05	
Thorium, total	< 0.00010	0.00010	mg/L	2022-05-05	
Tin, total	0.00047	0.00020	mg/L	2022-05-05	
Titanium, total	< 0.0050	0.0050	mg/L	2022-05-05	
Tungsten, total	< 0.0010	0.0010	mg/L	2022-05-05	
Uranium, total	0.00534	0.000020	mg/L	2022-05-05	
Vanadium, total	< 0.0050	0.0050	mg/L	2022-05-05	
Zinc, total	0.0466	0.0040	mg/L	2022-05-05	
Zirconium, total	0.00026	0.00010	mg/L	2022-05-05	

Sample Qualifiers:

HT2 The 15 minute recommended holding time (from sampling to analysis) has been exceeded - field analysis is recommended.



APPENDIX 1: SUPPORTING INFORMATION

REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

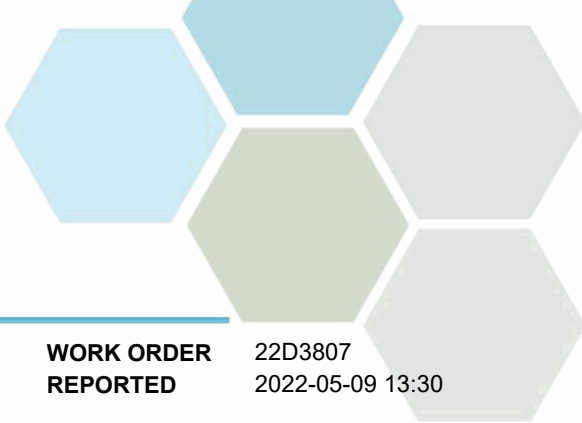
WORK ORDER REPORTED 22D3807
2022-05-09 13:30

Analysis Description	Method Ref.	Technique	Accredited	Location
Ammonia, Total in Water	SM 4500-NH3 G* (2017)	Automated Colorimetry (Phenate)	✓	Kelowna
Anions in Water	SM 4110 B (2017)	Ion Chromatography	✓	Kelowna
Biochemical Oxygen Demand in Water	SM 5210 B (2017)	Dissolved Oxygen Meter	✓	Kelowna
Carbon, Dissolved Organic in Water	SM 5310 B (2017)	Combustion, Infrared CO2 Detection	✓	Kelowna
Chemical Oxygen Demand in Water	SM 5220 D* (2017)	Closed Reflux, Colorimetry	✓	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
Dissolved Metals in Water	EPA 200.8 / EPA 6020B	0.45 µm Filtration / Inductively Coupled Plasma-Mass Spectroscopy (ICP-MS)	✓	Richmond
E. coli in Water	NA / SM 9223 (2017)	Quanti-Tray / Enzyme Substrate Endo Agar	✓	Kelowna
Hardness in Water	SM 2340 B (2017)	Calculation: 2.497 [diss Ca] + 4.118 [diss Mg]	✓	N/A
Mercury, dissolved in Water	EPA 245.7*	BrCl2 Oxidation / Cold Vapor Atomic Fluorescence Spectrometry (CVAFS)	✓	Richmond
Mercury, total in Water	EPA 245.7*	BrCl2 Oxidation / Cold Vapor Atomic Fluorescence Spectrometry (CVAFS)	✓	Richmond
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
Phosphorus, Total in Water	SM 4500-P B.5* (2011) / SM 4500-P F (2017)	Persulfate Digestion / Automated Colorimetry (Ascorbic Acid)	✓	Kelowna
Solids, Total Dissolved in Water	Solids in Water, Filtered / SM 2540 C* (2017)	Solids in Water, Filtered / Gravimetry (Dried at 103-105C)	✓	Kelowna
Solids, Total Suspended in Water	Solids in Water, Filtered / SM 2540 D* (2017)	Solids in Water, Filtered / Gravimetry (Dried at 103-105C)	✓	Kelowna
Total Metals in Water	EPA 200.2 / EPA 6020B	HNO3+HCl Hot Block Digestion / Inductively Coupled Plasma-Mass Spectroscopy (ICP-MS)	✓	Richmond

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
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
EPA	United States Environmental Protection Agency Test Methods
SM	Standard Methods for the Examination of Water and Wastewater, American Public Health Association



APPENDIX 1: SUPPORTING INFORMATION

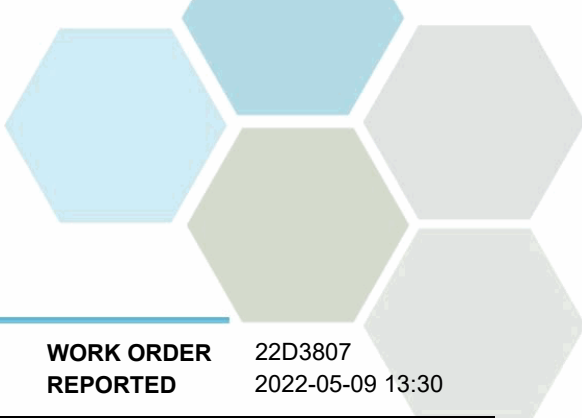
REPORTED TO Kelowna, City of
PROJECT RBCF Ponds

WORK ORDER 22D3807
REPORTED 2022-05-09 13:30

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 or once samples expire, whichever comes first. Longer hold is possible if agreed to in writing.

Please note any regulatory guidelines applied to this report are added as a convenience to the client, at their request, to help provide some initial context to analytical results obtained. Although CARO makes every effort to ensure accuracy of the associated regulatory guideline(s) applied, the guidelines applied cannot be assumed to be correct due to a variety of factors and as such CARO Analytical Services assumes no liability or responsibility for the use of those guidelines to make any decisions. The original source of the regulation should be verified and a review of the guideline(s) should be validated as correct in order to make any decisions arising from the comparison of the analytical data obtained to the relevant regulatory guideline for one's particular circumstances. Further, CARO Analytical Services assumes no liability or responsibility for any loss attributed from the use of these guidelines in any way.



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

WORK ORDER REPORTED 22D3807
2022-05-09 13:30

The following section displays the quality control (QC) data that is associated with your sample data. Groups of samples are prepared in “batches” and analyzed in conjunction with QC samples that ensure your data is of the highest quality. Common QC types include:

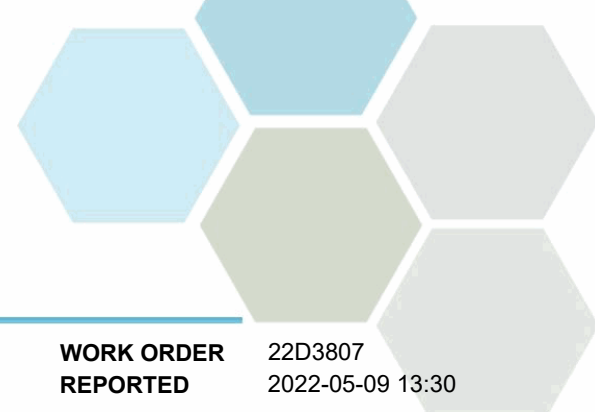
- **Method Blank (Blk):** A blank sample that undergoes sample processing identical to that carried out for the test samples. Method blank results are used to assess contamination from the laboratory environment and reagents.
- **Duplicate (Dup):** An additional or second portion of a randomly selected sample in the analytical run carried through the entire analytical process. Duplicates provide a measure of the analytical method's precision (reproducibility).
- **Blank Spike (BS):** A sample of known concentration which undergoes processing identical to that carried out for test samples, also referred to as a laboratory control sample (LCS). Blank spikes provide a measure of the analytical method's accuracy.
- **Matrix Spike (MS):** A second aliquot of sample is fortified with a known concentration of target analytes and carried through the entire analytical process. Matrix spikes evaluate potential matrix effects that may affect the analyte recovery.
- **Reference Material (SRM):** A homogenous material of similar matrix to the samples, certified for the parameter(s) listed. Reference Materials ensure that the analytical process is adequate to achieve acceptable recoveries of the parameter(s) tested.

Each QC type is analyzed at a 5-10% frequency, i.e. one blank/duplicate/spike for every 10-20 samples. For all types of QC, the specified recovery (% Rec) and relative percent difference (RPD) limits are derived from long-term method performance averages and/or prescribed by the reference method.

Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Anions, Batch B2D3083									
Blank (B2D3083-BLK1)			Prepared: 2022-04-30, Analyzed: 2022-05-01						
Chloride	< 0.10	0.10 mg/L							
Nitrate (as N)	< 0.010	0.010 mg/L							
Nitrite (as N)	< 0.010	0.010 mg/L							
Blank (B2D3083-BLK2)			Prepared: 2022-04-30, Analyzed: 2022-05-01						
Chloride	< 0.10	0.10 mg/L							
Nitrate (as N)	< 0.010	0.010 mg/L							
Nitrite (as N)	< 0.010	0.010 mg/L							
LCS (B2D3083-BS1)			Prepared: 2022-04-30, Analyzed: 2022-05-01						
Chloride	15.8	0.10 mg/L	16.0		99	90-110			
Nitrate (as N)	3.89	0.010 mg/L	4.00		97	90-110			
Nitrite (as N)	2.02	0.010 mg/L	2.00		101	85-115			
LCS (B2D3083-BS2)			Prepared: 2022-04-30, Analyzed: 2022-05-01						
Chloride	15.6	0.10 mg/L	16.0		97	90-110			
Nitrate (as N)	3.91	0.010 mg/L	4.00		98	90-110			
Nitrite (as N)	2.03	0.010 mg/L	2.00		102	85-115			

Dissolved Metals, Batch B2E0269

Blank (B2E0269-BLK1)			Prepared: 2022-05-04, Analyzed: 2022-05-04						
Aluminum, dissolved	< 0.0050	0.0050 mg/L							
Antimony, dissolved	< 0.00020	0.00020 mg/L							
Arsenic, dissolved	< 0.00050	0.00050 mg/L							
Barium, dissolved	< 0.0050	0.0050 mg/L							
Beryllium, dissolved	< 0.00010	0.00010 mg/L							
Bismuth, dissolved	< 0.00010	0.00010 mg/L							
Boron, dissolved	< 0.0500	0.0500 mg/L							
Cadmium, dissolved	< 0.000010	0.000010 mg/L							
Calcium, dissolved	< 0.20	0.20 mg/L							
Chromium, dissolved	< 0.00050	0.00050 mg/L							
Cobalt, dissolved	< 0.00010	0.00010 mg/L							
Copper, dissolved	< 0.00040	0.00040 mg/L							
Iron, dissolved	< 0.010	0.010 mg/L							
Lead, dissolved	< 0.00020	0.00020 mg/L							



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

WORK ORDER REPORTED 22D3807
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Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
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Dissolved Metals, Batch B2E0269, Continued

Blank (B2E0269-BLK1), Continued

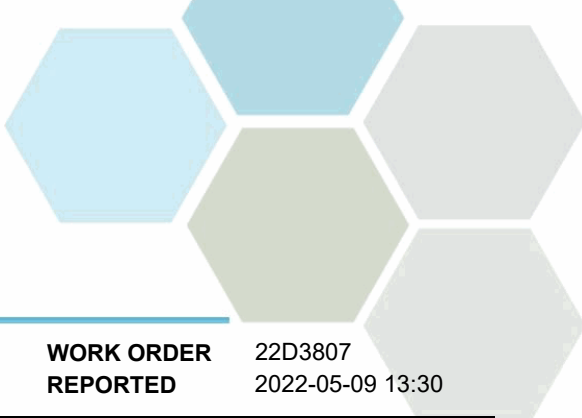
Prepared: 2022-05-04, Analyzed: 2022-05-04

Lithium, dissolved	< 0.00010	0.00010 mg/L							
Magnesium, dissolved	< 0.010	0.010 mg/L							
Manganese, dissolved	< 0.00020	0.00020 mg/L							
Molybdenum, dissolved	< 0.00010	0.00010 mg/L							
Nickel, dissolved	< 0.00040	0.00040 mg/L							
Phosphorus, dissolved	< 0.050	0.050 mg/L							
Potassium, dissolved	< 0.10	0.10 mg/L							
Selenium, dissolved	< 0.00050	0.00050 mg/L							
Silicon, dissolved	< 1.0	1.0 mg/L							
Silver, dissolved	< 0.000050	0.000050 mg/L							
Sodium, dissolved	< 0.10	0.10 mg/L							
Strontium, dissolved	< 0.0010	0.0010 mg/L							
Sulfur, dissolved	< 3.0	3.0 mg/L							
Tellurium, dissolved	< 0.00050	0.00050 mg/L							
Thallium, dissolved	< 0.000020	0.000020 mg/L							
Thorium, dissolved	< 0.00010	0.00010 mg/L							
Tin, dissolved	< 0.00020	0.00020 mg/L							
Titanium, dissolved	< 0.0050	0.0050 mg/L							
Tungsten, dissolved	< 0.0010	0.0010 mg/L							
Uranium, dissolved	< 0.000020	0.000020 mg/L							
Vanadium, dissolved	< 0.0010	0.0010 mg/L							
Zinc, dissolved	< 0.0040	0.0040 mg/L							
Zirconium, dissolved	< 0.00010	0.00010 mg/L							

LCS (B2E0269-BS1)

Prepared: 2022-05-04, Analyzed: 2022-05-04

Aluminum, dissolved	0.0214	0.0050 mg/L	0.0200		107	80-120			
Antimony, dissolved	0.0164	0.00020 mg/L	0.0200		82	80-120			
Arsenic, dissolved	0.0182	0.00050 mg/L	0.0200		91	80-120			
Barium, dissolved	0.0166	0.0050 mg/L	0.0200		83	80-120			
Beryllium, dissolved	0.0176	0.00010 mg/L	0.0200		88	80-120			
Bismuth, dissolved	0.0172	0.00010 mg/L	0.0200		86	80-120			
Boron, dissolved	< 0.0500	0.0500 mg/L	0.0200		114	80-120			
Cadmium, dissolved	0.0177	0.000010 mg/L	0.0200		89	80-120			
Calcium, dissolved	1.70	0.20 mg/L	2.00		85	80-120			
Chromium, dissolved	0.0178	0.00050 mg/L	0.0200		89	80-120			
Cobalt, dissolved	0.0181	0.00010 mg/L	0.0200		91	80-120			
Copper, dissolved	0.0180	0.00040 mg/L	0.0200		90	80-120			
Iron, dissolved	1.83	0.010 mg/L	2.00		91	80-120			
Lead, dissolved	0.0167	0.00020 mg/L	0.0200		83	80-120			
Lithium, dissolved	0.0179	0.00010 mg/L	0.0200		89	80-120			
Magnesium, dissolved	1.84	0.010 mg/L	2.00		92	80-120			
Manganese, dissolved	0.0185	0.00020 mg/L	0.0200		92	80-120			
Molybdenum, dissolved	0.0174	0.00010 mg/L	0.0200		87	80-120			
Nickel, dissolved	0.0181	0.00040 mg/L	0.0200		91	80-120			
Phosphorus, dissolved	1.86	0.050 mg/L	2.00		93	80-120			
Potassium, dissolved	1.75	0.10 mg/L	2.00		87	80-120			
Selenium, dissolved	0.0182	0.00050 mg/L	0.0200		91	80-120			
Silicon, dissolved	1.8	1.0 mg/L	2.00		92	80-120			
Silver, dissolved	0.0179	0.000050 mg/L	0.0200		89	80-120			
Sodium, dissolved	1.95	0.10 mg/L	2.00		97	80-120			
Strontium, dissolved	0.0182	0.0010 mg/L	0.0200		91	80-120			
Sulfur, dissolved	4.6	3.0 mg/L	5.00		91	80-120			
Tellurium, dissolved	0.0182	0.00050 mg/L	0.0200		91	80-120			
Thallium, dissolved	0.0174	0.000020 mg/L	0.0200		87	80-120			
Thorium, dissolved	0.0171	0.00010 mg/L	0.0200		86	80-120			
Tin, dissolved	0.0182	0.00020 mg/L	0.0200		91	80-120			



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT	Kelowna, City of RBCF Ponds	WORK ORDER REPORTED	22D3807 2022-05-09 13:30
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Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
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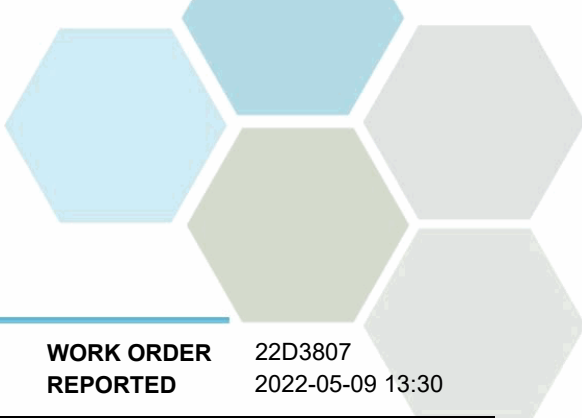
Dissolved Metals, Batch B2E0269, Continued

LCS (B2E0269-BS1), Continued				Prepared: 2022-05-04, Analyzed: 2022-05-04					
Titanium, dissolved	0.0182	0.0050 mg/L	0.0200		91	80-120			
Tungsten, dissolved	0.0180	0.0010 mg/L	0.0200		90	80-120			
Uranium, dissolved	0.0174	0.000020 mg/L	0.0200		87	80-120			
Vanadium, dissolved	0.0183	0.0010 mg/L	0.0200		91	80-120			
Zinc, dissolved	0.0181	0.0040 mg/L	0.0200		90	80-120			
Zirconium, dissolved	0.0177	0.00010 mg/L	0.0200		88	80-120			

Reference (B2E0269-SRM1)				Prepared: 2022-05-04, Analyzed: 2022-05-04					
Aluminum, dissolved	0.231	0.0050 mg/L	0.235		98	70-130			
Antimony, dissolved	0.0413	0.00020 mg/L	0.0431		96	70-130			
Arsenic, dissolved	0.429	0.00050 mg/L	0.423		101	70-130			
Barium, dissolved	3.24	0.0050 mg/L	3.30		98	70-130			
Beryllium, dissolved	0.201	0.00010 mg/L	0.209		96	70-130			
Boron, dissolved	1.76	0.0500 mg/L	1.65		107	70-130			
Cadmium, dissolved	0.211	0.000010 mg/L	0.221		95	70-130			
Calcium, dissolved	7.39	0.20 mg/L	7.72		96	70-130			
Chromium, dissolved	0.415	0.00050 mg/L	0.434		96	70-130			
Cobalt, dissolved	0.122	0.00010 mg/L	0.124		98	70-130			
Copper, dissolved	0.786	0.00040 mg/L	0.815		96	70-130			
Iron, dissolved	1.19	0.010 mg/L	1.27		93	70-130			
Lead, dissolved	0.104	0.00020 mg/L	0.110		94	70-130			
Lithium, dissolved	0.0981	0.00010 mg/L	0.100		98	70-130			
Magnesium, dissolved	6.57	0.010 mg/L	6.59		100	70-130			
Manganese, dissolved	0.332	0.00020 mg/L	0.342		97	70-130			
Molybdenum, dissolved	0.379	0.00010 mg/L	0.404		94	70-130			
Nickel, dissolved	0.815	0.00040 mg/L	0.835		98	70-130			
Phosphorus, dissolved	0.459	0.050 mg/L	0.499		92	70-130			
Potassium, dissolved	2.86	0.10 mg/L	2.88		99	70-130			
Selenium, dissolved	0.0308	0.00050 mg/L	0.0324		95	70-130			
Sodium, dissolved	18.4	0.10 mg/L	18.0		102	70-130			
Strontium, dissolved	0.891	0.0010 mg/L	0.935		95	70-130			
Thallium, dissolved	0.0379	0.000020 mg/L	0.0385		99	70-130			
Uranium, dissolved	0.255	0.000020 mg/L	0.258		99	70-130			
Vanadium, dissolved	0.819	0.0050 mg/L	0.873		94	70-130			
Zinc, dissolved	0.837	0.0040 mg/L	0.848		99	70-130			

Dissolved Metals, Batch B2E0720

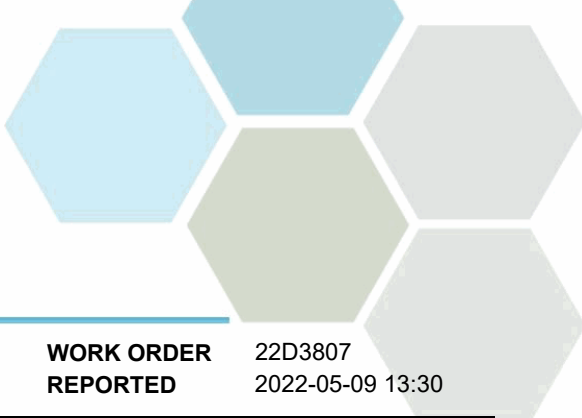
Blank (B2E0720-BLK1)				Prepared: 2022-05-06, Analyzed: 2022-05-07					
Mercury, dissolved	< 0.000010	0.000010 mg/L							
Blank (B2E0720-BLK2)				Prepared: 2022-05-06, Analyzed: 2022-05-07					
Mercury, dissolved	< 0.000010	0.000010 mg/L							
Blank (B2E0720-BLK3)				Prepared: 2022-05-06, Analyzed: 2022-05-07					
Mercury, dissolved	< 0.000010	0.000010 mg/L							
Blank (B2E0720-BLK4)				Prepared: 2022-05-06, Analyzed: 2022-05-07					
Mercury, dissolved	< 0.000010	0.000010 mg/L							
Blank (B2E0720-BLK5)				Prepared: 2022-05-06, Analyzed: 2022-05-07					
Mercury, dissolved	< 0.000010	0.000010 mg/L							
Reference (B2E0720-SRM1)				Prepared: 2022-05-06, Analyzed: 2022-05-07					
Mercury, dissolved	0.000253	0.000010 mg/L	0.000250		101	70-130			



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT	Kelowna, City of RBCF Ponds	WORK ORDER REPORTED	22D3807 2022-05-09 13:30
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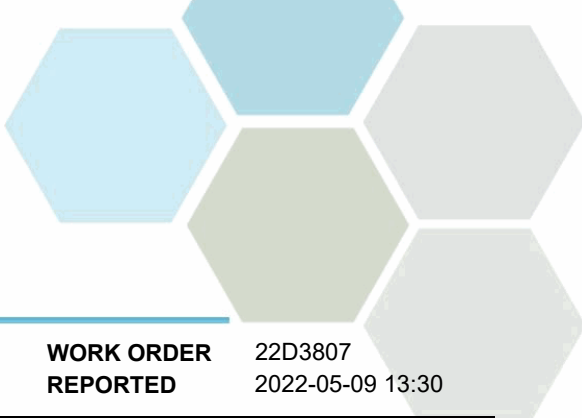
Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Dissolved Metals, Batch B2E0720, Continued									
Reference (B2E0720-SRM2)			Prepared: 2022-05-06, Analyzed: 2022-05-07						
Mercury, dissolved	0.000253	0.000010 mg/L	0.000250		101	70-130			
Reference (B2E0720-SRM3)			Prepared: 2022-05-06, Analyzed: 2022-05-07						
Mercury, dissolved	0.000257	0.000010 mg/L	0.000250		103	70-130			
Reference (B2E0720-SRM4)			Prepared: 2022-05-06, Analyzed: 2022-05-07						
Mercury, dissolved	0.000255	0.000010 mg/L	0.000250		102	70-130			
Reference (B2E0720-SRM5)			Prepared: 2022-05-06, Analyzed: 2022-05-07						
Mercury, dissolved	0.000252	0.000010 mg/L	0.000250		101	70-130			
General Parameters, Batch B2D3025									
Blank (B2D3025-BLK1)			Prepared: 2022-05-05, Analyzed: 2022-05-05						
Carbon, Dissolved Organic	< 0.50	0.50 mg/L							
Blank (B2D3025-BLK2)			Prepared: 2022-05-05, Analyzed: 2022-05-05						
Carbon, Dissolved Organic	< 0.50	0.50 mg/L							
Blank (B2D3025-BLK3)			Prepared: 2022-05-05, Analyzed: 2022-05-05						
Carbon, Dissolved Organic	< 0.50	0.50 mg/L							
LCS (B2D3025-BS1)			Prepared: 2022-05-05, Analyzed: 2022-05-05						
Carbon, Dissolved Organic	9.05	0.50 mg/L	10.0		90	78-116			
LCS (B2D3025-BS2)			Prepared: 2022-05-05, Analyzed: 2022-05-05						
Carbon, Dissolved Organic	9.02	0.50 mg/L	10.0		90	78-116			
LCS (B2D3025-BS3)			Prepared: 2022-05-05, Analyzed: 2022-05-05						
Carbon, Dissolved Organic	9.08	0.50 mg/L	10.0		91	78-116			
General Parameters, Batch B2D3049									
Blank (B2D3049-BLK1)			Prepared: 2022-04-30, Analyzed: 2022-05-05						
BOD, 5-day	< 2.0	2.0 mg/L							
LCS (B2D3049-BS1)			Prepared: 2022-04-30, Analyzed: 2022-05-05						
BOD, 5-day	198	61.2 mg/L	180		110	85-115			
General Parameters, Batch B2E0104									
Blank (B2E0104-BLK1)			Prepared: 2022-05-02, Analyzed: 2022-05-02						
Ammonia, Total (as N)	< 0.050	0.050 mg/L							
Blank (B2E0104-BLK2)			Prepared: 2022-05-02, Analyzed: 2022-05-02						
Ammonia, Total (as N)	< 0.050	0.050 mg/L							
Blank (B2E0104-BLK3)			Prepared: 2022-05-02, Analyzed: 2022-05-02						
Ammonia, Total (as N)	< 0.050	0.050 mg/L							
Blank (B2E0104-BLK4)			Prepared: 2022-05-02, Analyzed: 2022-05-02						
Ammonia, Total (as N)	< 0.050	0.050 mg/L							
LCS (B2E0104-BS1)			Prepared: 2022-05-02, Analyzed: 2022-05-02						
Ammonia, Total (as N)	0.964	0.050 mg/L	1.00		96	90-115			



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Kelowna, City of RBCF Ponds
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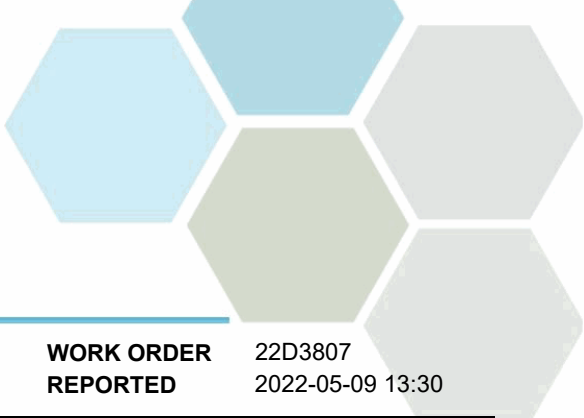
Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
General Parameters, Batch B2E0104, Continued									
LCS (B2E0104-BS2)			Prepared: 2022-05-02, Analyzed: 2022-05-02						
Ammonia, Total (as N)	0.959	0.050 mg/L	1.00		96	90-115			
LCS (B2E0104-BS3)			Prepared: 2022-05-02, Analyzed: 2022-05-02						
Ammonia, Total (as N)	1.01	0.050 mg/L	1.00		101	90-115			
LCS (B2E0104-BS4)			Prepared: 2022-05-02, Analyzed: 2022-05-02						
Ammonia, Total (as N)	1.01	0.050 mg/L	1.00		101	90-115			
General Parameters, Batch B2E0410									
Blank (B2E0410-BLK1)			Prepared: 2022-05-04, Analyzed: 2022-05-04						
Chemical Oxygen Demand	< 20	20 mg/L							
LCS (B2E0410-BS1)			Prepared: 2022-05-04, Analyzed: 2022-05-04						
Chemical Oxygen Demand	497	20 mg/L	500		99	89-115			
General Parameters, Batch B2E0544									
Blank (B2E0544-BLK1)			Prepared: 2022-05-05, Analyzed: 2022-05-05						
Conductivity (EC)	< 2.0	2.0 µS/cm							
Blank (B2E0544-BLK2)			Prepared: 2022-05-05, Analyzed: 2022-05-05						
Conductivity (EC)	< 2.0	2.0 µS/cm							
LCS (B2E0544-BS3)			Prepared: 2022-05-05, Analyzed: 2022-05-05						
Conductivity (EC)	1400	2.0 µS/cm	1410		99	95-105			
LCS (B2E0544-BS4)			Prepared: 2022-05-05, Analyzed: 2022-05-05						
Conductivity (EC)	1410	2.0 µS/cm	1410		100	95-105			
Reference (B2E0544-SRM1)			Prepared: 2022-05-05, Analyzed: 2022-05-05						
pH	7.02	0.10 pH units	7.01		100	98-102			
Reference (B2E0544-SRM2)			Prepared: 2022-05-05, Analyzed: 2022-05-05						
pH	7.02	0.10 pH units	7.01		100	98-102			
General Parameters, Batch B2E0595									
Blank (B2E0595-BLK1)			Prepared: 2022-05-05, Analyzed: 2022-05-06						
Nitrogen, Total Kjeldahl	< 0.050	0.050 mg/L							
Blank (B2E0595-BLK2)			Prepared: 2022-05-05, Analyzed: 2022-05-06						
Nitrogen, Total Kjeldahl	< 0.050	0.050 mg/L							
LCS (B2E0595-BS1)			Prepared: 2022-05-05, Analyzed: 2022-05-06						
Nitrogen, Total Kjeldahl	0.984	0.050 mg/L	1.00		98	85-115			
LCS (B2E0595-BS2)			Prepared: 2022-05-05, Analyzed: 2022-05-06						
Nitrogen, Total Kjeldahl	0.995	0.050 mg/L	1.00		100	85-115			
Duplicate (B2E0595-DUP1)			Source: 22D3807-01		Prepared: 2022-05-05, Analyzed: 2022-05-06				
Nitrogen, Total Kjeldahl	1.57	0.050 mg/L		1.69			7	15	
Matrix Spike (B2E0595-MS1)			Source: 22D3807-01		Prepared: 2022-05-05, Analyzed: 2022-05-06				
Nitrogen, Total Kjeldahl	3.38	0.100 mg/L	2.00	1.69	84	65-135			



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT	Kelowna, City of RBCF Ponds	WORK ORDER REPORTED	22D3807 2022-05-09 13:30
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Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
General Parameters, Batch B2E0665									
Blank (B2E0665-BLK1)			Prepared: 2022-05-05, Analyzed: 2022-05-06						
Phosphorus, Total (as P)	< 0.0050	0.0050 mg/L							
Blank (B2E0665-BLK2)			Prepared: 2022-05-05, Analyzed: 2022-05-06						
Phosphorus, Total (as P)	< 0.0050	0.0050 mg/L							
Blank (B2E0665-BLK3)			Prepared: 2022-05-05, Analyzed: 2022-05-06						
Phosphorus, Total (as P)	< 0.0050	0.0050 mg/L							
LCS (B2E0665-BS1)			Prepared: 2022-05-05, Analyzed: 2022-05-06						
Phosphorus, Total (as P)	0.102	0.0050 mg/L	0.100		102	85-115			
LCS (B2E0665-BS2)			Prepared: 2022-05-05, Analyzed: 2022-05-06						
Phosphorus, Total (as P)	0.104	0.0050 mg/L	0.100		104	85-115			
LCS (B2E0665-BS3)			Prepared: 2022-05-05, Analyzed: 2022-05-06						
Phosphorus, Total (as P)	0.104	0.0050 mg/L	0.100		104	85-115			
General Parameters, Batch B2E0736									
Blank (B2E0736-BLK1)			Prepared: 2022-05-06, Analyzed: 2022-05-06						
Solids, Total Dissolved	< 15	15 mg/L							
LCS (B2E0736-BS1)			Prepared: 2022-05-06, Analyzed: 2022-05-06						
Solids, Total Dissolved	229	15 mg/L	240		95	85-115			
Duplicate (B2E0736-DUP1)			Source: 22D3807-03 Prepared: 2022-05-06, Analyzed: 2022-05-06						
Solids, Total Dissolved	2360	15 mg/L		2180			8	15	
General Parameters, Batch B2E0751									
Blank (B2E0751-BLK1)			Prepared: 2022-05-06, Analyzed: 2022-05-06						
Solids, Total Suspended	< 2.0	2.0 mg/L							
Microbiological Parameters, Batch B2D3082									
Blank (B2D3082-BLK1)			Prepared: 2022-04-30, Analyzed: 2022-04-30						
E. coli (Q-Tray)	< 1	1 MPN/100 mL							
Blank (B2D3082-BLK2)			Prepared: 2022-04-30, Analyzed: 2022-04-30						
Coliforms, Total (Q-Tray)	< 1	1 MPN/100 mL							
E. coli (Q-Tray)	< 1	1 MPN/100 mL							
Blank (B2D3082-BLK3)			Prepared: 2022-04-30, Analyzed: 2022-04-30						
Coliforms, Total (Q-Tray)	< 1	1 MPN/100 mL							
E. coli (Q-Tray)	< 1	1 MPN/100 mL							
Total Metals, Batch B2E0313									
Blank (B2E0313-BLK1)			Prepared: 2022-05-03, Analyzed: 2022-05-04						
Aluminum, total	< 0.0050	0.0050 mg/L							
Antimony, total	< 0.00020	0.00020 mg/L							
Arsenic, total	< 0.00050	0.00050 mg/L							
Barium, total	< 0.0050	0.0050 mg/L							
Beryllium, total	< 0.00010	0.00010 mg/L							
Bismuth, total	< 0.00010	0.00010 mg/L							
Boron, total	< 0.0500	0.0500 mg/L							



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

WORK ORDER REPORTED 22D3807
2022-05-09 13:30

Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
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Total Metals, Batch B2E0313, Continued

Blank (B2E0313-BLK1), Continued

Prepared: 2022-05-03, Analyzed: 2022-05-04

Cadmium, total	< 0.000010	0.000010 mg/L							
Calcium, total	< 0.20	0.20 mg/L							
Chromium, total	< 0.00050	0.00050 mg/L							
Cobalt, total	< 0.00010	0.00010 mg/L							
Copper, total	< 0.00040	0.00040 mg/L							
Iron, total	< 0.010	0.010 mg/L							
Lead, total	< 0.00020	0.00020 mg/L							
Lithium, total	< 0.00010	0.00010 mg/L							
Magnesium, total	< 0.010	0.010 mg/L							
Manganese, total	< 0.00020	0.00020 mg/L							
Molybdenum, total	< 0.00010	0.00010 mg/L							
Nickel, total	< 0.00040	0.00040 mg/L							
Phosphorus, total	< 0.050	0.050 mg/L							
Potassium, total	< 0.10	0.10 mg/L							
Selenium, total	< 0.00050	0.00050 mg/L							
Silicon, total	< 1.0	1.0 mg/L							
Silver, total	< 0.000050	0.000050 mg/L							
Sodium, total	< 0.10	0.10 mg/L							
Strontium, total	< 0.0010	0.0010 mg/L							
Sulfur, total	< 3.0	3.0 mg/L							
Tellurium, total	< 0.00050	0.00050 mg/L							
Thallium, total	< 0.000020	0.000020 mg/L							
Thorium, total	< 0.00010	0.00010 mg/L							
Tin, total	< 0.00004	0.00004 mg/L							
Titanium, total	< 0.0050	0.0050 mg/L							
Tungsten, total	< 0.0002	0.0002 mg/L							
Uranium, total	< 0.000020	0.000020 mg/L							
Vanadium, total	< 0.0010	0.0010 mg/L							
Zinc, total	< 0.0040	0.0040 mg/L							
Zirconium, total	< 0.00010	0.00010 mg/L							

LCS (B2E0313-BS1)

Prepared: 2022-05-03, Analyzed: 2022-05-04

Aluminum, total	0.0220	0.0050 mg/L	0.0200	110	80-120
Antimony, total	0.0190	0.00020 mg/L	0.0200	95	80-120
Arsenic, total	0.0195	0.00050 mg/L	0.0200	97	80-120
Barium, total	0.0180	0.0050 mg/L	0.0200	90	80-120
Beryllium, total	0.0189	0.00010 mg/L	0.0200	95	80-120
Bismuth, total	0.0188	0.00010 mg/L	0.0200	94	80-120
Boron, total	< 0.0500	0.0500 mg/L	0.0200	96	80-120
Cadmium, total	0.0188	0.000010 mg/L	0.0200	94	80-120
Calcium, total	1.83	0.20 mg/L	2.00	92	80-120
Chromium, total	0.0191	0.00050 mg/L	0.0200	96	80-120
Cobalt, total	0.0197	0.00010 mg/L	0.0200	98	80-120
Copper, total	0.0196	0.00040 mg/L	0.0200	98	80-120
Iron, total	1.97	0.010 mg/L	2.00	99	80-120
Lead, total	0.0178	0.00020 mg/L	0.0200	89	80-120
Lithium, total	0.0190	0.00010 mg/L	0.0200	95	80-120
Magnesium, total	1.96	0.010 mg/L	2.00	98	80-120
Manganese, total	0.0197	0.00020 mg/L	0.0200	98	80-120
Molybdenum, total	0.0184	0.00010 mg/L	0.0200	92	80-120
Nickel, total	0.0197	0.00040 mg/L	0.0200	98	80-120
Phosphorus, total	2.00	0.050 mg/L	2.00	100	80-120
Potassium, total	1.86	0.10 mg/L	2.00	93	80-120
Selenium, total	0.0190	0.00050 mg/L	0.0200	95	80-120
Silicon, total	1.9	1.0 mg/L	2.00	95	80-120
Silver, total	0.0191	0.000050 mg/L	0.0200	95	80-120

APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

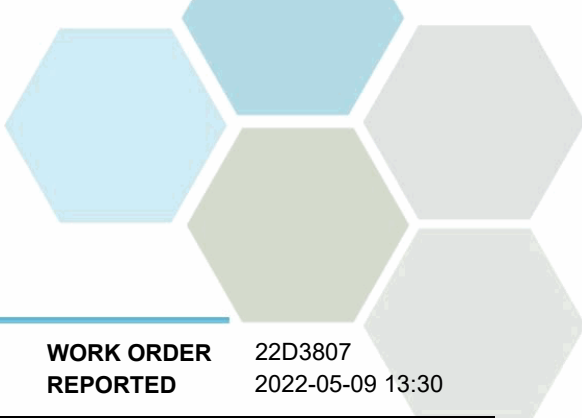
WORK ORDER REPORTED 22D3807
2022-05-09 13:30

Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Total Metals, Batch B2E0313, Continued									
LCS (B2E0313-BS1), Continued					Prepared: 2022-05-03, Analyzed: 2022-05-04				
Sodium, total	2.05	0.10 mg/L	2.00		102	80-120			
Strontium, total	0.0195	0.0010 mg/L	0.0200		98	80-120			
Sulfur, total	4.8	3.0 mg/L	5.00		95	80-120			
Tellurium, total	0.0189	0.00050 mg/L	0.0200		95	80-120			
Thallium, total	0.0189	0.000020 mg/L	0.0200		94	80-120			
Thorium, total	0.0188	0.00010 mg/L	0.0200		94	80-120			
Tin, total	0.0193	0.00004 mg/L	0.0200		97	80-120			
Titanium, total	0.0195	0.0050 mg/L	0.0200		98	80-120			
Tungsten, total	0.0191	0.0002 mg/L	0.0200		95	80-120			
Uranium, total	0.0187	0.000020 mg/L	0.0200		94	80-120			
Vanadium, total	0.0203	0.0010 mg/L	0.0200		102	80-120			
Zinc, total	0.0191	0.0040 mg/L	0.0200		96	80-120			
Zirconium, total	0.0193	0.00010 mg/L	0.0200		96	80-120			

Reference (B2E0313-SRM1)					Prepared: 2022-05-03, Analyzed: 2022-05-04				
Aluminum, total	0.207	0.0050 mg/L	0.198		104	70-130			
Antimony, total	0.0214	0.00020 mg/L	0.0230		93	70-130			
Arsenic, total	0.0196	0.00050 mg/L	0.0200		98	70-130			
Barium, total	0.0138	0.0050 mg/L	0.0161		86	70-130			
Beryllium, total	0.00381	0.00010 mg/L	0.00384		99	70-130			
Boron, total	0.180	0.0500 mg/L	0.191		94	70-130			
Cadmium, total	0.00365	0.000010 mg/L	0.00404		90	70-130			
Calcium, total	1.00	0.20 mg/L	0.938		107	70-130			
Chromium, total	0.0258	0.00050 mg/L	0.0256		101	70-130			
Cobalt, total	0.0217	0.00010 mg/L	0.0214		101	70-130			
Copper, total	0.0316	0.00040 mg/L	0.0322		98	70-130			
Iron, total	0.060	0.010 mg/L	0.0580		104	70-130			
Lead, total	0.00694	0.00020 mg/L	0.00796		87	70-130			
Lithium, total	0.0101	0.00010 mg/L	0.0102		99	70-130			
Magnesium, total	0.191	0.010 mg/L	0.112		170	70-130			CAR, SRM
Manganese, total	0.0121	0.00020 mg/L	0.0120		100	70-130			
Molybdenum, total	0.0413	0.00010 mg/L	0.0438		94	70-130			
Nickel, total	0.0387	0.00040 mg/L	0.0394		98	70-130			
Potassium, total	0.76	0.10 mg/L	0.820		93	70-130			
Selenium, total	0.112	0.00050 mg/L	0.117		96	70-130			
Sodium, total	0.56	0.10 mg/L	0.490		115	70-130			
Strontium, total	0.275	0.0010 mg/L	0.276		100	70-130			
Thallium, total	0.0110	0.000020 mg/L	0.0118		93	70-130			
Uranium, total	0.00898	0.000020 mg/L	0.00970		93	70-130			
Vanadium, total	0.0292	0.0050 mg/L	0.0274		107	70-130			
Zinc, total	0.0857	0.0040 mg/L	0.0884		97	70-130			

Total Metals, Batch B2E0721

Blank (B2E0721-BLK1)					Prepared: 2022-05-06, Analyzed: 2022-05-07				
Mercury, total	< 0.000010	0.000010 mg/L							
Blank (B2E0721-BLK2)					Prepared: 2022-05-06, Analyzed: 2022-05-07				
Mercury, total	< 0.000010	0.000010 mg/L							
Blank (B2E0721-BLK3)					Prepared: 2022-05-06, Analyzed: 2022-05-08				
Mercury, total	< 0.000010	0.000010 mg/L							
Reference (B2E0721-SRM1)					Prepared: 2022-05-06, Analyzed: 2022-05-07				
Mercury, total	0.000249	0.000010 mg/L	0.000250		100	70-130			



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT	Kelowna, City of RBCF Ponds	WORK ORDER REPORTED	22D3807 2022-05-09 13:30
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Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Total Metals, Batch B2E0721, Continued									
Reference (B2E0721-SRM2)				Prepared: 2022-05-06, Analyzed: 2022-05-07					
Mercury, total	0.000243	0.000010 mg/L	0.000250		97	70-130			
Reference (B2E0721-SRM3)				Prepared: 2022-05-06, Analyzed: 2022-05-08					
Mercury, total	0.000267	0.000010 mg/L	0.000250		107	70-130			

QC Qualifiers:

CAR Result is biased high due to carryover from previous sample.
 SRM Recovery of one or more analytes on Standard Reference Material (SRM) analysis are outside of control limits.



CERTIFICATE OF ANALYSIS

REPORTED TO Kelowna, City of
1435 Water Street
KELOWNA, BC V1Y 1J4

ATTENTION Jose Garcia

PO NUMBER 535828

PROJECT RBCF Ponds

PROJECT INFO

WORK ORDER 22F0291

RECEIVED / TEMP 2022-06-01 16:00 / 8.4°C

REPORTED 2022-06-09 13:45

COC NUMBER 44713.57981

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.

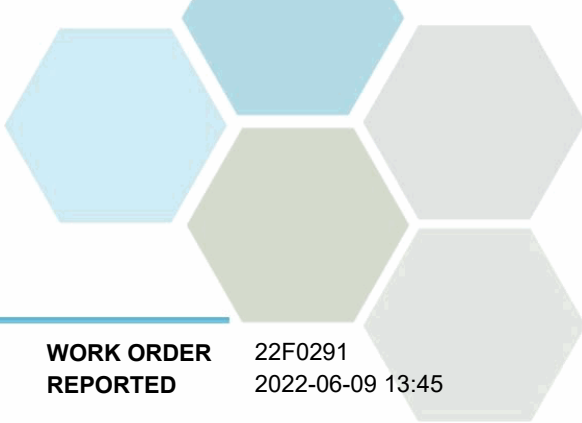
If you have any questions or concerns, please contact me at bwhitehead@caro.ca

Authorized By:

Brent Whitehead
Account Manager

1-888-311-8846 | www.caro.ca

#110 4011 Viking Way Richmond, BC V6V 2K9 | #102 3677 Highway 97N Kelowna, BC V1X 5C3 | 17225 109 Avenue Edmonton, AB T5S 1H7 | #108 4475 Wayburne Drive Burnaby, BC V5G 4X4



TEST RESULTS

REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

WORK ORDER REPORTED 22F0291
2022-06-09 13:45

Analyte	Result	RL	Units	Analyzed	Qualifier
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Rose's Pond (22F0291-01) | Matrix: Water | Sampled: 2022-06-01

Anions

Chloride	397	0.10	mg/L	2022-06-02	
Nitrate (as N)	< 0.100	0.010	mg/L	2022-06-02	RA1
Nitrite (as N)	< 0.100	0.010	mg/L	2022-06-02	RA1

Calculated Parameters

Hardness, Total (as CaCO3)	1340	1.00	mg/L	N/A	
Nitrate+Nitrite (as N)	< 0.100	0.100	mg/L	N/A	
Nitrogen, Total	1.52	0.100	mg/L	N/A	

Dissolved Metals

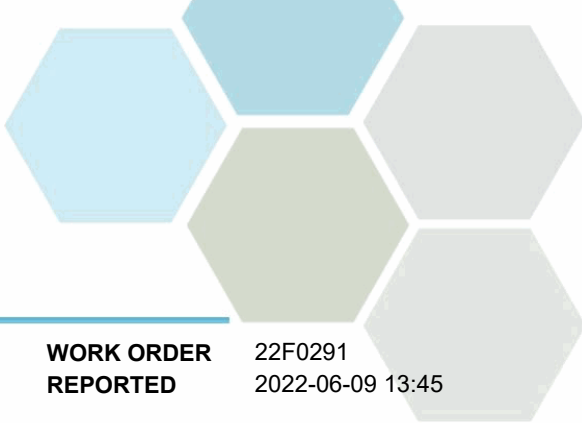
Aluminum, dissolved	< 0.0100	0.0050	mg/L	2022-06-05	RS1
Antimony, dissolved	< 0.00040	0.00020	mg/L	2022-06-05	RS1
Arsenic, dissolved	0.00324	0.00050	mg/L	2022-06-05	RS1
Barium, dissolved	0.0207	0.0050	mg/L	2022-06-05	RS1
Beryllium, dissolved	< 0.00020	0.00010	mg/L	2022-06-05	RS1
Bismuth, dissolved	< 0.00020	0.00010	mg/L	2022-06-05	RS1
Boron, dissolved	< 0.100	0.0500	mg/L	2022-06-05	RS1
Cadmium, dissolved	< 0.000020	0.000010	mg/L	2022-06-05	RS1
Calcium, dissolved	59.8	0.20	mg/L	2022-06-05	RS1
Chromium, dissolved	< 0.00100	0.00050	mg/L	2022-06-05	RS1
Cobalt, dissolved	< 0.00020	0.00010	mg/L	2022-06-05	RS1
Copper, dissolved	0.00131	0.00040	mg/L	2022-06-05	RS1
Iron, dissolved	< 0.020	0.010	mg/L	2022-06-05	RS1
Lead, dissolved	< 0.00040	0.00020	mg/L	2022-06-05	RS1
Lithium, dissolved	0.0447	0.00010	mg/L	2022-06-05	RS1
Magnesium, dissolved	290	0.010	mg/L	2022-06-05	RS1
Manganese, dissolved	0.0557	0.00020	mg/L	2022-06-05	RS1
Mercury, dissolved	< 0.000010	0.000010	mg/L	2022-06-07	
Molybdenum, dissolved	0.00133	0.00010	mg/L	2022-06-05	RS1
Nickel, dissolved	0.00085	0.00040	mg/L	2022-06-05	RS1
Phosphorus, dissolved	< 0.100	0.050	mg/L	2022-06-05	RS1
Potassium, dissolved	71.5	0.10	mg/L	2022-06-05	RS1
Selenium, dissolved	< 0.00100	0.00050	mg/L	2022-06-05	RS1
Silicon, dissolved	< 2.0	1.0	mg/L	2022-06-05	RS1
Silver, dissolved	< 0.000100	0.000050	mg/L	2022-06-05	RS1
Sodium, dissolved	825	0.10	mg/L	2022-06-05	RS1
Strontium, dissolved	0.570	0.0010	mg/L	2022-06-05	RS1
Sulfur, dissolved	676	3.0	mg/L	2022-06-05	RS1
Tellurium, dissolved	< 0.00100	0.00050	mg/L	2022-06-05	RS1
Thallium, dissolved	< 0.000040	0.000020	mg/L	2022-06-05	RS1
Thorium, dissolved	< 0.00020	0.00010	mg/L	2022-06-05	RS1
Tin, dissolved	< 0.00040	0.00020	mg/L	2022-06-05	RS1
Titanium, dissolved	< 0.0100	0.0050	mg/L	2022-06-05	RS1
Tungsten, dissolved	< 0.0020	0.0010	mg/L	2022-06-05	RS1

TEST RESULTS

REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

WORK ORDER REPORTED 22F0291
2022-06-09 13:45

Analyte	Result	RL	Units	Analyzed	Qualifier
Rose's Pond (22F0291-01) Matrix: Water Sampled: 2022-06-01, Continued					
<i>Dissolved Metals, Continued</i>					
Uranium, dissolved	0.00313	0.000020	mg/L	2022-06-05	RS1
Vanadium, dissolved	< 0.0100	0.0050	mg/L	2022-06-05	RS1
Zinc, dissolved	< 0.0080	0.0040	mg/L	2022-06-05	RS1
Zirconium, dissolved	0.00022	0.00010	mg/L	2022-06-05	RS1
<i>General Parameters</i>					
Ammonia, Total (as N)	0.091	0.050	mg/L	2022-06-02	
BOD, 5-day	< 7.0	2.0	mg/L	2022-06-08	
Carbon, Dissolved Organic	24.2	0.50	mg/L	2022-06-03	
Chemical Oxygen Demand	40	20	mg/L	2022-06-04	
Conductivity (EC)	5260	2.0	µS/cm	2022-06-06	
Nitrogen, Total Kjeldahl	1.52	0.050	mg/L	2022-06-08	
pH	8.55	0.10	pH units	2022-06-06	HT2
Phosphorus, Total (as P)	0.0224	0.0050	mg/L	2022-06-08	
Solids, Total Dissolved	4080	15	mg/L	2022-06-07	
Solids, Total Suspended	3.0	2.0	mg/L	2022-06-07	
<i>Microbiological Parameters</i>					
Coliforms, Total (Q-Tray)	1120	1	MPN/100 mL	2022-06-02	
E. coli (Q-Tray)	20	1	MPN/100 mL	2022-06-02	
<i>Total Metals</i>					
Aluminum, total	0.0161	0.0050	mg/L	2022-06-05	RS1
Antimony, total	< 0.00040	0.00020	mg/L	2022-06-05	RS1
Arsenic, total	0.00344	0.00050	mg/L	2022-06-05	RS1
Barium, total	0.0166	0.0050	mg/L	2022-06-05	RS1
Beryllium, total	< 0.00020	0.00010	mg/L	2022-06-05	RS1
Bismuth, total	< 0.00020	0.00010	mg/L	2022-06-05	RS1
Boron, total	< 0.100	0.0500	mg/L	2022-06-05	RS1
Cadmium, total	< 0.000020	0.000010	mg/L	2022-06-05	RS1
Calcium, total	63.1	0.20	mg/L	2022-06-05	RS1
Chromium, total	< 0.00100	0.00050	mg/L	2022-06-05	RS1
Cobalt, total	< 0.00020	0.00010	mg/L	2022-06-05	RS1
Copper, total	< 0.00080	0.00040	mg/L	2022-06-05	RS1
Iron, total	0.027	0.010	mg/L	2022-06-05	RS1
Lead, total	< 0.00040	0.00020	mg/L	2022-06-05	RS1
Lithium, total	0.0461	0.00010	mg/L	2022-06-05	RS1
Magnesium, total	306	0.010	mg/L	2022-06-05	RS1
Manganese, total	0.0826	0.00020	mg/L	2022-06-05	RS1
Mercury, total	< 0.000010	0.000010	mg/L	2022-06-06	
Molybdenum, total	0.00124	0.00010	mg/L	2022-06-05	RS1
Nickel, total	0.00100	0.00040	mg/L	2022-06-05	RS1
Phosphorus, total	< 0.100	0.050	mg/L	2022-06-05	RS1
Potassium, total	77.1	0.10	mg/L	2022-06-05	RS1



TEST RESULTS

REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

WORK ORDER REPORTED 22F0291
2022-06-09 13:45

Analyte	Result	RL	Units	Analyzed	Qualifier
Rose's Pond (22F0291-01) Matrix: Water Sampled: 2022-06-01, Continued					
<i>Total Metals, Continued</i>					
Selenium, total	< 0.00100	0.00050	mg/L	2022-06-05	RS1
Silicon, total	< 2.0	1.0	mg/L	2022-06-05	RS1
Silver, total	< 0.000100	0.000050	mg/L	2022-06-05	RS1
Sodium, total	841	0.10	mg/L	2022-06-05	RS1
Strontium, total	0.586	0.0010	mg/L	2022-06-05	RS1
Sulfur, total	691	3.0	mg/L	2022-06-05	RS1
Tellurium, total	< 0.00100	0.00050	mg/L	2022-06-05	RS1
Thallium, total	< 0.000040	0.000020	mg/L	2022-06-05	RS1
Thorium, total	< 0.00020	0.00010	mg/L	2022-06-05	RS1
Tin, total	< 0.00040	0.00020	mg/L	2022-06-05	RS1
Titanium, total	< 0.0100	0.0050	mg/L	2022-06-05	RS1
Tungsten, total	< 0.0004	0.0002	mg/L	2022-06-05	RS1
Uranium, total	0.00334	0.000020	mg/L	2022-06-05	RS1
Vanadium, total	< 0.0100	0.0050	mg/L	2022-06-05	RS1
Zinc, total	< 0.0080	0.0040	mg/L	2022-06-05	RS1
Zirconium, total	< 0.00020	0.00010	mg/L	2022-06-05	RS1

Drainage Pond (22F0291-02) | Matrix: Water | Sampled: 2022-06-01

Anions

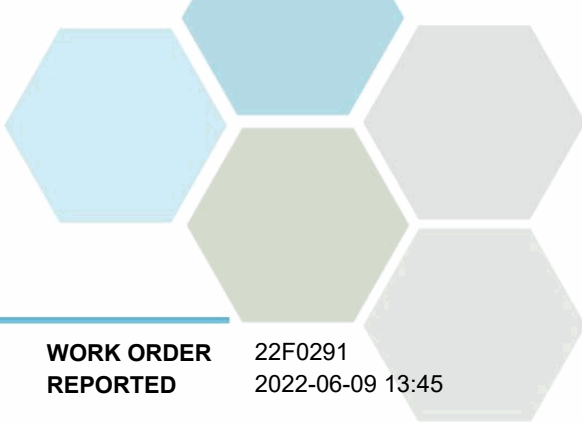
Chloride	100	0.10	mg/L	2022-06-02	
Nitrate (as N)	1.40	0.010	mg/L	2022-06-02	
Nitrite (as N)	< 0.010	0.010	mg/L	2022-06-02	

Calculated Parameters

Hardness, Total (as CaCO3)	284	0.500	mg/L	N/A	
Nitrate+Nitrite (as N)	1.40	0.0100	mg/L	N/A	
Nitrogen, Total	14.6	2.00	mg/L	N/A	

Dissolved Metals

Aluminum, dissolved	0.0137	0.0050	mg/L	2022-06-05	
Antimony, dissolved	0.00050	0.00020	mg/L	2022-06-05	
Arsenic, dissolved	0.00379	0.00050	mg/L	2022-06-05	
Barium, dissolved	0.0238	0.0050	mg/L	2022-06-05	
Beryllium, dissolved	< 0.00010	0.00010	mg/L	2022-06-05	
Bismuth, dissolved	< 0.00010	0.00010	mg/L	2022-06-05	
Boron, dissolved	0.156	0.0500	mg/L	2022-06-05	
Cadmium, dissolved	0.000026	0.000010	mg/L	2022-06-05	
Calcium, dissolved	58.9	0.20	mg/L	2022-06-05	
Chromium, dissolved	< 0.00050	0.00050	mg/L	2022-06-05	
Cobalt, dissolved	0.00038	0.00010	mg/L	2022-06-05	
Copper, dissolved	0.00495	0.00040	mg/L	2022-06-05	
Iron, dissolved	0.040	0.010	mg/L	2022-06-05	

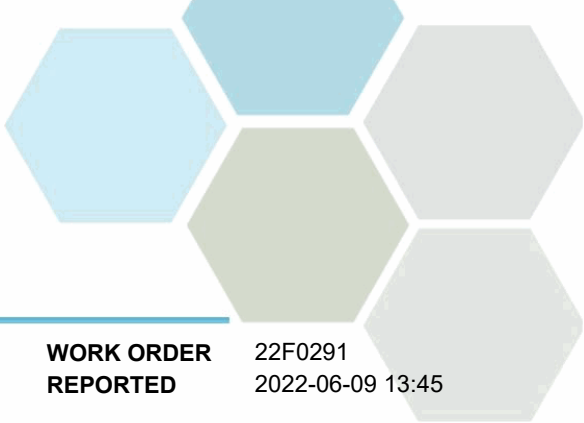


TEST RESULTS

REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

WORK ORDER REPORTED 22F0291
2022-06-09 13:45

Analyte	Result	RL	Units	Analyzed	Qualifier
Drainage Pond (22F0291-02) Matrix: Water Sampled: 2022-06-01, Continued					
<i>Dissolved Metals, Continued</i>					
Lead, dissolved	< 0.00020	0.00020	mg/L	2022-06-05	
Lithium, dissolved	0.0113	0.00010	mg/L	2022-06-05	
Magnesium, dissolved	33.2	0.010	mg/L	2022-06-05	
Manganese, dissolved	0.161	0.00020	mg/L	2022-06-05	
Mercury, dissolved	< 0.000010	0.000010	mg/L	2022-06-07	
Molybdenum, dissolved	0.00780	0.00010	mg/L	2022-06-05	
Nickel, dissolved	0.00211	0.00040	mg/L	2022-06-05	
Phosphorus, dissolved	2.65	0.050	mg/L	2022-06-05	
Potassium, dissolved	24.3	0.10	mg/L	2022-06-05	
Selenium, dissolved	0.00052	0.00050	mg/L	2022-06-05	
Silicon, dissolved	1.6	1.0	mg/L	2022-06-05	
Silver, dissolved	< 0.000050	0.000050	mg/L	2022-06-05	
Sodium, dissolved	107	0.10	mg/L	2022-06-05	
Strontium, dissolved	0.672	0.0010	mg/L	2022-06-05	
Sulfur, dissolved	55.3	3.0	mg/L	2022-06-05	
Tellurium, dissolved	< 0.00050	0.00050	mg/L	2022-06-05	
Thallium, dissolved	< 0.000020	0.000020	mg/L	2022-06-05	
Thorium, dissolved	< 0.00010	0.00010	mg/L	2022-06-05	
Tin, dissolved	< 0.00020	0.00020	mg/L	2022-06-05	
Titanium, dissolved	< 0.0050	0.0050	mg/L	2022-06-05	
Tungsten, dissolved	< 0.0010	0.0010	mg/L	2022-06-05	
Uranium, dissolved	0.00383	0.000020	mg/L	2022-06-05	
Vanadium, dissolved	< 0.0050	0.0050	mg/L	2022-06-05	
Zinc, dissolved	0.0306	0.0040	mg/L	2022-06-05	
Zirconium, dissolved	0.00015	0.00010	mg/L	2022-06-05	
<i>General Parameters</i>					
Ammonia, Total (as N)	7.33	0.050	mg/L	2022-06-02	
BOD, 5-day	< 7.0	2.0	mg/L	2022-06-08	
Carbon, Dissolved Organic	26.2	0.50	mg/L	2022-06-03	
Chemical Oxygen Demand	89	20	mg/L	2022-06-04	
Conductivity (EC)	1160	2.0	µS/cm	2022-06-06	
Nitrogen, Total Kjeldahl	13.2	0.050	mg/L	2022-06-08	
pH	8.10	0.10	pH units	2022-06-06	HT2
Phosphorus, Total (as P)	3.01	0.0050	mg/L	2022-06-08	
Solids, Total Dissolved	719	15	mg/L	2022-06-07	
Solids, Total Suspended	4.7	2.0	mg/L	2022-06-06	
<i>Microbiological Parameters</i>					
Coliforms, Total (Q-Tray)	6460	1	MPN/100 mL	2022-06-02	
E. coli (Q-Tray)	1400	1	MPN/100 mL	2022-06-02	
<i>Total Metals</i>					
Aluminum, total	0.0480	0.0050	mg/L	2022-06-05	



TEST RESULTS

REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

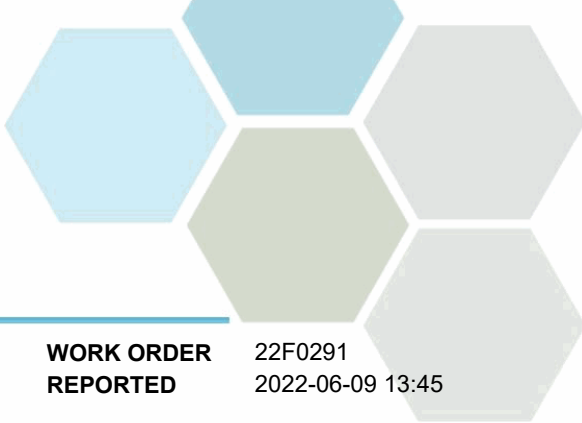
WORK ORDER REPORTED 22F0291
2022-06-09 13:45

Analyte	Result	RL	Units	Analyzed	Qualifier
Drainage Pond (22F0291-02) Matrix: Water Sampled: 2022-06-01, Continued					
<i>Total Metals, Continued</i>					
Antimony, total	0.00052	0.00020	mg/L	2022-06-05	
Arsenic, total	0.00387	0.00050	mg/L	2022-06-05	
Barium, total	0.0278	0.0050	mg/L	2022-06-05	
Beryllium, total	< 0.00010	0.00010	mg/L	2022-06-05	
Bismuth, total	0.00027	0.00010	mg/L	2022-06-05	
Boron, total	0.169	0.0500	mg/L	2022-06-05	
Cadmium, total	0.000062	0.000010	mg/L	2022-06-05	
Calcium, total	60.5	0.20	mg/L	2022-06-05	
Chromium, total	< 0.00050	0.00050	mg/L	2022-06-05	
Cobalt, total	0.00045	0.00010	mg/L	2022-06-05	
Copper, total	0.0134	0.00040	mg/L	2022-06-05	
Iron, total	0.116	0.010	mg/L	2022-06-05	
Lead, total	0.00034	0.00020	mg/L	2022-06-05	
Lithium, total	0.0115	0.00010	mg/L	2022-06-05	
Magnesium, total	32.8	0.010	mg/L	2022-06-05	
Manganese, total	0.175	0.00020	mg/L	2022-06-05	
Mercury, total	< 0.000010	0.000010	mg/L	2022-06-06	
Molybdenum, total	0.00854	0.00010	mg/L	2022-06-05	
Nickel, total	0.00227	0.00040	mg/L	2022-06-05	
Phosphorus, total	2.76	0.050	mg/L	2022-06-05	
Potassium, total	25.6	0.10	mg/L	2022-06-05	
Selenium, total	0.00063	0.00050	mg/L	2022-06-05	
Silicon, total	1.6	1.0	mg/L	2022-06-05	
Silver, total	< 0.000050	0.000050	mg/L	2022-06-05	
Sodium, total	105	0.10	mg/L	2022-06-05	
Strontium, total	0.682	0.0010	mg/L	2022-06-05	
Sulfur, total	57.2	3.0	mg/L	2022-06-05	
Tellurium, total	< 0.00050	0.00050	mg/L	2022-06-05	
Thallium, total	< 0.000020	0.000020	mg/L	2022-06-05	
Thorium, total	< 0.00010	0.00010	mg/L	2022-06-05	
Tin, total	0.00026	0.00020	mg/L	2022-06-05	
Titanium, total	< 0.0050	0.0050	mg/L	2022-06-05	
Tungsten, total	0.0003	0.0002	mg/L	2022-06-05	
Uranium, total	0.00441	0.000020	mg/L	2022-06-05	
Vanadium, total	< 0.0050	0.0050	mg/L	2022-06-05	
Zinc, total	0.0395	0.0040	mg/L	2022-06-05	
Zirconium, total	0.00017	0.00010	mg/L	2022-06-05	

Davidson Pond (22F0291-03) | Matrix: Water | Sampled: 2022-06-01

Anions

Chloride	319	0.10	mg/L	2022-06-02	
Nitrate (as N)	< 0.010	0.010	mg/L	2022-06-02	

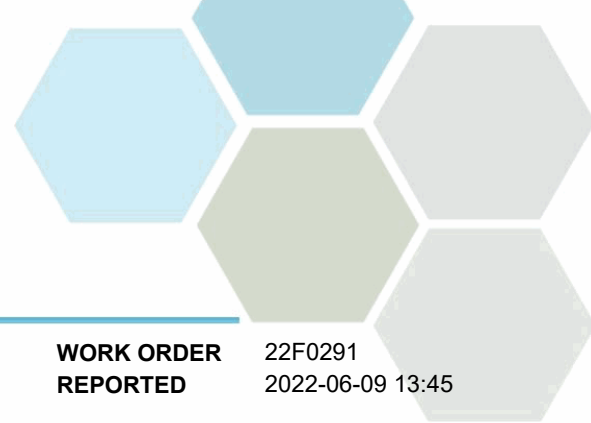


TEST RESULTS

REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

WORK ORDER REPORTED 22F0291
2022-06-09 13:45

Analyte	Result	RL	Units	Analyzed	Qualifier
Davidson Pond (22F0291-03) Matrix: Water Sampled: 2022-06-01, Continued					
<i>Anions, Continued</i>					
Nitrite (as N)	< 0.010	0.010	mg/L	2022-06-02	
<i>Calculated Parameters</i>					
Hardness, Total (as CaCO3)	732	1.00	mg/L	N/A	
Nitrate+Nitrite (as N)	< 0.0100	0.0100	mg/L	N/A	
Nitrogen, Total	2.33	0.0500	mg/L	N/A	
<i>Dissolved Metals</i>					
Aluminum, dissolved	< 0.0100	0.0050	mg/L	2022-06-05	RS1
Antimony, dissolved	0.00043	0.00020	mg/L	2022-06-05	RS1
Arsenic, dissolved	0.00373	0.00050	mg/L	2022-06-05	RS1
Barium, dissolved	0.0190	0.0050	mg/L	2022-06-05	RS1
Beryllium, dissolved	< 0.00020	0.00010	mg/L	2022-06-05	RS1
Bismuth, dissolved	< 0.00020	0.00010	mg/L	2022-06-05	RS1
Boron, dissolved	< 0.100	0.0500	mg/L	2022-06-05	RS1
Cadmium, dissolved	< 0.000020	0.000010	mg/L	2022-06-05	RS1
Calcium, dissolved	59.6	0.20	mg/L	2022-06-05	RS1
Chromium, dissolved	< 0.00100	0.00050	mg/L	2022-06-05	RS1
Cobalt, dissolved	< 0.00020	0.00010	mg/L	2022-06-05	RS1
Copper, dissolved	< 0.00080	0.00040	mg/L	2022-06-05	RS1
Iron, dissolved	0.032	0.010	mg/L	2022-06-05	RS1
Lead, dissolved	< 0.00040	0.00020	mg/L	2022-06-05	RS1
Lithium, dissolved	0.0449	0.00010	mg/L	2022-06-05	RS1
Magnesium, dissolved	142	0.010	mg/L	2022-06-05	RS1
Manganese, dissolved	0.0498	0.00020	mg/L	2022-06-05	RS1
Mercury, dissolved	< 0.000010	0.000010	mg/L	2022-06-07	
Molybdenum, dissolved	0.00159	0.00010	mg/L	2022-06-05	RS1
Nickel, dissolved	0.00149	0.00040	mg/L	2022-06-05	RS1
Phosphorus, dissolved	< 0.100	0.050	mg/L	2022-06-05	RS1
Potassium, dissolved	44.5	0.10	mg/L	2022-06-05	RS1
Selenium, dissolved	< 0.00100	0.00050	mg/L	2022-06-05	RS1
Silicon, dissolved	< 2.0	1.0	mg/L	2022-06-05	RS1
Silver, dissolved	< 0.000100	0.000050	mg/L	2022-06-05	RS1
Sodium, dissolved	649	0.10	mg/L	2022-06-05	RS1
Strontium, dissolved	0.980	0.0010	mg/L	2022-06-05	RS1
Sulfur, dissolved	404	3.0	mg/L	2022-06-05	RS1
Tellurium, dissolved	< 0.00100	0.00050	mg/L	2022-06-05	RS1
Thallium, dissolved	< 0.000040	0.000020	mg/L	2022-06-05	RS1
Thorium, dissolved	< 0.00020	0.00010	mg/L	2022-06-05	RS1
Tin, dissolved	< 0.00040	0.00020	mg/L	2022-06-05	RS1
Titanium, dissolved	< 0.0100	0.0050	mg/L	2022-06-05	RS1
Tungsten, dissolved	< 0.0020	0.0010	mg/L	2022-06-05	RS1
Uranium, dissolved	0.00680	0.000020	mg/L	2022-06-05	RS1
Vanadium, dissolved	< 0.0100	0.0050	mg/L	2022-06-05	RS1

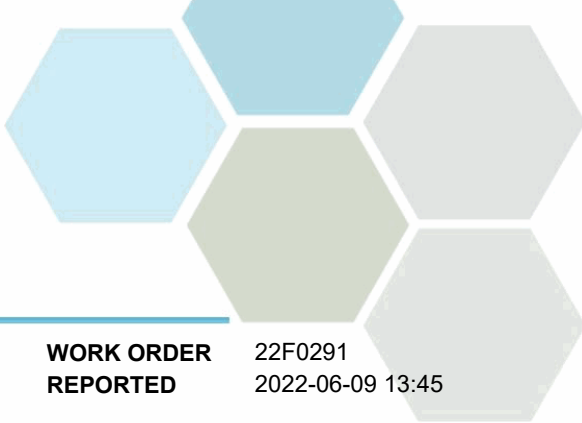


TEST RESULTS

REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

WORK ORDER REPORTED 22F0291
2022-06-09 13:45

Analyte	Result	RL	Units	Analyzed	Qualifier
Davidson Pond (22F0291-03) Matrix: Water Sampled: 2022-06-01, Continued					
<i>Dissolved Metals, Continued</i>					
Zinc, dissolved	< 0.0080	0.0040	mg/L	2022-06-05	RS1
Zirconium, dissolved	0.00032	0.00010	mg/L	2022-06-05	RS1
<i>General Parameters</i>					
Ammonia, Total (as N)	0.195	0.050	mg/L	2022-06-02	
BOD, 5-day	< 7.0	2.0	mg/L	2022-06-08	
Carbon, Dissolved Organic	30.8	0.50	mg/L	2022-06-03	
Chemical Oxygen Demand	77	20	mg/L	2022-06-06	
Conductivity (EC)	3750	2.0	µS/cm	2022-06-06	
Nitrogen, Total Kjeldahl	2.33	0.050	mg/L	2022-06-08	
pH	8.74	0.10	pH units	2022-06-06	HT2
Phosphorus, Total (as P)	0.0769	0.0050	mg/L	2022-06-08	
Solids, Total Dissolved	2750	15	mg/L	2022-06-07	
Solids, Total Suspended	8.7	2.0	mg/L	2022-06-06	
<i>Microbiological Parameters</i>					
Coliforms, Total (Q-Tray)	387	1	MPN/100 mL	2022-06-02	
E. coli (Q-Tray)	219	1	MPN/100 mL	2022-06-02	
<i>Total Metals</i>					
Aluminum, total	0.0431	0.0050	mg/L	2022-06-05	RS1
Antimony, total	0.00045	0.00020	mg/L	2022-06-05	RS1
Arsenic, total	0.00381	0.00050	mg/L	2022-06-05	RS1
Barium, total	0.0197	0.0050	mg/L	2022-06-05	RS1
Beryllium, total	< 0.00020	0.00010	mg/L	2022-06-05	RS1
Bismuth, total	< 0.00020	0.00010	mg/L	2022-06-05	RS1
Boron, total	< 0.100	0.0500	mg/L	2022-06-05	RS1
Cadmium, total	< 0.000020	0.000010	mg/L	2022-06-05	RS1
Calcium, total	61.6	0.20	mg/L	2022-06-05	RS1
Chromium, total	< 0.00100	0.00050	mg/L	2022-06-05	RS1
Cobalt, total	< 0.00020	0.00010	mg/L	2022-06-05	RS1
Copper, total	0.0185	0.00040	mg/L	2022-06-05	RS1
Iron, total	0.081	0.010	mg/L	2022-06-05	RS1
Lead, total	< 0.00040	0.00020	mg/L	2022-06-05	RS1
Lithium, total	0.0462	0.00010	mg/L	2022-06-05	RS1
Magnesium, total	144	0.010	mg/L	2022-06-05	RS1
Manganese, total	0.0565	0.00020	mg/L	2022-06-05	RS1
Mercury, total	< 0.000010	0.000010	mg/L	2022-06-06	
Molybdenum, total	0.00162	0.00010	mg/L	2022-06-05	RS1
Nickel, total	0.00178	0.00040	mg/L	2022-06-05	RS1
Phosphorus, total	0.102	0.050	mg/L	2022-06-05	RS1
Potassium, total	46.3	0.10	mg/L	2022-06-05	RS1
Selenium, total	< 0.00100	0.00050	mg/L	2022-06-05	RS1
Silicon, total	< 2.0	1.0	mg/L	2022-06-05	RS1



TEST RESULTS

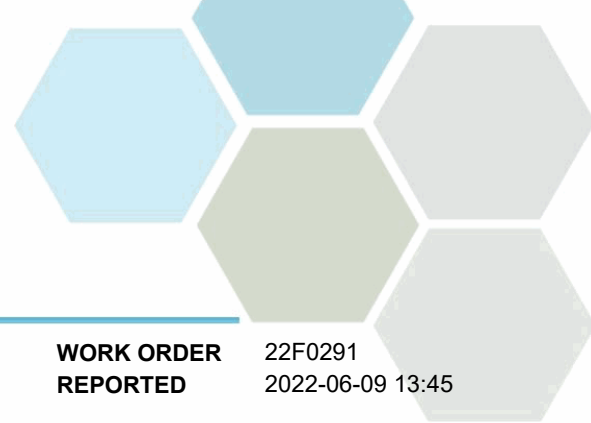
REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

WORK ORDER REPORTED 22F0291
2022-06-09 13:45

Analyte	Result	RL	Units	Analyzed	Qualifier
Davidson Pond (22F0291-03) Matrix: Water Sampled: 2022-06-01, Continued					
<i>Total Metals, Continued</i>					
Silver, total	< 0.000100	0.000050	mg/L	2022-06-05	RS1
Sodium, total	643	0.10	mg/L	2022-06-05	RS1
Strontium, total	1.00	0.0010	mg/L	2022-06-05	RS1
Sulfur, total	413	3.0	mg/L	2022-06-05	RS1
Tellurium, total	< 0.00100	0.00050	mg/L	2022-06-05	RS1
Thallium, total	< 0.000040	0.000020	mg/L	2022-06-05	RS1
Thorium, total	< 0.00020	0.00010	mg/L	2022-06-05	RS1
Tin, total	< 0.00040	0.00020	mg/L	2022-06-05	RS1
Titanium, total	< 0.0100	0.0050	mg/L	2022-06-05	RS1
Tungsten, total	< 0.0004	0.0002	mg/L	2022-06-05	RS1
Uranium, total	0.00736	0.000020	mg/L	2022-06-05	RS1
Vanadium, total	< 0.0100	0.0050	mg/L	2022-06-05	RS1
Zinc, total	0.0112	0.0040	mg/L	2022-06-05	RS1
Zirconium, total	0.00028	0.00010	mg/L	2022-06-05	RS1

Sample Qualifiers:

- HT2 The 15 minute recommended holding time (from sampling to analysis) has been exceeded - field analysis is recommended.
- RA1 The Reporting Limit has been raised due to matrix interference.
- RS1 The Reporting Limits for this sample have been raised due to high analyte concentration and/or matrix interference.



APPENDIX 1: SUPPORTING INFORMATION

REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

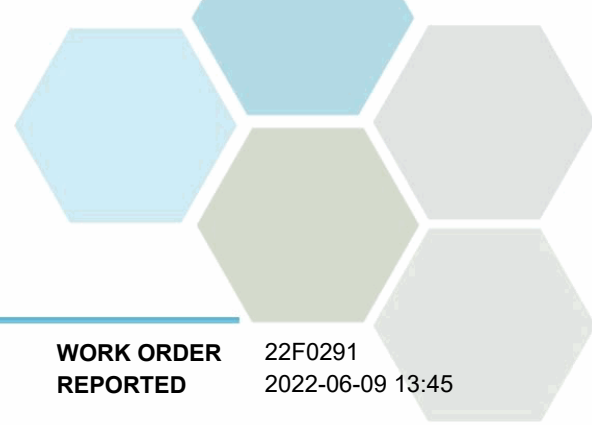
WORK ORDER REPORTED 22F0291
2022-06-09 13:45

Analysis Description	Method Ref.	Technique	Accredited	Location
Ammonia, Total in Water	SM 4500-NH3 G* (2017)	Automated Colorimetry (Phenate)	✓	Kelowna
Anions in Water	SM 4110 B (2017)	Ion Chromatography	✓	Kelowna
Biochemical Oxygen Demand in Water	SM 5210 B (2017)	Dissolved Oxygen Meter	✓	Kelowna
Carbon, Dissolved Organic in Water	SM 5310 B (2017)	Combustion, Infrared CO2 Detection	✓	Kelowna
Chemical Oxygen Demand in Water	SM 5220 D* (2017)	Closed Reflux, Colorimetry	✓	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
Dissolved Metals in Water	EPA 200.8 / EPA 6020B	0.45 µm Filtration / Inductively Coupled Plasma-Mass Spectroscopy (ICP-MS)	✓	Richmond
E. coli in Water	NA / SM 9223 (2017)	Quanti-Tray / Enzyme Substrate Endo Agar	✓	Kelowna
Hardness in Water	SM 2340 B (2017)	Calculation: 2.497 [diss Ca] + 4.118 [diss Mg]	✓	N/A
Mercury, dissolved in Water	EPA 245.7*	BrCl2 Oxidation / Cold Vapor Atomic Fluorescence Spectrometry (CVAFS)	✓	Richmond
Mercury, total in Water	EPA 245.7*	BrCl2 Oxidation / Cold Vapor Atomic Fluorescence Spectrometry (CVAFS)	✓	Richmond
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
Phosphorus, Total in Water	SM 4500-P B.5* (2011) / SM 4500-P F (2017)	Persulfate Digestion / Automated Colorimetry (Ascorbic Acid)	✓	Kelowna
Solids, Total Dissolved in Water	Solids in Water, Filtered / SM 2540 C* (2017)	Solids in Water, Filtered / Gravimetry (Dried at 103-105C)	✓	Kelowna
Solids, Total Suspended in Water	Solids in Water, Filtered / SM 2540 D* (2017)	Solids in Water, Filtered / Gravimetry (Dried at 103-105C)	✓	Kelowna
Total Metals in Water	EPA 200.2 / EPA 6020B	HNO3+HCl Hot Block Digestion / Inductively Coupled Plasma-Mass Spectroscopy (ICP-MS)	✓	Richmond

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
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
EPA	United States Environmental Protection Agency Test Methods
SM	Standard Methods for the Examination of Water and Wastewater, American Public Health Association



APPENDIX 1: SUPPORTING INFORMATION

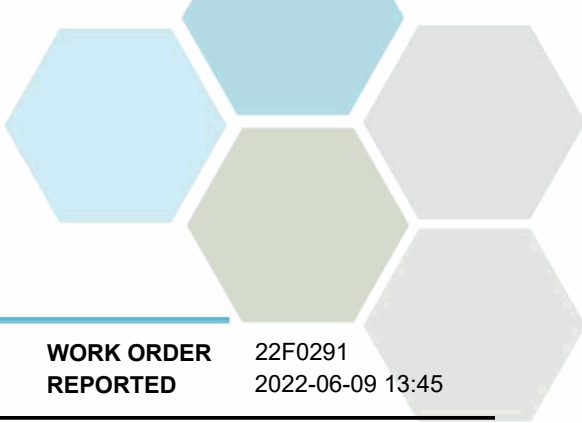
REPORTED TO Kelowna, City of
PROJECT RBCF Ponds

WORK ORDER 22F0291
REPORTED 2022-06-09 13:45

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 or once samples expire, whichever comes first. Longer hold is possible if agreed to in writing.

Please note any regulatory guidelines applied to this report are added as a convenience to the client, at their request, to help provide some initial context to analytical results obtained. Although CARO makes every effort to ensure accuracy of the associated regulatory guideline(s) applied, the guidelines applied cannot be assumed to be correct due to a variety of factors and as such CARO Analytical Services assumes no liability or responsibility for the use of those guidelines to make any decisions. The original source of the regulation should be verified and a review of the guideline(s) should be validated as correct in order to make any decisions arising from the comparison of the analytical data obtained to the relevant regulatory guideline for one's particular circumstances. Further, CARO Analytical Services assumes no liability or responsibility for any loss attributed from the use of these guidelines in any way.



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

WORK ORDER REPORTED 22F0291
2022-06-09 13:45

The following section displays the quality control (QC) data that is associated with your sample data. Groups of samples are prepared in "batches" and analyzed in conjunction with QC samples that ensure your data is of the highest quality. Common QC types include:

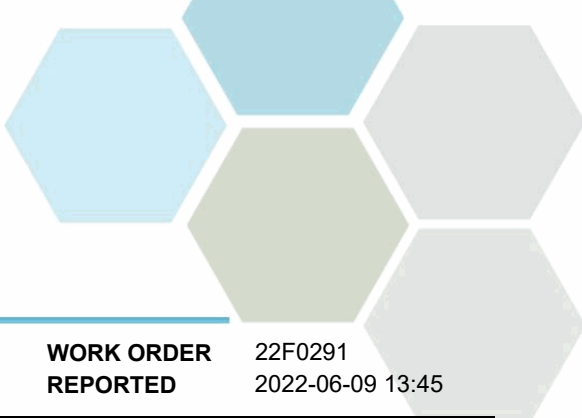
- **Method Blank (Blk):** A blank sample that undergoes sample processing identical to that carried out for the test samples. Method blank results are used to assess contamination from the laboratory environment and reagents.
- **Duplicate (Dup):** An additional or second portion of a randomly selected sample in the analytical run carried through the entire analytical process. Duplicates provide a measure of the analytical method's precision (reproducibility).
- **Blank Spike (BS):** A sample of known concentration which undergoes processing identical to that carried out for test samples, also referred to as a laboratory control sample (LCS). Blank spikes provide a measure of the analytical method's accuracy.
- **Matrix Spike (MS):** A second aliquot of sample is fortified with a known concentration of target analytes and carried through the entire analytical process. Matrix spikes evaluate potential matrix effects that may affect the analyte recovery.
- **Reference Material (SRM):** A homogenous material of similar matrix to the samples, certified for the parameter(s) listed. Reference Materials ensure that the analytical process is adequate to achieve acceptable recoveries of the parameter(s) tested.

Each QC type is analyzed at a 5-10% frequency, i.e. one blank/duplicate/spike for every 10-20 samples. For all types of QC, the specified recovery (% Rec) and relative percent difference (RPD) limits are derived from long-term method performance averages and/or prescribed by the reference method.

Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Anions, Batch B2F0077									
Blank (B2F0077-BLK1)			Prepared: 2022-06-02, Analyzed: 2022-06-02						
Chloride	< 0.10	0.10 mg/L							
Nitrate (as N)	< 0.010	0.010 mg/L							
Nitrite (as N)	< 0.010	0.010 mg/L							
Blank (B2F0077-BLK2)			Prepared: 2022-06-02, Analyzed: 2022-06-02						
Chloride	< 0.10	0.10 mg/L							
Nitrate (as N)	< 0.010	0.010 mg/L							
Nitrite (as N)	< 0.010	0.010 mg/L							
LCS (B2F0077-BS1)			Prepared: 2022-06-02, Analyzed: 2022-06-02						
Chloride	16.1	0.10 mg/L	16.0		101	90-110			
Nitrate (as N)	4.06	0.010 mg/L	4.00		102	90-110			
Nitrite (as N)	1.81	0.010 mg/L	2.00		91	85-115			
LCS (B2F0077-BS2)			Prepared: 2022-06-02, Analyzed: 2022-06-02						
Chloride	16.3	0.10 mg/L	16.0		102	90-110			
Nitrate (as N)	3.99	0.010 mg/L	4.00		100	90-110			
Nitrite (as N)	1.96	0.010 mg/L	2.00		98	85-115			

Dissolved Metals, Batch B2F0535

Blank (B2F0535-BLK1)			Prepared: 2022-06-05, Analyzed: 2022-06-05						
Aluminum, dissolved	< 0.0050	0.0050 mg/L							
Antimony, dissolved	< 0.00020	0.00020 mg/L							
Arsenic, dissolved	< 0.00050	0.00050 mg/L							
Barium, dissolved	< 0.0050	0.0050 mg/L							
Beryllium, dissolved	< 0.00010	0.00010 mg/L							
Bismuth, dissolved	< 0.00010	0.00010 mg/L							
Boron, dissolved	< 0.0500	0.0500 mg/L							
Cadmium, dissolved	< 0.000010	0.000010 mg/L							
Calcium, dissolved	< 0.20	0.20 mg/L							
Chromium, dissolved	< 0.00050	0.00050 mg/L							
Cobalt, dissolved	< 0.00010	0.00010 mg/L							
Copper, dissolved	< 0.00040	0.00040 mg/L							
Iron, dissolved	< 0.010	0.010 mg/L							
Lead, dissolved	< 0.00020	0.00020 mg/L							



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

WORK ORDER REPORTED 22F0291
2022-06-09 13:45

Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
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Dissolved Metals, Batch B2F0535, Continued

Blank (B2F0535-BLK1), Continued

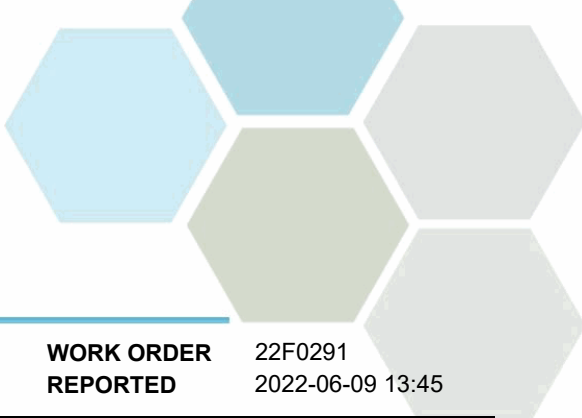
Prepared: 2022-06-05, Analyzed: 2022-06-05

Lithium, dissolved	< 0.00010	0.00010 mg/L							
Magnesium, dissolved	0.032	0.010 mg/L							BLK
Manganese, dissolved	< 0.00020	0.00020 mg/L							
Molybdenum, dissolved	< 0.00010	0.00010 mg/L							
Nickel, dissolved	< 0.00040	0.00040 mg/L							
Phosphorus, dissolved	< 0.050	0.050 mg/L							
Potassium, dissolved	< 0.10	0.10 mg/L							
Selenium, dissolved	< 0.00050	0.00050 mg/L							
Silicon, dissolved	< 1.0	1.0 mg/L							
Silver, dissolved	< 0.000050	0.000050 mg/L							
Sodium, dissolved	0.12	0.10 mg/L							BLK
Strontium, dissolved	< 0.0010	0.0010 mg/L							
Sulfur, dissolved	< 3.0	3.0 mg/L							
Tellurium, dissolved	< 0.00050	0.00050 mg/L							
Thallium, dissolved	< 0.000020	0.000020 mg/L							
Thorium, dissolved	< 0.00010	0.00010 mg/L							
Tin, dissolved	< 0.00020	0.00020 mg/L							
Titanium, dissolved	< 0.0050	0.0050 mg/L							
Tungsten, dissolved	< 0.0010	0.0010 mg/L							
Uranium, dissolved	< 0.000020	0.000020 mg/L							
Vanadium, dissolved	< 0.0050	0.0050 mg/L							
Zinc, dissolved	< 0.0040	0.0040 mg/L							
Zirconium, dissolved	< 0.00010	0.00010 mg/L							

LCS (B2F0535-BS1)

Prepared: 2022-06-05, Analyzed: 2022-06-05

Aluminum, dissolved	4.16	0.0050 mg/L	4.00		104	80-120			
Antimony, dissolved	0.0399	0.00020 mg/L	0.0400		100	80-120			
Arsenic, dissolved	0.0413	0.00050 mg/L	0.0400		103	80-120			
Barium, dissolved	0.0393	0.0050 mg/L	0.0400		98	80-120			
Beryllium, dissolved	0.0421	0.00010 mg/L	0.0400		105	80-120			
Bismuth, dissolved	0.0393	0.00010 mg/L	0.0400		98	80-120			
Boron, dissolved	< 0.0500	0.0500 mg/L	0.0400		101	80-120			
Cadmium, dissolved	0.0397	0.000010 mg/L	0.0400		99	80-120			
Calcium, dissolved	3.92	0.20 mg/L	4.00		98	80-120			
Chromium, dissolved	0.0410	0.00050 mg/L	0.0400		102	80-120			
Cobalt, dissolved	0.0398	0.00010 mg/L	0.0400		100	80-120			
Copper, dissolved	0.0399	0.00040 mg/L	0.0400		100	80-120			
Iron, dissolved	4.02	0.010 mg/L	4.00		100	80-120			
Lead, dissolved	0.0392	0.00020 mg/L	0.0400		98	80-120			
Lithium, dissolved	0.0417	0.00010 mg/L	0.0400		104	80-120			
Magnesium, dissolved	4.13	0.010 mg/L	4.00		103	80-120			
Manganese, dissolved	0.0404	0.00020 mg/L	0.0400		101	80-120			
Molybdenum, dissolved	0.0390	0.00010 mg/L	0.0400		97	80-120			
Nickel, dissolved	0.0395	0.00040 mg/L	0.0400		99	80-120			
Phosphorus, dissolved	4.03	0.050 mg/L	4.00		101	80-120			
Potassium, dissolved	3.97	0.10 mg/L	4.00		99	80-120			
Selenium, dissolved	0.0410	0.00050 mg/L	0.0400		102	80-120			
Silicon, dissolved	4.2	1.0 mg/L	4.00		105	80-120			
Silver, dissolved	0.0400	0.000050 mg/L	0.0400		100	80-120			
Sodium, dissolved	4.30	0.10 mg/L	4.00		108	80-120			
Strontium, dissolved	0.0411	0.0010 mg/L	0.0400		103	80-120			
Sulfur, dissolved	41.1	3.0 mg/L	40.0		103	80-120			
Tellurium, dissolved	0.0398	0.00050 mg/L	0.0400		100	80-120			
Thallium, dissolved	0.0389	0.000020 mg/L	0.0400		97	80-120			
Thorium, dissolved	0.0403	0.00010 mg/L	0.0400		101	80-120			
Tin, dissolved	0.0402	0.00020 mg/L	0.0400		100	80-120			



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

WORK ORDER REPORTED 22F0291
2022-06-09 13:45

Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
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Dissolved Metals, Batch B2F0535, Continued

LCS (B2F0535-BS1), Continued

Prepared: 2022-06-05, Analyzed: 2022-06-05

Titanium, dissolved	0.0399	0.0050 mg/L	0.0400		100	80-120			
Tungsten, dissolved	0.0407	0.0010 mg/L	0.0400		102	80-120			
Uranium, dissolved	0.0389	0.000020 mg/L	0.0400		97	80-120			
Vanadium, dissolved	0.0405	0.0050 mg/L	0.0400		101	80-120			
Zinc, dissolved	0.0399	0.0040 mg/L	0.0400		100	80-120			
Zirconium, dissolved	0.0402	0.00010 mg/L	0.0400		101	80-120			

Duplicate (B2F0535-DUP1)

Source: 22F0291-01

Prepared: 2022-06-05, Analyzed: 2022-06-05

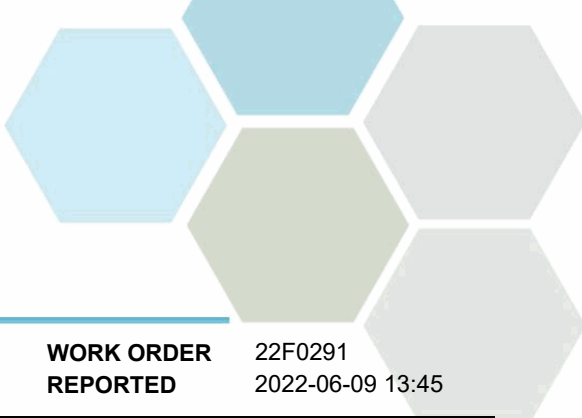
Aluminum, dissolved	< 0.0100	0.0050 mg/L	< 0.0100					20	
Antimony, dissolved	< 0.00040	0.00020 mg/L	< 0.00040					20	
Arsenic, dissolved	0.00346	0.00050 mg/L	0.00324					20	
Barium, dissolved	0.0231	0.0050 mg/L	0.0207					20	
Beryllium, dissolved	< 0.00020	0.00010 mg/L	< 0.00020					20	
Bismuth, dissolved	< 0.00020	0.00010 mg/L	< 0.00020					20	
Boron, dissolved	< 0.100	0.0500 mg/L	< 0.100					20	
Cadmium, dissolved	< 0.000020	0.000010 mg/L	< 0.000020					20	
Calcium, dissolved	69.1	0.20 mg/L	59.8				15	20	
Chromium, dissolved	< 0.00100	0.00050 mg/L	< 0.00100					20	
Cobalt, dissolved	< 0.00020	0.00010 mg/L	< 0.00020					20	
Copper, dissolved	0.00147	0.00040 mg/L	0.00131					20	
Iron, dissolved	< 0.020	0.010 mg/L	< 0.020					20	
Lead, dissolved	< 0.00040	0.00020 mg/L	< 0.00040					20	
Lithium, dissolved	0.0491	0.00010 mg/L	0.0447				9	20	
Magnesium, dissolved	319	0.010 mg/L	290				10	20	
Manganese, dissolved	0.0601	0.00020 mg/L	0.0557				8	20	
Molybdenum, dissolved	0.00147	0.00010 mg/L	0.00133				10	20	
Nickel, dissolved	0.00098	0.00040 mg/L	0.00085					20	
Phosphorus, dissolved	< 0.100	0.050 mg/L	< 0.100					20	
Potassium, dissolved	82.1	0.10 mg/L	71.5				14	20	
Selenium, dissolved	< 0.00100	0.00050 mg/L	< 0.00100					20	
Silicon, dissolved	< 2.0	1.0 mg/L	< 2.0					20	
Silver, dissolved	< 0.000100	0.000050 mg/L	< 0.000100					20	
Sodium, dissolved	917	0.10 mg/L	825				11	20	
Strontium, dissolved	0.621	0.0010 mg/L	0.570				9	20	
Sulfur, dissolved	731	3.0 mg/L	676				8	20	
Tellurium, dissolved	< 0.00100	0.00050 mg/L	< 0.00100					20	
Thallium, dissolved	< 0.000040	0.000020 mg/L	< 0.000040					20	
Thorium, dissolved	< 0.00020	0.00010 mg/L	< 0.00020					20	
Tin, dissolved	< 0.00040	0.00020 mg/L	< 0.00040					20	
Titanium, dissolved	< 0.0100	0.0050 mg/L	< 0.0100					20	
Tungsten, dissolved	< 0.0020	0.0010 mg/L	< 0.0020					20	
Uranium, dissolved	0.00348	0.000020 mg/L	0.00313				11	20	
Vanadium, dissolved	< 0.0100	0.0050 mg/L	< 0.0100					20	
Zinc, dissolved	< 0.0080	0.0040 mg/L	< 0.0080					20	
Zirconium, dissolved	0.00021	0.00010 mg/L	0.00022					20	

Matrix Spike (B2F0535-MS1)

Source: 22F0291-02

Prepared: 2022-06-05, Analyzed: 2022-06-05

Aluminum, dissolved	3.88	0.0050 mg/L	4.00	0.0137	97	70-130			
Antimony, dissolved	0.0391	0.00020 mg/L	0.0400	0.00050	97	70-130			
Arsenic, dissolved	0.0434	0.00050 mg/L	0.0400	0.00379	99	70-130			
Barium, dissolved	0.0631	0.0050 mg/L	0.0400	0.0238	98	70-130			
Beryllium, dissolved	0.0367	0.00010 mg/L	0.0400	< 0.00010	92	70-130			
Bismuth, dissolved	0.0351	0.00010 mg/L	0.0400	< 0.00010	88	70-130			
Boron, dissolved	0.186	0.0500 mg/L	0.0400	0.156	73	70-130			
Cadmium, dissolved	0.0379	0.000010 mg/L	0.0400	0.000026	95	70-130			
Calcium, dissolved	65.3	0.20 mg/L	4.00	58.9	162	70-130			MS2
Chromium, dissolved	0.0392	0.00050 mg/L	0.0400	< 0.00050	97	70-130			



APPENDIX 2: QUALITY CONTROL RESULTS

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RBCF Ponds

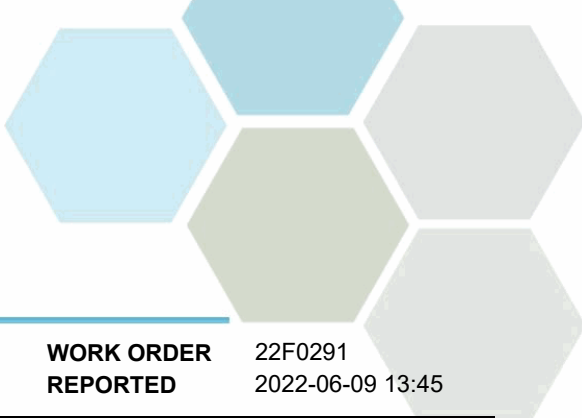
WORK ORDER REPORTED 22F0291
2022-06-09 13:45

Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Dissolved Metals, Batch B2F0535, Continued									
Matrix Spike (B2F0535-MS1), Continued		Source: 22F0291-02		Prepared: 2022-06-05, Analyzed: 2022-06-05					
Cobalt, dissolved	0.0379	0.00010 mg/L	0.0400	0.00038	94	70-130			
Copper, dissolved	0.0410	0.00040 mg/L	0.0400	0.00495	90	70-130			
Iron, dissolved	3.78	0.010 mg/L	4.00	0.040	93	70-130			
Lead, dissolved	0.0362	0.00020 mg/L	0.0400	< 0.00020	90	70-130			
Lithium, dissolved	0.0476	0.00010 mg/L	0.0400	0.0113	91	70-130			
Magnesium, dissolved	35.3	0.010 mg/L	4.00	33.2	52	70-130			MS2
Manganese, dissolved	0.195	0.00020 mg/L	0.0400	0.161	84	70-130			
Molybdenum, dissolved	0.0477	0.00010 mg/L	0.0400	0.00780	100	70-130			
Nickel, dissolved	0.0391	0.00040 mg/L	0.0400	0.00211	93	70-130			
Phosphorus, dissolved	6.60	0.050 mg/L	4.00	2.65	99	70-130			
Potassium, dissolved	26.8	0.10 mg/L	4.00	24.3	64	70-130			MS2
Selenium, dissolved	0.0405	0.00050 mg/L	0.0400	0.00052	100	70-130			
Silicon, dissolved	5.9	1.0 mg/L	4.00	1.6	107	70-130			
Silver, dissolved	0.0334	0.000050 mg/L	0.0400	< 0.000050	84	70-130			
Sodium, dissolved	103	0.10 mg/L	4.00	107	NR	70-130			MS2
Strontium, dissolved	0.695	0.0010 mg/L	0.0400	0.672	56	70-130			MS2
Sulfur, dissolved	94.1	3.0 mg/L	40.0	55.3	97	70-130			
Tellurium, dissolved	0.0394	0.00050 mg/L	0.0400	< 0.00050	98	70-130			
Thallium, dissolved	0.0361	0.000020 mg/L	0.0400	< 0.000020	90	70-130			
Thorium, dissolved	0.0382	0.00010 mg/L	0.0400	< 0.00010	96	70-130			
Tin, dissolved	0.0415	0.00020 mg/L	0.0400	< 0.00020	103	70-130			
Titanium, dissolved	0.0384	0.0050 mg/L	0.0400	< 0.0050	95	70-130			
Tungsten, dissolved	0.0420	0.0010 mg/L	0.0400	< 0.0010	104	70-130			
Uranium, dissolved	0.0409	0.000020 mg/L	0.0400	0.00383	93	70-130			
Vanadium, dissolved	0.0401	0.0050 mg/L	0.0400	< 0.0050	98	70-130			
Zinc, dissolved	0.0662	0.0040 mg/L	0.0400	0.0306	89	70-130			
Zirconium, dissolved	0.0421	0.00010 mg/L	0.0400	0.00015	105	70-130			

Dissolved Metals, Batch B2F0711

Blank (B2F0711-BLK1)			Prepared: 2022-06-06, Analyzed: 2022-06-07						
Mercury, dissolved	< 0.000010	0.000010 mg/L							
Blank (B2F0711-BLK2)			Prepared: 2022-06-06, Analyzed: 2022-06-07						
Mercury, dissolved	< 0.000010	0.000010 mg/L							
Blank (B2F0711-BLK3)			Prepared: 2022-06-06, Analyzed: 2022-06-07						
Mercury, dissolved	< 0.000010	0.000010 mg/L							
Blank (B2F0711-BLK4)			Prepared: 2022-06-06, Analyzed: 2022-06-07						
Mercury, dissolved	< 0.000010	0.000010 mg/L							
LCS (B2F0711-BS1)			Prepared: 2022-06-06, Analyzed: 2022-06-07						
Mercury, dissolved	0.000434	0.000010 mg/L	0.000500	87	80-120				
LCS (B2F0711-BS2)			Prepared: 2022-06-06, Analyzed: 2022-06-07						
Mercury, dissolved	0.000446	0.000010 mg/L	0.000500	89	80-120				
LCS (B2F0711-BS3)			Prepared: 2022-06-06, Analyzed: 2022-06-07						
Mercury, dissolved	0.000452	0.000010 mg/L	0.000500	90	80-120				
LCS (B2F0711-BS4)			Prepared: 2022-06-06, Analyzed: 2022-06-07						
Mercury, dissolved	0.000436	0.000010 mg/L	0.000500	87	80-120				

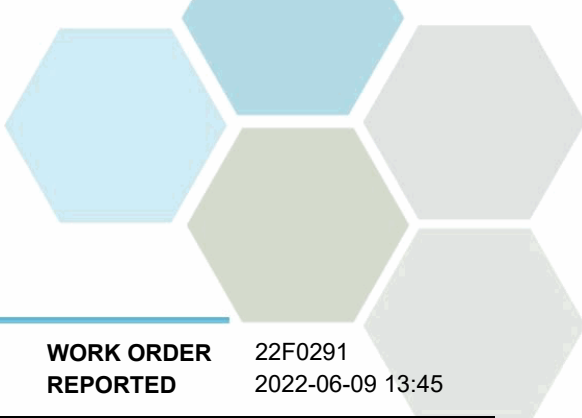
General Parameters, Batch B2F0094



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT	Kelowna, City of RBCF Ponds	WORK ORDER REPORTED	22F0291 2022-06-09 13:45
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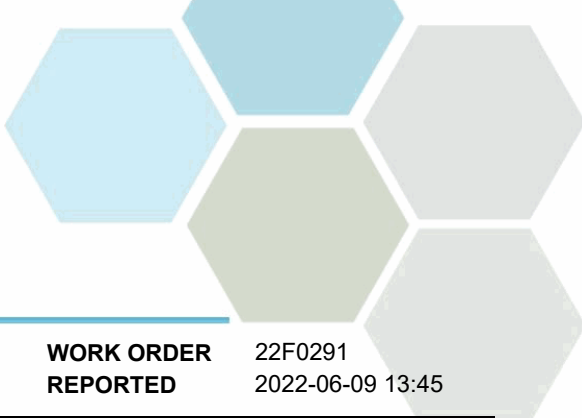
Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
General Parameters, Batch B2F0094, Continued									
Blank (B2F0094-BLK1)			Prepared: 2022-06-03, Analyzed: 2022-06-03						
Carbon, Dissolved Organic	< 0.50	0.50 mg/L							
Blank (B2F0094-BLK2)			Prepared: 2022-06-03, Analyzed: 2022-06-03						
Carbon, Dissolved Organic	< 0.50	0.50 mg/L							
Blank (B2F0094-BLK3)			Prepared: 2022-06-03, Analyzed: 2022-06-03						
Carbon, Dissolved Organic	< 0.50	0.50 mg/L							
LCS (B2F0094-BS1)			Prepared: 2022-06-03, Analyzed: 2022-06-03						
Carbon, Dissolved Organic	10.1	0.50 mg/L	10.0		101	78-116			
LCS (B2F0094-BS2)			Prepared: 2022-06-03, Analyzed: 2022-06-03						
Carbon, Dissolved Organic	10.2	0.50 mg/L	10.0		102	78-116			
LCS (B2F0094-BS3)			Prepared: 2022-06-03, Analyzed: 2022-06-03						
Carbon, Dissolved Organic	10.3	0.50 mg/L	10.0		103	78-116			
General Parameters, Batch B2F0219									
Blank (B2F0219-BLK1)			Prepared: 2022-06-02, Analyzed: 2022-06-02						
Ammonia, Total (as N)	< 0.050	0.050 mg/L							
Blank (B2F0219-BLK2)			Prepared: 2022-06-02, Analyzed: 2022-06-02						
Ammonia, Total (as N)	< 0.050	0.050 mg/L							
Blank (B2F0219-BLK3)			Prepared: 2022-06-02, Analyzed: 2022-06-02						
Ammonia, Total (as N)	< 0.050	0.050 mg/L							
LCS (B2F0219-BS1)			Prepared: 2022-06-02, Analyzed: 2022-06-02						
Ammonia, Total (as N)	0.938	0.050 mg/L	1.00		94	90-115			
LCS (B2F0219-BS2)			Prepared: 2022-06-02, Analyzed: 2022-06-02						
Ammonia, Total (as N)	0.901	0.050 mg/L	1.00		90	90-115			
LCS (B2F0219-BS3)			Prepared: 2022-06-02, Analyzed: 2022-06-02						
Ammonia, Total (as N)	0.907	0.050 mg/L	1.00		91	90-115			
General Parameters, Batch B2F0294									
Blank (B2F0294-BLK1)			Prepared: 2022-06-04, Analyzed: 2022-06-04						
Chemical Oxygen Demand	< 20	20 mg/L							
LCS (B2F0294-BS1)			Prepared: 2022-06-04, Analyzed: 2022-06-04						
Chemical Oxygen Demand	493	20 mg/L	500		99	89-115			
General Parameters, Batch B2F0440									
Blank (B2F0440-BLK1)			Prepared: 2022-06-03, Analyzed: 2022-06-08						
BOD, 5-day	< 2.0	2.0 mg/L							
LCS (B2F0440-BS1)			Prepared: 2022-06-03, Analyzed: 2022-06-08						
BOD, 5-day	192	46.3 mg/L	180		107	85-115			
General Parameters, Batch B2F0630									



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT	Kelowna, City of RBCF Ponds	WORK ORDER REPORTED	22F0291 2022-06-09 13:45
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Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
General Parameters, Batch B2F0630, Continued									
Blank (B2F0630-BLK1)			Prepared: 2022-06-06, Analyzed: 2022-06-06						
Conductivity (EC)	< 2.0	2.0 µS/cm							
Blank (B2F0630-BLK2)			Prepared: 2022-06-06, Analyzed: 2022-06-06						
Conductivity (EC)	< 2.0	2.0 µS/cm							
Blank (B2F0630-BLK3)			Prepared: 2022-06-06, Analyzed: 2022-06-06						
Conductivity (EC)	< 2.0	2.0 µS/cm							
LCS (B2F0630-BS4)			Prepared: 2022-06-06, Analyzed: 2022-06-06						
Conductivity (EC)	1410	2.0 µS/cm	1410		100	95-105			
LCS (B2F0630-BS5)			Prepared: 2022-06-06, Analyzed: 2022-06-06						
Conductivity (EC)	1420	2.0 µS/cm	1410		100	95-105			
LCS (B2F0630-BS6)			Prepared: 2022-06-06, Analyzed: 2022-06-06						
Conductivity (EC)	1430	2.0 µS/cm	1410		101	95-105			
Reference (B2F0630-SRM1)			Prepared: 2022-06-06, Analyzed: 2022-06-06						
pH	7.04	0.10 pH units	7.01		100	98-102			
Reference (B2F0630-SRM2)			Prepared: 2022-06-06, Analyzed: 2022-06-06						
pH	7.05	0.10 pH units	7.01		101	98-102			
Reference (B2F0630-SRM3)			Prepared: 2022-06-06, Analyzed: 2022-06-06						
pH	7.03	0.10 pH units	7.01		100	98-102			
General Parameters, Batch B2F0727									
Blank (B2F0727-BLK1)			Prepared: 2022-06-06, Analyzed: 2022-06-06						
Chemical Oxygen Demand	< 20	20 mg/L							
LCS (B2F0727-BS1)			Prepared: 2022-06-06, Analyzed: 2022-06-06						
Chemical Oxygen Demand	516	20 mg/L	500		103	89-115			
General Parameters, Batch B2F0732									
Blank (B2F0732-BLK1)			Prepared: 2022-06-06, Analyzed: 2022-06-06						
Solids, Total Suspended	< 2.0	2.0 mg/L							
LCS (B2F0732-BS1)			Prepared: 2022-06-06, Analyzed: 2022-06-06						
Solids, Total Suspended	101	10.0 mg/L	100		101	85-115			
General Parameters, Batch B2F0736									
Blank (B2F0736-BLK1)			Prepared: 2022-06-06, Analyzed: 2022-06-08						
Nitrogen, Total Kjeldahl	< 0.050	0.050 mg/L							
Blank (B2F0736-BLK2)			Prepared: 2022-06-06, Analyzed: 2022-06-08						
Nitrogen, Total Kjeldahl	< 0.050	0.050 mg/L							
LCS (B2F0736-BS1)			Prepared: 2022-06-06, Analyzed: 2022-06-08						
Nitrogen, Total Kjeldahl	1.03	0.050 mg/L	1.00		103	85-115			
LCS (B2F0736-BS2)			Prepared: 2022-06-06, Analyzed: 2022-06-08						
Nitrogen, Total Kjeldahl	1.03	0.050 mg/L	1.00		103	85-115			



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT	Kelowna, City of RBCF Ponds	WORK ORDER REPORTED	22F0291 2022-06-09 13:45
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Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
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General Parameters, Batch B2F0736, Continued

Duplicate (B2F0736-DUP1)		Source: 22F0291-01		Prepared: 2022-06-06, Analyzed: 2022-06-08					
Nitrogen, Total Kjeldahl	1.48	0.050 mg/L		1.52			2	15	
Matrix Spike (B2F0736-MS1)		Source: 22F0291-01		Prepared: 2022-06-06, Analyzed: 2022-06-08					
Nitrogen, Total Kjeldahl	3.46	0.100 mg/L	2.00	1.52	97	65-135			

General Parameters, Batch B2F0796

Blank (B2F0796-BLK1)		Prepared: 2022-06-07, Analyzed: 2022-06-07							
Solids, Total Dissolved	< 15	15 mg/L							
LCS (B2F0796-BS1)		Prepared: 2022-06-07, Analyzed: 2022-06-07							
Solids, Total Dissolved	243	15 mg/L	240		101	85-115			
Duplicate (B2F0796-DUP1)		Source: 22F0291-01		Prepared: 2022-06-07, Analyzed: 2022-06-07					
Solids, Total Dissolved	4200	15 mg/L		4080			3	15	

General Parameters, Batch B2F0812

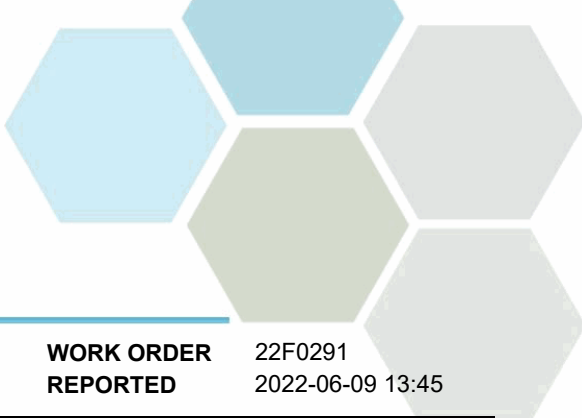
Blank (B2F0812-BLK1)		Prepared: 2022-06-07, Analyzed: 2022-06-07							
Solids, Total Suspended	< 2.0	2.0 mg/L							
LCS (B2F0812-BS1)		Prepared: 2022-06-07, Analyzed: 2022-06-07							
Solids, Total Suspended	88.5	5.0 mg/L	100		88	85-115			

General Parameters, Batch B2F0903

Blank (B2F0903-BLK1)		Prepared: 2022-06-07, Analyzed: 2022-06-08							
Phosphorus, Total (as P)	< 0.0050	0.0050 mg/L							
Blank (B2F0903-BLK3)		Prepared: 2022-06-07, Analyzed: 2022-06-08							
Phosphorus, Total (as P)	< 0.0050	0.0050 mg/L							
LCS (B2F0903-BS1)		Prepared: 2022-06-07, Analyzed: 2022-06-08							
Phosphorus, Total (as P)	0.106	0.0050 mg/L	0.100		106	85-115			
LCS (B2F0903-BS3)		Prepared: 2022-06-07, Analyzed: 2022-06-08							
Phosphorus, Total (as P)	0.108	0.0050 mg/L	0.100		108	85-115			

Microbiological Parameters, Batch B2F0241

Blank (B2F0241-BLK1)		Prepared: 2022-06-02, Analyzed: 2022-06-02							
E. coli (Q-Tray)	< 1	1 MPN/100 mL							
Blank (B2F0241-BLK2)		Prepared: 2022-06-02, Analyzed: 2022-06-02							
Coliforms, Total (Q-Tray)	< 1	1 MPN/100 mL							
E. coli (Q-Tray)	< 1	1 MPN/100 mL							
Blank (B2F0241-BLK3)		Prepared: 2022-06-02, Analyzed: 2022-06-02							
E. coli (Q-Tray)	< 1	1 MPN/100 mL							
Blank (B2F0241-BLK4)		Prepared: 2022-06-02, Analyzed: 2022-06-02							
Coliforms, Total (Q-Tray)	< 1	1 MPN/100 mL							
E. coli (Q-Tray)	< 1	1 MPN/100 mL							
Blank (B2F0241-BLK5)		Prepared: 2022-06-02, Analyzed: 2022-06-02							
Coliforms, Total (Q-Tray)	< 1	1 MPN/100 mL							



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

WORK ORDER REPORTED 22F0291
2022-06-09 13:45

Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
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Microbiological Parameters, Batch B2F0241, Continued

Blank (B2F0241-BLK5), Continued

Prepared: 2022-06-02, Analyzed: 2022-06-02

E. coli (Q-Tray)	< 1	1 MPN/100 mL							
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Total Metals, Batch B2F0531

Blank (B2F0531-BLK1)

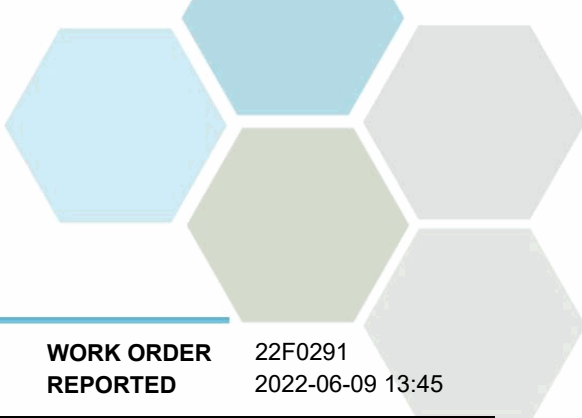
Prepared: 2022-06-03, Analyzed: 2022-06-05

Aluminum, total	< 0.0050	0.0050 mg/L							
Antimony, total	< 0.00020	0.00020 mg/L							
Arsenic, total	< 0.00050	0.00050 mg/L							
Barium, total	< 0.0050	0.0050 mg/L							
Beryllium, total	< 0.00010	0.00010 mg/L							
Bismuth, total	< 0.00010	0.00010 mg/L							
Boron, total	< 0.0500	0.0500 mg/L							
Cadmium, total	< 0.000010	0.000010 mg/L							
Calcium, total	< 0.20	0.20 mg/L							
Chromium, total	< 0.00050	0.00050 mg/L							
Cobalt, total	< 0.00010	0.00010 mg/L							
Copper, total	< 0.00040	0.00040 mg/L							
Iron, total	< 0.010	0.010 mg/L							
Lead, total	< 0.00020	0.00020 mg/L							
Lithium, total	< 0.00010	0.00010 mg/L							
Magnesium, total	< 0.010	0.010 mg/L							
Manganese, total	< 0.00020	0.00020 mg/L							
Molybdenum, total	< 0.00010	0.00010 mg/L							
Nickel, total	< 0.00040	0.00040 mg/L							
Phosphorus, total	< 0.050	0.050 mg/L							
Potassium, total	< 0.10	0.10 mg/L							
Selenium, total	< 0.00050	0.00050 mg/L							
Silicon, total	< 1.0	1.0 mg/L							
Silver, total	< 0.000050	0.000050 mg/L							
Sodium, total	< 0.10	0.10 mg/L							
Strontium, total	< 0.0010	0.0010 mg/L							
Sulfur, total	< 3.0	3.0 mg/L							
Tellurium, total	< 0.00050	0.00050 mg/L							
Thallium, total	< 0.000020	0.000020 mg/L							
Thorium, total	< 0.00010	0.00010 mg/L							
Tin, total	< 0.00020	0.00020 mg/L							
Titanium, total	< 0.0050	0.0050 mg/L							
Tungsten, total	< 0.0002	0.0002 mg/L							
Uranium, total	< 0.000020	0.000020 mg/L							
Vanadium, total	< 0.0050	0.0050 mg/L							
Zinc, total	< 0.0040	0.0040 mg/L							
Zirconium, total	< 0.00010	0.00010 mg/L							

LCS (B2F0531-BS1)

Prepared: 2022-06-03, Analyzed: 2022-06-05

Aluminum, total	4.06	0.0050 mg/L	4.00	101	80-120
Antimony, total	0.0402	0.00020 mg/L	0.0400	100	80-120
Arsenic, total	0.0417	0.00050 mg/L	0.0400	104	80-120
Barium, total	0.0406	0.0050 mg/L	0.0400	102	80-120
Beryllium, total	0.0391	0.00010 mg/L	0.0400	98	80-120
Bismuth, total	0.0391	0.00010 mg/L	0.0400	98	80-120
Boron, total	< 0.0500	0.0500 mg/L	0.0400	99	80-120
Cadmium, total	0.0399	0.000010 mg/L	0.0400	100	80-120
Calcium, total	3.96	0.20 mg/L	4.00	99	80-120
Chromium, total	0.0412	0.00050 mg/L	0.0400	103	80-120
Cobalt, total	0.0401	0.00010 mg/L	0.0400	100	80-120
Copper, total	0.0402	0.00040 mg/L	0.0400	101	80-120



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Kelowna, City of RBCF Ponds

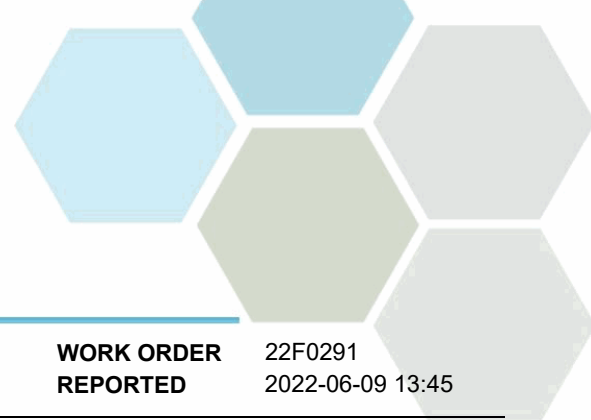
WORK ORDER REPORTED 22F0291
2022-06-09 13:45

Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
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Total Metals, Batch B2F0531, Continued

LCS (B2F0531-BS1), Continued				Prepared: 2022-06-03, Analyzed: 2022-06-05					
Iron, total	4.03	0.010 mg/L	4.00		101	80-120			
Lead, total	0.0389	0.00020 mg/L	0.0400		97	80-120			
Lithium, total	0.0400	0.00010 mg/L	0.0400		100	80-120			
Magnesium, total	4.06	0.010 mg/L	4.00		102	80-120			
Manganese, total	0.0405	0.00020 mg/L	0.0400		101	80-120			
Molybdenum, total	0.0391	0.00010 mg/L	0.0400		98	80-120			
Nickel, total	0.0399	0.00040 mg/L	0.0400		100	80-120			
Phosphorus, total	3.97	0.050 mg/L	4.00		99	80-120			
Potassium, total	4.00	0.10 mg/L	4.00		100	80-120			
Selenium, total	0.0402	0.00050 mg/L	0.0400		101	80-120			
Silicon, total	4.2	1.0 mg/L	4.00		104	80-120			
Silver, total	0.0401	0.000050 mg/L	0.0400		100	80-120			
Sodium, total	4.23	0.10 mg/L	4.00		106	80-120			
Strontium, total	0.0409	0.0010 mg/L	0.0400		102	80-120			
Sulfur, total	41.0	3.0 mg/L	40.0		103	80-120			
Tellurium, total	0.0402	0.00050 mg/L	0.0400		100	80-120			
Thallium, total	0.0386	0.000020 mg/L	0.0400		96	80-120			
Thorium, total	0.0393	0.00010 mg/L	0.0400		98	80-120			
Tin, total	0.0407	0.00020 mg/L	0.0400		102	80-120			
Titanium, total	0.0405	0.00050 mg/L	0.0400		101	80-120			
Tungsten, total	0.0396	0.0002 mg/L	0.0400		99	80-120			
Uranium, total	0.0385	0.000020 mg/L	0.0400		96	80-120			
Vanadium, total	0.0404	0.00050 mg/L	0.0400		101	80-120			
Zinc, total	0.0399	0.0040 mg/L	0.0400		100	80-120			
Zirconium, total	0.0400	0.00010 mg/L	0.0400		100	80-120			

Duplicate (B2F0531-DUP1)		Source: 22F0291-01		Prepared: 2022-06-03, Analyzed: 2022-06-05					
Aluminum, total	0.0160	0.0050 mg/L	0.0161					20	
Antimony, total	< 0.00040	0.00020 mg/L	< 0.00040					20	
Arsenic, total	0.00337	0.00050 mg/L	0.00344					20	
Barium, total	0.0161	0.0050 mg/L	0.0166					20	
Beryllium, total	< 0.00020	0.00010 mg/L	< 0.00020					20	
Bismuth, total	< 0.00020	0.00010 mg/L	< 0.00020					20	
Boron, total	< 0.100	0.0500 mg/L	< 0.100					20	
Cadmium, total	< 0.000020	0.000010 mg/L	< 0.000020					20	
Calcium, total	65.0	0.20 mg/L	63.1				3	20	
Chromium, total	< 0.00100	0.00050 mg/L	< 0.00100					20	
Cobalt, total	< 0.00020	0.00010 mg/L	< 0.00020					20	
Copper, total	< 0.00080	0.00040 mg/L	< 0.00080					20	
Iron, total	0.025	0.010 mg/L	0.027					20	
Lead, total	< 0.00040	0.00020 mg/L	< 0.00040					20	
Lithium, total	0.0457	0.00010 mg/L	0.0461				< 1	20	
Magnesium, total	291	0.010 mg/L	306				5	20	
Manganese, total	0.0799	0.00020 mg/L	0.0826				3	20	
Molybdenum, total	0.00122	0.00010 mg/L	0.00124				1	20	
Nickel, total	0.00088	0.00040 mg/L	0.00100					20	
Phosphorus, total	< 0.100	0.050 mg/L	< 0.100					20	
Potassium, total	75.0	0.10 mg/L	77.1				3	20	
Selenium, total	< 0.00100	0.00050 mg/L	< 0.00100					20	
Silicon, total	< 2.0	1.0 mg/L	< 2.0					20	
Silver, total	< 0.000100	0.000050 mg/L	< 0.000100					20	
Sodium, total	810	0.10 mg/L	841				4	20	
Strontium, total	0.570	0.0010 mg/L	0.586				3	20	
Sulfur, total	686	3.0 mg/L	691				< 1	20	
Tellurium, total	< 0.00100	0.00050 mg/L	< 0.00100					20	
Thallium, total	< 0.000040	0.000020 mg/L	< 0.000040					20	



APPENDIX 2: QUALITY CONTROL RESULTS

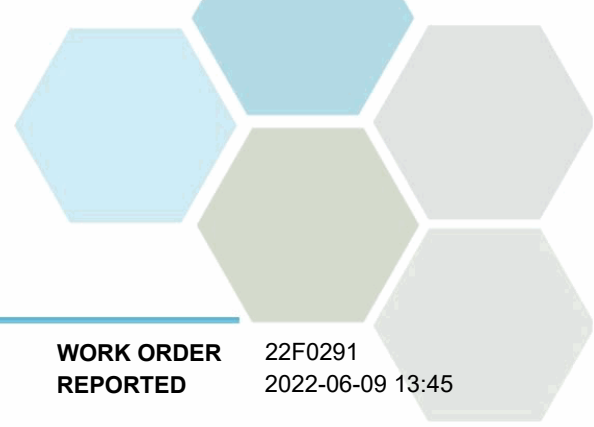
REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

WORK ORDER REPORTED 22F0291
2022-06-09 13:45

Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Total Metals, Batch B2F0531, Continued									
Duplicate (B2F0531-DUP1), Continued		Source: 22F0291-01		Prepared: 2022-06-03, Analyzed: 2022-06-05					
Thorium, total	< 0.00020	0.00010 mg/L		< 0.00020				20	
Tin, total	< 0.00040	0.00020 mg/L		< 0.00040				20	
Titanium, total	< 0.0100	0.0050 mg/L		< 0.0100				20	
Tungsten, total	< 0.0004	0.0002 mg/L		< 0.0004				20	
Uranium, total	0.00329	0.000020 mg/L		0.00334			2	20	
Vanadium, total	< 0.0100	0.0050 mg/L		< 0.0100				20	
Zinc, total	< 0.0080	0.0040 mg/L		< 0.0080				20	
Zirconium, total	< 0.00020	0.00010 mg/L		< 0.00020				20	
Matrix Spike (B2F0531-MS1)									
Source: 22F0291-02		Prepared: 2022-06-03, Analyzed: 2022-06-05							
Aluminum, total	4.55	0.0050 mg/L	4.00	0.0480	113	70-130			
Antimony, total	0.0382	0.00020 mg/L	0.0400	0.00052	94	70-130			
Arsenic, total	0.0499	0.00050 mg/L	0.0400	0.00387	115	70-130			
Barium, total	0.0728	0.0050 mg/L	0.0400	0.0278	112	70-130			
Beryllium, total	0.0428	0.00010 mg/L	0.0400	< 0.00010	107	70-130			
Bismuth, total	0.0364	0.00010 mg/L	0.0400	0.00027	90	70-130			
Boron, total	0.205	0.0500 mg/L	0.0400	0.169	91	70-130			
Cadmium, total	0.0437	0.000010 mg/L	0.0400	0.000062	109	70-130			
Calcium, total	66.4	0.20 mg/L	4.00	60.5	147	70-130			MS2
Chromium, total	0.0458	0.00050 mg/L	0.0400	< 0.00050	113	70-130			
Cobalt, total	0.0442	0.00010 mg/L	0.0400	0.00045	109	70-130			
Copper, total	0.0557	0.00040 mg/L	0.0400	0.0134	106	70-130			
Iron, total	4.54	0.010 mg/L	4.00	0.116	111	70-130			
Lead, total	0.0409	0.00020 mg/L	0.0400	0.00034	101	70-130			
Lithium, total	0.0549	0.00010 mg/L	0.0400	0.0115	108	70-130			
Magnesium, total	35.0	0.010 mg/L	4.00	32.8	55	70-130			MS2
Manganese, total	0.212	0.00020 mg/L	0.0400	0.175	92	70-130			
Molybdenum, total	0.0489	0.00010 mg/L	0.0400	0.00854	101	70-130			
Nickel, total	0.0446	0.00040 mg/L	0.0400	0.00227	106	70-130			
Phosphorus, total	7.19	0.050 mg/L	4.00	2.76	111	70-130			
Potassium, total	29.7	0.10 mg/L	4.00	25.6	101	70-130			
Selenium, total	0.0457	0.00050 mg/L	0.0400	0.00063	113	70-130			
Silicon, total	6.0	1.0 mg/L	4.00	1.6	109	70-130			
Silver, total	0.0385	0.000050 mg/L	0.0400	< 0.000050	96	70-130			
Sodium, total	107	0.10 mg/L	4.00	105	29	70-130			MS2
Strontium, total	0.719	0.0010 mg/L	0.0400	0.682	93	70-130			
Sulfur, total	103	3.0 mg/L	40.0	57.2	114	70-130			
Tellurium, total	0.0399	0.00050 mg/L	0.0400	< 0.00050	100	70-130			
Thallium, total	0.0404	0.000020 mg/L	0.0400	< 0.000020	101	70-130			
Thorium, total	0.0416	0.00010 mg/L	0.0400	< 0.00010	104	70-130			
Tin, total	0.0416	0.00020 mg/L	0.0400	0.00026	103	70-130			
Titanium, total	0.0421	0.0050 mg/L	0.0400	< 0.0050	102	70-130			
Tungsten, total	0.0403	0.0002 mg/L	0.0400	0.0003	100	70-130			
Uranium, total	0.0456	0.000020 mg/L	0.0400	0.00441	103	70-130			
Vanadium, total	0.0464	0.0050 mg/L	0.0400	< 0.0050	113	70-130			
Zinc, total	0.0817	0.0040 mg/L	0.0400	0.0395	106	70-130			
Zirconium, total	0.0410	0.00010 mg/L	0.0400	0.00017	102	70-130			

Total Metals, Batch B2F0649

Blank (B2F0649-BLK1)		Prepared: 2022-06-06, Analyzed: 2022-06-06							
Mercury, total	< 0.000010	0.000010 mg/L							
LCS (B2F0649-BS1)		Prepared: 2022-06-06, Analyzed: 2022-06-06							
Mercury, total	0.000478	0.000010 mg/L	0.000500		96	80-120			



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO Kelowna, City of
PROJECT RBCF Ponds

WORK ORDER 22F0291
REPORTED 2022-06-09 13:45

QC Qualifiers:

BLK Analyte concentration in the Method Blank is above the Reporting Limit (RL).
MS2 The native sample concentration is greater than the spike concentration hence the matrix spike limits do not apply.



CERTIFICATE OF ANALYSIS

REPORTED TO Kelowna, City of
1435 Water Street
KELOWNA, BC V1Y 1J4

ATTENTION Jose Garcia

PO NUMBER 535828

PROJECT RBCF Ponds

PROJECT INFO

WORK ORDER 22F3398

RECEIVED / TEMP 2022-06-22 16:51 / 8.4°C

REPORTED 2022-06-30 14:40

COC NUMBER 44734.45489

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.

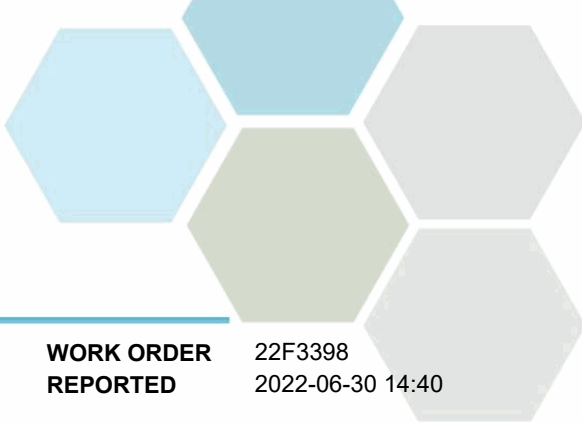
If you have any questions or concerns, please contact me at bwhitehead@caro.ca

Authorized By:

Brent Whitehead
Account Manager

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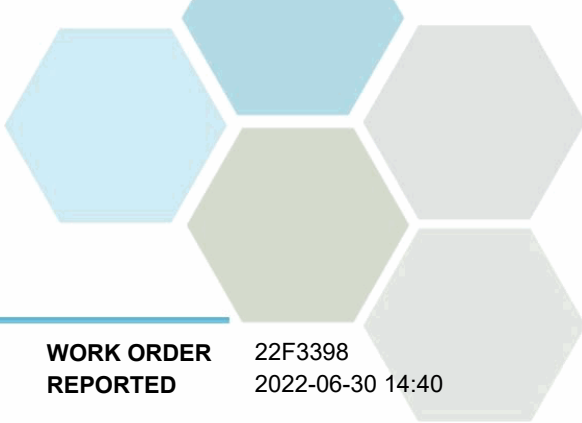


TEST RESULTS

REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

WORK ORDER REPORTED 22F3398
2022-06-30 14:40

Analyte	Result	RL	Units	Analyzed	Qualifier
Rose's Pond (22F3398-01) Matrix: Water Sampled: 2022-06-22					
Anions					
Chloride	420	0.10	mg/L	2022-06-24	
Nitrate (as N)	0.105	0.010	mg/L	2022-06-24	
Nitrite (as N)	< 0.100	0.010	mg/L	2022-06-24	RA1
Calculated Parameters					
Hardness, Total (as CaCO3)	1250	1.00	mg/L	N/A	
Nitrate+Nitrite (as N)	0.105	0.100	mg/L	N/A	
Nitrogen, Total	1.56	0.100	mg/L	N/A	
Dissolved Metals					
Aluminum, dissolved	< 0.0100	0.0050	mg/L	2022-06-26	RS1
Antimony, dissolved	< 0.00040	0.00020	mg/L	2022-06-26	RS1
Arsenic, dissolved	0.00341	0.00050	mg/L	2022-06-26	RS1
Barium, dissolved	0.0137	0.0050	mg/L	2022-06-26	RS1
Beryllium, dissolved	< 0.00020	0.00010	mg/L	2022-06-26	RS1
Bismuth, dissolved	< 0.00020	0.00010	mg/L	2022-06-26	RS1
Boron, dissolved	< 0.100	0.0500	mg/L	2022-06-26	RS1
Cadmium, dissolved	< 0.000020	0.000010	mg/L	2022-06-26	RS1
Calcium, dissolved	68.6	0.20	mg/L	2022-06-26	RS1
Chromium, dissolved	< 0.00100	0.00050	mg/L	2022-06-26	RS1
Cobalt, dissolved	< 0.00020	0.00010	mg/L	2022-06-26	RS1
Copper, dissolved	< 0.00080	0.00040	mg/L	2022-06-26	RS1
Iron, dissolved	< 0.020	0.010	mg/L	2022-06-26	RS1
Lead, dissolved	< 0.00040	0.00020	mg/L	2022-06-26	RS1
Lithium, dissolved	0.0502	0.00010	mg/L	2022-06-26	RS1
Magnesium, dissolved	262	0.010	mg/L	2022-06-26	RS1
Manganese, dissolved	0.00800	0.00020	mg/L	2022-06-26	RS1
Mercury, dissolved	< 0.000010	0.000010	mg/L	2022-06-28	
Molybdenum, dissolved	0.00127	0.00010	mg/L	2022-06-26	RS1
Nickel, dissolved	< 0.00080	0.00040	mg/L	2022-06-26	RS1
Phosphorus, dissolved	< 0.100	0.050	mg/L	2022-06-26	RS1
Potassium, dissolved	78.6	0.10	mg/L	2022-06-26	RS1
Selenium, dissolved	< 0.00100	0.00050	mg/L	2022-06-26	RS1
Silicon, dissolved	< 2.0	1.0	mg/L	2022-06-26	RS1
Silver, dissolved	< 0.000100	0.000050	mg/L	2022-06-26	RS1
Sodium, dissolved	768	0.10	mg/L	2022-06-26	RS1
Strontium, dissolved	0.568	0.0010	mg/L	2022-06-26	RS1
Sulfur, dissolved	739	3.0	mg/L	2022-06-26	RS1
Tellurium, dissolved	< 0.00100	0.00050	mg/L	2022-06-26	RS1
Thallium, dissolved	< 0.000040	0.000020	mg/L	2022-06-26	RS1
Thorium, dissolved	< 0.00020	0.00010	mg/L	2022-06-26	RS1
Tin, dissolved	< 0.00040	0.00020	mg/L	2022-06-26	RS1
Titanium, dissolved	< 0.0100	0.0050	mg/L	2022-06-26	RS1
Tungsten, dissolved	< 0.0020	0.0010	mg/L	2022-06-26	RS1



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Analyte	Result	RL	Units	Analyzed	Qualifier
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Rose's Pond (22F3398-01) | Matrix: Water | Sampled: 2022-06-22, Continued

Dissolved Metals, Continued

Uranium, dissolved	0.00379	0.000020	mg/L	2022-06-26	RS1
Vanadium, dissolved	< 0.0100	0.0050	mg/L	2022-06-26	RS1
Zinc, dissolved	< 0.0080	0.0040	mg/L	2022-06-26	RS1
Zirconium, dissolved	0.00020	0.00010	mg/L	2022-06-26	RS1

General Parameters

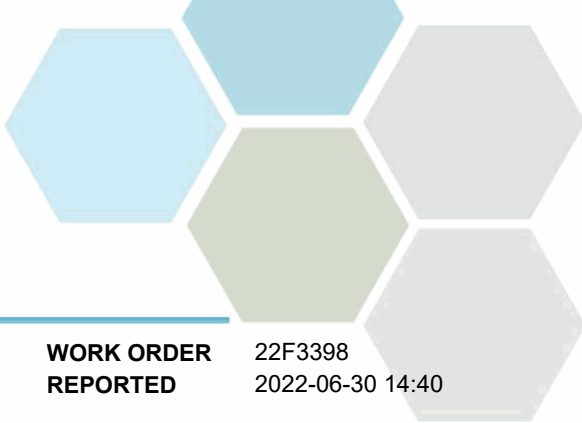
Ammonia, Total (as N)	< 0.050	0.050	mg/L	2022-06-27	
BOD, 5-day	< 7.1	2.0	mg/L	2022-06-28	
Carbon, Dissolved Organic	20.5	0.50	mg/L	2022-06-27	
Chemical Oxygen Demand	54	20	mg/L	2022-06-24	
Conductivity (EC)	4940	2.0	µS/cm	2022-06-27	
Nitrogen, Total Kjeldahl	1.46	0.050	mg/L	2022-06-28	
pH	8.50	0.10	pH units	2022-06-27	HT2
Phosphorus, Total (as P)	0.0229	0.0050	mg/L	2022-06-28	
Solids, Total Dissolved	3760	15	mg/L	2022-06-29	
Solids, Total Suspended	3.4	2.0	mg/L	2022-06-28	

Microbiological Parameters

Coliforms, Total (Q-Tray)	770	1	MPN/100 mL	2022-06-23	
E. coli (Q-Tray)	5	1	MPN/100 mL	2022-06-23	

Total Metals

Aluminum, total	0.0102	0.0050	mg/L	2022-06-26	RS1
Antimony, total	< 0.00040	0.00020	mg/L	2022-06-26	RS1
Arsenic, total	0.00359	0.00050	mg/L	2022-06-26	RS1
Barium, total	0.0138	0.0050	mg/L	2022-06-26	RS1
Beryllium, total	< 0.00020	0.00010	mg/L	2022-06-26	RS1
Bismuth, total	< 0.00020	0.00010	mg/L	2022-06-26	RS1
Boron, total	< 0.100	0.0500	mg/L	2022-06-26	RS1
Cadmium, total	< 0.000020	0.000010	mg/L	2022-06-26	RS1
Calcium, total	65.3	0.20	mg/L	2022-06-26	RS1
Chromium, total	< 0.00100	0.00050	mg/L	2022-06-26	RS1
Cobalt, total	< 0.00020	0.00010	mg/L	2022-06-26	RS1
Copper, total	< 0.00080	0.00040	mg/L	2022-06-26	RS1
Iron, total	< 0.020	0.010	mg/L	2022-06-26	RS1
Lead, total	< 0.00040	0.00020	mg/L	2022-06-26	RS1
Lithium, total	0.0444	0.00010	mg/L	2022-06-26	RS1
Magnesium, total	248	0.010	mg/L	2022-06-26	RS1
Manganese, total	0.0652	0.00020	mg/L	2022-06-26	RS1
Mercury, total	< 0.000010	0.000010	mg/L	2022-06-28	
Molybdenum, total	0.00135	0.00010	mg/L	2022-06-26	RS1
Nickel, total	< 0.00080	0.00040	mg/L	2022-06-26	RS1
Phosphorus, total	< 0.100	0.050	mg/L	2022-06-26	RS1
Potassium, total	75.7	0.10	mg/L	2022-06-26	RS1



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Analyte	Result	RL	Units	Analyzed	Qualifier
Rose's Pond (22F3398-01) Matrix: Water Sampled: 2022-06-22, Continued					
<i>Total Metals, Continued</i>					
Selenium, total	< 0.00100	0.00050	mg/L	2022-06-26	RS1
Silicon, total	< 2.0	1.0	mg/L	2022-06-26	RS1
Silver, total	< 0.000100	0.000050	mg/L	2022-06-26	RS1
Sodium, total	727	0.10	mg/L	2022-06-26	RS1
Strontium, total	0.553	0.0010	mg/L	2022-06-26	RS1
Sulfur, total	700	3.0	mg/L	2022-06-26	RS1
Tellurium, total	< 0.00100	0.00050	mg/L	2022-06-26	RS1
Thallium, total	< 0.000040	0.000020	mg/L	2022-06-26	RS1
Thorium, total	< 0.00020	0.00010	mg/L	2022-06-26	RS1
Tin, total	< 0.00040	0.00020	mg/L	2022-06-26	RS1
Titanium, total	< 0.0100	0.0050	mg/L	2022-06-26	RS1
Tungsten, total	< 0.0004	0.0002	mg/L	2022-06-26	RS1
Uranium, total	0.00351	0.000020	mg/L	2022-06-26	RS1
Vanadium, total	< 0.0100	0.0050	mg/L	2022-06-26	RS1
Zinc, total	< 0.0080	0.0040	mg/L	2022-06-26	RS1
Zirconium, total	< 0.00020	0.00010	mg/L	2022-06-26	RS1

Drainage Pond (22F3398-02) | Matrix: Water | Sampled: 2022-06-22

Anions

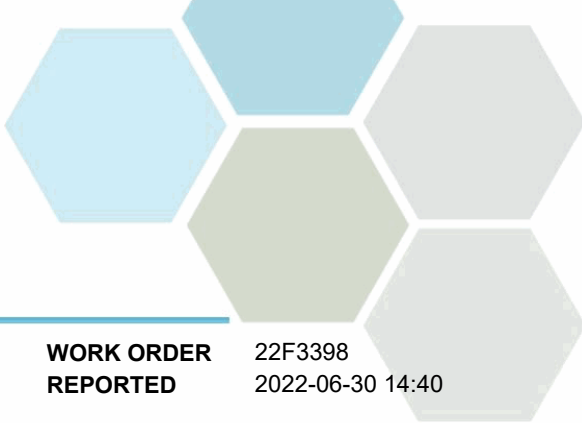
Chloride	85.4	0.10	mg/L	2022-06-24	
Nitrate (as N)	0.475	0.010	mg/L	2022-06-24	
Nitrite (as N)	< 0.100	0.010	mg/L	2022-06-24	RA1

Calculated Parameters

Hardness, Total (as CaCO3)	215	0.500	mg/L	N/A	
Nitrate+Nitrite (as N)	0.475	0.100	mg/L	N/A	
Nitrogen, Total	21.6	1.00	mg/L	N/A	

Dissolved Metals

Aluminum, dissolved	0.0441	0.0050	mg/L	2022-06-26	
Antimony, dissolved	0.00023	0.00020	mg/L	2022-06-26	
Arsenic, dissolved	0.00358	0.00050	mg/L	2022-06-26	
Barium, dissolved	0.0191	0.0050	mg/L	2022-06-26	
Beryllium, dissolved	< 0.00010	0.00010	mg/L	2022-06-26	
Bismuth, dissolved	0.00021	0.00010	mg/L	2022-06-26	
Boron, dissolved	0.151	0.0500	mg/L	2022-06-26	
Cadmium, dissolved	0.000054	0.000010	mg/L	2022-06-26	
Calcium, dissolved	49.9	0.20	mg/L	2022-06-26	
Chromium, dissolved	0.00051	0.00050	mg/L	2022-06-26	
Cobalt, dissolved	0.00054	0.00010	mg/L	2022-06-26	
Copper, dissolved	0.0112	0.00040	mg/L	2022-06-26	
Iron, dissolved	0.201	0.010	mg/L	2022-06-26	

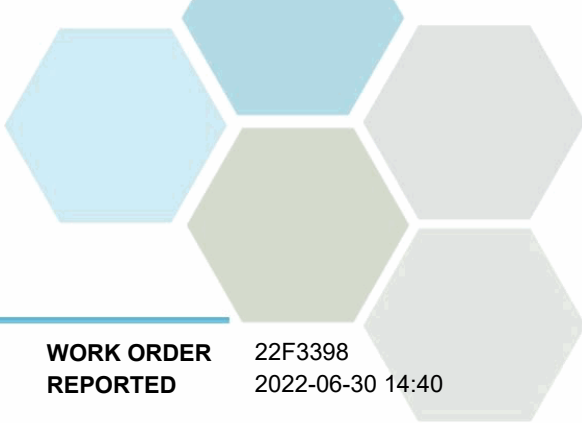


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Analyte	Result	RL	Units	Analyzed	Qualifier
Drainage Pond (22F3398-02) Matrix: Water Sampled: 2022-06-22, Continued					
<i>Dissolved Metals, Continued</i>					
Lead, dissolved	0.00026	0.00020	mg/L	2022-06-26	
Lithium, dissolved	0.0119	0.00010	mg/L	2022-06-26	
Magnesium, dissolved	21.9	0.010	mg/L	2022-06-26	
Manganese, dissolved	0.109	0.00020	mg/L	2022-06-26	
Mercury, dissolved	< 0.000040	0.000010	mg/L	2022-06-28	
Molybdenum, dissolved	0.00345	0.00010	mg/L	2022-06-26	
Nickel, dissolved	0.00242	0.00040	mg/L	2022-06-26	
Phosphorus, dissolved	7.08	0.050	mg/L	2022-06-26	
Potassium, dissolved	34.5	0.10	mg/L	2022-06-26	
Selenium, dissolved	0.00058	0.00050	mg/L	2022-06-26	
Silicon, dissolved	2.4	1.0	mg/L	2022-06-26	
Silver, dissolved	< 0.000050	0.000050	mg/L	2022-06-26	
Sodium, dissolved	85.5	0.10	mg/L	2022-06-26	
Strontium, dissolved	0.463	0.0010	mg/L	2022-06-26	
Sulfur, dissolved	34.0	3.0	mg/L	2022-06-26	
Tellurium, dissolved	< 0.00050	0.00050	mg/L	2022-06-26	
Thallium, dissolved	< 0.000020	0.000020	mg/L	2022-06-26	
Thorium, dissolved	< 0.00010	0.00010	mg/L	2022-06-26	
Tin, dissolved	0.00035	0.00020	mg/L	2022-06-26	
Titanium, dissolved	< 0.0050	0.0050	mg/L	2022-06-26	
Tungsten, dissolved	< 0.0010	0.0010	mg/L	2022-06-26	
Uranium, dissolved	0.00135	0.000020	mg/L	2022-06-26	
Vanadium, dissolved	< 0.0050	0.0050	mg/L	2022-06-26	
Zinc, dissolved	0.0258	0.0040	mg/L	2022-06-26	
Zirconium, dissolved	0.00032	0.00010	mg/L	2022-06-26	
<i>General Parameters</i>					
Ammonia, Total (as N)	13.4	0.050	mg/L	2022-06-27	
BOD, 5-day	22.8	2.0	mg/L	2022-06-28	
Carbon, Dissolved Organic	40.0	0.50	mg/L	2022-06-27	
Chemical Oxygen Demand	193	20	mg/L	2022-06-24	
Conductivity (EC)	879	2.0	µS/cm	2022-06-27	
Nitrogen, Total Kjeldahl	21.1	0.050	mg/L	2022-06-28	
pH	7.78	0.10	pH units	2022-06-27	HT2
Phosphorus, Total (as P)	7.41	0.0050	mg/L	2022-06-28	
Solids, Total Dissolved	560	15	mg/L	2022-06-28	
Solids, Total Suspended	14.3	2.0	mg/L	2022-06-28	
<i>Microbiological Parameters</i>					
Coliforms, Total (Q-Tray)	155000	1	MPN/100 mL	2022-06-23	
E. coli (Q-Tray)	14000	1	MPN/100 mL	2022-06-23	
<i>Total Metals</i>					
Aluminum, total	0.107	0.0050	mg/L	2022-06-26	



TEST RESULTS

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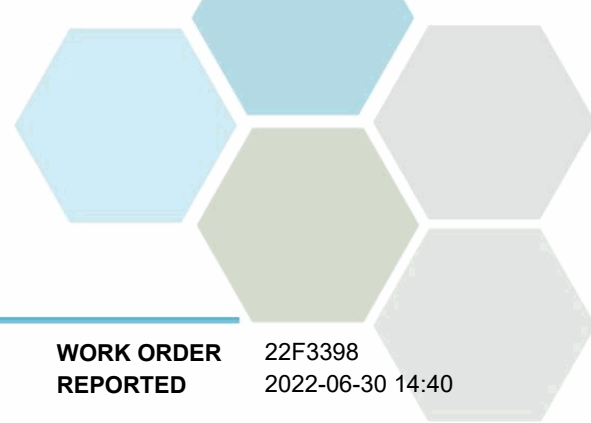
WORK ORDER REPORTED 22F3398
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Analyte	Result	RL	Units	Analyzed	Qualifier
Drainage Pond (22F3398-02) Matrix: Water Sampled: 2022-06-22, Continued					
<i>Total Metals, Continued</i>					
Antimony, total	0.00027	0.00020	mg/L	2022-06-26	
Arsenic, total	0.00356	0.00050	mg/L	2022-06-26	
Barium, total	0.0277	0.0050	mg/L	2022-06-26	
Beryllium, total	< 0.00010	0.00010	mg/L	2022-06-26	
Bismuth, total	0.00054	0.00010	mg/L	2022-06-26	
Boron, total	0.162	0.0500	mg/L	2022-06-26	
Cadmium, total	0.000137	0.000010	mg/L	2022-06-26	
Calcium, total	51.9	0.20	mg/L	2022-06-26	
Chromium, total	0.00076	0.00050	mg/L	2022-06-26	
Cobalt, total	0.00069	0.00010	mg/L	2022-06-26	
Copper, total	0.0285	0.00040	mg/L	2022-06-26	
Iron, total	0.463	0.010	mg/L	2022-06-26	
Lead, total	0.00052	0.00020	mg/L	2022-06-26	
Lithium, total	0.0116	0.00010	mg/L	2022-06-26	
Magnesium, total	20.8	0.010	mg/L	2022-06-26	
Manganese, total	0.216	0.00020	mg/L	2022-06-26	
Mercury, total	< 0.000040	0.000010	mg/L	2022-06-28	
Molybdenum, total	0.00449	0.00010	mg/L	2022-06-26	
Nickel, total	0.00287	0.00040	mg/L	2022-06-26	
Phosphorus, total	7.46	0.050	mg/L	2022-06-26	
Potassium, total	34.1	0.10	mg/L	2022-06-26	
Selenium, total	0.00085	0.00050	mg/L	2022-06-26	
Silicon, total	2.5	1.0	mg/L	2022-06-26	
Silver, total	0.000090	0.000050	mg/L	2022-06-26	
Sodium, total	81.3	0.10	mg/L	2022-06-26	
Strontium, total	0.462	0.0010	mg/L	2022-06-26	
Sulfur, total	35.7	3.0	mg/L	2022-06-26	
Tellurium, total	< 0.00050	0.00050	mg/L	2022-06-26	
Thallium, total	< 0.000020	0.000020	mg/L	2022-06-26	
Thorium, total	0.00017	0.00010	mg/L	2022-06-26	
Tin, total	0.00044	0.00020	mg/L	2022-06-26	
Titanium, total	< 0.0050	0.0050	mg/L	2022-06-26	
Tungsten, total	0.0004	0.0002	mg/L	2022-06-26	
Uranium, total	0.00157	0.000020	mg/L	2022-06-26	
Vanadium, total	< 0.0050	0.0050	mg/L	2022-06-26	
Zinc, total	0.0378	0.0040	mg/L	2022-06-26	
Zirconium, total	0.00048	0.00010	mg/L	2022-06-26	

Davidson Pond (22F3398-03) | Matrix: Water | Sampled: 2022-06-22

Anions

Chloride	315	0.10	mg/L	2022-06-24	
Nitrate (as N)	< 0.100	0.010	mg/L	2022-06-24	RA1

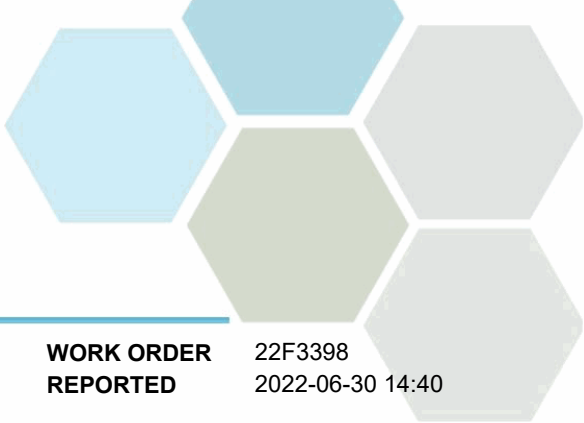


TEST RESULTS

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Analyte	Result	RL	Units	Analyzed	Qualifier
Davidson Pond (22F3398-03) Matrix: Water Sampled: 2022-06-22, Continued					
<i>Anions, Continued</i>					
Nitrite (as N)	< 0.100	0.010	mg/L	2022-06-24	RA1
<i>Calculated Parameters</i>					
Hardness, Total (as CaCO ₃)	681	1.00	mg/L	N/A	
Nitrate+Nitrite (as N)	< 0.100	0.100	mg/L	N/A	
Nitrogen, Total	2.31	0.200	mg/L	N/A	
<i>Dissolved Metals</i>					
Aluminum, dissolved	< 0.0100	0.0050	mg/L	2022-06-26	RS1
Antimony, dissolved	< 0.00040	0.00020	mg/L	2022-06-26	RS1
Arsenic, dissolved	0.00368	0.00050	mg/L	2022-06-26	RS1
Barium, dissolved	0.0149	0.0050	mg/L	2022-06-26	RS1
Beryllium, dissolved	< 0.00020	0.00010	mg/L	2022-06-26	RS1
Bismuth, dissolved	< 0.00020	0.00010	mg/L	2022-06-26	RS1
Boron, dissolved	< 0.100	0.0500	mg/L	2022-06-26	RS1
Cadmium, dissolved	< 0.000020	0.000010	mg/L	2022-06-26	RS1
Calcium, dissolved	64.8	0.20	mg/L	2022-06-26	RS1
Chromium, dissolved	< 0.00100	0.00050	mg/L	2022-06-26	RS1
Cobalt, dissolved	< 0.00020	0.00010	mg/L	2022-06-26	RS1
Copper, dissolved	< 0.00080	0.00040	mg/L	2022-06-26	RS1
Iron, dissolved	0.033	0.010	mg/L	2022-06-26	RS1
Lead, dissolved	< 0.00040	0.00020	mg/L	2022-06-26	RS1
Lithium, dissolved	0.0498	0.00010	mg/L	2022-06-26	RS1
Magnesium, dissolved	126	0.010	mg/L	2022-06-26	RS1
Manganese, dissolved	0.0166	0.00020	mg/L	2022-06-26	RS1
Mercury, dissolved	< 0.000010	0.000010	mg/L	2022-06-28	
Molybdenum, dissolved	0.00169	0.00010	mg/L	2022-06-26	RS1
Nickel, dissolved	0.00135	0.00040	mg/L	2022-06-26	RS1
Phosphorus, dissolved	< 0.100	0.050	mg/L	2022-06-26	RS1
Potassium, dissolved	46.3	0.10	mg/L	2022-06-26	RS1
Selenium, dissolved	< 0.00100	0.00050	mg/L	2022-06-26	RS1
Silicon, dissolved	< 2.0	1.0	mg/L	2022-06-26	RS1
Silver, dissolved	< 0.000100	0.000050	mg/L	2022-06-26	RS1
Sodium, dissolved	582	0.10	mg/L	2022-06-26	RS1
Strontium, dissolved	0.898	0.0010	mg/L	2022-06-26	RS1
Sulfur, dissolved	431	3.0	mg/L	2022-06-26	RS1
Tellurium, dissolved	< 0.00100	0.00050	mg/L	2022-06-26	RS1
Thallium, dissolved	< 0.000040	0.000020	mg/L	2022-06-26	RS1
Thorium, dissolved	< 0.00020	0.00010	mg/L	2022-06-26	RS1
Tin, dissolved	< 0.00040	0.00020	mg/L	2022-06-26	RS1
Titanium, dissolved	< 0.0100	0.0050	mg/L	2022-06-26	RS1
Tungsten, dissolved	< 0.0020	0.0010	mg/L	2022-06-26	RS1
Uranium, dissolved	0.00834	0.000020	mg/L	2022-06-26	RS1
Vanadium, dissolved	< 0.0100	0.0050	mg/L	2022-06-26	RS1



TEST RESULTS

REPORTED TO PROJECT Kelowna, City of RBCF Ponds

WORK ORDER REPORTED 22F3398
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Analyte	Result	RL	Units	Analyzed	Qualifier
Davidson Pond (22F3398-03) Matrix: Water Sampled: 2022-06-22, Continued					
<i>Dissolved Metals, Continued</i>					
Zinc, dissolved	< 0.0080	0.0040	mg/L	2022-06-26	RS1
Zirconium, dissolved	0.00025	0.00010	mg/L	2022-06-26	RS1
<i>General Parameters</i>					
Ammonia, Total (as N)	< 0.050	0.050	mg/L	2022-06-27	
BOD, 5-day	13.3	2.0	mg/L	2022-06-28	
Carbon, Dissolved Organic	25.1	0.50	mg/L	2022-06-27	
Chemical Oxygen Demand	81	20	mg/L	2022-06-24	
Conductivity (EC)	3270	2.0	µS/cm	2022-06-27	
Nitrogen, Total Kjeldahl	2.31	0.050	mg/L	2022-06-28	
pH	8.82	0.10	pH units	2022-06-27	HT2
Phosphorus, Total (as P)	0.0615	0.0050	mg/L	2022-06-28	
Solids, Total Dissolved	2270	15	mg/L	2022-06-28	
Solids, Total Suspended	8.0	2.0	mg/L	2022-06-28	
<i>Microbiological Parameters</i>					
Coliforms, Total (Q-Tray)	> 2420	1	MPN/100 mL	2022-06-23	
E. coli (Q-Tray)	96	1	MPN/100 mL	2022-06-23	
<i>Total Metals</i>					
Aluminum, total	0.0496	0.0050	mg/L	2022-06-26	RS1
Antimony, total	0.00050	0.00020	mg/L	2022-06-26	RS1
Arsenic, total	0.00370	0.00050	mg/L	2022-06-26	RS1
Barium, total	0.0139	0.0050	mg/L	2022-06-26	RS1
Beryllium, total	< 0.00020	0.00010	mg/L	2022-06-26	RS1
Bismuth, total	< 0.00020	0.00010	mg/L	2022-06-26	RS1
Boron, total	< 0.100	0.0500	mg/L	2022-06-26	RS1
Cadmium, total	< 0.000020	0.000010	mg/L	2022-06-26	RS1
Calcium, total	63.2	0.20	mg/L	2022-06-26	RS1
Chromium, total	< 0.00100	0.00050	mg/L	2022-06-26	RS1
Cobalt, total	< 0.00020	0.00010	mg/L	2022-06-26	RS1
Copper, total	< 0.00080	0.00040	mg/L	2022-06-26	RS1
Iron, total	0.092	0.010	mg/L	2022-06-26	RS1
Lead, total	< 0.00040	0.00020	mg/L	2022-06-26	RS1
Lithium, total	0.0453	0.00010	mg/L	2022-06-26	RS1
Magnesium, total	119	0.010	mg/L	2022-06-26	RS1
Manganese, total	0.0289	0.00020	mg/L	2022-06-26	RS1
Mercury, total	< 0.000010	0.000010	mg/L	2022-06-28	
Molybdenum, total	0.00168	0.00010	mg/L	2022-06-26	RS1
Nickel, total	0.00138	0.00040	mg/L	2022-06-26	RS1
Phosphorus, total	< 0.100	0.050	mg/L	2022-06-26	RS1
Potassium, total	44.7	0.10	mg/L	2022-06-26	RS1
Selenium, total	< 0.00100	0.00050	mg/L	2022-06-26	RS1
Silicon, total	< 2.0	1.0	mg/L	2022-06-26	RS1

TEST RESULTS

REPORTED TO PROJECT Kelowna, City of
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Analyte	Result	RL	Units	Analyzed	Qualifier
Davidson Pond (22F3398-03) Matrix: Water Sampled: 2022-06-22, Continued					
<i>Total Metals, Continued</i>					
Silver, total	< 0.000100	0.000050	mg/L	2022-06-26	RS1
Sodium, total	551	0.10	mg/L	2022-06-26	RS1
Strontium, total	0.881	0.0010	mg/L	2022-06-26	RS1
Sulfur, total	417	3.0	mg/L	2022-06-26	RS1
Tellurium, total	< 0.00100	0.00050	mg/L	2022-06-26	RS1
Thallium, total	< 0.000040	0.000020	mg/L	2022-06-26	RS1
Thorium, total	< 0.00020	0.00010	mg/L	2022-06-26	RS1
Tin, total	< 0.00040	0.00020	mg/L	2022-06-26	RS1
Titanium, total	< 0.0100	0.0050	mg/L	2022-06-26	RS1
Tungsten, total	< 0.0004	0.0002	mg/L	2022-06-26	RS1
Uranium, total	0.00790	0.000020	mg/L	2022-06-26	RS1
Vanadium, total	< 0.0100	0.0050	mg/L	2022-06-26	RS1
Zinc, total	< 0.0080	0.0040	mg/L	2022-06-26	RS1
Zirconium, total	0.00022	0.00010	mg/L	2022-06-26	RS1

DUP 1 (22F3398-04) | Matrix: Water | Sampled: 2022-06-22

Anions

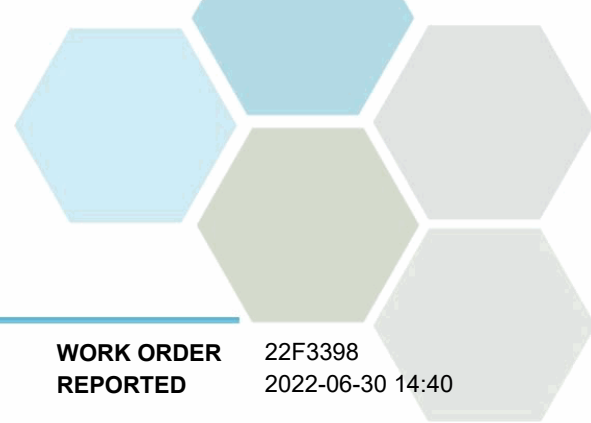
Chloride	316	0.10	mg/L	2022-06-24	
Nitrate (as N)	< 0.100	0.010	mg/L	2022-06-24	RA1
Nitrite (as N)	< 0.100	0.010	mg/L	2022-06-24	RA1

Calculated Parameters

Hardness, Total (as CaCO ₃)	668	1.00	mg/L	N/A	
Nitrate+Nitrite (as N)	< 0.100	0.100	mg/L	N/A	
Nitrogen, Total	2.03	0.100	mg/L	N/A	

Dissolved Metals

Aluminum, dissolved	< 0.0100	0.0050	mg/L	2022-06-26	RS1
Antimony, dissolved	0.00043	0.00020	mg/L	2022-06-26	RS1
Arsenic, dissolved	0.00367	0.00050	mg/L	2022-06-26	RS1
Barium, dissolved	0.0138	0.0050	mg/L	2022-06-26	RS1
Beryllium, dissolved	< 0.00020	0.00010	mg/L	2022-06-26	RS1
Bismuth, dissolved	< 0.00020	0.00010	mg/L	2022-06-26	RS1
Boron, dissolved	< 0.100	0.0500	mg/L	2022-06-26	RS1
Cadmium, dissolved	< 0.000020	0.000010	mg/L	2022-06-26	RS1
Calcium, dissolved	64.6	0.20	mg/L	2022-06-26	RS1
Chromium, dissolved	< 0.00100	0.00050	mg/L	2022-06-26	RS1
Cobalt, dissolved	< 0.00020	0.00010	mg/L	2022-06-26	RS1
Copper, dissolved	< 0.00080	0.00040	mg/L	2022-06-26	RS1
Iron, dissolved	0.033	0.010	mg/L	2022-06-26	RS1
Lead, dissolved	< 0.00040	0.00020	mg/L	2022-06-26	RS1
Lithium, dissolved	0.0503	0.00010	mg/L	2022-06-26	RS1

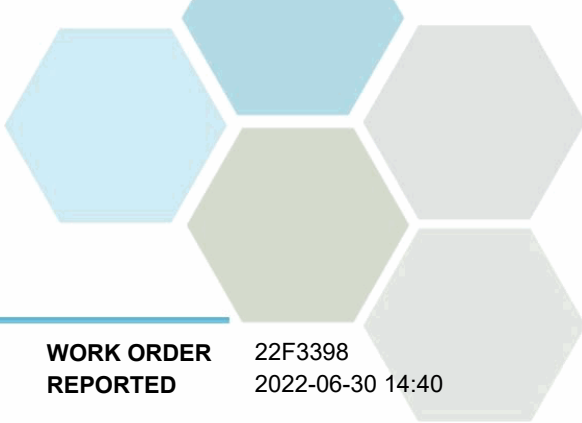


TEST RESULTS

REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

WORK ORDER REPORTED 22F3398
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Analyte	Result	RL	Units	Analyzed	Qualifier
DUP 1 (22F3398-04) Matrix: Water Sampled: 2022-06-22, Continued					
<i>Dissolved Metals, Continued</i>					
Magnesium, dissolved	123	0.010	mg/L	2022-06-26	RS1
Manganese, dissolved	0.0168	0.00020	mg/L	2022-06-26	RS1
Mercury, dissolved	< 0.000010	0.000010	mg/L	2022-06-28	
Molybdenum, dissolved	0.00168	0.00010	mg/L	2022-06-26	RS1
Nickel, dissolved	0.00139	0.00040	mg/L	2022-06-26	RS1
Phosphorus, dissolved	< 0.100	0.050	mg/L	2022-06-26	RS1
Potassium, dissolved	44.9	0.10	mg/L	2022-06-26	RS1
Selenium, dissolved	< 0.00100	0.00050	mg/L	2022-06-26	RS1
Silicon, dissolved	< 2.0	1.0	mg/L	2022-06-26	RS1
Silver, dissolved	< 0.000100	0.000050	mg/L	2022-06-26	RS1
Sodium, dissolved	566	0.10	mg/L	2022-06-26	RS1
Strontium, dissolved	0.873	0.0010	mg/L	2022-06-26	RS1
Sulfur, dissolved	433	3.0	mg/L	2022-06-26	RS1
Tellurium, dissolved	< 0.00100	0.00050	mg/L	2022-06-26	RS1
Thallium, dissolved	< 0.000040	0.000020	mg/L	2022-06-26	RS1
Thorium, dissolved	< 0.00020	0.00010	mg/L	2022-06-26	RS1
Tin, dissolved	< 0.00040	0.00020	mg/L	2022-06-26	RS1
Titanium, dissolved	< 0.0100	0.0050	mg/L	2022-06-26	RS1
Tungsten, dissolved	< 0.0020	0.0010	mg/L	2022-06-26	RS1
Uranium, dissolved	0.00809	0.000020	mg/L	2022-06-26	RS1
Vanadium, dissolved	< 0.0100	0.0050	mg/L	2022-06-26	RS1
Zinc, dissolved	< 0.0080	0.0040	mg/L	2022-06-26	RS1
Zirconium, dissolved	0.00026	0.00010	mg/L	2022-06-26	RS1
<i>General Parameters</i>					
Ammonia, Total (as N)	0.055	0.050	mg/L	2022-06-27	
BOD, 5-day	< 7.1	2.0	mg/L	2022-06-28	
Carbon, Dissolved Organic	27.5	0.50	mg/L	2022-06-27	
Chemical Oxygen Demand	75	20	mg/L	2022-06-24	
Conductivity (EC)	3400	2.0	µS/cm	2022-06-27	
Nitrogen, Total Kjeldahl	2.03	0.050	mg/L	2022-06-28	
pH	8.93	0.10	pH units	2022-06-27	HT2
Phosphorus, Total (as P)	0.0578	0.0050	mg/L	2022-06-28	
Solids, Total Dissolved	2320	15	mg/L	2022-06-28	
Solids, Total Suspended	4.6	2.0	mg/L	2022-06-28	
<i>Microbiological Parameters</i>					
Coliforms, Total (Q-Tray)	978	1	MPN/100 mL	2022-06-23	
E. coli (Q-Tray)	40	1	MPN/100 mL	2022-06-23	
<i>Total Metals</i>					
Aluminum, total	0.0480	0.0050	mg/L	2022-06-26	RS1
Antimony, total	0.00047	0.00020	mg/L	2022-06-26	RS1
Arsenic, total	0.00376	0.00050	mg/L	2022-06-26	RS1



TEST RESULTS

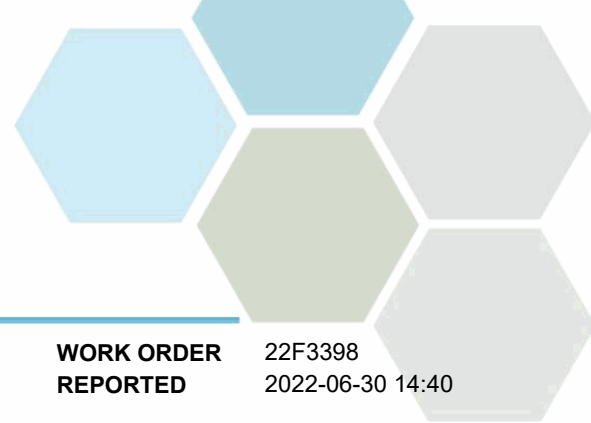
REPORTED TO PROJECT Kelowna, City of RBCF Ponds

WORK ORDER REPORTED 22F3398
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Analyte	Result	RL	Units	Analyzed	Qualifier
DUP 1 (22F3398-04) Matrix: Water Sampled: 2022-06-22, Continued					
<i>Total Metals, Continued</i>					
Barium, total	0.0150	0.0050	mg/L	2022-06-26	RS1
Beryllium, total	< 0.00020	0.00010	mg/L	2022-06-26	RS1
Bismuth, total	< 0.00020	0.00010	mg/L	2022-06-26	RS1
Boron, total	< 0.100	0.0500	mg/L	2022-06-26	RS1
Cadmium, total	< 0.000020	0.000010	mg/L	2022-06-26	RS1
Calcium, total	62.8	0.20	mg/L	2022-06-26	RS1
Chromium, total	< 0.00100	0.00050	mg/L	2022-06-26	RS1
Cobalt, total	< 0.00020	0.00010	mg/L	2022-06-26	RS1
Copper, total	< 0.00080	0.00040	mg/L	2022-06-26	RS1
Iron, total	0.089	0.010	mg/L	2022-06-26	RS1
Lead, total	< 0.00040	0.00020	mg/L	2022-06-26	RS1
Lithium, total	0.0458	0.00010	mg/L	2022-06-26	RS1
Magnesium, total	121	0.010	mg/L	2022-06-26	RS1
Manganese, total	0.0278	0.00020	mg/L	2022-06-26	RS1
Mercury, total	< 0.000010	0.000010	mg/L	2022-06-28	
Molybdenum, total	0.00165	0.00010	mg/L	2022-06-26	RS1
Nickel, total	0.00135	0.00040	mg/L	2022-06-26	RS1
Phosphorus, total	< 0.100	0.050	mg/L	2022-06-26	RS1
Potassium, total	44.9	0.10	mg/L	2022-06-26	RS1
Selenium, total	< 0.00100	0.00050	mg/L	2022-06-26	RS1
Silicon, total	< 2.0	1.0	mg/L	2022-06-26	RS1
Silver, total	< 0.000100	0.000050	mg/L	2022-06-26	RS1
Sodium, total	559	0.10	mg/L	2022-06-26	RS1
Strontium, total	0.871	0.0010	mg/L	2022-06-26	RS1
Sulfur, total	407	3.0	mg/L	2022-06-26	RS1
Tellurium, total	< 0.00100	0.00050	mg/L	2022-06-26	RS1
Thallium, total	< 0.000040	0.000020	mg/L	2022-06-26	RS1
Thorium, total	< 0.00020	0.00010	mg/L	2022-06-26	RS1
Tin, total	< 0.00040	0.00020	mg/L	2022-06-26	RS1
Titanium, total	< 0.0100	0.0050	mg/L	2022-06-26	RS1
Tungsten, total	< 0.0004	0.0002	mg/L	2022-06-26	RS1
Uranium, total	0.00790	0.000020	mg/L	2022-06-26	RS1
Vanadium, total	< 0.0100	0.0050	mg/L	2022-06-26	RS1
Zinc, total	< 0.0080	0.0040	mg/L	2022-06-26	RS1
Zirconium, total	< 0.00020	0.00010	mg/L	2022-06-26	RS1

Sample Qualifiers:

- HT2 The 15 minute recommended holding time (from sampling to analysis) has been exceeded - field analysis is recommended.
- RA1 The Reporting Limit has been raised due to matrix interference.
- RS1 The Reporting Limits for this sample have been raised due to high analyte concentration and/or matrix interference.



APPENDIX 1: SUPPORTING INFORMATION

REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

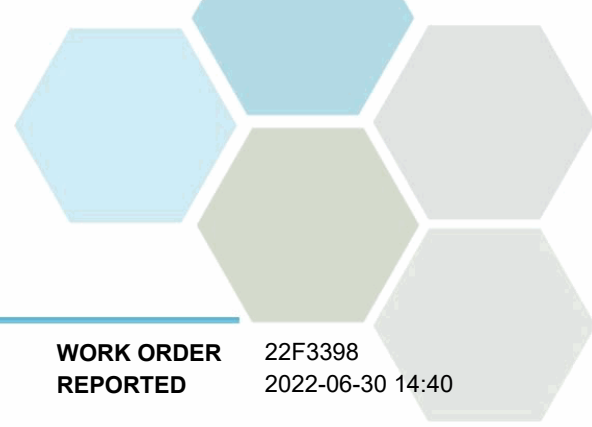
WORK ORDER REPORTED 22F3398
2022-06-30 14:40

Analysis Description	Method Ref.	Technique	Accredited	Location
Ammonia, Total in Water	SM 4500-NH3 G* (2017)	Automated Colorimetry (Phenate)	✓	Kelowna
Anions in Water	SM 4110 B (2017)	Ion Chromatography	✓	Kelowna
Biochemical Oxygen Demand in Water	SM 5210 B (2017)	Dissolved Oxygen Meter	✓	Kelowna
Carbon, Dissolved Organic in Water	SM 5310 B (2017)	Combustion, Infrared CO2 Detection	✓	Kelowna
Chemical Oxygen Demand in Water	SM 5220 D* (2017)	Closed Reflux, Colorimetry	✓	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
Dissolved Metals in Water	EPA 200.8 / EPA 6020B	0.45 µm Filtration / Inductively Coupled Plasma-Mass Spectroscopy (ICP-MS)	✓	Richmond
E. coli in Water	NA / SM 9223 (2017)	Quanti-Tray / Enzyme Substrate Endo Agar	✓	Kelowna
Hardness in Water	SM 2340 B (2017)	Calculation: 2.497 [diss Ca] + 4.118 [diss Mg]	✓	N/A
Mercury, dissolved in Water	EPA 245.7*	BrCl2 Oxidation / Cold Vapor Atomic Fluorescence Spectrometry (CVAFS)	✓	Richmond
Mercury, total in Water	EPA 245.7*	BrCl2 Oxidation / Cold Vapor Atomic Fluorescence Spectrometry (CVAFS)	✓	Richmond
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
Phosphorus, Total in Water	SM 4500-P B.5* (2011) / SM 4500-P F (2017)	Persulfate Digestion / Automated Colorimetry (Ascorbic Acid)	✓	Kelowna
Solids, Total Dissolved in Water	Solids in Water, Filtered / SM 2540 C* (2017)	Solids in Water, Filtered / Gravimetry (Dried at 103-105C)	✓	Kelowna
Solids, Total Suspended in Water	Solids in Water, Filtered / SM 2540 D* (2017)	Solids in Water, Filtered / Gravimetry (Dried at 103-105C)	✓	Kelowna
Total Metals in Water	EPA 200.2 / EPA 6020B	HNO3+HCl Hot Block Digestion / Inductively Coupled Plasma-Mass Spectroscopy (ICP-MS)	✓	Richmond

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
>	Greater than the specified Result
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
EPA	United States Environmental Protection Agency Test Methods
SM	Standard Methods for the Examination of Water and Wastewater, American Public Health Association



APPENDIX 1: SUPPORTING INFORMATION

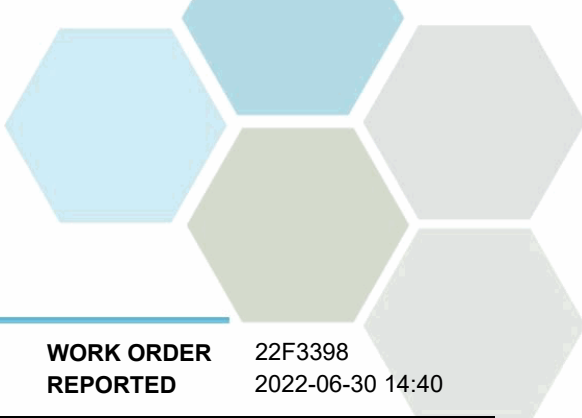
REPORTED TO Kelowna, City of
PROJECT RBCF Ponds

WORK ORDER 22F3398
REPORTED 2022-06-30 14:40

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 or once samples expire, whichever comes first. Longer hold is possible if agreed to in writing.

Please note any regulatory guidelines applied to this report are added as a convenience to the client, at their request, to help provide some initial context to analytical results obtained. Although CARO makes every effort to ensure accuracy of the associated regulatory guideline(s) applied, the guidelines applied cannot be assumed to be correct due to a variety of factors and as such CARO Analytical Services assumes no liability or responsibility for the use of those guidelines to make any decisions. The original source of the regulation should be verified and a review of the guideline(s) should be validated as correct in order to make any decisions arising from the comparison of the analytical data obtained to the relevant regulatory guideline for one's particular circumstances. Further, CARO Analytical Services assumes no liability or responsibility for any loss attributed from the use of these guidelines in any way.



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Kelowna, City of
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The following section displays the quality control (QC) data that is associated with your sample data. Groups of samples are prepared in "batches" and analyzed in conjunction with QC samples that ensure your data is of the highest quality. Common QC types include:

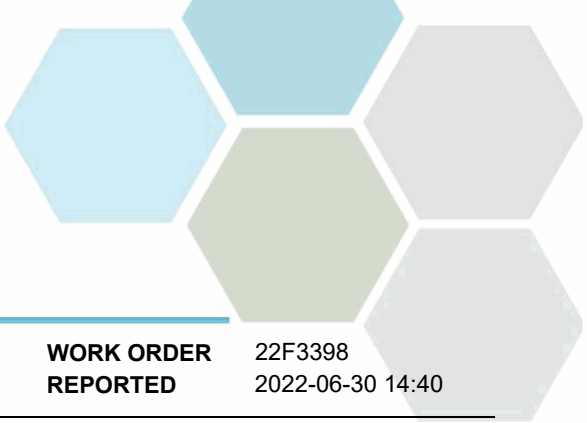
- **Method Blank (Blk):** A blank sample that undergoes sample processing identical to that carried out for the test samples. Method blank results are used to assess contamination from the laboratory environment and reagents.
- **Duplicate (Dup):** An additional or second portion of a randomly selected sample in the analytical run carried through the entire analytical process. Duplicates provide a measure of the analytical method's precision (reproducibility).
- **Blank Spike (BS):** A sample of known concentration which undergoes processing identical to that carried out for test samples, also referred to as a laboratory control sample (LCS). Blank spikes provide a measure of the analytical method's accuracy.
- **Matrix Spike (MS):** A second aliquot of sample is fortified with a known concentration of target analytes and carried through the entire analytical process. Matrix spikes evaluate potential matrix effects that may affect the analyte recovery.
- **Reference Material (SRM):** A homogenous material of similar matrix to the samples, certified for the parameter(s) listed. Reference Materials ensure that the analytical process is adequate to achieve acceptable recoveries of the parameter(s) tested.

Each QC type is analyzed at a 5-10% frequency, i.e. one blank/duplicate/spike for every 10-20 samples. For all types of QC, the specified recovery (% Rec) and relative percent difference (RPD) limits are derived from long-term method performance averages and/or prescribed by the reference method.

Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Anions, Batch B2F3011									
Blank (B2F3011-BLK1)			Prepared: 2022-06-24, Analyzed: 2022-06-24						
Chloride	< 0.10	0.10 mg/L							
Nitrate (as N)	< 0.010	0.010 mg/L							
Nitrite (as N)	< 0.010	0.010 mg/L							
Blank (B2F3011-BLK2)			Prepared: 2022-06-24, Analyzed: 2022-06-24						
Chloride	< 0.10	0.10 mg/L							
Nitrate (as N)	< 0.010	0.010 mg/L							
Nitrite (as N)	< 0.010	0.010 mg/L							
LCS (B2F3011-BS1)			Prepared: 2022-06-24, Analyzed: 2022-06-24						
Chloride	16.0	0.10 mg/L	16.0		100	90-110			
Nitrate (as N)	4.06	0.010 mg/L	4.00		101	90-110			
Nitrite (as N)	2.03	0.010 mg/L	2.00		102	85-115			
LCS (B2F3011-BS2)			Prepared: 2022-06-24, Analyzed: 2022-06-24						
Chloride	16.2	0.10 mg/L	16.0		101	90-110			
Nitrate (as N)	4.08	0.010 mg/L	4.00		102	90-110			
Nitrite (as N)	2.02	0.010 mg/L	2.00		101	85-115			

Dissolved Metals, Batch B2F3286

Blank (B2F3286-BLK1)			Prepared: 2022-06-26, Analyzed: 2022-06-26						
Aluminum, dissolved	< 0.0050	0.0050 mg/L							
Antimony, dissolved	< 0.00020	0.00020 mg/L							
Arsenic, dissolved	< 0.00050	0.00050 mg/L							
Barium, dissolved	< 0.0050	0.0050 mg/L							
Beryllium, dissolved	< 0.00010	0.00010 mg/L							
Bismuth, dissolved	< 0.00010	0.00010 mg/L							
Boron, dissolved	< 0.0500	0.0500 mg/L							
Cadmium, dissolved	< 0.000010	0.000010 mg/L							
Calcium, dissolved	< 0.20	0.20 mg/L							
Chromium, dissolved	< 0.00050	0.00050 mg/L							
Cobalt, dissolved	< 0.00010	0.00010 mg/L							
Copper, dissolved	< 0.00040	0.00040 mg/L							
Iron, dissolved	< 0.010	0.010 mg/L							
Lead, dissolved	< 0.00020	0.00020 mg/L							



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

WORK ORDER REPORTED 22F3398
2022-06-30 14:40

Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
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Dissolved Metals, Batch B2F3286, Continued

Blank (B2F3286-BLK1), Continued

Prepared: 2022-06-26, Analyzed: 2022-06-26

Lithium, dissolved	< 0.00010	0.00010 mg/L							
Magnesium, dissolved	< 0.010	0.010 mg/L							
Manganese, dissolved	< 0.00020	0.00020 mg/L							
Molybdenum, dissolved	< 0.00010	0.00010 mg/L							
Nickel, dissolved	< 0.00040	0.00040 mg/L							
Phosphorus, dissolved	< 0.050	0.050 mg/L							
Potassium, dissolved	< 0.10	0.10 mg/L							
Selenium, dissolved	< 0.00050	0.00050 mg/L							
Silicon, dissolved	< 1.0	1.0 mg/L							
Silver, dissolved	< 0.000050	0.000050 mg/L							
Sodium, dissolved	< 0.10	0.10 mg/L							
Strontium, dissolved	< 0.0010	0.0010 mg/L							
Sulfur, dissolved	< 3.0	3.0 mg/L							
Tellurium, dissolved	< 0.00050	0.00050 mg/L							
Thallium, dissolved	< 0.000020	0.000020 mg/L							
Thorium, dissolved	< 0.00010	0.00010 mg/L							
Tin, dissolved	< 0.00020	0.00020 mg/L							
Titanium, dissolved	< 0.0050	0.0050 mg/L							
Tungsten, dissolved	< 0.0010	0.0010 mg/L							
Uranium, dissolved	< 0.000020	0.000020 mg/L							
Vanadium, dissolved	< 0.0050	0.0050 mg/L							
Zinc, dissolved	< 0.0040	0.0040 mg/L							
Zirconium, dissolved	< 0.00010	0.00010 mg/L							

LCS (B2F3286-BS1)

Prepared: 2022-06-26, Analyzed: 2022-06-26

Aluminum, dissolved	4.08	0.0050 mg/L	4.00		102	80-120			
Antimony, dissolved	0.0401	0.00020 mg/L	0.0400		100	80-120			
Arsenic, dissolved	0.0421	0.00050 mg/L	0.0400		105	80-120			
Barium, dissolved	0.0379	0.0050 mg/L	0.0400		95	80-120			
Beryllium, dissolved	0.0405	0.00010 mg/L	0.0400		101	80-120			
Bismuth, dissolved	0.0422	0.00010 mg/L	0.0400		106	80-120			
Boron, dissolved	< 0.0500	0.0500 mg/L	0.0400		94	80-120			
Cadmium, dissolved	0.0405	0.000010 mg/L	0.0400		101	80-120			
Calcium, dissolved	4.07	0.20 mg/L	4.00		102	80-120			
Chromium, dissolved	0.0412	0.00050 mg/L	0.0400		103	80-120			
Cobalt, dissolved	0.0406	0.00010 mg/L	0.0400		101	80-120			
Copper, dissolved	0.0406	0.00040 mg/L	0.0400		102	80-120			
Iron, dissolved	4.05	0.010 mg/L	4.00		101	80-120			
Lead, dissolved	0.0424	0.00020 mg/L	0.0400		106	80-120			
Lithium, dissolved	0.0417	0.00010 mg/L	0.0400		104	80-120			
Magnesium, dissolved	4.15	0.010 mg/L	4.00		104	80-120			
Manganese, dissolved	0.0413	0.00020 mg/L	0.0400		103	80-120			
Molybdenum, dissolved	0.0400	0.00010 mg/L	0.0400		100	80-120			
Nickel, dissolved	0.0408	0.00040 mg/L	0.0400		102	80-120			
Phosphorus, dissolved	4.15	0.050 mg/L	4.00		104	80-120			
Potassium, dissolved	4.20	0.10 mg/L	4.00		105	80-120			
Selenium, dissolved	0.0397	0.00050 mg/L	0.0400		99	80-120			
Silicon, dissolved	4.2	1.0 mg/L	4.00		105	80-120			
Silver, dissolved	0.0402	0.000050 mg/L	0.0400		100	80-120			
Sodium, dissolved	4.20	0.10 mg/L	4.00		105	80-120			
Strontium, dissolved	0.0418	0.0010 mg/L	0.0400		105	80-120			
Sulfur, dissolved	41.3	3.0 mg/L	40.0		103	80-120			
Tellurium, dissolved	0.0391	0.00050 mg/L	0.0400		98	80-120			
Thallium, dissolved	0.0420	0.000020 mg/L	0.0400		105	80-120			
Thorium, dissolved	0.0427	0.00010 mg/L	0.0400		107	80-120			
Tin, dissolved	0.0405	0.00020 mg/L	0.0400		101	80-120			

APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

WORK ORDER REPORTED 22F3398
2022-06-30 14:40

Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
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Dissolved Metals, Batch B2F3286, Continued

LCS (B2F3286-BS1), Continued

Prepared: 2022-06-26, Analyzed: 2022-06-26

Titanium, dissolved	0.0403	0.0050 mg/L	0.0400		101	80-120			
Tungsten, dissolved	0.0422	0.0010 mg/L	0.0400		105	80-120			
Uranium, dissolved	0.0433	0.000020 mg/L	0.0400		108	80-120			
Vanadium, dissolved	0.0411	0.0050 mg/L	0.0400		103	80-120			
Zinc, dissolved	0.0436	0.0040 mg/L	0.0400		109	80-120			
Zirconium, dissolved	0.0400	0.00010 mg/L	0.0400		100	80-120			

Duplicate (B2F3286-DUP1)

Source: 22F3398-01

Prepared: 2022-06-26, Analyzed: 2022-06-26

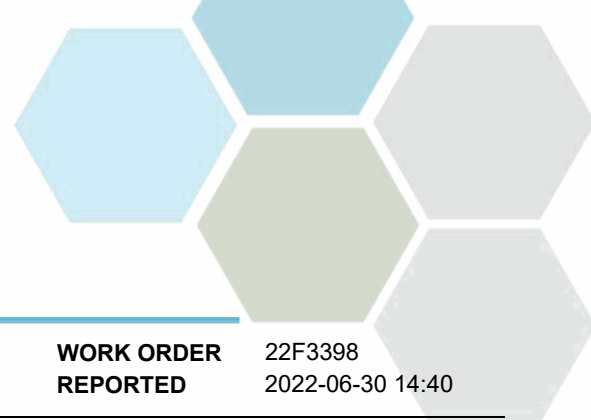
Aluminum, dissolved	< 0.0100	0.0050 mg/L	< 0.0100					20	
Antimony, dissolved	< 0.00040	0.00020 mg/L	< 0.00040					20	
Arsenic, dissolved	0.00336	0.00050 mg/L	0.00341					20	
Barium, dissolved	0.0132	0.0050 mg/L	0.0137					20	
Beryllium, dissolved	< 0.00020	0.00010 mg/L	< 0.00020					20	
Bismuth, dissolved	< 0.00020	0.00010 mg/L	< 0.00020					20	
Boron, dissolved	< 0.100	0.0500 mg/L	< 0.100					20	
Cadmium, dissolved	< 0.000020	0.000010 mg/L	< 0.000020					20	
Calcium, dissolved	66.1	0.20 mg/L	68.6				4	20	
Chromium, dissolved	< 0.00100	0.00050 mg/L	< 0.00100					20	
Cobalt, dissolved	< 0.00020	0.00010 mg/L	< 0.00020					20	
Copper, dissolved	< 0.00080	0.00040 mg/L	< 0.00080					20	
Iron, dissolved	< 0.020	0.010 mg/L	< 0.020					20	
Lead, dissolved	< 0.00040	0.00020 mg/L	< 0.00040					20	
Lithium, dissolved	0.0472	0.00010 mg/L	0.0502				6	20	
Magnesium, dissolved	253	0.010 mg/L	262				3	20	
Manganese, dissolved	0.00780	0.00020 mg/L	0.00800				3	20	
Molybdenum, dissolved	0.00127	0.00010 mg/L	0.00127				< 1	20	
Nickel, dissolved	< 0.00080	0.00040 mg/L	< 0.00080					20	
Phosphorus, dissolved	< 0.100	0.050 mg/L	< 0.100					20	
Potassium, dissolved	76.2	0.10 mg/L	78.6				3	20	
Selenium, dissolved	< 0.00100	0.00050 mg/L	< 0.00100					20	
Silicon, dissolved	< 2.0	1.0 mg/L	< 2.0					20	
Silver, dissolved	< 0.000100	0.000050 mg/L	< 0.000100					20	
Sodium, dissolved	744	0.10 mg/L	768				3	20	
Strontium, dissolved	0.548	0.0010 mg/L	0.568				4	20	
Sulfur, dissolved	720	3.0 mg/L	739				3	20	
Tellurium, dissolved	< 0.00100	0.00050 mg/L	< 0.00100					20	
Thallium, dissolved	< 0.000040	0.000020 mg/L	< 0.000040					20	
Thorium, dissolved	< 0.00020	0.00010 mg/L	< 0.00020					20	
Tin, dissolved	< 0.00040	0.00020 mg/L	< 0.00040					20	
Titanium, dissolved	< 0.0100	0.0050 mg/L	< 0.0100					20	
Tungsten, dissolved	< 0.0020	0.0010 mg/L	< 0.0020					20	
Uranium, dissolved	0.00364	0.000020 mg/L	0.00379				4	20	
Vanadium, dissolved	< 0.0100	0.0050 mg/L	< 0.0100					20	
Zinc, dissolved	< 0.0080	0.0040 mg/L	< 0.0080					20	
Zirconium, dissolved	0.00021	0.00010 mg/L	0.00020					20	

Matrix Spike (B2F3286-MS1)

Source: 22F3398-02

Prepared: 2022-06-27, Analyzed: 2022-06-26

Aluminum, dissolved	4.36	0.0050 mg/L	4.00	0.0441	108	70-130			
Antimony, dissolved	0.0312	0.00020 mg/L	0.0400	0.00023	78	70-130			
Arsenic, dissolved	0.0475	0.00050 mg/L	0.0400	0.00358	110	70-130			
Barium, dissolved	0.0591	0.0050 mg/L	0.0400	0.0191	100	70-130			
Beryllium, dissolved	0.0429	0.00010 mg/L	0.0400	< 0.00010	107	70-130			
Bismuth, dissolved	0.0362	0.00010 mg/L	0.0400	0.00021	90	70-130			
Boron, dissolved	0.191	0.0500 mg/L	0.0400	0.151	100	70-130			
Cadmium, dissolved	0.0420	0.000010 mg/L	0.0400	0.000054	105	70-130			
Calcium, dissolved	53.0	0.20 mg/L	4.00	49.9	77	70-130			
Chromium, dissolved	0.0415	0.00050 mg/L	0.0400	0.00051	103	70-130			



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

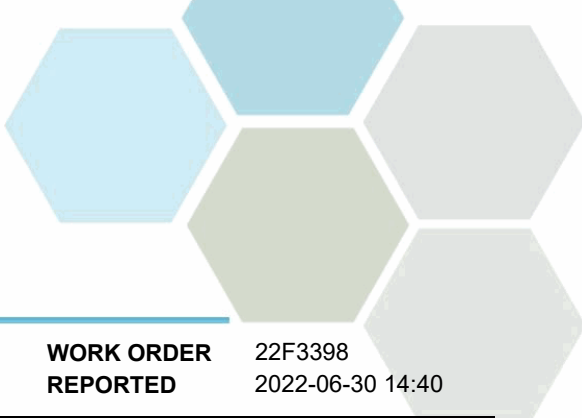
WORK ORDER REPORTED 22F3398
2022-06-30 14:40

Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Dissolved Metals, Batch B2F3286, Continued									
Matrix Spike (B2F3286-MS1), Continued		Source: 22F3398-02		Prepared: 2022-06-27, Analyzed: 2022-06-26					
Cobalt, dissolved	0.0419	0.00010 mg/L	0.0400	0.00054	103	70-130			
Copper, dissolved	0.0460	0.00040 mg/L	0.0400	0.0112	87	70-130			
Iron, dissolved	4.19	0.010 mg/L	4.00	0.201	100	70-130			
Lead, dissolved	0.0405	0.00020 mg/L	0.0400	0.00026	100	70-130			
Lithium, dissolved	0.0547	0.00010 mg/L	0.0400	0.0119	107	70-130			
Magnesium, dissolved	25.2	0.010 mg/L	4.00	21.9	84	70-130			
Manganese, dissolved	0.148	0.00020 mg/L	0.0400	0.109	100	70-130			
Molybdenum, dissolved	0.0339	0.00010 mg/L	0.0400	0.00345	76	70-130			
Nickel, dissolved	0.0423	0.00040 mg/L	0.0400	0.00242	100	70-130			
Phosphorus, dissolved	11.4	0.050 mg/L	4.00	7.08	107	70-130			
Potassium, dissolved	38.0	0.10 mg/L	4.00	34.5	88	70-130			
Selenium, dissolved	0.0428	0.00050 mg/L	0.0400	0.00058	105	70-130			
Silicon, dissolved	6.7	1.0 mg/L	4.00	2.4	108	70-130			
Silver, dissolved	0.0358	0.000050 mg/L	0.0400	< 0.000050	90	70-130			
Sodium, dissolved	87.7	0.10 mg/L	4.00	85.5	56	70-130			MS2
Strontium, dissolved	0.488	0.0010 mg/L	0.0400	0.463	62	70-130			MS2
Sulfur, dissolved	75.4	3.0 mg/L	40.0	34.0	104	70-130			
Tellurium, dissolved	0.0388	0.00050 mg/L	0.0400	< 0.00050	97	70-130			
Thallium, dissolved	0.0417	0.000020 mg/L	0.0400	< 0.000020	104	70-130			
Thorium, dissolved	0.0430	0.00010 mg/L	0.0400	< 0.00010	107	70-130			
Tin, dissolved	0.0387	0.00020 mg/L	0.0400	0.00035	96	70-130			
Titanium, dissolved	0.0431	0.0050 mg/L	0.0400	< 0.0050	103	70-130			
Tungsten, dissolved	0.0353	0.0010 mg/L	0.0400	< 0.0010	88	70-130			
Uranium, dissolved	0.0429	0.000020 mg/L	0.0400	0.00135	104	70-130			
Vanadium, dissolved	0.0436	0.0050 mg/L	0.0400	< 0.0050	108	70-130			
Zinc, dissolved	0.0673	0.0040 mg/L	0.0400	0.0258	104	70-130			
Zirconium, dissolved	0.0405	0.00010 mg/L	0.0400	0.00032	101	70-130			

Dissolved Metals, Batch B2F3462

Blank (B2F3462-BLK1)			Prepared: 2022-06-27, Analyzed: 2022-06-28						
Mercury, dissolved	< 0.000010	0.000010 mg/L							
Blank (B2F3462-BLK2)			Prepared: 2022-06-27, Analyzed: 2022-06-28						
Mercury, dissolved	< 0.000010	0.000010 mg/L							
Blank (B2F3462-BLK3)			Prepared: 2022-06-27, Analyzed: 2022-06-28						
Mercury, dissolved	< 0.000010	0.000010 mg/L							
Blank (B2F3462-BLK4)			Prepared: 2022-06-27, Analyzed: 2022-06-28						
Mercury, dissolved	< 0.000010	0.000010 mg/L							
LCS (B2F3462-BS1)			Prepared: 2022-06-27, Analyzed: 2022-06-28						
Mercury, dissolved	0.000466	0.000010 mg/L	0.000500		93	80-120			
LCS (B2F3462-BS2)			Prepared: 2022-06-27, Analyzed: 2022-06-28						
Mercury, dissolved	0.000474	0.000010 mg/L	0.000500		95	80-120			
LCS (B2F3462-BS3)			Prepared: 2022-06-27, Analyzed: 2022-06-28						
Mercury, dissolved	0.000462	0.000010 mg/L	0.000500		92	80-120			
LCS (B2F3462-BS4)			Prepared: 2022-06-27, Analyzed: 2022-06-28						
Mercury, dissolved	0.000462	0.000010 mg/L	0.000500		92	80-120			

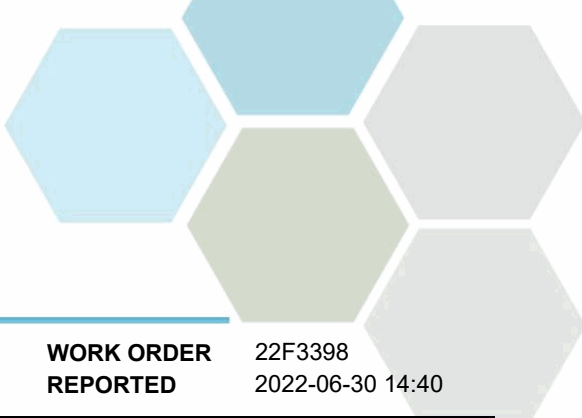
General Parameters, Batch B2F2911



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT	Kelowna, City of RBCF Ponds	WORK ORDER REPORTED	22F3398 2022-06-30 14:40
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Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
General Parameters, Batch B2F2911, Continued									
Blank (B2F2911-BLK1)			Prepared: 2022-06-27, Analyzed: 2022-06-27						
Carbon, Dissolved Organic	< 0.50	0.50 mg/L							
Blank (B2F2911-BLK2)			Prepared: 2022-06-27, Analyzed: 2022-06-27						
Carbon, Dissolved Organic	< 0.50	0.50 mg/L							
Blank (B2F2911-BLK3)			Prepared: 2022-06-27, Analyzed: 2022-06-27						
Carbon, Dissolved Organic	< 0.50	0.50 mg/L							
Blank (B2F2911-BLK4)			Prepared: 2022-06-27, Analyzed: 2022-06-27						
Carbon, Dissolved Organic	< 0.50	0.50 mg/L							
Blank (B2F2911-BLK5)			Prepared: 2022-06-27, Analyzed: 2022-06-27						
Carbon, Dissolved Organic	< 0.50	0.50 mg/L							
LCS (B2F2911-BS1)			Prepared: 2022-06-27, Analyzed: 2022-06-27						
Carbon, Dissolved Organic	9.29	0.50 mg/L	10.0		93	78-116			
LCS (B2F2911-BS2)			Prepared: 2022-06-27, Analyzed: 2022-06-27						
Carbon, Dissolved Organic	9.96	0.50 mg/L	10.0		100	78-116			
LCS (B2F2911-BS3)			Prepared: 2022-06-27, Analyzed: 2022-06-27						
Carbon, Dissolved Organic	9.78	0.50 mg/L	10.0		98	78-116			
LCS (B2F2911-BS4)			Prepared: 2022-06-27, Analyzed: 2022-06-27						
Carbon, Dissolved Organic	9.58	0.50 mg/L	10.0		96	78-116			
LCS (B2F2911-BS5)			Prepared: 2022-06-27, Analyzed: 2022-06-27						
Carbon, Dissolved Organic	9.65	0.50 mg/L	10.0		96	78-116			
General Parameters, Batch B2F2992									
Blank (B2F2992-BLK1)			Prepared: 2022-06-23, Analyzed: 2022-06-28						
BOD, 5-day	< 2.0	2.0 mg/L							
LCS (B2F2992-BS1)			Prepared: 2022-06-23, Analyzed: 2022-06-28						
BOD, 5-day	175	34.9 mg/L	180		97	85-115			
General Parameters, Batch B2F3112									
Blank (B2F3112-BLK1)			Prepared: 2022-06-24, Analyzed: 2022-06-24						
Chemical Oxygen Demand	< 20	20 mg/L							
LCS (B2F3112-BS1)			Prepared: 2022-06-24, Analyzed: 2022-06-24						
Chemical Oxygen Demand	506	20 mg/L	500		101	89-115			
Duplicate (B2F3112-DUP1)			Source: 22F3398-02		Prepared: 2022-06-24, Analyzed: 2022-06-24				
Chemical Oxygen Demand	189	20 mg/L		193			2	14	
Matrix Spike (B2F3112-MS1)			Source: 22F3398-02		Prepared: 2022-06-24, Analyzed: 2022-06-24				
Chemical Oxygen Demand	323	20 mg/L	125	193	104	75-125			
General Parameters, Batch B2F3339									
Blank (B2F3339-BLK1)			Prepared: 2022-06-27, Analyzed: 2022-06-27						
Ammonia, Total (as N)	< 0.050	0.050 mg/L							



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT	Kelowna, City of RBCF Ponds	WORK ORDER REPORTED	22F3398 2022-06-30 14:40
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Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
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General Parameters, Batch B2F3339, Continued

Blank (B2F3339-BLK2)									Prepared: 2022-06-27, Analyzed: 2022-06-27
Ammonia, Total (as N)	< 0.050	0.050 mg/L							
Blank (B2F3339-BLK3)									Prepared: 2022-06-27, Analyzed: 2022-06-27
Ammonia, Total (as N)	< 0.050	0.050 mg/L							
Blank (B2F3339-BLK4)									Prepared: 2022-06-27, Analyzed: 2022-06-27
Ammonia, Total (as N)	< 0.050	0.050 mg/L							
LCS (B2F3339-BS1)									Prepared: 2022-06-27, Analyzed: 2022-06-27
Ammonia, Total (as N)	0.909	0.050 mg/L	1.00		91	90-115			
LCS (B2F3339-BS2)									Prepared: 2022-06-27, Analyzed: 2022-06-27
Ammonia, Total (as N)	0.939	0.050 mg/L	1.00		94	90-115			
LCS (B2F3339-BS3)									Prepared: 2022-06-27, Analyzed: 2022-06-27
Ammonia, Total (as N)	0.941	0.050 mg/L	1.00		94	90-115			
LCS (B2F3339-BS4)									Prepared: 2022-06-27, Analyzed: 2022-06-27
Ammonia, Total (as N)	0.943	0.050 mg/L	1.00		94	90-115			

General Parameters, Batch B2F3379

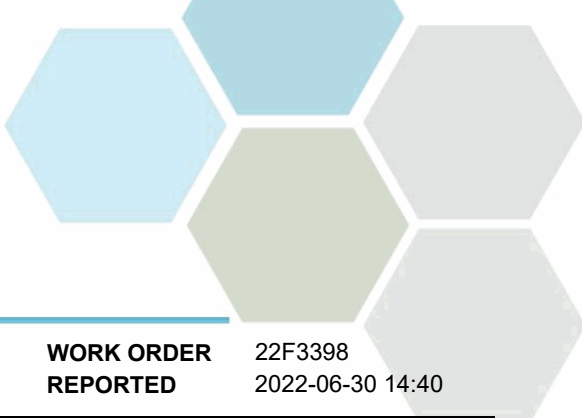
Blank (B2F3379-BLK1)									Prepared: 2022-06-27, Analyzed: 2022-06-28
Nitrogen, Total Kjeldahl	< 0.050	0.050 mg/L							
Blank (B2F3379-BLK2)									Prepared: 2022-06-27, Analyzed: 2022-06-28
Nitrogen, Total Kjeldahl	< 0.050	0.050 mg/L							
LCS (B2F3379-BS1)									Prepared: 2022-06-27, Analyzed: 2022-06-28
Nitrogen, Total Kjeldahl	1.11	0.050 mg/L	1.00		111	85-115			
LCS (B2F3379-BS2)									Prepared: 2022-06-27, Analyzed: 2022-06-28
Nitrogen, Total Kjeldahl	1.06	0.050 mg/L	1.00		106	85-115			
Duplicate (B2F3379-DUP1)				Source: 22F3398-01					Prepared: 2022-06-27, Analyzed: 2022-06-28
Nitrogen, Total Kjeldahl	1.41	0.050 mg/L		1.46			3	15	
Matrix Spike (B2F3379-MS1)				Source: 22F3398-01					Prepared: 2022-06-27, Analyzed: 2022-06-28
Nitrogen, Total Kjeldahl	3.27	0.100 mg/L	2.00	1.46	91	65-135			

General Parameters, Batch B2F3380

Blank (B2F3380-BLK1)									Prepared: 2022-06-27, Analyzed: 2022-06-27
Conductivity (EC)	< 2.0	2.0 µS/cm							
LCS (B2F3380-BS2)									Prepared: 2022-06-27, Analyzed: 2022-06-27
Conductivity (EC)	1390	2.0 µS/cm	1410		98	95-105			
Reference (B2F3380-SRM1)									Prepared: 2022-06-27, Analyzed: 2022-06-27
pH	7.03	0.10 pH units	7.01		100	98-102			

General Parameters, Batch B2F3418

Blank (B2F3418-BLK1)									Prepared: 2022-06-27, Analyzed: 2022-06-27
Conductivity (EC)	< 2.0	2.0 µS/cm							

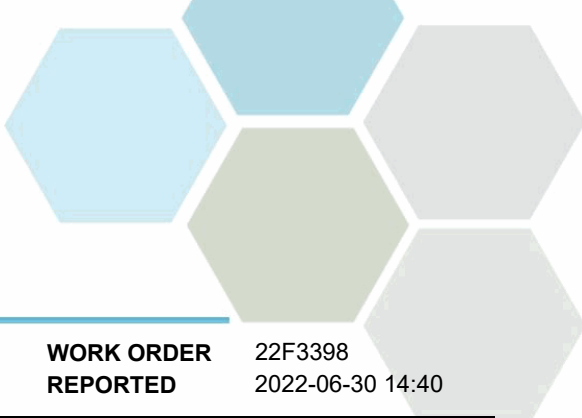


APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT	Kelowna, City of RBCF Ponds	WORK ORDER REPORTED	22F3398 2022-06-30 14:40
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Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
General Parameters, Batch B2F3418, Continued									
Blank (B2F3418-BLK2)			Prepared: 2022-06-27, Analyzed: 2022-06-27						
Conductivity (EC)	< 2.0	2.0 µS/cm							
Blank (B2F3418-BLK3)			Prepared: 2022-06-27, Analyzed: 2022-06-27						
Conductivity (EC)	< 2.0	2.0 µS/cm							
LCS (B2F3418-BS4)			Prepared: 2022-06-27, Analyzed: 2022-06-27						
Conductivity (EC)	1410	2.0 µS/cm	1410		100	95-105			
LCS (B2F3418-BS5)			Prepared: 2022-06-27, Analyzed: 2022-06-27						
Conductivity (EC)	1400	2.0 µS/cm	1410		99	95-105			
LCS (B2F3418-BS6)			Prepared: 2022-06-27, Analyzed: 2022-06-27						
Conductivity (EC)	1430	2.0 µS/cm	1410		101	95-105			
Reference (B2F3418-SRM1)			Prepared: 2022-06-27, Analyzed: 2022-06-27						
pH	7.03	0.10 pH units	7.01		100	98-102			
Reference (B2F3418-SRM2)			Prepared: 2022-06-27, Analyzed: 2022-06-27						
pH	7.02	0.10 pH units	7.01		100	98-102			
Reference (B2F3418-SRM3)			Prepared: 2022-06-27, Analyzed: 2022-06-27						
pH	7.04	0.10 pH units	7.01		100	98-102			
General Parameters, Batch B2F3442									
Blank (B2F3442-BLK1)			Prepared: 2022-06-28, Analyzed: 2022-06-28						
Solids, Total Dissolved	< 15	15 mg/L							
LCS (B2F3442-BS1)			Prepared: 2022-06-28, Analyzed: 2022-06-28						
Solids, Total Dissolved	240	15 mg/L	240		100	85-115			
Duplicate (B2F3442-DUP1)			Source: 22F3398-03		Prepared: 2022-06-28, Analyzed: 2022-06-28				
Solids, Total Dissolved	2400	15 mg/L		2270			6	15	
General Parameters, Batch B2F3444									
Blank (B2F3444-BLK1)			Prepared: 2022-06-27, Analyzed: 2022-06-28						
Phosphorus, Total (as P)	< 0.0050	0.0050 mg/L							
Blank (B2F3444-BLK3)			Prepared: 2022-06-27, Analyzed: 2022-06-28						
Phosphorus, Total (as P)	< 0.0050	0.0050 mg/L							
LCS (B2F3444-BS1)			Prepared: 2022-06-27, Analyzed: 2022-06-28						
Phosphorus, Total (as P)	0.0927	0.0050 mg/L	0.100		93	85-115			
LCS (B2F3444-BS3)			Prepared: 2022-06-27, Analyzed: 2022-06-28						
Phosphorus, Total (as P)	0.0910	0.0050 mg/L	0.100		91	85-115			
Duplicate (B2F3444-DUP1)			Source: 22F3398-03		Prepared: 2022-06-27, Analyzed: 2022-06-28				
Phosphorus, Total (as P)	0.0616	0.0050 mg/L		0.0615			< 1	15	
Matrix Spike (B2F3444-MS1)			Source: 22F3398-03		Prepared: 2022-06-27, Analyzed: 2022-06-28				
Phosphorus, Total (as P)	0.180	0.0050 mg/L	0.102	0.0615	116	70-125			

General Parameters, Batch B2F3484



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT	Kelowna, City of RBCF Ponds	WORK ORDER REPORTED	22F3398 2022-06-30 14:40
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Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
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General Parameters, Batch B2F3484, Continued

Blank (B2F3484-BLK1)			Prepared: 2022-06-28, Analyzed: 2022-06-28						
Solids, Total Suspended	< 2.0	2.0 mg/L							
LCS (B2F3484-BS1)			Prepared: 2022-06-28, Analyzed: 2022-06-28						
Solids, Total Suspended	92.5	5.0 mg/L	100	92	85-115				

General Parameters, Batch B2F3528

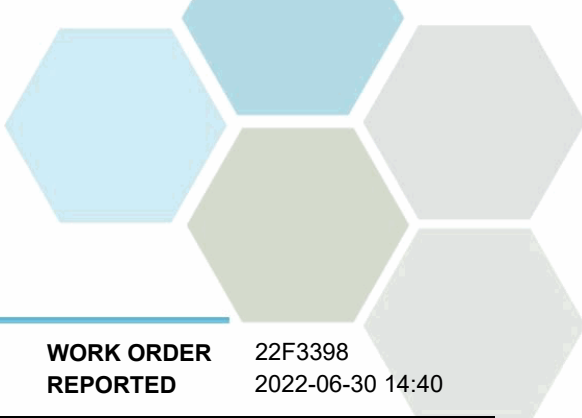
Blank (B2F3528-BLK1)			Prepared: 2022-06-29, Analyzed: 2022-06-29						
Solids, Total Dissolved	< 15	15 mg/L							
LCS (B2F3528-BS1)			Prepared: 2022-06-29, Analyzed: 2022-06-29						
Solids, Total Dissolved	234	15 mg/L	240	98	85-115				
Duplicate (B2F3528-DUP1)			Source: 22F3398-01		Prepared: 2022-06-29, Analyzed: 2022-06-29				
Solids, Total Dissolved	3780	15 mg/L	3760	< 1	15				

Microbiological Parameters, Batch B2F2957

Blank (B2F2957-BLK1)			Prepared: 2022-06-23, Analyzed: 2022-06-23						
Coliforms, Total (Q-Tray)	< 1	1 MPN/100 mL							
E. coli (Q-Tray)	< 1	1 MPN/100 mL							
Blank (B2F2957-BLK2)			Prepared: 2022-06-23, Analyzed: 2022-06-23						
E. coli (Q-Tray)	< 1	1 MPN/100 mL							

Total Metals, Batch B2F3287

Blank (B2F3287-BLK1)			Prepared: 2022-06-26, Analyzed: 2022-06-26						
Aluminum, total	< 0.0050	0.0050 mg/L							
Antimony, total	< 0.00020	0.00020 mg/L							
Arsenic, total	< 0.00050	0.00050 mg/L							
Barium, total	< 0.0050	0.0050 mg/L							
Beryllium, total	< 0.00010	0.00010 mg/L							
Bismuth, total	< 0.00010	0.00010 mg/L							
Boron, total	< 0.0500	0.0500 mg/L							
Cadmium, total	< 0.000010	0.000010 mg/L							
Calcium, total	< 0.20	0.20 mg/L							
Chromium, total	< 0.00050	0.00050 mg/L							
Cobalt, total	< 0.00010	0.00010 mg/L							
Copper, total	< 0.00040	0.00040 mg/L							
Iron, total	< 0.010	0.010 mg/L							
Lead, total	< 0.00020	0.00020 mg/L							
Lithium, total	< 0.00010	0.00010 mg/L							
Magnesium, total	< 0.010	0.010 mg/L							
Manganese, total	< 0.00020	0.00020 mg/L							
Molybdenum, total	< 0.00010	0.00010 mg/L							
Nickel, total	< 0.00040	0.00040 mg/L							
Phosphorus, total	< 0.050	0.050 mg/L							
Potassium, total	< 0.10	0.10 mg/L							
Selenium, total	< 0.00050	0.00050 mg/L							
Silicon, total	< 1.0	1.0 mg/L							
Silver, total	< 0.000050	0.000050 mg/L							
Sodium, total	< 0.10	0.10 mg/L							
Strontium, total	< 0.0010	0.0010 mg/L							
Sulfur, total	< 3.0	3.0 mg/L							



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Kelowna, City of RBCF Ponds **WORK ORDER REPORTED** 22F3398 2022-06-30 14:40

Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
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Total Metals, Batch B2F3287, Continued

Blank (B2F3287-BLK1), Continued

Prepared: 2022-06-26, Analyzed: 2022-06-26

Tellurium, total	< 0.00050	0.00050 mg/L							
Thallium, total	0.000026	0.000020 mg/L							BLK
Thorium, total	< 0.00010	0.00010 mg/L							
Tin, total	< 0.00020	0.00020 mg/L							
Titanium, total	< 0.0050	0.0050 mg/L							
Tungsten, total	< 0.0002	0.0002 mg/L							
Uranium, total	< 0.000020	0.000020 mg/L							
Vanadium, total	< 0.0050	0.0050 mg/L							
Zinc, total	< 0.0040	0.0040 mg/L							
Zirconium, total	< 0.00010	0.00010 mg/L							

LCS (B2F3287-BS1)

Prepared: 2022-06-26, Analyzed: 2022-06-26

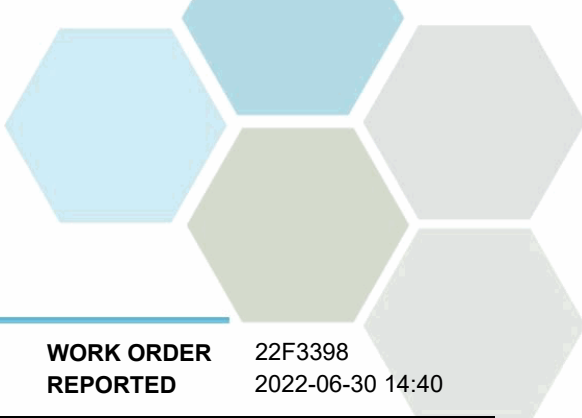
Aluminum, total	3.94	0.0050 mg/L	4.00		99	80-120			
Antimony, total	0.0392	0.00020 mg/L	0.0400		98	80-120			
Arsenic, total	0.0410	0.00050 mg/L	0.0400		102	80-120			
Barium, total	0.0403	0.0050 mg/L	0.0400		101	80-120			
Beryllium, total	0.0379	0.00010 mg/L	0.0400		95	80-120			
Bismuth, total	0.0410	0.00010 mg/L	0.0400		103	80-120			
Boron, total	< 0.0500	0.0500 mg/L	0.0400		101	80-120			
Cadmium, total	0.0401	0.000010 mg/L	0.0400		100	80-120			
Calcium, total	3.88	0.20 mg/L	4.00		97	80-120			
Chromium, total	0.0405	0.00050 mg/L	0.0400		101	80-120			
Cobalt, total	0.0393	0.00010 mg/L	0.0400		98	80-120			
Copper, total	0.0390	0.00040 mg/L	0.0400		98	80-120			
Iron, total	3.94	0.010 mg/L	4.00		98	80-120			
Lead, total	0.0412	0.00020 mg/L	0.0400		103	80-120			
Lithium, total	0.0392	0.00010 mg/L	0.0400		98	80-120			
Magnesium, total	3.93	0.010 mg/L	4.00		98	80-120			
Manganese, total	0.0402	0.00020 mg/L	0.0400		101	80-120			
Molybdenum, total	0.0396	0.00010 mg/L	0.0400		99	80-120			
Nickel, total	0.0397	0.00040 mg/L	0.0400		99	80-120			
Phosphorus, total	4.00	0.050 mg/L	4.00		100	80-120			
Potassium, total	3.99	0.10 mg/L	4.00		100	80-120			
Selenium, total	0.0401	0.00050 mg/L	0.0400		100	80-120			
Silicon, total	4.2	1.0 mg/L	4.00		104	80-120			
Silver, total	0.0402	0.000050 mg/L	0.0400		100	80-120			
Sodium, total	4.06	0.10 mg/L	4.00		102	80-120			
Strontium, total	0.0408	0.0010 mg/L	0.0400		102	80-120			
Sulfur, total	41.7	3.0 mg/L	40.0		104	80-120			
Tellurium, total	0.0387	0.00050 mg/L	0.0400		97	80-120			
Thallium, total	0.0413	0.000020 mg/L	0.0400		103	80-120			
Thorium, total	0.0403	0.00010 mg/L	0.0400		101	80-120			
Tin, total	0.0402	0.00020 mg/L	0.0400		101	80-120			
Titanium, total	0.0395	0.0050 mg/L	0.0400		99	80-120			
Tungsten, total	0.0410	0.0002 mg/L	0.0400		102	80-120			
Uranium, total	0.0423	0.000020 mg/L	0.0400		106	80-120			
Vanadium, total	0.0397	0.0050 mg/L	0.0400		99	80-120			
Zinc, total	0.0403	0.0040 mg/L	0.0400		101	80-120			
Zirconium, total	0.0394	0.00010 mg/L	0.0400		99	80-120			

Total Metals, Batch B2F3463

Blank (B2F3463-BLK1)

Prepared: 2022-06-27, Analyzed: 2022-06-28

Mercury, total	< 0.000010	0.000010 mg/L							
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APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT	Kelowna, City of RBCF Ponds	WORK ORDER REPORTED	22F3398 2022-06-30 14:40
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Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Total Metals, Batch B2F3463, Continued									
Blank (B2F3463-BLK2)			Prepared: 2022-06-27, Analyzed: 2022-06-28						
Mercury, total	< 0.000010	0.000010 mg/L							
Blank (B2F3463-BLK3)			Prepared: 2022-06-27, Analyzed: 2022-06-28						
Mercury, total	< 0.000010	0.000010 mg/L							
Blank (B2F3463-BLK4)			Prepared: 2022-06-27, Analyzed: 2022-06-28						
Mercury, total	< 0.000010	0.000010 mg/L							
LCS (B2F3463-BS1)			Prepared: 2022-06-27, Analyzed: 2022-06-28						
Mercury, total	0.000449	0.000010 mg/L	0.000500		90	80-120			
LCS (B2F3463-BS2)			Prepared: 2022-06-27, Analyzed: 2022-06-28						
Mercury, total	0.000441	0.000010 mg/L	0.000500		88	80-120			
LCS (B2F3463-BS3)			Prepared: 2022-06-27, Analyzed: 2022-06-28						
Mercury, total	0.000452	0.000010 mg/L	0.000500		90	80-120			
LCS (B2F3463-BS4)			Prepared: 2022-06-27, Analyzed: 2022-06-28						
Mercury, total	0.000423	0.000010 mg/L	0.000500		85	80-120			

QC Qualifiers:

BLK Analyte concentration in the Method Blank is above the Reporting Limit (RL).
 MS2 The native sample concentration is greater than the spike concentration hence the matrix spike limits do not apply.



CERTIFICATE OF ANALYSIS

REPORTED TO Kelowna, City of
1435 Water Street
KELOWNA, BC V1Y 1J4

ATTENTION Jose Garcia

PO NUMBER 535828

PROJECT RBCF Ponds

PROJECT INFO

WORK ORDER 22G2467

RECEIVED / TEMP 2022-07-19 15:59 / - 4.3°C

REPORTED 2022-08-06 14:09

COC NUMBER 44762.31399

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.

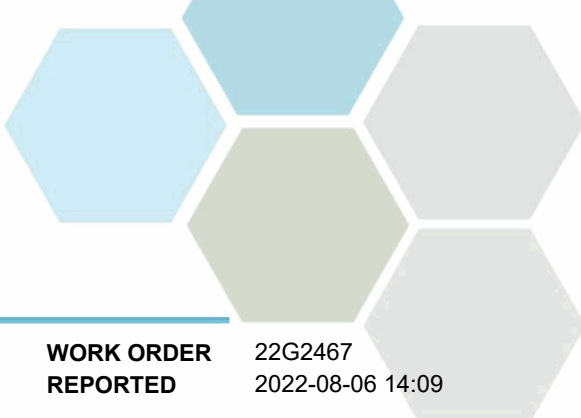
If you have any questions or concerns, please contact me at bwhitehead@caro.ca

Authorized By:

Brent Whitehead
Account Manager

1-888-311-8846 | www.caro.ca

#110 4011 Viking Way Richmond, BC V6V 2K9 | #102 3677 Highway 97N Kelowna, BC V1X 5C3 | 17225 109 Avenue Edmonton, AB T5S 1H7 | #108 4475 Wayburne Drive Burnaby, BC V5G 4X4

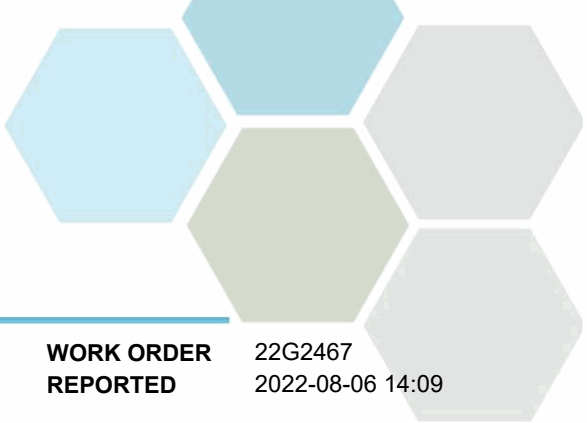


TEST RESULTS

REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

WORK ORDER REPORTED 22G2467
2022-08-06 14:09

Analyte	Result	RL	Units	Analyzed	Qualifier
Rose's Pond (22G2467-01) Matrix: Water Sampled: 2022-07-19					
Anions					
Chloride	377	0.10	mg/L	2022-07-20	
Nitrate (as N)	< 0.100	0.010	mg/L	2022-07-20	RA1
Nitrite (as N)	< 0.100	0.010	mg/L	2022-07-20	RA1
Calculated Parameters					
Hardness, Total (as CaCO3)	1220	1.00	mg/L	N/A	
Nitrate+Nitrite (as N)	< 0.100	0.100	mg/L	N/A	
Nitrogen, Total	1.14	0.100	mg/L	N/A	
Dissolved Metals					
Aluminum, dissolved	< 0.0100	0.0050	mg/L	2022-08-05	RS1
Antimony, dissolved	< 0.00040	0.00020	mg/L	2022-08-05	RS1
Arsenic, dissolved	0.00350	0.00050	mg/L	2022-08-05	RS1
Barium, dissolved	0.0119	0.0050	mg/L	2022-08-05	RS1
Beryllium, dissolved	< 0.00020	0.00010	mg/L	2022-08-05	RS1
Bismuth, dissolved	< 0.00020	0.00010	mg/L	2022-08-05	RS1
Boron, dissolved	< 0.100	0.0500	mg/L	2022-08-05	RS1
Cadmium, dissolved	< 0.000020	0.000010	mg/L	2022-08-05	RS1
Calcium, dissolved	58.7	0.20	mg/L	2022-08-05	RS1
Chromium, dissolved	< 0.00100	0.00050	mg/L	2022-08-05	RS1
Cobalt, dissolved	< 0.00020	0.00010	mg/L	2022-08-05	RS1
Copper, dissolved	< 0.00080	0.00040	mg/L	2022-08-05	RS1
Iron, dissolved	< 0.020	0.010	mg/L	2022-08-05	RS1
Lead, dissolved	< 0.00040	0.00020	mg/L	2022-08-05	RS1
Lithium, dissolved	0.0422	0.00010	mg/L	2022-08-05	RS1
Magnesium, dissolved	261	0.010	mg/L	2022-08-05	RS1
Manganese, dissolved	0.0310	0.00020	mg/L	2022-08-05	RS1
Mercury, dissolved	< 0.000010	0.000010	mg/L	2022-07-22	
Molybdenum, dissolved	0.00134	0.00010	mg/L	2022-08-05	RS1
Nickel, dissolved	0.00082	0.00040	mg/L	2022-08-05	RS1
Phosphorus, dissolved	< 0.100	0.050	mg/L	2022-08-05	RS1
Potassium, dissolved	77.3	0.10	mg/L	2022-08-05	RS1
Selenium, dissolved	< 0.00100	0.00050	mg/L	2022-08-05	RS1
Silicon, dissolved	< 2.0	1.0	mg/L	2022-08-05	RS1
Silver, dissolved	< 0.000100	0.000050	mg/L	2022-08-05	RS1
Sodium, dissolved	771	0.10	mg/L	2022-08-05	RS1
Strontium, dissolved	0.457	0.0010	mg/L	2022-08-05	RS1
Sulfur, dissolved	635	3.0	mg/L	2022-08-05	RS1
Tellurium, dissolved	< 0.00100	0.00050	mg/L	2022-08-05	RS1
Thallium, dissolved	< 0.000040	0.000020	mg/L	2022-08-05	RS1
Thorium, dissolved	< 0.00020	0.00010	mg/L	2022-08-05	RS1
Tin, dissolved	< 0.00040	0.00020	mg/L	2022-08-05	RS1
Titanium, dissolved	< 0.0100	0.0050	mg/L	2022-08-05	RS1
Tungsten, dissolved	< 0.0020	0.0010	mg/L	2022-08-05	RS1



TEST RESULTS

REPORTED TO PROJECT Kelowna, City of RBCF Ponds

WORK ORDER REPORTED 22G2467
2022-08-06 14:09

Analyte	Result	RL	Units	Analyzed	Qualifier
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Rose's Pond (22G2467-01) | Matrix: Water | Sampled: 2022-07-19, Continued

Dissolved Metals, Continued

Uranium, dissolved	0.00358	0.000020	mg/L	2022-08-05	RS1
Vanadium, dissolved	< 0.0100	0.0050	mg/L	2022-08-05	RS1
Zinc, dissolved	< 0.0080	0.0040	mg/L	2022-08-05	RS1
Zirconium, dissolved	< 0.00020	0.00010	mg/L	2022-08-05	RS1

General Parameters

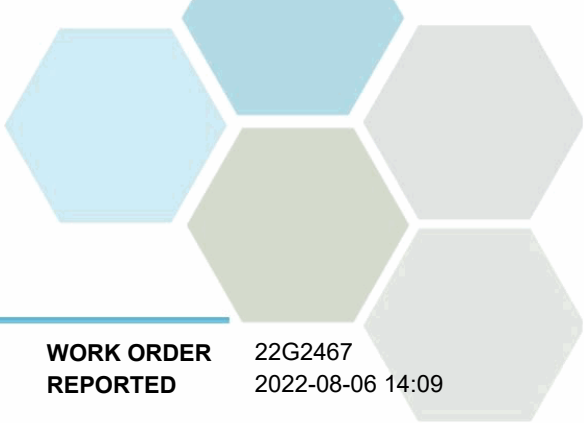
Ammonia, Total (as N)	< 0.050	0.050	mg/L	2022-07-20	
BOD, 5-day	11.7	2.0	mg/L	2022-07-25	
Carbon, Dissolved Organic	17.1	0.50	mg/L	2022-07-21	
Chemical Oxygen Demand	50	20	mg/L	2022-07-21	
Conductivity (EC)	4580	2.0	µS/cm	2022-07-22	
Nitrogen, Total Kjeldahl	1.14	0.050	mg/L	2022-07-24	
pH	8.72	0.10	pH units	2022-07-22	HT2
Phosphorus, Total (as P)	0.0318	0.0050	mg/L	2022-07-25	
Solids, Total Dissolved	3360	15	mg/L	2022-07-26	HT1
Solids, Total Suspended	5.6	2.0	mg/L	2022-07-26	

Microbiological Parameters

Coliforms, Total (Q-Tray)	> 2420	1	MPN/100 mL	2022-07-20	
E. coli (Q-Tray)	56	1	MPN/100 mL	2022-07-20	

Total Metals

Aluminum, total	0.0352	0.0050	mg/L	2022-08-01	RS1
Antimony, total	< 0.00100	0.00020	mg/L	2022-08-01	RS1
Arsenic, total	0.00340	0.00050	mg/L	2022-08-01	RS1
Barium, total	< 0.0250	0.0050	mg/L	2022-08-01	RS1
Beryllium, total	< 0.00050	0.00010	mg/L	2022-08-01	RS1
Bismuth, total	< 0.00050	0.00010	mg/L	2022-08-01	RS1
Boron, total	< 0.250	0.0500	mg/L	2022-08-01	RS1
Cadmium, total	< 0.000050	0.000010	mg/L	2022-08-01	RS1
Calcium, total	57.1	0.20	mg/L	2022-08-01	RS1
Chromium, total	< 0.00250	0.00050	mg/L	2022-08-01	RS1
Cobalt, total	< 0.00050	0.00010	mg/L	2022-08-01	RS1
Copper, total	< 0.00200	0.00040	mg/L	2022-08-01	RS1
Iron, total	< 0.050	0.010	mg/L	2022-08-01	RS1
Lead, total	< 0.00100	0.00020	mg/L	2022-08-01	RS1
Lithium, total	0.0400	0.00010	mg/L	2022-08-01	RS1
Magnesium, total	233	0.010	mg/L	2022-08-01	RS1
Manganese, total	0.0720	0.00020	mg/L	2022-08-01	RS1
Mercury, total	< 0.000010	0.000010	mg/L	2022-07-22	
Molybdenum, total	0.00137	0.00010	mg/L	2022-08-01	RS1
Nickel, total	< 0.00200	0.00040	mg/L	2022-08-01	RS1
Phosphorus, total	< 0.250	0.050	mg/L	2022-08-01	RS1
Potassium, total	70.0	0.10	mg/L	2022-08-01	RS1



TEST RESULTS

REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

WORK ORDER REPORTED 22G2467
2022-08-06 14:09

Analyte	Result	RL	Units	Analyzed	Qualifier
Rose's Pond (22G2467-01) Matrix: Water Sampled: 2022-07-19, Continued					
<i>Total Metals, Continued</i>					
Selenium, total	< 0.00250	0.00050	mg/L	2022-08-01	RS1
Silicon, total	< 5.0	1.0	mg/L	2022-08-01	RS1
Silver, total	< 0.000250	0.000050	mg/L	2022-08-01	RS1
Sodium, total	680	0.10	mg/L	2022-08-01	RS1
Strontium, total	0.431	0.0010	mg/L	2022-08-01	RS1
Sulfur, total	626	3.0	mg/L	2022-08-01	RS1
Tellurium, total	< 0.00250	0.00050	mg/L	2022-08-01	RS1
Thallium, total	< 0.000100	0.000020	mg/L	2022-08-01	RS1
Thorium, total	< 0.00050	0.00010	mg/L	2022-08-01	RS1
Tin, total	< 0.00100	0.00020	mg/L	2022-08-01	RS1
Titanium, total	< 0.0250	0.0050	mg/L	2022-08-01	RS1
Tungsten, total	< 0.0010	0.0002	mg/L	2022-08-01	RS1
Uranium, total	0.00368	0.000020	mg/L	2022-08-01	RS1
Vanadium, total	< 0.0250	0.0050	mg/L	2022-08-01	RS1
Zinc, total	< 0.0200	0.0040	mg/L	2022-08-01	RS1
Zirconium, total	< 0.00050	0.00010	mg/L	2022-08-01	RS1

Drainage Pond (22G2467-02) | Matrix: Water | Sampled: 2022-07-19

Anions

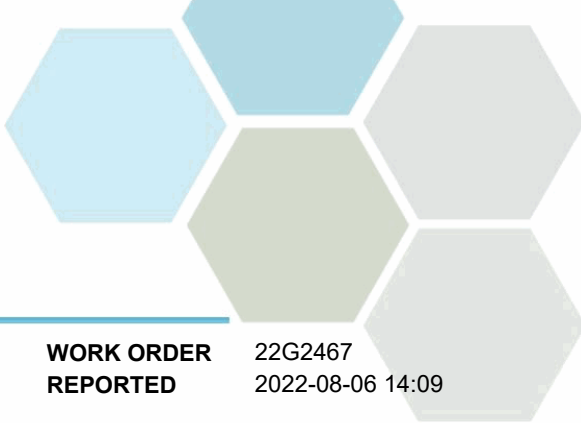
Chloride	88.5	0.10	mg/L	2022-07-20	
Nitrate (as N)	< 0.010	0.010	mg/L	2022-07-20	
Nitrite (as N)	< 0.010	0.010	mg/L	2022-07-20	

Calculated Parameters

Hardness, Total (as CaCO3)	228	0.500	mg/L	N/A	
Nitrate+Nitrite (as N)	< 0.0100	0.0100	mg/L	N/A	
Nitrogen, Total	29.1	1.00	mg/L	N/A	

Dissolved Metals

Aluminum, dissolved	0.0389	0.0050	mg/L	2022-08-05	
Antimony, dissolved	0.00022	0.00020	mg/L	2022-08-05	
Arsenic, dissolved	0.00328	0.00050	mg/L	2022-08-05	
Barium, dissolved	0.0274	0.0050	mg/L	2022-08-05	
Beryllium, dissolved	< 0.00010	0.00010	mg/L	2022-08-05	
Bismuth, dissolved	< 0.00010	0.00010	mg/L	2022-08-05	
Boron, dissolved	0.178	0.0500	mg/L	2022-08-05	
Cadmium, dissolved	0.000036	0.000010	mg/L	2022-08-05	
Calcium, dissolved	53.7	0.20	mg/L	2022-08-05	
Chromium, dissolved	< 0.00050	0.00050	mg/L	2022-08-05	
Cobalt, dissolved	0.00052	0.00010	mg/L	2022-08-05	
Copper, dissolved	0.00542	0.00040	mg/L	2022-08-05	
Iron, dissolved	0.123	0.010	mg/L	2022-08-05	

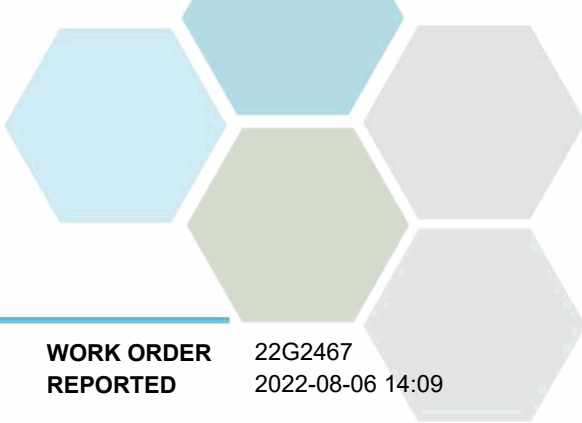


TEST RESULTS

REPORTED TO PROJECT Kelowna, City of RBCF Ponds

WORK ORDER REPORTED 22G2467
2022-08-06 14:09

Analyte	Result	RL	Units	Analyzed	Qualifier
Drainage Pond (22G2467-02) Matrix: Water Sampled: 2022-07-19, Continued					
<i>Dissolved Metals, Continued</i>					
Lead, dissolved	< 0.00020	0.00020	mg/L	2022-08-05	
Lithium, dissolved	0.0118	0.00010	mg/L	2022-08-05	
Magnesium, dissolved	22.9	0.010	mg/L	2022-08-05	
Manganese, dissolved	0.169	0.00020	mg/L	2022-08-05	
Mercury, dissolved	< 0.000040	0.000010	mg/L	2022-07-22	RS1
Molybdenum, dissolved	0.00208	0.00010	mg/L	2022-08-05	
Nickel, dissolved	0.00234	0.00040	mg/L	2022-08-05	
Phosphorus, dissolved	7.88	0.050	mg/L	2022-08-05	
Potassium, dissolved	40.2	0.10	mg/L	2022-08-05	
Selenium, dissolved	0.00057	0.00050	mg/L	2022-08-05	
Silicon, dissolved	2.9	1.0	mg/L	2022-08-05	
Silver, dissolved	< 0.000050	0.000050	mg/L	2022-08-05	
Sodium, dissolved	97.1	0.10	mg/L	2022-08-05	
Strontium, dissolved	0.509	0.0010	mg/L	2022-08-05	
Sulfur, dissolved	33.4	3.0	mg/L	2022-08-05	
Tellurium, dissolved	< 0.00050	0.00050	mg/L	2022-08-05	
Thallium, dissolved	< 0.000020	0.000020	mg/L	2022-08-05	
Thorium, dissolved	< 0.00010	0.00010	mg/L	2022-08-05	
Tin, dissolved	< 0.00020	0.00020	mg/L	2022-08-05	
Titanium, dissolved	< 0.0050	0.0050	mg/L	2022-08-05	
Tungsten, dissolved	< 0.0010	0.0010	mg/L	2022-08-05	
Uranium, dissolved	0.00103	0.000020	mg/L	2022-08-05	
Vanadium, dissolved	< 0.0050	0.0050	mg/L	2022-08-05	
Zinc, dissolved	0.0243	0.0040	mg/L	2022-08-05	
Zirconium, dissolved	0.00037	0.00010	mg/L	2022-08-05	
<i>General Parameters</i>					
Ammonia, Total (as N)	18.2	0.050	mg/L	2022-07-20	
BOD, 5-day	20.1	2.0	mg/L	2022-07-25	
Carbon, Dissolved Organic	39.6	0.50	mg/L	2022-07-21	
Chemical Oxygen Demand	185	20	mg/L	2022-07-21	
Conductivity (EC)	1060	2.0	µS/cm	2022-07-22	
Nitrogen, Total Kjeldahl	29.1	0.050	mg/L	2022-07-24	
pH	8.00	0.10	pH units	2022-07-22	HT2
Phosphorus, Total (as P)	7.93	0.0050	mg/L	2022-07-25	
Solids, Total Dissolved	650	15	mg/L	2022-07-26	HT1
Solids, Total Suspended	11.3	2.0	mg/L	2022-07-26	
<i>Microbiological Parameters</i>					
Coliforms, Total (Q-Tray)	> 242000	1	MPN/100 mL	2022-07-20	
E. coli (Q-Tray)	18100	1	MPN/100 mL	2022-07-20	
<i>Total Metals</i>					
Aluminum, total	0.0797	0.0050	mg/L	2022-08-01	



TEST RESULTS

REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

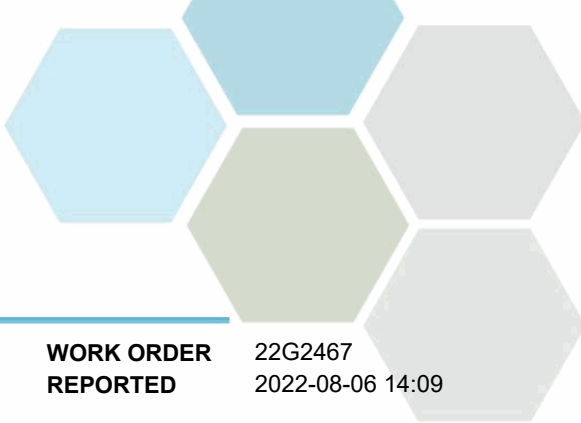
WORK ORDER REPORTED 22G2467
2022-08-06 14:09

Analyte	Result	RL	Units	Analyzed	Qualifier
Drainage Pond (22G2467-02) Matrix: Water Sampled: 2022-07-19, Continued					
<i>Total Metals, Continued</i>					
Antimony, total	0.00024	0.00020	mg/L	2022-08-01	
Arsenic, total	0.00337	0.00050	mg/L	2022-08-01	
Barium, total	0.0307	0.0050	mg/L	2022-08-01	
Beryllium, total	< 0.00010	0.00010	mg/L	2022-08-01	
Bismuth, total	0.00041	0.00010	mg/L	2022-08-01	
Boron, total	0.171	0.0500	mg/L	2022-08-01	
Cadmium, total	0.000096	0.000010	mg/L	2022-08-01	
Calcium, total	49.7	0.20	mg/L	2022-08-01	
Chromium, total	0.00069	0.00050	mg/L	2022-08-01	
Cobalt, total	0.00062	0.00010	mg/L	2022-08-01	
Copper, total	0.0187	0.00040	mg/L	2022-08-01	
Iron, total	0.265	0.010	mg/L	2022-08-01	
Lead, total	0.00036	0.00020	mg/L	2022-08-01	
Lithium, total	0.0109	0.00010	mg/L	2022-08-01	
Magnesium, total	21.6	0.010	mg/L	2022-08-01	
Manganese, total	0.183	0.00020	mg/L	2022-08-01	
Mercury, total	< 0.000040	0.000010	mg/L	2022-07-22	RS1
Molybdenum, total	0.00342	0.00010	mg/L	2022-08-01	
Nickel, total	0.00276	0.00040	mg/L	2022-08-01	
Phosphorus, total	7.67	0.050	mg/L	2022-08-01	
Potassium, total	36.5	0.10	mg/L	2022-08-01	
Selenium, total	0.00080	0.00050	mg/L	2022-08-01	
Silicon, total	2.8	1.0	mg/L	2022-08-01	
Silver, total	0.000062	0.000050	mg/L	2022-08-01	
Sodium, total	84.3	0.10	mg/L	2022-08-01	
Strontium, total	0.487	0.0010	mg/L	2022-08-01	
Sulfur, total	33.8	3.0	mg/L	2022-08-01	
Tellurium, total	< 0.00050	0.00050	mg/L	2022-08-01	
Thallium, total	< 0.000020	0.000020	mg/L	2022-08-01	
Thorium, total	< 0.00010	0.00010	mg/L	2022-08-01	
Tin, total	0.00032	0.00020	mg/L	2022-08-01	
Titanium, total	< 0.0050	0.0050	mg/L	2022-08-01	
Tungsten, total	0.0003	0.0002	mg/L	2022-08-01	
Uranium, total	0.00135	0.000020	mg/L	2022-08-01	
Vanadium, total	< 0.0050	0.0050	mg/L	2022-08-01	
Zinc, total	0.0349	0.0040	mg/L	2022-08-01	
Zirconium, total	0.00020	0.00010	mg/L	2022-08-01	

Davidson Pond (22G2467-03) | Matrix: Water | Sampled: 2022-07-19

Anions

Chloride	328	0.10	mg/L	2022-07-20	
Nitrate (as N)	< 0.010	0.010	mg/L	2022-07-20	

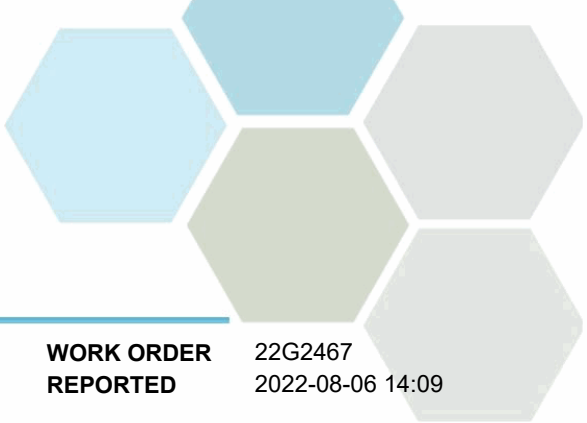


TEST RESULTS

REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

WORK ORDER REPORTED 22G2467
2022-08-06 14:09

Analyte	Result	RL	Units	Analyzed	Qualifier
Davidson Pond (22G2467-03) Matrix: Water Sampled: 2022-07-19, Continued					
<i>Anions, Continued</i>					
Nitrite (as N)	< 0.010	0.010	mg/L	2022-07-20	
<i>Calculated Parameters</i>					
Hardness, Total (as CaCO3)	724	1.00	mg/L	N/A	
Nitrate+Nitrite (as N)	< 0.0100	0.0100	mg/L	N/A	
Nitrogen, Total	2.21	0.200	mg/L	N/A	
<i>Dissolved Metals</i>					
Aluminum, dissolved	< 0.0100	0.0050	mg/L	2022-08-05	RS1
Antimony, dissolved	0.00040	0.00020	mg/L	2022-08-05	RS1
Arsenic, dissolved	0.00396	0.00050	mg/L	2022-08-05	RS1
Barium, dissolved	0.0125	0.0050	mg/L	2022-08-05	RS1
Beryllium, dissolved	< 0.00020	0.00010	mg/L	2022-08-05	RS1
Bismuth, dissolved	< 0.00020	0.00010	mg/L	2022-08-05	RS1
Boron, dissolved	< 0.100	0.0500	mg/L	2022-08-05	RS1
Cadmium, dissolved	< 0.000020	0.000010	mg/L	2022-08-05	RS1
Calcium, dissolved	57.9	0.20	mg/L	2022-08-05	RS1
Chromium, dissolved	< 0.00100	0.00050	mg/L	2022-08-05	RS1
Cobalt, dissolved	< 0.00020	0.00010	mg/L	2022-08-05	RS1
Copper, dissolved	0.00141	0.00040	mg/L	2022-08-05	RS1
Iron, dissolved	< 0.020	0.010	mg/L	2022-08-05	RS1
Lead, dissolved	< 0.00040	0.00020	mg/L	2022-08-05	RS1
Lithium, dissolved	0.0480	0.00010	mg/L	2022-08-05	RS1
Magnesium, dissolved	141	0.010	mg/L	2022-08-05	RS1
Manganese, dissolved	0.00886	0.00020	mg/L	2022-08-05	RS1
Mercury, dissolved	< 0.000010	0.000010	mg/L	2022-07-22	
Molybdenum, dissolved	0.00159	0.00010	mg/L	2022-08-05	RS1
Nickel, dissolved	0.00140	0.00040	mg/L	2022-08-05	RS1
Phosphorus, dissolved	< 0.100	0.050	mg/L	2022-08-05	RS1
Potassium, dissolved	51.0	0.10	mg/L	2022-08-05	RS1
Selenium, dissolved	< 0.00100	0.00050	mg/L	2022-08-05	RS1
Silicon, dissolved	< 2.0	1.0	mg/L	2022-08-05	RS1
Silver, dissolved	< 0.000100	0.000050	mg/L	2022-08-05	RS1
Sodium, dissolved	670	0.10	mg/L	2022-08-05	RS1
Strontium, dissolved	0.803	0.0010	mg/L	2022-08-05	RS1
Sulfur, dissolved	425	3.0	mg/L	2022-08-05	RS1
Tellurium, dissolved	< 0.00100	0.00050	mg/L	2022-08-05	RS1
Thallium, dissolved	< 0.000040	0.000020	mg/L	2022-08-05	RS1
Thorium, dissolved	< 0.00020	0.00010	mg/L	2022-08-05	RS1
Tin, dissolved	< 0.00040	0.00020	mg/L	2022-08-05	RS1
Titanium, dissolved	< 0.0100	0.0050	mg/L	2022-08-05	RS1
Tungsten, dissolved	< 0.0020	0.0010	mg/L	2022-08-05	RS1
Uranium, dissolved	0.00751	0.000020	mg/L	2022-08-05	RS1
Vanadium, dissolved	< 0.0100	0.0050	mg/L	2022-08-05	RS1



TEST RESULTS

REPORTED TO PROJECT Kelowna, City of RBCF Ponds

WORK ORDER REPORTED 22G2467
2022-08-06 14:09

Analyte	Result	RL	Units	Analyzed	Qualifier
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Davidson Pond (22G2467-03) | Matrix: Water | Sampled: 2022-07-19, Continued

Dissolved Metals, Continued

Zinc, dissolved	< 0.0080	0.0040	mg/L	2022-08-05	RS1
Zirconium, dissolved	< 0.00020	0.00010	mg/L	2022-08-05	RS1

General Parameters

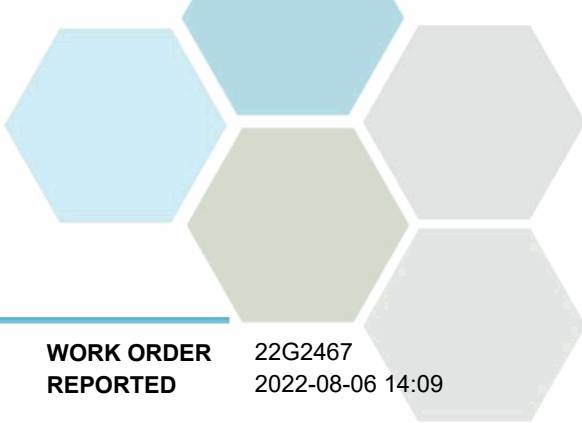
Ammonia, Total (as N)	< 0.050	0.050	mg/L	2022-07-20	
BOD, 5-day	16.1	2.0	mg/L	2022-07-25	
Carbon, Dissolved Organic	25.5	0.50	mg/L	2022-07-21	
Chemical Oxygen Demand	87	20	mg/L	2022-07-21	
Conductivity (EC)	3650	2.0	µS/cm	2022-07-22	
Nitrogen, Total Kjeldahl	2.21	0.050	mg/L	2022-07-24	
pH	9.07	0.10	pH units	2022-07-22	HT2
Phosphorus, Total (as P)	0.0606	0.0050	mg/L	2022-07-25	
Solids, Total Dissolved	2440	15	mg/L	2022-07-26	HT1
Solids, Total Suspended	9.2	2.0	mg/L	2022-07-26	

Microbiological Parameters

Coliforms, Total (Q-Tray)	> 24200	1	MPN/100 mL	2022-07-20	
E. coli (Q-Tray)	20	1	MPN/100 mL	2022-07-20	

Total Metals

Aluminum, total	0.0210	0.0050	mg/L	2022-08-01	RS1
Antimony, total	0.00040	0.00020	mg/L	2022-08-01	RS1
Arsenic, total	0.00382	0.00050	mg/L	2022-08-01	RS1
Barium, total	< 0.0100	0.0050	mg/L	2022-08-01	RS1
Beryllium, total	< 0.00020	0.00010	mg/L	2022-08-01	RS1
Bismuth, total	< 0.00020	0.00010	mg/L	2022-08-01	RS1
Boron, total	< 0.100	0.0500	mg/L	2022-08-01	RS1
Cadmium, total	< 0.000020	0.000010	mg/L	2022-08-01	RS1
Calcium, total	53.5	0.20	mg/L	2022-08-01	RS1
Chromium, total	< 0.00100	0.00050	mg/L	2022-08-01	RS1
Cobalt, total	< 0.00020	0.00010	mg/L	2022-08-01	RS1
Copper, total	< 0.00080	0.00040	mg/L	2022-08-01	RS1
Iron, total	0.042	0.010	mg/L	2022-08-01	RS1
Lead, total	< 0.00040	0.00020	mg/L	2022-08-01	RS1
Lithium, total	0.0441	0.00010	mg/L	2022-08-01	RS1
Magnesium, total	128	0.010	mg/L	2022-08-01	RS1
Manganese, total	0.0170	0.00020	mg/L	2022-08-01	RS1
Mercury, total	< 0.000010	0.000010	mg/L	2022-07-22	
Molybdenum, total	0.00161	0.00010	mg/L	2022-08-01	RS1
Nickel, total	0.00154	0.00040	mg/L	2022-08-01	RS1
Phosphorus, total	< 0.100	0.050	mg/L	2022-08-01	RS1
Potassium, total	45.9	0.10	mg/L	2022-08-01	RS1
Selenium, total	< 0.00100	0.00050	mg/L	2022-08-01	RS1
Silicon, total	< 2.0	1.0	mg/L	2022-08-01	RS1



TEST RESULTS

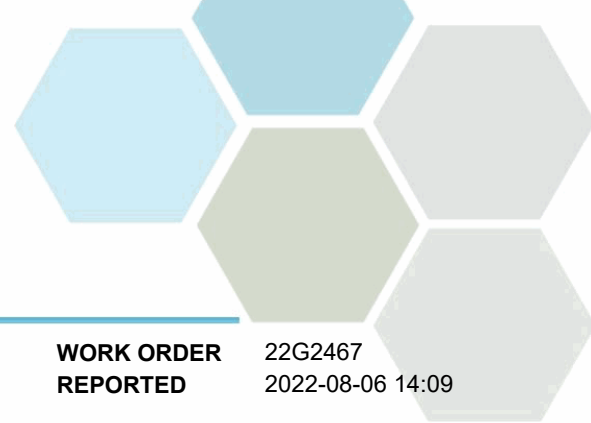
REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

WORK ORDER REPORTED 22G2467
2022-08-06 14:09

Analyte	Result	RL	Units	Analyzed	Qualifier
Davidson Pond (22G2467-03) Matrix: Water Sampled: 2022-07-19, Continued					
<i>Total Metals, Continued</i>					
Silver, total	< 0.000100	0.000050	mg/L	2022-08-01	RS1
Sodium, total	567	0.10	mg/L	2022-08-01	RS1
Strontium, total	0.769	0.0010	mg/L	2022-08-01	RS1
Sulfur, total	419	3.0	mg/L	2022-08-01	RS1
Tellurium, total	< 0.00100	0.00050	mg/L	2022-08-01	RS1
Thallium, total	< 0.000040	0.000020	mg/L	2022-08-01	RS1
Thorium, total	< 0.00020	0.00010	mg/L	2022-08-01	RS1
Tin, total	< 0.00040	0.00020	mg/L	2022-08-01	RS1
Titanium, total	< 0.0100	0.0050	mg/L	2022-08-01	RS1
Tungsten, total	< 0.0004	0.0002	mg/L	2022-08-01	RS1
Uranium, total	0.00777	0.000020	mg/L	2022-08-01	RS1
Vanadium, total	< 0.0100	0.0050	mg/L	2022-08-01	RS1
Zinc, total	< 0.0080	0.0040	mg/L	2022-08-01	RS1
Zirconium, total	< 0.00020	0.00010	mg/L	2022-08-01	RS1

Sample Qualifiers:

- 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.
- RA1 The Reporting Limit has been raised due to matrix interference.
- RS1 The Reporting Limits for this sample have been raised due to high analyte concentration and/or matrix interference.



APPENDIX 1: SUPPORTING INFORMATION

REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

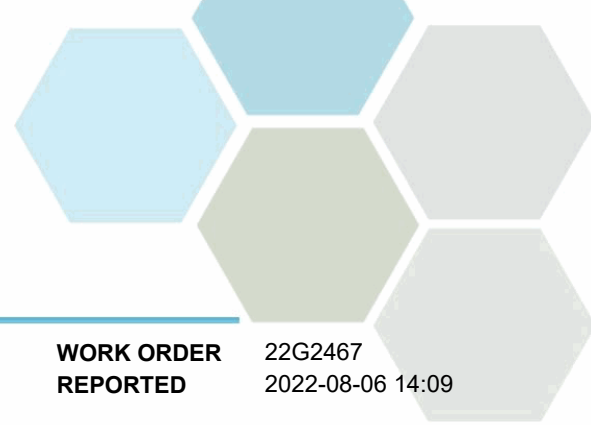
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Analysis Description	Method Ref.	Technique	Accredited	Location
Ammonia, Total in Water	SM 4500-NH3 G* (2017)	Automated Colorimetry (Phenate)	✓	Kelowna
Anions in Water	SM 4110 B (2017)	Ion Chromatography	✓	Kelowna
Biochemical Oxygen Demand in Water	SM 5210 B (2017)	Dissolved Oxygen Meter	✓	Kelowna
Carbon, Dissolved Organic in Water	SM 5310 B (2017)	Combustion, Infrared CO2 Detection	✓	Kelowna
Chemical Oxygen Demand in Water	SM 5220 D* (2017)	Closed Reflux, Colorimetry	✓	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
Dissolved Metals in Water	EPA 200.8 / EPA 6020B	0.45 µm Filtration / Inductively Coupled Plasma-Mass Spectroscopy (ICP-MS)	✓	Richmond
E. coli in Water	NA / SM 9223 (2017)	Quanti-Tray / Enzyme Substrate Endo Agar	✓	Kelowna
Hardness in Water	SM 2340 B (2017)	Calculation: 2.497 [diss Ca] + 4.118 [diss Mg]	✓	N/A
Mercury, dissolved in Water	EPA 245.7*	BrCl2 Oxidation / Cold Vapor Atomic Fluorescence Spectrometry (CVAFS)	✓	Richmond
Mercury, total in Water	EPA 245.7*	BrCl2 Oxidation / Cold Vapor Atomic Fluorescence Spectrometry (CVAFS)	✓	Richmond
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
Phosphorus, Total in Water	SM 4500-P B.5* (2011) / SM 4500-P F (2017)	Persulfate Digestion / Automated Colorimetry (Ascorbic Acid)	✓	Kelowna
Solids, Total Dissolved in Water	Solids in Water, Filtered / SM 2540 C* (2017)	Solids in Water, Filtered / Gravimetry (Dried at 103-105C)	✓	Kelowna
Solids, Total Suspended in Water	Solids in Water, Filtered / SM 2540 D* (2017)	Solids in Water, Filtered / Gravimetry (Dried at 103-105C)	✓	Kelowna
Total Metals in Water	EPA 200.2 / EPA 6020B	HNO3+HCl Hot Block Digestion / Inductively Coupled Plasma-Mass Spectroscopy (ICP-MS)	✓	Richmond

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
>	Greater than the specified Result
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
EPA	United States Environmental Protection Agency Test Methods
SM	Standard Methods for the Examination of Water and Wastewater, American Public Health Association



APPENDIX 1: SUPPORTING INFORMATION

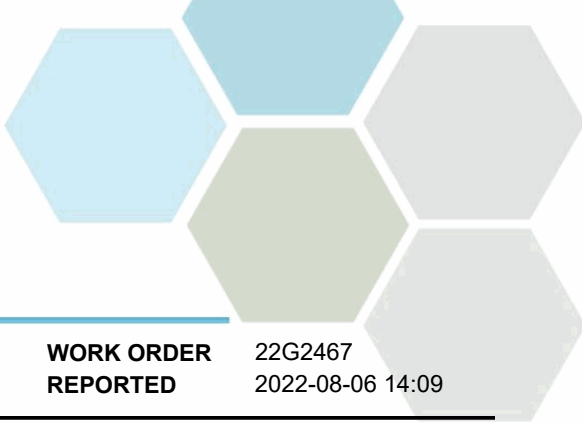
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General Comments:

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 or once samples expire, whichever comes first. Longer hold is possible if agreed to in writing.

Please note any regulatory guidelines applied to this report are added as a convenience to the client, at their request, to help provide some initial context to analytical results obtained. Although CARO makes every effort to ensure accuracy of the associated regulatory guideline(s) applied, the guidelines applied cannot be assumed to be correct due to a variety of factors and as such CARO Analytical Services assumes no liability or responsibility for the use of those guidelines to make any decisions. The original source of the regulation should be verified and a review of the guideline(s) should be validated as correct in order to make any decisions arising from the comparison of the analytical data obtained to the relevant regulatory guideline for one's particular circumstances. Further, CARO Analytical Services assumes no liability or responsibility for any loss attributed from the use of these guidelines in any way.



APPENDIX 2: QUALITY CONTROL RESULTS

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The following section displays the quality control (QC) data that is associated with your sample data. Groups of samples are prepared in “batches” and analyzed in conjunction with QC samples that ensure your data is of the highest quality. Common QC types include:

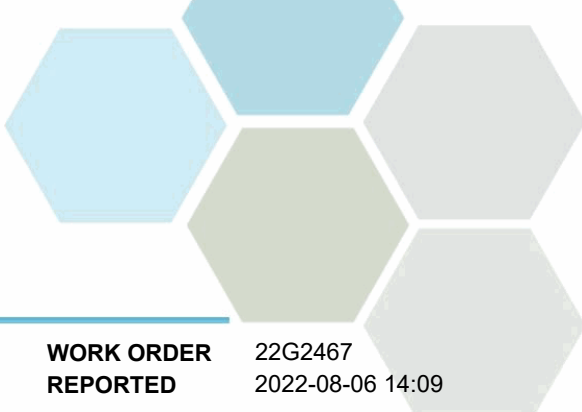
- **Method Blank (Blk):** A blank sample that undergoes sample processing identical to that carried out for the test samples. Method blank results are used to assess contamination from the laboratory environment and reagents.
- **Duplicate (Dup):** An additional or second portion of a randomly selected sample in the analytical run carried through the entire analytical process. Duplicates provide a measure of the analytical method's precision (reproducibility).
- **Blank Spike (BS):** A sample of known concentration which undergoes processing identical to that carried out for test samples, also referred to as a laboratory control sample (LCS). Blank spikes provide a measure of the analytical method's accuracy.
- **Matrix Spike (MS):** A second aliquot of sample is fortified with a known concentration of target analytes and carried through the entire analytical process. Matrix spikes evaluate potential matrix effects that may affect the analyte recovery.
- **Reference Material (SRM):** A homogenous material of similar matrix to the samples, certified for the parameter(s) listed. Reference Materials ensure that the analytical process is adequate to achieve acceptable recoveries of the parameter(s) tested.

Each QC type is analyzed at a 5-10% frequency, i.e. one blank/duplicate/spike for every 10-20 samples. For all types of QC, the specified recovery (% Rec) and relative percent difference (RPD) limits are derived from long-term method performance averages and/or prescribed by the reference method.

Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Anions, Batch B2G2306									
Blank (B2G2306-BLK1)			Prepared: 2022-07-20, Analyzed: 2022-07-20						
Chloride	< 0.10	0.10 mg/L							
Nitrate (as N)	< 0.010	0.010 mg/L							
Nitrite (as N)	< 0.010	0.010 mg/L							
LCS (B2G2306-BS1)			Prepared: 2022-07-20, Analyzed: 2022-07-20						
Chloride	16.1	0.10 mg/L	16.0		101	90-110			
Nitrate (as N)	4.01	0.010 mg/L	4.00		100	90-110			
Nitrite (as N)	1.93	0.010 mg/L	2.00		97	85-115			

Dissolved Metals, Batch B2G2664

Blank (B2G2664-BLK1)			Prepared: 2022-08-05, Analyzed: 2022-08-05						
Aluminum, dissolved	< 0.0050	0.0050 mg/L							
Antimony, dissolved	< 0.00020	0.00020 mg/L							
Arsenic, dissolved	< 0.00050	0.00050 mg/L							
Barium, dissolved	< 0.0050	0.0050 mg/L							
Beryllium, dissolved	< 0.00010	0.00010 mg/L							
Bismuth, dissolved	< 0.00010	0.00010 mg/L							
Boron, dissolved	< 0.0500	0.0500 mg/L							
Cadmium, dissolved	< 0.000010	0.000010 mg/L							
Calcium, dissolved	< 0.20	0.20 mg/L							
Chromium, dissolved	< 0.00050	0.00050 mg/L							
Cobalt, dissolved	< 0.00010	0.00010 mg/L							
Copper, dissolved	< 0.00040	0.00040 mg/L							
Iron, dissolved	< 0.010	0.010 mg/L							
Lead, dissolved	< 0.00020	0.00020 mg/L							
Lithium, dissolved	< 0.00010	0.00010 mg/L							
Magnesium, dissolved	< 0.010	0.010 mg/L							
Manganese, dissolved	< 0.00020	0.00020 mg/L							
Molybdenum, dissolved	< 0.00010	0.00010 mg/L							
Nickel, dissolved	< 0.00040	0.00040 mg/L							
Phosphorus, dissolved	< 0.050	0.050 mg/L							
Potassium, dissolved	< 0.10	0.10 mg/L							
Selenium, dissolved	< 0.00050	0.00050 mg/L							
Silicon, dissolved	< 1.0	1.0 mg/L							
Silver, dissolved	< 0.000050	0.000050 mg/L							



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Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
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Dissolved Metals, Batch B2G2664, Continued

Blank (B2G2664-BLK1), Continued

Prepared: 2022-08-05, Analyzed: 2022-08-05

Sodium, dissolved	< 0.10	0.10 mg/L							
Strontium, dissolved	< 0.0010	0.0010 mg/L							
Sulfur, dissolved	< 3.0	3.0 mg/L							
Tellurium, dissolved	< 0.00050	0.00050 mg/L							
Thallium, dissolved	< 0.000020	0.000020 mg/L							
Thorium, dissolved	< 0.00010	0.00010 mg/L							
Tin, dissolved	< 0.00020	0.00020 mg/L							
Titanium, dissolved	< 0.0050	0.0050 mg/L							
Tungsten, dissolved	< 0.0010	0.0010 mg/L							
Uranium, dissolved	< 0.000020	0.000020 mg/L							
Vanadium, dissolved	< 0.0050	0.0050 mg/L							
Zinc, dissolved	< 0.0040	0.0040 mg/L							
Zirconium, dissolved	< 0.00010	0.00010 mg/L							

LCS (B2G2664-BS1)

Prepared: 2022-08-05, Analyzed: 2022-08-05

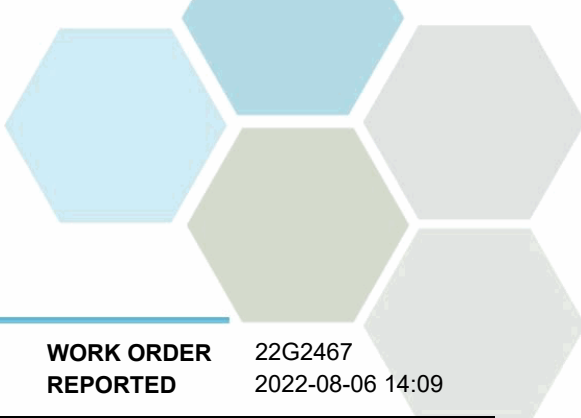
Aluminum, dissolved	4.23	0.0050 mg/L	4.00		106	80-120			
Antimony, dissolved	0.0396	0.00020 mg/L	0.0400		99	80-120			
Arsenic, dissolved	0.0423	0.00050 mg/L	0.0400		106	80-120			
Barium, dissolved	0.0396	0.0050 mg/L	0.0400		99	80-120			
Beryllium, dissolved	0.0399	0.00010 mg/L	0.0400		100	80-120			
Bismuth, dissolved	0.0399	0.00010 mg/L	0.0400		100	80-120			
Boron, dissolved	< 0.0500	0.0500 mg/L	0.0400		99	80-120			
Cadmium, dissolved	0.0400	0.000010 mg/L	0.0400		100	80-120			
Calcium, dissolved	4.01	0.20 mg/L	4.00		100	80-120			
Chromium, dissolved	0.0422	0.00050 mg/L	0.0400		106	80-120			
Cobalt, dissolved	0.0418	0.00010 mg/L	0.0400		104	80-120			
Copper, dissolved	0.0419	0.00040 mg/L	0.0400		105	80-120			
Iron, dissolved	4.14	0.010 mg/L	4.00		103	80-120			
Lead, dissolved	0.0404	0.00020 mg/L	0.0400		101	80-120			
Lithium, dissolved	0.0412	0.00010 mg/L	0.0400		103	80-120			
Magnesium, dissolved	4.26	0.010 mg/L	4.00		106	80-120			
Manganese, dissolved	0.0424	0.00020 mg/L	0.0400		106	80-120			
Molybdenum, dissolved	0.0399	0.00010 mg/L	0.0400		100	80-120			
Nickel, dissolved	0.0418	0.00040 mg/L	0.0400		104	80-120			
Phosphorus, dissolved	4.27	0.050 mg/L	4.00		107	80-120			
Potassium, dissolved	4.20	0.10 mg/L	4.00		105	80-120			
Selenium, dissolved	0.0418	0.00050 mg/L	0.0400		104	80-120			
Silicon, dissolved	4.4	1.0 mg/L	4.00		110	80-120			
Silver, dissolved	0.0413	0.000050 mg/L	0.0400		103	80-120			
Sodium, dissolved	4.41	0.10 mg/L	4.00		110	80-120			
Strontium, dissolved	0.0414	0.0010 mg/L	0.0400		104	80-120			
Sulfur, dissolved	40.7	3.0 mg/L	40.0		102	80-120			
Tellurium, dissolved	0.0391	0.00050 mg/L	0.0400		98	80-120			
Thallium, dissolved	0.0397	0.000020 mg/L	0.0400		99	80-120			
Thorium, dissolved	0.0412	0.00010 mg/L	0.0400		103	80-120			
Tin, dissolved	0.0396	0.00020 mg/L	0.0400		99	80-120			
Titanium, dissolved	0.0437	0.0050 mg/L	0.0400		109	80-120			
Tungsten, dissolved	0.0403	0.0010 mg/L	0.0400		101	80-120			
Uranium, dissolved	0.0409	0.000020 mg/L	0.0400		102	80-120			
Vanadium, dissolved	0.0423	0.0050 mg/L	0.0400		106	80-120			
Zinc, dissolved	0.0413	0.0040 mg/L	0.0400		103	80-120			
Zirconium, dissolved	0.0403	0.00010 mg/L	0.0400		101	80-120			

Duplicate (B2G2664-DUP1)

Source: 22G2467-01

Prepared: 2022-08-05, Analyzed: 2022-08-05

Aluminum, dissolved	< 0.0100	0.0050 mg/L	< 0.0100					20	
Antimony, dissolved	< 0.00040	0.00020 mg/L	< 0.00040					20	
Arsenic, dissolved	0.00352	0.00050 mg/L	0.00350					20	



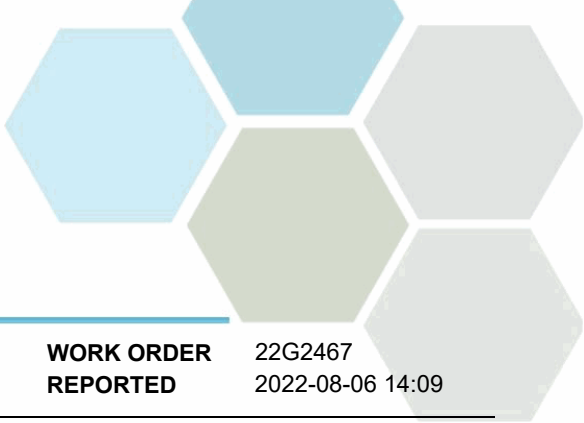
APPENDIX 2: QUALITY CONTROL RESULTS

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Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Dissolved Metals, Batch B2G2664, Continued									
Duplicate (B2G2664-DUP1), Continued			Source: 22G2467-01		Prepared: 2022-08-05, Analyzed: 2022-08-05				
Barium, dissolved	0.0114	0.0050 mg/L		0.0119				20	
Beryllium, dissolved	< 0.00020	0.00010 mg/L		< 0.00020				20	
Bismuth, dissolved	< 0.00020	0.00010 mg/L		< 0.00020				20	
Boron, dissolved	0.100	0.0500 mg/L		< 0.100				20	
Cadmium, dissolved	< 0.000020	0.000010 mg/L		< 0.000020				20	
Calcium, dissolved	57.2	0.20 mg/L		58.7			3	20	
Chromium, dissolved	< 0.00100	0.00050 mg/L		< 0.00100				20	
Cobalt, dissolved	< 0.00020	0.00010 mg/L		< 0.00020				20	
Copper, dissolved	< 0.00080	0.00040 mg/L		< 0.00080				20	
Iron, dissolved	< 0.020	0.010 mg/L		< 0.020				20	
Lead, dissolved	< 0.00040	0.00020 mg/L		< 0.00040				20	
Lithium, dissolved	0.0414	0.00010 mg/L		0.0422			2	20	
Magnesium, dissolved	257	0.010 mg/L		261			1	20	
Manganese, dissolved	0.0302	0.00020 mg/L		0.0310			2	20	
Molybdenum, dissolved	0.00134	0.00010 mg/L		0.00134			< 1	20	
Nickel, dissolved	0.00082	0.00040 mg/L		0.00082				20	
Phosphorus, dissolved	< 0.100	0.050 mg/L		< 0.100				20	
Potassium, dissolved	75.9	0.10 mg/L		77.3			2	20	
Selenium, dissolved	< 0.00100	0.00050 mg/L		< 0.00100				20	
Silicon, dissolved	< 2.0	1.0 mg/L		< 2.0				20	
Silver, dissolved	< 0.000100	0.000050 mg/L		< 0.000100				20	
Sodium, dissolved	768	0.10 mg/L		771			< 1	20	
Strontium, dissolved	0.446	0.0010 mg/L		0.457			2	20	
Sulfur, dissolved	621	3.0 mg/L		635			2	20	
Tellurium, dissolved	< 0.00100	0.00050 mg/L		< 0.00100				20	
Thallium, dissolved	< 0.000040	0.000020 mg/L		< 0.000040				20	
Thorium, dissolved	< 0.00020	0.00010 mg/L		< 0.00020				20	
Tin, dissolved	< 0.00040	0.00020 mg/L		< 0.00040				20	
Titanium, dissolved	< 0.0100	0.0050 mg/L		< 0.0100				20	
Tungsten, dissolved	< 0.0020	0.0010 mg/L		< 0.0020				20	
Uranium, dissolved	0.00355	0.000020 mg/L		0.00358			< 1	20	
Vanadium, dissolved	< 0.0100	0.0050 mg/L		< 0.0100				20	
Zinc, dissolved	< 0.0080	0.0040 mg/L		< 0.0080				20	
Zirconium, dissolved	< 0.00020	0.00010 mg/L		< 0.00020				20	

Matrix Spike (B2G2664-MS1)			Source: 22G2467-02		Prepared: 2022-08-05, Analyzed: 2022-08-05				
Aluminum, dissolved	4.31	0.0050 mg/L	4.00	0.0389	107	70-130			
Antimony, dissolved	0.0388	0.00020 mg/L	0.0400	0.00022	96	70-130			
Arsenic, dissolved	0.0462	0.00050 mg/L	0.0400	0.00328	107	70-130			
Barium, dissolved	0.0669	0.0050 mg/L	0.0400	0.0274	99	70-130			
Beryllium, dissolved	0.0393	0.00010 mg/L	0.0400	< 0.00010	98	70-130			
Bismuth, dissolved	0.0369	0.00010 mg/L	0.0400	< 0.00010	92	70-130			
Boron, dissolved	0.208	0.0500 mg/L	0.0400	0.178	76	70-130			
Cadmium, dissolved	0.0390	0.000010 mg/L	0.0400	0.000036	97	70-130			
Calcium, dissolved	57.0	0.20 mg/L	4.00	53.7	83	70-130			
Chromium, dissolved	0.0424	0.00050 mg/L	0.0400	< 0.00050	105	70-130			
Cobalt, dissolved	0.0414	0.00010 mg/L	0.0400	0.00052	102	70-130			
Copper, dissolved	0.0452	0.00040 mg/L	0.0400	0.00542	99	70-130			
Iron, dissolved	4.22	0.010 mg/L	4.00	0.123	102	70-130			
Lead, dissolved	0.0387	0.00020 mg/L	0.0400	< 0.00020	96	70-130			
Lithium, dissolved	0.0499	0.00010 mg/L	0.0400	0.0118	95	70-130			
Magnesium, dissolved	26.4	0.010 mg/L	4.00	22.9	89	70-130			
Manganese, dissolved	0.208	0.00020 mg/L	0.0400	0.169	98	70-130			
Molybdenum, dissolved	0.0411	0.00010 mg/L	0.0400	0.00208	98	70-130			
Nickel, dissolved	0.0426	0.00040 mg/L	0.0400	0.00234	101	70-130			
Phosphorus, dissolved	12.3	0.050 mg/L	4.00	7.88	110	70-130			



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Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Dissolved Metals, Batch B2G2664, Continued									
Matrix Spike (B2G2664-MS1), Continued		Source: 22G2467-02		Prepared: 2022-08-05, Analyzed: 2022-08-05					
Potassium, dissolved	43.8	0.10 mg/L	4.00	40.2	91	70-130			
Selenium, dissolved	0.0424	0.00050 mg/L	0.0400	0.00057	105	70-130			
Silicon, dissolved	7.3	1.0 mg/L	4.00	2.9	109	70-130			
Silver, dissolved	0.0325	0.000050 mg/L	0.0400	< 0.000050	81	70-130			
Sodium, dissolved	98.1	0.10 mg/L	4.00	97.1	26	70-130			MS2
Strontium, dissolved	0.560	0.0010 mg/L	0.0400	0.509	128	70-130			
Sulfur, dissolved	77.1	3.0 mg/L	40.0	33.4	109	70-130			
Tellurium, dissolved	0.0391	0.00050 mg/L	0.0400	< 0.00050	98	70-130			
Thallium, dissolved	0.0378	0.000020 mg/L	0.0400	< 0.000020	95	70-130			
Thorium, dissolved	0.0409	0.00010 mg/L	0.0400	< 0.00010	102	70-130			
Tin, dissolved	0.0399	0.00020 mg/L	0.0400	< 0.00020	100	70-130			
Titanium, dissolved	0.0441	0.0050 mg/L	0.0400	< 0.0050	107	70-130			
Tungsten, dissolved	0.0400	0.0010 mg/L	0.0400	< 0.0010	99	70-130			
Uranium, dissolved	0.0412	0.000020 mg/L	0.0400	0.00103	100	70-130			
Vanadium, dissolved	0.0437	0.0050 mg/L	0.0400	< 0.0050	108	70-130			
Zinc, dissolved	0.0646	0.0040 mg/L	0.0400	0.0243	101	70-130			
Zirconium, dissolved	0.0411	0.00010 mg/L	0.0400	0.00037	102	70-130			

Dissolved Metals, Batch B2G2775

Blank (B2G2775-BLK1)		Prepared: 2022-07-22, Analyzed: 2022-07-22							
Mercury, dissolved	< 0.000010	0.000010 mg/L							
Blank (B2G2775-BLK2)		Prepared: 2022-07-22, Analyzed: 2022-07-22							
Mercury, dissolved	< 0.000010	0.000010 mg/L							
LCS (B2G2775-BS1)		Prepared: 2022-07-22, Analyzed: 2022-07-22							
Mercury, dissolved	0.000465	0.000010 mg/L	0.000500	93	80-120				
LCS (B2G2775-BS2)		Prepared: 2022-07-22, Analyzed: 2022-07-22							
Mercury, dissolved	0.000451	0.000010 mg/L	0.000500	90	80-120				
Duplicate (B2G2775-DUP1)		Source: 22G2467-01		Prepared: 2022-07-22, Analyzed: 2022-07-22					
Mercury, dissolved	< 0.000010	0.000010 mg/L	< 0.000010	20					
Matrix Spike (B2G2775-MS1)		Source: 22G2467-03		Prepared: 2022-07-22, Analyzed: 2022-07-22					
Mercury, dissolved	0.000205	0.000010 mg/L	0.000250	< 0.000010	82	70-130			

General Parameters, Batch B2G2364

Blank (B2G2364-BLK1)		Prepared: 2022-07-20, Analyzed: 2022-07-20							
Ammonia, Total (as N)	< 0.050	0.050 mg/L							
Blank (B2G2364-BLK2)		Prepared: 2022-07-20, Analyzed: 2022-07-20							
Ammonia, Total (as N)	< 0.050	0.050 mg/L							
LCS (B2G2364-BS1)		Prepared: 2022-07-20, Analyzed: 2022-07-20							
Ammonia, Total (as N)	0.914	0.050 mg/L	1.00	91	90-115				
LCS (B2G2364-BS2)		Prepared: 2022-07-20, Analyzed: 2022-07-20							
Ammonia, Total (as N)	0.953	0.050 mg/L	1.00	95	90-115				

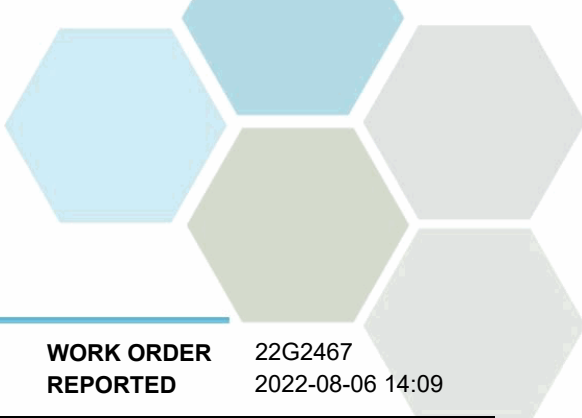
General Parameters, Batch B2G2390

Blank (B2G2390-BLK1)		Prepared: 2022-07-21, Analyzed: 2022-07-21							
Carbon, Dissolved Organic	< 0.50	0.50 mg/L							



APPENDIX 2: QUALITY CONTROL RESULTS

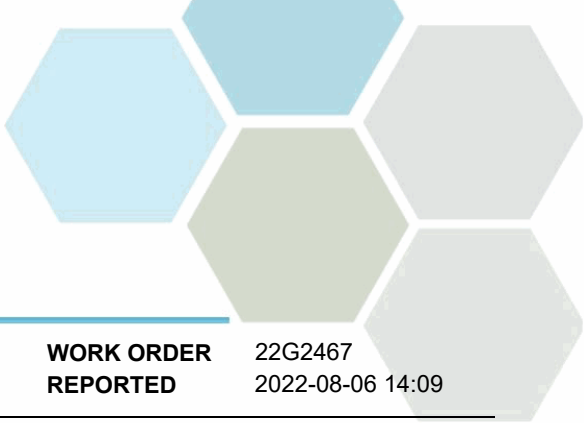
REPORTED TO PROJECT	Kelowna, City of RBCF Ponds		WORK ORDER REPORTED	22G2467 2022-08-06 14:09					
Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
General Parameters, Batch B2G2390, Continued									
Blank (B2G2390-BLK2)			Prepared: 2022-07-21, Analyzed: 2022-07-21						
Carbon, Dissolved Organic	< 0.50	0.50 mg/L							
Blank (B2G2390-BLK3)			Prepared: 2022-07-21, Analyzed: 2022-07-21						
Carbon, Dissolved Organic	< 0.50	0.50 mg/L							
Blank (B2G2390-BLK4)			Prepared: 2022-07-21, Analyzed: 2022-07-21						
Carbon, Dissolved Organic	< 0.50	0.50 mg/L							
LCS (B2G2390-BS1)			Prepared: 2022-07-21, Analyzed: 2022-07-21						
Carbon, Dissolved Organic	9.71	0.50 mg/L	10.0		97	78-116			
LCS (B2G2390-BS2)			Prepared: 2022-07-21, Analyzed: 2022-07-21						
Carbon, Dissolved Organic	9.27	0.50 mg/L	10.0		93	78-116			
LCS (B2G2390-BS3)			Prepared: 2022-07-21, Analyzed: 2022-07-21						
Carbon, Dissolved Organic	9.23	0.50 mg/L	10.0		92	78-116			
LCS (B2G2390-BS4)			Prepared: 2022-07-21, Analyzed: 2022-07-21						
Carbon, Dissolved Organic	9.12	0.50 mg/L	10.0		91	78-116			
Duplicate (B2G2390-DUP2)			Source: 22G2467-01		Prepared: 2022-07-21, Analyzed: 2022-07-21				
Carbon, Dissolved Organic	16.9	0.50 mg/L		17.1				15	
Matrix Spike (B2G2390-MS2)			Source: 22G2467-01		Prepared: 2022-07-21, Analyzed: 2022-07-21				
Carbon, Dissolved Organic	24.8	5.00 mg/L	10.0	17.1	76	70-130			
General Parameters, Batch B2G2445									
Blank (B2G2445-BLK1)			Prepared: 2022-07-20, Analyzed: 2022-07-25						
BOD, 5-day	< 2.0	2.0 mg/L							
LCS (B2G2445-BS1)			Prepared: 2022-07-20, Analyzed: 2022-07-25						
BOD, 5-day	158	38.7 mg/L	180		88	85-115			
Duplicate (B2G2445-DUP2)			Source: 22G2467-02		Prepared: 2022-07-20, Analyzed: 2022-07-25				
BOD, 5-day	23.0	2.0 mg/L		20.1			14	22	
General Parameters, Batch B2G2449									
Blank (B2G2449-BLK1)			Prepared: 2022-07-21, Analyzed: 2022-07-21						
Chemical Oxygen Demand	< 20	20 mg/L							
LCS (B2G2449-BS1)			Prepared: 2022-07-21, Analyzed: 2022-07-21						
Chemical Oxygen Demand	509	20 mg/L	500		102	89-115			
General Parameters, Batch B2G2625									
Blank (B2G2625-BLK1)			Prepared: 2022-07-21, Analyzed: 2022-07-24						
Nitrogen, Total Kjeldahl	< 0.050	0.050 mg/L							
Blank (B2G2625-BLK2)			Prepared: 2022-07-21, Analyzed: 2022-07-24						
Nitrogen, Total Kjeldahl	< 0.050	0.050 mg/L							
LCS (B2G2625-BS1)			Prepared: 2022-07-21, Analyzed: 2022-07-24						
Nitrogen, Total Kjeldahl	0.868	0.050 mg/L	1.00		87	85-115			



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT	Kelowna, City of RBCF Ponds	WORK ORDER REPORTED	22G2467 2022-08-06 14:09
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Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
General Parameters, Batch B2G2625, Continued									
LCS (B2G2625-BS2)			Prepared: 2022-07-21, Analyzed: 2022-07-24						
Nitrogen, Total Kjeldahl	0.904	0.050 mg/L	1.00		90	85-115			
Duplicate (B2G2625-DUP1)			Source: 22G2467-01 Prepared: 2022-07-21, Analyzed: 2022-07-24						
Nitrogen, Total Kjeldahl	1.07	0.050 mg/L		1.14			7	15	
Matrix Spike (B2G2625-MS1)			Source: 22G2467-01 Prepared: 2022-07-21, Analyzed: 2022-07-24						
Nitrogen, Total Kjeldahl	2.23	0.050 mg/L	1.00	1.14	110	65-135			
General Parameters, Batch B2G2686									
Blank (B2G2686-BLK1)			Prepared: 2022-07-22, Analyzed: 2022-07-22						
Conductivity (EC)	< 2.0	2.0 µS/cm							
Blank (B2G2686-BLK2)			Prepared: 2022-07-22, Analyzed: 2022-07-22						
Conductivity (EC)	< 2.0	2.0 µS/cm							
LCS (B2G2686-BS3)			Prepared: 2022-07-22, Analyzed: 2022-07-22						
Conductivity (EC)	1400	2.0 µS/cm	1410		99	95-105			
LCS (B2G2686-BS4)			Prepared: 2022-07-22, Analyzed: 2022-07-22						
Conductivity (EC)	1410	2.0 µS/cm	1410		100	95-105			
Reference (B2G2686-SRM1)			Prepared: 2022-07-22, Analyzed: 2022-07-22						
pH	7.04	0.10 pH units	7.01		100	98-102			
Reference (B2G2686-SRM2)			Prepared: 2022-07-22, Analyzed: 2022-07-22						
pH	7.04	0.10 pH units	7.01		100	98-102			
General Parameters, Batch B2G2869									
Blank (B2G2869-BLK1)			Prepared: 2022-07-24, Analyzed: 2022-07-25						
Phosphorus, Total (as P)	< 0.0050	0.0050 mg/L							
LCS (B2G2869-BS1)			Prepared: 2022-07-24, Analyzed: 2022-07-25						
Phosphorus, Total (as P)	0.0970	0.0050 mg/L	0.100		97	85-115			
LCS (B2G2869-BS2)			Prepared: 2022-07-24, Analyzed: 2022-07-25						
Phosphorus, Total (as P)	0.0974	0.0050 mg/L	0.100		97	85-115			
General Parameters, Batch B2G2922									
Blank (B2G2922-BLK1)			Prepared: 2022-07-26, Analyzed: 2022-07-26						
Solids, Total Dissolved	< 15	15 mg/L							
LCS (B2G2922-BS1)			Prepared: 2022-07-26, Analyzed: 2022-07-26						
Solids, Total Dissolved	233	15 mg/L	240		97	85-115			
Duplicate (B2G2922-DUP1)			Source: 22G2467-01 Prepared: 2022-07-26, Analyzed: 2022-07-26						
Solids, Total Dissolved	3400	15 mg/L		3360			1	15	
General Parameters, Batch B2G3073									
Blank (B2G3073-BLK1)			Prepared: 2022-07-26, Analyzed: 2022-07-26						
Solids, Total Suspended	< 2.0	2.0 mg/L							



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT	Kelowna, City of RBCF Ponds	WORK ORDER REPORTED	22G2467 2022-08-06 14:09
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Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
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General Parameters, Batch B2G3073, Continued

LCS (B2G3073-BS1) Prepared: 2022-07-26, Analyzed: 2022-07-26

Solids, Total Suspended	94.0	10.0 mg/L	100	94	85-115
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Microbiological Parameters, Batch B2G2378

Blank (B2G2378-BLK1) Prepared: 2022-07-20, Analyzed: 2022-07-20

E. coli (Q-Tray)	< 1	1 MPN/100 mL
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Blank (B2G2378-BLK2) Prepared: 2022-07-20, Analyzed: 2022-07-20

Coliforms, Total (Q-Tray)	< 1	1 MPN/100 mL
E. coli (Q-Tray)	< 1	1 MPN/100 mL

Blank (B2G2378-BLK3) Prepared: 2022-07-20, Analyzed: 2022-07-20

Coliforms, Total (Q-Tray)	< 1	1 MPN/100 mL
E. coli (Q-Tray)	< 1	1 MPN/100 mL

Blank (B2G2378-BLK4) Prepared: 2022-07-20, Analyzed: 2022-07-20

Coliforms, Total (Q-Tray)	< 1	1 MPN/100 mL
E. coli (Q-Tray)	< 1	1 MPN/100 mL

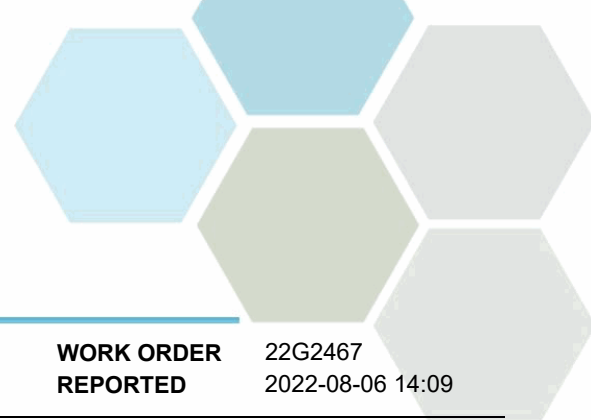
Blank (B2G2378-BLK5) Prepared: 2022-07-20, Analyzed: 2022-07-20

E. coli (Q-Tray)	< 1	1 MPN/100 mL
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Total Metals, Batch B2G2656

Blank (B2G2656-BLK1) Prepared: 2022-07-21, Analyzed: 2022-08-01

Aluminum, total	< 0.0050	0.0050 mg/L
Antimony, total	< 0.00020	0.00020 mg/L
Arsenic, total	< 0.00050	0.00050 mg/L
Barium, total	< 0.0050	0.0050 mg/L
Beryllium, total	< 0.00010	0.00010 mg/L
Bismuth, total	< 0.00010	0.00010 mg/L
Boron, total	< 0.0500	0.0500 mg/L
Cadmium, total	< 0.000010	0.000010 mg/L
Calcium, total	< 0.20	0.20 mg/L
Chromium, total	< 0.00050	0.00050 mg/L
Cobalt, total	< 0.00010	0.00010 mg/L
Copper, total	< 0.00040	0.00040 mg/L
Iron, total	< 0.010	0.010 mg/L
Lead, total	< 0.00020	0.00020 mg/L
Lithium, total	< 0.00010	0.00010 mg/L
Magnesium, total	< 0.010	0.010 mg/L
Manganese, total	< 0.00020	0.00020 mg/L
Molybdenum, total	< 0.00010	0.00010 mg/L
Nickel, total	< 0.00040	0.00040 mg/L
Phosphorus, total	< 0.050	0.050 mg/L
Potassium, total	< 0.10	0.10 mg/L
Selenium, total	< 0.00050	0.00050 mg/L
Silicon, total	< 1.0	1.0 mg/L
Silver, total	< 0.000050	0.000050 mg/L
Sodium, total	< 0.10	0.10 mg/L
Strontium, total	< 0.0010	0.0010 mg/L
Sulfur, total	< 3.0	3.0 mg/L
Tellurium, total	< 0.00050	0.00050 mg/L
Thallium, total	< 0.000020	0.000020 mg/L
Thorium, total	< 0.00010	0.00010 mg/L
Tin, total	< 0.00020	0.00020 mg/L



APPENDIX 2: QUALITY CONTROL RESULTS

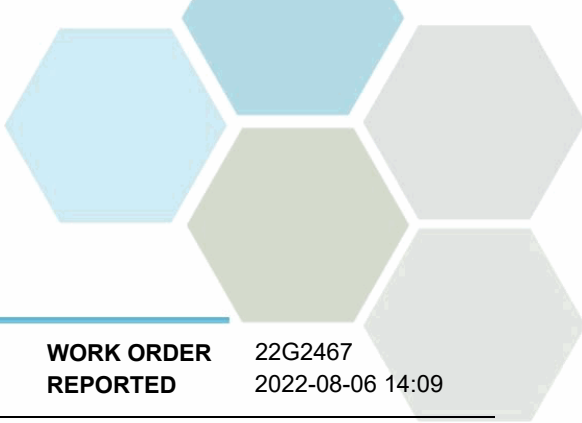
REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

WORK ORDER REPORTED 22G2467
2022-08-06 14:09

Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Total Metals, Batch B2G2656, Continued									
Blank (B2G2656-BLK1), Continued					Prepared: 2022-07-21, Analyzed: 2022-08-01				
Titanium, total	< 0.0050	0.0050 mg/L							
Tungsten, total	< 0.0002	0.0002 mg/L							
Uranium, total	< 0.000020	0.000020 mg/L							
Vanadium, total	< 0.0050	0.0050 mg/L							
Zinc, total	< 0.0040	0.0040 mg/L							
Zirconium, total	< 0.00010	0.00010 mg/L							
LCS (B2G2656-BS1)									
					Prepared: 2022-07-21, Analyzed: 2022-07-29				
Aluminum, total	3.97	0.0050 mg/L	4.00		99	80-120			
Antimony, total	0.0382	0.00020 mg/L	0.0400		95	80-120			
Arsenic, total	0.0405	0.00050 mg/L	0.0400		101	80-120			
Barium, total	0.0395	0.0050 mg/L	0.0400		99	80-120			
Beryllium, total	0.0405	0.00010 mg/L	0.0400		101	80-120			
Bismuth, total	0.0377	0.00010 mg/L	0.0400		94	80-120			
Boron, total	< 0.0500	0.0500 mg/L	0.0400		101	80-120			
Cadmium, total	0.0390	0.000010 mg/L	0.0400		97	80-120			
Calcium, total	4.09	0.20 mg/L	4.00		102	80-120			
Chromium, total	0.0399	0.00050 mg/L	0.0400		100	80-120			
Cobalt, total	0.0401	0.00010 mg/L	0.0400		100	80-120			
Copper, total	0.0393	0.00040 mg/L	0.0400		98	80-120			
Iron, total	3.91	0.010 mg/L	4.00		98	80-120			
Lead, total	0.0387	0.00020 mg/L	0.0400		97	80-120			
Lithium, total	0.0414	0.00010 mg/L	0.0400		104	80-120			
Magnesium, total	4.15	0.010 mg/L	4.00		104	80-120			
Manganese, total	0.0446	0.00020 mg/L	0.0400		112	80-120			
Molybdenum, total	0.0386	0.00010 mg/L	0.0400		96	80-120			
Nickel, total	0.0399	0.00040 mg/L	0.0400		100	80-120			
Phosphorus, total	3.98	0.050 mg/L	4.00		99	80-120			
Potassium, total	3.94	0.10 mg/L	4.00		99	80-120			
Selenium, total	0.0374	0.00050 mg/L	0.0400		93	80-120			
Silicon, total	4.5	1.0 mg/L	4.00		112	80-120			
Silver, total	0.0389	0.000050 mg/L	0.0400		97	80-120			
Sodium, total	3.86	0.10 mg/L	4.00		97	80-120			
Strontium, total	0.0403	0.0010 mg/L	0.0400		101	80-120			
Sulfur, total	43.5	3.0 mg/L	40.0		109	80-120			
Tellurium, total	0.0382	0.00050 mg/L	0.0400		96	80-120			
Thallium, total	0.0384	0.000020 mg/L	0.0400		96	80-120			
Thorium, total	0.0387	0.00010 mg/L	0.0400		97	80-120			
Tin, total	0.0386	0.00020 mg/L	0.0400		96	80-120			
Titanium, total	0.0391	0.0050 mg/L	0.0400		98	80-120			
Tungsten, total	0.0392	0.0002 mg/L	0.0400		98	80-120			
Uranium, total	0.0388	0.000020 mg/L	0.0400		97	80-120			
Vanadium, total	0.0400	0.0050 mg/L	0.0400		100	80-120			
Zinc, total	0.0445	0.0040 mg/L	0.0400		111	80-120			
Zirconium, total	0.0395	0.00010 mg/L	0.0400		99	80-120			

Total Metals, Batch B2G2777

Blank (B2G2777-BLK1)					Prepared: 2022-07-22, Analyzed: 2022-07-22				
Mercury, total	< 0.000010	0.000010 mg/L							
Blank (B2G2777-BLK2)					Prepared: 2022-07-22, Analyzed: 2022-07-22				
Mercury, total	< 0.000010	0.000010 mg/L							
LCS (B2G2777-BS1)					Prepared: 2022-07-22, Analyzed: 2022-07-22				
Mercury, total	0.000473	0.000010 mg/L	0.000500		95	80-120			



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT	Kelowna, City of RBCF Ponds	WORK ORDER REPORTED	22G2467 2022-08-06 14:09
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Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Total Metals, Batch B2G2777, Continued									
LCS (B2G2777-BS2)				Prepared: 2022-07-22, Analyzed: 2022-07-22					
Mercury, total	0.000477	0.000010 mg/L	0.000500		95	80-120			
Matrix Spike (B2G2777-MS1)				Source: 22G2467-01		Prepared: 2022-07-22, Analyzed: 2022-07-22			
Mercury, total	0.000223	0.000010 mg/L	0.000250	< 0.000010	89	70-130			

QC Qualifiers:

MS2 The native sample concentration is greater than the spike concentration hence the matrix spike limits do not apply.



CERTIFICATE OF ANALYSIS

REPORTED TO	Kelowna, City of 1435 Water Street KELOWNA, BC V1Y 1J4	WORK ORDER	22H4315
ATTENTION	Jose Garcia	RECEIVED / TEMP REPORTED	2022-08-30 14:53 / 19.0°C
PO NUMBER	535828	COC NUMBER	44803.42232
PROJECT	RBCF Ponds		
PROJECT INFO			

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>

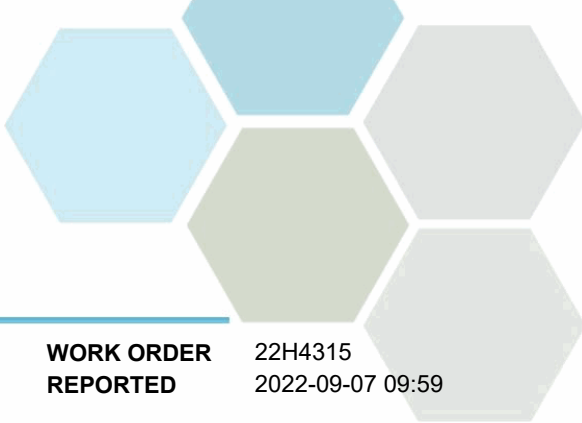
If you have any questions or concerns, please contact me at bwhitehead@caro.ca

Authorized By:

Brent Whitehead
Account Manager

1-888-311-8846 | www.caro.ca

#110 4011 Viking Way Richmond, BC V6V 2K9 | #102 3677 Highway 97N Kelowna, BC V1X 5C3 | 17225 109 Avenue Edmonton, AB T5S 1H7 | #108 4475 Wayburne Drive Burnaby, BC V5G 4X4



TEST RESULTS

REPORTED TO PROJECT Kelowna, City of RBCF Ponds

WORK ORDER REPORTED 22H4315
2022-09-07 09:59

Analyte	Result	RL	Units	Analyzed	Qualifier
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Rose's Pond (22H4315-01) | Matrix: Water | Sampled: 2022-08-30

Anions

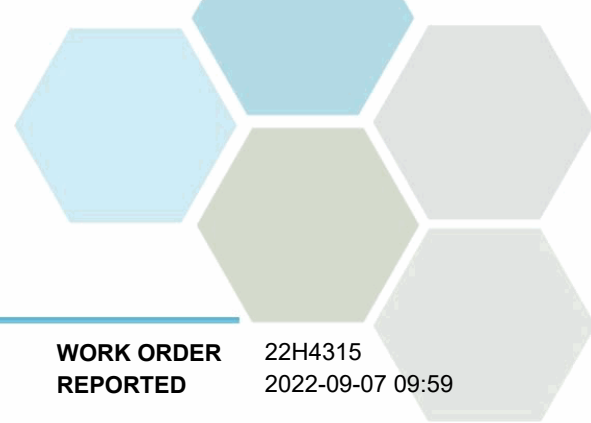
Chloride	457	0.10	mg/L	2022-09-01	
Nitrate (as N)	< 0.100	0.010	mg/L	2022-09-01	RA1
Nitrite (as N)	< 0.100	0.010	mg/L	2022-09-01	RA1

Calculated Parameters

Hardness, Total (as CaCO3)	1250	1.00	mg/L	N/A	
Nitrate+Nitrite (as N)	< 0.100	0.100	mg/L	N/A	
Nitrogen, Total	1.49	0.100	mg/L	N/A	

Dissolved Metals

Aluminum, dissolved	< 0.0100	0.0050	mg/L	2022-09-03	RS1
Antimony, dissolved	0.00041	0.00020	mg/L	2022-09-03	RS1
Arsenic, dissolved	0.00359	0.00050	mg/L	2022-09-03	RS1
Barium, dissolved	< 0.0100	0.0050	mg/L	2022-09-03	RS1
Beryllium, dissolved	< 0.00020	0.00010	mg/L	2022-09-03	RS1
Bismuth, dissolved	< 0.00020	0.00010	mg/L	2022-09-03	RS1
Boron, dissolved	0.108	0.0500	mg/L	2022-09-03	RS1
Cadmium, dissolved	< 0.000020	0.000010	mg/L	2022-09-03	RS1
Calcium, dissolved	54.3	0.20	mg/L	2022-09-03	RS1
Chromium, dissolved	< 0.00100	0.00050	mg/L	2022-09-03	RS1
Cobalt, dissolved	< 0.00020	0.00010	mg/L	2022-09-03	RS1
Copper, dissolved	< 0.00080	0.00040	mg/L	2022-09-03	RS1
Iron, dissolved	< 0.020	0.010	mg/L	2022-09-03	RS1
Lead, dissolved	< 0.00040	0.00020	mg/L	2022-09-03	RS1
Lithium, dissolved	0.0483	0.00010	mg/L	2022-09-03	RS1
Magnesium, dissolved	269	0.010	mg/L	2022-09-03	RS1
Manganese, dissolved	0.00281	0.00020	mg/L	2022-09-03	RS1
Mercury, dissolved	< 0.000010	0.000010	mg/L	2022-09-01	
Molybdenum, dissolved	0.00136	0.00010	mg/L	2022-09-03	RS1
Nickel, dissolved	< 0.00080	0.00040	mg/L	2022-09-03	RS1
Phosphorus, dissolved	< 0.100	0.050	mg/L	2022-09-03	RS1
Potassium, dissolved	87.7	0.10	mg/L	2022-09-03	RS1
Selenium, dissolved	< 0.00100	0.00050	mg/L	2022-09-03	RS1
Silicon, dissolved	< 2.0	1.0	mg/L	2022-09-03	RS1
Silver, dissolved	< 0.000100	0.000050	mg/L	2022-09-03	RS1
Sodium, dissolved	767	0.10	mg/L	2022-09-03	RS1
Strontium, dissolved	0.393	0.0010	mg/L	2022-09-03	RS1
Sulfur, dissolved	781	3.0	mg/L	2022-09-03	RS1
Tellurium, dissolved	< 0.00100	0.00050	mg/L	2022-09-03	RS1
Thallium, dissolved	< 0.000040	0.000020	mg/L	2022-09-03	RS1
Thorium, dissolved	< 0.00020	0.00010	mg/L	2022-09-03	RS1
Tin, dissolved	< 0.00040	0.00020	mg/L	2022-09-03	RS1
Titanium, dissolved	< 0.0100	0.0050	mg/L	2022-09-03	RS1
Tungsten, dissolved	< 0.0020	0.0010	mg/L	2022-09-03	RS1

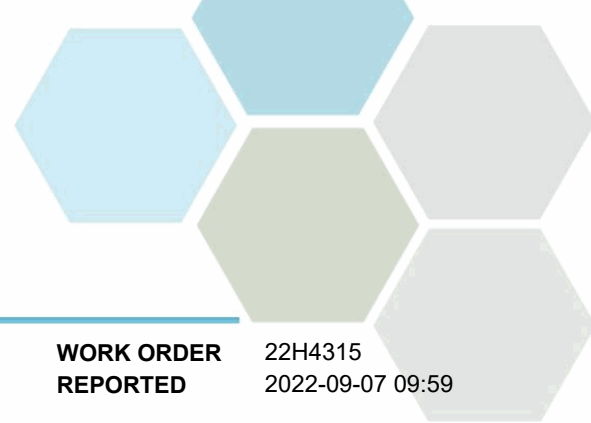


TEST RESULTS

REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

WORK ORDER REPORTED 22H4315
2022-09-07 09:59

Analyte	Result	RL	Units	Analyzed	Qualifier
Rose's Pond (22H4315-01) Matrix: Water Sampled: 2022-08-30, Continued					
<i>Dissolved Metals, Continued</i>					
Uranium, dissolved	0.00369	0.000020	mg/L	2022-09-03	RS1
Vanadium, dissolved	< 0.0100	0.0050	mg/L	2022-09-03	RS1
Zinc, dissolved	< 0.0080	0.0040	mg/L	2022-09-03	RS1
Zirconium, dissolved	< 0.00020	0.00010	mg/L	2022-09-03	RS1
<i>General Parameters</i>					
Ammonia, Total (as N)	< 0.050	0.050	mg/L	2022-08-31	
BOD, 5-day	< 7.5	2.0	mg/L	2022-09-05	
Carbon, Dissolved Organic	19.0	0.50	mg/L	2022-08-31	
Chemical Oxygen Demand	61	20	mg/L	2022-08-31	
Conductivity (EC)	5160	2.0	µS/cm	2022-09-02	
Nitrogen, Total Kjeldahl	1.49	0.050	mg/L	2022-09-04	
pH	8.81	0.10	pH units	2022-09-02	HT2
Phosphorus, Total (as P)	0.0231	0.0050	mg/L	2022-09-06	
Solids, Total Dissolved	3910	15	mg/L	2022-09-02	
Solids, Total Suspended	6.4	2.0	mg/L	2022-09-01	
<i>Microbiological Parameters</i>					
Coliforms, Total (Q-Tray)	7270	1	MPN/100 mL	2022-08-31	
E. coli (Q-Tray)	7	1	MPN/100 mL	2022-08-31	
<i>Total Metals</i>					
Aluminum, total	< 0.0100	0.0050	mg/L	2022-09-03	RS1
Antimony, total	0.00041	0.00020	mg/L	2022-09-03	RS1
Arsenic, total	0.00397	0.00050	mg/L	2022-09-03	RS1
Barium, total	0.0120	0.0050	mg/L	2022-09-03	RS1
Beryllium, total	< 0.00020	0.00010	mg/L	2022-09-03	RS1
Bismuth, total	< 0.00020	0.00010	mg/L	2022-09-03	RS1
Boron, total	0.113	0.0500	mg/L	2022-09-03	RS1
Cadmium, total	< 0.000020	0.000010	mg/L	2022-09-03	RS1
Calcium, total	56.2	0.20	mg/L	2022-09-03	RS1
Chromium, total	< 0.00100	0.00050	mg/L	2022-09-03	RS1
Cobalt, total	< 0.00020	0.00010	mg/L	2022-09-03	RS1
Copper, total	< 0.00080	0.00040	mg/L	2022-09-03	RS1
Iron, total	< 0.020	0.010	mg/L	2022-09-03	RS1
Lead, total	< 0.00040	0.00020	mg/L	2022-09-03	RS1
Lithium, total	0.0501	0.00010	mg/L	2022-09-03	RS1
Magnesium, total	280	0.010	mg/L	2022-09-03	RS1
Manganese, total	0.0315	0.00020	mg/L	2022-09-03	RS1
Mercury, total	< 0.000010	0.000010	mg/L	2022-09-01	
Molybdenum, total	0.00143	0.00010	mg/L	2022-09-03	RS1
Nickel, total	0.00092	0.00040	mg/L	2022-09-03	RS1
Phosphorus, total	< 0.100	0.050	mg/L	2022-09-03	RS1
Potassium, total	91.6	0.10	mg/L	2022-09-03	RS1



TEST RESULTS

REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

WORK ORDER REPORTED 22H4315
2022-09-07 09:59

Analyte	Result	RL	Units	Analyzed	Qualifier
Rose's Pond (22H4315-01) Matrix: Water Sampled: 2022-08-30, Continued					
<i>Total Metals, Continued</i>					
Selenium, total	< 0.00100	0.00050	mg/L	2022-09-03	RS1
Silicon, total	< 2.0	1.0	mg/L	2022-09-03	RS1
Silver, total	< 0.000100	0.000050	mg/L	2022-09-03	RS1
Sodium, total	800	0.10	mg/L	2022-09-03	RS1
Strontium, total	0.411	0.0010	mg/L	2022-09-03	RS1
Sulfur, total	839	3.0	mg/L	2022-09-03	RS1
Tellurium, total	< 0.00100	0.00050	mg/L	2022-09-03	RS1
Thallium, total	< 0.000040	0.000020	mg/L	2022-09-03	RS1
Thorium, total	< 0.00020	0.00010	mg/L	2022-09-03	RS1
Tin, total	< 0.00040	0.00020	mg/L	2022-09-03	RS1
Titanium, total	< 0.0100	0.0050	mg/L	2022-09-03	RS1
Tungsten, total	< 0.0004	0.0002	mg/L	2022-09-03	RS1
Uranium, total	0.00386	0.000020	mg/L	2022-09-03	RS1
Vanadium, total	< 0.0100	0.0050	mg/L	2022-09-03	RS1
Zinc, total	< 0.0080	0.0040	mg/L	2022-09-03	RS1
Zirconium, total	< 0.00020	0.00010	mg/L	2022-09-03	RS1

Drainage Pond (22H4315-02) | Matrix: Water | Sampled: 2022-08-30

Anions

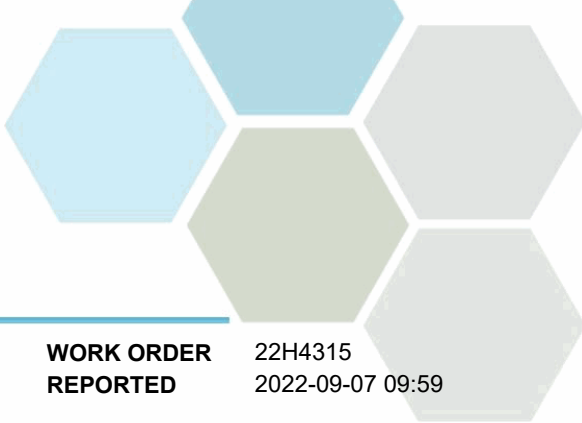
Chloride	108	0.10	mg/L	2022-09-01	
Nitrate (as N)	0.110	0.010	mg/L	2022-09-01	
Nitrite (as N)	0.029	0.010	mg/L	2022-09-01	

Calculated Parameters

Hardness, Total (as CaCO3)	237	0.500	mg/L	N/A	
Nitrate+Nitrite (as N)	0.140	0.0100	mg/L	N/A	
Nitrogen, Total	38.1	1.00	mg/L	N/A	

Dissolved Metals

Aluminum, dissolved	0.0514	0.0050	mg/L	2022-09-03	
Antimony, dissolved	0.00030	0.00020	mg/L	2022-09-03	
Arsenic, dissolved	0.00352	0.00050	mg/L	2022-09-03	
Barium, dissolved	0.0314	0.0050	mg/L	2022-09-03	
Beryllium, dissolved	< 0.00010	0.00010	mg/L	2022-09-03	
Bismuth, dissolved	0.00012	0.00010	mg/L	2022-09-03	
Boron, dissolved	0.185	0.0500	mg/L	2022-09-03	
Cadmium, dissolved	0.000039	0.000010	mg/L	2022-09-03	
Calcium, dissolved	56.1	0.20	mg/L	2022-09-03	
Chromium, dissolved	0.00056	0.00050	mg/L	2022-09-03	
Cobalt, dissolved	0.00057	0.00010	mg/L	2022-09-03	
Copper, dissolved	0.00459	0.00040	mg/L	2022-09-03	
Iron, dissolved	0.188	0.010	mg/L	2022-09-03	



TEST RESULTS

REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

WORK ORDER REPORTED 22H4315
2022-09-07 09:59

Analyte	Result	RL	Units	Analyzed	Qualifier
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Drainage Pond (22H4315-02) | Matrix: Water | Sampled: 2022-08-30, Continued

Dissolved Metals, Continued

Lead, dissolved	< 0.00020	0.00020	mg/L	2022-09-03	
Lithium, dissolved	0.0123	0.00010	mg/L	2022-09-03	
Magnesium, dissolved	23.4	0.010	mg/L	2022-09-03	
Manganese, dissolved	0.157	0.00020	mg/L	2022-09-03	
Mercury, dissolved	< 0.000040	0.000010	mg/L	2022-09-01	RS1
Molybdenum, dissolved	0.00138	0.00010	mg/L	2022-09-03	
Nickel, dissolved	0.00238	0.00040	mg/L	2022-09-03	
Phosphorus, dissolved	6.52	0.050	mg/L	2022-09-03	
Potassium, dissolved	49.1	0.10	mg/L	2022-09-03	
Selenium, dissolved	0.00073	0.00050	mg/L	2022-09-03	
Silicon, dissolved	3.1	1.0	mg/L	2022-09-03	
Silver, dissolved	< 0.000050	0.000050	mg/L	2022-09-03	
Sodium, dissolved	91.8	0.10	mg/L	2022-09-03	
Strontium, dissolved	0.533	0.0010	mg/L	2022-09-03	
Sulfur, dissolved	33.6	3.0	mg/L	2022-09-03	
Tellurium, dissolved	< 0.00050	0.00050	mg/L	2022-09-03	
Thallium, dissolved	< 0.000020	0.000020	mg/L	2022-09-03	
Thorium, dissolved	< 0.00010	0.00010	mg/L	2022-09-03	
Tin, dissolved	0.00024	0.00020	mg/L	2022-09-03	
Titanium, dissolved	< 0.0050	0.0050	mg/L	2022-09-03	
Tungsten, dissolved	< 0.0010	0.0010	mg/L	2022-09-03	
Uranium, dissolved	0.000839	0.000020	mg/L	2022-09-03	
Vanadium, dissolved	< 0.0050	0.0050	mg/L	2022-09-03	
Zinc, dissolved	0.0305	0.0040	mg/L	2022-09-03	
Zirconium, dissolved	0.00043	0.00010	mg/L	2022-09-03	

General Parameters

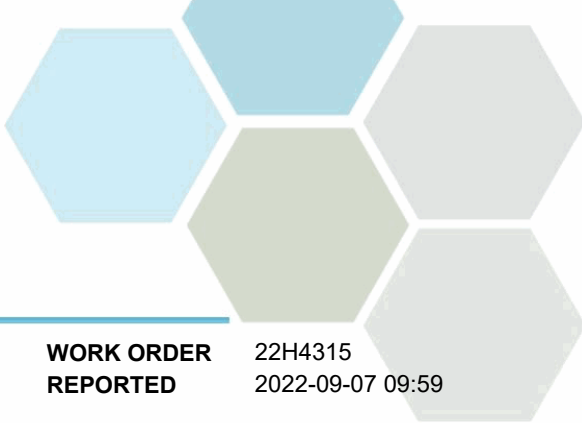
Ammonia, Total (as N)	27.4	0.050	mg/L	2022-08-31	
BOD, 5-day	13.3	2.0	mg/L	2022-09-05	
Carbon, Dissolved Organic	57.4	0.50	mg/L	2022-08-31	
Chemical Oxygen Demand	275	20	mg/L	2022-08-31	
Conductivity (EC)	1160	2.0	µS/cm	2022-09-02	
Nitrogen, Total Kjeldahl	38.0	0.050	mg/L	2022-09-04	
pH	8.07	0.10	pH units	2022-09-02	HT2
Phosphorus, Total (as P)	6.88	0.0050	mg/L	2022-09-06	
Solids, Total Dissolved	767	15	mg/L	2022-09-02	
Solids, Total Suspended	7.6	2.0	mg/L	2022-09-01	

Microbiological Parameters

Coliforms, Total (Q-Tray)	2720	1	MPN/100 mL	2022-08-31	
E. coli (Q-Tray)	407	1	MPN/100 mL	2022-08-31	

Total Metals

Aluminum, total	0.0957	0.0050	mg/L	2022-09-03	
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TEST RESULTS

REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

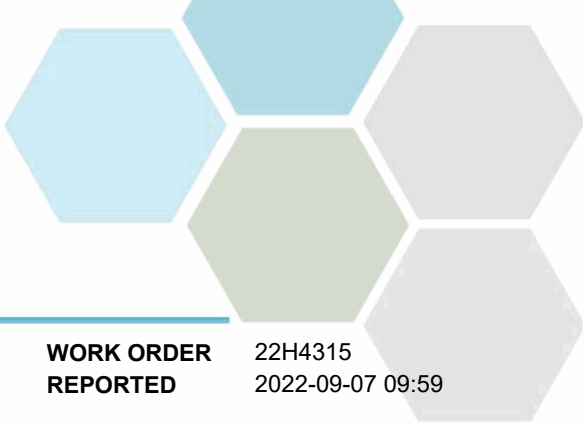
WORK ORDER REPORTED 22H4315
2022-09-07 09:59

Analyte	Result	RL	Units	Analyzed	Qualifier
Drainage Pond (22H4315-02) Matrix: Water Sampled: 2022-08-30, Continued					
<i>Total Metals, Continued</i>					
Antimony, total	0.00029	0.00020	mg/L	2022-09-03	
Arsenic, total	0.00358	0.00050	mg/L	2022-09-03	
Barium, total	0.0367	0.0050	mg/L	2022-09-03	
Beryllium, total	< 0.00010	0.00010	mg/L	2022-09-03	
Bismuth, total	0.00057	0.00010	mg/L	2022-09-03	
Boron, total	0.195	0.0500	mg/L	2022-09-03	
Cadmium, total	0.000180	0.000010	mg/L	2022-09-03	
Calcium, total	54.9	0.20	mg/L	2022-09-03	
Chromium, total	0.00108	0.00050	mg/L	2022-09-03	
Cobalt, total	0.00081	0.00010	mg/L	2022-09-03	
Copper, total	0.0262	0.00040	mg/L	2022-09-03	
Iron, total	0.327	0.010	mg/L	2022-09-03	
Lead, total	0.00063	0.00020	mg/L	2022-09-03	
Lithium, total	0.0119	0.00010	mg/L	2022-09-03	
Magnesium, total	22.2	0.010	mg/L	2022-09-03	
Manganese, total	0.186	0.00020	mg/L	2022-09-03	
Mercury, total	< 0.000040	0.000010	mg/L	2022-09-01	RS1
Molybdenum, total	0.00353	0.00010	mg/L	2022-09-03	
Nickel, total	0.00337	0.00040	mg/L	2022-09-03	
Phosphorus, total	6.74	0.050	mg/L	2022-09-03	
Potassium, total	46.4	0.10	mg/L	2022-09-03	
Selenium, total	0.00096	0.00050	mg/L	2022-09-03	
Silicon, total	3.1	1.0	mg/L	2022-09-03	
Silver, total	0.000081	0.000050	mg/L	2022-09-03	
Sodium, total	86.8	0.10	mg/L	2022-09-03	
Strontium, total	0.518	0.0010	mg/L	2022-09-03	
Sulfur, total	33.7	3.0	mg/L	2022-09-03	
Tellurium, total	< 0.00050	0.00050	mg/L	2022-09-03	
Thallium, total	< 0.000020	0.000020	mg/L	2022-09-03	
Thorium, total	< 0.00010	0.00010	mg/L	2022-09-03	
Tin, total	0.00066	0.00020	mg/L	2022-09-03	
Titanium, total	< 0.0050	0.0050	mg/L	2022-09-03	
Tungsten, total	0.0003	0.0002	mg/L	2022-09-03	
Uranium, total	0.00153	0.000020	mg/L	2022-09-03	
Vanadium, total	< 0.0050	0.0050	mg/L	2022-09-03	
Zinc, total	0.0592	0.0040	mg/L	2022-09-03	
Zirconium, total	0.00035	0.00010	mg/L	2022-09-03	

Davidson Pond (22H4315-03) | Matrix: Water | Sampled: 2022-08-30

Anions

Chloride	382	0.10	mg/L	2022-09-01	
Nitrate (as N)	< 0.100	0.010	mg/L	2022-09-01	RA5, RA1



TEST RESULTS

REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

WORK ORDER REPORTED 22H4315
2022-09-07 09:59

Analyte	Result	RL	Units	Analyzed	Qualifier
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Davidson Pond (22H4315-03) | Matrix: Water | Sampled: 2022-08-30, Continued

Anions, Continued

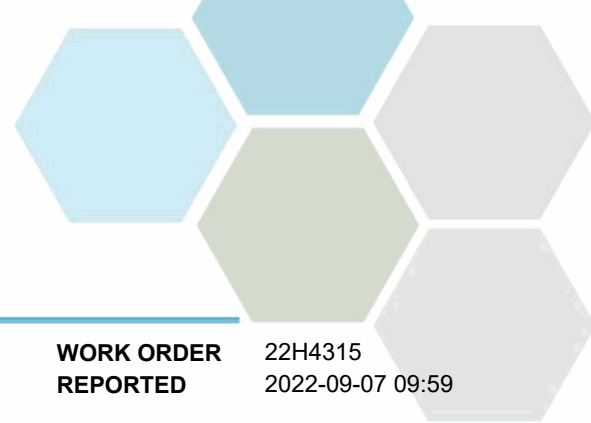
Nitrite (as N)	< 0.010	0.010	mg/L	2022-09-01	
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Calculated Parameters

Hardness, Total (as CaCO3)	708	1.00	mg/L	N/A	
Nitrate+Nitrite (as N)	< 0.100	0.100	mg/L	N/A	
Nitrogen, Total	3.18	0.100	mg/L	N/A	

Dissolved Metals

Aluminum, dissolved	< 0.0100	0.0050	mg/L	2022-09-03	RS1
Antimony, dissolved	0.00054	0.00020	mg/L	2022-09-03	RS1
Arsenic, dissolved	0.00412	0.00050	mg/L	2022-09-03	RS1
Barium, dissolved	0.0267	0.0050	mg/L	2022-09-03	RS1
Beryllium, dissolved	< 0.00020	0.00010	mg/L	2022-09-03	RS1
Bismuth, dissolved	< 0.00020	0.00010	mg/L	2022-09-03	RS1
Boron, dissolved	< 0.100	0.0500	mg/L	2022-09-03	RS1
Cadmium, dissolved	< 0.000020	0.000010	mg/L	2022-09-03	RS1
Calcium, dissolved	63.6	0.20	mg/L	2022-09-03	RS1
Chromium, dissolved	< 0.00100	0.00050	mg/L	2022-09-03	RS1
Cobalt, dissolved	< 0.00020	0.00010	mg/L	2022-09-03	RS1
Copper, dissolved	< 0.00080	0.00040	mg/L	2022-09-03	RS1
Iron, dissolved	0.028	0.010	mg/L	2022-09-03	RS1
Lead, dissolved	< 0.00040	0.00020	mg/L	2022-09-03	RS1
Lithium, dissolved	0.0500	0.00010	mg/L	2022-09-03	RS1
Magnesium, dissolved	133	0.010	mg/L	2022-09-03	RS1
Manganese, dissolved	0.0540	0.00020	mg/L	2022-09-03	RS1
Mercury, dissolved	< 0.000010	0.000010	mg/L	2022-09-01	
Molybdenum, dissolved	0.00249	0.00010	mg/L	2022-09-03	RS1
Nickel, dissolved	0.00151	0.00040	mg/L	2022-09-03	RS1
Phosphorus, dissolved	< 0.100	0.050	mg/L	2022-09-03	RS1
Potassium, dissolved	53.7	0.10	mg/L	2022-09-03	RS1
Selenium, dissolved	< 0.00100	0.00050	mg/L	2022-09-03	RS1
Silicon, dissolved	3.2	1.0	mg/L	2022-09-03	RS1
Silver, dissolved	< 0.000100	0.000050	mg/L	2022-09-03	RS1
Sodium, dissolved	605	0.10	mg/L	2022-09-03	RS1
Strontium, dissolved	0.893	0.0010	mg/L	2022-09-03	RS1
Sulfur, dissolved	484	3.0	mg/L	2022-09-03	RS1
Tellurium, dissolved	< 0.00100	0.00050	mg/L	2022-09-03	RS1
Thallium, dissolved	< 0.000040	0.000020	mg/L	2022-09-03	RS1
Thorium, dissolved	< 0.00020	0.00010	mg/L	2022-09-03	RS1
Tin, dissolved	< 0.00040	0.00020	mg/L	2022-09-03	RS1
Titanium, dissolved	< 0.0100	0.0050	mg/L	2022-09-03	RS1
Tungsten, dissolved	< 0.0020	0.0010	mg/L	2022-09-03	RS1
Uranium, dissolved	0.0101	0.000020	mg/L	2022-09-03	RS1
Vanadium, dissolved	< 0.0100	0.0050	mg/L	2022-09-03	RS1

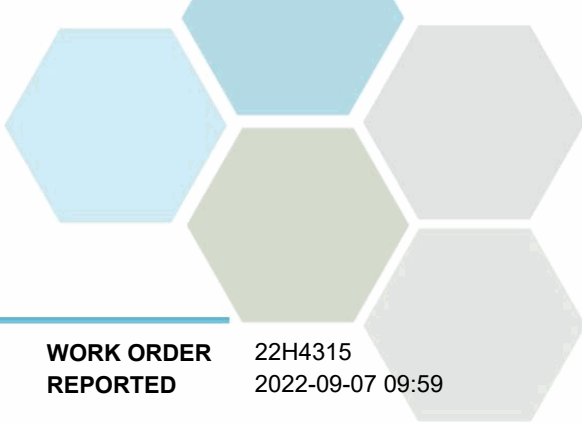


TEST RESULTS

REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

WORK ORDER REPORTED 22H4315
2022-09-07 09:59

Analyte	Result	RL	Units	Analyzed	Qualifier
Davidson Pond (22H4315-03) Matrix: Water Sampled: 2022-08-30, Continued					
<i>Dissolved Metals, Continued</i>					
Zinc, dissolved	< 0.0080	0.0040	mg/L	2022-09-03	RS1
Zirconium, dissolved	0.00027	0.00010	mg/L	2022-09-03	RS1
<i>General Parameters</i>					
Ammonia, Total (as N)	0.339	0.050	mg/L	2022-08-31	
BOD, 5-day	< 7.5	2.0	mg/L	2022-09-05	
Carbon, Dissolved Organic	30.2	0.50	mg/L	2022-08-31	
Chemical Oxygen Demand	116	20	mg/L	2022-08-31	
Conductivity (EC)	3880	2.0	µS/cm	2022-09-02	
Nitrogen, Total Kjeldahl	3.18	0.050	mg/L	2022-09-04	
pH	8.69	0.10	pH units	2022-09-02	HT2
Phosphorus, Total (as P)	0.142	0.0050	mg/L	2022-09-06	
Solids, Total Dissolved	2380	15	mg/L	2022-09-02	
Solids, Total Suspended	69.6	2.0	mg/L	2022-09-01	
<i>Microbiological Parameters</i>					
Coliforms, Total (Q-Tray)	92100	1	MPN/100 mL	2022-08-31	
E. coli (Q-Tray)	4370	1	MPN/100 mL	2022-08-31	
<i>Total Metals</i>					
Aluminum, total	1.61	0.0050	mg/L	2022-09-03	RS1
Antimony, total	0.00055	0.00020	mg/L	2022-09-03	RS1
Arsenic, total	0.00469	0.00050	mg/L	2022-09-03	RS1
Barium, total	0.0406	0.0050	mg/L	2022-09-03	RS1
Beryllium, total	< 0.00020	0.00010	mg/L	2022-09-03	RS1
Bismuth, total	< 0.00020	0.00010	mg/L	2022-09-03	RS1
Boron, total	< 0.100	0.0500	mg/L	2022-09-03	RS1
Cadmium, total	0.000054	0.000010	mg/L	2022-09-03	RS1
Calcium, total	70.9	0.20	mg/L	2022-09-03	RS1
Chromium, total	0.00205	0.00050	mg/L	2022-09-03	RS1
Cobalt, total	0.00088	0.00010	mg/L	2022-09-03	RS1
Copper, total	0.00357	0.00040	mg/L	2022-09-03	RS1
Iron, total	2.27	0.010	mg/L	2022-09-03	RS1
Lead, total	0.00115	0.00020	mg/L	2022-09-03	RS1
Lithium, total	0.0504	0.00010	mg/L	2022-09-03	RS1
Magnesium, total	131	0.010	mg/L	2022-09-03	RS1
Manganese, total	0.156	0.00020	mg/L	2022-09-03	RS1
Mercury, total	< 0.000010	0.000010	mg/L	2022-09-01	
Molybdenum, total	0.00256	0.00010	mg/L	2022-09-03	RS1
Nickel, total	0.00282	0.00040	mg/L	2022-09-03	RS1
Phosphorus, total	0.224	0.050	mg/L	2022-09-03	RS1
Potassium, total	54.2	0.10	mg/L	2022-09-03	RS1
Selenium, total	< 0.00100	0.00050	mg/L	2022-09-03	RS1
Silicon, total	6.1	1.0	mg/L	2022-09-03	RS1



TEST RESULTS

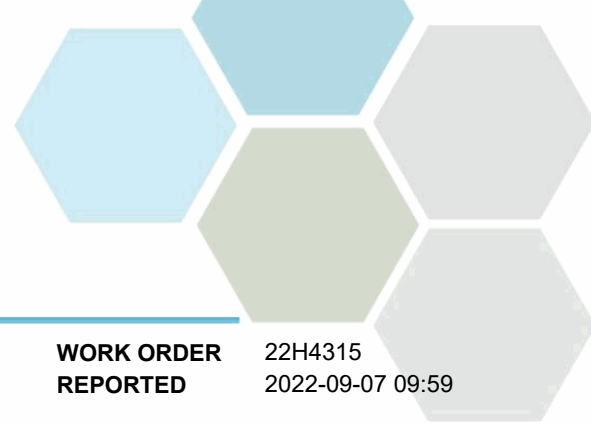
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Analyte	Result	RL	Units	Analyzed	Qualifier
Davidson Pond (22H4315-03) Matrix: Water Sampled: 2022-08-30, Continued					
<i>Total Metals, Continued</i>					
Silver, total	< 0.000100	0.000050	mg/L	2022-09-03	RS1
Sodium, total	596	0.10	mg/L	2022-09-03	RS1
Strontium, total	0.971	0.0010	mg/L	2022-09-03	RS1
Sulfur, total	481	3.0	mg/L	2022-09-03	RS1
Tellurium, total	< 0.00100	0.00050	mg/L	2022-09-03	RS1
Thallium, total	< 0.000040	0.000020	mg/L	2022-09-03	RS1
Thorium, total	< 0.00020	0.00010	mg/L	2022-09-03	RS1
Tin, total	< 0.00040	0.00020	mg/L	2022-09-03	RS1
Titanium, total	0.0622	0.0050	mg/L	2022-09-03	RS1
Tungsten, total	< 0.0004	0.0002	mg/L	2022-09-03	RS1
Uranium, total	0.0103	0.000020	mg/L	2022-09-03	RS1
Vanadium, total	< 0.0100	0.0050	mg/L	2022-09-03	RS1
Zinc, total	0.0106	0.0040	mg/L	2022-09-03	RS1
Zirconium, total	0.00105	0.00010	mg/L	2022-09-03	RS1

Sample Qualifiers:

- HT2 The 15 minute recommended holding time (from sampling to analysis) has been exceeded - field analysis is recommended.
- RA1 The Reporting Limit has been raised due to matrix interference.
- RA5 The sample cannot be accurately quantified due to matrix interference. Result is Semi-Quantitative.
- RS1 The Reporting Limits for this sample have been raised due to high analyte concentration and/or matrix interference.



APPENDIX 1: SUPPORTING INFORMATION

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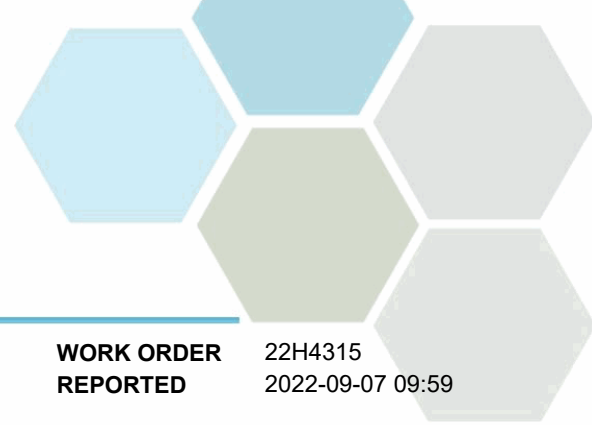
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Analysis Description	Method Ref.	Technique	Accredited	Location
Ammonia, Total in Water	SM 4500-NH3 G* (2017)	Automated Colorimetry (Phenate)	✓	Kelowna
Anions in Water	SM 4110 B (2017)	Ion Chromatography	✓	Kelowna
Biochemical Oxygen Demand in Water	SM 5210 B (2017)	Dissolved Oxygen Meter	✓	Kelowna
Carbon, Dissolved Organic in Water	SM 5310 B (2017)	Combustion, Infrared CO2 Detection	✓	Kelowna
Chemical Oxygen Demand in Water	SM 5220 D* (2017)	Closed Reflux, Colorimetry	✓	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
Dissolved Metals in Water	EPA 200.8 / EPA 6020B	0.45 µm Filtration / Inductively Coupled Plasma-Mass Spectroscopy (ICP-MS)	✓	Richmond
E. coli in Water	NA / SM 9223 (2017)	Quanti-Tray / Enzyme Substrate Endo Agar	✓	Kelowna
Hardness in Water	SM 2340 B (2017)	Calculation: 2.497 [diss Ca] + 4.118 [diss Mg]	✓	N/A
Mercury, dissolved in Water	EPA 245.7*	BrCl2 Oxidation / Cold Vapor Atomic Fluorescence Spectrometry (CVAFS)	✓	Richmond
Mercury, total in Water	EPA 245.7*	BrCl2 Oxidation / Cold Vapor Atomic Fluorescence Spectrometry (CVAFS)	✓	Richmond
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
Phosphorus, Total in Water	SM 4500-P B.5* (2011) / SM 4500-P F (2017)	Persulfate Digestion / Automated Colorimetry (Ascorbic Acid)	✓	Kelowna
Solids, Total Dissolved in Water	Solids in Water, Filtered / SM 2540 C* (2017)	Solids in Water, Filtered / Gravimetry (Dried at 103-105C)	✓	Kelowna
Solids, Total Suspended in Water	Solids in Water, Filtered / SM 2540 D* (2017)	Solids in Water, Filtered / Gravimetry (Dried at 103-105C)	✓	Kelowna
Total Metals in Water	EPA 200.2 / EPA 6020B	HNO3+HCl Hot Block Digestion / Inductively Coupled Plasma-Mass Spectroscopy (ICP-MS)	✓	Richmond

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
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
EPA	United States Environmental Protection Agency Test Methods
SM	Standard Methods for the Examination of Water and Wastewater, American Public Health Association



APPENDIX 1: SUPPORTING INFORMATION

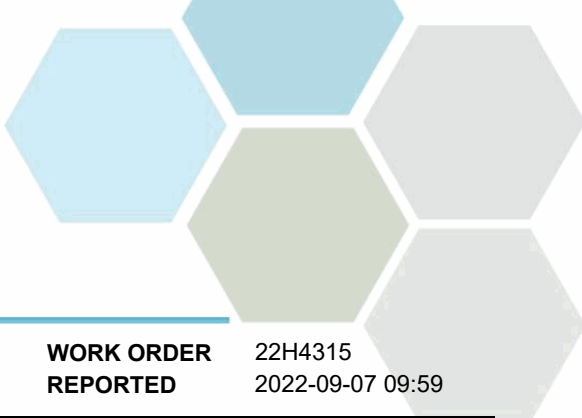
REPORTED TO Kelowna, City of
PROJECT RBCF Ponds

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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 or once samples expire, whichever comes first. Longer hold is possible if agreed to in writing.

Please note any regulatory guidelines applied to this report are added as a convenience to the client, at their request, to help provide some initial context to analytical results obtained. Although CARO makes every effort to ensure accuracy of the associated regulatory guideline(s) applied, the guidelines applied cannot be assumed to be correct due to a variety of factors and as such CARO Analytical Services assumes no liability or responsibility for the use of those guidelines to make any decisions. The original source of the regulation should be verified and a review of the guideline(s) should be validated as correct in order to make any decisions arising from the comparison of the analytical data obtained to the relevant regulatory guideline for one's particular circumstances. Further, CARO Analytical Services assumes no liability or responsibility for any loss attributed from the use of these guidelines in any way.



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

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The following section displays the quality control (QC) data that is associated with your sample data. Groups of samples are prepared in “batches” and analyzed in conjunction with QC samples that ensure your data is of the highest quality. Common QC types include:

- **Method Blank (Blk):** A blank sample that undergoes sample processing identical to that carried out for the test samples. Method blank results are used to assess contamination from the laboratory environment and reagents.
- **Duplicate (Dup):** An additional or second portion of a randomly selected sample in the analytical run carried through the entire analytical process. Duplicates provide a measure of the analytical method's precision (reproducibility).
- **Blank Spike (BS):** A sample of known concentration which undergoes processing identical to that carried out for test samples, also referred to as a laboratory control sample (LCS). Blank spikes provide a measure of the analytical method's accuracy.
- **Matrix Spike (MS):** A second aliquot of sample is fortified with a known concentration of target analytes and carried through the entire analytical process. Matrix spikes evaluate potential matrix effects that may affect the analyte recovery.
- **Reference Material (SRM):** A homogenous material of similar matrix to the samples, certified for the parameter(s) listed. Reference Materials ensure that the analytical process is adequate to achieve acceptable recoveries of the parameter(s) tested.

Each QC type is analyzed at a 5-10% frequency, i.e. one blank/duplicate/spike for every 10-20 samples. For all types of QC, the specified recovery (% Rec) and relative percent difference (RPD) limits are derived from long-term method performance averages and/or prescribed by the reference method.

Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
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Anions, Batch B2H3837

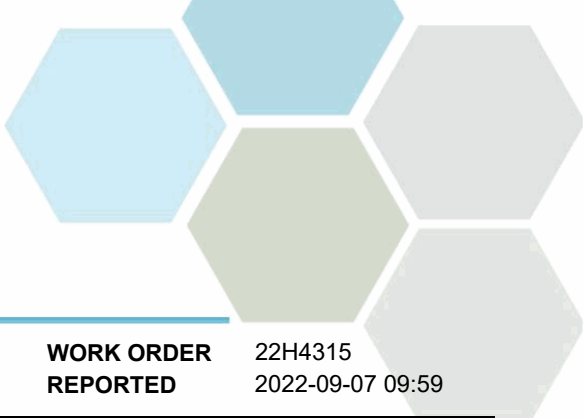
Blank (B2H3837-BLK1)		Prepared: 2022-08-31, Analyzed: 2022-08-31							
Chloride	< 0.10	0.10 mg/L							
Nitrate (as N)	< 0.010	0.010 mg/L							
Nitrite (as N)	< 0.010	0.010 mg/L							
LCS (B2H3837-BS1)		Prepared: 2022-09-01, Analyzed: 2022-09-01							
Chloride	16.2	0.10 mg/L	16.0		102	90-110			
Nitrate (as N)	4.09	0.010 mg/L	4.00		102	90-110			
Nitrite (as N)	1.94	0.010 mg/L	2.00		97	85-115			

Dissolved Metals, Batch B2I0114

Blank (B2I0114-BLK1)		Prepared: 2022-09-01, Analyzed: 2022-09-01							
Mercury, dissolved	< 0.000010	0.000010 mg/L							
Blank (B2I0114-BLK2)		Prepared: 2022-09-01, Analyzed: 2022-09-01							
Mercury, dissolved	< 0.000010	0.000010 mg/L							
LCS (B2I0114-BS1)		Prepared: 2022-09-01, Analyzed: 2022-09-01							
Mercury, dissolved	0.000530	0.000010 mg/L	0.000500		106	80-120			
LCS (B2I0114-BS2)		Prepared: 2022-09-01, Analyzed: 2022-09-01							
Mercury, dissolved	0.000502	0.000010 mg/L	0.000500		100	80-120			

Dissolved Metals, Batch B2I0157

Blank (B2I0157-BLK1)		Prepared: 2022-09-03, Analyzed: 2022-09-03							
Aluminum, dissolved	< 0.0050	0.0050 mg/L							
Antimony, dissolved	< 0.00020	0.00020 mg/L							
Arsenic, dissolved	< 0.00050	0.00050 mg/L							
Barium, dissolved	< 0.0050	0.0050 mg/L							
Beryllium, dissolved	< 0.00010	0.00010 mg/L							
Bismuth, dissolved	< 0.00010	0.00010 mg/L							
Boron, dissolved	< 0.0500	0.0500 mg/L							
Cadmium, dissolved	< 0.000010	0.000010 mg/L							
Calcium, dissolved	< 0.20	0.20 mg/L							
Chromium, dissolved	< 0.00050	0.00050 mg/L							



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Kelowna, City of RBCF Ponds

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Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
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Dissolved Metals, Batch B210157, Continued

Blank (B210157-BLK1), Continued

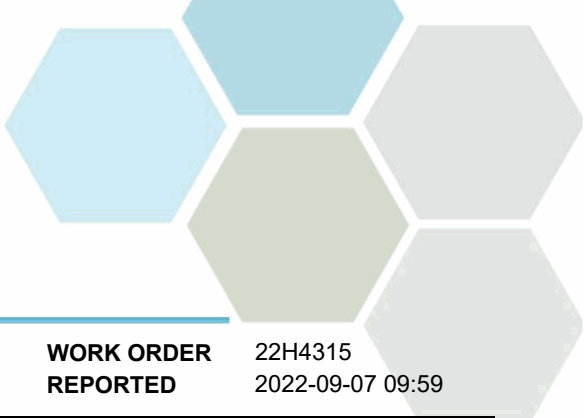
Prepared: 2022-09-03, Analyzed: 2022-09-03

Cobalt, dissolved	< 0.00010	0.00010 mg/L							
Copper, dissolved	< 0.00040	0.00040 mg/L							
Iron, dissolved	< 0.010	0.010 mg/L							
Lead, dissolved	< 0.00020	0.00020 mg/L							
Lithium, dissolved	< 0.00010	0.00010 mg/L							
Magnesium, dissolved	< 0.010	0.010 mg/L							
Manganese, dissolved	< 0.00020	0.00020 mg/L							
Molybdenum, dissolved	< 0.00010	0.00010 mg/L							
Nickel, dissolved	< 0.00040	0.00040 mg/L							
Phosphorus, dissolved	< 0.050	0.050 mg/L							
Potassium, dissolved	< 0.10	0.10 mg/L							
Selenium, dissolved	< 0.00050	0.00050 mg/L							
Silicon, dissolved	< 1.0	1.0 mg/L							
Silver, dissolved	< 0.000050	0.000050 mg/L							
Sodium, dissolved	< 0.10	0.10 mg/L							
Strontium, dissolved	< 0.0010	0.0010 mg/L							
Sulfur, dissolved	< 3.0	3.0 mg/L							
Tellurium, dissolved	< 0.00050	0.00050 mg/L							
Thallium, dissolved	< 0.000020	0.000020 mg/L							
Thorium, dissolved	< 0.00010	0.00010 mg/L							
Tin, dissolved	< 0.00020	0.00020 mg/L							
Titanium, dissolved	< 0.0050	0.0050 mg/L							
Tungsten, dissolved	< 0.0010	0.0010 mg/L							
Uranium, dissolved	< 0.000020	0.000020 mg/L							
Vanadium, dissolved	< 0.0050	0.0050 mg/L							
Zinc, dissolved	< 0.0040	0.0040 mg/L							
Zirconium, dissolved	< 0.00010	0.00010 mg/L							

LCS (B210157-BS1)

Prepared: 2022-09-03, Analyzed: 2022-09-03

Aluminum, dissolved	3.87	0.0050 mg/L	4.00		97	80-120			
Antimony, dissolved	0.0410	0.00020 mg/L	0.0400		103	80-120			
Arsenic, dissolved	0.0390	0.00050 mg/L	0.0400		98	80-120			
Barium, dissolved	0.0401	0.0050 mg/L	0.0400		100	80-120			
Beryllium, dissolved	0.0405	0.00010 mg/L	0.0400		101	80-120			
Bismuth, dissolved	0.0399	0.00010 mg/L	0.0400		100	80-120			
Boron, dissolved	< 0.0500	0.0500 mg/L	0.0400		103	80-120			
Cadmium, dissolved	0.0405	0.000010 mg/L	0.0400		101	80-120			
Calcium, dissolved	4.03	0.20 mg/L	4.00		101	80-120			
Chromium, dissolved	0.0394	0.00050 mg/L	0.0400		99	80-120			
Cobalt, dissolved	0.0382	0.00010 mg/L	0.0400		95	80-120			
Copper, dissolved	0.0396	0.00040 mg/L	0.0400		99	80-120			
Iron, dissolved	3.84	0.010 mg/L	4.00		96	80-120			
Lead, dissolved	0.0400	0.00020 mg/L	0.0400		100	80-120			
Lithium, dissolved	0.0401	0.00010 mg/L	0.0400		100	80-120			
Magnesium, dissolved	3.92	0.010 mg/L	4.00		98	80-120			
Manganese, dissolved	0.0394	0.00020 mg/L	0.0400		99	80-120			
Molybdenum, dissolved	0.0401	0.00010 mg/L	0.0400		100	80-120			
Nickel, dissolved	0.0379	0.00040 mg/L	0.0400		95	80-120			
Phosphorus, dissolved	3.92	0.050 mg/L	4.00		98	80-120			
Potassium, dissolved	3.88	0.10 mg/L	4.00		97	80-120			
Selenium, dissolved	0.0400	0.00050 mg/L	0.0400		100	80-120			
Silicon, dissolved	4.2	1.0 mg/L	4.00		104	80-120			
Silver, dissolved	0.0402	0.000050 mg/L	0.0400		101	80-120			
Sodium, dissolved	3.88	0.10 mg/L	4.00		97	80-120			
Strontium, dissolved	0.0407	0.0010 mg/L	0.0400		102	80-120			
Sulfur, dissolved	40.5	3.0 mg/L	40.0		101	80-120			



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Kelowna, City of RBCF Ponds **WORK ORDER REPORTED** 22H4315 2022-09-07 09:59

Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
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Dissolved Metals, Batch B2I0157, Continued

LCS (B2I0157-BS1), Continued

Prepared: 2022-09-03, Analyzed: 2022-09-03

Tellurium, dissolved	0.0399	0.00050 mg/L	0.0400		100	80-120			
Thallium, dissolved	0.0400	0.000020 mg/L	0.0400		100	80-120			
Thorium, dissolved	0.0402	0.00010 mg/L	0.0400		101	80-120			
Tin, dissolved	0.0414	0.00020 mg/L	0.0400		104	80-120			
Titanium, dissolved	0.0380	0.0050 mg/L	0.0400		95	80-120			
Tungsten, dissolved	0.0405	0.0010 mg/L	0.0400		101	80-120			
Uranium, dissolved	0.0400	0.000020 mg/L	0.0400		100	80-120			
Vanadium, dissolved	0.0382	0.0050 mg/L	0.0400		95	80-120			
Zinc, dissolved	0.0401	0.0040 mg/L	0.0400		100	80-120			
Zirconium, dissolved	0.0418	0.00010 mg/L	0.0400		104	80-120			

Duplicate (B2I0157-DUP1)

Source: 22H4315-01

Prepared: 2022-09-03, Analyzed: 2022-09-03

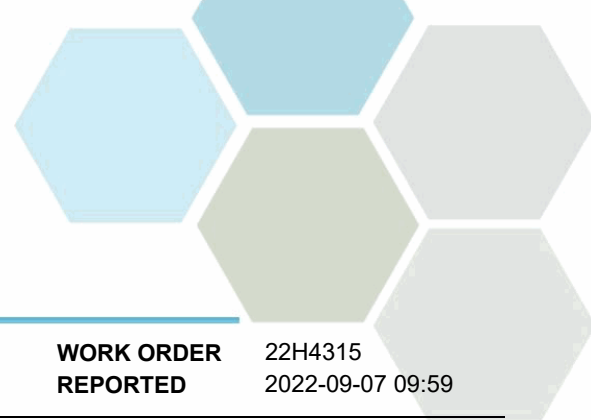
Aluminum, dissolved	< 0.0100	0.0050 mg/L	< 0.0100					20	
Antimony, dissolved	0.00041	0.00020 mg/L	0.00041					20	
Arsenic, dissolved	0.00368	0.00050 mg/L	0.00359					20	
Barium, dissolved	< 0.0100	0.0050 mg/L	< 0.0100					20	
Beryllium, dissolved	< 0.00020	0.00010 mg/L	< 0.00020					20	
Bismuth, dissolved	< 0.00020	0.00010 mg/L	< 0.00020					20	
Boron, dissolved	0.103	0.0500 mg/L	0.108					20	
Cadmium, dissolved	< 0.000020	0.000010 mg/L	< 0.000020					20	
Calcium, dissolved	52.8	0.20 mg/L	54.3				3	20	
Chromium, dissolved	< 0.00100	0.00050 mg/L	< 0.00100					20	
Cobalt, dissolved	< 0.00020	0.00010 mg/L	< 0.00020					20	
Copper, dissolved	< 0.00080	0.00040 mg/L	< 0.00080					20	
Iron, dissolved	< 0.020	0.010 mg/L	< 0.020					20	
Lead, dissolved	< 0.00040	0.00020 mg/L	< 0.00040					20	
Lithium, dissolved	0.0476	0.00010 mg/L	0.0483				1	20	
Magnesium, dissolved	270	0.010 mg/L	269				< 1	20	
Manganese, dissolved	0.00279	0.00020 mg/L	0.00281				< 1	20	
Molybdenum, dissolved	0.00139	0.00010 mg/L	0.00136				2	20	
Nickel, dissolved	< 0.00080	0.00040 mg/L	< 0.00080					20	
Phosphorus, dissolved	< 0.100	0.050 mg/L	< 0.100					20	
Potassium, dissolved	87.0	0.10 mg/L	87.7				< 1	20	
Selenium, dissolved	< 0.00100	0.00050 mg/L	< 0.00100					20	
Silicon, dissolved	< 2.0	1.0 mg/L	< 2.0					20	
Silver, dissolved	< 0.000100	0.000050 mg/L	< 0.000100					20	
Sodium, dissolved	770	0.10 mg/L	767				< 1	20	
Strontium, dissolved	0.394	0.0010 mg/L	0.393				< 1	20	
Sulfur, dissolved	793	3.0 mg/L	781				1	20	
Tellurium, dissolved	< 0.00100	0.00050 mg/L	< 0.00100					20	
Thallium, dissolved	< 0.000040	0.000020 mg/L	< 0.000040					20	
Thorium, dissolved	< 0.00020	0.00010 mg/L	< 0.00020					20	
Tin, dissolved	< 0.00040	0.00020 mg/L	< 0.00040					20	
Titanium, dissolved	< 0.0100	0.0050 mg/L	< 0.0100					20	
Tungsten, dissolved	< 0.0020	0.0010 mg/L	< 0.0020					20	
Uranium, dissolved	0.00371	0.000020 mg/L	0.00369				< 1	20	
Vanadium, dissolved	< 0.0100	0.0050 mg/L	< 0.0100					20	
Zinc, dissolved	< 0.0080	0.0040 mg/L	< 0.0080					20	
Zirconium, dissolved	< 0.00020	0.00010 mg/L	< 0.00020					20	

Matrix Spike (B2I0157-MS1)

Source: 22H4315-02

Prepared: 2022-09-03, Analyzed: 2022-09-03

Aluminum, dissolved	4.02	0.0050 mg/L	4.00	0.0514	99	70-130			
Antimony, dissolved	0.0407	0.00020 mg/L	0.0400	0.00030	101	70-130			
Arsenic, dissolved	0.0434	0.00050 mg/L	0.0400	0.00352	100	70-130			
Barium, dissolved	0.0723	0.0050 mg/L	0.0400	0.0314	102	70-130			
Beryllium, dissolved	0.0403	0.00010 mg/L	0.0400	< 0.00010	101	70-130			



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

WORK ORDER REPORTED 22H4315
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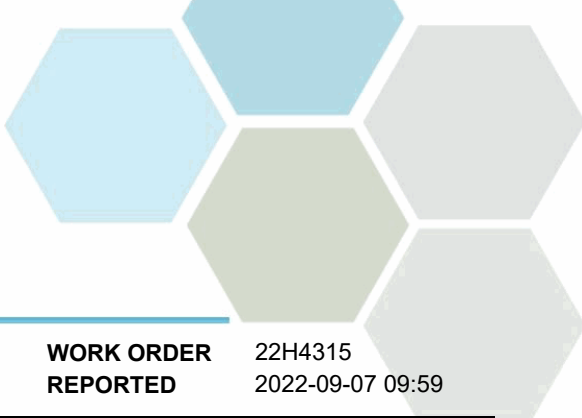
Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Dissolved Metals, Batch B2I0157, Continued									
Matrix Spike (B2I0157-MS1), Continued			Source: 22H4315-02		Prepared: 2022-09-03, Analyzed: 2022-09-03				
Bismuth, dissolved	0.0358	0.00010 mg/L	0.0400	0.00012	89	70-130			
Boron, dissolved	0.220	0.0500 mg/L	0.0400	0.185	88	70-130			
Cadmium, dissolved	0.0408	0.000010 mg/L	0.0400	0.000039	102	70-130			
Calcium, dissolved	58.7	0.20 mg/L	4.00	56.1	66	70-130			MS2
Chromium, dissolved	0.0386	0.00050 mg/L	0.0400	0.00056	95	70-130			
Cobalt, dissolved	0.0383	0.00010 mg/L	0.0400	0.00057	94	70-130			
Copper, dissolved	0.0412	0.00040 mg/L	0.0400	0.00459	91	70-130			
Iron, dissolved	4.02	0.010 mg/L	4.00	0.188	96	70-130			
Lead, dissolved	0.0393	0.00020 mg/L	0.0400	< 0.00020	98	70-130			
Lithium, dissolved	0.0529	0.00010 mg/L	0.0400	0.0123	101	70-130			
Magnesium, dissolved	27.0	0.010 mg/L	4.00	23.4	89	70-130			
Manganese, dissolved	0.192	0.00020 mg/L	0.0400	0.157	89	70-130			
Molybdenum, dissolved	0.0418	0.00010 mg/L	0.0400	0.00138	101	70-130			
Nickel, dissolved	0.0395	0.00040 mg/L	0.0400	0.00238	93	70-130			
Phosphorus, dissolved	10.7	0.050 mg/L	4.00	6.52	103	70-130			
Potassium, dissolved	50.8	0.10 mg/L	4.00	49.1	42	70-130			MS2
Selenium, dissolved	0.0412	0.00050 mg/L	0.0400	0.00073	101	70-130			
Silicon, dissolved	7.8	1.0 mg/L	4.00	3.1	116	70-130			
Silver, dissolved	0.0333	0.000050 mg/L	0.0400	< 0.000050	83	70-130			
Sodium, dissolved	92.6	0.10 mg/L	4.00	91.8	20	70-130			MS2
Strontium, dissolved	0.561	0.0010 mg/L	0.0400	0.533	71	70-130			
Sulfur, dissolved	75.5	3.0 mg/L	40.0	33.6	105	70-130			
Tellurium, dissolved	0.0419	0.00050 mg/L	0.0400	< 0.00050	105	70-130			
Thallium, dissolved	0.0394	0.000020 mg/L	0.0400	< 0.000020	99	70-130			
Thorium, dissolved	0.0401	0.00010 mg/L	0.0400	< 0.00010	100	70-130			
Tin, dissolved	0.0431	0.00020 mg/L	0.0400	0.00024	107	70-130			
Titanium, dissolved	0.0414	0.0050 mg/L	0.0400	< 0.0050	100	70-130			
Tungsten, dissolved	0.0402	0.0010 mg/L	0.0400	< 0.0010	100	70-130			
Uranium, dissolved	0.0409	0.000020 mg/L	0.0400	0.000839	100	70-130			
Vanadium, dissolved	0.0400	0.0050 mg/L	0.0400	< 0.0050	98	70-130			
Zinc, dissolved	0.0687	0.0040 mg/L	0.0400	0.0305	95	70-130			
Zirconium, dissolved	0.0436	0.00010 mg/L	0.0400	0.00043	108	70-130			

General Parameters, Batch B2H3638

Blank (B2H3638-BLK1)			Prepared: 2022-08-31, Analyzed: 2022-08-31						
Carbon, Dissolved Organic	< 0.50	0.50 mg/L							
Blank (B2H3638-BLK2)			Prepared: 2022-08-31, Analyzed: 2022-08-31						
Carbon, Dissolved Organic	< 0.50	0.50 mg/L							
LCS (B2H3638-BS1)			Prepared: 2022-08-31, Analyzed: 2022-08-31						
Carbon, Dissolved Organic	10.1	0.50 mg/L	10.0	101	78-116				
LCS (B2H3638-BS2)			Prepared: 2022-08-31, Analyzed: 2022-08-31						
Carbon, Dissolved Organic	9.72	0.50 mg/L	10.0	97	78-116				

General Parameters, Batch B2H3898

Blank (B2H3898-BLK1)			Prepared: 2022-08-31, Analyzed: 2022-09-05						
BOD, 5-day	< 2.0	2.0 mg/L							
LCS (B2H3898-BS1)			Prepared: 2022-08-31, Analyzed: 2022-09-05						
BOD, 5-day	224	62.5 mg/L	198	113	85-115				



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT	Kelowna, City of RBCF Ponds	WORK ORDER REPORTED	22H4315 2022-09-07 09:59
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Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
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General Parameters, Batch B2H3898, Continued

Duplicate (B2H3898-DUP2)		Source: 22H4315-03		Prepared: 2022-08-31, Analyzed: 2022-09-05					
BOD, 5-day	7.9	2.0 mg/L		< 7.5				22	

General Parameters, Batch B2H3899

Blank (B2H3899-BLK1)		Prepared: 2022-08-31, Analyzed: 2022-08-31							
Ammonia, Total (as N)	< 0.050	0.050 mg/L							

Blank (B2H3899-BLK2)		Prepared: 2022-08-31, Analyzed: 2022-08-31							
Ammonia, Total (as N)	< 0.050	0.050 mg/L							

LCS (B2H3899-BS1)		Prepared: 2022-08-31, Analyzed: 2022-08-31							
Ammonia, Total (as N)	0.954	0.050 mg/L	1.00		95	90-115			

LCS (B2H3899-BS2)		Prepared: 2022-08-31, Analyzed: 2022-08-31							
Ammonia, Total (as N)	0.933	0.050 mg/L	1.00		93	90-115			

General Parameters, Batch B2H3937

Blank (B2H3937-BLK1)		Prepared: 2022-08-31, Analyzed: 2022-08-31							
Chemical Oxygen Demand	< 20	20 mg/L							

LCS (B2H3937-BS1)		Prepared: 2022-08-31, Analyzed: 2022-08-31							
Chemical Oxygen Demand	532	20 mg/L	500		106	89-115			

Duplicate (B2H3937-DUP1)		Source: 22H4315-02		Prepared: 2022-08-31, Analyzed: 2022-08-31					
Chemical Oxygen Demand	281	20 mg/L		275			2	14	

Matrix Spike (B2H3937-MS1)		Source: 22H4315-02		Prepared: 2022-08-31, Analyzed: 2022-08-31					
Chemical Oxygen Demand	412	20 mg/L	125	275	110	75-125			

General Parameters, Batch B2I0048

Blank (B2I0048-BLK1)		Prepared: 2022-09-01, Analyzed: 2022-09-01							
Solids, Total Suspended	< 2.0	2.0 mg/L							

LCS (B2I0048-BS1)		Prepared: 2022-09-01, Analyzed: 2022-09-01							
Solids, Total Suspended	97.0	10.0 mg/L	100		97	85-115			

General Parameters, Batch B2I0176

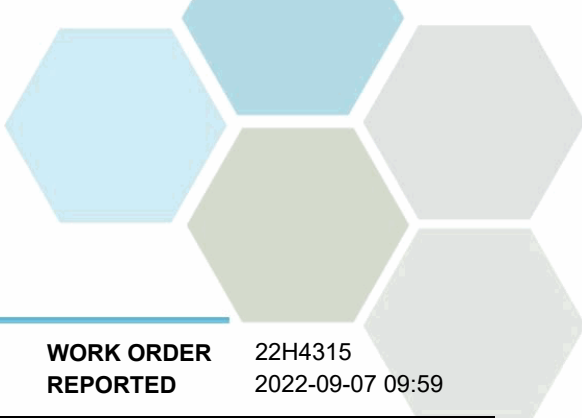
Blank (B2I0176-BLK1)		Prepared: 2022-09-02, Analyzed: 2022-09-02							
Solids, Total Dissolved	< 15	15 mg/L							

LCS (B2I0176-BS1)		Prepared: 2022-09-02, Analyzed: 2022-09-02							
Solids, Total Dissolved	232	15 mg/L	240		97	85-115			

Duplicate (B2I0176-DUP1)		Source: 22H4315-01		Prepared: 2022-09-02, Analyzed: 2022-09-02					
Solids, Total Dissolved	3920	15 mg/L		3910			< 1	15	

General Parameters, Batch B2I0227

LCS (B2I0227-BS1)		Prepared: 2022-09-02, Analyzed: 2022-09-04							
Nitrogen, Total Kjeldahl	1.04	0.050 mg/L	1.00		104	85-115			



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT	Kelowna, City of RBCF Ponds	WORK ORDER REPORTED	22H4315 2022-09-07 09:59
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Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
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General Parameters, Batch B2I0227, Continued

LCS (B2I0227-BS2)			Prepared: 2022-09-02, Analyzed: 2022-09-04						
Nitrogen, Total Kjeldahl	1.04	0.050 mg/L	1.00		104	85-115			

General Parameters, Batch B2I0259

Blank (B2I0259-BLK1)			Prepared: 2022-09-02, Analyzed: 2022-09-02						
Conductivity (EC)	< 2.0	2.0 µS/cm							

Blank (B2I0259-BLK2)			Prepared: 2022-09-02, Analyzed: 2022-09-02						
Conductivity (EC)	< 2.0	2.0 µS/cm							

Blank (B2I0259-BLK3)			Prepared: 2022-09-02, Analyzed: 2022-09-02						
Conductivity (EC)	< 2.0	2.0 µS/cm							

LCS (B2I0259-BS4)			Prepared: 2022-09-02, Analyzed: 2022-09-02						
Conductivity (EC)	1400	2.0 µS/cm	1410		99	95-105			

LCS (B2I0259-BS5)			Prepared: 2022-09-02, Analyzed: 2022-09-02						
Conductivity (EC)	1400	2.0 µS/cm	1410		99	95-105			

LCS (B2I0259-BS6)			Prepared: 2022-09-02, Analyzed: 2022-09-02						
Conductivity (EC)	1400	2.0 µS/cm	1410		99	95-105			

Reference (B2I0259-SRM1)			Prepared: 2022-09-02, Analyzed: 2022-09-02						
pH	7.03	0.10 pH units	7.01		100	98-102			

Reference (B2I0259-SRM2)			Prepared: 2022-09-02, Analyzed: 2022-09-02						
pH	7.04	0.10 pH units	7.01		100	98-102			

Reference (B2I0259-SRM3)			Prepared: 2022-09-02, Analyzed: 2022-09-02						
pH	7.04	0.10 pH units	7.01		100	98-102			

General Parameters, Batch B2I0435

Blank (B2I0435-BLK1)			Prepared: 2022-09-06, Analyzed: 2022-09-06						
Phosphorus, Total (as P)	< 0.0050	0.0050 mg/L							

LCS (B2I0435-BS1)			Prepared: 2022-09-06, Analyzed: 2022-09-06						
Phosphorus, Total (as P)	0.102	0.0050 mg/L	0.100		102	85-115			

Duplicate (B2I0435-DUP1)			Source: 22H4315-01		Prepared: 2022-09-06, Analyzed: 2022-09-06				
Phosphorus, Total (as P)	0.0239	0.0050 mg/L		0.0231					15

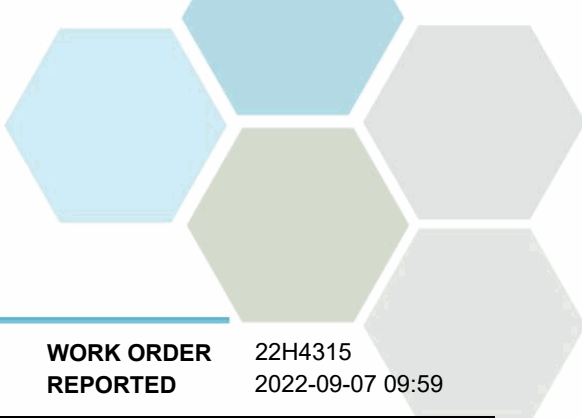
Matrix Spike (B2I0435-MS1)			Source: 22H4315-01		Prepared: 2022-09-06, Analyzed: 2022-09-06				
Phosphorus, Total (as P)	0.132	0.0050 mg/L	0.102	0.0231	107	70-125			

Microbiological Parameters, Batch B2H3933

Blank (B2H3933-BLK1)			Prepared: 2022-08-31, Analyzed: 2022-08-31						
Coliforms, Total (Q-Tray)	< 1	1 MPN/100 mL							
E. coli (Q-Tray)	< 1	1 MPN/100 mL							

Blank (B2H3933-BLK2)			Prepared: 2022-08-31, Analyzed: 2022-08-31						
E. coli (Q-Tray)	< 1	1 MPN/100 mL							

Blank (B2H3933-BLK3)			Prepared: 2022-08-31, Analyzed: 2022-08-31						
Coliforms, Total (Q-Tray)	< 1	1 MPN/100 mL							



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT	Kelowna, City of RBCF Ponds	WORK ORDER REPORTED	22H4315 2022-09-07 09:59
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Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
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Microbiological Parameters, Batch B2H3933, Continued

Blank (B2H3933-BLK3), Continued			Prepared: 2022-08-31, Analyzed: 2022-08-31						
E. coli (Q-Tray)	< 1	1 MPN/100 mL							

Total Metals, Batch B2I0115

Blank (B2I0115-BLK1)			Prepared: 2022-09-01, Analyzed: 2022-09-01						
Mercury, total	< 0.000010	0.000010 mg/L							

Blank (B2I0115-BLK2)			Prepared: 2022-09-01, Analyzed: 2022-09-01						
Mercury, total	< 0.000010	0.000010 mg/L							

Blank (B2I0115-BLK3)			Prepared: 2022-09-01, Analyzed: 2022-09-01						
Mercury, total	< 0.000010	0.000010 mg/L							

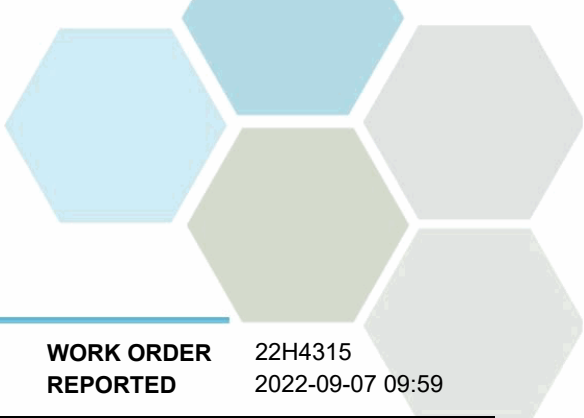
LCS (B2I0115-BS1)			Prepared: 2022-09-01, Analyzed: 2022-09-01						
Mercury, total	0.000497	0.000010 mg/L	0.000500	99	80-120				

LCS (B2I0115-BS2)			Prepared: 2022-09-01, Analyzed: 2022-09-01						
Mercury, total	0.000501	0.000010 mg/L	0.000500	100	80-120				

LCS (B2I0115-BS3)			Prepared: 2022-09-01, Analyzed: 2022-09-01						
Mercury, total	0.000481	0.000010 mg/L	0.000500	96	80-120				

Total Metals, Batch B2I0210

Blank (B2I0210-BLK1)			Prepared: 2022-09-02, Analyzed: 2022-09-03						
Aluminum, total	< 0.0050	0.0050 mg/L							
Antimony, total	< 0.00020	0.00020 mg/L							
Arsenic, total	< 0.00050	0.00050 mg/L							
Barium, total	< 0.0050	0.0050 mg/L							
Beryllium, total	< 0.00010	0.00010 mg/L							
Bismuth, total	< 0.00010	0.00010 mg/L							
Boron, total	< 0.0500	0.0500 mg/L							
Cadmium, total	< 0.000010	0.000010 mg/L							
Calcium, total	< 0.20	0.20 mg/L							
Chromium, total	< 0.00050	0.00050 mg/L							
Cobalt, total	< 0.00010	0.00010 mg/L							
Copper, total	< 0.00040	0.00040 mg/L							
Iron, total	< 0.010	0.010 mg/L							
Lead, total	< 0.00020	0.00020 mg/L							
Lithium, total	< 0.00010	0.00010 mg/L							
Magnesium, total	< 0.010	0.010 mg/L							
Manganese, total	< 0.00020	0.00020 mg/L							
Molybdenum, total	< 0.00010	0.00010 mg/L							
Nickel, total	< 0.00040	0.00040 mg/L							
Phosphorus, total	< 0.050	0.050 mg/L							
Potassium, total	< 0.10	0.10 mg/L							
Selenium, total	< 0.00050	0.00050 mg/L							
Silicon, total	< 1.0	1.0 mg/L							
Silver, total	< 0.000050	0.000050 mg/L							
Sodium, total	< 0.10	0.10 mg/L							
Strontium, total	< 0.0010	0.0010 mg/L							
Sulfur, total	< 3.0	3.0 mg/L							
Tellurium, total	< 0.00050	0.00050 mg/L							
Thallium, total	< 0.000020	0.000020 mg/L							
Thorium, total	< 0.00010	0.00010 mg/L							
Tin, total	< 0.00020	0.00020 mg/L							



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

WORK ORDER REPORTED 22H4315
2022-09-07 09:59

Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Total Metals, Batch B2I0210, Continued									
Blank (B2I0210-BLK1), Continued					Prepared: 2022-09-02, Analyzed: 2022-09-03				
Titanium, total	< 0.0050	0.0050 mg/L							
Tungsten, total	< 0.0002	0.0002 mg/L							
Uranium, total	< 0.000020	0.000020 mg/L							
Vanadium, total	< 0.0050	0.0050 mg/L							
Zinc, total	< 0.0040	0.0040 mg/L							
Zirconium, total	< 0.00010	0.00010 mg/L							
LCS (B2I0210-BS1)					Prepared: 2022-09-02, Analyzed: 2022-09-03				
Aluminum, total	3.91	0.0050 mg/L	4.00		98	80-120			
Antimony, total	0.0410	0.00020 mg/L	0.0400		103	80-120			
Arsenic, total	0.0399	0.00050 mg/L	0.0400		100	80-120			
Barium, total	0.0394	0.0050 mg/L	0.0400		98	80-120			
Beryllium, total	0.0395	0.00010 mg/L	0.0400		99	80-120			
Bismuth, total	0.0399	0.00010 mg/L	0.0400		100	80-120			
Boron, total	< 0.0500	0.0500 mg/L	0.0400		102	80-120			
Cadmium, total	0.0401	0.000010 mg/L	0.0400		100	80-120			
Calcium, total	3.93	0.20 mg/L	4.00		98	80-120			
Chromium, total	0.0393	0.00050 mg/L	0.0400		98	80-120			
Cobalt, total	0.0390	0.00010 mg/L	0.0400		98	80-120			
Copper, total	0.0396	0.00040 mg/L	0.0400		99	80-120			
Iron, total	3.96	0.010 mg/L	4.00		99	80-120			
Lead, total	0.0402	0.00020 mg/L	0.0400		101	80-120			
Lithium, total	0.0389	0.00010 mg/L	0.0400		97	80-120			
Magnesium, total	3.96	0.010 mg/L	4.00		99	80-120			
Manganese, total	0.0395	0.00020 mg/L	0.0400		99	80-120			
Molybdenum, total	0.0402	0.00010 mg/L	0.0400		101	80-120			
Nickel, total	0.0392	0.00040 mg/L	0.0400		98	80-120			
Phosphorus, total	3.98	0.050 mg/L	4.00		99	80-120			
Potassium, total	3.89	0.10 mg/L	4.00		97	80-120			
Selenium, total	0.0394	0.00050 mg/L	0.0400		98	80-120			
Silicon, total	4.2	1.0 mg/L	4.00		105	80-120			
Silver, total	0.0408	0.000050 mg/L	0.0400		102	80-120			
Sodium, total	4.01	0.10 mg/L	4.00		100	80-120			
Strontium, total	0.0409	0.0010 mg/L	0.0400		102	80-120			
Sulfur, total	40.2	3.0 mg/L	40.0		101	80-120			
Tellurium, total	0.0394	0.00050 mg/L	0.0400		99	80-120			
Thallium, total	0.0403	0.000020 mg/L	0.0400		101	80-120			
Thorium, total	0.0406	0.00010 mg/L	0.0400		101	80-120			
Tin, total	0.0414	0.00020 mg/L	0.0400		104	80-120			
Titanium, total	0.0385	0.0050 mg/L	0.0400		96	80-120			
Tungsten, total	0.0407	0.0002 mg/L	0.0400		102	80-120			
Uranium, total	0.0405	0.000020 mg/L	0.0400		101	80-120			
Vanadium, total	0.0380	0.0050 mg/L	0.0400		95	80-120			
Zinc, total	0.0392	0.0040 mg/L	0.0400		98	80-120			
Zirconium, total	0.0413	0.00010 mg/L	0.0400		103	80-120			

QC Qualifiers:

MS2 The native sample concentration is greater than the spike concentration hence the matrix spike limits do not apply.



CERTIFICATE OF ANALYSIS

REPORTED TO Kelowna, City of
1435 Water Street
KELOWNA, BC V1Y 1J4

ATTENTION Jose Garcia

PO NUMBER 535828

PROJECT RBCF Ponds

PROJECT INFO

WORK ORDER 2213957

RECEIVED / TEMP 2022-09-28 16:11 / 8.6°C

REPORTED 2022-10-07 11:50

COC NUMBER 44832.62217

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>

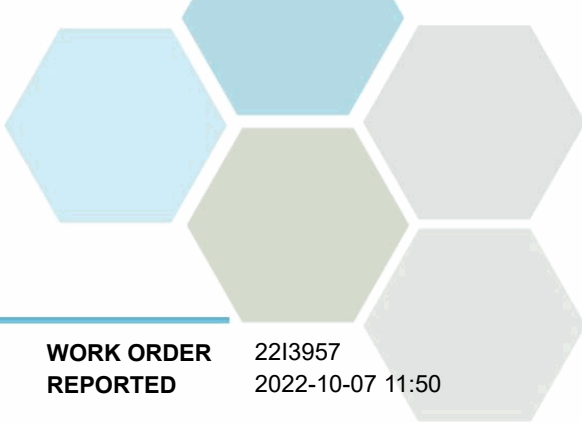
If you have any questions or concerns, please contact me at bwhitehead@caro.ca

Authorized By:

Brent Whitehead
Account Manager

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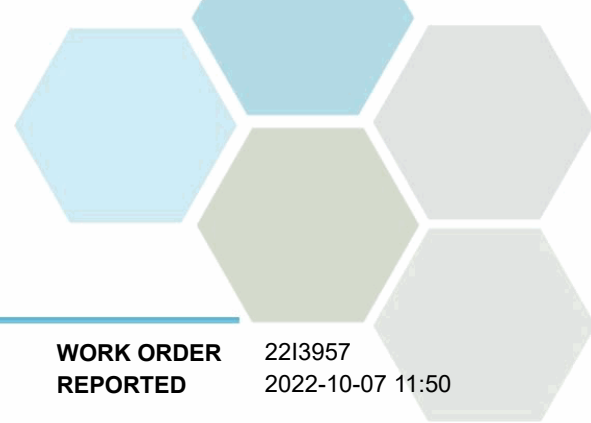


TEST RESULTS

REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

WORK ORDER REPORTED 2213957
2022-10-07 11:50

Analyte	Result	RL	Units	Analyzed	Qualifier
Rose's Pond (2213957-01) Matrix: Water Sampled: 2022-09-28					
Anions					
Chloride	496	0.10	mg/L	2022-10-04	
Nitrate (as N)	0.239	0.010	mg/L	2022-10-04	HT1
Nitrite (as N)	< 0.100	0.010	mg/L	2022-10-04	HT1, RA1
Calculated Parameters					
Hardness, Total (as CaCO3)	1410	0.500	mg/L	N/A	
Nitrate+Nitrite (as N)	0.239	0.100	mg/L	N/A	
Nitrogen, Total	1.82	0.100	mg/L	N/A	
Dissolved Metals					
Aluminum, dissolved	< 0.0050	0.0050	mg/L	2022-10-05	
Antimony, dissolved	0.00038	0.00020	mg/L	2022-10-05	
Arsenic, dissolved	0.00385	0.00050	mg/L	2022-10-05	
Barium, dissolved	0.0117	0.0050	mg/L	2022-10-05	
Beryllium, dissolved	< 0.00010	0.00010	mg/L	2022-10-05	
Bismuth, dissolved	< 0.00010	0.00010	mg/L	2022-10-05	
Boron, dissolved	0.0995	0.0500	mg/L	2022-10-05	
Cadmium, dissolved	< 0.000010	0.000010	mg/L	2022-10-05	
Calcium, dissolved	53.4	0.20	mg/L	2022-10-05	
Chromium, dissolved	< 0.00050	0.00050	mg/L	2022-10-05	
Cobalt, dissolved	< 0.00010	0.00010	mg/L	2022-10-05	
Copper, dissolved	< 0.00040	0.00040	mg/L	2022-10-05	
Iron, dissolved	< 0.010	0.010	mg/L	2022-10-05	
Lead, dissolved	< 0.00020	0.00020	mg/L	2022-10-05	
Lithium, dissolved	0.0546	0.00010	mg/L	2022-10-05	
Magnesium, dissolved	311	0.010	mg/L	2022-10-05	
Manganese, dissolved	0.0122	0.00020	mg/L	2022-10-05	
Mercury, dissolved	< 0.000010	0.000010	mg/L	2022-10-04	
Molybdenum, dissolved	0.00143	0.00010	mg/L	2022-10-05	
Nickel, dissolved	0.00082	0.00040	mg/L	2022-10-05	
Phosphorus, dissolved	< 0.050	0.050	mg/L	2022-10-05	
Potassium, dissolved	82.4	0.10	mg/L	2022-10-05	
Selenium, dissolved	< 0.00050	0.00050	mg/L	2022-10-05	
Silicon, dissolved	1.2	1.0	mg/L	2022-10-05	
Silver, dissolved	< 0.000050	0.000050	mg/L	2022-10-05	
Sodium, dissolved	894	0.10	mg/L	2022-10-05	
Strontium, dissolved	0.414	0.0010	mg/L	2022-10-05	
Sulfur, dissolved	734	3.0	mg/L	2022-10-05	
Tellurium, dissolved	< 0.00050	0.00050	mg/L	2022-10-05	
Thallium, dissolved	< 0.000020	0.000020	mg/L	2022-10-05	
Thorium, dissolved	< 0.00010	0.00010	mg/L	2022-10-05	
Tin, dissolved	< 0.00020	0.00020	mg/L	2022-10-05	
Titanium, dissolved	< 0.0050	0.0050	mg/L	2022-10-05	
Tungsten, dissolved	< 0.0010	0.0010	mg/L	2022-10-05	



TEST RESULTS

REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

WORK ORDER REPORTED 2213957
2022-10-07 11:50

Analyte	Result	RL	Units	Analyzed	Qualifier
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Rose's Pond (2213957-01) | Matrix: Water | Sampled: 2022-09-28, Continued

Dissolved Metals, Continued

Uranium, dissolved	0.00369	0.000020	mg/L	2022-10-05	
Vanadium, dissolved	< 0.0050	0.0050	mg/L	2022-10-05	
Zinc, dissolved	< 0.0040	0.0040	mg/L	2022-10-05	
Zirconium, dissolved	0.00016	0.00010	mg/L	2022-10-05	

General Parameters

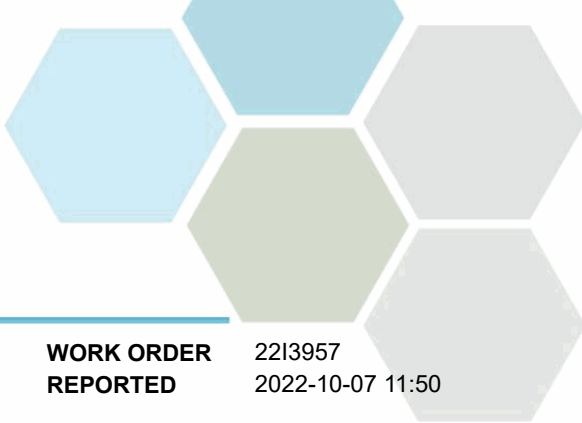
Ammonia, Total (as N)	< 0.050	0.050	mg/L	2022-09-30	
BOD, 5-day	< 6.7	2.0	mg/L	2022-10-05	
Carbon, Dissolved Organic	18.0	0.50	mg/L	2022-10-03	
Chemical Oxygen Demand	61	20	mg/L	2022-10-04	
Conductivity (EC)	5140	2.0	µS/cm	2022-10-03	
Nitrogen, Total Kjeldahl	1.58	0.050	mg/L	2022-10-06	
pH	8.75	0.10	pH units	2022-10-03	HT2
Phosphorus, Total (as P)	0.0349	0.0050	mg/L	2022-10-05	
Solids, Total Dissolved	4090	15	mg/L	2022-10-05	
Solids, Total Suspended	10.2	2.0	mg/L	2022-10-06	

Microbiological Parameters

Coliforms, Total (Q-Tray)	3870	1	MPN/100 mL	2022-09-29	
E. coli (Q-Tray)	12	1	MPN/100 mL	2022-09-29	

Total Metals

Aluminum, total	< 0.0100	0.0050	mg/L	2022-10-06	RS1
Antimony, total	0.00042	0.00020	mg/L	2022-10-06	RS1
Arsenic, total	0.00365	0.00050	mg/L	2022-10-06	RS1
Barium, total	0.0122	0.0050	mg/L	2022-10-06	RS1
Beryllium, total	< 0.00020	0.00010	mg/L	2022-10-06	RS1
Bismuth, total	< 0.00020	0.00010	mg/L	2022-10-06	RS1
Boron, total	< 0.100	0.0500	mg/L	2022-10-06	RS1
Cadmium, total	< 0.000020	0.000010	mg/L	2022-10-06	RS1
Calcium, total	53.5	0.20	mg/L	2022-10-06	RS1
Chromium, total	< 0.00100	0.00050	mg/L	2022-10-06	RS1
Cobalt, total	< 0.00020	0.00010	mg/L	2022-10-06	RS1
Copper, total	< 0.00080	0.00040	mg/L	2022-10-06	RS1
Iron, total	< 0.020	0.010	mg/L	2022-10-06	RS1
Lead, total	< 0.00040	0.00020	mg/L	2022-10-06	RS1
Lithium, total	0.0463	0.00010	mg/L	2022-10-06	RS1
Magnesium, total	243	0.010	mg/L	2022-10-06	RS1
Manganese, total	0.0578	0.00020	mg/L	2022-10-06	RS1
Mercury, total	< 0.000010	0.000010	mg/L	2022-10-04	
Molybdenum, total	0.00139	0.00010	mg/L	2022-10-06	RS1
Nickel, total	< 0.00080	0.00040	mg/L	2022-10-06	RS1
Phosphorus, total	< 0.100	0.050	mg/L	2022-10-06	RS1
Potassium, total	76.0	0.10	mg/L	2022-10-06	RS1



TEST RESULTS

REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

WORK ORDER REPORTED 2213957
2022-10-07 11:50

Analyte	Result	RL	Units	Analyzed	Qualifier
Rose's Pond (2213957-01) Matrix: Water Sampled: 2022-09-28, Continued					
<i>Total Metals, Continued</i>					
Selenium, total	< 0.00100	0.00050	mg/L	2022-10-06	RS1
Silicon, total	< 2.0	1.0	mg/L	2022-10-06	RS1
Silver, total	< 0.000100	0.000050	mg/L	2022-10-06	RS1
Sodium, total	762	0.10	mg/L	2022-10-06	RS1
Strontium, total	0.401	0.0010	mg/L	2022-10-06	RS1
Sulfur, total	734	3.0	mg/L	2022-10-06	RS1
Tellurium, total	< 0.00100	0.00050	mg/L	2022-10-06	RS1
Thallium, total	< 0.000040	0.000020	mg/L	2022-10-06	RS1
Thorium, total	< 0.00020	0.00010	mg/L	2022-10-06	RS1
Tin, total	< 0.00040	0.00020	mg/L	2022-10-06	RS1
Titanium, total	< 0.0100	0.0050	mg/L	2022-10-06	RS1
Tungsten, total	< 0.0004	0.0002	mg/L	2022-10-06	RS1
Uranium, total	0.00386	0.000020	mg/L	2022-10-06	RS1
Vanadium, total	< 0.0100	0.0050	mg/L	2022-10-06	RS1
Zinc, total	< 0.0080	0.0040	mg/L	2022-10-06	RS1
Zirconium, total	< 0.00020	0.00010	mg/L	2022-10-06	RS1

Drainage Pond (2213957-02) | Matrix: Water | Sampled: 2022-09-28

Anions

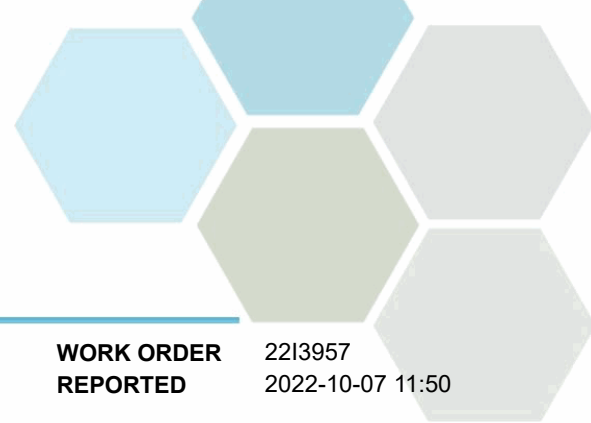
Chloride	123	0.10	mg/L	2022-10-04	
Nitrate (as N)	< 0.010	0.010	mg/L	2022-10-04	HT1
Nitrite (as N)	0.283	0.010	mg/L	2022-10-04	HT1

Calculated Parameters

Hardness, Total (as CaCO3)	239	0.500	mg/L	N/A	
Nitrate+Nitrite (as N)	0.283	0.0100	mg/L	N/A	
Nitrogen, Total	66.5	1.00	mg/L	N/A	

Dissolved Metals

Aluminum, dissolved	0.132	0.0050	mg/L	2022-10-05	
Antimony, dissolved	0.00029	0.00020	mg/L	2022-10-05	
Arsenic, dissolved	0.00487	0.00050	mg/L	2022-10-05	
Barium, dissolved	0.0303	0.0050	mg/L	2022-10-05	
Beryllium, dissolved	< 0.00010	0.00010	mg/L	2022-10-05	
Bismuth, dissolved	0.00014	0.00010	mg/L	2022-10-05	
Boron, dissolved	0.201	0.0500	mg/L	2022-10-05	
Cadmium, dissolved	0.000112	0.000010	mg/L	2022-10-05	
Calcium, dissolved	50.8	0.20	mg/L	2022-10-05	
Chromium, dissolved	0.00081	0.00050	mg/L	2022-10-05	
Cobalt, dissolved	0.00093	0.00010	mg/L	2022-10-05	
Copper, dissolved	0.00848	0.00040	mg/L	2022-10-05	
Iron, dissolved	0.461	0.010	mg/L	2022-10-05	

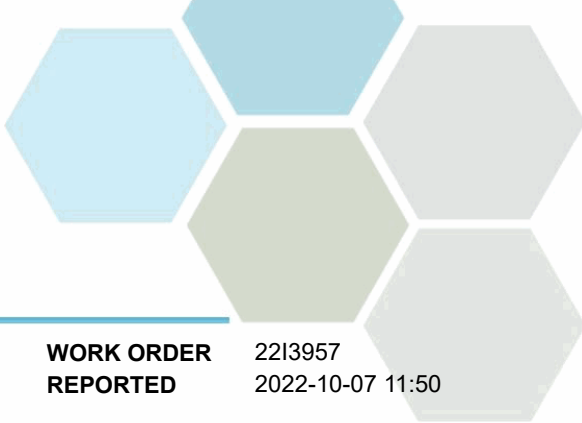


TEST RESULTS

REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

WORK ORDER REPORTED 2213957
2022-10-07 11:50

Analyte	Result	RL	Units	Analyzed	Qualifier
Drainage Pond (2213957-02) Matrix: Water Sampled: 2022-09-28, Continued					
<i>Dissolved Metals, Continued</i>					
Lead, dissolved	0.00028	0.00020	mg/L	2022-10-05	
Lithium, dissolved	0.0129	0.00010	mg/L	2022-10-07	RE2
Magnesium, dissolved	27.1	0.010	mg/L	2022-10-05	
Manganese, dissolved	0.221	0.00020	mg/L	2022-10-05	
Mercury, dissolved	0.000026	0.000010	mg/L	2022-10-04	
Molybdenum, dissolved	0.00074	0.00010	mg/L	2022-10-05	
Nickel, dissolved	0.00392	0.00040	mg/L	2022-10-05	
Phosphorus, dissolved	15.0	0.050	mg/L	2022-10-05	
Potassium, dissolved	55.2	0.10	mg/L	2022-10-05	
Selenium, dissolved	0.00088	0.00050	mg/L	2022-10-05	
Silicon, dissolved	3.8	1.0	mg/L	2022-10-05	
Silver, dissolved	< 0.000050	0.000050	mg/L	2022-10-05	
Sodium, dissolved	110	0.10	mg/L	2022-10-05	
Strontium, dissolved	0.517	0.0010	mg/L	2022-10-05	
Sulfur, dissolved	37.9	3.0	mg/L	2022-10-05	
Tellurium, dissolved	< 0.00050	0.00050	mg/L	2022-10-05	
Thallium, dissolved	< 0.000020	0.000020	mg/L	2022-10-05	
Thorium, dissolved	< 0.00010	0.00010	mg/L	2022-10-05	
Tin, dissolved	0.00027	0.00020	mg/L	2022-10-05	
Titanium, dissolved	< 0.0050	0.0050	mg/L	2022-10-05	
Tungsten, dissolved	< 0.0010	0.0010	mg/L	2022-10-05	
Uranium, dissolved	0.000574	0.000020	mg/L	2022-10-05	
Vanadium, dissolved	< 0.0050	0.0050	mg/L	2022-10-05	
Zinc, dissolved	0.0606	0.0040	mg/L	2022-10-05	
Zirconium, dissolved	0.00070	0.00010	mg/L	2022-10-05	
<i>General Parameters</i>					
Ammonia, Total (as N)	37.7	0.050	mg/L	2022-09-30	
BOD, 5-day	37.7	2.0	mg/L	2022-10-05	
Carbon, Dissolved Organic	95.4	0.50	mg/L	2022-10-03	
Chemical Oxygen Demand	569	20	mg/L	2022-10-04	
Conductivity (EC)	1260	2.0	µS/cm	2022-10-03	
Nitrogen, Total Kjeldahl	66.3	0.050	mg/L	2022-10-06	
pH	7.86	0.10	pH units	2022-10-03	HT2
Phosphorus, Total (as P)	14.9	0.0050	mg/L	2022-10-05	
Solids, Total Dissolved	975	15	mg/L	2022-10-05	
Solids, Total Suspended	18.5	2.0	mg/L	2022-10-06	
<i>Microbiological Parameters</i>					
Coliforms, Total (Q-Tray)	> 24200	1	MPN/100 mL	2022-09-29	
E. coli (Q-Tray)	> 24200	1	MPN/100 mL	2022-09-29	
<i>Total Metals</i>					
Aluminum, total	0.220	0.0050	mg/L	2022-10-06	RS1



TEST RESULTS

REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

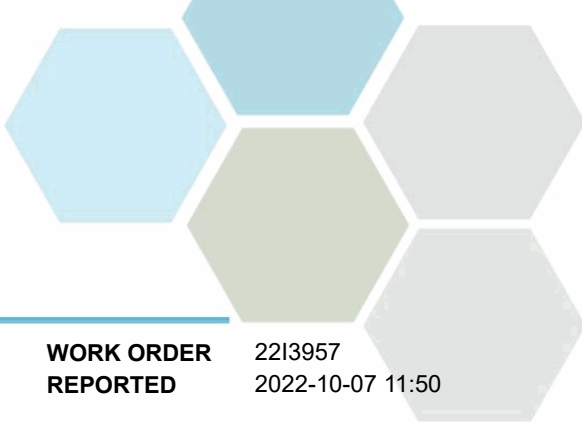
WORK ORDER REPORTED 2213957
2022-10-07 11:50

Analyte	Result	RL	Units	Analyzed	Qualifier
Drainage Pond (2213957-02) Matrix: Water Sampled: 2022-09-28, Continued					
<i>Total Metals, Continued</i>					
Antimony, total	0.00048	0.00020	mg/L	2022-10-06	RS1
Arsenic, total	0.00548	0.00050	mg/L	2022-10-06	RS1
Barium, total	0.0421	0.0050	mg/L	2022-10-06	RS1
Beryllium, total	< 0.00010	0.00010	mg/L	2022-10-06	RS1
Bismuth, total	0.00148	0.00010	mg/L	2022-10-06	RS1
Boron, total	0.193	0.0500	mg/L	2022-10-06	RS1
Cadmium, total	0.000476	0.000010	mg/L	2022-10-06	RS1
Calcium, total	54.7	0.20	mg/L	2022-10-06	RS1
Chromium, total	0.00178	0.00050	mg/L	2022-10-06	RS1
Cobalt, total	0.00145	0.00010	mg/L	2022-10-06	RS1
Copper, total	0.0830	0.00040	mg/L	2022-10-06	RS1
Iron, total	0.806	0.010	mg/L	2022-10-06	RS1
Lead, total	0.00185	0.00020	mg/L	2022-10-06	RS1
Lithium, total	0.0120	0.00010	mg/L	2022-10-06	RS1
Magnesium, total	21.0	0.010	mg/L	2022-10-06	RS1
Manganese, total	0.253	0.00020	mg/L	2022-10-06	RS1
Mercury, total	0.000046	0.000010	mg/L	2022-10-04	
Molybdenum, total	0.00467	0.00010	mg/L	2022-10-06	RS1
Nickel, total	0.00634	0.00040	mg/L	2022-10-06	RS1
Phosphorus, total	15.1	0.050	mg/L	2022-10-06	RS1
Potassium, total	52.3	0.10	mg/L	2022-10-06	RS1
Selenium, total	0.00149	0.00050	mg/L	2022-10-06	RS1
Silicon, total	3.8	1.0	mg/L	2022-10-06	RS1
Silver, total	0.000252	0.000050	mg/L	2022-10-06	RS1
Sodium, total	88.9	0.10	mg/L	2022-10-06	RS1
Strontium, total	0.614	0.0010	mg/L	2022-10-06	RS1
Sulfur, total	36.6	3.0	mg/L	2022-10-06	RS1
Tellurium, total	< 0.00050	0.00050	mg/L	2022-10-06	RS1
Thallium, total	0.000022	0.000020	mg/L	2022-10-06	RS1
Thorium, total	< 0.00010	0.00010	mg/L	2022-10-06	RS1
Tin, total	0.00078	0.00020	mg/L	2022-10-06	RS1
Titanium, total	0.0098	0.0050	mg/L	2022-10-06	RS1
Tungsten, total	0.0005	0.0002	mg/L	2022-10-06	RS1
Uranium, total	0.00211	0.000020	mg/L	2022-10-06	RS1
Vanadium, total	< 0.0050	0.0050	mg/L	2022-10-06	RS1
Zinc, total	0.116	0.0040	mg/L	2022-10-06	RS1
Zirconium, total	0.00055	0.00010	mg/L	2022-10-06	RS1

Davidson Pond (2213957-03) | Matrix: Water | Sampled: 2022-09-28

Anions

Chloride	372	0.10	mg/L	2022-10-04	
Nitrate (as N)	< 0.100	0.010	mg/L	2022-10-04	HT1, RA1



TEST RESULTS

REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

WORK ORDER REPORTED 2213957
2022-10-07 11:50

Analyte	Result	RL	Units	Analyzed	Qualifier
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Davidson Pond (2213957-03) | Matrix: Water | Sampled: 2022-09-28, Continued

Anions, Continued

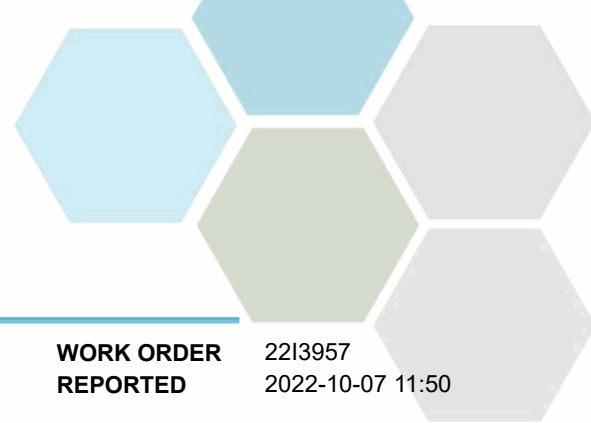
Nitrite (as N)	< 0.010	0.010	mg/L	2022-10-04	HT1
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Calculated Parameters

Hardness, Total (as CaCO3)	803	0.500	mg/L	N/A	
Nitrate+Nitrite (as N)	< 0.100	0.100	mg/L	N/A	
Nitrogen, Total	2.79	0.100	mg/L	N/A	

Dissolved Metals

Aluminum, dissolved	0.0090	0.0050	mg/L	2022-10-05	
Antimony, dissolved	0.00052	0.00020	mg/L	2022-10-05	
Arsenic, dissolved	0.00468	0.00050	mg/L	2022-10-05	
Barium, dissolved	0.0113	0.0050	mg/L	2022-10-05	
Beryllium, dissolved	< 0.00010	0.00010	mg/L	2022-10-05	
Bismuth, dissolved	< 0.00010	0.00010	mg/L	2022-10-05	
Boron, dissolved	< 0.0500	0.0500	mg/L	2022-10-05	
Cadmium, dissolved	< 0.000010	0.000010	mg/L	2022-10-05	
Calcium, dissolved	58.8	0.20	mg/L	2022-10-05	
Chromium, dissolved	< 0.00050	0.00050	mg/L	2022-10-05	
Cobalt, dissolved	0.00013	0.00010	mg/L	2022-10-05	
Copper, dissolved	< 0.00040	0.00040	mg/L	2022-10-05	
Iron, dissolved	0.014	0.010	mg/L	2022-10-05	
Lead, dissolved	< 0.00020	0.00020	mg/L	2022-10-05	
Lithium, dissolved	0.0644	0.00010	mg/L	2022-10-05	
Magnesium, dissolved	159	0.010	mg/L	2022-10-05	
Manganese, dissolved	0.163	0.00020	mg/L	2022-10-05	
Mercury, dissolved	< 0.000010	0.000010	mg/L	2022-10-04	
Molybdenum, dissolved	0.00155	0.00010	mg/L	2022-10-05	
Nickel, dissolved	0.00144	0.00040	mg/L	2022-10-05	
Phosphorus, dissolved	< 0.050	0.050	mg/L	2022-10-05	
Potassium, dissolved	51.8	0.10	mg/L	2022-10-05	
Selenium, dissolved	< 0.00050	0.00050	mg/L	2022-10-05	
Silicon, dissolved	3.6	1.0	mg/L	2022-10-05	
Silver, dissolved	< 0.000050	0.000050	mg/L	2022-10-05	
Sodium, dissolved	739	0.10	mg/L	2022-10-05	
Strontium, dissolved	1.03	0.0010	mg/L	2022-10-05	
Sulfur, dissolved	468	3.0	mg/L	2022-10-05	
Tellurium, dissolved	< 0.00050	0.00050	mg/L	2022-10-05	
Thallium, dissolved	< 0.000020	0.000020	mg/L	2022-10-05	
Thorium, dissolved	< 0.00010	0.00010	mg/L	2022-10-05	
Tin, dissolved	< 0.00020	0.00020	mg/L	2022-10-05	
Titanium, dissolved	< 0.0050	0.0050	mg/L	2022-10-05	
Tungsten, dissolved	< 0.0010	0.0010	mg/L	2022-10-05	
Uranium, dissolved	0.00773	0.000020	mg/L	2022-10-05	
Vanadium, dissolved	< 0.0050	0.0050	mg/L	2022-10-05	

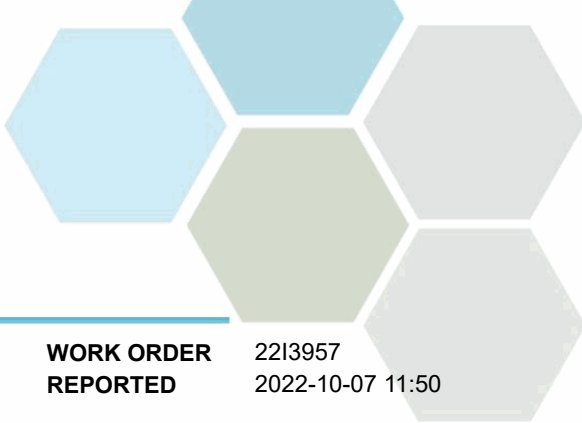


TEST RESULTS

REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

WORK ORDER REPORTED 2213957
2022-10-07 11:50

Analyte	Result	RL	Units	Analyzed	Qualifier
Davidson Pond (2213957-03) Matrix: Water Sampled: 2022-09-28, Continued					
<i>Dissolved Metals, Continued</i>					
Zinc, dissolved	< 0.0040	0.0040	mg/L	2022-10-05	
Zirconium, dissolved	0.00027	0.00010	mg/L	2022-10-05	
<i>General Parameters</i>					
Ammonia, Total (as N)	0.123	0.050	mg/L	2022-09-30	
BOD, 5-day	< 6.7	2.0	mg/L	2022-10-05	
Carbon, Dissolved Organic	26.1	0.50	mg/L	2022-10-03	
Chemical Oxygen Demand	85	20	mg/L	2022-10-04	
Conductivity (EC)	3920	2.0	µS/cm	2022-10-03	
Nitrogen, Total Kjeldahl	2.79	0.050	mg/L	2022-10-06	
pH	8.81	0.10	pH units	2022-10-03	HT2
Phosphorus, Total (as P)	0.0878	0.0050	mg/L	2022-10-05	
Solids, Total Dissolved	2870	15	mg/L	2022-10-05	
Solids, Total Suspended	18.0	2.0	mg/L	2022-10-06	
<i>Microbiological Parameters</i>					
Coliforms, Total (Q-Tray)	16000	1	MPN/100 mL	2022-09-29	
E. coli (Q-Tray)	31	1	MPN/100 mL	2022-09-29	
<i>Total Metals</i>					
Aluminum, total	0.0627	0.0050	mg/L	2022-10-06	RS1
Antimony, total	0.00045	0.00020	mg/L	2022-10-06	RS1
Arsenic, total	0.00451	0.00050	mg/L	2022-10-06	RS1
Barium, total	0.0121	0.0050	mg/L	2022-10-06	RS1
Beryllium, total	< 0.00020	0.00010	mg/L	2022-10-06	RS1
Bismuth, total	< 0.00020	0.00010	mg/L	2022-10-06	RS1
Boron, total	< 0.100	0.0500	mg/L	2022-10-06	RS1
Cadmium, total	< 0.000020	0.000010	mg/L	2022-10-06	RS1
Calcium, total	64.4	0.20	mg/L	2022-10-06	RS1
Chromium, total	< 0.00100	0.00050	mg/L	2022-10-06	RS1
Cobalt, total	< 0.00020	0.00010	mg/L	2022-10-06	RS1
Copper, total	< 0.00080	0.00040	mg/L	2022-10-06	RS1
Iron, total	0.095	0.010	mg/L	2022-10-06	RS1
Lead, total	< 0.00040	0.00020	mg/L	2022-10-06	RS1
Lithium, total	0.0519	0.00010	mg/L	2022-10-06	RS1
Magnesium, total	128	0.010	mg/L	2022-10-06	RS1
Manganese, total	0.187	0.00020	mg/L	2022-10-06	RS1
Mercury, total	< 0.000010	0.000010	mg/L	2022-10-04	
Molybdenum, total	0.00161	0.00010	mg/L	2022-10-06	RS1
Nickel, total	0.00167	0.00040	mg/L	2022-10-06	RS1
Phosphorus, total	< 0.100	0.050	mg/L	2022-10-06	RS1
Potassium, total	50.3	0.10	mg/L	2022-10-06	RS1
Selenium, total	< 0.00100	0.00050	mg/L	2022-10-06	RS1
Silicon, total	3.6	1.0	mg/L	2022-10-06	RS1



TEST RESULTS

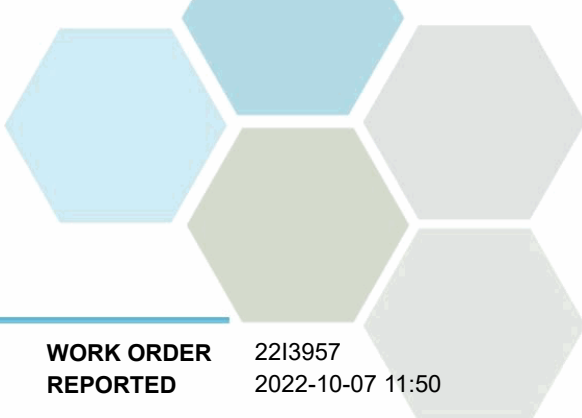
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Analyte	Result	RL	Units	Analyzed	Qualifier
Davidson Pond (2213957-03) Matrix: Water Sampled: 2022-09-28, Continued					
<i>Total Metals, Continued</i>					
Silver, total	< 0.000100	0.000050	mg/L	2022-10-06	RS1
Sodium, total	642	0.10	mg/L	2022-10-06	RS1
Strontium, total	1.04	0.0010	mg/L	2022-10-06	RS1
Sulfur, total	482	3.0	mg/L	2022-10-06	RS1
Tellurium, total	< 0.00100	0.00050	mg/L	2022-10-06	RS1
Thallium, total	< 0.000040	0.000020	mg/L	2022-10-06	RS1
Thorium, total	< 0.00020	0.00010	mg/L	2022-10-06	RS1
Tin, total	< 0.00040	0.00020	mg/L	2022-10-06	RS1
Titanium, total	< 0.0100	0.0050	mg/L	2022-10-06	RS1
Tungsten, total	< 0.0004	0.0002	mg/L	2022-10-06	RS1
Uranium, total	0.00823	0.000020	mg/L	2022-10-06	RS1
Vanadium, total	< 0.0100	0.0050	mg/L	2022-10-06	RS1
Zinc, total	< 0.0080	0.0040	mg/L	2022-10-06	RS1
Zirconium, total	0.00027	0.00010	mg/L	2022-10-06	RS1

Sample Qualifiers:

- 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.
- RA1 The Reporting Limit has been raised due to matrix interference.
- RE2 Result was confirmed by re-analysis prior to reporting.
- RS1 The Reporting Limits for this sample have been raised due to high analyte concentration and/or matrix interference.



APPENDIX 1: SUPPORTING INFORMATION

REPORTED TO PROJECT Kelowna, City of
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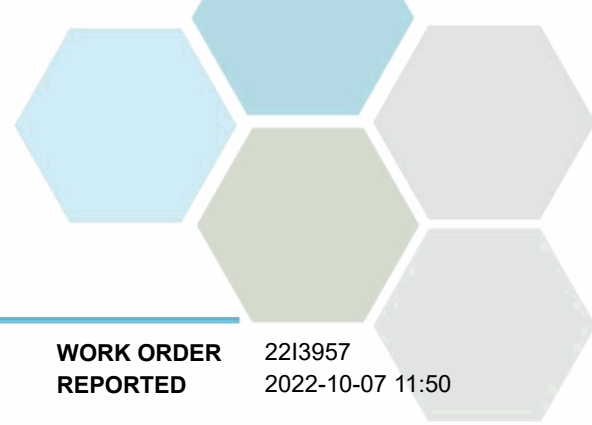
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Analysis Description	Method Ref.	Technique	Accredited	Location
Ammonia, Total in Water	SM 4500-NH3 G* (2017)	Automated Colorimetry (Phenate)	✓	Kelowna
Anions in Water	SM 4110 B (2017)	Ion Chromatography	✓	Kelowna
Biochemical Oxygen Demand in Water	SM 5210 B (2017)	Dissolved Oxygen Meter	✓	Kelowna
Carbon, Dissolved Organic in Water	SM 5310 B (2017)	Combustion, Infrared CO2 Detection	✓	Kelowna
Chemical Oxygen Demand in Water	SM 5220 D* (2017)	Closed Reflux, Colorimetry	✓	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
Dissolved Metals in Water	EPA 200.8 / EPA 6020B	0.45 µm Filtration / Inductively Coupled Plasma-Mass Spectroscopy (ICP-MS)	✓	Richmond
E. coli in Water	NA / SM 9223 (2017)	Quanti-Tray / Enzyme Substrate Endo Agar	✓	Kelowna
Hardness in Water	SM 2340 B (2017)	Calculation: 2.497 [diss Ca] + 4.118 [diss Mg]	✓	N/A
Mercury, dissolved in Water	EPA 245.7*	BrCl2 Oxidation / Cold Vapor Atomic Fluorescence Spectrometry (CVAFS)	✓	Richmond
Mercury, total in Water	EPA 245.7*	BrCl2 Oxidation / Cold Vapor Atomic Fluorescence Spectrometry (CVAFS)	✓	Richmond
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
Phosphorus, Total in Water	SM 4500-P B.5* (2011) / SM 4500-P F (2017)	Persulfate Digestion / Automated Colorimetry (Ascorbic Acid)	✓	Kelowna
Solids, Total Dissolved in Water	Solids in Water, Filtered / SM 2540 C* (2017)	Solids in Water, Filtered / Gravimetry (Dried at 103-105C)	✓	Kelowna
Solids, Total Suspended in Water	Solids in Water, Filtered / SM 2540 D* (2017)	Solids in Water, Filtered / Gravimetry (Dried at 103-105C)	✓	Kelowna
Total Metals in Water	EPA 200.2 / EPA 6020B	HNO3+HCl Hot Block Digestion / Inductively Coupled Plasma-Mass Spectroscopy (ICP-MS)	✓	Richmond

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
>	Greater than the specified Result
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
EPA	United States Environmental Protection Agency Test Methods
SM	Standard Methods for the Examination of Water and Wastewater, American Public Health Association



APPENDIX 1: SUPPORTING INFORMATION

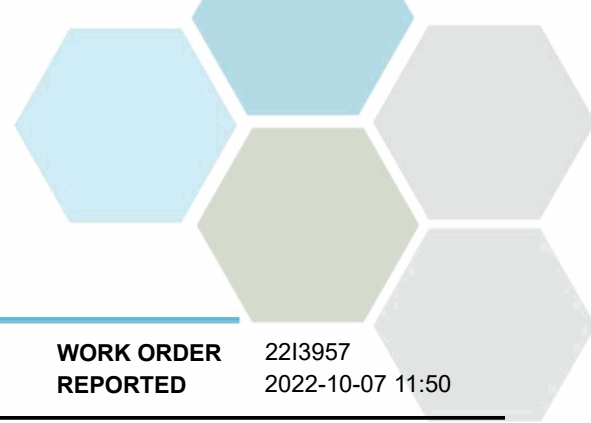
REPORTED TO Kelowna, City of
PROJECT RBCF Ponds

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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 or once samples expire, whichever comes first. Longer hold is possible if agreed to in writing.

Please note any regulatory guidelines applied to this report are added as a convenience to the client, at their request, to help provide some initial context to analytical results obtained. Although CARO makes every effort to ensure accuracy of the associated regulatory guideline(s) applied, the guidelines applied cannot be assumed to be correct due to a variety of factors and as such CARO Analytical Services assumes no liability or responsibility for the use of those guidelines to make any decisions. The original source of the regulation should be verified and a review of the guideline(s) should be validated as correct in order to make any decisions arising from the comparison of the analytical data obtained to the relevant regulatory guideline for one's particular circumstances. Further, CARO Analytical Services assumes no liability or responsibility for any loss attributed from the use of these guidelines in any way.



APPENDIX 2: QUALITY CONTROL RESULTS

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The following section displays the quality control (QC) data that is associated with your sample data. Groups of samples are prepared in "batches" and analyzed in conjunction with QC samples that ensure your data is of the highest quality. Common QC types include:

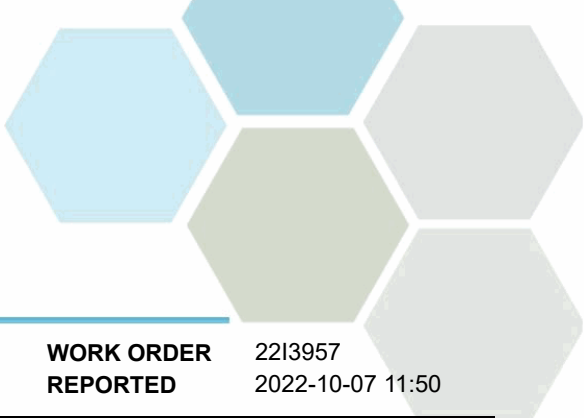
- **Method Blank (Blk):** A blank sample that undergoes sample processing identical to that carried out for the test samples. Method blank results are used to assess contamination from the laboratory environment and reagents.
- **Duplicate (Dup):** An additional or second portion of a randomly selected sample in the analytical run carried through the entire analytical process. Duplicates provide a measure of the analytical method's precision (reproducibility).
- **Blank Spike (BS):** A sample of known concentration which undergoes processing identical to that carried out for test samples, also referred to as a laboratory control sample (LCS). Blank spikes provide a measure of the analytical method's accuracy.
- **Matrix Spike (MS):** A second aliquot of sample is fortified with a known concentration of target analytes and carried through the entire analytical process. Matrix spikes evaluate potential matrix effects that may affect the analyte recovery.
- **Reference Material (SRM):** A homogenous material of similar matrix to the samples, certified for the parameter(s) listed. Reference Materials ensure that the analytical process is adequate to achieve acceptable recoveries of the parameter(s) tested.

Each QC type is analyzed at a 5-10% frequency, i.e. one blank/duplicate/spike for every 10-20 samples. For all types of QC, the specified recovery (% Rec) and relative percent difference (RPD) limits are derived from long-term method performance averages and/or prescribed by the reference method.

Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Anions, Batch B2I3540									
Blank (B2I3540-BLK1)			Prepared: 2022-10-04, Analyzed: 2022-10-04						
Chloride	< 0.10	0.10 mg/L							
Nitrate (as N)	< 0.010	0.010 mg/L							
Nitrite (as N)	< 0.010	0.010 mg/L							
Blank (B2I3540-BLK2)			Prepared: 2022-10-04, Analyzed: 2022-10-04						
Chloride	< 0.10	0.10 mg/L							
Nitrate (as N)	< 0.010	0.010 mg/L							
Nitrite (as N)	< 0.010	0.010 mg/L							
Blank (B2I3540-BLK3)			Prepared: 2022-10-05, Analyzed: 2022-10-05						
Chloride	< 0.10	0.10 mg/L							
Nitrate (as N)	< 0.010	0.010 mg/L							
Nitrite (as N)	< 0.010	0.010 mg/L							
LCS (B2I3540-BS1)			Prepared: 2022-10-04, Analyzed: 2022-10-04						
Chloride	16.1	0.10 mg/L	16.0		101	90-110			
Nitrate (as N)	4.07	0.010 mg/L	4.00		102	90-110			
Nitrite (as N)	2.08	0.010 mg/L	2.00		104	85-115			
LCS (B2I3540-BS2)			Prepared: 2022-10-04, Analyzed: 2022-10-04						
Chloride	15.0	0.10 mg/L	16.0		94	90-110			
Nitrate (as N)	3.91	0.010 mg/L	4.00		98	90-110			
Nitrite (as N)	1.82	0.010 mg/L	2.00		91	85-115			
LCS (B2I3540-BS3)			Prepared: 2022-10-05, Analyzed: 2022-10-05						
Chloride	15.6	0.10 mg/L	16.0		98	90-110			
Nitrate (as N)	3.93	0.010 mg/L	4.00		98	90-110			
Nitrite (as N)	1.83	0.010 mg/L	2.00		91	85-115			

Dissolved Metals, Batch B2J0333

Blank (B2J0333-BLK1)			Prepared: 2022-10-04, Analyzed: 2022-10-04						
Mercury, dissolved	< 0.000010	0.000010 mg/L							
Blank (B2J0333-BLK2)			Prepared: 2022-10-04, Analyzed: 2022-10-04						
Mercury, dissolved	< 0.000010	0.000010 mg/L							



APPENDIX 2: QUALITY CONTROL RESULTS

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Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
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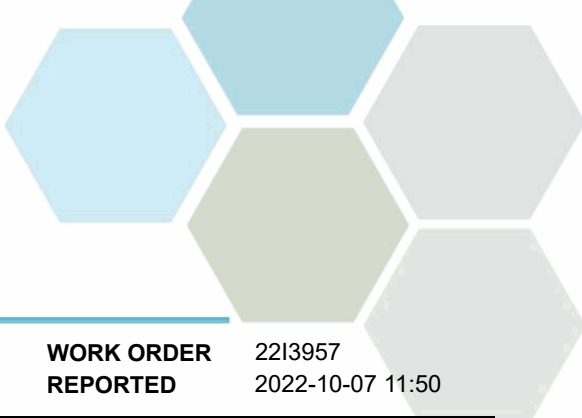
Dissolved Metals, Batch B2J0333, Continued

LCS (B2J0333-BS1)				Prepared: 2022-10-04, Analyzed: 2022-10-04					
Mercury, dissolved	0.000541	0.000010 mg/L	0.000500		108	80-120			
LCS (B2J0333-BS2)				Prepared: 2022-10-04, Analyzed: 2022-10-04					
Mercury, dissolved	0.000538	0.000010 mg/L	0.000500		108	80-120			

Dissolved Metals, Batch B2J0371

Blank (B2J0371-BLK1)				Prepared: 2022-10-05, Analyzed: 2022-10-05					
Aluminum, dissolved	< 0.0050	0.0050 mg/L							
Antimony, dissolved	< 0.00020	0.00020 mg/L							
Arsenic, dissolved	< 0.00050	0.00050 mg/L							
Barium, dissolved	< 0.0050	0.0050 mg/L							
Beryllium, dissolved	< 0.00010	0.00010 mg/L							
Bismuth, dissolved	< 0.00010	0.00010 mg/L							
Boron, dissolved	< 0.0500	0.0500 mg/L							
Cadmium, dissolved	< 0.000010	0.000010 mg/L							
Calcium, dissolved	< 0.20	0.20 mg/L							
Chromium, dissolved	< 0.00050	0.00050 mg/L							
Cobalt, dissolved	< 0.00010	0.00010 mg/L							
Copper, dissolved	< 0.00040	0.00040 mg/L							
Iron, dissolved	< 0.010	0.010 mg/L							
Lead, dissolved	< 0.00020	0.00020 mg/L							
Lithium, dissolved	< 0.00010	0.00010 mg/L							
Magnesium, dissolved	< 0.010	0.010 mg/L							
Manganese, dissolved	< 0.00020	0.00020 mg/L							
Molybdenum, dissolved	< 0.00010	0.00010 mg/L							
Nickel, dissolved	< 0.00040	0.00040 mg/L							
Phosphorus, dissolved	< 0.050	0.050 mg/L							
Potassium, dissolved	< 0.10	0.10 mg/L							
Selenium, dissolved	< 0.00050	0.00050 mg/L							
Silicon, dissolved	< 1.0	1.0 mg/L							
Silver, dissolved	< 0.000050	0.000050 mg/L							
Sodium, dissolved	< 0.10	0.10 mg/L							
Strontium, dissolved	< 0.0010	0.0010 mg/L							
Sulfur, dissolved	< 3.0	3.0 mg/L							
Tellurium, dissolved	< 0.00050	0.00050 mg/L							
Thallium, dissolved	< 0.000020	0.000020 mg/L							
Thorium, dissolved	< 0.00010	0.00010 mg/L							
Tin, dissolved	< 0.00020	0.00020 mg/L							
Titanium, dissolved	< 0.0050	0.0050 mg/L							
Tungsten, dissolved	< 0.0010	0.0010 mg/L							
Uranium, dissolved	< 0.000020	0.000020 mg/L							
Vanadium, dissolved	< 0.0050	0.0050 mg/L							
Zinc, dissolved	< 0.0040	0.0040 mg/L							
Zirconium, dissolved	< 0.00010	0.00010 mg/L							

LCS (B2J0371-BS1)				Prepared: 2022-10-05, Analyzed: 2022-10-05					
Aluminum, dissolved	4.41	0.0050 mg/L	4.00		110	80-120			
Antimony, dissolved	0.0426	0.00020 mg/L	0.0400		107	80-120			
Arsenic, dissolved	0.0432	0.00050 mg/L	0.0400		108	80-120			
Barium, dissolved	0.0411	0.0050 mg/L	0.0400		103	80-120			
Beryllium, dissolved	0.0436	0.00010 mg/L	0.0400		109	80-120			
Bismuth, dissolved	0.0413	0.00010 mg/L	0.0400		103	80-120			
Boron, dissolved	< 0.0500	0.0500 mg/L	0.0400		115	80-120			
Cadmium, dissolved	0.0418	0.000010 mg/L	0.0400		104	80-120			
Calcium, dissolved	4.09	0.20 mg/L	4.00		102	80-120			



APPENDIX 2: QUALITY CONTROL RESULTS

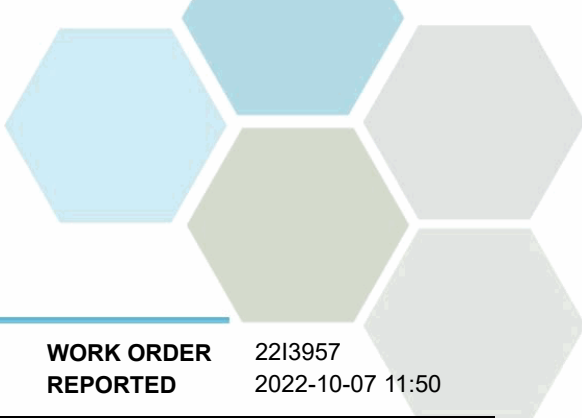
REPORTED TO PROJECT Kelowna, City of
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Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Dissolved Metals, Batch B2J0371, Continued									
LCS (B2J0371-BS1), Continued					Prepared: 2022-10-05, Analyzed: 2022-10-05				
Chromium, dissolved	0.0421	0.00050 mg/L	0.0400		105	80-120			
Cobalt, dissolved	0.0419	0.00010 mg/L	0.0400		105	80-120			
Copper, dissolved	0.0421	0.00040 mg/L	0.0400		105	80-120			
Iron, dissolved	4.18	0.010 mg/L	4.00		104	80-120			
Lead, dissolved	0.0414	0.00020 mg/L	0.0400		103	80-120			
Lithium, dissolved	0.0452	0.00010 mg/L	0.0400		113	80-120			
Magnesium, dissolved	4.42	0.010 mg/L	4.00		110	80-120			
Manganese, dissolved	0.0421	0.00020 mg/L	0.0400		105	80-120			
Molybdenum, dissolved	0.0402	0.00010 mg/L	0.0400		101	80-120			
Nickel, dissolved	0.0415	0.00040 mg/L	0.0400		104	80-120			
Phosphorus, dissolved	4.30	0.050 mg/L	4.00		107	80-120			
Potassium, dissolved	4.20	0.10 mg/L	4.00		105	80-120			
Selenium, dissolved	0.0425	0.00050 mg/L	0.0400		106	80-120			
Silicon, dissolved	4.5	1.0 mg/L	4.00		111	80-120			
Silver, dissolved	0.0414	0.000050 mg/L	0.0400		103	80-120			
Sodium, dissolved	4.33	0.10 mg/L	4.00		108	80-120			
Strontium, dissolved	0.0422	0.0010 mg/L	0.0400		105	80-120			
Sulfur, dissolved	43.0	3.0 mg/L	40.0		108	80-120			
Tellurium, dissolved	0.0426	0.00050 mg/L	0.0400		107	80-120			
Thallium, dissolved	0.0412	0.000020 mg/L	0.0400		103	80-120			
Thorium, dissolved	0.0417	0.00010 mg/L	0.0400		104	80-120			
Tin, dissolved	0.0420	0.00020 mg/L	0.0400		105	80-120			
Titanium, dissolved	0.0413	0.0050 mg/L	0.0400		103	80-120			
Tungsten, dissolved	0.0415	0.0010 mg/L	0.0400		104	80-120			
Uranium, dissolved	0.0411	0.000020 mg/L	0.0400		103	80-120			
Vanadium, dissolved	0.0419	0.0050 mg/L	0.0400		105	80-120			
Zinc, dissolved	0.0414	0.0040 mg/L	0.0400		104	80-120			
Zirconium, dissolved	0.0413	0.00010 mg/L	0.0400		103	80-120			

General Parameters, Batch B2I3500

Blank (B2I3500-BLK1)					Prepared: 2022-10-03, Analyzed: 2022-10-03				
Carbon, Dissolved Organic	< 0.50	0.50 mg/L							
Blank (B2I3500-BLK2)					Prepared: 2022-10-03, Analyzed: 2022-10-03				
Carbon, Dissolved Organic	< 0.50	0.50 mg/L							
Blank (B2I3500-BLK3)					Prepared: 2022-10-03, Analyzed: 2022-10-03				
Carbon, Dissolved Organic	< 0.50	0.50 mg/L							
Blank (B2I3500-BLK4)					Prepared: 2022-10-03, Analyzed: 2022-10-03				
Carbon, Dissolved Organic	< 0.50	0.50 mg/L							
Blank (B2I3500-BLK5)					Prepared: 2022-10-03, Analyzed: 2022-10-03				
Carbon, Dissolved Organic	< 0.50	0.50 mg/L							
LCS (B2I3500-BS1)					Prepared: 2022-10-03, Analyzed: 2022-10-03				
Carbon, Dissolved Organic	9.06	0.50 mg/L	10.0		91	78-116			
LCS (B2I3500-BS2)					Prepared: 2022-10-03, Analyzed: 2022-10-03				
Carbon, Dissolved Organic	10.9	0.50 mg/L	10.0		109	78-116			
LCS (B2I3500-BS3)					Prepared: 2022-10-03, Analyzed: 2022-10-03				
Carbon, Dissolved Organic	9.37	0.50 mg/L	10.0		94	78-116			
LCS (B2I3500-BS4)					Prepared: 2022-10-03, Analyzed: 2022-10-03				
Carbon, Dissolved Organic	9.40	0.50 mg/L	10.0		94	78-116			



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT	Kelowna, City of RBCF Ponds	WORK ORDER REPORTED	2213957 2022-10-07 11:50
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Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
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General Parameters, Batch B2I3500, Continued

LCS (B2I3500-BS5)	Prepared: 2022-10-03, Analyzed: 2022-10-03								
Carbon, Dissolved Organic	9.46	0.50 mg/L	10.0		95	78-116			

General Parameters, Batch B2I3594

Blank (B2I3594-BLK1)	Prepared: 2022-09-30, Analyzed: 2022-09-30								
Ammonia, Total (as N)	< 0.050	0.050 mg/L							

Blank (B2I3594-BLK2)	Prepared: 2022-09-30, Analyzed: 2022-09-30								
Ammonia, Total (as N)	< 0.050	0.050 mg/L							

LCS (B2I3594-BS1)	Prepared: 2022-09-30, Analyzed: 2022-09-30								
Ammonia, Total (as N)	0.944	0.050 mg/L	1.00		94	90-115			

LCS (B2I3594-BS2)	Prepared: 2022-09-30, Analyzed: 2022-09-30								
Ammonia, Total (as N)	0.932	0.050 mg/L	1.00		93	90-115			

General Parameters, Batch B2I3621

Blank (B2I3621-BLK1)	Prepared: 2022-09-30, Analyzed: 2022-10-05								
BOD, 5-day	< 2.0	2.0 mg/L							

LCS (B2I3621-BS1)	Prepared: 2022-09-30, Analyzed: 2022-10-05								
BOD, 5-day	178	55.6 mg/L	198		90	85-115			

General Parameters, Batch B2J0081

Blank (B2J0081-BLK1)	Prepared: 2022-10-03, Analyzed: 2022-10-03								
Conductivity (EC)	< 2.0	2.0 µS/cm							

LCS (B2J0081-BS2)	Prepared: 2022-10-03, Analyzed: 2022-10-03								
Conductivity (EC)	1400	2.0 µS/cm	1410		100	95-105			

Reference (B2J0081-SRM1)	Prepared: 2022-10-03, Analyzed: 2022-10-03								
pH	7.03	0.10 pH units	7.01		100	98-102			

General Parameters, Batch B2J0142

Blank (B2J0142-BLK1)	Prepared: 2022-10-03, Analyzed: 2022-10-03								
Conductivity (EC)	< 2.0	2.0 µS/cm							

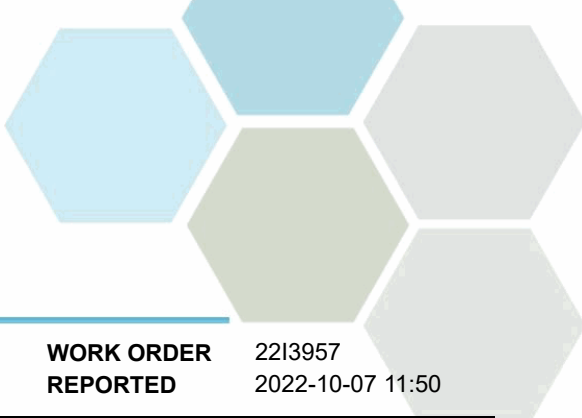
Blank (B2J0142-BLK2)	Prepared: 2022-10-03, Analyzed: 2022-10-03								
Conductivity (EC)	< 2.0	2.0 µS/cm							

Blank (B2J0142-BLK3)	Prepared: 2022-10-03, Analyzed: 2022-10-03								
Conductivity (EC)	< 2.0	2.0 µS/cm							

LCS (B2J0142-BS4)	Prepared: 2022-10-03, Analyzed: 2022-10-03								
Conductivity (EC)	1400	2.0 µS/cm	1410		100	95-105			

LCS (B2J0142-BS5)	Prepared: 2022-10-03, Analyzed: 2022-10-03								
Conductivity (EC)	1410	2.0 µS/cm	1410		100	95-105			

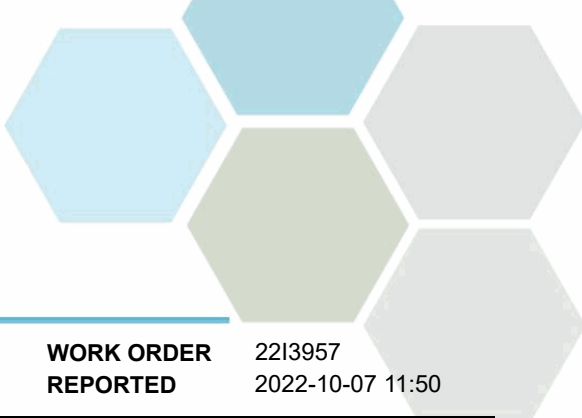
LCS (B2J0142-BS6)	Prepared: 2022-10-03, Analyzed: 2022-10-03								
Conductivity (EC)	1420	2.0 µS/cm	1410		101	95-105			



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Kelowna, City of RBCF Ponds **WORK ORDER REPORTED** 2213957 2022-10-07 11:50

Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
General Parameters, Batch B2J0142, Continued									
Duplicate (B2J0142-DUP1)		Source: 2213957-03		Prepared: 2022-10-03, Analyzed: 2022-10-03					
Conductivity (EC)	3930	2.0 µS/cm		3920			< 1	5	
pH	8.80	0.10 pH units		8.81			< 1	4	
Reference (B2J0142-SRM1)				Prepared: 2022-10-03, Analyzed: 2022-10-03					
pH	7.04	0.10 pH units	7.01		100	98-102			
Reference (B2J0142-SRM2)				Prepared: 2022-10-03, Analyzed: 2022-10-03					
pH	7.04	0.10 pH units	7.01		100	98-102			
Reference (B2J0142-SRM3)				Prepared: 2022-10-03, Analyzed: 2022-10-03					
pH	7.04	0.10 pH units	7.01		100	98-102			
General Parameters, Batch B2J0277									
Blank (B2J0277-BLK1)				Prepared: 2022-10-04, Analyzed: 2022-10-04					
Chemical Oxygen Demand	< 20	20 mg/L							
LCS (B2J0277-BS1)				Prepared: 2022-10-04, Analyzed: 2022-10-04					
Chemical Oxygen Demand	520	20 mg/L	500		104	89-115			
General Parameters, Batch B2J0360									
Blank (B2J0360-BLK1)				Prepared: 2022-10-04, Analyzed: 2022-10-06					
Nitrogen, Total Kjeldahl	< 0.050	0.050 mg/L							
Blank (B2J0360-BLK2)				Prepared: 2022-10-04, Analyzed: 2022-10-06					
Nitrogen, Total Kjeldahl	< 0.050	0.050 mg/L							
LCS (B2J0360-BS1)				Prepared: 2022-10-04, Analyzed: 2022-10-06					
Nitrogen, Total Kjeldahl	0.978	0.050 mg/L	1.00		98	85-115			
LCS (B2J0360-BS2)				Prepared: 2022-10-04, Analyzed: 2022-10-06					
Nitrogen, Total Kjeldahl	0.967	0.050 mg/L	1.00		97	85-115			
Duplicate (B2J0360-DUP2)		Source: 2213957-01		Prepared: 2022-10-04, Analyzed: 2022-10-06					
Nitrogen, Total Kjeldahl	1.62	0.050 mg/L		1.58			2	15	
Matrix Spike (B2J0360-MS2)		Source: 2213957-01		Prepared: 2022-10-04, Analyzed: 2022-10-06					
Nitrogen, Total Kjeldahl	2.33	0.050 mg/L	1.00	1.58	75	65-135			
General Parameters, Batch B2J0372									
Blank (B2J0372-BLK1)				Prepared: 2022-10-04, Analyzed: 2022-10-05					
Phosphorus, Total (as P)	< 0.0050	0.0050 mg/L							
Blank (B2J0372-BLK3)				Prepared: 2022-10-04, Analyzed: 2022-10-05					
Phosphorus, Total (as P)	< 0.0050	0.0050 mg/L							
LCS (B2J0372-BS1)				Prepared: 2022-10-04, Analyzed: 2022-10-05					
Phosphorus, Total (as P)	0.103	0.0050 mg/L	0.100		103	85-115			
LCS (B2J0372-BS3)				Prepared: 2022-10-04, Analyzed: 2022-10-05					
Phosphorus, Total (as P)	0.102	0.0050 mg/L	0.100		102	85-115			
General Parameters, Batch B2J0430									



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT	Kelowna, City of RBCF Ponds	WORK ORDER REPORTED	2213957 2022-10-07 11:50
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Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
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General Parameters, Batch B2J0430, Continued

Blank (B2J0430-BLK1)			Prepared: 2022-10-05, Analyzed: 2022-10-05						
Solids, Total Dissolved	< 15	15 mg/L							
LCS (B2J0430-BS1)			Prepared: 2022-10-05, Analyzed: 2022-10-05						
Solids, Total Dissolved	249	15 mg/L	240		104	85-115			

General Parameters, Batch B2J0432

Blank (B2J0432-BLK1)			Prepared: 2022-10-05, Analyzed: 2022-10-06						
Solids, Total Suspended	< 2.0	2.0 mg/L							
LCS (B2J0432-BS1)			Prepared: 2022-10-05, Analyzed: 2022-10-06						
Solids, Total Suspended	76.0	10.0 mg/L	100		76	85-115			

Microbiological Parameters, Batch B2I3472

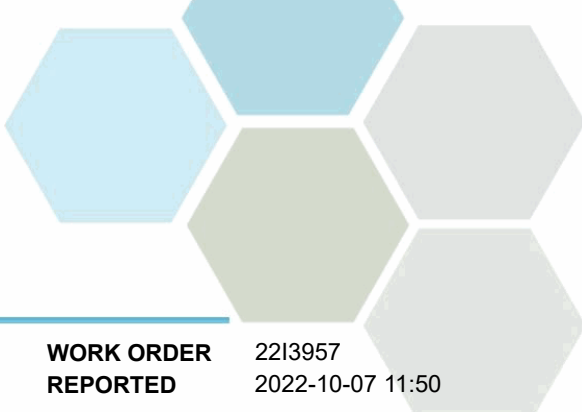
Blank (B2I3472-BLK1)			Prepared: 2022-09-29, Analyzed: 2022-09-29						
Coliforms, Total (Q-Tray)	< 1	1 MPN/100 mL							
E. coli (Q-Tray)	< 1	1 MPN/100 mL							
Blank (B2I3472-BLK3)			Prepared: 2022-09-29, Analyzed: 2022-09-29						
Coliforms, Total (Q-Tray)	< 1	1 MPN/100 mL							
E. coli (Q-Tray)	< 1	1 MPN/100 mL							
Blank (B2I3472-BLK5)			Prepared: 2022-09-29, Analyzed: 2022-09-29						
Coliforms, Total (Q-Tray)	< 1	1 MPN/100 mL							
E. coli (Q-Tray)	< 1	1 MPN/100 mL							

Total Metals, Batch B2J0334

Blank (B2J0334-BLK1)			Prepared: 2022-10-04, Analyzed: 2022-10-04						
Mercury, total	< 0.000010	0.000010 mg/L							
Blank (B2J0334-BLK2)			Prepared: 2022-10-04, Analyzed: 2022-10-04						
Mercury, total	< 0.000010	0.000010 mg/L							
Blank (B2J0334-BLK3)			Prepared: 2022-10-04, Analyzed: 2022-10-04						
Mercury, total	< 0.000010	0.000010 mg/L							
LCS (B2J0334-BS1)			Prepared: 2022-10-04, Analyzed: 2022-10-04						
Mercury, total	0.000446	0.000010 mg/L	0.000500		89	80-120			
LCS (B2J0334-BS2)			Prepared: 2022-10-04, Analyzed: 2022-10-04						
Mercury, total	0.000494	0.000010 mg/L	0.000500		99	80-120			
LCS (B2J0334-BS3)			Prepared: 2022-10-04, Analyzed: 2022-10-04						
Mercury, total	0.000490	0.000010 mg/L	0.000500		98	80-120			

Total Metals, Batch B2J0481

Blank (B2J0481-BLK1)			Prepared: 2022-10-05, Analyzed: 2022-10-06						
Aluminum, total	< 0.0050	0.0050 mg/L							
Antimony, total	< 0.00020	0.00020 mg/L							
Arsenic, total	< 0.00050	0.00050 mg/L							
Barium, total	< 0.0050	0.0050 mg/L							
Beryllium, total	< 0.00010	0.00010 mg/L							



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Kelowna, City of RBCF Ponds

WORK ORDER REPORTED 2213957
2022-10-07 11:50

Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
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Total Metals, Batch B2J0481, Continued

Blank (B2J0481-BLK1), Continued

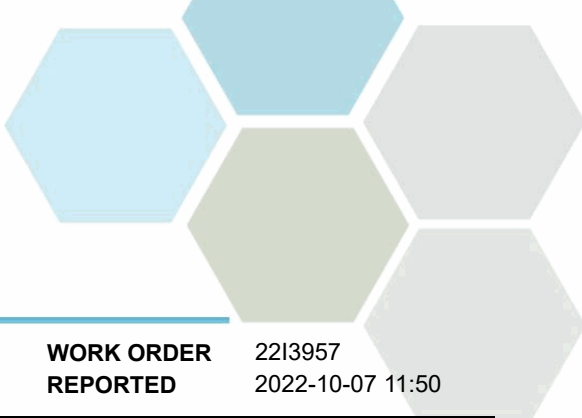
Prepared: 2022-10-05, Analyzed: 2022-10-06

Bismuth, total	< 0.00010	0.00010 mg/L							
Boron, total	< 0.0500	0.0500 mg/L							
Cadmium, total	< 0.000010	0.000010 mg/L							
Calcium, total	< 0.20	0.20 mg/L							
Chromium, total	< 0.00050	0.00050 mg/L							
Cobalt, total	< 0.00010	0.00010 mg/L							
Copper, total	< 0.00040	0.00040 mg/L							
Iron, total	< 0.010	0.010 mg/L							
Lead, total	< 0.00020	0.00020 mg/L							
Lithium, total	< 0.00010	0.00010 mg/L							
Magnesium, total	< 0.010	0.010 mg/L							
Manganese, total	< 0.00020	0.00020 mg/L							
Molybdenum, total	< 0.00010	0.00010 mg/L							
Nickel, total	< 0.00040	0.00040 mg/L							
Phosphorus, total	< 0.050	0.050 mg/L							
Potassium, total	< 0.10	0.10 mg/L							
Selenium, total	< 0.00050	0.00050 mg/L							
Silicon, total	< 1.0	1.0 mg/L							
Silver, total	< 0.000050	0.000050 mg/L							
Sodium, total	< 0.10	0.10 mg/L							
Strontium, total	< 0.0010	0.0010 mg/L							
Sulfur, total	< 3.0	3.0 mg/L							
Tellurium, total	< 0.00050	0.00050 mg/L							
Thallium, total	< 0.000020	0.000020 mg/L							
Thorium, total	< 0.00010	0.00010 mg/L							
Tin, total	< 0.00020	0.00020 mg/L							
Titanium, total	< 0.0050	0.0050 mg/L							
Tungsten, total	< 0.0002	0.0002 mg/L							
Uranium, total	< 0.000020	0.000020 mg/L							
Vanadium, total	< 0.0050	0.0050 mg/L							
Zinc, total	< 0.0040	0.0040 mg/L							
Zirconium, total	< 0.00010	0.00010 mg/L							

LCS (B2J0481-BS1)

Prepared: 2022-10-05, Analyzed: 2022-10-06

Aluminum, total	4.14	0.0050 mg/L	4.00		104	80-120			
Antimony, total	0.0402	0.00020 mg/L	0.0400		100	80-120			
Arsenic, total	0.0418	0.00050 mg/L	0.0400		105	80-120			
Barium, total	0.0406	0.0050 mg/L	0.0400		102	80-120			
Beryllium, total	0.0410	0.00010 mg/L	0.0400		103	80-120			
Bismuth, total	0.0404	0.00010 mg/L	0.0400		101	80-120			
Boron, total	< 0.0500	0.0500 mg/L	0.0400		106	80-120			
Cadmium, total	0.0409	0.000010 mg/L	0.0400		102	80-120			
Calcium, total	4.11	0.20 mg/L	4.00		103	80-120			
Chromium, total	0.0420	0.00050 mg/L	0.0400		105	80-120			
Cobalt, total	0.0414	0.00010 mg/L	0.0400		103	80-120			
Copper, total	0.0416	0.00040 mg/L	0.0400		104	80-120			
Iron, total	4.22	0.010 mg/L	4.00		106	80-120			
Lead, total	0.0413	0.00020 mg/L	0.0400		103	80-120			
Lithium, total	0.0423	0.00010 mg/L	0.0400		106	80-120			
Magnesium, total	4.15	0.010 mg/L	4.00		104	80-120			
Manganese, total	0.0416	0.00020 mg/L	0.0400		104	80-120			
Molybdenum, total	0.0404	0.00010 mg/L	0.0400		101	80-120			
Nickel, total	0.0417	0.00040 mg/L	0.0400		104	80-120			
Phosphorus, total	4.15	0.050 mg/L	4.00		104	80-120			
Potassium, total	4.26	0.10 mg/L	4.00		106	80-120			
Selenium, total	0.0402	0.00050 mg/L	0.0400		100	80-120			



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

WORK ORDER REPORTED 2213957
2022-10-07 11:50

Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Total Metals, Batch B2J0481, Continued									
LCS (B2J0481-BS1), Continued					Prepared: 2022-10-05, Analyzed: 2022-10-06				
Silicon, total	4.1	1.0 mg/L	4.00		102	80-120			
Silver, total	0.0412	0.000050 mg/L	0.0400		103	80-120			
Sodium, total	4.11	0.10 mg/L	4.00		103	80-120			
Strontium, total	0.0421	0.0010 mg/L	0.0400		105	80-120			
Sulfur, total	41.5	3.0 mg/L	40.0		104	80-120			
Tellurium, total	0.0387	0.00050 mg/L	0.0400		97	80-120			
Thallium, total	0.0410	0.000020 mg/L	0.0400		102	80-120			
Thorium, total	0.0405	0.00010 mg/L	0.0400		101	80-120			
Tin, total	0.0411	0.00020 mg/L	0.0400		103	80-120			
Titanium, total	0.0406	0.0050 mg/L	0.0400		101	80-120			
Tungsten, total	0.0413	0.0002 mg/L	0.0400		103	80-120			
Uranium, total	0.0415	0.000020 mg/L	0.0400		104	80-120			
Vanadium, total	0.0413	0.0050 mg/L	0.0400		103	80-120			
Zinc, total	0.0400	0.0040 mg/L	0.0400		100	80-120			
Zirconium, total	0.0413	0.00010 mg/L	0.0400		103	80-120			



CERTIFICATE OF ANALYSIS

REPORTED TO Kelowna, City of
1435 Water Street
KELOWNA, BC V1Y 1J4

ATTENTION Jose Garcia

PO NUMBER 535828

PROJECT RBCF Ponds

PROJECT INFO

WORK ORDER 22J3243

RECEIVED / TEMP 2022-10-25 15:51 / 7.1°C

REPORTED 2022-11-02 14:58

COC NUMBER 44859.53218

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.

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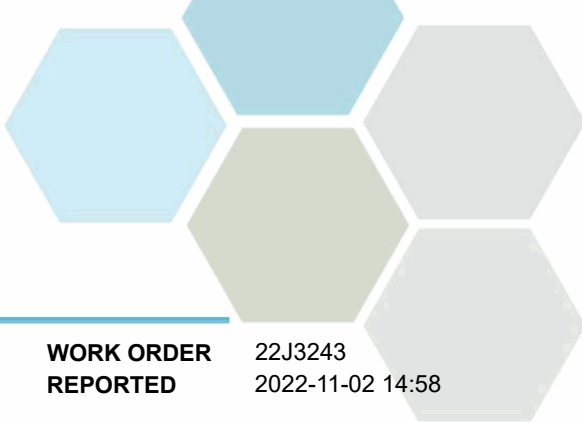
If you have any questions or concerns, please contact me at bwhitehead@caro.ca

Authorized By:

Brent Whitehead
Account Manager

1-888-311-8846 | www.caro.ca

#110 4011 Viking Way Richmond, BC V6V 2K9 | #102 3677 Highway 97N Kelowna, BC V1X 5C3 | 17225 109 Avenue Edmonton, AB T5S 1H7 | #108 4475 Wayburne Drive Burnaby, BC V5G 4X4



TEST RESULTS

REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

WORK ORDER REPORTED 22J3243
2022-11-02 14:58

Analyte	Result	RL	Units	Analyzed	Qualifier
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Rose's Pond (22J3243-01) | Matrix: Water | Sampled: 2022-10-25 11:15

Anions

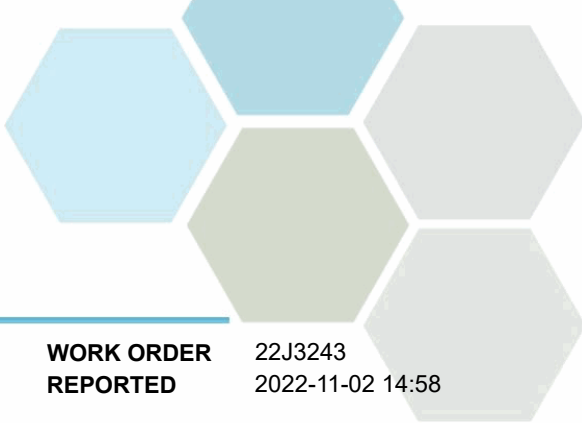
Chloride	443	0.10	mg/L	2022-10-27	
Nitrate (as N)	0.148	0.010	mg/L	2022-10-27	
Nitrite (as N)	< 0.100	0.010	mg/L	2022-10-27	RA1

Calculated Parameters

Hardness, Total (as CaCO3)	1380	1.00	mg/L	N/A	
Nitrate+Nitrite (as N)	0.148	0.100	mg/L	N/A	
Nitrogen, Total	1.94	0.100	mg/L	N/A	

Dissolved Metals

Aluminum, dissolved	< 0.0100	0.0050	mg/L	2022-10-30	RS1
Antimony, dissolved	< 0.00040	0.00020	mg/L	2022-10-30	RS1
Arsenic, dissolved	0.00393	0.00050	mg/L	2022-10-30	RS1
Barium, dissolved	0.0122	0.0050	mg/L	2022-10-30	RS1
Beryllium, dissolved	< 0.00020	0.00010	mg/L	2022-10-30	RS1
Bismuth, dissolved	< 0.00020	0.00010	mg/L	2022-10-30	RS1
Boron, dissolved	0.102	0.0500	mg/L	2022-10-30	RS1
Cadmium, dissolved	< 0.000020	0.000010	mg/L	2022-10-30	RS1
Calcium, dissolved	56.8	0.20	mg/L	2022-10-30	RS1
Chromium, dissolved	< 0.00100	0.00050	mg/L	2022-10-30	RS1
Cobalt, dissolved	< 0.00020	0.00010	mg/L	2022-10-30	RS1
Copper, dissolved	< 0.00080	0.00040	mg/L	2022-10-30	RS1
Iron, dissolved	< 0.020	0.010	mg/L	2022-10-30	RS1
Lead, dissolved	< 0.00040	0.00020	mg/L	2022-10-30	RS1
Lithium, dissolved	0.0491	0.00010	mg/L	2022-10-30	RS1
Magnesium, dissolved	300	0.010	mg/L	2022-10-30	RS1
Manganese, dissolved	0.116	0.00020	mg/L	2022-10-30	RS1
Mercury, dissolved	< 0.000010	0.000010	mg/L	2022-11-01	
Molybdenum, dissolved	0.00133	0.00010	mg/L	2022-10-30	RS1
Nickel, dissolved	< 0.00080	0.00040	mg/L	2022-10-30	RS1
Phosphorus, dissolved	< 0.100	0.050	mg/L	2022-10-30	RS1
Potassium, dissolved	88.4	0.10	mg/L	2022-10-30	RS1
Selenium, dissolved	< 0.00100	0.00050	mg/L	2022-10-30	RS1
Silicon, dissolved	< 2.0	1.0	mg/L	2022-10-30	RS1
Silver, dissolved	< 0.000100	0.000050	mg/L	2022-10-30	RS1
Sodium, dissolved	858	0.10	mg/L	2022-10-30	RS1
Strontium, dissolved	0.407	0.0010	mg/L	2022-10-30	RS1
Sulfur, dissolved	772	3.0	mg/L	2022-10-30	RS1
Tellurium, dissolved	< 0.00100	0.00050	mg/L	2022-10-30	RS1
Thallium, dissolved	< 0.000040	0.000020	mg/L	2022-10-30	RS1
Thorium, dissolved	< 0.00020	0.00010	mg/L	2022-10-30	RS1
Tin, dissolved	< 0.00040	0.00020	mg/L	2022-10-30	RS1
Titanium, dissolved	< 0.0100	0.0050	mg/L	2022-10-30	RS1
Tungsten, dissolved	< 0.0020	0.0010	mg/L	2022-10-30	RS1



TEST RESULTS

REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

WORK ORDER REPORTED 22J3243
2022-11-02 14:58

Analyte	Result	RL	Units	Analyzed	Qualifier
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Rose's Pond (22J3243-01) | Matrix: Water | Sampled: 2022-10-25 11:15, Continued

Dissolved Metals, Continued

Uranium, dissolved	0.00383	0.000020	mg/L	2022-10-30	RS1
Vanadium, dissolved	< 0.0100	0.0050	mg/L	2022-10-30	RS1
Zinc, dissolved	< 0.0080	0.0040	mg/L	2022-10-30	RS1
Zirconium, dissolved	< 0.00020	0.00010	mg/L	2022-10-30	RS1

General Parameters

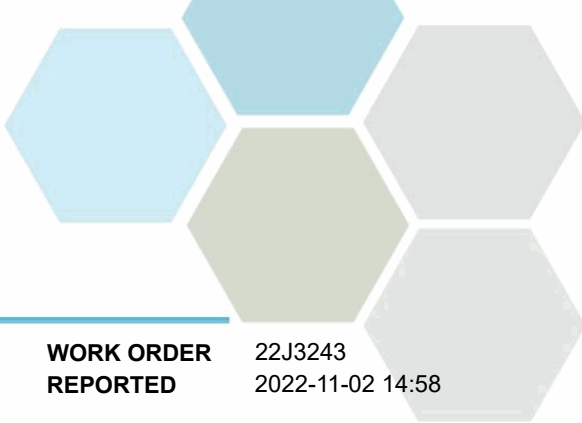
Ammonia, Total (as N)	< 0.050	0.050	mg/L	2022-10-26	
BOD, 5-day	< 6.8	2.0	mg/L	2022-10-31	
Carbon, Dissolved Organic	18.7	0.50	mg/L	2022-10-28	
Chemical Oxygen Demand	59	20	mg/L	2022-10-26	
Conductivity (EC)	5260	2.0	µS/cm	2022-10-29	
Nitrogen, Total Kjeldahl	1.79	0.050	mg/L	2022-10-30	
pH	8.62	0.10	pH units	2022-10-30	HT2
Phosphorus, Total (as P)	0.0411	0.0050	mg/L	2022-10-28	
Solids, Total Dissolved	4170	15	mg/L	2022-10-31	
Solids, Total Suspended	7.2	2.0	mg/L	2022-10-31	

Microbiological Parameters

Coliforms, Total (Q-Tray)	442	1	MPN/100 mL	2022-10-26	
E. coli (Q-Tray)	1	1	MPN/100 mL	2022-10-26	

Total Metals

Aluminum, total	< 0.0100	0.0050	mg/L	2022-11-01	RS1
Antimony, total	< 0.00040	0.00020	mg/L	2022-11-01	RS1
Arsenic, total	0.00394	0.00050	mg/L	2022-11-01	RS1
Barium, total	0.0122	0.0050	mg/L	2022-11-01	RS1
Beryllium, total	< 0.00020	0.00010	mg/L	2022-11-01	RS1
Bismuth, total	< 0.00020	0.00010	mg/L	2022-11-01	RS1
Boron, total	0.108	0.0500	mg/L	2022-11-01	RS1
Cadmium, total	< 0.000020	0.000010	mg/L	2022-11-01	RS1
Calcium, total	56.0	0.20	mg/L	2022-11-01	RS1
Chromium, total	< 0.00100	0.00050	mg/L	2022-11-01	RS1
Cobalt, total	< 0.00020	0.00010	mg/L	2022-11-01	RS1
Copper, total	< 0.00080	0.00040	mg/L	2022-11-01	RS1
Iron, total	< 0.020	0.010	mg/L	2022-11-01	RS1
Lead, total	< 0.00040	0.00020	mg/L	2022-11-01	RS1
Lithium, total	0.0498	0.00010	mg/L	2022-11-01	RS1
Magnesium, total	265	0.010	mg/L	2022-11-01	RS1
Manganese, total	0.169	0.00020	mg/L	2022-11-01	RS1
Mercury, total	< 0.000010	0.000010	mg/L	2022-11-02	
Molybdenum, total	0.00134	0.00010	mg/L	2022-11-01	RS1
Nickel, total	0.00089	0.00040	mg/L	2022-11-01	RS1
Phosphorus, total	< 0.100	0.050	mg/L	2022-11-01	RS1
Potassium, total	83.3	0.10	mg/L	2022-11-01	RS1



TEST RESULTS

REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

WORK ORDER REPORTED 22J3243
2022-11-02 14:58

Analyte	Result	RL	Units	Analyzed	Qualifier
Rose's Pond (22J3243-01) Matrix: Water Sampled: 2022-10-25 11:15, Continued					
<i>Total Metals, Continued</i>					
Selenium, total	< 0.00100	0.00050	mg/L	2022-11-01	RS1
Silicon, total	< 2.0	1.0	mg/L	2022-11-01	RS1
Silver, total	< 0.000100	0.000050	mg/L	2022-11-01	RS1
Sodium, total	798	0.10	mg/L	2022-11-01	RS1
Strontium, total	0.418	0.0010	mg/L	2022-11-01	RS1
Sulfur, total	773	3.0	mg/L	2022-11-01	RS1
Tellurium, total	< 0.00100	0.00050	mg/L	2022-11-01	RS1
Thallium, total	< 0.000040	0.000020	mg/L	2022-11-01	RS1
Thorium, total	< 0.00020	0.00010	mg/L	2022-11-01	RS1
Tin, total	< 0.00040	0.00020	mg/L	2022-11-01	RS1
Titanium, total	< 0.0100	0.0050	mg/L	2022-11-01	RS1
Tungsten, total	< 0.0004	0.0002	mg/L	2022-11-01	RS1
Uranium, total	0.00366	0.000020	mg/L	2022-11-01	RS1
Vanadium, total	< 0.0100	0.0050	mg/L	2022-11-01	RS1
Zinc, total	< 0.0080	0.0040	mg/L	2022-11-01	RS1
Zirconium, total	< 0.00020	0.00010	mg/L	2022-11-01	RS1

Drainage Pond (22J3243-02) | Matrix: Water | Sampled: 2022-10-25 11:45

Anions

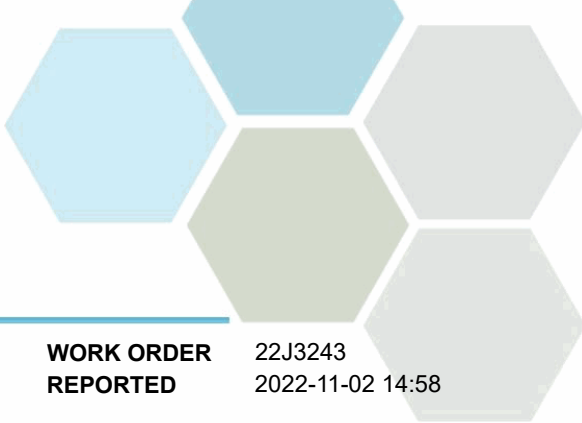
Chloride	92.9	0.10	mg/L	2022-10-27	
Nitrate (as N)	1.75	0.010	mg/L	2022-10-27	
Nitrite (as N)	0.177	0.010	mg/L	2022-10-27	

Calculated Parameters

Hardness, Total (as CaCO3)	227	0.500	mg/L	N/A	
Nitrate+Nitrite (as N)	1.93	0.0100	mg/L	N/A	
Nitrogen, Total	31.2	1.00	mg/L	N/A	

Dissolved Metals

Aluminum, dissolved	0.0489	0.0050	mg/L	2022-10-30	
Antimony, dissolved	0.00039	0.00020	mg/L	2022-10-30	
Arsenic, dissolved	0.00270	0.00050	mg/L	2022-10-30	
Barium, dissolved	0.0236	0.0050	mg/L	2022-10-30	
Beryllium, dissolved	< 0.00010	0.00010	mg/L	2022-10-30	
Bismuth, dissolved	0.00025	0.00010	mg/L	2022-10-30	
Boron, dissolved	0.208	0.0500	mg/L	2022-10-30	
Cadmium, dissolved	0.000054	0.000010	mg/L	2022-10-30	
Calcium, dissolved	53.6	0.20	mg/L	2022-10-30	
Chromium, dissolved	0.00104	0.00050	mg/L	2022-10-30	
Cobalt, dissolved	0.00064	0.00010	mg/L	2022-10-30	
Copper, dissolved	0.0144	0.00040	mg/L	2022-10-30	
Iron, dissolved	0.176	0.010	mg/L	2022-10-30	



TEST RESULTS

REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

WORK ORDER REPORTED 22J3243
2022-11-02 14:58

Analyte	Result	RL	Units	Analyzed	Qualifier
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Drainage Pond (22J3243-02) | Matrix: Water | Sampled: 2022-10-25 11:45, Continued

Dissolved Metals, Continued

Lead, dissolved	0.00038	0.00020	mg/L	2022-10-30	
Lithium, dissolved	0.0120	0.00010	mg/L	2022-10-30	
Magnesium, dissolved	22.6	0.010	mg/L	2022-10-30	
Manganese, dissolved	0.0919	0.00020	mg/L	2022-10-30	
Mercury, dissolved	< 0.000010	0.000010	mg/L	2022-11-01	
Molybdenum, dissolved	0.00372	0.00010	mg/L	2022-10-30	
Nickel, dissolved	0.00267	0.00040	mg/L	2022-10-30	
Phosphorus, dissolved	6.79	0.050	mg/L	2022-10-30	
Potassium, dissolved	35.6	0.10	mg/L	2022-10-30	
Selenium, dissolved	0.00073	0.00050	mg/L	2022-10-30	
Silicon, dissolved	3.7	1.0	mg/L	2022-10-30	
Silver, dissolved	< 0.000050	0.000050	mg/L	2022-10-30	
Sodium, dissolved	86.5	0.10	mg/L	2022-10-30	
Strontium, dissolved	0.499	0.0010	mg/L	2022-10-30	
Sulfur, dissolved	32.9	3.0	mg/L	2022-10-30	
Tellurium, dissolved	< 0.00050	0.00050	mg/L	2022-10-30	
Thallium, dissolved	< 0.000020	0.000020	mg/L	2022-10-30	
Thorium, dissolved	< 0.00010	0.00010	mg/L	2022-10-30	
Tin, dissolved	0.00050	0.00020	mg/L	2022-10-30	
Titanium, dissolved	< 0.0050	0.0050	mg/L	2022-10-30	
Tungsten, dissolved	< 0.0010	0.0010	mg/L	2022-10-30	
Uranium, dissolved	0.00141	0.000020	mg/L	2022-10-30	
Vanadium, dissolved	< 0.0050	0.0050	mg/L	2022-10-30	
Zinc, dissolved	0.0415	0.0040	mg/L	2022-10-30	
Zirconium, dissolved	0.00026	0.00010	mg/L	2022-10-30	

General Parameters

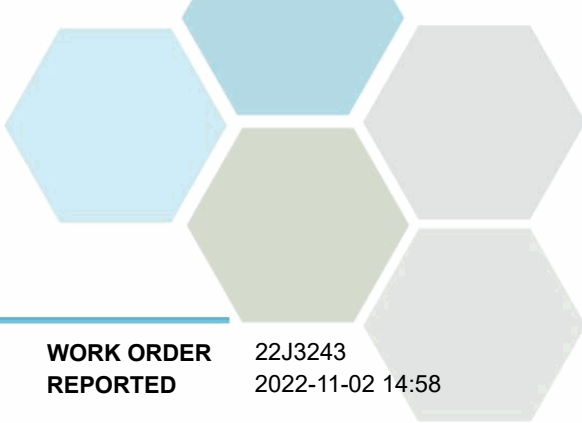
Ammonia, Total (as N)	17.4	0.050	mg/L	2022-10-26	
BOD, 5-day	13.8	2.0	mg/L	2022-10-31	
Carbon, Dissolved Organic	38.8	0.50	mg/L	2022-10-28	
Chemical Oxygen Demand	198	20	mg/L	2022-10-26	
Conductivity (EC)	1060	2.0	µS/cm	2022-10-29	
Nitrogen, Total Kjeldahl	29.3	0.050	mg/L	2022-10-30	
pH	8.13	0.10	pH units	2022-10-30	HT2
Phosphorus, Total (as P)	6.97	0.0050	mg/L	2022-10-28	
Solids, Total Dissolved	661	15	mg/L	2022-10-31	
Solids, Total Suspended	5.3	2.0	mg/L	2022-10-30	

Microbiological Parameters

Coliforms, Total (Q-Tray)	105000	1	MPN/100 mL	2022-10-26	
E. coli (Q-Tray)	589	1	MPN/100 mL	2022-10-26	

Total Metals

Aluminum, total	0.117	0.0050	mg/L	2022-11-01	
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TEST RESULTS

REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

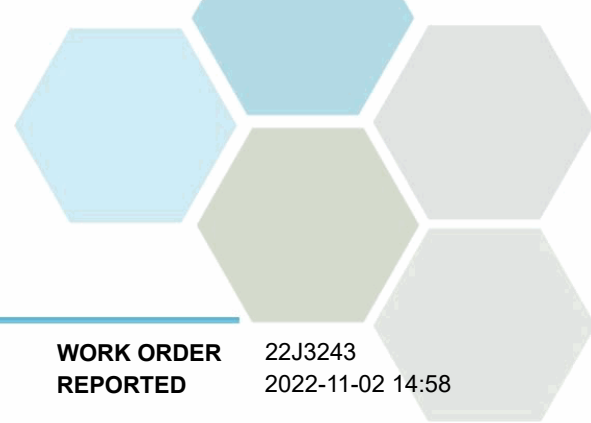
WORK ORDER REPORTED 22J3243
2022-11-02 14:58

Analyte	Result	RL	Units	Analyzed	Qualifier
Drainage Pond (22J3243-02) Matrix: Water Sampled: 2022-10-25 11:45, Continued					
<i>Total Metals, Continued</i>					
Antimony, total	0.00041	0.00020	mg/L	2022-11-01	
Arsenic, total	0.00288	0.00050	mg/L	2022-11-01	
Barium, total	0.0308	0.0050	mg/L	2022-11-01	
Beryllium, total	< 0.00010	0.00010	mg/L	2022-11-01	
Bismuth, total	0.00053	0.00010	mg/L	2022-11-01	
Boron, total	0.215	0.0500	mg/L	2022-11-01	
Cadmium, total	0.000093	0.000010	mg/L	2022-11-01	
Calcium, total	54.1	0.20	mg/L	2022-11-01	
Chromium, total	0.00123	0.00050	mg/L	2022-11-01	
Cobalt, total	0.00079	0.00010	mg/L	2022-11-01	
Copper, total	0.0245	0.00040	mg/L	2022-11-01	
Iron, total	0.324	0.010	mg/L	2022-11-01	
Lead, total	0.00061	0.00020	mg/L	2022-11-01	
Lithium, total	0.0115	0.00010	mg/L	2022-11-01	
Magnesium, total	21.5	0.010	mg/L	2022-11-01	
Manganese, total	0.117	0.00020	mg/L	2022-11-01	
Mercury, total	< 0.000010	0.000010	mg/L	2022-11-02	
Molybdenum, total	0.00399	0.00010	mg/L	2022-11-01	
Nickel, total	0.00340	0.00040	mg/L	2022-11-01	
Phosphorus, total	7.11	0.050	mg/L	2022-11-01	
Potassium, total	34.6	0.10	mg/L	2022-11-01	
Selenium, total	0.00097	0.00050	mg/L	2022-11-01	
Silicon, total	3.5	1.0	mg/L	2022-11-01	
Silver, total	0.000066	0.000050	mg/L	2022-11-01	
Sodium, total	85.9	0.10	mg/L	2022-11-01	
Strontium, total	0.543	0.0010	mg/L	2022-11-01	
Sulfur, total	32.9	3.0	mg/L	2022-11-01	
Tellurium, total	< 0.00050	0.00050	mg/L	2022-11-01	
Thallium, total	< 0.000020	0.000020	mg/L	2022-11-01	
Thorium, total	< 0.00010	0.00010	mg/L	2022-11-01	
Tin, total	0.00088	0.00020	mg/L	2022-11-01	
Titanium, total	< 0.0050	0.0050	mg/L	2022-11-01	
Tungsten, total	0.0002	0.0002	mg/L	2022-11-01	
Uranium, total	0.00147	0.000020	mg/L	2022-11-01	
Vanadium, total	< 0.0050	0.0050	mg/L	2022-11-01	
Zinc, total	0.0561	0.0040	mg/L	2022-11-01	
Zirconium, total	0.00031	0.00010	mg/L	2022-11-01	

Davidson Pond (22J3243-03) | Matrix: Water | Sampled: 2022-10-25 10:45

Anions

Chloride	367	0.10	mg/L	2022-10-27	
Nitrate (as N)	0.157	0.010	mg/L	2022-10-27	



TEST RESULTS

REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

WORK ORDER REPORTED 22J3243
2022-11-02 14:58

Analyte	Result	RL	Units	Analyzed	Qualifier
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Davidson Pond (22J3243-03) | Matrix: Water | Sampled: 2022-10-25 10:45, Continued

Anions, Continued

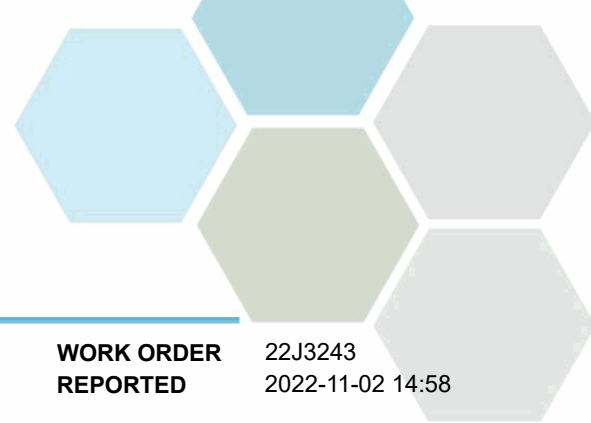
Nitrite (as N)	< 0.010	0.010	mg/L	2022-10-27	
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Calculated Parameters

Hardness, Total (as CaCO3)	793	1.00	mg/L	N/A	
Nitrate+Nitrite (as N)	0.157	0.100	mg/L	N/A	
Nitrogen, Total	3.14	0.100	mg/L	N/A	

Dissolved Metals

Aluminum, dissolved	< 0.0100	0.0050	mg/L	2022-10-30	RS1
Antimony, dissolved	0.00052	0.00020	mg/L	2022-10-30	RS1
Arsenic, dissolved	0.00494	0.00050	mg/L	2022-10-30	RS1
Barium, dissolved	0.0113	0.0050	mg/L	2022-10-30	RS1
Beryllium, dissolved	< 0.00020	0.00010	mg/L	2022-10-30	RS1
Bismuth, dissolved	< 0.00020	0.00010	mg/L	2022-10-30	RS1
Boron, dissolved	< 0.100	0.0500	mg/L	2022-10-30	RS1
Cadmium, dissolved	< 0.000020	0.000010	mg/L	2022-10-30	RS1
Calcium, dissolved	71.6	0.20	mg/L	2022-10-30	RS1
Chromium, dissolved	< 0.00100	0.00050	mg/L	2022-10-30	RS1
Cobalt, dissolved	< 0.00020	0.00010	mg/L	2022-10-30	RS1
Copper, dissolved	0.00136	0.00040	mg/L	2022-11-02	RE2, RS1
Iron, dissolved	0.021	0.010	mg/L	2022-10-30	RS1
Lead, dissolved	< 0.00040	0.00020	mg/L	2022-10-30	RS1
Lithium, dissolved	0.0548	0.00010	mg/L	2022-10-30	RS1
Magnesium, dissolved	149	0.010	mg/L	2022-10-30	RS1
Manganese, dissolved	0.265	0.00020	mg/L	2022-10-30	RS1
Mercury, dissolved	< 0.000010	0.000010	mg/L	2022-11-01	
Molybdenum, dissolved	0.00153	0.00010	mg/L	2022-10-30	RS1
Nickel, dissolved	0.00159	0.00040	mg/L	2022-10-30	RS1
Phosphorus, dissolved	0.124	0.050	mg/L	2022-10-30	RS1
Potassium, dissolved	55.0	0.10	mg/L	2022-10-30	RS1
Selenium, dissolved	< 0.00100	0.00050	mg/L	2022-10-30	RS1
Silicon, dissolved	5.1	1.0	mg/L	2022-10-30	RS1
Silver, dissolved	< 0.000100	0.000050	mg/L	2022-10-30	RS1
Sodium, dissolved	677	0.10	mg/L	2022-10-30	RS1
Strontium, dissolved	0.968	0.0010	mg/L	2022-10-30	RS1
Sulfur, dissolved	505	3.0	mg/L	2022-10-30	RS1
Tellurium, dissolved	< 0.00100	0.00050	mg/L	2022-10-30	RS1
Thallium, dissolved	< 0.000040	0.000020	mg/L	2022-10-30	RS1
Thorium, dissolved	< 0.00020	0.00010	mg/L	2022-10-30	RS1
Tin, dissolved	< 0.00040	0.00020	mg/L	2022-10-30	RS1
Titanium, dissolved	< 0.0100	0.0050	mg/L	2022-10-30	RS1
Tungsten, dissolved	< 0.0020	0.0010	mg/L	2022-10-30	RS1
Uranium, dissolved	0.00779	0.000020	mg/L	2022-10-30	RS1
Vanadium, dissolved	< 0.0100	0.0050	mg/L	2022-10-30	RS1



TEST RESULTS

REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

WORK ORDER REPORTED 22J3243
2022-11-02 14:58

Analyte	Result	RL	Units	Analyzed	Qualifier
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Davidson Pond (22J3243-03) | Matrix: Water | Sampled: 2022-10-25 10:45, Continued

Dissolved Metals, Continued

Zinc, dissolved	< 0.0080	0.0040	mg/L	2022-10-30	RS1
Zirconium, dissolved	0.00026	0.00010	mg/L	2022-11-02	RS1

General Parameters

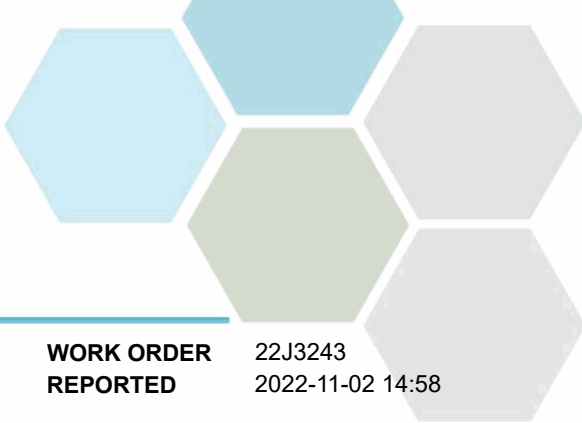
Ammonia, Total (as N)	0.631	0.050	mg/L	2022-10-26	
BOD, 5-day	9.2	2.0	mg/L	2022-10-31	
Carbon, Dissolved Organic	26.5	0.50	mg/L	2022-10-28	
Chemical Oxygen Demand	86	20	mg/L	2022-10-26	
Conductivity (EC)	4010	2.0	µS/cm	2022-10-29	
Nitrogen, Total Kjeldahl	2.98	0.050	mg/L	2022-10-30	
pH	8.45	0.10	pH units	2022-10-30	HT2
Phosphorus, Total (as P)	0.138	0.0050	mg/L	2022-10-28	
Solids, Total Dissolved	2920	15	mg/L	2022-10-31	
Solids, Total Suspended	< 3.3	2.0	mg/L	2022-10-30	

Microbiological Parameters

Coliforms, Total (Q-Tray)	339	1	MPN/100 mL	2022-10-26	
E. coli (Q-Tray)	2	1	MPN/100 mL	2022-10-26	

Total Metals

Aluminum, total	0.0204	0.0050	mg/L	2022-11-01	RS1
Antimony, total	0.00055	0.00020	mg/L	2022-11-01	RS1
Arsenic, total	0.00501	0.00050	mg/L	2022-11-01	RS1
Barium, total	0.0110	0.0050	mg/L	2022-11-01	RS1
Beryllium, total	< 0.00020	0.00010	mg/L	2022-11-01	RS1
Bismuth, total	< 0.00020	0.00010	mg/L	2022-11-01	RS1
Boron, total	< 0.100	0.0500	mg/L	2022-11-01	RS1
Cadmium, total	< 0.000020	0.000010	mg/L	2022-11-01	RS1
Calcium, total	69.0	0.20	mg/L	2022-11-01	RS1
Chromium, total	< 0.00100	0.00050	mg/L	2022-11-01	RS1
Cobalt, total	< 0.00020	0.00010	mg/L	2022-11-01	RS1
Copper, total	< 0.00080	0.00040	mg/L	2022-11-01	RS1
Iron, total	0.047	0.010	mg/L	2022-11-01	RS1
Lead, total	< 0.00040	0.00020	mg/L	2022-11-01	RS1
Lithium, total	0.0532	0.00010	mg/L	2022-11-01	RS1
Magnesium, total	133	0.010	mg/L	2022-11-01	RS1
Manganese, total	0.267	0.00020	mg/L	2022-11-01	RS1
Mercury, total	< 0.000010	0.000010	mg/L	2022-11-02	
Molybdenum, total	0.00146	0.00010	mg/L	2022-11-01	RS1
Nickel, total	0.00164	0.00040	mg/L	2022-11-01	RS1
Phosphorus, total	0.152	0.050	mg/L	2022-11-01	RS1
Potassium, total	52.8	0.10	mg/L	2022-11-01	RS1
Selenium, total	< 0.00100	0.00050	mg/L	2022-11-01	RS1
Silicon, total	4.8	1.0	mg/L	2022-11-01	RS1



TEST RESULTS

REPORTED TO PROJECT Kelowna, City of RBCF Ponds

WORK ORDER REPORTED 22J3243
2022-11-02 14:58

Analyte	Result	RL	Units	Analyzed	Qualifier
Davidson Pond (22J3243-03) Matrix: Water Sampled: 2022-10-25 10:45, Continued					
<i>Total Metals, Continued</i>					
Silver, total	< 0.000100	0.000050	mg/L	2022-11-01	RS1
Sodium, total	648	0.10	mg/L	2022-11-01	RS1
Strontium, total	1.04	0.0010	mg/L	2022-11-01	RS1
Sulfur, total	498	3.0	mg/L	2022-11-01	RS1
Tellurium, total	< 0.00100	0.00050	mg/L	2022-11-01	RS1
Thallium, total	< 0.000040	0.000020	mg/L	2022-11-01	RS1
Thorium, total	< 0.00020	0.00010	mg/L	2022-11-01	RS1
Tin, total	< 0.00040	0.00020	mg/L	2022-11-01	RS1
Titanium, total	< 0.0100	0.0050	mg/L	2022-11-01	RS1
Tungsten, total	< 0.0004	0.0002	mg/L	2022-11-01	RS1
Uranium, total	0.00768	0.000020	mg/L	2022-11-01	RS1
Vanadium, total	< 0.0100	0.0050	mg/L	2022-11-01	RS1
Zinc, total	< 0.0080	0.0040	mg/L	2022-11-01	RS1
Zirconium, total	0.00022	0.00010	mg/L	2022-11-01	RS1

DUP 3 (22J3243-04) | Matrix: Water | Sampled: 2022-10-25 11:45

Anions

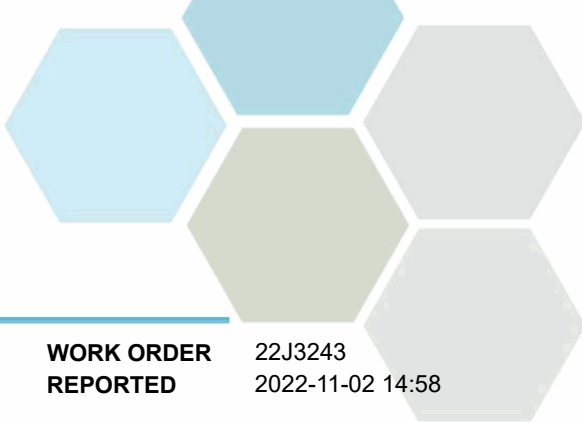
Chloride	95.0	0.10	mg/L	2022-10-27	
Nitrate (as N)	1.76	0.010	mg/L	2022-10-27	
Nitrite (as N)	0.182	0.010	mg/L	2022-10-27	

Calculated Parameters

Hardness, Total (as CaCO3)	227	0.500	mg/L	N/A	
Nitrate+Nitrite (as N)	1.94	0.0100	mg/L	N/A	
Nitrogen, Total	33.3	1.00	mg/L	N/A	

Dissolved Metals

Aluminum, dissolved	0.0587	0.0050	mg/L	2022-10-30	
Antimony, dissolved	0.00036	0.00020	mg/L	2022-10-30	
Arsenic, dissolved	0.00278	0.00050	mg/L	2022-10-30	
Barium, dissolved	0.0244	0.0050	mg/L	2022-10-30	
Beryllium, dissolved	< 0.00010	0.00010	mg/L	2022-10-30	
Bismuth, dissolved	0.00030	0.00010	mg/L	2022-10-30	
Boron, dissolved	0.206	0.0500	mg/L	2022-10-30	
Cadmium, dissolved	0.000068	0.000010	mg/L	2022-10-30	
Calcium, dissolved	54.1	0.20	mg/L	2022-10-30	
Chromium, dissolved	0.00108	0.00050	mg/L	2022-10-30	
Cobalt, dissolved	0.00067	0.00010	mg/L	2022-10-30	
Copper, dissolved	0.0152	0.00040	mg/L	2022-10-30	
Iron, dissolved	0.203	0.010	mg/L	2022-10-30	
Lead, dissolved	0.00037	0.00020	mg/L	2022-10-30	
Lithium, dissolved	0.0117	0.00010	mg/L	2022-10-30	



TEST RESULTS

REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

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Analyte	Result	RL	Units	Analyzed	Qualifier
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DUP 3 (22J3243-04) | Matrix: Water | Sampled: 2022-10-25 11:45, Continued

Dissolved Metals, Continued

Magnesium, dissolved	22.3	0.010	mg/L	2022-10-30	
Manganese, dissolved	0.0946	0.00020	mg/L	2022-10-30	
Mercury, dissolved	< 0.000010	0.000010	mg/L	2022-11-01	
Molybdenum, dissolved	0.00374	0.00010	mg/L	2022-10-30	
Nickel, dissolved	0.00294	0.00040	mg/L	2022-10-30	
Phosphorus, dissolved	6.71	0.050	mg/L	2022-10-30	
Potassium, dissolved	34.9	0.10	mg/L	2022-10-30	
Selenium, dissolved	0.00077	0.00050	mg/L	2022-10-30	
Silicon, dissolved	3.7	1.0	mg/L	2022-10-30	
Silver, dissolved	< 0.000050	0.000050	mg/L	2022-10-30	
Sodium, dissolved	85.5	0.10	mg/L	2022-10-30	
Strontium, dissolved	0.499	0.0010	mg/L	2022-10-30	
Sulfur, dissolved	33.0	3.0	mg/L	2022-10-30	
Tellurium, dissolved	< 0.00050	0.00050	mg/L	2022-10-30	
Thallium, dissolved	< 0.000020	0.000020	mg/L	2022-10-30	
Thorium, dissolved	< 0.00010	0.00010	mg/L	2022-10-30	
Tin, dissolved	0.00052	0.00020	mg/L	2022-10-30	
Titanium, dissolved	< 0.0050	0.0050	mg/L	2022-10-30	
Tungsten, dissolved	< 0.0010	0.0010	mg/L	2022-10-30	
Uranium, dissolved	0.00141	0.000020	mg/L	2022-10-30	
Vanadium, dissolved	< 0.0050	0.0050	mg/L	2022-10-30	
Zinc, dissolved	0.0445	0.0040	mg/L	2022-10-30	
Zirconium, dissolved	0.00028	0.00010	mg/L	2022-10-30	

General Parameters

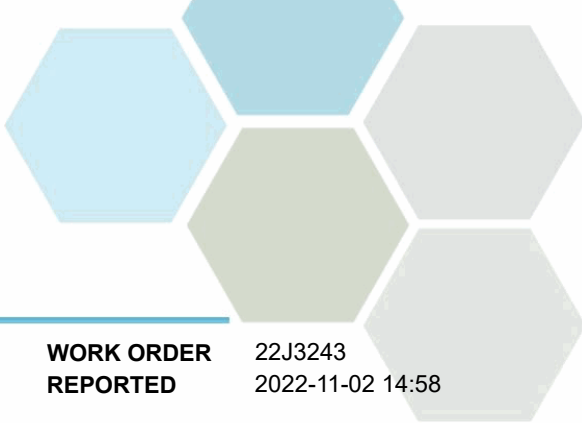
Ammonia, Total (as N)	17.1	0.050	mg/L	2022-10-26	
BOD, 5-day	15.2	2.0	mg/L	2022-10-31	
Carbon, Dissolved Organic	40.8	0.50	mg/L	2022-10-28	
Chemical Oxygen Demand	202	20	mg/L	2022-10-26	
Conductivity (EC)	1060	2.0	µS/cm	2022-10-29	
Nitrogen, Total Kjeldahl	31.3	0.050	mg/L	2022-10-30	
pH	8.12	0.10	pH units	2022-10-30	HT2
Phosphorus, Total (as P)	6.91	0.0050	mg/L	2022-10-28	
Solids, Total Dissolved	672	15	mg/L	2022-10-31	
Solids, Total Suspended	4.7	2.0	mg/L	2022-10-30	

Microbiological Parameters

Coliforms, Total (Q-Tray)	155000	1	MPN/100 mL	2022-10-26	
E. coli (Q-Tray)	727	1	MPN/100 mL	2022-10-26	

Total Metals

Aluminum, total	0.121	0.0050	mg/L	2022-11-01	
Antimony, total	0.00041	0.00020	mg/L	2022-11-01	
Arsenic, total	0.00288	0.00050	mg/L	2022-11-01	



TEST RESULTS

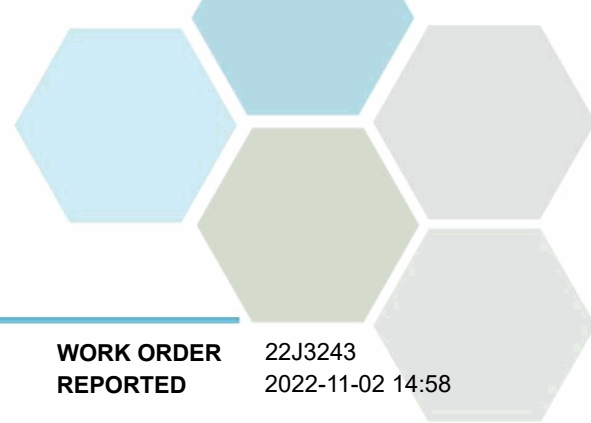
REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

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Analyte	Result	RL	Units	Analyzed	Qualifier
DUP 3 (22J3243-04) Matrix: Water Sampled: 2022-10-25 11:45, Continued					
<i>Total Metals, Continued</i>					
Barium, total	0.0311	0.0050	mg/L	2022-11-01	
Beryllium, total	< 0.00010	0.00010	mg/L	2022-11-01	
Bismuth, total	0.00057	0.00010	mg/L	2022-11-01	
Boron, total	0.219	0.0500	mg/L	2022-11-01	
Cadmium, total	0.000107	0.000010	mg/L	2022-11-01	
Calcium, total	54.0	0.20	mg/L	2022-11-01	
Chromium, total	0.00141	0.00050	mg/L	2022-11-01	
Cobalt, total	0.00080	0.00010	mg/L	2022-11-01	
Copper, total	0.0262	0.00040	mg/L	2022-11-01	
Iron, total	0.328	0.010	mg/L	2022-11-01	
Lead, total	0.00062	0.00020	mg/L	2022-11-01	
Lithium, total	0.0117	0.00010	mg/L	2022-11-01	
Magnesium, total	21.7	0.010	mg/L	2022-11-01	
Manganese, total	0.119	0.00020	mg/L	2022-11-01	
Mercury, total	< 0.000010	0.000010	mg/L	2022-11-02	
Molybdenum, total	0.00397	0.00010	mg/L	2022-11-01	
Nickel, total	0.00354	0.00040	mg/L	2022-11-01	
Phosphorus, total	7.14	0.050	mg/L	2022-11-01	
Potassium, total	34.7	0.10	mg/L	2022-11-01	
Selenium, total	0.00101	0.00050	mg/L	2022-11-01	
Silicon, total	3.5	1.0	mg/L	2022-11-01	
Silver, total	0.000073	0.000050	mg/L	2022-11-01	
Sodium, total	87.1	0.10	mg/L	2022-11-01	
Strontium, total	0.557	0.0010	mg/L	2022-11-01	
Sulfur, total	33.4	3.0	mg/L	2022-11-01	
Tellurium, total	< 0.00050	0.00050	mg/L	2022-11-01	
Thallium, total	< 0.000020	0.000020	mg/L	2022-11-01	
Thorium, total	< 0.00010	0.00010	mg/L	2022-11-01	
Tin, total	0.00093	0.00020	mg/L	2022-11-01	
Titanium, total	0.0055	0.0050	mg/L	2022-11-01	
Tungsten, total	0.0002	0.0002	mg/L	2022-11-01	
Uranium, total	0.00153	0.000020	mg/L	2022-11-01	
Vanadium, total	< 0.0050	0.0050	mg/L	2022-11-01	
Zinc, total	0.0570	0.0040	mg/L	2022-11-01	
Zirconium, total	0.00029	0.00010	mg/L	2022-11-01	

Sample Qualifiers:

- HT2 The 15 minute recommended holding time (from sampling to analysis) has been exceeded - field analysis is recommended.
- RA1 The Reporting Limit has been raised due to matrix interference.
- RE2 Result was confirmed by re-analysis prior to reporting.
- RS1 The Reporting Limits for this sample have been raised due to high analyte concentration and/or matrix interference.



APPENDIX 1: SUPPORTING INFORMATION

REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

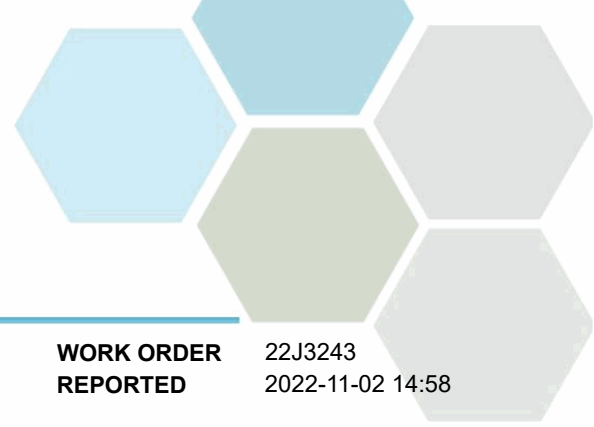
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Analysis Description	Method Ref.	Technique	Accredited	Location
Ammonia, Total in Water	SM 4500-NH3 G* (2017)	Automated Colorimetry (Phenate)	✓	Kelowna
Anions in Water	SM 4110 B (2017)	Ion Chromatography	✓	Kelowna
Biochemical Oxygen Demand in Water	SM 5210 B (2017)	Dissolved Oxygen Meter	✓	Kelowna
Carbon, Dissolved Organic in Water	SM 5310 B (2017)	Combustion, Infrared CO2 Detection	✓	Kelowna
Chemical Oxygen Demand in Water	SM 5220 D* (2017)	Closed Reflux, Colorimetry	✓	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
Dissolved Metals in Water	EPA 200.8 / EPA 6020B	0.45 µm Filtration / Inductively Coupled Plasma-Mass Spectroscopy (ICP-MS)	✓	Richmond
E. coli in Water	NA / SM 9223 (2017)	Quanti-Tray / Enzyme Substrate Endo Agar	✓	Kelowna
Hardness in Water	SM 2340 B (2017)	Calculation: 2.497 [diss Ca] + 4.118 [diss Mg]	✓	N/A
Mercury, dissolved in Water	EPA 245.7*	BrCl2 Oxidation / Cold Vapor Atomic Fluorescence Spectrometry (CVAFS)	✓	Richmond
Mercury, total in Water	EPA 245.7*	BrCl2 Oxidation / Cold Vapor Atomic Fluorescence Spectrometry (CVAFS)	✓	Richmond
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
Phosphorus, Total in Water	SM 4500-P B.5* (2011) / SM 4500-P F (2017)	Persulfate Digestion / Automated Colorimetry (Ascorbic Acid)	✓	Kelowna
Solids, Total Dissolved in Water	Solids in Water, Filtered / SM 2540 C* (2017)	Solids in Water, Filtered / Gravimetry (Dried at 103-105C)	✓	Kelowna
Solids, Total Suspended in Water	Solids in Water, Filtered / SM 2540 D* (2017)	Solids in Water, Filtered / Gravimetry (Dried at 103-105C)	✓	Kelowna
Total Metals in Water	EPA 200.2 / EPA 6020B	HNO3+HCl Hot Block Digestion / Inductively Coupled Plasma-Mass Spectroscopy (ICP-MS)	✓	Richmond

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
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
EPA	United States Environmental Protection Agency Test Methods
SM	Standard Methods for the Examination of Water and Wastewater, American Public Health Association



APPENDIX 1: SUPPORTING INFORMATION

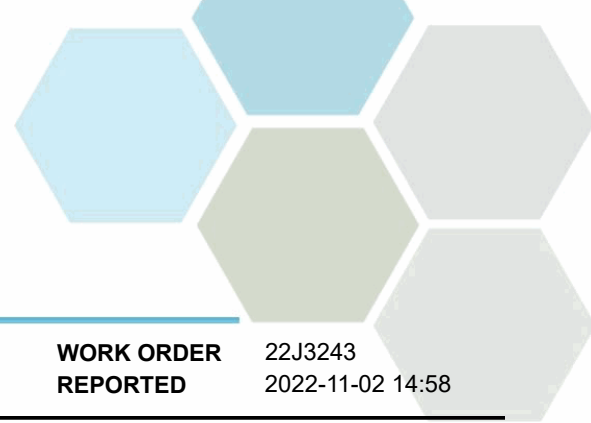
REPORTED TO Kelowna, City of
PROJECT RBCF Ponds

WORK ORDER 22J3243
REPORTED 2022-11-02 14:58

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 or once samples expire, whichever comes first. Longer hold is possible if agreed to in writing.

Please note any regulatory guidelines applied to this report are added as a convenience to the client, at their request, to help provide some initial context to analytical results obtained. Although CARO makes every effort to ensure accuracy of the associated regulatory guideline(s) applied, the guidelines applied cannot be assumed to be correct due to a variety of factors and as such CARO Analytical Services assumes no liability or responsibility for the use of those guidelines to make any decisions. The original source of the regulation should be verified and a review of the guideline(s) should be validated as correct in order to make any decisions arising from the comparison of the analytical data obtained to the relevant regulatory guideline for one's particular circumstances. Further, CARO Analytical Services assumes no liability or responsibility for any loss attributed from the use of these guidelines in any way.



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

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The following section displays the quality control (QC) data that is associated with your sample data. Groups of samples are prepared in "batches" and analyzed in conjunction with QC samples that ensure your data is of the highest quality. Common QC types include:

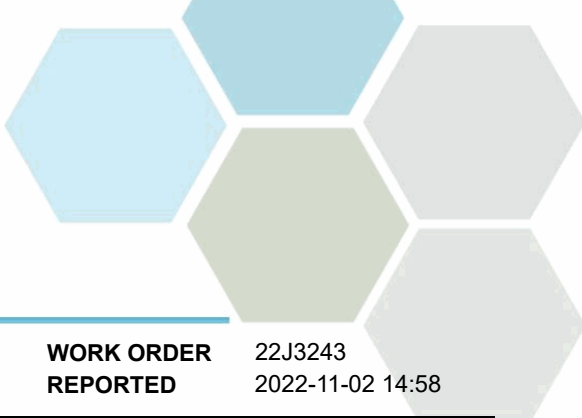
- **Method Blank (Blk):** A blank sample that undergoes sample processing identical to that carried out for the test samples. Method blank results are used to assess contamination from the laboratory environment and reagents.
- **Duplicate (Dup):** An additional or second portion of a randomly selected sample in the analytical run carried through the entire analytical process. Duplicates provide a measure of the analytical method's precision (reproducibility).
- **Blank Spike (BS):** A sample of known concentration which undergoes processing identical to that carried out for test samples, also referred to as a laboratory control sample (LCS). Blank spikes provide a measure of the analytical method's accuracy.
- **Matrix Spike (MS):** A second aliquot of sample is fortified with a known concentration of target analytes and carried through the entire analytical process. Matrix spikes evaluate potential matrix effects that may affect the analyte recovery.
- **Reference Material (SRM):** A homogenous material of similar matrix to the samples, certified for the parameter(s) listed. Reference Materials ensure that the analytical process is adequate to achieve acceptable recoveries of the parameter(s) tested.

Each QC type is analyzed at a 5-10% frequency, i.e. one blank/duplicate/spike for every 10-20 samples. For all types of QC, the specified recovery (% Rec) and relative percent difference (RPD) limits are derived from long-term method performance averages and/or prescribed by the reference method.

Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Anions, Batch B2J3015									
Blank (B2J3015-BLK1)			Prepared: 2022-10-26, Analyzed: 2022-10-26						
Chloride	< 0.10	0.10 mg/L							
Nitrate (as N)	< 0.010	0.010 mg/L							
Nitrite (as N)	< 0.010	0.010 mg/L							
Blank (B2J3015-BLK2)			Prepared: 2022-10-26, Analyzed: 2022-10-26						
Chloride	< 0.10	0.10 mg/L							
Nitrate (as N)	< 0.010	0.010 mg/L							
Nitrite (as N)	< 0.010	0.010 mg/L							
LCS (B2J3015-BS1)			Prepared: 2022-10-26, Analyzed: 2022-10-26						
Chloride	15.6	0.10 mg/L	16.0		97	90-110			
Nitrate (as N)	4.08	0.010 mg/L	4.00		102	90-110			
Nitrite (as N)	1.94	0.010 mg/L	2.00		97	85-115			
LCS (B2J3015-BS2)			Prepared: 2022-10-26, Analyzed: 2022-10-26						
Chloride	15.6	0.10 mg/L	16.0		98	90-110			
Nitrate (as N)	4.07	0.010 mg/L	4.00		102	90-110			
Nitrite (as N)	1.95	0.010 mg/L	2.00		98	85-115			

Dissolved Metals, Batch B2J3474

Blank (B2J3474-BLK1)			Prepared: 2022-10-30, Analyzed: 2022-10-30						
Aluminum, dissolved	< 0.0050	0.0050 mg/L							
Antimony, dissolved	< 0.00020	0.00020 mg/L							
Arsenic, dissolved	< 0.00050	0.00050 mg/L							
Barium, dissolved	< 0.0050	0.0050 mg/L							
Beryllium, dissolved	< 0.00010	0.00010 mg/L							
Bismuth, dissolved	< 0.00010	0.00010 mg/L							
Boron, dissolved	< 0.0500	0.0500 mg/L							
Cadmium, dissolved	< 0.000010	0.000010 mg/L							
Calcium, dissolved	< 0.20	0.20 mg/L							
Chromium, dissolved	< 0.00050	0.00050 mg/L							
Cobalt, dissolved	< 0.00010	0.00010 mg/L							
Copper, dissolved	< 0.00040	0.00040 mg/L							
Iron, dissolved	< 0.010	0.010 mg/L							
Lead, dissolved	< 0.00020	0.00020 mg/L							



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Kelowna, City of
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Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
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Dissolved Metals, Batch B2J3474, Continued

Blank (B2J3474-BLK1), Continued

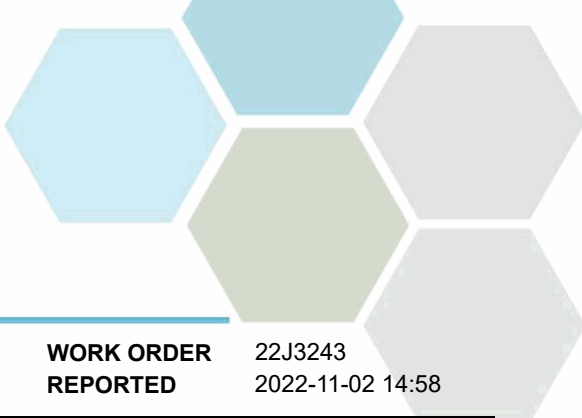
Prepared: 2022-10-30, Analyzed: 2022-10-30

Lithium, dissolved	< 0.00010	0.00010 mg/L							
Magnesium, dissolved	< 0.010	0.010 mg/L							
Manganese, dissolved	< 0.00020	0.00020 mg/L							
Molybdenum, dissolved	< 0.00010	0.00010 mg/L							
Nickel, dissolved	< 0.00040	0.00040 mg/L							
Phosphorus, dissolved	< 0.050	0.050 mg/L							
Potassium, dissolved	< 0.10	0.10 mg/L							
Selenium, dissolved	< 0.00050	0.00050 mg/L							
Silicon, dissolved	< 1.0	1.0 mg/L							
Silver, dissolved	< 0.000050	0.000050 mg/L							
Sodium, dissolved	< 0.10	0.10 mg/L							
Strontium, dissolved	< 0.0010	0.0010 mg/L							
Sulfur, dissolved	< 3.0	3.0 mg/L							
Tellurium, dissolved	< 0.00050	0.00050 mg/L							
Thallium, dissolved	< 0.000020	0.000020 mg/L							
Thorium, dissolved	< 0.00010	0.00010 mg/L							
Tin, dissolved	< 0.00020	0.00020 mg/L							
Titanium, dissolved	< 0.0050	0.0050 mg/L							
Tungsten, dissolved	< 0.0010	0.0010 mg/L							
Uranium, dissolved	< 0.000020	0.000020 mg/L							
Vanadium, dissolved	< 0.0050	0.0050 mg/L							
Zinc, dissolved	< 0.0040	0.0040 mg/L							
Zirconium, dissolved	< 0.00010	0.00010 mg/L							

LCS (B2J3474-BS1)

Prepared: 2022-10-30, Analyzed: 2022-10-30

Aluminum, dissolved	4.14	0.0050 mg/L	4.00		104	80-120			
Antimony, dissolved	0.0410	0.00020 mg/L	0.0400		102	80-120			
Arsenic, dissolved	0.0418	0.00050 mg/L	0.0400		105	80-120			
Barium, dissolved	0.0408	0.0050 mg/L	0.0400		102	80-120			
Beryllium, dissolved	0.0429	0.00010 mg/L	0.0400		107	80-120			
Bismuth, dissolved	0.0400	0.00010 mg/L	0.0400		100	80-120			
Boron, dissolved	< 0.0500	0.0500 mg/L	0.0400		108	80-120			
Cadmium, dissolved	0.0412	0.000010 mg/L	0.0400		103	80-120			
Calcium, dissolved	4.19	0.20 mg/L	4.00		105	80-120			
Chromium, dissolved	0.0413	0.00050 mg/L	0.0400		103	80-120			
Cobalt, dissolved	0.0412	0.00010 mg/L	0.0400		103	80-120			
Copper, dissolved	0.0406	0.00040 mg/L	0.0400		101	80-120			
Iron, dissolved	4.12	0.010 mg/L	4.00		103	80-120			
Lead, dissolved	0.0404	0.00020 mg/L	0.0400		101	80-120			
Lithium, dissolved	0.0434	0.00010 mg/L	0.0400		109	80-120			
Magnesium, dissolved	4.20	0.010 mg/L	4.00		105	80-120			
Manganese, dissolved	0.0415	0.00020 mg/L	0.0400		104	80-120			
Molybdenum, dissolved	0.0407	0.00010 mg/L	0.0400		102	80-120			
Nickel, dissolved	0.0400	0.00040 mg/L	0.0400		100	80-120			
Phosphorus, dissolved	4.14	0.050 mg/L	4.00		104	80-120			
Potassium, dissolved	4.16	0.10 mg/L	4.00		104	80-120			
Selenium, dissolved	0.0407	0.00050 mg/L	0.0400		102	80-120			
Silicon, dissolved	4.4	1.0 mg/L	4.00		109	80-120			
Silver, dissolved	0.0420	0.000050 mg/L	0.0400		105	80-120			
Sodium, dissolved	4.14	0.10 mg/L	4.00		104	80-120			
Strontium, dissolved	0.0400	0.0010 mg/L	0.0400		100	80-120			
Sulfur, dissolved	42.8	3.0 mg/L	40.0		107	80-120			
Tellurium, dissolved	0.0405	0.00050 mg/L	0.0400		101	80-120			
Thallium, dissolved	0.0398	0.000020 mg/L	0.0400		99	80-120			
Thorium, dissolved	0.0411	0.00010 mg/L	0.0400		103	80-120			
Tin, dissolved	0.0411	0.00020 mg/L	0.0400		103	80-120			



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT	Kelowna, City of RBCF Ponds	WORK ORDER REPORTED	22J3243 2022-11-02 14:58
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Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
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Dissolved Metals, Batch B2J3474, Continued

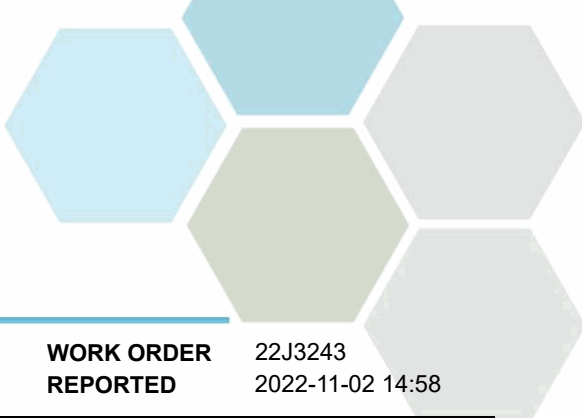
LCS (B2J3474-BS1), Continued			Prepared: 2022-10-30, Analyzed: 2022-10-30						
Titanium, dissolved	0.0415	0.0050 mg/L	0.0400		104	80-120			
Tungsten, dissolved	0.0409	0.0010 mg/L	0.0400		102	80-120			
Uranium, dissolved	0.0408	0.000020 mg/L	0.0400		102	80-120			
Vanadium, dissolved	0.0408	0.0050 mg/L	0.0400		102	80-120			
Zinc, dissolved	0.0404	0.0040 mg/L	0.0400		101	80-120			
Zirconium, dissolved	0.0419	0.00010 mg/L	0.0400		105	80-120			

Dissolved Metals, Batch B2J3667

Blank (B2J3667-BLK1)			Prepared: 2022-10-31, Analyzed: 2022-11-01						
Mercury, dissolved	< 0.000010	0.000010 mg/L							
Blank (B2J3667-BLK2)			Prepared: 2022-10-31, Analyzed: 2022-11-01						
Mercury, dissolved	< 0.000010	0.000010 mg/L							
Blank (B2J3667-BLK3)			Prepared: 2022-10-31, Analyzed: 2022-11-01						
Mercury, dissolved	< 0.000010	0.000010 mg/L							
Blank (B2J3667-BLK4)			Prepared: 2022-10-31, Analyzed: 2022-11-01						
Mercury, dissolved	< 0.000010	0.000010 mg/L							
Blank (B2J3667-BLK5)			Prepared: 2022-10-31, Analyzed: 2022-11-01						
Mercury, dissolved	< 0.000010	0.000010 mg/L							
LCS (B2J3667-BS1)			Prepared: 2022-10-31, Analyzed: 2022-11-01						
Mercury, dissolved	0.000489	0.000010 mg/L	0.000500		98	80-120			
LCS (B2J3667-BS2)			Prepared: 2022-10-31, Analyzed: 2022-11-01						
Mercury, dissolved	0.000486	0.000010 mg/L	0.000500		97	80-120			
LCS (B2J3667-BS3)			Prepared: 2022-10-31, Analyzed: 2022-11-01						
Mercury, dissolved	0.000491	0.000010 mg/L	0.000500		98	80-120			
LCS (B2J3667-BS4)			Prepared: 2022-10-31, Analyzed: 2022-11-01						
Mercury, dissolved	0.000493	0.000010 mg/L	0.000500		99	80-120			
LCS (B2J3667-BS5)			Prepared: 2022-10-31, Analyzed: 2022-11-01						
Mercury, dissolved	0.000505	0.000010 mg/L	0.000500		101	80-120			
Duplicate (B2J3667-DUP1)			Source: 22J3243-03		Prepared: 2022-10-31, Analyzed: 2022-11-01				
Mercury, dissolved	< 0.000010	0.000010 mg/L		< 0.000010					20

General Parameters, Batch B2J2947

Blank (B2J2947-BLK1)			Prepared: 2022-10-26, Analyzed: 2022-10-26						
Chemical Oxygen Demand	< 20	20 mg/L							
LCS (B2J2947-BS1)			Prepared: 2022-10-26, Analyzed: 2022-10-26						
Chemical Oxygen Demand	517	20 mg/L	500		103	89-115			
Duplicate (B2J2947-DUP1)			Source: 22J3243-02		Prepared: 2022-10-26, Analyzed: 2022-10-26				
Chemical Oxygen Demand	197	20 mg/L		198			< 1		14
Matrix Spike (B2J2947-MS1)			Source: 22J3243-02		Prepared: 2022-10-26, Analyzed: 2022-10-26				
Chemical Oxygen Demand	317	20 mg/L	125	198	96	75-125			

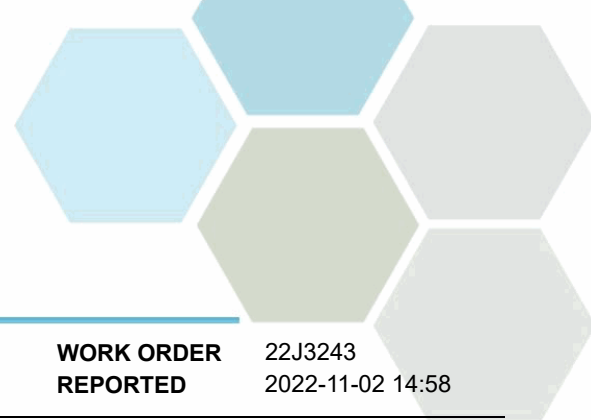


APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT	Kelowna, City of RBCF Ponds	WORK ORDER REPORTED	22J3243 2022-11-02 14:58
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Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
General Parameters, Batch B2J3066									
Blank (B2J3066-BLK1)			Prepared: 2022-10-26, Analyzed: 2022-10-31						
BOD, 5-day	< 2.0	2.0 mg/L							
LCS (B2J3066-BS1)			Prepared: 2022-10-26, Analyzed: 2022-10-31						
BOD, 5-day	184	37.5 mg/L	198		93	85-115			
Duplicate (B2J3066-DUP1)			Source: 22J3243-04 Prepared: 2022-10-26, Analyzed: 2022-10-31						
BOD, 5-day	14.1	2.0 mg/L		15.2				22	
General Parameters, Batch B2J3068									
Blank (B2J3068-BLK1)			Prepared: 2022-10-26, Analyzed: 2022-10-26						
Ammonia, Total (as N)	< 0.050	0.050 mg/L							
Blank (B2J3068-BLK2)			Prepared: 2022-10-26, Analyzed: 2022-10-26						
Ammonia, Total (as N)	< 0.050	0.050 mg/L							
LCS (B2J3068-BS1)			Prepared: 2022-10-26, Analyzed: 2022-10-26						
Ammonia, Total (as N)	0.962	0.050 mg/L	1.00		96	90-115			
LCS (B2J3068-BS2)			Prepared: 2022-10-26, Analyzed: 2022-10-26						
Ammonia, Total (as N)	1.04	0.050 mg/L	1.00		104	90-115			
General Parameters, Batch B2J3132									
Blank (B2J3132-BLK1)			Prepared: 2022-10-28, Analyzed: 2022-10-28						
Carbon, Dissolved Organic	< 0.50	0.50 mg/L							
Blank (B2J3132-BLK2)			Prepared: 2022-10-28, Analyzed: 2022-10-28						
Carbon, Dissolved Organic	< 0.50	0.50 mg/L							
Blank (B2J3132-BLK3)			Prepared: 2022-10-28, Analyzed: 2022-10-28						
Carbon, Dissolved Organic	< 0.50	0.50 mg/L							
Blank (B2J3132-BLK4)			Prepared: 2022-10-28, Analyzed: 2022-10-28						
Carbon, Dissolved Organic	< 0.50	0.50 mg/L							
Blank (B2J3132-BLK5)			Prepared: 2022-10-28, Analyzed: 2022-10-28						
Carbon, Dissolved Organic	< 0.50	0.50 mg/L							
LCS (B2J3132-BS1)			Prepared: 2022-10-28, Analyzed: 2022-10-28						
Carbon, Dissolved Organic	9.09	0.50 mg/L	10.0		91	78-116			
LCS (B2J3132-BS2)			Prepared: 2022-10-28, Analyzed: 2022-10-28						
Carbon, Dissolved Organic	9.24	0.50 mg/L	10.0		92	78-116			
LCS (B2J3132-BS3)			Prepared: 2022-10-28, Analyzed: 2022-10-28						
Carbon, Dissolved Organic	9.05	0.50 mg/L	10.0		90	78-116			
LCS (B2J3132-BS4)			Prepared: 2022-10-28, Analyzed: 2022-10-28						
Carbon, Dissolved Organic	9.61	0.50 mg/L	10.0		96	78-116			
LCS (B2J3132-BS5)			Prepared: 2022-10-28, Analyzed: 2022-10-28						
Carbon, Dissolved Organic	9.35	0.50 mg/L	10.0		94	78-116			

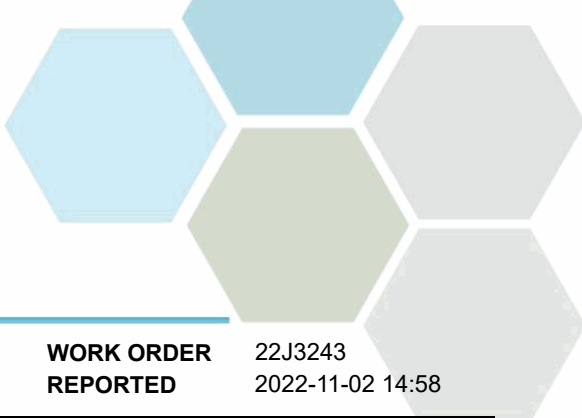
General Parameters, Batch B2J3275



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Kelowna, City of RBCF Ponds
WORK ORDER REPORTED 22J3243 2022-11-02 14:58

Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
General Parameters, Batch B2J3275, Continued									
Blank (B2J3275-BLK1)			Prepared: 2022-10-27, Analyzed: 2022-10-28						
Phosphorus, Total (as P)	< 0.0050	0.0050 mg/L							
Blank (B2J3275-BLK2)			Prepared: 2022-10-27, Analyzed: 2022-10-28						
Phosphorus, Total (as P)	< 0.0050	0.0050 mg/L							
Blank (B2J3275-BLK3)			Prepared: 2022-10-27, Analyzed: 2022-10-28						
Phosphorus, Total (as P)	< 0.0050	0.0050 mg/L							
LCS (B2J3275-BS1)			Prepared: 2022-10-27, Analyzed: 2022-10-28						
Phosphorus, Total (as P)	0.110	0.0050 mg/L	0.100		110	85-115			
LCS (B2J3275-BS2)			Prepared: 2022-10-27, Analyzed: 2022-10-28						
Phosphorus, Total (as P)	0.112	0.0050 mg/L	0.100		112	85-115			
LCS (B2J3275-BS3)			Prepared: 2022-10-27, Analyzed: 2022-10-28						
Phosphorus, Total (as P)	0.110	0.0050 mg/L	0.100		110	85-115			
General Parameters, Batch B2J3347									
Blank (B2J3347-BLK1)			Prepared: 2022-10-30, Analyzed: 2022-10-30						
Solids, Total Suspended	< 2.0	2.0 mg/L							
LCS (B2J3347-BS1)			Prepared: 2022-10-30, Analyzed: 2022-10-30						
Solids, Total Suspended	90.0	10.0 mg/L	100		90	85-115			
Duplicate (B2J3347-DUP1)			Source: 22J3243-02			Prepared: 2022-10-30, Analyzed: 2022-10-30			
Solids, Total Suspended	7.0	2.0 mg/L		5.3				20	
General Parameters, Batch B2J3395									
Blank (B2J3395-BLK1)			Prepared: 2022-10-28, Analyzed: 2022-10-30						
Nitrogen, Total Kjeldahl	< 0.050	0.050 mg/L							
Blank (B2J3395-BLK2)			Prepared: 2022-10-28, Analyzed: 2022-10-30						
Nitrogen, Total Kjeldahl	< 0.050	0.050 mg/L							
LCS (B2J3395-BS1)			Prepared: 2022-10-28, Analyzed: 2022-10-30						
Nitrogen, Total Kjeldahl	1.08	0.050 mg/L	1.00		108	85-115			
LCS (B2J3395-BS2)			Prepared: 2022-10-28, Analyzed: 2022-10-30						
Nitrogen, Total Kjeldahl	1.08	0.050 mg/L	1.00		108	85-115			
Duplicate (B2J3395-DUP2)			Source: 22J3243-01			Prepared: 2022-10-28, Analyzed: 2022-10-30			
Nitrogen, Total Kjeldahl	1.78	0.050 mg/L		1.79			< 1	15	
Matrix Spike (B2J3395-MS2)			Source: 22J3243-01			Prepared: 2022-10-28, Analyzed: 2022-10-30			
Nitrogen, Total Kjeldahl	2.55	0.050 mg/L	1.00	1.79	76	65-135			
General Parameters, Batch B2J3488									
Blank (B2J3488-BLK1)			Prepared: 2022-10-29, Analyzed: 2022-10-29						
Conductivity (EC)	< 2.0	2.0 µS/cm							
Blank (B2J3488-BLK2)			Prepared: 2022-10-29, Analyzed: 2022-10-29						
Conductivity (EC)	< 2.0	2.0 µS/cm							



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT	Kelowna, City of RBCF Ponds	WORK ORDER REPORTED	22J3243 2022-11-02 14:58
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Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
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General Parameters, Batch B2J3488, Continued

LCS (B2J3488-BS3)			Prepared: 2022-10-29, Analyzed: 2022-10-29						
Conductivity (EC)	1400	2.0 µS/cm	1410		100	95-105			
LCS (B2J3488-BS4)			Prepared: 2022-10-29, Analyzed: 2022-10-29						
Conductivity (EC)	1410	2.0 µS/cm	1410		100	95-105			

General Parameters, Batch B2J3543

Duplicate (B2J3543-DUP1)			Source: 22J3243-01		Prepared: 2022-10-30, Analyzed: 2022-10-30				
Conductivity (EC)	5180	2.0 µS/cm		5260			2	5	
pH	8.62	0.10 pH units		8.62			< 1	4	
Reference (B2J3543-SRM1)			Prepared: 2022-10-30, Analyzed: 2022-10-30						
pH	7.02	0.10 pH units	7.01		100	98-102			
Reference (B2J3543-SRM2)			Prepared: 2022-10-30, Analyzed: 2022-10-30						
pH	7.02	0.10 pH units	7.01		100	98-102			
Reference (B2J3543-SRM3)			Prepared: 2022-10-30, Analyzed: 2022-10-30						
pH	7.02	0.10 pH units	7.01		100	98-102			

General Parameters, Batch B2J3601

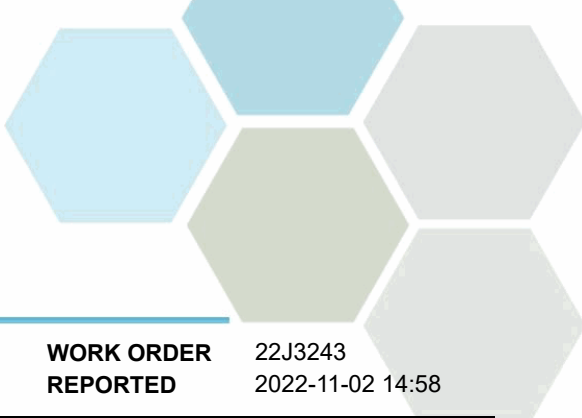
Blank (B2J3601-BLK1)			Prepared: 2022-10-31, Analyzed: 2022-10-31						
Solids, Total Dissolved	< 15	15 mg/L							
LCS (B2J3601-BS1)			Prepared: 2022-10-31, Analyzed: 2022-10-31						
Solids, Total Dissolved	255	15 mg/L	240		106	85-115			
Duplicate (B2J3601-DUP1)			Source: 22J3243-01		Prepared: 2022-10-31, Analyzed: 2022-10-31				
Solids, Total Dissolved	4150	15 mg/L		4170			< 1	15	

General Parameters, Batch B2J3613

Blank (B2J3613-BLK1)			Prepared: 2022-10-31, Analyzed: 2022-10-31						
Solids, Total Suspended	< 2.0	2.0 mg/L							
LCS (B2J3613-BS1)			Prepared: 2022-10-31, Analyzed: 2022-10-31						
Solids, Total Suspended	90.0	10.0 mg/L	100		90	85-115			

Microbiological Parameters, Batch B2J3038

Blank (B2J3038-BLK1)			Prepared: 2022-10-26, Analyzed: 2022-10-26						
Coliforms, Total (Q-Tray)	< 1	1 MPN/100 mL							
E. coli (Q-Tray)	< 1	1 MPN/100 mL							
Blank (B2J3038-BLK2)			Prepared: 2022-10-26, Analyzed: 2022-10-26						
Coliforms, Total (Q-Tray)	< 1	1 MPN/100 mL							
E. coli (Q-Tray)	< 1	1 MPN/100 mL							
Blank (B2J3038-BLK3)			Prepared: 2022-10-26, Analyzed: 2022-10-26						
E. coli (Q-Tray)	< 1	1 MPN/100 mL							
Duplicate (B2J3038-DUP1)			Source: 22J3243-01		Prepared: 2022-10-26, Analyzed: 2022-10-26				
Coliforms, Total (Q-Tray)	376	1 MPN/100 mL		442			16	80	
E. coli (Q-Tray)	< 1	1 MPN/100 mL		1				80	MIC29



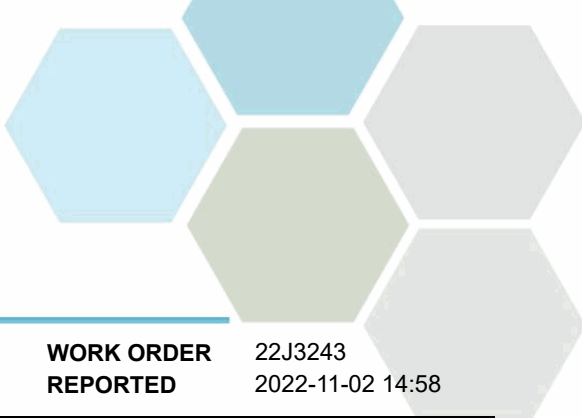
APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Kelowna, City of
RBCF Ponds

WORK ORDER REPORTED 22J3243
2022-11-02 14:58

Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Total Metals, Batch B2J3332									
Blank (B2J3332-BLK1)					Prepared: 2022-10-28, Analyzed: 2022-10-29				
Aluminum, total	< 0.0050	0.0050 mg/L							
Antimony, total	< 0.00020	0.00020 mg/L							
Arsenic, total	< 0.00050	0.00050 mg/L							
Barium, total	< 0.0050	0.0050 mg/L							
Beryllium, total	< 0.00010	0.00010 mg/L							
Bismuth, total	< 0.00010	0.00010 mg/L							
Boron, total	< 0.0500	0.0500 mg/L							
Cadmium, total	< 0.000010	0.000010 mg/L							
Calcium, total	< 0.20	0.20 mg/L							
Chromium, total	< 0.00050	0.00050 mg/L							
Cobalt, total	< 0.00010	0.00010 mg/L							
Copper, total	< 0.00040	0.00040 mg/L							
Iron, total	< 0.010	0.010 mg/L							
Lead, total	< 0.00020	0.00020 mg/L							
Lithium, total	< 0.00010	0.00010 mg/L							
Magnesium, total	< 0.010	0.010 mg/L							
Manganese, total	< 0.00020	0.00020 mg/L							
Molybdenum, total	< 0.00010	0.00010 mg/L							
Nickel, total	< 0.00040	0.00040 mg/L							
Phosphorus, total	< 0.050	0.050 mg/L							
Potassium, total	< 0.10	0.10 mg/L							
Selenium, total	< 0.00050	0.00050 mg/L							
Silicon, total	< 1.0	1.0 mg/L							
Silver, total	< 0.000050	0.000050 mg/L							
Sodium, total	< 0.10	0.10 mg/L							
Strontium, total	< 0.0010	0.0010 mg/L							
Sulfur, total	< 3.0	3.0 mg/L							
Tellurium, total	< 0.00050	0.00050 mg/L							
Thallium, total	< 0.000020	0.000020 mg/L							
Thorium, total	< 0.00010	0.00010 mg/L							
Tin, total	< 0.00020	0.00020 mg/L							
Titanium, total	< 0.0050	0.0050 mg/L							
Tungsten, total	< 0.0002	0.0002 mg/L							
Uranium, total	< 0.000020	0.000020 mg/L							
Vanadium, total	< 0.0050	0.0050 mg/L							
Zinc, total	< 0.0040	0.0040 mg/L							
Zirconium, total	< 0.00010	0.00010 mg/L							

LCS (B2J3332-BS1)					Prepared: 2022-10-28, Analyzed: 2022-10-29				
Aluminum, total	4.01	0.0050 mg/L	4.00		100	80-120			
Antimony, total	0.0391	0.00020 mg/L	0.0400		98	80-120			
Arsenic, total	0.0414	0.00050 mg/L	0.0400		103	80-120			
Barium, total	0.0396	0.0050 mg/L	0.0400		99	80-120			
Beryllium, total	0.0387	0.00010 mg/L	0.0400		97	80-120			
Bismuth, total	0.0391	0.00010 mg/L	0.0400		98	80-120			
Boron, total	< 0.0500	0.0500 mg/L	0.0400		102	80-120			
Cadmium, total	0.0396	0.000010 mg/L	0.0400		99	80-120			
Calcium, total	3.93	0.20 mg/L	4.00		98	80-120			
Chromium, total	0.0413	0.00050 mg/L	0.0400		103	80-120			
Cobalt, total	0.0411	0.00010 mg/L	0.0400		103	80-120			
Copper, total	0.0406	0.00040 mg/L	0.0400		101	80-120			
Iron, total	4.06	0.010 mg/L	4.00		101	80-120			
Lead, total	0.0399	0.00020 mg/L	0.0400		100	80-120			
Lithium, total	0.0386	0.00010 mg/L	0.0400		96	80-120			
Magnesium, total	4.05	0.010 mg/L	4.00		101	80-120			
Manganese, total	0.0411	0.00020 mg/L	0.0400		103	80-120			



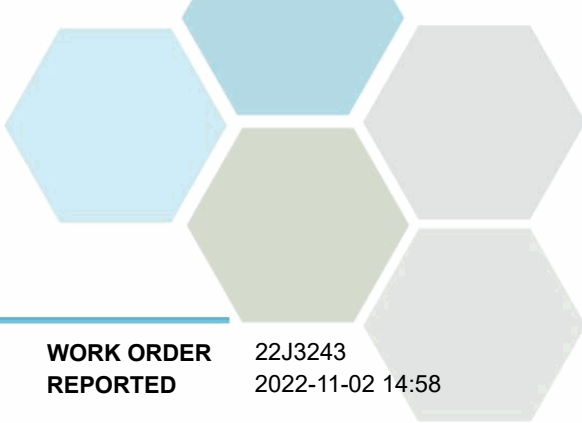
APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Kelowna, City of RBCF Ponds **WORK ORDER REPORTED** 22J3243 2022-11-02 14:58

Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Total Metals, Batch B2J3332, Continued									
LCS (B2J3332-BS1), Continued					Prepared: 2022-10-28, Analyzed: 2022-10-29				
Molybdenum, total	0.0391	0.00010 mg/L	0.0400		98	80-120			
Nickel, total	0.0412	0.00040 mg/L	0.0400		103	80-120			
Phosphorus, total	3.96	0.050 mg/L	4.00		99	80-120			
Potassium, total	4.04	0.10 mg/L	4.00		101	80-120			
Selenium, total	0.0409	0.00050 mg/L	0.0400		102	80-120			
Silicon, total	4.1	1.0 mg/L	4.00		104	80-120			
Silver, total	0.0407	0.000050 mg/L	0.0400		102	80-120			
Sodium, total	4.01	0.10 mg/L	4.00		100	80-120			
Strontium, total	0.0406	0.0010 mg/L	0.0400		102	80-120			
Sulfur, total	41.6	3.0 mg/L	40.0		104	80-120			
Tellurium, total	0.0391	0.00050 mg/L	0.0400		98	80-120			
Thallium, total	0.0390	0.000020 mg/L	0.0400		98	80-120			
Thorium, total	0.0398	0.00010 mg/L	0.0400		100	80-120			
Tin, total	0.0389	0.00020 mg/L	0.0400		97	80-120			
Titanium, total	0.0402	0.0050 mg/L	0.0400		100	80-120			
Tungsten, total	0.0396	0.0002 mg/L	0.0400		99	80-120			
Uranium, total	0.0399	0.000020 mg/L	0.0400		100	80-120			
Vanadium, total	0.0411	0.0050 mg/L	0.0400		103	80-120			
Zinc, total	0.0406	0.0040 mg/L	0.0400		101	80-120			
Zirconium, total	0.0399	0.00010 mg/L	0.0400		100	80-120			

Total Metals, Batch B2J3668

Blank (B2J3668-BLK1)					Prepared: 2022-10-31, Analyzed: 2022-11-02				
Mercury, total	< 0.000010	0.000010 mg/L							
Blank (B2J3668-BLK2)					Prepared: 2022-10-31, Analyzed: 2022-11-02				
Mercury, total	< 0.000010	0.000010 mg/L							
Blank (B2J3668-BLK3)					Prepared: 2022-10-31, Analyzed: 2022-11-02				
Mercury, total	< 0.000010	0.000010 mg/L							
Blank (B2J3668-BLK4)					Prepared: 2022-10-31, Analyzed: 2022-11-02				
Mercury, total	< 0.000010	0.000010 mg/L							
Blank (B2J3668-BLK5)					Prepared: 2022-10-31, Analyzed: 2022-11-02				
Mercury, total	< 0.000010	0.000010 mg/L							
LCS (B2J3668-BS1)					Prepared: 2022-10-31, Analyzed: 2022-11-02				
Mercury, total	0.000507	0.000010 mg/L	0.000500		101	80-120			
LCS (B2J3668-BS2)					Prepared: 2022-10-31, Analyzed: 2022-11-02				
Mercury, total	0.000486	0.000010 mg/L	0.000500		97	80-120			
LCS (B2J3668-BS3)					Prepared: 2022-10-31, Analyzed: 2022-11-02				
Mercury, total	0.000497	0.000010 mg/L	0.000500		99	80-120			
LCS (B2J3668-BS4)					Prepared: 2022-10-31, Analyzed: 2022-11-02				
Mercury, total	0.000494	0.000010 mg/L	0.000500		99	80-120			
LCS (B2J3668-BS5)					Prepared: 2022-10-31, Analyzed: 2022-11-02				
Mercury, total	0.000502	0.000010 mg/L	0.000500		100	80-120			



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO Kelowna, City of
PROJECT RBCF Ponds

WORK ORDER 22J3243
REPORTED 2022-11-02 14:58

QC Qualifiers:

MIC29 The difference in logs is less than the R value.

APPENDIX D
QUALITY ASSURANCE AND QUALITY CONTROL

APPENDIX D – QUALITY ASSURANCE AND QUALITY CONTROL

1.1 Methods

A quality assurance and quality control (QA/QC) program should be implemented during the monitoring program so that the sampling and analytical data is meaningful, reproducible and reliable. Standard industry field procedures should be used in both the collection (field program) and analysis (laboratory) of water samples. The following includes a brief summary of the QA/QC measures to be implemented during the field program and during the review of the data, as well as QA/QC measures implemented by the laboratory.

Quality control (QC) measures used in the collection, preservation and delivery of samples include the following:

- Sampling methods to be consistent with established protocols and provincial requirements;
- Field notes, including the geographic locations of samples collected, to be recorded during the stages of the monitoring program and to be available upon request;
- Samples to be placed and stored in laboratory provided containers. Sample containers not to be reused.
- Samples to be stored in coolers and chilled with ice or ice packs during transport to the analytical laboratory; and,
- Samples to be transported to the laboratory using laboratory chain of custody procedures.

The Quality Assurance (QA) measures established for the field program should include:

- Submission of blind field duplicate samples for a minimum of 10% of the samples analyzed. A blind field duplicate sample is a second sample of certain media (e.g., soil, water, soil vapour) from the same location that is submitted to the analytical laboratory under a separate label such that the lab has no prior knowledge that it is a duplicate.
- The relative percent difference (RPD – the absolute difference between the two values, divided by the mean) of duplicate analyses is used to evaluate the sample result variability. An RPD value of less than 0.3 (or 30 percent) is considered an indication of acceptable sample variability, and therefore represents a good correlation between the duplicate samples. An RPD value of greater than 30 percent may reflect “within bottle” variability (which reflects the nature of the contaminant distribution) or variation in test procedures.

The British Columbia Laboratory Manual (published by (now formerly) the Ministry of Environment), contains recommended Data Quality Objectives (DQOs) for laboratory duplicate RPD (Province of BC, 2009). It is recognized that these DQOs are intended for laboratory duplicates and do not include provisions for additional variability in field duplicates. However, these DQOs are considered a conservative screen for assessing the quality of field duplicates. The DQOs applied to this monitoring program should be as follows:

In general, an RPD greater than these DQOs may reflect “within sample” variability which reflects the nature of the contaminant distribution, or variation in the test procedures; the DQOs described above were established for laboratory results and have been applied to this program.

The following criteria were considered acceptable for laboratory QA/QC samples:

- Analytical blanks should be below the detection limits used for the specific analysis;
- Laboratory duplicates should fall within the DQO set by the laboratory; and,
- Analytical results for the reference materials or spiked standards should be within the target specified by the laboratory.

The laboratory also noted the sample integrity upon arrival at the laboratory, including:

- Sample condition (i.e., broken bottles, missing labels);
- Sample temperature; and,
- Analysis holding time.

Caro Analytics of Kelowna, BC performed the analysis of the water samples for this program. CARO is a registered and holds certification by the Canadian Association for Laboratory Accreditation Inc. (CALA) for the analyses performed. The samples submitted to CARO were subject to QA/QC procedures specific to the laboratory, which include internal and surrogate standards, replicates and duplicates, method blanks and method spikes. Reports from the laboratory are internally reviewed prior to submission. The analytical laboratory also incorporated and reported the results of internal checks. These were used to assess the reliability, accuracy and reproducibility of the data.

1.2 Results

Chain of custody procedures should be followed during the sampling events and accompanied sample submissions. Samples should be submitted to the laboratory under chain-of-custody protocols using forms that do not identify the sampling locations, expected concentrations or QA/QC samples, such as field duplicate samples. Samples should be stored in coolers prior to submission to the analytical laboratory. The samples should be received at the laboratory at temperatures less than 10°C.

1.2.1 Field and Laboratory and Duplicates

The target for QA/QC for the monitoring program for duplicates is one sample for every ten samples analyzed for compound. The laboratory also follows protocol regarding duplicates and performs analysis on its own series of duplicate samples.

The duplicate ratio was approximately 10% or slightly greater for parameters collected. This target was met. The RPD values, where they could be calculated, met the target for all three (3) samples, except for E. coli at the Davidson Pond (82%) on June 22, 2022 sample and total coliforms (38%) at the Drainage Pond for October 25, 2022 sample.

Tabulated QA/QC results are provided in Table D.

Table D: Summary of Surfacewater QA/QC Data

CLIENT ID			Drainage Pond	DUP 1	Relative	Davidson Pond	DUP 1	Relative	Drainage Pond	DUP 3	Relative
DATE SAMPLED	Units	RDL	2022-04-29	2022-04-29	Percent	2022-06-22	2022-06-22	Percent	2022-10-25	2022-10-25	Percent
DATE RECEIVED			2022-04-29	2022-04-29	Difference	2022-06-22	2022-06-22	Difference	2022-10-25	2022-10-25	Difference
LAB ID			22D3807-02	22D3807-04	(RPD)	22F3398-03	22F3398-04	(RPD)	22J3243-02	22J3243-04	(RPD)
Physical Tests (Water)											
Conductivity (EC)	uS/cm	2	1550	1540	0.65%	3270	3400	3.90%	1060	1060	0.00%
Hardness, Total (as CaCO3)	mg/L	0.5	441	432	2.06%	681	668	1.93%	227	227	0.00%
pH	pH units	0.1	7.96	7.96	0.00%	8.82	8.93	1.24%	8.13	8.12	0.12%
Solids, Total Suspended	mg/L	2	7.5	7.7	NA	8	4.6	NA	5.3	4.7	NA
Solids, Total Dissolved	mg/L	125	913	906	0.77%	2270	2320	2.18%	661	672	1.65%
Anions and Nutrients (Water)											
Ammonia, Total (as N)	mg/L	0.05	29.3	28.7	2.07%	<0.050	0.055	NA	17.4	17.1	1.74%
Chloride	mg/L	1	120	117	2.53%	315	316	0.32%	92.9	95	2.24%
Nitrate (as N)	mg/L	0.01	1.21	1.28	5.62%	<0.100	<0.100	NA	1.75	1.76	0.57%
Nitrite (as N)	mg/L	0.01	0.4	0.322	21.61%	<0.100	<0.100	NA	0.177	0.182	2.79%
Nitrogen, Total Kjeldahl	mg/L	0.05	32.9	34.4	4.46%	2.31	2.03	12.90%	29.3	31.3	6.60%
Nitrogen, Total	mg/L	0.1	34.5	36	4.26%	2.31	2.03	12.90%	31.2	33.3	6.51%
Nitrate+Nitrite (as N)	mg/L	0.01	1.61	1.6	0.62%	<0.100	<0.100	NA	1.93	1.94	0.52%
Bacteriological Tests (Water)											
E. coli	MPN/100 mL	1	96	118	20.56%	96	40	82.35%	589	727	20.97%
Coliforms, Total	MPN/100 mL	1	9900	8050	20.61%	> 2420	978	NA	105000	155000	38.46%
Aggregate Organics (Water)											
BOD, 5-day	mg/L	14.7	<7.3	<7.3	NA	13.3	<7.1	NA	13.8	15.2	NA
Carbon, Dissolved Organic	mg/L	5	27.8	27.8	0.00%	25.1	27.5	9.13%	38.8	40.8	5.03%
Chemical Oxygen Demand	mg/L	20	100	96	NA	81	75	NA	198	202	2.00%
Dissolved Metals (Water)											
Aluminum	mg/L	0.005	0.0258	0.0255	1.17%	<0.0100	<0.0100	NA	0.0489	0.0587	18.22%
Antimony	mg/L	0.0002	0.00046	0.00036	NA	<0.00040	0.00043	NA	0.00039	0.00036	NA
Arsenic	mg/L	0.0005	0.00283	0.00283	0.00%	0.00368	0.00367	0.27%	0.0027	0.00278	2.92%
Barium	mg/L	0.005	0.025	0.0231	NA	0.0149	0.0138	NA	0.0236	0.0244	NA
Beryllium	mg/L	0.0001	<0.00010	<0.00010	NA	<0.00020	<0.00020	NA	<0.00010	<0.00010	NA
Bismuth	mg/L	0.0001	<0.00010	<0.00010	NA	<0.00020	<0.00020	NA	0.00025	0.0003	NA
Boron	mg/L	0.05	0.162	0.157	NA	<0.100	<0.100	NA	0.208	0.206	NA
Cadmium	mg/L	0.00001	0.000039	0.000035	NA	<0.000020	<0.000020	NA	0.000054	0.000068	22.95%
Calcium	mg/L	0.2	93.5	92.2	1.40%	64.8	64.6	0.31%	53.6	54.1	0.93%
Chromium	mg/L	0.0005	<0.00050	<0.00050	NA	<0.00100	<0.00100	NA	0.00104	0.00108	NA
Cobalt	mg/L	0.0001	0.00083	0.00078	6.21%	<0.00020	<0.00020	NA	0.00064	0.00067	4.58%
Copper	mg/L	0.0004	0.00653	0.00632	3.27%	<0.00080	<0.00080	NA	0.0144	0.0152	5.41%
Iron	mg/L	0.01	0.068	0.07	2.90%	0.033	0.033	NA	0.176	0.203	14.25%
Lead	mg/L	0.0002	<0.00020	<0.00020	NA	<0.00040	<0.00040	NA	0.00038	0.00037	NA
Lithium	mg/L	0.0001	0.0156	0.015	3.92%	0.0498	0.0503	1.00%	0.012	0.0117	2.53%
Magnesium	mg/L	0.01	50.3	48.9	2.82%	126	123	2.41%	22.6	22.3	1.34%
Manganese	mg/L	0.0002	0.059	0.0578	2.05%	0.0166	0.0168	1.20%	0.0919	0.0946	2.90%
Mercury	mg/L	0.00001	<0.000010	<0.000010	NA	<0.000010	<0.000010	NA	<0.000010	<0.000010	NA
Molybdenum	mg/L	0.0001	0.006	0.00573	4.60%	0.00169	0.00168	0.59%	0.00372	0.00374	0.54%
Nickel	mg/L	0.0004	0.00255	0.00242	5.23%	0.00135	0.00139	NA	0.00267	0.00294	9.63%
Phosphorus	mg/L	0	4.42	4	3.69%	<0.100	<0.100	NA	6.79	6.71	1.19%
Potassium	mg/L	0.1	31.9	30.6	4.16%	46.3	44.9	3.07%	35.6	34.9	1.99%
Selenium	mg/L	0.0005	0.00131	0.00121	NA	<0.00100	<0.00100	NA	0.00073	0.00077	NA
Silicon	mg/L	1	5.7	5.5	3.57%	<2.0	<2.0	NA	3.7	3.7	NA
Silver	mg/L	0.00005	<0.000050	<0.000050	NA	<0.000100	<0.000100	NA	<0.000050	<0.000050	NA
Sodium	mg/L	0.1	119	113	5.17%	582	566	2.79%	86.5	85.5	1.16%
Strontium	mg/L	0.001	0.988	0.942	4.77%	0.898	0.873	2.82%	0.499	0.499	0.00%
Sulfur	mg/L	3	104	98.1	5.84%	431	433	0.46%	32.9	33	0.30%
Tellurium	mg/L	0.0005	<0.00050	<0.00050	NA	<0.00100	<0.00100	NA	<0.00050	<0.00050	NA
Thallium	mg/L	0.00002	<0.000020	<0.000020	NA	<0.000040	<0.000040	NA	<0.000020	<0.000020	NA
Thorium	mg/L	0.0001	<0.00010	<0.00010	NA	<0.00020	<0.00020	NA	<0.00010	<0.00010	NA
Tin	mg/L	0.0002	0.00022	<0.00020	NA	<0.00040	<0.00040	NA	0.0005	0.00052	NA
Titanium	mg/L	0.005	<0.0050	<0.0050	NA	<0.0100	<0.0100	NA	<0.0050	<0.0050	NA
Tungsten	mg/L	0.001	<0.0010	<0.0010	NA	<0.0020	<0.0020	NA	<0.0010	<0.0010	NA
Uranium	mg/L	0.00002	0.00506	0.00478	5.69%	0.00834	0.00809	3.04%	0.00141	0.00141	0.00%
Vanadium	mg/L	0.001	<0.0050	<0.0050	NA	<0.0100	<0.0100	NA	<0.0050	<0.0050	NA
Zinc	mg/L	0.004	0.0401	0.0393	2.02%	<0.0080	<0.0080	NA	0.0415	0.0445	6.98%
Zirconium	mg/L	0.0001	0.00019	0.00022	NA	0.00025	0.00026	NA	0.00026	0.00028	NA
Total Metals (Water)											
Aluminum	mg/L	0.005	0.0598	0.0591	1.18%	0.0496	0.048	3.28%	0.117	0.121	3.36%
Antimony	mg/L	0.0002	0.00044	0.0004	NA	0.0005	0.00047	NA	0.00041	0.00041	NA
Arsenic	mg/L	0.0005	0.00286	0.00305	6.43%	0.0037	0.00376	1.61%	0.00288	0.00288	0.00%
Barium	mg/L	0.005	0.0305	0.0289	5.39%	0.0139	0.015	NA	0.0308	0.0311	0.97%
Beryllium	mg/L	0.0001	<0.00010	<0.00010	NA	<0.00020	<0.00020	NA	<0.00010	<0.00010	NA
Bismuth	mg/L	0.0001	0.00018	0.0002	NA	<0.00020	<0.00020	NA	0.00053	0.00057	7.27%
Boron	mg/L	0.05	0.172	0.174	NA	<0.100	<0.100	NA	0.215	0.219	NA
Cadmium	mg/L	0.00001	0.000046	0.000052	NA	<0.000020	<0.000020	NA	0.000093	0.000107	14.00%
Calcium	mg/L	0.2	94	97.2	3.35%	63.2	62.8	0.63%	54.1	54	0.19%
Chromium	mg/L	0.0005	0.00065	0.0007	NA	<0.00100	<0.00100	NA	0.00123	0.00141	NA
Cobalt	mg/L	0.0001	0.00087	0.00088	1.14%	<0.00020	<0.00020	NA	0.00079	0.0008	1.26%
Copper	mg/L	0.0004	0.00976	0.0102	4.41%	<0.00080	<0.00080	NA	0.0245	0.0262	6.71%
Iron	mg/L	0.01	0.172	0.175	1.73%	0.092	0.089	3.31%	0.324	0.328	1.23%
Lead	mg/L	0.0002	0.00029	0.0003	NA	<0.00040	<0.00040	NA	0.00061	0.00062	NA
Lithium	mg/L	0.0001	0.0155	0.016	3.17%	0.0453	0.0458	1.10%	0.0115	0.0117	1.72%
Magnesium	mg/L	0.01	50.1	50.5	0.80%	119	121	1.67%	21.5	21.7	0.93%
Manganese	mg/L	0.0002	0.154	0.155	0.65%	0.0289	0.0278	3.88%	0.117	0.119	1.69%
Mercury	mg/L	0.00001	<0.000010	<0.000010	NA	<0.000010	<0.000010	NA	<0.000010	<0.000010	NA
Molybdenum	mg/L	0.0001	0.00633	0.00632	0.16%	0.00168	0.00165	1.80%	0.00399	0.00397	0.50%
Nickel	mg/L	0.0004	0.00309	0.00287	7.38%	0.00138	0.00135	NA	0.0034	0.00354	4.03%
Phosphorus	mg/L	0.05	4.66	4.66	0.00%	<0.100	<0.100	NA	7.11	7.14	0.42%
Potassium	mg/L	0.1	31.7	32.3	1.87%	44.7	44.9	0.45%	34.6	34.7	0.29%
Selenium	mg/L	0.0005	0.00147	0.00154	NA	<0.00100	<0.00100	NA	0.00097	0.00101	NA
Silicon	mg/L	1	5.8	5.7	1.74%	<2.0	<2.0	NA	3.5	3.5	NA
Silver	mg/L	0.00005	<0.000050	<0.000050	NA	<0.000100	<0.000100	NA	0.000066	0.000073	NA
Sodium	mg/L	0.1	119	119	0.00%	551	559	1.44%	85.9	87.1	1.39%
Strontium	mg/L	0.001	0.999	1	0.10%	0.881	0.871	1.14%	0.543	0.557	2.55%
Sulfur	mg/L	3	103	103	0.00%	417	407	2.43%	32.9	33.4	1.51%
Tellurium	mg/L	0.0005	<0.00050	<0.00050	NA	<0.00100	<0.00100	NA	<0.00050	<0.00050	NA
Thallium	mg/L	0.00002	<0.000020	<0.000020	NA	<0.000040	<0.000040	NA	<0.000020	<0.000020	NA
Thorium	mg/L	0.0001	<0.00010	<0.00010	NA	<0.00020	<0.00020	NA	<0.00010	<0.00010	NA
Tin	mg/L	0.0002	0.00054	0.00047	NA	<0.00040	<0.00040	NA	0.00088	0.00093	NA
Titanium	mg/L	0.005									



www.compostquality.ca

SUMMARY OF ANALYSIS REPORT

To: City of Kelowna
1435 Water Street
Kelowna, British Columbia V1Y 1J4

CQA Member#: 18-2800

Attention: Jose Garcia

Sample I.D.: OGO Feb 2022

Report#: C22048-10027
C22048-70006

Sample Date:
Reported Date: 2022-3-1

Compost Manufactured in: British Columbia
Feedstock: *Municipal Biosolids and Forestry Residues*

CQA COMPOST QUALITY & VALUE TESTING PARAMETERS REPORT

SAMPLE ID	RECOMMENDED END USE/MARKET
OGO Feb 2022	Category A
Regulatory	See Appendix I
Product Quality	See Appendix II
Product Value/ Soil Suitability*	See Appendix III (Soil, Enviro, Manure Compost)

The Compost Quality Alliance (CQA) is a voluntary quality monitoring program established by the Compost Council of Canada and the compost producers utilizing recognized standardized testing methodologies and uniform operating protocols to provide customer assurance in compost selection its use, and proper end-use utilization.

All analysis of this compost product was conducted and provided by A&L Canada Laboratories Inc. for the Compost Quality Alliance (CQA).

Haifeng Song, Senior Chemist

Ian McLachlin, Vice-President



A&L Canada Laboratories Inc.
London, Ontario Canada
(519) 457-2575

A proud member of



***PLEASE NOTE: Major Nutrients under the Fertilizer Act and Regulations (CFIA)**

Please see Appendix III for nutrient content (of impact to claims and labelling if used in declarations).

Compost is classified in Schedule II as a supplement, and as such nutrient guarantees are not mandatory. However, if any claims are made regarding nutritional value of the product, such as for composted manure, the product would then be classified as a supplement and a fertilizer, and the label would have to include the guarantees for the major nutrients. The guarantees for the major nutrients include the minimum amounts of Total Nitrogen (N), Available Phosphoric Acid (P2O5) and Soluble Potash K2O. Source: T-4-120 - Regulation of Compost under the Fertilizers Act and Regulations. <http://www.inspection.gc.ca/plants/fertilizers/trade-memoranda/t-4-120/eng/1307910204607/1307910352783>



Appendix I



CCME Guidelines 2005 & CFIA Fertilizer Act & Regulations:

Alberta, Manitoba, New Brunswick, Nova Scotia, Newfoundland, Prince Edward Island & Territories

A. Maximum Concentrations for Trace Metals in Compost†

Trace Elements	Test Results (ug/g)	Category A	Category B
		Maximum Concentration within Product (mg/kg dry weight)	
Arsenic (As)	4.27	13	75
Cadmium (Cd)	BDL	3	20
Chromium (Cr)	19.98	210	**
Cobalt (Co)	3.28	34	150
Copper (Cu)	195.10	400	**
Lead (Pb)	4.78	150	500
Mercury (Hg)	0.22	0.8	5
Molybdenum (Mo)	3.80	5	20
Nickel (Ni)	8.62	62	180
Selenium (Se)	1.73	2	14
Zinc (Zn)	269.45	700	1850

** Upper limits are not established in the Trade Memorandum.

B. Foreign Matter in Compost†

Test Results		Category A	Category B
Foreign Matter		Contains no more than 1 piece of foreign matter >25mm/500ml	Contains no more than 2 pieces of foreign matter > 25mm/500mL
Pieces >25mm/500mL	0		
Sharp Foreign Matter		No sharp foreign matter >3mm per 500ml	No more than 3 pieces of sharp matter < 12.5mm/500mL Note: This compost shall not be used in pastures, parks, or residential
Pieces > 3mm/500mL	0		
Pieces > 12.5mm/500mL	0		

C. Maturity/Stability†

Method	Test Results	Required Limits
CO ₂ Respiration Rate CO ₂ Respiration Rate	BDL	≤ 4 mg of carbon in the form of carbon dioxide per gram of organic matter per day
O ₂ Uptake Respiration Rate O ₂ Uptake Respiration Rate		≤ 400 mg oxygen/kg of volatile solids (or organic matter)/hour

D. Pathogens†

Pathogen	Test Results	Required Limits
Fecal Coliform (MPN/g dry)	13	<1000 MPN/g of total solids calculated on a dry weight basis
Salmonella (P-A/25g(ml))	NEGATIVE	<3 MPN/4g total solids calculated on a dry weight basis

†The following references are from the CCME guidelines (PN1340), October 2005

*BDL = Below Detectable Limits

E. CFIA

Parameter	Test Results
Total Organic Matter (%)	76.54%
Moisture (%)	41.00%

All analysis conducted and prepared by:

A L Canada Laboratories

2136 Jetstream Rd London, Ontario N5V 3P5 (519) 457-2575



Appendix II Finished Compost Quality



Parameter	Test Results
pH	6.9
Carbon to Nitrogen Ratio	20:1
Particle Size/Texture (inch)+	1/2 Inch
Soluble Salts (ms/cm)	2.3
Sodium Base Saturation (%Na)	6.18%
Major Nutrients	
Available Potassium (%K)	17.45%
Available Magnesium (%Mg)	32.40%
Available Calcium (%Ca)	42.70%

+ Majority of sample passes through this sieve size

Reference Compost Quality Parameters for CQA

Use	pH	C:N	Moisture	Particle Size	Soluble Salts	%Na
Remediation	5.8-8.5	10-40	NA	<2 in	<20	<3%
Soil Amendment	5.8-8.5	10-30	NA	<1/2 in	<6	<2%
Landscaping	5.8-8.5	12-22	<50%	<1/2 in	<5	<2%
Planting Media	5.5-7.8	12-22	<50%	<1/2 in	<4	<2%
Turf Establishment & Topdressing	5.5-7.8	12-22	<50%	<3/8 in	<3	<1%
Greenhouse Seeding	6-7	12-22	<25%	<1/4 in	<2	<0.5%
Greenhouse Establishment	6-7	12-22	<30%	<1/2 in	2-3.5	<0.5%
Field Nursery	5.8-8	10-30	<50%	<1/2 in	<3.5	<1%
Agricultural Soil Amendments	6-8	10-30	<50%	<1/2 in	<20	none
Potting Soil	5.5-7.2	12-22	<50%	<1/4 in	<2	<1%

These are examples of some of the many end uses suitable for compost

Unrestricted Use: Category A - Compost that can be used in any application, such as agricultural lands, residential gardens, horticultural operations, the nursery industry, and other businesses. Category A criteria for trace elements are achievable using best source separated MSW feedstock, municipal biosolids, pulp and paper mill biosolids, or manure.

Restricted Use: Category B - Compost that has a restricted use because of the presence of sharp foreign matter or higher trace element content. Category B compost may require additional control when deemed necessary by a province or territory.

Note: For a compost to meet the unrestricted use category, it must meet the unrestricted (Category A) requirements for all trace elements and sharp foreign matter. If the compost fails one criterion of the guideline for unrestricted use but meets the criteria for restricted (Category B) use, then it is classified as a Category B product. Products that do not meet the criteria for either Category A or B must be used or disposed of appropriately.



Appendix III
Compost Agricultural Product Value
 on as is basis



Agricultural End-Use	Analysis Result	Unit	Quantity in lbs/Ton
Physical Parameters			
Dry Matter	59.00%	%	
pH	6.9		
Bulk Density	460	kg/m3	
C:N Ratio	20:1		
Fertilizer Equivalent Minerals			
Nitrogen Total	2.41%	%	48.2
Ammonium Nitrogen	602.86	ppm	1.21
Total Phosphate (P as P2O5)	1.48%	%	29.6
Total Potash (K as K2O)	0.51%	%	10.2
Calcium	1.23%	%	24.6
Magnesium	0.29%	%	5.8
Sulfur	1744.92	ppm	3.5

The Compost Quality Assurance program goes beyond the provincial requirements to establish full value and appropriate end-use. The Compost Report and Compost End-use table in Appendix II, has 10 different compost application uses from soil remediation, through to potting soil blends. Of note are available soluble salt limits and the percent available sodium for sensitive plants. Appendix III, lists the primary agricultural use parameters and quantitative nutrient content that reflects this compost samples agricultural end-use, and application value. This value includes macro and micro nutrients, soil building properties such as the addition of organic matter, increasing moisture holding capacity, and the soils slow release nutrients. These parameters improve beneficial soil health components soil structure and stability.

The results of our testing on this sample indicates that this product is a fine textured, compost (80%+ 3/8 in.), with rich mineral properties, which would meet criteria for agricultural soil amendment, blending and topdressing end-uses purposes. The C:N ratio 20:1 from Appendix II, on the soil suitability report indicates a low C:N ratio and indicating good nitrogen availability. The low C:N ratio in conjunction with the higher total nitrogen content listed in Appendix III indicates early high available nitrogen levels, and should be considered for crop planning. The proportion of available sodium (6.18% Na), which if used in too heavy a proportion could cause some problems with sensitive species. The sodium levels of this compost sample though high, is suitable for agricultural broadcast field applications and are made to improve the organic matter level and major nutrients phosphorus, potassium and magnesium levels. The compost is also rich in available calcium, sulfur, and iron, which make it ideal for soil enriching, and amendment. We recommend blending this material at a minimum of 4-5 parts soil blended to each part of this compost to dilute the sodium concentration.

Major Nutrients - Compost is classified in Schedule II (CFIA Fertilizer Act & Regulations) as a supplement, and as such, nutrient guarantees are not mandatory. However, if any claims are made regarding nutritional value of the product, such as for composted manure, the product would then be classified as a supplement and a fertilizer, and label would have to include the guarantees for the major nutrients. The guarantees for the major nutrients include the minimum amounts of Total Nitrogen (N), Available Phosphoric Acid (P2O5) and Soluble Potash (K2O).

Report Number: C22048-10027
 Account Number: 01759

A & L Canada Laboratories Inc.

2136 Jetstream Road, London, Ontario, N5V 3P5
 Telephone: (519) 457-2575 Fax: (519) 457-2664



C22048-10027



To: CITY OF KELOWNA
 1435 WATER STREET
 KELOWNA, BC V1Y 1J4

For: OGO FEB 2022

Attn: JOSE GARCIA

P.O. Number: 532988

Reported Date:
 Printed Date: Mar 1, 2022

COMPOST REPORT

Page: 1 / 1

Sample Number	Lab Number	pH	Lime Index	Available Organic Matter %	Phosphorus P ppm	Potassium K ppm	Magnesium Mg ppm	Calcium Ca ppm
OGO FEB 2022	23225	6.9	6.5	73.4	2181	2145	1242	2692

Sulfur S ppm	Zinc Zn ppm	Manganese Mn ppm	Iron Fe ppm	Copper Cu ppm	Boron B ppm	Sodium Na ppm	Nitrate-N NO3-N ppm	Soluble Salt ms/cm	Nitrogen (Total) (%)	Chloride ppm
196	80.1	117	191	9.2	2.5	449	16	2.2	2.41	824

INTERPRETATION

CEC		Percent Base Saturation				Proportional Equivalents (meq)				Cation Ratio		C/N Ratio
meq/100g	% BS	% K	% Mg	% Ca	% Na	K	Mg	Ca	Na	Mg/K	Ca/Mg	
31.5	98.7	17.45	32.40	42.70	6.18	5.50	10.21	13.46	1.95	2:1	1:1	20:1
Optimum Range:		3 - 5	8 - 20	60 - 80		0.5 - 1.3				7:1	5:1	

CQA

* Results reported on a dry weight basis.

The results of this report relate to the sample submitted and analyzed.

* Crop yield is influenced by a number of factors in addition to soil fertility.

No guarantee or warranty concerning crop performance is made by A & L.

A&L Canada Laboratories Inc. is accredited by the Standards Council of Canada for specific tests as listed on www.scc.ca and by the Canadian Association for Laboratory Accreditation as listed on www.cala.ca

Results Authorized By:

Ian McLachlin, Vice President

A & L Canada Laboratories Inc.

2136 Jetstream Rd, London, Ontario, N5V 3P5
Telephone: (519) 457-2575 Fax: (519) 457-2664



REPORT NUMBER: C22048-10027
ACCOUNT NUMBER: 01759

REPORT OF ANALYSIS

TO: CITY OF KELOWNA
1435 WATER STREET
KELOWNA, BC V1Y 1J4

RE: OGO Feb 2022

CQA2200059

DATE RECEIVED: 2022-02-17
DATE REPORTED: 2022-03-01
PAGE: 1 / 1
P.O. NUMBER: 532988

Attn: JOSE GARCIA

LAB NO.	SAMPLE ID	ANALYSIS	RESULT	UNIT	METHOD
23225	OGO FEB 2022	Nitrogen (Total)	2.4	%	TMECC.04.02-D



C22048-10027

Results Authorized By:

REPORT NO.
C22048-70006

ACCOUNT NUMBER
01759

A & L Canada Laboratories Inc.

2136 Jetstream Road, London, ON, N5V 3P5 Tel: (519) 457-2575 Fax: (519) 457-2664



TO:CITY OF KELOWNA
1435 WATER STREET
KELOWNA, BC V1Y 1J4

FOR:OGO Feb 2022

ATTN:Jose Garcia
Phone:250-469-8796

CERTIFICATE OF ANALYSIS

PAGE: 1 / 3

PROJECT NO:

PO#:532988
LAB NUMBER:487008
SAMPLE ID:OGO FEB 2022

SAMPLE MATRIX:COMPOST
DATE SAMPLED:NONE GIVEN
DATE RECEIVED:2022-02-17
DATE REPORTED:2022-03-01
DATE PRINTED:2022-03-01

PARAMETER	Result	UNIT	DETECTION LIMIT	METHOD REFERENCE
Arsenic	4.27	ug/g	1.00	EPA 3050B/6010B(mod) *
Cadmium	BDL	ug/g	1.00	EPA 3050B/6010B(mod) *
Cobalt	3.28	ug/g	1.00	TMECC 4.06;EPA 3050/6010(mod)*
Chromium	19.98	ug/g	1.00	TMECC.04.06;EPA 3050/6010(mod)*
Copper	195.10	ug/g	1.00	TMECC 4.06;EPA 3050/6010(mod)*
Mercury	0.22	ug/g	0.10	EPA 7471 *
Molybdenum	3.8	ug/g	1.0	TMECC.04.06;EPA 3050/6010(mod)*
Nickel	8.62	ug/g	1.00	TMECC 4.06;EPA 3050/6010(mod)*
Lead	4.78	ug/g	1.00	EPA 3050B/6010B(mod) *
Selenium	1.73	ug/g	1.00	EPA 3050/6010 (mod) *
Zinc	269.45	ug/g	1.00	TMECC 4.06;EPA 3050/6010(mod)*

* - accredited test

BDL - Below detectable levels

The results of this report relate to the sample submitted and analyzed.



C22048-70006

Results Authorized By:

Haifeng Song, Ph.D., C.Chem. Lab Director

A&L Canada Laboratories Inc. is accredited by the Standards Council of Canada for specific tests as listed on www.scc.ca and by the Canadian Association for Laboratory Accreditation as listed on www.cala.ca

Additional information available upon request

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REPORT NO.
C22048-70006

ACCOUNT NUMBER
01759

A & L Canada Laboratories Inc.

2136 Jetstream Road, London, ON, N5V 3P5 Tel: (519) 457-2575 Fax: (519) 457-2664



TO:CITY OF KELOWNA
1435 WATER STREET
KELOWNA, BC V1Y 1J4

FOR:OGO Feb 2022

ATTN:Jose Garcia
Phone:250-469-8796

CERTIFICATE OF ANALYSIS

PAGE: 2 / 3

PROJECT NO:

PO#:532988
LAB NUMBER:487008
SAMPLE ID:OGO FEB 2022

SAMPLE MATRIX:COMPOST
DATE SAMPLED:NONE GIVEN
DATE RECEIVED:2022-02-17
DATE REPORTED:2022-03-01
DATE PRINTED:2022-03-01

PARAMETER	Result	UNIT	DETECTION LIMIT	METHOD REFERENCE
E. coli	6	MPN/g dry	3	TMECC 07.01
Salmonella spp.	NEGATIVE	P-A/ 25.0g(ml)	1 CFU	MFLP-75 *
Fecal Coliform	13	MPN/g dry	3	TMECC 07.01
Total sharps > 2.8 mm*	0	pieces/500ml		TMECC 03.08
Total sharps > 12.5 mm	0	pieces/500ml		TMECC 03.08
Total FM > 2.8 mm*	BDL	%	0.01	TMECC 03.08
Total FM > 25 mm	0	pieces/500ml		TMECC 03.08
Total plastics > 2.8 mm*	BDL	%	0.01	TMECC 03.08
Total Organic Matter @ 550 deg C	76.54	%	0.10	LOI@550C
Moisture	41.00	%	0.10	TMECC.03.09-A
Sieve 2 Inch (% Passing)	100.00	%	0.10	ASTMD422
Sieve 1 Inch (% Passing)	100.00	%	0.10	ASTMD422
Sieve 1/2 Inch (% Passing)	89.30	%	0.10	ASTMD422
Sieve 3/8 Inch (% Passing)	80.00	%	0.01	ASTMD422
Sieve 1/4 Inch (% Passing)	67.30	%	0.10	ASTMD422
Compost Stability Index	8	---		TMECC.05.08-B
Respiration-mgCO ₂ -C/g OM/day	BDL	mgCO ₂ -C/ gOM/day	0.01	TMECC.05.08-B
Respiration - mgCO ₂ -C/g TS/day	BDL	mgCO ₂ -C/ gTS/day	0.01	TMECC.05.08-B

Maturity Index: 8 - Inactive, highly matured compost, very well aged, possibly over-aged, like soil; no limitations for usage.

* - accredited test

BDL - Below detectable levels

The results of this report relate to the sample submitted and analyzed.



C22048-70006

Results Authorized By:

Haifeng Song, Ph.D., C.Chem. Lab Director

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REPORT NO.
C22048-70006

ACCOUNT NUMBER
01759

A & L Canada Laboratories Inc.

2136 Jetstream Road, London, ON, N5V 3P5 Tel: (519) 457-2575 Fax: (519) 457-2664



TO:CITY OF KELOWNA
1435 WATER STREET
KELOWNA, BC V1Y 1J4

FOR:OGO Feb 2022

ATTN:Jose Garcia
Phone:250-469-8796

CERTIFICATE OF ANALYSIS

PAGE: 3 / 3

PROJECT NO:

PO#:532988
LAB NUMBER:487008
SAMPLE ID:OGO FEB 2022

SAMPLE MATRIX:COMPOST
DATE SAMPLED:NONE GIVEN
DATE RECEIVED:2022-02-17
DATE REPORTED:2022-03-01
DATE PRINTED:2022-03-01

PARAMETER	Result Dry Weight	Result As Received	UNIT	DETECTION LIMIT	METHOD REFERENCE
Total Solids (as received)		59.00	%	0.10	Gravimetric
Nitrogen & Carbon					
Total Organic Carbon		42.52	%	0.10	Combustion
Ammonia (NH3/NH4-N)	1021.80	602.86	ug/g	.01	Colourimetric
Metals					
Potassium	7170.00	4230.30	ug/g	5.00	TMECC.04.04*
Total Potassium (as K2O)	0.86	0.51	%	0.05	ICP
Phosphorus	10975.00	6475.25	ug/g	5.00	TMECC.04.03 *
Total Phosphorus (as P2O5)	2.51	1.48	%	0.05	ICP
Aluminum	4793.50	2828.16	ug/g	5.00	TMECC.04.07 *
Boron	24.18	14.27	ug/g	1.00	TMECC.04.05 *
Calcium	2.09	1.23	%	0.01	TMECC.04.05*
Iron	6040.00	3563.60	ug/g	5.00	TMECC.04.05 *
Magnesium	0.49	0.29	%	0.01	TMECC.04.05 *
Manganese	618.50	364.91	ug/g	1.00	TMECC.04.05 *
Sodium	0.15	0.09	%	0.01	TMECC.04.05 *
Sulphur	2957.50	1744.92	ug/g	5.00	TMECC.04.05 *
Additional Parameters					
Bulk Density (as Recieved)		460	kg/m3	10	Gravimetric

* - accredited test

BDL - Below detectable levels

The results of this report relate to the sample submitted and analyzed.



C22048-70006

Results Authorized By:

Haifeng Song, Ph.D., C.Chem. Lab Director

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www.compostquality.ca

SUMMARY OF ANALYSIS REPORT

To: City of Kelowna
1435 Water Street
Kelowna, British Columbia V1Y 1J4

CQA Member#: 18-2800

Attention: Jose Garcia

Sample I.D.: OGO MAY 2022

Report#: C22154-10141
C22154-70000

Sample Date:
Reported Date: 2022-6-17

Compost Manufactured in: British Columbia

Feedstock: *Municipal Biosolids, Forestry Residues*

CQA COMPOST QUALITY & VALUE TESTING PARAMETERS REPORT

SAMPLE ID	RECOMMENDED END USE/MARKET
OGO MAY 2022	CATEGORY A
Regulatory	See Appendix I
Product Quality	See Appendix II
Product Value/ Soil	See Appendix III
Suitability*	(Soil, Enviro, Manure Compost)

The Compost Quality Alliance (CQA) is a voluntary quality monitoring program established by the Compost Council of Canada and the compost producers utilizing recognized standardized testing methodologies and uniform operating protocols to provide customer assurance in compost selection its use, and proper end-use utilization.

All analysis of this compost product was conducted and provided by A&L Canada Laboratories Inc. for the Compost Quality Alliance (CQA).

Haifeng Song, Senior Chemist

Ian McLachlin, Vice-President



A&L Canada Laboratories Inc.
London, Ontario Canada
(519) 457-2575

A proud member of



***PLEASE NOTE: Major Nutrients under the Fertilizer Act and Regulations (CFIA)**

Please see Appendix III for nutrient content (of impact to claims and labelling if used in declarations).

Compost is classified in Schedule II as a supplement, and as such nutrient guarantees are not mandatory. However, if any claims are made regarding nutritional value of the product, such as for composted manure, the product would then be classified as a supplement and a fertilizer, and the label would have to include the guarantees for the major nutrients. The guarantees for the major nutrients include the minimum amounts of Total Nitrogen (N), Available Phosphoric Acid (P2O5) and Soluble Potash K2O. Source: T-4-120 - Regulation of Compost under the Fertilizers Act and Regulations. <http://www.inspection.gc.ca/plants/fertilizers/trade-memoranda/t-4-120/eng/1307910204607/1307910352783>



Appendix I



CCME Guidelines 2005 & CFIA Fertilizer Act & Regulations:

Alberta, Manitoba, New Brunswick, Nova Scotia, Newfoundland, Prince Edward Island & Territories

A. Maximum Concentrations for Trace Metals in Compost†

Trace Elements	Test Results (ug/g)	Category A	Category B
		Maximum Concentration within Product (mg/kg dry weight)	
Arsenic (As)	1.22	13	75
Cadmium (Cd)	BDL	3	20
Chromium (Cr)	9.71	210	**
Cobalt (Co)	1.31	34	150
Copper (Cu)	79.75	400	**
Lead (Pb)	1.65	150	500
Mercury (Hg)	0.20	0.8	5
Molybdenum (Mo)	2.50	5	20
Nickel (Ni)	5.13	62	180
Selenium (Se)	BDL	2	14
Zinc (Zn)	111.60	700	1850

** Upper limits are not established in the Trade Memorandum.

B. Foreign Matter in Compost†

Test Results		Category A	Category B
Foreign Matter		Contains no more than 1 piece of foreign matter >25mm/500ml	Contains no more than 2 pieces of foreign matter > 25mm/500mL
Pieces >25mm/500mL	0		
Sharp Foreign Matter		No sharp foreign matter >3mm per 500ml	No more than 3 pieces of sharp matter < 12.5mm/500mL Note: This compost shall not be used in pastures, parks, or residential
Pieces > 3mm/500mL	0		
Pieces > 12.5mm/500mL	0		

C. Maturity/Stability†

Method	Test Results	Required Limits
CO2 Respiration Rate (mg CO2/g O.M./day)	BDL	≤ 4 mg of carbon in the form of carbon dioxide per gram of organic matter per day
O2 Uptake Respiration Rate (mg O2/kg O.M./hr)		≤ 400 mg oxygen/kg of volatile solids (or organic matter)/hour

D. Pathogens†

Pathogen	Test Results	Required Limits
Fecal Coliform (MPN/g dry)	<3	<1000 MPN/g of total solids calculated on a dry weight basis
Salmonella (P-A/25g(ml))	NEGATIVE	<3 MPN/4g total solids calculated on a dry weight basis

†The following references are from the CCME guidelines (PN1340), October 2005

*BDL = Below Detectable Limits

E. CFIA

Parameter	Test Results
Total Organic Matter (%)	84.36%
Moisture (%)	37.33%

All analysis conducted and prepared by:

A L Canada Laboratories

2136 Jetstream Rd London, Ontario N5V 3P5 (519) 457-2575

Appendix II Finished Compost Quality

Parameter	Test Results
pH	7.3
Carbon to Nitrogen Ratio	17:1
Particle Size/Texture (inch)+	1
Soluble Salts (ms/cm)	1.0
Sodium Base Saturation (%Na)	6.15%
Major Nutrients	
Available Potassium (%K)	15.32%
Available Magnesium (%Mg)	23.62%
Available Calcium (%Ca)	54.91%

+ Majority of sample passes through this sieve size

Unrestricted Use: Category A - Compost that can be used in any application, such as agricultural lands, residential gardens, horticultural operations, the nursery industry, and other businesses. Category A criteria for trace elements are achievable using best source separated MSW feedstock, municipal biosolids, pulp and paper mill biosolids, or manure.

Restricted Use: Category B - Compost that has a restricted use because of the presence of sharp foreign matter or higher trace element content. Category B compost may require additional control when deemed necessary by a province or territory.

Reference Compost Quality Parameters for CQA

Use	pH	C:N	Moisture	Particle Size	Soluble Salts	%Na
Remediation	5.8-8.5	10-40	NA	<2 in	<20	<3%
Soil Amendment	5.8-8.5	10-30	NA	<1/2 in	<6	<2%
Landscaping	5.8-8.5	12-22	<50%	<1/2 in	<5	<2%
Planting Media	5.5-7.8	12-22	<50%	<1/2 in	<4	<2%
Turf Establishment & Topdressing	5.5-7.8	12-22	<50%	<3/8 in	<3	<1%
Greenhouse Seeding	6-7	12-22	<25%	<1/4 in	<2	<0.5%
Greenhouse Establishment	6-7	12-22	<30%	<1/2 in	2-3.5	<0.5%
Field Nursery	5.8-8	10-30	<50%	<1/2 in	<3.5	<1%
Agricultural Soil Amendments	6-8	10-30	<50%	<1/2 in	<20	none
Potting Soil	5.5-7.2	12-22	<50%	<1/4 in	<2	<1%

These are examples of some of the many end uses suitable for compost

The Compost Quality Assurance program goes beyond the provincial requirements to establish full value and appropriate end-use. The Compost Report and Compost End-use table in Appendix II, has 10 different compost application uses from soil remediation, through to potting soil blends. Of note are available soluble salt limits and the percent available sodium for sensitive plants. Appendix III, lists the primary agricultural use parameters and quantitative nutrient content that reflects this compost samples agricultural end-use, and application value. This value includes macro and micro nutrients, soil building properties such as the addition of organic matter, increasing moisture holding capacity, and the soils slow release nutrients. These parameters improve beneficial soil health components soil

Note: For a compost to meet the unrestricted use category, it must meet the unrestricted (Category A) requirements for all trace elements and sharp foreign matter. If the compost fails one criterion of the guideline for unrestricted use but meets the criteria for restricted (Category B) use, then is is classified as a Category B product. Products that do not meet the criteria for either Category A or B must be used or disposed of appropriately.

Appendix III

Compost Agricultural Product Value on as is basis



Agricultural End-Use	Analysis Result	Unit	Quantity in lbs/Ton
Physical Parameters			
Dry Matter	62.67%	%	
pH	7.3		
Bulk Density	413	kg/m3	
C:N Ratio	17:1		
Fertilizer Equivalent Minerals			
Nitrogen Total	2.54%	%	50.8
Ammonium Nitrogen	604.82	ppm	1.21
Total Phosphate (P as P2O5)	0.59%	%	11.8
Total Potash (K as K2O)	0.34%	%	6.8
Calcium	0.66%	%	13.2
Magnesium	0.13%	%	2.6
Sulfur	1051.54	ppm	2.1
Agricultural Index			
Ag Index	21	Can be used on all soils	

Salt injury probable	Limit use to soils with excellent drainage and low salt content	Can be used on soils with poor drainage or high salt content	Can be used on all soils
1	2 3 4 5	6 7 8 9	>10

Figure 1. Adapted from TMECC 05.02-F1 AgIndex interpretation and use guidelines for common edaphic conditions. Where 10 is a compost material with low potential for salt injury and 1 materials require dilution to prevent salt injury

The results of our testing on this sample indicates that this product is a course textured, mature compost (100%+ 1 in.), with rich mineral properties, which would meet criteria for remediation and mulching. The C:N ratio 17:1 from Appendix II, on the soil suitability report indicates a low C:N ratio and indicating good nitrogen availability. The low C:N ratio in conjunction with the higher total nitrogen content listed in Appendix III indicates early high available nitrogen levels, and should be considered for crop planning.

The proportion of available sodium (6.15% Na), which if used in too heavy a proportion could cause some problems with sensitive species. The sodium levels of this compost sample though high, is suitable for agricultural broadcast field applications and are made to improve the organic matter level and major nutrients phosphorus, potassium and magnesium levels. The compost is also rich in available calcium, sulfur, and iron, which make it ideal for soil enriching, and amendment. We recommend blending this material at a minimum of 4-5 parts soil blended to each part of this compost to dilute the sodium concentration.

Major Nutrients - Compost is classified in Schedule II (CFIA Fertilizer Act & Regulations) as a supplement, and as such, nutrient guarantees are not mandatory. However, if any claims are made regarding nutritional value of the product, such as for composted manure, the product would then be classified as a supplement and a fertilizer, and label would have to include the guarantees for the major nutrients. The guarantees for the major nutrients include the minimum amounts of Total Nitrogen (N), Available Phosphoric Acid (P2O5) and Soluble Potash (K2O).

Report Number: C22154-10141
 Account Number: 01759

A & L Canada Laboratories Inc.

2136 Jetstream Road, London, Ontario, N5V 3P5
 Telephone: (519) 457-2575 Fax: (519) 457-2664



C22154-10141



To: CITY OF KELOWNA
 1435 WATER STREET
 KELOWNA, BC V1Y 1J4

For: OGO MAY 2022

Attn: JOSE GARCIA

P.O. Number: 535789

Reported Date: 2022-06-10
 Printed Date: Jun 17, 2022

COMPOST REPORT

Page: 1 / 1

Sample Number	Lab Number	pH	Lime Index	Available Organic Matter %	Phosphorus P ppm	Potassium K ppm	Magnesium Mg ppm	Calcium Ca ppm
OGO MAY 2022	62192	7.3	6.7	65.5	2173	2223	1069	4087

Sulfur S ppm	Zinc Zn ppm	Manganese Mn ppm	Iron Fe ppm	Copper Cu ppm	Boron B ppm	Sodium Na ppm	Nitrate-N NO3-N ppm	Soluble Salt ms/cm	Nitrogen (Total) (%)	Chloride ppm
161	79.1	126	174	6.5	3.0	526	26	1.0	2.54	830

INTERPRETATION

CEC		Percent Base Saturation				Proportional Equivalents (meq)				Cation Ratio		C/N Ratio
meq/100g	% BS	% K	% Mg	% Ca	% Na	K	Mg	Ca	Na	Mg/K	Ca/Mg	
37.2	100.0	15.32	23.62	54.91	6.15	5.70	8.79	20.43	2.29	2:1	2:1	17:1
Optimum Range:		3 - 5	8 - 20	60 - 80		0.5 - 1.3				7:1	5:1	

CQA

* Results reported on a dry weight basis.

The results of this report relate to the sample submitted and analyzed.

* Crop yield is influenced by a number of factors in addition to soil fertility.

No guarantee or warranty concerning crop performance is made by A & L.

A&L Canada Laboratories Inc. is accredited by the Standards Council of Canada for specific tests as listed on www.scc.ca and by the Canadian Association for Laboratory Accreditation as listed on www.cala.ca

Results Authorized By:

Ian McLachlin, Vice President

A & L Canada Laboratories Inc.

2136 Jetstream Rd, London, Ontario, N5V 3P5
Telephone: (519) 457-2575 Fax: (519) 457-2664



REPORT NUMBER: C22154-10141
ACCOUNT NUMBER: 01759

REPORT OF ANALYSIS

TO: CITY OF KELOWNA
1435 WATER STREET
KELOWNA, BC V1Y 1J4

RE: OGO MAY 2022

CQA2200218

DATE RECEIVED: 2022-06-03
DATE REPORTED: 2022-06-17
PAGE: 1 / 1
P.O. NUMBER: 535789

Attn: JOSE GARCIA

LAB NO.	SAMPLE ID	ANALYSIS	RESULT	UNIT	METHOD
62192	OGO MAY 2022	Nitrogen (Total)	2.5	%	TMECC.04.02-D



C22154-10141

Results Authorized By:

REPORT NO.
C22154-70000

ACCOUNT NUMBER
01759

A & L Canada Laboratories Inc.

2136 Jetstream Road, London, ON, N5V 3P5 Tel: (519) 457-2575 Fax: (519) 457-2664



TO:CITY OF KELOWNA
1435 WATER STREET
KELOWNA, BC V1Y 1J4

FOR:Ogo May 2022

ATTN:Jose Garcia
Phone:250-469-8796

CERTIFICATE OF ANALYSIS

PAGE: 1 / 3

PROJECT NO:

PO#:535789
LAB NUMBER:1547001
SAMPLE ID:OGO MAY 2022

SAMPLE MATRIX:COMPOST
DATE SAMPLED:NONE GIVEN
DATE RECEIVED:2022-06-03
DATE REPORTED:2022-06-10
DATE PRINTED:2022-06-17

PARAMETER	Result	UNIT	DETECTION LIMIT	METHOD REFERENCE
Arsenic	1.22	ug/g	1.00	EPA 3050B/6010B(mod) *
Cadmium	BDL	ug/g	1.00	EPA 3050B/6010B(mod) *
Cobalt	1.31	ug/g	1.00	TMECC 4.06;EPA 3050/6010(mod)*
Chromium	9.71	ug/g	1.00	TMECC.04.06;EPA 3050/6010(mod)*
Copper	79.75	ug/g	1.00	TMECC 4.06;EPA 3050/6010(mod)*
Mercury	0.20	ug/g	0.10	EPA 7471 *
Molybdenum	2.5	ug/g	1.0	TMECC.04.06;EPA 3050/6010(mod)*
Nickel	5.13	ug/g	1.00	TMECC 4.06;EPA 3050/6010(mod)*
Lead	1.65	ug/g	1.00	EPA 3050B/6010B(mod) *
Selenium	BDL	ug/g	1.00	EPA 3050/6010 (mod) *
Zinc	111.60	ug/g	1.00	TMECC 4.06;EPA 3050/6010(mod)*

* - accredited test

BDL - Below detectable levels

The results of this report relate to the sample submitted and analyzed.



C22154-70000

Results Authorized By:

Haifeng Song, Ph.D., C.Chem. Lab Director

A&L Canada Laboratories Inc. is accredited by the Standards Council of Canada for specific tests as listed on www.scc.ca and by the Canadian Association for Laboratory Accreditation as listed on www.cala.ca

Additional information available upon request

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REPORT NO.
C22154-70000

ACCOUNT NUMBER
01759

A & L Canada Laboratories Inc.

2136 Jetstream Road, London, ON, N5V 3P5 Tel: (519) 457-2575 Fax: (519) 457-2664



TO:CITY OF KELOWNA
1435 WATER STREET
KELOWNA, BC V1Y 1J4

FOR:Ogo May 2022

ATTN:Jose Garcia
Phone:250-469-8796

CERTIFICATE OF ANALYSIS

PAGE: 2 / 3

PROJECT NO:

PO#:535789
LAB NUMBER:1547001
SAMPLE ID:OGO MAY 2022

SAMPLE MATRIX:COMPOST
DATE SAMPLED:NONE GIVEN
DATE RECEIVED:2022-06-03
DATE REPORTED:2022-06-10
DATE PRINTED:2022-06-17

PARAMETER	Result	UNIT	DETECTION LIMIT	METHOD REFERENCE
E. coli	<3	MPN/g dry	3	TMECC 07.01
Salmonella spp.	NEGATIVE	P-A/ 25.0g(ml)	1 CFU	MFLP-75 *
Fecal Coliform	<3	MPN/g dry	3	TMECC 07.01
Total sharps > 2.8 mm*	0	pieces/500ml		TMECC 03.08
Total sharps > 12.5 mm	0	pieces/500ml		TMECC 03.08
Total FM > 2.8 mm*	BDL	%	0.01	TMECC 03.08
Total FM > 25 mm	0	pieces/500ml		TMECC 03.08
Total plastics > 2.8 mm*	BDL	%	0.01	TMECC 03.08
Total Organic Matter @ 550 deg C	84.36	%	0.10	LOI@550C
Moisture	37.33	%	0.10	TMECC.03.09-A
Sieve 2 Inch (% Passing)	100.00	%	0.10	ASTMD422
Sieve 1 Inch (% Passing)	100.00	%	0.10	ASTMD422
Sieve 1/2 Inch (% Passing)	79.10	%	0.10	ASTMD422
Sieve 3/8 Inch (% Passing)	68.10	%	0.01	ASTMD422
Sieve 1/4 Inch (% Passing)	56.30	%	0.10	ASTMD422
Compost Stability Index	8	---		TMECC.05.08-B
Respiration-mgCO ₂ -C/g OM/day	BDL	mgCO ₂ -C/ gOM/day	0.01	TMECC.05.08-B
Respiration - mgCO ₂ -C/g TS/day	BDL	mgCO ₂ -C/ gTS/day	0.01	TMECC.05.08-B

Maturity Index: 8 - Inactive, highly matured compost, very well aged, possibly over-aged, like soil; no limitations for usage.

* - accredited test

BDL - Below detectable levels

The results of this report relate to the sample submitted and analyzed.



C22154-70000

Results Authorized By:

Haifeng Song, Ph.D., C.Chem. Lab Director

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REPORT NO.
C22154-70000

ACCOUNT NUMBER
01759

A & L Canada Laboratories Inc.

2136 Jetstream Road, London, ON, N5V 3P5 Tel: (519) 457-2575 Fax: (519) 457-2664



TO: CITY OF KELOWNA
1435 WATER STREET
KELOWNA, BC V1Y 1J4

FOR: Ogo May 2022

ATTN: Jose Garcia
Phone: 250-469-8796

CERTIFICATE OF ANALYSIS

PAGE: 3 / 3

PROJECT NO:

PO#: 535789
LAB NUMBER: 1547001
SAMPLE ID: OGO MAY 2022

SAMPLE MATRIX: COMPOST
DATE SAMPLED: NONE GIVEN
DATE RECEIVED: 2022-06-03
DATE REPORTED: 2022-06-10
DATE PRINTED: 2022-06-17

PARAMETER	Result Dry Weight	Result As Received	UNIT	DETECTION LIMIT	METHOD REFERENCE
Total Solids (as received)		62.67	%	0.10	Gravimetric
Nitrogen & Carbon					
Total Organic Carbon		46.87	%	0.10	Combustion
Ammonia (NH ₃ /NH ₄ -N)	965.09	604.82	ug/g	.01	Colourimetric
Metals					
Potassium	4559.00	2857.13	ug/g	5.00	TMECC.04.04*
Total Potassium (as K ₂ O)	0.55	0.34	%	0.05	ICP
Phosphorus	4108.00	2574.48	ug/g	5.00	TMECC.04.03 *
Total Phosphorus (as P ₂ O ₅)	0.94	0.59	%	0.05	ICP
Aluminum	2107.50	1320.77	ug/g	5.00	TMECC.04.07 *
Boron	15.02	9.41	ug/g	1.00	TMECC.04.05 *
Calcium	1.05	0.66	%	0.01	TMECC.04.05*
Iron	4247.50	2661.91	ug/g	5.00	TMECC.04.05 *
Magnesium	0.20	0.13	%	0.01	TMECC.04.05 *
Manganese	309.65	194.06	ug/g	1.00	TMECC.04.05 *
Sodium	0.13	0.08	%	0.01	TMECC.04.05 *
Sulphur	1678.00	1051.60	ug/g	5.00	TMECC.04.05 *
Additional Parameters					
Bulk Density (as Recieved)		413	kg/m ³	10	Gravimetric

* - accredited test

BDL - Below detectable levels

The results of this report relate to the sample submitted and analyzed.



C22154-70000

Results Authorized By:

Haifeng Song, Ph.D., C.Chem. Lab Director

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www.compostquality.ca

SUMMARY OF ANALYSIS REPORT

To: City of Kelowna
1435 Water Street
Kelowna, British Columbia V1Y 1J4

CQA Member#: 18-2800

Attention: Jose Garcia

Sample I.D.: Ogo Aug 2022

Report#: C22230-10140
C22230-70001

Sample Date:
Reported Date: 2022-8-26

Compost Manufactured in: British Columbia
Feedstock: Forestry Residues, Municipal Biosolids

CQA COMPOST QUALITY & VALUE TESTING PARAMETERS REPORT

SAMPLE ID	RECOMMENDED END USE/MARKET
Ogo Aug 2022	CATEGORY A
Regulatory	See Appendix I
Product Quality	See Appendix II
Product Value/ Soil Suitability*	See Appendix III (Soil, Enviro, Manure Compost)

The Compost Quality Alliance (CQA) is a voluntary quality monitoring program established by the Compost Council of Canada and the compost producers utilizing recognized standardized testing methodologies and uniform operating protocols to provide customer assurance in compost selection its use, and proper end-use utilization.

All analysis of this compost product was conducted and provided by A&L Canada Laboratories Inc. for the Compost Quality Alliance (CQA).

Haifeng Song, Senior Chemist

Ian McLachlin, Vice-President



A&L Canada Laboratories Inc.
London, Ontario Canada
(519) 457-2575

A proud member of



***PLEASE NOTE: Major Nutrients under the Fertilizer Act and Regulations (CFIA)**

Please see Appendix III for nutrient content (of impact to claims and labelling if used in declarations).

Compost is classified in Schedule II as a supplement, and as such nutrient guarantees are not mandatory. However, if any claims are made regarding nutritional value of the product, such as for composted manure, the product would then be classified as a supplement and a fertilizer, and the label would have to include the guarantees for the major nutrients. The guarantees for the major nutrients include the minimum amounts of Total Nitrogen (N), Available Phosphoric Acid (P2O5) and Soluble Potash K2O. Source: T-4-120 - Regulation of Compost under the Fertilizers Act and Regulations. <http://www.inspection.gc.ca/plants/fertilizers/trade-memoranda/t-4-120/eng/1307910204607/1307910352783>



Appendix I

CCME Guidelines 2005 & CFIA Fertilizer Act & Regulations:

Alberta, Manitoba, New Brunswick, Nova Scotia, Newfoundland, Prince Edward Island & Territories

A. Maximum Concentrations for Trace Metals in Compost†

Trace Elements	Test Results (ug/g)	Category A	Category B
		Maximum Concentration within Product (mg/kg dry weight)	
Arsenic (As)	BDL	13	75
Cadmium (Cd)	BDL	3	20
Chromium (Cr)	13.28	210	**
Cobalt (Co)	1.73	34	150
Copper (Cu)	66.10	400	**
Lead (Pb)	2.58	150	500
Mercury (Hg)	0.26	0.8	5
Molybdenum (Mo)	2.20	5	20
Nickel (Ni)	7.50	62	180
Selenium (Se)	BDL	2	14
Zinc (Zn)	98.10	700	1850

** Upper limits are not established in the Trade Memorandum.

B. Foreign Matter in Compost†

	Test Results	Category A	Category B
Foreign Matter		Contains no more than 1 piece of foreign matter >25mm/500ml	Contains no more than 2 pieces of foreign matter > 25mm/500mL
Pieces >25mm/500mL	0		
Sharp Foreign Matter		No sharp foreign matter >3mm per 500ml	No more than 3 pieces of sharp matter < 12.5mm/500mL
Pieces > 3mm/500mL	0		
Pieces > 12.5mm/500mL	0		Note: This compost shall not be used in pastures, parks, or residential

C. Maturity/Stability†

Method	Test Results	Required Limits
CO2 Respiration Rate (mg CO2/g O.M./day)	0.40	≤ 4 mg of carbon in the form of carbon dioxide per gram of organic matter per day
O2 Uptake Respiration Rate (mg O2/kg O.M./hr)		≤ 400 mg oxygen/kg of volatile solids (or organic matter)/hour

D. Pathogens†

Pathogen	Test Results	Required Limits
Fecal Coliform (MPN/g dry)	<3	<1000 MPN/g of total solids calculated on a dry weight basis
Salmonella (P-A/25g(ml))	NEGATIVE	<3 MPN/4g total solids calculated on a dry weight basis

†The following references are from the CCME guidelines (PN1340), October 2005

*BDL = Below Detectable Limits

E. CFIA

Parameter	Test Results
Total Organic Matter (%)	79.63%
Moisture (%)	35.05%

All analysis conducted and prepared by:

A L Canada Laboratories

2136 Jetstream Rd London, Ontario N5V 3P5 (519) 457-2575

Appendix II Finished Compost Quality

Parameter	Test Results
pH	7.3
Carbon to Nitrogen Ratio	23:1
Particle Size/Texture (inch)+	1
Soluble Salts (ms/cm)	1.6
Sodium Base Saturation (%Na)	5.01%
Major Nutrients	
Available Potassium (%K)	13.11%
Available Magnesium (%Mg)	26.28%
Available Calcium (%Ca)	55.59%

+ Majority of sample passes through this sieve size

Unrestricted Use: Category A - Compost that can be used in any application, such as agricultural lands, residential gardens, horticultural operations, the nursery industry, and other businesses. Category A criteria for trace elements are achievable using best source separated MSW feedstock, municipal biosolids, pulp and paper mill biosolids, or manure.

Restricted Use: Category B - Compost that has a restricted use because of the presence of sharp foreign matter or higher trace element content. Category B compost may require additional control when deemed necessary by a province or territory.

Reference Compost Quality Parameters for CQA

Use	pH	C:N	Moisture	Particle Size	Soluble Salts	%Na
Remediation	5.8-8.5	10-40	NA	<2 in	<20	<3%
Soil Amendment	5.8-8.5	10-30	NA	<1/2 in	<6	<2%
Landscaping	5.8-8.5	12-22	<50%	<1/2 in	<5	<2%
Planting Media	5.5-7.8	12-22	<50%	<1/2 in	<4	<2%
Turf Establishment & Topdressing	5.5-7.8	12-22	<50%	<3/8 in	<3	<1%
Greenhouse Seeding	6-7	12-22	<25%	<1/4 in	<2	<0.5%
Greenhouse Establishment	6-7	12-22	<30%	<1/2 in	2-3.5	<0.5%
Field Nursery	5.8-8	10-30	<50%	<1/2 in	<3.5	<1%
Agricultural Soil Amendments	6-8	10-30	<50%	<1/2 in	<20	none
Potting Soil	5.5-7.2	12-22	<50%	<1/4 in	<2	<1%

These are examples of some of the many end uses suitable for compost

The Compost Quality Assurance program goes beyond the provincial requirements to establish full value and appropriate end-use. The Compost Report and Compost End-use table in Appendix II, has 10 different compost application uses from soil remediation, through to potting soil blends. Of note are available soluble salt limits and the percent available sodium for sensitive plants. Appendix III, lists the primary agricultural use parameters and quantitative nutrient content that reflects this compost samples agricultural end-use, and application value. This value includes macro and micro nutrients, soil building properties such as the addition of organic matter, increasing moisture holding capacity, and the soils slow release nutrients. These parameters improve beneficial soil health components soil

Note: For a compost to meet the unrestricted use category, it must meet the unrestricted (Category A) requirements for all trace elements and sharp foreign matter. If the compost fails one criterion of the guideline for unrestricted use but meets the criteria for restricted (Category B) use, then it is classified as a Category B product. Products that do not meet the criteria for either Category A or B must be used or disposed of appropriately.



Appendix III
 Compost Agricultural Product Value
 on as is basis



Agricultural End-Use	Analysis Result	Unit	Quantity in lbs/Ton
Physical Parameters			
Dry Matter	64.95%	%	
pH	7.3		
Bulk Density	425	kg/m3	
C:N Ratio	23:1		
Fertilizer Equivalent Minerals			
Nitrogen Total	2.05%	%	41.0
Ammonium Nitrogen	389.03	ppm	0.78
Total Phosphate (P as P2O5)	0.64%	%	12.8
Total Potash (K as K2O)	0.36%	%	7.2
Calcium	0.65%	%	13.0
Magnesium	0.14%	%	2.8
Sulfur	1164.60	ppm	2.3
Agricultural Index			
Ag Index	18		Can be used on all soils

Salt injury probable	Limit use to soils with excellent drainage and low salt content	Can be used on soils with poor drainage or high salt content	Can be used on all soils
1	2 3 4 5	6 7 8 9	>10

Figure 1. Adapted from TMECC 05.02-F1 AgIndex interpretation and use guidelines for common edaphic conditions. Where 10 is a compost material with low potential for salt injury and 1 materials require dilution to prevent salt injury

The results of our testing on this sample indicates that this product is a coarse textured, mature compost (100%+ 1 in.), with rich mineral properties, which would meet criteria for agricultural soil amendment, remediation and mulching end-uses purposes. The C:N ratio 23:1 from Appendix II, on the soil suitability report indicates a low C:N ratio and indicating good nitrogen availability. The low C:N ratio in conjunction with the higher total nitrogen content listed in Appendix III indicates early high available nitrogen levels, and should be considered for crop planning.

The proportion of available sodium (5.01% Na), which if used in too heavy a proportion could cause some problems with sensitive species. The sodium levels of this compost sample though high, is suitable for agricultural broadcast field applications and are made to improve the organic matter level and major nutrients phosphorus, potassium and magnesium levels. The compost is also rich in available calcium, sulfur, and iron, which make it ideal for soil enriching, and amendment. We recommend blending this material at a minimum of 3-4 parts soil blended to each part of this compost to dilute the sodium concentration.

Major Nutrients - Compost is classified in Schedule II (CFIA Fertilizer Act & Regulations) as a supplement, and as such, nutrient guarantees are not mandatory. However, if any claims are made regarding nutritional value of the product, such as for composted manure, the product would then be classified as a supplement and a fertilizer, and label would have to include the guarantees for the major nutrients. The guarantees for the major nutrients include the minimum amounts of Total Nitrogen (N), Available Phosphoric Acid (P2O5) and Soluble Potash (K2O).

Report Number: C22230-10140
 Account Number: 01759

A & L Canada Laboratories Inc.

2136 Jetstream Road, London, Ontario, N5V 3P5
 Telephone: (519) 457-2575 Fax: (519) 457-2664



C22230-10140



To: CITY OF KELOWNA
 1435 WATER STREET
 KELOWNA, BC V1Y 1J4

For: OGO AUG 2022

Attn: JOSE GARCIA

P.O. Number: 535789

Reported Date: 2022-08-26
 Printed Date: Aug 26, 2022

COMPOST REPORT

Page: 1 / 1

Sample Number	Lab Number	pH	Lime Index	Available Organic Matter %	Phosphorus P ppm	Potassium K ppm	Magnesium Mg ppm	Calcium Ca ppm
OGO AUG 2022	89977	7.3	6.7	69.9	2016	1701	1063	3698

Sulfur S ppm	Zinc Zn ppm	Manganese Mn ppm	Iron Fe ppm	Copper Cu ppm	Boron B ppm	Sodium Na ppm	Nitrate-N NO3-N ppm	Soluble Salt ms/cm	Nitrogen (Total) (%)	Chloride ppm
277	70.4	115	160	5.1	2.4	383	12	1.6	2.05	962

INTERPRETATION

CEC		Percent Base Saturation				Proportional Equivalents (meq)				Cation Ratio		C/N Ratio
meq/100g	% BS	% K	% Mg	% Ca	% Na	K	Mg	Ca	Na	Mg/K	Ca/Mg	
33.3	100.0	13.11	26.28	55.59	5.01	4.36	8.74	18.49	1.67	2:1	2:1	23:1
Optimum Range:		3 - 5	8 - 20	60 - 80		0.5 - 1.3				7:1	5:1	

CQA

* Results reported on a dry weight basis.

The results of this report relate to the sample submitted and analyzed. All results are released based on acceptable QC data.

* Crop yield is influenced by a number of factors in addition to soil fertility.

No guarantee or warranty concerning crop performance is made by A & L.

Results Authorized By:

Ian McLachlin, Vice President

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A & L Canada Laboratories Inc.

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Telephone: (519) 457-2575 Fax: (519) 457-2664



REPORT NUMBER: C22230-10140

ACCOUNT NUMBER: 01759

REPORT OF ANALYSIS

TO: CITY OF KELOWNA
1435 WATER STREET
KELOWNA, BC V1Y 1J4

RE: Ogo Aug 2022

CQA2200323

DATE RECEIVED: 2022-08-18

DATE REPORTED: 2022-08-26

PAGE: 1 / 1

P.O. NUMBER: 535789

Attn: JOSE GARCIA

LAB NO.	SAMPLE ID	ANALYSIS	RESULT	UNIT	METHOD
89977	OGO AUG 2022	Nitrogen (Total)	2.1	%	TMECC.04.02-D



C22230-10140

Results Authorized By:

REPORT NO.
C22230-70001

ACCOUNT NUMBER
01759

A & L Canada Laboratories Inc.

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TO:CITY OF KELOWNA
1435 WATER STREET
KELOWNA, BC V1Y 1J4

FOR:Ogo Aug 2022

ATTN:Jose Garcia
Phone:250-469-8796

CERTIFICATE OF ANALYSIS

PAGE: 1 / 3

PROJECT NO:

PO#:535789
LAB NUMBER:2307002
SAMPLE ID:OGO AUG 2022

SAMPLE MATRIX:COMPOST
DATE SAMPLED:NONE GIVEN
DATE RECEIVED:2022-08-18
DATE REPORTED:2022-08-26
DATE PRINTED:2022-09-02

PARAMETER	Result	UNIT	DETECTION LIMIT	METHOD REFERENCE
Arsenic	BDL	ug/g	1.00	EPA 3050B/6010B(mod) *
Cadmium	BDL	ug/g	1.00	EPA 3050B/6010B(mod) *
Cobalt	1.73	ug/g	1.00	TMECC 4.06;EPA 3050/6010(mod)*
Chromium	13.28	ug/g	1.00	TMECC.04.06;EPA 3050/6010(mod)*
Copper	66.10	ug/g	1.00	TMECC 4.06;EPA 3050/6010(mod)*
Mercury	0.26	ug/g	0.10	EPA 7471 *
Molybdenum	2.2	ug/g	1.0	TMECC.04.06;EPA 3050/6010(mod)*
Nickel	7.50	ug/g	1.00	TMECC 4.06;EPA 3050/6010(mod)*
Lead	2.58	ug/g	1.00	EPA 3050B/6010B(mod) *
Selenium	BDL	ug/g	1.00	EPA 3050/6010 (mod) *
Zinc	98.10	ug/g	1.00	TMECC 4.06;EPA 3050/6010(mod)*

* - accredited test

BDL - Below detectable levels

The results of this report relate to the sample submitted and analyzed. All results are released based on acceptable QC data.



C22230-70001

Results Authorized By:

Haifeng Song, Ph.D., C.Chem. Lab Director

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REPORT NO.
C22230-70001

ACCOUNT NUMBER
01759

A & L Canada Laboratories Inc.

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TO:CITY OF KELOWNA
1435 WATER STREET
KELOWNA, BC V1Y 1J4

FOR:Ogo Aug 2022

ATTN:Jose Garcia
Phone:250-469-8796

CERTIFICATE OF ANALYSIS

PAGE: 2 / 3

PROJECT NO:

PO#:535789
LAB NUMBER:2307002
SAMPLE ID:OGO AUG 2022

SAMPLE MATRIX:COMPOST
DATE SAMPLED:NONE GIVEN
DATE RECEIVED:2022-08-18
DATE REPORTED:2022-08-26
DATE PRINTED:2022-09-02

PARAMETER	Result	UNIT	DETECTION LIMIT	METHOD REFERENCE
E. coli	<3	MPN/g dry	3	TMECC 07.01
Salmonella spp.	NEGATIVE	P-A/ 25.0g(ml)	1 CFU	MFLP-75 *
Fecal Coliform	<10	CFU/g dry	10	TMECC.07.01
Fecal Coliform	<3	MPN/g dry	3	TMECC 07.01
Total sharps > 2.8 mm*	0	pieces/500ml		TMECC 03.08
Total sharps > 12.5 mm	0	pieces/500ml		TMECC 03.08
Total FM > 2.8 mm*	0.06	%	0.01	TMECC 03.08
Total FM > 25 mm	0	pieces/500ml		TMECC 03.08
Total plastics > 2.8 mm*	0.06	%	0.01	TMECC 03.08
Total Organic Matter @ 550 deg C	79.63	%	0.10	LOI@550C
Moisture	35.05	%	0.10	TMECC.03.09-A
Sieve 2 Inch (% Passing)	100.00	%	0.10	ASTMD422
Sieve 1 Inch (% Passing)	100.00	%	0.10	ASTMD422
Sieve 1/2 Inch (% Passing)	76.70	%	0.10	ASTMD422
Sieve 3/8 Inch (% Passing)	66.10	%	0.01	ASTMD422
Sieve 1/4 Inch (% Passing)	54.90	%	0.10	ASTMD422
Compost Stability Index	8	---		TMECC.05.08-B
Respiration-mgCO ₂ -C/g OM/day	0.40	mgCO ₂ -C/ gOM/day	0.01	TMECC.05.08-B
Respiration - mgCO ₂ -C/g TS/day	0.30	mgCO ₂ -C/ gTS/day	0.01	TMECC.05.08-B

Maturity Index: 8 - Inactive, highly matured compost, very well aged, possibly over-aged, like soil; no limitations for usage.

* - accredited test

BDL - Below detectable levels

The results of this report relate to the sample submitted and analyzed. All results are released based on acceptable QC data.



C22230-70001

Results Authorized By:

Haifeng Song, Ph.D., C.Chem. Lab Director

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REPORT NO.
C22230-70001

ACCOUNT NUMBER
01759

A & L Canada Laboratories Inc.

2136 Jetstream Road, London, ON, N5V 3P5 Tel: (519) 457-2575 Fax: (519) 457-2664



TO: CITY OF KELOWNA
1435 WATER STREET
KELOWNA, BC V1Y 1J4

FOR: Ogo Aug 2022

ATTN: Jose Garcia
Phone: 250-469-8796

CERTIFICATE OF ANALYSIS

PAGE: 3 / 3

PROJECT NO:

PO#: 535789
LAB NUMBER: 2307002
SAMPLE ID: OGO AUG 2022

SAMPLE MATRIX: COMPOST
DATE SAMPLED: NONE GIVEN
DATE RECEIVED: 2022-08-18
DATE REPORTED: 2022-08-26
DATE PRINTED: 2022-09-02

PARAMETER	Result Dry Weight	Result As Received	UNIT	DETECTION LIMIT	METHOD REFERENCE
Total Solids (as received)		64.95	%	0.10	Gravimetric
Nitrogen & Carbon					
Total Organic Carbon		44.24	%	0.10	Combustion
Ammonia (NH3/NH4-N)	598.97	389.03	ug/g	.01	Colourimetric
Metals					
Potassium	4615.50	2997.77	ug/g	5.00	TMECC.04.04*
Total Potassium (as K2O)	0.56	0.36	%	0.05	ICP
Phosphorus	4341.00	2819.48	ug/g	5.00	TMECC.04.03 *
Total Phosphorus (as P2O5)	0.99	0.64	%	0.05	ICP
Aluminum	1959.00	1272.37	ug/g	5.00	TMECC.04.07 *
Boron	13.65	8.87	ug/g	1.00	TMECC.04.05 *
Calcium	1.00	0.65	%	0.01	TMECC.04.05*
Iron	3223.00	2093.34	ug/g	5.00	TMECC.04.05 *
Magnesium	0.22	0.14	%	0.01	TMECC.04.05 *
Manganese	222.50	144.51	ug/g	1.00	TMECC.04.05 *
Sodium	0.11	0.07	%	0.01	TMECC.04.05 *
Sulphur	1793.00	1164.55	ug/g	5.00	TMECC.04.05 *
Additional Parameters					
Bulk Density (as Recieved)		425	kg/m3	10	Gravimetric

* - accredited test

BDL - Below detectable levels

The results of this report relate to the sample submitted and analyzed. All results are released based on acceptable QC data.



C22230-70001

Results Authorized By:

Haifeng Song, Ph.D., C.Chem. Lab Director

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www.compost.org

SUMMARY OF ANALYSIS REPORT

To: City of Kelowna
1435 Water Street
Kelowna, British Columbia V1Y 1J4

CQA Member#: 18-2800

Attention: Jose Garcia

Sample I.D.: Ogo Nov 2022

Report#: C23020-10041
C23020-70005

Sample Date:
Reported Date: 2023-1-27

Compost Manufactured in: British Columbia
Feedstock: *Forestry Residues and Municipal Biosolids*

CQA COMPOST QUALITY & VALUE TESTING PARAMETERS REPORT

SAMPLE ID	RECOMMENDED END USE/MARKET
Ogo Nov 2022	CATEGORY A
Regulatory	See Appendix I
Product Quality	See Appendix II
Product Value/ Soil Suitability*	See Appendix III (Soil, Enviro, Manure Compost)

The Compost Quality Alliance (CQA) is a voluntary quality monitoring program established by the Compost Council of Canada and the compost producers utilizing recognized standardized testing methodologies and uniform operating protocols to provide customer assurance in compost selection its use, and proper end-use utilization.

All analysis of this compost product was conducted and provided by A&L Canada Laboratories Inc. for the Compost Quality Alliance (CQA).

Haifeng Song, Senior Chemist

Ian McLachlin, Vice-President



A&L Canada Laboratories Inc.
London, Ontario Canada
(519) 457-2575

A proud member of



*PLEASE NOTE: Major Nutrients under the Fertilizer Act and Regulations (CFIA)

Please see Appendix III for nutrient content (of impact to claims and labelling if used in declarations).

Compost is classified in Schedule II as a supplement, and as such nutrient guarantees are not mandatory. However, if any claims are made regarding nutritional value of the product, such as for composted manure, the product would then be classified as a supplement and a fertilizer, and the label would have to include the guarantees for the major nutrients. The guarantees for the major nutrients include the minimum amounts of Total Nitrogen (N), Available Phosphoric Acid (P2O5) and Soluble Potash K2O. Source: T-4-120 - Regulation of Compost under the Fertilizers Act and Regulations. <http://www.inspection.gc.ca/plants/fertilizers/trade-memoranda/t-4-120/eng/1307910204607/1307910352783>



Appendix I



CCME Guidelines 2005 & CFIA Fertilizer Act & Regulations:

Alberta, Manitoba, New Brunswick, Nova Scotia, Newfoundland, Prince Edward Island & Territories

A. Maximum Concentrations for Trace Metals in Compost†

Trace Elements	Test Results (ug/g)	Category A	Category B
		Maximum Concentration within Product (mg/kg dry weight)	
Arsenic (As)	2.94	13	75
Cadmium (Cd)	BDL	3	20
Chromium (Cr)	18.30	210	**
Cobalt (Co)	2.57	34	150
Copper (Cu)	153.10	400	**
Lead (Pb)	3.91	150	500
Mercury (Hg)	BDL	0.8	5
Molybdenum (Mo)	3.90	5	20
Nickel (Ni)	7.86	62	180
Selenium (Se)	1.32	2	14
Zinc (Zn)	208.80	700	1850

** Upper limits are not established in the Trade Memorandum.

B. Foreign Matter in Compost†

Test Results		Category A	Category B
Foreign Matter		Contains no more than 1 piece of foreign matter >25mm/500ml	Contains no more than 2 pieces of foreign matter > 25mm/500mL
Pieces >25mm/500mL	0		
Sharp Foreign Matter		No sharp foreign matter >3mm per 500ml	No more than 3 pieces of sharp matter < 12.5mm/500mL Note: This compost shall not be used in pastures, parks, or residential
Pieces > 3mm/500mL	0		
Pieces > 12.5mm/500mL	0		

C. Maturity/Stability†

Method	Test Results	Required Limits
CO2 Respiration Rate (mg CO2/g O.M./day)	0.20	≤ 4 mg of carbon in the form of carbon dioxide per gram of organic matter per day
O2 Uptake Respiration Rate (mg O2/kg O.M./hr)		≤ 400 mg oxygen/kg of volatile solids (or organic matter)/hour

D. Pathogens†

Pathogen	Test Results	Required Limits
Fecal Coliform (MPN/g dry)	6	<1000 MPN/g of total solids calculated on a dry weight basis
Salmonella (P-A/25g(ml))	NEGATIVE	<3 MPN/4g total solids calculated on a dry weight basis

†The following references are from the CCME guidelines (PN1340), October 2005

*BDL = Below Detectable Limits

E. CFIA

Parameter	Test Results
Total Organic Matter (%)	72.95%
Moisture (%)	37.30%

All analysis conducted and prepared by:

A L Canada Laboratories

2136 Jetstream Rd London, Ontario N5V 3P5 (519) 457-2575

Appendix II Finished Compost Quality

Parameter	Test Results
pH	7
Carbon to Nitrogen Ratio	19:1
Particle Size/Texture (inch)+	1
Soluble Salts (ms/cm)	2.3
Sodium Base Saturation (%Na)	6.42%
Major Nutrients	
Available Potassium (%K)	15.06%
Available Magnesium (%Mg)	26.5%
Available Calcium (%Ca)	50.75%

+ Majority of sample passes through this sieve size

Unrestricted Use: Category A - Compost that can be used in any application, such as agricultural lands, residential gardens, horticultural operations, the nursery industry, and other businesses. Category A criteria for trace elements are achievable using best source separated MSW feedstock, municipal biosolids, pulp and paper mill biosolids, or manure.

Restricted Use: Category B - Compost that has a restricted use because of the presence of sharp foreign matter or higher trace element content. Category B compost may require additional control when deemed necessary by a province or territory.

Reference Compost Quality Parameters for CQA

Use	pH	C:N	Moisture	Particle Size	Soluble Salts	%Na
Remediation	5.8-8.5	10-40	NA	<2 in	<20	<3%
Soil Amendment	5.8-8.5	10-30	NA	<1/2 in	<6	<2%
Landscaping	5.8-8.5	12-22	<50%	<1/2 in	<5	<2%
Planting Media	5.5-7.8	12-22	<50%	<1/2 in	<4	<2%
Turf Establishment & Topdressing	5.5-7.8	12-22	<50%	<3/8 in	<3	<1%
Greenhouse Seeding	6-7	12-22	<25%	<1/4 in	<2	<0.5%
Greenhouse Establishment	6-7	12-22	<30%	<1/2 in	2-3.5	<0.5%
Field Nursery	5.8-8	10-30	<50%	<1/2 in	<3.5	<1%
Agricultural Soil Amendments	6-8	10-30	<50%	<1/2 in	<20	none
Potting Soil	5.5-7.2	12-22	<50%	<1/4 in	<2	<1%

These are examples of some of the many end uses suitable for compost

The Compost Quality Assurance program goes beyond the provincial requirements to establish full value and appropriate end-use. The Compost Report and Compost End-use table in Appendix II, has 10 different compost application uses from soil remediation, through to potting soil blends. Of note are available soluble salt limits and the percent available sodium for sensitive plants. Appendix III, lists the primary agricultural use parameters and quantitative nutrient content that reflects this compost samples agricultural end-use, and application value. This value includes macro and micro nutrients, soil building properties such as the addition of organic matter, increasing moisture holding capacity, and the soils slow release nutrients. These parameters improve beneficial soil health components soil

Note: For a compost to meet the unrestricted use category, it must meet the unrestricted (Category A) requirements for all trace elements and sharp foreign matter. If the compost fails one criterion of the guideline for unrestricted use but meets the criteria for restricted (Category B) use, then is is classified as a Category B product. Products that do not meet the criteria for either Category A or B must be used or disposed of appropriately.

Appendix III

Compost Agricultural Product Value on as is basis



Agricultural End-Use	Analysis Result	Unit	Quantity in lbs/Ton
Physical Parameters			
Dry Matter	62.7%	%	
pH	7.0		
Bulk Density	443	kg/m3	
C:N Ratio	19:1		
Fertilizer Equivalent Minerals			
Nitrogen Total	2.22%	%	44.4
Ammonium Nitrogen	916.97	ppm	1.83
Total Phosphate (P as P2O5)	1.5%	%	30.0
Total Potash (K as K2O)	0.46%	%	9.2
Calcium	1.2%	%	24.0
Magnesium	0.24%	%	4.8
Sulfur	1739.94	ppm	3.5
Agricultural Index			
Ag Index	20	Can be used on all soils	

Salt injury probable	Limit use to soils with excellent drainage and low salt content	Can be used on soils with poor drainage or high salt content	Can be used on all soils
1	2 3 4 5	6 7 8 9	>10

Figure 1. Adapted from TMECC 05.02-F1 AgIndex interpretation and use guidelines for common edaphic conditions.

Where 10 is a compost material with low potential for salt injury and 1 materials require dilution to prevent salt injury

The results of our testing on this sample indicates that this product is a coarse textured, mature compost (99%+ 2 in.), with rich mineral properties, which would meet criteria for agricultural soil amendment, remediation and mulching end-uses purposes. The C:N ratio 19:1 from Appendix II, on the soil suitability report indicates a low C:N ratio and indicating good nitrogen availability. The low C:N ratio in conjunction with the higher total nitrogen content listed in Appendix III indicates early high available nitrogen levels, and should be considered for crop planning.

The proportion of available sodium (6.42% Na), which if used in too heavy a proportion could cause some problems with sensitive species. The sodium levels of this compost sample though high, is suitable for agricultural broadcast field applications and are made to improve the organic matter level and major nutrients phosphorus, potassium and magnesium levels. The compost is also rich in available calcium, sulfur, and iron, which make it ideal for soil enriching, and amendment. We recommend blending this material at a minimum of 4-5 parts soil blended to each part of this compost to dilute the sodium concentration.

Major Nutrients - Compost is classified in Schedule II (CFIA Fertilizer Act & Regulations) as a supplement, and as such, nutrient guarantees are not mandatory. However, if any claims are made regarding nutritional value of the product, such as for composted manure, the product would then be classified as a supplement and a fertilizer, and label would have to include the guarantees for the major nutrients. The guarantees for the major nutrients include the minimum amounts of Total Nitrogen (N), Available Phosphoric Acid (P2O5) and Soluble Potash (K2O).

Report Number: C23020-10041
 Account Number: 01759

A & L Canada Laboratories Inc.

2136 Jetstream Road, London, Ontario, N5V 3P5
 Telephone: (519) 457-2575 Fax: (519) 457-2664



C23020-10041



To: CITY OF KELOWNA
 1435 WATER STREET
 KELOWNA, BC V1Y 1J4

For: OGO NOV 2022

Attn: JOSE GARCIA

P.O. Number: 535789

Reported Date:
 Printed Date: Jan 27, 2023

COMPOST REPORT

Page: 1 / 1

Sample Number	Lab Number	pH	Lime Index	Available Organic Matter %	Phosphorus P ppm	Potassium K ppm	Magnesium Mg ppm	Calcium Ca ppm
OGO NOV 2022	66325	7.0	6.5	62.5	1841	1843	1011	3185

Sulfur S ppm	Zinc Zn ppm	Manganese Mn ppm	Iron Fe ppm	Copper Cu ppm	Boron B ppm	Sodium Na ppm	Nitrate-N NO3-N ppm	Soluble Salt ms/cm	Nitrogen (Total) (%)	Chloride ppm
173	61.4	111	194	7.2	3.7	463	41	2.2	2.22	1102

INTERPRETATION

CEC		Percent Base Saturation				Proportional Equivalents (meq)				Cation Ratio		C/N Ratio
meq/100g	% BS	% K	% Mg	% Ca	% Na	K	Mg	Ca	Na	Mg/K	Ca/Mg	
31.4	98.7	15.06	26.50	50.75	6.42	4.73	8.31	15.92	2.01	2:1	2:1	19:1
Optimum Range:		3 - 5	8 - 20	60 - 80		0.5 - 1.3				7:1	5:1	

CQA

* Results reported on a dry weight basis.

The results of this report relate to the sample submitted and analyzed. All results are released based on acceptable QC data.

* Crop yield is influenced by a number of factors in addition to soil fertility.

No guarantee or warranty concerning crop performance is made by A & L.

Results Authorized By:

Beth Wood, Agronomist

A & L Canada Laboratories Inc.

2136 Jetstream Rd, London, Ontario, N5V 3P5
Telephone: (519) 457-2575 Fax: (519) 457-2664



REPORT NUMBER: C23020-10041
ACCOUNT NUMBER: 01759

REPORT OF ANALYSIS

TO: CITY OF KELOWNA
1435 WATER STREET
KELOWNA, BC V1Y 1J4

RE: Ogo Nov 2022

DATE RECEIVED: 2023-01-20
DATE REPORTED: 2023-01-27
PAGE: 1 / 1
P.O. NUMBER: 535789

Attn: JOSE GARCIA

LAB NO.	SAMPLE ID	ANALYSIS	RESULT	UNIT	METHOD
66325	OGO NOV 2022	Nitrogen (Total)	2.2	%	TMECC.04.02-D



C23020-10041

Results Authorized By:

REPORT NO.
C23020-70005

ACCOUNT NUMBER
01759

A & L Canada Laboratories Inc.

2136 Jetstream Road, London, ON, N5V 3P5 Tel: (519) 457-2575 Fax: (519) 457-2664



TO:CITY OF KELOWNA
1435 WATER STREET
KELOWNA, BC V1Y 1J4

FOR:Ogo Nov 2022

ATTN:Jose Garcia
Phone:250-469-8796

CERTIFICATE OF ANALYSIS

PAGE: 1 / 3

PROJECT NO:

PO#:535789
LAB NUMBER:207008
SAMPLE ID:OGO NOV 2022

SAMPLE MATRIX:COMPOST
DATE SAMPLED:NONE GIVEN
DATE RECEIVED:2023-01-20
DATE REPORTED:2023-01-27
DATE PRINTED:2023-01-27

PARAMETER	Result	UNIT	DETECTION LIMIT	METHOD REFERENCE
Arsenic	2.94	ug/g	1.00	EPA 3050B/6010B(mod) *
Cadmium	BDL	ug/g	1.00	EPA 3050B/6010B(mod) *
Cobalt	2.57	ug/g	1.00	TMECC 4.06;EPA 3050/6010(mod)*
Chromium	18.30	ug/g	1.00	TMECC.04.06;EPA 3050/6010(mod)*
Copper	153.10	ug/g	1.00	TMECC 4.06;EPA 3050/6010(mod)*
Mercury	BDL	ug/g	0.10	EPA 7471 *
Molybdenum	3.9	ug/g	1.0	TMECC.04.06;EPA 3050/6010(mod)*
Nickel	7.86	ug/g	1.00	TMECC 4.06;EPA 3050/6010(mod)*
Lead	3.91	ug/g	1.00	EPA 3050B/6010B(mod) *
Selenium	1.32	ug/g	1.00	EPA 3050/6010 (mod) *
Zinc	208.80	ug/g	1.00	TMECC 4.06;EPA 3050/6010(mod)*

* - accredited test

BDL - Below detectable levels

The results of this report relate to the sample submitted and analyzed. All results are released based on acceptable QC data.



C23020-70005

Results Authorized By:

Haifeng Song, Ph.D., C.Chem. Lab Director

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TO:CITY OF KELOWNA
1435 WATER STREET
KELOWNA, BC V1Y 1J4

FOR:Ogo Nov 2022

ATTN:Jose Garcia
Phone:250-469-8796

CERTIFICATE OF ANALYSIS

PAGE: 2 / 3

PROJECT NO:

PO#:535789
LAB NUMBER:207008
SAMPLE ID:OGO NOV 2022

SAMPLE MATRIX:COMPOST
DATE SAMPLED:NONE GIVEN
DATE RECEIVED:2023-01-20
DATE REPORTED:2023-01-27
DATE PRINTED:2023-01-27

PARAMETER	Result	UNIT	DETECTION LIMIT	METHOD REFERENCE
E. coli	<3	MPN/g dry	3	TMECC 07.01
Salmonella spp.	NEGATIVE	P-A/ 25.0g(ml)	1 CFU	MFLP-75 *
Fecal Coliform	6	MPN/g dry	3	TMECC 07.01
Total sharps > 2.8 mm*	0	pieces/500ml		TMECC 03.08
Total sharps > 12.5 mm	0	pieces/500ml		TMECC 03.08
Total FM > 2.8 mm*	BDL	%	0.01	TMECC 03.08
Total FM > 25 mm	0	pieces/500ml		TMECC 03.08
Total plastics > 2.8 mm*	BDL	%	0.01	TMECC 03.08
Total Organic Matter @ 550 deg C	72.95	%	0.10	LOI@550C
Moisture	37.30	%	0.10	TMECC.03.09-A
Sieve 2 Inch (% Passing)	100.00	%	0.10	ASTMD422
Sieve 1 Inch (% Passing)	98.70	%	0.10	ASTMD422
Sieve 1/2 Inch (% Passing)	72.90	%	0.10	ASTMD422
Sieve 3/8 Inch (% Passing)	62.90	%	0.01	ASTMD422
Sieve 1/4 Inch (% Passing)	50.70	%	0.10	ASTMD422
Compost Stability Index	8	---		TMECC.05.08-B
Respiration-mgCO ₂ -C/g OM/day	0.20	mgCO ₂ -C/ gOM/day	0.01	TMECC.05.08-B
Respiration - mgCO ₂ -C/g TS/day	0.10	mgCO ₂ -C/ gTS/day	0.01	TMECC.05.08-B

Maturity Index: 8 - Inactive, highly matured compost, very well aged, possibly over-aged, like soil; no limitations for usage.

* - accredited test

BDL - Below detectable levels

The results of this report relate to the sample submitted and analyzed. All results are released based on acceptable QC data.



C23020-70005

Results Authorized By:

Haifeng Song, Ph.D., C.Chem. Lab Director

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ACCOUNT NUMBER
01759

A & L Canada Laboratories Inc.

2136 Jetstream Road, London, ON, N5V 3P5 Tel: (519) 457-2575 Fax: (519) 457-2664



TO: CITY OF KELOWNA
1435 WATER STREET
KELOWNA, BC V1Y 1J4

FOR: Ogo Nov 2022

ATTN: Jose Garcia
Phone: 250-469-8796

CERTIFICATE OF ANALYSIS

PAGE: 3 / 3

PROJECT NO:

PO#: 535789
LAB NUMBER: 207008
SAMPLE ID: OGO NOV 2022

SAMPLE MATRIX: COMPOST
DATE SAMPLED: NONE GIVEN
DATE RECEIVED: 2023-01-20
DATE REPORTED: 2023-01-27
DATE PRINTED: 2023-01-27

PARAMETER	Result Dry Weight	Result As Received	UNIT	DETECTION LIMIT	METHOD REFERENCE
Total Solids (as received)		62.70	%	0.10	Gravimetric
Nitrogen & Carbon					
Total Organic Carbon		40.53	%	0.10	Combustion
Ammonia (NH ₃ /NH ₄ -N)	1462.47	916.97	ug/g	.01	Colourimetric
Metals					
Potassium	6135.00	3846.64	ug/g	5.00	TMECC.04.04*
Total Potassium (as K ₂ O)	0.74	0.46	%	0.05	ICP
Phosphorus	10450.00	6552.15	ug/g	5.00	TMECC.04.03 *
Total Phosphorus (as P ₂ O ₅)	2.39	1.50	%	0.05	ICP
Aluminum	3904.50	2448.12	ug/g	5.00	TMECC.04.07 *
Boron	26.52	16.63	ug/g	1.00	TMECC.04.05 *
Calcium	1.91	1.20	%	0.01	TMECC.04.05*
Iron	5590.00	3504.93	ug/g	5.00	TMECC.04.05 *
Magnesium	0.39	0.24	%	0.01	TMECC.04.05 *
Manganese	541.00	339.21	ug/g	1.00	TMECC.04.05 *
Sodium	0.15	0.09	%	0.01	TMECC.04.05 *
Sulphur	2775.00	1739.92	ug/g	5.00	TMECC.04.05 *
Additional Parameters					
Bulk Density (as Recieved)		443	kg/m ³	10	Gravimetric

* - accredited test

BDL - Below detectable levels

The results of this report relate to the sample submitted and analyzed. All results are released based on acceptable QC data.

Results Authorized By:

Haifeng Song, Ph.D., C.Chem. Lab Director

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C23020-70005



October 2019

Compost activities update



Background

The City of Kelowna's compost programs produces two products; OgoGrow and GlenGrow. Due to the input materials and processing of the two products, they appeal to different markets with varying levels of success. According to the recent Ference Weiker & Company Marketing Report (2015), the products do well in comparison to those produced by other North American organizations with respect to price point and revenue; particularly the biosolid product OgoGrow. This is confirmation that the Kelowna compost team is producing high quality products but they are also being faced with the increasing gap between production volumes and sales volumes. Forecasting shown in a 2017 Report (Opus International Consultant's Biosolids Management Report), indicates that the gap will continue to widen without modifications to the current approach. Options to reduce that gap are being explored including diversion of some biosolids, changes with respect to processing biosolids, and connecting with end users to increase product uptake.

Tasks per Scope of Services

1. Follow up with current clients and potential clients

Calls were made to existing clients based on client list provided. Feedback from those conversations was documented and summarized as follows:

Annual "pick your price" bid process

Where space allows, clients stock up for 1-2 years using the annual pick your price bid process. Not aware of consequences imposed where committed volume not completely purchased during the season. While low prices appreciated, not viewed as the ideal way to set up pricing.

Changing of price structure

All customers were in favour of establishing a "know your price" system from the beginning of the season. Options discussed included:

- i) Booking program concept
- ii) Setting price based on last year's sales and where sales were low, the current price structure comes into play so they can reach a lower price level
- iii) Establish a category price structure eg: public organization price (cities and school districts), contractor price with 3 volume categories, public user price schedule (as provided on website)

Delivery option

Delivery option presented many times. Note that this suggestion was also most popular among QWEL participants. Pricing of \$60-\$110 per dump truck load is suggested.

Brochures / information:

All customers who resell product requested brochures. Information rack cards as we currently have are good but clients also requested a "how to use" piece of literature be available (eg like the GlenGrow use information on the website).

Rack cards provided to several clients. District of Lake Country reports that of the 150 delivered to them, almost all have been taken.

OgoGrow processing

Request for additional screening by multiple clients. Would like to use fines as soil amendment product and or topdressing and larger pieces as mulch.

Some customers process it to next level themselves and re sell. Direct use purchasers most commonly use it as a mulch and complain that the finer particulates blow away.

Reporting that the high nitrogen content keeps weeds at bay for a 1 to 1.5 years

Bylaw 7900 and OgoGrow / GlenGrow-

Because neither compost meets Bylaw 7900 Schedule 5 Section 32 91 21S standards, they technically cannot be included for use on City of Kelowna projects. Some end users are aware of this and it presents a barrier to the use of the products (fear of failing product testing). Suggestion that the Bylaw be updated to ensure that the products are acceptable for City of Kelowna projects.

Bylaw Revision Recommendation:

Bylaw 7900 Schedule 5 Part 21 91 21S

2.11 Compost .1

Change to:

“Compost to be uniform blend of natural source-separated organic materials, composted such that it is brown-black in colour and has carbon to nitrogen ratio of 25 to 1 or lower and pH 6 to 8. Compost to be substantially free from subsoil, pests, roots, wood, construction debris, undesirable grasses or weeds, and seeds or parts thereof. Compost to be substantially free from toxic materials, crabgrass, couch grass, equisetum, other weeds, and seeds or parts thereof.”

2.11 Soil Amendment .2

Add:

“Soil amendment to be uniform blend of natural organic materials, composted such that it is brown-black in colour and has carbon to nitrogen ratio of 25 to 1 or lower and pH 6 to 8. Amendment to be sized 3/16" or less and be substantially free from subsoil, pests, roots, wood, construction debris, undesirable grasses or weeds, and seeds or parts thereof. Compost to be substantially free from toxic materials, crabgrass, couch grass, equisetum, other weeds, and seeds or parts thereof.”

Okanagan Xeriscape Association and Okanagan Master Gardeners

Contact has also been made with the Okanagan Xeriscape Association (OXA) and Okanagan Master Gardeners (OMG) to solicit input and for assistance in promoting the products. Feedback from OXA is that they are proponents of GlenGrow and use it frequently. The perspective provided from OMG is that members have used both products and find them successful as mulches. They have observed soil improvements and water use reduction. The majority will also use GlenGrow for their vegetable gardens and either product for ornamental gardens; citing concerns about heavy metal content in OgoGrow. Both organizations would be interested in promoting and supporting member discount programs and/or free product events in the community.

Commercial grower industry

Conversations regarding possible uses for either product were initiated with a key Canadian commercial plant buyer. The primary concern at this time for use of the product as a soil amendment is transportation cost due to the weight (high moisture content) of both products. The industry has one key supplier of a lightweight soil product and breaking into this market would be challenging but something that could be explored in future if alternate products with more lightweight constitutions were produced.

2. Revisit recent Kelowna compost and biosolid report findings

The 2015 Ference Weiker Report (FW Report) and the 2017 Report from Opus International Consultants (Opus Report) have provided key insights and jumping off points for investigations and conversations with customers, City staff and other organizations with compost operations.

The Opus Report provided key information with respect to future waste solids considerations; taking into account input from officials and the public. The focus of that report was with respect to OgoGrow production and the increasing influx of waste solids from participating communities and a key conclusion is that a digester must be part of future planning. This aligns with conversations and indications thus far with respect to expanding markets for the products. Processing through the anaerobic digester will result in higher metal concentrations and a Class B product; safe for land application but more restricted in use than OgoGrow (which is a Class A product). With that in mind, Scenario Two, option b from the Opus Report offers a strong compromise where both Class A and a Class B products would be created. We are not operationally involved enough to know specific quantities of the FPS (fermented primary sludge) and the TWAS (thickened waste activated sludge), but if the volumes work within the Commonage facility and market capacities, it provides the potential for a zero or near zero overstock scenario. The Compost Promotional Team would work to find land application opportunities for the digested product and could increase use of the two Class A OgoGrow product once additional screening has occurred.

The Opus Report also presented forecasts for the production / sales gap and looked at an adjusted market volume for OgoGrow based on using up existing surplus. This adjusted market volume would by logic continue to decrease if the surplus continued to increase, placing extra demand on finding an interim solution for a portion of the region's waste solids.

The FW Report considered both compost products as soil conditioners and focused on market awareness and areas for possible sales growth. Average sale prices for both products are included, however the Offer to Purchase program had not been implemented at the time of the report. Average prices for the products from 2016 to 2019 will be an important factor in determining the marketing strategy maximize customer volumes of both products moving forward.

3. Explore current use levels, current barriers and interest in alternative purchasing programs.

A key element of customer conversations has been whether there are options that could result in higher purchase volumes. The topics of pricing, delivery and product quality were all presented to solicit input. What came out of those discussions is highlighted below:

- i) Set pricing, either by market segment, volume, early season purchase, or a combination of all, could increase sales. This applies in particular to customers who would not qualify for the volume requirements for the Offer to Purchase program.
- ii) Delivery would increase product uptake. Most customers felt a delivery charge of \$100 or thereabouts, would be well worth it to eliminate the need for them to free up a work vehicle and staff person, and to allow the possible product staining to occur on a designated delivery vehicle rather than theirs.
- iii) Additional screening for both products, would increase product usage. The option to have a product sized at 3/16" to be utilized as a soil amendment or for topdressing was encouraged. The products are currently used primarily as mulch unless the customer employs their own additional screening and creates mulch products and soil amendments and/or mixed finished soil products.
- iv) Hours for pick up at Glenmore Landfill was also put forward as somewhat of a barrier.

Feedback received on this point is set out below:

- No one is available to load product before 8am while during peak season, many contractors begin work at 6am

- Lunch shut down from 12-1pm with no staff available during that time

Suggestions:

- Change pick up hours during peak landscaping season, similar to how the Parks Department shifts hours. Have someone available by phone from 6:30am to take contractor calls and let customers know if someone is available to load customer trucks, etc.

- Rotate lunch breaks to ensure someone is always available to assist

4. Investigate delivery options; viability and costs to improve product sales.

All customers, including those who provide delivery service themselves, agreed that a delivery service for the products would increase product movement. Pricing in the range of \$60-\$110 per dump truck load was suggested.

5. Investigate local product drop points; viability and costs to improve product sales.

This process has begun with Parks Department staff. Exploring GlenGrow drop points for 2020 at Dehart Park and Barlee Park (community gardens) as two test sites for this process. Parks that will be developed over the next few years (eg Dehart) could have compost pick up areas incorporated into their overall plan. As well, conversations with the Okanagan Xeriscape Association and Okanagan Master Gardeners to assist in promoting these community access events is underway.

The District of Lake Country would like to try a community drop point in 2020 and have the location identified and are willing to provide staff for a one day event.

The concept of free deliver to community gardens throughout the area for use by the gardeners themselves is also worth exploring; similar to the program underway in Minneapolis.

6. Report on potential for new program ideas.

Discussion Point One: Is providing the products at no charge an option?

Does annual revenue justify working through changes to pricing structure? If yes, then explore option(s):

- i) Set price based on historical purchases and revisit annually
- ii) Establish category price categories, and/or
- iii) Booking program framework (for bulk buy agreements)

Discussion Point Two: Parks Department products

i) If screening to 3/16" is not an option for all customers, is it an option for Parks use only?

ii) Can Parks use 3/16" product for topdressing? Are there regulations that prohibit?

Topdressing volumes would be approximately **1400 cubic yards annually.**

Irrigated Green Space project: 340 acres of irrigated turf = 24,000 cubic yards for all parks. Based on 20 parks per year: $24,000 / 340 = 71/\text{park avg} \times 20 \text{ parks} = 1420 \text{ cubic yards annually}$.

Site used to assist with calculations - using topsoil info - 85 lbs/ft³

<https://www.thecalculatorsite.com/conversions/common/cubic-yards-tons.php>

iii) Creation of amended soil product specifically for internal use

Discussions with Parks Department staff including Andrew Huntsberger and Tom Woloshyn, indicate that the plan is for @30 new parks over next 10 years. New build product use would be approximately **3215 cubic yards annually**.

Irrigated Green Space project: average irrigated turf area for parks is 1 acre plus @0.1 acre of mixed area (planting beds). This equates to 3 acres of turf and 0.3 acres of mixed areas annually.

Based on 6" or 15.24 cm for 3 acres of turf annually

Site used to assist with calculations - using topsoil info - 85 lbs/ft³

<https://www.thecalculatorsite.com/conversions/common/cubic-yards-tons.php>

The idea of creating an amended soil product was well received and the suggestion was made to investigate the Bredin property North of the landfill as a possible location for that operation. While Parks specific volumes would not be large, establishing the facility and process would position the City to step into any gap left if / when Nature's Gold ceases to operate. The other alternative, suggested in discussions (from the City, not Waterkind), would be to purchase Nature's Gold.

Discussion Point Three: Consider working with Arrow Environmental

In talking with Johanna Moretto, Biosolids Project Coordinator, Metro Vancouver and after researching the current situation in Kamloops, Arrow Environmental / Nutrigrow seem to provide a viable option for the processing of raw materials.

One option may be to contract with Arrow for "x" number of years until anticipated digester is operational. Provide percentage of waste solids to them, and the balance continues to come to Commonage facility. Decide on volume that makes sense to meet "adjusted demand" based on moving the current overstock.

7. Develop client relationships; support current client activities.

Follow up calls to all customers including new customers as provided, will take place mid November once blow out season and busiest time for most has passed. Questions and conversations will be similar to those at the beginning of the season and include any new information per our meetings.

8. Attend Kelowna Home Show 2020

Home show 2020 with amended soils and plant material as well as free samples and mixing information provided; focus is on residential users. Could also consider other events such as the IIABC trade show (contractors) and events offered by CHBA. The latter would require membership which could possibly be shared with Kelowna Water Smart as this market is a fit for both.

Summary of Recommendations

Accessibility:

Delivery option

Seasonal hours of operation to accommodate contractors

Provide annual community access points in 2020; one in Kelowna and one in Lake Country

Pricing:

i) Establish set pricing categories and or booking program

- Create separate small user discount programs for QWEL contractors, OXA, OMG, etc

~~ii) Consider not charging for the products~~

Product usability:

Screen to 3/16" - ideally for both products but predominantly for OgoGrow

Become a soil provider for the Parks Department. Consider establishing small scale soil creation facility to provide product for Parks and be positioned to fill the gap should the option of Nature's Gold ever cease. Alternatively, explore the purchase of Nature's Gold.

Specifiers:

Update Bylaw 7900 Section 5 Part 32 91 21S as it pertains to compost / soil amendment options

Eliminating annual overstock volumes

Explore working with Arrow Environmental / Nutrigrow (or other viable option) to process a portion of the raw materials from suppliers to the Commonage Facility. If the anaerobic digester process has become the accepted future option, the contract could be until such time as the digester process is operational. Determine annual volumes to meet "adjusted demand" based on moving the current overstock.

FIRE SAFETY AND EMERGENCY CONTINGENCY PLAN

REGIONAL BIOSOLIDS COMPOST FACILITY

**551 Commonage Road
Vernon, BC V1H 1G3**

UPDATED January 2023

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LIST OF FIGURES

FIGURE 2.1 EMERGENCY HOSPITAL ROUTE (INCLUDED IN TEXT)

REVISIONS

DATE	REVISION NO.	AUTHOR/COMPANY
May 2021	FINAL	SH, JG, ML, AK, CoV, VFD
Jan 2023		AK, JG

1.1 INTRODUCTION

The operators of the Regional Biosolids Composting Facility (referred to as the Site or Facility herein) in compliance with British Columbia Occupational Health & Safety Regulations and the British Columbia Fire Code, have developed the following Fire Safety and Emergency Contingency Plan based on an assessment of the risks identified on-Site. This plan documents the potential hazards and sets out the safety measures, roles, responsibilities, procedures, and parties to be contacted in the event of a medical or environmental emergency, or the occurrence of any of the identified hazardous situations.

The Site is located just outside the Vernon city limits at 551 Commonage Road, approximately 7.5 kilometres (km) southwest of Vernon city centre. The Facility is funded by the Cities of Kelowna and Vernon, but operated by the City of Kelowna only.

The Facility currently operates under Ministry of Environment Permit 108537, and accepts biosolids from the wastewater treatment facilities in Kelowna, Vernon, Lake Country, and a small facility in SilverStar, Vernon. Clean ground wood is brought in from the Glenmore Landfill, and “hog fuel” is brought in from local mills or other sources. Fly ash from mills has also been used periodically as a feedstock.

The following sections detail the Fire Safety and Emergency Contingency Plan for operations at the Facility. It is essential that site personnel be prepared in the event of an emergency. Emergencies can take many forms. The potential health and safety concerns identified in this plan include illnesses or injuries, chemical exposure, fires, explosions, spills, leaks, releases of harmful contaminants, or sudden changes in weather. The following sections outline the general procedures for dealing with emergency situations that could potentially be experienced at the Site.

This Plan will be reviewed by all on-site personnel and kept on Site. Emergency information presented herein, will be posted at the Site in locations where it can readily be seen. This Plan will be reviewed at least once annually by Facility personnel, in consultation with a City of Kelowna’s health and safety representative, to ensure it remains effective and accurate as a Fire Safety and Emergency Contingency Plan. The most current version will be shared with the Vernon Fire Department and any significant changes will be highlighted.

Additional supporting information is available on the City’s internal website, including:

- Corporate Emergency Response Plan;
- Incident Reporting and Notification Guideline; and,
- Incident Notification and Reporting Flow Chart.

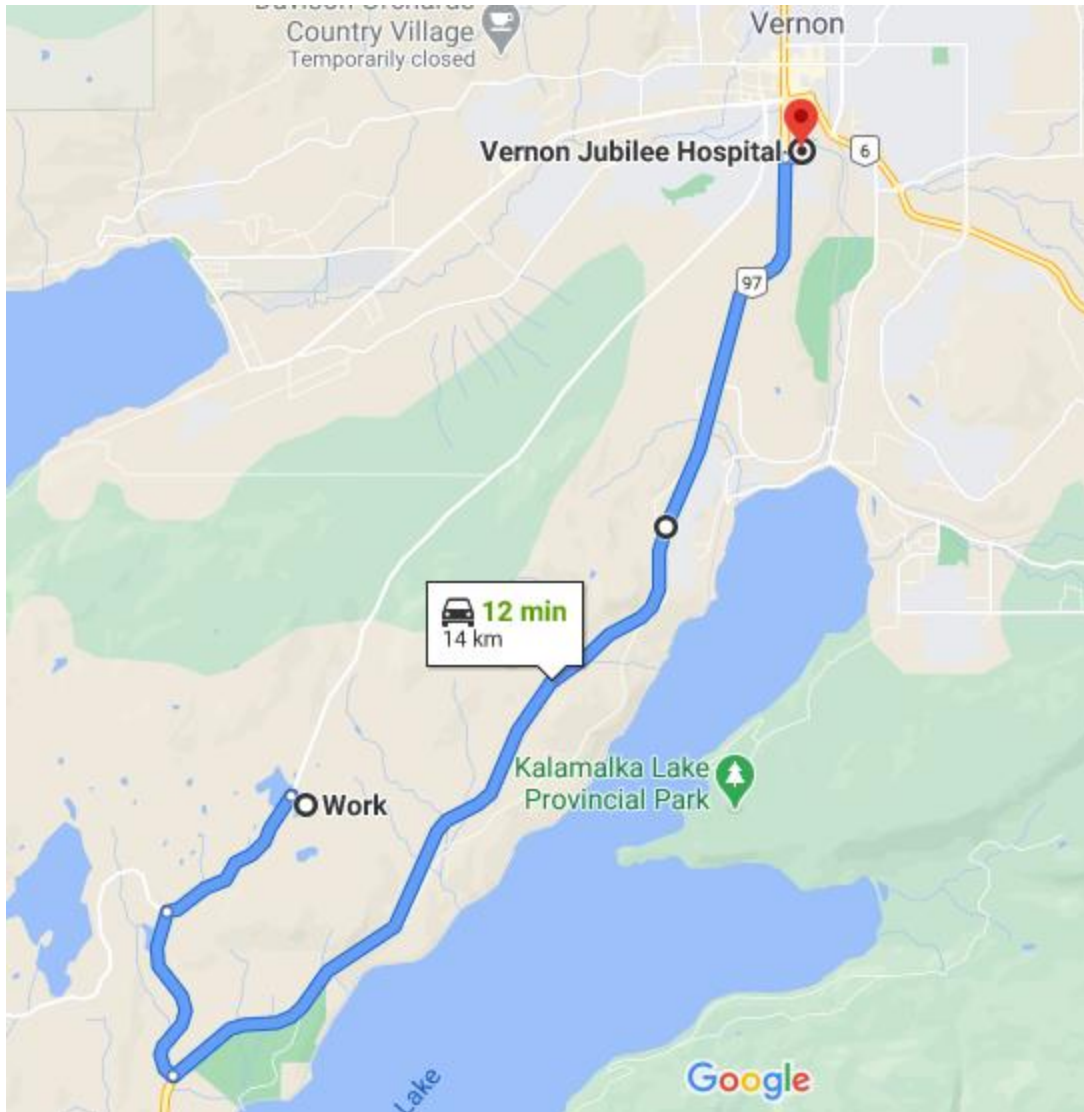
2.0 EMERGENCY CONTACTS

This page is to be posted with the hospital road map in conspicuous workplace locations.

CONTACT	Number
Fire/Police/Ambulance	911
Poison Control	1-800-567-8911
Vernon Jubilee Hospital	250-545-2211
Provincial Emergency Program (PEP), 24-hour Spill Reporting	1-800-663-3456
Vernon Fire Rescue Services Non-emergency	250-542-5361
Forest Fire Reporting	1-800-663-5555 or Cellular *5555
Jose Garcia – Site Supervisor	250-317-7353
Scott Hoekstra – Manager	250-826-3014
City Safety Advisor	250-469-8911

**FIGURE 2.1
EMERGENCY HOSPITAL ROUTE**

TO BE POSTED IN CONSPICUOUS AREAS OF THE WORKPLACE



Map Data/Image Source: Google Maps, 2020

Directions to Vernon Jubilee Hospital 2101 32 St, Vernon, BC V1T 5L2 (see Figure 2.1):

- Take a left on Commonage Road as you exit the facility
- Turn left on Bailey Road
- Turn left onto BC Highway 97 N
- Turn right onto 21 Ave
- Turn left into hospital emergency entrance

3.0 EMERGENCY EQUIPMENT AVAILABLE ON SITE

The following emergency equipment is available in the admin building and maintenance shop:

- First aid kit (Level 1 Kit) – Admin building – Break room cabinet
- Plumbed eyewash in Admin Building Lab. Eyewash bottles in Shop up top.
- Automated External Defibrillator – Admin building hallway
- Various ABC dry chemical fire extinguishers
- Telephone – Admin Building’s Supervisor’s Office (dial 9 first for external calls)

All Site vehicles and equipment are equipped with ABC dry chemical fire extinguishers. Spill kits are located by the fueling station and maintenance shop.

The facility is equipped with non-potable water for emergency use which may be accessed by stand pipes located throughout the site (purple x’s in site plan attached).

NOTE: Non-potable water availability can be intermittent between October and April annually. Vernon Fire Rescue have a water tender on stand-by for any fire response at this facility, but should be reminded to bring water to Site by default.

4.0 EMERGENCY CALLS, ROUTES AND ASSEMBLY POINTS

In the event of an emergency, staff are asked to call “Emergency” three times over the radio, Supervisor, Coordinator or Environmental Tech. to respond, collect details and call emergency services. Equipment operators to call emergency services themselves if Supervisor, Coordinator or Env. Tech. are not available.

The City will ensure that emergency exit routes and assembly points are marked on Site by clear signage and in accordance with municipal and provincial requirements. Muster points are presented on the attached site plan.

5.0 MEDICAL EMERGENCIES

The City will employ, and assign to the Site, a competent and authorized representative, herein referred to as the HSO (Health and Safety Officer). A Site Health & Safety Representative will also be selected. The Site Supervisor or designate will be present at the Facility during the standard business work week.

The City will ensure that all on-Site personnel, as a minimum, are equipped with the appropriate first aid materials and supplies, personnel protective equipment (PPE), and clothing required by municipal and provincial regulations. Safety and emergency equipment, PPE and clothing will be stored in a readily accessible location when not in use and kept clean and well maintained. The location of the equipment will be marked by clear signage.

Emergency and first-aid equipment will be placed at or near the active work area of the Facility during normal operating hours. A list of the emergency and first aid equipment available at the Site and where this equipment is located is provided in Section 3.0 of this Plan.

As a minimum, the City will designate at least one person who is trained in basic first aid and CPR as the First Aid Attendant, to be on-site at all times. This person may perform other duties but will be immediately available to render first aid when required. Due to the variation in personnel schedules, multiple staff are trained in basic first aid.

In the event of injury requiring immediate first-aid / medical attention to on-Site personnel, the City “First Aid Workplace Injury Response Procedure” Standard Work Practice should be followed.

The First Aid Attendant will fill out a First Aid Report and an Incident Investigation will be completed as per City Safe Work Procedures.

6.1 FIRE OR EXPLOSION

All firefighting equipment present at the Site shall be inspected at least bi-annually, and maintained in accordance with manufacturer's recommendation. A record of these inspections will be kept on Site. The Facility should have year-round and immediate access to a water supply capable of a sustained flow of water for firefighting purposes or suitable alternative fire equipment.

During some winter months this system may not be supplied with water by the Vernon Water Reclamation Centre. However, this system can be turned back on for emergency purposes at our request by calling the 24/7 on-call number: (250) 306-2071.

Attachment A of this plan includes the Regional Biosolids Compost Facility Fire Response Safe Work Procedure, which is stored on the City internal network and may be amended from time to time.

WORKSITE FIRES

The risk of Worksite fires, including buildings and associated contents, can be reduced through the implementation of appropriate operational practices including the following:

- Regular maintenance and cleaning of heavy equipment;
- Regular movement of material piles (using oldest material first);
- Availability and maintenance of appropriate equipment for fire control;
- Prohibition of smoking and unpermitted hot work on and around the Worksite;
- Visible inspection of wastes and feedstocks; and,
- Ongoing educational information

Should a Worksite fire occur, the nature of the fire should determine the response. Excavating a materials pile that is smoldering fire may allow oxygen intrusion, further feeding the fire and should not occur outside of an approved fire response plan. A materials fire should be extinguished by excavating the pile on fire using heavy equipment and wetting/cooling with site water. An equipment fire or small building fire should be extinguished through a combination of ABC extinguishers and potentially water suppression.

In the event of an uncontrolled fire, explosion, release of hazardous material, or the need for emergency evacuation, the following procedures will be followed:

- Immediate notification to everyone on site over 2-way radio, including staff, Health and Safety Office and on-site contractors.
- Site personnel will report immediately to the safe assembly area and the Site Supervisor will

confirm the safe evacuation of all workers from the hazardous area (muster station is at the Entrance Gate).

- Notify Vernon Fire Rescue Services (VFRS) / emergency services immediately by calling 911.
- Notify adjacent workplaces or residences which may be affected by exposure (**Note:** notification of the public must be in conformity with the requirements of municipal and provincial agencies. Only likely for the hypochlorite, gas, diesel, process gas from Aerated Static Pile system or leachate).
- Site personnel will position themselves at the entrance gate and such other safe locations as to effectively direct VFRS to the location of the uncontrolled fire or hazardous circumstances.
- Site personnel will advise the VFRS Incident Commander of the location, nature, and identification of any hazardous materials at the Site as per the Inventory of Hazardous Substances maintained at the Site (see Section 10.0).
- If the Site Supervisor or designate determines that it is safe to do so, before the VFRS arrives, site personnel may:
 - Use fire equipment available on Site; and,
 - Remove or isolate flammable or other hazardous materials that may contribute to the fire.
- If the VFRS Incident Commander determines that it is safe to do so, Site personnel may assist the VFRS.
- Complete a City of Kelowna Incident Investigation.

7.1 SPILLS OR LEAKS

The City will ensure that all on-Site personnel have received the appropriate Workplace Hazardous Materials Information System (WHMIS) training as required by provincial regulations. The City will ensure that personnel assigned to spill clean-up and re-entry duties have been trained in the safe procedures and use of personal protective equipment appropriate to the spill conditions. Written procedures for clean-up and record of training will be maintained on Site. The City will ensure that PPE and related clean-up equipment is readily available on Site and maintained in good condition. The City of Kelowna has a WHMIS Program Guide and a WHMIS SWP.

In the event of a spill or leak, site personnel will follow the following procedures. Notify the Site Supervisor and/or HSO of the accidental release. Contact the Vernon Fire Rescue Services by calling 911.

- Report off-Site spills and releases of hydrocarbon contaminated soils or contaminated water to Provincial Emergency Program (PEP) and the B.C. Ministry of Environment in accordance with the B.C. Spill Reporting Regulation.
 - **B.C. Emergency Management: 1-800-663-3456**
- Locate the source of the spillage, determine the degree of hazard associated with the clean-up activities, and if it can be done safely, stop the flow or release of the contaminant.
- Contain and recover the spilled materials, in a safe manner as appropriate.
- Safe Work Procedures can be found on the City internal website.

Where volumes of spilled or leaked material exceed those specified in the BC Spill Reporting Regulation (B.C. Reg. 263/90) a report shall be made to PEP including the following information. Reportable limits should be confirmed at least annually during the revision of the report.

- 1) The reporting person's name and telephone number;
- 2) The name and telephone number of the person who caused the spill;
- 3) The location and time of the spill;
- 4) The type and quantity of the substance spilled;
- 5) The cause and effect of the spill;
- 6) Details of action taken or proposed to comply with section 3;
- 7) A description of the spill location and of the area surrounding the spill;
- 8) The details of further action contemplated or required;
- 9) The names of agencies on the scene; and,
- 10) The names of other persons or agencies advised concerning the spill.

If the spill is not reportable, under the B.C. Spill Reporting Regulation a Notification of Independent Remediation Initiation form, Site Risk Classification Report Form, and Exposure

Pathway Questionnaire is required and the independent remediation may be initiated.

If the spill is reportable, under the B.C. Spill Reporting Regulation, a B.C. Ministry of Environment case manager will be appointed to guide remediation requirements.

A City of Kelowna incident investigation will also be completed.

8.1 INCLEMENT WEATHER

The following special procedures will be implemented during periods of severe weather, such as high winds, rain, electrical storms, thermal inversions, and winter conditions.

High Winds

If winds become excessive, the following control measures will be implemented at the site to ensure that dust and litter does not become problematic or hazardous:

- Low speed limits will be enforced;
- Compost screening, turning and loading activities will be reduced;
- Personnel will wear appropriate respiratory and eye protection; and,
- Mix building doors (south facing) will be left open as attempting to close them during high winds can be difficult and dangerous.

Rain and Electrical Storms

Rain: is not expected to adversely affect operations; therefore, compost operations will continue during all but extremely excessive rain periods.

Electrical Storms: In the event of an electrical storm, all operations will be suspended until the storm subsides and personnel will take safe shelter in the Administration Building or Shop. All electrical powered equipment will be immediately shut down in a manner that will not endanger personnel. Site personnel should reference the City “General Lightning SWP”.

Winter Conditions

During winter operations, the City will undertake advanced planning for site preparation/access and snow removal.

The following procedures will be taken during winter weather conditions:

- Reference the City “Thermal Stress Program Guide”;
- The City will ensure that all on-Site personnel are suitably clothed for working in winter

conditions and monitor ongoing conditions to minimize the potential for cold related stress/hypothermia or take breaks in a heated environment when required;

- During severe winter conditions the Supervisor will provide appropriate direction to on-site personnel, regarding the continuance or curtailing of Facility operations;
- Site equipment will be cleaned and maintained on a daily basis to ensure safe operation during periods of cold or extreme weather;
- Snow accumulation will be removed from the access roads and working areas prior to and during each day's activities, as required to maintain safe working conditions;
- Sanding equipment and de-icing agents will be available; and,
- All runoff from snow, which has contacted the working area of the site will be managed as leachate and controlled accordingly.

9.1 EMERGENCY PROCEDURES TRAINING & DRILLS

Firefighting/Extinguisher training (every 2-3 years) is needed for all staff at the Facility as well as annual retraining in the ERP.

The following training requirements will be followed as written in the B.C. OH&S Reg. 296/97 Part 4, s.4.16:

- All workers must be given adequate instruction in fire prevention and emergency evacuation procedures applicable to their workplace;
- Workers assigned firefighting duties must be given adequate training by a qualified instructor in suppression methods, fire prevention, emergency procedures, company organization and chain of command, and firefighting crew safety and communications applicable to their workplace;
- Retraining must occur once per year;
- A worker not covered by B.C. OH&S Reg. 296/97 Part 31 (Firefighting), who is assigned firefighting duties, must be physically capable of performing the duties assigned safely and effectively, before being permitted to do them;
- At least once per year, emergency drills must be conducted to ensure worker awareness and effectiveness of the exit routes and procedures; and
- A record of the drills is to be kept at the Admin Building.

10.0 HAZARDOUS SUBSTANCE INVENTORY & NOTIFICATION OF FIRE DEPARTMENT

The City will maintain a Hazardous Substance Inventory (Inventory) at the Site. The Inventory will include safe handling methods for all hazardous substances that are stored at the Site in quantities that may endanger workers in an emergency. The Inventory will include such materials as WHMIS controlled products, explosives, pesticides, radioactive materials, hazardous wastes, and will provide the nature, location, quantity and Safety Data Sheets (SDS) for the material – Safety Data Sheets can be downloaded from the City's intranet (Insites).

OGOGROW PRODUCTION FACILITY

SITE INFORMATION

