

WASTEWATER TREATMENT PLANT 2023 ANNUAL REPORT

DISTRICT OF LAKE COUNTRY



LAKE COUNTRY

Life. The Okanagan Way.



Sarah Graham
Finance Director

This annual report for the year 2023 is submitted according to the requirements of the Lake Country Wastewater Treatment Plant (LCWWTP) Operational Certificate – #14651. This report follows the format of the Operational Certificate. The Operational Certificate was first issued in November 1998 and last amended in June 2021. This report will be made available to the public, but its intended audience is the governing agency with the Province of BC.

The LCWWTP, located at 4062 Beaver Lake Road in Lake Country, British Columbia, is a Class IV tertiary treatment plant owned, operated, and maintained by the District of Lake Country.

This document has been reviewed by the Wastewater Crew Leader and shared with wastewater operators and relevant District of Lake Country personnel. I certify that the information in this document and all attachments are correct, accurate, and complete to the best of my knowledge.

Cover image taken on November 2014 after phase III upgrade.


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March 21, 2024

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March 21, 2024

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1.0 Authorized Discharges

1.1 Authorized Source

The Lake Country Wastewater Treatment Plant (LCWWTP) authorized works consist of a biological nutrient removal tertiary treatment plant, effluent filtration, flow monitoring, and a surface to ground disposal system.

The effluent discharge is monitored under the Environmental Monitoring System (EMS) with the reference number E233626. Treated effluent from the LCWWTP is discharged into a ground infiltration system situated south of the treatment plant. In 2012, the infiltration capacity was enhanced with the installation of 3 open basins. Additionally, in 2015, one of the existing subsurface fields was restored to its original condition with new pipe and media.



Figure 1: Effluent RI Basin 1

The discharge is authorized in accordance with the provisions outlined in Operational Certificate – #14651, initially issued on November 5, 1998, and amended on June 22, 2021.

1.1.1 Authorized Rate of Discharge

The authorized rate of discharge is a monthly average of 2000 m³/d, based on daily values averaged on a monthly basis. Effluent totals are determined by subtracting the recirculated water meter total from the effluent flow meter total as the recirculated effluent is taken from the effluent discharge line after the effluent flow meter and used throughout the plant as process water. In 2023 the annual average discharge was 1,892 m³/d (compared to 1,934 m³/d in 2022).

Detailed monthly flow data is provided in [Table 1](#), with daily flows available in [Appendix A](#). Exceedances of the authorized discharge rate occurred in three months; additional information on these instances can be found in [section 4.3.1](#) of this report.

Currently, there are ongoing plans for the City of Kelowna to accept excess effluent from the facility until future disposal methods are authorized by the Ministry of Environment and Climate Change Strategy. This arrangement is intended to alleviate capacity limitations.

Table 1: Daily, Monthly, and Average Effluent Flows

| 2023 | Influent | Effluent | | | Septage | |
|--------------|------------------------------|------------------------------|-------------------------------|-------------------------------|------------------------------|---------------|
| | Flow (m ³ /month) | Flow (m ³ /month) | Minimum (m ³ /day) | Maximum (m ³ /day) | Flow (m ³ /month) | |
| January | 53,185 | 58,175 | 1,550 | 2,102 | 1,877 | 556 |
| February | 45,559 | 60,309 | 1,950 | 2,298 | 2,154 ¹ | 553 |
| March | 49,947 | 62,157 | 1,800 | 2,565 | 2,005 ¹ | 996 |
| April | 49,840 | 59,774 | 1,776 | 2,347 | 1,992 | 1,338 |
| May | 52,717 | 60,383 | 1,883 | 2,436 | 2,013 ¹ | 1,565 |
| June | 49,450 | 54,461 | 1,698 | 2,024 | 1,878 | 1,536 |
| July | 52,041 | 59,851 | 1,829 | 2,136 | 1,931 | 982 |
| August | 47,682 | 54,227 | 1,201 | 2,039 | 1,749 | 1,092 |
| September | 47,551 | 53,181 | 1,666 | 2,002 | 1,773 | 1,094 |
| October | 50,243 | 56,146 | 1,570 | 1,978 | 1,811 | 1,328 |
| November | 47,315 | 53,320 | 1,712 | 1,914 | 1,777 | 1,000 |
| December | 48,814 | 54,874 | 1,646 | 1,859 | 1,770 | 481 |
| Total | 594,344 | 686,858 | - | - | 1,892 | 12,521 |

¹Refer to [section 4.3.1](#) of this report for explanation of these exceedances.

1.1.2 Characteristics of Discharge

Monthly grab samples are taken to an accredited lab for analysis. Listed in [Table 2](#) are the accredited lab results from the monthly samples. Daily in-house samples are also taken for process control and operational performance checks using the standard methods listed in the BC Field Sampling Manual (2013 ed.) and the British Columbia Environmental Laboratory Manual (2023 ed.).



Figure 2: In-house Laboratory

Table 2: Effluent Monthly Grab Samples - Accredited Lab Analysis

| | CBOD ₅ (mg/L) | TSS (mg/L) | Ortho – P (mg/L) | Total Soluble N (mg/L) | pH |
|-----------------------|--------------------------|-----------------|-------------------------|------------------------|-------------------|
| Daily Permit Maximums | 10 | 20 | 1.5 | 10 | |
| January | 17 ^{1,2} | 11 ² | 0.02 ² | 1.53 ² | 7.67 ² |
| February | 9 | 4 | 0.07 | 2.69 | 6.05 |
| March | 4 | 7 | 0.09 | 1.20 | 7.77 |
| April | 5 | 6 | 0.46 | 1.70 | 7.59 |
| May | <7 | 4 | 0.03 | 1.46 | 7.71 |
| June | <5 | <2 | 0.37 | 0.63 | 7.90 |
| July | 3 | 2 | 0.13 | 0.89 | 7.90 |
| August | <3 | 2 | 0.03 | 0.91 | 8.05 |
| September | <2 | <2 | 0.06 | 2.35 | 7.86 |
| October | 2 | <2 | 0.25 | 1.61 | 7.62 |
| November | <3 | <2 | 0.57 | 3.69 | 7.49 |
| December | 3 | <4 | 0.18 | 3.72 | 7.63 |
| Annual Average | 4.2 | 3.8 | 0.18¹ | 1.84 | 7.61 |

| | | | | | |
|--------------------------------|---|---|------|---|---|
| Annual Average Permit Maximums | - | - | 0.15 | 6 | - |
|--------------------------------|---|---|------|---|---|

¹Refer to [section 4.3.1](#) of this report for explanation of these exceedances.

²Two samples were taken in January, displayed is the average of the results.

The 2023 effluent discharge sampling results for Carbonaceous Biochemical Oxygen Demand (CBOD₅), Total Suspended Solids (TSS), Ortho-Phosphorus as P, and Soluble Nitrogen as N are discussed in the following subsections.

CARBONACEOUS BOD (CBOD₅)

The monthly CBOD₅ samples are analyzed by an accredited lab (refer to [Table 2](#) for results). There was one instance of non-compliance on January 4, 2023, with CBOD₅ concentrations exceeding the operational certificate requirements of 10 mg/L, with a recorded concentration of 21.7 mg/L. A follow-up sample was taken on January 17, 2023, and still showed levels above the acceptable threshold, registering at 12.0 mg/L, although there was an indication that the CBOD₅ concentration was decreasing. Detailed results from the accredited laboratory can be found in [Appendix B](#) and the non-compliance report can be found in [Appendix C](#).

This non-compliance can be attributed to the deterioration of the plant process due to the seasonal cold weather conditions. Typically, the treatment process experiences difficulty fully recovering from seasonal cold weather until mid-April. However, on January 13, 2023 effluent filters were installed and commissioned. Subsequently, CBOD₅ levels have shown a significant decrease, as demonstrated in [Table 2](#), and figure 3. These filters are anticipated to continue to enhance effluent quality and mitigate the occurrence of exceedances in the future.

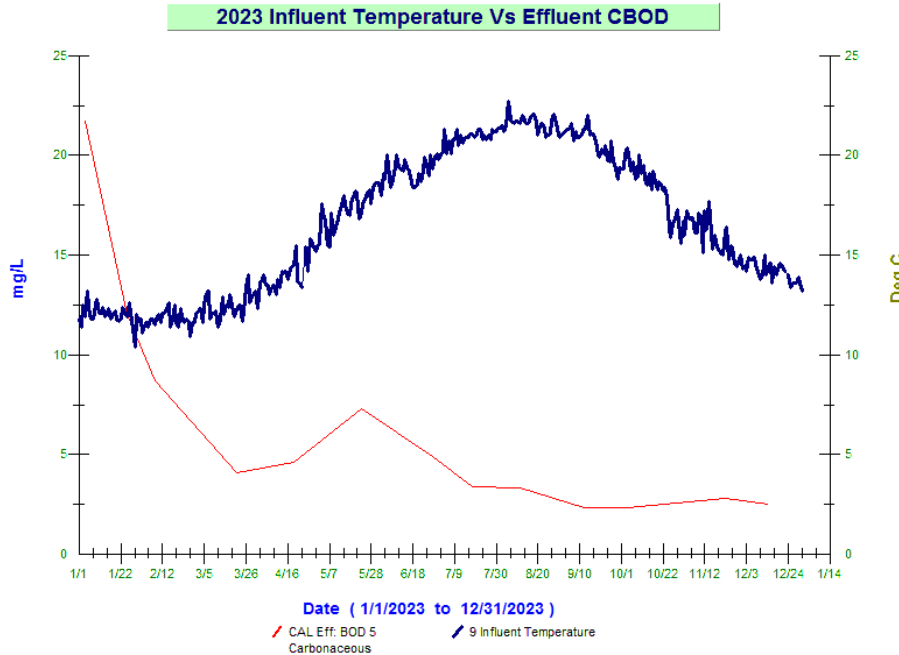


Figure 3: 2023 influent Temperature Vs Effluent CBOD

TOTAL SUSPENDED SOLIDS (TSS)

Suspended Solids are analyzed monthly by an accredited lab (refer to [Table 2](#) for results). The yearly average was 3.8 mg/L, and the maximum monthly average was 11 mg/L, occurring in January. There were no occasions in 2023 when TSS was higher than the operational certificate requirement of 20 mg/L, with the maximum concentration for 2023 being 11 mg/L. TSS is also analyzed in-house seven days a week to help inform process control. Effluent disc filters were added to the LCWWTP in 2023 and has improved the TSS results.

ORTHO PHOSPHORUS

Effluent Ortho Phosphorus is analyzed monthly by an external accredited laboratory (refer to [Table 2](#) for results). The Ortho Phosphorus annual average was 0.18 mg/L. This was above the operational certificate requirement of 0.15 mg/L for an annual average. The higher-than-average Ortho-Phosphorus results are assumed to be caused by the LCWWTP Phase 4 upgrades which were substantially completed in September 2023. Leading up to substantial completion, operations of the LCWWTP were in constant change as vessels were being commissioned and tested, creating an abnormal operation situation that saw some decreases in effluent quality.

At no time in 2023 did the effluent Ortho Phosphorus exceed the daily limit of 1.5 mg/L, with the maximum concentration of 0.57 mg/L occurring in November. Ortho Phosphorus is also analyzed inhouse daily to help inform process control.

SOLUBLE NITROGEN

Soluble Nitrogen is measured as the sum of ammonia, nitrite, and nitrate, as per the operational certificate. Samples are analyzed monthly by an accredited lab (refer to [Table 2](#) for results), as well as daily in-house to aid in process control.

In 2023, there was no instance where the Soluble Nitrogen limit of 10.0 mg/L was exceeded, with the maximum concentration being 3.72 mg/L measured on December 14, 2023. The yearly average for Soluble Nitrogen was 1.84 mg/L, which is in compliance with the permitted annual average limit of 6.0 mg/L.

2.0 General Requirements

2.1 Maintenance of works

District operators complete daily inspections of authorized works located at 4062 Beaver Lake Road and weekly inspections of authorized works within the collection system; copies of these inspection reports are available upon request.

The District utilizes a Computer Maintenance Management System (CMMS) that schedules and tracks all plant maintenance. All equipment is listed in the maintenance database and all manufacturer data and literature is indexed in binders. At a minimum all maintenance is in accordance with the authorized works manufacturer's recommended maintenance schedule.

2.2 Emergency Procedures

No emergency procedures were required in 2023.

2.3 Bypasses

There were no plant bypasses required in 2023.

2.4 Plant Modifications

The District of Lake Country successfully reached substantial completion of the LCWWTP Phase 4 upgrades in September 2023 at a cost of \$12,500,000. These upgrades enhanced redundancy and capacity by integrating a second secondary clarifier and third bioreactor. Additionally, effluent quality saw improvements through the installation of effluent disc filters. These modifications were approved prior to construction and align with the district's goals to serve an expanding population, care for the environment, and protect public health.



Figure 3: Effluent Disc Filters



Figure 4: New Secondary Clarifier

2.5 Facility Classification and Operator Certification

The Environmental Operators Certification Program (EOCP) classifies the LCWWTP as a Class IV facility and the Collection System as a Class I system. All four staff members at the LCWWTP are EOCP-certified as wastewater treatment operators, and the majority also hold certification as wastewater collection operators. The specific levels of certification are displayed in [Table 3](#).

Table 3: EOCP certification level

| Operator | Wastewater Treatment Level | Wastewater Collections Level |
|--------------------------|----------------------------|------------------------------|
| Davin Larsen (Crew Lead) | IV | II |
| Mike Davis | IV | II |
| Aaron Geck* | IV | I |
| Shelby McFarlane | II | - |
| Jeremy Engelbrecht* | IV | - |

*Aaron Geck left the district in the summer of 2023 and Jeremy Engelbrecht entered the vacant position in the Fall of 2023.

2.6 Qualified Professional

This report was prepared by the ASCT-certified staff at the Wastewater Treatment facility. The necessary data for the report has been collected and analyzed using the appropriate methods outlined in the British Columbia Field Sampling Manual (2013 ed.) and the British Columbia Environmental Laboratory Manual (2023 ed.). Accredited lab services were employed where necessary, and the results have been uploaded to the EMS database. Additionally, a third-party qualified professional has been contracted to review all data and the report itself to enhance transparency.

2.7 Plans-Works

All existing and currently constructed authorized works have been certified by a Qualified Professional and constructed to the appropriate standards, in accordance with the requirement set forth by the Operational Certificate.

2.8 Operation and Maintenance

The District of Lake Country maintains a Wastewater Treatment Operation and Maintenance Manual. This manual encompasses design criteria, process descriptions, maintenance protocols, and standard operating procedures for various functions commonly performed within the facilities.

2.9 Contingency Plan

In 2021, the District finalized a Wastewater Operations Contingency Plan, designed to establish protocols for handling preconceived emergencies as outlined in section 2.9 of the Operational Certificate. This plan serves as supplementary material to guide new operators and assist current operators in responding appropriately in the event of a critical failure at any stage of the wastewater handling processes. The primary objective of this plan is to uphold public health and safety, as well as safeguard the surrounding natural environment. A copy of the Wastewater Operations Contingency Plan is available upon request.

2.10 Sludge Management

The biosolids produced by the wastewater treatment plant process are transported to both the Ogogrow Production Facility and Curtis Farms. There, they undergo beneficial reuse to produce a soil amendment.

2.10.1 Sludge Volume Measurement

[Table 4](#) details the total amount of dewatered sludge hauled to the Ogogrow Production Facility and Curtis Farms. Exact dates of sludge disposal, quantities, and disposal locations are available upon request.



Figure 5: Ogogrow Production Facility

Table 4: Dewatered Sludge Quantities

| 2022 | Monthly Totals | |
|--------------|-----------------|----------------------|
| | Number of Loads | Dry Weight (Tonnes)* |
| January | 17 | 144.6 |
| February | 14 | 125.5 |
| March | 18 | 156.8 |
| April | 23 | 202.5 |
| May | 23 | 178.1 |
| June | 23 | 195.6 |
| July | 19 | 151.5 |
| August | 19 | 175.6 |
| September | 22 | 138.4 |
| October | 20 | 145.3 |
| November | 18 | 144.3 |
| December | 16 | 132.1 |
| Total | 232 | 1,890.3 |

*Estimated weights based on solids concentrations of sludge samples.

2.10.2 Sludge Sampling Program

Dewatered sludge samples are sent to an accredited lab monthly. The results of this monitoring are available upon request.

2.11 Infiltration Facilities

The plant effluent is directed to the infiltration works, comprising of three open rapid infiltration basins and two subsurface tile disposal fields. The basins are rotated weekly to provide a rest period and are regularly cleaned to eliminate solid build-up on the sacrificial sand layer. Every one to two years, the sand layer is refreshed with prewashed 2- and 3-mm sand. Effluent filters were integrated into the LCWWTP in 2023, following extensive rehabilitation work on the fields in 2022. Consequently, the infiltration works performed exceptionally well in 2023. There were no overflow occurrences in 2023.

2.12 Sewage Collection System

The District of Lake Country's Wastewater Collection system comprises 12 lift stations and 76.5 km of sanitary sewer mains. Additionally, the system features various appurtenances such as air valves, siphon chambers, and odour chemical dosing stations. Recognized as a Level I Collection System by the EOCP, it serves over 3,915 residential sanitary sewer service equivalences.

District operations conduct weekly inspections of the collection lift stations and frequently inspect other major appurtenances. Records of these inspections are available upon request. Furthermore, annual sewer main cleaning is performed in identified vulnerable areas.

In 2023, upgrades were carried out at the Davidson and The Lakes Lift stations. These upgrades included the installation of working platforms inside the wet wells to enhance worker safety and efficiency.

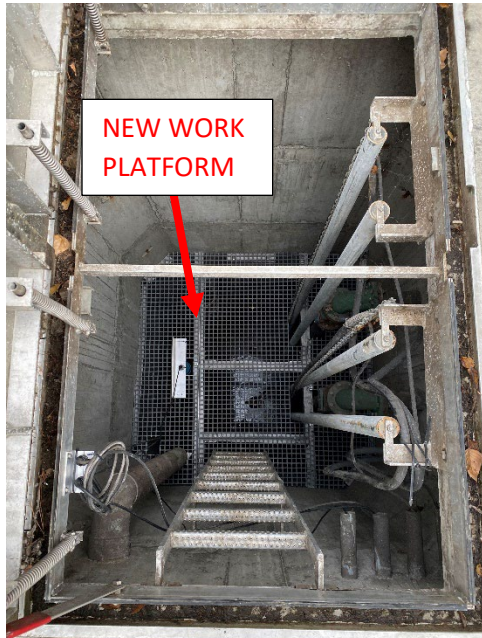


Figure 6: Davidson Lift Station

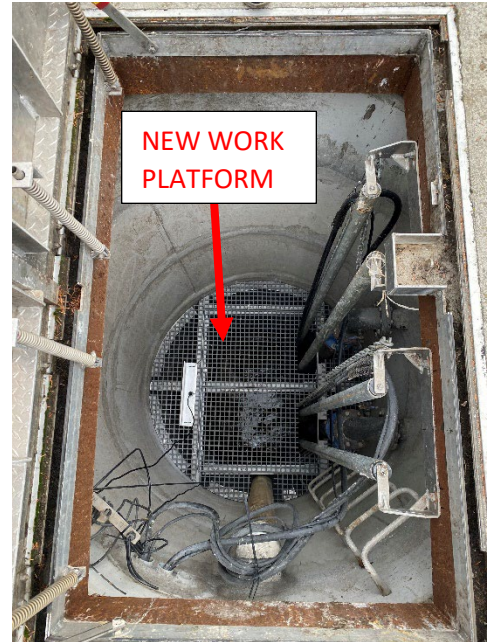


Figure 7: The Lakes Lift Station

2.12.1 Infiltration, Inflow and Cross Connections

While consistent infiltration issues have not been observed, certain sources of inflow from properties grappling with drainage from flood events and a high groundwater table have been identified. The District of Lake Country has been in communication with multiple properties and continues to address these issues on a case-by-case basis.

Historically, flow from pool discharge has posed noticeable impacts on the collection system and lift stations. These connections have been identified, and property owners have been notified of District bylaws concerning waste disposal into the sanitary system. An inspection and follow-up program has been executed, resulting in the mitigation of pool discharge.

Additionally, the District utilizes 4 "Smartcovers" to remotely monitor sanitary manholes for variations in flow and level. These tools aid operators in pinpointing sources of infiltration and inflow and serve as an alarm system for sanitary sewer overflows in high-risk areas.

2.13 Domestic Wells

By way of nutrient discharge there has been no evidence of adverse groundwater impact from the wastewater treatment disposal system. In the event there was any impact the District could supply potable water to those affected. Private well data and supporting analysis can be found in the ground water monitoring report in [Appendix D](#), developed by a third-party qualified professional (Quarmby Environmental Ltd.).

2.14 Groundwater Extraction

In March of 2004, the District of Lake Country installed a groundwater extraction well intended to pump groundwater from the southwest corner of the Wastewater Treatment Plant property into Middle

Vernon Creek at the south end of Swalwell Park. However, this groundwater well has remained unused since its installation.

2.15 Irrigation

Treated effluent is only used for wastewater treatment plant process water and not used in the irrigation of any property.

3.0 Monitoring Requirements

3.1 Influent and Effluent Monitoring

The District's monitoring program adheres to the guidelines outlined in sections 3.1 and 3.2 of the Operational Certificate. Plant influent and effluent samples are sent to an accredited laboratory on a monthly basis. Effluent flow meter readings are automatically recorded and stored in the wastewater lab data management system, Hach Wims, with daily checks conducted. [Table 1](#) provides a summary of the LCWWTP influent and effluent flows, while [Table 2](#) tabulates the accredited lab data for effluent samples. Additionally, [Table 5](#) presents the influent accredited lab data. Copies of the accredited lab reports are available in [Appendix B](#).

Table 5: 2023 Influent accredited lab data

| | CBOD5 (mg/L) | TSS (mg/L) | Total P (mg/L) | Total Nitrogen (mg/L) | pH |
|----------------|-----------------|---------------|-------------------|-----------------------------|------|
| January | 316 | 174 | 10.50 | 92.30 | 8.25 |
| February | 226 | 262 | 9.49 | 66.90 | 7.83 |
| March | 349 | 336 | 10.60 | 94.00 | 7.99 |
| April | 330 | 279 | 10.90 | 95.90 | 8.17 |
| May | 375 | 280 | 8.63 | 59.90 | 7.63 |
| June | 331 | 165 | 5.42 | 91.90 | 7.95 |
| July | 674 | 848 | 13.90 | 118.00 | 7.84 |
| August | 322 | 293 | 14.40 | 99.50 | 7.72 |
| September | 800 | 645 | 19.80 | 97.20 | 7.71 |
| October | 348 | 352 | 11.10 | 88.80 | 7.97 |
| November | 425 | 362 | 11.00 | 86.30 | 7.59 |
| December | 373 | 362 | 12.30 | 87.20 | 7.69 |
| Annual Average | 406 | 363 | 11.50 | 89.83 | 7.86 |

3.2 Groundwater Monitoring

The groundwater monitoring program has been developed by a third-party qualified professional (Quarmby Environmental Ltd.) and encompasses the monitoring of various aspects, including:

- Groundwater flow patterns
- Groundwater quality
- Nutrient removal capability of the soil

- Groundwater levels
- Advanced notice of impending high groundwater issues
- Elevated phosphorus or nitrate levels potentially attributed to effluent disposal

The groundwater monitoring program is detailed in Section 3.2 of the Operational Certificate. A map illustrating the locations of monitoring wells can be referenced in [Appendix E](#), while the summarized data is presented in a memorandum from Quarmby Environmental, available in [Appendix D](#).

3.3 Modification of the Monitoring Program

The monitoring program was amended as part of the 2021 Operational Certificate. Since the issuance of the Operational Certificate in June 2022, there have been no further official changes to the monitoring plan. However, H6 Domestic Well 9719 McCarthy Road is no longer accessible, and the property's residence is unoccupied. The property has been sold and is now utilized for an industrial marijuana operation with enhanced security measures. An Operational Certificate amendment request to exclude this well from the groundwater monitoring program scope was submitted to the Ministry of Environment and Climate Change Strategy on June 27, 2023.

3.4 Sampling Facilities & Procedures

The District has installed and maintains sampling facilities for all sample sites. All procedures for the sampling, storing, and transporting of samples are in accordance with the BC Field Sampling Manual and the Collection of Air, Air-Emission, Water, Wastewater, Soil, Sediment, and Biological Samples, 2013 Edition.

3.5 Analytical Procedures

The District follows and submits samples for laboratory analysis in accordance with the British Columbia Environmental Laboratory Manual, 2023 Edition.

3.6 Quality Assurance

The District of Lake Country engages Caro Analytical Services for their accredited lab testing needs. In addition to providing sample results, Caro includes a copy of their quality assurance/quality control report with each submission, which incorporates an equipment blank. Caro is certified by the Canadian Accredited Laboratories Association (CALA) and accredited by the International Standards Organization (ISO).

In-house testing conducted at the LCWWTP lab strictly adheres to the BC Field Sampling Manual, 2013 edition, for water and wastewater analysis. Operators routinely calibrate lab equipment and employ various quality control measures such as blanks, duplicates, and split samples during sampling procedures. Although this lab is not accredited, the data generated is solely utilized for operational purposes and is not used for reporting purposes.

4.0 Reporting Requirements

All data from LCWWTP analysis and flow measurements required under the authorization permit is collected and stored within the web-based software program Hach Wims. This information is readily accessible for review upon request.

4.1 Non-Compliance Notification and Reporting

All instances of non-compliance are promptly communicated to the Director via email within the specified 30-day period. These notifications include an explanation of the most probable cause(s) of the non-compliance, and a description of the remedial action planned and/or taken to prevent similar non-compliance(s) in the future. Additionally, any lab data, photographs, and supporting documents are included in the report. Reports of non-compliance can be located in [Appendix C](#).

4.2 EMS Reporting

All laboratory data analyzed by a qualified professional is inputted into the Environmental Monitoring System (EMS) by the accredited laboratory within 30 days from the date of sample collection.

4.3 Annual Reporting

4.3.1 Exceedances

The LCWWTP experienced 3 non-compliances in 2023. Non-Compliance Reports were sent to Ministry of Environment and Climate Change Strategy for each incidence and can be found in [Appendix C](#). A summary of those exceedances/non compliances are below:

Daily flow limit exceedance (1) – The monthly permit limit for the rate of discharge was falsely exceeded in February, March, and May of 2023, with recorded flow volumes reaching 2,154 m³/day, 2,005 m³/day, and 2,013 m³/day, respectively. These instances were attributed to excessive use of recycled effluent within the plant process, resulting from the commissioning of the LCWWTP phase 4 upgrades (refer to [section 2.4](#) of this report). While the actual flow leaving the plant is estimated to be below the permit limit, it cannot be confirmed. The discrepancy in effluent readings stems from recycled water being taken after the final flow meter and reintroduced back into the process, leading to an inflated effluent flow meter reading. Upon completion of phase 4 commissioning, this level of reuse will no longer be necessary.

CBOD exceedance (1) - On January 4, 2023, the monthly sample analyzed by an accredited lab indicated a non-compliance. The CBOD₅ concentrations exceeded the 10 mg/L operational certificate requirement, reaching 21.7 mg/L. A subsequent sample on January 17, 2023 also exceeded the threshold, registering at 12.0 mg/L. The non-compliance was attributed to plant process deterioration due to seasonal cold weather. Effluent filters were installed on January 13, 2023 which led to a significant decrease in CBOD₅ levels, and potentially mitigating future exceedances during cold weather conditions.

Ortho Phosphorus exceedance (1) – The Ortho-Phosphorus annual average for 2023, at 0.18 mg/L, slightly exceeded the operational certificate requirement of 0.15 mg/L. This increase is attributed to the LCWWTP Phase 4 upgrades, which caused operational changes resulting in decreased effluent quality. However, despite these challenges, the effluent Ortho-Phosphorus levels never exceeded the daily limit of 1.5 mg/L in 2023, with the highest concentration of 0.57 mg/L recorded in November.

4.3.2 Groundwater Reporting

Refer to [Appendix D](#) for a report on the groundwater conditions at the LCWWTP and surrounding area.

4.3.3 Plant Performance Trends

Refer to [Appendix F](#) for plant trends performance depicted as annual graphs.

4.3.4 Lab reports

Please refer to [Table 2](#) for summarized accredited lab data. Copies of the accredited lab reports can be found in [Appendix B](#).

4.3.5 Quality Assurance Data

The CARO test results, along with their respective quality assurance/quality control reports, can be found in [Appendix B](#).

4.3.6 Sludge Management Recording

Please refer to [section 2.10](#) of this report

4.3.7 Evaluation of Authorized works

The LCWWTP currently maintains a good overall condition. Having undergone upgrades in 2015 and 2023, with another upgrade scheduled within the next 3 to 5 years. The District is proactively identifying components for both current and future upgrade and replacement needs. The District is strategically addressing the challenges posed by the community's growth and subsequent flow increases. One highlighted measure involves exploring alternative methods of effluent disposal to effectively manage these demands on the LCWWTP.

4.3.8 Contingency Plan

A contingency plan for the LCWWTP and collection system was created in 2021 and submitted to the Ministry of Environment and Climate Change Strategy on January 12th, 2022. There have been no further updates to the plan since its submission.

Appendix A - Total Daily Flows

| FINAL EFFLUENT FLOW (M3) | | | | | | | | | | | | |
|--------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP | OCT | NOV | DEC |
| 1 | 1,887 | 2,048 | 2,126 | 1,776 | 2,039 | 2,024 | 1,854 | 2,039 | 1,754 | 1,761 | 1,802 | 1,755 |
| 2 | 1,974 | 2,191 | 2,074 | 1,972 | 2,245 | 1,885 | 1,928 | 1,943 | 1,709 | 1,907 | 1,852 | 1,747 |
| 3 | 1,908 | 2,170 | 2,046 | 1,885 | 2,436 | 1,825 | 2,044 | 1,887 | 1,779 | 1,709 | 1,736 | 1,809 |
| 4 | 1,938 | 2,181 | 2,084 | 1,883 | 2,293 | 1,875 | 1,975 | 1,960 | 2,002 | 1,664 | 1,712 | 1,763 |
| 5 | 1,813 | 2,298 | 2,141 | 1,879 | 1,965 | 1,827 | 1,930 | 1,888 | 1,811 | 1,737 | 1,896 | 1,746 |
| 6 | 1,883 | 2,204 | 1,815 | 1,918 | 1,977 | 1,931 | 1,901 | 1,857 | 1,789 | 1,709 | 1,773 | 1,827 |
| 7 | 1,881 | 2,216 | 1,984 | 1,942 | 2,025 | 1,845 | 1,867 | 1,960 | 1,756 | 1,655 | 1,782 | 1,794 |
| 8 | 2,016 | 1,950 | 2,034 | 1,939 | 2,046 | 1,868 | 1,898 | 1,915 | 1,701 | 1,740 | 1,734 | 1,731 |
| 9 | 1,893 | 2,004 | 2,035 | 1,934 | 1,962 | 1,894 | 1,867 | 1,975 | 1,791 | 1,889 | 1,725 | 1,773 |
| 10 | 1,892 | 2,142 | 1,981 | 1,987 | 1,943 | 1,908 | 1,924 | 1,826 | 1,845 | 1,785 | 1,735 | 1,859 |
| 11 | 1,713 | 2,184 | 2,074 | 2,169 | 1,951 | 1,941 | 1,933 | 1,774 | 1,744 | 1,787 | 1,733 | 1,759 |
| 12 | 1,854 | 2,262 | 2,146 | 2,335 | 1,913 | 1,912 | 1,976 | 1,810 | 1,801 | 1,570 | 1,740 | 1,767 |
| 13 | 1,624 | 2,181 | 2,172 | 2,347 | 1,924 | 1,895 | 1,964 | 1,914 | 1,791 | 1,778 | 1,813 | 1,786 |
| 14 | 1,658 | 2,150 | 2,103 | 2,167 | 1,997 | 1,808 | 1,901 | 1,910 | 1,754 | 1,872 | 1,803 | 1,766 |
| 15 | 1,754 | 2,093 | 2,067 | 1,898 | 2,008 | 1,716 | 1,842 | 1,862 | 1,715 | 1,978 | 1,778 | 1,711 |
| 16 | 1,599 | 2,182 | 2,047 | 2,029 | 1,974 | 1,761 | 1,920 | 1,836 | 1,753 | 1,895 | 1,735 | 1,753 |
| 17 | 1,550 | 2,159 | 2,042 | 1,909 | 2,032 | 1,698 | 1,829 | 1,829 | 1,798 | 1,860 | 1,713 | 1,817 |
| 18 | 2,064 | 2,183 | 1,909 | 1,938 | 2,002 | 1,898 | 1,904 | 1,523 | 1,686 | 1,858 | 1,749 | 1,758 |
| 19 | 2,102 | 2,182 | 1,944 | 1,933 | 1,895 | 1,900 | 1,891 | 1,201 | 1,666 | 1,811 | 1,849 | 1,753 |
| 20 | 1,918 | 2,236 | 1,867 | 1,889 | 1,913 | 1,889 | 1,942 | 1,340 | 1,702 | 1,813 | 1,743 | 1,787 |
| 21 | 1,970 | 2,148 | 1,837 | 1,877 | 1,971 | 1,906 | 2,002 | 1,378 | 1,726 | 1,813 | 1,722 | 1,776 |
| 22 | 2,042 | 2,185 | 1,814 | 1,937 | 2,200 | 1,864 | 1,848 | 1,577 | 1,763 | 1,922 | 1,758 | 1,803 |
| 23 | 1,939 | 2,141 | 1,856 | 2,089 | 1,997 | 1,840 | 1,889 | 1,620 | 1,760 | 1,864 | 1,791 | 1,854 |
| 24 | 1,807 | 2,111 | 1,800 | 2,206 | 1,939 | 1,836 | 2,136 | 1,562 | 1,859 | 1,857 | 1,738 | 1,812 |
| 25 | 1,749 | 2,143 | 1,874 | 2,282 | 2,008 | 1,925 | 2,059 | 1,594 | 1,787 | 1,854 | 1,813 | 1,646 |
| 26 | 1,834 | 2,233 | 1,824 | 1,934 | 1,883 | 1,927 | 2,002 | 1,679 | 1,784 | 1,842 | 1,914 | 1,702 |
| 27 | 1,820 | 2,055 | 2,565 | 1,939 | 1,887 | 1,946 | 1,976 | 1,691 | 1,881 | 1,843 | 1,835 | 1,758 |
| 28 | 1,932 | 2,077 | 1,990 | 1,852 | 2,004 | 1,948 | 1,925 | 1,692 | 1,755 | 1,835 | 1,748 | 1,740 |
| 29 | 2,042 | | 2,157 | 1,911 | 1,991 | 1,969 | 1,904 | 1,727 | 1,793 | 1,926 | 1,812 | 1,730 |
| 30 | 2,095 | | 1,866 | 2,018 | 1,963 | 1,878 | 1,879 | 1,709 | 1,726 | 1,835 | 1,786 | 1,761 |
| 31 | 2,024 | | 1,883 | | 1,973 | | 1,941 | 1,749 | | 1,777 | | 1,831 |

Appendix B – Accredited Laboratory Reports



CERTIFICATE OF ANALYSIS

| | | | |
|---------------------|---|---------------------------------|---|
| REPORTED TO | Lake Country, District of (Wastewater) 4062 Beaver Lake Rd LAKE COUNTRY, BC V4V 1T5 | WORK ORDER | 23A0198 |
| ATTENTION | Davin Larsen | RECEIVED / TEMP REPORTED | 2023-01-04 10:58 / 10.3°C 2023-01-10 15:54 |
| PO NUMBER | | COC NUMBER | 44930.38203 |
| PROJECT | Raw Influent- PE14651 | | |
| PROJECT INFO | Lake Country WWTP | | |

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>

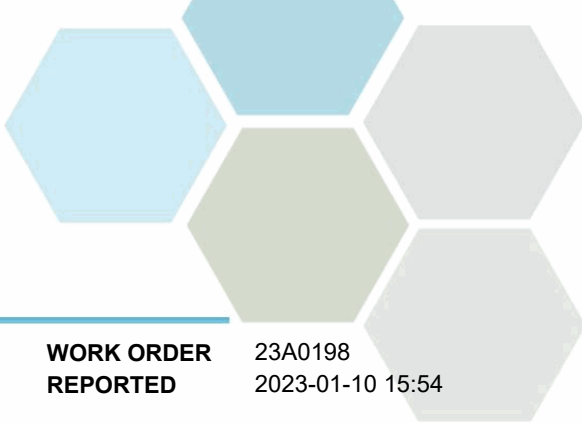
If you have any questions or concerns, please contact me at bwhitehead@caro.ca

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

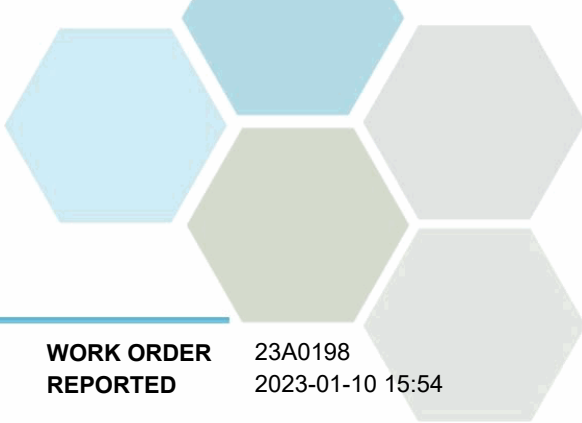
REPORTED TO PROJECT Lake Country, District of (Wastewater)
Raw Influent- PE14651

WORK ORDER REPORTED 23A0198
2023-01-10 15:54

| Analyte | Result | RL | Units | Analyzed | Qualifier |
|---|-------------|--------|----------|------------|-----------|
| Raw Influent (E233627) (23A0198-01) Matrix: Wastewater Sampled: 2023-01-04 10:25 | | | | | |
| Anions | | | | | |
| Nitrate (as N) | < 0.010 | 0.010 | mg/L | 2023-01-05 | |
| Nitrite (as N) | < 0.010 | 0.010 | mg/L | 2023-01-05 | |
| Phosphate (as P) | 6.93 | 0.0050 | mg/L | 2023-01-05 | |
| Calculated Parameters | | | | | |
| Nitrate+Nitrite (as N) | < 0.0100 | 0.0100 | mg/L | N/A | |
| Nitrogen, Total | 92.3 | 2.00 | mg/L | N/A | |
| General Parameters | | | | | |
| Alkalinity, Total (as CaCO3) | 356 | 1.0 | mg/L | 2023-01-05 | |
| Alkalinity, Phenolphthalein (as CaCO3) | < 1.0 | 1.0 | mg/L | 2023-01-05 | |
| Alkalinity, Bicarbonate (as CaCO3) | 356 | 1.0 | mg/L | 2023-01-05 | |
| Alkalinity, Carbonate (as CaCO3) | < 1.0 | 1.0 | mg/L | 2023-01-05 | |
| Alkalinity, Hydroxide (as CaCO3) | < 1.0 | 1.0 | mg/L | 2023-01-05 | |
| Ammonia, Total (as N) | 63.6 | 0.050 | mg/L | 2023-01-05 | |
| BOD, 5-day | 368 | 2.0 | mg/L | 2023-01-10 | |
| BOD, 5-day Carbonaceous | 316 | 2.0 | mg/L | 2023-01-10 | |
| Nitrogen, Total Kjeldahl | 92.3 | 0.050 | mg/L | 2023-01-06 | |
| pH | 8.25 | 0.10 | pH units | 2023-01-05 | HT2 |
| Phosphorus, Total (as P) | 10.5 | 0.0050 | mg/L | 2023-01-05 | |
| Solids, Total Suspended | 174 | 2.0 | mg/L | 2023-01-07 | |

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 Lake Country, District of (Wastewater)
Raw Influent- PE14651

WORK ORDER REPORTED 23A0198
2023-01-10 15:54

| Analysis Description | Method Ref. | Technique | Accredited | Location |
|--|---|--|------------|----------|
| Alkalinity in Water | SM 2320 B* (2017) | Titration with H2SO4 | ✓ | Kelowna |
| Ammonia, Total in Water | SM 4500-NH3 G* (2017) | Automated Colorimetry (Phenate) | ✓ | Kelowna |
| Anions in Water | SM 4110 B (2017) | Ion Chromatography | ✓ | Kelowna |
| Biochemical Oxygen Demand in Water | SM 5210 B (2017) | Dissolved Oxygen Meter | ✓ | Kelowna |
| Biochemical Oxygen Demand, Carbonaceous in Water | SM 5210 B (2017) | Dissolved Oxygen Meter | ✓ | Kelowna |
| Nitrogen, Total Kjeldahl in Water | SM 4500-Norg D* (2017) | Block Digestion and Flow Injection Analysis | ✓ | Kelowna |
| pH in Water | SM 4500-H+ B (2017) | Electrometry | ✓ | Kelowna |
| Phosphorus, Total in Water | SM 4500-P B.5* (2011) / SM 4500-P F (2017) | Persulfate Digestion / Automated Colorimetry (Ascorbic Acid) | ✓ | Kelowna |
| Solids, Total Suspended in Water | Solids in Water, Filtered / SM 2540 D* (2017) | Solids in Water, Filtered / Gravimetry (Dried at 103-105C) | ✓ | Kelowna |

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

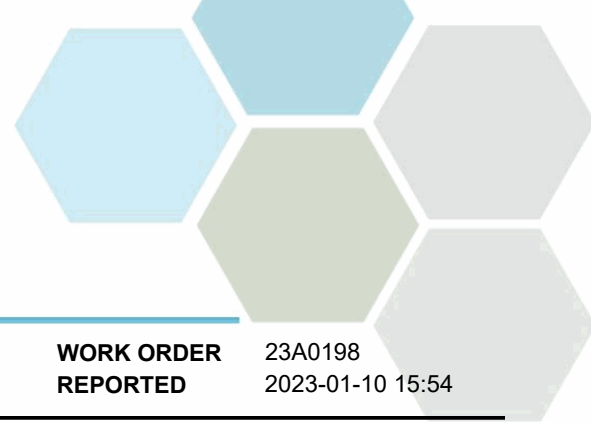
Glossary of Terms:

| | |
|----------|---|
| RL | Reporting Limit (default) |
| < | Less than the specified Reporting Limit (RL) - the actual RL may be higher than the default RL due to various factors |
| mg/L | Milligrams per litre |
| pH units | pH < 7 = acidic, pH > 7 = basic |
| SM | Standard Methods for the Examination of Water and Wastewater, American Public Health Association |

General Comments:

The results in this report apply to the received 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 Lake Country, District of (Wastewater)
Raw Influent- PE14651

WORK ORDER REPORTED 23A0198
2023-01-10 15:54

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 B3A0211

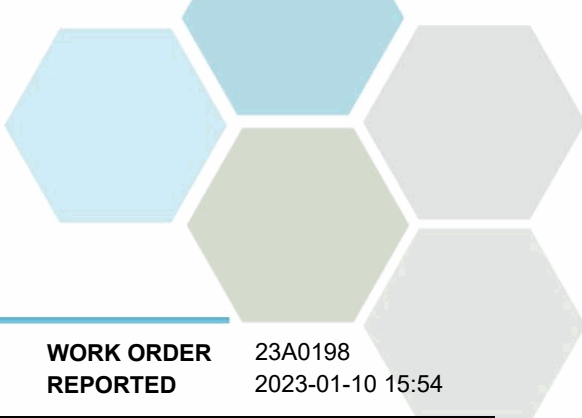
| Blank (B3A0211-BLK1) | | | Prepared: 2023-01-05, Analyzed: 2023-01-05 | | | | | | |
|----------------------|----------|-------------|--|--|----|--------|--|--|--|
| Nitrate (as N) | < 0.010 | 0.010 mg/L | | | | | | | |
| Nitrite (as N) | < 0.010 | 0.010 mg/L | | | | | | | |
| Phosphate (as P) | < 0.0050 | 0.0050 mg/L | | | | | | | |
| LCS (B3A0211-BS1) | | | Prepared: 2023-01-05, Analyzed: 2023-01-05 | | | | | | |
| Nitrate (as N) | 3.89 | 0.010 mg/L | 4.00 | | 97 | 90-110 | | | |
| Nitrite (as N) | 1.98 | 0.010 mg/L | 2.00 | | 99 | 85-115 | | | |
| Phosphate (as P) | 0.907 | 0.0050 mg/L | 1.00 | | 91 | 80-120 | | | |

General Parameters, Batch B3A0230

| Blank (B3A0230-BLK1) | | | Prepared: 2023-01-04, Analyzed: 2023-01-05 | | | | | | |
|--------------------------|----------|-------------|--|--|-----|--------|--|--|--|
| Phosphorus, Total (as P) | < 0.0050 | 0.0050 mg/L | | | | | | | |
| Blank (B3A0230-BLK2) | | | Prepared: 2023-01-04, Analyzed: 2023-01-05 | | | | | | |
| Phosphorus, Total (as P) | < 0.0050 | 0.0050 mg/L | | | | | | | |
| LCS (B3A0230-BS1) | | | Prepared: 2023-01-04, Analyzed: 2023-01-05 | | | | | | |
| Phosphorus, Total (as P) | 0.108 | 0.0050 mg/L | 0.100 | | 108 | 85-115 | | | |
| LCS (B3A0230-BS2) | | | Prepared: 2023-01-04, Analyzed: 2023-01-05 | | | | | | |
| Phosphorus, Total (as P) | 0.107 | 0.0050 mg/L | 0.100 | | 107 | 85-115 | | | |

General Parameters, Batch B3A0251

| Blank (B3A0251-BLK1) | | | Prepared: 2023-01-05, Analyzed: 2023-01-05 | | | | | | |
|--|-------|----------|--|--|--|--|--|--|--|
| Alkalinity, Total (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Phenolphthalein (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Bicarbonate (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Carbonate (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Hydroxide (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Blank (B3A0251-BLK2) | | | Prepared: 2023-01-05, Analyzed: 2023-01-05 | | | | | | |
| Alkalinity, Total (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Phenolphthalein (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Bicarbonate (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |

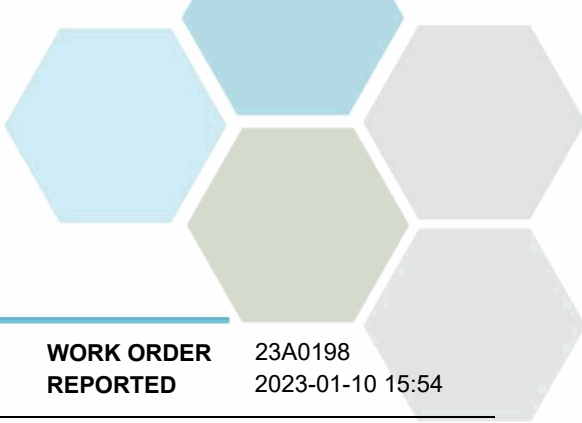


APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater)
Raw Influent- PE14651

WORK ORDER REPORTED 23A0198
2023-01-10 15:54

| Analyte | Result | RL Units | Spike Level | Source Result | % REC | REC Limit | % RPD | RPD Limit | Qualifier |
|---|---------|---------------|--|---------------|-------|-----------|-------|-----------|-----------|
| General Parameters, Batch B3A0251, Continued | | | | | | | | | |
| Blank (B3A0251-BLK2), Continued | | | Prepared: 2023-01-05, Analyzed: 2023-01-05 | | | | | | |
| Alkalinity, Carbonate (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Hydroxide (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| LCS (B3A0251-BS1) | | | Prepared: 2023-01-05, Analyzed: 2023-01-05 | | | | | | |
| Alkalinity, Total (as CaCO3) | 98.8 | 1.0 mg/L | 100 | | 99 | 80-120 | | | |
| LCS (B3A0251-BS2) | | | Prepared: 2023-01-05, Analyzed: 2023-01-05 | | | | | | |
| Alkalinity, Total (as CaCO3) | 98.8 | 1.0 mg/L | 100 | | 99 | 80-120 | | | |
| Reference (B3A0251-SRM1) | | | Prepared: 2023-01-05, Analyzed: 2023-01-05 | | | | | | |
| pH | 7.01 | 0.10 pH units | 7.01 | | 100 | 98-102 | | | |
| Reference (B3A0251-SRM2) | | | Prepared: 2023-01-05, Analyzed: 2023-01-05 | | | | | | |
| pH | 7.00 | 0.10 pH units | 7.01 | | 100 | 98-102 | | | |
| General Parameters, Batch B3A0268 | | | | | | | | | |
| Blank (B3A0268-BLK1) | | | Prepared: 2023-01-05, Analyzed: 2023-01-05 | | | | | | |
| Ammonia, Total (as N) | < 0.050 | 0.050 mg/L | | | | | | | |
| Blank (B3A0268-BLK2) | | | Prepared: 2023-01-05, Analyzed: 2023-01-05 | | | | | | |
| Ammonia, Total (as N) | < 0.050 | 0.050 mg/L | | | | | | | |
| Blank (B3A0268-BLK3) | | | Prepared: 2023-01-05, Analyzed: 2023-01-05 | | | | | | |
| Ammonia, Total (as N) | < 0.050 | 0.050 mg/L | | | | | | | |
| LCS (B3A0268-BS1) | | | Prepared: 2023-01-05, Analyzed: 2023-01-05 | | | | | | |
| Ammonia, Total (as N) | 0.920 | 0.050 mg/L | 1.00 | | 92 | 90-115 | | | |
| LCS (B3A0268-BS2) | | | Prepared: 2023-01-06, Analyzed: 2023-01-06 | | | | | | |
| Ammonia, Total (as N) | 1.02 | 0.050 mg/L | 1.00 | | 102 | 90-115 | | | |
| LCS (B3A0268-BS3) | | | Prepared: 2023-01-06, Analyzed: 2023-01-06 | | | | | | |
| Ammonia, Total (as N) | 1.01 | 0.050 mg/L | 1.00 | | 101 | 90-115 | | | |
| General Parameters, Batch B3A0298 | | | | | | | | | |
| Blank (B3A0298-BLK1) | | | Prepared: 2023-01-05, Analyzed: 2023-01-06 | | | | | | |
| Nitrogen, Total Kjeldahl | < 0.050 | 0.050 mg/L | | | | | | | |
| Blank (B3A0298-BLK2) | | | Prepared: 2023-01-05, Analyzed: 2023-01-06 | | | | | | |
| Nitrogen, Total Kjeldahl | < 0.050 | 0.050 mg/L | | | | | | | |
| LCS (B3A0298-BS1) | | | Prepared: 2023-01-05, Analyzed: 2023-01-06 | | | | | | |
| Nitrogen, Total Kjeldahl | 0.951 | 0.050 mg/L | 1.00 | | 95 | 85-115 | | | |
| LCS (B3A0298-BS2) | | | Prepared: 2023-01-05, Analyzed: 2023-01-06 | | | | | | |
| Nitrogen, Total Kjeldahl | 0.950 | 0.050 mg/L | 1.00 | | 95 | 85-115 | | | |
| General Parameters, Batch B3A0338 | | | | | | | | | |
| Blank (B3A0338-BLK1) | | | Prepared: 2023-01-05, Analyzed: 2023-01-10 | | | | | | |
| BOD, 5-day | < 2.0 | 2.0 mg/L | | | | | | | |
| LCS (B3A0338-BS1) | | | Prepared: 2023-01-05, Analyzed: 2023-01-10 | | | | | | |
| BOD, 5-day | 188 | 44.2 mg/L | 198 | | 95 | 85-115 | | | |



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater)
Raw Influent- PE14651

WORK ORDER REPORTED 23A0198
2023-01-10 15:54

| Analyte | Result | RL Units | Spike Level | Source Result | % REC | REC Limit | % RPD | RPD Limit | Qualifier |
|--|--------|-----------|-------------|--|-------|-----------|-------|-----------|-----------|
| General Parameters, Batch B3A0339 | | | | | | | | | |
| Blank (B3A0339-BLK1) | | | | Prepared: 2023-01-05, Analyzed: 2023-01-10 | | | | | |
| BOD, 5-day Carbonaceous | < 2.0 | 2.0 mg/L | | | | | | | |
| LCS (B3A0339-BS1) | | | | Prepared: 2023-01-05, Analyzed: 2023-01-10 | | | | | |
| BOD, 5-day Carbonaceous | 203 | 38.1 mg/L | 198 | | 102 | 85-115 | | | |
| General Parameters, Batch B3A0453 | | | | | | | | | |
| Blank (B3A0453-BLK1) | | | | Prepared: 2023-01-07, Analyzed: 2023-01-07 | | | | | |
| Solids, Total Suspended | < 2.0 | 2.0 mg/L | | | | | | | |
| LCS (B3A0453-BS1) | | | | Prepared: 2023-01-07, Analyzed: 2023-01-07 | | | | | |
| Solids, Total Suspended | 87.0 | 10.0 mg/L | 100 | | 87 | 85-115 | | | |



CERTIFICATE OF ANALYSIS

| | | | |
|---------------------|---|---------------------------------|---|
| REPORTED TO | Lake Country, District of (Wastewater) 4062 Beaver Lake Rd LAKE COUNTRY, BC V4V 1T5 | WORK ORDER | 23A0199 |
| ATTENTION | Davin Larsen | RECEIVED / TEMP REPORTED | 2023-01-04 10:58 / 10.3°C 2023-01-10 15:55 |
| PO NUMBER | | COC NUMBER | 44930.38203 |
| PROJECT | Amry- MR17842 | | |
| PROJECT INFO | Lake Country WWTP | | |

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>

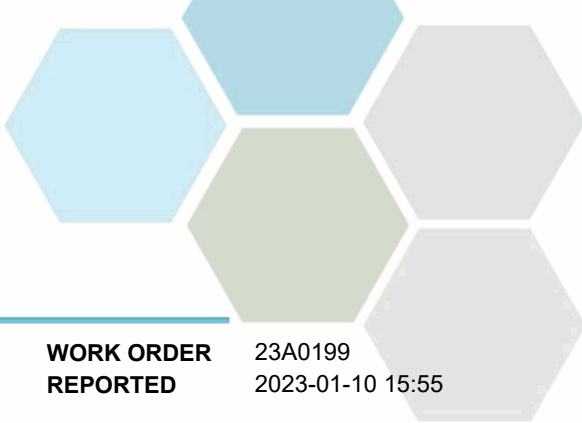
If you have any questions or concerns, please contact me at bwhitehead@caro.ca

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

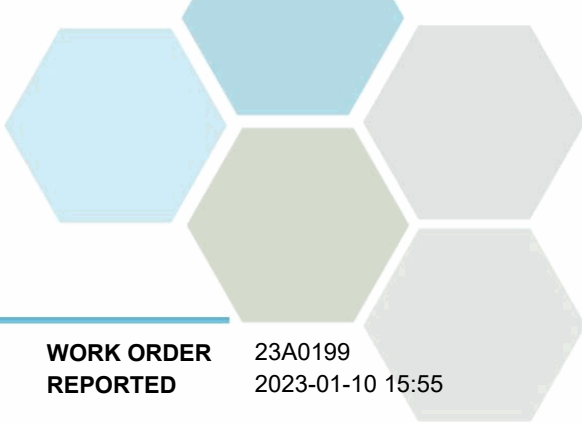


TEST RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater)
Amry- MR17842

WORK ORDER REPORTED 23A0199
2023-01-10 15:55

| Analyte | Result | RL | Units | Analyzed | Qualifier |
|--|--------|-----|-------|------------|-----------|
| Amry WW (E262982) (23A0199-01) Matrix: Wastewater Sampled: 2023-01-04 09:05 | | | | | |
| <i>General Parameters</i> | | | | | |
| BOD, 5-day Carbonaceous | 6.1 | 2.0 | mg/L | 2023-01-10 | |
| Solids, Total Suspended | 9.5 | 2.0 | mg/L | 2023-01-07 | |



APPENDIX 1: SUPPORTING INFORMATION

REPORTED TO PROJECT Lake Country, District of (Wastewater)
Amry- MR17842

WORK ORDER REPORTED 23A0199
2023-01-10 15:55

| Analysis Description | Method Ref. | Technique | Accredited | Location |
|--|---|--|------------|----------|
| Biochemical Oxygen Demand, Carbonaceous in Water | SM 5210 B (2017) | Dissolved Oxygen Meter | ✓ | Kelowna |
| Solids, Total Suspended in Water | Solids in Water, Filtered / SM 2540 D* (2017) | Solids in Water, Filtered / Gravimetry (Dried at 103-105C) | ✓ | Kelowna |

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

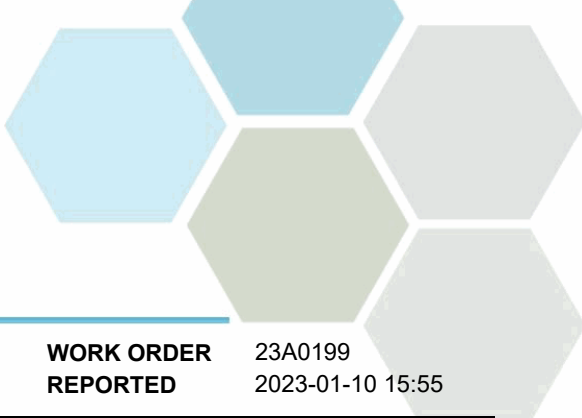
Glossary of Terms:

| | |
|------|--|
| RL | Reporting Limit (default) |
| mg/L | Milligrams per litre |
| SM | Standard Methods for the Examination of Water and Wastewater, American Public Health Association |

General Comments:

The results in this report apply to the received 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

REPORTED TO PROJECT Lake Country, District of (Wastewater)
Amry- MR17842

WORK ORDER REPORTED 23A0199
2023-01-10 15:55

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 |
|--|--------|-----------|--|---------------|-------|-----------|-------|-----------|-----------|
| General Parameters, Batch B3A0339 | | | | | | | | | |
| Blank (B3A0339-BLK1) | | | Prepared: 2023-01-05, Analyzed: 2023-01-10 | | | | | | |
| BOD, 5-day Carbonaceous | < 2.0 | 2.0 mg/L | | | | | | | |
| LCS (B3A0339-BS1) | | | Prepared: 2023-01-05, Analyzed: 2023-01-10 | | | | | | |
| BOD, 5-day Carbonaceous | 203 | 38.1 mg/L | 198 | | 102 | 85-115 | | | |
| General Parameters, Batch B3A0453 | | | | | | | | | |
| Blank (B3A0453-BLK1) | | | Prepared: 2023-01-07, Analyzed: 2023-01-07 | | | | | | |
| Solids, Total Suspended | < 2.0 | 2.0 mg/L | | | | | | | |
| LCS (B3A0453-BS1) | | | Prepared: 2023-01-07, Analyzed: 2023-01-07 | | | | | | |
| Solids, Total Suspended | 87.0 | 10.0 mg/L | 100 | | 87 | 85-115 | | | |

CERTIFICATE OF ANALYSIS

REPORTED TO Lake Country, District of (Wastewater)
4062 Beaver Lake Rd
LAKE COUNTRY, BC V4V 1T5

ATTENTION Davin Larsen

PO NUMBER

PROJECT BioSolids- PE14651

PROJECT INFO Lake Country WWTP

WORK ORDER 23A0204

RECEIVED / TEMP 2023-01-04 10:58 / 10.3°C

REPORTED 2023-01-12 11:20

COC NUMBER 44930.38203

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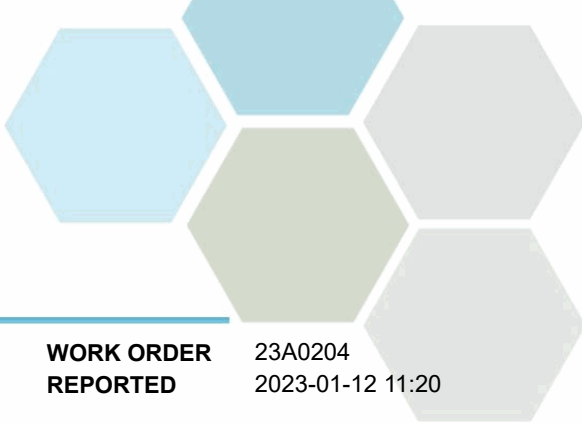
If you have any questions or concerns, please contact me at bwhitehead@caro.ca

Authorized By:

Brent Whitehead
Account Manager

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TEST RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater)
BioSolids- PE14651

WORK ORDER REPORTED 23A0204
2023-01-12 11:20

| Analyte | Result | RL | Units | Analyzed | Qualifier |
|---------|--------|----|-------|----------|-----------|
|---------|--------|----|-------|----------|-----------|

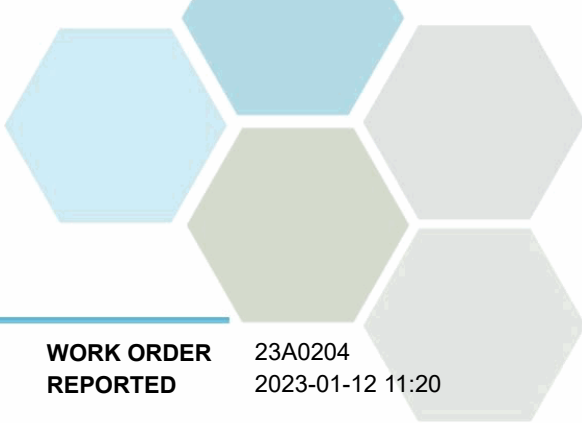
Biosolids (E233628) (23A0204-01) | Matrix: Sludge | Sampled: 2023-01-04 09:15

General Parameters

| | | | | | |
|--------------------------|------|--------|----------|------------|-----|
| Moisture | 81.2 | 1.0 | % wet | 2023-01-09 | |
| Nitrogen, Total Kjeldahl | 5.43 | 0.0004 | % dry | 2023-01-06 | |
| pH (1:2 H2O Solution) | 5.66 | 0.10 | pH units | 2023-01-11 | PH1 |
| Solids, Total | 18.8 | 0.1 | % wet | 2023-01-09 | |
| Solids, Volatile | 85.5 | 0.1 | % dry | 2023-01-09 | |

Strong Acid Leachable Metals

| | | | | | |
|------------|--------|-------|-----------|------------|--|
| Aluminum | 2280 | 40 | mg/kg dry | 2023-01-11 | |
| Antimony | 1.31 | 0.10 | mg/kg dry | 2023-01-11 | |
| Arsenic | 1.72 | 0.30 | mg/kg dry | 2023-01-11 | |
| Barium | 77.1 | 1.0 | mg/kg dry | 2023-01-11 | |
| Beryllium | < 0.10 | 0.10 | mg/kg dry | 2023-01-11 | |
| Bismuth | 29.2 | 0.10 | mg/kg dry | 2023-01-11 | |
| Boron | 13.3 | 2.0 | mg/kg dry | 2023-01-11 | |
| Cadmium | 0.842 | 0.040 | mg/kg dry | 2023-01-11 | |
| Calcium | 11500 | 100 | mg/kg dry | 2023-01-11 | |
| Chromium | 11.1 | 1.0 | mg/kg dry | 2023-01-11 | |
| Cobalt | 1.82 | 0.10 | mg/kg dry | 2023-01-11 | |
| Copper | 309 | 0.40 | mg/kg dry | 2023-01-11 | |
| Iron | 4130 | 20 | mg/kg dry | 2023-01-11 | |
| Lead | 6.78 | 0.20 | mg/kg dry | 2023-01-11 | |
| Lithium | 1.73 | 0.10 | mg/kg dry | 2023-01-11 | |
| Magnesium | 5150 | 10 | mg/kg dry | 2023-01-11 | |
| Manganese | 93.0 | 0.40 | mg/kg dry | 2023-01-11 | |
| Mercury | 0.387 | 0.040 | mg/kg dry | 2023-01-11 | |
| Molybdenum | 8.75 | 0.10 | mg/kg dry | 2023-01-11 | |
| Nickel | 9.88 | 0.60 | mg/kg dry | 2023-01-11 | |
| Phosphorus | 18400 | 10 | mg/kg dry | 2023-01-11 | |
| Potassium | 7210 | 40 | mg/kg dry | 2023-01-11 | |
| Selenium | 4.44 | 0.20 | mg/kg dry | 2023-01-11 | |
| Silver | 1.35 | 0.10 | mg/kg dry | 2023-01-11 | |
| Sodium | 1220 | 50 | mg/kg dry | 2023-01-11 | |
| Strontium | 60.5 | 0.20 | mg/kg dry | 2023-01-11 | |
| Sulfur | 6030 | 1000 | mg/kg dry | 2023-01-11 | |
| Tellurium | < 0.10 | 0.10 | mg/kg dry | 2023-01-11 | |
| Thallium | < 0.10 | 0.10 | mg/kg dry | 2023-01-11 | |
| Thorium | < 0.50 | 0.50 | mg/kg dry | 2023-01-11 | |
| Tin | 14.2 | 0.20 | mg/kg dry | 2023-01-11 | |
| Titanium | 63.1 | 1.0 | mg/kg dry | 2023-01-11 | |
| Tungsten | 0.96 | 0.20 | mg/kg dry | 2023-01-11 | |
| Uranium | 9.78 | 0.050 | mg/kg dry | 2023-01-11 | |
| Vanadium | 8.2 | 1.0 | mg/kg dry | 2023-01-11 | |
| Zinc | 466 | 2.0 | mg/kg dry | 2023-01-11 | |



TEST RESULTS

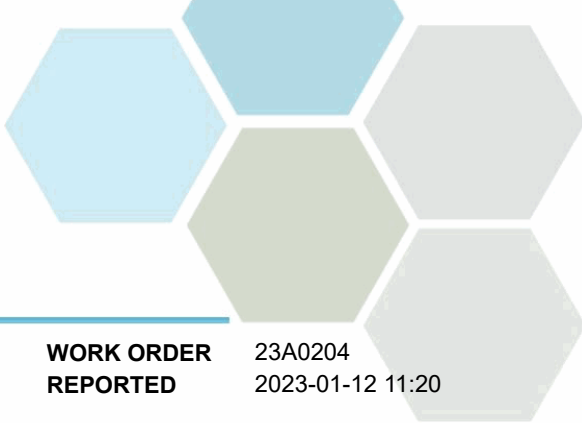
REPORTED TO PROJECT Lake Country, District of (Wastewater)
BioSolids- PE14651

WORK ORDER REPORTED 23A0204
2023-01-12 11:20

| Analyte | Result | RL | Units | Analyzed | Qualifier |
|---|--------|-----|-----------|------------|-----------|
| Biosolids (E233628) (23A0204-01) Matrix: Sludge Sampled: 2023-01-04 09:15, Continued | | | | | |
| <i>Strong Acid Leachable Metals, Continued</i> | | | | | |
| Zirconium | 3.0 | 2.0 | mg/kg dry | 2023-01-11 | |

Sample Qualifiers:

PH1 The ratio of water to soil was greater than 2:1 due to limited sample volume or matrix



APPENDIX 1: SUPPORTING INFORMATION

REPORTED TO PROJECT Lake Country, District of (Wastewater)
BioSolids- PE14651

WORK ORDER REPORTED 23A0204
2023-01-12 11:20

| Analysis Description | Method Ref. | Technique | Accredited | Location |
|-----------------------------------|-------------------------------------|---|------------|----------|
| Moisture in Solid | ASTM D2974-87* | Gravimetry (Dried at 105C) | | N/A |
| Nitrogen, Total Kjeldahl in Solid | SM 4500-Norg D* (2017) | Block Digestion and Flow Injection Analysis | ✓ | Kelowna |
| pH in Solid | Carter 16.2 / SM 4500-H+ B (2017) | 1:2 Soil/Water Slurry / Electrometry | | Kelowna |
| SALM in Solid | BCMOE SALM V.2 / EPA 6020B | HNO ₃ +HCl Hot Block Digestion / Inductively Coupled Plasma-Mass Spectroscopy (ICP-MS) | ✓ | Richmond |
| Solids, Total in Solid | Solids in Solids / SM 2540 G (2017) | Solids in Solids / Gravimetry | | Kelowna |
| Solids, Volatile in Solid | Solids in Solids / SM 2540 G (2017) | Solids in Solids / Gravimetry | | Kelowna |

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

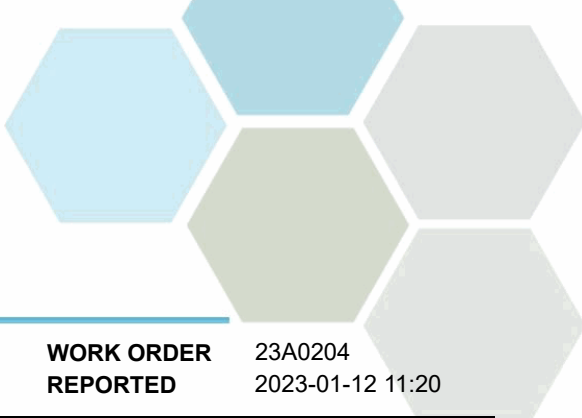
Glossary of Terms:

| | |
|-----------|---|
| RL | Reporting Limit (default) |
| % dry | Percent (dry weight basis) |
| % wet | Percent (as received basis) |
| < | Less than the specified Reporting Limit (RL) - the actual RL may be higher than the default RL due to various factors |
| mg/kg dry | Milligrams per kilogram (dry weight basis) |
| pH units | pH < 7 = acidic, pH > 7 = basic |
| ASTM | ASTM International Test Methods |
| EPA | United States Environmental Protection Agency Test Methods |
| SM | Standard Methods for the Examination of Water and Wastewater, American Public Health Association |

General Comments:

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APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater)
BioSolids- PE14651

WORK ORDER REPORTED 23A0204
2023-01-12 11:20

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:

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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 |
|---------|--------|----------|-------------|---------------|-------|-----------|-------|-----------|-----------|
|---------|--------|----------|-------------|---------------|-------|-----------|-------|-----------|-----------|

General Parameters, Batch B3A0296

| | | | | | | | | | |
|---------------------------------|---------|--------------|--|------|--|----------|---|----|--|
| Blank (B3A0296-BLK1) | | | Prepared: 2023-01-05, Analyzed: 2023-01-06 | | | | | | |
| Nitrogen, Total Kjeldahl | < 0.010 | 0.010 % wet | | | | | | | |
| Duplicate (B3A0296-DUP1) | | | Source: 23A0204-01 | | Prepared: 2023-01-05, Analyzed: 2023-01-06 | | | | |
| Nitrogen, Total Kjeldahl | 5.12 | 0.0004 % dry | | 5.43 | | | 6 | 25 | |
| Reference (B3A0296-SRM1) | | | Prepared: 2023-01-05, Analyzed: 2023-01-06 | | | | | | |
| Nitrogen, Total Kjeldahl | 0.169 | 0.010 % wet | 0.197 | | 86 | 58.8-150 | | | |

General Parameters, Batch B3A0531

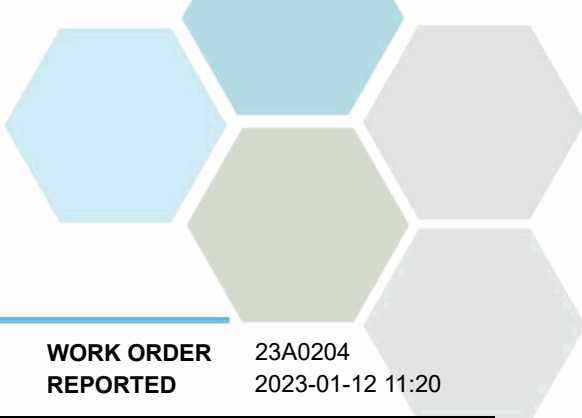
| | | | | | | | | | |
|---------------------------------|------|-----------|--|------|--|--------|------|-----|--|
| Duplicate (B3A0531-DUP1) | | | Source: 23A0204-01 | | Prepared: 2023-01-09, Analyzed: 2023-01-09 | | | | |
| Moisture | 99.0 | 1.0 % wet | | 81.2 | | | 19.8 | 40 | |
| Solids, Total | 19.0 | 0.1 % wet | | 18.8 | | | 1 | 7.5 | |
| Solids, Volatile | 85.6 | 0.1 % dry | | 85.5 | | | < 1 | 15 | |
| Reference (B3A0531-SRM1) | | | Prepared: 2023-01-09, Analyzed: 2023-01-09 | | | | | | |
| Moisture | 99.0 | 1.0 % wet | 13.0 | | 101 | 80-120 | | | |
| Solids, Total | 87.5 | 0.1 % wet | 87.0 | | 101 | 80-120 | | | |
| Solids, Volatile | 2.5 | 0.1 % dry | 2.58 | | 98 | 80-200 | | | |

General Parameters, Batch B3A0650

| | | | | | | | | | |
|---------------------------------|------|---------------|--------------------|------|--|--|-----|----|--|
| Duplicate (B3A0650-DUP1) | | | Source: 23A0204-01 | | Prepared: 2023-01-10, Analyzed: 2023-01-11 | | | | |
| pH (1:2 H2O Solution) | 5.66 | 0.10 pH units | | 5.66 | | | < 1 | 10 | |

Strong Acid Leachable Metals, Batch B3A0850

| | | | | | | | | | |
|-----------------------------|--------|----------------|--|--|--|--|--|--|--|
| Blank (B3A0850-BLK1) | | | Prepared: 2023-01-11, Analyzed: 2023-01-11 | | | | | | |
| Aluminum | < 40 | 40 mg/kg dry | | | | | | | |
| Antimony | < 0.10 | 0.10 mg/kg dry | | | | | | | |
| Arsenic | < 0.30 | 0.30 mg/kg dry | | | | | | | |
| Barium | < 1.0 | 1.0 mg/kg dry | | | | | | | |
| Beryllium | < 0.10 | 0.10 mg/kg dry | | | | | | | |
| Bismuth | < 0.10 | 0.10 mg/kg dry | | | | | | | |
| Boron | < 2.0 | 2.0 mg/kg dry | | | | | | | |



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater)
BioSolids- PE14651

WORK ORDER REPORTED 23A0204
2023-01-12 11:20

| Analyte | Result | RL Units | Spike Level | Source Result | % REC | REC Limit | % RPD | RPD Limit | Qualifier |
|---------|--------|----------|-------------|---------------|-------|-----------|-------|-----------|-----------|
|---------|--------|----------|-------------|---------------|-------|-----------|-------|-----------|-----------|

Strong Acid Leachable Metals, Batch B3A0850, Continued

Blank (B3A0850-BLK1), Continued

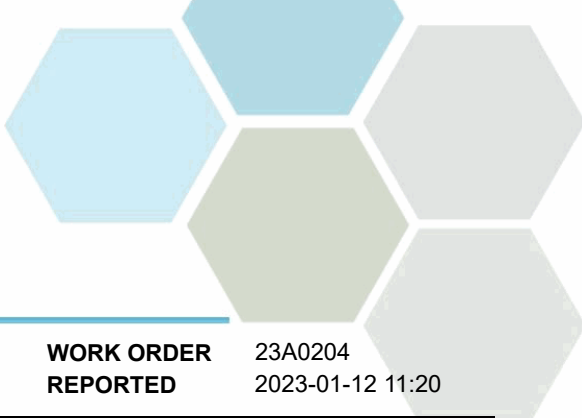
Prepared: 2023-01-11, Analyzed: 2023-01-11

| | | | | | | | | | |
|------------|---------|-----------------|--|--|--|--|--|--|--|
| Cadmium | < 0.040 | 0.040 mg/kg dry | | | | | | | |
| Calcium | < 100 | 100 mg/kg dry | | | | | | | |
| Chromium | < 1.0 | 1.0 mg/kg dry | | | | | | | |
| Cobalt | < 0.10 | 0.10 mg/kg dry | | | | | | | |
| Copper | < 0.40 | 0.40 mg/kg dry | | | | | | | |
| Iron | < 20 | 20 mg/kg dry | | | | | | | |
| Lead | < 0.20 | 0.20 mg/kg dry | | | | | | | |
| Lithium | < 0.10 | 0.10 mg/kg dry | | | | | | | |
| Magnesium | < 10 | 10 mg/kg dry | | | | | | | |
| Manganese | < 0.40 | 0.40 mg/kg dry | | | | | | | |
| Mercury | < 0.040 | 0.040 mg/kg dry | | | | | | | |
| Molybdenum | < 0.10 | 0.10 mg/kg dry | | | | | | | |
| Nickel | < 0.60 | 0.60 mg/kg dry | | | | | | | |
| Phosphorus | < 10 | 10 mg/kg dry | | | | | | | |
| Potassium | < 40 | 40 mg/kg dry | | | | | | | |
| Selenium | < 0.20 | 0.20 mg/kg dry | | | | | | | |
| Silver | < 0.10 | 0.10 mg/kg dry | | | | | | | |
| Sodium | < 50 | 50 mg/kg dry | | | | | | | |
| Strontium | < 0.20 | 0.20 mg/kg dry | | | | | | | |
| Sulfur | < 1000 | 1000 mg/kg dry | | | | | | | |
| Tellurium | < 0.10 | 0.10 mg/kg dry | | | | | | | |
| Thallium | < 0.10 | 0.10 mg/kg dry | | | | | | | |
| Thorium | < 0.50 | 0.50 mg/kg dry | | | | | | | |
| Tin | < 0.20 | 0.20 mg/kg dry | | | | | | | |
| Titanium | < 1.0 | 1.0 mg/kg dry | | | | | | | |
| Tungsten | < 0.20 | 0.20 mg/kg dry | | | | | | | |
| Uranium | < 0.050 | 0.050 mg/kg dry | | | | | | | |
| Vanadium | < 1.0 | 1.0 mg/kg dry | | | | | | | |
| Zinc | < 2.0 | 2.0 mg/kg dry | | | | | | | |
| Zirconium | < 2.0 | 2.0 mg/kg dry | | | | | | | |

LCS (B3A0850-BS1)

Prepared: 2023-01-11, Analyzed: 2023-01-11

| | | | | | | | | | |
|------------|------|-----------------|------|--|-----|--------|--|--|--|
| Aluminum | 1020 | 40 mg/kg dry | 1000 | | 102 | 80-120 | | | |
| Antimony | 10.2 | 0.10 mg/kg dry | 10.0 | | 102 | 80-120 | | | |
| Arsenic | 9.78 | 0.30 mg/kg dry | 10.0 | | 98 | 80-120 | | | |
| Barium | 10.4 | 1.0 mg/kg dry | 10.0 | | 104 | 80-120 | | | |
| Beryllium | 9.65 | 0.10 mg/kg dry | 10.0 | | 96 | 80-120 | | | |
| Bismuth | 10.0 | 0.10 mg/kg dry | 10.0 | | 100 | 80-120 | | | |
| Boron | 9.7 | 2.0 mg/kg dry | 10.0 | | 97 | 80-120 | | | |
| Cadmium | 10.0 | 0.040 mg/kg dry | 10.0 | | 100 | 80-120 | | | |
| Calcium | 1030 | 100 mg/kg dry | 1000 | | 103 | 80-120 | | | |
| Chromium | 10.3 | 1.0 mg/kg dry | 10.0 | | 103 | 80-120 | | | |
| Cobalt | 10.3 | 0.10 mg/kg dry | 10.0 | | 103 | 80-120 | | | |
| Copper | 10.2 | 0.40 mg/kg dry | 10.0 | | 102 | 80-120 | | | |
| Iron | 1020 | 20 mg/kg dry | 1000 | | 102 | 80-120 | | | |
| Lead | 10.1 | 0.20 mg/kg dry | 10.0 | | 101 | 80-120 | | | |
| Lithium | 9.56 | 0.10 mg/kg dry | 10.0 | | 96 | 80-120 | | | |
| Magnesium | 1010 | 10 mg/kg dry | 1000 | | 101 | 80-120 | | | |
| Manganese | 10.3 | 0.40 mg/kg dry | 10.0 | | 103 | 80-120 | | | |
| Mercury | 1.03 | 0.040 mg/kg dry | 1.00 | | 103 | 80-120 | | | |
| Molybdenum | 10.3 | 0.10 mg/kg dry | 10.0 | | 103 | 80-120 | | | |
| Nickel | 10.2 | 0.60 mg/kg dry | 10.0 | | 102 | 80-120 | | | |
| Phosphorus | 1000 | 10 mg/kg dry | 1000 | | 100 | 80-120 | | | |
| Potassium | 1020 | 40 mg/kg dry | 1000 | | 102 | 80-120 | | | |
| Selenium | 10.2 | 0.20 mg/kg dry | 10.0 | | 102 | 80-120 | | | |
| Silver | 10.2 | 0.10 mg/kg dry | 10.0 | | 102 | 80-120 | | | |



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater)
BioSolids- PE14651

WORK ORDER REPORTED 23A0204
2023-01-12 11:20

| Analyte | Result | RL Units | Spike Level | Source Result | % REC | REC Limit | % RPD | RPD Limit | Qualifier |
|---------|--------|----------|-------------|---------------|-------|-----------|-------|-----------|-----------|
|---------|--------|----------|-------------|---------------|-------|-----------|-------|-----------|-----------|

Strong Acid Leachable Metals, Batch B3A0850, Continued

| LCS (B3A0850-BS1), Continued | | | | Prepared: 2023-01-11, Analyzed: 2023-01-11 | | | | | |
|-------------------------------------|-------|-----------------|-------|--|-----|--------|--|--|--|
| Sodium | 1050 | 50 mg/kg dry | 1000 | | 105 | 80-120 | | | |
| Strontium | 10.3 | 0.20 mg/kg dry | 10.0 | | 103 | 80-120 | | | |
| Sulfur | 10100 | 1000 mg/kg dry | 10000 | | 101 | 80-120 | | | |
| Tellurium | 9.84 | 0.10 mg/kg dry | 10.0 | | 98 | 80-120 | | | |
| Thallium | 10.2 | 0.10 mg/kg dry | 10.0 | | 102 | 80-120 | | | |
| Thorium | 10.1 | 0.50 mg/kg dry | 10.0 | | 101 | 80-120 | | | |
| Tin | 10.3 | 0.20 mg/kg dry | 10.0 | | 103 | 80-120 | | | |
| Titanium | 10.8 | 1.0 mg/kg dry | 10.0 | | 108 | 80-120 | | | |
| Tungsten | 10.2 | 0.20 mg/kg dry | 10.0 | | 102 | 80-120 | | | |
| Uranium | 10.1 | 0.050 mg/kg dry | 10.0 | | 101 | 80-120 | | | |
| Vanadium | 10.4 | 1.0 mg/kg dry | 10.0 | | 104 | 80-120 | | | |
| Zinc | 10.2 | 2.0 mg/kg dry | 10.0 | | 102 | 80-120 | | | |
| Zirconium | 10.4 | 2.0 mg/kg dry | 10.0 | | 104 | 80-120 | | | |

| Reference (B3A0850-SRM1) | | | | Prepared: 2023-01-11, Analyzed: 2023-01-11 | | | | | |
|---------------------------------|-------|-----------------|-------|--|-----|--------|--|--|--|
| Aluminum | 12100 | 40 mg/kg dry | 11500 | | 105 | 70-130 | | | |
| Antimony | 0.67 | 0.10 mg/kg dry | 0.724 | | 92 | 70-130 | | | |
| Arsenic | 86.3 | 0.30 mg/kg dry | 82.1 | | 105 | 70-130 | | | |
| Barium | 40.9 | 1.0 mg/kg dry | 40.0 | | 102 | 70-130 | | | |
| Beryllium | 0.40 | 0.10 mg/kg dry | 0.369 | | 109 | 70-130 | | | |
| Calcium | 5640 | 100 mg/kg dry | 5170 | | 109 | 70-130 | | | |
| Chromium | 67.6 | 1.0 mg/kg dry | 63.1 | | 107 | 70-130 | | | |
| Cobalt | 11.1 | 0.10 mg/kg dry | 10.4 | | 107 | 70-130 | | | |
| Copper | 21.0 | 0.40 mg/kg dry | 19.8 | | 106 | 70-130 | | | |
| Iron | 20700 | 20 mg/kg dry | 20200 | | 102 | 70-130 | | | |
| Lead | 17.3 | 0.20 mg/kg dry | 17.3 | | 100 | 70-130 | | | |
| Magnesium | 6410 | 10 mg/kg dry | 6090 | | 105 | 70-130 | | | |
| Manganese | 327 | 0.40 mg/kg dry | 315 | | 104 | 70-130 | | | |
| Mercury | 0.126 | 0.040 mg/kg dry | 0.110 | | 115 | 70-130 | | | |
| Molybdenum | 0.60 | 0.10 mg/kg dry | 0.619 | | 97 | 70-130 | | | |
| Nickel | 32.9 | 0.60 mg/kg dry | 31.7 | | 104 | 70-130 | | | |
| Phosphorus | 452 | 10 mg/kg dry | 420 | | 108 | 70-130 | | | |
| Silver | 1.56 | 0.10 mg/kg dry | 1.75 | | 89 | 70-130 | | | |
| Strontium | 22.8 | 0.20 mg/kg dry | 20.3 | | 112 | 70-130 | | | |
| Titanium | 785 | 1.0 mg/kg dry | 645 | | 122 | 70-130 | | | |
| Uranium | 1.23 | 0.050 mg/kg dry | 1.18 | | 104 | 70-130 | | | |
| Vanadium | 37.9 | 1.0 mg/kg dry | 33.5 | | 113 | 70-130 | | | |
| Zinc | 40.2 | 2.0 mg/kg dry | 40.2 | | 100 | 70-130 | | | |



CERTIFICATE OF ANALYSIS

| | | | |
|---------------------|---|---------------------------------|--|
| REPORTED TO | Lake Country, District of (Wastewater) 4062 Beaver Lake Rd LAKE COUNTRY, BC V4V 1T5 | WORK ORDER | 23A1590 |
| ATTENTION | Davin Larsen | RECEIVED / TEMP REPORTED | 2023-01-17 11:07 / 9.4°C 2023-01-24 18:07 |
| PO NUMBER | | COC NUMBER | 44943.37658 |
| PROJECT | Final Effluent- PE14651 | | |
| PROJECT INFO | Lake Country WWTP | | |

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



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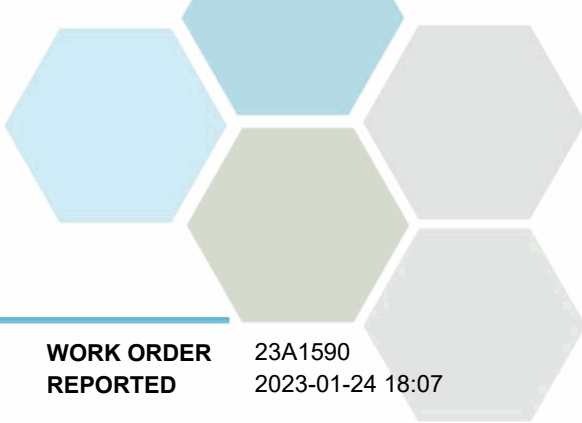
If you have any questions or concerns, please contact me at bwhitehead@caro.ca

Authorized By:

Brent Whitehead
Account Manager

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

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TEST RESULTS

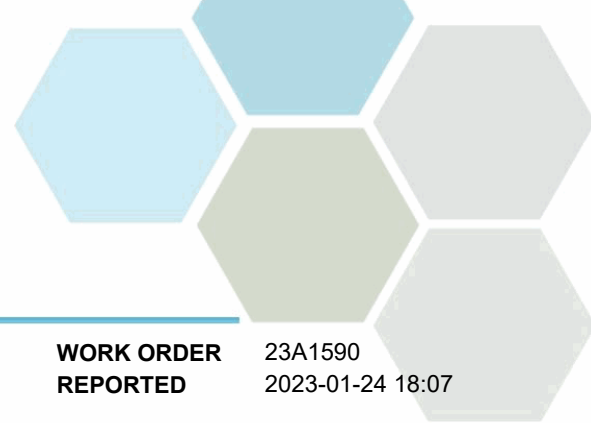
REPORTED TO PROJECT Lake Country, District of (Wastewater)
Final Effluent- PE14651

WORK ORDER REPORTED 23A1590
2023-01-24 18:07

| Analyte | Result | RL | Units | Analyzed | Qualifier |
|---|--------|--------|----------|------------|-----------|
| Final Effluent (E233626) (23A1590-01) Matrix: Wastewater Sampled: 2023-01-17 09:40 | | | | | |
| Anions | | | | | |
| Chloride | 119 | 0.10 | mg/L | 2023-01-19 | |
| Nitrate (as N) | 0.699 | 0.010 | mg/L | 2023-01-19 | |
| Nitrite (as N) | 0.200 | 0.010 | mg/L | 2023-01-19 | |
| Phosphate (as P) | 0.0253 | 0.0050 | mg/L | 2023-01-19 | |
| Calculated Parameters | | | | | |
| Nitrate+Nitrite (as N) | 0.899 | 0.0100 | mg/L | N/A | |
| Nitrogen, Total | 3.64 | 0.0500 | mg/L | N/A | |
| General Parameters | | | | | |
| Alkalinity, Total (as CaCO3) | 198 | 1.0 | mg/L | 2023-01-18 | |
| Alkalinity, Phenolphthalein (as CaCO3) | < 1.0 | 1.0 | mg/L | 2023-01-18 | |
| Alkalinity, Bicarbonate (as CaCO3) | 198 | 1.0 | mg/L | 2023-01-18 | |
| Alkalinity, Carbonate (as CaCO3) | < 1.0 | 1.0 | mg/L | 2023-01-18 | |
| Alkalinity, Hydroxide (as CaCO3) | < 1.0 | 1.0 | mg/L | 2023-01-18 | |
| Ammonia, Total (as N) | 0.743 | 0.050 | mg/L | 2023-01-18 | |
| BOD, 5-day Carbonaceous | 12.0 | 2.0 | mg/L | 2023-01-23 | |
| Nitrogen, Total Kjeldahl | 2.74 | 0.050 | mg/L | 2023-01-19 | |
| pH | 7.83 | 0.10 | pH units | 2023-01-18 | HT2 |
| Phosphorus, Total (as P) | 0.383 | 0.0050 | mg/L | 2023-01-19 | |
| Solids, Total Suspended | 6.2 | 2.0 | mg/L | 2023-01-19 | |

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 Lake Country, District of (Wastewater)
Final Effluent- PE14651

WORK ORDER REPORTED 23A1590
2023-01-24 18:07

| Analysis Description | Method Ref. | Technique | Accredited | Location |
|--|---|--|------------|----------|
| Alkalinity in Water | SM 2320 B* (2021) | Titration with H2SO4 | ✓ | Kelowna |
| Ammonia, Total in Water | SM 4500-NH3 G* (2021) | Automated Colorimetry (Phenate) | ✓ | Kelowna |
| Anions in Water | SM 4110 B (2020) | Ion Chromatography | ✓ | Kelowna |
| Biochemical Oxygen Demand, Carbonaceous in Water | SM 5210 B (2019) | Dissolved Oxygen Meter | ✓ | Kelowna |
| Nitrogen, Total Kjeldahl in Water | SM 4500-Norg D* (2021) | Block Digestion and Flow Injection Analysis | ✓ | Kelowna |
| pH in Water | SM 4500-H+ B (2021) | Electrometry | ✓ | Kelowna |
| Phosphorus, Total in Water | SM 4500-P B.5* (2011) / SM 4500-P F (2021) | Persulfate Digestion / Automated Colorimetry (Ascorbic Acid) | ✓ | Kelowna |
| Solids, Total Suspended in Water | Solids in Water, Filtered / SM 2540 D* (2020) | Solids in Water, Filtered / Gravimetry (Dried at 103-105C) | ✓ | Kelowna |

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

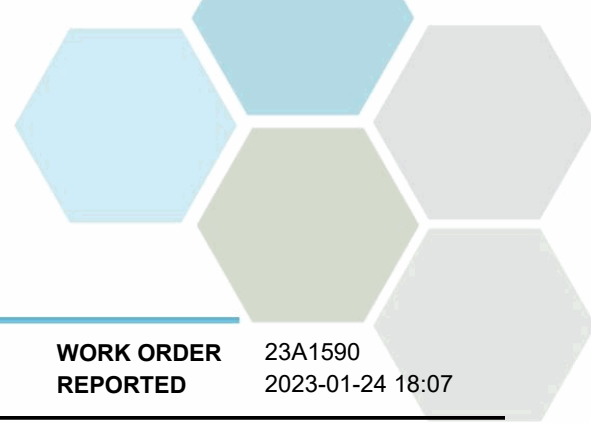
Glossary of Terms:

| | |
|----------|---|
| RL | Reporting Limit (default) |
| < | Less than the specified Reporting Limit (RL) - the actual RL may be higher than the default RL due to various factors |
| mg/L | Milligrams per litre |
| pH units | pH < 7 = acidic, pH > 7 = basic |
| SM | Standard Methods for the Examination of Water and Wastewater, American Public Health Association |

General Comments:

The results in this report apply to the received 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 Lake Country, District of (Wastewater)
Final Effluent- PE14651

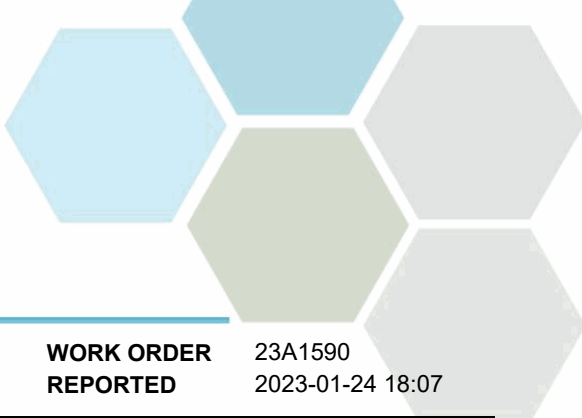
WORK ORDER REPORTED 23A1590
2023-01-24 18:07

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 B3A1540 | | | | | | | | | |
| Blank (B3A1540-BLK1) | | | Prepared: 2023-01-18, Analyzed: 2023-01-18 | | | | | | |
| 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 | | | | | | | |
| Phosphate (as P) | < 0.0050 | 0.0050 mg/L | | | | | | | |
| LCS (B3A1540-BS1) | | | Prepared: 2023-01-18, Analyzed: 2023-01-18 | | | | | | |
| Chloride | 15.8 | 0.10 mg/L | 16.0 | | 99 | 90-110 | | | |
| Nitrate (as N) | 3.96 | 0.010 mg/L | 4.00 | | 99 | 90-110 | | | |
| Nitrite (as N) | 1.96 | 0.010 mg/L | 2.00 | | 98 | 85-115 | | | |
| Phosphate (as P) | 1.02 | 0.0050 mg/L | 1.00 | | 102 | 80-120 | | | |
| LCS (B3A1540-BS2) | | | Prepared: 2023-01-19, Analyzed: 2023-01-19 | | | | | | |
| Chloride | 15.8 | 0.10 mg/L | 16.0 | | 99 | 90-110 | | | |
| Nitrate (as N) | 3.97 | 0.010 mg/L | 4.00 | | 99 | 90-110 | | | |
| Nitrite (as N) | 1.97 | 0.010 mg/L | 2.00 | | 98 | 85-115 | | | |
| Phosphate (as P) | 0.983 | 0.0050 mg/L | 1.00 | | 98 | 80-120 | | | |
| General Parameters, Batch B3A1601 | | | | | | | | | |
| Blank (B3A1601-BLK1) | | | Prepared: 2023-01-18, Analyzed: 2023-01-18 | | | | | | |
| Ammonia, Total (as N) | < 0.050 | 0.050 mg/L | | | | | | | |
| Blank (B3A1601-BLK2) | | | Prepared: 2023-01-18, Analyzed: 2023-01-18 | | | | | | |
| Ammonia, Total (as N) | < 0.050 | 0.050 mg/L | | | | | | | |
| Blank (B3A1601-BLK3) | | | Prepared: 2023-01-18, Analyzed: 2023-01-18 | | | | | | |
| Ammonia, Total (as N) | < 0.050 | 0.050 mg/L | | | | | | | |
| LCS (B3A1601-BS1) | | | Prepared: 2023-01-18, Analyzed: 2023-01-18 | | | | | | |
| Ammonia, Total (as N) | 0.991 | 0.050 mg/L | 1.00 | | 99 | 85-115 | | | |
| LCS (B3A1601-BS2) | | | Prepared: 2023-01-18, Analyzed: 2023-01-18 | | | | | | |
| Ammonia, Total (as N) | 1.00 | 0.050 mg/L | 1.00 | | 100 | 85-115 | | | |
| LCS (B3A1601-BS3) | | | Prepared: 2023-01-18, Analyzed: 2023-01-18 | | | | | | |
| Ammonia, Total (as N) | 0.990 | 0.050 mg/L | 1.00 | | 99 | 85-115 | | | |

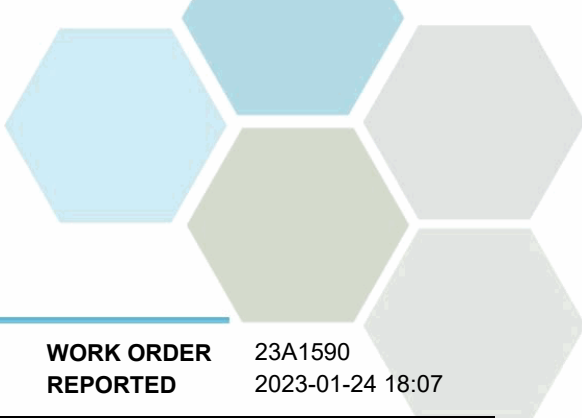


APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater)
Final Effluent- PE14651

WORK ORDER REPORTED 23A1590
2023-01-24 18:07

| Analyte | Result | RL Units | Spike Level | Source Result | % REC | REC Limit | % RPD | RPD Limit | Qualifier |
|---|---------|---------------------------|-------------|--|-------|-----------|-------|-----------|-----------|
| General Parameters, Batch B3A1601, Continued | | | | | | | | | |
| Duplicate (B3A1601-DUP3) | | Source: 23A1590-01 | | Prepared: 2023-01-18, Analyzed: 2023-01-18 | | | | | |
| Ammonia, Total (as N) | 0.752 | 0.050 mg/L | | 0.743 | | | 1 | 15 | |
| Matrix Spike (B3A1601-MS3) | | Source: 23A1590-01 | | Prepared: 2023-01-18, Analyzed: 2023-01-18 | | | | | |
| Ammonia, Total (as N) | 0.979 | 0.050 mg/L | 0.250 | 0.743 | 94 | 75-125 | | | |
| General Parameters, Batch B3A1640 | | | | | | | | | |
| Blank (B3A1640-BLK1) | | | | Prepared: 2023-01-18, Analyzed: 2023-01-19 | | | | | |
| Nitrogen, Total Kjeldahl | < 0.050 | 0.050 mg/L | | | | | | | |
| Blank (B3A1640-BLK2) | | | | Prepared: 2023-01-18, Analyzed: 2023-01-19 | | | | | |
| Nitrogen, Total Kjeldahl | < 0.050 | 0.050 mg/L | | | | | | | |
| LCS (B3A1640-BS1) | | | | Prepared: 2023-01-18, Analyzed: 2023-01-19 | | | | | |
| Nitrogen, Total Kjeldahl | 1.05 | 0.050 mg/L | 1.00 | | 105 | 85-115 | | | |
| LCS (B3A1640-BS2) | | | | Prepared: 2023-01-18, Analyzed: 2023-01-19 | | | | | |
| Nitrogen, Total Kjeldahl | 0.999 | 0.050 mg/L | 1.00 | | 100 | 85-115 | | | |
| General Parameters, Batch B3A1662 | | | | | | | | | |
| Blank (B3A1662-BLK1) | | | | Prepared: 2023-01-18, Analyzed: 2023-01-23 | | | | | |
| BOD, 5-day Carbonaceous | < 2.0 | 2.0 mg/L | | | | | | | |
| LCS (B3A1662-BS1) | | | | Prepared: 2023-01-18, Analyzed: 2023-01-23 | | | | | |
| BOD, 5-day Carbonaceous | 192 | 40.1 mg/L | 198 | | 97 | 85-115 | | | |
| General Parameters, Batch B3A1676 | | | | | | | | | |
| Blank (B3A1676-BLK1) | | | | Prepared: 2023-01-18, Analyzed: 2023-01-18 | | | | | |
| Alkalinity, Total (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Phenolphthalein (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Bicarbonate (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Carbonate (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Hydroxide (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Blank (B3A1676-BLK2) | | | | Prepared: 2023-01-19, Analyzed: 2023-01-19 | | | | | |
| Alkalinity, Total (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Phenolphthalein (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Bicarbonate (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Carbonate (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Hydroxide (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| LCS (B3A1676-BS1) | | | | Prepared: 2023-01-18, Analyzed: 2023-01-18 | | | | | |
| Alkalinity, Total (as CaCO3) | 105 | 1.0 mg/L | 100 | | 105 | 80-120 | | | |
| LCS (B3A1676-BS2) | | | | Prepared: 2023-01-19, Analyzed: 2023-01-19 | | | | | |
| Alkalinity, Total (as CaCO3) | 106 | 1.0 mg/L | 100 | | 106 | 80-120 | | | |
| Reference (B3A1676-SRM1) | | | | Prepared: 2023-01-18, Analyzed: 2023-01-18 | | | | | |
| pH | 7.01 | 0.10 pH units | 7.01 | | 100 | 98-102 | | | |
| Reference (B3A1676-SRM2) | | | | Prepared: 2023-01-19, Analyzed: 2023-01-19 | | | | | |
| pH | 7.01 | 0.10 pH units | 7.01 | | 100 | 98-102 | | | |



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater)
Final Effluent- PE14651

WORK ORDER REPORTED 23A1590
2023-01-24 18:07

| Analyte | Result | RL Units | Spike Level | Source Result | % REC | REC Limit | % RPD | RPD Limit | Qualifier |
|--|----------|-------------|--|---------------|-------|-----------|-------|-----------|-----------|
| General Parameters, Batch B3A1691 | | | | | | | | | |
| Blank (B3A1691-BLK2) | | | Prepared: 2023-01-18, Analyzed: 2023-01-19 | | | | | | |
| Phosphorus, Total (as P) | < 0.0050 | 0.0050 mg/L | | | | | | | |
| Blank (B3A1691-BLK3) | | | Prepared: 2023-01-18, Analyzed: 2023-01-19 | | | | | | |
| Phosphorus, Total (as P) | < 0.0050 | 0.0050 mg/L | | | | | | | |
| LCS (B3A1691-BS2) | | | Prepared: 2023-01-18, Analyzed: 2023-01-19 | | | | | | |
| Phosphorus, Total (as P) | 0.0992 | 0.0050 mg/L | 0.100 | | 99 | 85-115 | | | |
| LCS (B3A1691-BS3) | | | Prepared: 2023-01-18, Analyzed: 2023-01-19 | | | | | | |
| Phosphorus, Total (as P) | 0.100 | 0.0050 mg/L | 0.100 | | 100 | 85-115 | | | |
| General Parameters, Batch B3A1764 | | | | | | | | | |
| Blank (B3A1764-BLK1) | | | Prepared: 2023-01-19, Analyzed: 2023-01-19 | | | | | | |
| Solids, Total Suspended | < 2.0 | 2.0 mg/L | | | | | | | |
| LCS (B3A1764-BS1) | | | Prepared: 2023-01-20, Analyzed: 2023-01-20 | | | | | | |
| Solids, Total Suspended | 85.0 | 10.0 mg/L | 100 | | 85 | 85-115 | | | |



CERTIFICATE OF ANALYSIS

| | | | |
|---------------------|---|---------------------------------|---|
| REPORTED TO | Lake Country, District of (Wastewater) 4062 Beaver Lake Rd LAKE COUNTRY, BC V4V 1T5 | WORK ORDER | 23A0201 |
| ATTENTION | Davin Larsen | RECEIVED / TEMP REPORTED | 2023-01-04 10:58 / 10.3°C 2023-01-10 15:59 |
| PO NUMBER | | COC NUMBER | 44930.38203 |
| PROJECT | Final Effluent- PE14651 | | |
| PROJECT INFO | Lake Country WWTP | | |

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>

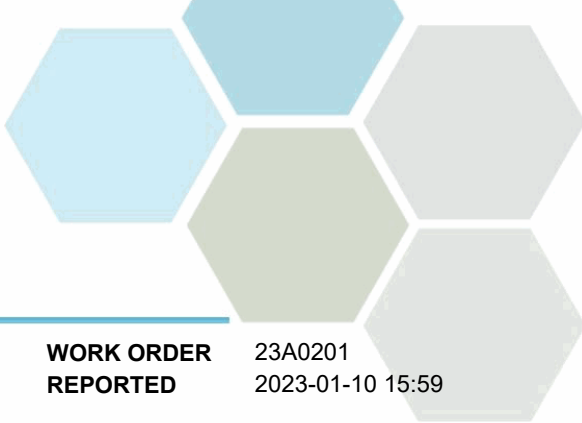
If you have any questions or concerns, please contact me at bwhitehead@caro.ca

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 Lake Country, District of (Wastewater)
Final Effluent- PE14651

WORK ORDER REPORTED 23A0201
2023-01-10 15:59

| Analyte | Result | RL | Units | Analyzed | Qualifier |
|---------|--------|----|-------|----------|-----------|
|---------|--------|----|-------|----------|-----------|

Final Effluent (E233626) (23A0201-01) | Matrix: Wastewater | Sampled: 2023-01-04 10:10

Anions

| | | | | | |
|------------------|--------|--------|------|------------|--|
| Chloride | 134 | 0.10 | mg/L | 2023-01-05 | |
| Nitrate (as N) | 0.553 | 0.010 | mg/L | 2023-01-05 | |
| Nitrite (as N) | 0.137 | 0.010 | mg/L | 2023-01-05 | |
| Phosphate (as P) | 0.0147 | 0.0050 | mg/L | 2023-01-05 | |

Calculated Parameters

| | | | | | |
|------------------------|-------|--------|------|-----|--|
| Nitrate+Nitrite (as N) | 0.690 | 0.0100 | mg/L | N/A | |
| Nitrogen, Total | 4.30 | 0.100 | mg/L | N/A | |

General Parameters

| | | | | | |
|--|-------|--------|----------|------------|-----|
| Alkalinity, Total (as CaCO3) | 184 | 1.0 | mg/L | 2023-01-05 | |
| Alkalinity, Phenolphthalein (as CaCO3) | < 1.0 | 1.0 | mg/L | 2023-01-05 | |
| Alkalinity, Bicarbonate (as CaCO3) | 184 | 1.0 | mg/L | 2023-01-05 | |
| Alkalinity, Carbonate (as CaCO3) | < 1.0 | 1.0 | mg/L | 2023-01-05 | |
| Alkalinity, Hydroxide (as CaCO3) | < 1.0 | 1.0 | mg/L | 2023-01-05 | |
| Ammonia, Total (as N) | 0.725 | 0.050 | mg/L | 2023-01-05 | |
| BOD, 5-day Carbonaceous | 21.7 | 2.0 | mg/L | 2023-01-10 | |
| Nitrogen, Total Kjeldahl | 3.61 | 0.050 | mg/L | 2023-01-08 | |
| pH | 7.51 | 0.10 | pH units | 2023-01-05 | HT2 |
| Phosphorus, Total (as P) | 0.894 | 0.0050 | mg/L | 2023-01-05 | |
| Solids, Total Suspended | 15.1 | 2.0 | mg/L | 2023-01-07 | |

Microbiological Parameters

| | | | | | |
|---------------------------|----------|---|------------|------------|--|
| Coliforms, Total (Q-Tray) | > 242000 | 1 | MPN/100 mL | 2023-01-04 | |
| Coliforms, Fecal (Q-Tray) | > 242000 | 1 | MPN/100 mL | 2023-01-04 | |

Duplicate (23A0201-02) | Matrix: Water | Sampled: 2023-01-04 10:10

Anions

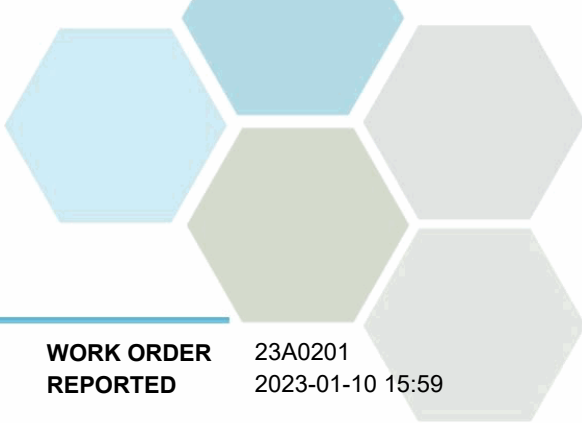
| | | | | | |
|------------------|--------|--------|------|------------|--|
| Chloride | 127 | 0.10 | mg/L | 2023-01-05 | |
| Nitrate (as N) | 0.577 | 0.010 | mg/L | 2023-01-05 | |
| Nitrite (as N) | 0.151 | 0.010 | mg/L | 2023-01-05 | |
| Phosphate (as P) | 0.0153 | 0.0050 | mg/L | 2023-01-05 | |

Calculated Parameters

| | | | | | |
|------------------------|-------|--------|------|-----|--|
| Nitrate+Nitrite (as N) | 0.728 | 0.0100 | mg/L | N/A | |
| Nitrogen, Total | 4.41 | 0.100 | mg/L | N/A | |
| Nitrogen, Organic | 3.01 | 0.100 | mg/L | N/A | |

General Parameters

| | | | | | |
|--|-------|-----|------|------------|--|
| Alkalinity, Total (as CaCO3) | 180 | 1.0 | mg/L | 2023-01-05 | |
| Alkalinity, Phenolphthalein (as CaCO3) | < 1.0 | 1.0 | mg/L | 2023-01-05 | |
| Alkalinity, Bicarbonate (as CaCO3) | 180 | 1.0 | mg/L | 2023-01-05 | |
| Alkalinity, Carbonate (as CaCO3) | < 1.0 | 1.0 | mg/L | 2023-01-05 | |



TEST RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater)
Final Effluent- PE14651

WORK ORDER REPORTED 23A0201
2023-01-10 15:59

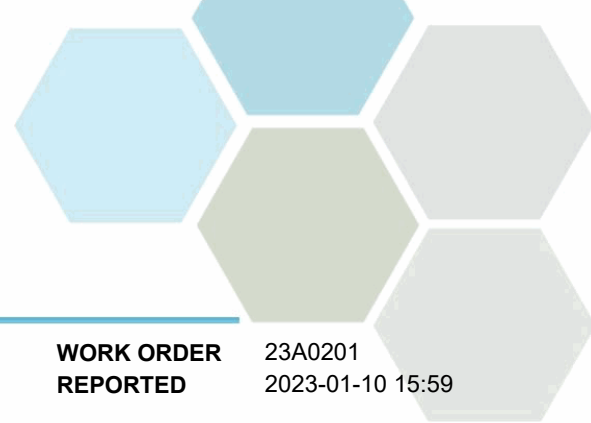
| Analyte | Result | RL | Units | Analyzed | Qualifier |
|--|--------------|--------|----------|------------|-----------|
| Duplicate (23A0201-02) Matrix: Water Sampled: 2023-01-04 10:10, Continued | | | | | |
| <i>General Parameters, Continued</i> | | | | | |
| Alkalinity, Hydroxide (as CaCO3) | < 1.0 | 1.0 | mg/L | 2023-01-05 | |
| Ammonia, Total (as N) | 0.675 | 0.050 | mg/L | 2023-01-05 | |
| BOD, 5-day Carbonaceous | 16.1 | 2.0 | mg/L | 2023-01-10 | |
| Nitrogen, Total Kjeldahl | 3.68 | 0.050 | mg/L | 2023-01-08 | |
| pH | 7.50 | 0.10 | pH units | 2023-01-05 | HT2 |
| Phosphorus, Total (as P) | 0.878 | 0.0050 | mg/L | 2023-01-05 | |
| Solids, Total Suspended | 17.0 | 2.0 | mg/L | 2023-01-07 | |

Microbiological Parameters

| | | | | | |
|---------------------------|-----------------|---|------------|------------|--|
| Coliforms, Total (Q-Tray) | > 242000 | 1 | MPN/100 mL | 2023-01-04 | |
| Coliforms, Fecal (Q-Tray) | > 242000 | 1 | MPN/100 mL | 2023-01-04 | |

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 Lake Country, District of (Wastewater)
Final Effluent- PE14651

WORK ORDER REPORTED 23A0201
2023-01-10 15:59

| Analysis Description | Method Ref. | Technique | Accredited | Location |
|--|---|--|------------|----------|
| Alkalinity in Water | SM 2320 B* (2017) | Titration with H2SO4 | ✓ | Kelowna |
| Ammonia, Total in Water | SM 4500-NH3 G* (2017) | Automated Colorimetry (Phenate) | ✓ | Kelowna |
| Anions in Water | SM 4110 B (2017) | Ion Chromatography | ✓ | Kelowna |
| Biochemical Oxygen Demand, Carbonaceous in Water | SM 5210 B (2017) | Dissolved Oxygen Meter | ✓ | Kelowna |
| Coliforms, Fecal in Water | NA / SM 9223 (2017) | Quanti-Tray / Enzyme Substrate Endo Agar | ✓ | Kelowna |
| Coliforms, Total in Water | NA / SM 9223 (2017) | Quanti-Tray / Enzyme Substrate Endo Agar | ✓ | Kelowna |
| 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 Suspended in Water | Solids in Water, Filtered / SM 2540 D* (2017) | Solids in Water, Filtered / Gravimetry (Dried at 103-105C) | ✓ | Kelowna |

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

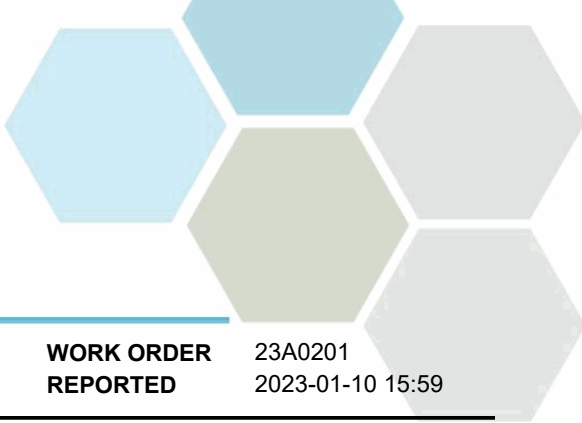
Glossary of Terms:

| | |
|------------|---|
| RL | Reporting Limit (default) |
| < | Less than the specified Reporting Limit (RL) - the actual RL may be higher than the default RL due to various factors |
| > | 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 |
| SM | Standard Methods for the Examination of Water and Wastewater, American Public Health Association |

General Comments:

The results in this report apply to the received 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 Lake Country, District of (Wastewater)
Final Effluent- PE14651

WORK ORDER REPORTED 23A0201
2023-01-10 15:59

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 B3A0211

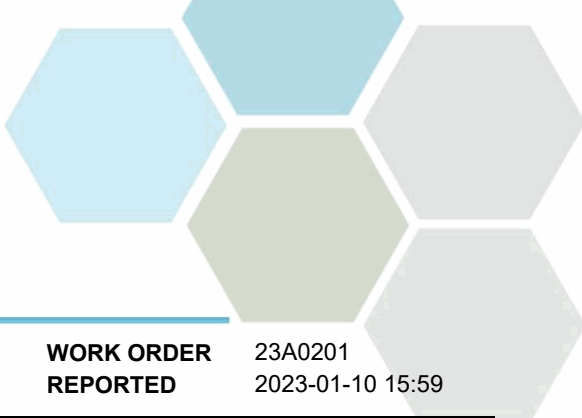
| Blank (B3A0211-BLK1) | | Prepared: 2023-01-05, Analyzed: 2023-01-05 | | | | | | | |
|----------------------|----------|--|------|--|-----|--------|--|--|--|
| Chloride | < 0.10 | 0.10 mg/L | | | | | | | |
| Nitrate (as N) | < 0.010 | 0.010 mg/L | | | | | | | |
| Nitrite (as N) | < 0.010 | 0.010 mg/L | | | | | | | |
| Phosphate (as P) | < 0.0050 | 0.0050 mg/L | | | | | | | |
| LCS (B3A0211-BS1) | | Prepared: 2023-01-05, Analyzed: 2023-01-05 | | | | | | | |
| Chloride | 16.1 | 0.10 mg/L | 16.0 | | 101 | 90-110 | | | |
| Nitrate (as N) | 3.89 | 0.010 mg/L | 4.00 | | 97 | 90-110 | | | |
| Nitrite (as N) | 1.98 | 0.010 mg/L | 2.00 | | 99 | 85-115 | | | |
| Phosphate (as P) | 0.907 | 0.0050 mg/L | 1.00 | | 91 | 80-120 | | | |

General Parameters, Batch B3A0230

| Blank (B3A0230-BLK1) | | Prepared: 2023-01-04, Analyzed: 2023-01-05 | | | | | | | |
|--------------------------|----------|--|-------|--|-----|--------|--|--|--|
| Phosphorus, Total (as P) | < 0.0050 | 0.0050 mg/L | | | | | | | |
| Blank (B3A0230-BLK2) | | Prepared: 2023-01-04, Analyzed: 2023-01-05 | | | | | | | |
| Phosphorus, Total (as P) | < 0.0050 | 0.0050 mg/L | | | | | | | |
| LCS (B3A0230-BS1) | | Prepared: 2023-01-04, Analyzed: 2023-01-05 | | | | | | | |
| Phosphorus, Total (as P) | 0.108 | 0.0050 mg/L | 0.100 | | 108 | 85-115 | | | |
| LCS (B3A0230-BS2) | | Prepared: 2023-01-04, Analyzed: 2023-01-05 | | | | | | | |
| Phosphorus, Total (as P) | 0.107 | 0.0050 mg/L | 0.100 | | 107 | 85-115 | | | |

General Parameters, Batch B3A0251

| Blank (B3A0251-BLK1) | | Prepared: 2023-01-05, Analyzed: 2023-01-05 | | | | | | | |
|--|-------|--|--|--|--|--|--|--|--|
| Alkalinity, Total (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Phenolphthalein (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Bicarbonate (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Carbonate (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Hydroxide (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Blank (B3A0251-BLK2) | | Prepared: 2023-01-05, Analyzed: 2023-01-05 | | | | | | | |
| Alkalinity, Total (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |

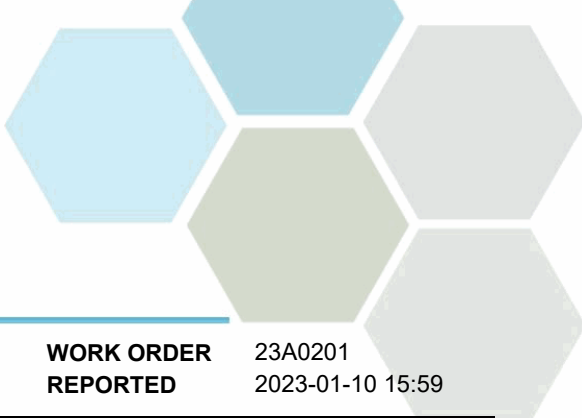


APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater)
Final Effluent- PE14651

WORK ORDER REPORTED 23A0201
2023-01-10 15:59

| Analyte | Result | RL Units | Spike Level | Source Result | % REC | REC Limit | % RPD | RPD Limit | Qualifier |
|---|---------|---------------|--|---------------|-------|-----------|-------|-----------|-----------|
| General Parameters, Batch B3A0251, Continued | | | | | | | | | |
| Blank (B3A0251-BLK2), Continued | | | Prepared: 2023-01-05, Analyzed: 2023-01-05 | | | | | | |
| Alkalinity, Phenolphthalein (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Bicarbonate (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Carbonate (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Hydroxide (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| LCS (B3A0251-BS1) | | | Prepared: 2023-01-05, Analyzed: 2023-01-05 | | | | | | |
| Alkalinity, Total (as CaCO3) | 98.8 | 1.0 mg/L | 100 | | 99 | 80-120 | | | |
| LCS (B3A0251-BS2) | | | Prepared: 2023-01-05, Analyzed: 2023-01-05 | | | | | | |
| Alkalinity, Total (as CaCO3) | 98.8 | 1.0 mg/L | 100 | | 99 | 80-120 | | | |
| Reference (B3A0251-SRM1) | | | Prepared: 2023-01-05, Analyzed: 2023-01-05 | | | | | | |
| pH | 7.01 | 0.10 pH units | 7.01 | | 100 | 98-102 | | | |
| Reference (B3A0251-SRM2) | | | Prepared: 2023-01-05, Analyzed: 2023-01-05 | | | | | | |
| pH | 7.00 | 0.10 pH units | 7.01 | | 100 | 98-102 | | | |
| General Parameters, Batch B3A0268 | | | | | | | | | |
| Blank (B3A0268-BLK1) | | | Prepared: 2023-01-05, Analyzed: 2023-01-05 | | | | | | |
| Ammonia, Total (as N) | < 0.050 | 0.050 mg/L | | | | | | | |
| Blank (B3A0268-BLK2) | | | Prepared: 2023-01-05, Analyzed: 2023-01-05 | | | | | | |
| Ammonia, Total (as N) | < 0.050 | 0.050 mg/L | | | | | | | |
| Blank (B3A0268-BLK3) | | | Prepared: 2023-01-05, Analyzed: 2023-01-05 | | | | | | |
| Ammonia, Total (as N) | < 0.050 | 0.050 mg/L | | | | | | | |
| LCS (B3A0268-BS1) | | | Prepared: 2023-01-05, Analyzed: 2023-01-05 | | | | | | |
| Ammonia, Total (as N) | 0.920 | 0.050 mg/L | 1.00 | | 92 | 90-115 | | | |
| LCS (B3A0268-BS2) | | | Prepared: 2023-01-06, Analyzed: 2023-01-06 | | | | | | |
| Ammonia, Total (as N) | 1.02 | 0.050 mg/L | 1.00 | | 102 | 90-115 | | | |
| LCS (B3A0268-BS3) | | | Prepared: 2023-01-06, Analyzed: 2023-01-06 | | | | | | |
| Ammonia, Total (as N) | 1.01 | 0.050 mg/L | 1.00 | | 101 | 90-115 | | | |
| General Parameters, Batch B3A0339 | | | | | | | | | |
| Blank (B3A0339-BLK1) | | | Prepared: 2023-01-05, Analyzed: 2023-01-10 | | | | | | |
| BOD, 5-day Carbonaceous | < 2.0 | 2.0 mg/L | | | | | | | |
| LCS (B3A0339-BS1) | | | Prepared: 2023-01-05, Analyzed: 2023-01-10 | | | | | | |
| BOD, 5-day Carbonaceous | 203 | 38.1 mg/L | 198 | | 102 | 85-115 | | | |
| General Parameters, Batch B3A0444 | | | | | | | | | |
| Blank (B3A0444-BLK1) | | | Prepared: 2023-01-06, Analyzed: 2023-01-08 | | | | | | |
| Nitrogen, Total Kjeldahl | < 0.050 | 0.050 mg/L | | | | | | | |
| LCS (B3A0444-BS1) | | | Prepared: 2023-01-06, Analyzed: 2023-01-08 | | | | | | |
| Nitrogen, Total Kjeldahl | 0.970 | 0.050 mg/L | 1.00 | | 97 | 85-115 | | | |
| General Parameters, Batch B3A0453 | | | | | | | | | |



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater)
Final Effluent- PE14651

WORK ORDER REPORTED 23A0201
2023-01-10 15:59

| Analyte | Result | RL Units | Spike Level | Source Result | % REC | REC Limit | % RPD | RPD Limit | Qualifier |
|---|--------|--------------|--|---------------|-------|-----------|-------|-----------|-----------|
| General Parameters, Batch B3A0453, Continued | | | | | | | | | |
| Blank (B3A0453-BLK1) | | | Prepared: 2023-01-07, Analyzed: 2023-01-07 | | | | | | |
| Solids, Total Suspended | < 2.0 | 2.0 mg/L | | | | | | | |
| LCS (B3A0453-BS1) | | | Prepared: 2023-01-07, Analyzed: 2023-01-07 | | | | | | |
| Solids, Total Suspended | 87.0 | 10.0 mg/L | 100 | | 87 | 85-115 | | | |
| Microbiological Parameters, Batch B3A0204 | | | | | | | | | |
| Blank (B3A0204-BLK1) | | | Prepared: 2023-01-04, Analyzed: 2023-01-04 | | | | | | |
| Coliforms, Total (Q-Tray) | < 1 | 1 MPN/100 mL | | | | | | | |
| Blank (B3A0204-BLK2) | | | Prepared: 2023-01-04, Analyzed: 2023-01-04 | | | | | | |
| Coliforms, Fecal (Q-Tray) | < 1 | 1 MPN/100 mL | | | | | | | |
| Blank (B3A0204-BLK3) | | | Prepared: 2023-01-04, Analyzed: 2023-01-04 | | | | | | |
| Coliforms, Total (Q-Tray) | < 1 | 1 MPN/100 mL | | | | | | | |
| Blank (B3A0204-BLK4) | | | Prepared: 2023-01-04, Analyzed: 2023-01-04 | | | | | | |
| Coliforms, Fecal (Q-Tray) | < 1 | 1 MPN/100 mL | | | | | | | |
| Blank (B3A0204-BLK5) | | | Prepared: 2023-01-04, Analyzed: 2023-01-04 | | | | | | |
| Coliforms, Total (Q-Tray) | < 1 | 1 MPN/100 mL | | | | | | | |



CERTIFICATE OF ANALYSIS

| | | | |
|---------------------|---|---------------------------------|--|
| REPORTED TO | Lake Country, District of (Wastewater) 4062 Beaver Lake Rd LAKE COUNTRY, BC V4V 1T5 | WORK ORDER | 23B0984 |
| ATTENTION | Davin Larsen | RECEIVED / TEMP REPORTED | 2023-02-08 15:52 / 7.0°C 2023-02-15 10:37 |
| PO NUMBER | | COC NUMBER | 44965.33173 |
| PROJECT | Raw Influent- PE14651 | | |
| PROJECT INFO | Lake Country WWTP | | |

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>

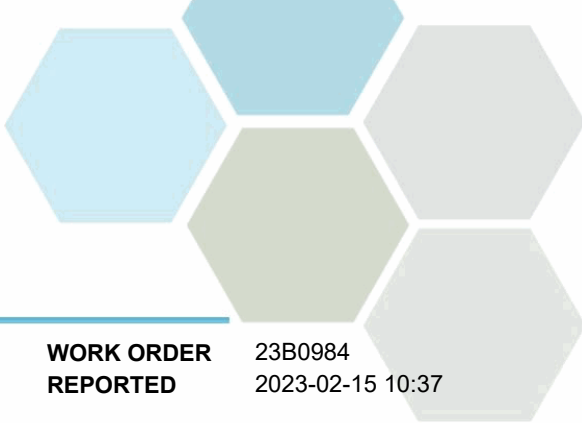
If you have any questions or concerns, please contact me at bwhitehead@caro.ca

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

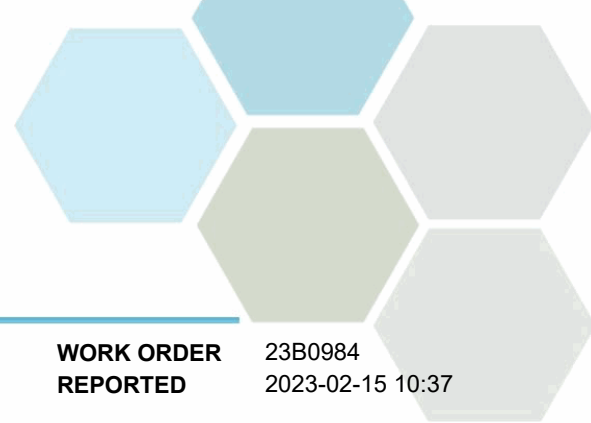
REPORTED TO PROJECT Lake Country, District of (Wastewater)
Raw Influent- PE14651

WORK ORDER REPORTED 23B0984
2023-02-15 10:37

| Analyte | Result | RL | Units | Analyzed | Qualifier |
|---|-------------|--------|----------|------------|-----------|
| Raw Influent (E233627) (23B0984-01) Matrix: Wastewater Sampled: 2023-02-08 09:10 | | | | | |
| Anions | | | | | |
| Nitrate (as N) | < 0.010 | 0.010 | mg/L | 2023-02-10 | |
| Nitrite (as N) | < 0.010 | 0.010 | mg/L | 2023-02-10 | |
| Phosphate (as P) | 6.99 | 0.0050 | mg/L | 2023-02-10 | |
| Calculated Parameters | | | | | |
| Nitrate+Nitrite (as N) | < 0.0100 | 0.0100 | mg/L | N/A | |
| Nitrogen, Total | 66.9 | 2.00 | mg/L | N/A | |
| General Parameters | | | | | |
| Alkalinity, Total (as CaCO3) | 288 | 1.0 | mg/L | 2023-02-12 | |
| Alkalinity, Phenolphthalein (as CaCO3) | < 1.0 | 1.0 | mg/L | 2023-02-12 | |
| Alkalinity, Bicarbonate (as CaCO3) | 288 | 1.0 | mg/L | 2023-02-12 | |
| Alkalinity, Carbonate (as CaCO3) | < 1.0 | 1.0 | mg/L | 2023-02-12 | |
| Alkalinity, Hydroxide (as CaCO3) | < 1.0 | 1.0 | mg/L | 2023-02-12 | |
| Ammonia, Total (as N) | 43.1 | 0.050 | mg/L | 2023-02-10 | |
| BOD, 5-day | 434 | 2.0 | mg/L | 2023-02-14 | |
| BOD, 5-day Carbonaceous | 226 | 2.0 | mg/L | 2023-02-14 | |
| Nitrogen, Total Kjeldahl | 66.9 | 0.050 | mg/L | 2023-02-12 | |
| pH | 7.83 | 0.10 | pH units | 2023-02-12 | HT2 |
| Phosphorus, Total (as P) | 9.49 | 0.0050 | mg/L | 2023-02-10 | |
| Solids, Total Suspended | 262 | 2.0 | mg/L | 2023-02-15 | |

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 Lake Country, District of (Wastewater)
Raw Influent- PE14651

WORK ORDER REPORTED 23B0984
2023-02-15 10:37

| Analysis Description | Method Ref. | Technique | Accredited | Location |
|--|---|--|------------|----------|
| Alkalinity in Water | SM 2320 B* (2021) | Titration with H2SO4 | ✓ | Kelowna |
| Ammonia, Total in Water | SM 4500-NH3 G* (2021) | Automated Colorimetry (Phenate) | ✓ | Kelowna |
| Anions in Water | SM 4110 B (2020) | Ion Chromatography | ✓ | Kelowna |
| Biochemical Oxygen Demand in Water | SM 5210 B (2019) | Dissolved Oxygen Meter | ✓ | Kelowna |
| Biochemical Oxygen Demand, Carbonaceous in Water | SM 5210 B (2019) | Dissolved Oxygen Meter | ✓ | Kelowna |
| Nitrogen, Total Kjeldahl in Water | SM 4500-Norg D* (2021) | Block Digestion and Flow Injection Analysis | ✓ | Kelowna |
| pH in Water | SM 4500-H+ B (2021) | Electrometry | ✓ | Kelowna |
| Phosphorus, Total in Water | SM 4500-P B.5* (2011) / SM 4500-P F (2021) | Persulfate Digestion / Automated Colorimetry (Ascorbic Acid) | ✓ | Kelowna |
| Solids, Total Suspended in Water | Solids in Water, Filtered / SM 2540 D* (2020) | Solids in Water, Filtered / Gravimetry (Dried at 103-105C) | ✓ | Kelowna |

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

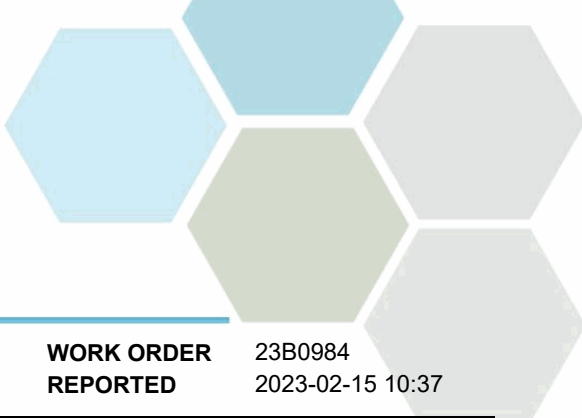
Glossary of Terms:

| | |
|----------|---|
| RL | Reporting Limit (default) |
| < | Less than the specified Reporting Limit (RL) - the actual RL may be higher than the default RL due to various factors |
| mg/L | Milligrams per litre |
| pH units | pH < 7 = acidic, pH > 7 = basic |
| SM | Standard Methods for the Examination of Water and Wastewater, American Public Health Association |

General Comments:

The results in this report apply to the received 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. Caro will dispose of all samples within 30 days of sample receipt, unless otherwise agreed.

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 Lake Country, District of (Wastewater)
Raw Influent- PE14651

WORK ORDER REPORTED 23B0984
2023-02-15 10:37

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.

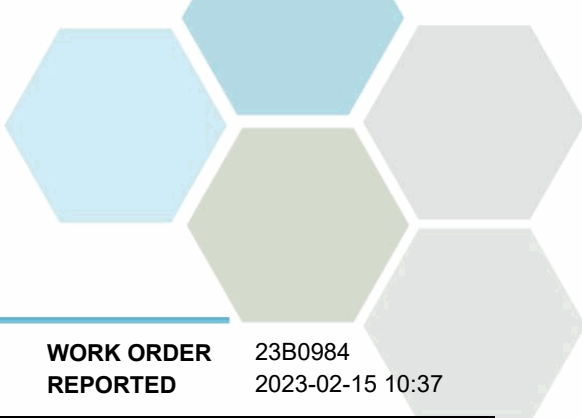
Each QC type is analyzed at a 5-10% frequency, i.e. one blank/duplicate/spike for every 10-20 samples. For all types of QC, the specified recovery (% Rec) and relative percent difference (RPD) limits are derived from long-term method performance averages and/or prescribed by the reference method.

| Analyte | Result | RL Units | Spike Level | Source Result | % REC | REC Limit | % RPD | RPD Limit | Qualifier |
|------------------------------|----------|-------------|--|---------------|-------|-----------|-------|-----------|-----------|
| Anions, Batch B3B0885 | | | | | | | | | |
| Blank (B3B0885-BLK1) | | | Prepared: 2023-02-09, Analyzed: 2023-02-09 | | | | | | |
| Nitrate (as N) | < 0.010 | 0.010 mg/L | | | | | | | |
| Nitrite (as N) | < 0.010 | 0.010 mg/L | | | | | | | |
| Phosphate (as P) | < 0.0050 | 0.0050 mg/L | | | | | | | |
| Blank (B3B0885-BLK2) | | | Prepared: 2023-02-10, Analyzed: 2023-02-10 | | | | | | |
| Nitrate (as N) | < 0.010 | 0.010 mg/L | | | | | | | |
| Nitrite (as N) | < 0.010 | 0.010 mg/L | | | | | | | |
| Blank (B3B0885-BLK3) | | | Prepared: 2023-02-10, Analyzed: 2023-02-10 | | | | | | |
| Nitrate (as N) | < 0.010 | 0.010 mg/L | | | | | | | |
| Nitrite (as N) | < 0.010 | 0.010 mg/L | | | | | | | |
| Phosphate (as P) | < 0.0050 | 0.0050 mg/L | | | | | | | |
| LCS (B3B0885-BS1) | | | Prepared: 2023-02-09, Analyzed: 2023-02-09 | | | | | | |
| Nitrate (as N) | 3.95 | 0.010 mg/L | 4.00 | | 99 | 90-110 | | | |
| Nitrite (as N) | 2.07 | 0.010 mg/L | 2.00 | | 103 | 85-115 | | | |
| Phosphate (as P) | 1.05 | 0.0050 mg/L | 1.00 | | 105 | 80-120 | | | |
| LCS (B3B0885-BS2) | | | Prepared: 2023-02-10, Analyzed: 2023-02-10 | | | | | | |
| Nitrate (as N) | 3.95 | 0.010 mg/L | 4.00 | | 99 | 90-110 | | | |
| Nitrite (as N) | 2.09 | 0.010 mg/L | 2.00 | | 104 | 85-115 | | | |
| LCS (B3B0885-BS3) | | | Prepared: 2023-02-10, Analyzed: 2023-02-10 | | | | | | |
| Nitrate (as N) | 3.89 | 0.010 mg/L | 4.00 | | 97 | 90-110 | | | |
| Nitrite (as N) | 2.04 | 0.010 mg/L | 2.00 | | 102 | 85-115 | | | |
| Phosphate (as P) | 1.00 | 0.0050 mg/L | 1.00 | | 100 | 80-120 | | | |

General Parameters, Batch B3B0956

| | | | | | | | | | |
|-----------------------------|-------|-----------|--|--|----|--------|--|--|------|
| Blank (B3B0956-BLK1) | | | Prepared: 2023-02-09, Analyzed: 2023-02-14 | | | | | | |
| BOD, 5-day Carbonaceous | < 2.0 | 2.0 mg/L | | | | | | | |
| LCS (B3B0956-BS1) | | | Prepared: 2023-02-09, Analyzed: 2023-02-14 | | | | | | |
| BOD, 5-day Carbonaceous | 153 | 34.9 mg/L | 198 | | 77 | 85-115 | | | SPK1 |

General Parameters, Batch B3B0958

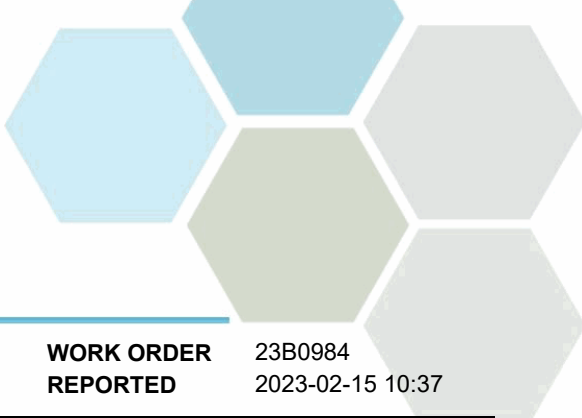


APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater)
Raw Influent- PE14651

WORK ORDER REPORTED 23B0984
2023-02-15 10:37

| Analyte | Result | RL Units | Spike Level | Source Result | % REC | REC Limit | % RPD | RPD Limit | Qualifier |
|---|----------|-------------|--|---------------|-------|-----------|-------|-----------|-----------|
| General Parameters, Batch B3B0958, Continued | | | | | | | | | |
| Blank (B3B0958-BLK1) | | | Prepared: 2023-02-09, Analyzed: 2023-02-14 | | | | | | |
| BOD, 5-day | < 2.0 | 2.0 mg/L | | | | | | | |
| LCS (B3B0958-BS1) | | | Prepared: 2023-02-09, Analyzed: 2023-02-14 | | | | | | |
| BOD, 5-day | 191 | 43.3 mg/L | 198 | | 96 | 85-115 | | | |
| General Parameters, Batch B3B0999 | | | | | | | | | |
| Blank (B3B0999-BLK1) | | | Prepared: 2023-02-09, Analyzed: 2023-02-10 | | | | | | |
| Phosphorus, Total (as P) | < 0.0050 | 0.0050 mg/L | | | | | | | |
| Blank (B3B0999-BLK2) | | | Prepared: 2023-02-09, Analyzed: 2023-02-10 | | | | | | |
| Phosphorus, Total (as P) | < 0.0050 | 0.0050 mg/L | | | | | | | |
| Blank (B3B0999-BLK3) | | | Prepared: 2023-02-09, Analyzed: 2023-02-10 | | | | | | |
| Phosphorus, Total (as P) | < 0.0050 | 0.0050 mg/L | | | | | | | |
| LCS (B3B0999-BS1) | | | Prepared: 2023-02-09, Analyzed: 2023-02-10 | | | | | | |
| Phosphorus, Total (as P) | 0.110 | 0.0050 mg/L | 0.100 | | 110 | 85-115 | | | |
| LCS (B3B0999-BS2) | | | Prepared: 2023-02-09, Analyzed: 2023-02-10 | | | | | | |
| Phosphorus, Total (as P) | 0.110 | 0.0050 mg/L | 0.100 | | 110 | 85-115 | | | |
| LCS (B3B0999-BS3) | | | Prepared: 2023-02-09, Analyzed: 2023-02-10 | | | | | | |
| Phosphorus, Total (as P) | 0.110 | 0.0050 mg/L | 0.100 | | 110 | 85-115 | | | |
| General Parameters, Batch B3B1070 | | | | | | | | | |
| Blank (B3B1070-BLK1) | | | Prepared: 2023-02-10, Analyzed: 2023-02-10 | | | | | | |
| Ammonia, Total (as N) | < 0.050 | 0.050 mg/L | | | | | | | |
| Blank (B3B1070-BLK2) | | | Prepared: 2023-02-10, Analyzed: 2023-02-10 | | | | | | |
| Ammonia, Total (as N) | < 0.050 | 0.050 mg/L | | | | | | | |
| Blank (B3B1070-BLK3) | | | Prepared: 2023-02-10, Analyzed: 2023-02-10 | | | | | | |
| Ammonia, Total (as N) | < 0.050 | 0.050 mg/L | | | | | | | |
| LCS (B3B1070-BS1) | | | Prepared: 2023-02-10, Analyzed: 2023-02-10 | | | | | | |
| Ammonia, Total (as N) | 1.00 | 0.050 mg/L | 1.00 | | 100 | 85-115 | | | |
| LCS (B3B1070-BS2) | | | Prepared: 2023-02-10, Analyzed: 2023-02-10 | | | | | | |
| Ammonia, Total (as N) | 0.997 | 0.050 mg/L | 1.00 | | 100 | 85-115 | | | |
| LCS (B3B1070-BS3) | | | Prepared: 2023-02-10, Analyzed: 2023-02-10 | | | | | | |
| Ammonia, Total (as N) | 0.990 | 0.050 mg/L | 1.00 | | 99 | 85-115 | | | |
| General Parameters, Batch B3B1084 | | | | | | | | | |
| Blank (B3B1084-BLK1) | | | Prepared: 2023-02-10, Analyzed: 2023-02-12 | | | | | | |
| Nitrogen, Total Kjeldahl | < 0.050 | 0.050 mg/L | | | | | | | |
| Blank (B3B1084-BLK2) | | | Prepared: 2023-02-10, Analyzed: 2023-02-12 | | | | | | |
| Nitrogen, Total Kjeldahl | < 0.050 | 0.050 mg/L | | | | | | | |
| LCS (B3B1084-BS1) | | | Prepared: 2023-02-10, Analyzed: 2023-02-12 | | | | | | |
| Nitrogen, Total Kjeldahl | 1.07 | 0.050 mg/L | 1.00 | | 107 | 85-115 | | | |



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater)
Raw Influent- PE14651

WORK ORDER REPORTED 23B0984
2023-02-15 10:37

| Analyte | Result | RL Units | Spike Level | Source Result | % REC | REC Limit | % RPD | RPD Limit | Qualifier |
|---|--------|---------------|--|---------------|--|-----------|-------|-----------|-----------|
| General Parameters, Batch B3B1084, Continued | | | | | | | | | |
| LCS (B3B1084-BS2) | | | Prepared: 2023-02-10, Analyzed: 2023-02-12 | | | | | | |
| Nitrogen, Total Kjeldahl | 1.06 | 0.050 mg/L | 1.00 | | 106 | 85-115 | | | |
| General Parameters, Batch B3B1215 | | | | | | | | | |
| Blank (B3B1215-BLK1) | | | Prepared: 2023-02-12, Analyzed: 2023-02-12 | | | | | | |
| Alkalinity, Total (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Phenolphthalein (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Bicarbonate (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Carbonate (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Hydroxide (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Blank (B3B1215-BLK2) | | | Prepared: 2023-02-13, Analyzed: 2023-02-13 | | | | | | |
| Alkalinity, Total (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Phenolphthalein (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Bicarbonate (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Carbonate (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Hydroxide (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| LCS (B3B1215-BS1) | | | Prepared: 2023-02-12, Analyzed: 2023-02-12 | | | | | | |
| Alkalinity, Total (as CaCO3) | 93.6 | 1.0 mg/L | 100 | | 94 | 80-120 | | | |
| LCS (B3B1215-BS2) | | | Prepared: 2023-02-13, Analyzed: 2023-02-13 | | | | | | |
| Alkalinity, Total (as CaCO3) | 88.2 | 1.0 mg/L | 100 | | 88 | 80-120 | | | |
| Reference (B3B1215-SRM1) | | | Prepared: 2023-02-12, Analyzed: 2023-02-12 | | | | | | |
| pH | 7.03 | 0.10 pH units | 7.01 | | 100 | 98-102 | | | |
| Reference (B3B1215-SRM2) | | | Prepared: 2023-02-13, Analyzed: 2023-02-13 | | | | | | |
| pH | 7.01 | 0.10 pH units | 7.01 | | 100 | 98-102 | | | |
| General Parameters, Batch B3B1371 | | | | | | | | | |
| Blank (B3B1371-BLK1) | | | Prepared: 2023-02-14, Analyzed: 2023-02-15 | | | | | | |
| Solids, Total Suspended | < 2.0 | 2.0 mg/L | | | | | | | |
| LCS (B3B1371-BS1) | | | Prepared: 2023-02-14, Analyzed: 2023-02-15 | | | | | | |
| Solids, Total Suspended | 91.0 | 10.0 mg/L | 100 | | 91 | 85-115 | | | |
| Duplicate (B3B1371-DUP1) | | | Source: 23B0984-01 | | Prepared: 2023-02-14, Analyzed: 2023-02-15 | | | | |
| Solids, Total Suspended | 266 | 2.0 mg/L | | 262 | | | 2 | 20 | |

QC Qualifiers:

SPK1 The recovery of this analyte was outside of established control limits. The data was accepted based on performance of other batch QC.



CERTIFICATE OF ANALYSIS

| | | | |
|---------------------|---|---------------------------------|--|
| REPORTED TO | Lake Country, District of (Wastewater) 4062 Beaver Lake Rd LAKE COUNTRY, BC V4V 1T5 | WORK ORDER | 23B0992 |
| ATTENTION | Davin Larsen | RECEIVED / TEMP REPORTED | 2023-02-08 15:52 / 7.0°C 2023-02-16 12:06 |
| PO NUMBER | | COC NUMBER | 44965.33173 |
| PROJECT | Amry- MR17842 | | |
| PROJECT INFO | Lake Country WWTP | | |

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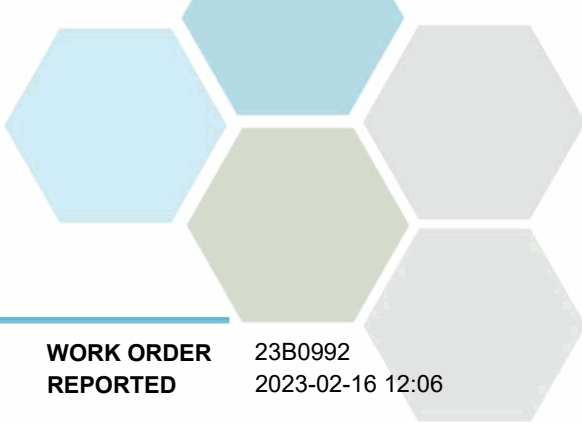
If you have any questions or concerns, please contact me at bwhitehead@caro.ca

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

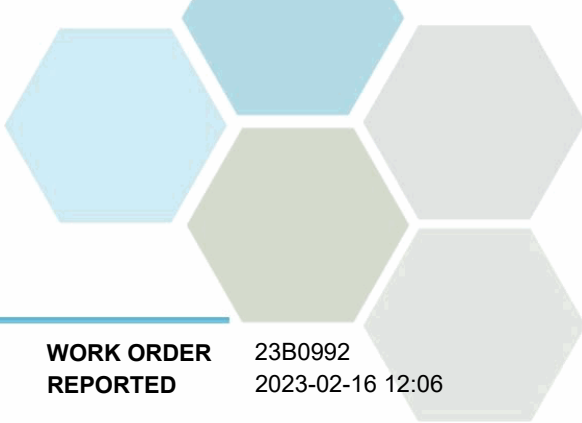


TEST RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater)
Amry- MR17842

WORK ORDER REPORTED 23B0992
2023-02-16 12:06

| Analyte | Result | RL | Units | Analyzed | Qualifier |
|--|------------|-----|-------|------------|-----------|
| Amry WW (E262982) (23B0992-01) Matrix: Wastewater Sampled: 2023-02-08 09:10 | | | | | |
| <i>General Parameters</i> | | | | | |
| BOD, 5-day Carbonaceous | < 4.2 | 2.0 | mg/L | 2023-02-14 | |
| Solids, Total Suspended | 9.2 | 2.0 | mg/L | 2023-02-15 | |



APPENDIX 1: SUPPORTING INFORMATION

REPORTED TO PROJECT Lake Country, District of (Wastewater)
Amry- MR17842

WORK ORDER REPORTED 23B0992
2023-02-16 12:06

| Analysis Description | Method Ref. | Technique | Accredited | Location |
|--|---|--|------------|----------|
| Biochemical Oxygen Demand, Carbonaceous in Water | SM 5210 B (2019) | Dissolved Oxygen Meter | ✓ | Kelowna |
| Solids, Total Suspended in Water | Solids in Water, Filtered / SM 2540 D* (2020) | Solids in Water, Filtered / Gravimetry (Dried at 103-105C) | ✓ | Kelowna |

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

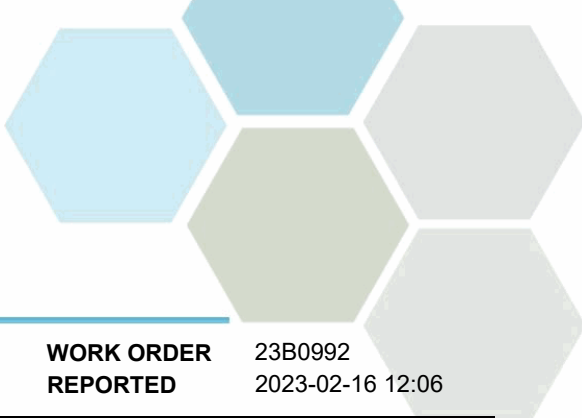
Glossary of Terms:

| | |
|------|---|
| RL | Reporting Limit (default) |
| < | Less than the specified Reporting Limit (RL) - the actual RL may be higher than the default RL due to various factors |
| mg/L | Milligrams per litre |
| SM | Standard Methods for the Examination of Water and Wastewater, American Public Health Association |

General Comments:

The results in this report apply to the received 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. Caro will dispose of all samples within 30 days of sample receipt, unless otherwise agreed.

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 Lake Country, District of (Wastewater)
Amry- MR17842

WORK ORDER REPORTED 23B0992
2023-02-16 12:06

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 |
|---------|--------|----------|-------------|---------------|-------|-----------|-------|-----------|-----------|
|---------|--------|----------|-------------|---------------|-------|-----------|-------|-----------|-----------|

General Parameters, Batch B3B0956

| | | | | | | | | | |
|---------------------------------|-------|-----------|---|-------|----|--------|--|----|------|
| Blank (B3B0956-BLK1) | | | Prepared: 2023-02-09, Analyzed: 2023-02-14 | | | | | | |
| BOD, 5-day Carbonaceous | < 2.0 | 2.0 mg/L | | | | | | | |
| LCS (B3B0956-BS1) | | | Prepared: 2023-02-09, Analyzed: 2023-02-14 | | | | | | |
| BOD, 5-day Carbonaceous | 153 | 34.9 mg/L | 198 | | 77 | 85-115 | | | SPK1 |
| Duplicate (B3B0956-DUP1) | | | Source: 23B0992-01 Prepared: 2023-02-09, Analyzed: 2023-02-14 | | | | | | |
| BOD, 5-day Carbonaceous | < 4.2 | 2.0 mg/L | | < 4.2 | | | | 20 | |

General Parameters, Batch B3B1495

| | | | | | | | | | |
|-----------------------------|-------|-----------|--|--|----|--------|--|--|--|
| Blank (B3B1495-BLK1) | | | Prepared: 2023-02-15, Analyzed: 2023-02-15 | | | | | | |
| Solids, Total Suspended | < 2.0 | 2.0 mg/L | | | | | | | |
| LCS (B3B1495-BS1) | | | Prepared: 2023-02-15, Analyzed: 2023-02-15 | | | | | | |
| Solids, Total Suspended | 90.0 | 10.0 mg/L | 100 | | 90 | 85-115 | | | |

QC Qualifiers:

SPK1 The recovery of this analyte was outside of established control limits. The data was accepted based on performance of other batch QC.



CERTIFICATE OF ANALYSIS

| | | | |
|---------------------|---|---------------------------------|--|
| REPORTED TO | Lake Country, District of (Wastewater) 4062 Beaver Lake Rd LAKE COUNTRY, BC V4V 1T5 | WORK ORDER | 23B0990 |
| ATTENTION | Davin Larsen | RECEIVED / TEMP REPORTED | 2023-02-08 15:52 / 7.0°C 2023-02-16 13:55 |
| PO NUMBER | | COC NUMBER | 44965.33173 |
| PROJECT | BioSolids- PE14651 | | |
| PROJECT INFO | Lake Country WWTP | | |

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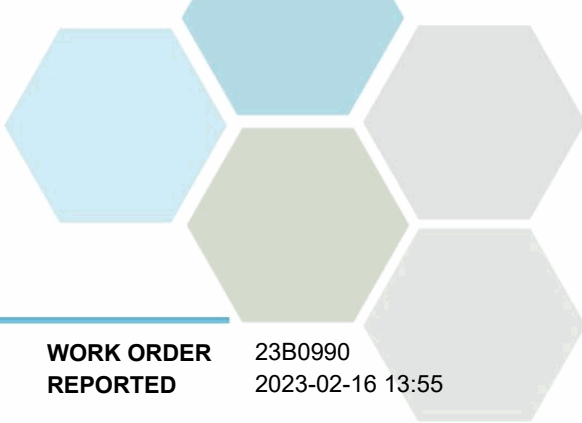
If you have any questions or concerns, please contact me at bwhitehead@caro.ca

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 Lake Country, District of (Wastewater)
BioSolids- PE14651

WORK ORDER REPORTED 23B0990
2023-02-16 13:55

| Analyte | Result | RL | Units | Analyzed | Qualifier |
|---------|--------|----|-------|----------|-----------|
|---------|--------|----|-------|----------|-----------|

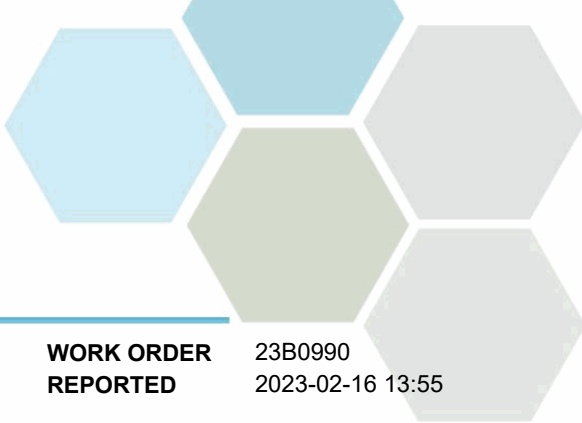
Biosolids (E233628) (23B0990-01) | Matrix: Sludge | Sampled: 2023-02-07 09:50

General Parameters

| | | | | | |
|--------------------------|------|--------|----------|------------|-------|
| Moisture | 80.0 | 1.0 | % wet | 2023-02-12 | |
| Nitrogen, Total Kjeldahl | 5.14 | 0.0004 | % dry | 2023-02-14 | |
| pH (1:2 H2O Solution) | 5.90 | 0.10 | pH units | 2023-02-15 | MASS2 |
| Solids, Total | 19.2 | 0.1 | % wet | 2023-02-16 | |
| Solids, Volatile | 84.9 | 0.1 | % dry | 2023-02-16 | |

Strong Acid Leachable Metals

| | | | | | |
|------------|--------|-------|-----------|------------|--|
| Aluminum | 2080 | 40 | mg/kg dry | 2023-02-13 | |
| Antimony | 1.30 | 0.10 | mg/kg dry | 2023-02-13 | |
| Arsenic | 1.74 | 0.30 | mg/kg dry | 2023-02-13 | |
| Barium | 74.3 | 1.0 | mg/kg dry | 2023-02-13 | |
| Beryllium | < 0.10 | 0.10 | mg/kg dry | 2023-02-13 | |
| Bismuth | 35.5 | 0.10 | mg/kg dry | 2023-02-13 | |
| Boron | 15.0 | 2.0 | mg/kg dry | 2023-02-13 | |
| Cadmium | 0.807 | 0.040 | mg/kg dry | 2023-02-13 | |
| Calcium | 12000 | 100 | mg/kg dry | 2023-02-13 | |
| Chromium | 10.3 | 1.0 | mg/kg dry | 2023-02-13 | |
| Cobalt | 1.50 | 0.10 | mg/kg dry | 2023-02-13 | |
| Copper | 289 | 0.40 | mg/kg dry | 2023-02-13 | |
| Iron | 3760 | 20 | mg/kg dry | 2023-02-13 | |
| Lead | 9.40 | 0.20 | mg/kg dry | 2023-02-13 | |
| Lithium | 1.51 | 0.10 | mg/kg dry | 2023-02-13 | |
| Magnesium | 4400 | 10 | mg/kg dry | 2023-02-13 | |
| Manganese | 101 | 0.40 | mg/kg dry | 2023-02-13 | |
| Mercury | 0.359 | 0.040 | mg/kg dry | 2023-02-13 | |
| Molybdenum | 7.31 | 0.10 | mg/kg dry | 2023-02-13 | |
| Nickel | 9.14 | 0.60 | mg/kg dry | 2023-02-13 | |
| Phosphorus | 15300 | 10 | mg/kg dry | 2023-02-13 | |
| Potassium | 5550 | 40 | mg/kg dry | 2023-02-13 | |
| Selenium | 3.46 | 0.20 | mg/kg dry | 2023-02-13 | |
| Silver | 1.50 | 0.10 | mg/kg dry | 2023-02-13 | |
| Sodium | 1000 | 50 | mg/kg dry | 2023-02-13 | |
| Strontium | 59.7 | 0.20 | mg/kg dry | 2023-02-13 | |
| Sulfur | 5600 | 1000 | mg/kg dry | 2023-02-13 | |
| Tellurium | < 0.10 | 0.10 | mg/kg dry | 2023-02-13 | |
| Thallium | < 0.10 | 0.10 | mg/kg dry | 2023-02-13 | |
| Thorium | < 0.50 | 0.50 | mg/kg dry | 2023-02-13 | |
| Tin | 14.9 | 0.20 | mg/kg dry | 2023-02-13 | |
| Titanium | 58.6 | 1.0 | mg/kg dry | 2023-02-13 | |
| Tungsten | 0.85 | 0.20 | mg/kg dry | 2023-02-13 | |
| Uranium | 9.90 | 0.050 | mg/kg dry | 2023-02-13 | |
| Vanadium | 6.9 | 1.0 | mg/kg dry | 2023-02-13 | |
| Zinc | 511 | 2.0 | mg/kg dry | 2023-02-13 | |



TEST RESULTS

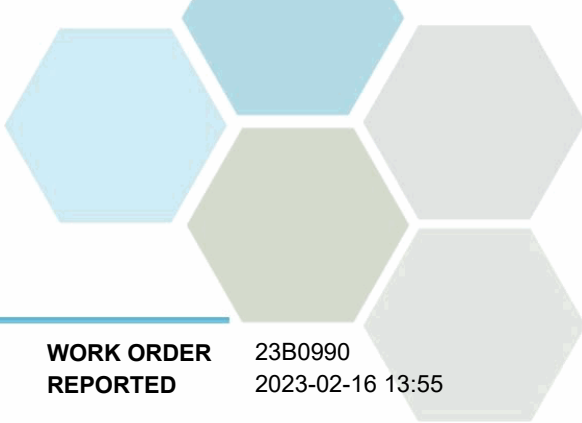
REPORTED TO PROJECT Lake Country, District of (Wastewater)
BioSolids- PE14651

WORK ORDER REPORTED 23B0990
2023-02-16 13:55

| Analyte | Result | RL | Units | Analyzed | Qualifier |
|---|--------|-----|-----------|------------|-----------|
| Biosolids (E233628) (23B0990-01) Matrix: Sludge Sampled: 2023-02-07 09:50, Continued | | | | | |
| <i>Strong Acid Leachable Metals, Continued</i> | | | | | |
| Zirconium | 4.0 | 2.0 | mg/kg dry | 2023-02-13 | |

Sample Qualifiers:

MASS2 The ratio of water to sample for pH analysis is greater than 2:1 due to limited sample. Results may be biased low.



APPENDIX 1: SUPPORTING INFORMATION

REPORTED TO PROJECT Lake Country, District of (Wastewater)
BioSolids- PE14651

WORK ORDER REPORTED 23B0990
2023-02-16 13:55

| Analysis Description | Method Ref. | Technique | Accredited | Location |
|-----------------------------------|-------------------------------------|---|------------|----------|
| Moisture in Solid | ASTM D2974-87* | Gravimetry (Dried at 105C) | | N/A |
| Nitrogen, Total Kjeldahl in Solid | SM 4500-Norg D* (2021) | Block Digestion and Flow Injection Analysis | ✓ | Kelowna |
| pH in Solid | Carter 16.2 / SM 4500-H+ B (2021) | 1:2 Soil/Water Slurry / Electrometry | | Kelowna |
| SALM in Solid | BCMOE SALM V.2 / EPA 6020B | HNO ₃ +HCl Hot Block Digestion / Inductively Coupled Plasma-Mass Spectroscopy (ICP-MS) | ✓ | Richmond |
| Solids, Total in Solid | Solids in Solids / SM 2540 G (2020) | Solids in Solids / Gravimetry | | Kelowna |
| Solids, Volatile in Solid | Solids in Solids / SM 2540 G (2020) | Solids in Solids / Gravimetry | | Kelowna |

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

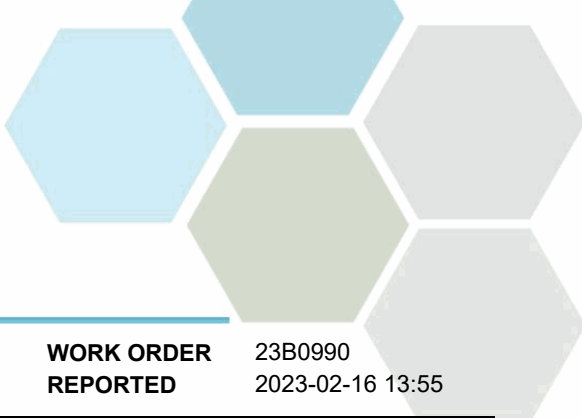
Glossary of Terms:

| | |
|-----------|---|
| RL | Reporting Limit (default) |
| % dry | Percent (dry weight basis) |
| % wet | Percent (as received basis) |
| < | Less than the specified Reporting Limit (RL) - the actual RL may be higher than the default RL due to various factors |
| mg/kg dry | Milligrams per kilogram (dry weight basis) |
| pH units | pH < 7 = acidic, pH > 7 = basic |
| ASTM | ASTM International Test Methods |
| EPA | United States Environmental Protection Agency Test Methods |
| SM | Standard Methods for the Examination of Water and Wastewater, American Public Health Association |

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APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater)
BioSolids- PE14651

WORK ORDER REPORTED 23B0990
2023-02-16 13:55

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:

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| Analyte | Result | RL Units | Spike Level | Source Result | % REC | REC Limit | % RPD | RPD Limit | Qualifier |
|---------|--------|----------|-------------|---------------|-------|-----------|-------|-----------|-----------|
|---------|--------|----------|-------------|---------------|-------|-----------|-------|-----------|-----------|

General Parameters, Batch B3B1277

| | | | | | | | | | |
|---------------------------------|---------|--------------|---|------|----|----------|---|----|--|
| Blank (B3B1277-BLK1) | | | Prepared: 2023-02-13, Analyzed: 2023-02-14 | | | | | | |
| Nitrogen, Total Kjeldahl | < 0.010 | 0.010 % wet | | | | | | | |
| Duplicate (B3B1277-DUP1) | | | Source: 23B0990-01 Prepared: 2023-02-13, Analyzed: 2023-02-14 | | | | | | |
| Nitrogen, Total Kjeldahl | 5.09 | 0.0004 % dry | | 5.14 | | | 1 | 25 | |
| Reference (B3B1277-SRM1) | | | Prepared: 2023-02-13, Analyzed: 2023-02-14 | | | | | | |
| Nitrogen, Total Kjeldahl | 0.151 | 0.010 % wet | 0.197 | | 77 | 58.8-150 | | | |

General Parameters, Batch B3B1291

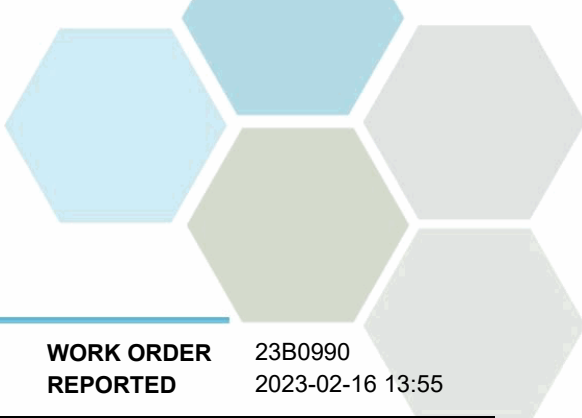
| | | | | | | | | | |
|---------------------------------|------|---------------|---|------|--|--|-----|----|--|
| Duplicate (B3B1291-DUP1) | | | Source: 23B0990-01 Prepared: 2023-02-13, Analyzed: 2023-02-15 | | | | | | |
| pH (1:2 H2O Solution) | 5.89 | 0.10 pH units | | 5.90 | | | < 1 | 10 | |

General Parameters, Batch B3B1480

| | | | | | | | | | |
|---------------------------------|------|-----------|---|------|-----|--------|-----|-----|--|
| Duplicate (B3B1480-DUP1) | | | Source: 23B0990-01 Prepared: 2023-02-16, Analyzed: 2023-02-16 | | | | | | |
| Solids, Total | 19.1 | 0.1 % wet | | 19.2 | | | < 1 | 7.5 | |
| Solids, Volatile | 84.8 | 0.1 % dry | | 84.9 | | | < 1 | 15 | |
| Reference (B3B1480-SRM1) | | | Prepared: 2023-02-16, Analyzed: 2023-02-16 | | | | | | |
| Solids, Total | 87.4 | 0.1 % wet | 87.0 | | 100 | 80-120 | | | |
| Solids, Volatile | 2.6 | 0.1 % dry | 2.58 | | 99 | 80-200 | | | |

Strong Acid Leachable Metals, Batch B3B1304

| | | | | | | | | | |
|-----------------------------|---------|-----------------|--|--|--|--|--|--|--|
| Blank (B3B1304-BLK1) | | | Prepared: 2023-02-13, Analyzed: 2023-02-13 | | | | | | |
| Aluminum | < 40 | 40 mg/kg dry | | | | | | | |
| Antimony | < 0.10 | 0.10 mg/kg dry | | | | | | | |
| Arsenic | < 0.30 | 0.30 mg/kg dry | | | | | | | |
| Barium | < 1.0 | 1.0 mg/kg dry | | | | | | | |
| Beryllium | < 0.10 | 0.10 mg/kg dry | | | | | | | |
| Bismuth | < 0.10 | 0.10 mg/kg dry | | | | | | | |
| Boron | < 2.0 | 2.0 mg/kg dry | | | | | | | |
| Cadmium | < 0.040 | 0.040 mg/kg dry | | | | | | | |
| Calcium | < 100 | 100 mg/kg dry | | | | | | | |



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater)
BioSolids- PE14651

WORK ORDER REPORTED 23B0990
2023-02-16 13:55

| Analyte | Result | RL Units | Spike Level | Source Result | % REC | REC Limit | % RPD | RPD Limit | Qualifier |
|---------|--------|----------|-------------|---------------|-------|-----------|-------|-----------|-----------|
|---------|--------|----------|-------------|---------------|-------|-----------|-------|-----------|-----------|

Strong Acid Leachable Metals, Batch B3B1304, Continued

Blank (B3B1304-BLK1), Continued

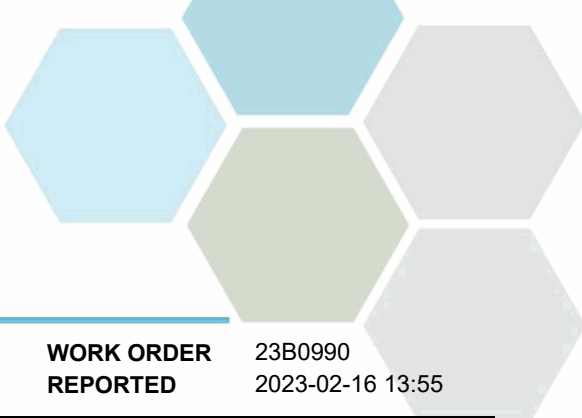
Prepared: 2023-02-13, Analyzed: 2023-02-13

| | | | | | | | | | |
|------------|---------|-----------------|--|--|--|--|--|--|--|
| Chromium | < 1.0 | 1.0 mg/kg dry | | | | | | | |
| Cobalt | < 0.10 | 0.10 mg/kg dry | | | | | | | |
| Copper | < 0.40 | 0.40 mg/kg dry | | | | | | | |
| Iron | < 20 | 20 mg/kg dry | | | | | | | |
| Lead | < 0.20 | 0.20 mg/kg dry | | | | | | | |
| Lithium | < 0.10 | 0.10 mg/kg dry | | | | | | | |
| Magnesium | < 10 | 10 mg/kg dry | | | | | | | |
| Manganese | < 0.40 | 0.40 mg/kg dry | | | | | | | |
| Mercury | < 0.040 | 0.040 mg/kg dry | | | | | | | |
| Molybdenum | < 0.10 | 0.10 mg/kg dry | | | | | | | |
| Nickel | < 0.60 | 0.60 mg/kg dry | | | | | | | |
| Phosphorus | < 10 | 10 mg/kg dry | | | | | | | |
| Potassium | < 40 | 40 mg/kg dry | | | | | | | |
| Selenium | < 0.20 | 0.20 mg/kg dry | | | | | | | |
| Silver | < 0.10 | 0.10 mg/kg dry | | | | | | | |
| Sodium | < 50 | 50 mg/kg dry | | | | | | | |
| Strontium | < 0.20 | 0.20 mg/kg dry | | | | | | | |
| Sulfur | < 1000 | 1000 mg/kg dry | | | | | | | |
| Tellurium | < 0.10 | 0.10 mg/kg dry | | | | | | | |
| Thallium | < 0.10 | 0.10 mg/kg dry | | | | | | | |
| Thorium | < 0.50 | 0.50 mg/kg dry | | | | | | | |
| Tin | < 0.20 | 0.20 mg/kg dry | | | | | | | |
| Titanium | < 1.0 | 1.0 mg/kg dry | | | | | | | |
| Tungsten | < 0.20 | 0.20 mg/kg dry | | | | | | | |
| Uranium | < 0.050 | 0.050 mg/kg dry | | | | | | | |
| Vanadium | < 1.0 | 1.0 mg/kg dry | | | | | | | |
| Zinc | < 2.0 | 2.0 mg/kg dry | | | | | | | |
| Zirconium | < 2.0 | 2.0 mg/kg dry | | | | | | | |

LCS (B3B1304-BS1)

Prepared: 2023-02-13, Analyzed: 2023-02-13

| | | | | | | | | | |
|------------|-------|-----------------|------|--|-----|--------|--|--|--|
| Aluminum | 982 | 10 mg/kg dry | 1000 | | 98 | 80-120 | | | |
| Antimony | 10.4 | 0.02 mg/kg dry | 10.0 | | 104 | 80-120 | | | |
| Arsenic | 9.52 | 0.08 mg/kg dry | 10.0 | | 95 | 80-120 | | | |
| Barium | 9.7 | 0.2 mg/kg dry | 10.0 | | 97 | 80-120 | | | |
| Beryllium | 10.3 | 0.02 mg/kg dry | 10.0 | | 103 | 80-120 | | | |
| Bismuth | 10.3 | 0.10 mg/kg dry | 10.0 | | 103 | 80-120 | | | |
| Boron | 10.2 | 0.5 mg/kg dry | 10.0 | | 102 | 80-120 | | | |
| Cadmium | 9.87 | 0.010 mg/kg dry | 10.0 | | 99 | 80-120 | | | |
| Calcium | 970 | 100 mg/kg dry | 1000 | | 97 | 80-120 | | | |
| Chromium | 9.7 | 0.2 mg/kg dry | 10.0 | | 97 | 80-120 | | | |
| Cobalt | 9.81 | 0.02 mg/kg dry | 10.0 | | 98 | 80-120 | | | |
| Copper | 9.62 | 0.10 mg/kg dry | 10.0 | | 96 | 80-120 | | | |
| Iron | 979 | 5 mg/kg dry | 1000 | | 98 | 80-120 | | | |
| Lead | 9.78 | 0.05 mg/kg dry | 10.0 | | 98 | 80-120 | | | |
| Lithium | 10.1 | 0.02 mg/kg dry | 10.0 | | 101 | 80-120 | | | |
| Magnesium | 979 | 10 mg/kg dry | 1000 | | 98 | 80-120 | | | |
| Manganese | 9.91 | 0.10 mg/kg dry | 10.0 | | 99 | 80-120 | | | |
| Mercury | 0.989 | 0.010 mg/kg dry | 1.00 | | 99 | 80-120 | | | |
| Molybdenum | 10.4 | 0.02 mg/kg dry | 10.0 | | 104 | 80-120 | | | |
| Nickel | 9.67 | 0.15 mg/kg dry | 10.0 | | 97 | 80-120 | | | |
| Phosphorus | 987 | 10 mg/kg dry | 1000 | | 99 | 80-120 | | | |
| Potassium | 990 | 40 mg/kg dry | 1000 | | 99 | 80-120 | | | |
| Selenium | 10.1 | 0.05 mg/kg dry | 10.0 | | 101 | 80-120 | | | |
| Silver | 10.0 | 0.02 mg/kg dry | 10.0 | | 100 | 80-120 | | | |
| Sodium | 989 | 50 mg/kg dry | 1000 | | 99 | 80-120 | | | |
| Strontium | 9.69 | 0.05 mg/kg dry | 10.0 | | 97 | 80-120 | | | |



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater)
BioSolids- PE14651

WORK ORDER REPORTED 23B0990
2023-02-16 13:55

| Analyte | Result | RL Units | Spike Level | Source Result | % REC | REC Limit | % RPD | RPD Limit | Qualifier |
|---------|--------|----------|-------------|---------------|-------|-----------|-------|-----------|-----------|
|---------|--------|----------|-------------|---------------|-------|-----------|-------|-----------|-----------|

Strong Acid Leachable Metals, Batch B3B1304, Continued

| LCS (B3B1304-BS1), Continued | | | | Prepared: 2023-02-13, Analyzed: 2023-02-13 | | | | | |
|------------------------------|-------|-----------------|-------|--|-----|--------|--|--|--|
| Sulfur | 10300 | 1000 mg/kg dry | 10000 | | 103 | 80-120 | | | |
| Tellurium | 10.3 | 0.10 mg/kg dry | 10.0 | | 103 | 80-120 | | | |
| Thallium | 9.92 | 0.02 mg/kg dry | 10.0 | | 99 | 80-120 | | | |
| Thorium | 9.61 | 0.50 mg/kg dry | 10.0 | | 96 | 80-120 | | | |
| Tin | 10.6 | 0.05 mg/kg dry | 10.0 | | 106 | 80-120 | | | |
| Titanium | 10.6 | 1.0 mg/kg dry | 10.0 | | 106 | 80-120 | | | |
| Tungsten | 10.5 | 0.05 mg/kg dry | 10.0 | | 105 | 80-120 | | | |
| Uranium | 10.1 | 0.012 mg/kg dry | 10.0 | | 101 | 80-120 | | | |
| Vanadium | 9.8 | 0.2 mg/kg dry | 10.0 | | 98 | 80-120 | | | |
| Zinc | 9.8 | 0.5 mg/kg dry | 10.0 | | 98 | 80-120 | | | |
| Zirconium | 10.8 | 2.0 mg/kg dry | 10.0 | | 108 | 80-120 | | | |

| Reference (B3B1304-SRM1) | | | | Prepared: 2023-02-13, Analyzed: 2023-02-13 | | | | | |
|--------------------------|-------|-----------------|-------|--|-----|--------|--|--|--|
| Aluminum | 11400 | 40 mg/kg dry | 11300 | | 101 | 70-130 | | | |
| Antimony | 0.62 | 0.10 mg/kg dry | 0.710 | | 88 | 70-130 | | | |
| Arsenic | 85.5 | 0.30 mg/kg dry | 80.5 | | 106 | 70-130 | | | |
| Barium | 39.5 | 1.0 mg/kg dry | 39.2 | | 101 | 70-130 | | | |
| Beryllium | 0.39 | 0.10 mg/kg dry | 0.362 | | 109 | 70-130 | | | |
| Calcium | 5300 | 100 mg/kg dry | 5070 | | 105 | 70-130 | | | |
| Chromium | 66.7 | 1.0 mg/kg dry | 61.9 | | 108 | 70-130 | | | |
| Cobalt | 10.8 | 0.10 mg/kg dry | 10.2 | | 106 | 70-130 | | | |
| Copper | 21.1 | 0.40 mg/kg dry | 19.4 | | 109 | 70-130 | | | |
| Iron | 20300 | 20 mg/kg dry | 19800 | | 102 | 70-130 | | | |
| Lead | 17.2 | 0.20 mg/kg dry | 17.0 | | 101 | 70-130 | | | |
| Magnesium | 6010 | 10 mg/kg dry | 5970 | | 101 | 70-130 | | | |
| Manganese | 320 | 0.40 mg/kg dry | 309 | | 104 | 70-130 | | | |
| Mercury | 0.121 | 0.040 mg/kg dry | 0.108 | | 112 | 70-130 | | | |
| Molybdenum | 0.61 | 0.10 mg/kg dry | 0.607 | | 101 | 70-130 | | | |
| Nickel | 32.3 | 0.60 mg/kg dry | 31.1 | | 104 | 70-130 | | | |
| Phosphorus | 439 | 10 mg/kg dry | 412 | | 107 | 70-130 | | | |
| Silver | 1.50 | 0.10 mg/kg dry | 1.72 | | 87 | 70-130 | | | |
| Strontium | 20.6 | 0.20 mg/kg dry | 19.9 | | 103 | 70-130 | | | |
| Titanium | 690 | 1.0 mg/kg dry | 632 | | 109 | 70-130 | | | |
| Uranium | 1.18 | 0.050 mg/kg dry | 1.16 | | 102 | 70-130 | | | |
| Vanadium | 35.8 | 1.0 mg/kg dry | 32.8 | | 109 | 70-130 | | | |
| Zinc | 41.7 | 2.0 mg/kg dry | 39.4 | | 106 | 70-130 | | | |



CERTIFICATE OF ANALYSIS

| | | | |
|---------------------|---|---------------------------------|--|
| REPORTED TO | Lake Country, District of (Wastewater) 4062 Beaver Lake Rd LAKE COUNTRY, BC V4V 1T5 | WORK ORDER | 23B0986 |
| ATTENTION | Davin Larsen | RECEIVED / TEMP REPORTED | 2023-02-08 15:52 / 7.0°C 2023-02-16 11:58 |
| PO NUMBER | | COC NUMBER | 44965.3173 |
| PROJECT | Final Effluent- PE14651 | | |
| PROJECT INFO | Lake Country WWTP | | |

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>

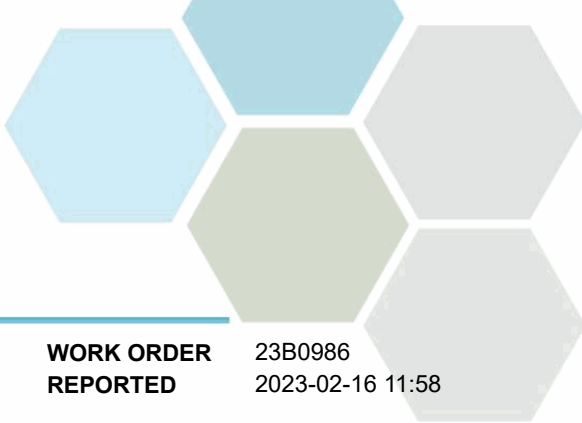
If you have any questions or concerns, please contact me at bwhitehead@caro.ca

Authorized By:

Brent Whitehead
Account Manager

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#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 Lake Country, District of (Wastewater)
Final Effluent- PE14651

WORK ORDER REPORTED 23B0986
2023-02-16 11:58

| Analyte | Result | RL | Units | Analyzed | Qualifier |
|---------|--------|----|-------|----------|-----------|
|---------|--------|----|-------|----------|-----------|

Final Effluent (E233626) (23B0986-01) | Matrix: Wastewater | Sampled: 2023-02-08 08:45

Anions

| | | | | | |
|------------------|--------|--------|------|------------|--|
| Chloride | 132 | 0.10 | mg/L | 2023-02-10 | |
| Nitrate (as N) | 0.993 | 0.010 | mg/L | 2023-02-10 | |
| Nitrite (as N) | 0.125 | 0.010 | mg/L | 2023-02-10 | |
| Phosphate (as P) | 0.0680 | 0.0050 | mg/L | 2023-02-10 | |

Calculated Parameters

| | | | | | |
|------------------------|------|--------|------|-----|--|
| Nitrate+Nitrite (as N) | 1.12 | 0.0100 | mg/L | N/A | |
| Nitrogen, Total | 4.55 | 0.0500 | mg/L | N/A | |

General Parameters

| | | | | | |
|--|-------|--------|----------|------------|-----|
| Alkalinity, Total (as CaCO3) | 2.0 | 1.0 | mg/L | 2023-02-13 | |
| Alkalinity, Phenolphthalein (as CaCO3) | < 1.0 | 1.0 | mg/L | 2023-02-13 | |
| Alkalinity, Bicarbonate (as CaCO3) | 2.0 | 1.0 | mg/L | 2023-02-13 | |
| Alkalinity, Carbonate (as CaCO3) | < 1.0 | 1.0 | mg/L | 2023-02-13 | |
| Alkalinity, Hydroxide (as CaCO3) | < 1.0 | 1.0 | mg/L | 2023-02-13 | |
| Ammonia, Total (as N) | 1.57 | 0.050 | mg/L | 2023-02-10 | |
| BOD, 5-day Carbonaceous | 8.7 | 2.0 | mg/L | 2023-02-14 | |
| Nitrogen, Total Kjeldahl | 3.43 | 0.050 | mg/L | 2023-02-12 | |
| pH | 6.05 | 0.10 | pH units | 2023-02-13 | HT2 |
| Phosphorus, Total (as P) | 0.435 | 0.0050 | mg/L | 2023-02-10 | |
| Solids, Total Suspended | 4.4 | 2.0 | mg/L | 2023-02-15 | |

Microbiological Parameters

| | | | | | |
|---------------------------|----------|---|------------|------------|--|
| Coliforms, Total (Q-Tray) | > 242000 | 1 | MPN/100 mL | 2023-02-09 | |
| Coliforms, Fecal (Q-Tray) | 64900 | 1 | MPN/100 mL | 2023-02-09 | |

Field Blank (23B0986-02) | Matrix: Water | Sampled: 2023-02-08 09:00

Anions

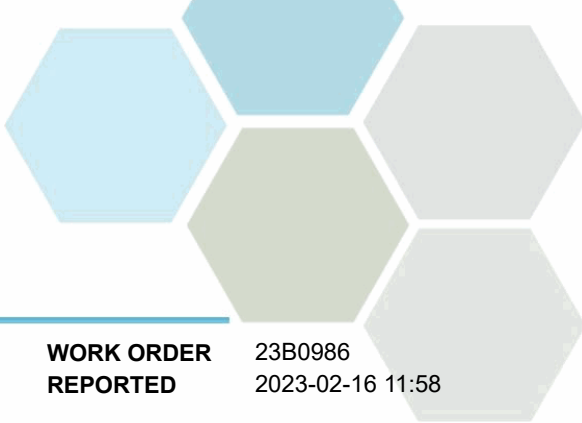
| | | | | | |
|------------------|----------|--------|------|------------|--|
| Chloride | < 0.10 | 0.10 | mg/L | 2023-02-10 | |
| Nitrate (as N) | < 0.010 | 0.010 | mg/L | 2023-02-10 | |
| Nitrite (as N) | < 0.010 | 0.010 | mg/L | 2023-02-10 | |
| Phosphate (as P) | < 0.0050 | 0.0050 | mg/L | 2023-02-10 | |

Calculated Parameters

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

General Parameters

| | | | | | |
|--|-------|-----|------|------------|--|
| Alkalinity, Total (as CaCO3) | 2.5 | 1.0 | mg/L | 2023-02-13 | |
| Alkalinity, Phenolphthalein (as CaCO3) | < 1.0 | 1.0 | mg/L | 2023-02-13 | |
| Alkalinity, Bicarbonate (as CaCO3) | 2.5 | 1.0 | mg/L | 2023-02-13 | |
| Alkalinity, Carbonate (as CaCO3) | < 1.0 | 1.0 | mg/L | 2023-02-13 | |
| Alkalinity, Hydroxide (as CaCO3) | < 1.0 | 1.0 | mg/L | 2023-02-13 | |



TEST RESULTS

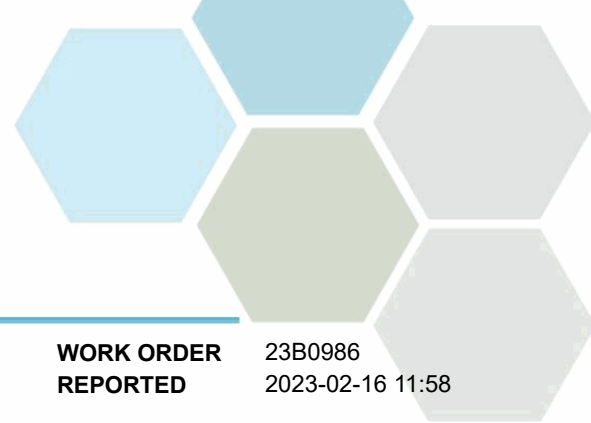
REPORTED TO PROJECT Lake Country, District of (Wastewater)
Final Effluent- PE14651

WORK ORDER REPORTED 23B0986
2023-02-16 11:58

| Analyte | Result | RL | Units | Analyzed | Qualifier |
|--|-------------|--------|------------|------------|-----------|
| Field Blank (23B0986-02) Matrix: Water Sampled: 2023-02-08 09:00, Continued | | | | | |
| <i>General Parameters, Continued</i> | | | | | |
| Ammonia, Total (as N) | < 0.050 | 0.050 | mg/L | 2023-02-10 | |
| BOD, 5-day Carbonaceous | < 4.2 | 2.0 | mg/L | 2023-02-14 | |
| Nitrogen, Total Kjeldahl | < 0.050 | 0.050 | mg/L | 2023-02-12 | |
| pH | 6.26 | 0.10 | pH units | 2023-02-13 | HT2 |
| Phosphorus, Total (as P) | < 0.0050 | 0.0050 | mg/L | 2023-02-10 | |
| Solids, Total Suspended | < 2.0 | 2.0 | mg/L | 2023-02-15 | |
| <i>Microbiological Parameters</i> | | | | | |
| Coliforms, Total (Q-Tray) | < 1 | 1 | MPN/100 mL | 2023-02-09 | |
| Coliforms, Fecal (Q-Tray) | < 1 | 1 | MPN/100 mL | 2023-02-09 | |

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 Lake Country, District of (Wastewater)
Final Effluent- PE14651

WORK ORDER REPORTED 23B0986
2023-02-16 11:58

| Analysis Description | Method Ref. | Technique | Accredited | Location |
|--|---|--|------------|----------|
| Alkalinity in Water | SM 2320 B* (2021) | Titration with H2SO4 | ✓ | Kelowna |
| Ammonia, Total in Water | SM 4500-NH3 G* (2021) | Automated Colorimetry (Phenate) | ✓ | Kelowna |
| Anions in Water | SM 4110 B (2020) | Ion Chromatography | ✓ | Kelowna |
| Biochemical Oxygen Demand, Carbonaceous in Water | SM 5210 B (2019) | Dissolved Oxygen Meter | ✓ | Kelowna |
| Coliforms, Fecal in Water | NA / SM 9223 (2016) | Quanti-Tray / Enzyme Substrate Endo Agar | ✓ | Kelowna |
| Coliforms, Total in Water | NA / SM 9223 (2016) | Quanti-Tray / Enzyme Substrate Endo Agar | ✓ | Kelowna |
| Nitrogen, Total Kjeldahl in Water | SM 4500-Norg D* (2021) | Block Digestion and Flow Injection Analysis | ✓ | Kelowna |
| pH in Water | SM 4500-H+ B (2021) | Electrometry | ✓ | Kelowna |
| Phosphorus, Total in Water | SM 4500-P B.5* (2011) / SM 4500-P F (2021) | Persulfate Digestion / Automated Colorimetry (Ascorbic Acid) | ✓ | Kelowna |
| Solids, Total Suspended in Water | Solids in Water, Filtered / SM 2540 D* (2020) | Solids in Water, Filtered / Gravimetry (Dried at 103-105C) | ✓ | Kelowna |

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

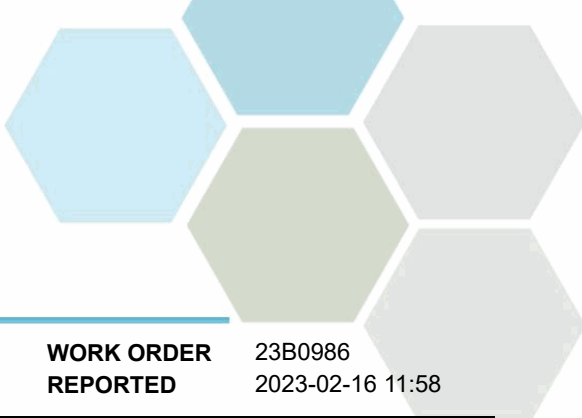
Glossary of Terms:

| | |
|------------|---|
| RL | Reporting Limit (default) |
| < | Less than the specified Reporting Limit (RL) - the actual RL may be higher than the default RL due to various factors |
| > | 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 |
| SM | Standard Methods for the Examination of Water and Wastewater, American Public Health Association |

General Comments:

The results in this report apply to the received 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. Caro will dispose of all samples within 30 days of sample receipt, unless otherwise agreed.

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APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater)
Final Effluent- PE14651

WORK ORDER REPORTED 23B0986
2023-02-16 11:58

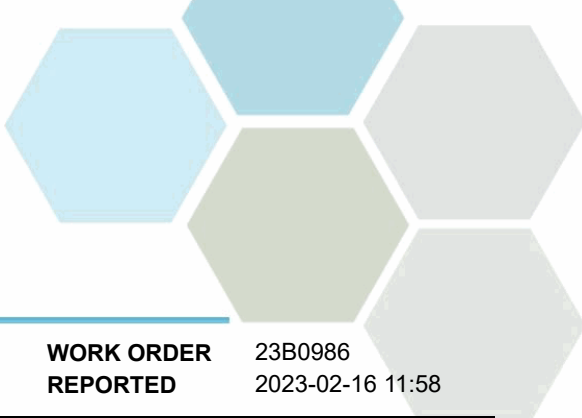
The following section displays the quality control (QC) data that is associated with your sample data. Groups of samples are prepared in "batches" and analyzed in conjunction with QC samples that ensure your data is of the highest quality. Common QC types include:

- **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 B3B0885 | | | | | | | | | |
| Blank (B3B0885-BLK1) | | | Prepared: 2023-02-09, Analyzed: 2023-02-09 | | | | | | |
| 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 | | | | | | | |
| Phosphate (as P) | < 0.0050 | 0.0050 mg/L | | | | | | | |
| Blank (B3B0885-BLK2) | | | Prepared: 2023-02-10, Analyzed: 2023-02-10 | | | | | | |
| 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 (B3B0885-BLK3) | | | Prepared: 2023-02-10, Analyzed: 2023-02-10 | | | | | | |
| 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 | | | | | | | |
| Phosphate (as P) | < 0.0050 | 0.0050 mg/L | | | | | | | |
| LCS (B3B0885-BS1) | | | Prepared: 2023-02-09, Analyzed: 2023-02-09 | | | | | | |
| Chloride | 16.0 | 0.10 mg/L | 16.0 | | 100 | 90-110 | | | |
| Nitrate (as N) | 3.95 | 0.010 mg/L | 4.00 | | 99 | 90-110 | | | |
| Nitrite (as N) | 2.07 | 0.010 mg/L | 2.00 | | 103 | 85-115 | | | |
| Phosphate (as P) | 1.05 | 0.0050 mg/L | 1.00 | | 105 | 80-120 | | | |
| LCS (B3B0885-BS2) | | | Prepared: 2023-02-10, Analyzed: 2023-02-10 | | | | | | |
| Chloride | 16.6 | 0.10 mg/L | 16.0 | | 104 | 90-110 | | | |
| Nitrate (as N) | 3.95 | 0.010 mg/L | 4.00 | | 99 | 90-110 | | | |
| Nitrite (as N) | 2.09 | 0.010 mg/L | 2.00 | | 104 | 85-115 | | | |
| LCS (B3B0885-BS3) | | | Prepared: 2023-02-10, Analyzed: 2023-02-10 | | | | | | |
| Chloride | 16.1 | 0.10 mg/L | 16.0 | | 100 | 90-110 | | | |
| Nitrate (as N) | 3.89 | 0.010 mg/L | 4.00 | | 97 | 90-110 | | | |
| Nitrite (as N) | 2.04 | 0.010 mg/L | 2.00 | | 102 | 85-115 | | | |
| Phosphate (as P) | 1.00 | 0.0050 mg/L | 1.00 | | 100 | 80-120 | | | |

General Parameters, Batch B3B0956

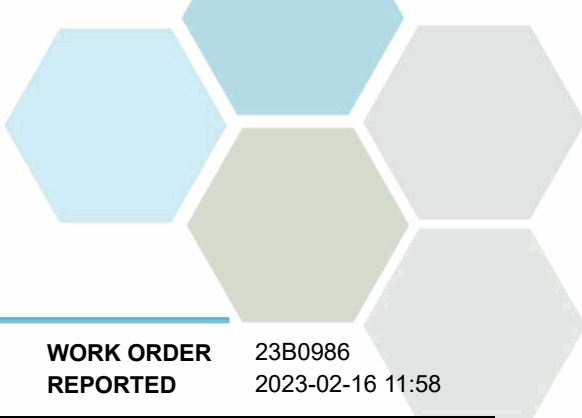


APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater)
Final Effluent- PE14651

WORK ORDER REPORTED 23B0986
2023-02-16 11:58

| Analyte | Result | RL Units | Spike Level | Source Result | % REC | REC Limit | % RPD | RPD Limit | Qualifier |
|---|----------|-------------|--|---------------|-------|-----------|-------|-----------|-----------|
| General Parameters, Batch B3B0956, Continued | | | | | | | | | |
| Blank (B3B0956-BLK1) | | | Prepared: 2023-02-09, Analyzed: 2023-02-14 | | | | | | |
| BOD, 5-day Carbonaceous | < 2.0 | 2.0 mg/L | | | | | | | |
| LCS (B3B0956-BS1) | | | Prepared: 2023-02-09, Analyzed: 2023-02-14 | | | | | | |
| BOD, 5-day Carbonaceous | 153 | 34.9 mg/L | 198 | | 77 | 85-115 | | | SPK1 |
| General Parameters, Batch B3B0999 | | | | | | | | | |
| Blank (B3B0999-BLK1) | | | Prepared: 2023-02-09, Analyzed: 2023-02-10 | | | | | | |
| Phosphorus, Total (as P) | < 0.0050 | 0.0050 mg/L | | | | | | | |
| Blank (B3B0999-BLK2) | | | Prepared: 2023-02-09, Analyzed: 2023-02-10 | | | | | | |
| Phosphorus, Total (as P) | < 0.0050 | 0.0050 mg/L | | | | | | | |
| Blank (B3B0999-BLK3) | | | Prepared: 2023-02-09, Analyzed: 2023-02-10 | | | | | | |
| Phosphorus, Total (as P) | < 0.0050 | 0.0050 mg/L | | | | | | | |
| LCS (B3B0999-BS1) | | | Prepared: 2023-02-09, Analyzed: 2023-02-10 | | | | | | |
| Phosphorus, Total (as P) | 0.110 | 0.0050 mg/L | 0.100 | | 110 | 85-115 | | | |
| LCS (B3B0999-BS2) | | | Prepared: 2023-02-09, Analyzed: 2023-02-10 | | | | | | |
| Phosphorus, Total (as P) | 0.110 | 0.0050 mg/L | 0.100 | | 110 | 85-115 | | | |
| LCS (B3B0999-BS3) | | | Prepared: 2023-02-09, Analyzed: 2023-02-10 | | | | | | |
| Phosphorus, Total (as P) | 0.110 | 0.0050 mg/L | 0.100 | | 110 | 85-115 | | | |
| General Parameters, Batch B3B1070 | | | | | | | | | |
| Blank (B3B1070-BLK1) | | | Prepared: 2023-02-10, Analyzed: 2023-02-10 | | | | | | |
| Ammonia, Total (as N) | < 0.050 | 0.050 mg/L | | | | | | | |
| Blank (B3B1070-BLK2) | | | Prepared: 2023-02-10, Analyzed: 2023-02-10 | | | | | | |
| Ammonia, Total (as N) | < 0.050 | 0.050 mg/L | | | | | | | |
| Blank (B3B1070-BLK3) | | | Prepared: 2023-02-10, Analyzed: 2023-02-10 | | | | | | |
| Ammonia, Total (as N) | < 0.050 | 0.050 mg/L | | | | | | | |
| LCS (B3B1070-BS1) | | | Prepared: 2023-02-10, Analyzed: 2023-02-10 | | | | | | |
| Ammonia, Total (as N) | 1.00 | 0.050 mg/L | 1.00 | | 100 | 85-115 | | | |
| LCS (B3B1070-BS2) | | | Prepared: 2023-02-10, Analyzed: 2023-02-10 | | | | | | |
| Ammonia, Total (as N) | 0.997 | 0.050 mg/L | 1.00 | | 100 | 85-115 | | | |
| LCS (B3B1070-BS3) | | | Prepared: 2023-02-10, Analyzed: 2023-02-10 | | | | | | |
| Ammonia, Total (as N) | 0.990 | 0.050 mg/L | 1.00 | | 99 | 85-115 | | | |
| General Parameters, Batch B3B1084 | | | | | | | | | |
| Blank (B3B1084-BLK1) | | | Prepared: 2023-02-10, Analyzed: 2023-02-12 | | | | | | |
| Nitrogen, Total Kjeldahl | < 0.050 | 0.050 mg/L | | | | | | | |
| Blank (B3B1084-BLK2) | | | Prepared: 2023-02-10, Analyzed: 2023-02-12 | | | | | | |
| Nitrogen, Total Kjeldahl | < 0.050 | 0.050 mg/L | | | | | | | |
| LCS (B3B1084-BS1) | | | Prepared: 2023-02-10, Analyzed: 2023-02-12 | | | | | | |
| Nitrogen, Total Kjeldahl | 1.07 | 0.050 mg/L | 1.00 | | 107 | 85-115 | | | |



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater)
Final Effluent- PE14651

WORK ORDER REPORTED 23B0986
2023-02-16 11:58

| Analyte | Result | RL Units | Spike Level | Source Result | % REC | REC Limit | % RPD | RPD Limit | Qualifier |
|---|--------|---------------|--|---------------|--|-----------|-------|-----------|-----------|
| General Parameters, Batch B3B1084, Continued | | | | | | | | | |
| LCS (B3B1084-BS2) | | | Prepared: 2023-02-10, Analyzed: 2023-02-12 | | | | | | |
| Nitrogen, Total Kjeldahl | 1.06 | 0.050 mg/L | 1.00 | | 106 | 85-115 | | | |
| General Parameters, Batch B3B1215 | | | | | | | | | |
| Blank (B3B1215-BLK1) | | | Prepared: 2023-02-12, Analyzed: 2023-02-12 | | | | | | |
| Alkalinity, Total (as CaCO ₃) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Phenolphthalein (as CaCO ₃) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Bicarbonate (as CaCO ₃) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Carbonate (as CaCO ₃) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Hydroxide (as CaCO ₃) | < 1.0 | 1.0 mg/L | | | | | | | |
| Blank (B3B1215-BLK2) | | | Prepared: 2023-02-13, Analyzed: 2023-02-13 | | | | | | |
| Alkalinity, Total (as CaCO ₃) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Phenolphthalein (as CaCO ₃) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Bicarbonate (as CaCO ₃) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Carbonate (as CaCO ₃) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Hydroxide (as CaCO ₃) | < 1.0 | 1.0 mg/L | | | | | | | |
| LCS (B3B1215-BS1) | | | Prepared: 2023-02-12, Analyzed: 2023-02-12 | | | | | | |
| Alkalinity, Total (as CaCO ₃) | 93.6 | 1.0 mg/L | 100 | | 94 | 80-120 | | | |
| LCS (B3B1215-BS2) | | | Prepared: 2023-02-13, Analyzed: 2023-02-13 | | | | | | |
| Alkalinity, Total (as CaCO ₃) | 88.2 | 1.0 mg/L | 100 | | 88 | 80-120 | | | |
| Reference (B3B1215-SRM1) | | | Prepared: 2023-02-12, Analyzed: 2023-02-12 | | | | | | |
| pH | 7.03 | 0.10 pH units | 7.01 | | 100 | 98-102 | | | |
| Reference (B3B1215-SRM2) | | | Prepared: 2023-02-13, Analyzed: 2023-02-13 | | | | | | |
| pH | 7.01 | 0.10 pH units | 7.01 | | 100 | 98-102 | | | |
| General Parameters, Batch B3B1495 | | | | | | | | | |
| Blank (B3B1495-BLK1) | | | Prepared: 2023-02-15, Analyzed: 2023-02-15 | | | | | | |
| Solids, Total Suspended | < 2.0 | 2.0 mg/L | | | | | | | |
| LCS (B3B1495-BS1) | | | Prepared: 2023-02-15, Analyzed: 2023-02-15 | | | | | | |
| Solids, Total Suspended | 90.0 | 10.0 mg/L | 100 | | 90 | 85-115 | | | |
| Microbiological Parameters, Batch B3B0932 | | | | | | | | | |
| Blank (B3B0932-BLK1) | | | Prepared: 2023-02-09, Analyzed: 2023-02-09 | | | | | | |
| Coliforms, Total (Q-Tray) | < 1 | 1 MPN/100 mL | | | | | | | |
| Blank (B3B0932-BLK2) | | | Prepared: 2023-02-09, Analyzed: 2023-02-09 | | | | | | |
| Coliforms, Fecal (Q-Tray) | < 1 | 1 MPN/100 mL | | | | | | | |
| Duplicate (B3B0932-DUP1) | | | Source: 23B0986-02 | | Prepared: 2023-02-09, Analyzed: 2023-02-09 | | | | |
| Coliforms, Total (Q-Tray) | < 1 | 1 MPN/100 mL | | < 1 | | | | 80 | |

QC Qualifiers:

SPK1 The recovery of this analyte was outside of established control limits. The data was accepted based on performance of other batch QC.



CERTIFICATE OF ANALYSIS

| | | | |
|---------------------|---|---------------------------------|---|
| REPORTED TO | Lake Country, District of (Wastewater) 4062 Beaver Lake Rd LAKE COUNTRY, BC V4V 1T5 | WORK ORDER | 23C2356 |
| ATTENTION | Davin Larsen | RECEIVED / TEMP REPORTED | 2023-03-21 11:27 / 13.4°C 2023-03-28 14:03 |
| PO NUMBER | | COC NUMBER | 45006.37738 |
| PROJECT | BioSolids- PE14651 | | |
| PROJECT INFO | Lake Country WWTP | | |

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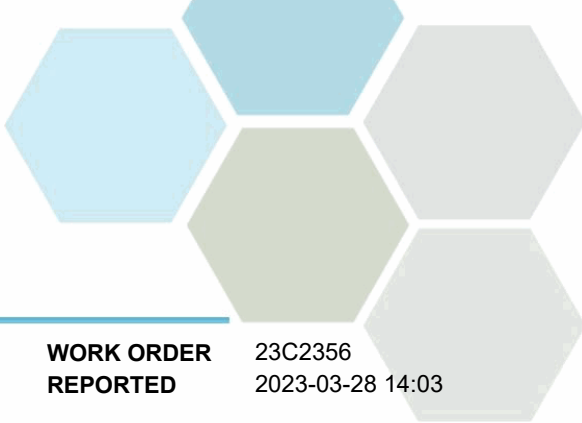
If you have any questions or concerns, please contact me at bwhitehead@caro.ca

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 Lake Country, District of (Wastewater)
BioSolids- PE14651

WORK ORDER REPORTED 23C2356
2023-03-28 14:03

| Analyte | Result | RL | Units | Analyzed | Qualifier |
|---------|--------|----|-------|----------|-----------|
|---------|--------|----|-------|----------|-----------|

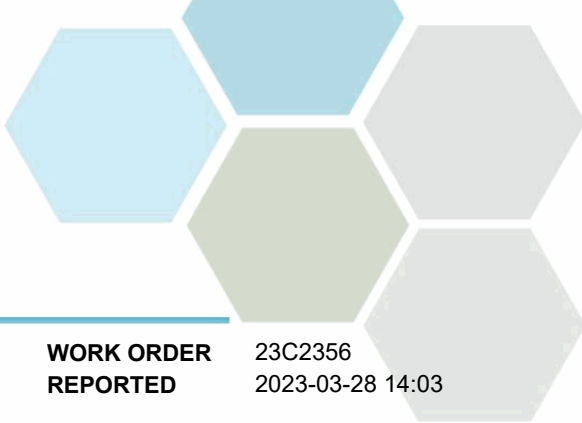
Biosolids (E233628) (23C2356-01) | Matrix: Sludge | Sampled: 2023-03-21 10:25

General Parameters

| | | | | | |
|--------------------------|------|--------|----------|------------|-----|
| Moisture | 77.3 | 1.0 | % wet | 2023-03-23 | |
| Nitrogen, Total Kjeldahl | 4.65 | 0.0004 | % dry | 2023-03-28 | |
| pH (1:2 H2O Solution) | 5.53 | 0.10 | pH units | 2023-03-27 | PH1 |
| Solids, Total | 22.7 | 0.1 | % wet | 2023-03-23 | |
| Solids, Volatile | 87.8 | 0.1 | % dry | 2023-03-23 | |

Strong Acid Leachable Metals

| | | | | | |
|------------|--------|-------|-----------|------------|--|
| Aluminum | 1750 | 40 | mg/kg dry | 2023-03-27 | |
| Antimony | 1.36 | 0.10 | mg/kg dry | 2023-03-27 | |
| Arsenic | 1.85 | 0.30 | mg/kg dry | 2023-03-27 | |
| Barium | 80.2 | 1.0 | mg/kg dry | 2023-03-27 | |
| Beryllium | < 0.10 | 0.10 | mg/kg dry | 2023-03-27 | |
| Bismuth | 22.9 | 0.10 | mg/kg dry | 2023-03-27 | |
| Boron | 10.2 | 2.0 | mg/kg dry | 2023-03-27 | |
| Cadmium | 0.779 | 0.040 | mg/kg dry | 2023-03-27 | |
| Calcium | 13100 | 100 | mg/kg dry | 2023-03-27 | |
| Chromium | 10.1 | 1.0 | mg/kg dry | 2023-03-27 | |
| Cobalt | 1.34 | 0.10 | mg/kg dry | 2023-03-27 | |
| Copper | 287 | 0.40 | mg/kg dry | 2023-03-27 | |
| Iron | 4010 | 20.0 | mg/kg dry | 2023-03-27 | |
| Lead | 6.36 | 0.20 | mg/kg dry | 2023-03-27 | |
| Lithium | 1.30 | 0.10 | mg/kg dry | 2023-03-27 | |
| Magnesium | 3290 | 10 | mg/kg dry | 2023-03-27 | |
| Manganese | 77.6 | 0.40 | mg/kg dry | 2023-03-27 | |
| Mercury | 0.354 | 0.040 | mg/kg dry | 2023-03-27 | |
| Molybdenum | 9.17 | 0.10 | mg/kg dry | 2023-03-27 | |
| Nickel | 9.15 | 0.60 | mg/kg dry | 2023-03-27 | |
| Phosphorus | 11800 | 10 | mg/kg dry | 2023-03-27 | |
| Potassium | 4310 | 40 | mg/kg dry | 2023-03-27 | |
| Selenium | 3.28 | 0.20 | mg/kg dry | 2023-03-27 | |
| Silver | 1.28 | 0.10 | mg/kg dry | 2023-03-27 | |
| Sodium | 903 | 50 | mg/kg dry | 2023-03-27 | |
| Strontium | 54.3 | 0.20 | mg/kg dry | 2023-03-27 | |
| Sulfur | 6320 | 1000 | mg/kg dry | 2023-03-27 | |
| Tellurium | < 0.10 | 0.10 | mg/kg dry | 2023-03-27 | |
| Thallium | < 0.10 | 0.10 | mg/kg dry | 2023-03-27 | |
| Thorium | < 0.50 | 0.50 | mg/kg dry | 2023-03-27 | |
| Tin | 12.1 | 0.20 | mg/kg dry | 2023-03-27 | |
| Titanium | 49.1 | 1.0 | mg/kg dry | 2023-03-27 | |
| Tungsten | 0.66 | 0.20 | mg/kg dry | 2023-03-27 | |
| Uranium | 8.14 | 0.050 | mg/kg dry | 2023-03-27 | |
| Vanadium | 5.9 | 1.0 | mg/kg dry | 2023-03-27 | |
| Zinc | 564 | 2.0 | mg/kg dry | 2023-03-27 | |



TEST RESULTS

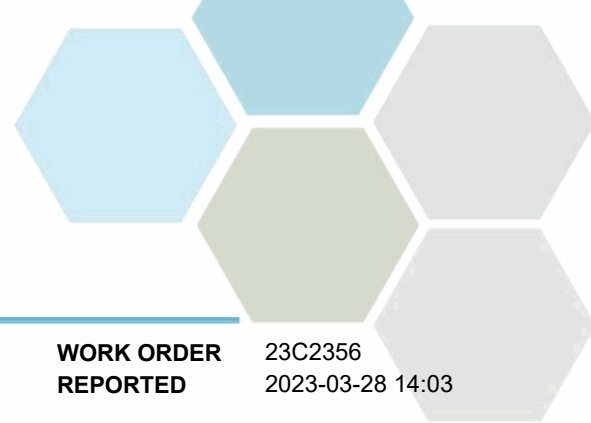
REPORTED TO PROJECT Lake Country, District of (Wastewater)
BioSolids- PE14651

WORK ORDER REPORTED 23C2356
2023-03-28 14:03

| Analyte | Result | RL | Units | Analyzed | Qualifier |
|---|--------|-----|-----------|------------|-----------|
| Biosolids (E233628) (23C2356-01) Matrix: Sludge Sampled: 2023-03-21 10:25, Continued | | | | | |
| <i>Strong Acid Leachable Metals, Continued</i> | | | | | |
| Zirconium | 2.4 | 2.0 | mg/kg dry | 2023-03-27 | |

Sample Qualifiers:

PH1 The ratio of water to soil was greater than 2:1 due to limited sample volume or matrix



APPENDIX 1: SUPPORTING INFORMATION

REPORTED TO PROJECT Lake Country, District of (Wastewater)
BioSolids- PE14651

WORK ORDER REPORTED 23C2356
2023-03-28 14:03

| Analysis Description | Method Ref. | Technique | Accredited | Location |
|-----------------------------------|-------------------------------------|---|------------|----------|
| Moisture in Solid | ASTM D2974-87* | Gravimetry (Dried at 105C) | | N/A |
| Nitrogen, Total Kjeldahl in Solid | SM 4500-Norg D* (2021) | Block Digestion and Flow Injection Analysis | ✓ | Kelowna |
| pH in Solid | Carter 16.2 / SM 4500-H+ B (2021) | 1:2 Soil/Water Slurry / Electrometry | | Kelowna |
| SALM in Solid | BCMOE SALM V.2 / EPA 6020B | HNO ₃ +HCl Hot Block Digestion / Inductively Coupled Plasma-Mass Spectroscopy (ICP-MS) | ✓ | Richmond |
| Solids, Total in Solid | Solids in Solids / SM 2540 G (2020) | Solids in Solids / Gravimetry | | Kelowna |
| Solids, Volatile in Solid | Solids in Solids / SM 2540 G (2020) | Solids in Solids / Gravimetry | | Kelowna |

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

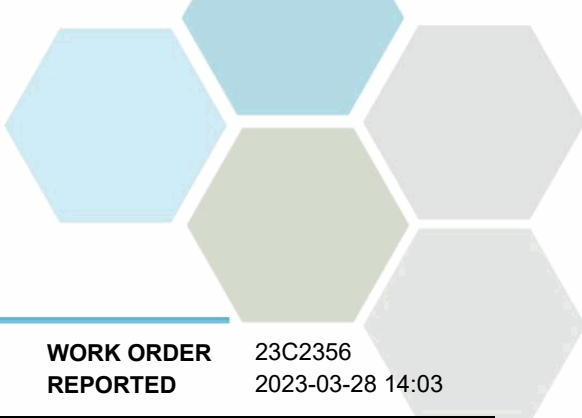
Glossary of Terms:

| | |
|-----------|---|
| RL | Reporting Limit (default) |
| % dry | Percent (dry weight basis) |
| % wet | Percent (as received basis) |
| < | Less than the specified Reporting Limit (RL) - the actual RL may be higher than the default RL due to various factors |
| mg/kg dry | Milligrams per kilogram (dry weight basis) |
| pH units | pH < 7 = acidic, pH > 7 = basic |
| ASTM | ASTM International Test Methods |
| EPA | United States Environmental Protection Agency Test Methods |
| SM | Standard Methods for the Examination of Water and Wastewater, American Public Health Association |

General Comments:

The results in this report apply to the received 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. Caro will dispose of all samples within 30 days of sample receipt, unless otherwise agreed.

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APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater)
BioSolids- PE14651

WORK ORDER REPORTED 23C2356
2023-03-28 14:03

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 |
|---------|--------|----------|-------------|---------------|-------|-----------|-------|-----------|-----------|
|---------|--------|----------|-------------|---------------|-------|-----------|-------|-----------|-----------|

General Parameters, Batch B3C2262

| Duplicate (B3C2262-DUP1) | | Source: 23C2356-01 | | Prepared: 2023-03-23, Analyzed: 2023-03-23 | | | | | |
|--------------------------|------|--------------------|-------|--|--|--|------|-----|--|
| Moisture | 99.0 | 1.0 | % wet | 77.3 | | | 24.6 | 40 | |
| Solids, Total | 22.5 | 0.1 | % wet | 22.7 | | | < 1 | 7.5 | |
| Solids, Volatile | 87.8 | 0.1 | % dry | 87.8 | | | < 1 | 9 | |

| Reference (B3C2262-SRM1) | | Prepared: 2023-03-23, Analyzed: 2023-03-23 | | | | | | | |
|--------------------------|------|--|-------|------|-----|--------|--|--|--|
| Moisture | 99.0 | 1.0 | % wet | 13.0 | 100 | 80-120 | | | |
| Solids, Total | 87.1 | 0.1 | % wet | 87.0 | 100 | 80-120 | | | |
| Solids, Volatile | 2.6 | 0.1 | % dry | 2.58 | 100 | 80-200 | | | |

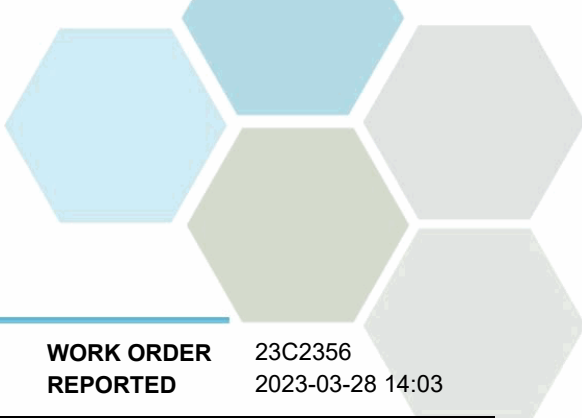
General Parameters, Batch B3C2764

| Blank (B3C2764-BLK1) | | Prepared: 2023-03-27, Analyzed: 2023-03-28 | | | | | | | |
|--------------------------|---------|--|-------|--|--|--|--|--|--|
| Nitrogen, Total Kjeldahl | < 0.010 | 0.010 | % wet | | | | | | |

| Reference (B3C2764-SRM1) | | Prepared: 2023-03-27, Analyzed: 2023-03-28 | | | | | | | |
|--------------------------|-------|--|-------|-------|----|----------|--|--|--|
| Nitrogen, Total Kjeldahl | 0.191 | 0.010 | % wet | 0.197 | 97 | 58.8-150 | | | |

Strong Acid Leachable Metals, Batch B3C2770

| Blank (B3C2770-BLK1) | | Prepared: 2023-03-27, Analyzed: 2023-03-27 | | | | | | | |
|----------------------|---------|--|-----------|--|--|--|--|--|--|
| Aluminum | < 40 | 40 | mg/kg dry | | | | | | |
| Antimony | < 0.10 | 0.10 | mg/kg dry | | | | | | |
| Arsenic | < 0.30 | 0.30 | mg/kg dry | | | | | | |
| Barium | < 1.0 | 1.0 | mg/kg dry | | | | | | |
| Beryllium | < 0.10 | 0.10 | mg/kg dry | | | | | | |
| Bismuth | < 0.10 | 0.10 | mg/kg dry | | | | | | |
| Boron | < 2.0 | 2.0 | mg/kg dry | | | | | | |
| Cadmium | < 0.040 | 0.040 | mg/kg dry | | | | | | |
| Calcium | < 100 | 100 | mg/kg dry | | | | | | |
| Chromium | < 1.0 | 1.0 | mg/kg dry | | | | | | |
| Cobalt | < 0.10 | 0.10 | mg/kg dry | | | | | | |
| Copper | < 0.40 | 0.40 | mg/kg dry | | | | | | |
| Iron | < 20.0 | 20.0 | mg/kg dry | | | | | | |
| Lead | < 0.20 | 0.20 | mg/kg dry | | | | | | |
| Lithium | < 0.10 | 0.10 | mg/kg dry | | | | | | |



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater)
BioSolids- PE14651

WORK ORDER REPORTED 23C2356
2023-03-28 14:03

| Analyte | Result | RL Units | Spike Level | Source Result | % REC | REC Limit | % RPD | RPD Limit | Qualifier |
|---------|--------|----------|-------------|---------------|-------|-----------|-------|-----------|-----------|
|---------|--------|----------|-------------|---------------|-------|-----------|-------|-----------|-----------|

Strong Acid Leachable Metals, Batch B3C2770, Continued

Blank (B3C2770-BLK1), Continued

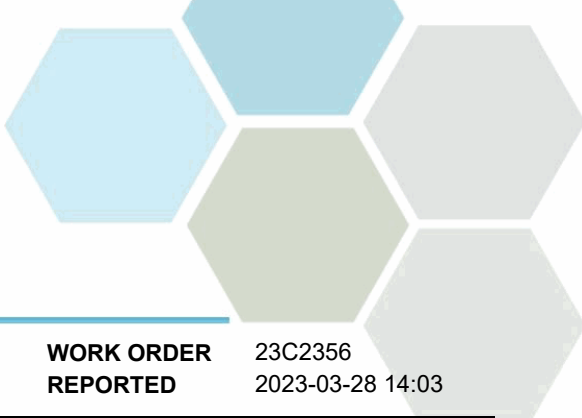
Prepared: 2023-03-27, Analyzed: 2023-03-27

| | | | | | | | | | |
|------------|---------|-----------------|--|--|--|--|--|--|--|
| Magnesium | < 10 | 10 mg/kg dry | | | | | | | |
| Manganese | < 0.40 | 0.40 mg/kg dry | | | | | | | |
| Mercury | < 0.040 | 0.040 mg/kg dry | | | | | | | |
| Molybdenum | < 0.10 | 0.10 mg/kg dry | | | | | | | |
| Nickel | < 0.60 | 0.60 mg/kg dry | | | | | | | |
| Phosphorus | < 10 | 10 mg/kg dry | | | | | | | |
| Potassium | < 40 | 40 mg/kg dry | | | | | | | |
| Selenium | < 0.20 | 0.20 mg/kg dry | | | | | | | |
| Silver | < 0.10 | 0.10 mg/kg dry | | | | | | | |
| Sodium | < 50 | 50 mg/kg dry | | | | | | | |
| Strontium | < 0.20 | 0.20 mg/kg dry | | | | | | | |
| Sulfur | < 1000 | 1000 mg/kg dry | | | | | | | |
| Tellurium | < 0.10 | 0.10 mg/kg dry | | | | | | | |
| Thallium | < 0.10 | 0.10 mg/kg dry | | | | | | | |
| Thorium | < 0.50 | 0.50 mg/kg dry | | | | | | | |
| Tin | < 0.20 | 0.20 mg/kg dry | | | | | | | |
| Titanium | < 1.0 | 1.0 mg/kg dry | | | | | | | |
| Tungsten | < 0.20 | 0.20 mg/kg dry | | | | | | | |
| Uranium | < 0.050 | 0.050 mg/kg dry | | | | | | | |
| Vanadium | < 1.0 | 1.0 mg/kg dry | | | | | | | |
| Zinc | < 2.0 | 2.0 mg/kg dry | | | | | | | |
| Zirconium | < 2.0 | 2.0 mg/kg dry | | | | | | | |

LCS (B3C2770-BS1)

Prepared: 2023-03-27, Analyzed: 2023-03-28

| | | | | | | | | | |
|------------|-------|-----------------|-------|--|-----|--------|--|--|--|
| Aluminum | 1190 | 40 mg/kg dry | 1000 | | 119 | 80-120 | | | |
| Antimony | 9.46 | 0.10 mg/kg dry | 10.0 | | 95 | 80-120 | | | |
| Arsenic | 9.75 | 0.30 mg/kg dry | 10.0 | | 97 | 80-120 | | | |
| Barium | 11.3 | 1.0 mg/kg dry | 10.0 | | 113 | 80-120 | | | |
| Beryllium | 10.0 | 0.10 mg/kg dry | 10.0 | | 100 | 80-120 | | | |
| Bismuth | 9.37 | 0.10 mg/kg dry | 10.0 | | 94 | 80-120 | | | |
| Boron | 10.2 | 2.0 mg/kg dry | 10.0 | | 102 | 80-120 | | | |
| Cadmium | 9.97 | 0.040 mg/kg dry | 10.0 | | 100 | 80-120 | | | |
| Calcium | 1100 | 100 mg/kg dry | 1000 | | 110 | 80-120 | | | |
| Chromium | 10.5 | 1.0 mg/kg dry | 10.0 | | 105 | 80-120 | | | |
| Cobalt | 10.2 | 0.10 mg/kg dry | 10.0 | | 102 | 80-120 | | | |
| Copper | 10.6 | 0.40 mg/kg dry | 10.0 | | 106 | 80-120 | | | |
| Iron | 1020 | 20.0 mg/kg dry | 1000 | | 102 | 80-120 | | | |
| Lead | 10.3 | 0.20 mg/kg dry | 10.0 | | 103 | 80-120 | | | |
| Lithium | 9.94 | 0.10 mg/kg dry | 10.0 | | 99 | 80-120 | | | |
| Magnesium | 1090 | 10 mg/kg dry | 1000 | | 109 | 80-120 | | | |
| Manganese | 10.1 | 0.40 mg/kg dry | 10.0 | | 101 | 80-120 | | | |
| Mercury | 0.952 | 0.040 mg/kg dry | 1.00 | | 95 | 80-120 | | | |
| Molybdenum | 9.34 | 0.10 mg/kg dry | 10.0 | | 93 | 80-120 | | | |
| Nickel | 10.3 | 0.60 mg/kg dry | 10.0 | | 103 | 80-120 | | | |
| Phosphorus | 1020 | 10 mg/kg dry | 1000 | | 102 | 80-120 | | | |
| Potassium | 1030 | 40 mg/kg dry | 1000 | | 103 | 80-120 | | | |
| Selenium | 9.86 | 0.20 mg/kg dry | 10.0 | | 99 | 80-120 | | | |
| Silver | 9.99 | 0.10 mg/kg dry | 10.0 | | 100 | 80-120 | | | |
| Sodium | 1010 | 50 mg/kg dry | 1000 | | 101 | 80-120 | | | |
| Strontium | 10.9 | 0.20 mg/kg dry | 10.0 | | 109 | 80-120 | | | |
| Sulfur | 10100 | 1000 mg/kg dry | 10000 | | 101 | 80-120 | | | |
| Tellurium | 9.29 | 0.10 mg/kg dry | 10.0 | | 93 | 80-120 | | | |
| Thallium | 10.1 | 0.10 mg/kg dry | 10.0 | | 101 | 80-120 | | | |
| Thorium | 10.0 | 0.50 mg/kg dry | 10.0 | | 100 | 80-120 | | | |
| Tin | 9.54 | 0.20 mg/kg dry | 10.0 | | 95 | 80-120 | | | |
| Titanium | 9.9 | 1.0 mg/kg dry | 10.0 | | 99 | 80-120 | | | |



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater)
BioSolids- PE14651

WORK ORDER REPORTED 23C2356
2023-03-28 14:03

| Analyte | Result | RL Units | Spike Level | Source Result | % REC | REC Limit | % RPD | RPD Limit | Qualifier |
|---------|--------|----------|-------------|---------------|-------|-----------|-------|-----------|-----------|
|---------|--------|----------|-------------|---------------|-------|-----------|-------|-----------|-----------|

Strong Acid Leachable Metals, Batch B3C2770, Continued

LCS (B3C2770-BS1), Continued

Prepared: 2023-03-27, Analyzed: 2023-03-28

| | | | | | | | | | |
|-----------|------|-----------------|------|--|-----|--------|--|--|--|
| Tungsten | 9.75 | 0.20 mg/kg dry | 10.0 | | 97 | 80-120 | | | |
| Uranium | 10.3 | 0.050 mg/kg dry | 10.0 | | 103 | 80-120 | | | |
| Vanadium | 10.8 | 1.0 mg/kg dry | 10.0 | | 108 | 80-120 | | | |
| Zinc | 10.9 | 2.0 mg/kg dry | 10.0 | | 109 | 80-120 | | | |
| Zirconium | 9.6 | 2.0 mg/kg dry | 10.0 | | 96 | 80-120 | | | |

Reference (B3C2770-SRM1)

Prepared: 2023-03-27, Analyzed: 2023-03-27

| | | | | | | | | | |
|------------|--------|-----------------|--------|--|-----|--------|--|--|--|
| Aluminum | 10400 | 40 mg/kg dry | 12100 | | 86 | 70-130 | | | |
| Antimony | 0.60 | 0.10 mg/kg dry | 0.634 | | 95 | 70-130 | | | |
| Arsenic | 78.8 | 0.30 mg/kg dry | 83.6 | | 94 | 70-130 | | | |
| Barium | 37.1 | 1.0 mg/kg dry | 41.4 | | 90 | 70-130 | | | |
| Beryllium | 0.36 | 0.10 mg/kg dry | 0.377 | | 96 | 70-130 | | | |
| Bismuth | 0.27 | 0.10 mg/kg dry | 0.291 | | 94 | 70-130 | | | |
| Calcium | 5330 | 100 mg/kg dry | 5380 | | 99 | 70-130 | | | |
| Chromium | 60.6 | 1.0 mg/kg dry | 66.0 | | 92 | 70-130 | | | |
| Cobalt | 10.1 | 0.10 mg/kg dry | 10.8 | | 93 | 70-130 | | | |
| Copper | 19.2 | 0.40 mg/kg dry | 20.3 | | 95 | 70-130 | | | |
| Iron | 19000 | 20.0 mg/kg dry | 20400 | | 93 | 70-130 | | | |
| Lead | 15.7 | 0.20 mg/kg dry | 16.7 | | 94 | 70-130 | | | |
| Lithium | 16.8 | 0.10 mg/kg dry | 16.8 | | 100 | 70-130 | | | |
| Magnesium | 5670 | 10 mg/kg dry | 6170 | | 92 | 70-130 | | | |
| Manganese | 296 | 0.40 mg/kg dry | 319 | | 93 | 70-130 | | | |
| Mercury | 0.106 | 0.040 mg/kg dry | 0.114 | | 93 | 70-130 | | | |
| Molybdenum | 0.57 | 0.10 mg/kg dry | 0.607 | | 93 | 70-130 | | | |
| Nickel | 30.3 | 0.60 mg/kg dry | 32.5 | | 93 | 70-130 | | | |
| Phosphorus | 378 | 10 mg/kg dry | 432 | | 88 | 70-130 | | | |
| Silver | 1.47 | 0.10 mg/kg dry | 1.55 | | 95 | 70-130 | | | |
| Strontium | 19.5 | 0.20 mg/kg dry | 22.5 | | 87 | 70-130 | | | |
| Thallium | < 0.10 | 0.10 mg/kg dry | 0.0765 | | 92 | 70-130 | | | |
| Thorium | 2.96 | 0.50 mg/kg dry | 2.96 | | 100 | 70-130 | | | |
| Tin | 1.21 | 0.20 mg/kg dry | 1.32 | | 92 | 70-130 | | | |
| Titanium | 601 | 1.0 mg/kg dry | 730 | | 82 | 70-130 | | | |
| Uranium | 1.12 | 0.050 mg/kg dry | 1.15 | | 97 | 70-130 | | | |
| Vanadium | 33.3 | 1.0 mg/kg dry | 36.3 | | 92 | 70-130 | | | |
| Zinc | 36.7 | 2.0 mg/kg dry | 39.7 | | 93 | 70-130 | | | |



CERTIFICATE OF ANALYSIS

| | | | |
|---------------------|---|---------------------------------|---|
| REPORTED TO | Lake Country, District of (Wastewater) 4062 Beaver Lake Rd LAKE COUNTRY, BC V4V 1T5 | WORK ORDER | 23C2352 |
| ATTENTION | Davin Larsen | RECEIVED / TEMP REPORTED | 2023-03-21 11:27 / 13.4°C 2023-03-27 14:37 |
| PO NUMBER | | COC NUMBER | 45006.37738 |
| PROJECT | Final Effluent- PE14651 | | |
| PROJECT INFO | Lake Country WWTP | | |

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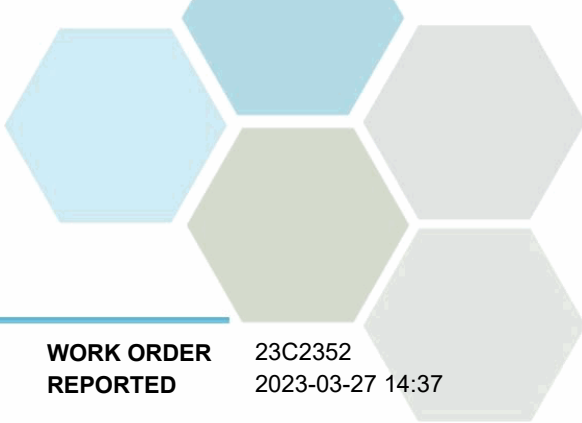
If you have any questions or concerns, please contact me at bwhitehead@caro.ca

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 Lake Country, District of (Wastewater)
Final Effluent- PE14651

WORK ORDER REPORTED 23C2352
2023-03-27 14:37

| Analyte | Result | RL | Units | Analyzed | Qualifier |
|---------|--------|----|-------|----------|-----------|
|---------|--------|----|-------|----------|-----------|

Final Effluent (E233626) (23C2352-01) | Matrix: Wastewater | Sampled: 2023-03-21 10:35

Anions

| | | | | | |
|------------------|--------|--------|------|------------|--|
| Chloride | 120 | 0.10 | mg/L | 2023-03-22 | |
| Nitrate (as N) | 0.816 | 0.010 | mg/L | 2023-03-22 | |
| Nitrite (as N) | 0.049 | 0.010 | mg/L | 2023-03-22 | |
| Phosphate (as P) | 0.0868 | 0.0050 | mg/L | 2023-03-22 | |

Calculated Parameters

| | | | | | |
|------------------------|-------|--------|------|-----|--|
| Nitrate+Nitrite (as N) | 0.865 | 0.0100 | mg/L | N/A | |
| Nitrogen, Total | 3.12 | 0.0500 | mg/L | N/A | |
| Nitrogen, Organic | 1.93 | 0.0500 | mg/L | N/A | |

General Parameters

| | | | | | |
|--|-------|--------|----------|------------|-----|
| Alkalinity, Total (as CaCO3) | 174 | 1.0 | mg/L | 2023-03-22 | |
| Alkalinity, Phenolphthalein (as CaCO3) | < 1.0 | 1.0 | mg/L | 2023-03-22 | |
| Alkalinity, Bicarbonate (as CaCO3) | 174 | 1.0 | mg/L | 2023-03-22 | |
| Alkalinity, Carbonate (as CaCO3) | < 1.0 | 1.0 | mg/L | 2023-03-22 | |
| Alkalinity, Hydroxide (as CaCO3) | < 1.0 | 1.0 | mg/L | 2023-03-22 | |
| Ammonia, Total (as N) | 0.327 | 0.050 | mg/L | 2023-03-23 | |
| BOD, 5-day Carbonaceous | 4.1 | 2.0 | mg/L | 2023-03-27 | |
| Nitrogen, Total Kjeldahl | 2.26 | 0.050 | mg/L | 2023-03-24 | |
| pH | 7.77 | 0.10 | pH units | 2023-03-22 | HT2 |
| Phosphorus, Total (as P) | 0.533 | 0.0050 | mg/L | 2023-03-23 | |
| Solids, Total Suspended | 7.0 | 2.0 | mg/L | 2023-03-27 | |

Microbiological Parameters

| | | | | | |
|---------------------------|--------|---|------------|------------|--|
| Coliforms, Total (Q-Tray) | 112000 | 1 | MPN/100 mL | 2023-03-22 | |
| Coliforms, Fecal (Q-Tray) | 16600 | 1 | MPN/100 mL | 2023-03-22 | |

Trip Blank (23C2352-02) | Matrix: Water | Sampled: 2023-03-21

Anions

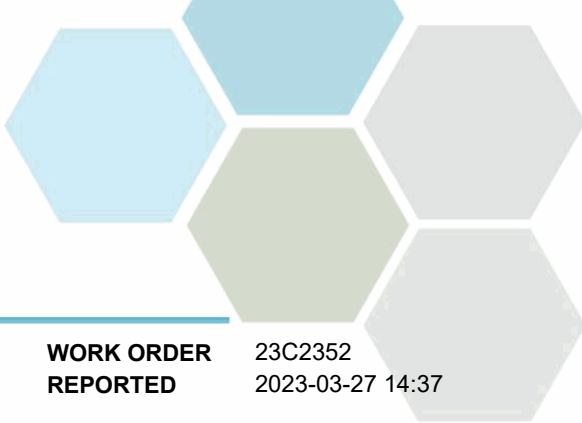
| | | | | | |
|------------------|----------|--------|------|------------|--|
| Chloride | < 0.10 | 0.10 | mg/L | 2023-03-22 | |
| Nitrate (as N) | < 0.010 | 0.010 | mg/L | 2023-03-22 | |
| Nitrite (as N) | < 0.010 | 0.010 | mg/L | 2023-03-22 | |
| Phosphate (as P) | < 0.0050 | 0.0050 | mg/L | 2023-03-22 | |

Calculated Parameters

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

General Parameters

| | | | | | |
|--|-------|-----|------|------------|--|
| Alkalinity, Total (as CaCO3) | < 1.0 | 1.0 | mg/L | 2023-03-22 | |
| Alkalinity, Phenolphthalein (as CaCO3) | < 1.0 | 1.0 | mg/L | 2023-03-22 | |
| Alkalinity, Bicarbonate (as CaCO3) | < 1.0 | 1.0 | mg/L | 2023-03-22 | |



TEST RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater)
Final Effluent- PE14651

WORK ORDER REPORTED 23C2352
2023-03-27 14:37

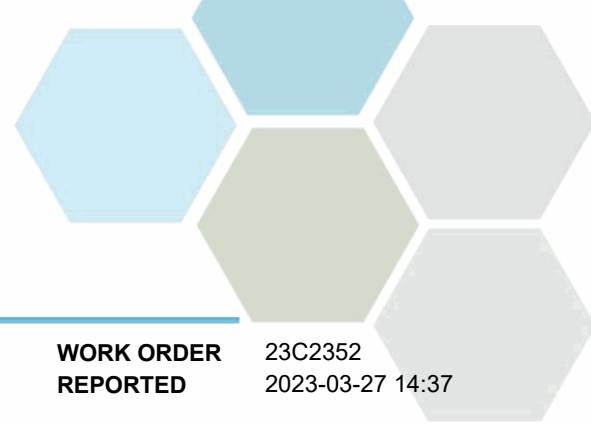
| Analyte | Result | RL | Units | Analyzed | Qualifier |
|---|-------------|--------|----------|------------|-----------|
| Trip Blank (23C2352-02) Matrix: Water Sampled: 2023-03-21, Continued | | | | | |
| <i>General Parameters, Continued</i> | | | | | |
| Alkalinity, Carbonate (as CaCO3) | < 1.0 | 1.0 | mg/L | 2023-03-22 | |
| Alkalinity, Hydroxide (as CaCO3) | < 1.0 | 1.0 | mg/L | 2023-03-22 | |
| Ammonia, Total (as N) | < 0.050 | 0.050 | mg/L | 2023-03-23 | |
| BOD, 5-day Carbonaceous | < 3.6 | 2.0 | mg/L | 2023-03-27 | |
| Nitrogen, Total Kjeldahl | < 0.050 | 0.050 | mg/L | 2023-03-24 | |
| pH | 5.36 | 0.10 | pH units | 2023-03-22 | HT2 |
| Phosphorus, Total (as P) | < 0.0050 | 0.0050 | mg/L | 2023-03-23 | |
| Solids, Total Suspended | < 2.0 | 2.0 | mg/L | 2023-03-27 | |

Microbiological Parameters

| | | | | | |
|---------------------------|-----|---|------------|------------|--|
| Coliforms, Total (Q-Tray) | < 1 | 1 | MPN/100 mL | 2023-03-22 | |
| Coliforms, Fecal (Q-Tray) | < 1 | 1 | MPN/100 mL | 2023-03-22 | |

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 Lake Country, District of (Wastewater)
Final Effluent- PE14651

WORK ORDER REPORTED 23C2352
2023-03-27 14:37

| Analysis Description | Method Ref. | Technique | Accredited | Location |
|--|---|--|------------|----------|
| Alkalinity in Water | SM 2320 B* (2021) | Titration with H2SO4 | ✓ | Kelowna |
| Ammonia, Total in Water | SM 4500-NH3 G* (2021) | Automated Colorimetry (Phenate) | ✓ | Kelowna |
| Anions in Water | SM 4110 B (2020) | Ion Chromatography | ✓ | Kelowna |
| Biochemical Oxygen Demand, Carbonaceous in Water | SM 5210 B (2019) | Dissolved Oxygen Meter | ✓ | Kelowna |
| Coliforms, Fecal in Water | NA / SM 9223 (2016) | Quanti-Tray / Enzyme Substrate Endo Agar | ✓ | Kelowna |
| Coliforms, Total in Water | NA / SM 9223 (2016) | Quanti-Tray / Enzyme Substrate Endo Agar | ✓ | Kelowna |
| Nitrogen, Total Kjeldahl in Water | SM 4500-Norg D* (2021) | Block Digestion and Flow Injection Analysis | ✓ | Kelowna |
| pH in Water | SM 4500-H+ B (2021) | Electrometry | ✓ | Kelowna |
| Phosphorus, Total in Water | SM 4500-P B.5* (2011) / SM 4500-P F (2021) | Persulfate Digestion / Automated Colorimetry (Ascorbic Acid) | ✓ | Kelowna |
| Solids, Total Suspended in Water | Solids in Water, Filtered / SM 2540 D* (2020) | Solids in Water, Filtered / Gravimetry (Dried at 103-105C) | ✓ | Kelowna |

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

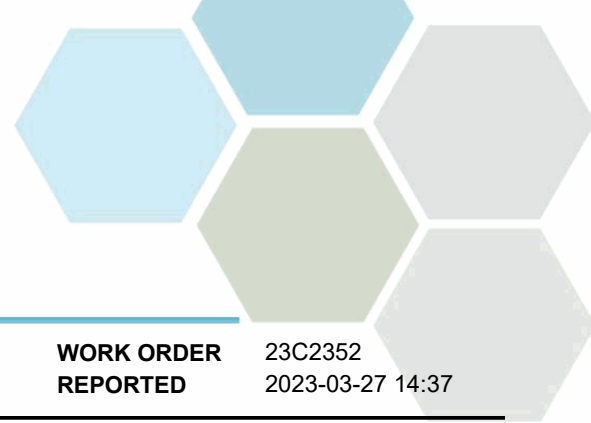
Glossary of Terms:

| | |
|------------|---|
| RL | Reporting Limit (default) |
| < | Less than the specified Reporting Limit (RL) - the actual RL may be higher than the default RL due to various factors |
| mg/L | Milligrams per litre |
| MPN/100 mL | Most Probable Number per 100 millilitres |
| pH units | pH < 7 = acidic, pH > 7 = basic |
| SM | Standard Methods for the Examination of Water and Wastewater, American Public Health Association |

General Comments:

The results in this report apply to the received 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. Caro will dispose of all samples within 30 days of sample receipt, unless otherwise agreed.

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APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater)
Final Effluent- PE14651

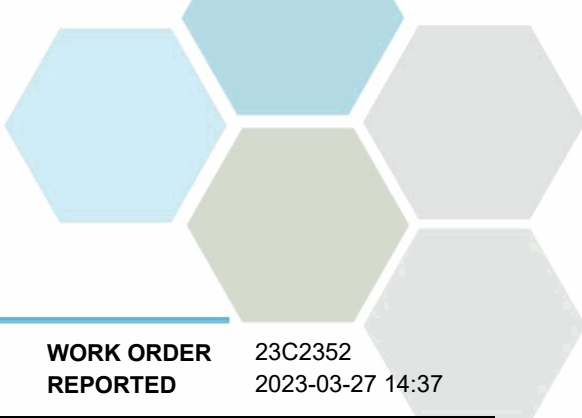
WORK ORDER REPORTED 23C2352
2023-03-27 14:37

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 B3C2182 | | | | | | | | | |
| Blank (B3C2182-BLK1) | | | Prepared: 2023-03-22, Analyzed: 2023-03-22 | | | | | | |
| Chloride | < 0.05 | 0.05 mg/L | | | | | | | |
| Nitrate (as N) | < 0.010 | 0.010 mg/L | | | | | | | |
| Nitrite (as N) | < 0.010 | 0.010 mg/L | | | | | | | |
| Phosphate (as P) | < 0.0050 | 0.0050 mg/L | | | | | | | |
| LCS (B3C2182-BS1) | | | Prepared: 2023-03-22, Analyzed: 2023-03-22 | | | | | | |
| Chloride | 16.1 | 0.05 mg/L | 16.0 | | 101 | 90-110 | | | |
| Nitrate (as N) | 3.93 | 0.010 mg/L | 4.00 | | 98 | 90-110 | | | |
| Nitrite (as N) | 2.11 | 0.010 mg/L | 2.00 | | 105 | 85-115 | | | |
| Phosphate (as P) | 0.997 | 0.0050 mg/L | 1.00 | | 100 | 80-120 | | | |
| General Parameters, Batch B3C2279 | | | | | | | | | |
| Blank (B3C2279-BLK1) | | | Prepared: 2023-03-22, Analyzed: 2023-03-22 | | | | | | |
| Alkalinity, Total (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Phenolphthalein (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Bicarbonate (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Carbonate (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Hydroxide (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Blank (B3C2279-BLK2) | | | Prepared: 2023-03-22, Analyzed: 2023-03-22 | | | | | | |
| Alkalinity, Total (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Phenolphthalein (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Bicarbonate (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Carbonate (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Hydroxide (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Blank (B3C2279-BLK3) | | | Prepared: 2023-03-22, Analyzed: 2023-03-22 | | | | | | |
| Alkalinity, Total (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Phenolphthalein (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Bicarbonate (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Carbonate (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Hydroxide (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| LCS (B3C2279-BS1) | | | Prepared: 2023-03-22, Analyzed: 2023-03-22 | | | | | | |
| Alkalinity, Total (as CaCO3) | 94.8 | 1.0 mg/L | 100 | | 95 | 80-120 | | | |

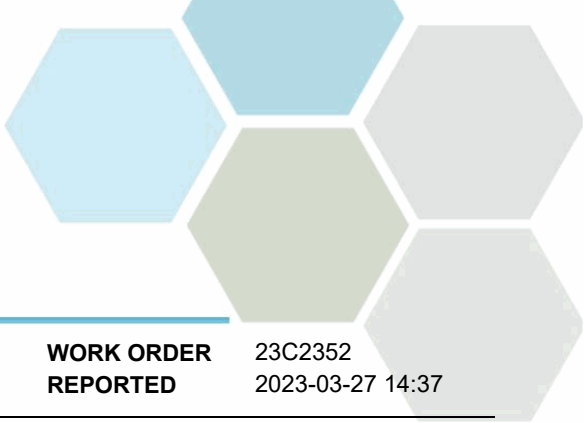


APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater)
Final Effluent- PE14651

WORK ORDER REPORTED 23C2352
2023-03-27 14:37

| Analyte | Result | RL Units | Spike Level | Source Result | % REC | REC Limit | % RPD | RPD Limit | Qualifier |
|---|----------|---------------|--|---------------|--|-----------|-------|-----------|-----------|
| General Parameters, Batch B3C2279, Continued | | | | | | | | | |
| LCS (B3C2279-BS2) | | | Prepared: 2023-03-22, Analyzed: 2023-03-22 | | | | | | |
| Alkalinity, Total (as CaCO3) | 95.3 | 1.0 mg/L | 100 | | 95 | 80-120 | | | |
| LCS (B3C2279-BS3) | | | Prepared: 2023-03-22, Analyzed: 2023-03-22 | | | | | | |
| Alkalinity, Total (as CaCO3) | 96.4 | 1.0 mg/L | 100 | | 96 | 80-120 | | | |
| Reference (B3C2279-SRM1) | | | Prepared: 2023-03-22, Analyzed: 2023-03-22 | | | | | | |
| pH | 7.01 | 0.10 pH units | 7.01 | | 100 | 98-102 | | | |
| Reference (B3C2279-SRM2) | | | Prepared: 2023-03-22, Analyzed: 2023-03-22 | | | | | | |
| pH | 7.02 | 0.10 pH units | 7.01 | | 100 | 98-102 | | | |
| Reference (B3C2279-SRM3) | | | Prepared: 2023-03-22, Analyzed: 2023-03-22 | | | | | | |
| pH | 7.01 | 0.10 pH units | 7.01 | | 100 | 98-102 | | | |
| General Parameters, Batch B3C2307 | | | | | | | | | |
| Blank (B3C2307-BLK1) | | | Prepared: 2023-03-22, Analyzed: 2023-03-27 | | | | | | |
| BOD, 5-day Carbonaceous | < 2.0 | 2.0 mg/L | | | | | | | |
| LCS (B3C2307-BS1) | | | Prepared: 2023-03-22, Analyzed: 2023-03-27 | | | | | | |
| BOD, 5-day Carbonaceous | 187 | 29.7 mg/L | 198 | | 94 | 85-115 | | | |
| Duplicate (B3C2307-DUP1) | | | Source: 23C2352-02 | | Prepared: 2023-03-22, Analyzed: 2023-03-27 | | | | |
| BOD, 5-day Carbonaceous | < 3.6 | 2.0 mg/L | | < 3.6 | | | | 20 | |
| General Parameters, Batch B3C2370 | | | | | | | | | |
| Blank (B3C2370-BLK1) | | | Prepared: 2023-03-23, Analyzed: 2023-03-23 | | | | | | |
| Phosphorus, Total (as P) | < 0.0050 | 0.0050 mg/L | | | | | | | |
| Blank (B3C2370-BLK2) | | | Prepared: 2023-03-23, Analyzed: 2023-03-23 | | | | | | |
| Phosphorus, Total (as P) | < 0.0050 | 0.0050 mg/L | | | | | | | |
| LCS (B3C2370-BS1) | | | Prepared: 2023-03-23, Analyzed: 2023-03-23 | | | | | | |
| Phosphorus, Total (as P) | 0.112 | 0.0050 mg/L | 0.100 | | 112 | 85-115 | | | |
| LCS (B3C2370-BS2) | | | Prepared: 2023-03-23, Analyzed: 2023-03-23 | | | | | | |
| Phosphorus, Total (as P) | 0.110 | 0.0050 mg/L | 0.100 | | 110 | 85-115 | | | |
| General Parameters, Batch B3C2391 | | | | | | | | | |
| Blank (B3C2391-BLK1) | | | Prepared: 2023-03-23, Analyzed: 2023-03-23 | | | | | | |
| Ammonia, Total (as N) | < 0.050 | 0.050 mg/L | | | | | | | |
| Blank (B3C2391-BLK2) | | | Prepared: 2023-03-23, Analyzed: 2023-03-23 | | | | | | |
| Ammonia, Total (as N) | < 0.050 | 0.050 mg/L | | | | | | | |
| Blank (B3C2391-BLK3) | | | Prepared: 2023-03-23, Analyzed: 2023-03-23 | | | | | | |
| Ammonia, Total (as N) | < 0.050 | 0.050 mg/L | | | | | | | |
| LCS (B3C2391-BS1) | | | Prepared: 2023-03-23, Analyzed: 2023-03-23 | | | | | | |
| Ammonia, Total (as N) | 1.10 | 0.050 mg/L | 1.00 | | 110 | 85-115 | | | |
| LCS (B3C2391-BS2) | | | Prepared: 2023-03-23, Analyzed: 2023-03-23 | | | | | | |
| Ammonia, Total (as N) | 1.12 | 0.050 mg/L | 1.00 | | 112 | 85-115 | | | |



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater)
Final Effluent- PE14651

WORK ORDER REPORTED 23C2352
2023-03-27 14:37

| Analyte | Result | RL Units | Spike Level | Source Result | % REC | REC Limit | % RPD | RPD Limit | Qualifier |
|---|---------|--------------|--|---------------|-------|-----------|-------|-----------|-----------|
| General Parameters, Batch B3C2391, Continued | | | | | | | | | |
| LCS (B3C2391-BS3) | | | Prepared: 2023-03-23, Analyzed: 2023-03-23 | | | | | | |
| Ammonia, Total (as N) | 1.12 | 0.050 mg/L | 1.00 | | 112 | 85-115 | | | |
| General Parameters, Batch B3C2422 | | | | | | | | | |
| Blank (B3C2422-BLK1) | | | Prepared: 2023-03-23, Analyzed: 2023-03-24 | | | | | | |
| Nitrogen, Total Kjeldahl | < 0.050 | 0.050 mg/L | | | | | | | |
| Blank (B3C2422-BLK2) | | | Prepared: 2023-03-23, Analyzed: 2023-03-24 | | | | | | |
| Nitrogen, Total Kjeldahl | < 0.050 | 0.050 mg/L | | | | | | | |
| LCS (B3C2422-BS1) | | | Prepared: 2023-03-23, Analyzed: 2023-03-24 | | | | | | |
| Nitrogen, Total Kjeldahl | 1.04 | 0.050 mg/L | 1.00 | | 104 | 85-115 | | | |
| LCS (B3C2422-BS2) | | | Prepared: 2023-03-23, Analyzed: 2023-03-24 | | | | | | |
| Nitrogen, Total Kjeldahl | 1.02 | 0.050 mg/L | 1.00 | | 102 | 85-115 | | | |
| General Parameters, Batch B3C2654 | | | | | | | | | |
| Blank (B3C2654-BLK1) | | | Prepared: 2023-03-27, Analyzed: 2023-03-27 | | | | | | |
| Solids, Total Suspended | < 2.0 | 2.0 mg/L | | | | | | | |
| LCS (B3C2654-BS1) | | | Prepared: 2023-03-27, Analyzed: 2023-03-27 | | | | | | |
| Solids, Total Suspended | 94.0 | 10.0 mg/L | 100 | | 94 | 85-115 | | | |
| Microbiological Parameters, Batch B3C2265 | | | | | | | | | |
| Blank (B3C2265-BLK1) | | | Prepared: 2023-03-22, Analyzed: 2023-03-22 | | | | | | |
| Coliforms, Total (Q-Tray) | < 1 | 1 MPN/100 mL | | | | | | | |
| Blank (B3C2265-BLK2) | | | Prepared: 2023-03-22, Analyzed: 2023-03-22 | | | | | | |
| Coliforms, Fecal (Q-Tray) | < 1 | 1 MPN/100 mL | | | | | | | |
| Blank (B3C2265-BLK3) | | | Prepared: 2023-03-22, Analyzed: 2023-03-22 | | | | | | |
| Coliforms, Total (Q-Tray) | < 1 | 1 MPN/100 mL | | | | | | | |



CERTIFICATE OF ANALYSIS

| | | | |
|---------------------|---|---------------------------------|---|
| REPORTED TO | Lake Country, District of (Wastewater) 4062 Beaver Lake Rd LAKE COUNTRY, BC V4V 1T5 | WORK ORDER | 23C2354 |
| ATTENTION | Davin Larsen | RECEIVED / TEMP REPORTED | 2023-03-21 11:27 / 13.4°C 2023-03-27 14:39 |
| PO NUMBER | | COC NUMBER | 45006.37738 |
| PROJECT | Amry- MR17842 | | |
| PROJECT INFO | Lake Country WWTP | | |

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>

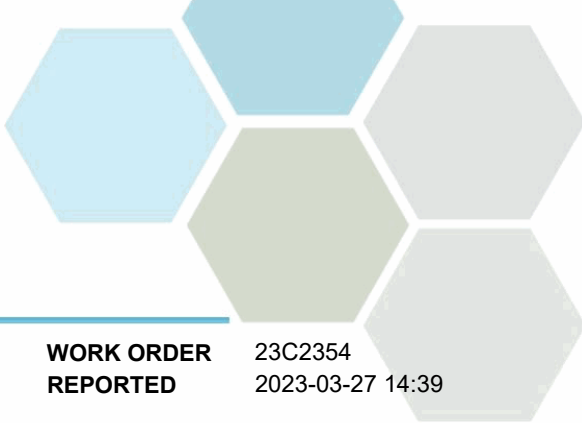
If you have any questions or concerns, please contact me at bwhitehead@caro.ca

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

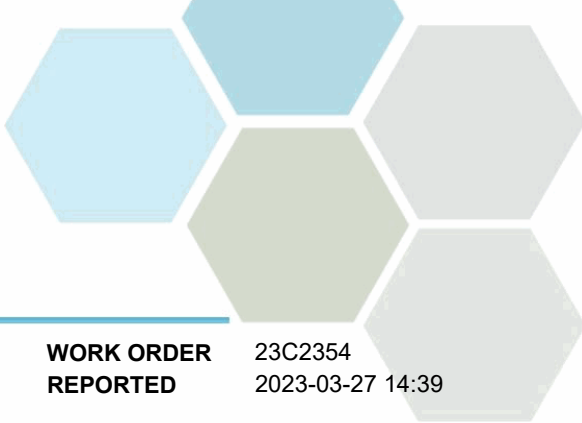


TEST RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater)
Amry- MR17842

WORK ORDER REPORTED 23C2354
2023-03-27 14:39

| Analyte | Result | RL | Units | Analyzed | Qualifier |
|--|--------|-----|-------|------------|-----------|
| Amry WW (E262982) (23C2354-01) Matrix: Wastewater Sampled: 2023-03-21 10:00 | | | | | |
| <i>General Parameters</i> | | | | | |
| BOD, 5-day Carbonaceous | 8.2 | 2.0 | mg/L | 2023-03-27 | |
| Solids, Total Suspended | 17.3 | 2.0 | mg/L | 2023-03-27 | |



APPENDIX 1: SUPPORTING INFORMATION

REPORTED TO PROJECT Lake Country, District of (Wastewater)
Amry- MR17842

WORK ORDER REPORTED 23C2354
2023-03-27 14:39

| Analysis Description | Method Ref. | Technique | Accredited | Location |
|--|---|--|------------|----------|
| Biochemical Oxygen Demand, Carbonaceous in Water | SM 5210 B (2019) | Dissolved Oxygen Meter | ✓ | Kelowna |
| Solids, Total Suspended in Water | Solids in Water, Filtered / SM 2540 D* (2020) | Solids in Water, Filtered / Gravimetry (Dried at 103-105C) | ✓ | Kelowna |

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

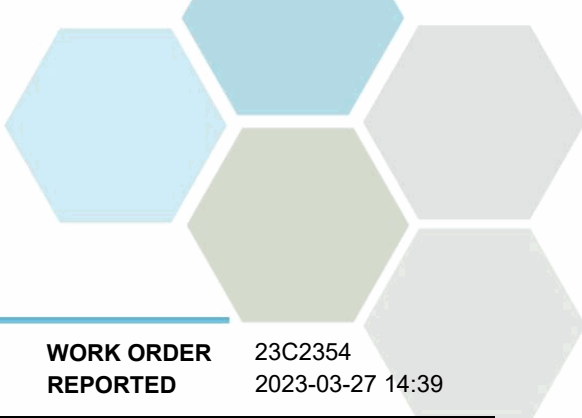
Glossary of Terms:

| | |
|------|--|
| RL | Reporting Limit (default) |
| mg/L | Milligrams per litre |
| SM | Standard Methods for the Examination of Water and Wastewater, American Public Health Association |

General Comments:

The results in this report apply to the received 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. Caro will dispose of all samples within 30 days of sample receipt, unless otherwise agreed.

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 Lake Country, District of (Wastewater)
Amry- MR17842

WORK ORDER REPORTED 23C2354
2023-03-27 14:39

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 |
|--|--------|-----------|--|---------------|-------|-----------|-------|-----------|-----------|
| General Parameters, Batch B3C2307 | | | | | | | | | |
| Blank (B3C2307-BLK1) | | | Prepared: 2023-03-22, Analyzed: 2023-03-27 | | | | | | |
| BOD, 5-day Carbonaceous | < 2.0 | 2.0 mg/L | | | | | | | |
| LCS (B3C2307-BS1) | | | Prepared: 2023-03-22, Analyzed: 2023-03-27 | | | | | | |
| BOD, 5-day Carbonaceous | 187 | 29.7 mg/L | 198 | | 94 | 85-115 | | | |
| General Parameters, Batch B3C2654 | | | | | | | | | |
| Blank (B3C2654-BLK1) | | | Prepared: 2023-03-27, Analyzed: 2023-03-27 | | | | | | |
| Solids, Total Suspended | < 2.0 | 2.0 mg/L | | | | | | | |
| LCS (B3C2654-BS1) | | | Prepared: 2023-03-27, Analyzed: 2023-03-27 | | | | | | |
| Solids, Total Suspended | 94.0 | 10.0 mg/L | 100 | | 94 | 85-115 | | | |



CERTIFICATE OF ANALYSIS

| | | | |
|---------------------|---|---------------------------------|---|
| REPORTED TO | Lake Country, District of (Wastewater) 4062 Beaver Lake Rd LAKE COUNTRY, BC V4V 1T5 | WORK ORDER | 23C2347 |
| ATTENTION | Davin Larsen | RECEIVED / TEMP REPORTED | 2023-03-21 11:27 / 13.4°C 2023-03-27 14:16 |
| PO NUMBER | | COC NUMBER | 45006.37738 |
| PROJECT | Raw Influent- PE14651 | | |
| PROJECT INFO | Lake Country WWTP | | |

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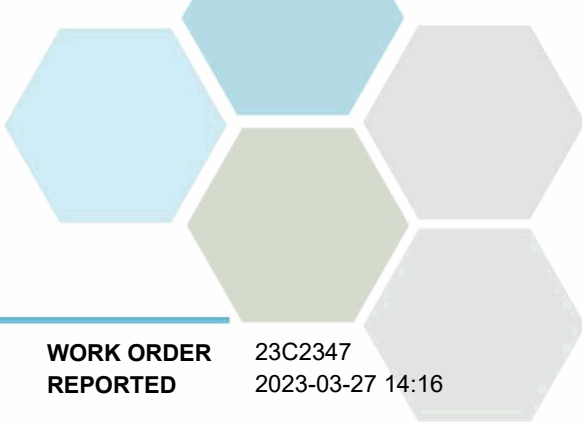
If you have any questions or concerns, please contact me at bwhitehead@caro.ca

Authorized By:

Brent Whitehead
Account Manager

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TEST RESULTS

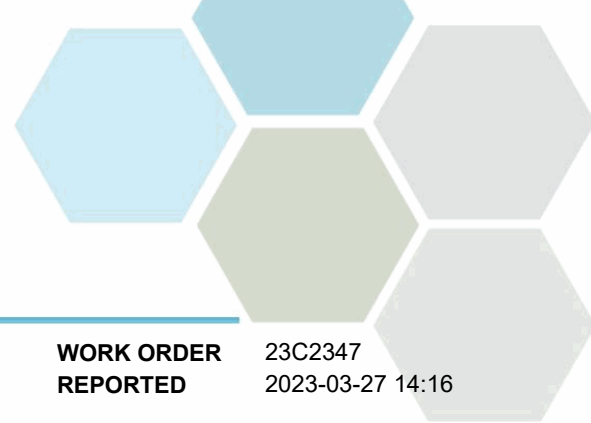
REPORTED TO PROJECT Lake Country, District of (Wastewater)
Raw Influent- PE14651

WORK ORDER REPORTED 23C2347
2023-03-27 14:16

| Analyte | Result | RL | Units | Analyzed | Qualifier |
|---|-------------|--------|----------|------------|-----------|
| Raw Influent (E233627) (23C2347-01) Matrix: Wastewater Sampled: 2023-03-21 10:50 | | | | | |
| Anions | | | | | |
| Nitrate (as N) | < 0.010 | 0.010 | mg/L | 2023-03-22 | |
| Nitrite (as N) | < 0.010 | 0.010 | mg/L | 2023-03-22 | |
| Phosphate (as P) | 8.60 | 0.0050 | mg/L | 2023-03-22 | |
| Calculated Parameters | | | | | |
| Nitrate+Nitrite (as N) | < 0.0100 | 0.0100 | mg/L | N/A | |
| Nitrogen, Total | 94.0 | 2.00 | mg/L | N/A | |
| General Parameters | | | | | |
| Alkalinity, Total (as CaCO3) | 362 | 1.0 | mg/L | 2023-03-22 | |
| Alkalinity, Phenolphthalein (as CaCO3) | < 1.0 | 1.0 | mg/L | 2023-03-22 | |
| Alkalinity, Bicarbonate (as CaCO3) | 362 | 1.0 | mg/L | 2023-03-22 | |
| Alkalinity, Carbonate (as CaCO3) | < 1.0 | 1.0 | mg/L | 2023-03-22 | |
| Alkalinity, Hydroxide (as CaCO3) | < 1.0 | 1.0 | mg/L | 2023-03-22 | |
| Ammonia, Total (as N) | 68.9 | 0.050 | mg/L | 2023-03-23 | |
| BOD, 5-day | 364 | 2.0 | mg/L | 2023-03-26 | |
| BOD, 5-day Carbonaceous | 349 | 2.0 | mg/L | 2023-03-27 | |
| Nitrogen, Total Kjeldahl | 94.0 | 0.050 | mg/L | 2023-03-24 | |
| pH | 7.99 | 0.10 | pH units | 2023-03-22 | HT2 |
| Phosphorus, Total (as P) | 10.6 | 0.0050 | mg/L | 2023-03-23 | |
| Solids, Total Suspended | 336 | 2.0 | mg/L | 2023-03-27 | |

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 Lake Country, District of (Wastewater)
Raw Influent- PE14651

WORK ORDER REPORTED 23C2347
2023-03-27 14:16

| Analysis Description | Method Ref. | Technique | Accredited | Location |
|--|---|--|------------|----------|
| Alkalinity in Water | SM 2320 B* (2021) | Titration with H2SO4 | ✓ | Kelowna |
| Ammonia, Total in Water | SM 4500-NH3 G* (2021) | Automated Colorimetry (Phenate) | ✓ | Kelowna |
| Anions in Water | SM 4110 B (2020) | Ion Chromatography | ✓ | Kelowna |
| Biochemical Oxygen Demand in Water | SM 5210 B (2019) | Dissolved Oxygen Meter | ✓ | Kelowna |
| Biochemical Oxygen Demand, Carbonaceous in Water | SM 5210 B (2019) | Dissolved Oxygen Meter | ✓ | Kelowna |
| Nitrogen, Total Kjeldahl in Water | SM 4500-Norg D* (2021) | Block Digestion and Flow Injection Analysis | ✓ | Kelowna |
| pH in Water | SM 4500-H+ B (2021) | Electrometry | ✓ | Kelowna |
| Phosphorus, Total in Water | SM 4500-P B.5* (2011) / SM 4500-P F (2021) | Persulfate Digestion / Automated Colorimetry (Ascorbic Acid) | ✓ | Kelowna |
| Solids, Total Suspended in Water | Solids in Water, Filtered / SM 2540 D* (2020) | Solids in Water, Filtered / Gravimetry (Dried at 103-105C) | ✓ | Kelowna |

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

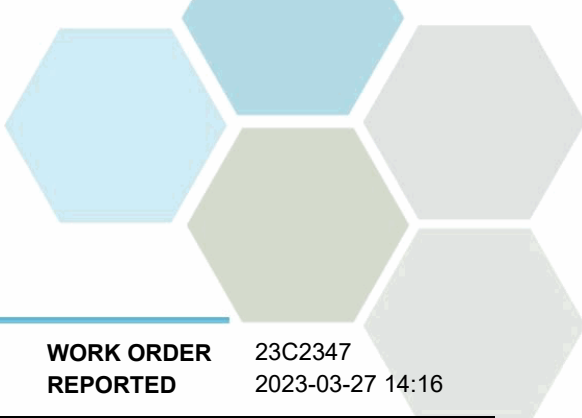
Glossary of Terms:

| | |
|----------|---|
| RL | Reporting Limit (default) |
| < | Less than the specified Reporting Limit (RL) - the actual RL may be higher than the default RL due to various factors |
| mg/L | Milligrams per litre |
| pH units | pH < 7 = acidic, pH > 7 = basic |
| SM | Standard Methods for the Examination of Water and Wastewater, American Public Health Association |

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APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater)
Raw Influent- PE14651

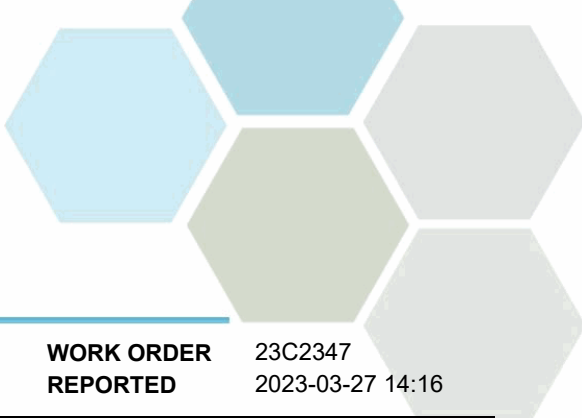
WORK ORDER REPORTED 23C2347
2023-03-27 14:16

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:

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| Analyte | Result | RL Units | Spike Level | Source Result | % REC | REC Limit | % RPD | RPD Limit | Qualifier |
|--|----------|-------------|--|---------------|-------|-----------|-------|-----------|-----------|
| Anions, Batch B3C2182 | | | | | | | | | |
| Blank (B3C2182-BLK1) | | | Prepared: 2023-03-22, Analyzed: 2023-03-22 | | | | | | |
| Nitrate (as N) | < 0.010 | 0.010 mg/L | | | | | | | |
| Nitrite (as N) | < 0.010 | 0.010 mg/L | | | | | | | |
| Phosphate (as P) | < 0.0050 | 0.0050 mg/L | | | | | | | |
| LCS (B3C2182-BS1) | | | Prepared: 2023-03-22, Analyzed: 2023-03-22 | | | | | | |
| Nitrate (as N) | 3.93 | 0.010 mg/L | 4.00 | | 98 | 90-110 | | | |
| Nitrite (as N) | 2.11 | 0.010 mg/L | 2.00 | | 105 | 85-115 | | | |
| Phosphate (as P) | 0.997 | 0.0050 mg/L | 1.00 | | 100 | 80-120 | | | |
| General Parameters, Batch B3C2279 | | | | | | | | | |
| Blank (B3C2279-BLK1) | | | Prepared: 2023-03-22, Analyzed: 2023-03-22 | | | | | | |
| Alkalinity, Total (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Phenolphthalein (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Bicarbonate (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Carbonate (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Hydroxide (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Blank (B3C2279-BLK2) | | | Prepared: 2023-03-22, Analyzed: 2023-03-22 | | | | | | |
| Alkalinity, Total (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Phenolphthalein (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Bicarbonate (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Carbonate (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Hydroxide (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Blank (B3C2279-BLK3) | | | Prepared: 2023-03-22, Analyzed: 2023-03-22 | | | | | | |
| Alkalinity, Total (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Phenolphthalein (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Bicarbonate (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Carbonate (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Hydroxide (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| LCS (B3C2279-BS1) | | | Prepared: 2023-03-22, Analyzed: 2023-03-22 | | | | | | |
| Alkalinity, Total (as CaCO3) | 94.8 | 1.0 mg/L | 100 | | 95 | 80-120 | | | |



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater)
Raw Influent- PE14651

WORK ORDER REPORTED 23C2347
2023-03-27 14:16

| Analyte | Result | RL Units | Spike Level | Source Result | % REC | REC Limit | % RPD | RPD Limit | Qualifier |
|---|----------|---------------|--|---------------|-------|-----------|-------|-----------|-----------|
| General Parameters, Batch B3C2279, Continued | | | | | | | | | |
| LCS (B3C2279-BS2) | | | Prepared: 2023-03-22, Analyzed: 2023-03-22 | | | | | | |
| Alkalinity, Total (as CaCO3) | 95.3 | 1.0 mg/L | 100 | | 95 | 80-120 | | | |
| LCS (B3C2279-BS3) | | | Prepared: 2023-03-22, Analyzed: 2023-03-22 | | | | | | |
| Alkalinity, Total (as CaCO3) | 96.4 | 1.0 mg/L | 100 | | 96 | 80-120 | | | |
| Reference (B3C2279-SRM1) | | | Prepared: 2023-03-22, Analyzed: 2023-03-22 | | | | | | |
| pH | 7.01 | 0.10 pH units | 7.01 | | 100 | 98-102 | | | |
| Reference (B3C2279-SRM2) | | | Prepared: 2023-03-22, Analyzed: 2023-03-22 | | | | | | |
| pH | 7.02 | 0.10 pH units | 7.01 | | 100 | 98-102 | | | |
| Reference (B3C2279-SRM3) | | | Prepared: 2023-03-22, Analyzed: 2023-03-22 | | | | | | |
| pH | 7.01 | 0.10 pH units | 7.01 | | 100 | 98-102 | | | |
| General Parameters, Batch B3C2306 | | | | | | | | | |
| Blank (B3C2306-BLK1) | | | Prepared: 2023-03-22, Analyzed: 2023-03-26 | | | | | | |
| BOD, 5-day | < 2.0 | 2.0 mg/L | | | | | | | |
| LCS (B3C2306-BS1) | | | Prepared: 2023-03-22, Analyzed: 2023-03-26 | | | | | | |
| BOD, 5-day | 178 | 47.7 mg/L | 198 | | 90 | 85-115 | | | |
| General Parameters, Batch B3C2307 | | | | | | | | | |
| Blank (B3C2307-BLK1) | | | Prepared: 2023-03-22, Analyzed: 2023-03-27 | | | | | | |
| BOD, 5-day Carbonaceous | < 2.0 | 2.0 mg/L | | | | | | | |
| LCS (B3C2307-BS1) | | | Prepared: 2023-03-22, Analyzed: 2023-03-27 | | | | | | |
| BOD, 5-day Carbonaceous | 187 | 29.7 mg/L | 198 | | 94 | 85-115 | | | |
| General Parameters, Batch B3C2370 | | | | | | | | | |
| Blank (B3C2370-BLK1) | | | Prepared: 2023-03-23, Analyzed: 2023-03-23 | | | | | | |
| Phosphorus, Total (as P) | < 0.0050 | 0.0050 mg/L | | | | | | | |
| Blank (B3C2370-BLK2) | | | Prepared: 2023-03-23, Analyzed: 2023-03-23 | | | | | | |
| Phosphorus, Total (as P) | < 0.0050 | 0.0050 mg/L | | | | | | | |
| LCS (B3C2370-BS1) | | | Prepared: 2023-03-23, Analyzed: 2023-03-23 | | | | | | |
| Phosphorus, Total (as P) | 0.112 | 0.0050 mg/L | 0.100 | | 112 | 85-115 | | | |
| LCS (B3C2370-BS2) | | | Prepared: 2023-03-23, Analyzed: 2023-03-23 | | | | | | |
| Phosphorus, Total (as P) | 0.110 | 0.0050 mg/L | 0.100 | | 110 | 85-115 | | | |
| General Parameters, Batch B3C2391 | | | | | | | | | |
| Blank (B3C2391-BLK1) | | | Prepared: 2023-03-23, Analyzed: 2023-03-23 | | | | | | |
| Ammonia, Total (as N) | < 0.050 | 0.050 mg/L | | | | | | | |
| Blank (B3C2391-BLK2) | | | Prepared: 2023-03-23, Analyzed: 2023-03-23 | | | | | | |
| Ammonia, Total (as N) | < 0.050 | 0.050 mg/L | | | | | | | |
| Blank (B3C2391-BLK3) | | | Prepared: 2023-03-23, Analyzed: 2023-03-23 | | | | | | |
| Ammonia, Total (as N) | < 0.050 | 0.050 mg/L | | | | | | | |

APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater)
Raw Influent- PE14651

WORK ORDER REPORTED 23C2347
2023-03-27 14:16

| Analyte | Result | RL Units | Spike Level | Source Result | % REC | REC Limit | % RPD | RPD Limit | Qualifier |
|---|---------|------------|--|---------------|-------|-----------|-------|-----------|-----------|
| General Parameters, Batch B3C2391, Continued | | | | | | | | | |
| LCS (B3C2391-BS1) | | | Prepared: 2023-03-23, Analyzed: 2023-03-23 | | | | | | |
| Ammonia, Total (as N) | 1.10 | 0.050 mg/L | 1.00 | | 110 | 85-115 | | | |
| LCS (B3C2391-BS2) | | | Prepared: 2023-03-23, Analyzed: 2023-03-23 | | | | | | |
| Ammonia, Total (as N) | 1.12 | 0.050 mg/L | 1.00 | | 112 | 85-115 | | | |
| LCS (B3C2391-BS3) | | | Prepared: 2023-03-23, Analyzed: 2023-03-23 | | | | | | |
| Ammonia, Total (as N) | 1.12 | 0.050 mg/L | 1.00 | | 112 | 85-115 | | | |
| General Parameters, Batch B3C2422 | | | | | | | | | |
| Blank (B3C2422-BLK1) | | | Prepared: 2023-03-23, Analyzed: 2023-03-24 | | | | | | |
| Nitrogen, Total Kjeldahl | < 0.050 | 0.050 mg/L | | | | | | | |
| Blank (B3C2422-BLK2) | | | Prepared: 2023-03-23, Analyzed: 2023-03-24 | | | | | | |
| Nitrogen, Total Kjeldahl | < 0.050 | 0.050 mg/L | | | | | | | |
| LCS (B3C2422-BS1) | | | Prepared: 2023-03-23, Analyzed: 2023-03-24 | | | | | | |
| Nitrogen, Total Kjeldahl | 1.04 | 0.050 mg/L | 1.00 | | 104 | 85-115 | | | |
| LCS (B3C2422-BS2) | | | Prepared: 2023-03-23, Analyzed: 2023-03-24 | | | | | | |
| Nitrogen, Total Kjeldahl | 1.02 | 0.050 mg/L | 1.00 | | 102 | 85-115 | | | |
| General Parameters, Batch B3C2654 | | | | | | | | | |
| Blank (B3C2654-BLK1) | | | Prepared: 2023-03-27, Analyzed: 2023-03-27 | | | | | | |
| Solids, Total Suspended | < 2.0 | 2.0 mg/L | | | | | | | |
| LCS (B3C2654-BS1) | | | Prepared: 2023-03-27, Analyzed: 2023-03-27 | | | | | | |
| Solids, Total Suspended | 94.0 | 10.0 mg/L | 100 | | 94 | 85-115 | | | |



CERTIFICATE OF ANALYSIS

| | | | |
|---------------------|---|---------------------------------|---|
| REPORTED TO | Lake Country, District of (Wastewater) 4062 Beaver Lake Rd LAKE COUNTRY, BC V4V 1T5 | WORK ORDER | 23D2061 |
| ATTENTION | Davin Larsen | RECEIVED / TEMP REPORTED | 2023-04-19 11:25 / 11.8°C 2023-04-26 15:02 |
| PO NUMBER | | COC NUMBER | 45035.39452 |
| PROJECT | BioSolids- PE14651 | | |
| PROJECT INFO | Lake Country WWTP | | |

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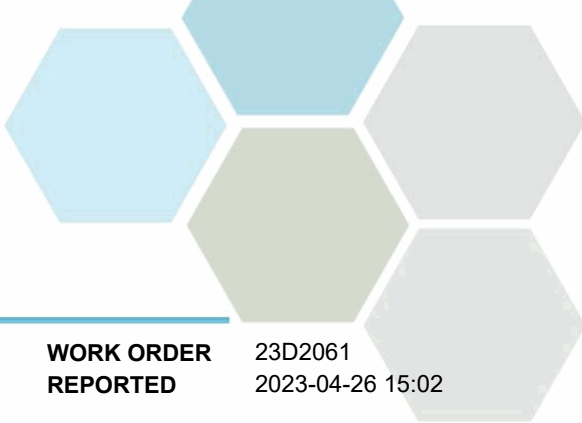
If you have any questions or concerns, please contact me at bwhitehead@caro.ca

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 Lake Country, District of (Wastewater)
BioSolids- PE14651

WORK ORDER REPORTED 23D2061
2023-04-26 15:02

| Analyte | Result | RL | Units | Analyzed | Qualifier |
|---------|--------|----|-------|----------|-----------|
|---------|--------|----|-------|----------|-----------|

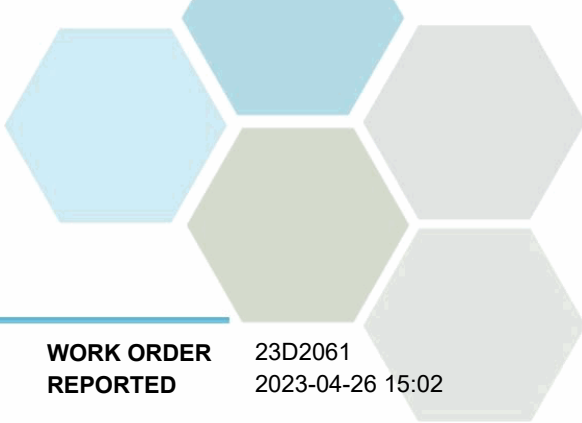
Biosolids (E233628) (23D2061-01) | Matrix: Sludge | Sampled: 2023-04-19 09:40

General Parameters

| | | | | | |
|--------------------------|------|--------|----------|------------|--|
| Moisture | 78.8 | 1.0 | % wet | 2023-04-23 | |
| Nitrogen, Total Kjeldahl | 3.92 | 0.0004 | % dry | 2023-04-21 | |
| pH (1:2 H2O Solution) | 5.72 | 0.10 | pH units | 2023-04-20 | |
| Solids, Total | 21.1 | 0.1 | % wet | 2023-04-24 | |
| Solids, Volatile | 86.0 | 0.1 | % dry | 2023-04-24 | |

Strong Acid Leachable Metals

| | | | | | |
|------------|--------|-------|-----------|------------|--|
| Aluminum | 1420 | 40 | mg/kg dry | 2023-04-26 | |
| Antimony | 0.97 | 0.10 | mg/kg dry | 2023-04-26 | |
| Arsenic | 1.19 | 0.30 | mg/kg dry | 2023-04-26 | |
| Barium | 97.2 | 1.0 | mg/kg dry | 2023-04-26 | |
| Beryllium | < 0.10 | 0.10 | mg/kg dry | 2023-04-26 | |
| Bismuth | 24.1 | 0.10 | mg/kg dry | 2023-04-26 | |
| Boron | 9.4 | 2.0 | mg/kg dry | 2023-04-26 | |
| Cadmium | 0.630 | 0.040 | mg/kg dry | 2023-04-26 | |
| Calcium | 8910 | 100 | mg/kg dry | 2023-04-26 | |
| Chromium | 8.5 | 1.0 | mg/kg dry | 2023-04-26 | |
| Cobalt | 1.01 | 0.10 | mg/kg dry | 2023-04-26 | |
| Copper | 279 | 0.40 | mg/kg dry | 2023-04-26 | |
| Iron | 2360 | 20.0 | mg/kg dry | 2023-04-26 | |
| Lead | 6.02 | 0.20 | mg/kg dry | 2023-04-26 | |
| Lithium | 0.94 | 0.10 | mg/kg dry | 2023-04-26 | |
| Magnesium | 2420 | 10 | mg/kg dry | 2023-04-26 | |
| Manganese | 76.3 | 0.40 | mg/kg dry | 2023-04-26 | |
| Mercury | 0.375 | 0.040 | mg/kg dry | 2023-04-26 | |
| Molybdenum | 6.04 | 0.10 | mg/kg dry | 2023-04-26 | |
| Nickel | 6.99 | 0.60 | mg/kg dry | 2023-04-26 | |
| Phosphorus | 8440 | 10 | mg/kg dry | 2023-04-26 | |
| Potassium | 2750 | 40 | mg/kg dry | 2023-04-26 | |
| Selenium | 2.90 | 0.20 | mg/kg dry | 2023-04-26 | |
| Silver | 1.12 | 0.10 | mg/kg dry | 2023-04-26 | |
| Sodium | 475 | 50 | mg/kg dry | 2023-04-26 | |
| Strontium | 36.6 | 0.20 | mg/kg dry | 2023-04-26 | |
| Sulfur | 4360 | 1000 | mg/kg dry | 2023-04-26 | |
| Tellurium | < 0.10 | 0.10 | mg/kg dry | 2023-04-26 | |
| Thallium | < 0.10 | 0.10 | mg/kg dry | 2023-04-26 | |
| Thorium | < 0.50 | 0.50 | mg/kg dry | 2023-04-26 | |
| Tin | 11.3 | 0.20 | mg/kg dry | 2023-04-26 | |
| Titanium | 55.6 | 1.0 | mg/kg dry | 2023-04-26 | |
| Tungsten | 0.54 | 0.20 | mg/kg dry | 2023-04-26 | |
| Uranium | 5.28 | 0.050 | mg/kg dry | 2023-04-26 | |
| Vanadium | 4.2 | 1.0 | mg/kg dry | 2023-04-26 | |
| Zinc | 481 | 2.0 | mg/kg dry | 2023-04-26 | |



TEST RESULTS

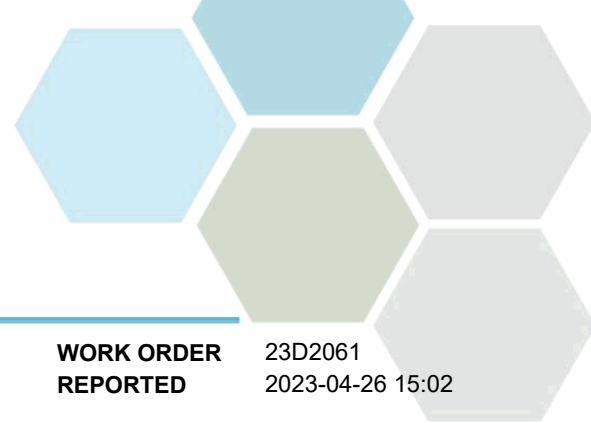
REPORTED TO PROJECT Lake Country, District of (Wastewater)
BioSolids- PE14651

WORK ORDER REPORTED 23D2061
2023-04-26 15:02

| Analyte | Result | RL | Units | Analyzed | Qualifier |
|---|--------|-----|-----------|------------|-----------|
| Biosolids (E233628) (23D2061-01) Matrix: Sludge Sampled: 2023-04-19 09:40, Continued | | | | | |
| <i>Strong Acid Leachable Metals, Continued</i> | | | | | |
| Zirconium | < 4.0 | 2.0 | mg/kg dry | 2023-04-26 | RA1 |

Sample Qualifiers:

RA1 The Reporting Limit has been raised due to matrix interference.



APPENDIX 1: SUPPORTING INFORMATION

REPORTED TO PROJECT Lake Country, District of (Wastewater)
BioSolids- PE14651

WORK ORDER REPORTED 23D2061
2023-04-26 15:02

| Analysis Description | Method Ref. | Technique | Accredited | Location |
|-----------------------------------|-------------------------------------|---|------------|----------|
| Moisture in Solid | ASTM D2974-87* | Gravimetry (Dried at 105C) | | N/A |
| Nitrogen, Total Kjeldahl in Solid | SM 4500-Norg D* (2021) | Block Digestion and Flow Injection Analysis | ✓ | Kelowna |
| pH in Solid | Carter 16.2 / SM 4500-H+ B (2021) | 1:2 Soil/Water Slurry / Electrometry | | Kelowna |
| SALM in Solid | BCMOE SALM V.2 / EPA 6020B | HNO ₃ +HCl Hot Block Digestion / Inductively Coupled Plasma-Mass Spectroscopy (ICP-MS) | ✓ | Richmond |
| Solids, Total in Solid | Solids in Solids / SM 2540 G (2020) | Solids in Solids / Gravimetry | | Kelowna |
| Solids, Volatile in Solid | Solids in Solids / SM 2540 G (2020) | Solids in Solids / Gravimetry | | Kelowna |

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

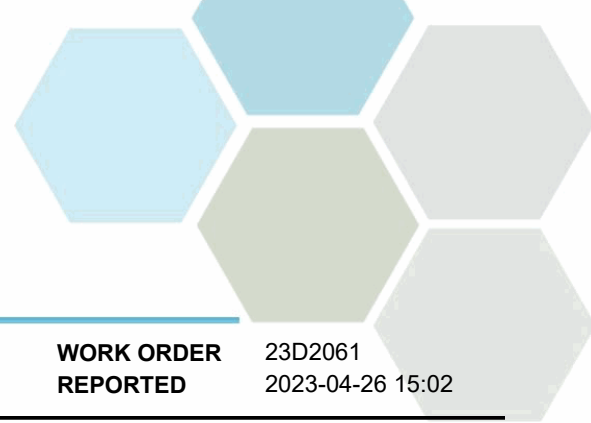
Glossary of Terms:

| | |
|-----------|---|
| RL | Reporting Limit (default) |
| % dry | Percent (dry weight basis) |
| % wet | Percent (as received basis) |
| < | Less than the specified Reporting Limit (RL) - the actual RL may be higher than the default RL due to various factors |
| mg/kg dry | Milligrams per kilogram (dry weight basis) |
| pH units | pH < 7 = acidic, pH > 7 = basic |
| ASTM | ASTM International Test Methods |
| EPA | United States Environmental Protection Agency Test Methods |
| SM | Standard Methods for the Examination of Water and Wastewater, American Public Health Association |

General Comments:

The results in this report apply to the received 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. Caro will dispose of all samples within 30 days of sample receipt, unless otherwise agreed.

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APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater)
BioSolids- PE14651

WORK ORDER REPORTED 23D2061
2023-04-26 15:02

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 |
|---------|--------|----------|-------------|---------------|-------|-----------|-------|-----------|-----------|
|---------|--------|----------|-------------|---------------|-------|-----------|-------|-----------|-----------|

General Parameters, Batch B3D1960

| Blank (B3D1960-BLK1) | | Prepared: 2023-04-21, Analyzed: 2023-04-21 | | | | | | | |
|--------------------------|---------|--|-------|--|----|----------|--|--|--|
| Nitrogen, Total Kjeldahl | < 0.010 | 0.010 % wet | | | | | | | |
| Reference (B3D1960-SRM1) | | Prepared: 2023-04-21, Analyzed: 2023-04-21 | | | | | | | |
| Nitrogen, Total Kjeldahl | 0.116 | 0.010 % wet | 0.197 | | 59 | 58.8-150 | | | |

General Parameters, Batch B3D2081

| Duplicate (B3D2081-DUP1) | | Source: 23D2061-01 | | Prepared: 2023-04-23, Analyzed: 2023-04-23 | | | | | |
|--------------------------|------|--|------|--|-----|--------|------|----|--|
| Moisture | 99.0 | 1.0 % wet | | 78.8 | | | 22.7 | 40 | |
| Reference (B3D2081-SRM1) | | Prepared: 2023-04-23, Analyzed: 2023-04-23 | | | | | | | |
| Moisture | 99.0 | 1.0 % wet | 13.0 | | 101 | 80-120 | | | |

General Parameters, Batch B3D2082

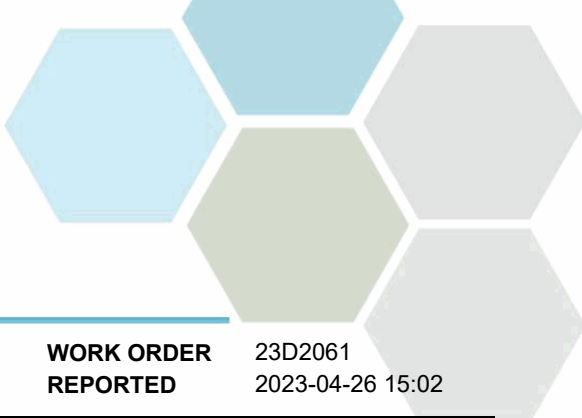
| Duplicate (B3D2082-DUP1) | | Source: 23D2061-01 | | Prepared: 2023-04-23, Analyzed: 2023-04-24 | | | | | |
|--------------------------|------|--------------------|--|--|--|--|-----|----|--|
| pH (1:2 H2O Solution) | 5.70 | 0.10 pH units | | 5.72 | | | < 1 | 10 | |

General Parameters, Batch B3D2104

| Reference (B3D2104-SRM1) | | Prepared: 2023-04-24, Analyzed: 2023-04-24 | | | | | | | |
|--------------------------|------|--|------|--|-----|--------|--|--|--|
| Solids, Total | 87.4 | 0.1 % wet | 87.0 | | 101 | 80-120 | | | |
| Solids, Volatile | 2.6 | 0.1 % dry | 2.58 | | 101 | 80-200 | | | |

Strong Acid Leachable Metals, Batch B3D2411

| Blank (B3D2411-BLK1) | | Prepared: 2023-04-26, Analyzed: 2023-04-26 | | | | | | | |
|----------------------|--------|--|--|--|--|--|--|--|--|
| Aluminum | < 40 | 40 mg/kg dry | | | | | | | |
| Antimony | < 0.10 | 0.10 mg/kg dry | | | | | | | |
| Arsenic | < 0.30 | 0.30 mg/kg dry | | | | | | | |
| Barium | < 1.0 | 1.0 mg/kg dry | | | | | | | |
| Beryllium | < 0.10 | 0.10 mg/kg dry | | | | | | | |
| Bismuth | < 0.10 | 0.10 mg/kg dry | | | | | | | |
| Boron | < 2.0 | 2.0 mg/kg dry | | | | | | | |



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater)
BioSolids- PE14651

WORK ORDER REPORTED 23D2061
2023-04-26 15:02

| Analyte | Result | RL Units | Spike Level | Source Result | % REC | REC Limit | % RPD | RPD Limit | Qualifier |
|---------|--------|----------|-------------|---------------|-------|-----------|-------|-----------|-----------|
|---------|--------|----------|-------------|---------------|-------|-----------|-------|-----------|-----------|

Strong Acid Leachable Metals, Batch B3D2411, Continued

Blank (B3D2411-BLK1), Continued

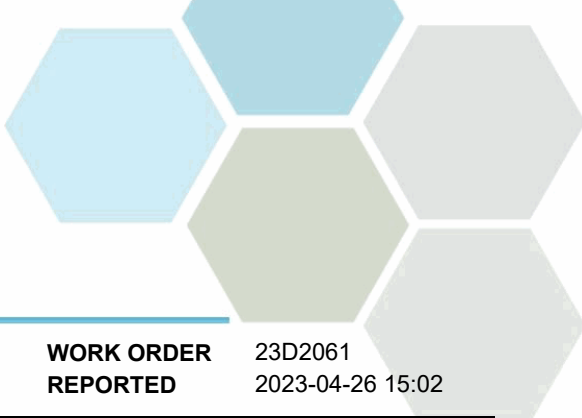
Prepared: 2023-04-26, Analyzed: 2023-04-26

| | | | | | | | | | |
|------------|---------|-----------------|--|--|--|--|--|--|--|
| Cadmium | < 0.040 | 0.040 mg/kg dry | | | | | | | |
| Calcium | < 100 | 100 mg/kg dry | | | | | | | |
| Chromium | < 1.0 | 1.0 mg/kg dry | | | | | | | |
| Cobalt | < 0.10 | 0.10 mg/kg dry | | | | | | | |
| Copper | < 0.40 | 0.40 mg/kg dry | | | | | | | |
| Iron | < 20.0 | 20.0 mg/kg dry | | | | | | | |
| Lead | < 0.20 | 0.20 mg/kg dry | | | | | | | |
| Lithium | < 0.10 | 0.10 mg/kg dry | | | | | | | |
| Magnesium | < 10 | 10 mg/kg dry | | | | | | | |
| Manganese | < 0.40 | 0.40 mg/kg dry | | | | | | | |
| Mercury | < 0.040 | 0.040 mg/kg dry | | | | | | | |
| Molybdenum | < 0.10 | 0.10 mg/kg dry | | | | | | | |
| Nickel | < 0.60 | 0.60 mg/kg dry | | | | | | | |
| Phosphorus | < 10 | 10 mg/kg dry | | | | | | | |
| Potassium | < 40 | 40 mg/kg dry | | | | | | | |
| Selenium | < 0.20 | 0.20 mg/kg dry | | | | | | | |
| Silver | < 0.10 | 0.10 mg/kg dry | | | | | | | |
| Sodium | < 50 | 50 mg/kg dry | | | | | | | |
| Strontium | < 0.20 | 0.20 mg/kg dry | | | | | | | |
| Sulfur | < 1000 | 1000 mg/kg dry | | | | | | | |
| Tellurium | < 0.10 | 0.10 mg/kg dry | | | | | | | |
| Thallium | < 0.10 | 0.10 mg/kg dry | | | | | | | |
| Thorium | < 0.50 | 0.50 mg/kg dry | | | | | | | |
| Tin | < 0.20 | 0.20 mg/kg dry | | | | | | | |
| Titanium | < 1.0 | 1.0 mg/kg dry | | | | | | | |
| Tungsten | < 0.20 | 0.20 mg/kg dry | | | | | | | |
| Uranium | < 0.050 | 0.050 mg/kg dry | | | | | | | |
| Vanadium | < 1.0 | 1.0 mg/kg dry | | | | | | | |
| Zinc | < 2.0 | 2.0 mg/kg dry | | | | | | | |
| Zirconium | < 2.0 | 2.0 mg/kg dry | | | | | | | |

LCS (B3D2411-BS1)

Prepared: 2023-04-26, Analyzed: 2023-04-26

| | | | | | | | | | |
|------------|-------|-----------------|-------|--|-----|--------|--|--|--|
| Aluminum | 189 | 40 mg/kg dry | 200 | | 94 | 80-120 | | | |
| Antimony | 1.94 | 0.10 mg/kg dry | 2.00 | | 97 | 80-120 | | | |
| Arsenic | 1.84 | 0.30 mg/kg dry | 2.00 | | 92 | 80-120 | | | |
| Barium | 2.0 | 1.0 mg/kg dry | 2.00 | | 100 | 80-120 | | | |
| Beryllium | 1.92 | 0.10 mg/kg dry | 2.00 | | 96 | 80-120 | | | |
| Bismuth | 1.96 | 0.10 mg/kg dry | 2.00 | | 98 | 80-120 | | | |
| Boron | 2.0 | 2.0 mg/kg dry | 2.00 | | 99 | 80-120 | | | |
| Cadmium | 1.97 | 0.040 mg/kg dry | 2.00 | | 98 | 80-120 | | | |
| Calcium | 212 | 100 mg/kg dry | 200 | | 106 | 80-120 | | | |
| Chromium | 1.9 | 1.0 mg/kg dry | 2.00 | | 93 | 80-120 | | | |
| Cobalt | 1.89 | 0.10 mg/kg dry | 2.00 | | 95 | 80-120 | | | |
| Copper | 1.90 | 0.40 mg/kg dry | 2.00 | | 95 | 80-120 | | | |
| Iron | 194 | 20.0 mg/kg dry | 200 | | 97 | 80-120 | | | |
| Lead | 1.97 | 0.20 mg/kg dry | 2.00 | | 98 | 80-120 | | | |
| Lithium | 1.89 | 0.10 mg/kg dry | 2.00 | | 94 | 80-120 | | | |
| Magnesium | 194 | 10 mg/kg dry | 200 | | 97 | 80-120 | | | |
| Manganese | 1.91 | 0.40 mg/kg dry | 2.00 | | 96 | 80-120 | | | |
| Mercury | 0.180 | 0.040 mg/kg dry | 0.200 | | 90 | 80-120 | | | |
| Molybdenum | 1.96 | 0.10 mg/kg dry | 2.00 | | 98 | 80-120 | | | |
| Nickel | 1.88 | 0.60 mg/kg dry | 2.00 | | 94 | 80-120 | | | |
| Phosphorus | 189 | 10 mg/kg dry | 200 | | 94 | 80-120 | | | |
| Potassium | 194 | 40 mg/kg dry | 200 | | 97 | 80-120 | | | |
| Selenium | 1.92 | 0.20 mg/kg dry | 2.00 | | 96 | 80-120 | | | |
| Silver | 1.98 | 0.10 mg/kg dry | 2.00 | | 99 | 80-120 | | | |



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater)
BioSolids- PE14651

WORK ORDER REPORTED 23D2061
2023-04-26 15:02

| Analyte | Result | RL Units | Spike Level | Source Result | % REC | REC Limit | % RPD | RPD Limit | Qualifier |
|---|--------|-----------------|-------------|---------------|--|-----------|-------|-----------|-----------|
| Strong Acid Leachable Metals, Batch B3D2411, Continued | | | | | | | | | |
| LCS (B3D2411-BS1), Continued | | | | | Prepared: 2023-04-26, Analyzed: 2023-04-26 | | | | |
| Sodium | 193 | 50 mg/kg dry | 200 | | 97 | 80-120 | | | |
| Strontium | 1.93 | 0.20 mg/kg dry | 2.00 | | 97 | 80-120 | | | |
| Sulfur | 2040 | 1000 mg/kg dry | 2000 | | 102 | 80-120 | | | |
| Tellurium | 1.91 | 0.10 mg/kg dry | 2.00 | | 95 | 80-120 | | | |
| Thallium | 1.97 | 0.10 mg/kg dry | 2.00 | | 99 | 80-120 | | | |
| Thorium | 1.94 | 0.50 mg/kg dry | 2.00 | | 97 | 80-120 | | | |
| Tin | 1.92 | 0.20 mg/kg dry | 2.00 | | 96 | 80-120 | | | |
| Titanium | 1.9 | 1.0 mg/kg dry | 2.00 | | 95 | 80-120 | | | |
| Tungsten | 1.96 | 0.20 mg/kg dry | 2.00 | | 98 | 80-120 | | | |
| Uranium | 1.98 | 0.050 mg/kg dry | 2.00 | | 99 | 80-120 | | | |
| Vanadium | 1.9 | 1.0 mg/kg dry | 2.00 | | 96 | 80-120 | | | |
| Zinc | < 2.0 | 2.0 mg/kg dry | 2.00 | | 94 | 80-120 | | | |
| Zirconium | 2.0 | 2.0 mg/kg dry | 2.00 | | 98 | 80-120 | | | |

| | | | | | | | | | |
|---------------------------------|--------|-----------------|--------|--|--|--------|--|--|--|
| Reference (B3D2411-SRM1) | | | | | Prepared: 2023-04-26, Analyzed: 2023-04-26 | | | | |
| Aluminum | 11500 | 40 mg/kg dry | 12100 | | 95 | 70-130 | | | |
| Antimony | 0.64 | 0.10 mg/kg dry | 0.634 | | 101 | 70-130 | | | |
| Arsenic | 83.7 | 0.30 mg/kg dry | 83.6 | | 100 | 70-130 | | | |
| Barium | 40.9 | 1.0 mg/kg dry | 41.4 | | 99 | 70-130 | | | |
| Beryllium | 0.38 | 0.10 mg/kg dry | 0.377 | | 101 | 70-130 | | | |
| Bismuth | 0.31 | 0.10 mg/kg dry | 0.291 | | 105 | 70-130 | | | |
| Calcium | 5060 | 100 mg/kg dry | 5380 | | 94 | 70-130 | | | |
| Chromium | 63.6 | 1.0 mg/kg dry | 66.0 | | 96 | 70-130 | | | |
| Cobalt | 10.6 | 0.10 mg/kg dry | 10.8 | | 99 | 70-130 | | | |
| Copper | 20.9 | 0.40 mg/kg dry | 20.3 | | 103 | 70-130 | | | |
| Iron | 20000 | 20.0 mg/kg dry | 20400 | | 98 | 70-130 | | | |
| Lead | 16.8 | 0.20 mg/kg dry | 16.7 | | 100 | 70-130 | | | |
| Lithium | 17.0 | 0.10 mg/kg dry | 16.8 | | 101 | 70-130 | | | |
| Magnesium | 6120 | 10 mg/kg dry | 6170 | | 99 | 70-130 | | | |
| Manganese | 311 | 0.40 mg/kg dry | 319 | | 98 | 70-130 | | | |
| Mercury | 0.113 | 0.040 mg/kg dry | 0.114 | | 99 | 70-130 | | | |
| Molybdenum | 0.58 | 0.10 mg/kg dry | 0.607 | | 95 | 70-130 | | | |
| Nickel | 32.3 | 0.60 mg/kg dry | 32.5 | | 99 | 70-130 | | | |
| Phosphorus | 429 | 10 mg/kg dry | 432 | | 99 | 70-130 | | | |
| Silver | 1.59 | 0.10 mg/kg dry | 1.55 | | 102 | 70-130 | | | |
| Strontium | 20.9 | 0.20 mg/kg dry | 22.5 | | 93 | 70-130 | | | |
| Thallium | < 0.10 | 0.10 mg/kg dry | 0.0765 | | 106 | 70-130 | | | |
| Thorium | 2.99 | 0.50 mg/kg dry | 2.96 | | 101 | 70-130 | | | |
| Tin | 1.15 | 0.20 mg/kg dry | 1.32 | | 87 | 70-130 | | | |
| Titanium | 679 | 1.0 mg/kg dry | 730 | | 93 | 70-130 | | | |
| Uranium | 1.14 | 0.050 mg/kg dry | 1.15 | | 100 | 70-130 | | | |
| Vanadium | 35.6 | 1.0 mg/kg dry | 36.3 | | 98 | 70-130 | | | |
| Zinc | 37.8 | 2.0 mg/kg dry | 39.7 | | 95 | 70-130 | | | |



CERTIFICATE OF ANALYSIS

| | | | |
|---------------------|---|---------------------------------|---|
| REPORTED TO | Lake Country, District of (Wastewater) 4062 Beaver Lake Rd LAKE COUNTRY, BC V4V 1T5 | WORK ORDER | 23D2056 |
| ATTENTION | Davin Larsen | RECEIVED / TEMP REPORTED | 2023-04-19 11:25 / 11.8°C 2023-04-26 13:52 |
| PO NUMBER | | COC NUMBER | 45035.39452 |
| PROJECT | Raw Influent- PE14651 | | |
| PROJECT INFO | Lake Country WWTP | | |

Introduction:

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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



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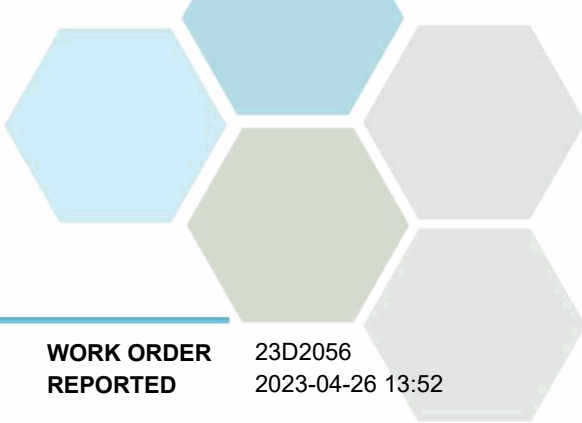
If you have any questions or concerns, please contact me at bwhitehead@caro.ca

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

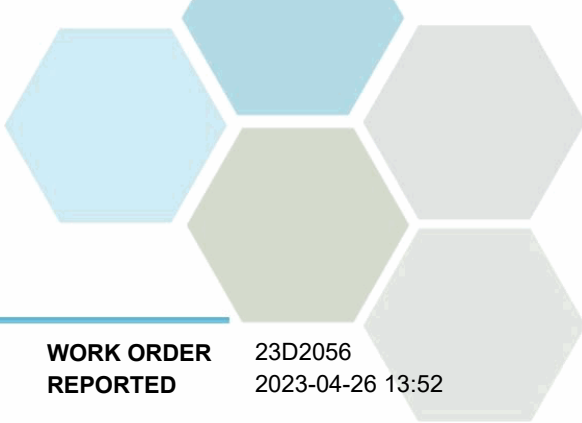
REPORTED TO PROJECT Lake Country, District of (Wastewater)
Raw Influent- PE14651

WORK ORDER REPORTED 23D2056
2023-04-26 13:52

| Analyte | Result | RL | Units | Analyzed | Qualifier |
|---|-------------|--------|----------|------------|-----------|
| Raw Influent (E233627) (23D2056-01) Matrix: Wastewater Sampled: 2023-04-19 09:50 | | | | | |
| Anions | | | | | |
| Nitrate (as N) | < 0.010 | 0.010 | mg/L | 2023-04-21 | |
| Nitrite (as N) | < 0.010 | 0.010 | mg/L | 2023-04-21 | |
| Phosphate (as P) | 8.84 | 0.0050 | mg/L | 2023-04-20 | |
| Calculated Parameters | | | | | |
| Nitrate+Nitrite (as N) | < 0.0100 | 0.0100 | mg/L | N/A | |
| Nitrogen, Total | 95.9 | 2.00 | mg/L | N/A | |
| General Parameters | | | | | |
| Alkalinity, Total (as CaCO3) | 400 | 1.0 | mg/L | 2023-04-21 | |
| Alkalinity, Phenolphthalein (as CaCO3) | < 1.0 | 1.0 | mg/L | 2023-04-21 | |
| Alkalinity, Bicarbonate (as CaCO3) | 400 | 1.0 | mg/L | 2023-04-21 | |
| Alkalinity, Carbonate (as CaCO3) | < 1.0 | 1.0 | mg/L | 2023-04-21 | |
| Alkalinity, Hydroxide (as CaCO3) | < 1.0 | 1.0 | mg/L | 2023-04-21 | |
| Ammonia, Total (as N) | 72.2 | 0.050 | mg/L | 2023-04-20 | |
| BOD, 5-day | 500 | 2.0 | mg/L | 2023-04-25 | |
| BOD, 5-day Carbonaceous | 330 | 2.0 | mg/L | 2023-04-25 | |
| Nitrogen, Total Kjeldahl | 95.9 | 0.050 | mg/L | 2023-04-23 | |
| pH | 8.17 | 0.10 | pH units | 2023-04-21 | HT2 |
| Phosphorus, Total (as P) | 10.9 | 0.0050 | mg/L | 2023-04-21 | |
| Solids, Total Suspended | 279 | 2.0 | mg/L | 2023-04-22 | |

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 Lake Country, District of (Wastewater)
Raw Influent- PE14651

WORK ORDER REPORTED 23D2056
2023-04-26 13:52

| Analysis Description | Method Ref. | Technique | Accredited | Location |
|--|---|--|------------|----------|
| Alkalinity in Water | SM 2320 B* (2021) | Titration with H2SO4 | ✓ | Kelowna |
| Ammonia, Total in Water | SM 4500-NH3 G* (2021) | Automated Colorimetry (Phenate) | ✓ | Kelowna |
| Anions in Water | SM 4110 B (2020) | Ion Chromatography | ✓ | Kelowna |
| Biochemical Oxygen Demand in Water | SM 5210 B (2019) | Dissolved Oxygen Meter | ✓ | Kelowna |
| Biochemical Oxygen Demand, Carbonaceous in Water | SM 5210 B (2019) | Dissolved Oxygen Meter | ✓ | Kelowna |
| Nitrogen, Total Kjeldahl in Water | SM 4500-Norg D* (2021) | Block Digestion and Flow Injection Analysis | ✓ | Kelowna |
| pH in Water | SM 4500-H+ B (2021) | Electrometry | ✓ | Kelowna |
| Phosphorus, Total in Water | SM 4500-P B.5* (2011) / SM 4500-P F (2021) | Persulfate Digestion / Automated Colorimetry (Ascorbic Acid) | ✓ | Kelowna |
| Solids, Total Suspended in Water | Solids in Water, Filtered / SM 2540 D* (2020) | Solids in Water, Filtered / Gravimetry (Dried at 103-105C) | ✓ | Kelowna |

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

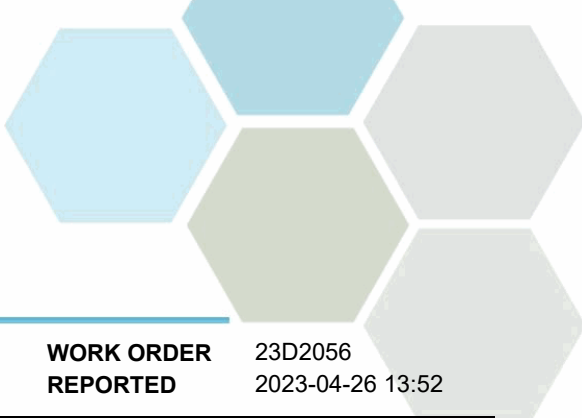
Glossary of Terms:

| | |
|----------|---|
| RL | Reporting Limit (default) |
| < | Less than the specified Reporting Limit (RL) - the actual RL may be higher than the default RL due to various factors |
| mg/L | Milligrams per litre |
| pH units | pH < 7 = acidic, pH > 7 = basic |
| SM | Standard Methods for the Examination of Water and Wastewater, American Public Health Association |

General Comments:

The results in this report apply to the received 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. Caro will dispose of all samples within 30 days of sample receipt, unless otherwise agreed.

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APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater)
Raw Influent- PE14651

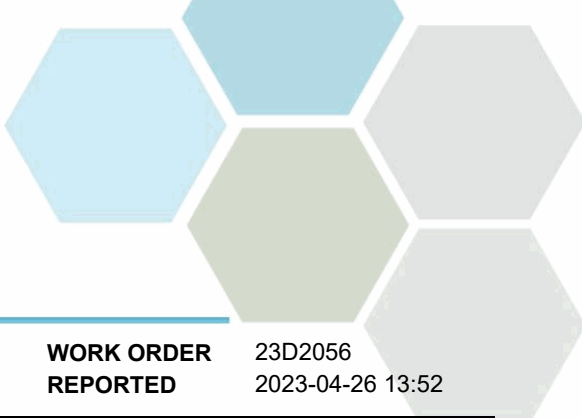
WORK ORDER REPORTED 23D2056
2023-04-26 13:52

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 B3D1781 | | | | | | | | | |
| Blank (B3D1781-BLK1) | | | Prepared: 2023-04-20, Analyzed: 2023-04-20 | | | | | | |
| Nitrate (as N) | < 0.010 | 0.010 mg/L | | | | | | | |
| Nitrite (as N) | < 0.010 | 0.010 mg/L | | | | | | | |
| Phosphate (as P) | < 0.0050 | 0.0050 mg/L | | | | | | | |
| Blank (B3D1781-BLK2) | | | Prepared: 2023-04-20, Analyzed: 2023-04-20 | | | | | | |
| Nitrate (as N) | < 0.010 | 0.010 mg/L | | | | | | | |
| Nitrite (as N) | < 0.010 | 0.010 mg/L | | | | | | | |
| Phosphate (as P) | < 0.0050 | 0.0050 mg/L | | | | | | | |
| LCS (B3D1781-BS1) | | | Prepared: 2023-04-20, Analyzed: 2023-04-20 | | | | | | |
| Nitrate (as N) | 3.96 | 0.010 mg/L | 4.00 | | 99 | 90-110 | | | |
| Nitrite (as N) | 2.06 | 0.010 mg/L | 2.00 | | 103 | 85-115 | | | |
| Phosphate (as P) | 0.960 | 0.0050 mg/L | 1.00 | | 96 | 80-120 | | | |
| LCS (B3D1781-BS2) | | | Prepared: 2023-04-20, Analyzed: 2023-04-20 | | | | | | |
| Nitrate (as N) | 3.95 | 0.010 mg/L | 4.00 | | 99 | 90-110 | | | |
| Nitrite (as N) | 2.09 | 0.010 mg/L | 2.00 | | 104 | 85-115 | | | |
| Phosphate (as P) | 1.07 | 0.0050 mg/L | 1.00 | | 107 | 80-120 | | | |
| General Parameters, Batch B3D1711 | | | | | | | | | |
| Blank (B3D1711-BLK1) | | | Prepared: 2023-04-19, Analyzed: 2023-04-21 | | | | | | |
| Phosphorus, Total (as P) | < 0.0050 | 0.0050 mg/L | | | | | | | |
| Blank (B3D1711-BLK2) | | | Prepared: 2023-04-19, Analyzed: 2023-04-21 | | | | | | |
| Phosphorus, Total (as P) | < 0.0050 | 0.0050 mg/L | | | | | | | |
| Blank (B3D1711-BLK3) | | | Prepared: 2023-04-19, Analyzed: 2023-04-21 | | | | | | |
| Phosphorus, Total (as P) | < 0.0050 | 0.0050 mg/L | | | | | | | |
| LCS (B3D1711-BS1) | | | Prepared: 2023-04-19, Analyzed: 2023-04-21 | | | | | | |
| Phosphorus, Total (as P) | 0.102 | 0.0050 mg/L | 0.100 | | 102 | 85-115 | | | |
| LCS (B3D1711-BS2) | | | Prepared: 2023-04-19, Analyzed: 2023-04-21 | | | | | | |
| Phosphorus, Total (as P) | 0.102 | 0.0050 mg/L | 0.100 | | 102 | 85-115 | | | |

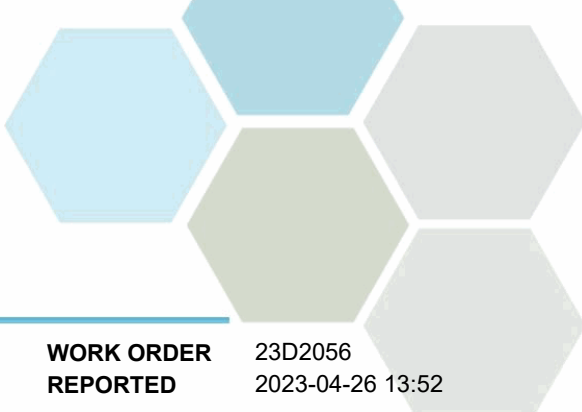


APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater)
Raw Influent- PE14651

WORK ORDER REPORTED 23D2056
2023-04-26 13:52

| Analyte | Result | RL Units | Spike Level | Source Result | % REC | REC Limit | % RPD | RPD Limit | Qualifier |
|---|---------|-------------|--|---------------|-------|-----------|-------|-----------|-----------|
| General Parameters, Batch B3D1711, Continued | | | | | | | | | |
| LCS (B3D1711-BS3) | | | Prepared: 2023-04-19, Analyzed: 2023-04-21 | | | | | | |
| Phosphorus, Total (as P) | 0.101 | 0.0050 mg/L | 0.100 | | 101 | 85-115 | | | |
| General Parameters, Batch B3D1778 | | | | | | | | | |
| Blank (B3D1778-BLK1) | | | Prepared: 2023-04-20, Analyzed: 2023-04-20 | | | | | | |
| Ammonia, Total (as N) | < 0.050 | 0.050 mg/L | | | | | | | |
| Blank (B3D1778-BLK2) | | | Prepared: 2023-04-20, Analyzed: 2023-04-20 | | | | | | |
| Ammonia, Total (as N) | < 0.050 | 0.050 mg/L | | | | | | | |
| Blank (B3D1778-BLK3) | | | Prepared: 2023-04-20, Analyzed: 2023-04-20 | | | | | | |
| Ammonia, Total (as N) | < 0.050 | 0.050 mg/L | | | | | | | |
| LCS (B3D1778-BS1) | | | Prepared: 2023-04-20, Analyzed: 2023-04-20 | | | | | | |
| Ammonia, Total (as N) | 0.994 | 0.050 mg/L | 1.00 | | 99 | 85-115 | | | |
| LCS (B3D1778-BS2) | | | Prepared: 2023-04-20, Analyzed: 2023-04-20 | | | | | | |
| Ammonia, Total (as N) | 0.988 | 0.050 mg/L | 1.00 | | 99 | 85-115 | | | |
| LCS (B3D1778-BS3) | | | Prepared: 2023-04-20, Analyzed: 2023-04-20 | | | | | | |
| Ammonia, Total (as N) | 0.995 | 0.050 mg/L | 1.00 | | 100 | 85-115 | | | |
| General Parameters, Batch B3D1823 | | | | | | | | | |
| Blank (B3D1823-BLK1) | | | Prepared: 2023-04-20, Analyzed: 2023-04-25 | | | | | | |
| BOD, 5-day | < 2.0 | 2.0 mg/L | | | | | | | |
| LCS (B3D1823-BS1) | | | Prepared: 2023-04-20, Analyzed: 2023-04-25 | | | | | | |
| BOD, 5-day | 198 | 61.0 mg/L | 198 | | 100 | 85-115 | | | |
| General Parameters, Batch B3D1824 | | | | | | | | | |
| Blank (B3D1824-BLK1) | | | Prepared: 2023-04-20, Analyzed: 2023-04-25 | | | | | | |
| BOD, 5-day Carbonaceous | < 2.0 | 2.0 mg/L | | | | | | | |
| LCS (B3D1824-BS1) | | | Prepared: 2023-04-20, Analyzed: 2023-04-25 | | | | | | |
| BOD, 5-day Carbonaceous | 177 | 55.1 mg/L | 198 | | 89 | 85-115 | | | |
| General Parameters, Batch B3D1911 | | | | | | | | | |
| Blank (B3D1911-BLK1) | | | Prepared: 2023-04-21, Analyzed: 2023-04-21 | | | | | | |
| Alkalinity, Total (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Phenolphthalein (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Bicarbonate (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Carbonate (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Hydroxide (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Blank (B3D1911-BLK2) | | | Prepared: 2023-04-21, Analyzed: 2023-04-21 | | | | | | |
| Alkalinity, Total (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Phenolphthalein (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Bicarbonate (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Carbonate (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Hydroxide (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater)
Raw Influent- PE14651

WORK ORDER REPORTED 23D2056
2023-04-26 13:52

| Analyte | Result | RL Units | Spike Level | Source Result | % REC | REC Limit | % RPD | RPD Limit | Qualifier |
|---|---------|---------------|--|---------------|-------|-----------|-------|-----------|-----------|
| General Parameters, Batch B3D1911, Continued | | | | | | | | | |
| LCS (B3D1911-BS1) | | | Prepared: 2023-04-21, Analyzed: 2023-04-21 | | | | | | |
| Alkalinity, Total (as CaCO ₃) | 95.2 | 1.0 mg/L | 100 | | 95 | 80-120 | | | |
| LCS (B3D1911-BS2) | | | Prepared: 2023-04-21, Analyzed: 2023-04-21 | | | | | | |
| Alkalinity, Total (as CaCO ₃) | 96.9 | 1.0 mg/L | 100 | | 97 | 80-120 | | | |
| Reference (B3D1911-SRM1) | | | Prepared: 2023-04-21, Analyzed: 2023-04-21 | | | | | | |
| pH | 7.00 | 0.10 pH units | 7.01 | | 100 | 98-102 | | | |
| Reference (B3D1911-SRM2) | | | Prepared: 2023-04-21, Analyzed: 2023-04-21 | | | | | | |
| pH | 7.01 | 0.10 pH units | 7.01 | | 100 | 98-102 | | | |
| General Parameters, Batch B3D1956 | | | | | | | | | |
| Blank (B3D1956-BLK1) | | | Prepared: 2023-04-21, Analyzed: 2023-04-23 | | | | | | |
| Nitrogen, Total Kjeldahl | < 0.050 | 0.050 mg/L | | | | | | | |
| Blank (B3D1956-BLK2) | | | Prepared: 2023-04-21, Analyzed: 2023-04-23 | | | | | | |
| Nitrogen, Total Kjeldahl | < 0.050 | 0.050 mg/L | | | | | | | |
| LCS (B3D1956-BS1) | | | Prepared: 2023-04-21, Analyzed: 2023-04-23 | | | | | | |
| Nitrogen, Total Kjeldahl | 0.893 | 0.050 mg/L | 1.00 | | 89 | 85-115 | | | |
| LCS (B3D1956-BS2) | | | Prepared: 2023-04-21, Analyzed: 2023-04-23 | | | | | | |
| Nitrogen, Total Kjeldahl | 0.903 | 0.050 mg/L | 1.00 | | 90 | 85-115 | | | |
| General Parameters, Batch B3D2038 | | | | | | | | | |
| Blank (B3D2038-BLK1) | | | Prepared: 2023-04-22, Analyzed: 2023-04-22 | | | | | | |
| Solids, Total Suspended | < 2.0 | 2.0 mg/L | | | | | | | |
| LCS (B3D2038-BS1) | | | Prepared: 2023-04-22, Analyzed: 2023-04-22 | | | | | | |
| Solids, Total Suspended | 98.0 | 10.0 mg/L | 100 | | 98 | 85-115 | | | |



CERTIFICATE OF ANALYSIS

| | | | |
|---------------------|---|---------------------------------|---|
| REPORTED TO | Lake Country, District of (Wastewater) 4062 Beaver Lake Rd LAKE COUNTRY, BC V4V 1T5 | WORK ORDER | 23D2057 |
| ATTENTION | Davin Larsen | RECEIVED / TEMP REPORTED | 2023-04-19 11:25 / 11.8°C 2023-04-26 13:53 |
| PO NUMBER | | COC NUMBER | 45035.39452 |
| PROJECT | Final Effluent- PE14651 | | |
| PROJECT INFO | Lake Country WWTP | | |

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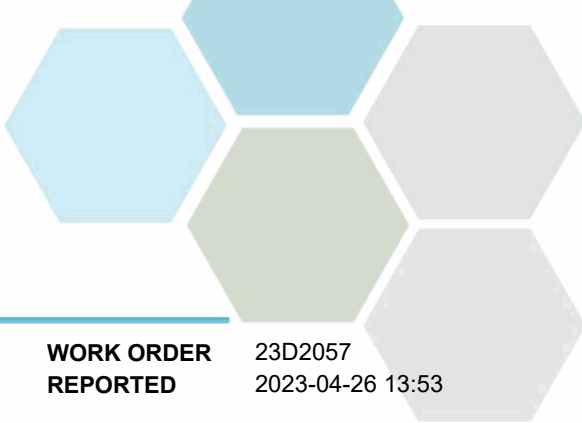
If you have any questions or concerns, please contact me at bwhitehead@caro.ca

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

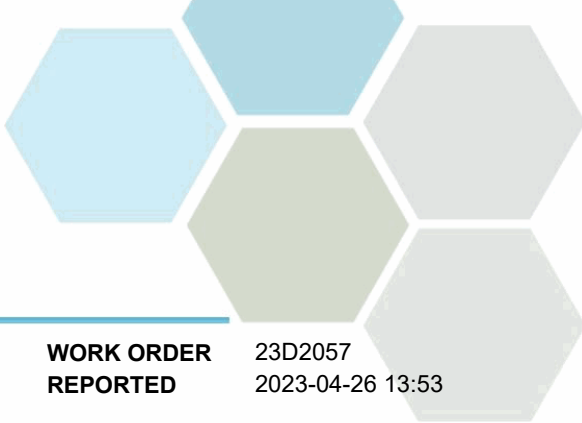
REPORTED TO PROJECT Lake Country, District of (Wastewater)
Final Effluent- PE14651

WORK ORDER REPORTED 23D2057
2023-04-26 13:53

| Analyte | Result | RL | Units | Analyzed | Qualifier |
|---|--------|--------|------------|------------|-----------|
| Final Effluent (E233626) (23D2057-01) Matrix: Wastewater Sampled: 2023-04-19 10:20 | | | | | |
| Anions | | | | | |
| Chloride | 129 | 0.10 | mg/L | 2023-04-21 | |
| Nitrate (as N) | 1.45 | 0.010 | mg/L | 2023-04-21 | |
| Nitrite (as N) | 0.065 | 0.010 | mg/L | 2023-04-21 | |
| Phosphate (as P) | 0.463 | 0.0050 | mg/L | 2023-04-21 | RE2 |
| Calculated Parameters | | | | | |
| Nitrate+Nitrite (as N) | 1.52 | 0.0100 | mg/L | N/A | |
| Nitrogen, Total | 3.73 | 0.0500 | mg/L | N/A | |
| Nitrogen, Organic | 2.03 | 0.0500 | mg/L | N/A | |
| General Parameters | | | | | |
| Alkalinity, Total (as CaCO3) | 171 | 1.0 | mg/L | 2023-04-21 | |
| Alkalinity, Phenolphthalein (as CaCO3) | < 1.0 | 1.0 | mg/L | 2023-04-21 | |
| Alkalinity, Bicarbonate (as CaCO3) | 171 | 1.0 | mg/L | 2023-04-21 | |
| Alkalinity, Carbonate (as CaCO3) | < 1.0 | 1.0 | mg/L | 2023-04-21 | |
| Alkalinity, Hydroxide (as CaCO3) | < 1.0 | 1.0 | mg/L | 2023-04-21 | |
| Ammonia, Total (as N) | 0.183 | 0.050 | mg/L | 2023-04-20 | |
| BOD, 5-day Carbonaceous | 4.6 | 2.0 | mg/L | 2023-04-25 | |
| Nitrogen, Total Kjeldahl | 2.21 | 0.050 | mg/L | 2023-04-21 | |
| pH | 7.59 | 0.10 | pH units | 2023-04-21 | HT2 |
| Phosphorus, Total (as P) | 0.943 | 0.0050 | mg/L | 2023-04-21 | |
| Solids, Total Suspended | 5.6 | 2.0 | mg/L | 2023-04-22 | |
| Microbiological Parameters | | | | | |
| Coliforms, Total (Q-Tray) | 173000 | 1 | MPN/100 mL | 2023-04-20 | |
| Coliforms, Fecal (Q-Tray) | 61300 | 1 | MPN/100 mL | 2023-04-20 | |

Duplicate (23D2057-02) | Matrix: Water | Sampled: 2023-04-19 10:25

| | | | | | |
|--|-------|--------|------|------------|--|
| Anions | | | | | |
| Chloride | 130 | 0.10 | mg/L | 2023-04-21 | |
| Nitrate (as N) | 1.42 | 0.010 | mg/L | 2023-04-21 | |
| Nitrite (as N) | 0.063 | 0.010 | mg/L | 2023-04-21 | |
| Phosphate (as P) | 0.479 | 0.0050 | mg/L | 2023-04-21 | |
| Calculated Parameters | | | | | |
| Nitrate+Nitrite (as N) | 1.48 | 0.0100 | mg/L | N/A | |
| Nitrogen, Total | 3.80 | 0.0500 | mg/L | N/A | |
| General Parameters | | | | | |
| Alkalinity, Total (as CaCO3) | 171 | 1.0 | mg/L | 2023-04-21 | |
| Alkalinity, Phenolphthalein (as CaCO3) | < 1.0 | 1.0 | mg/L | 2023-04-21 | |
| Alkalinity, Bicarbonate (as CaCO3) | 171 | 1.0 | mg/L | 2023-04-21 | |
| Alkalinity, Carbonate (as CaCO3) | < 1.0 | 1.0 | mg/L | 2023-04-21 | |



TEST RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater)
Final Effluent- PE14651

WORK ORDER REPORTED 23D2057
2023-04-26 13:53

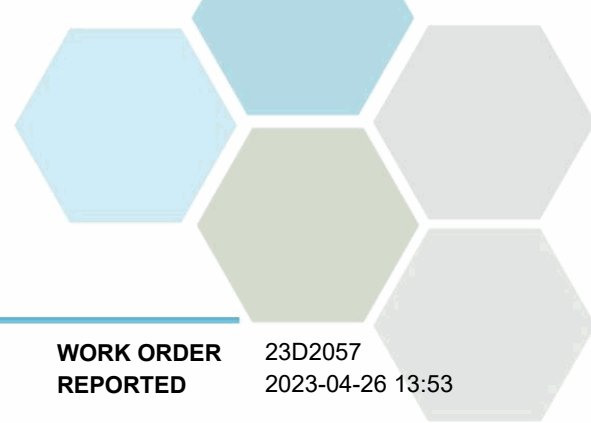
| Analyte | Result | RL | Units | Analyzed | Qualifier |
|--|--------------|--------|----------|------------|-----------|
| Duplicate (23D2057-02) Matrix: Water Sampled: 2023-04-19 10:25, Continued | | | | | |
| <i>General Parameters, Continued</i> | | | | | |
| Alkalinity, Hydroxide (as CaCO3) | < 1.0 | 1.0 | mg/L | 2023-04-21 | |
| Ammonia, Total (as N) | 0.183 | 0.050 | mg/L | 2023-04-20 | |
| BOD, 5-day Carbonaceous | 4.8 | 2.0 | mg/L | 2023-04-25 | |
| Nitrogen, Total Kjeldahl | 2.32 | 0.050 | mg/L | 2023-04-21 | |
| pH | 7.60 | 0.10 | pH units | 2023-04-21 | HT2 |
| Phosphorus, Total (as P) | 0.936 | 0.0050 | mg/L | 2023-04-21 | |
| Solids, Total Suspended | 6.0 | 2.0 | mg/L | 2023-04-22 | |

Microbiological Parameters

| | | | | | |
|---------------------------|--------------------|---|------------|------------|--|
| Coliforms, Total (Q-Tray) | > 242000 | 1 | MPN/100 mL | 2023-04-20 | |
| Coliforms, Fecal (Q-Tray) | 64900 | 1 | MPN/100 mL | 2023-04-20 | |

Sample Qualifiers:

- HT2 The 15 minute recommended holding time (from sampling to analysis) has been exceeded - field analysis is recommended.
- RE2 Result was confirmed by re-analysis prior to reporting.



APPENDIX 1: SUPPORTING INFORMATION

REPORTED TO PROJECT Lake Country, District of (Wastewater)
Final Effluent- PE14651

WORK ORDER REPORTED 23D2057
2023-04-26 13:53

| Analysis Description | Method Ref. | Technique | Accredited | Location |
|--|---|--|------------|----------|
| Alkalinity in Water | SM 2320 B* (2021) | Titration with H2SO4 | ✓ | Kelowna |
| Ammonia, Total in Water | SM 4500-NH3 G* (2021) | Automated Colorimetry (Phenate) | ✓ | Kelowna |
| Anions in Water | SM 4110 B (2020) | Ion Chromatography | ✓ | Kelowna |
| Biochemical Oxygen Demand, Carbonaceous in Water | SM 5210 B (2019) | Dissolved Oxygen Meter | ✓ | Kelowna |
| Coliforms, Fecal in Water | NA / SM 9223 (2016) | Quanti-Tray / Enzyme Substrate Endo Agar | ✓ | Kelowna |
| Coliforms, Total in Water | NA / SM 9223 (2016) | Quanti-Tray / Enzyme Substrate Endo Agar | ✓ | Kelowna |
| Nitrogen, Total Kjeldahl in Water | SM 4500-Norg D* (2021) | Block Digestion and Flow Injection Analysis | ✓ | Kelowna |
| pH in Water | SM 4500-H+ B (2021) | Electrometry | ✓ | Kelowna |
| Phosphorus, Total in Water | SM 4500-P B.5* (2011) / SM 4500-P F (2021) | Persulfate Digestion / Automated Colorimetry (Ascorbic Acid) | ✓ | Kelowna |
| Solids, Total Suspended in Water | Solids in Water, Filtered / SM 2540 D* (2020) | Solids in Water, Filtered / Gravimetry (Dried at 103-105C) | ✓ | Kelowna |

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

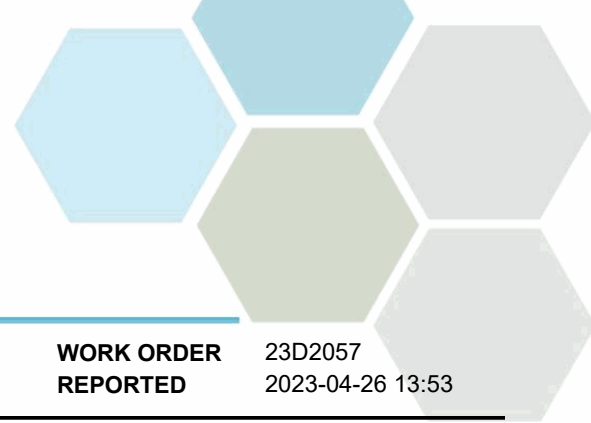
Glossary of Terms:

| | |
|------------|---|
| RL | Reporting Limit (default) |
| < | Less than the specified Reporting Limit (RL) - the actual RL may be higher than the default RL due to various factors |
| > | 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 |
| SM | Standard Methods for the Examination of Water and Wastewater, American Public Health Association |

General Comments:

The results in this report apply to the received 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. Caro will dispose of all samples within 30 days of sample receipt, unless otherwise agreed.

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APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater)
Final Effluent- PE14651

WORK ORDER REPORTED 23D2057
2023-04-26 13:53

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 B3D1811

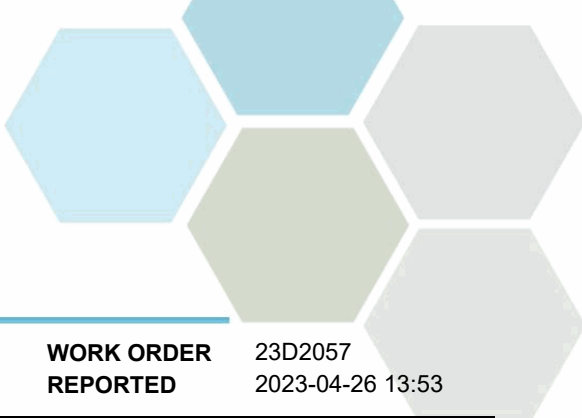
| Blank (B3D1811-BLK1) | | Prepared: 2023-04-21, Analyzed: 2023-04-21 | | | | | | | |
|----------------------|----------|--|------|--|-----|--------|--|--|--|
| Chloride | < 0.10 | 0.10 mg/L | | | | | | | |
| Nitrate (as N) | < 0.010 | 0.010 mg/L | | | | | | | |
| Nitrite (as N) | < 0.010 | 0.010 mg/L | | | | | | | |
| Phosphate (as P) | < 0.0050 | 0.0050 mg/L | | | | | | | |
| LCS (B3D1811-BS1) | | Prepared: 2023-04-21, Analyzed: 2023-04-21 | | | | | | | |
| Chloride | 15.9 | 0.10 mg/L | 16.0 | | 99 | 90-110 | | | |
| Nitrate (as N) | 3.94 | 0.010 mg/L | 4.00 | | 99 | 90-110 | | | |
| Nitrite (as N) | 2.09 | 0.010 mg/L | 2.00 | | 105 | 85-115 | | | |
| Phosphate (as P) | 1.13 | 0.0050 mg/L | 1.00 | | 113 | 80-120 | | | |

General Parameters, Batch B3D1711

| Blank (B3D1711-BLK1) | | Prepared: 2023-04-19, Analyzed: 2023-04-21 | | | | | | | |
|--------------------------|----------|--|-------|--|-----|--------|--|--|--|
| Phosphorus, Total (as P) | < 0.0050 | 0.0050 mg/L | | | | | | | |
| Blank (B3D1711-BLK2) | | Prepared: 2023-04-19, Analyzed: 2023-04-21 | | | | | | | |
| Phosphorus, Total (as P) | < 0.0050 | 0.0050 mg/L | | | | | | | |
| Blank (B3D1711-BLK3) | | Prepared: 2023-04-19, Analyzed: 2023-04-21 | | | | | | | |
| Phosphorus, Total (as P) | < 0.0050 | 0.0050 mg/L | | | | | | | |
| LCS (B3D1711-BS1) | | Prepared: 2023-04-19, Analyzed: 2023-04-21 | | | | | | | |
| Phosphorus, Total (as P) | 0.102 | 0.0050 mg/L | 0.100 | | 102 | 85-115 | | | |
| LCS (B3D1711-BS2) | | Prepared: 2023-04-19, Analyzed: 2023-04-21 | | | | | | | |
| Phosphorus, Total (as P) | 0.102 | 0.0050 mg/L | 0.100 | | 102 | 85-115 | | | |
| LCS (B3D1711-BS3) | | Prepared: 2023-04-19, Analyzed: 2023-04-21 | | | | | | | |
| Phosphorus, Total (as P) | 0.101 | 0.0050 mg/L | 0.100 | | 101 | 85-115 | | | |

General Parameters, Batch B3D1778

| Blank (B3D1778-BLK1) | | Prepared: 2023-04-20, Analyzed: 2023-04-20 | | | | | | | |
|-----------------------|---------|--|--|--|--|--|--|--|--|
| Ammonia, Total (as N) | < 0.050 | 0.050 mg/L | | | | | | | |

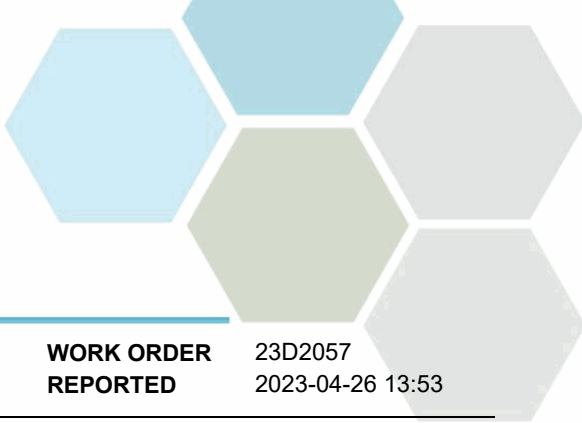


APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater)
Final Effluent- PE14651

WORK ORDER REPORTED 23D2057
2023-04-26 13:53

| Analyte | Result | RL Units | Spike Level | Source Result | % REC | REC Limit | % RPD | RPD Limit | Qualifier |
|---|---------|------------|--|---------------|-------|-----------|-------|-----------|-----------|
| General Parameters, Batch B3D1778, Continued | | | | | | | | | |
| Blank (B3D1778-BLK2) | | | Prepared: 2023-04-20, Analyzed: 2023-04-20 | | | | | | |
| Ammonia, Total (as N) | < 0.050 | 0.050 mg/L | | | | | | | |
| Blank (B3D1778-BLK3) | | | Prepared: 2023-04-20, Analyzed: 2023-04-20 | | | | | | |
| Ammonia, Total (as N) | < 0.050 | 0.050 mg/L | | | | | | | |
| LCS (B3D1778-BS1) | | | Prepared: 2023-04-20, Analyzed: 2023-04-20 | | | | | | |
| Ammonia, Total (as N) | 0.994 | 0.050 mg/L | 1.00 | | 99 | 85-115 | | | |
| LCS (B3D1778-BS2) | | | Prepared: 2023-04-20, Analyzed: 2023-04-20 | | | | | | |
| Ammonia, Total (as N) | 0.988 | 0.050 mg/L | 1.00 | | 99 | 85-115 | | | |
| LCS (B3D1778-BS3) | | | Prepared: 2023-04-20, Analyzed: 2023-04-20 | | | | | | |
| Ammonia, Total (as N) | 0.995 | 0.050 mg/L | 1.00 | | 100 | 85-115 | | | |
| General Parameters, Batch B3D1816 | | | | | | | | | |
| Blank (B3D1816-BLK1) | | | Prepared: 2023-04-20, Analyzed: 2023-04-21 | | | | | | |
| Nitrogen, Total Kjeldahl | < 0.050 | 0.050 mg/L | | | | | | | |
| Blank (B3D1816-BLK2) | | | Prepared: 2023-04-20, Analyzed: 2023-04-21 | | | | | | |
| Nitrogen, Total Kjeldahl | < 0.050 | 0.050 mg/L | | | | | | | |
| LCS (B3D1816-BS1) | | | Prepared: 2023-04-20, Analyzed: 2023-04-21 | | | | | | |
| Nitrogen, Total Kjeldahl | 1.08 | 0.050 mg/L | 1.00 | | 108 | 85-115 | | | |
| LCS (B3D1816-BS2) | | | Prepared: 2023-04-20, Analyzed: 2023-04-21 | | | | | | |
| Nitrogen, Total Kjeldahl | 1.07 | 0.050 mg/L | 1.00 | | 107 | 85-115 | | | |
| General Parameters, Batch B3D1824 | | | | | | | | | |
| Blank (B3D1824-BLK1) | | | Prepared: 2023-04-20, Analyzed: 2023-04-25 | | | | | | |
| BOD, 5-day Carbonaceous | < 2.0 | 2.0 mg/L | | | | | | | |
| LCS (B3D1824-BS1) | | | Prepared: 2023-04-20, Analyzed: 2023-04-25 | | | | | | |
| BOD, 5-day Carbonaceous | 177 | 55.1 mg/L | 198 | | 89 | 85-115 | | | |
| General Parameters, Batch B3D1911 | | | | | | | | | |
| Blank (B3D1911-BLK1) | | | Prepared: 2023-04-21, Analyzed: 2023-04-21 | | | | | | |
| Alkalinity, Total (as CaCO ₃) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Phenolphthalein (as CaCO ₃) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Bicarbonate (as CaCO ₃) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Carbonate (as CaCO ₃) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Hydroxide (as CaCO ₃) | < 1.0 | 1.0 mg/L | | | | | | | |
| Blank (B3D1911-BLK2) | | | Prepared: 2023-04-21, Analyzed: 2023-04-21 | | | | | | |
| Alkalinity, Total (as CaCO ₃) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Phenolphthalein (as CaCO ₃) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Bicarbonate (as CaCO ₃) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Carbonate (as CaCO ₃) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Hydroxide (as CaCO ₃) | < 1.0 | 1.0 mg/L | | | | | | | |
| LCS (B3D1911-BS1) | | | Prepared: 2023-04-21, Analyzed: 2023-04-21 | | | | | | |
| Alkalinity, Total (as CaCO ₃) | 95.2 | 1.0 mg/L | 100 | | 95 | 80-120 | | | |



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater)
Final Effluent- PE14651

WORK ORDER REPORTED 23D2057
2023-04-26 13:53

| Analyte | Result | RL Units | Spike Level | Source Result | % REC | REC Limit | % RPD | RPD Limit | Qualifier |
|---|--------|---------------|--|---------------|-------|-----------|-------|-----------|-----------|
| General Parameters, Batch B3D1911, Continued | | | | | | | | | |
| LCS (B3D1911-BS2) | | | Prepared: 2023-04-21, Analyzed: 2023-04-21 | | | | | | |
| Alkalinity, Total (as CaCO ₃) | 96.9 | 1.0 mg/L | 100 | | 97 | 80-120 | | | |
| Reference (B3D1911-SRM1) | | | Prepared: 2023-04-21, Analyzed: 2023-04-21 | | | | | | |
| pH | 7.00 | 0.10 pH units | 7.01 | | 100 | 98-102 | | | |
| Reference (B3D1911-SRM2) | | | Prepared: 2023-04-21, Analyzed: 2023-04-21 | | | | | | |
| pH | 7.01 | 0.10 pH units | 7.01 | | 100 | 98-102 | | | |
| General Parameters, Batch B3D2038 | | | | | | | | | |
| Blank (B3D2038-BLK1) | | | Prepared: 2023-04-22, Analyzed: 2023-04-22 | | | | | | |
| Solids, Total Suspended | < 2.0 | 2.0 mg/L | | | | | | | |
| LCS (B3D2038-BS1) | | | Prepared: 2023-04-22, Analyzed: 2023-04-22 | | | | | | |
| Solids, Total Suspended | 98.0 | 10.0 mg/L | 100 | | 98 | 85-115 | | | |
| Microbiological Parameters, Batch B3D1792 | | | | | | | | | |
| Blank (B3D1792-BLK1) | | | Prepared: 2023-04-20, Analyzed: 2023-04-20 | | | | | | |
| Coliforms, Total (Q-Tray) | < 1 | 1 MPN/100 mL | | | | | | | |
| Blank (B3D1792-BLK2) | | | Prepared: 2023-04-20, Analyzed: 2023-04-20 | | | | | | |
| Coliforms, Fecal (Q-Tray) | < 1 | 1 MPN/100 mL | | | | | | | |



CERTIFICATE OF ANALYSIS

| | | | |
|---------------------|---|---------------------------------|---|
| REPORTED TO | Lake Country, District of (Wastewater) 4062 Beaver Lake Rd LAKE COUNTRY, BC V4V 1T5 | WORK ORDER | 23D2063 |
| ATTENTION | Davin Larsen | RECEIVED / TEMP REPORTED | 2023-04-19 11:25 / 11.8°C 2023-04-26 13:55 |
| PO NUMBER | | COC NUMBER | 45035.39452 |
| PROJECT | Amry- MR17842 | | |
| PROJECT INFO | Lake Country WWTP | | |

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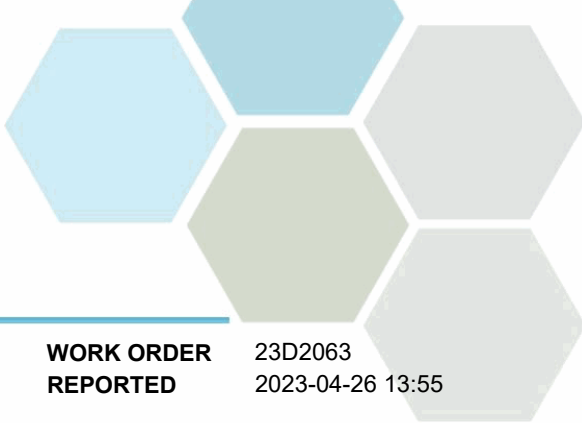
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Brent Whitehead
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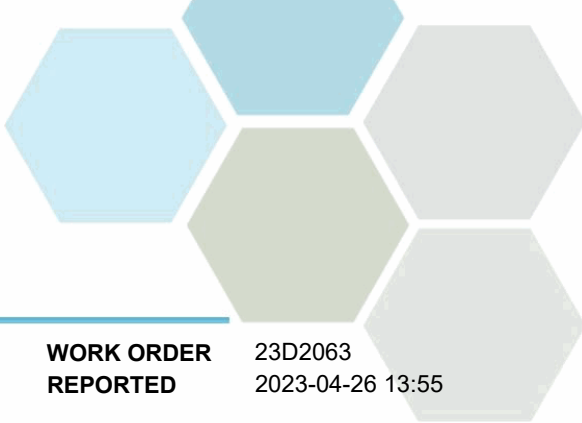


TEST RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater)
Amry- MR17842

WORK ORDER REPORTED 23D2063
2023-04-26 13:55

| Analyte | Result | RL | Units | Analyzed | Qualifier |
|--|--------|-----|-------|------------|-----------|
| Amry WW (E262982) (23D2063-01) Matrix: Wastewater Sampled: 2023-04-19 09:15 | | | | | |
| <i>General Parameters</i> | | | | | |
| BOD, 5-day Carbonaceous | 5.3 | 2.0 | mg/L | 2023-04-25 | |
| Solids, Total Suspended | 18.3 | 2.0 | mg/L | 2023-04-22 | |



APPENDIX 1: SUPPORTING INFORMATION

REPORTED TO PROJECT Lake Country, District of (Wastewater)
Amry- MR17842

WORK ORDER REPORTED 23D2063
2023-04-26 13:55

| Analysis Description | Method Ref. | Technique | Accredited | Location |
|--|---|--|------------|----------|
| Biochemical Oxygen Demand, Carbonaceous in Water | SM 5210 B (2019) | Dissolved Oxygen Meter | ✓ | Kelowna |
| Solids, Total Suspended in Water | Solids in Water, Filtered / SM 2540 D* (2020) | Solids in Water, Filtered / Gravimetry (Dried at 103-105C) | ✓ | Kelowna |

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

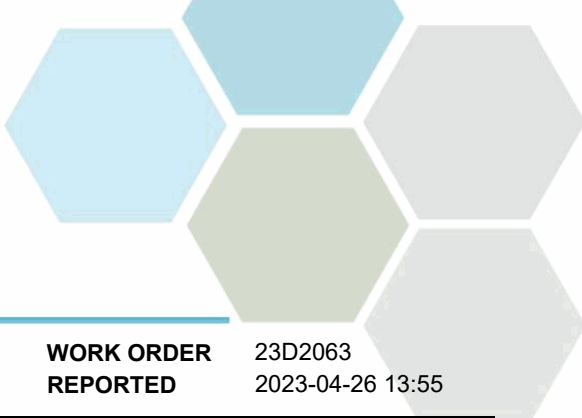
Glossary of Terms:

| | |
|------|--|
| RL | Reporting Limit (default) |
| mg/L | Milligrams per litre |
| SM | Standard Methods for the Examination of Water and Wastewater, American Public Health Association |

General Comments:

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APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater)
Amry- MR17842

WORK ORDER REPORTED 23D2063
2023-04-26 13:55

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 |
|---------|--------|----------|-------------|---------------|-------|-----------|-------|-----------|-----------|
|---------|--------|----------|-------------|---------------|-------|-----------|-------|-----------|-----------|

General Parameters, Batch B3D1824

| | | | | | | | | | |
|---------------------------------|-------|-----------|--|-----|----|--------|--|----|--|
| Blank (B3D1824-BLK1) | | | Prepared: 2023-04-20, Analyzed: 2023-04-25 | | | | | | |
| BOD, 5-day Carbonaceous | < 2.0 | 2.0 mg/L | | | | | | | |
| LCS (B3D1824-BS1) | | | Prepared: 2023-04-20, Analyzed: 2023-04-25 | | | | | | |
| BOD, 5-day Carbonaceous | 177 | 55.1 mg/L | 198 | | 89 | 85-115 | | | |
| Duplicate (B3D1824-DUP1) | | | Prepared: 2023-04-20, Analyzed: 2023-04-25 | | | | | | |
| BOD, 5-day Carbonaceous | 5.5 | 2.0 mg/L | | 5.3 | | | | 20 | |

General Parameters, Batch B3D2038

| | | | | | | | | | |
|-----------------------------|-------|-----------|--|--|----|--------|--|--|--|
| Blank (B3D2038-BLK1) | | | Prepared: 2023-04-22, Analyzed: 2023-04-22 | | | | | | |
| Solids, Total Suspended | < 2.0 | 2.0 mg/L | | | | | | | |
| LCS (B3D2038-BS1) | | | Prepared: 2023-04-22, Analyzed: 2023-04-22 | | | | | | |
| Solids, Total Suspended | 98.0 | 10.0 mg/L | 100 | | 98 | 85-115 | | | |



CERTIFICATE OF ANALYSIS

| | | | |
|---------------------|---|---------------------------------|---------------------------|
| REPORTED TO | Lake Country, District of (Wastewater) 4062 Beaver Lake Rd LAKE COUNTRY, BC V4V 1T5 | WORK ORDER | 23E2838 |
| ATTENTION | Davin Larsen | RECEIVED / TEMP REPORTED | 2023-05-23 14:13 / 16.1°C |
| PO NUMBER | | REPORTED | 2023-05-30 08:11 |
| PROJECT | Amry- MR17842 | COC NUMBER | 45069.35214 |
| PROJECT INFO | Lake Country WWTP | | |

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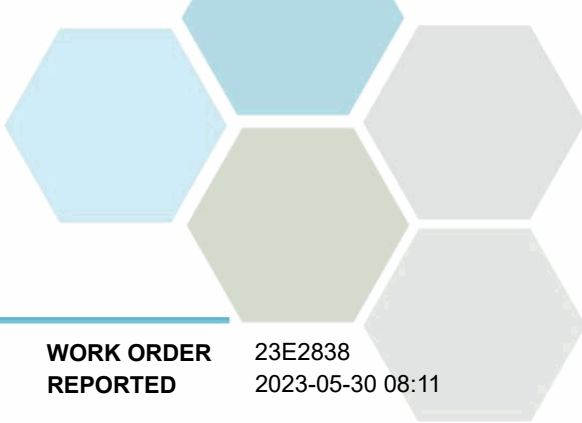
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Authorized By:

Brent Whitehead
Account Manager

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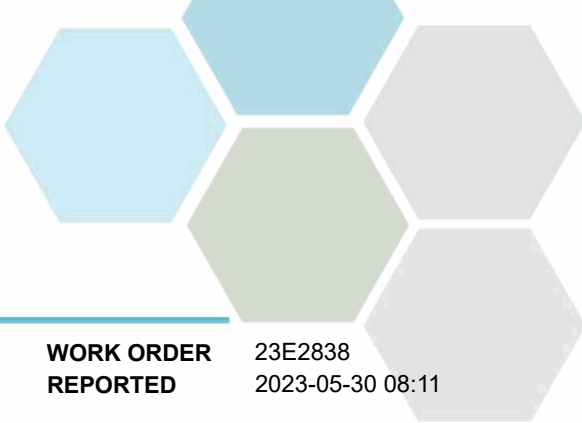


TEST RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater)
Amry- MR17842

WORK ORDER REPORTED 23E2838
2023-05-30 08:11

| Analyte | Result | RL | Units | Analyzed | Qualifier |
|--|-------------|-----|-------|------------|-----------|
| Amry WW (E262982) (23E2838-01) Matrix: Wastewater Sampled: 2023-05-23 11:52 | | | | | |
| <i>General Parameters</i> | | | | | |
| BOD, 5-day Carbonaceous | < 7.3 | 2.0 | mg/L | 2023-05-29 | |
| Solids, Total Suspended | 18.0 | 2.0 | mg/L | 2023-05-25 | |



APPENDIX 1: SUPPORTING INFORMATION

REPORTED TO PROJECT Lake Country, District of (Wastewater)
Amry- MR17842

WORK ORDER REPORTED 23E2838
2023-05-30 08:11

| Analysis Description | Method Ref. | Technique | Accredited | Location |
|--|---|--|------------|----------|
| Biochemical Oxygen Demand, Carbonaceous in Water | SM 5210 B (2019) | Dissolved Oxygen Meter | ✓ | Kelowna |
| Solids, Total Suspended in Water | Solids in Water, Filtered / SM 2540 D* (2020) | Solids in Water, Filtered / Gravimetry (Dried at 103-105C) | ✓ | Kelowna |

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

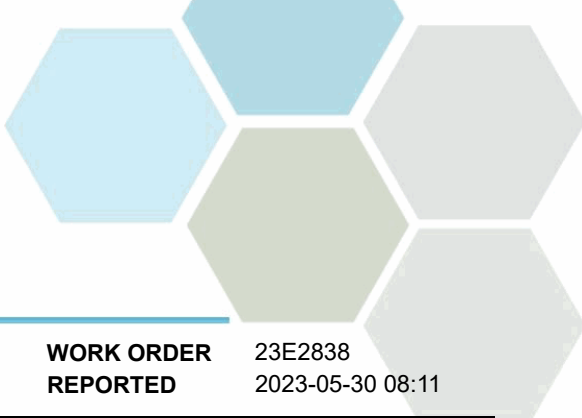
Glossary of Terms:

| | |
|------|---|
| RL | Reporting Limit (default) |
| < | Less than the specified Reporting Limit (RL) - the actual RL may be higher than the default RL due to various factors |
| mg/L | Milligrams per litre |
| SM | Standard Methods for the Examination of Water and Wastewater, American Public Health Association |

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APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater)
Amry- MR17842

WORK ORDER REPORTED 23E2838
2023-05-30 08:11

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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 |
|--|--------|-----------|--|---------------|-------|-----------|-------|-----------|-----------|
| General Parameters, Batch B3E2636 | | | | | | | | | |
| Blank (B3E2636-BLK1) | | | Prepared: 2023-05-24, Analyzed: 2023-05-29 | | | | | | |
| BOD, 5-day Carbonaceous | < 2.0 | 2.0 mg/L | | | | | | | |
| LCS (B3E2636-BS1) | | | Prepared: 2023-05-24, Analyzed: 2023-05-29 | | | | | | |
| BOD, 5-day Carbonaceous | 196 | 61.0 mg/L | 198 | | 99 | 85-115 | | | |
| General Parameters, Batch B3E2793 | | | | | | | | | |
| Blank (B3E2793-BLK1) | | | Prepared: 2023-05-25, Analyzed: 2023-05-25 | | | | | | |
| Solids, Total Suspended | < 2.0 | 2.0 mg/L | | | | | | | |
| LCS (B3E2793-BS1) | | | Prepared: 2023-05-25, Analyzed: 2023-05-25 | | | | | | |
| Solids, Total Suspended | 109 | 10.0 mg/L | 100 | | 109 | 85-115 | | | |



CERTIFICATE OF ANALYSIS

| | | | |
|---------------------|---|---------------------------------|---|
| REPORTED TO | Lake Country, District of (Wastewater) 4062 Beaver Lake Rd LAKE COUNTRY, BC V4V 1T5 | WORK ORDER | 23E3829 |
| ATTENTION | Davin Larsen | RECEIVED / TEMP REPORTED | 2023-05-30 14:40 / 16.9°C 2023-06-06 14:13 |
| PO NUMBER | | COC NUMBER | 45076.59410 |
| PROJECT | Monitoring Wells | | |
| PROJECT INFO | Lake Country WWTP | | |

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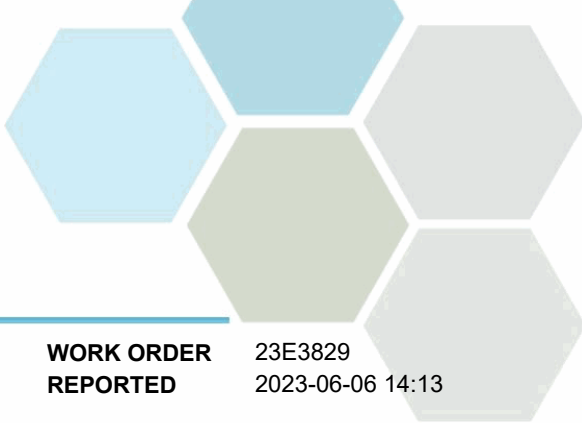
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TEST RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater) Monitoring Wells

WORK ORDER REPORTED 23E3829
2023-06-06 14:13

| Analyte | Result | RL | Units | Analyzed | Qualifier |
|---------|--------|----|-------|----------|-----------|
|---------|--------|----|-------|----------|-----------|

MW-2 (23E3829-01) | Matrix: Water | Sampled: 2023-05-30 10:10

Anions

| | | | | | |
|------------------|----------|--------|------|------------|--|
| Chloride | 8.06 | 0.10 | mg/L | 2023-06-01 | |
| Nitrate (as N) | 0.955 | 0.010 | mg/L | 2023-06-01 | |
| Nitrite (as N) | < 0.010 | 0.010 | mg/L | 2023-06-01 | |
| Phosphate (as P) | < 0.0050 | 0.0050 | mg/L | 2023-06-01 | |

Calculated Parameters

| | | | | | |
|------------------------|-------|--------|------|-----|--|
| Nitrate+Nitrite (as N) | 0.955 | 0.0100 | mg/L | N/A | |
| Nitrogen, Total | 1.11 | 0.0500 | mg/L | N/A | |

General Parameters

| | | | | | |
|--------------------------|---------|--------|----------|------------|-----|
| Ammonia, Total (as N) | < 0.050 | 0.050 | mg/L | 2023-06-01 | |
| Conductivity (EC) | 450 | 2.0 | µS/cm | 2023-06-03 | |
| Nitrogen, Total Kjeldahl | 0.150 | 0.050 | mg/L | 2023-06-04 | |
| pH | 8.01 | 0.10 | pH units | 2023-06-03 | HT2 |
| Phosphorus, Total (as P) | 0.0148 | 0.0050 | mg/L | 2023-06-01 | |
| Turbidity | 2.93 | 0.10 | NTU | 2023-05-31 | |

Microbiological Parameters

| | | | | | |
|------------------|-----|---|------------|------------|--|
| E. coli (Q-Tray) | < 1 | 1 | MPN/100 mL | 2023-05-31 | |
|------------------|-----|---|------------|------------|--|

Total Metals

| | | | | | |
|---------------|------|------|------|------------|--|
| Sodium, total | 16.2 | 0.10 | mg/L | 2023-06-04 | |
|---------------|------|------|------|------------|--|

MW-10 (23E3829-02) | Matrix: Water | Sampled: 2023-05-30 12:26

Anions

| | | | | | |
|------------------|----------|--------|------|------------|--|
| Chloride | 104 | 0.10 | mg/L | 2023-06-01 | |
| Nitrate (as N) | 2.26 | 0.010 | mg/L | 2023-06-01 | |
| Nitrite (as N) | < 0.010 | 0.010 | mg/L | 2023-06-01 | |
| Phosphate (as P) | < 0.0050 | 0.0050 | mg/L | 2023-06-01 | |

Calculated Parameters

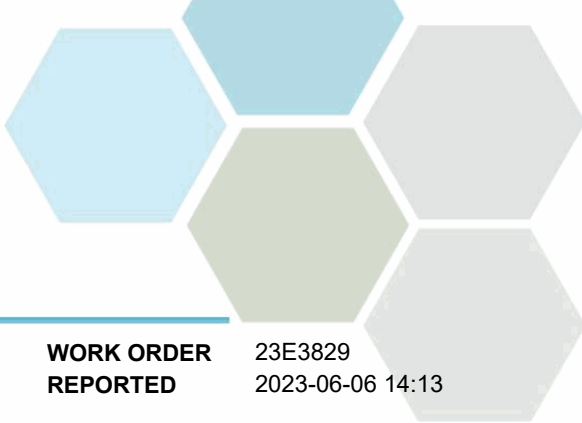
| | | | | | |
|------------------------|------|--------|------|-----|--|
| Nitrate+Nitrite (as N) | 2.26 | 0.0100 | mg/L | N/A | |
| Nitrogen, Total | 2.48 | 0.0500 | mg/L | N/A | |

General Parameters

| | | | | | |
|--------------------------|---------|--------|----------|------------|-----|
| Ammonia, Total (as N) | < 0.050 | 0.050 | mg/L | 2023-06-01 | |
| Conductivity (EC) | 884 | 2.0 | µS/cm | 2023-06-03 | |
| Nitrogen, Total Kjeldahl | 0.217 | 0.050 | mg/L | 2023-06-04 | |
| pH | 7.99 | 0.10 | pH units | 2023-06-03 | HT2 |
| Phosphorus, Total (as P) | 0.0817 | 0.0050 | mg/L | 2023-06-01 | |
| Turbidity | 6.77 | 0.10 | NTU | 2023-05-31 | |

Microbiological Parameters

| | | | | | |
|------------------|-----|---|------------|------------|--|
| E. coli (Q-Tray) | < 1 | 1 | MPN/100 mL | 2023-05-31 | |
|------------------|-----|---|------------|------------|--|



TEST RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater) Monitoring Wells

WORK ORDER REPORTED 23E3829
2023-06-06 14:13

| Analyte | Result | RL | Units | Analyzed | Qualifier |
|---------|--------|----|-------|----------|-----------|
|---------|--------|----|-------|----------|-----------|

MW-10 (23E3829-02) | Matrix: Water | Sampled: 2023-05-30 12:26, Continued

Total Metals

| | | | | | |
|---------------|------|------|------|------------|--|
| Sodium, total | 70.3 | 0.10 | mg/L | 2023-06-04 | |
|---------------|------|------|------|------------|--|

MW-12 (23E3829-03) | Matrix: Water | Sampled: 2023-05-30 12:10

Anions

| | | | | | |
|------------------|----------|--------|------|------------|--|
| Chloride | 113 | 0.10 | mg/L | 2023-06-01 | |
| Nitrate (as N) | 2.39 | 0.010 | mg/L | 2023-06-01 | |
| Nitrite (as N) | < 0.010 | 0.010 | mg/L | 2023-06-01 | |
| Phosphate (as P) | < 0.0050 | 0.0050 | mg/L | 2023-06-01 | |

Calculated Parameters

| | | | | | |
|------------------------|------|--------|------|-----|--|
| Nitrate+Nitrite (as N) | 2.39 | 0.0100 | mg/L | N/A | |
| Nitrogen, Total | 2.53 | 0.0500 | mg/L | N/A | |

General Parameters

| | | | | | |
|--------------------------|---------|--------|----------|------------|-----|
| Ammonia, Total (as N) | < 0.050 | 0.050 | mg/L | 2023-06-01 | |
| Conductivity (EC) | 912 | 2.0 | µS/cm | 2023-06-03 | |
| Nitrogen, Total Kjeldahl | 0.139 | 0.050 | mg/L | 2023-06-04 | |
| pH | 8.02 | 0.10 | pH units | 2023-06-03 | HT2 |
| Phosphorus, Total (as P) | 0.0812 | 0.0050 | mg/L | 2023-06-01 | |
| Turbidity | 9.95 | 0.10 | NTU | 2023-05-31 | |

Microbiological Parameters

| | | | | | |
|------------------|-----|---|------------|------------|--|
| E. coli (Q-Tray) | < 1 | 1 | MPN/100 mL | 2023-05-31 | |
|------------------|-----|---|------------|------------|--|

Total Metals

| | | | | | |
|---------------|------|------|------|------------|--|
| Sodium, total | 81.0 | 0.10 | mg/L | 2023-06-04 | |
|---------------|------|------|------|------------|--|

MW-14 (23E3829-04) | Matrix: Water | Sampled: 2023-05-30 09:35

Anions

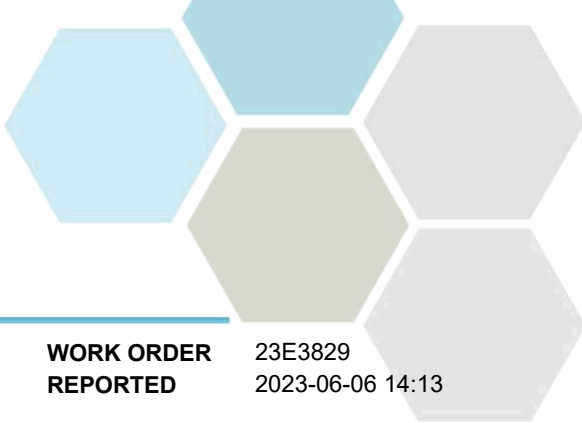
| | | | | | |
|------------------|----------|--------|------|------------|--|
| Chloride | 96.9 | 0.10 | mg/L | 2023-06-01 | |
| Nitrate (as N) | < 0.010 | 0.010 | mg/L | 2023-06-01 | |
| Nitrite (as N) | < 0.010 | 0.010 | mg/L | 2023-06-01 | |
| Phosphate (as P) | < 0.0050 | 0.0050 | mg/L | 2023-06-01 | |

Calculated Parameters

| | | | | | |
|------------------------|----------|--------|------|-----|--|
| Nitrate+Nitrite (as N) | < 0.0100 | 0.0100 | mg/L | N/A | |
| Nitrogen, Total | 0.168 | 0.0500 | mg/L | N/A | |

General Parameters

| | | | | | |
|--------------------------|---------|-------|-------|------------|--|
| Ammonia, Total (as N) | < 0.050 | 0.050 | mg/L | 2023-06-01 | |
| Conductivity (EC) | 1040 | 2.0 | µS/cm | 2023-06-03 | |
| Nitrogen, Total Kjeldahl | 0.168 | 0.050 | mg/L | 2023-06-04 | |



TEST RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater) Monitoring Wells

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| Analyte | Result | RL | Units | Analyzed | Qualifier |
|---------|--------|----|-------|----------|-----------|
|---------|--------|----|-------|----------|-----------|

MW-14 (23E3829-04) | Matrix: Water | Sampled: 2023-05-30 09:35, Continued

General Parameters, Continued

| | | | | | |
|--------------------------|-------|--------|----------|------------|-----|
| pH | 8.00 | 0.10 | pH units | 2023-06-03 | HT2 |
| Phosphorus, Total (as P) | 0.118 | 0.0050 | mg/L | 2023-06-01 | |
| Turbidity | 6.99 | 0.10 | NTU | 2023-05-31 | |

Microbiological Parameters

| | | | | | |
|------------------|-----|---|------------|------------|--|
| E. coli (Q-Tray) | < 1 | 1 | MPN/100 mL | 2023-05-31 | |
|------------------|-----|---|------------|------------|--|

Total Metals

| | | | | | |
|---------------|------|------|------|------------|--|
| Sodium, total | 66.8 | 0.10 | mg/L | 2023-06-04 | |
|---------------|------|------|------|------------|--|

MW-18 (23E3829-05) | Matrix: Water | Sampled: 2023-05-30 13:50

Anions

| | | | | | |
|------------------|----------|--------|------|------------|--|
| Chloride | 95.0 | 0.10 | mg/L | 2023-06-01 | |
| Nitrate (as N) | 0.849 | 0.010 | mg/L | 2023-06-01 | |
| Nitrite (as N) | < 0.010 | 0.010 | mg/L | 2023-06-01 | |
| Phosphate (as P) | < 0.0050 | 0.0050 | mg/L | 2023-06-01 | |

Calculated Parameters

| | | | | | |
|------------------------|-------|--------|------|-----|--|
| Nitrate+Nitrite (as N) | 0.849 | 0.0100 | mg/L | N/A | |
| Nitrogen, Total | 0.959 | 0.0500 | mg/L | N/A | |

General Parameters

| | | | | | |
|--------------------------|---------|--------|----------|------------|-----|
| Ammonia, Total (as N) | < 0.050 | 0.050 | mg/L | 2023-06-01 | |
| Conductivity (EC) | 765 | 2.0 | µS/cm | 2023-06-03 | |
| Nitrogen, Total Kjeldahl | 0.110 | 0.050 | mg/L | 2023-06-04 | |
| pH | 8.07 | 0.10 | pH units | 2023-06-03 | HT2 |
| Phosphorus, Total (as P) | 1.82 | 0.0050 | mg/L | 2023-06-01 | |
| Turbidity | 301 | 0.10 | NTU | 2023-05-31 | |

Microbiological Parameters

| | | | | | |
|------------------|-----|---|------------|------------|--|
| E. coli (Q-Tray) | < 1 | 1 | MPN/100 mL | 2023-05-31 | |
|------------------|-----|---|------------|------------|--|

Total Metals

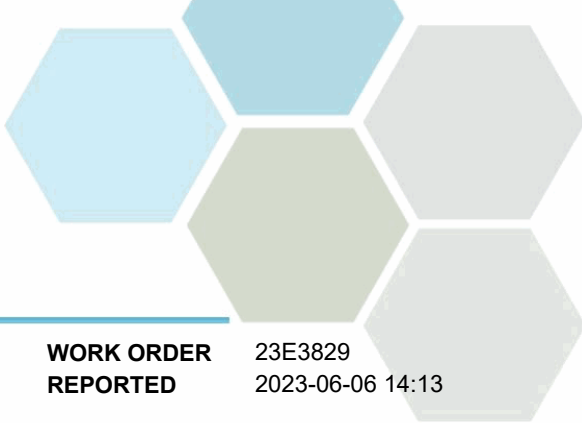
| | | | | | |
|---------------|------|------|------|------------|--|
| Sodium, total | 78.7 | 0.10 | mg/L | 2023-06-04 | |
|---------------|------|------|------|------------|--|

Equipment Blank (23E3829-06) | Matrix: Water | Sampled: 2023-05-30 11:28

Anions

| | | | | | |
|------------------|----------|--------|------|------------|-----|
| Chloride | 0.44 | 0.10 | mg/L | 2023-06-01 | RE2 |
| Nitrate (as N) | 0.024 | 0.010 | mg/L | 2023-06-01 | RE2 |
| Nitrite (as N) | < 0.010 | 0.010 | mg/L | 2023-06-01 | |
| Phosphate (as P) | < 0.0050 | 0.0050 | mg/L | 2023-06-01 | |

Calculated Parameters



TEST RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater) Monitoring Wells

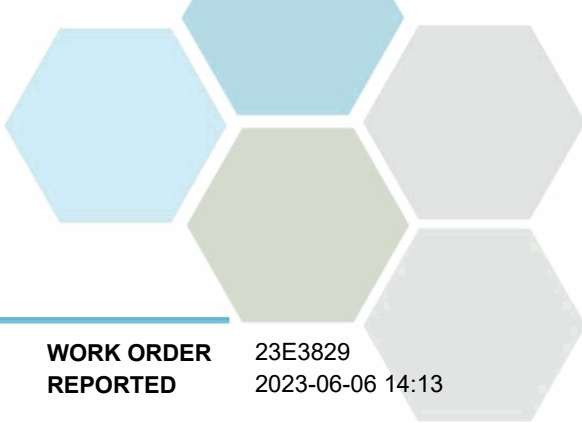
WORK ORDER REPORTED 23E3829
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| Analyte | Result | RL | Units | Analyzed | Qualifier |
|--|----------|--------|------------|------------|-----------|
| Equipment Blank (23E3829-06) Matrix: Water Sampled: 2023-05-30 11:28, Continued | | | | | |
| <i>Calculated Parameters, Continued</i> | | | | | |
| Nitrate+Nitrite (as N) | 0.0242 | 0.0100 | mg/L | N/A | |
| Nitrogen, Total | < 0.0500 | 0.0500 | mg/L | N/A | |
| <i>General Parameters</i> | | | | | |
| Ammonia, Total (as N) | < 0.050 | 0.050 | mg/L | 2023-06-01 | |
| Conductivity (EC) | 7.1 | 2.0 | µS/cm | 2023-06-03 | RE2 |
| Nitrogen, Total Kjeldahl | < 0.050 | 0.050 | mg/L | 2023-06-04 | |
| pH | 6.04 | 0.10 | pH units | 2023-06-03 | HT2 |
| Phosphorus, Total (as P) | 0.0052 | 0.0050 | mg/L | 2023-06-01 | RE2 |
| Turbidity | 0.29 | 0.10 | NTU | 2023-05-31 | RE2 |
| <i>Microbiological Parameters</i> | | | | | |
| E. coli (Q-Tray) | < 1 | 1 | MPN/100 mL | 2023-05-31 | |
| <i>Total Metals</i> | | | | | |
| Sodium, total | 0.56 | 0.10 | mg/L | 2023-06-04 | |

Sample Qualifiers:

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

RE2 Result was confirmed by re-analysis prior to reporting.



APPENDIX 1: SUPPORTING INFORMATION

REPORTED TO PROJECT Lake Country, District of (Wastewater) Monitoring Wells

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| Analysis Description | Method Ref. | Technique | Accredited | Location |
|-----------------------------------|--|--|------------|----------|
| Ammonia, Total in Water | SM 4500-NH3 G* (2021) | Automated Colorimetry (Phenate) | ✓ | Kelowna |
| Anions in Water | SM 4110 B (2020) | Ion Chromatography | ✓ | Kelowna |
| Conductivity in Water | SM 2510 B (2021) | Conductivity Meter | ✓ | Kelowna |
| E. coli in Water | NA / SM 9223 (2016) | Quanti-Tray / Enzyme Substrate Endo Agar | ✓ | Kelowna |
| Nitrogen, Total Kjeldahl in Water | SM 4500-Norg D* (2021) | Block Digestion and Flow Injection Analysis | ✓ | Kelowna |
| pH in Water | SM 4500-H+ B (2021) | Electrometry | ✓ | Kelowna |
| Phosphorus, Total in Water | SM 4500-P B.5* (2011) / SM 4500-P F (2021) | Persulfate Digestion / Automated Colorimetry (Ascorbic Acid) | ✓ | Kelowna |
| Total Metals in Water | EPA 200.2 / EPA 6020B | HNO3+HCl Hot Block Digestion / Inductively Coupled Plasma-Mass Spectroscopy (ICP-MS) | ✓ | Richmond |
| Turbidity in Water | SM 2130 B (2020) | Nephelometry | ✓ | Kelowna |

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

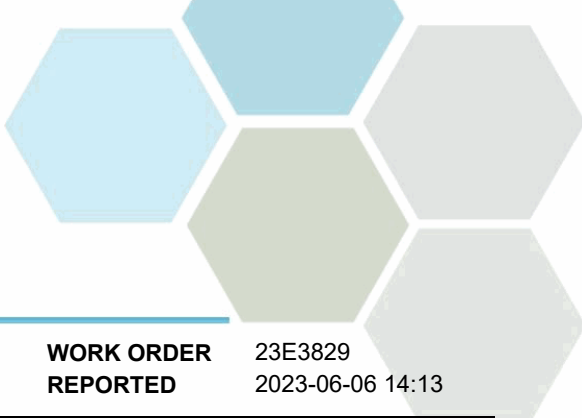
Glossary of Terms:

| | |
|------------|---|
| RL | Reporting Limit (default) |
| < | Less than the specified Reporting Limit (RL) - the actual RL may be higher than the default RL due to various factors |
| mg/L | Milligrams per litre |
| MPN/100 mL | Most Probable Number per 100 millilitres |
| NTU | Nephelometric Turbidity Units |
| pH units | pH < 7 = acidic, pH > 7 = basic |
| 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 |

General Comments:

The results in this report apply to the received 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. Caro will dispose of all samples within 30 days of sample receipt, unless otherwise agreed.

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 Lake Country, District of (Wastewater) Monitoring Wells

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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:

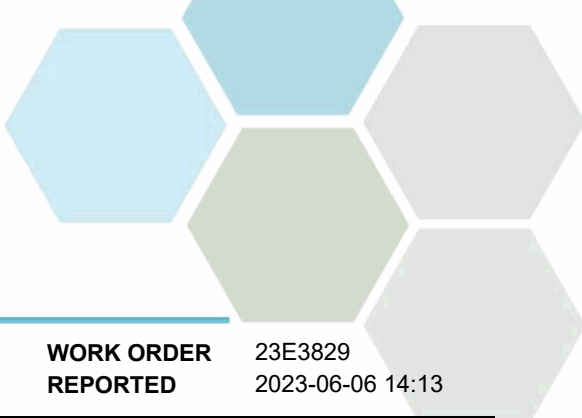
- **Method Blank (Blk):** A blank sample that undergoes sample processing identical to that carried out for the test samples. Method blank results are used to assess contamination from the laboratory environment and reagents.
- **Duplicate (Dup):** An additional or second portion of a randomly selected 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 B3E3325 | | | | | | | | | |
| Blank (B3E3325-BLK1) | | | Prepared: 2023-06-01, Analyzed: 2023-06-01 | | | | | | |
| 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 | | | | | | | |
| Phosphate (as P) | < 0.0050 | 0.0050 mg/L | | | | | | | |
| Blank (B3E3325-BLK2) | | | Prepared: 2023-06-01, Analyzed: 2023-06-01 | | | | | | |
| 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 | | | | | | | |
| Phosphate (as P) | < 0.0050 | 0.0050 mg/L | | | | | | | |
| LCS (B3E3325-BS1) | | | Prepared: 2023-06-01, Analyzed: 2023-06-01 | | | | | | |
| Chloride | 16.2 | 0.10 mg/L | 16.0 | | 101 | 90-110 | | | |
| Nitrate (as N) | 3.97 | 0.010 mg/L | 4.00 | | 99 | 90-110 | | | |
| Nitrite (as N) | 2.06 | 0.010 mg/L | 2.00 | | 103 | 85-115 | | | |
| Phosphate (as P) | 1.01 | 0.0050 mg/L | 1.00 | | 101 | 80-120 | | | |
| LCS (B3E3325-BS2) | | | Prepared: 2023-06-01, Analyzed: 2023-06-01 | | | | | | |
| Chloride | 16.1 | 0.10 mg/L | 16.0 | | 100 | 90-110 | | | |
| Nitrate (as N) | 4.07 | 0.010 mg/L | 4.00 | | 102 | 90-110 | | | |
| Nitrite (as N) | 2.02 | 0.010 mg/L | 2.00 | | 101 | 85-115 | | | |
| Phosphate (as P) | 1.06 | 0.0050 mg/L | 1.00 | | 106 | 80-120 | | | |
| LCS (B3E3325-BS3) | | | Prepared: 2023-06-02, Analyzed: 2023-06-02 | | | | | | |
| Chloride | 16.0 | 0.10 mg/L | 16.0 | | 100 | 90-110 | | | |
| Nitrate (as N) | 4.14 | 0.010 mg/L | 4.00 | | 104 | 90-110 | | | |
| Nitrite (as N) | 2.04 | 0.010 mg/L | 2.00 | | 102 | 85-115 | | | |
| Phosphate (as P) | 1.05 | 0.0050 mg/L | 1.00 | | 105 | 80-120 | | | |

General Parameters, Batch B3E3447

| | | | | | | | | | |
|-----------------------------|--------|----------|--|--|--|--|--|--|--|
| Blank (B3E3447-BLK1) | | | Prepared: 2023-05-31, Analyzed: 2023-05-31 | | | | | | |
| Turbidity | < 0.10 | 0.10 NTU | | | | | | | |
| Blank (B3E3447-BLK2) | | | Prepared: 2023-05-31, Analyzed: 2023-05-31 | | | | | | |
| Turbidity | < 0.10 | 0.10 NTU | | | | | | | |

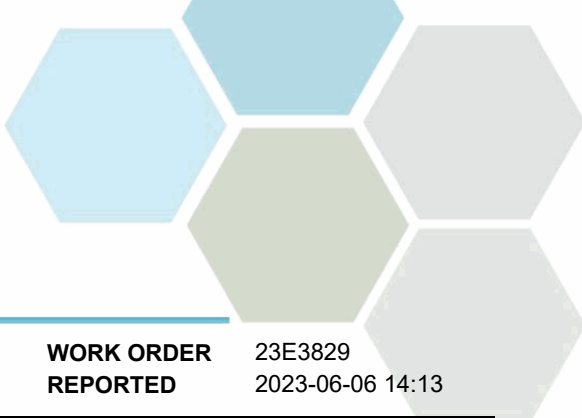


APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater) Monitoring Wells

WORK ORDER REPORTED 23E3829
2023-06-06 14:13

| Analyte | Result | RL Units | Spike Level | Source Result | % REC | REC Limit | % RPD | RPD Limit | Qualifier |
|---|----------|-------------|--|---------------|--|-----------|-------|-----------|-----------|
| General Parameters, Batch B3E3447, Continued | | | | | | | | | |
| Blank (B3E3447-BLK3) | | | Prepared: 2023-05-31, Analyzed: 2023-05-31 | | | | | | |
| Turbidity | < 0.10 | 0.10 NTU | | | | | | | |
| LCS (B3E3447-BS1) | | | Prepared: 2023-05-31, Analyzed: 2023-05-31 | | | | | | |
| Turbidity | 1.78 | 0.10 NTU | 1.69 | | 105 | 90-110 | | | |
| LCS (B3E3447-BS2) | | | Prepared: 2023-05-31, Analyzed: 2023-05-31 | | | | | | |
| Turbidity | 15.3 | 0.10 NTU | 14.6 | | 105 | 90-110 | | | |
| LCS (B3E3447-BS3) | | | Prepared: 2023-05-31, Analyzed: 2023-05-31 | | | | | | |
| Turbidity | 145 | 0.10 NTU | 140 | | 104 | 90-110 | | | |
| Duplicate (B3E3447-DUP3) | | | Source: 23E3829-05 | | Prepared: 2023-05-31, Analyzed: 2023-05-31 | | | | |
| Turbidity | 337 | 0.10 NTU | | 301 | | | 11 | 15 | |
| General Parameters, Batch B3E3485 | | | | | | | | | |
| Blank (B3E3485-BLK1) | | | Prepared: 2023-05-31, Analyzed: 2023-06-01 | | | | | | |
| Phosphorus, Total (as P) | < 0.0050 | 0.0050 mg/L | | | | | | | |
| Blank (B3E3485-BLK2) | | | Prepared: 2023-05-31, Analyzed: 2023-06-01 | | | | | | |
| Phosphorus, Total (as P) | < 0.0050 | 0.0050 mg/L | | | | | | | |
| Blank (B3E3485-BLK3) | | | Prepared: 2023-05-31, Analyzed: 2023-06-01 | | | | | | |
| Phosphorus, Total (as P) | < 0.0050 | 0.0050 mg/L | | | | | | | |
| LCS (B3E3485-BS1) | | | Prepared: 2023-05-31, Analyzed: 2023-06-01 | | | | | | |
| Phosphorus, Total (as P) | 0.101 | 0.0050 mg/L | 0.100 | | 101 | 85-115 | | | |
| LCS (B3E3485-BS2) | | | Prepared: 2023-05-31, Analyzed: 2023-06-01 | | | | | | |
| Phosphorus, Total (as P) | 0.101 | 0.0050 mg/L | 0.100 | | 101 | 85-115 | | | |
| LCS (B3E3485-BS3) | | | Prepared: 2023-05-31, Analyzed: 2023-06-01 | | | | | | |
| Phosphorus, Total (as P) | 0.102 | 0.0050 mg/L | 0.100 | | 102 | 85-115 | | | |
| General Parameters, Batch B3F0032 | | | | | | | | | |
| Blank (B3F0032-BLK1) | | | Prepared: 2023-06-01, Analyzed: 2023-06-01 | | | | | | |
| Ammonia, Total (as N) | < 0.050 | 0.050 mg/L | | | | | | | |
| Blank (B3F0032-BLK2) | | | Prepared: 2023-06-01, Analyzed: 2023-06-01 | | | | | | |
| Ammonia, Total (as N) | < 0.050 | 0.050 mg/L | | | | | | | |
| Blank (B3F0032-BLK3) | | | Prepared: 2023-06-01, Analyzed: 2023-06-01 | | | | | | |
| Ammonia, Total (as N) | < 0.050 | 0.050 mg/L | | | | | | | |
| Blank (B3F0032-BLK4) | | | Prepared: 2023-06-01, Analyzed: 2023-06-01 | | | | | | |
| Ammonia, Total (as N) | < 0.050 | 0.050 mg/L | | | | | | | |
| Blank (B3F0032-BLK5) | | | Prepared: 2023-06-01, Analyzed: 2023-06-01 | | | | | | |
| Ammonia, Total (as N) | < 0.050 | 0.050 mg/L | | | | | | | |
| LCS (B3F0032-BS1) | | | Prepared: 2023-06-01, Analyzed: 2023-06-01 | | | | | | |
| Ammonia, Total (as N) | 0.915 | 0.050 mg/L | 1.00 | | 92 | 85-115 | | | |
| LCS (B3F0032-BS2) | | | Prepared: 2023-06-01, Analyzed: 2023-06-01 | | | | | | |
| Ammonia, Total (as N) | 0.934 | 0.050 mg/L | 1.00 | | 93 | 85-115 | | | |

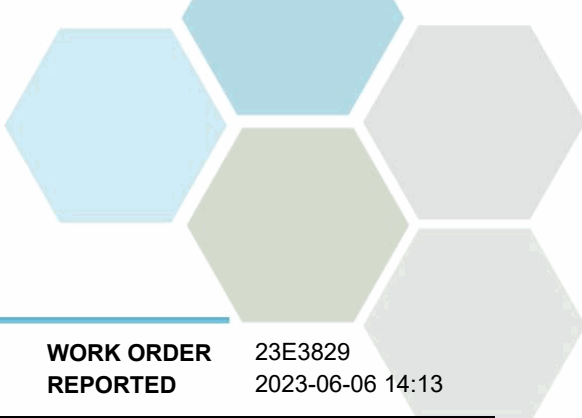


APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater) Monitoring Wells

WORK ORDER REPORTED 23E3829
2023-06-06 14:13

| Analyte | Result | RL Units | Spike Level | Source Result | % REC | REC Limit | % RPD | RPD Limit | Qualifier |
|---|---------|---------------|--|---------------|-------|-----------|-------|-----------|-----------|
| General Parameters, Batch B3F0032, Continued | | | | | | | | | |
| LCS (B3F0032-BS3) | | | Prepared: 2023-06-01, Analyzed: 2023-06-01 | | | | | | |
| Ammonia, Total (as N) | 0.935 | 0.050 mg/L | 1.00 | | 94 | 85-115 | | | |
| LCS (B3F0032-BS4) | | | Prepared: 2023-06-01, Analyzed: 2023-06-01 | | | | | | |
| Ammonia, Total (as N) | 0.937 | 0.050 mg/L | 1.00 | | 94 | 85-115 | | | |
| LCS (B3F0032-BS5) | | | Prepared: 2023-06-01, Analyzed: 2023-06-01 | | | | | | |
| Ammonia, Total (as N) | 0.947 | 0.050 mg/L | 1.00 | | 95 | 85-115 | | | |
| General Parameters, Batch B3F0224 | | | | | | | | | |
| Blank (B3F0224-BLK1) | | | Prepared: 2023-06-02, Analyzed: 2023-06-04 | | | | | | |
| Nitrogen, Total Kjeldahl | < 0.050 | 0.050 mg/L | | | | | | | |
| Blank (B3F0224-BLK2) | | | Prepared: 2023-06-02, Analyzed: 2023-06-04 | | | | | | |
| Nitrogen, Total Kjeldahl | < 0.050 | 0.050 mg/L | | | | | | | |
| LCS (B3F0224-BS1) | | | Prepared: 2023-06-02, Analyzed: 2023-06-04 | | | | | | |
| Nitrogen, Total Kjeldahl | 0.974 | 0.050 mg/L | 1.00 | | 97 | 85-115 | | | |
| LCS (B3F0224-BS2) | | | Prepared: 2023-06-02, Analyzed: 2023-06-04 | | | | | | |
| Nitrogen, Total Kjeldahl | 0.983 | 0.050 mg/L | 1.00 | | 98 | 85-115 | | | |
| General Parameters, Batch B3F0322 | | | | | | | | | |
| Blank (B3F0322-BLK1) | | | Prepared: 2023-06-03, Analyzed: 2023-06-03 | | | | | | |
| Conductivity (EC) | < 2.0 | 2.0 µS/cm | | | | | | | |
| Blank (B3F0322-BLK2) | | | Prepared: 2023-06-03, Analyzed: 2023-06-03 | | | | | | |
| Conductivity (EC) | < 2.0 | 2.0 µS/cm | | | | | | | |
| LCS (B3F0322-BS3) | | | Prepared: 2023-06-03, Analyzed: 2023-06-03 | | | | | | |
| Conductivity (EC) | 1410 | 2.0 µS/cm | 1410 | | 100 | 95-105 | | | |
| LCS (B3F0322-BS4) | | | Prepared: 2023-06-03, Analyzed: 2023-06-03 | | | | | | |
| Conductivity (EC) | 1420 | 2.0 µS/cm | 1410 | | 101 | 95-105 | | | |
| Reference (B3F0322-SRM1) | | | Prepared: 2023-06-03, Analyzed: 2023-06-03 | | | | | | |
| pH | 7.01 | 0.10 pH units | 7.01 | | 100 | 98-102 | | | |
| Reference (B3F0322-SRM2) | | | Prepared: 2023-06-03, Analyzed: 2023-06-03 | | | | | | |
| pH | 7.01 | 0.10 pH units | 7.01 | | 100 | 98-102 | | | |
| Microbiological Parameters, Batch B3E3387 | | | | | | | | | |
| Blank (B3E3387-BLK1) | | | Prepared: 2023-05-31, Analyzed: 2023-05-31 | | | | | | |
| E. coli (Q-Tray) | < 1 | 1 MPN/100 mL | | | | | | | |
| Blank (B3E3387-BLK2) | | | Prepared: 2023-05-31, Analyzed: 2023-05-31 | | | | | | |
| E. coli (Q-Tray) | < 1 | 1 MPN/100 mL | | | | | | | |
| Blank (B3E3387-BLK3) | | | Prepared: 2023-05-31, Analyzed: 2023-05-31 | | | | | | |
| E. coli (Q-Tray) | < 1 | 1 MPN/100 mL | | | | | | | |
| Blank (B3E3387-BLK4) | | | Prepared: 2023-05-31, Analyzed: 2023-05-31 | | | | | | |
| E. coli (Q-Tray) | < 1 | 1 MPN/100 mL | | | | | | | |



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater) Monitoring Wells

WORK ORDER REPORTED 23E3829
2023-06-06 14:13

| Analyte | Result | RL Units | Spike Level | Source Result | % REC | REC Limit | % RPD | RPD Limit | Qualifier |
|---|--------|--------------|-------------|---------------|--|-----------|-------|-----------|-----------|
| Microbiological Parameters, Batch B3E3387, Continued | | | | | | | | | |
| Blank (B3E3387-BLK5) | | | | | Prepared: 2023-05-31, Analyzed: 2023-05-31 | | | | |
| E. coli (Q-Tray) | < 1 | 1 MPN/100 mL | | | | | | | |
| Blank (B3E3387-BLK6) | | | | | Prepared: 2023-05-31, Analyzed: 2023-05-31 | | | | |
| E. coli (Q-Tray) | < 1 | 1 MPN/100 mL | | | | | | | |
| Blank (B3E3387-BLK7) | | | | | Prepared: 2023-05-31, Analyzed: 2023-05-31 | | | | |
| E. coli (Q-Tray) | < 1 | 1 MPN/100 mL | | | | | | | |
| Total Metals, Batch B3F0320 | | | | | | | | | |
| Blank (B3F0320-BLK1) | | | | | Prepared: 2023-06-03, Analyzed: 2023-06-04 | | | | |
| Sodium, total | < 0.10 | 0.10 mg/L | | | | | | | |
| LCS (B3F0320-BS1) | | | | | Prepared: 2023-06-03, Analyzed: 2023-06-06 | | | | |
| Sodium, total | 4.37 | 0.10 mg/L | 4.00 | | 109 | 80-120 | | | |



CERTIFICATE OF ANALYSIS

| | | | |
|---------------------|---|---------------------------------|---|
| REPORTED TO | Lake Country, District of (Wastewater) 4062 Beaver Lake Rd LAKE COUNTRY, BC V4V 1T5 | WORK ORDER | 23E2832 |
| ATTENTION | Davin Larsen | RECEIVED / TEMP REPORTED | 2023-05-23 14:13 / 16.1°C 2023-05-30 08:21 |
| PO NUMBER | | COC NUMBER | 45069.35214 |
| PROJECT | Raw Influent- PE14651 | | |
| PROJECT INFO | Lake Country WWTP | | |

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>

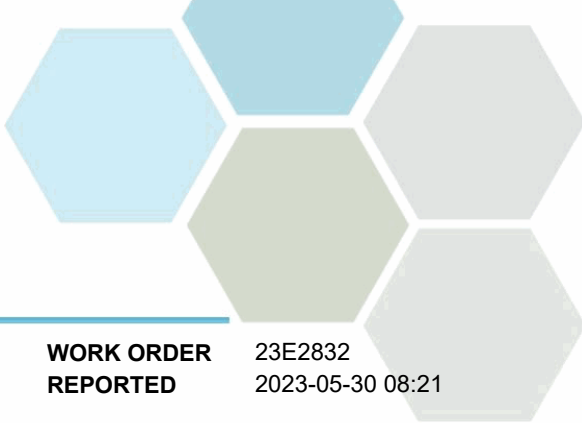
If you have any questions or concerns, please contact me at bwhitehead@caro.ca

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

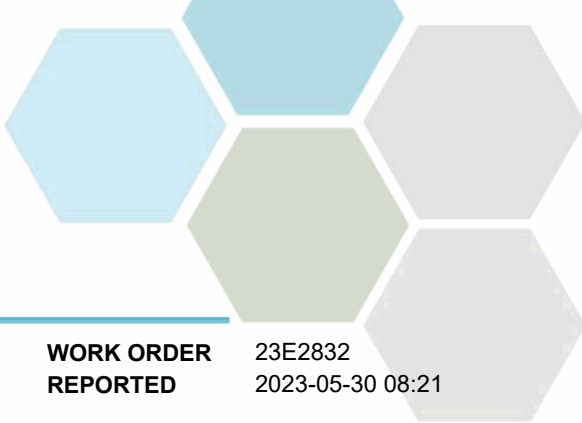
REPORTED TO PROJECT Lake Country, District of (Wastewater)
Raw Influent- PE14651

WORK ORDER REPORTED 23E2832
2023-05-30 08:21

| Analyte | Result | RL | Units | Analyzed | Qualifier |
|---|---------|--------|----------|------------|-----------|
| Raw Influent (E233627) (23E2832-01) Matrix: Wastewater Sampled: 2023-05-23 11:20 | | | | | |
| Anions | | | | | |
| Nitrate (as N) | 0.010 | 0.010 | mg/L | 2023-05-24 | |
| Nitrite (as N) | < 0.010 | 0.010 | mg/L | 2023-05-24 | |
| Phosphate (as P) | 6.19 | 0.0050 | mg/L | 2023-05-24 | |
| Calculated Parameters | | | | | |
| Nitrate+Nitrite (as N) | 0.0100 | 0.0100 | mg/L | N/A | |
| Nitrogen, Total | 59.9 | 2.00 | mg/L | N/A | |
| General Parameters | | | | | |
| Alkalinity, Total (as CaCO3) | 300 | 1.0 | mg/L | 2023-05-27 | |
| Alkalinity, Phenolphthalein (as CaCO3) | < 1.0 | 1.0 | mg/L | 2023-05-27 | |
| Alkalinity, Bicarbonate (as CaCO3) | 300 | 1.0 | mg/L | 2023-05-27 | |
| Alkalinity, Carbonate (as CaCO3) | < 1.0 | 1.0 | mg/L | 2023-05-27 | |
| Alkalinity, Hydroxide (as CaCO3) | < 1.0 | 1.0 | mg/L | 2023-05-27 | |
| Ammonia, Total (as N) | 50.0 | 0.050 | mg/L | 2023-05-24 | |
| BOD, 5-day | 362 | 2.0 | mg/L | 2023-05-29 | |
| BOD, 5-day Carbonaceous | 375 | 2.0 | mg/L | 2023-05-29 | |
| Nitrogen, Total Kjeldahl | 59.9 | 0.050 | mg/L | 2023-05-28 | |
| pH | 7.63 | 0.10 | pH units | 2023-05-27 | HT2 |
| Phosphorus, Total (as P) | 8.63 | 0.0050 | mg/L | 2023-05-25 | |
| Solids, Total Suspended | 280 | 2.0 | mg/L | 2023-05-25 | |

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 Lake Country, District of (Wastewater)
Raw Influent- PE14651

WORK ORDER REPORTED 23E2832
2023-05-30 08:21

| Analysis Description | Method Ref. | Technique | Accredited | Location |
|--|---|--|------------|----------|
| Alkalinity in Water | SM 2320 B* (2021) | Titration with H2SO4 | ✓ | Kelowna |
| Ammonia, Total in Water | SM 4500-NH3 G* (2021) | Automated Colorimetry (Phenate) | ✓ | Kelowna |
| Anions in Water | SM 4110 B (2020) | Ion Chromatography | ✓ | Kelowna |
| Biochemical Oxygen Demand in Water | SM 5210 B (2019) | Dissolved Oxygen Meter | ✓ | Kelowna |
| Biochemical Oxygen Demand, Carbonaceous in Water | SM 5210 B (2019) | Dissolved Oxygen Meter | ✓ | Kelowna |
| Nitrogen, Total Kjeldahl in Water | SM 4500-Norg D* (2021) | Block Digestion and Flow Injection Analysis | ✓ | Kelowna |
| pH in Water | SM 4500-H+ B (2021) | Electrometry | ✓ | Kelowna |
| Phosphorus, Total in Water | SM 4500-P B.5* (2011) / SM 4500-P F (2021) | Persulfate Digestion / Automated Colorimetry (Ascorbic Acid) | ✓ | Kelowna |
| Solids, Total Suspended in Water | Solids in Water, Filtered / SM 2540 D* (2020) | Solids in Water, Filtered / Gravimetry (Dried at 103-105C) | ✓ | Kelowna |

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

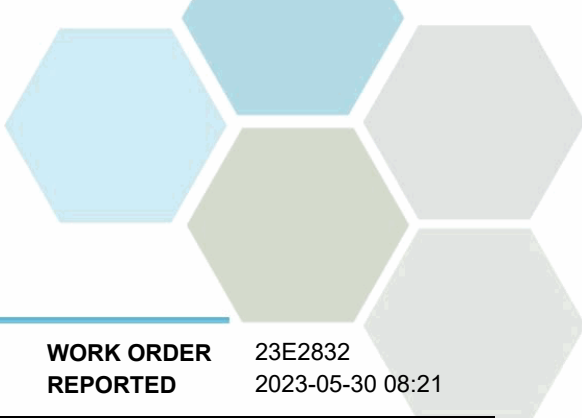
Glossary of Terms:

| | |
|----------|---|
| RL | Reporting Limit (default) |
| < | Less than the specified Reporting Limit (RL) - the actual RL may be higher than the default RL due to various factors |
| mg/L | Milligrams per litre |
| pH units | pH < 7 = acidic, pH > 7 = basic |
| SM | Standard Methods for the Examination of Water and Wastewater, American Public Health Association |

General Comments:

The results in this report apply to the received 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. Caro will dispose of all samples within 30 days of sample receipt, unless otherwise agreed.

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APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater)
Raw Influent- PE14651

WORK ORDER REPORTED 23E2832
2023-05-30 08:21

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 |
|---------|--------|----------|-------------|---------------|-------|-----------|-------|-----------|-----------|
|---------|--------|----------|-------------|---------------|-------|-----------|-------|-----------|-----------|

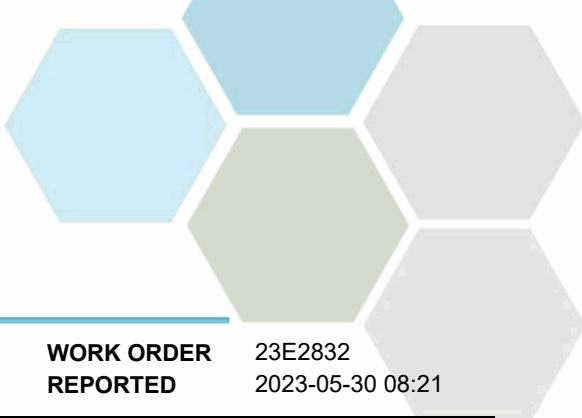
Anions, Batch B3E2571

| Blank (B3E2571-BLK1) | | | Prepared: 2023-05-24, Analyzed: 2023-05-24 | | | | | | |
|----------------------|----------|-------------|--|--|-----|--------|--|--|--|
| Nitrate (as N) | < 0.010 | 0.010 mg/L | | | | | | | |
| Nitrite (as N) | < 0.010 | 0.010 mg/L | | | | | | | |
| Phosphate (as P) | < 0.0050 | 0.0050 mg/L | | | | | | | |
| LCS (B3E2571-BS1) | | | Prepared: 2023-05-24, Analyzed: 2023-05-24 | | | | | | |
| Nitrate (as N) | 4.08 | 0.010 mg/L | 4.00 | | 102 | 90-110 | | | |
| Nitrite (as N) | 2.09 | 0.010 mg/L | 2.00 | | 104 | 85-115 | | | |
| Phosphate (as P) | 1.07 | 0.0050 mg/L | 1.00 | | 107 | 80-120 | | | |

General Parameters, Batch B3E2577

| Blank (B3E2577-BLK1) | | | Prepared: 2023-05-24, Analyzed: 2023-05-24 | | | | | | |
|-----------------------|---------|------------|--|--|-----|--------|--|--|--|
| Ammonia, Total (as N) | < 0.050 | 0.050 mg/L | | | | | | | |
| Blank (B3E2577-BLK2) | | | Prepared: 2023-05-24, Analyzed: 2023-05-24 | | | | | | |
| Ammonia, Total (as N) | < 0.050 | 0.050 mg/L | | | | | | | |
| Blank (B3E2577-BLK3) | | | Prepared: 2023-05-24, Analyzed: 2023-05-24 | | | | | | |
| Ammonia, Total (as N) | < 0.050 | 0.050 mg/L | | | | | | | |
| Blank (B3E2577-BLK4) | | | Prepared: 2023-05-24, Analyzed: 2023-05-24 | | | | | | |
| Ammonia, Total (as N) | < 0.050 | 0.050 mg/L | | | | | | | |
| LCS (B3E2577-BS1) | | | Prepared: 2023-05-24, Analyzed: 2023-05-24 | | | | | | |
| Ammonia, Total (as N) | 0.995 | 0.050 mg/L | 1.00 | | 100 | 85-115 | | | |
| LCS (B3E2577-BS2) | | | Prepared: 2023-05-24, Analyzed: 2023-05-24 | | | | | | |
| Ammonia, Total (as N) | 0.990 | 0.050 mg/L | 1.00 | | 99 | 85-115 | | | |
| LCS (B3E2577-BS3) | | | Prepared: 2023-05-24, Analyzed: 2023-05-24 | | | | | | |
| Ammonia, Total (as N) | 1.03 | 0.050 mg/L | 1.00 | | 103 | 85-115 | | | |
| LCS (B3E2577-BS4) | | | Prepared: 2023-05-24, Analyzed: 2023-05-24 | | | | | | |
| Ammonia, Total (as N) | 0.951 | 0.050 mg/L | 1.00 | | 95 | 85-115 | | | |

General Parameters, Batch B3E2634

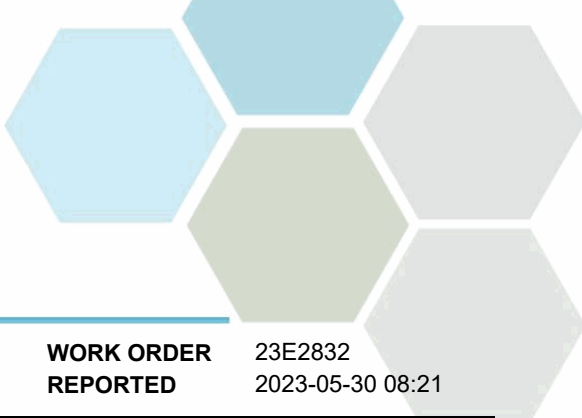


APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater)
Raw Influent- PE14651

WORK ORDER REPORTED 23E2832
2023-05-30 08:21

| Analyte | Result | RL Units | Spike Level | Source Result | % REC | REC Limit | % RPD | RPD Limit | Qualifier |
|---|----------|-------------|--|---------------|-------|--|-------|-----------|-----------|
| General Parameters, Batch B3E2634, Continued | | | | | | | | | |
| Blank (B3E2634-BLK1) | | | Prepared: 2023-05-24, Analyzed: 2023-05-29 | | | | | | |
| BOD, 5-day | < 2.0 | 2.0 mg/L | | | | | | | |
| LCS (B3E2634-BS1) | | | Prepared: 2023-05-24, Analyzed: 2023-05-29 | | | | | | |
| BOD, 5-day | 192 | 58.3 mg/L | 198 | | 97 | 85-115 | | | |
| General Parameters, Batch B3E2636 | | | | | | | | | |
| Blank (B3E2636-BLK1) | | | Prepared: 2023-05-24, Analyzed: 2023-05-29 | | | | | | |
| BOD, 5-day Carbonaceous | < 2.0 | 2.0 mg/L | | | | | | | |
| LCS (B3E2636-BS1) | | | Prepared: 2023-05-24, Analyzed: 2023-05-29 | | | | | | |
| BOD, 5-day Carbonaceous | 196 | 61.0 mg/L | 198 | | 99 | 85-115 | | | |
| General Parameters, Batch B3E2678 | | | | | | | | | |
| Blank (B3E2678-BLK1) | | | Prepared: 2023-05-24, Analyzed: 2023-05-25 | | | | | | |
| Phosphorus, Total (as P) | < 0.0050 | 0.0050 mg/L | | | | | | | |
| Blank (B3E2678-BLK2) | | | Prepared: 2023-05-24, Analyzed: 2023-05-25 | | | | | | |
| Phosphorus, Total (as P) | < 0.0050 | 0.0050 mg/L | | | | | | | |
| Blank (B3E2678-BLK3) | | | Prepared: 2023-05-24, Analyzed: 2023-05-25 | | | | | | |
| Phosphorus, Total (as P) | < 0.0050 | 0.0050 mg/L | | | | | | | |
| Blank (B3E2678-BLK4) | | | Prepared: 2023-05-24, Analyzed: 2023-05-25 | | | | | | |
| Phosphorus, Total (as P) | < 0.0050 | 0.0050 mg/L | | | | | | | |
| LCS (B3E2678-BS1) | | | Prepared: 2023-05-24, Analyzed: 2023-05-25 | | | | | | |
| Phosphorus, Total (as P) | 0.105 | 0.0050 mg/L | 0.100 | | 105 | 85-115 | | | |
| LCS (B3E2678-BS2) | | | Prepared: 2023-05-24, Analyzed: 2023-05-25 | | | | | | |
| Phosphorus, Total (as P) | 0.104 | 0.0050 mg/L | 0.100 | | 104 | 85-115 | | | |
| LCS (B3E2678-BS3) | | | Prepared: 2023-05-24, Analyzed: 2023-05-25 | | | | | | |
| Phosphorus, Total (as P) | 0.100 | 0.0050 mg/L | 0.100 | | 100 | 85-115 | | | |
| LCS (B3E2678-BS4) | | | Prepared: 2023-05-24, Analyzed: 2023-05-25 | | | | | | |
| Phosphorus, Total (as P) | 0.101 | 0.0050 mg/L | 0.100 | | 101 | 85-115 | | | |
| General Parameters, Batch B3E2728 | | | | | | | | | |
| Blank (B3E2728-BLK1) | | | Prepared: 2023-05-25, Analyzed: 2023-05-25 | | | | | | |
| Solids, Total Suspended | < 2.0 | 2.0 mg/L | | | | | | | |
| LCS (B3E2728-BS1) | | | Prepared: 2023-05-25, Analyzed: 2023-05-25 | | | | | | |
| Solids, Total Suspended | 95.0 | 10.0 mg/L | 100 | | 95 | 85-115 | | | |
| Duplicate (B3E2728-DUP1) | | | Source: 23E2832-01 | | | Prepared: 2023-05-25, Analyzed: 2023-05-25 | | | |
| Solids, Total Suspended | 268 | 2.0 mg/L | | 280 | | | 4 | 20 | |
| General Parameters, Batch B3E2921 | | | | | | | | | |
| Blank (B3E2921-BLK1) | | | Prepared: 2023-05-26, Analyzed: 2023-05-28 | | | | | | |
| Nitrogen, Total Kjeldahl | < 0.050 | 0.050 mg/L | | | | | | | |



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater)
Raw Influent- PE14651

WORK ORDER REPORTED 23E2832
2023-05-30 08:21

| Analyte | Result | RL Units | Spike Level | Source Result | % REC | REC Limit | % RPD | RPD Limit | Qualifier |
|---|---------|---------------|--|---------------|-------|-----------|-------|-----------|-----------|
| General Parameters, Batch B3E2921, Continued | | | | | | | | | |
| Blank (B3E2921-BLK2) | | | Prepared: 2023-05-26, Analyzed: 2023-05-28 | | | | | | |
| Nitrogen, Total Kjeldahl | < 0.050 | 0.050 mg/L | | | | | | | |
| LCS (B3E2921-BS1) | | | Prepared: 2023-05-26, Analyzed: 2023-05-28 | | | | | | |
| Nitrogen, Total Kjeldahl | 0.883 | 0.050 mg/L | 1.00 | | 88 | 85-115 | | | |
| LCS (B3E2921-BS2) | | | Prepared: 2023-05-26, Analyzed: 2023-05-28 | | | | | | |
| Nitrogen, Total Kjeldahl | 0.887 | 0.050 mg/L | 1.00 | | 89 | 85-115 | | | |
| General Parameters, Batch B3E3026 | | | | | | | | | |
| Blank (B3E3026-BLK1) | | | Prepared: 2023-05-27, Analyzed: 2023-05-27 | | | | | | |
| Alkalinity, Total (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Phenolphthalein (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Bicarbonate (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Carbonate (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Hydroxide (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Blank (B3E3026-BLK2) | | | Prepared: 2023-05-27, Analyzed: 2023-05-27 | | | | | | |
| Alkalinity, Total (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Phenolphthalein (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Bicarbonate (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Carbonate (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Hydroxide (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| LCS (B3E3026-BS1) | | | Prepared: 2023-05-27, Analyzed: 2023-05-27 | | | | | | |
| Alkalinity, Total (as CaCO3) | 94.9 | 1.0 mg/L | 100 | | 95 | 80-120 | | | |
| Alkalinity, Phenolphthalein (as CaCO3) | 71.9 | 1.0 mg/L | 50.0 | | 144 | 0-200 | | | |
| LCS (B3E3026-BS2) | | | Prepared: 2023-05-27, Analyzed: 2023-05-27 | | | | | | |
| Alkalinity, Total (as CaCO3) | 95.9 | 1.0 mg/L | 100 | | 96 | 80-120 | | | |
| Alkalinity, Phenolphthalein (as CaCO3) | 70.0 | 1.0 mg/L | 50.0 | | 140 | 0-200 | | | |
| Reference (B3E3026-SRM1) | | | Prepared: 2023-05-27, Analyzed: 2023-05-27 | | | | | | |
| pH | 7.01 | 0.10 pH units | 7.01 | | 100 | 98-102 | | | |
| Reference (B3E3026-SRM2) | | | Prepared: 2023-05-27, Analyzed: 2023-05-27 | | | | | | |
| pH | 7.01 | 0.10 pH units | 7.01 | | 100 | 98-102 | | | |



CERTIFICATE OF ANALYSIS

| | | | |
|---------------------|---|---------------------------------|---|
| REPORTED TO | Lake Country, District of (Wastewater) 4062 Beaver Lake Rd LAKE COUNTRY, BC V4V 1T5 | WORK ORDER | 23E2835 |
| ATTENTION | Davin Larsen | RECEIVED / TEMP REPORTED | 2023-05-23 14:13 / 16.1°C 2023-05-30 08:10 |
| PO NUMBER | | COC NUMBER | 45069.35214 |
| PROJECT | Final Effluent- PE14651 | | |
| PROJECT INFO | Lake Country WWTP | | |

Introduction:

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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



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Ahead of the Curve



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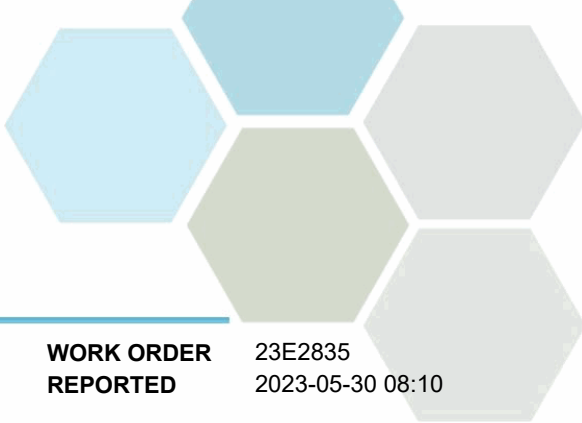
If you have any questions or concerns, please contact me at bwhitehead@caro.ca

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

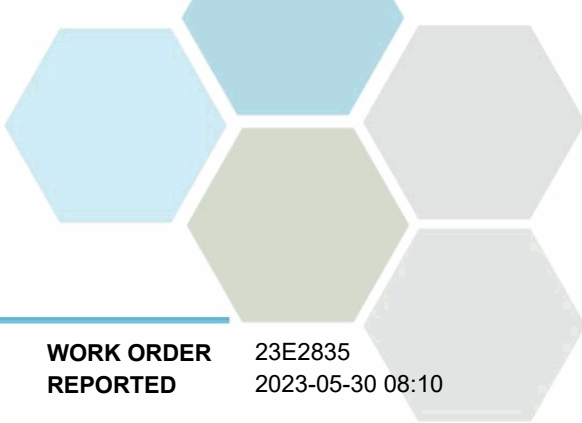
REPORTED TO PROJECT Lake Country, District of (Wastewater)
Final Effluent- PE14651

WORK ORDER REPORTED 23E2835
2023-05-30 08:10

| Analyte | Result | RL | Units | Analyzed | Qualifier |
|---|----------|--------|------------|------------|-----------|
| Final Effluent (E233626) (23E2835-01) Matrix: Wastewater Sampled: 2023-05-23 11:00 | | | | | |
| Anions | | | | | |
| Chloride | 120 | 0.10 | mg/L | 2023-05-24 | |
| Nitrate (as N) | 0.264 | 0.010 | mg/L | 2023-05-24 | |
| Nitrite (as N) | 0.125 | 0.010 | mg/L | 2023-05-24 | |
| Phosphate (as P) | 0.0263 | 0.0050 | mg/L | 2023-05-24 | |
| Calculated Parameters | | | | | |
| Nitrate+Nitrite (as N) | 0.390 | 0.0100 | mg/L | N/A | |
| Nitrogen, Total | 2.91 | 0.0500 | mg/L | N/A | |
| Nitrogen, Organic | 1.45 | 0.0500 | mg/L | N/A | |
| General Parameters | | | | | |
| Alkalinity, Total (as CaCO3) | 171 | 1.0 | mg/L | 2023-05-27 | |
| Alkalinity, Phenolphthalein (as CaCO3) | < 1.0 | 1.0 | mg/L | 2023-05-27 | |
| Alkalinity, Bicarbonate (as CaCO3) | 171 | 1.0 | mg/L | 2023-05-27 | |
| Alkalinity, Carbonate (as CaCO3) | < 1.0 | 1.0 | mg/L | 2023-05-27 | |
| Alkalinity, Hydroxide (as CaCO3) | < 1.0 | 1.0 | mg/L | 2023-05-27 | |
| Ammonia, Total (as N) | 1.07 | 0.050 | mg/L | 2023-05-24 | |
| BOD, 5-day Carbonaceous | < 7.3 | 2.0 | mg/L | 2023-05-29 | |
| Nitrogen, Total Kjeldahl | 2.52 | 0.050 | mg/L | 2023-05-26 | |
| pH | 7.71 | 0.10 | pH units | 2023-05-27 | HT2 |
| Phosphorus, Total (as P) | 0.270 | 0.0050 | mg/L | 2023-05-25 | |
| Solids, Total Suspended | 3.6 | 2.0 | mg/L | 2023-05-25 | |
| Microbiological Parameters | | | | | |
| Coliforms, Total (Q-Tray) | > 242000 | 1 | MPN/100 mL | 2023-05-23 | |
| Coliforms, Fecal (Q-Tray) | 92100 | 1 | MPN/100 mL | 2023-05-23 | |

Trip Blank (23E2835-02) | Matrix: Water | Sampled: 2023-05-23 08:50

| | | | | | |
|--|----------|--------|------|------------|--|
| Anions | | | | | |
| Chloride | < 0.10 | 0.10 | mg/L | 2023-05-24 | |
| Nitrate (as N) | < 0.010 | 0.010 | mg/L | 2023-05-24 | |
| Nitrite (as N) | < 0.010 | 0.010 | mg/L | 2023-05-24 | |
| Phosphate (as P) | < 0.0050 | 0.0050 | mg/L | 2023-05-24 | |
| Calculated Parameters | | | | | |
| Nitrate+Nitrite (as N) | < 0.0100 | 0.0100 | mg/L | N/A | |
| Nitrogen, Total | < 0.0500 | 0.0500 | mg/L | N/A | |
| Nitrogen, Organic | < 0.0500 | 0.0500 | mg/L | N/A | |
| General Parameters | | | | | |
| Alkalinity, Total (as CaCO3) | < 1.0 | 1.0 | mg/L | 2023-05-27 | |
| Alkalinity, Phenolphthalein (as CaCO3) | < 1.0 | 1.0 | mg/L | 2023-05-27 | |
| Alkalinity, Bicarbonate (as CaCO3) | < 1.0 | 1.0 | mg/L | 2023-05-27 | |



TEST RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater)
Final Effluent- PE14651

WORK ORDER REPORTED 23E2835
2023-05-30 08:10

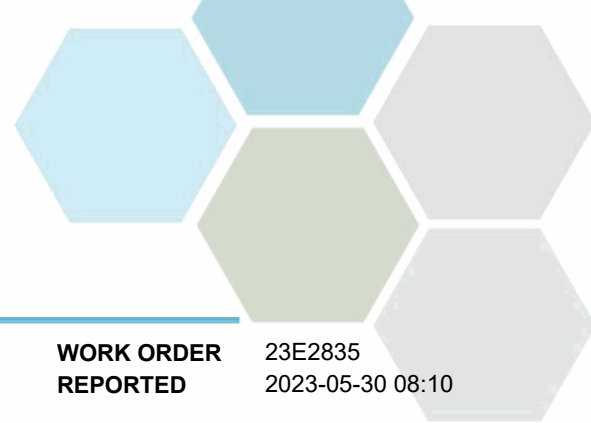
| Analyte | Result | RL | Units | Analyzed | Qualifier |
|---|-------------|--------|----------|------------|-----------|
| Trip Blank (23E2835-02) Matrix: Water Sampled: 2023-05-23 08:50, Continued | | | | | |
| <i>General Parameters, Continued</i> | | | | | |
| Alkalinity, Carbonate (as CaCO3) | < 1.0 | 1.0 | mg/L | 2023-05-27 | |
| Alkalinity, Hydroxide (as CaCO3) | < 1.0 | 1.0 | mg/L | 2023-05-27 | |
| Ammonia, Total (as N) | < 0.050 | 0.050 | mg/L | 2023-05-24 | |
| BOD, 5-day Carbonaceous | < 7.3 | 2.0 | mg/L | 2023-05-29 | |
| Nitrogen, Total Kjeldahl | < 0.050 | 0.050 | mg/L | 2023-05-26 | |
| pH | 5.41 | 0.10 | pH units | 2023-05-27 | HT2 |
| Phosphorus, Total (as P) | < 0.0050 | 0.0050 | mg/L | 2023-05-25 | |
| Solids, Total Suspended | < 2.0 | 2.0 | mg/L | 2023-05-25 | |

Microbiological Parameters

| | | | | | |
|---------------------------|-----|---|------------|------------|--|
| Coliforms, Total (Q-Tray) | < 1 | 1 | MPN/100 mL | 2023-05-23 | |
| Coliforms, Fecal (Q-Tray) | < 1 | 1 | MPN/100 mL | 2023-05-23 | |

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 Lake Country, District of (Wastewater)
Final Effluent- PE14651

WORK ORDER REPORTED 23E2835
2023-05-30 08:10

| Analysis Description | Method Ref. | Technique | Accredited | Location |
|--|---|--|------------|----------|
| Alkalinity in Water | SM 2320 B* (2021) | Titration with H2SO4 | ✓ | Kelowna |
| Ammonia, Total in Water | SM 4500-NH3 G* (2021) | Automated Colorimetry (Phenate) | ✓ | Kelowna |
| Anions in Water | SM 4110 B (2020) | Ion Chromatography | ✓ | Kelowna |
| Biochemical Oxygen Demand, Carbonaceous in Water | SM 5210 B (2019) | Dissolved Oxygen Meter | ✓ | Kelowna |
| Coliforms, Fecal in Water | NA / SM 9223 (2016) | Quanti-Tray / Enzyme Substrate Endo Agar | ✓ | Kelowna |
| Coliforms, Total in Water | NA / SM 9223 (2016) | Quanti-Tray / Enzyme Substrate Endo Agar | ✓ | Kelowna |
| Nitrogen, Total Kjeldahl in Water | SM 4500-Norg D* (2021) | Block Digestion and Flow Injection Analysis | ✓ | Kelowna |
| pH in Water | SM 4500-H+ B (2021) | Electrometry | ✓ | Kelowna |
| Phosphorus, Total in Water | SM 4500-P B.5* (2011) / SM 4500-P F (2021) | Persulfate Digestion / Automated Colorimetry (Ascorbic Acid) | ✓ | Kelowna |
| Solids, Total Suspended in Water | Solids in Water, Filtered / SM 2540 D* (2020) | Solids in Water, Filtered / Gravimetry (Dried at 103-105C) | ✓ | Kelowna |

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

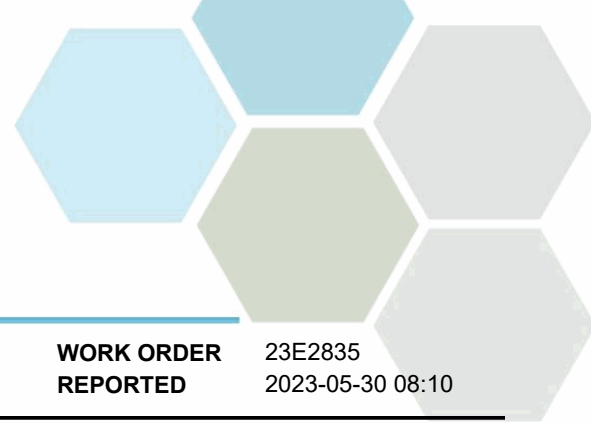
Glossary of Terms:

| | |
|------------|---|
| RL | Reporting Limit (default) |
| < | Less than the specified Reporting Limit (RL) - the actual RL may be higher than the default RL due to various factors |
| > | 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 |
| SM | Standard Methods for the Examination of Water and Wastewater, American Public Health Association |

General Comments:

The results in this report apply to the received 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. Caro will dispose of all samples within 30 days of sample receipt, unless otherwise agreed.

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 Lake Country, District of (Wastewater)
Final Effluent- PE14651

WORK ORDER REPORTED 23E2835
2023-05-30 08:10

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.

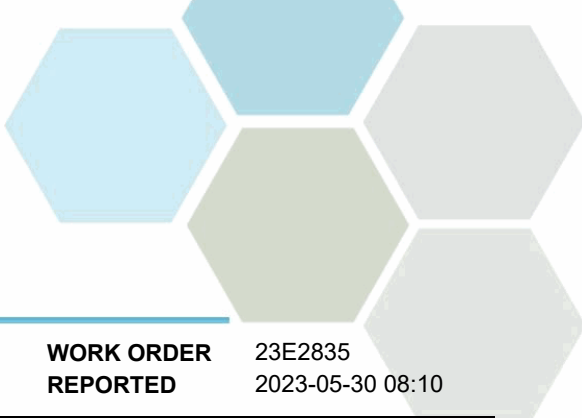
| Analyte | Result | RL Units | Spike Level | Source Result | % REC | REC Limit | % RPD | RPD Limit | Qualifier |
|---------|--------|----------|-------------|---------------|-------|-----------|-------|-----------|-----------|
|---------|--------|----------|-------------|---------------|-------|-----------|-------|-----------|-----------|

Anions, Batch B3E2571

| Blank (B3E2571-BLK1) | | | Prepared: 2023-05-24, Analyzed: 2023-05-24 | | | | | | |
|----------------------|----------|-------------|--|--|-----|--------|--|--|--|
| 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 | | | | | | | |
| Phosphate (as P) | < 0.0050 | 0.0050 mg/L | | | | | | | |
| LCS (B3E2571-BS1) | | | Prepared: 2023-05-24, Analyzed: 2023-05-24 | | | | | | |
| Chloride | 16.3 | 0.10 mg/L | 16.0 | | 102 | 90-110 | | | |
| Nitrate (as N) | 4.08 | 0.010 mg/L | 4.00 | | 102 | 90-110 | | | |
| Nitrite (as N) | 2.09 | 0.010 mg/L | 2.00 | | 104 | 85-115 | | | |
| Phosphate (as P) | 1.07 | 0.0050 mg/L | 1.00 | | 107 | 80-120 | | | |

General Parameters, Batch B3E2577

| Blank (B3E2577-BLK1) | | | Prepared: 2023-05-24, Analyzed: 2023-05-24 | | | | | | |
|-----------------------|---------|------------|--|--|-----|--------|--|--|--|
| Ammonia, Total (as N) | < 0.050 | 0.050 mg/L | | | | | | | |
| Blank (B3E2577-BLK2) | | | Prepared: 2023-05-24, Analyzed: 2023-05-24 | | | | | | |
| Ammonia, Total (as N) | < 0.050 | 0.050 mg/L | | | | | | | |
| Blank (B3E2577-BLK3) | | | Prepared: 2023-05-24, Analyzed: 2023-05-24 | | | | | | |
| Ammonia, Total (as N) | < 0.050 | 0.050 mg/L | | | | | | | |
| Blank (B3E2577-BLK4) | | | Prepared: 2023-05-24, Analyzed: 2023-05-24 | | | | | | |
| Ammonia, Total (as N) | < 0.050 | 0.050 mg/L | | | | | | | |
| LCS (B3E2577-BS1) | | | Prepared: 2023-05-24, Analyzed: 2023-05-24 | | | | | | |
| Ammonia, Total (as N) | 0.995 | 0.050 mg/L | 1.00 | | 100 | 85-115 | | | |
| LCS (B3E2577-BS2) | | | Prepared: 2023-05-24, Analyzed: 2023-05-24 | | | | | | |
| Ammonia, Total (as N) | 0.990 | 0.050 mg/L | 1.00 | | 99 | 85-115 | | | |
| LCS (B3E2577-BS3) | | | Prepared: 2023-05-24, Analyzed: 2023-05-24 | | | | | | |
| Ammonia, Total (as N) | 1.03 | 0.050 mg/L | 1.00 | | 103 | 85-115 | | | |
| LCS (B3E2577-BS4) | | | Prepared: 2023-05-24, Analyzed: 2023-05-24 | | | | | | |
| Ammonia, Total (as N) | 0.951 | 0.050 mg/L | 1.00 | | 95 | 85-115 | | | |

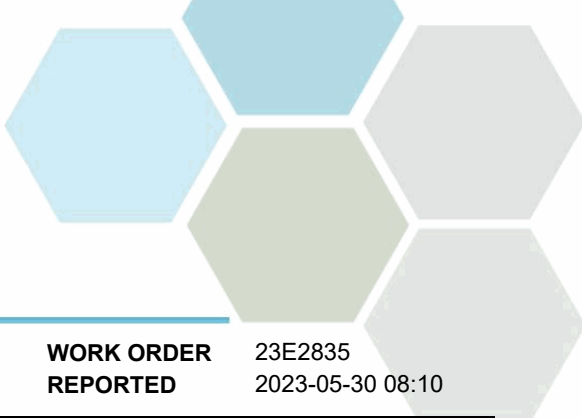


APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater)
Final Effluent- PE14651

WORK ORDER REPORTED 23E2835
2023-05-30 08:10

| Analyte | Result | RL Units | Spike Level | Source Result | % REC | REC Limit | % RPD | RPD Limit | Qualifier |
|---|----------|---------------------------|-------------|--|-------|-----------|-------|-----------|-----------|
| General Parameters, Batch B3E2577, Continued | | | | | | | | | |
| Duplicate (B3E2577-DUP4) | | Source: 23E2835-01 | | Prepared: 2023-05-24, Analyzed: 2023-05-24 | | | | | |
| Ammonia, Total (as N) | 1.05 | 0.050 mg/L | | 1.07 | | | 1 | 15 | |
| Matrix Spike (B3E2577-MS4) | | Source: 23E2835-01 | | Prepared: 2023-05-24, Analyzed: 2023-05-24 | | | | | |
| Ammonia, Total (as N) | 1.24 | 0.050 mg/L | 0.204 | 1.07 | 87 | 75-125 | | | |
| General Parameters, Batch B3E2636 | | | | | | | | | |
| Blank (B3E2636-BLK1) | | | | Prepared: 2023-05-24, Analyzed: 2023-05-29 | | | | | |
| BOD, 5-day Carbonaceous | < 2.0 | 2.0 mg/L | | | | | | | |
| LCS (B3E2636-BS1) | | | | Prepared: 2023-05-24, Analyzed: 2023-05-29 | | | | | |
| BOD, 5-day Carbonaceous | 196 | 61.0 mg/L | 198 | | 99 | 85-115 | | | |
| General Parameters, Batch B3E2678 | | | | | | | | | |
| Blank (B3E2678-BLK1) | | | | Prepared: 2023-05-24, Analyzed: 2023-05-25 | | | | | |
| Phosphorus, Total (as P) | < 0.0050 | 0.0050 mg/L | | | | | | | |
| Blank (B3E2678-BLK2) | | | | Prepared: 2023-05-24, Analyzed: 2023-05-25 | | | | | |
| Phosphorus, Total (as P) | < 0.0050 | 0.0050 mg/L | | | | | | | |
| Blank (B3E2678-BLK3) | | | | Prepared: 2023-05-24, Analyzed: 2023-05-25 | | | | | |
| Phosphorus, Total (as P) | < 0.0050 | 0.0050 mg/L | | | | | | | |
| Blank (B3E2678-BLK4) | | | | Prepared: 2023-05-24, Analyzed: 2023-05-25 | | | | | |
| Phosphorus, Total (as P) | < 0.0050 | 0.0050 mg/L | | | | | | | |
| LCS (B3E2678-BS1) | | | | Prepared: 2023-05-24, Analyzed: 2023-05-25 | | | | | |
| Phosphorus, Total (as P) | 0.105 | 0.0050 mg/L | 0.100 | | 105 | 85-115 | | | |
| LCS (B3E2678-BS2) | | | | Prepared: 2023-05-24, Analyzed: 2023-05-25 | | | | | |
| Phosphorus, Total (as P) | 0.104 | 0.0050 mg/L | 0.100 | | 104 | 85-115 | | | |
| LCS (B3E2678-BS3) | | | | Prepared: 2023-05-24, Analyzed: 2023-05-25 | | | | | |
| Phosphorus, Total (as P) | 0.100 | 0.0050 mg/L | 0.100 | | 100 | 85-115 | | | |
| LCS (B3E2678-BS4) | | | | Prepared: 2023-05-24, Analyzed: 2023-05-25 | | | | | |
| Phosphorus, Total (as P) | 0.101 | 0.0050 mg/L | 0.100 | | 101 | 85-115 | | | |
| General Parameters, Batch B3E2728 | | | | | | | | | |
| Blank (B3E2728-BLK1) | | | | Prepared: 2023-05-25, Analyzed: 2023-05-25 | | | | | |
| Solids, Total Suspended | < 2.0 | 2.0 mg/L | | | | | | | |
| LCS (B3E2728-BS1) | | | | Prepared: 2023-05-25, Analyzed: 2023-05-25 | | | | | |
| Solids, Total Suspended | 95.0 | 10.0 mg/L | 100 | | 95 | 85-115 | | | |
| General Parameters, Batch B3E2782 | | | | | | | | | |
| Blank (B3E2782-BLK1) | | | | Prepared: 2023-05-25, Analyzed: 2023-05-26 | | | | | |
| Nitrogen, Total Kjeldahl | < 0.050 | 0.050 mg/L | | | | | | | |
| Blank (B3E2782-BLK2) | | | | Prepared: 2023-05-25, Analyzed: 2023-05-26 | | | | | |
| Nitrogen, Total Kjeldahl | < 0.050 | 0.050 mg/L | | | | | | | |



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater)
Final Effluent- PE14651

WORK ORDER REPORTED 23E2835
2023-05-30 08:10

| Analyte | Result | RL Units | Spike Level | Source Result | % REC | REC Limit | % RPD | RPD Limit | Qualifier |
|---|--------|---------------|--|---------------|--|-----------|-------|-----------|-----------|
| General Parameters, Batch B3E2782, Continued | | | | | | | | | |
| LCS (B3E2782-BS1) | | | Prepared: 2023-05-25, Analyzed: 2023-05-26 | | | | | | |
| Nitrogen, Total Kjeldahl | 1.08 | 0.050 mg/L | 1.00 | | 108 | 85-115 | | | |
| LCS (B3E2782-BS2) | | | Prepared: 2023-05-25, Analyzed: 2023-05-26 | | | | | | |
| Nitrogen, Total Kjeldahl | 1.08 | 0.050 mg/L | 1.00 | | 108 | 85-115 | | | |
| General Parameters, Batch B3E3026 | | | | | | | | | |
| Blank (B3E3026-BLK1) | | | Prepared: 2023-05-27, Analyzed: 2023-05-27 | | | | | | |
| Alkalinity, Total (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Phenolphthalein (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Bicarbonate (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Carbonate (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Hydroxide (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Blank (B3E3026-BLK2) | | | Prepared: 2023-05-27, Analyzed: 2023-05-27 | | | | | | |
| Alkalinity, Total (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Phenolphthalein (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Bicarbonate (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Carbonate (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Hydroxide (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| LCS (B3E3026-BS1) | | | Prepared: 2023-05-27, Analyzed: 2023-05-27 | | | | | | |
| Alkalinity, Total (as CaCO3) | 94.9 | 1.0 mg/L | 100 | | 95 | 80-120 | | | |
| Alkalinity, Phenolphthalein (as CaCO3) | 71.9 | 1.0 mg/L | 50.0 | | 144 | 0-200 | | | |
| LCS (B3E3026-BS2) | | | Prepared: 2023-05-27, Analyzed: 2023-05-27 | | | | | | |
| Alkalinity, Total (as CaCO3) | 95.9 | 1.0 mg/L | 100 | | 96 | 80-120 | | | |
| Alkalinity, Phenolphthalein (as CaCO3) | 70.0 | 1.0 mg/L | 50.0 | | 140 | 0-200 | | | |
| Reference (B3E3026-SRM1) | | | Prepared: 2023-05-27, Analyzed: 2023-05-27 | | | | | | |
| pH | 7.01 | 0.10 pH units | 7.01 | | 100 | 98-102 | | | |
| Reference (B3E3026-SRM2) | | | Prepared: 2023-05-27, Analyzed: 2023-05-27 | | | | | | |
| pH | 7.01 | 0.10 pH units | 7.01 | | 100 | 98-102 | | | |
| Microbiological Parameters, Batch B3E2437 | | | | | | | | | |
| Blank (B3E2437-BLK1) | | | Prepared: 2023-05-23, Analyzed: 2023-05-23 | | | | | | |
| Coliforms, Total (Q-Tray) | < 1 | 1 MPN/100 mL | | | | | | | |
| Blank (B3E2437-BLK2) | | | Prepared: 2023-05-23, Analyzed: 2023-05-23 | | | | | | |
| Coliforms, Total (Q-Tray) | < 1 | 1 MPN/100 mL | | | | | | | |
| Blank (B3E2437-BLK3) | | | Prepared: 2023-05-23, Analyzed: 2023-05-23 | | | | | | |
| Coliforms, Fecal (Q-Tray) | < 1 | 1 MPN/100 mL | | | | | | | |
| Duplicate (B3E2437-DUP3) | | | Source: 23E2835-02 | | Prepared: 2023-05-23, Analyzed: 2023-05-23 | | | | |
| Coliforms, Fecal (Q-Tray) | < 1 | 1 MPN/100 mL | | < 1 | | | 80 | | RS2 |

QC Qualifiers:

RS2 The Reporting Limits for this sample have been raised due to limited sample volume.



CERTIFICATE OF ANALYSIS

| | | | |
|---------------------|---|---------------------------------|---|
| REPORTED TO | Lake Country, District of (Wastewater) 4062 Beaver Lake Rd LAKE COUNTRY, BC V4V 1T5 | WORK ORDER | 23E2836 |
| ATTENTION | Davin Larsen | RECEIVED / TEMP REPORTED | 2023-05-23 14:13 / 16.1°C 2023-05-31 10:03 |
| PO NUMBER | | COC NUMBER | 45069.35214 |
| PROJECT | BioSolids- PE14651 | | |
| PROJECT INFO | Lake Country WWTP | | |

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



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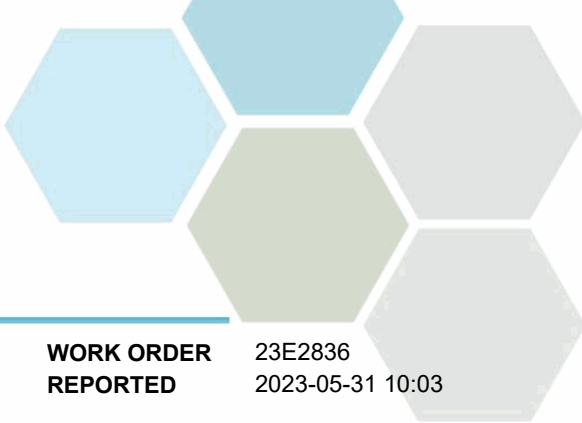
If you have any questions or concerns, please contact me at bwhitehead@caro.ca

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 Lake Country, District of (Wastewater)
BioSolids- PE14651

WORK ORDER REPORTED 23E2836
2023-05-31 10:03

| Analyte | Result | RL | Units | Analyzed | Qualifier |
|---------|--------|----|-------|----------|-----------|
|---------|--------|----|-------|----------|-----------|

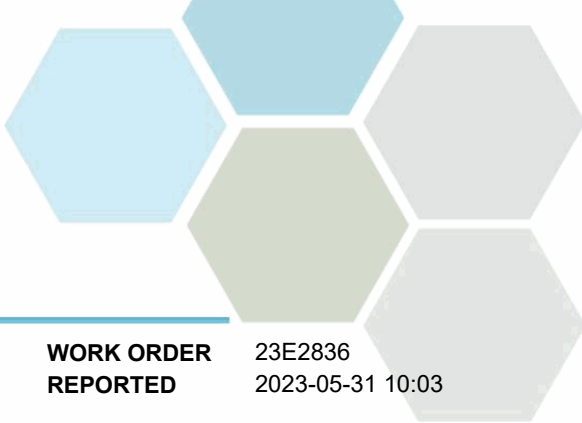
Biosolids (E233628) (23E2836-01) | Matrix: Sludge | Sampled: 2023-05-23 10:50

General Parameters

| | | | | | |
|--------------------------|------|--------|----------|------------|-----|
| Moisture | 76.9 | 1.0 | % wet | 2023-05-26 | |
| Nitrogen, Total Kjeldahl | 4.50 | 0.0004 | % dry | 2023-05-31 | |
| pH (1:2 H2O Solution) | 5.55 | 0.10 | pH units | 2023-05-24 | PH1 |
| Solids, Total | 20.8 | 0.1 | % wet | 2023-05-29 | |
| Solids, Volatile | 85.3 | 0.1 | % dry | 2023-05-29 | |

Strong Acid Leachable Metals

| | | | | | |
|------------|--------|-------|-----------|------------|--|
| Aluminum | 3000 | 40 | mg/kg dry | 2023-05-29 | |
| Antimony | 1.27 | 0.10 | mg/kg dry | 2023-05-29 | |
| Arsenic | 1.62 | 0.30 | mg/kg dry | 2023-05-29 | |
| Barium | 108 | 1.0 | mg/kg dry | 2023-05-29 | |
| Beryllium | < 0.10 | 0.10 | mg/kg dry | 2023-05-29 | |
| Bismuth | 28.7 | 0.10 | mg/kg dry | 2023-05-29 | |
| Boron | 7.7 | 2.0 | mg/kg dry | 2023-05-29 | |
| Cadmium | 1.66 | 0.040 | mg/kg dry | 2023-05-29 | |
| Calcium | 11800 | 100 | mg/kg dry | 2023-05-29 | |
| Chromium | 19.0 | 1.0 | mg/kg dry | 2023-05-29 | |
| Cobalt | 1.50 | 0.10 | mg/kg dry | 2023-05-29 | |
| Copper | 341 | 0.40 | mg/kg dry | 2023-05-29 | |
| Iron | 3000 | 20.0 | mg/kg dry | 2023-05-29 | |
| Lead | 7.65 | 0.20 | mg/kg dry | 2023-05-29 | |
| Lithium | 1.19 | 0.10 | mg/kg dry | 2023-05-29 | |
| Magnesium | 3370 | 10 | mg/kg dry | 2023-05-29 | |
| Manganese | 76.3 | 0.40 | mg/kg dry | 2023-05-29 | |
| Mercury | 0.408 | 0.040 | mg/kg dry | 2023-05-29 | |
| Molybdenum | 12.0 | 0.10 | mg/kg dry | 2023-05-29 | |
| Nickel | 9.21 | 0.60 | mg/kg dry | 2023-05-29 | |
| Phosphorus | 13200 | 10 | mg/kg dry | 2023-05-29 | |
| Potassium | 3520 | 40 | mg/kg dry | 2023-05-29 | |
| Selenium | 4.45 | 0.20 | mg/kg dry | 2023-05-29 | |
| Silver | 1.82 | 0.10 | mg/kg dry | 2023-05-29 | |
| Sodium | 581 | 50 | mg/kg dry | 2023-05-29 | |
| Strontium | 58.9 | 0.20 | mg/kg dry | 2023-05-29 | |
| Sulfur | 5650 | 1000 | mg/kg dry | 2023-05-29 | |
| Tellurium | < 0.10 | 0.10 | mg/kg dry | 2023-05-29 | |
| Thallium | < 0.10 | 0.10 | mg/kg dry | 2023-05-29 | |
| Thorium | < 0.50 | 0.50 | mg/kg dry | 2023-05-29 | |
| Tin | 15.0 | 0.20 | mg/kg dry | 2023-05-29 | |
| Titanium | 62.6 | 1.0 | mg/kg dry | 2023-05-29 | |
| Tungsten | 1.49 | 0.20 | mg/kg dry | 2023-05-29 | |
| Uranium | 8.44 | 0.050 | mg/kg dry | 2023-05-29 | |
| Vanadium | 6.2 | 1.0 | mg/kg dry | 2023-05-29 | |
| Zinc | 720 | 2.0 | mg/kg dry | 2023-05-29 | |



TEST RESULTS

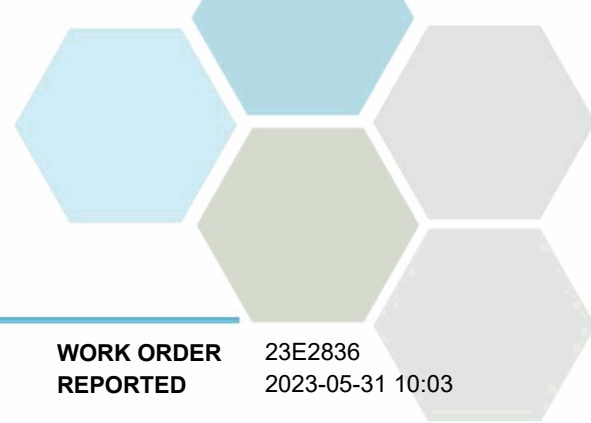
REPORTED TO PROJECT Lake Country, District of (Wastewater)
BioSolids- PE14651

WORK ORDER REPORTED 23E2836
2023-05-31 10:03

| Analyte | Result | RL | Units | Analyzed | Qualifier |
|---|--------|-----|-----------|------------|-----------|
| Biosolids (E233628) (23E2836-01) Matrix: Sludge Sampled: 2023-05-23 10:50, Continued | | | | | |
| <i>Strong Acid Leachable Metals, Continued</i> | | | | | |
| Zirconium | 5.0 | 2.0 | mg/kg dry | 2023-05-29 | |

Sample Qualifiers:

PH1 The ratio of water to soil was greater than 2:1 due to limited sample volume or matrix



APPENDIX 1: SUPPORTING INFORMATION

REPORTED TO PROJECT Lake Country, District of (Wastewater)
BioSolids- PE14651

WORK ORDER REPORTED 23E2836
2023-05-31 10:03

| Analysis Description | Method Ref. | Technique | Accredited | Location |
|-----------------------------------|-------------------------------------|---|------------|----------|
| Moisture in Solid | ASTM D2974-87* | Gravimetry (Dried at 105C) | | N/A |
| Nitrogen, Total Kjeldahl in Solid | SM 4500-Norg D* (2021) | Block Digestion and Flow Injection Analysis | ✓ | Kelowna |
| pH in Solid | Carter 16.2 / SM 4500-H+ B (2021) | 1:2 Soil/Water Slurry / Electrometry | | Kelowna |
| SALM in Solid | BCMOE SALM V.2 / EPA 6020B | HNO ₃ +HCl Hot Block Digestion / Inductively Coupled Plasma-Mass Spectroscopy (ICP-MS) | ✓ | Richmond |
| Solids, Total in Solid | Solids in Solids / SM 2540 G (2020) | Solids in Solids / Gravimetry | | Kelowna |
| Solids, Volatile in Solid | Solids in Solids / SM 2540 G (2020) | Solids in Solids / Gravimetry | | Kelowna |

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

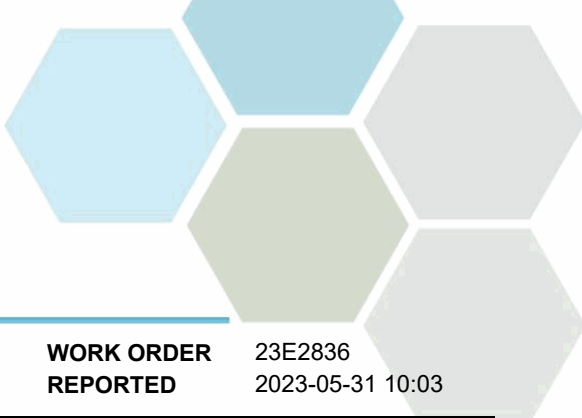
Glossary of Terms:

| | |
|-----------|---|
| RL | Reporting Limit (default) |
| % dry | Percent (dry weight basis) |
| % wet | Percent (as received basis) |
| < | Less than the specified Reporting Limit (RL) - the actual RL may be higher than the default RL due to various factors |
| mg/kg dry | Milligrams per kilogram (dry weight basis) |
| pH units | pH < 7 = acidic, pH > 7 = basic |
| ASTM | ASTM International Test Methods |
| EPA | United States Environmental Protection Agency Test Methods |
| SM | Standard Methods for the Examination of Water and Wastewater, American Public Health Association |

General Comments:

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APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater)
BioSolids- PE14651

WORK ORDER REPORTED 23E2836
2023-05-31 10:03

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 |
|---------|--------|----------|-------------|---------------|-------|-----------|-------|-----------|-----------|
|---------|--------|----------|-------------|---------------|-------|-----------|-------|-----------|-----------|

General Parameters, Batch B3E2531

| Duplicate (B3E2531-DUP1) | Source: 23E2836-01 | | Prepared: 2023-05-23, Analyzed: 2023-05-24 | | | | | | |
|--------------------------|--------------------|---------------|--|------|--|--|-----|---|--|
| pH (1:2 H2O Solution) | 5.54 | 0.10 pH units | | 5.55 | | | < 1 | 2 | |

General Parameters, Batch B3E2789

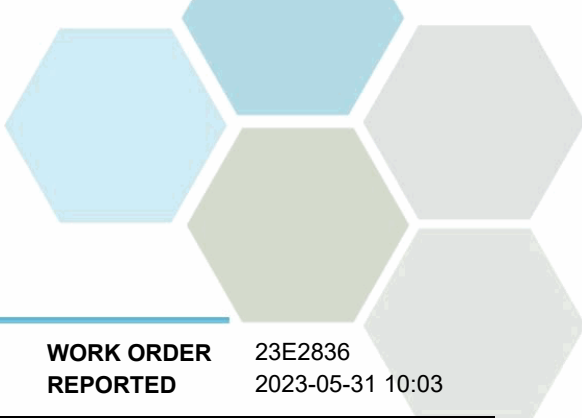
| Duplicate (B3E2789-DUP1) | Source: 23E2836-01 | | Prepared: 2023-05-26, Analyzed: 2023-05-29 | | | | | | |
|--------------------------|--------------------|-----------|--|------|--|-----|--------|-----|--|
| Solids, Total | 20.9 | 0.1 % wet | | 20.8 | | | < 1 | 7.5 | |
| Solids, Volatile | 85.5 | 0.1 % dry | | 85.3 | | | < 1 | 9 | |
| Reference (B3E2789-SRM1) | | | Prepared: 2023-05-26, Analyzed: 2023-05-29 | | | | | | |
| Solids, Total | 87.2 | 0.1 % wet | | 87.0 | | 100 | 80-120 | | |
| Solids, Volatile | 2.8 | 0.1 % dry | | 2.58 | | 107 | 80-200 | | |

General Parameters, Batch B3E3275

| Blank (B3E3275-BLK1) | Prepared: 2023-05-30, Analyzed: 2023-05-31 | | | | | | | | |
|--------------------------|--|-------------|--|-------|--|----|----------|--|--|
| Nitrogen, Total Kjeldahl | < 0.010 | 0.010 % wet | | | | | | | |
| Reference (B3E3275-SRM1) | Prepared: 2023-05-30, Analyzed: 2023-05-31 | | | | | | | | |
| Nitrogen, Total Kjeldahl | 0.183 | 0.010 % wet | | 0.197 | | 93 | 58.8-150 | | |

Strong Acid Leachable Metals, Batch B3E3047

| Blank (B3E3047-BLK1) | Prepared: 2023-05-27, Analyzed: 2023-05-29 | | | | | | | | |
|----------------------|--|-----------------|--|--|--|--|--|--|--|
| Aluminum | < 40 | 40 mg/kg dry | | | | | | | |
| Antimony | < 0.10 | 0.10 mg/kg dry | | | | | | | |
| Arsenic | < 0.30 | 0.30 mg/kg dry | | | | | | | |
| Barium | < 1.0 | 1.0 mg/kg dry | | | | | | | |
| Beryllium | < 0.10 | 0.10 mg/kg dry | | | | | | | |
| Bismuth | < 0.10 | 0.10 mg/kg dry | | | | | | | |
| Boron | < 2.0 | 2.0 mg/kg dry | | | | | | | |
| Cadmium | < 0.040 | 0.040 mg/kg dry | | | | | | | |
| Calcium | < 100 | 100 mg/kg dry | | | | | | | |
| Chromium | < 1.0 | 1.0 mg/kg dry | | | | | | | |
| Cobalt | < 0.10 | 0.10 mg/kg dry | | | | | | | |
| Copper | < 0.40 | 0.40 mg/kg dry | | | | | | | |



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater)
BioSolids- PE14651

WORK ORDER REPORTED 23E2836
2023-05-31 10:03

| Analyte | Result | RL Units | Spike Level | Source Result | % REC | REC Limit | % RPD | RPD Limit | Qualifier |
|---------|--------|----------|-------------|---------------|-------|-----------|-------|-----------|-----------|
|---------|--------|----------|-------------|---------------|-------|-----------|-------|-----------|-----------|

Strong Acid Leachable Metals, Batch B3E3047, Continued

Blank (B3E3047-BLK1), Continued

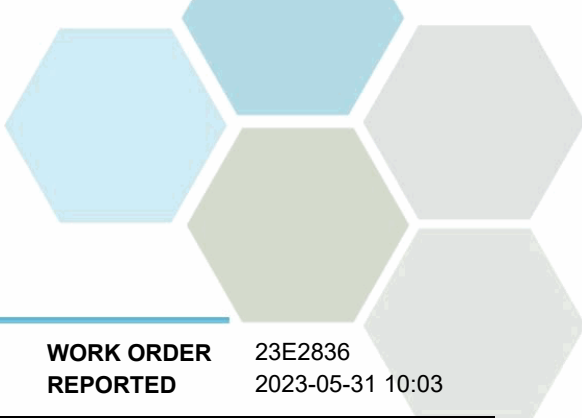
Prepared: 2023-05-27, Analyzed: 2023-05-29

| | | | | | | | | | |
|------------|---------|-----------------|--|--|--|--|--|--|--|
| Iron | < 20.0 | 20.0 mg/kg dry | | | | | | | |
| Lead | < 0.20 | 0.20 mg/kg dry | | | | | | | |
| Lithium | < 0.10 | 0.10 mg/kg dry | | | | | | | |
| Magnesium | < 10 | 10 mg/kg dry | | | | | | | |
| Manganese | < 0.40 | 0.40 mg/kg dry | | | | | | | |
| Mercury | < 0.040 | 0.040 mg/kg dry | | | | | | | |
| Molybdenum | < 0.10 | 0.10 mg/kg dry | | | | | | | |
| Nickel | < 0.60 | 0.60 mg/kg dry | | | | | | | |
| Phosphorus | < 10 | 10 mg/kg dry | | | | | | | |
| Potassium | < 40 | 40 mg/kg dry | | | | | | | |
| Selenium | < 0.20 | 0.20 mg/kg dry | | | | | | | |
| Silver | < 0.10 | 0.10 mg/kg dry | | | | | | | |
| Sodium | < 50 | 50 mg/kg dry | | | | | | | |
| Strontium | < 0.20 | 0.20 mg/kg dry | | | | | | | |
| Sulfur | < 1000 | 1000 mg/kg dry | | | | | | | |
| Tellurium | < 0.10 | 0.10 mg/kg dry | | | | | | | |
| Thallium | < 0.10 | 0.10 mg/kg dry | | | | | | | |
| Thorium | < 0.50 | 0.50 mg/kg dry | | | | | | | |
| Tin | < 0.20 | 0.20 mg/kg dry | | | | | | | |
| Titanium | < 1.0 | 1.0 mg/kg dry | | | | | | | |
| Tungsten | < 0.20 | 0.20 mg/kg dry | | | | | | | |
| Uranium | < 0.050 | 0.050 mg/kg dry | | | | | | | |
| Vanadium | < 1.0 | 1.0 mg/kg dry | | | | | | | |
| Zinc | < 2.0 | 2.0 mg/kg dry | | | | | | | |
| Zirconium | < 2.0 | 2.0 mg/kg dry | | | | | | | |

LCS (B3E3047-BS1)

Prepared: 2023-05-27, Analyzed: 2023-05-29

| | | | | | | | | | |
|------------|-------|-----------------|-------|--|----|--------|--|--|--|
| Aluminum | 183 | 40 mg/kg dry | 200 | | 92 | 80-120 | | | |
| Antimony | 1.79 | 0.10 mg/kg dry | 2.00 | | 90 | 80-120 | | | |
| Arsenic | 1.76 | 0.30 mg/kg dry | 2.00 | | 88 | 80-120 | | | |
| Barium | 1.8 | 1.0 mg/kg dry | 2.00 | | 89 | 80-120 | | | |
| Beryllium | 1.84 | 0.10 mg/kg dry | 2.00 | | 92 | 80-120 | | | |
| Bismuth | 1.72 | 0.10 mg/kg dry | 2.00 | | 86 | 80-120 | | | |
| Boron | < 2.0 | 2.0 mg/kg dry | 2.00 | | 93 | 80-120 | | | |
| Cadmium | 1.80 | 0.040 mg/kg dry | 2.00 | | 90 | 80-120 | | | |
| Calcium | 184 | 100 mg/kg dry | 200 | | 92 | 80-120 | | | |
| Chromium | 1.8 | 1.0 mg/kg dry | 2.00 | | 92 | 80-120 | | | |
| Cobalt | 1.83 | 0.10 mg/kg dry | 2.00 | | 91 | 80-120 | | | |
| Copper | 1.80 | 0.40 mg/kg dry | 2.00 | | 90 | 80-120 | | | |
| Iron | 192 | 20.0 mg/kg dry | 200 | | 96 | 80-120 | | | |
| Lead | 1.85 | 0.20 mg/kg dry | 2.00 | | 92 | 80-120 | | | |
| Lithium | 1.79 | 0.10 mg/kg dry | 2.00 | | 90 | 80-120 | | | |
| Magnesium | 181 | 10 mg/kg dry | 200 | | 91 | 80-120 | | | |
| Manganese | 1.85 | 0.40 mg/kg dry | 2.00 | | 92 | 80-120 | | | |
| Mercury | 0.185 | 0.040 mg/kg dry | 0.200 | | 92 | 80-120 | | | |
| Molybdenum | 1.84 | 0.10 mg/kg dry | 2.00 | | 92 | 80-120 | | | |
| Nickel | 1.81 | 0.60 mg/kg dry | 2.00 | | 91 | 80-120 | | | |
| Phosphorus | 186 | 10 mg/kg dry | 200 | | 93 | 80-120 | | | |
| Potassium | 181 | 40 mg/kg dry | 200 | | 90 | 80-120 | | | |
| Selenium | 1.88 | 0.20 mg/kg dry | 2.00 | | 94 | 80-120 | | | |
| Silver | 1.82 | 0.10 mg/kg dry | 2.00 | | 91 | 80-120 | | | |
| Sodium | 185 | 50 mg/kg dry | 200 | | 92 | 80-120 | | | |
| Strontium | 1.78 | 0.20 mg/kg dry | 2.00 | | 89 | 80-120 | | | |
| Sulfur | 1900 | 1000 mg/kg dry | 2000 | | 95 | 80-120 | | | |
| Tellurium | 1.75 | 0.10 mg/kg dry | 2.00 | | 88 | 80-120 | | | |
| Thallium | 1.75 | 0.10 mg/kg dry | 2.00 | | 87 | 80-120 | | | |



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater)
BioSolids- PE14651

WORK ORDER REPORTED 23E2836
2023-05-31 10:03

| Analyte | Result | RL Units | Spike Level | Source Result | % REC | REC Limit | % RPD | RPD Limit | Qualifier |
|---|--------|-----------------|-------------|---------------|--|-----------|-------|-----------|-----------|
| Strong Acid Leachable Metals, Batch B3E3047, Continued | | | | | | | | | |
| LCS (B3E3047-BS1), Continued | | | | | Prepared: 2023-05-27, Analyzed: 2023-05-29 | | | | |
| Thorium | 1.78 | 0.50 mg/kg dry | 2.00 | | 89 | 80-120 | | | |
| Tin | 1.84 | 0.20 mg/kg dry | 2.00 | | 92 | 80-120 | | | |
| Titanium | 2.0 | 1.0 mg/kg dry | 2.00 | | 100 | 80-120 | | | |
| Tungsten | 1.82 | 0.20 mg/kg dry | 2.00 | | 91 | 80-120 | | | |
| Uranium | 1.84 | 0.050 mg/kg dry | 2.00 | | 92 | 80-120 | | | |
| Vanadium | 1.8 | 1.0 mg/kg dry | 2.00 | | 92 | 80-120 | | | |
| Zinc | < 2.0 | 2.0 mg/kg dry | 2.00 | | 96 | 80-120 | | | |
| Zirconium | < 2.0 | 2.0 mg/kg dry | 2.00 | | 94 | 80-120 | | | |
| Reference (B3E3047-SRM1) | | | | | Prepared: 2023-05-27, Analyzed: 2023-05-29 | | | | |
| Aluminum | 11400 | 40 mg/kg dry | 12100 | | 95 | 70-130 | | | |
| Antimony | 0.63 | 0.10 mg/kg dry | 0.634 | | 99 | 70-130 | | | |
| Arsenic | 79.5 | 0.30 mg/kg dry | 83.6 | | 95 | 70-130 | | | |
| Barium | 36.2 | 1.0 mg/kg dry | 41.4 | | 87 | 70-130 | | | |
| Beryllium | 0.35 | 0.10 mg/kg dry | 0.377 | | 93 | 70-130 | | | |
| Bismuth | 0.26 | 0.10 mg/kg dry | 0.291 | | 90 | 70-130 | | | |
| Calcium | 4860 | 100 mg/kg dry | 5380 | | 90 | 70-130 | | | |
| Chromium | 61.5 | 1.0 mg/kg dry | 66.0 | | 93 | 70-130 | | | |
| Cobalt | 10.3 | 0.10 mg/kg dry | 10.8 | | 95 | 70-130 | | | |
| Copper | 18.9 | 0.40 mg/kg dry | 20.3 | | 93 | 70-130 | | | |
| Iron | 19300 | 20.0 mg/kg dry | 20400 | | 95 | 70-130 | | | |
| Lead | 15.7 | 0.20 mg/kg dry | 16.7 | | 94 | 70-130 | | | |
| Lithium | 15.6 | 0.10 mg/kg dry | 16.8 | | 93 | 70-130 | | | |
| Magnesium | 5780 | 10 mg/kg dry | 6170 | | 94 | 70-130 | | | |
| Manganese | 302 | 0.40 mg/kg dry | 319 | | 95 | 70-130 | | | |
| Mercury | 0.109 | 0.040 mg/kg dry | 0.114 | | 95 | 70-130 | | | |
| Molybdenum | 0.57 | 0.10 mg/kg dry | 0.607 | | 95 | 70-130 | | | |
| Nickel | 30.5 | 0.60 mg/kg dry | 32.5 | | 94 | 70-130 | | | |
| Phosphorus | 411 | 10 mg/kg dry | 432 | | 95 | 70-130 | | | |
| Silver | 1.38 | 0.10 mg/kg dry | 1.55 | | 89 | 70-130 | | | |
| Strontium | 19.3 | 0.20 mg/kg dry | 22.5 | | 86 | 70-130 | | | |
| Thallium | < 0.10 | 0.10 mg/kg dry | 0.0765 | | 90 | 70-130 | | | |
| Thorium | 2.78 | 0.50 mg/kg dry | 2.96 | | 94 | 70-130 | | | |
| Titanium | 649 | 1.0 mg/kg dry | 730 | | 89 | 70-130 | | | |
| Uranium | 1.00 | 0.050 mg/kg dry | 1.15 | | 87 | 70-130 | | | |
| Vanadium | 33.8 | 1.0 mg/kg dry | 36.3 | | 93 | 70-130 | | | |
| Zinc | 36.7 | 2.0 mg/kg dry | 39.7 | | 92 | 70-130 | | | |

CERTIFICATE OF ANALYSIS

| | | | |
|---------------------|---|---------------------------------|---|
| REPORTED TO | Lake Country, District of (Wastewater) 4062 Beaver Lake Rd LAKE COUNTRY, BC V4V 1T5 | WORK ORDER | 23E3847 |
| ATTENTION | Davin Larsen | RECEIVED / TEMP REPORTED | 2023-05-30 14:40 / 16.9°C 2023-06-06 14:05 |
| PO NUMBER | | COC NUMBER | 45076.59410 |
| PROJECT | Amry - West Well | | |
| PROJECT INFO | Lake Country WWTP | | |

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



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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 Lake Country, District of (Wastewater)
Amry - West Well

WORK ORDER REPORTED 23E3847
2023-06-06 14:05

| Analyte | Result | Guideline | RL Units | Analyzed | Qualifier |
|--|----------|---------------|---------------|------------|-----------|
| Amry West Well (23E3847-01) Matrix: Water Sampled: 2023-05-30 10:48 | | | | | |
| Anions | | | | | |
| Chloride | 67.2 | AO ≤ 250 | 0.10 mg/L | 2023-06-01 | |
| Nitrate (as N) | 0.061 | MAC = 10 | 0.010 mg/L | 2023-06-01 | |
| Nitrite (as N) | < 0.010 | MAC = 1 | 0.010 mg/L | 2023-06-01 | |
| Phosphate (as P) | < 0.0050 | N/A | 0.0050 mg/L | 2023-06-01 | |
| Calculated Parameters | | | | | |
| Nitrate+Nitrite (as N) | 0.0613 | N/A | 0.0100 mg/L | N/A | |
| Nitrogen, Total | 0.232 | N/A | 0.0500 mg/L | N/A | |
| General Parameters | | | | | |
| Ammonia, Total (as N) | < 0.050 | None Required | 0.050 mg/L | 2023-06-01 | |
| BOD, 5-day | < 6.3 | N/A | 2.0 mg/L | 2023-06-06 | |
| Conductivity (EC) | 753 | N/A | 2.0 µS/cm | 2023-06-04 | |
| Nitrogen, Total Kjeldahl | 0.171 | N/A | 0.050 mg/L | 2023-06-05 | |
| pH | 7.48 | 7.0-10.5 | 0.10 pH units | 2023-06-04 | HT2 |
| Phosphorus, Total (as P) | 0.0568 | N/A | 0.0050 mg/L | 2023-06-01 | |
| Turbidity | 1.40 | OG < 1 | 0.10 NTU | 2023-05-31 | |
| Microbiological Parameters | | | | | |
| Coliforms, Total (Q-Tray) | < 1 | MAC = 0 | 1 MPN/100 mL | 2023-05-31 | |
| Coliforms, Fecal (Q-Tray) | < 1 | N/A | 1 MPN/100 mL | 2023-05-31 | |
| E. coli (Q-Tray) | < 1 | MAC = 0 | 1 MPN/100 mL | 2023-05-31 | |
| Total Metals | | | | | |
| Sodium, total | 57.3 | AO ≤ 200 | 0.10 mg/L | 2023-06-04 | |

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 Lake Country, District of (Wastewater)
Amry - West Well

WORK ORDER REPORTED 23E3847
2023-06-06 14:05

| Analysis Description | Method Ref. | Technique | Accredited | Location |
|------------------------------------|--|--|------------|----------|
| Ammonia, Total in Water | SM 4500-NH3 G* (2021) | Automated Colorimetry (Phenate) | ✓ | Kelowna |
| Anions in Water | SM 4110 B (2020) | Ion Chromatography | ✓ | Kelowna |
| Biochemical Oxygen Demand in Water | SM 5210 B (2019) | Dissolved Oxygen Meter | ✓ | Kelowna |
| Coliforms, Fecal in Water | NA / SM 9223 (2016) | Quanti-Tray / Enzyme Substrate Endo Agar | ✓ | Kelowna |
| Coliforms, Total in Water | NA / SM 9223 (2016) | Quanti-Tray / Enzyme Substrate Endo Agar | ✓ | Kelowna |
| Conductivity in Water | SM 2510 B (2021) | Conductivity Meter | ✓ | Kelowna |
| E. coli in Water | NA / SM 9223 (2016) | Quanti-Tray / Enzyme Substrate Endo Agar | ✓ | Kelowna |
| Nitrogen, Total Kjeldahl in Water | SM 4500-Norg D* (2021) | Block Digestion and Flow Injection Analysis | ✓ | Kelowna |
| pH in Water | SM 4500-H+ B (2021) | Electrometry | ✓ | Kelowna |
| Phosphorus, Total in Water | SM 4500-P B.5* (2011) / SM 4500-P F (2021) | Persulfate Digestion / Automated Colorimetry (Ascorbic Acid) | ✓ | Kelowna |
| Total Metals in Water | EPA 200.2 / EPA 6020B | HNO3+HCl Hot Block Digestion / Inductively Coupled Plasma-Mass Spectroscopy (ICP-MS) | ✓ | Richmond |
| Turbidity in Water | SM 2130 B (2020) | Nephelometry | ✓ | Kelowna |

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

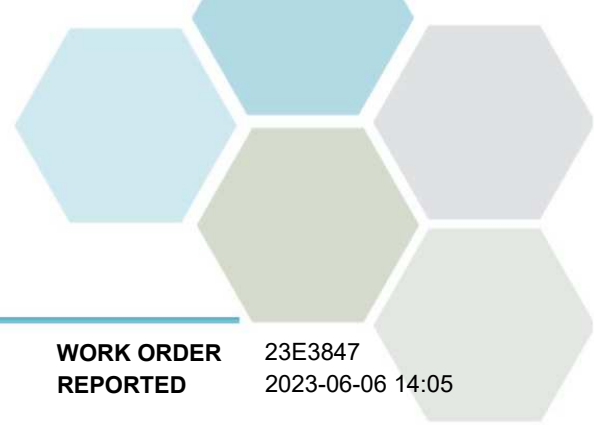
Glossary of Terms:

| | |
|------------|---|
| RL | Reporting Limit (default) |
| < | Less than the specified Reporting Limit (RL) - the actual RL may be higher than the default RL due to various factors |
| AO | Aesthetic Objective |
| MAC | Maximum Acceptable Concentration (health based) |
| mg/L | Milligrams per litre |
| MPN/100 mL | Most Probable Number per 100 millilitres |
| NTU | Nephelometric Turbidity Units |
| OG | Operational Guideline (treated water) |
| 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 |

Guidelines Referenced in this Report:

[Guidelines for Canadian Drinking Water Quality \(Health Canada, September 2022\)](#)

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



APPENDIX 1: SUPPORTING INFORMATION

REPORTED TO PROJECT Lake Country, District of (Wastewater)
Amry - West Well

WORK ORDER REPORTED 23E3847
2023-06-06 14:05

General Comments:

The results in this report apply to the received 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. Caro will dispose of all samples within 30 days of sample receipt, unless otherwise agreed.

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

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 Lake Country, District of (Wastewater)
Amry - West Well

WORK ORDER REPORTED 23E3847
2023-06-06 14:05

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 B3E3325 | | | | | | | | | |
| Blank (B3E3325-BLK1) | | | Prepared: 2023-06-01, Analyzed: 2023-06-01 | | | | | | |
| 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 | | | | | | | |
| Phosphate (as P) | < 0.0050 | 0.0050 mg/L | | | | | | | |
| Blank (B3E3325-BLK2) | | | Prepared: 2023-06-01, Analyzed: 2023-06-01 | | | | | | |
| 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 | | | | | | | |
| Phosphate (as P) | < 0.0050 | 0.0050 mg/L | | | | | | | |
| LCS (B3E3325-BS1) | | | Prepared: 2023-06-01, Analyzed: 2023-06-01 | | | | | | |
| Chloride | 16.2 | 0.10 mg/L | 16.0 | | 101 | 90-110 | | | |
| Nitrate (as N) | 3.97 | 0.010 mg/L | 4.00 | | 99 | 90-110 | | | |
| Nitrite (as N) | 2.06 | 0.010 mg/L | 2.00 | | 103 | 85-115 | | | |
| Phosphate (as P) | 1.01 | 0.0050 mg/L | 1.00 | | 101 | 80-120 | | | |
| LCS (B3E3325-BS2) | | | Prepared: 2023-06-01, Analyzed: 2023-06-01 | | | | | | |
| Chloride | 16.1 | 0.10 mg/L | 16.0 | | 100 | 90-110 | | | |
| Nitrate (as N) | 4.07 | 0.010 mg/L | 4.00 | | 102 | 90-110 | | | |
| Nitrite (as N) | 2.02 | 0.010 mg/L | 2.00 | | 101 | 85-115 | | | |
| Phosphate (as P) | 1.06 | 0.0050 mg/L | 1.00 | | 106 | 80-120 | | | |
| LCS (B3E3325-BS3) | | | Prepared: 2023-06-02, Analyzed: 2023-06-02 | | | | | | |
| Chloride | 16.0 | 0.10 mg/L | 16.0 | | 100 | 90-110 | | | |
| Nitrate (as N) | 4.14 | 0.010 mg/L | 4.00 | | 104 | 90-110 | | | |
| Nitrite (as N) | 2.04 | 0.010 mg/L | 2.00 | | 102 | 85-115 | | | |
| Phosphate (as P) | 1.05 | 0.0050 mg/L | 1.00 | | 105 | 80-120 | | | |

General Parameters, Batch B3E3447

| | | | | | | | | | |
|-----------------------------|--------|----------|--|--|--|--|--|--|--|
| Blank (B3E3447-BLK1) | | | Prepared: 2023-05-31, Analyzed: 2023-05-31 | | | | | | |
| Turbidity | < 0.10 | 0.10 NTU | | | | | | | |
| Blank (B3E3447-BLK2) | | | Prepared: 2023-05-31, Analyzed: 2023-05-31 | | | | | | |
| Turbidity | < 0.10 | 0.10 NTU | | | | | | | |



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater)
Amry - West Well

WORK ORDER REPORTED 23E3847
2023-06-06 14:05

| Analyte | Result | RL Units | Spike Level | Source Result | % REC | REC Limit | % RPD | RPD Limit | Qualifier |
|---|----------|-------------|--|---------------|-------|-----------|-------|-----------|-----------|
| General Parameters, Batch B3E3447, Continued | | | | | | | | | |
| Blank (B3E3447-BLK3) | | | Prepared: 2023-05-31, Analyzed: 2023-05-31 | | | | | | |
| Turbidity | < 0.10 | 0.10 NTU | | | | | | | |
| LCS (B3E3447-BS1) | | | Prepared: 2023-05-31, Analyzed: 2023-05-31 | | | | | | |
| Turbidity | 1.78 | 0.10 NTU | 1.69 | | 105 | 90-110 | | | |
| LCS (B3E3447-BS2) | | | Prepared: 2023-05-31, Analyzed: 2023-05-31 | | | | | | |
| Turbidity | 15.3 | 0.10 NTU | 14.6 | | 105 | 90-110 | | | |
| LCS (B3E3447-BS3) | | | Prepared: 2023-05-31, Analyzed: 2023-05-31 | | | | | | |
| Turbidity | 145 | 0.10 NTU | 140 | | 104 | 90-110 | | | |
| General Parameters, Batch B3E3485 | | | | | | | | | |
| Blank (B3E3485-BLK1) | | | Prepared: 2023-05-31, Analyzed: 2023-06-01 | | | | | | |
| Phosphorus, Total (as P) | < 0.0050 | 0.0050 mg/L | | | | | | | |
| Blank (B3E3485-BLK2) | | | Prepared: 2023-05-31, Analyzed: 2023-06-01 | | | | | | |
| Phosphorus, Total (as P) | < 0.0050 | 0.0050 mg/L | | | | | | | |
| Blank (B3E3485-BLK3) | | | Prepared: 2023-05-31, Analyzed: 2023-06-01 | | | | | | |
| Phosphorus, Total (as P) | < 0.0050 | 0.0050 mg/L | | | | | | | |
| LCS (B3E3485-BS1) | | | Prepared: 2023-05-31, Analyzed: 2023-06-01 | | | | | | |
| Phosphorus, Total (as P) | 0.101 | 0.0050 mg/L | 0.100 | | 101 | 85-115 | | | |
| LCS (B3E3485-BS2) | | | Prepared: 2023-05-31, Analyzed: 2023-06-01 | | | | | | |
| Phosphorus, Total (as P) | 0.101 | 0.0050 mg/L | 0.100 | | 101 | 85-115 | | | |
| LCS (B3E3485-BS3) | | | Prepared: 2023-05-31, Analyzed: 2023-06-01 | | | | | | |
| Phosphorus, Total (as P) | 0.102 | 0.0050 mg/L | 0.100 | | 102 | 85-115 | | | |
| General Parameters, Batch B3F0032 | | | | | | | | | |
| Blank (B3F0032-BLK1) | | | Prepared: 2023-06-01, Analyzed: 2023-06-01 | | | | | | |
| Ammonia, Total (as N) | < 0.050 | 0.050 mg/L | | | | | | | |
| Blank (B3F0032-BLK2) | | | Prepared: 2023-06-01, Analyzed: 2023-06-01 | | | | | | |
| Ammonia, Total (as N) | < 0.050 | 0.050 mg/L | | | | | | | |
| Blank (B3F0032-BLK3) | | | Prepared: 2023-06-01, Analyzed: 2023-06-01 | | | | | | |
| Ammonia, Total (as N) | < 0.050 | 0.050 mg/L | | | | | | | |
| Blank (B3F0032-BLK4) | | | Prepared: 2023-06-01, Analyzed: 2023-06-01 | | | | | | |
| Ammonia, Total (as N) | < 0.050 | 0.050 mg/L | | | | | | | |
| Blank (B3F0032-BLK5) | | | Prepared: 2023-06-01, Analyzed: 2023-06-01 | | | | | | |
| Ammonia, Total (as N) | < 0.050 | 0.050 mg/L | | | | | | | |
| LCS (B3F0032-BS1) | | | Prepared: 2023-06-01, Analyzed: 2023-06-01 | | | | | | |
| Ammonia, Total (as N) | 0.915 | 0.050 mg/L | 1.00 | | 92 | 85-115 | | | |
| LCS (B3F0032-BS2) | | | Prepared: 2023-06-01, Analyzed: 2023-06-01 | | | | | | |
| Ammonia, Total (as N) | 0.934 | 0.050 mg/L | 1.00 | | 93 | 85-115 | | | |
| LCS (B3F0032-BS3) | | | Prepared: 2023-06-01, Analyzed: 2023-06-01 | | | | | | |
| Ammonia, Total (as N) | 0.935 | 0.050 mg/L | 1.00 | | 94 | 85-115 | | | |



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater)
Amry - West Well

WORK ORDER REPORTED 23E3847
2023-06-06 14:05

| Analyte | Result | RL Units | Spike Level | Source Result | % REC | REC Limit | % RPD | RPD Limit | Qualifier |
|---------|--------|----------|-------------|---------------|-------|-----------|-------|-----------|-----------|
|---------|--------|----------|-------------|---------------|-------|-----------|-------|-----------|-----------|

General Parameters, Batch B3F0032, Continued

| | | | | | | | | | |
|--------------------------|-------|------------|--|--|----|--------|--|--|--|
| LCS (B3F0032-BS4) | | | Prepared: 2023-06-01, Analyzed: 2023-06-01 | | | | | | |
| Ammonia, Total (as N) | 0.937 | 0.050 mg/L | 1.00 | | 94 | 85-115 | | | |
| LCS (B3F0032-BS5) | | | Prepared: 2023-06-01, Analyzed: 2023-06-01 | | | | | | |
| Ammonia, Total (as N) | 0.947 | 0.050 mg/L | 1.00 | | 95 | 85-115 | | | |

General Parameters, Batch B3F0074

| | | | | | | | | | |
|-----------------------------|-------|-----------|--|--|----|--------|--|--|--|
| Blank (B3F0074-BLK1) | | | Prepared: 2023-06-01, Analyzed: 2023-06-06 | | | | | | |
| BOD, 5-day | < 2.0 | 2.0 mg/L | | | | | | | |
| LCS (B3F0074-BS1) | | | Prepared: 2023-06-01, Analyzed: 2023-06-06 | | | | | | |
| BOD, 5-day | 170 | 52.5 mg/L | 198 | | 86 | 85-115 | | | |

General Parameters, Batch B3F0354

| | | | | | | | | | |
|---------------------------------|-------|---------------|--|--|-----|--------|--|--|--|
| Blank (B3F0354-BLK1) | | | Prepared: 2023-06-04, Analyzed: 2023-06-04 | | | | | | |
| Conductivity (EC) | < 2.0 | 2.0 µS/cm | | | | | | | |
| Blank (B3F0354-BLK2) | | | Prepared: 2023-06-04, Analyzed: 2023-06-04 | | | | | | |
| Conductivity (EC) | < 2.0 | 2.0 µS/cm | | | | | | | |
| LCS (B3F0354-BS3) | | | Prepared: 2023-06-04, Analyzed: 2023-06-04 | | | | | | |
| Conductivity (EC) | 1380 | 2.0 µS/cm | 1410 | | 98 | 95-105 | | | |
| LCS (B3F0354-BS4) | | | Prepared: 2023-06-04, Analyzed: 2023-06-04 | | | | | | |
| Conductivity (EC) | 1380 | 2.0 µS/cm | 1410 | | 98 | 95-105 | | | |
| Reference (B3F0354-SRM1) | | | Prepared: 2023-06-04, Analyzed: 2023-06-04 | | | | | | |
| pH | 7.02 | 0.10 pH units | 7.01 | | 100 | 98-102 | | | |
| Reference (B3F0354-SRM2) | | | Prepared: 2023-06-04, Analyzed: 2023-06-04 | | | | | | |
| pH | 7.02 | 0.10 pH units | 7.01 | | 100 | 98-102 | | | |

General Parameters, Batch B3F0360

| | | | | | | | | | |
|-----------------------------|---------|------------|--|--|-----|--------|--|--|--|
| Blank (B3F0360-BLK1) | | | Prepared: 2023-06-04, Analyzed: 2023-06-05 | | | | | | |
| Nitrogen, Total Kjeldahl | < 0.050 | 0.050 mg/L | | | | | | | |
| Blank (B3F0360-BLK2) | | | Prepared: 2023-06-04, Analyzed: 2023-06-05 | | | | | | |
| Nitrogen, Total Kjeldahl | < 0.050 | 0.050 mg/L | | | | | | | |
| LCS (B3F0360-BS1) | | | Prepared: 2023-06-04, Analyzed: 2023-06-05 | | | | | | |
| Nitrogen, Total Kjeldahl | 1.05 | 0.050 mg/L | 1.00 | | 105 | 85-115 | | | |
| LCS (B3F0360-BS2) | | | Prepared: 2023-06-04, Analyzed: 2023-06-05 | | | | | | |
| Nitrogen, Total Kjeldahl | 1.05 | 0.050 mg/L | 1.00 | | 105 | 85-115 | | | |

Microbiological Parameters, Batch B3E3387

| | | | | | | | | | |
|-----------------------------|-----|--------------|--|--|--|--|--|--|--|
| Blank (B3E3387-BLK1) | | | Prepared: 2023-05-31, Analyzed: 2023-05-31 | | | | | | |
| Coliforms, Total (Q-Tray) | < 1 | 1 MPN/100 mL | | | | | | | |
| E. coli (Q-Tray) | < 1 | 1 MPN/100 mL | | | | | | | |
| Blank (B3E3387-BLK2) | | | Prepared: 2023-05-31, Analyzed: 2023-05-31 | | | | | | |
| Coliforms, Total (Q-Tray) | < 1 | 1 MPN/100 mL | | | | | | | |
| E. coli (Q-Tray) | < 1 | 1 MPN/100 mL | | | | | | | |



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater)
Amry - West Well

WORK ORDER REPORTED 23E3847
2023-06-06 14:05

| Analyte | Result | RL Units | Spike Level | Source Result | % REC | REC Limit | % RPD | RPD Limit | Qualifier |
|---------|--------|----------|-------------|---------------|-------|-----------|-------|-----------|-----------|
|---------|--------|----------|-------------|---------------|-------|-----------|-------|-----------|-----------|

Microbiological Parameters, Batch B3E3387, Continued

| | | | | | | | | | |
|-----------------------------|-----|--------------|--|--|--|--|--|--|--|
| Blank (B3E3387-BLK3) | | | | Prepared: 2023-05-31, Analyzed: 2023-05-31 | | | | | |
| Coliforms, Fecal (Q-Tray) | < 1 | 1 MPN/100 mL | | | | | | | |
| E. coli (Q-Tray) | < 1 | 1 MPN/100 mL | | | | | | | |
| Blank (B3E3387-BLK4) | | | | Prepared: 2023-05-31, Analyzed: 2023-05-31 | | | | | |
| Coliforms, Fecal (Q-Tray) | < 1 | 1 MPN/100 mL | | | | | | | |
| E. coli (Q-Tray) | < 1 | 1 MPN/100 mL | | | | | | | |
| Blank (B3E3387-BLK5) | | | | Prepared: 2023-05-31, Analyzed: 2023-05-31 | | | | | |
| Coliforms, Total (Q-Tray) | < 1 | 1 MPN/100 mL | | | | | | | |
| E. coli (Q-Tray) | < 1 | 1 MPN/100 mL | | | | | | | |
| Blank (B3E3387-BLK6) | | | | Prepared: 2023-05-31, Analyzed: 2023-05-31 | | | | | |
| Coliforms, Fecal (Q-Tray) | < 1 | 1 MPN/100 mL | | | | | | | |
| E. coli (Q-Tray) | < 1 | 1 MPN/100 mL | | | | | | | |
| Blank (B3E3387-BLK7) | | | | Prepared: 2023-05-31, Analyzed: 2023-05-31 | | | | | |
| Coliforms, Total (Q-Tray) | < 1 | 1 MPN/100 mL | | | | | | | |
| E. coli (Q-Tray) | < 1 | 1 MPN/100 mL | | | | | | | |

Total Metals, Batch B3F0320

| | | | | | | | | | |
|-----------------------------|--------|-----------|------|--|--------|--|--|--|--|
| Blank (B3F0320-BLK1) | | | | Prepared: 2023-06-03, Analyzed: 2023-06-04 | | | | | |
| Sodium, total | < 0.10 | 0.10 mg/L | | | | | | | |
| LCS (B3F0320-BS1) | | | | Prepared: 2023-06-03, Analyzed: 2023-06-06 | | | | | |
| Sodium, total | 4.37 | 0.10 mg/L | 4.00 | 109 | 80-120 | | | | |



CERTIFICATE OF ANALYSIS

| | | | |
|---------------------|---|---------------------------------|---------------------------|
| REPORTED TO | Lake Country, District of (Wastewater) 4062 Beaver Lake Rd LAKE COUNTRY, BC V4V 1T5 | WORK ORDER | 23E3844 |
| ATTENTION | Davin Larsen | RECEIVED / TEMP REPORTED | 2023-05-30 14:40 / 16.9°C |
| PO NUMBER | | REPORTED | 2023-06-06 13:59 |
| PROJECT | Amry - East Well | COC NUMBER | 45076.59410 |
| PROJECT INFO | Lake Country WWTP | | |

Introduction:

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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.

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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 Lake Country, District of (Wastewater)
Amry - East Well

WORK ORDER REPORTED 23E3844
2023-06-06 13:59

| Analyte | Result | Guideline | RL | Units | Analyzed | Qualifier |
|---------|--------|-----------|----|-------|----------|-----------|
|---------|--------|-----------|----|-------|----------|-----------|

Amry East Well (23E3844-01) | Matrix: Water | Sampled: 2023-05-30 11:15

Anions

| | | | | | | |
|------------------|----------|----------|--------|------|------------|--|
| Chloride | 21.7 | AO ≤ 250 | 0.10 | mg/L | 2023-06-01 | |
| Nitrate (as N) | 5.70 | MAC = 10 | 0.010 | mg/L | 2023-06-01 | |
| Nitrite (as N) | < 0.010 | MAC = 1 | 0.010 | mg/L | 2023-06-01 | |
| Phosphate (as P) | < 0.0050 | N/A | 0.0050 | mg/L | 2023-06-01 | |

Calculated Parameters

| | | | | | | |
|------------------------|------|-----|--------|------|-----|--|
| Nitrate+Nitrite (as N) | 5.70 | N/A | 0.0100 | mg/L | N/A | |
| Nitrogen, Total | 5.94 | N/A | 0.0500 | mg/L | N/A | |

General Parameters

| | | | | | | |
|--------------------------|---------|---------------|--------|----------|------------|-----|
| Ammonia, Total (as N) | < 0.050 | None Required | 0.050 | mg/L | 2023-06-01 | |
| BOD, 5-day | < 6.3 | N/A | 2.0 | mg/L | 2023-06-06 | |
| Conductivity (EC) | 549 | N/A | 2.0 | µS/cm | 2023-06-04 | |
| Nitrogen, Total Kjeldahl | 0.243 | N/A | 0.050 | mg/L | 2023-06-05 | |
| pH | 7.38 | 7.0-10.5 | 0.10 | pH units | 2023-06-04 | HT2 |
| Phosphorus, Total (as P) | 0.0159 | N/A | 0.0050 | mg/L | 2023-06-01 | |
| Turbidity | 0.71 | OG < 1 | 0.10 | NTU | 2023-05-31 | |

Microbiological Parameters

| | | | | | | |
|---------------------------|-----|---------|---|------------|------------|--|
| Coliforms, Total (Q-Tray) | < 1 | MAC = 0 | 1 | MPN/100 mL | 2023-05-31 | |
| Coliforms, Fecal (Q-Tray) | < 1 | N/A | 1 | MPN/100 mL | 2023-05-31 | |
| E. coli (Q-Tray) | < 1 | MAC = 0 | 1 | MPN/100 mL | 2023-05-31 | |

Total Metals

| | | | | | | |
|---------------|------|----------|------|------|------------|--|
| Sodium, total | 31.4 | AO ≤ 200 | 0.10 | mg/L | 2023-06-04 | |
|---------------|------|----------|------|------|------------|--|

Field Blank (23E3844-02) | Matrix: Water | Sampled: 2023-05-30 11:32

Anions

| | | | | | | |
|------------------|----------|----------|--------|------|------------|-----|
| Chloride | 0.38 | AO ≤ 250 | 0.10 | mg/L | 2023-06-01 | RE2 |
| Nitrate (as N) | 0.023 | MAC = 10 | 0.010 | mg/L | 2023-06-01 | RE2 |
| Nitrite (as N) | < 0.010 | MAC = 1 | 0.010 | mg/L | 2023-06-01 | |
| Phosphate (as P) | < 0.0050 | N/A | 0.0050 | mg/L | 2023-06-01 | |

Calculated Parameters

| | | | | | | |
|------------------------|----------|-----|--------|------|-----|--|
| Nitrate+Nitrite (as N) | 0.0229 | N/A | 0.0100 | mg/L | N/A | |
| Nitrogen, Total | < 0.0500 | N/A | 0.0500 | mg/L | N/A | |

General Parameters

| | | | | | | |
|--------------------------|----------|---------------|--------|----------|------------|-----|
| Ammonia, Total (as N) | < 0.050 | None Required | 0.050 | mg/L | 2023-06-01 | |
| BOD, 5-day | < 6.3 | N/A | 2.0 | mg/L | 2023-06-06 | |
| Conductivity (EC) | 7.5 | N/A | 2.0 | µS/cm | 2023-06-04 | RE2 |
| Nitrogen, Total Kjeldahl | < 0.050 | N/A | 0.050 | mg/L | 2023-06-05 | |
| pH | 6.38 | 7.0-10.5 | 0.10 | pH units | 2023-06-04 | HT2 |
| Phosphorus, Total (as P) | < 0.0050 | N/A | 0.0050 | mg/L | 2023-06-01 | |



TEST RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater)
Amry - East Well

WORK ORDER REPORTED 23E3844
2023-06-06 13:59

| Analyte | Result | Guideline | RL | Units | Analyzed | Qualifier |
|--|-------------|-----------|------|------------|------------|-----------|
| Field Blank (23E3844-02) Matrix: Water Sampled: 2023-05-30 11:32, Continued | | | | | | |
| <i>General Parameters, Continued</i> | | | | | | |
| Turbidity | < 0.10 | OG < 1 | 0.10 | NTU | 2023-05-31 | |
| <i>Microbiological Parameters</i> | | | | | | |
| Coliforms, Total (Q-Tray) | < 1 | MAC = 0 | 1 | MPN/100 mL | 2023-05-31 | |
| Coliforms, Fecal (Q-Tray) | < 1 | N/A | 1 | MPN/100 mL | 2023-05-31 | |
| E. coli (Q-Tray) | < 1 | MAC = 0 | 1 | MPN/100 mL | 2023-05-31 | |
| <i>Total Metals</i> | | | | | | |
| Sodium, total | 0.52 | AO ≤ 200 | 0.10 | mg/L | 2023-06-04 | |

Sample Qualifiers:

- HT2 The 15 minute recommended holding time (from sampling to analysis) has been exceeded - field analysis is recommended.
- RE2 Result was confirmed by re-analysis prior to reporting.



APPENDIX 1: SUPPORTING INFORMATION

REPORTED TO PROJECT Lake Country, District of (Wastewater)
Amry - East Well

WORK ORDER REPORTED 23E3844
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| Analysis Description | Method Ref. | Technique | Accredited | Location |
|------------------------------------|--|--|------------|----------|
| Ammonia, Total in Water | SM 4500-NH3 G* (2021) | Automated Colorimetry (Phenate) | ✓ | Kelowna |
| Anions in Water | SM 4110 B (2020) | Ion Chromatography | ✓ | Kelowna |
| Biochemical Oxygen Demand in Water | SM 5210 B (2019) | Dissolved Oxygen Meter | ✓ | Kelowna |
| Coliforms, Fecal in Water | NA / SM 9223 (2016) | Quanti-Tray / Enzyme Substrate Endo Agar | ✓ | Kelowna |
| Coliforms, Total in Water | NA / SM 9223 (2016) | Quanti-Tray / Enzyme Substrate Endo Agar | ✓ | Kelowna |
| Conductivity in Water | SM 2510 B (2021) | Conductivity Meter | ✓ | Kelowna |
| E. coli in Water | NA / SM 9223 (2016) | Quanti-Tray / Enzyme Substrate Endo Agar | ✓ | Kelowna |
| Nitrogen, Total Kjeldahl in Water | SM 4500-Norg D* (2021) | Block Digestion and Flow Injection Analysis | ✓ | Kelowna |
| pH in Water | SM 4500-H+ B (2021) | Electrometry | ✓ | Kelowna |
| Phosphorus, Total in Water | SM 4500-P B.5* (2011) / SM 4500-P F (2021) | Persulfate Digestion / Automated Colorimetry (Ascorbic Acid) | ✓ | Kelowna |
| Total Metals in Water | EPA 200.2 / EPA 6020B | HNO3+HCl Hot Block Digestion / Inductively Coupled Plasma-Mass Spectroscopy (ICP-MS) | ✓ | Richmond |
| Turbidity in Water | SM 2130 B (2020) | Nephelometry | ✓ | Kelowna |

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

Glossary of Terms:

| | |
|------------|---|
| RL | Reporting Limit (default) |
| < | Less than the specified Reporting Limit (RL) - the actual RL may be higher than the default RL due to various factors |
| AO | Aesthetic Objective |
| MAC | Maximum Acceptable Concentration (health based) |
| mg/L | Milligrams per litre |
| MPN/100 mL | Most Probable Number per 100 millilitres |
| NTU | Nephelometric Turbidity Units |
| OG | Operational Guideline (treated water) |
| 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 |

Guidelines Referenced in this Report:

[Guidelines for Canadian Drinking Water Quality \(Health Canada, September 2022\)](#)

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



APPENDIX 1: SUPPORTING INFORMATION

REPORTED TO PROJECT Lake Country, District of (Wastewater)
Amry - East Well

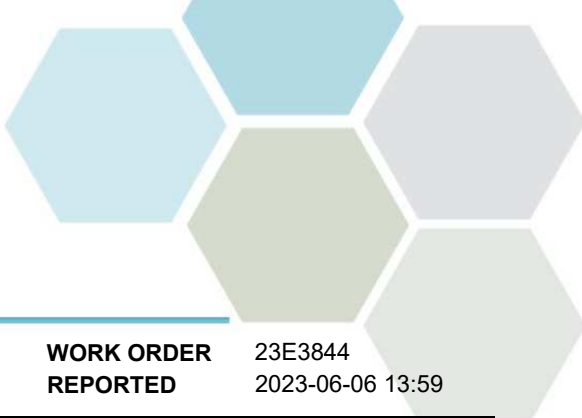
WORK ORDER REPORTED 23E3844
2023-06-06 13:59

General Comments:

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APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater)
Amry - East Well

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2023-06-06 13:59

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:

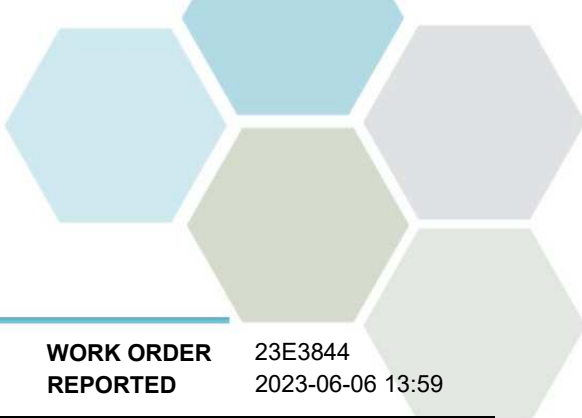
- **Method Blank (Blk):** A blank sample that undergoes sample processing identical to that carried out for the test samples. Method blank results are used to assess contamination from the laboratory environment and reagents.
- **Duplicate (Dup):** An additional or second portion of a randomly selected 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 B3E3325 | | | | | | | | | |
| Blank (B3E3325-BLK1) | | | Prepared: 2023-06-01, Analyzed: 2023-06-01 | | | | | | |
| 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 | | | | | | | |
| Phosphate (as P) | < 0.0050 | 0.0050 mg/L | | | | | | | |
| Blank (B3E3325-BLK2) | | | Prepared: 2023-06-01, Analyzed: 2023-06-01 | | | | | | |
| 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 | | | | | | | |
| Phosphate (as P) | < 0.0050 | 0.0050 mg/L | | | | | | | |
| LCS (B3E3325-BS1) | | | Prepared: 2023-06-01, Analyzed: 2023-06-01 | | | | | | |
| Chloride | 16.2 | 0.10 mg/L | 16.0 | | 101 | 90-110 | | | |
| Nitrate (as N) | 3.97 | 0.010 mg/L | 4.00 | | 99 | 90-110 | | | |
| Nitrite (as N) | 2.06 | 0.010 mg/L | 2.00 | | 103 | 85-115 | | | |
| Phosphate (as P) | 1.01 | 0.0050 mg/L | 1.00 | | 101 | 80-120 | | | |
| LCS (B3E3325-BS2) | | | Prepared: 2023-06-01, Analyzed: 2023-06-01 | | | | | | |
| Chloride | 16.1 | 0.10 mg/L | 16.0 | | 100 | 90-110 | | | |
| Nitrate (as N) | 4.07 | 0.010 mg/L | 4.00 | | 102 | 90-110 | | | |
| Nitrite (as N) | 2.02 | 0.010 mg/L | 2.00 | | 101 | 85-115 | | | |
| Phosphate (as P) | 1.06 | 0.0050 mg/L | 1.00 | | 106 | 80-120 | | | |
| LCS (B3E3325-BS3) | | | Prepared: 2023-06-02, Analyzed: 2023-06-02 | | | | | | |
| Chloride | 16.0 | 0.10 mg/L | 16.0 | | 100 | 90-110 | | | |
| Nitrate (as N) | 4.14 | 0.010 mg/L | 4.00 | | 104 | 90-110 | | | |
| Nitrite (as N) | 2.04 | 0.010 mg/L | 2.00 | | 102 | 85-115 | | | |
| Phosphate (as P) | 1.05 | 0.0050 mg/L | 1.00 | | 105 | 80-120 | | | |

General Parameters, Batch B3E3447

| | | | | | | | | | |
|-----------------------------|--------|----------|--|--|--|--|--|--|--|
| Blank (B3E3447-BLK1) | | | Prepared: 2023-05-31, Analyzed: 2023-05-31 | | | | | | |
| Turbidity | < 0.10 | 0.10 NTU | | | | | | | |
| Blank (B3E3447-BLK2) | | | Prepared: 2023-05-31, Analyzed: 2023-05-31 | | | | | | |
| Turbidity | < 0.10 | 0.10 NTU | | | | | | | |

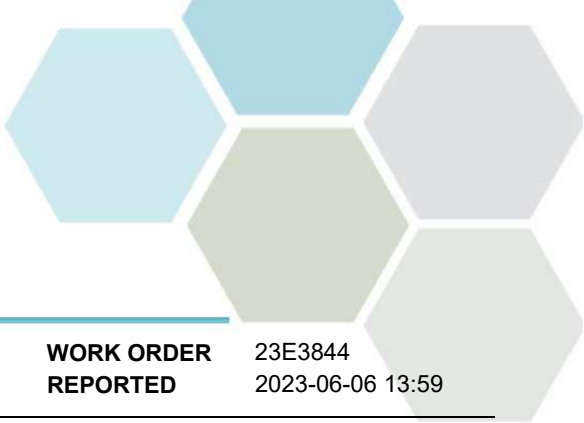


APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater)
Amry - East Well

WORK ORDER REPORTED 23E3844
2023-06-06 13:59

| Analyte | Result | RL Units | Spike Level | Source Result | % REC | REC Limit | % RPD | RPD Limit | Qualifier |
|---|----------|-------------|--|---------------|-------|-----------|-------|-----------|-----------|
| General Parameters, Batch B3E3447, Continued | | | | | | | | | |
| Blank (B3E3447-BLK3) | | | Prepared: 2023-05-31, Analyzed: 2023-05-31 | | | | | | |
| Turbidity | < 0.10 | 0.10 NTU | | | | | | | |
| LCS (B3E3447-BS1) | | | Prepared: 2023-05-31, Analyzed: 2023-05-31 | | | | | | |
| Turbidity | 1.78 | 0.10 NTU | 1.69 | | 105 | 90-110 | | | |
| LCS (B3E3447-BS2) | | | Prepared: 2023-05-31, Analyzed: 2023-05-31 | | | | | | |
| Turbidity | 15.3 | 0.10 NTU | 14.6 | | 105 | 90-110 | | | |
| LCS (B3E3447-BS3) | | | Prepared: 2023-05-31, Analyzed: 2023-05-31 | | | | | | |
| Turbidity | 145 | 0.10 NTU | 140 | | 104 | 90-110 | | | |
| General Parameters, Batch B3E3485 | | | | | | | | | |
| Blank (B3E3485-BLK1) | | | Prepared: 2023-05-31, Analyzed: 2023-06-01 | | | | | | |
| Phosphorus, Total (as P) | < 0.0050 | 0.0050 mg/L | | | | | | | |
| Blank (B3E3485-BLK2) | | | Prepared: 2023-05-31, Analyzed: 2023-06-01 | | | | | | |
| Phosphorus, Total (as P) | < 0.0050 | 0.0050 mg/L | | | | | | | |
| Blank (B3E3485-BLK3) | | | Prepared: 2023-05-31, Analyzed: 2023-06-01 | | | | | | |
| Phosphorus, Total (as P) | < 0.0050 | 0.0050 mg/L | | | | | | | |
| LCS (B3E3485-BS1) | | | Prepared: 2023-05-31, Analyzed: 2023-06-01 | | | | | | |
| Phosphorus, Total (as P) | 0.101 | 0.0050 mg/L | 0.100 | | 101 | 85-115 | | | |
| LCS (B3E3485-BS2) | | | Prepared: 2023-05-31, Analyzed: 2023-06-01 | | | | | | |
| Phosphorus, Total (as P) | 0.101 | 0.0050 mg/L | 0.100 | | 101 | 85-115 | | | |
| LCS (B3E3485-BS3) | | | Prepared: 2023-05-31, Analyzed: 2023-06-01 | | | | | | |
| Phosphorus, Total (as P) | 0.102 | 0.0050 mg/L | 0.100 | | 102 | 85-115 | | | |
| General Parameters, Batch B3F0032 | | | | | | | | | |
| Blank (B3F0032-BLK1) | | | Prepared: 2023-06-01, Analyzed: 2023-06-01 | | | | | | |
| Ammonia, Total (as N) | < 0.050 | 0.050 mg/L | | | | | | | |
| Blank (B3F0032-BLK2) | | | Prepared: 2023-06-01, Analyzed: 2023-06-01 | | | | | | |
| Ammonia, Total (as N) | < 0.050 | 0.050 mg/L | | | | | | | |
| Blank (B3F0032-BLK3) | | | Prepared: 2023-06-01, Analyzed: 2023-06-01 | | | | | | |
| Ammonia, Total (as N) | < 0.050 | 0.050 mg/L | | | | | | | |
| Blank (B3F0032-BLK4) | | | Prepared: 2023-06-01, Analyzed: 2023-06-01 | | | | | | |
| Ammonia, Total (as N) | < 0.050 | 0.050 mg/L | | | | | | | |
| Blank (B3F0032-BLK5) | | | Prepared: 2023-06-01, Analyzed: 2023-06-01 | | | | | | |
| Ammonia, Total (as N) | < 0.050 | 0.050 mg/L | | | | | | | |
| LCS (B3F0032-BS1) | | | Prepared: 2023-06-01, Analyzed: 2023-06-01 | | | | | | |
| Ammonia, Total (as N) | 0.915 | 0.050 mg/L | 1.00 | | 92 | 85-115 | | | |
| LCS (B3F0032-BS2) | | | Prepared: 2023-06-01, Analyzed: 2023-06-01 | | | | | | |
| Ammonia, Total (as N) | 0.934 | 0.050 mg/L | 1.00 | | 93 | 85-115 | | | |
| LCS (B3F0032-BS3) | | | Prepared: 2023-06-01, Analyzed: 2023-06-01 | | | | | | |
| Ammonia, Total (as N) | 0.935 | 0.050 mg/L | 1.00 | | 94 | 85-115 | | | |



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater)
Amry - East Well

WORK ORDER REPORTED 23E3844
2023-06-06 13:59

| Analyte | Result | RL Units | Spike Level | Source Result | % REC | REC Limit | % RPD | RPD Limit | Qualifier |
|---|---------|---------------|--|---------------|-------|--|-------|-----------|-----------|
| General Parameters, Batch B3F0032, Continued | | | | | | | | | |
| LCS (B3F0032-BS4) | | | Prepared: 2023-06-01, Analyzed: 2023-06-01 | | | | | | |
| Ammonia, Total (as N) | 0.937 | 0.050 mg/L | 1.00 | | 94 | 85-115 | | | |
| LCS (B3F0032-BS5) | | | Prepared: 2023-06-01, Analyzed: 2023-06-01 | | | | | | |
| Ammonia, Total (as N) | 0.947 | 0.050 mg/L | 1.00 | | 95 | 85-115 | | | |
| General Parameters, Batch B3F0074 | | | | | | | | | |
| Blank (B3F0074-BLK1) | | | Prepared: 2023-06-01, Analyzed: 2023-06-06 | | | | | | |
| BOD, 5-day | < 2.0 | 2.0 mg/L | | | | | | | |
| LCS (B3F0074-BS1) | | | Prepared: 2023-06-01, Analyzed: 2023-06-06 | | | | | | |
| BOD, 5-day | 170 | 52.5 mg/L | 198 | | 86 | 85-115 | | | |
| Duplicate (B3F0074-DUP1) | | | Source: 23E3844-01 | | | Prepared: 2023-06-01, Analyzed: 2023-06-06 | | | |
| BOD, 5-day | < 6.3 | 2.0 mg/L | | < 6.3 | | | | 22 | |
| General Parameters, Batch B3F0354 | | | | | | | | | |
| Blank (B3F0354-BLK1) | | | Prepared: 2023-06-04, Analyzed: 2023-06-04 | | | | | | |
| Conductivity (EC) | < 2.0 | 2.0 µS/cm | | | | | | | |
| Blank (B3F0354-BLK2) | | | Prepared: 2023-06-04, Analyzed: 2023-06-04 | | | | | | |
| Conductivity (EC) | < 2.0 | 2.0 µS/cm | | | | | | | |
| LCS (B3F0354-BS3) | | | Prepared: 2023-06-04, Analyzed: 2023-06-04 | | | | | | |
| Conductivity (EC) | 1380 | 2.0 µS/cm | 1410 | | 98 | 95-105 | | | |
| LCS (B3F0354-BS4) | | | Prepared: 2023-06-04, Analyzed: 2023-06-04 | | | | | | |
| Conductivity (EC) | 1380 | 2.0 µS/cm | 1410 | | 98 | 95-105 | | | |
| Reference (B3F0354-SRM1) | | | Prepared: 2023-06-04, Analyzed: 2023-06-04 | | | | | | |
| pH | 7.02 | 0.10 pH units | 7.01 | | 100 | 98-102 | | | |
| Reference (B3F0354-SRM2) | | | Prepared: 2023-06-04, Analyzed: 2023-06-04 | | | | | | |
| pH | 7.02 | 0.10 pH units | 7.01 | | 100 | 98-102 | | | |
| General Parameters, Batch B3F0360 | | | | | | | | | |
| Blank (B3F0360-BLK1) | | | Prepared: 2023-06-04, Analyzed: 2023-06-05 | | | | | | |
| Nitrogen, Total Kjeldahl | < 0.050 | 0.050 mg/L | | | | | | | |
| Blank (B3F0360-BLK2) | | | Prepared: 2023-06-04, Analyzed: 2023-06-05 | | | | | | |
| Nitrogen, Total Kjeldahl | < 0.050 | 0.050 mg/L | | | | | | | |
| LCS (B3F0360-BS1) | | | Prepared: 2023-06-04, Analyzed: 2023-06-05 | | | | | | |
| Nitrogen, Total Kjeldahl | 1.05 | 0.050 mg/L | 1.00 | | 105 | 85-115 | | | |
| LCS (B3F0360-BS2) | | | Prepared: 2023-06-04, Analyzed: 2023-06-05 | | | | | | |
| Nitrogen, Total Kjeldahl | 1.05 | 0.050 mg/L | 1.00 | | 105 | 85-115 | | | |
| Microbiological Parameters, Batch B3E3387 | | | | | | | | | |
| Blank (B3E3387-BLK1) | | | Prepared: 2023-05-31, Analyzed: 2023-05-31 | | | | | | |
| Coliforms, Total (Q-Tray) | < 1 | 1 MPN/100 mL | | | | | | | |
| E. coli (Q-Tray) | < 1 | 1 MPN/100 mL | | | | | | | |



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater)
Amry - East Well

WORK ORDER REPORTED 23E3844
2023-06-06 13:59

| Analyte | Result | RL Units | Spike Level | Source Result | % REC | REC Limit | % RPD | RPD Limit | Qualifier |
|---|--------|--------------|---------------------------|---------------|--|-----------|-------|-----------|-----------|
| Microbiological Parameters, Batch B3E3387, Continued | | | | | | | | | |
| Blank (B3E3387-BLK2) | | | | | Prepared: 2023-05-31, Analyzed: 2023-05-31 | | | | |
| Coliforms, Total (Q-Tray) | < 1 | 1 MPN/100 mL | | | | | | | |
| E. coli (Q-Tray) | < 1 | 1 MPN/100 mL | | | | | | | |
| Blank (B3E3387-BLK3) | | | | | Prepared: 2023-05-31, Analyzed: 2023-05-31 | | | | |
| Coliforms, Fecal (Q-Tray) | < 1 | 1 MPN/100 mL | | | | | | | |
| E. coli (Q-Tray) | < 1 | 1 MPN/100 mL | | | | | | | |
| Blank (B3E3387-BLK4) | | | | | Prepared: 2023-05-31, Analyzed: 2023-05-31 | | | | |
| Coliforms, Fecal (Q-Tray) | < 1 | 1 MPN/100 mL | | | | | | | |
| E. coli (Q-Tray) | < 1 | 1 MPN/100 mL | | | | | | | |
| Blank (B3E3387-BLK5) | | | | | Prepared: 2023-05-31, Analyzed: 2023-05-31 | | | | |
| Coliforms, Total (Q-Tray) | < 1 | 1 MPN/100 mL | | | | | | | |
| E. coli (Q-Tray) | < 1 | 1 MPN/100 mL | | | | | | | |
| Blank (B3E3387-BLK6) | | | | | Prepared: 2023-05-31, Analyzed: 2023-05-31 | | | | |
| Coliforms, Fecal (Q-Tray) | < 1 | 1 MPN/100 mL | | | | | | | |
| E. coli (Q-Tray) | < 1 | 1 MPN/100 mL | | | | | | | |
| Blank (B3E3387-BLK7) | | | | | Prepared: 2023-05-31, Analyzed: 2023-05-31 | | | | |
| Coliforms, Total (Q-Tray) | < 1 | 1 MPN/100 mL | | | | | | | |
| E. coli (Q-Tray) | < 1 | 1 MPN/100 mL | | | | | | | |
| Duplicate (B3E3387-DUP5) | | | Source: 23E3844-01 | | Prepared: 2023-05-31, Analyzed: 2023-05-31 | | | | |
| Coliforms, Total (Q-Tray) | < 1 | 1 MPN/100 mL | | < 1 | | | | 80 | RS2 |
| E. coli (Q-Tray) | < 1 | 1 MPN/100 mL | | < 1 | | | | 80 | RS2 |

Total Metals, Batch B3F0320

| | | | | | | | | | |
|-----------------------------|--------|-----------|------|-----|--|--------|--|--|--|
| Blank (B3F0320-BLK1) | | | | | Prepared: 2023-06-03, Analyzed: 2023-06-04 | | | | |
| Sodium, total | < 0.10 | 0.10 mg/L | | | | | | | |
| LCS (B3F0320-BS1) | | | | | Prepared: 2023-06-03, Analyzed: 2023-06-06 | | | | |
| Sodium, total | 4.37 | 0.10 mg/L | 4.00 | 109 | | 80-120 | | | |

QC Qualifiers:

RS2 The Reporting Limits for this sample have been raised due to limited sample volume.

CERTIFICATE OF ANALYSIS

REPORTED TO Lake Country, District of (Wastewater)
4062 Beaver Lake Rd
LAKE COUNTRY, BC V4V 1T5

ATTENTION Davin Larsen

PO NUMBER
PROJECT Lake Country WWTP
PROJECT INFO

WORK ORDER 23F3861

RECEIVED / TEMP 2023-06-28 13:41 / 20.3°C
REPORTED 2023-07-11 20:24

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>

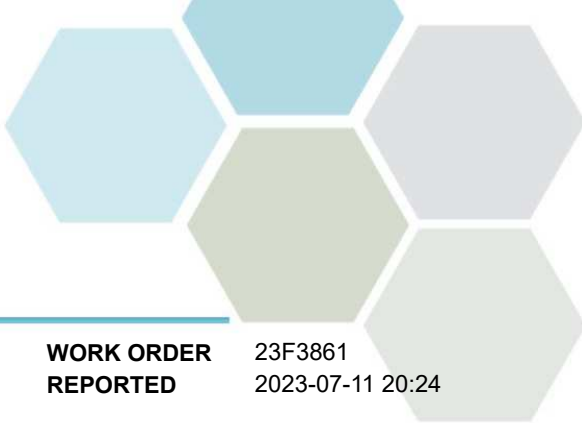
If you have any questions or concerns, please contact me at bwhitehead@caro.ca

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

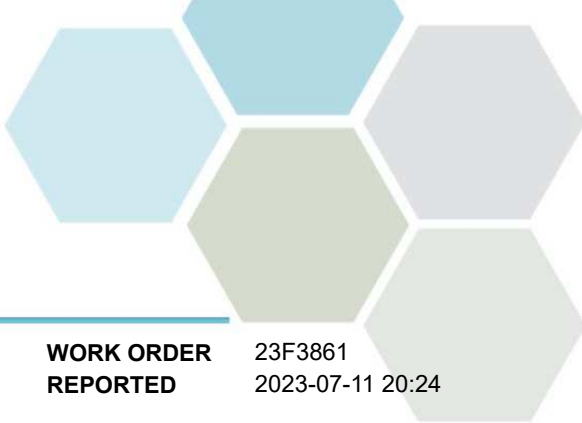
REPORTED TO PROJECT Lake Country, District of (Wastewater)
Lake Country WWTP

WORK ORDER REPORTED 23F3861
2023-07-11 20:24

| Analyte | Result | Guideline | RL Units | Analyzed | Qualifier |
|--|-------------|---------------|---------------|------------|-----------|
| Raw Influent (23F3861-01) Matrix: Water Sampled: 2023-06-28 09:55 | | | | | |
| Anions | | | | | |
| Nitrate (as N) | < 0.010 | MAC = 10 | 0.010 mg/L | 2023-06-29 | |
| Nitrite (as N) | < 0.010 | MAC = 1 | 0.010 mg/L | 2023-06-29 | |
| Phosphate (as P) | 5.66 | N/A | 0.0050 mg/L | 2023-06-29 | |
| Calculated Parameters | | | | | |
| Nitrate+Nitrite (as N) | < 0.0100 | N/A | 0.0100 mg/L | N/A | |
| Nitrogen, Total | 91.9 | N/A | 2.00 mg/L | N/A | |
| General Parameters | | | | | |
| Alkalinity, Total (as CaCO3) | 455 | N/A | 1.0 mg/L | 2023-06-30 | |
| Alkalinity, Phenolphthalein (as CaCO3) | < 1.0 | N/A | 1.0 mg/L | 2023-06-30 | |
| Alkalinity, Bicarbonate (as CaCO3) | 455 | N/A | 1.0 mg/L | 2023-06-30 | |
| Alkalinity, Carbonate (as CaCO3) | < 1.0 | N/A | 1.0 mg/L | 2023-06-30 | |
| Alkalinity, Hydroxide (as CaCO3) | < 1.0 | N/A | 1.0 mg/L | 2023-06-30 | |
| Ammonia, Total (as N) | 69.6 | None Required | 0.050 mg/L | 2023-07-01 | |
| BOD, 5-day | 337 | N/A | 2.0 mg/L | 2023-07-05 | |
| BOD, 5-day Carbonaceous | 331 | N/A | 2.0 mg/L | 2023-07-05 | |
| Nitrogen, Total Kjeldahl | 91.9 | N/A | 0.050 mg/L | 2023-07-04 | |
| pH | 7.95 | 7.0-10.5 | 0.10 pH units | 2023-06-30 | HT2 |
| Phosphorus, Total (as P) | 5.42 | N/A | 0.0050 mg/L | 2023-07-04 | |
| Solids, Total Suspended | 165 | N/A | 2.0 mg/L | 2023-06-29 | |

Final Effluent (23F3861-02) | Matrix: Water | Sampled: 2023-06-28 09:30

| | | | | | |
|--|--------------|---------------|---------------|------------|-----|
| Anions | | | | | |
| Chloride | 125 | AO ≤ 250 | 0.10 mg/L | 2023-06-29 | |
| Nitrate (as N) | 0.280 | MAC = 10 | 0.010 mg/L | 2023-06-29 | |
| Nitrite (as N) | 0.113 | MAC = 1 | 0.010 mg/L | 2023-06-29 | |
| Phosphate (as P) | 0.368 | N/A | 0.0050 mg/L | 2023-06-29 | |
| Calculated Parameters | | | | | |
| Nitrate+Nitrite (as N) | 0.393 | N/A | 0.0100 mg/L | N/A | |
| Nitrogen, Total | 2.10 | N/A | 0.0500 mg/L | N/A | |
| General Parameters | | | | | |
| Alkalinity, Total (as CaCO3) | 200 | N/A | 1.0 mg/L | 2023-06-30 | |
| Alkalinity, Phenolphthalein (as CaCO3) | < 1.0 | N/A | 1.0 mg/L | 2023-06-30 | |
| Alkalinity, Bicarbonate (as CaCO3) | 200 | N/A | 1.0 mg/L | 2023-06-30 | |
| Alkalinity, Carbonate (as CaCO3) | < 1.0 | N/A | 1.0 mg/L | 2023-06-30 | |
| Alkalinity, Hydroxide (as CaCO3) | < 1.0 | N/A | 1.0 mg/L | 2023-06-30 | |
| Ammonia, Total (as N) | 0.240 | None Required | 0.050 mg/L | 2023-07-01 | |
| BOD, 5-day Carbonaceous | < 4.9 | N/A | 2.0 mg/L | 2023-07-05 | |
| Nitrogen, Total Kjeldahl | 1.70 | N/A | 0.050 mg/L | 2023-07-04 | |
| pH | 7.90 | 7.0-10.5 | 0.10 pH units | 2023-06-30 | HT2 |



TEST RESULTS

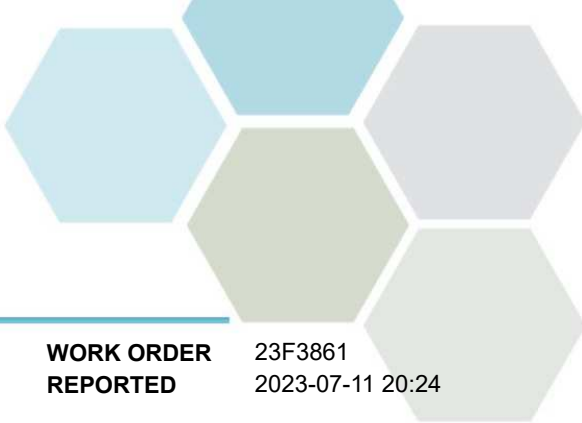
REPORTED TO PROJECT Lake Country, District of (Wastewater)
Lake Country WWTP

WORK ORDER REPORTED 23F3861
2023-07-11 20:24

| Analyte | Result | Guideline | RL Units | Analyzed | Qualifier |
|---|--------|-----------|--------------|------------|-----------|
| Final Effluent (23F3861-02) Matrix: Water Sampled: 2023-06-28 09:30, Continued | | | | | |
| <i>General Parameters, Continued</i> | | | | | |
| Phosphorus, Total (as P) | 0.731 | N/A | 0.0050 mg/L | 2023-07-04 | |
| Solids, Total Suspended | < 2.0 | N/A | 2.0 mg/L | 2023-06-29 | |
| <i>Microbiological Parameters</i> | | | | | |
| Coliforms, Total (Q-Tray) | > 2420 | MAC = 0 | 1 MPN/100 mL | 2023-06-29 | |
| Coliforms, Fecal (Q-Tray) | > 2420 | N/A | 1 MPN/100 mL | 2023-06-29 | |

Biosolids (23F3861-03) | Matrix: Soil | Sampled: 2023-06-28 10:05

| | | | | | |
|-------------------------------------|--------|-----|-----------------|------------|--|
| <i>General Parameters</i> | | | | | |
| Moisture | 72.8 | N/A | 1.0 % wet | 2023-07-05 | |
| <i>Strong Acid Leachable Metals</i> | | | | | |
| Aluminum | 1780 | N/A | 40 mg/kg dry | 2023-07-06 | |
| Antimony | 1.01 | N/A | 0.10 mg/kg dry | 2023-07-06 | |
| Arsenic | 2.15 | N/A | 0.30 mg/kg dry | 2023-07-06 | |
| Barium | 74.2 | N/A | 1.0 mg/kg dry | 2023-07-06 | |
| Beryllium | < 0.10 | N/A | 0.10 mg/kg dry | 2023-07-06 | |
| Bismuth | 16.5 | N/A | 0.10 mg/kg dry | 2023-07-06 | |
| Boron | 9.9 | N/A | 2.0 mg/kg dry | 2023-07-06 | |
| Cadmium | 0.668 | N/A | 0.040 mg/kg dry | 2023-07-06 | |
| Calcium | 8740 | N/A | 100 mg/kg dry | 2023-07-06 | |
| Chromium | 9.5 | N/A | 1.0 mg/kg dry | 2023-07-06 | |
| Cobalt | 1.03 | N/A | 0.10 mg/kg dry | 2023-07-06 | |
| Copper | 245 | N/A | 0.40 mg/kg dry | 2023-07-06 | |
| Iron | 3670 | N/A | 20.0 mg/kg dry | 2023-07-06 | |
| Lead | 6.08 | N/A | 0.20 mg/kg dry | 2023-07-06 | |
| Lithium | 0.83 | N/A | 0.10 mg/kg dry | 2023-07-06 | |
| Magnesium | 2860 | N/A | 10 mg/kg dry | 2023-07-06 | |
| Manganese | 75.8 | N/A | 0.40 mg/kg dry | 2023-07-06 | |
| Mercury | 0.290 | N/A | 0.040 mg/kg dry | 2023-07-06 | |
| Molybdenum | 7.07 | N/A | 0.10 mg/kg dry | 2023-07-06 | |
| Nickel | 7.49 | N/A | 0.60 mg/kg dry | 2023-07-06 | |
| Phosphorus | 10200 | N/A | 10 mg/kg dry | 2023-07-06 | |
| Potassium | 2610 | N/A | 40 mg/kg dry | 2023-07-06 | |
| Selenium | 2.74 | N/A | 0.20 mg/kg dry | 2023-07-06 | |
| Silver | 1.30 | N/A | 0.10 mg/kg dry | 2023-07-06 | |
| Sodium | 428 | N/A | 50 mg/kg dry | 2023-07-06 | |
| Strontium | 41.3 | N/A | 0.20 mg/kg dry | 2023-07-06 | |
| Sulfur | 5400 | N/A | 1000 mg/kg dry | 2023-07-06 | |
| Tellurium | < 0.10 | N/A | 0.10 mg/kg dry | 2023-07-06 | |
| Thallium | < 0.10 | N/A | 0.10 mg/kg dry | 2023-07-06 | |
| Thorium | < 0.50 | N/A | 0.50 mg/kg dry | 2023-07-06 | |



TEST RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater)
Lake Country WWTP

WORK ORDER REPORTED 23F3861
2023-07-11 20:24

| Analyte | Result | Guideline | RL | Units | Analyzed | Qualifier |
|---------|--------|-----------|----|-------|----------|-----------|
|---------|--------|-----------|----|-------|----------|-----------|

Biosolids (23F3861-03) | Matrix: Soil | Sampled: 2023-06-28 10:05, Continued

Strong Acid Leachable Metals, Continued

| | | | | | | |
|-----------|------|-----|-------|-----------|------------|--|
| Tin | 11.2 | N/A | 0.20 | mg/kg dry | 2023-07-06 | |
| Titanium | 52.9 | N/A | 1.0 | mg/kg dry | 2023-07-06 | |
| Tungsten | 0.49 | N/A | 0.20 | mg/kg dry | 2023-07-06 | |
| Uranium | 5.97 | N/A | 0.050 | mg/kg dry | 2023-07-06 | |
| Vanadium | 4.2 | N/A | 1.0 | mg/kg dry | 2023-07-06 | |
| Zinc | 455 | N/A | 2.0 | mg/kg dry | 2023-07-06 | |
| Zirconium | 3.1 | N/A | 2.0 | mg/kg dry | 2023-07-06 | |

Amry (23F3861-04) | Matrix: Water | Sampled: 2023-06-28 09:37

General Parameters

| | | | | | | |
|-------------------------|------|-----|-----|------|------------|--|
| BOD, 5-day Carbonaceous | 7.5 | N/A | 2.0 | mg/L | 2023-07-05 | |
| Solids, Total Suspended | 28.9 | N/A | 2.0 | mg/L | 2023-06-29 | |

Field Blank (23F3861-05) | Matrix: Water | Sampled: 2023-06-28 09:45

Anions

| | | | | | | |
|------------------|----------|----------|--------|------|------------|--|
| Chloride | < 0.10 | AO ≤ 250 | 0.10 | mg/L | 2023-06-29 | |
| Nitrate (as N) | < 0.010 | MAC = 10 | 0.010 | mg/L | 2023-06-29 | |
| Nitrite (as N) | < 0.010 | MAC = 1 | 0.010 | mg/L | 2023-06-29 | |
| Phosphate (as P) | < 0.0050 | N/A | 0.0050 | mg/L | 2023-06-29 | |

Calculated Parameters

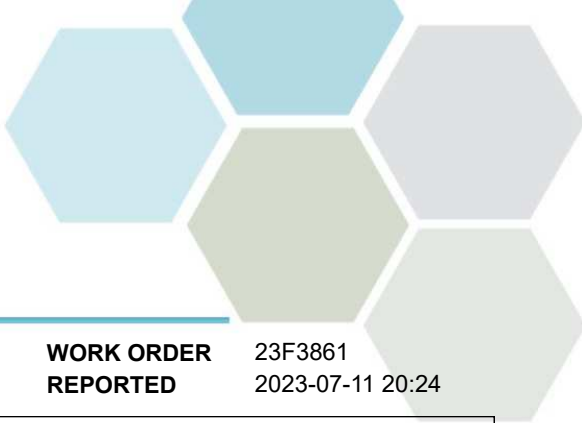
| | | | | | | |
|------------------------|----------|-----|--------|------|-----|--|
| Nitrate+Nitrite (as N) | < 0.0100 | N/A | 0.0100 | mg/L | N/A | |
| Nitrogen, Total | < 0.0500 | N/A | 0.0500 | mg/L | N/A | |

General Parameters

| | | | | | | |
|--|----------|---------------|--------|----------|------------|-----|
| Alkalinity, Total (as CaCO3) | < 1.0 | N/A | 1.0 | mg/L | 2023-06-30 | |
| Alkalinity, Phenolphthalein (as CaCO3) | < 1.0 | N/A | 1.0 | mg/L | 2023-06-30 | |
| Alkalinity, Bicarbonate (as CaCO3) | < 1.0 | N/A | 1.0 | mg/L | 2023-06-30 | |
| Alkalinity, Carbonate (as CaCO3) | < 1.0 | N/A | 1.0 | mg/L | 2023-06-30 | |
| Alkalinity, Hydroxide (as CaCO3) | < 1.0 | N/A | 1.0 | mg/L | 2023-06-30 | |
| Ammonia, Total (as N) | < 0.050 | None Required | 0.050 | mg/L | 2023-07-01 | |
| BOD, 5-day Carbonaceous | < 4.9 | N/A | 2.0 | mg/L | 2023-07-05 | |
| Chemical Oxygen Demand | < 20 | N/A | 20 | mg/L | 2023-06-30 | |
| Nitrogen, Total Kjeldahl | < 0.050 | N/A | 0.050 | mg/L | 2023-07-04 | |
| pH | 5.37 | 7.0-10.5 | 0.10 | pH units | 2023-06-30 | HT2 |
| Phosphorus, Total (as P) | < 0.0050 | N/A | 0.0050 | mg/L | 2023-07-04 | |
| Solids, Total Suspended | < 2.0 | N/A | 2.0 | mg/L | 2023-06-29 | |

Microbiological Parameters

| | | | | | | |
|---------------------------|-----|---------|---|------------|------------|--|
| Coliforms, Total (Q-Tray) | < 1 | MAC = 0 | 1 | MPN/100 mL | 2023-06-29 | |
| Coliforms, Fecal (Q-Tray) | < 1 | N/A | 1 | MPN/100 mL | 2023-06-29 | |



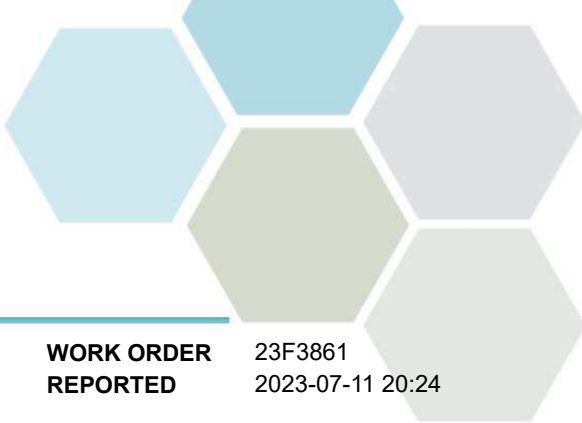
TEST RESULTS

REPORTED TO Lake Country, District of (Wastewater)
PROJECT Lake Country WWTP

WORK ORDER 23F3861
REPORTED 2023-07-11 20:24

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 Lake Country, District of (Wastewater)
Lake Country WWTP

WORK ORDER REPORTED 23F3861
2023-07-11 20:24

| Analysis Description | Method Ref. | Technique | Accredited | Location |
|--|---|--|------------|----------|
| Alkalinity in Water | SM 2320 B* (2021) | Titration with H2SO4 | ✓ | Kelowna |
| Ammonia, Total in Water | SM 4500-NH3 G* (2021) | Automated Colorimetry (Phenate) | ✓ | Kelowna |
| Anions in Water | SM 4110 B (2020) | Ion Chromatography | ✓ | Kelowna |
| Biochemical Oxygen Demand in Water | SM 5210 B (2019) | Dissolved Oxygen Meter | ✓ | Kelowna |
| Biochemical Oxygen Demand, Carbonaceous in Water | SM 5210 B (2019) | Dissolved Oxygen Meter | ✓ | Kelowna |
| Chemical Oxygen Demand in Water | SM 5220 D* (2022) | Closed Reflux, Colorimetry | ✓ | Kelowna |
| Coliforms, Fecal in Water | NA / SM 9223 (2016) | Quanti-Tray / Enzyme Substrate Endo Agar | ✓ | Kelowna |
| Coliforms, Total in Water | NA / SM 9223 (2016) | Quanti-Tray / Enzyme Substrate Endo Agar | ✓ | Kelowna |
| Moisture in Soil | ASTM D2974-87* | Gravimetry (Dried at 105C) | | N/A |
| Nitrogen, Total Kjeldahl in Water | SM 4500-Norg D* (2021) | Block Digestion and Flow Injection Analysis | ✓ | Kelowna |
| pH in Water | SM 4500-H+ B (2021) | Electrometry | ✓ | Kelowna |
| Phosphorus, Total in Water | SM 4500-P B.5* (2011) / SM 4500-P F (2021) | Persulfate Digestion / Automated Colorimetry (Ascorbic Acid) | ✓ | Kelowna |
| SALM in Soil | BCMOE SALM V.2 / EPA 6020B | HNO3+HCl Hot Block Digestion / Inductively Coupled Plasma-Mass Spectroscopy (ICP-MS) | ✓ | Richmond |
| Solids, Total Suspended in Water | Solids in Water, Filtered / SM 2540 D* (2020) | Solids in Water, Filtered / Gravimetry (Dried at 103-105C) | ✓ | Kelowna |

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

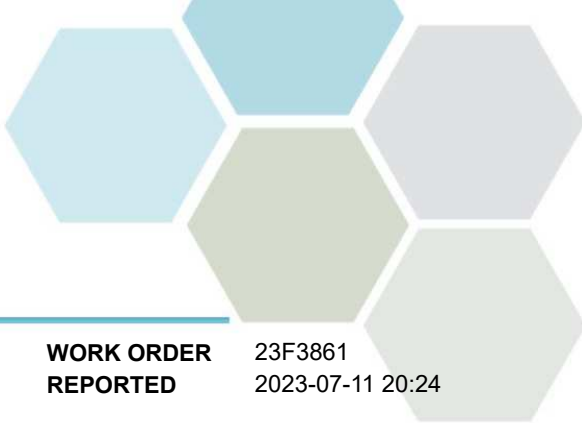
Glossary of Terms:

| | |
|------------|---|
| RL | Reporting Limit (default) |
| % wet | Percent (as received basis) |
| < | 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 |
| AO | Aesthetic Objective |
| MAC | Maximum Acceptable Concentration (health based) |
| mg/kg dry | Milligrams per kilogram (dry weight basis) |
| mg/L | Milligrams per litre |
| MPN/100 mL | Most Probable Number per 100 millilitres |
| pH units | pH < 7 = acidic, pH > 7 = basic |
| ASTM | ASTM International Test Methods |
| EPA | United States Environmental Protection Agency Test Methods |
| SM | Standard Methods for the Examination of Water and Wastewater, American Public Health Association |

Guidelines Referenced in this Report:

[Guidelines for Canadian Drinking Water Quality \(Health Canada, September 2022\)](#)

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



APPENDIX 1: SUPPORTING INFORMATION

REPORTED TO PROJECT Lake Country, District of (Wastewater)
Lake Country WWTP

WORK ORDER REPORTED 23F3861
2023-07-11 20:24

General Comments:

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APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater)
Lake Country WWTP

WORK ORDER REPORTED 23F3861
2023-07-11 20:24

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 B3F3345 | | | | | | | | | |
| Blank (B3F3345-BLK1) | | | Prepared: 2023-06-29, Analyzed: 2023-06-29 | | | | | | |
| 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 | | | | | | | |
| Phosphate (as P) | < 0.0050 | 0.0050 mg/L | | | | | | | |
| Blank (B3F3345-BLK2) | | | Prepared: 2023-06-29, Analyzed: 2023-06-29 | | | | | | |
| 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 | | | | | | | |
| Phosphate (as P) | < 0.0050 | 0.0050 mg/L | | | | | | | |
| LCS (B3F3345-BS1) | | | Prepared: 2023-06-29, Analyzed: 2023-06-29 | | | | | | |
| Chloride | 15.6 | 0.10 mg/L | 16.0 | | 98 | 90-110 | | | |
| Nitrate (as N) | 4.00 | 0.010 mg/L | 4.00 | | 100 | 90-110 | | | |
| Nitrite (as N) | 1.91 | 0.010 mg/L | 2.00 | | 95 | 85-115 | | | |
| Phosphate (as P) | 0.991 | 0.0050 mg/L | 1.00 | | 99 | 80-120 | | | |
| LCS (B3F3345-BS2) | | | Prepared: 2023-06-29, Analyzed: 2023-06-29 | | | | | | |
| Chloride | 15.7 | 0.10 mg/L | 16.0 | | 98 | 90-110 | | | |
| Nitrate (as N) | 4.00 | 0.010 mg/L | 4.00 | | 100 | 90-110 | | | |
| Nitrite (as N) | 1.93 | 0.010 mg/L | 2.00 | | 96 | 85-115 | | | |
| Phosphate (as P) | 1.01 | 0.0050 mg/L | 1.00 | | 101 | 80-120 | | | |
| General Parameters, Batch B3F3388 | | | | | | | | | |
| Blank (B3F3388-BLK1) | | | Prepared: 2023-06-29, Analyzed: 2023-06-29 | | | | | | |
| Solids, Total Suspended | < 2.0 | 2.0 mg/L | | | | | | | |
| LCS (B3F3388-BS1) | | | Prepared: 2023-06-29, Analyzed: 2023-06-29 | | | | | | |
| Solids, Total Suspended | 100 | 10.0 mg/L | 100 | | 100 | 85-115 | | | |
| General Parameters, Batch B3F3451 | | | | | | | | | |
| Blank (B3F3451-BLK1) | | | Prepared: 2023-06-30, Analyzed: 2023-07-05 | | | | | | |
| BOD, 5-day Carbonaceous | < 2.0 | 2.0 mg/L | | | | | | | |



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater)
Lake Country WWTP

WORK ORDER REPORTED 23F3861
2023-07-11 20:24

| Analyte | Result | RL Units | Spike Level | Source Result | % REC | REC Limit | % RPD | RPD Limit | Qualifier |
|---|---------|---------------|---|---------------|-------|-----------|-------|-----------|-----------|
| General Parameters, Batch B3F3451, Continued | | | | | | | | | |
| LCS (B3F3451-BS1) | | | Prepared: 2023-06-30, Analyzed: 2023-07-05 | | | | | | |
| BOD, 5-day Carbonaceous | 181 | 40.7 mg/L | 198 | | 91 | 85-115 | | | |
| Duplicate (B3F3451-DUP1) | | | Source: 23F3861-02 Prepared: 2023-06-30, Analyzed: 2023-07-05 | | | | | | |
| BOD, 5-day Carbonaceous | < 4.9 | 2.0 mg/L | | < 4.9 | | | | 20 | |
| General Parameters, Batch B3F3452 | | | | | | | | | |
| Blank (B3F3452-BLK1) | | | Prepared: 2023-06-30, Analyzed: 2023-07-05 | | | | | | |
| BOD, 5-day | < 2.0 | 2.0 mg/L | | | | | | | |
| LCS (B3F3452-BS1) | | | Prepared: 2023-06-30, Analyzed: 2023-07-05 | | | | | | |
| BOD, 5-day | 192 | 51.8 mg/L | 198 | | 97 | 85-115 | | | |
| General Parameters, Batch B3F3471 | | | | | | | | | |
| Blank (B3F3471-BLK1) | | | Prepared: 2023-06-30, Analyzed: 2023-06-30 | | | | | | |
| Chemical Oxygen Demand | < 20 | 20 mg/L | | | | | | | |
| LCS (B3F3471-BS1) | | | Prepared: 2023-06-30, Analyzed: 2023-06-30 | | | | | | |
| Chemical Oxygen Demand | 539 | 20 mg/L | 500 | | 108 | 89-115 | | | |
| General Parameters, Batch B3F3472 | | | | | | | | | |
| Blank (B3F3472-BLK1) | | | Prepared: 2023-06-30, Analyzed: 2023-06-30 | | | | | | |
| Alkalinity, Total (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Phenolphthalein (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Bicarbonate (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Carbonate (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Hydroxide (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| LCS (B3F3472-BS1) | | | Prepared: 2023-06-30, Analyzed: 2023-06-30 | | | | | | |
| Alkalinity, Total (as CaCO3) | 113 | 1.0 mg/L | 100 | | 113 | 80-120 | | | |
| Alkalinity, Phenolphthalein (as CaCO3) | 31.8 | 1.0 mg/L | 50.0 | | 64 | 0-200 | | | |
| Reference (B3F3472-SRM1) | | | Prepared: 2023-06-30, Analyzed: 2023-06-30 | | | | | | |
| pH | 7.03 | 0.10 pH units | 7.01 | | 100 | 98-102 | | | |
| General Parameters, Batch B3G0012 | | | | | | | | | |
| Blank (B3G0012-BLK1) | | | Prepared: 2023-07-01, Analyzed: 2023-07-01 | | | | | | |
| Ammonia, Total (as N) | < 0.050 | 0.050 mg/L | | | | | | | |
| Blank (B3G0012-BLK2) | | | Prepared: 2023-07-01, Analyzed: 2023-07-01 | | | | | | |
| Ammonia, Total (as N) | < 0.050 | 0.050 mg/L | | | | | | | |
| Blank (B3G0012-BLK3) | | | Prepared: 2023-07-01, Analyzed: 2023-07-01 | | | | | | |
| Ammonia, Total (as N) | < 0.050 | 0.050 mg/L | | | | | | | |
| LCS (B3G0012-BS1) | | | Prepared: 2023-07-01, Analyzed: 2023-07-01 | | | | | | |
| Ammonia, Total (as N) | 0.961 | 0.050 mg/L | 1.00 | | 96 | 85-115 | | | |
| LCS (B3G0012-BS2) | | | Prepared: 2023-07-01, Analyzed: 2023-07-01 | | | | | | |
| Ammonia, Total (as N) | 0.992 | 0.050 mg/L | 1.00 | | 99 | 85-115 | | | |
| LCS (B3G0012-BS3) | | | Prepared: 2023-07-01, Analyzed: 2023-07-01 | | | | | | |
| Ammonia, Total (as N) | 0.965 | 0.050 mg/L | 1.00 | | 96 | 85-115 | | | |



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater)
Lake Country WWTP

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| Analyte | Result | RL Units | Spike Level | Source Result | % REC | REC Limit | % RPD | RPD Limit | Qualifier |
|---------|--------|----------|-------------|---------------|-------|-----------|-------|-----------|-----------|
|---------|--------|----------|-------------|---------------|-------|-----------|-------|-----------|-----------|

General Parameters, Batch B3G0012, Continued

| | | | | | | | | | |
|-----------------------------------|-------|---------------------------|-------|--|-----|--------|--|--|----|
| Duplicate (B3G0012-DUP2) | | Source: 23F3861-02 | | Prepared: 2023-07-01, Analyzed: 2023-07-01 | | | | | |
| Ammonia, Total (as N) | 0.227 | 0.050 mg/L | | 0.240 | | | | | 15 |
| Matrix Spike (B3G0012-MS2) | | Source: 23F3861-02 | | Prepared: 2023-07-01, Analyzed: 2023-07-01 | | | | | |
| Ammonia, Total (as N) | 0.444 | 0.050 mg/L | 0.204 | 0.240 | 100 | 75-125 | | | |

General Parameters, Batch B3G0073

| | | | | | | | | | |
|-----------------------------|---------|--|------|--|-----|--------|--|--|--|
| Blank (B3G0073-BLK1) | | Prepared: 2023-07-03, Analyzed: 2023-07-04 | | | | | | | |
| Nitrogen, Total Kjeldahl | < 0.050 | 0.050 mg/L | | | | | | | |
| Blank (B3G0073-BLK2) | | Prepared: 2023-07-03, Analyzed: 2023-07-04 | | | | | | | |
| Nitrogen, Total Kjeldahl | < 0.050 | 0.050 mg/L | | | | | | | |
| LCS (B3G0073-BS1) | | Prepared: 2023-07-03, Analyzed: 2023-07-04 | | | | | | | |
| Nitrogen, Total Kjeldahl | 1.05 | 0.050 mg/L | 1.00 | | 105 | 85-115 | | | |
| LCS (B3G0073-BS2) | | Prepared: 2023-07-03, Analyzed: 2023-07-04 | | | | | | | |
| Nitrogen, Total Kjeldahl | 1.07 | 0.050 mg/L | 1.00 | | 107 | 85-115 | | | |

General Parameters, Batch B3G0088

| | | | | | | | | | |
|-----------------------------------|----------|--|-------|--|-----|--------|-----|----|--|
| Blank (B3G0088-BLK1) | | Prepared: 2023-07-04, Analyzed: 2023-07-04 | | | | | | | |
| Phosphorus, Total (as P) | < 0.0050 | 0.0050 mg/L | | | | | | | |
| LCS (B3G0088-BS1) | | Prepared: 2023-07-04, Analyzed: 2023-07-04 | | | | | | | |
| Phosphorus, Total (as P) | 0.105 | 0.0050 mg/L | 0.100 | | 105 | 85-115 | | | |
| Duplicate (B3G0088-DUP1) | | Source: 23F3861-02 | | Prepared: 2023-07-04, Analyzed: 2023-07-04 | | | | | |
| Phosphorus, Total (as P) | 0.736 | 0.0050 mg/L | | 0.731 | | | < 1 | 15 | |
| Matrix Spike (B3G0088-MS1) | | Source: 23F3861-02 | | Prepared: 2023-07-04, Analyzed: 2023-07-04 | | | | | |
| Phosphorus, Total (as P) | 0.823 | 0.0100 mg/L | 0.102 | 0.731 | 90 | 70-125 | | | |

Microbiological Parameters, Batch B3F3334

| | | | | | | | | | |
|-----------------------------|-----|--|--|--|--|--|--|--|--|
| Blank (B3F3334-BLK1) | | Prepared: 2023-06-29, Analyzed: 2023-06-29 | | | | | | | |
| Coliforms, Total (Q-Tray) | < 1 | 1 MPN/100 mL | | | | | | | |
| Blank (B3F3334-BLK2) | | Prepared: 2023-06-29, Analyzed: 2023-06-29 | | | | | | | |
| Coliforms, Fecal (Q-Tray) | < 1 | 1 MPN/100 mL | | | | | | | |
| Blank (B3F3334-BLK3) | | Prepared: 2023-06-29, Analyzed: 2023-06-29 | | | | | | | |
| Coliforms, Total (Q-Tray) | < 1 | 1 MPN/100 mL | | | | | | | |
| Blank (B3F3334-BLK4) | | Prepared: 2023-06-29, Analyzed: 2023-06-29 | | | | | | | |
| Coliforms, Fecal (Q-Tray) | < 1 | 1 MPN/100 mL | | | | | | | |

Strong Acid Leachable Metals, Batch B3G0441

| | | | | | | | | | |
|-----------------------------|--------|--|--|--|--|--|--|--|--|
| Blank (B3G0441-BLK1) | | Prepared: 2023-07-06, Analyzed: 2023-07-06 | | | | | | | |
| Aluminum | < 40 | 40 mg/kg dry | | | | | | | |
| Antimony | < 0.10 | 0.10 mg/kg dry | | | | | | | |
| Arsenic | < 0.30 | 0.30 mg/kg dry | | | | | | | |
| Barium | < 1.0 | 1.0 mg/kg dry | | | | | | | |
| Beryllium | < 0.10 | 0.10 mg/kg dry | | | | | | | |
| Bismuth | < 0.10 | 0.10 mg/kg dry | | | | | | | |



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater)
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| Analyte | Result | RL Units | Spike Level | Source Result | % REC | REC Limit | % RPD | RPD Limit | Qualifier |
|---------|--------|----------|-------------|---------------|-------|-----------|-------|-----------|-----------|
|---------|--------|----------|-------------|---------------|-------|-----------|-------|-----------|-----------|

Strong Acid Leachable Metals, Batch B3G0441, Continued

Blank (B3G0441-BLK1), Continued

Prepared: 2023-07-06, Analyzed: 2023-07-06

| | | | | | | | | | |
|------------|---------|-----------------|--|--|--|--|--|--|--|
| Boron | < 2.0 | 2.0 mg/kg dry | | | | | | | |
| Cadmium | < 0.040 | 0.040 mg/kg dry | | | | | | | |
| Calcium | < 100 | 100 mg/kg dry | | | | | | | |
| Chromium | < 1.0 | 1.0 mg/kg dry | | | | | | | |
| Cobalt | < 0.10 | 0.10 mg/kg dry | | | | | | | |
| Copper | < 0.40 | 0.40 mg/kg dry | | | | | | | |
| Iron | < 20.0 | 20.0 mg/kg dry | | | | | | | |
| Lead | < 0.20 | 0.20 mg/kg dry | | | | | | | |
| Lithium | < 0.10 | 0.10 mg/kg dry | | | | | | | |
| Magnesium | < 10 | 10 mg/kg dry | | | | | | | |
| Manganese | < 0.40 | 0.40 mg/kg dry | | | | | | | |
| Mercury | < 0.040 | 0.040 mg/kg dry | | | | | | | |
| Molybdenum | < 0.10 | 0.10 mg/kg dry | | | | | | | |
| Nickel | < 0.60 | 0.60 mg/kg dry | | | | | | | |
| Phosphorus | < 10 | 10 mg/kg dry | | | | | | | |
| Potassium | < 40 | 40 mg/kg dry | | | | | | | |
| Selenium | < 0.20 | 0.20 mg/kg dry | | | | | | | |
| Silver | < 0.10 | 0.10 mg/kg dry | | | | | | | |
| Sodium | < 50 | 50 mg/kg dry | | | | | | | |
| Strontium | < 0.20 | 0.20 mg/kg dry | | | | | | | |
| Sulfur | < 1000 | 1000 mg/kg dry | | | | | | | |
| Tellurium | < 0.10 | 0.10 mg/kg dry | | | | | | | |
| Thallium | < 0.10 | 0.10 mg/kg dry | | | | | | | |
| Thorium | < 0.50 | 0.50 mg/kg dry | | | | | | | |
| Tin | < 0.20 | 0.20 mg/kg dry | | | | | | | |
| Titanium | < 1.0 | 1.0 mg/kg dry | | | | | | | |
| Tungsten | < 0.20 | 0.20 mg/kg dry | | | | | | | |
| Uranium | < 0.050 | 0.050 mg/kg dry | | | | | | | |
| Vanadium | < 1.0 | 1.0 mg/kg dry | | | | | | | |
| Zinc | < 2.0 | 2.0 mg/kg dry | | | | | | | |
| Zirconium | < 2.0 | 2.0 mg/kg dry | | | | | | | |

LCS (B3G0441-BS1)

Prepared: 2023-07-06, Analyzed: 2023-07-06

| | | | | | | | | | |
|------------|-------|-----------------|-------|--|-----|--------|--|--|--|
| Aluminum | 189 | 40 mg/kg dry | 200 | | 95 | 80-120 | | | |
| Antimony | 1.93 | 0.10 mg/kg dry | 2.00 | | 96 | 80-120 | | | |
| Arsenic | 19.1 | 0.30 mg/kg dry | 20.0 | | 96 | 80-120 | | | |
| Barium | 1.9 | 1.0 mg/kg dry | 2.00 | | 97 | 80-120 | | | |
| Beryllium | 1.92 | 0.10 mg/kg dry | 2.00 | | 96 | 80-120 | | | |
| Bismuth | 1.93 | 0.10 mg/kg dry | 2.00 | | 96 | 80-120 | | | |
| Boron | 21.3 | 2.0 mg/kg dry | 20.0 | | 107 | 80-120 | | | |
| Cadmium | 1.93 | 0.040 mg/kg dry | 2.00 | | 97 | 80-120 | | | |
| Calcium | 194 | 100 mg/kg dry | 200 | | 97 | 80-120 | | | |
| Chromium | 2.0 | 1.0 mg/kg dry | 2.00 | | 98 | 80-120 | | | |
| Cobalt | 1.95 | 0.10 mg/kg dry | 2.00 | | 98 | 80-120 | | | |
| Copper | 1.96 | 0.40 mg/kg dry | 2.00 | | 98 | 80-120 | | | |
| Iron | 197 | 20.0 mg/kg dry | 200 | | 99 | 80-120 | | | |
| Lead | 1.95 | 0.20 mg/kg dry | 2.00 | | 97 | 80-120 | | | |
| Lithium | 1.88 | 0.10 mg/kg dry | 2.00 | | 94 | 80-120 | | | |
| Magnesium | 193 | 10 mg/kg dry | 200 | | 96 | 80-120 | | | |
| Manganese | 1.94 | 0.40 mg/kg dry | 2.00 | | 97 | 80-120 | | | |
| Mercury | 0.202 | 0.040 mg/kg dry | 0.200 | | 101 | 80-120 | | | |
| Molybdenum | 1.93 | 0.10 mg/kg dry | 2.00 | | 97 | 80-120 | | | |
| Nickel | 1.92 | 0.60 mg/kg dry | 2.00 | | 96 | 80-120 | | | |
| Phosphorus | 185 | 10 mg/kg dry | 200 | | 93 | 80-120 | | | |
| Potassium | 192 | 40 mg/kg dry | 200 | | 96 | 80-120 | | | |
| Selenium | 19.7 | 0.20 mg/kg dry | 20.0 | | 98 | 80-120 | | | |



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater)
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WORK ORDER REPORTED 23F3861
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| Analyte | Result | RL Units | Spike Level | Source Result | % REC | REC Limit | % RPD | RPD Limit | Qualifier |
|---------|--------|----------|-------------|---------------|-------|-----------|-------|-----------|-----------|
|---------|--------|----------|-------------|---------------|-------|-----------|-------|-----------|-----------|

Strong Acid Leachable Metals, Batch B3G0441, Continued

| LCS (B3G0441-BS1), Continued | | | | Prepared: 2023-07-06, Analyzed: 2023-07-06 | | | | | |
|-------------------------------------|------|-----------------|------|--|-----|--------|--|--|--|
| Silver | 1.80 | 0.10 mg/kg dry | 2.00 | | 90 | 80-120 | | | |
| Sodium | 196 | 50 mg/kg dry | 200 | | 98 | 80-120 | | | |
| Strontium | 1.94 | 0.20 mg/kg dry | 2.00 | | 97 | 80-120 | | | |
| Sulfur | 2010 | 1000 mg/kg dry | 2000 | | 101 | 80-120 | | | |
| Tellurium | 1.87 | 0.10 mg/kg dry | 2.00 | | 94 | 80-120 | | | |
| Thallium | 1.94 | 0.10 mg/kg dry | 2.00 | | 97 | 80-120 | | | |
| Thorium | 1.95 | 0.50 mg/kg dry | 2.00 | | 97 | 80-120 | | | |
| Tin | 1.96 | 0.20 mg/kg dry | 2.00 | | 98 | 80-120 | | | |
| Titanium | 1.9 | 1.0 mg/kg dry | 2.00 | | 97 | 80-120 | | | |
| Tungsten | 2.04 | 0.20 mg/kg dry | 2.00 | | 102 | 80-120 | | | |
| Uranium | 1.99 | 0.050 mg/kg dry | 2.00 | | 99 | 80-120 | | | |
| Vanadium | 1.9 | 1.0 mg/kg dry | 2.00 | | 94 | 80-120 | | | |
| Zinc | 18.8 | 2.0 mg/kg dry | 20.0 | | 94 | 80-120 | | | |
| Zirconium | 2.0 | 2.0 mg/kg dry | 2.00 | | 101 | 80-120 | | | |

| Reference (B3G0441-SRM1) | | | | Prepared: 2023-07-06, Analyzed: 2023-07-06 | | | | | |
|---------------------------------|--------|-----------------|--------|--|----|--------|--|--|--|
| Aluminum | 10100 | 40 mg/kg dry | 12100 | | 84 | 70-130 | | | |
| Antimony | 0.56 | 0.10 mg/kg dry | 0.634 | | 89 | 70-130 | | | |
| Arsenic | 74.4 | 0.30 mg/kg dry | 83.6 | | 89 | 70-130 | | | |
| Barium | 35.9 | 1.0 mg/kg dry | 41.4 | | 87 | 70-130 | | | |
| Beryllium | 0.32 | 0.10 mg/kg dry | 0.377 | | 84 | 70-130 | | | |
| Bismuth | 0.25 | 0.10 mg/kg dry | 0.291 | | 86 | 70-130 | | | |
| Calcium | 4370 | 100 mg/kg dry | 5380 | | 81 | 70-130 | | | |
| Chromium | 56.5 | 1.0 mg/kg dry | 66.0 | | 86 | 70-130 | | | |
| Cobalt | 9.32 | 0.10 mg/kg dry | 10.8 | | 86 | 70-130 | | | |
| Copper | 18.2 | 0.40 mg/kg dry | 20.3 | | 90 | 70-130 | | | |
| Iron | 17800 | 20.0 mg/kg dry | 20400 | | 87 | 70-130 | | | |
| Lead | 14.9 | 0.20 mg/kg dry | 16.7 | | 89 | 70-130 | | | |
| Lithium | 15.1 | 0.10 mg/kg dry | 16.8 | | 90 | 70-130 | | | |
| Magnesium | 5330 | 10 mg/kg dry | 6170 | | 86 | 70-130 | | | |
| Manganese | 275 | 0.40 mg/kg dry | 319 | | 86 | 70-130 | | | |
| Mercury | 0.102 | 0.040 mg/kg dry | 0.114 | | 89 | 70-130 | | | |
| Molybdenum | 0.54 | 0.10 mg/kg dry | 0.607 | | 89 | 70-130 | | | |
| Nickel | 27.5 | 0.60 mg/kg dry | 32.5 | | 85 | 70-130 | | | |
| Phosphorus | 379 | 10 mg/kg dry | 432 | | 88 | 70-130 | | | |
| Silver | 1.36 | 0.10 mg/kg dry | 1.55 | | 88 | 70-130 | | | |
| Strontium | 16.0 | 0.20 mg/kg dry | 22.5 | | 71 | 70-130 | | | |
| Thallium | < 0.10 | 0.10 mg/kg dry | 0.0765 | | 79 | 70-130 | | | |
| Thorium | 2.22 | 0.50 mg/kg dry | 2.96 | | 75 | 70-130 | | | |
| Titanium | 524 | 1.0 mg/kg dry | 730 | | 72 | 70-130 | | | |
| Uranium | 0.993 | 0.050 mg/kg dry | 1.15 | | 86 | 70-130 | | | |
| Vanadium | 29.3 | 1.0 mg/kg dry | 36.3 | | 81 | 70-130 | | | |
| Zinc | 34.7 | 2.0 mg/kg dry | 39.7 | | 87 | 70-130 | | | |

CERTIFICATE OF ANALYSIS

REPORTED TO Lake Country, District of (Wastewater)
4062 Beaver Lake Rd
LAKE COUNTRY, BC V4V 1T5

ATTENTION Davin Larsen

PO NUMBER
PROJECT Lake Country WWTP
PROJECT INFO

WORK ORDER 23F3861

RECEIVED / TEMP 2023-06-28 13:41 / 20.3°C
REPORTED 2023-07-11 20:24

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>

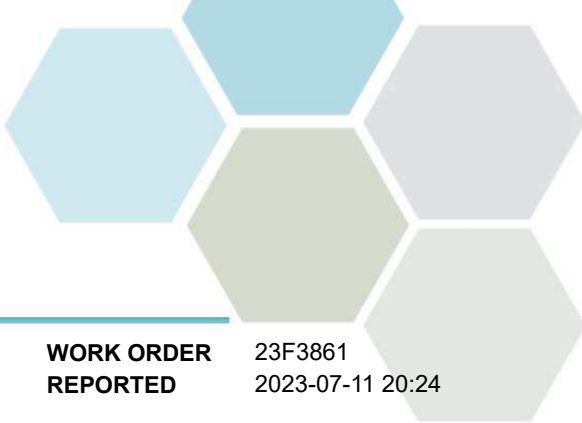
If you have any questions or concerns, please contact me at bwhitehead@caro.ca

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

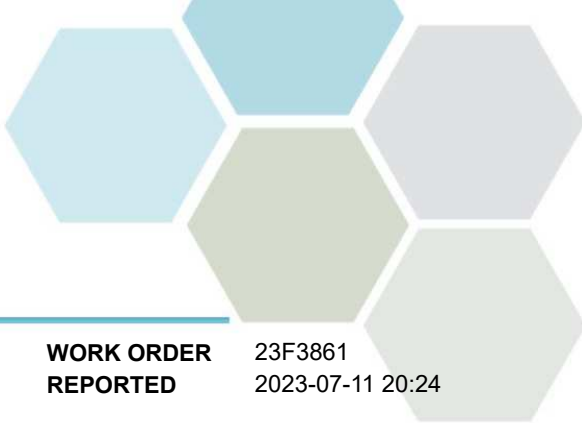
REPORTED TO PROJECT Lake Country, District of (Wastewater)
Lake Country WWTP

WORK ORDER REPORTED 23F3861
2023-07-11 20:24

| Analyte | Result | Guideline | RL Units | Analyzed | Qualifier |
|--|-------------|---------------|---------------|------------|-----------|
| Raw Influent (23F3861-01) Matrix: Water Sampled: 2023-06-28 09:55 | | | | | |
| Anions | | | | | |
| Nitrate (as N) | < 0.010 | MAC = 10 | 0.010 mg/L | 2023-06-29 | |
| Nitrite (as N) | < 0.010 | MAC = 1 | 0.010 mg/L | 2023-06-29 | |
| Phosphate (as P) | 5.66 | N/A | 0.0050 mg/L | 2023-06-29 | |
| Calculated Parameters | | | | | |
| Nitrate+Nitrite (as N) | < 0.0100 | N/A | 0.0100 mg/L | N/A | |
| Nitrogen, Total | 91.9 | N/A | 2.00 mg/L | N/A | |
| General Parameters | | | | | |
| Alkalinity, Total (as CaCO3) | 455 | N/A | 1.0 mg/L | 2023-06-30 | |
| Alkalinity, Phenolphthalein (as CaCO3) | < 1.0 | N/A | 1.0 mg/L | 2023-06-30 | |
| Alkalinity, Bicarbonate (as CaCO3) | 455 | N/A | 1.0 mg/L | 2023-06-30 | |
| Alkalinity, Carbonate (as CaCO3) | < 1.0 | N/A | 1.0 mg/L | 2023-06-30 | |
| Alkalinity, Hydroxide (as CaCO3) | < 1.0 | N/A | 1.0 mg/L | 2023-06-30 | |
| Ammonia, Total (as N) | 69.6 | None Required | 0.050 mg/L | 2023-07-01 | |
| BOD, 5-day | 337 | N/A | 2.0 mg/L | 2023-07-05 | |
| BOD, 5-day Carbonaceous | 331 | N/A | 2.0 mg/L | 2023-07-05 | |
| Nitrogen, Total Kjeldahl | 91.9 | N/A | 0.050 mg/L | 2023-07-04 | |
| pH | 7.95 | 7.0-10.5 | 0.10 pH units | 2023-06-30 | HT2 |
| Phosphorus, Total (as P) | 5.42 | N/A | 0.0050 mg/L | 2023-07-04 | |
| Solids, Total Suspended | 165 | N/A | 2.0 mg/L | 2023-06-29 | |

Final Effluent (23F3861-02) | Matrix: Water | Sampled: 2023-06-28 09:30

| | | | | | |
|--|--------------|---------------|---------------|------------|-----|
| Anions | | | | | |
| Chloride | 125 | AO ≤ 250 | 0.10 mg/L | 2023-06-29 | |
| Nitrate (as N) | 0.280 | MAC = 10 | 0.010 mg/L | 2023-06-29 | |
| Nitrite (as N) | 0.113 | MAC = 1 | 0.010 mg/L | 2023-06-29 | |
| Phosphate (as P) | 0.368 | N/A | 0.0050 mg/L | 2023-06-29 | |
| Calculated Parameters | | | | | |
| Nitrate+Nitrite (as N) | 0.393 | N/A | 0.0100 mg/L | N/A | |
| Nitrogen, Total | 2.10 | N/A | 0.0500 mg/L | N/A | |
| General Parameters | | | | | |
| Alkalinity, Total (as CaCO3) | 200 | N/A | 1.0 mg/L | 2023-06-30 | |
| Alkalinity, Phenolphthalein (as CaCO3) | < 1.0 | N/A | 1.0 mg/L | 2023-06-30 | |
| Alkalinity, Bicarbonate (as CaCO3) | 200 | N/A | 1.0 mg/L | 2023-06-30 | |
| Alkalinity, Carbonate (as CaCO3) | < 1.0 | N/A | 1.0 mg/L | 2023-06-30 | |
| Alkalinity, Hydroxide (as CaCO3) | < 1.0 | N/A | 1.0 mg/L | 2023-06-30 | |
| Ammonia, Total (as N) | 0.240 | None Required | 0.050 mg/L | 2023-07-01 | |
| BOD, 5-day Carbonaceous | < 4.9 | N/A | 2.0 mg/L | 2023-07-05 | |
| Nitrogen, Total Kjeldahl | 1.70 | N/A | 0.050 mg/L | 2023-07-04 | |
| pH | 7.90 | 7.0-10.5 | 0.10 pH units | 2023-06-30 | HT2 |



TEST RESULTS

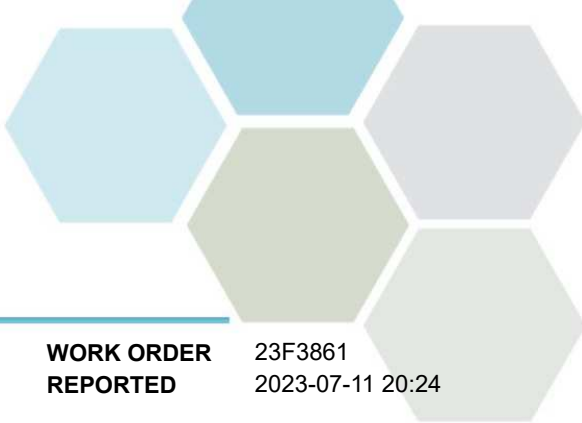
REPORTED TO PROJECT Lake Country, District of (Wastewater)
Lake Country WWTP

WORK ORDER REPORTED 23F3861
2023-07-11 20:24

| Analyte | Result | Guideline | RL Units | Analyzed | Qualifier |
|---|--------|-----------|--------------|------------|-----------|
| Final Effluent (23F3861-02) Matrix: Water Sampled: 2023-06-28 09:30, Continued | | | | | |
| <i>General Parameters, Continued</i> | | | | | |
| Phosphorus, Total (as P) | 0.731 | N/A | 0.0050 mg/L | 2023-07-04 | |
| Solids, Total Suspended | < 2.0 | N/A | 2.0 mg/L | 2023-06-29 | |
| <i>Microbiological Parameters</i> | | | | | |
| Coliforms, Total (Q-Tray) | > 2420 | MAC = 0 | 1 MPN/100 mL | 2023-06-29 | |
| Coliforms, Fecal (Q-Tray) | > 2420 | N/A | 1 MPN/100 mL | 2023-06-29 | |

Biosolids (23F3861-03) | Matrix: Soil | Sampled: 2023-06-28 10:05

| | | | | | |
|-------------------------------------|--------|-----|-----------------|------------|--|
| <i>General Parameters</i> | | | | | |
| Moisture | 72.8 | N/A | 1.0 % wet | 2023-07-05 | |
| <i>Strong Acid Leachable Metals</i> | | | | | |
| Aluminum | 1780 | N/A | 40 mg/kg dry | 2023-07-06 | |
| Antimony | 1.01 | N/A | 0.10 mg/kg dry | 2023-07-06 | |
| Arsenic | 2.15 | N/A | 0.30 mg/kg dry | 2023-07-06 | |
| Barium | 74.2 | N/A | 1.0 mg/kg dry | 2023-07-06 | |
| Beryllium | < 0.10 | N/A | 0.10 mg/kg dry | 2023-07-06 | |
| Bismuth | 16.5 | N/A | 0.10 mg/kg dry | 2023-07-06 | |
| Boron | 9.9 | N/A | 2.0 mg/kg dry | 2023-07-06 | |
| Cadmium | 0.668 | N/A | 0.040 mg/kg dry | 2023-07-06 | |
| Calcium | 8740 | N/A | 100 mg/kg dry | 2023-07-06 | |
| Chromium | 9.5 | N/A | 1.0 mg/kg dry | 2023-07-06 | |
| Cobalt | 1.03 | N/A | 0.10 mg/kg dry | 2023-07-06 | |
| Copper | 245 | N/A | 0.40 mg/kg dry | 2023-07-06 | |
| Iron | 3670 | N/A | 20.0 mg/kg dry | 2023-07-06 | |
| Lead | 6.08 | N/A | 0.20 mg/kg dry | 2023-07-06 | |
| Lithium | 0.83 | N/A | 0.10 mg/kg dry | 2023-07-06 | |
| Magnesium | 2860 | N/A | 10 mg/kg dry | 2023-07-06 | |
| Manganese | 75.8 | N/A | 0.40 mg/kg dry | 2023-07-06 | |
| Mercury | 0.290 | N/A | 0.040 mg/kg dry | 2023-07-06 | |
| Molybdenum | 7.07 | N/A | 0.10 mg/kg dry | 2023-07-06 | |
| Nickel | 7.49 | N/A | 0.60 mg/kg dry | 2023-07-06 | |
| Phosphorus | 10200 | N/A | 10 mg/kg dry | 2023-07-06 | |
| Potassium | 2610 | N/A | 40 mg/kg dry | 2023-07-06 | |
| Selenium | 2.74 | N/A | 0.20 mg/kg dry | 2023-07-06 | |
| Silver | 1.30 | N/A | 0.10 mg/kg dry | 2023-07-06 | |
| Sodium | 428 | N/A | 50 mg/kg dry | 2023-07-06 | |
| Strontium | 41.3 | N/A | 0.20 mg/kg dry | 2023-07-06 | |
| Sulfur | 5400 | N/A | 1000 mg/kg dry | 2023-07-06 | |
| Tellurium | < 0.10 | N/A | 0.10 mg/kg dry | 2023-07-06 | |
| Thallium | < 0.10 | N/A | 0.10 mg/kg dry | 2023-07-06 | |
| Thorium | < 0.50 | N/A | 0.50 mg/kg dry | 2023-07-06 | |



TEST RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater)
Lake Country WWTP

WORK ORDER REPORTED 23F3861
2023-07-11 20:24

| Analyte | Result | Guideline | RL Units | Analyzed | Qualifier |
|---------|--------|-----------|----------|----------|-----------|
|---------|--------|-----------|----------|----------|-----------|

Biosolids (23F3861-03) | Matrix: Soil | Sampled: 2023-06-28 10:05, Continued

Strong Acid Leachable Metals, Continued

| | | | | | |
|-----------|------|-----|-----------------|------------|--|
| Tin | 11.2 | N/A | 0.20 mg/kg dry | 2023-07-06 | |
| Titanium | 52.9 | N/A | 1.0 mg/kg dry | 2023-07-06 | |
| Tungsten | 0.49 | N/A | 0.20 mg/kg dry | 2023-07-06 | |
| Uranium | 5.97 | N/A | 0.050 mg/kg dry | 2023-07-06 | |
| Vanadium | 4.2 | N/A | 1.0 mg/kg dry | 2023-07-06 | |
| Zinc | 455 | N/A | 2.0 mg/kg dry | 2023-07-06 | |
| Zirconium | 3.1 | N/A | 2.0 mg/kg dry | 2023-07-06 | |

Amry (23F3861-04) | Matrix: Water | Sampled: 2023-06-28 09:37

General Parameters

| | | | | | |
|-------------------------|------|-----|----------|------------|--|
| BOD, 5-day Carbonaceous | 7.5 | N/A | 2.0 mg/L | 2023-07-05 | |
| Solids, Total Suspended | 28.9 | N/A | 2.0 mg/L | 2023-06-29 | |

Field Blank (23F3861-05) | Matrix: Water | Sampled: 2023-06-28 09:45

Anions

| | | | | | |
|------------------|----------|----------|-------------|------------|--|
| Chloride | < 0.10 | AO ≤ 250 | 0.10 mg/L | 2023-06-29 | |
| Nitrate (as N) | < 0.010 | MAC = 10 | 0.010 mg/L | 2023-06-29 | |
| Nitrite (as N) | < 0.010 | MAC = 1 | 0.010 mg/L | 2023-06-29 | |
| Phosphate (as P) | < 0.0050 | N/A | 0.0050 mg/L | 2023-06-29 | |

Calculated Parameters

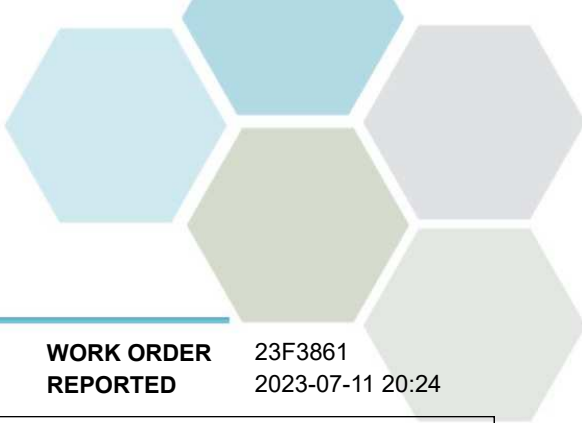
| | | | | | |
|------------------------|----------|-----|-------------|-----|--|
| Nitrate+Nitrite (as N) | < 0.0100 | N/A | 0.0100 mg/L | N/A | |
| Nitrogen, Total | < 0.0500 | N/A | 0.0500 mg/L | N/A | |

General Parameters

| | | | | | |
|--|----------|---------------|---------------|------------|-----|
| Alkalinity, Total (as CaCO3) | < 1.0 | N/A | 1.0 mg/L | 2023-06-30 | |
| Alkalinity, Phenolphthalein (as CaCO3) | < 1.0 | N/A | 1.0 mg/L | 2023-06-30 | |
| Alkalinity, Bicarbonate (as CaCO3) | < 1.0 | N/A | 1.0 mg/L | 2023-06-30 | |
| Alkalinity, Carbonate (as CaCO3) | < 1.0 | N/A | 1.0 mg/L | 2023-06-30 | |
| Alkalinity, Hydroxide (as CaCO3) | < 1.0 | N/A | 1.0 mg/L | 2023-06-30 | |
| Ammonia, Total (as N) | < 0.050 | None Required | 0.050 mg/L | 2023-07-01 | |
| BOD, 5-day Carbonaceous | < 4.9 | N/A | 2.0 mg/L | 2023-07-05 | |
| Chemical Oxygen Demand | < 20 | N/A | 20 mg/L | 2023-06-30 | |
| Nitrogen, Total Kjeldahl | < 0.050 | N/A | 0.050 mg/L | 2023-07-04 | |
| pH | 5.37 | 7.0-10.5 | 0.10 pH units | 2023-06-30 | HT2 |
| Phosphorus, Total (as P) | < 0.0050 | N/A | 0.0050 mg/L | 2023-07-04 | |
| Solids, Total Suspended | < 2.0 | N/A | 2.0 mg/L | 2023-06-29 | |

Microbiological Parameters

| | | | | | |
|---------------------------|-----|---------|--------------|------------|--|
| Coliforms, Total (Q-Tray) | < 1 | MAC = 0 | 1 MPN/100 mL | 2023-06-29 | |
| Coliforms, Fecal (Q-Tray) | < 1 | N/A | 1 MPN/100 mL | 2023-06-29 | |



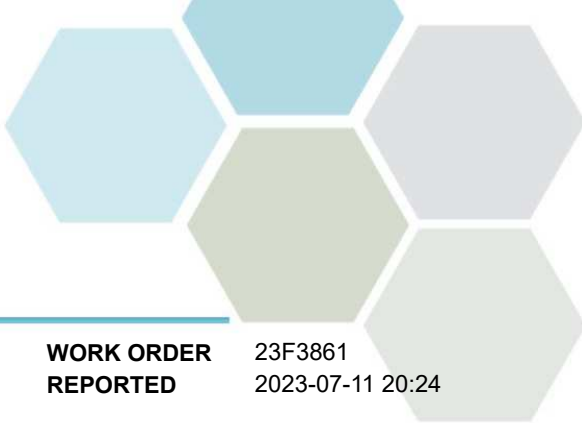
TEST RESULTS

REPORTED TO Lake Country, District of (Wastewater)
PROJECT Lake Country WWTP

WORK ORDER 23F3861
REPORTED 2023-07-11 20:24

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 Lake Country, District of (Wastewater)
Lake Country WWTP

WORK ORDER REPORTED 23F3861
2023-07-11 20:24

| Analysis Description | Method Ref. | Technique | Accredited | Location |
|--|---|--|------------|----------|
| Alkalinity in Water | SM 2320 B* (2021) | Titration with H2SO4 | ✓ | Kelowna |
| Ammonia, Total in Water | SM 4500-NH3 G* (2021) | Automated Colorimetry (Phenate) | ✓ | Kelowna |
| Anions in Water | SM 4110 B (2020) | Ion Chromatography | ✓ | Kelowna |
| Biochemical Oxygen Demand in Water | SM 5210 B (2019) | Dissolved Oxygen Meter | ✓ | Kelowna |
| Biochemical Oxygen Demand, Carbonaceous in Water | SM 5210 B (2019) | Dissolved Oxygen Meter | ✓ | Kelowna |
| Chemical Oxygen Demand in Water | SM 5220 D* (2022) | Closed Reflux, Colorimetry | ✓ | Kelowna |
| Coliforms, Fecal in Water | NA / SM 9223 (2016) | Quanti-Tray / Enzyme Substrate Endo Agar | ✓ | Kelowna |
| Coliforms, Total in Water | NA / SM 9223 (2016) | Quanti-Tray / Enzyme Substrate Endo Agar | ✓ | Kelowna |
| Moisture in Soil | ASTM D2974-87* | Gravimetry (Dried at 105C) | | N/A |
| Nitrogen, Total Kjeldahl in Water | SM 4500-Norg D* (2021) | Block Digestion and Flow Injection Analysis | ✓ | Kelowna |
| pH in Water | SM 4500-H+ B (2021) | Electrometry | ✓ | Kelowna |
| Phosphorus, Total in Water | SM 4500-P B.5* (2011) / SM 4500-P F (2021) | Persulfate Digestion / Automated Colorimetry (Ascorbic Acid) | ✓ | Kelowna |
| SALM in Soil | BCMOE SALM V.2 / EPA 6020B | HNO3+HCl Hot Block Digestion / Inductively Coupled Plasma-Mass Spectroscopy (ICP-MS) | ✓ | Richmond |
| Solids, Total Suspended in Water | Solids in Water, Filtered / SM 2540 D* (2020) | Solids in Water, Filtered / Gravimetry (Dried at 103-105C) | ✓ | Kelowna |

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

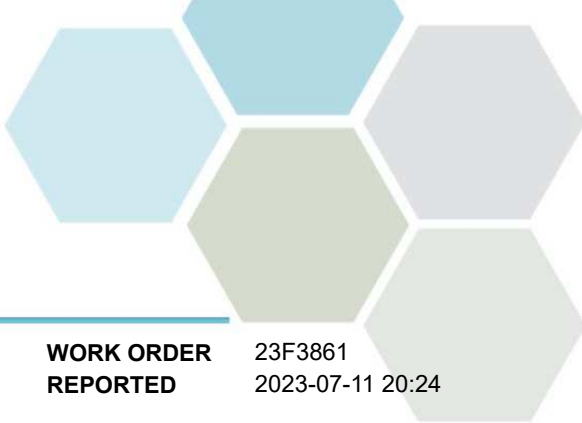
Glossary of Terms:

| | |
|------------|---|
| RL | Reporting Limit (default) |
| % wet | Percent (as received basis) |
| < | 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 |
| AO | Aesthetic Objective |
| MAC | Maximum Acceptable Concentration (health based) |
| mg/kg dry | Milligrams per kilogram (dry weight basis) |
| mg/L | Milligrams per litre |
| MPN/100 mL | Most Probable Number per 100 millilitres |
| pH units | pH < 7 = acidic, pH > 7 = basic |
| ASTM | ASTM International Test Methods |
| EPA | United States Environmental Protection Agency Test Methods |
| SM | Standard Methods for the Examination of Water and Wastewater, American Public Health Association |

Guidelines Referenced in this Report:

[Guidelines for Canadian Drinking Water Quality \(Health Canada, September 2022\)](#)

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



APPENDIX 1: SUPPORTING INFORMATION

REPORTED TO Lake Country, District of (Wastewater)
PROJECT Lake Country WWTP

WORK ORDER 23F3861
REPORTED 2023-07-11 20:24

General Comments:

The results in this report apply to the received 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. Caro will dispose of all samples within 30 days of sample receipt, unless otherwise agreed.

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

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 Lake Country, District of (Wastewater)
Lake Country WWTP

WORK ORDER REPORTED 23F3861
2023-07-11 20:24

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 B3F3345 | | | | | | | | | |
| Blank (B3F3345-BLK1) | | | Prepared: 2023-06-29, Analyzed: 2023-06-29 | | | | | | |
| 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 | | | | | | | |
| Phosphate (as P) | < 0.0050 | 0.0050 mg/L | | | | | | | |
| Blank (B3F3345-BLK2) | | | Prepared: 2023-06-29, Analyzed: 2023-06-29 | | | | | | |
| 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 | | | | | | | |
| Phosphate (as P) | < 0.0050 | 0.0050 mg/L | | | | | | | |
| LCS (B3F3345-BS1) | | | Prepared: 2023-06-29, Analyzed: 2023-06-29 | | | | | | |
| Chloride | 15.6 | 0.10 mg/L | 16.0 | | 98 | 90-110 | | | |
| Nitrate (as N) | 4.00 | 0.010 mg/L | 4.00 | | 100 | 90-110 | | | |
| Nitrite (as N) | 1.91 | 0.010 mg/L | 2.00 | | 95 | 85-115 | | | |
| Phosphate (as P) | 0.991 | 0.0050 mg/L | 1.00 | | 99 | 80-120 | | | |
| LCS (B3F3345-BS2) | | | Prepared: 2023-06-29, Analyzed: 2023-06-29 | | | | | | |
| Chloride | 15.7 | 0.10 mg/L | 16.0 | | 98 | 90-110 | | | |
| Nitrate (as N) | 4.00 | 0.010 mg/L | 4.00 | | 100 | 90-110 | | | |
| Nitrite (as N) | 1.93 | 0.010 mg/L | 2.00 | | 96 | 85-115 | | | |
| Phosphate (as P) | 1.01 | 0.0050 mg/L | 1.00 | | 101 | 80-120 | | | |
| General Parameters, Batch B3F3388 | | | | | | | | | |
| Blank (B3F3388-BLK1) | | | Prepared: 2023-06-29, Analyzed: 2023-06-29 | | | | | | |
| Solids, Total Suspended | < 2.0 | 2.0 mg/L | | | | | | | |
| LCS (B3F3388-BS1) | | | Prepared: 2023-06-29, Analyzed: 2023-06-29 | | | | | | |
| Solids, Total Suspended | 100 | 10.0 mg/L | 100 | | 100 | 85-115 | | | |
| General Parameters, Batch B3F3451 | | | | | | | | | |
| Blank (B3F3451-BLK1) | | | Prepared: 2023-06-30, Analyzed: 2023-07-05 | | | | | | |
| BOD, 5-day Carbonaceous | < 2.0 | 2.0 mg/L | | | | | | | |



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater)
Lake Country WWTP

WORK ORDER REPORTED 23F3861
2023-07-11 20:24

| Analyte | Result | RL Units | Spike Level | Source Result | % REC | REC Limit | % RPD | RPD Limit | Qualifier |
|---|---------|---------------|---|---------------|-------|-----------|-------|-----------|-----------|
| General Parameters, Batch B3F3451, Continued | | | | | | | | | |
| LCS (B3F3451-BS1) | | | Prepared: 2023-06-30, Analyzed: 2023-07-05 | | | | | | |
| BOD, 5-day Carbonaceous | 181 | 40.7 mg/L | 198 | | 91 | 85-115 | | | |
| Duplicate (B3F3451-DUP1) | | | Source: 23F3861-02 Prepared: 2023-06-30, Analyzed: 2023-07-05 | | | | | | |
| BOD, 5-day Carbonaceous | < 4.9 | 2.0 mg/L | | < 4.9 | | | | 20 | |
| General Parameters, Batch B3F3452 | | | | | | | | | |
| Blank (B3F3452-BLK1) | | | Prepared: 2023-06-30, Analyzed: 2023-07-05 | | | | | | |
| BOD, 5-day | < 2.0 | 2.0 mg/L | | | | | | | |
| LCS (B3F3452-BS1) | | | Prepared: 2023-06-30, Analyzed: 2023-07-05 | | | | | | |
| BOD, 5-day | 192 | 51.8 mg/L | 198 | | 97 | 85-115 | | | |
| General Parameters, Batch B3F3471 | | | | | | | | | |
| Blank (B3F3471-BLK1) | | | Prepared: 2023-06-30, Analyzed: 2023-06-30 | | | | | | |
| Chemical Oxygen Demand | < 20 | 20 mg/L | | | | | | | |
| LCS (B3F3471-BS1) | | | Prepared: 2023-06-30, Analyzed: 2023-06-30 | | | | | | |
| Chemical Oxygen Demand | 539 | 20 mg/L | 500 | | 108 | 89-115 | | | |
| General Parameters, Batch B3F3472 | | | | | | | | | |
| Blank (B3F3472-BLK1) | | | Prepared: 2023-06-30, Analyzed: 2023-06-30 | | | | | | |
| Alkalinity, Total (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Phenolphthalein (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Bicarbonate (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Carbonate (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Hydroxide (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| LCS (B3F3472-BS1) | | | Prepared: 2023-06-30, Analyzed: 2023-06-30 | | | | | | |
| Alkalinity, Total (as CaCO3) | 113 | 1.0 mg/L | 100 | | 113 | 80-120 | | | |
| Alkalinity, Phenolphthalein (as CaCO3) | 31.8 | 1.0 mg/L | 50.0 | | 64 | 0-200 | | | |
| Reference (B3F3472-SRM1) | | | Prepared: 2023-06-30, Analyzed: 2023-06-30 | | | | | | |
| pH | 7.03 | 0.10 pH units | 7.01 | | 100 | 98-102 | | | |
| General Parameters, Batch B3G0012 | | | | | | | | | |
| Blank (B3G0012-BLK1) | | | Prepared: 2023-07-01, Analyzed: 2023-07-01 | | | | | | |
| Ammonia, Total (as N) | < 0.050 | 0.050 mg/L | | | | | | | |
| Blank (B3G0012-BLK2) | | | Prepared: 2023-07-01, Analyzed: 2023-07-01 | | | | | | |
| Ammonia, Total (as N) | < 0.050 | 0.050 mg/L | | | | | | | |
| Blank (B3G0012-BLK3) | | | Prepared: 2023-07-01, Analyzed: 2023-07-01 | | | | | | |
| Ammonia, Total (as N) | < 0.050 | 0.050 mg/L | | | | | | | |
| LCS (B3G0012-BS1) | | | Prepared: 2023-07-01, Analyzed: 2023-07-01 | | | | | | |
| Ammonia, Total (as N) | 0.961 | 0.050 mg/L | 1.00 | | 96 | 85-115 | | | |
| LCS (B3G0012-BS2) | | | Prepared: 2023-07-01, Analyzed: 2023-07-01 | | | | | | |
| Ammonia, Total (as N) | 0.992 | 0.050 mg/L | 1.00 | | 99 | 85-115 | | | |
| LCS (B3G0012-BS3) | | | Prepared: 2023-07-01, Analyzed: 2023-07-01 | | | | | | |
| Ammonia, Total (as N) | 0.965 | 0.050 mg/L | 1.00 | | 96 | 85-115 | | | |



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater)
Lake Country WWTP

WORK ORDER REPORTED 23F3861
2023-07-11 20:24

| Analyte | Result | RL Units | Spike Level | Source Result | % REC | REC Limit | % RPD | RPD Limit | Qualifier |
|---------|--------|----------|-------------|---------------|-------|-----------|-------|-----------|-----------|
|---------|--------|----------|-------------|---------------|-------|-----------|-------|-----------|-----------|

General Parameters, Batch B3G0012, Continued

| | | | | | | | | | |
|-----------------------------------|-------|---------------------------|-------|--|-----|--------|--|--|----|
| Duplicate (B3G0012-DUP2) | | Source: 23F3861-02 | | Prepared: 2023-07-01, Analyzed: 2023-07-01 | | | | | |
| Ammonia, Total (as N) | 0.227 | 0.050 mg/L | | 0.240 | | | | | 15 |
| Matrix Spike (B3G0012-MS2) | | Source: 23F3861-02 | | Prepared: 2023-07-01, Analyzed: 2023-07-01 | | | | | |
| Ammonia, Total (as N) | 0.444 | 0.050 mg/L | 0.204 | 0.240 | 100 | 75-125 | | | |

General Parameters, Batch B3G0073

| | | | | | | | | | |
|-----------------------------|---------|--|------|--|-----|--------|--|--|--|
| Blank (B3G0073-BLK1) | | Prepared: 2023-07-03, Analyzed: 2023-07-04 | | | | | | | |
| Nitrogen, Total Kjeldahl | < 0.050 | 0.050 mg/L | | | | | | | |
| Blank (B3G0073-BLK2) | | Prepared: 2023-07-03, Analyzed: 2023-07-04 | | | | | | | |
| Nitrogen, Total Kjeldahl | < 0.050 | 0.050 mg/L | | | | | | | |
| LCS (B3G0073-BS1) | | Prepared: 2023-07-03, Analyzed: 2023-07-04 | | | | | | | |
| Nitrogen, Total Kjeldahl | 1.05 | 0.050 mg/L | 1.00 | | 105 | 85-115 | | | |
| LCS (B3G0073-BS2) | | Prepared: 2023-07-03, Analyzed: 2023-07-04 | | | | | | | |
| Nitrogen, Total Kjeldahl | 1.07 | 0.050 mg/L | 1.00 | | 107 | 85-115 | | | |

General Parameters, Batch B3G0088

| | | | | | | | | | |
|-----------------------------------|----------|--|-------|--|-----|--------|-----|----|--|
| Blank (B3G0088-BLK1) | | Prepared: 2023-07-04, Analyzed: 2023-07-04 | | | | | | | |
| Phosphorus, Total (as P) | < 0.0050 | 0.0050 mg/L | | | | | | | |
| LCS (B3G0088-BS1) | | Prepared: 2023-07-04, Analyzed: 2023-07-04 | | | | | | | |
| Phosphorus, Total (as P) | 0.105 | 0.0050 mg/L | 0.100 | | 105 | 85-115 | | | |
| Duplicate (B3G0088-DUP1) | | Source: 23F3861-02 | | Prepared: 2023-07-04, Analyzed: 2023-07-04 | | | | | |
| Phosphorus, Total (as P) | 0.736 | 0.0050 mg/L | | 0.731 | | | < 1 | 15 | |
| Matrix Spike (B3G0088-MS1) | | Source: 23F3861-02 | | Prepared: 2023-07-04, Analyzed: 2023-07-04 | | | | | |
| Phosphorus, Total (as P) | 0.823 | 0.0100 mg/L | 0.102 | 0.731 | 90 | 70-125 | | | |

Microbiological Parameters, Batch B3F3334

| | | | | | | | | | |
|-----------------------------|-----|--|--|--|--|--|--|--|--|
| Blank (B3F3334-BLK1) | | Prepared: 2023-06-29, Analyzed: 2023-06-29 | | | | | | | |
| Coliforms, Total (Q-Tray) | < 1 | 1 MPN/100 mL | | | | | | | |
| Blank (B3F3334-BLK2) | | Prepared: 2023-06-29, Analyzed: 2023-06-29 | | | | | | | |
| Coliforms, Fecal (Q-Tray) | < 1 | 1 MPN/100 mL | | | | | | | |
| Blank (B3F3334-BLK3) | | Prepared: 2023-06-29, Analyzed: 2023-06-29 | | | | | | | |
| Coliforms, Total (Q-Tray) | < 1 | 1 MPN/100 mL | | | | | | | |
| Blank (B3F3334-BLK4) | | Prepared: 2023-06-29, Analyzed: 2023-06-29 | | | | | | | |
| Coliforms, Fecal (Q-Tray) | < 1 | 1 MPN/100 mL | | | | | | | |

Strong Acid Leachable Metals, Batch B3G0441

| | | | | | | | | | |
|-----------------------------|--------|--|--|--|--|--|--|--|--|
| Blank (B3G0441-BLK1) | | Prepared: 2023-07-06, Analyzed: 2023-07-06 | | | | | | | |
| Aluminum | < 40 | 40 mg/kg dry | | | | | | | |
| Antimony | < 0.10 | 0.10 mg/kg dry | | | | | | | |
| Arsenic | < 0.30 | 0.30 mg/kg dry | | | | | | | |
| Barium | < 1.0 | 1.0 mg/kg dry | | | | | | | |
| Beryllium | < 0.10 | 0.10 mg/kg dry | | | | | | | |
| Bismuth | < 0.10 | 0.10 mg/kg dry | | | | | | | |



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater)
Lake Country WWTP

WORK ORDER REPORTED 23F3861
2023-07-11 20:24

| Analyte | Result | RL Units | Spike Level | Source Result | % REC | REC Limit | % RPD | RPD Limit | Qualifier |
|---------|--------|----------|-------------|---------------|-------|-----------|-------|-----------|-----------|
|---------|--------|----------|-------------|---------------|-------|-----------|-------|-----------|-----------|

Strong Acid Leachable Metals, Batch B3G0441, Continued

Blank (B3G0441-BLK1), Continued

Prepared: 2023-07-06, Analyzed: 2023-07-06

| | | | | | | | | | |
|------------|---------|-----------------|--|--|--|--|--|--|--|
| Boron | < 2.0 | 2.0 mg/kg dry | | | | | | | |
| Cadmium | < 0.040 | 0.040 mg/kg dry | | | | | | | |
| Calcium | < 100 | 100 mg/kg dry | | | | | | | |
| Chromium | < 1.0 | 1.0 mg/kg dry | | | | | | | |
| Cobalt | < 0.10 | 0.10 mg/kg dry | | | | | | | |
| Copper | < 0.40 | 0.40 mg/kg dry | | | | | | | |
| Iron | < 20.0 | 20.0 mg/kg dry | | | | | | | |
| Lead | < 0.20 | 0.20 mg/kg dry | | | | | | | |
| Lithium | < 0.10 | 0.10 mg/kg dry | | | | | | | |
| Magnesium | < 10 | 10 mg/kg dry | | | | | | | |
| Manganese | < 0.40 | 0.40 mg/kg dry | | | | | | | |
| Mercury | < 0.040 | 0.040 mg/kg dry | | | | | | | |
| Molybdenum | < 0.10 | 0.10 mg/kg dry | | | | | | | |
| Nickel | < 0.60 | 0.60 mg/kg dry | | | | | | | |
| Phosphorus | < 10 | 10 mg/kg dry | | | | | | | |
| Potassium | < 40 | 40 mg/kg dry | | | | | | | |
| Selenium | < 0.20 | 0.20 mg/kg dry | | | | | | | |
| Silver | < 0.10 | 0.10 mg/kg dry | | | | | | | |
| Sodium | < 50 | 50 mg/kg dry | | | | | | | |
| Strontium | < 0.20 | 0.20 mg/kg dry | | | | | | | |
| Sulfur | < 1000 | 1000 mg/kg dry | | | | | | | |
| Tellurium | < 0.10 | 0.10 mg/kg dry | | | | | | | |
| Thallium | < 0.10 | 0.10 mg/kg dry | | | | | | | |
| Thorium | < 0.50 | 0.50 mg/kg dry | | | | | | | |
| Tin | < 0.20 | 0.20 mg/kg dry | | | | | | | |
| Titanium | < 1.0 | 1.0 mg/kg dry | | | | | | | |
| Tungsten | < 0.20 | 0.20 mg/kg dry | | | | | | | |
| Uranium | < 0.050 | 0.050 mg/kg dry | | | | | | | |
| Vanadium | < 1.0 | 1.0 mg/kg dry | | | | | | | |
| Zinc | < 2.0 | 2.0 mg/kg dry | | | | | | | |
| Zirconium | < 2.0 | 2.0 mg/kg dry | | | | | | | |

LCS (B3G0441-BS1)

Prepared: 2023-07-06, Analyzed: 2023-07-06

| | | | | | | | | | |
|------------|-------|-----------------|-------|--|-----|--------|--|--|--|
| Aluminum | 189 | 40 mg/kg dry | 200 | | 95 | 80-120 | | | |
| Antimony | 1.93 | 0.10 mg/kg dry | 2.00 | | 96 | 80-120 | | | |
| Arsenic | 19.1 | 0.30 mg/kg dry | 20.0 | | 96 | 80-120 | | | |
| Barium | 1.9 | 1.0 mg/kg dry | 2.00 | | 97 | 80-120 | | | |
| Beryllium | 1.92 | 0.10 mg/kg dry | 2.00 | | 96 | 80-120 | | | |
| Bismuth | 1.93 | 0.10 mg/kg dry | 2.00 | | 96 | 80-120 | | | |
| Boron | 21.3 | 2.0 mg/kg dry | 20.0 | | 107 | 80-120 | | | |
| Cadmium | 1.93 | 0.040 mg/kg dry | 2.00 | | 97 | 80-120 | | | |
| Calcium | 194 | 100 mg/kg dry | 200 | | 97 | 80-120 | | | |
| Chromium | 2.0 | 1.0 mg/kg dry | 2.00 | | 98 | 80-120 | | | |
| Cobalt | 1.95 | 0.10 mg/kg dry | 2.00 | | 98 | 80-120 | | | |
| Copper | 1.96 | 0.40 mg/kg dry | 2.00 | | 98 | 80-120 | | | |
| Iron | 197 | 20.0 mg/kg dry | 200 | | 99 | 80-120 | | | |
| Lead | 1.95 | 0.20 mg/kg dry | 2.00 | | 97 | 80-120 | | | |
| Lithium | 1.88 | 0.10 mg/kg dry | 2.00 | | 94 | 80-120 | | | |
| Magnesium | 193 | 10 mg/kg dry | 200 | | 96 | 80-120 | | | |
| Manganese | 1.94 | 0.40 mg/kg dry | 2.00 | | 97 | 80-120 | | | |
| Mercury | 0.202 | 0.040 mg/kg dry | 0.200 | | 101 | 80-120 | | | |
| Molybdenum | 1.93 | 0.10 mg/kg dry | 2.00 | | 97 | 80-120 | | | |
| Nickel | 1.92 | 0.60 mg/kg dry | 2.00 | | 96 | 80-120 | | | |
| Phosphorus | 185 | 10 mg/kg dry | 200 | | 93 | 80-120 | | | |
| Potassium | 192 | 40 mg/kg dry | 200 | | 96 | 80-120 | | | |
| Selenium | 19.7 | 0.20 mg/kg dry | 20.0 | | 98 | 80-120 | | | |



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater)
Lake Country WWTP

WORK ORDER REPORTED 23F3861
2023-07-11 20:24

| Analyte | Result | RL Units | Spike Level | Source Result | % REC | REC Limit | % RPD | RPD Limit | Qualifier |
|---------|--------|----------|-------------|---------------|-------|-----------|-------|-----------|-----------|
|---------|--------|----------|-------------|---------------|-------|-----------|-------|-----------|-----------|

Strong Acid Leachable Metals, Batch B3G0441, Continued

| LCS (B3G0441-BS1), Continued | | | | Prepared: 2023-07-06, Analyzed: 2023-07-06 | | | | | |
|-------------------------------------|------|-----------------|------|--|-----|--------|--|--|--|
| Silver | 1.80 | 0.10 mg/kg dry | 2.00 | | 90 | 80-120 | | | |
| Sodium | 196 | 50 mg/kg dry | 200 | | 98 | 80-120 | | | |
| Strontium | 1.94 | 0.20 mg/kg dry | 2.00 | | 97 | 80-120 | | | |
| Sulfur | 2010 | 1000 mg/kg dry | 2000 | | 101 | 80-120 | | | |
| Tellurium | 1.87 | 0.10 mg/kg dry | 2.00 | | 94 | 80-120 | | | |
| Thallium | 1.94 | 0.10 mg/kg dry | 2.00 | | 97 | 80-120 | | | |
| Thorium | 1.95 | 0.50 mg/kg dry | 2.00 | | 97 | 80-120 | | | |
| Tin | 1.96 | 0.20 mg/kg dry | 2.00 | | 98 | 80-120 | | | |
| Titanium | 1.9 | 1.0 mg/kg dry | 2.00 | | 97 | 80-120 | | | |
| Tungsten | 2.04 | 0.20 mg/kg dry | 2.00 | | 102 | 80-120 | | | |
| Uranium | 1.99 | 0.050 mg/kg dry | 2.00 | | 99 | 80-120 | | | |
| Vanadium | 1.9 | 1.0 mg/kg dry | 2.00 | | 94 | 80-120 | | | |
| Zinc | 18.8 | 2.0 mg/kg dry | 20.0 | | 94 | 80-120 | | | |
| Zirconium | 2.0 | 2.0 mg/kg dry | 2.00 | | 101 | 80-120 | | | |

| Reference (B3G0441-SRM1) | | | | Prepared: 2023-07-06, Analyzed: 2023-07-06 | | | | | |
|---------------------------------|--------|-----------------|--------|--|----|--------|--|--|--|
| Aluminum | 10100 | 40 mg/kg dry | 12100 | | 84 | 70-130 | | | |
| Antimony | 0.56 | 0.10 mg/kg dry | 0.634 | | 89 | 70-130 | | | |
| Arsenic | 74.4 | 0.30 mg/kg dry | 83.6 | | 89 | 70-130 | | | |
| Barium | 35.9 | 1.0 mg/kg dry | 41.4 | | 87 | 70-130 | | | |
| Beryllium | 0.32 | 0.10 mg/kg dry | 0.377 | | 84 | 70-130 | | | |
| Bismuth | 0.25 | 0.10 mg/kg dry | 0.291 | | 86 | 70-130 | | | |
| Calcium | 4370 | 100 mg/kg dry | 5380 | | 81 | 70-130 | | | |
| Chromium | 56.5 | 1.0 mg/kg dry | 66.0 | | 86 | 70-130 | | | |
| Cobalt | 9.32 | 0.10 mg/kg dry | 10.8 | | 86 | 70-130 | | | |
| Copper | 18.2 | 0.40 mg/kg dry | 20.3 | | 90 | 70-130 | | | |
| Iron | 17800 | 20.0 mg/kg dry | 20400 | | 87 | 70-130 | | | |
| Lead | 14.9 | 0.20 mg/kg dry | 16.7 | | 89 | 70-130 | | | |
| Lithium | 15.1 | 0.10 mg/kg dry | 16.8 | | 90 | 70-130 | | | |
| Magnesium | 5330 | 10 mg/kg dry | 6170 | | 86 | 70-130 | | | |
| Manganese | 275 | 0.40 mg/kg dry | 319 | | 86 | 70-130 | | | |
| Mercury | 0.102 | 0.040 mg/kg dry | 0.114 | | 89 | 70-130 | | | |
| Molybdenum | 0.54 | 0.10 mg/kg dry | 0.607 | | 89 | 70-130 | | | |
| Nickel | 27.5 | 0.60 mg/kg dry | 32.5 | | 85 | 70-130 | | | |
| Phosphorus | 379 | 10 mg/kg dry | 432 | | 88 | 70-130 | | | |
| Silver | 1.36 | 0.10 mg/kg dry | 1.55 | | 88 | 70-130 | | | |
| Strontium | 16.0 | 0.20 mg/kg dry | 22.5 | | 71 | 70-130 | | | |
| Thallium | < 0.10 | 0.10 mg/kg dry | 0.0765 | | 79 | 70-130 | | | |
| Thorium | 2.22 | 0.50 mg/kg dry | 2.96 | | 75 | 70-130 | | | |
| Titanium | 524 | 1.0 mg/kg dry | 730 | | 72 | 70-130 | | | |
| Uranium | 0.993 | 0.050 mg/kg dry | 1.15 | | 86 | 70-130 | | | |
| Vanadium | 29.3 | 1.0 mg/kg dry | 36.3 | | 81 | 70-130 | | | |
| Zinc | 34.7 | 2.0 mg/kg dry | 39.7 | | 87 | 70-130 | | | |



CERTIFICATE OF ANALYSIS

| | | | |
|---------------------|---|---------------------------------|---|
| REPORTED TO | Lake Country, District of (Wastewater) 4062 Beaver Lake Rd LAKE COUNTRY, BC V4V 1T5 | WORK ORDER | 23G2313 |
| ATTENTION | Davin Larsen | RECEIVED / TEMP REPORTED | 2023-07-18 12:17 / 14.6°C 2023-07-25 15:43 |
| PO NUMBER | | COC NUMBER | 45125.34547 |
| PROJECT | BioSolids- PE14651 | | |
| PROJECT INFO | Lake Country WWTP | | |

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Big Picture Sidekicks



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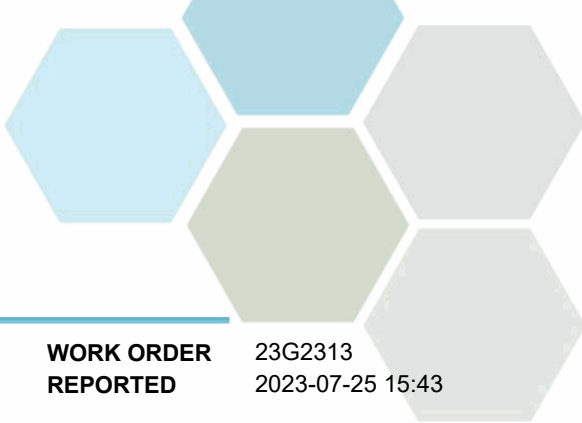
If you have any questions or concerns, please contact me at bwhitehead@caro.ca

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 Lake Country, District of (Wastewater)
BioSolids- PE14651

WORK ORDER REPORTED 23G2313
2023-07-25 15:43

| Analyte | Result | RL | Units | Analyzed | Qualifier |
|---------|--------|----|-------|----------|-----------|
|---------|--------|----|-------|----------|-----------|

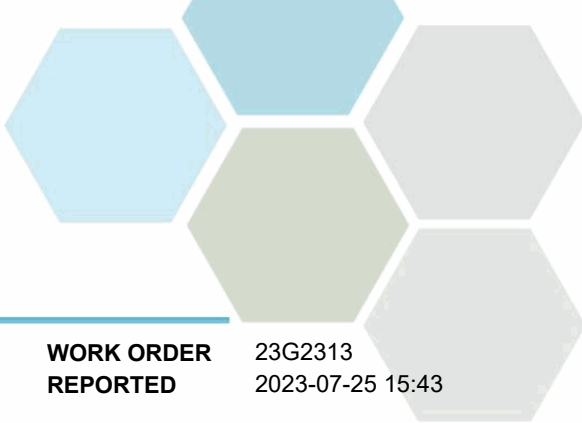
Biosolids (E233628) (23G2313-01) | Matrix: Sludge | Sampled: 2023-07-18 09:30

General Parameters

| | | | | | |
|--------------------------|------|--------|----------|------------|--|
| Moisture | 78.8 | 1.0 | % wet | 2023-07-22 | |
| Nitrogen, Total Kjeldahl | 4.29 | 0.0004 | % dry | 2023-07-21 | |
| pH (1:2 H2O Solution) | 5.48 | 0.10 | pH units | 2023-07-25 | |
| Solids, Total | 21.2 | 0.1 | % wet | 2023-07-22 | |
| Solids, Volatile | 85.2 | 0.1 | % dry | 2023-07-22 | |

Strong Acid Leachable Metals

| | | | | | |
|------------|--------|-------|-----------|------------|--|
| Aluminum | 1560 | 40 | mg/kg dry | 2023-07-24 | |
| Antimony | 0.99 | 0.10 | mg/kg dry | 2023-07-24 | |
| Arsenic | 1.37 | 0.30 | mg/kg dry | 2023-07-24 | |
| Barium | 63.3 | 1.0 | mg/kg dry | 2023-07-24 | |
| Beryllium | < 0.10 | 0.10 | mg/kg dry | 2023-07-24 | |
| Bismuth | 22.0 | 0.10 | mg/kg dry | 2023-07-24 | |
| Boron | 11.5 | 2.0 | mg/kg dry | 2023-07-24 | |
| Cadmium | 0.651 | 0.040 | mg/kg dry | 2023-07-24 | |
| Calcium | 8970 | 100 | mg/kg dry | 2023-07-24 | |
| Chromium | 10.6 | 1.0 | mg/kg dry | 2023-07-24 | |
| Cobalt | 2.84 | 0.10 | mg/kg dry | 2023-07-24 | |
| Copper | 263 | 0.40 | mg/kg dry | 2023-07-24 | |
| Iron | 2550 | 20.0 | mg/kg dry | 2023-07-24 | |
| Lead | 7.22 | 0.20 | mg/kg dry | 2023-07-24 | |
| Lithium | 0.91 | 0.10 | mg/kg dry | 2023-07-24 | |
| Magnesium | 3130 | 10 | mg/kg dry | 2023-07-24 | |
| Manganese | 55.5 | 0.40 | mg/kg dry | 2023-07-24 | |
| Mercury | 0.410 | 0.040 | mg/kg dry | 2023-07-24 | |
| Molybdenum | 7.98 | 0.10 | mg/kg dry | 2023-07-24 | |
| Nickel | 8.21 | 0.60 | mg/kg dry | 2023-07-24 | |
| Phosphorus | 11200 | 10 | mg/kg dry | 2023-07-24 | |
| Potassium | 3000 | 40 | mg/kg dry | 2023-07-24 | |
| Selenium | 3.16 | 0.20 | mg/kg dry | 2023-07-24 | |
| Silver | 1.19 | 0.10 | mg/kg dry | 2023-07-24 | |
| Sodium | 454 | 50 | mg/kg dry | 2023-07-24 | |
| Strontium | 45.6 | 0.20 | mg/kg dry | 2023-07-24 | |
| Sulfur | 4510 | 1000 | mg/kg dry | 2023-07-24 | |
| Tellurium | < 0.10 | 0.10 | mg/kg dry | 2023-07-24 | |
| Thallium | < 0.10 | 0.10 | mg/kg dry | 2023-07-24 | |
| Thorium | < 0.50 | 0.50 | mg/kg dry | 2023-07-24 | |
| Tin | 12.0 | 0.20 | mg/kg dry | 2023-07-24 | |
| Titanium | 44.9 | 1.0 | mg/kg dry | 2023-07-24 | |
| Tungsten | 29.3 | 0.20 | mg/kg dry | 2023-07-24 | |
| Uranium | 6.60 | 0.050 | mg/kg dry | 2023-07-24 | |
| Vanadium | 4.7 | 1.0 | mg/kg dry | 2023-07-24 | |
| Zinc | 563 | 2.0 | mg/kg dry | 2023-07-24 | |

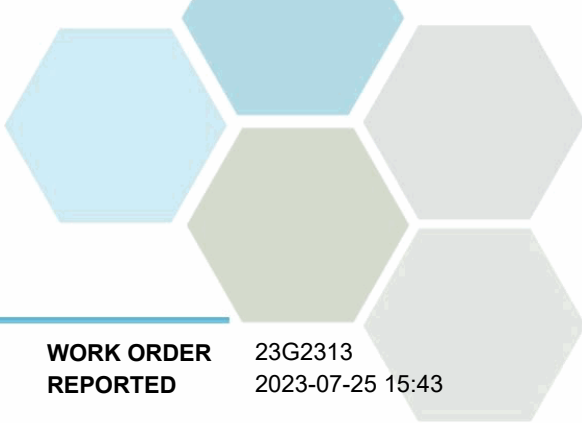


TEST RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater)
BioSolids- PE14651

WORK ORDER REPORTED 23G2313
2023-07-25 15:43

| Analyte | Result | RL | Units | Analyzed | Qualifier |
|---|--------|-----|-----------|------------|-----------|
| Biosolids (E233628) (23G2313-01) Matrix: Sludge Sampled: 2023-07-18 09:30, Continued | | | | | |
| <i>Strong Acid Leachable Metals, Continued</i> | | | | | |
| Zirconium | 2.3 | 2.0 | mg/kg dry | 2023-07-24 | |



APPENDIX 1: SUPPORTING INFORMATION

REPORTED TO PROJECT Lake Country, District of (Wastewater)
BioSolids- PE14651

WORK ORDER REPORTED 23G2313
2023-07-25 15:43

| Analysis Description | Method Ref. | Technique | Accredited | Location |
|-----------------------------------|-------------------------------------|---|------------|----------|
| Moisture in Solid | ASTM D2974-87* | Gravimetry (Dried at 105C) | | N/A |
| Nitrogen, Total Kjeldahl in Solid | SM 4500-Norg D* (2021) | Block Digestion and Flow Injection Analysis | ✓ | Kelowna |
| pH in Solid | Carter 16.2 / SM 4500-H+ B (2021) | 1:2 Soil/Water Slurry / Electrometry | | Kelowna |
| SALM in Solid | BCMOE SALM V.2 / EPA 6020B | HNO ₃ +HCl Hot Block Digestion / Inductively Coupled Plasma-Mass Spectroscopy (ICP-MS) | ✓ | Richmond |
| Solids, Total in Solid | Solids in Solids / SM 2540 G (2020) | Solids in Solids / Gravimetry | | Kelowna |
| Solids, Volatile in Solid | Solids in Solids / SM 2540 G (2020) | Solids in Solids / Gravimetry | | Kelowna |

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

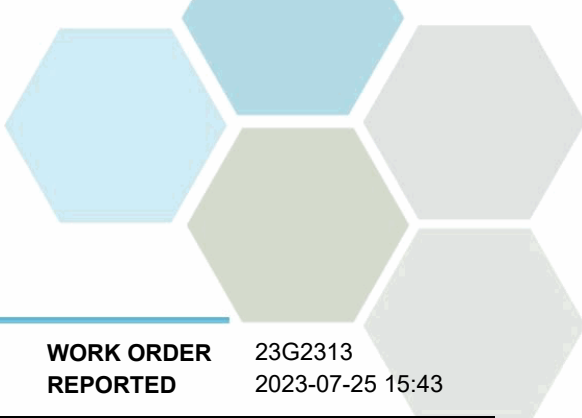
Glossary of Terms:

| | |
|-----------|---|
| RL | Reporting Limit (default) |
| % dry | Percent (dry weight basis) |
| % wet | Percent (as received basis) |
| < | Less than the specified Reporting Limit (RL) - the actual RL may be higher than the default RL due to various factors |
| mg/kg dry | Milligrams per kilogram (dry weight basis) |
| pH units | pH < 7 = acidic, pH > 7 = basic |
| ASTM | ASTM International Test Methods |
| EPA | United States Environmental Protection Agency Test Methods |
| SM | Standard Methods for the Examination of Water and Wastewater, American Public Health Association |

General Comments:

The results in this report apply to the received 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. Caro will dispose of all samples within 30 days of sample receipt, unless otherwise agreed.

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APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater)
BioSolids- PE14651

WORK ORDER REPORTED 23G2313
2023-07-25 15:43

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 |
|---------|--------|----------|-------------|---------------|-------|-----------|-------|-----------|-----------|
|---------|--------|----------|-------------|---------------|-------|-----------|-------|-----------|-----------|

General Parameters, Batch B3G2065

| Duplicate (B3G2065-DUP1) | | Source: 23G2313-01 | | Prepared: 2023-07-22, Analyzed: 2023-07-22 | | | | | |
|--------------------------|------|--|-------|--|-----|--------|------|-----|--|
| Moisture | 99.0 | 1.0 | % wet | 78.8 | | | 22.7 | 40 | |
| Solids, Total | 21.3 | 0.1 | % wet | 21.2 | | | < 1 | 7.5 | |
| Solids, Volatile | 85.3 | 0.1 | % dry | 85.2 | | | < 1 | 15 | |
| Reference (B3G2065-SRM1) | | Prepared: 2023-07-22, Analyzed: 2023-07-22 | | | | | | | |
| Moisture | 99.0 | 1.0 | % wet | 7.0 | 99 | 80-120 | | | |
| Solids, Total | 91.9 | 0.1 | % wet | 93.0 | 99 | 80-120 | | | |
| Solids, Volatile | 7.0 | 0.1 | % dry | 6.26 | 113 | 80-200 | | | |

General Parameters, Batch B3G2101

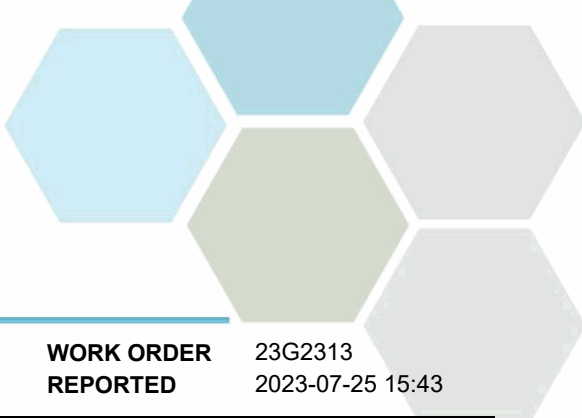
| Blank (B3G2101-BLK1) | | Prepared: 2023-07-20, Analyzed: 2023-07-21 | | | | | | | |
|--------------------------|---------|--|-------|--|-----|-------|---|----|--|
| Nitrogen, Total Kjeldahl | < 0.010 | 0.010 | % wet | | | | | | |
| Duplicate (B3G2101-DUP1) | | Source: 23G2313-01 | | Prepared: 2023-07-20, Analyzed: 2023-07-21 | | | | | |
| Nitrogen, Total Kjeldahl | 4.65 | 0.0004 | % dry | 4.29 | | | 8 | 25 | |
| Reference (B3G2101-SRM1) | | Prepared: 2023-07-20, Analyzed: 2023-07-21 | | | | | | | |
| Nitrogen, Total Kjeldahl | 0.217 | 0.010 | % wet | 0.197 | 110 | 0-200 | | | |

General Parameters, Batch B3G2386

| Duplicate (B3G2386-DUP1) | | Source: 23G2313-01 | | Prepared: 2023-07-23, Analyzed: 2023-07-25 | | | | | |
|--------------------------|------|--------------------|----------|--|--|--|-----|----|--|
| pH (1:2 H2O Solution) | 5.50 | 0.10 | pH units | 5.48 | | | < 1 | 10 | |

Strong Acid Leachable Metals, Batch B3G2361

| Blank (B3G2361-BLK1) | | Prepared: 2023-07-23, Analyzed: 2023-07-24 | | | | | | | |
|----------------------|--------|--|-----------|--|--|--|--|--|--|
| Aluminum | < 40 | 40 | mg/kg dry | | | | | | |
| Antimony | < 0.10 | 0.10 | mg/kg dry | | | | | | |
| Arsenic | < 0.30 | 0.30 | mg/kg dry | | | | | | |
| Barium | < 1.0 | 1.0 | mg/kg dry | | | | | | |
| Beryllium | < 0.10 | 0.10 | mg/kg dry | | | | | | |
| Bismuth | < 0.10 | 0.10 | mg/kg dry | | | | | | |
| Boron | < 2.0 | 2.0 | mg/kg dry | | | | | | |



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater)
BioSolids- PE14651

WORK ORDER REPORTED 23G2313
2023-07-25 15:43

| Analyte | Result | RL Units | Spike Level | Source Result | % REC | REC Limit | % RPD | RPD Limit | Qualifier |
|---------|--------|----------|-------------|---------------|-------|-----------|-------|-----------|-----------|
|---------|--------|----------|-------------|---------------|-------|-----------|-------|-----------|-----------|

Strong Acid Leachable Metals, Batch B3G2361, Continued

Blank (B3G2361-BLK1), Continued

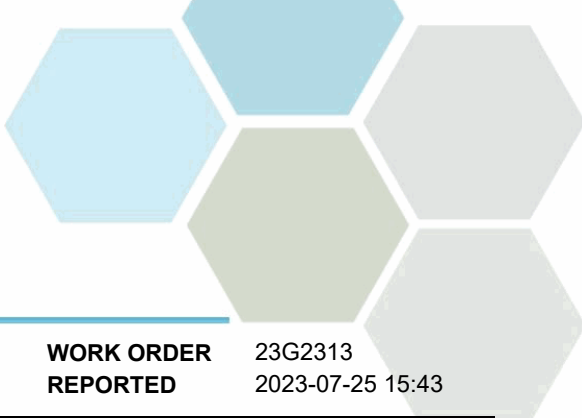
Prepared: 2023-07-23, Analyzed: 2023-07-24

| | | | | | | | | | |
|------------|---------|-----------------|--|--|--|--|--|--|-----|
| Cadmium | < 0.040 | 0.040 mg/kg dry | | | | | | | |
| Calcium | < 100 | 100 mg/kg dry | | | | | | | |
| Chromium | < 1.0 | 1.0 mg/kg dry | | | | | | | |
| Cobalt | < 0.10 | 0.10 mg/kg dry | | | | | | | |
| Copper | < 0.40 | 0.40 mg/kg dry | | | | | | | |
| Iron | < 20.0 | 20.0 mg/kg dry | | | | | | | |
| Lead | < 0.20 | 0.20 mg/kg dry | | | | | | | |
| Lithium | < 0.10 | 0.10 mg/kg dry | | | | | | | |
| Magnesium | < 10 | 10 mg/kg dry | | | | | | | |
| Manganese | 0.47 | 0.40 mg/kg dry | | | | | | | BLK |
| Mercury | < 0.040 | 0.040 mg/kg dry | | | | | | | |
| Molybdenum | < 0.10 | 0.10 mg/kg dry | | | | | | | |
| Nickel | < 0.60 | 0.60 mg/kg dry | | | | | | | |
| Phosphorus | < 10 | 10 mg/kg dry | | | | | | | |
| Potassium | < 40 | 40 mg/kg dry | | | | | | | |
| Selenium | < 0.20 | 0.20 mg/kg dry | | | | | | | |
| Silver | < 0.10 | 0.10 mg/kg dry | | | | | | | |
| Sodium | < 50 | 50 mg/kg dry | | | | | | | |
| Strontium | < 0.20 | 0.20 mg/kg dry | | | | | | | |
| Sulfur | < 1000 | 1000 mg/kg dry | | | | | | | |
| Tellurium | < 0.10 | 0.10 mg/kg dry | | | | | | | |
| Thallium | < 0.10 | 0.10 mg/kg dry | | | | | | | |
| Thorium | < 0.50 | 0.50 mg/kg dry | | | | | | | |
| Tin | < 0.20 | 0.20 mg/kg dry | | | | | | | |
| Titanium | < 1.0 | 1.0 mg/kg dry | | | | | | | |
| Tungsten | < 0.20 | 0.20 mg/kg dry | | | | | | | |
| Uranium | < 0.050 | 0.050 mg/kg dry | | | | | | | |
| Vanadium | < 1.0 | 1.0 mg/kg dry | | | | | | | |
| Zinc | < 2.0 | 2.0 mg/kg dry | | | | | | | |
| Zirconium | < 2.0 | 2.0 mg/kg dry | | | | | | | |

LCS (B3G2361-BS1)

Prepared: 2023-07-23, Analyzed: 2023-07-24

| | | | | | | | | | |
|------------|-------|-----------------|-------|--|----|--------|--|--|--|
| Aluminum | 186 | 40 mg/kg dry | 200 | | 93 | 80-120 | | | |
| Antimony | 1.84 | 0.10 mg/kg dry | 2.00 | | 92 | 80-120 | | | |
| Arsenic | 18.6 | 0.30 mg/kg dry | 20.0 | | 93 | 80-120 | | | |
| Barium | 1.9 | 1.0 mg/kg dry | 2.00 | | 93 | 80-120 | | | |
| Beryllium | 1.87 | 0.10 mg/kg dry | 2.00 | | 93 | 80-120 | | | |
| Bismuth | 1.82 | 0.10 mg/kg dry | 2.00 | | 91 | 80-120 | | | |
| Boron | 18.7 | 2.0 mg/kg dry | 20.0 | | 94 | 80-120 | | | |
| Cadmium | 1.83 | 0.040 mg/kg dry | 2.00 | | 92 | 80-120 | | | |
| Calcium | 189 | 100 mg/kg dry | 200 | | 94 | 80-120 | | | |
| Chromium | 1.9 | 1.0 mg/kg dry | 2.00 | | 94 | 80-120 | | | |
| Cobalt | 1.90 | 0.10 mg/kg dry | 2.00 | | 95 | 80-120 | | | |
| Copper | 1.88 | 0.40 mg/kg dry | 2.00 | | 94 | 80-120 | | | |
| Iron | 189 | 20.0 mg/kg dry | 200 | | 94 | 80-120 | | | |
| Lead | 1.85 | 0.20 mg/kg dry | 2.00 | | 92 | 80-120 | | | |
| Lithium | 1.87 | 0.10 mg/kg dry | 2.00 | | 93 | 80-120 | | | |
| Magnesium | 193 | 10 mg/kg dry | 200 | | 97 | 80-120 | | | |
| Manganese | 1.90 | 0.40 mg/kg dry | 2.00 | | 95 | 80-120 | | | |
| Mercury | 0.187 | 0.040 mg/kg dry | 0.200 | | 94 | 80-120 | | | |
| Molybdenum | 1.80 | 0.10 mg/kg dry | 2.00 | | 90 | 80-120 | | | |
| Nickel | 1.84 | 0.60 mg/kg dry | 2.00 | | 92 | 80-120 | | | |
| Phosphorus | 183 | 10 mg/kg dry | 200 | | 91 | 80-120 | | | |
| Potassium | 189 | 40 mg/kg dry | 200 | | 94 | 80-120 | | | |
| Selenium | 18.8 | 0.20 mg/kg dry | 20.0 | | 94 | 80-120 | | | |
| Silver | 1.85 | 0.10 mg/kg dry | 2.00 | | 92 | 80-120 | | | |



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater)
BioSolids- PE14651

WORK ORDER REPORTED 23G2313
2023-07-25 15:43

| Analyte | Result | RL Units | Spike Level | Source Result | % REC | REC Limit | % RPD | RPD Limit | Qualifier |
|---|--------|-----------------|-------------|---------------|--|-----------|-------|-----------|-----------|
| Strong Acid Leachable Metals, Batch B3G2361, Continued | | | | | | | | | |
| LCS (B3G2361-BS1), Continued | | | | | Prepared: 2023-07-23, Analyzed: 2023-07-24 | | | | |
| Sodium | 186 | 50 mg/kg dry | 200 | | 93 | 80-120 | | | |
| Strontium | 1.92 | 0.20 mg/kg dry | 2.00 | | 96 | 80-120 | | | |
| Sulfur | 1870 | 1000 mg/kg dry | 2000 | | 93 | 80-120 | | | |
| Tellurium | 1.80 | 0.10 mg/kg dry | 2.00 | | 90 | 80-120 | | | |
| Thallium | 1.82 | 0.10 mg/kg dry | 2.00 | | 91 | 80-120 | | | |
| Thorium | 1.89 | 0.50 mg/kg dry | 2.00 | | 94 | 80-120 | | | |
| Tin | 1.86 | 0.20 mg/kg dry | 2.00 | | 93 | 80-120 | | | |
| Titanium | 1.9 | 1.0 mg/kg dry | 2.00 | | 96 | 80-120 | | | |
| Tungsten | 1.90 | 0.20 mg/kg dry | 2.00 | | 95 | 80-120 | | | |
| Uranium | 1.95 | 0.050 mg/kg dry | 2.00 | | 97 | 80-120 | | | |
| Vanadium | 1.9 | 1.0 mg/kg dry | 2.00 | | 94 | 80-120 | | | |
| Zinc | 18.2 | 2.0 mg/kg dry | 20.0 | | 91 | 80-120 | | | |
| Zirconium | < 2.0 | 2.0 mg/kg dry | 2.00 | | 93 | 80-120 | | | |

QC Qualifiers:

BLK Analyte concentration in the Method Blank is above the Reporting Limit (RL).



CERTIFICATE OF ANALYSIS

| | | | |
|---------------------|---|---------------------------------|---|
| REPORTED TO | Lake Country, District of (Wastewater) 4062 Beaver Lake Rd LAKE COUNTRY, BC V4V 1T5 | WORK ORDER | 23G2304 |
| ATTENTION | Davin Larsen | RECEIVED / TEMP REPORTED | 2023-07-18 12:17 / 14.6°C 2023-07-25 13:23 |
| PO NUMBER | | COC NUMBER | 45125.34547 |
| PROJECT | Final Effluent- PE14651 | | |
| PROJECT INFO | Lake Country WWTP | | |

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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.

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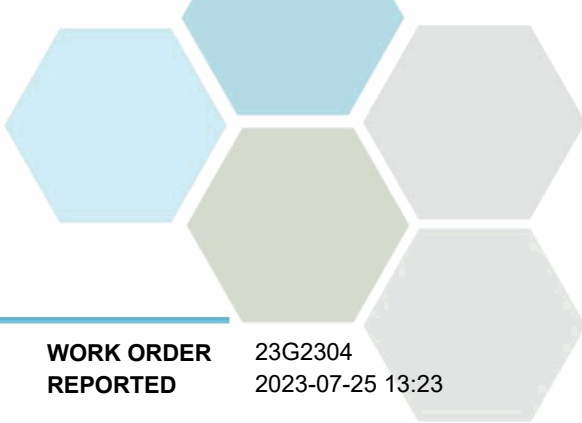
If you have any questions or concerns, please contact me at bwhitehead@caro.ca

Authorized By:

Brent Whitehead
Account Manager

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TEST RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater)
Final Effluent- PE14651

WORK ORDER REPORTED 23G2304
2023-07-25 13:23

| Analyte | Result | RL | Units | Analyzed | Qualifier |
|---------|--------|----|-------|----------|-----------|
|---------|--------|----|-------|----------|-----------|

Final Effluent (E233626) (23G2304-01) | Matrix: Wastewater | Sampled: 2023-07-18 09:56

Anions

| | | | | | |
|------------------|-------|--------|------|------------|--|
| Chloride | 119 | 0.10 | mg/L | 2023-07-20 | |
| Nitrate (as N) | 0.199 | 0.010 | mg/L | 2023-07-20 | |
| Nitrite (as N) | 0.155 | 0.010 | mg/L | 2023-07-20 | |
| Phosphate (as P) | 0.132 | 0.0050 | mg/L | 2023-07-20 | |

Calculated Parameters

| | | | | | |
|------------------------|-------|--------|------|-----|--|
| Nitrate+Nitrite (as N) | 0.355 | 0.0100 | mg/L | N/A | |
| Nitrogen, Total | 2.51 | 0.0500 | mg/L | N/A | |
| Nitrogen, Organic | 1.63 | 0.0500 | mg/L | N/A | |

General Parameters

| | | | | | |
|--|-------|--------|----------|------------|-----|
| Alkalinity, Total (as CaCO3) | 190 | 1.0 | mg/L | 2023-07-21 | |
| Alkalinity, Phenolphthalein (as CaCO3) | < 1.0 | 1.0 | mg/L | 2023-07-21 | |
| Alkalinity, Bicarbonate (as CaCO3) | 190 | 1.0 | mg/L | 2023-07-21 | |
| Alkalinity, Carbonate (as CaCO3) | < 1.0 | 1.0 | mg/L | 2023-07-21 | |
| Alkalinity, Hydroxide (as CaCO3) | < 1.0 | 1.0 | mg/L | 2023-07-21 | |
| Ammonia, Total (as N) | 0.531 | 0.050 | mg/L | 2023-07-20 | |
| BOD, 5-day Carbonaceous | 3.4 | 2.0 | mg/L | 2023-07-25 | |
| Nitrogen, Total Kjeldahl | 2.16 | 0.050 | mg/L | 2023-07-25 | |
| pH | 7.90 | 0.10 | pH units | 2023-07-21 | HT2 |
| Phosphorus, Total (as P) | 0.369 | 0.0050 | mg/L | 2023-07-20 | |
| Solids, Total Suspended | 2.0 | 2.0 | mg/L | 2023-07-21 | |

Microbiological Parameters

| | | | | | |
|---------------------------|--------|---|------------|------------|--|
| Coliforms, Total (Q-Tray) | 242000 | 1 | MPN/100 mL | 2023-07-19 | |
| Coliforms, Fecal (Q-Tray) | 41100 | 1 | MPN/100 mL | 2023-07-19 | |

Duplicate (23G2304-02) | Matrix: Water | Sampled: 2023-07-18 09:58

Anions

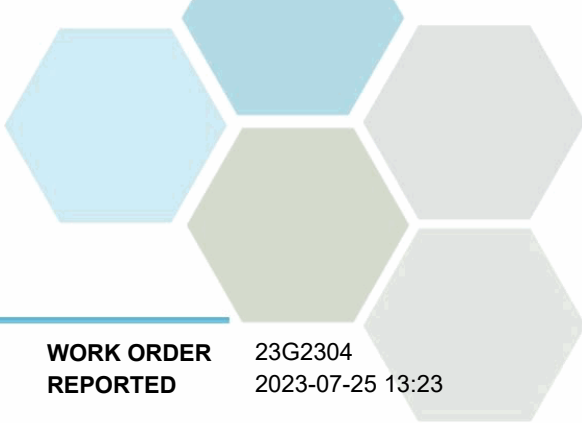
| | | | | | |
|------------------|-------|--------|------|------------|--|
| Chloride | 118 | 0.10 | mg/L | 2023-07-20 | |
| Nitrate (as N) | 0.192 | 0.010 | mg/L | 2023-07-20 | |
| Nitrite (as N) | 0.149 | 0.010 | mg/L | 2023-07-20 | |
| Phosphate (as P) | 0.142 | 0.0050 | mg/L | 2023-07-20 | |

Calculated Parameters

| | | | | | |
|------------------------|-------|--------|------|-----|--|
| Nitrate+Nitrite (as N) | 0.341 | 0.0100 | mg/L | N/A | |
| Nitrogen, Total | 2.33 | 0.0500 | mg/L | N/A | |

General Parameters

| | | | | | |
|--|-------|-----|------|------------|--|
| Alkalinity, Total (as CaCO3) | 190 | 1.0 | mg/L | 2023-07-21 | |
| Alkalinity, Phenolphthalein (as CaCO3) | < 1.0 | 1.0 | mg/L | 2023-07-21 | |
| Alkalinity, Bicarbonate (as CaCO3) | 190 | 1.0 | mg/L | 2023-07-21 | |
| Alkalinity, Carbonate (as CaCO3) | < 1.0 | 1.0 | mg/L | 2023-07-21 | |



TEST RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater)
Final Effluent- PE14651

WORK ORDER REPORTED 23G2304
2023-07-25 13:23

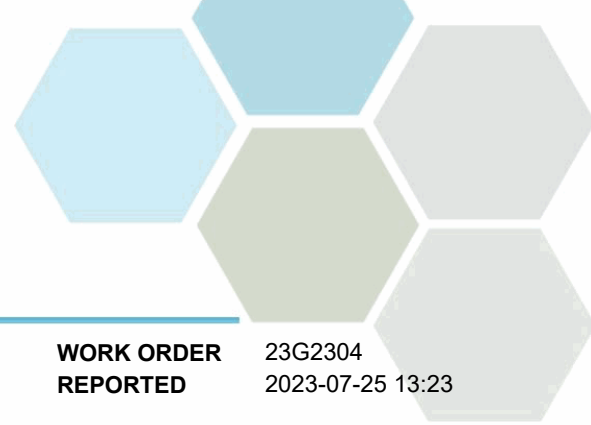
| Analyte | Result | RL | Units | Analyzed | Qualifier |
|--|--------------|--------|----------|------------|-----------|
| Duplicate (23G2304-02) Matrix: Water Sampled: 2023-07-18 09:58, Continued | | | | | |
| <i>General Parameters, Continued</i> | | | | | |
| Alkalinity, Hydroxide (as CaCO3) | < 1.0 | 1.0 | mg/L | 2023-07-21 | |
| Ammonia, Total (as N) | 0.565 | 0.050 | mg/L | 2023-07-20 | |
| BOD, 5-day Carbonaceous | 3.3 | 2.0 | mg/L | 2023-07-25 | |
| Nitrogen, Total Kjeldahl | 1.99 | 0.050 | mg/L | 2023-07-25 | |
| pH | 7.91 | 0.10 | pH units | 2023-07-21 | HT2 |
| Phosphorus, Total (as P) | 0.369 | 0.0050 | mg/L | 2023-07-20 | |
| Solids, Total Suspended | < 3.3 | 2.0 | mg/L | 2023-07-24 | |

Microbiological Parameters

| | | | | | |
|---------------------------|---------------|---|------------|------------|--|
| Coliforms, Total (Q-Tray) | 242000 | 1 | MPN/100 mL | 2023-07-19 | |
| Coliforms, Fecal (Q-Tray) | 34500 | 1 | MPN/100 mL | 2023-07-19 | |

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 Lake Country, District of (Wastewater)
Final Effluent- PE14651

WORK ORDER REPORTED 23G2304
2023-07-25 13:23

| Analysis Description | Method Ref. | Technique | Accredited | Location |
|--|---|--|------------|----------|
| Alkalinity in Water | SM 2320 B* (2021) | Titration with H2SO4 | ✓ | Kelowna |
| Ammonia, Total in Water | SM 4500-NH3 G* (2021) | Automated Colorimetry (Phenate) | ✓ | Kelowna |
| Anions in Water | SM 4110 B (2020) | Ion Chromatography | ✓ | Kelowna |
| Biochemical Oxygen Demand, Carbonaceous in Water | SM 5210 B (2019) | Dissolved Oxygen Meter | ✓ | Kelowna |
| Coliforms, Fecal in Water | SM 9223 (2016) | Quanti-Tray / Enzyme Substrate Endo Agar | ✓ | Kelowna |
| Coliforms, Total in Water | SM 9223 (2016) | Quanti-Tray / Enzyme Substrate Endo Agar | ✓ | Kelowna |
| Nitrogen, Total Kjeldahl in Water | SM 4500-Norg D* (2021) | Block Digestion and Flow Injection Analysis | ✓ | Kelowna |
| pH in Water | SM 4500-H+ B (2021) | Electrometry | ✓ | Kelowna |
| Phosphorus, Total in Water | SM 4500-P B.5* (2011) / SM 4500-P F (2021) | Persulfate Digestion / Automated Colorimetry (Ascorbic Acid) | ✓ | Kelowna |
| Solids, Total Suspended in Water | Solids in Water, Filtered / SM 2540 D* (2020) | Solids in Water, Filtered / Gravimetry (Dried at 103-105C) | ✓ | Kelowna |

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

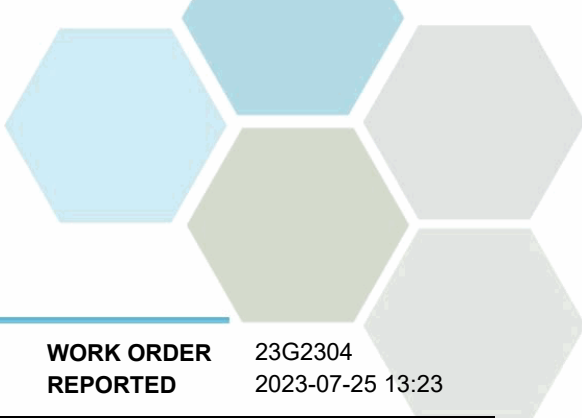
Glossary of Terms:

| | |
|------------|---|
| RL | Reporting Limit (default) |
| < | Less than the specified Reporting Limit (RL) - the actual RL may be higher than the default RL due to various factors |
| mg/L | Milligrams per litre |
| MPN/100 mL | Most Probable Number per 100 millilitres |
| pH units | pH < 7 = acidic, pH > 7 = basic |
| SM | Standard Methods for the Examination of Water and Wastewater, American Public Health Association |

General Comments:

The results in this report apply to the received 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. Caro will dispose of all samples within 30 days of sample receipt, unless otherwise agreed.

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 Lake Country, District of (Wastewater)
Final Effluent- PE14651

WORK ORDER REPORTED 23G2304
2023-07-25 13:23

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 B3G2016

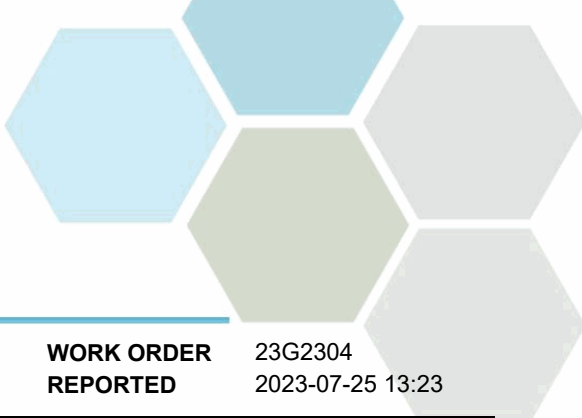
| Blank (B3G2016-BLK1) | | Prepared: 2023-07-20, Analyzed: 2023-07-20 | | | | | | | |
|----------------------|----------|--|------|--|-----|--------|--|--|--|
| Chloride | < 0.10 | 0.10 mg/L | | | | | | | |
| Nitrate (as N) | < 0.010 | 0.010 mg/L | | | | | | | |
| Nitrite (as N) | < 0.010 | 0.010 mg/L | | | | | | | |
| Phosphate (as P) | < 0.0050 | 0.0050 mg/L | | | | | | | |
| LCS (B3G2016-BS1) | | Prepared: 2023-07-20, Analyzed: 2023-07-20 | | | | | | | |
| Chloride | 16.1 | 0.10 mg/L | 16.0 | | 101 | 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 | | | |
| Phosphate (as P) | 1.08 | 0.0050 mg/L | 1.00 | | 108 | 80-120 | | | |

General Parameters, Batch B3G2053

| Blank (B3G2053-BLK1) | | Prepared: 2023-07-20, Analyzed: 2023-07-20 | | | | | | | |
|--------------------------|----------|--|-------|--|-----|--------|--|--|--|
| Phosphorus, Total (as P) | < 0.0050 | 0.0050 mg/L | | | | | | | |
| LCS (B3G2053-BS1) | | Prepared: 2023-07-20, Analyzed: 2023-07-20 | | | | | | | |
| Phosphorus, Total (as P) | 0.104 | 0.0050 mg/L | 0.100 | | 104 | 85-115 | | | |

General Parameters, Batch B3G2085

| Blank (B3G2085-BLK1) | | Prepared: 2023-07-20, Analyzed: 2023-07-20 | | | | | | | |
|-----------------------|---------|--|--|--|--|--|--|--|--|
| Ammonia, Total (as N) | < 0.050 | 0.050 mg/L | | | | | | | |
| Blank (B3G2085-BLK2) | | Prepared: 2023-07-20, Analyzed: 2023-07-20 | | | | | | | |
| Ammonia, Total (as N) | < 0.050 | 0.050 mg/L | | | | | | | |
| Blank (B3G2085-BLK3) | | Prepared: 2023-07-20, Analyzed: 2023-07-20 | | | | | | | |
| Ammonia, Total (as N) | < 0.050 | 0.050 mg/L | | | | | | | |
| Blank (B3G2085-BLK4) | | Prepared: 2023-07-20, Analyzed: 2023-07-20 | | | | | | | |
| Ammonia, Total (as N) | < 0.050 | 0.050 mg/L | | | | | | | |
| Blank (B3G2085-BLK5) | | Prepared: 2023-07-20, Analyzed: 2023-07-20 | | | | | | | |
| Ammonia, Total (as N) | < 0.050 | 0.050 mg/L | | | | | | | |

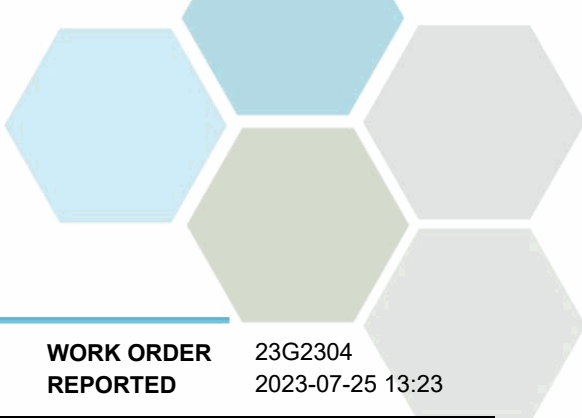


APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater)
Final Effluent- PE14651

WORK ORDER REPORTED 23G2304
2023-07-25 13:23

| Analyte | Result | RL Units | Spike Level | Source Result | % REC | REC Limit | % RPD | RPD Limit | Qualifier |
|---|--------|---------------|--|---------------|-------|-----------|-------|-----------|-----------|
| General Parameters, Batch B3G2085, Continued | | | | | | | | | |
| LCS (B3G2085-BS1) | | | Prepared: 2023-07-20, Analyzed: 2023-07-20 | | | | | | |
| Ammonia, Total (as N) | 1.02 | 0.050 mg/L | 1.00 | | 102 | 85-115 | | | |
| LCS (B3G2085-BS2) | | | Prepared: 2023-07-20, Analyzed: 2023-07-20 | | | | | | |
| Ammonia, Total (as N) | 0.982 | 0.050 mg/L | 1.00 | | 98 | 85-115 | | | |
| LCS (B3G2085-BS3) | | | Prepared: 2023-07-20, Analyzed: 2023-07-20 | | | | | | |
| Ammonia, Total (as N) | 0.956 | 0.050 mg/L | 1.00 | | 96 | 85-115 | | | |
| LCS (B3G2085-BS4) | | | Prepared: 2023-07-20, Analyzed: 2023-07-20 | | | | | | |
| Ammonia, Total (as N) | 0.966 | 0.050 mg/L | 1.00 | | 97 | 85-115 | | | |
| LCS (B3G2085-BS5) | | | Prepared: 2023-07-20, Analyzed: 2023-07-20 | | | | | | |
| Ammonia, Total (as N) | 0.933 | 0.050 mg/L | 1.00 | | 93 | 85-115 | | | |
| General Parameters, Batch B3G2114 | | | | | | | | | |
| Blank (B3G2114-BLK1) | | | Prepared: 2023-07-20, Analyzed: 2023-07-25 | | | | | | |
| BOD, 5-day Carbonaceous | < 2.0 | 2.0 mg/L | | | | | | | |
| LCS (B3G2114-BS1) | | | Prepared: 2023-07-20, Analyzed: 2023-07-25 | | | | | | |
| BOD, 5-day Carbonaceous | 186 | 51.8 mg/L | 198 | | 94 | 85-115 | | | |
| General Parameters, Batch B3G2168 | | | | | | | | | |
| Blank (B3G2168-BLK1) | | | Prepared: 2023-07-21, Analyzed: 2023-07-21 | | | | | | |
| Alkalinity, Total (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Phenolphthalein (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Bicarbonate (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Carbonate (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Hydroxide (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Blank (B3G2168-BLK2) | | | Prepared: 2023-07-21, Analyzed: 2023-07-21 | | | | | | |
| Alkalinity, Total (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Phenolphthalein (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Bicarbonate (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Carbonate (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Hydroxide (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| LCS (B3G2168-BS1) | | | Prepared: 2023-07-21, Analyzed: 2023-07-21 | | | | | | |
| Alkalinity, Total (as CaCO3) | 105 | 1.0 mg/L | 100 | | 105 | 80-120 | | | |
| Alkalinity, Phenolphthalein (as CaCO3) | 42.5 | 1.0 mg/L | 50.0 | | 85 | 0-200 | | | |
| LCS (B3G2168-BS2) | | | Prepared: 2023-07-21, Analyzed: 2023-07-21 | | | | | | |
| Alkalinity, Total (as CaCO3) | 104 | 1.0 mg/L | 100 | | 104 | 80-120 | | | |
| Alkalinity, Phenolphthalein (as CaCO3) | 37.8 | 1.0 mg/L | 50.0 | | 76 | 0-200 | | | |
| Reference (B3G2168-SRM1) | | | Prepared: 2023-07-21, Analyzed: 2023-07-21 | | | | | | |
| pH | 7.02 | 0.10 pH units | 7.01 | | 100 | 98-102 | | | |
| Reference (B3G2168-SRM2) | | | Prepared: 2023-07-21, Analyzed: 2023-07-21 | | | | | | |
| pH | 7.02 | 0.10 pH units | 7.01 | | 100 | 98-102 | | | |
| General Parameters, Batch B3G2213 | | | | | | | | | |
| Blank (B3G2213-BLK1) | | | Prepared: 2023-07-21, Analyzed: 2023-07-21 | | | | | | |
| Solids, Total Suspended | < 2.0 | 2.0 mg/L | | | | | | | |



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater)
Final Effluent- PE14651

WORK ORDER REPORTED 23G2304
2023-07-25 13:23

| Analyte | Result | RL Units | Spike Level | Source Result | % REC | REC Limit | % RPD | RPD Limit | Qualifier |
|---|---------|--------------|--|---------------|-------|-----------|-------|-----------|-----------|
| General Parameters, Batch B3G2213, Continued | | | | | | | | | |
| LCS (B3G2213-BS1) | | | Prepared: 2023-07-21, Analyzed: 2023-07-21 | | | | | | |
| Solids, Total Suspended | 96.0 | 10.0 mg/L | 100 | | 96 | 85-115 | | | |
| General Parameters, Batch B3G2279 | | | | | | | | | |
| Blank (B3G2279-BLK1) | | | Prepared: 2023-07-21, Analyzed: 2023-07-25 | | | | | | |
| Nitrogen, Total Kjeldahl | < 0.050 | 0.050 mg/L | | | | | | | |
| Blank (B3G2279-BLK2) | | | Prepared: 2023-07-21, Analyzed: 2023-07-25 | | | | | | |
| Nitrogen, Total Kjeldahl | < 0.050 | 0.050 mg/L | | | | | | | |
| LCS (B3G2279-BS1) | | | Prepared: 2023-07-21, Analyzed: 2023-07-25 | | | | | | |
| Nitrogen, Total Kjeldahl | 1.10 | 0.050 mg/L | 1.00 | | 110 | 85-115 | | | |
| LCS (B3G2279-BS2) | | | Prepared: 2023-07-21, Analyzed: 2023-07-25 | | | | | | |
| Nitrogen, Total Kjeldahl | 1.11 | 0.050 mg/L | 1.00 | | 111 | 85-115 | | | |
| General Parameters, Batch B3G2377 | | | | | | | | | |
| Blank (B3G2377-BLK1) | | | Prepared: 2023-07-24, Analyzed: 2023-07-24 | | | | | | |
| Solids, Total Suspended | < 2.0 | 2.0 mg/L | | | | | | | |
| LCS (B3G2377-BS1) | | | Prepared: 2023-07-24, Analyzed: 2023-07-24 | | | | | | |
| Solids, Total Suspended | 97.0 | 10.0 mg/L | 100 | | 97 | 85-115 | | | |
| Microbiological Parameters, Batch B3G1951 | | | | | | | | | |
| Blank (B3G1951-BLK1) | | | Prepared: 2023-07-19, Analyzed: 2023-07-19 | | | | | | |
| Coliforms, Total (Q-Tray) | < 1 | 1 MPN/100 mL | | | | | | | |
| Blank (B3G1951-BLK2) | | | Prepared: 2023-07-19, Analyzed: 2023-07-19 | | | | | | |
| Coliforms, Fecal (Q-Tray) | < 1 | 1 MPN/100 mL | | | | | | | |
| Blank (B3G1951-BLK3) | | | Prepared: 2023-07-19, Analyzed: 2023-07-19 | | | | | | |
| Coliforms, Total (Q-Tray) | < 1 | 1 MPN/100 mL | | | | | | | |
| Blank (B3G1951-BLK4) | | | Prepared: 2023-07-19, Analyzed: 2023-07-19 | | | | | | |
| Coliforms, Fecal (Q-Tray) | < 1 | 1 MPN/100 mL | | | | | | | |



CERTIFICATE OF ANALYSIS

| | | | |
|---------------------|---|---------------------------------|---|
| REPORTED TO | Lake Country, District of (Wastewater) 4062 Beaver Lake Rd LAKE COUNTRY, BC V4V 1T5 | WORK ORDER | 23G2298 |
| ATTENTION | Davin Larsen | RECEIVED / TEMP REPORTED | 2023-07-18 12:17 / 14.6°C 2023-07-25 13:28 |
| PO NUMBER | | COC NUMBER | 45125.34547 |
| PROJECT | Raw Influent- PE14651 | | |
| PROJECT INFO | Lake Country WWTP | | |

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



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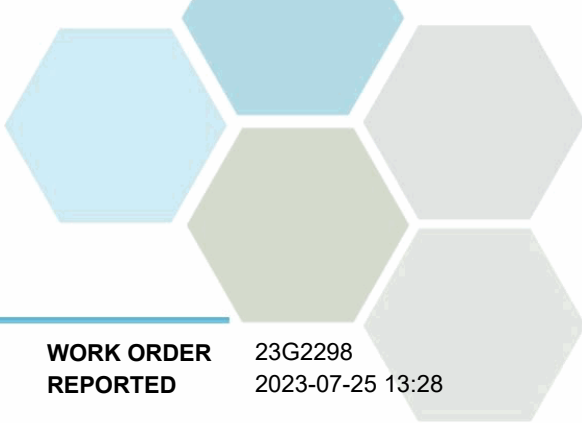
If you have any questions or concerns, please contact me at bwhitehead@caro.ca

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

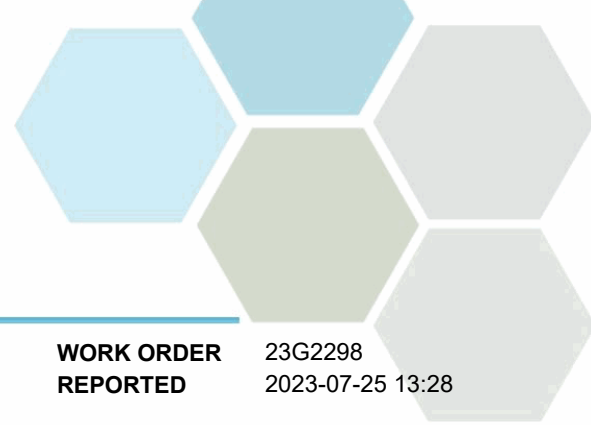
REPORTED TO PROJECT Lake Country, District of (Wastewater)
Raw Influent- PE14651

WORK ORDER REPORTED 23G2298
2023-07-25 13:28

| Analyte | Result | RL | Units | Analyzed | Qualifier |
|---|-------------|--------|----------|------------|-----------|
| Raw Influent (E233627) (23G2298-01) Matrix: Wastewater Sampled: 2023-07-18 10:05 | | | | | |
| Anions | | | | | |
| Nitrate (as N) | < 0.010 | 0.010 | mg/L | 2023-07-20 | |
| Nitrite (as N) | < 0.010 | 0.010 | mg/L | 2023-07-20 | |
| Phosphate (as P) | 6.09 | 0.0050 | mg/L | 2023-07-20 | |
| Calculated Parameters | | | | | |
| Nitrate+Nitrite (as N) | < 0.0100 | 0.0100 | mg/L | N/A | |
| Nitrogen, Total | 118 | 2.00 | mg/L | N/A | |
| General Parameters | | | | | |
| Alkalinity, Total (as CaCO3) | 472 | 1.0 | mg/L | 2023-07-21 | |
| Alkalinity, Phenolphthalein (as CaCO3) | < 1.0 | 1.0 | mg/L | 2023-07-21 | |
| Alkalinity, Bicarbonate (as CaCO3) | 472 | 1.0 | mg/L | 2023-07-21 | |
| Alkalinity, Carbonate (as CaCO3) | < 1.0 | 1.0 | mg/L | 2023-07-21 | |
| Alkalinity, Hydroxide (as CaCO3) | < 1.0 | 1.0 | mg/L | 2023-07-21 | |
| Ammonia, Total (as N) | 78.5 | 0.050 | mg/L | 2023-07-20 | |
| BOD, 5-day | 670 | 2.0 | mg/L | 2023-07-25 | |
| BOD, 5-day Carbonaceous | 674 | 2.0 | mg/L | 2023-07-25 | |
| Nitrogen, Total Kjeldahl | 118 | 0.050 | mg/L | 2023-07-25 | |
| pH | 7.84 | 0.10 | pH units | 2023-07-21 | HT2 |
| Phosphorus, Total (as P) | 13.9 | 0.0050 | mg/L | 2023-07-20 | RE2 |
| Solids, Total Suspended | 848 | 2.0 | mg/L | 2023-07-24 | CST2 |

Sample Qualifiers:

- CST2 visually lots of suspended solids
- HT2 The 15 minute recommended holding time (from sampling to analysis) has been exceeded - field analysis is recommended.
- RE2 Result was confirmed by re-analysis prior to reporting.



APPENDIX 1: SUPPORTING INFORMATION

REPORTED TO PROJECT Lake Country, District of (Wastewater)
Raw Influent- PE14651

WORK ORDER REPORTED 23G2298
2023-07-25 13:28

| Analysis Description | Method Ref. | Technique | Accredited | Location |
|--|---|--|------------|----------|
| Alkalinity in Water | SM 2320 B* (2021) | Titration with H2SO4 | ✓ | Kelowna |
| Ammonia, Total in Water | SM 4500-NH3 G* (2021) | Automated Colorimetry (Phenate) | ✓ | Kelowna |
| Anions in Water | SM 4110 B (2020) | Ion Chromatography | ✓ | Kelowna |
| Biochemical Oxygen Demand in Water | SM 5210 B (2019) | Dissolved Oxygen Meter | ✓ | Kelowna |
| Biochemical Oxygen Demand, Carbonaceous in Water | SM 5210 B (2019) | Dissolved Oxygen Meter | ✓ | Kelowna |
| Nitrogen, Total Kjeldahl in Water | SM 4500-Norg D* (2021) | Block Digestion and Flow Injection Analysis | ✓ | Kelowna |
| pH in Water | SM 4500-H+ B (2021) | Electrometry | ✓ | Kelowna |
| Phosphorus, Total in Water | SM 4500-P B.5* (2011) / SM 4500-P F (2021) | Persulfate Digestion / Automated Colorimetry (Ascorbic Acid) | ✓ | Kelowna |
| Solids, Total Suspended in Water | Solids in Water, Filtered / SM 2540 D* (2020) | Solids in Water, Filtered / Gravimetry (Dried at 103-105C) | ✓ | Kelowna |

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

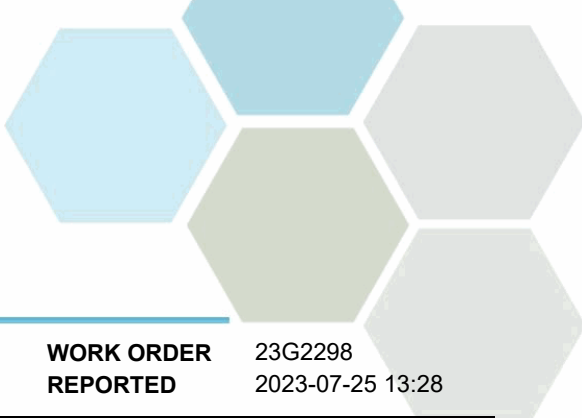
Glossary of Terms:

| | |
|----------|---|
| RL | Reporting Limit (default) |
| < | Less than the specified Reporting Limit (RL) - the actual RL may be higher than the default RL due to various factors |
| mg/L | Milligrams per litre |
| pH units | pH < 7 = acidic, pH > 7 = basic |
| SM | Standard Methods for the Examination of Water and Wastewater, American Public Health Association |

General Comments:

The results in this report apply to the received 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. Caro will dispose of all samples within 30 days of sample receipt, unless otherwise agreed.

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APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater)
Raw Influent- PE14651

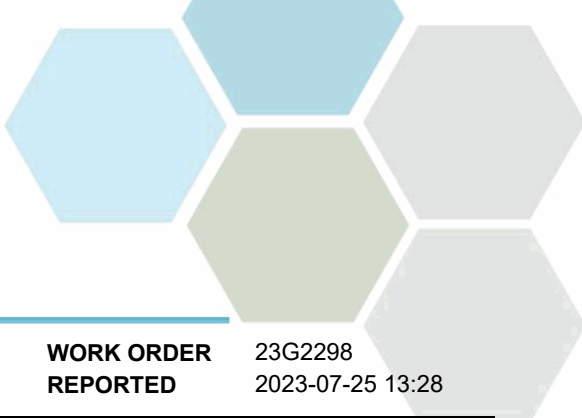
WORK ORDER REPORTED 23G2298
2023-07-25 13:28

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 B3G1883 | | | | | | | | | |
| Blank (B3G1883-BLK1) | | | Prepared: 2023-07-19, Analyzed: 2023-07-19 | | | | | | |
| Nitrate (as N) | < 0.010 | 0.010 mg/L | | | | | | | |
| Nitrite (as N) | < 0.010 | 0.010 mg/L | | | | | | | |
| Phosphate (as P) | < 0.0050 | 0.0050 mg/L | | | | | | | |
| LCS (B3G1883-BS1) | | | Prepared: 2023-07-19, Analyzed: 2023-07-19 | | | | | | |
| Nitrate (as N) | 4.07 | 0.010 mg/L | 4.00 | | 102 | 90-110 | | | |
| Nitrite (as N) | 1.94 | 0.010 mg/L | 2.00 | | 97 | 85-115 | | | |
| Phosphate (as P) | 1.07 | 0.0050 mg/L | 1.00 | | 107 | 80-120 | | | |
| General Parameters, Batch B3G2053 | | | | | | | | | |
| Blank (B3G2053-BLK1) | | | Prepared: 2023-07-20, Analyzed: 2023-07-20 | | | | | | |
| Phosphorus, Total (as P) | < 0.0050 | 0.0050 mg/L | | | | | | | |
| LCS (B3G2053-BS1) | | | Prepared: 2023-07-20, Analyzed: 2023-07-20 | | | | | | |
| Phosphorus, Total (as P) | 0.104 | 0.0050 mg/L | 0.100 | | 104 | 85-115 | | | |
| General Parameters, Batch B3G2085 | | | | | | | | | |
| Blank (B3G2085-BLK1) | | | Prepared: 2023-07-20, Analyzed: 2023-07-20 | | | | | | |
| Ammonia, Total (as N) | < 0.050 | 0.050 mg/L | | | | | | | |
| Blank (B3G2085-BLK2) | | | Prepared: 2023-07-20, Analyzed: 2023-07-20 | | | | | | |
| Ammonia, Total (as N) | < 0.050 | 0.050 mg/L | | | | | | | |
| Blank (B3G2085-BLK3) | | | Prepared: 2023-07-20, Analyzed: 2023-07-20 | | | | | | |
| Ammonia, Total (as N) | < 0.050 | 0.050 mg/L | | | | | | | |
| Blank (B3G2085-BLK4) | | | Prepared: 2023-07-20, Analyzed: 2023-07-20 | | | | | | |
| Ammonia, Total (as N) | < 0.050 | 0.050 mg/L | | | | | | | |
| Blank (B3G2085-BLK5) | | | Prepared: 2023-07-20, Analyzed: 2023-07-20 | | | | | | |
| Ammonia, Total (as N) | < 0.050 | 0.050 mg/L | | | | | | | |
| LCS (B3G2085-BS1) | | | Prepared: 2023-07-20, Analyzed: 2023-07-20 | | | | | | |
| Ammonia, Total (as N) | 1.02 | 0.050 mg/L | 1.00 | | 102 | 85-115 | | | |

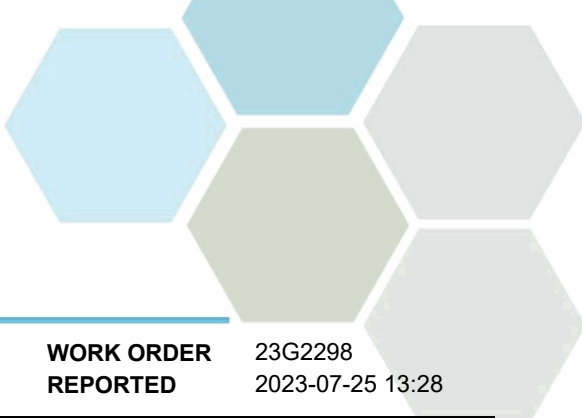


APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater)
Raw Influent- PE14651

WORK ORDER REPORTED 23G2298
2023-07-25 13:28

| Analyte | Result | RL Units | Spike Level | Source Result | % REC | REC Limit | % RPD | RPD Limit | Qualifier |
|---|--------|---------------|--|---------------|-------|-----------|-------|-----------|-----------|
| General Parameters, Batch B3G2085, Continued | | | | | | | | | |
| LCS (B3G2085-BS2) | | | Prepared: 2023-07-20, Analyzed: 2023-07-20 | | | | | | |
| Ammonia, Total (as N) | 0.982 | 0.050 mg/L | 1.00 | | 98 | 85-115 | | | |
| LCS (B3G2085-BS3) | | | Prepared: 2023-07-20, Analyzed: 2023-07-20 | | | | | | |
| Ammonia, Total (as N) | 0.956 | 0.050 mg/L | 1.00 | | 96 | 85-115 | | | |
| LCS (B3G2085-BS4) | | | Prepared: 2023-07-20, Analyzed: 2023-07-20 | | | | | | |
| Ammonia, Total (as N) | 0.966 | 0.050 mg/L | 1.00 | | 97 | 85-115 | | | |
| LCS (B3G2085-BS5) | | | Prepared: 2023-07-20, Analyzed: 2023-07-20 | | | | | | |
| Ammonia, Total (as N) | 0.933 | 0.050 mg/L | 1.00 | | 93 | 85-115 | | | |
| General Parameters, Batch B3G2114 | | | | | | | | | |
| Blank (B3G2114-BLK1) | | | Prepared: 2023-07-20, Analyzed: 2023-07-25 | | | | | | |
| BOD, 5-day Carbonaceous | < 2.0 | 2.0 mg/L | | | | | | | |
| LCS (B3G2114-BS1) | | | Prepared: 2023-07-20, Analyzed: 2023-07-25 | | | | | | |
| BOD, 5-day Carbonaceous | 186 | 51.8 mg/L | 198 | | 94 | 85-115 | | | |
| General Parameters, Batch B3G2115 | | | | | | | | | |
| Blank (B3G2115-BLK1) | | | Prepared: 2023-07-20, Analyzed: 2023-07-25 | | | | | | |
| BOD, 5-day | < 2.0 | 2.0 mg/L | | | | | | | |
| LCS (B3G2115-BS1) | | | Prepared: 2023-07-20, Analyzed: 2023-07-25 | | | | | | |
| BOD, 5-day | 187 | 48.5 mg/L | 198 | | 95 | 85-115 | | | |
| General Parameters, Batch B3G2168 | | | | | | | | | |
| Blank (B3G2168-BLK1) | | | Prepared: 2023-07-21, Analyzed: 2023-07-21 | | | | | | |
| Alkalinity, Total (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Phenolphthalein (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Bicarbonate (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Carbonate (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Hydroxide (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Blank (B3G2168-BLK2) | | | Prepared: 2023-07-21, Analyzed: 2023-07-21 | | | | | | |
| Alkalinity, Total (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Phenolphthalein (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Bicarbonate (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Carbonate (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Hydroxide (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| LCS (B3G2168-BS1) | | | Prepared: 2023-07-21, Analyzed: 2023-07-21 | | | | | | |
| Alkalinity, Total (as CaCO3) | 105 | 1.0 mg/L | 100 | | 105 | 80-120 | | | |
| Alkalinity, Phenolphthalein (as CaCO3) | 42.5 | 1.0 mg/L | 50.0 | | 85 | 0-200 | | | |
| LCS (B3G2168-BS2) | | | Prepared: 2023-07-21, Analyzed: 2023-07-21 | | | | | | |
| Alkalinity, Total (as CaCO3) | 104 | 1.0 mg/L | 100 | | 104 | 80-120 | | | |
| Alkalinity, Phenolphthalein (as CaCO3) | 37.8 | 1.0 mg/L | 50.0 | | 76 | 0-200 | | | |
| Reference (B3G2168-SRM1) | | | Prepared: 2023-07-21, Analyzed: 2023-07-21 | | | | | | |
| pH | 7.02 | 0.10 pH units | 7.01 | | 100 | 98-102 | | | |
| Reference (B3G2168-SRM2) | | | Prepared: 2023-07-21, Analyzed: 2023-07-21 | | | | | | |
| pH | 7.02 | 0.10 pH units | 7.01 | | 100 | 98-102 | | | |



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater)
Raw Influent- PE14651

WORK ORDER REPORTED 23G2298
2023-07-25 13:28

| Analyte | Result | RL Units | Spike Level | Source Result | % REC | REC Limit | % RPD | RPD Limit | Qualifier |
|--|---------|------------|-------------|---------------|--|-----------|-------|-----------|-----------|
| General Parameters, Batch B3G2279 | | | | | | | | | |
| Blank (B3G2279-BLK1) | | | | | Prepared: 2023-07-21, Analyzed: 2023-07-25 | | | | |
| Nitrogen, Total Kjeldahl | < 0.050 | 0.050 mg/L | | | | | | | |
| Blank (B3G2279-BLK2) | | | | | Prepared: 2023-07-21, Analyzed: 2023-07-25 | | | | |
| Nitrogen, Total Kjeldahl | < 0.050 | 0.050 mg/L | | | | | | | |
| LCS (B3G2279-BS1) | | | | | Prepared: 2023-07-21, Analyzed: 2023-07-25 | | | | |
| Nitrogen, Total Kjeldahl | 1.10 | 0.050 mg/L | 1.00 | | 110 | 85-115 | | | |
| LCS (B3G2279-BS2) | | | | | Prepared: 2023-07-21, Analyzed: 2023-07-25 | | | | |
| Nitrogen, Total Kjeldahl | 1.11 | 0.050 mg/L | 1.00 | | 111 | 85-115 | | | |
| General Parameters, Batch B3G2377 | | | | | | | | | |
| Blank (B3G2377-BLK1) | | | | | Prepared: 2023-07-24, Analyzed: 2023-07-24 | | | | |
| Solids, Total Suspended | < 2.0 | 2.0 mg/L | | | | | | | |
| LCS (B3G2377-BS1) | | | | | Prepared: 2023-07-24, Analyzed: 2023-07-24 | | | | |
| Solids, Total Suspended | 97.0 | 10.0 mg/L | 100 | | 97 | 85-115 | | | |



CERTIFICATE OF ANALYSIS

| | | | |
|---------------------|---|---------------------------------|---|
| REPORTED TO | Lake Country, District of (Wastewater) 4062 Beaver Lake Rd LAKE COUNTRY, BC V4V 1T5 | WORK ORDER | 23G2312 |
| ATTENTION | Davin Larsen | RECEIVED / TEMP REPORTED | 2023-07-18 12:17 / 14.6°C 2023-07-25 13:11 |
| PO NUMBER | | COC NUMBER | 45125.34547 |
| PROJECT | Amry- MR17842 | | |
| PROJECT INFO | Lake Country WWTP | | |

Introduction:

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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.

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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.

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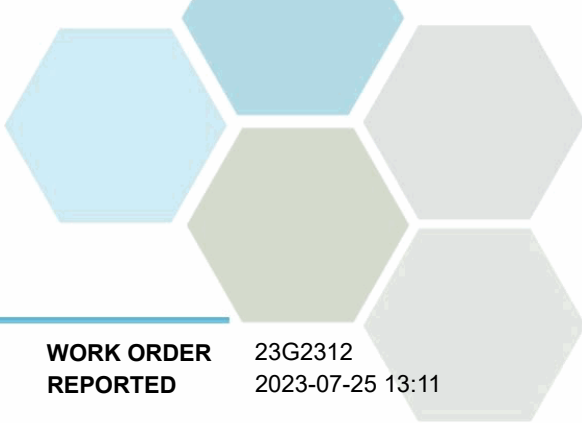
If you have any questions or concerns, please contact me at bwhitehead@caro.ca

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

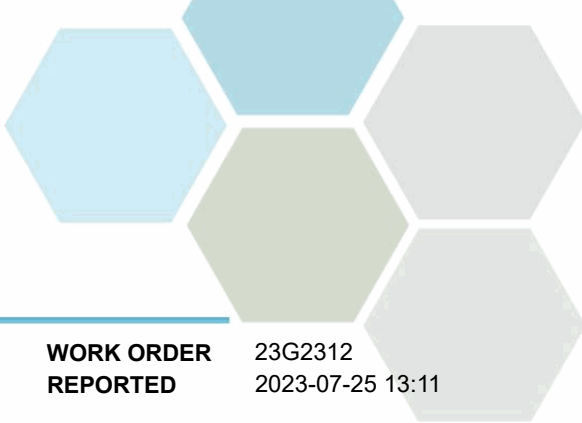


TEST RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater)
Amry- MR17842

WORK ORDER REPORTED 23G2312
2023-07-25 13:11

| Analyte | Result | RL | Units | Analyzed | Qualifier |
|--|--------|-----|-------|------------|-----------|
| Amry WW (E262982) (23G2312-01) Matrix: Wastewater Sampled: 2023-07-18 10:05 | | | | | |
| <i>General Parameters</i> | | | | | |
| BOD, 5-day Carbonaceous | < 6.2 | 2.0 | mg/L | 2023-07-25 | |
| Solids, Total Suspended | 5.8 | 2.0 | mg/L | 2023-07-21 | |



APPENDIX 1: SUPPORTING INFORMATION

REPORTED TO PROJECT Lake Country, District of (Wastewater)
Amry- MR17842

WORK ORDER REPORTED 23G2312
2023-07-25 13:11

| Analysis Description | Method Ref. | Technique | Accredited | Location |
|--|---|--|------------|----------|
| Biochemical Oxygen Demand, Carbonaceous in Water | SM 5210 B (2019) | Dissolved Oxygen Meter | ✓ | Kelowna |
| Solids, Total Suspended in Water | Solids in Water, Filtered / SM 2540 D* (2020) | Solids in Water, Filtered / Gravimetry (Dried at 103-105C) | ✓ | Kelowna |

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

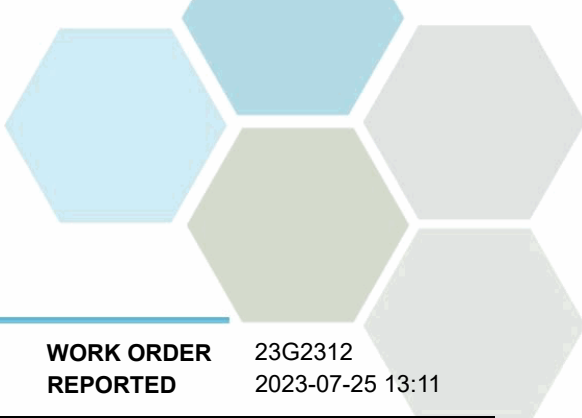
Glossary of Terms:

| | |
|------|---|
| RL | Reporting Limit (default) |
| < | Less than the specified Reporting Limit (RL) - the actual RL may be higher than the default RL due to various factors |
| mg/L | Milligrams per litre |
| SM | Standard Methods for the Examination of Water and Wastewater, American Public Health Association |

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APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater)
Amry- MR17842

WORK ORDER REPORTED 23G2312
2023-07-25 13:11

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).
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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 |
|---------|--------|----------|-------------|---------------|-------|-----------|-------|-----------|-----------|
|---------|--------|----------|-------------|---------------|-------|-----------|-------|-----------|-----------|

General Parameters, Batch B3G2114

| | | | | | | | | | |
|---------------------------------|-------|-----------|---|-------|----|--------|--|----|--|
| Blank (B3G2114-BLK1) | | | Prepared: 2023-07-20, Analyzed: 2023-07-25 | | | | | | |
| BOD, 5-day Carbonaceous | < 2.0 | 2.0 mg/L | | | | | | | |
| LCS (B3G2114-BS1) | | | Prepared: 2023-07-20, Analyzed: 2023-07-25 | | | | | | |
| BOD, 5-day Carbonaceous | 186 | 51.8 mg/L | 198 | | 94 | 85-115 | | | |
| Duplicate (B3G2114-DUP1) | | | Source: 23G2312-01 Prepared: 2023-07-20, Analyzed: 2023-07-25 | | | | | | |
| BOD, 5-day Carbonaceous | < 6.2 | 2.0 mg/L | | < 6.2 | | | | 20 | |

General Parameters, Batch B3G2213

| | | | | | | | | | |
|-----------------------------|-------|-----------|--|--|----|--------|--|--|--|
| Blank (B3G2213-BLK1) | | | Prepared: 2023-07-21, Analyzed: 2023-07-21 | | | | | | |
| Solids, Total Suspended | < 2.0 | 2.0 mg/L | | | | | | | |
| LCS (B3G2213-BS1) | | | Prepared: 2023-07-21, Analyzed: 2023-07-21 | | | | | | |
| Solids, Total Suspended | 96.0 | 10.0 mg/L | 100 | | 96 | 85-115 | | | |



CERTIFICATE OF ANALYSIS

| | | | |
|---------------------|---|---------------------------------|---|
| REPORTED TO | Lake Country, District of (Wastewater) 4062 Beaver Lake Rd LAKE COUNTRY, BC V4V 1T5 | WORK ORDER | 23H1729 |
| ATTENTION | Davin Larsen | RECEIVED / TEMP REPORTED | 2023-08-11 11:08 / 21.8°C 2023-08-17 15:19 |
| PO NUMBER | | COC NUMBER | 45149.34247 |
| PROJECT | Amry- MR17842 | | |
| PROJECT INFO | Lake Country WWTP | | |

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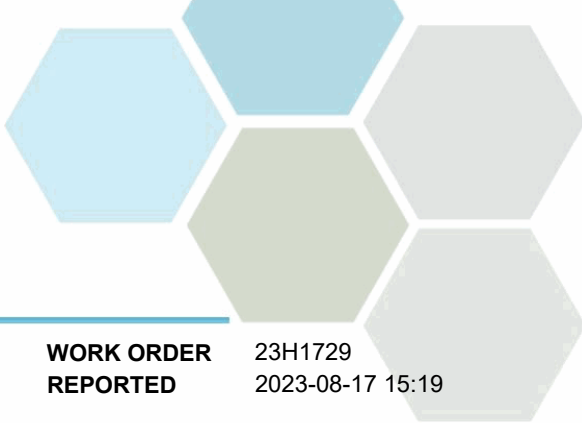
If you have any questions or concerns, please contact me at bwhitehead@caro.ca

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

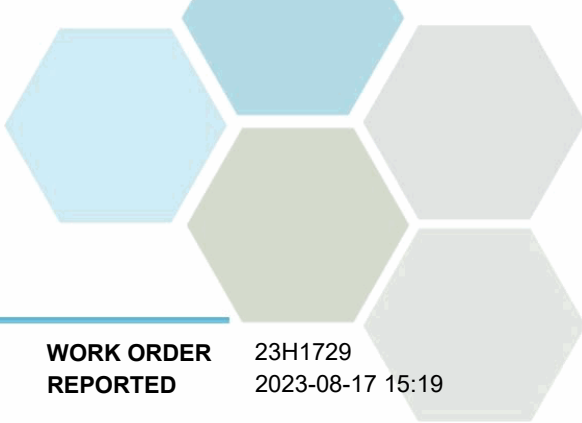


TEST RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater)
Amry- MR17842

WORK ORDER REPORTED 23H1729
2023-08-17 15:19

| Analyte | Result | RL | Units | Analyzed | Qualifier |
|--|------------|-----|-------|------------|-----------|
| Amry WW (E262982) (23H1729-01) Matrix: Wastewater Sampled: 2023-08-11 09:22 | | | | | |
| <i>General Parameters</i> | | | | | |
| BOD, 5-day Carbonaceous | < 6.7 | 2.0 | mg/L | 2023-08-17 | |
| Solids, Total Suspended | 9.4 | 2.0 | mg/L | 2023-08-15 | |



APPENDIX 1: SUPPORTING INFORMATION

REPORTED TO PROJECT Lake Country, District of (Wastewater)
Amry- MR17842

WORK ORDER REPORTED 23H1729
2023-08-17 15:19

| Analysis Description | Method Ref. | Technique | Accredited | Location |
|--|---|--|------------|----------|
| Biochemical Oxygen Demand, Carbonaceous in Water | SM 5210 B (2019) | Dissolved Oxygen Meter | ✓ | Kelowna |
| Solids, Total Suspended in Water | Solids in Water, Filtered / SM 2540 D* (2020) | Solids in Water, Filtered / Gravimetry (Dried at 103-105C) | ✓ | Kelowna |

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

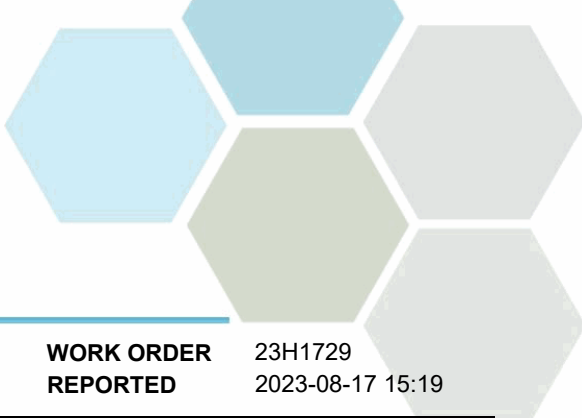
Glossary of Terms:

| | |
|------|---|
| RL | Reporting Limit (default) |
| < | Less than the specified Reporting Limit (RL) - the actual RL may be higher than the default RL due to various factors |
| mg/L | Milligrams per litre |
| SM | Standard Methods for the Examination of Water and Wastewater, American Public Health Association |

General Comments:

The results in this report apply to the received 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. Caro will dispose of all samples within 30 days of sample receipt, unless otherwise agreed.

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 Lake Country, District of (Wastewater)
Amry- MR17842

WORK ORDER REPORTED 23H1729
2023-08-17 15:19

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 |
|---------|--------|----------|-------------|---------------|-------|-----------|-------|-----------|-----------|
|---------|--------|----------|-------------|---------------|-------|-----------|-------|-----------|-----------|

General Parameters, Batch B3H1239

| | | | | | | | | | |
|---------------------------------|-------|-----------|---|-------|----|--------|--|----|--|
| Blank (B3H1239-BLK1) | | | Prepared: 2023-08-12, Analyzed: 2023-08-17 | | | | | | |
| BOD, 5-day Carbonaceous | < 2.0 | 2.0 mg/L | | | | | | | |
| LCS (B3H1239-BS1) | | | Prepared: 2023-08-12, Analyzed: 2023-08-17 | | | | | | |
| BOD, 5-day Carbonaceous | 168 | 55.6 mg/L | 198 | | 85 | 85-115 | | | |
| Duplicate (B3H1239-DUP1) | | | Source: 23H1729-01 Prepared: 2023-08-12, Analyzed: 2023-08-17 | | | | | | |
| BOD, 5-day Carbonaceous | < 6.7 | 2.0 mg/L | | < 6.7 | | | | 20 | |

General Parameters, Batch B3H1474

| | | | | | | | | | |
|-----------------------------|-------|-----------|--|--|----|--------|--|--|--|
| Blank (B3H1474-BLK1) | | | Prepared: 2023-08-15, Analyzed: 2023-08-15 | | | | | | |
| Solids, Total Suspended | < 2.0 | 2.0 mg/L | | | | | | | |
| LCS (B3H1474-BS1) | | | Prepared: 2023-08-15, Analyzed: 2023-08-15 | | | | | | |
| Solids, Total Suspended | 85.0 | 10.0 mg/L | 100 | | 85 | 85-115 | | | |



CERTIFICATE OF ANALYSIS

| | | | |
|---------------------|---|---------------------------------|---|
| REPORTED TO | Lake Country, District of (Wastewater) 4062 Beaver Lake Rd LAKE COUNTRY, BC V4V 1T5 | WORK ORDER | 23H1725 |
| ATTENTION | Davin Larsen | RECEIVED / TEMP REPORTED | 2023-08-11 11:08 / 21.8°C 2023-08-17 15:28 |
| PO NUMBER | | COC NUMBER | 45149.34247 |
| PROJECT | Raw Influent- PE14651 | | |
| PROJECT INFO | Lake Country WWTP | | |

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>

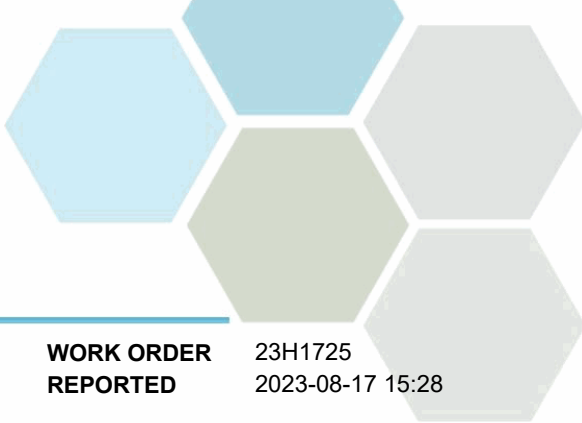
If you have any questions or concerns, please contact me at bwhitehead@caro.ca

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

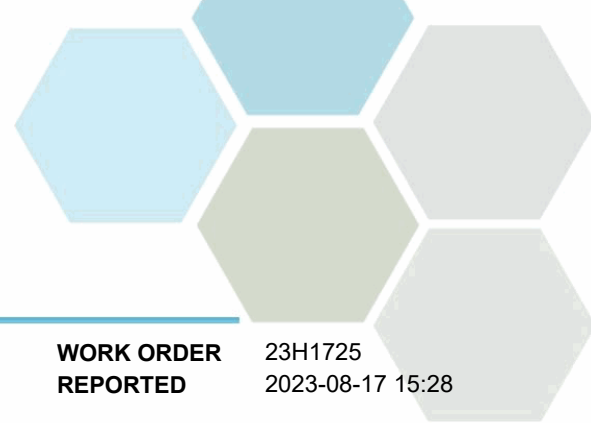
REPORTED TO PROJECT Lake Country, District of (Wastewater)
Raw Influent- PE14651

WORK ORDER REPORTED 23H1725
2023-08-17 15:28

| Analyte | Result | RL | Units | Analyzed | Qualifier |
|---|-------------|--------|----------|------------|-----------|
| Raw Influent (E233627) (23H1725-01) Matrix: Wastewater Sampled: 2023-08-11 10:25 | | | | | |
| Anions | | | | | |
| Nitrate (as N) | < 0.010 | 0.010 | mg/L | 2023-08-13 | |
| Nitrite (as N) | < 0.010 | 0.010 | mg/L | 2023-08-13 | |
| Phosphate (as P) | 4.28 | 0.0050 | mg/L | 2023-08-13 | |
| Calculated Parameters | | | | | |
| Nitrate+Nitrite (as N) | < 0.0100 | 0.0100 | mg/L | N/A | |
| Nitrogen, Total | 99.5 | 2.00 | mg/L | N/A | |
| General Parameters | | | | | |
| Alkalinity, Total (as CaCO3) | 417 | 1.0 | mg/L | 2023-08-16 | |
| Alkalinity, Phenolphthalein (as CaCO3) | < 1.0 | 1.0 | mg/L | 2023-08-16 | |
| Alkalinity, Bicarbonate (as CaCO3) | 417 | 1.0 | mg/L | 2023-08-16 | |
| Alkalinity, Carbonate (as CaCO3) | < 1.0 | 1.0 | mg/L | 2023-08-16 | |
| Alkalinity, Hydroxide (as CaCO3) | < 1.0 | 1.0 | mg/L | 2023-08-16 | |
| Ammonia, Total (as N) | 73.5 | 0.050 | mg/L | 2023-08-13 | |
| BOD, 5-day | 324 | 2.0 | mg/L | 2023-08-17 | |
| BOD, 5-day Carbonaceous | 322 | 2.0 | mg/L | 2023-08-17 | |
| Nitrogen, Total Kjeldahl | 99.5 | 0.050 | mg/L | 2023-08-16 | |
| pH | 7.72 | 0.10 | pH units | 2023-08-16 | HT2 |
| Phosphorus, Total (as P) | 14.4 | 0.0050 | mg/L | 2023-08-16 | |
| Solids, Total Suspended | 293 | 2.0 | mg/L | 2023-08-15 | |

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 Lake Country, District of (Wastewater)
Raw Influent- PE14651

WORK ORDER REPORTED 23H1725
2023-08-17 15:28

| Analysis Description | Method Ref. | Technique | Accredited | Location |
|--|---|--|------------|----------|
| Alkalinity in Water | SM 2320 B* (2021) | Titration with H2SO4 | ✓ | Kelowna |
| Ammonia, Total in Water | SM 4500-NH3 G* (2021) | Automated Colorimetry (Phenate) | ✓ | Kelowna |
| Anions in Water | SM 4110 B (2020) | Ion Chromatography | ✓ | Kelowna |
| Biochemical Oxygen Demand in Water | SM 5210 B (2019) | Dissolved Oxygen Meter | ✓ | Kelowna |
| Biochemical Oxygen Demand, Carbonaceous in Water | SM 5210 B (2019) | Dissolved Oxygen Meter | ✓ | Kelowna |
| Nitrogen, Total Kjeldahl in Water | SM 4500-Norg D* (2021) | Block Digestion and Flow Injection Analysis | ✓ | Kelowna |
| pH in Water | SM 4500-H+ B (2021) | Electrometry | ✓ | Kelowna |
| Phosphorus, Total in Water | SM 4500-P B.5* (2011) / SM 4500-P F (2021) | Persulfate Digestion / Automated Colorimetry (Ascorbic Acid) | ✓ | Kelowna |
| Solids, Total Suspended in Water | Solids in Water, Filtered / SM 2540 D* (2020) | Solids in Water, Filtered / Gravimetry (Dried at 103-105C) | ✓ | Kelowna |

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

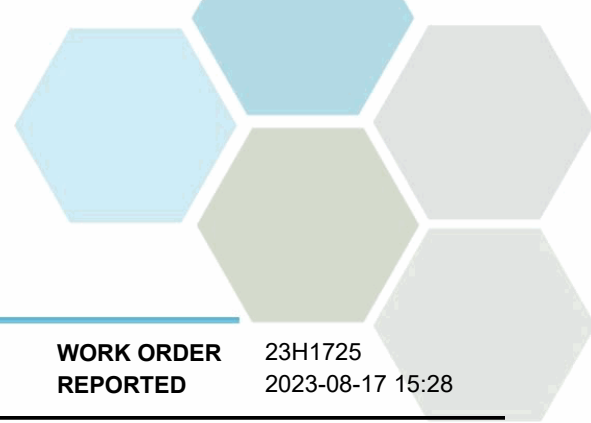
Glossary of Terms:

| | |
|----------|---|
| RL | Reporting Limit (default) |
| < | Less than the specified Reporting Limit (RL) - the actual RL may be higher than the default RL due to various factors |
| mg/L | Milligrams per litre |
| pH units | pH < 7 = acidic, pH > 7 = basic |
| SM | Standard Methods for the Examination of Water and Wastewater, American Public Health Association |

General Comments:

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APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater)
Raw Influent- PE14651

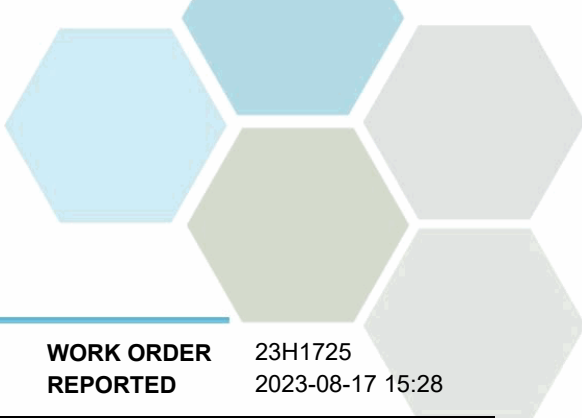
WORK ORDER REPORTED 23H1725
2023-08-17 15:28

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 B3H1293 | | | | | | | | | |
| Blank (B3H1293-BLK1) | | | Prepared: 2023-08-13, Analyzed: 2023-08-13 | | | | | | |
| Nitrate (as N) | < 0.010 | 0.010 mg/L | | | | | | | |
| Nitrite (as N) | < 0.010 | 0.010 mg/L | | | | | | | |
| Phosphate (as P) | < 0.0050 | 0.0050 mg/L | | | | | | | |
| Blank (B3H1293-BLK2) | | | Prepared: 2023-08-14, Analyzed: 2023-08-14 | | | | | | |
| Nitrate (as N) | < 0.010 | 0.010 mg/L | | | | | | | |
| Nitrite (as N) | < 0.010 | 0.010 mg/L | | | | | | | |
| Phosphate (as P) | < 0.0050 | 0.0050 mg/L | | | | | | | |
| LCS (B3H1293-BS1) | | | Prepared: 2023-08-13, Analyzed: 2023-08-13 | | | | | | |
| Nitrate (as N) | 4.05 | 0.010 mg/L | 4.00 | | 101 | 90-110 | | | |
| Nitrite (as N) | 2.00 | 0.010 mg/L | 2.00 | | 100 | 85-115 | | | |
| Phosphate (as P) | 1.04 | 0.0050 mg/L | 1.00 | | 104 | 80-120 | | | |
| LCS (B3H1293-BS2) | | | Prepared: 2023-08-14, Analyzed: 2023-08-14 | | | | | | |
| Nitrate (as N) | 4.08 | 0.010 mg/L | 4.00 | | 102 | 90-110 | | | |
| Nitrite (as N) | 2.00 | 0.010 mg/L | 2.00 | | 100 | 85-115 | | | |
| Phosphate (as P) | 1.04 | 0.0050 mg/L | 1.00 | | 104 | 80-120 | | | |
| General Parameters, Batch B3H1239 | | | | | | | | | |
| Blank (B3H1239-BLK1) | | | Prepared: 2023-08-12, Analyzed: 2023-08-17 | | | | | | |
| BOD, 5-day Carbonaceous | < 2.0 | 2.0 mg/L | | | | | | | |
| LCS (B3H1239-BS1) | | | Prepared: 2023-08-12, Analyzed: 2023-08-17 | | | | | | |
| BOD, 5-day Carbonaceous | 168 | 55.6 mg/L | 198 | | 85 | 85-115 | | | |
| General Parameters, Batch B3H1243 | | | | | | | | | |
| Blank (B3H1243-BLK1) | | | Prepared: 2023-08-12, Analyzed: 2023-08-17 | | | | | | |
| BOD, 5-day | < 2.0 | 2.0 mg/L | | | | | | | |
| LCS (B3H1243-BS1) | | | Prepared: 2023-08-12, Analyzed: 2023-08-17 | | | | | | |
| BOD, 5-day | 180 | 57.2 mg/L | 198 | | 91 | 85-115 | | | |

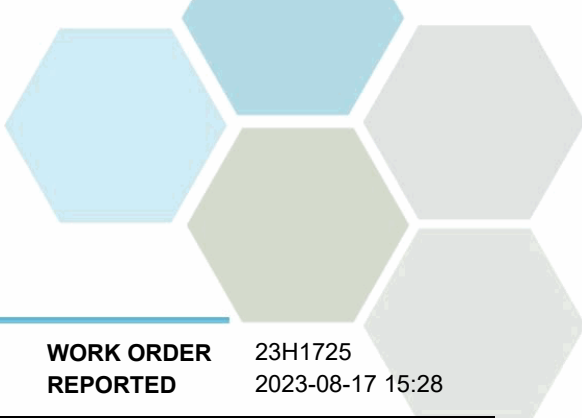


APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater)
Raw Influent- PE14651

WORK ORDER REPORTED 23H1725
2023-08-17 15:28

| Analyte | Result | RL Units | Spike Level | Source Result | % REC | REC Limit | % RPD | RPD Limit | Qualifier |
|--|----------|-------------|--|---------------|-------|-----------|-------|-----------|-----------|
| General Parameters, Batch B3H1282 | | | | | | | | | |
| Blank (B3H1282-BLK1) | | | Prepared: 2023-08-13, Analyzed: 2023-08-13 | | | | | | |
| Ammonia, Total (as N) | < 0.050 | 0.050 mg/L | | | | | | | |
| Blank (B3H1282-BLK2) | | | Prepared: 2023-08-13, Analyzed: 2023-08-13 | | | | | | |
| Ammonia, Total (as N) | < 0.050 | 0.050 mg/L | | | | | | | |
| Blank (B3H1282-BLK3) | | | Prepared: 2023-08-13, Analyzed: 2023-08-13 | | | | | | |
| Ammonia, Total (as N) | < 0.050 | 0.050 mg/L | | | | | | | |
| Blank (B3H1282-BLK4) | | | Prepared: 2023-08-13, Analyzed: 2023-08-13 | | | | | | |
| Ammonia, Total (as N) | < 0.050 | 0.050 mg/L | | | | | | | |
| LCS (B3H1282-BS1) | | | Prepared: 2023-08-13, Analyzed: 2023-08-13 | | | | | | |
| Ammonia, Total (as N) | 0.901 | 0.050 mg/L | 1.00 | | 90 | 85-115 | | | |
| LCS (B3H1282-BS2) | | | Prepared: 2023-08-13, Analyzed: 2023-08-13 | | | | | | |
| Ammonia, Total (as N) | 0.915 | 0.050 mg/L | 1.00 | | 92 | 85-115 | | | |
| LCS (B3H1282-BS3) | | | Prepared: 2023-08-13, Analyzed: 2023-08-13 | | | | | | |
| Ammonia, Total (as N) | 0.928 | 0.050 mg/L | 1.00 | | 93 | 85-115 | | | |
| LCS (B3H1282-BS4) | | | Prepared: 2023-08-13, Analyzed: 2023-08-13 | | | | | | |
| Ammonia, Total (as N) | 0.929 | 0.050 mg/L | 1.00 | | 93 | 85-115 | | | |
| General Parameters, Batch B3H1474 | | | | | | | | | |
| Blank (B3H1474-BLK1) | | | Prepared: 2023-08-15, Analyzed: 2023-08-15 | | | | | | |
| Solids, Total Suspended | < 2.0 | 2.0 mg/L | | | | | | | |
| LCS (B3H1474-BS1) | | | Prepared: 2023-08-15, Analyzed: 2023-08-15 | | | | | | |
| Solids, Total Suspended | 85.0 | 10.0 mg/L | 100 | | 85 | 85-115 | | | |
| General Parameters, Batch B3H1508 | | | | | | | | | |
| Blank (B3H1508-BLK1) | | | Prepared: 2023-08-15, Analyzed: 2023-08-16 | | | | | | |
| Nitrogen, Total Kjeldahl | < 0.050 | 0.050 mg/L | | | | | | | |
| Blank (B3H1508-BLK2) | | | Prepared: 2023-08-15, Analyzed: 2023-08-16 | | | | | | |
| Nitrogen, Total Kjeldahl | < 0.050 | 0.050 mg/L | | | | | | | |
| LCS (B3H1508-BS1) | | | Prepared: 2023-08-15, Analyzed: 2023-08-16 | | | | | | |
| Nitrogen, Total Kjeldahl | 1.02 | 0.050 mg/L | 1.00 | | 102 | 85-115 | | | |
| LCS (B3H1508-BS2) | | | Prepared: 2023-08-15, Analyzed: 2023-08-16 | | | | | | |
| Nitrogen, Total Kjeldahl | 1.01 | 0.050 mg/L | 1.00 | | 101 | 85-115 | | | |
| General Parameters, Batch B3H1571 | | | | | | | | | |
| Blank (B3H1571-BLK1) | | | Prepared: 2023-08-15, Analyzed: 2023-08-16 | | | | | | |
| Phosphorus, Total (as P) | < 0.0050 | 0.0050 mg/L | | | | | | | |
| Blank (B3H1571-BLK2) | | | Prepared: 2023-08-15, Analyzed: 2023-08-16 | | | | | | |
| Phosphorus, Total (as P) | < 0.0050 | 0.0050 mg/L | | | | | | | |
| Blank (B3H1571-BLK3) | | | Prepared: 2023-08-15, Analyzed: 2023-08-16 | | | | | | |
| Phosphorus, Total (as P) | < 0.0050 | 0.0050 mg/L | | | | | | | |



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater)
Raw Influent- PE14651

WORK ORDER REPORTED 23H1725
2023-08-17 15:28

| Analyte | Result | RL Units | Spike Level | Source Result | % REC | REC Limit | % RPD | RPD Limit | Qualifier |
|---|----------|---------------|--|---------------|-------|-----------|-------|-----------|-----------|
| General Parameters, Batch B3H1571, Continued | | | | | | | | | |
| Blank (B3H1571-BLK4) | | | Prepared: 2023-08-15, Analyzed: 2023-08-16 | | | | | | |
| Phosphorus, Total (as P) | < 0.0050 | 0.0050 mg/L | | | | | | | |
| LCS (B3H1571-BS1) | | | Prepared: 2023-08-15, Analyzed: 2023-08-16 | | | | | | |
| Phosphorus, Total (as P) | 0.101 | 0.0050 mg/L | 0.100 | | 101 | 85-115 | | | |
| LCS (B3H1571-BS2) | | | Prepared: 2023-08-15, Analyzed: 2023-08-16 | | | | | | |
| Phosphorus, Total (as P) | 0.102 | 0.0050 mg/L | 0.100 | | 102 | 85-115 | | | |
| LCS (B3H1571-BS3) | | | Prepared: 2023-08-15, Analyzed: 2023-08-16 | | | | | | |
| Phosphorus, Total (as P) | 0.101 | 0.0050 mg/L | 0.100 | | 101 | 85-115 | | | |
| LCS (B3H1571-BS4) | | | Prepared: 2023-08-15, Analyzed: 2023-08-16 | | | | | | |
| Phosphorus, Total (as P) | 0.102 | 0.0050 mg/L | 0.100 | | 102 | 85-115 | | | |
| General Parameters, Batch B3H1585 | | | | | | | | | |
| Blank (B3H1585-BLK1) | | | Prepared: 2023-08-16, Analyzed: 2023-08-16 | | | | | | |
| Alkalinity, Total (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Phenolphthalein (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Bicarbonate (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Carbonate (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Hydroxide (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Blank (B3H1585-BLK2) | | | Prepared: 2023-08-16, Analyzed: 2023-08-16 | | | | | | |
| Alkalinity, Total (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Phenolphthalein (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Bicarbonate (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Carbonate (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Hydroxide (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| LCS (B3H1585-BS1) | | | Prepared: 2023-08-16, Analyzed: 2023-08-16 | | | | | | |
| Alkalinity, Total (as CaCO3) | 104 | 1.0 mg/L | 100 | | 104 | 80-120 | | | |
| Alkalinity, Phenolphthalein (as CaCO3) | 44.1 | 1.0 mg/L | 50.0 | | 88 | 0-200 | | | |
| LCS (B3H1585-BS2) | | | Prepared: 2023-08-16, Analyzed: 2023-08-16 | | | | | | |
| Alkalinity, Total (as CaCO3) | 102 | 1.0 mg/L | 100 | | 102 | 80-120 | | | |
| Alkalinity, Phenolphthalein (as CaCO3) | 40.6 | 1.0 mg/L | 50.0 | | 81 | 0-200 | | | |
| Reference (B3H1585-SRM1) | | | Prepared: 2023-08-16, Analyzed: 2023-08-16 | | | | | | |
| pH | 7.02 | 0.10 pH units | 7.01 | | 100 | 98-102 | | | |
| Reference (B3H1585-SRM2) | | | Prepared: 2023-08-16, Analyzed: 2023-08-16 | | | | | | |
| pH | 7.02 | 0.10 pH units | 7.01 | | 100 | 98-102 | | | |



CERTIFICATE OF ANALYSIS

| | | | |
|---------------------|---|---------------------------------|---|
| REPORTED TO | Lake Country, District of (Wastewater) 4062 Beaver Lake Rd LAKE COUNTRY, BC V4V 1T5 | WORK ORDER | 23H1727 |
| ATTENTION | Davin Larsen | RECEIVED / TEMP REPORTED | 2023-08-11 11:08 / 21.8°C 2023-08-18 09:54 |
| PO NUMBER | | COC NUMBER | 45149.34247 |
| PROJECT | Final Effluent- PE14651 | | |
| PROJECT INFO | Lake Country WWTP | | |

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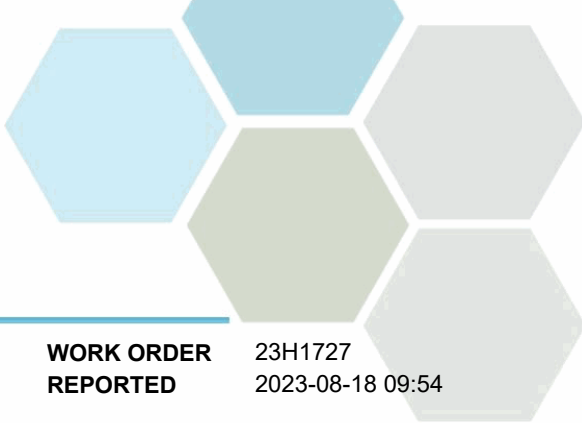
If you have any questions or concerns, please contact me at bwhitehead@caro.ca

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 Lake Country, District of (Wastewater)
Final Effluent- PE14651

WORK ORDER REPORTED 23H1727
2023-08-18 09:54

| Analyte | Result | RL | Units | Analyzed | Qualifier |
|---------|--------|----|-------|----------|-----------|
|---------|--------|----|-------|----------|-----------|

Final Effluent (E233626) (23H1727-01) | Matrix: Wastewater | Sampled: 2023-08-11 10:20

Anions

| | | | | | |
|------------------|--------|--------|------|------------|--|
| Chloride | 119 | 0.10 | mg/L | 2023-08-14 | |
| Nitrate (as N) | 0.570 | 0.010 | mg/L | 2023-08-13 | |
| Nitrite (as N) | 0.035 | 0.010 | mg/L | 2023-08-13 | |
| Phosphate (as P) | 0.0291 | 0.0050 | mg/L | 2023-08-13 | |

Calculated Parameters

| | | | | | |
|------------------------|-------|--------|------|-----|--|
| Nitrate+Nitrite (as N) | 0.605 | 0.0100 | mg/L | N/A | |
| Nitrogen, Total | 2.35 | 0.0500 | mg/L | N/A | |
| Nitrogen, Organic | 1.45 | 0.0500 | mg/L | N/A | |

General Parameters

| | | | | | |
|--|-------|--------|----------|------------|-----|
| Alkalinity, Total (as CaCO3) | 193 | 1.0 | mg/L | 2023-08-16 | |
| Alkalinity, Phenolphthalein (as CaCO3) | < 1.0 | 1.0 | mg/L | 2023-08-16 | |
| Alkalinity, Bicarbonate (as CaCO3) | 193 | 1.0 | mg/L | 2023-08-16 | |
| Alkalinity, Carbonate (as CaCO3) | < 1.0 | 1.0 | mg/L | 2023-08-16 | |
| Alkalinity, Hydroxide (as CaCO3) | < 1.0 | 1.0 | mg/L | 2023-08-16 | |
| Ammonia, Total (as N) | 0.297 | 0.050 | mg/L | 2023-08-13 | |
| BOD, 5-day Carbonaceous | < 3.3 | 2.0 | mg/L | 2023-08-17 | |
| Nitrogen, Total Kjeldahl | 1.75 | 0.050 | mg/L | 2023-08-16 | |
| pH | 8.05 | 0.10 | pH units | 2023-08-16 | HT2 |
| Phosphorus, Total (as P) | 0.153 | 0.0050 | mg/L | 2023-08-16 | |
| Solids, Total Suspended | 2.0 | 2.0 | mg/L | 2023-08-15 | |

Microbiological Parameters

| | | | | | |
|---------------------------|--------|---|------------|------------|--|
| Coliforms, Total (Q-Tray) | 199000 | 1 | MPN/100 mL | 2023-08-12 | |
| Coliforms, Fecal (Q-Tray) | 79200 | 1 | MPN/100 mL | 2023-08-12 | |

Trip Blank (23H1727-02) | Matrix: Water | Sampled: 2023-08-11 10:35

Anions

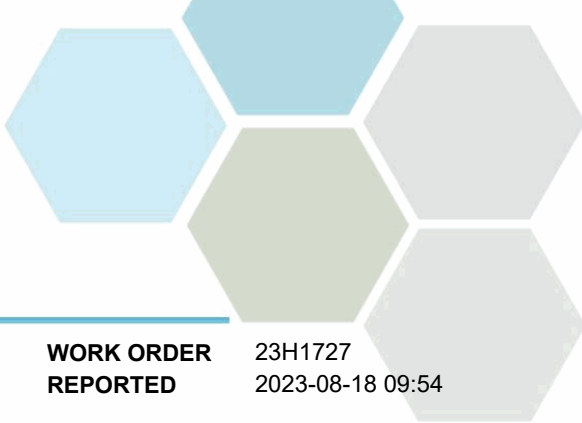
| | | | | | |
|------------------|----------|--------|------|------------|--|
| Chloride | 0.18 | 0.10 | mg/L | 2023-08-14 | |
| Nitrate (as N) | < 0.010 | 0.010 | mg/L | 2023-08-13 | |
| Nitrite (as N) | < 0.010 | 0.010 | mg/L | 2023-08-13 | |
| Phosphate (as P) | < 0.0050 | 0.0050 | mg/L | 2023-08-13 | |

Calculated Parameters

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

General Parameters

| | | | | | |
|--|-------|-----|------|------------|-----|
| Alkalinity, Total (as CaCO3) | 4.8 | 1.0 | mg/L | 2023-08-16 | RE2 |
| Alkalinity, Phenolphthalein (as CaCO3) | < 1.0 | 1.0 | mg/L | 2023-08-16 | RE2 |
| Alkalinity, Bicarbonate (as CaCO3) | 4.8 | 1.0 | mg/L | 2023-08-16 | RE2 |



TEST RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater)
Final Effluent- PE14651

WORK ORDER REPORTED 23H1727
2023-08-18 09:54

| Analyte | Result | RL | Units | Analyzed | Qualifier |
|---|-------------|--------|----------|------------|-----------|
| Trip Blank (23H1727-02) Matrix: Water Sampled: 2023-08-11 10:35, Continued | | | | | |
| <i>General Parameters, Continued</i> | | | | | |
| Alkalinity, Carbonate (as CaCO ₃) | < 1.0 | 1.0 | mg/L | 2023-08-16 | RE2 |
| Alkalinity, Hydroxide (as CaCO ₃) | < 1.0 | 1.0 | mg/L | 2023-08-16 | RE2 |
| Ammonia, Total (as N) | < 0.050 | 0.050 | mg/L | 2023-08-13 | |
| BOD, 5-day Carbonaceous | < 3.3 | 2.0 | mg/L | 2023-08-17 | |
| Nitrogen, Total Kjeldahl | < 0.050 | 0.050 | mg/L | 2023-08-16 | |
| pH | 6.73 | 0.10 | pH units | 2023-08-16 | HT2 |
| Phosphorus, Total (as P) | < 0.0050 | 0.0050 | mg/L | 2023-08-16 | |
| Solids, Total Suspended | < 2.0 | 2.0 | mg/L | 2023-08-15 | |

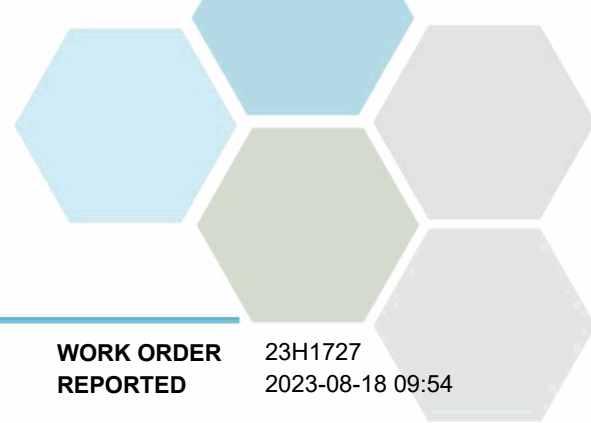
Microbiological Parameters

| | | | | | |
|---------------------------|-----|---|------------|------------|--|
| Coliforms, Total (Q-Tray) | < 1 | 1 | MPN/100 mL | 2023-08-12 | |
| Coliforms, Fecal (Q-Tray) | < 1 | 1 | MPN/100 mL | 2023-08-12 | |

Sample Qualifiers:

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

RE2 Result was confirmed by re-analysis prior to reporting.



APPENDIX 1: SUPPORTING INFORMATION

REPORTED TO PROJECT Lake Country, District of (Wastewater)
Final Effluent- PE14651

WORK ORDER REPORTED 23H1727
2023-08-18 09:54

| Analysis Description | Method Ref. | Technique | Accredited | Location |
|--|---|--|------------|----------|
| Alkalinity in Water | SM 2320 B* (2021) | Titration with H2SO4 | ✓ | Kelowna |
| Ammonia, Total in Water | SM 4500-NH3 G* (2021) | Automated Colorimetry (Phenate) | ✓ | Kelowna |
| Anions in Water | SM 4110 B (2020) | Ion Chromatography | ✓ | Kelowna |
| Biochemical Oxygen Demand, Carbonaceous in Water | SM 5210 B (2019) | Dissolved Oxygen Meter | ✓ | Kelowna |
| Coliforms, Fecal in Water | SM 9223 (2016) | Quanti-Tray / Enzyme Substrate Endo Agar | ✓ | Kelowna |
| Coliforms, Total in Water | SM 9223 (2016) | Quanti-Tray / Enzyme Substrate Endo Agar | ✓ | Kelowna |
| Nitrogen, Total Kjeldahl in Water | SM 4500-Norg D* (2021) | Block Digestion and Flow Injection Analysis | ✓ | Kelowna |
| pH in Water | SM 4500-H+ B (2021) | Electrometry | ✓ | Kelowna |
| Phosphorus, Total in Water | SM 4500-P B.5* (2011) / SM 4500-P F (2021) | Persulfate Digestion / Automated Colorimetry (Ascorbic Acid) | ✓ | Kelowna |
| Solids, Total Suspended in Water | Solids in Water, Filtered / SM 2540 D* (2020) | Solids in Water, Filtered / Gravimetry (Dried at 103-105C) | ✓ | Kelowna |

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

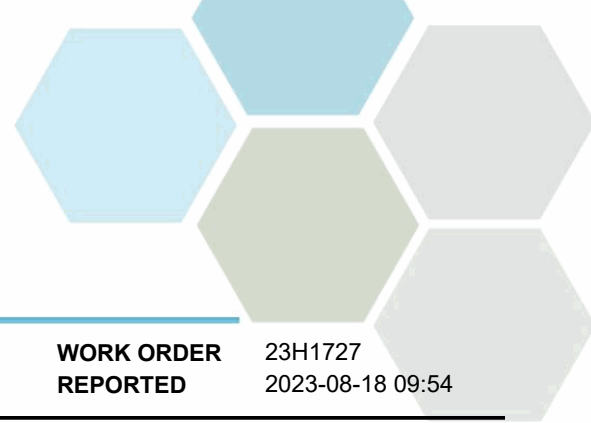
Glossary of Terms:

| | |
|------------|---|
| RL | Reporting Limit (default) |
| < | Less than the specified Reporting Limit (RL) - the actual RL may be higher than the default RL due to various factors |
| mg/L | Milligrams per litre |
| MPN/100 mL | Most Probable Number per 100 millilitres |
| pH units | pH < 7 = acidic, pH > 7 = basic |
| SM | Standard Methods for the Examination of Water and Wastewater, American Public Health Association |

General Comments:

The results in this report apply to the received 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. CarO will dispose of all samples within 30 days of sample receipt, unless otherwise agreed.

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APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater)
Final Effluent- PE14651

WORK ORDER REPORTED 23H1727
2023-08-18 09:54

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.

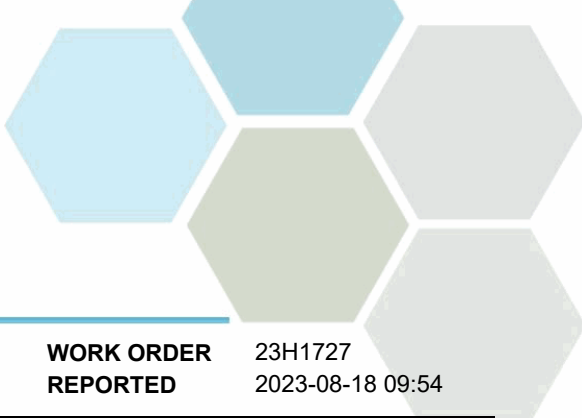
| Analyte | Result | RL Units | Spike Level | Source Result | % REC | REC Limit | % RPD | RPD Limit | Qualifier |
|------------------------------|----------|-------------|--|---------------|-------|-----------|-------|-----------|-----------|
| Anions, Batch B3H1293 | | | | | | | | | |
| Blank (B3H1293-BLK1) | | | Prepared: 2023-08-13, Analyzed: 2023-08-13 | | | | | | |
| 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 | | | | | | | |
| Phosphate (as P) | < 0.0050 | 0.0050 mg/L | | | | | | | |
| Blank (B3H1293-BLK2) | | | Prepared: 2023-08-14, Analyzed: 2023-08-14 | | | | | | |
| 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 | | | | | | | |
| Phosphate (as P) | < 0.0050 | 0.0050 mg/L | | | | | | | |
| LCS (B3H1293-BS1) | | | Prepared: 2023-08-13, Analyzed: 2023-08-13 | | | | | | |
| Chloride | 16.1 | 0.10 mg/L | 16.0 | | 101 | 90-110 | | | |
| Nitrate (as N) | 4.05 | 0.010 mg/L | 4.00 | | 101 | 90-110 | | | |
| Nitrite (as N) | 2.00 | 0.010 mg/L | 2.00 | | 100 | 85-115 | | | |
| Phosphate (as P) | 1.04 | 0.0050 mg/L | 1.00 | | 104 | 80-120 | | | |
| LCS (B3H1293-BS2) | | | Prepared: 2023-08-14, Analyzed: 2023-08-14 | | | | | | |
| Chloride | 16.1 | 0.10 mg/L | 16.0 | | 100 | 90-110 | | | |
| Nitrate (as N) | 4.08 | 0.010 mg/L | 4.00 | | 102 | 90-110 | | | |
| Nitrite (as N) | 2.00 | 0.010 mg/L | 2.00 | | 100 | 85-115 | | | |
| Phosphate (as P) | 1.04 | 0.0050 mg/L | 1.00 | | 104 | 80-120 | | | |

General Parameters, Batch B3H1239

| | | | | | | | | | |
|-----------------------------|-------|-----------|--|--|----|--------|--|--|--|
| Blank (B3H1239-BLK1) | | | Prepared: 2023-08-12, Analyzed: 2023-08-17 | | | | | | |
| BOD, 5-day Carbonaceous | < 2.0 | 2.0 mg/L | | | | | | | |
| LCS (B3H1239-BS1) | | | Prepared: 2023-08-12, Analyzed: 2023-08-17 | | | | | | |
| BOD, 5-day Carbonaceous | 168 | 55.6 mg/L | 198 | | 85 | 85-115 | | | |

General Parameters, Batch B3H1282

| | | | | | | | | | |
|-----------------------------|---------|------------|--|--|--|--|--|--|--|
| Blank (B3H1282-BLK1) | | | Prepared: 2023-08-13, Analyzed: 2023-08-13 | | | | | | |
| Ammonia, Total (as N) | < 0.050 | 0.050 mg/L | | | | | | | |

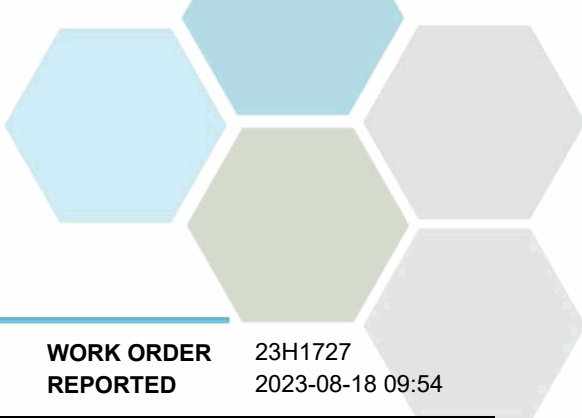


APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater)
Final Effluent- PE14651

WORK ORDER REPORTED 23H1727
2023-08-18 09:54

| Analyte | Result | RL Units | Spike Level | Source Result | % REC | REC Limit | % RPD | RPD Limit | Qualifier |
|---|----------|-------------|--|---------------|-------|-----------|-------|-----------|-----------|
| General Parameters, Batch B3H1282, Continued | | | | | | | | | |
| Blank (B3H1282-BLK2) | | | Prepared: 2023-08-13, Analyzed: 2023-08-13 | | | | | | |
| Ammonia, Total (as N) | < 0.050 | 0.050 mg/L | | | | | | | |
| Blank (B3H1282-BLK3) | | | Prepared: 2023-08-13, Analyzed: 2023-08-13 | | | | | | |
| Ammonia, Total (as N) | < 0.050 | 0.050 mg/L | | | | | | | |
| Blank (B3H1282-BLK4) | | | Prepared: 2023-08-13, Analyzed: 2023-08-13 | | | | | | |
| Ammonia, Total (as N) | < 0.050 | 0.050 mg/L | | | | | | | |
| LCS (B3H1282-BS1) | | | Prepared: 2023-08-13, Analyzed: 2023-08-13 | | | | | | |
| Ammonia, Total (as N) | 0.901 | 0.050 mg/L | 1.00 | | 90 | 85-115 | | | |
| LCS (B3H1282-BS2) | | | Prepared: 2023-08-13, Analyzed: 2023-08-13 | | | | | | |
| Ammonia, Total (as N) | 0.915 | 0.050 mg/L | 1.00 | | 92 | 85-115 | | | |
| LCS (B3H1282-BS3) | | | Prepared: 2023-08-13, Analyzed: 2023-08-13 | | | | | | |
| Ammonia, Total (as N) | 0.928 | 0.050 mg/L | 1.00 | | 93 | 85-115 | | | |
| LCS (B3H1282-BS4) | | | Prepared: 2023-08-13, Analyzed: 2023-08-13 | | | | | | |
| Ammonia, Total (as N) | 0.929 | 0.050 mg/L | 1.00 | | 93 | 85-115 | | | |
| General Parameters, Batch B3H1474 | | | | | | | | | |
| Blank (B3H1474-BLK1) | | | Prepared: 2023-08-15, Analyzed: 2023-08-15 | | | | | | |
| Solids, Total Suspended | < 2.0 | 2.0 mg/L | | | | | | | |
| LCS (B3H1474-BS1) | | | Prepared: 2023-08-15, Analyzed: 2023-08-15 | | | | | | |
| Solids, Total Suspended | 85.0 | 10.0 mg/L | 100 | | 85 | 85-115 | | | |
| General Parameters, Batch B3H1508 | | | | | | | | | |
| Blank (B3H1508-BLK1) | | | Prepared: 2023-08-15, Analyzed: 2023-08-16 | | | | | | |
| Nitrogen, Total Kjeldahl | < 0.050 | 0.050 mg/L | | | | | | | |
| Blank (B3H1508-BLK2) | | | Prepared: 2023-08-15, Analyzed: 2023-08-16 | | | | | | |
| Nitrogen, Total Kjeldahl | < 0.050 | 0.050 mg/L | | | | | | | |
| LCS (B3H1508-BS1) | | | Prepared: 2023-08-15, Analyzed: 2023-08-16 | | | | | | |
| Nitrogen, Total Kjeldahl | 1.02 | 0.050 mg/L | 1.00 | | 102 | 85-115 | | | |
| LCS (B3H1508-BS2) | | | Prepared: 2023-08-15, Analyzed: 2023-08-16 | | | | | | |
| Nitrogen, Total Kjeldahl | 1.01 | 0.050 mg/L | 1.00 | | 101 | 85-115 | | | |
| General Parameters, Batch B3H1571 | | | | | | | | | |
| Blank (B3H1571-BLK1) | | | Prepared: 2023-08-15, Analyzed: 2023-08-16 | | | | | | |
| Phosphorus, Total (as P) | < 0.0050 | 0.0050 mg/L | | | | | | | |
| Blank (B3H1571-BLK2) | | | Prepared: 2023-08-15, Analyzed: 2023-08-16 | | | | | | |
| Phosphorus, Total (as P) | < 0.0050 | 0.0050 mg/L | | | | | | | |
| Blank (B3H1571-BLK3) | | | Prepared: 2023-08-15, Analyzed: 2023-08-16 | | | | | | |
| Phosphorus, Total (as P) | < 0.0050 | 0.0050 mg/L | | | | | | | |
| Blank (B3H1571-BLK4) | | | Prepared: 2023-08-15, Analyzed: 2023-08-16 | | | | | | |
| Phosphorus, Total (as P) | < 0.0050 | 0.0050 mg/L | | | | | | | |



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater)
Final Effluent- PE14651

WORK ORDER REPORTED 23H1727
2023-08-18 09:54

| Analyte | Result | RL Units | Spike Level | Source Result | % REC | REC Limit | % RPD | RPD Limit | Qualifier |
|---|--------|---------------|--|---------------|--|-----------|-------|-----------|-----------|
| General Parameters, Batch B3H1571, Continued | | | | | | | | | |
| LCS (B3H1571-BS1) | | | Prepared: 2023-08-15, Analyzed: 2023-08-16 | | | | | | |
| Phosphorus, Total (as P) | 0.101 | 0.0050 mg/L | 0.100 | | 101 | 85-115 | | | |
| LCS (B3H1571-BS2) | | | Prepared: 2023-08-15, Analyzed: 2023-08-16 | | | | | | |
| Phosphorus, Total (as P) | 0.102 | 0.0050 mg/L | 0.100 | | 102 | 85-115 | | | |
| LCS (B3H1571-BS3) | | | Prepared: 2023-08-15, Analyzed: 2023-08-16 | | | | | | |
| Phosphorus, Total (as P) | 0.101 | 0.0050 mg/L | 0.100 | | 101 | 85-115 | | | |
| LCS (B3H1571-BS4) | | | Prepared: 2023-08-15, Analyzed: 2023-08-16 | | | | | | |
| Phosphorus, Total (as P) | 0.102 | 0.0050 mg/L | 0.100 | | 102 | 85-115 | | | |
| General Parameters, Batch B3H1585 | | | | | | | | | |
| Blank (B3H1585-BLK1) | | | Prepared: 2023-08-16, Analyzed: 2023-08-16 | | | | | | |
| Alkalinity, Total (as CaCO ₃) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Phenolphthalein (as CaCO ₃) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Bicarbonate (as CaCO ₃) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Carbonate (as CaCO ₃) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Hydroxide (as CaCO ₃) | < 1.0 | 1.0 mg/L | | | | | | | |
| Blank (B3H1585-BLK2) | | | Prepared: 2023-08-16, Analyzed: 2023-08-16 | | | | | | |
| Alkalinity, Total (as CaCO ₃) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Phenolphthalein (as CaCO ₃) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Bicarbonate (as CaCO ₃) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Carbonate (as CaCO ₃) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Hydroxide (as CaCO ₃) | < 1.0 | 1.0 mg/L | | | | | | | |
| LCS (B3H1585-BS1) | | | Prepared: 2023-08-16, Analyzed: 2023-08-16 | | | | | | |
| Alkalinity, Total (as CaCO ₃) | 104 | 1.0 mg/L | 100 | | 104 | 80-120 | | | |
| Alkalinity, Phenolphthalein (as CaCO ₃) | 44.1 | 1.0 mg/L | 50.0 | | 88 | 0-200 | | | |
| LCS (B3H1585-BS2) | | | Prepared: 2023-08-16, Analyzed: 2023-08-16 | | | | | | |
| Alkalinity, Total (as CaCO ₃) | 102 | 1.0 mg/L | 100 | | 102 | 80-120 | | | |
| Alkalinity, Phenolphthalein (as CaCO ₃) | 40.6 | 1.0 mg/L | 50.0 | | 81 | 0-200 | | | |
| Reference (B3H1585-SRM1) | | | Prepared: 2023-08-16, Analyzed: 2023-08-16 | | | | | | |
| pH | 7.02 | 0.10 pH units | 7.01 | | 100 | 98-102 | | | |
| Reference (B3H1585-SRM2) | | | Prepared: 2023-08-16, Analyzed: 2023-08-16 | | | | | | |
| pH | 7.02 | 0.10 pH units | 7.01 | | 100 | 98-102 | | | |
| Microbiological Parameters, Batch B3H1268 | | | | | | | | | |
| Blank (B3H1268-BLK1) | | | Prepared: 2023-08-12, Analyzed: 2023-08-12 | | | | | | |
| Coliforms, Total (Q-Tray) | < 1 | 1 MPN/100 mL | | | | | | | |
| Blank (B3H1268-BLK2) | | | Prepared: 2023-08-12, Analyzed: 2023-08-12 | | | | | | |
| Coliforms, Fecal (Q-Tray) | < 1 | 1 MPN/100 mL | | | | | | | |
| Duplicate (B3H1268-DUP2) | | | Source: 23H1727-02 | | Prepared: 2023-08-12, Analyzed: 2023-08-12 | | | | |
| Coliforms, Fecal (Q-Tray) | < 1 | 1 MPN/100 mL | | < 1 | | | 80 | | RS2 |

QC Qualifiers:

RS2 The Reporting Limits for this sample have been raised due to limited sample volume.



CERTIFICATE OF ANALYSIS

| | | | |
|---------------------|---|---------------------------------|---|
| REPORTED TO | Lake Country, District of (Wastewater) 4062 Beaver Lake Rd LAKE COUNTRY, BC V4V 1T5 | WORK ORDER | 23H1728 |
| ATTENTION | Davin Larsen | RECEIVED / TEMP REPORTED | 2023-08-11 11:08 / 21.8°C 2023-08-18 15:40 |
| PO NUMBER | | COC NUMBER | 45149.34247 |
| PROJECT | BioSolids- PE14651 | | |
| PROJECT INFO | Lake Country WWTP | | |

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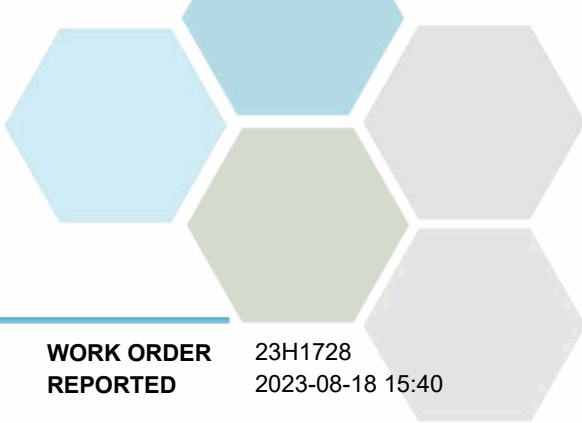
If you have any questions or concerns, please contact me at bwhitehead@caro.ca

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 Lake Country, District of (Wastewater)
BioSolids- PE14651

WORK ORDER REPORTED 23H1728
2023-08-18 15:40

| Analyte | Result | RL | Units | Analyzed | Qualifier |
|---------|--------|----|-------|----------|-----------|
|---------|--------|----|-------|----------|-----------|

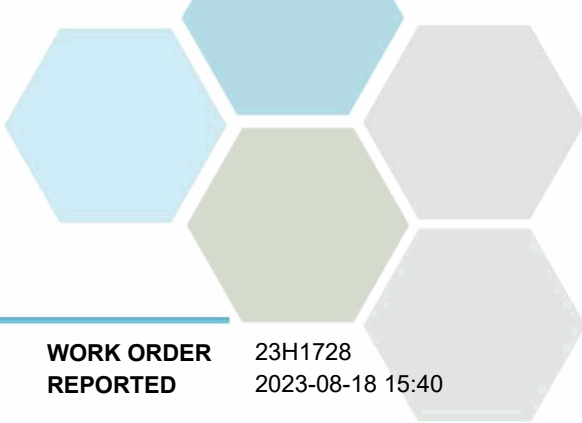
Biosolids (E233628) (23H1728-01) | Matrix: Sludge | Sampled: 2023-08-11 10:18

General Parameters

| | | | | | |
|--------------------------|------|--------|----------|------------|-----|
| Moisture | 82.9 | 1.0 | % wet | 2023-08-15 | |
| Nitrogen, Total Kjeldahl | 6.63 | 0.0004 | % dry | 2023-08-17 | |
| pH (1:2 H2O Solution) | 5.58 | 0.10 | pH units | 2023-08-15 | PH1 |
| Solids, Total | 17.1 | 0.1 | % wet | 2023-08-15 | |
| Solids, Volatile | 83.8 | 0.1 | % dry | 2023-08-15 | |

Strong Acid Leachable Metals

| | | | | | |
|------------|--------|-------|-----------|------------|--|
| Aluminum | 3820 | 40 | mg/kg dry | 2023-08-18 | |
| Antimony | 1.59 | 0.10 | mg/kg dry | 2023-08-18 | |
| Arsenic | 1.89 | 0.30 | mg/kg dry | 2023-08-18 | |
| Barium | 107 | 1.0 | mg/kg dry | 2023-08-18 | |
| Beryllium | < 0.10 | 0.10 | mg/kg dry | 2023-08-18 | |
| Bismuth | 24.9 | 0.10 | mg/kg dry | 2023-08-18 | |
| Boron | 20.6 | 2.0 | mg/kg dry | 2023-08-18 | |
| Cadmium | 0.930 | 0.040 | mg/kg dry | 2023-08-18 | |
| Calcium | 9170 | 100 | mg/kg dry | 2023-08-18 | |
| Chromium | 12.0 | 1.0 | mg/kg dry | 2023-08-18 | |
| Cobalt | 1.46 | 0.10 | mg/kg dry | 2023-08-18 | |
| Copper | 368 | 0.40 | mg/kg dry | 2023-08-18 | |
| Iron | 3190 | 20.0 | mg/kg dry | 2023-08-18 | |
| Lead | 7.87 | 0.20 | mg/kg dry | 2023-08-18 | |
| Lithium | 1.15 | 0.10 | mg/kg dry | 2023-08-18 | |
| Magnesium | 4870 | 10 | mg/kg dry | 2023-08-18 | |
| Manganese | 82.1 | 0.40 | mg/kg dry | 2023-08-18 | |
| Mercury | 0.503 | 0.040 | mg/kg dry | 2023-08-18 | |
| Molybdenum | 15.2 | 0.10 | mg/kg dry | 2023-08-18 | |
| Nickel | 10.3 | 0.60 | mg/kg dry | 2023-08-18 | |
| Phosphorus | 18400 | 10 | mg/kg dry | 2023-08-18 | |
| Potassium | 4330 | 40 | mg/kg dry | 2023-08-18 | |
| Selenium | 4.49 | 0.20 | mg/kg dry | 2023-08-18 | |
| Silver | 1.58 | 0.10 | mg/kg dry | 2023-08-18 | |
| Sodium | 638 | 50 | mg/kg dry | 2023-08-18 | |
| Strontium | 65.8 | 0.20 | mg/kg dry | 2023-08-18 | |
| Sulfur | 6610 | 1000 | mg/kg dry | 2023-08-18 | |
| Tellurium | < 0.10 | 0.10 | mg/kg dry | 2023-08-18 | |
| Thallium | < 0.10 | 0.10 | mg/kg dry | 2023-08-18 | |
| Thorium | < 0.50 | 0.50 | mg/kg dry | 2023-08-18 | |
| Tin | 15.5 | 0.20 | mg/kg dry | 2023-08-18 | |
| Titanium | 66.7 | 1.0 | mg/kg dry | 2023-08-18 | |
| Tungsten | 0.87 | 0.20 | mg/kg dry | 2023-08-18 | |
| Uranium | 11.6 | 0.050 | mg/kg dry | 2023-08-18 | |
| Vanadium | 5.9 | 1.0 | mg/kg dry | 2023-08-18 | |
| Zinc | 724 | 2.0 | mg/kg dry | 2023-08-18 | |



TEST RESULTS

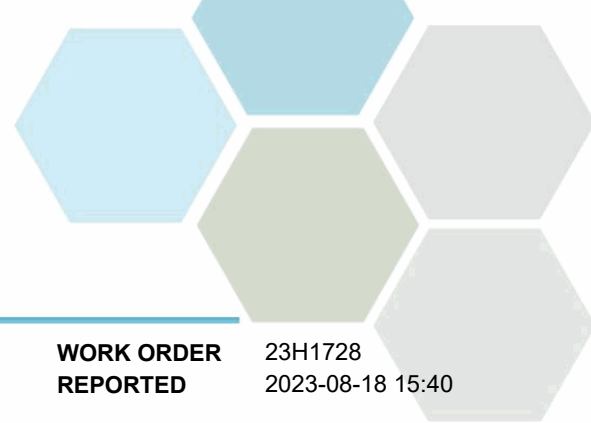
REPORTED TO PROJECT Lake Country, District of (Wastewater)
BioSolids- PE14651

WORK ORDER REPORTED 23H1728
2023-08-18 15:40

| Analyte | Result | RL | Units | Analyzed | Qualifier |
|---|--------|-----|-----------|------------|-----------|
| Biosolids (E233628) (23H1728-01) Matrix: Sludge Sampled: 2023-08-11 10:18, Continued | | | | | |
| <i>Strong Acid Leachable Metals, Continued</i> | | | | | |
| Zirconium | 6.3 | 2.0 | mg/kg dry | 2023-08-18 | |

Sample Qualifiers:

PH1 The ratio of water to soil was greater than 2:1 due to limited sample volume or matrix



APPENDIX 1: SUPPORTING INFORMATION

REPORTED TO PROJECT Lake Country, District of (Wastewater)
BioSolids- PE14651

WORK ORDER REPORTED 23H1728
2023-08-18 15:40

| Analysis Description | Method Ref. | Technique | Accredited | Location |
|-----------------------------------|-------------------------------------|---|------------|----------|
| Moisture in Solid | ASTM D2974-87* | Gravimetry (Dried at 105C) | | N/A |
| Nitrogen, Total Kjeldahl in Solid | SM 4500-Norg D* (2021) | Block Digestion and Flow Injection Analysis | ✓ | Kelowna |
| pH in Solid | Carter 16.2 / SM 4500-H+ B (2021) | 1:2 Soil/Water Slurry / Electrometry | | Kelowna |
| SALM in Solid | BCMOE SALM V.2 / EPA 6020B | HNO ₃ +HCl Hot Block Digestion / Inductively Coupled Plasma-Mass Spectroscopy (ICP-MS) | ✓ | Richmond |
| Solids, Total in Solid | Solids in Solids / SM 2540 G (2020) | Solids in Solids / Gravimetry | | Kelowna |
| Solids, Volatile in Solid | Solids in Solids / SM 2540 G (2020) | Solids in Solids / Gravimetry | | Kelowna |

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

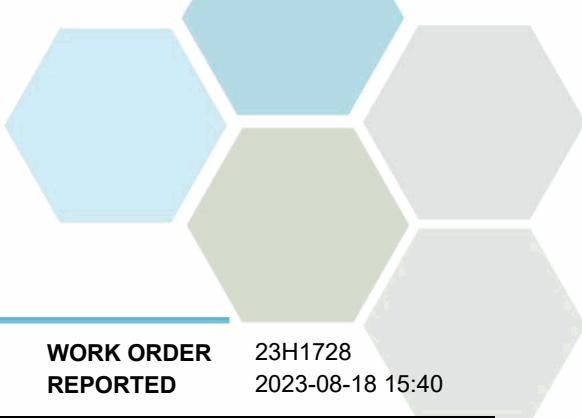
Glossary of Terms:

| | |
|-----------|---|
| RL | Reporting Limit (default) |
| % dry | Percent (dry weight basis) |
| % wet | Percent (as received basis) |
| < | Less than the specified Reporting Limit (RL) - the actual RL may be higher than the default RL due to various factors |
| mg/kg dry | Milligrams per kilogram (dry weight basis) |
| pH units | pH < 7 = acidic, pH > 7 = basic |
| ASTM | ASTM International Test Methods |
| EPA | United States Environmental Protection Agency Test Methods |
| SM | Standard Methods for the Examination of Water and Wastewater, American Public Health Association |

General Comments:

The results in this report apply to the received 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. Caro will dispose of all samples within 30 days of sample receipt, unless otherwise agreed.

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APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater)
BioSolids- PE14651

WORK ORDER REPORTED 23H1728
2023-08-18 15:40

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 |
|---------|--------|----------|-------------|---------------|-------|-----------|-------|-----------|-----------|
|---------|--------|----------|-------------|---------------|-------|-----------|-------|-----------|-----------|

General Parameters, Batch B3H1301

| Duplicate (B3H1301-DUP1) | | Source: 23H1728-01 | | Prepared: 2023-08-15, Analyzed: 2023-08-15 | | | | | |
|--------------------------|------|--|-------|--|--|-----|------|--------|--|
| Moisture | 99.0 | 1.0 | % wet | 82.9 | | | 17.7 | 40 | |
| Solids, Total | 17.0 | 0.1 | % wet | 17.1 | | | < 1 | 7.5 | |
| Solids, Volatile | 83.7 | 0.1 | % dry | 83.8 | | | < 1 | 15 | |
| Reference (B3H1301-SRM1) | | Prepared: 2023-08-15, Analyzed: 2023-08-15 | | | | | | | |
| Moisture | 99.0 | 1.0 | % wet | 7.0 | | 99 | | 80-120 | |
| Solids, Total | 91.6 | 0.1 | % wet | 93.0 | | 99 | | 80-120 | |
| Solids, Volatile | 7.0 | 0.1 | % dry | 6.26 | | 112 | | 80-200 | |

General Parameters, Batch B3H1538

| Duplicate (B3H1538-DUP1) | | Source: 23H1728-01 | | Prepared: 2023-08-15, Analyzed: 2023-08-15 | | | | | |
|--------------------------|------|--------------------|----------|--|--|--|-----|---|--|
| pH (1:2 H2O Solution) | 5.59 | 0.10 | pH units | 5.58 | | | < 1 | 2 | |

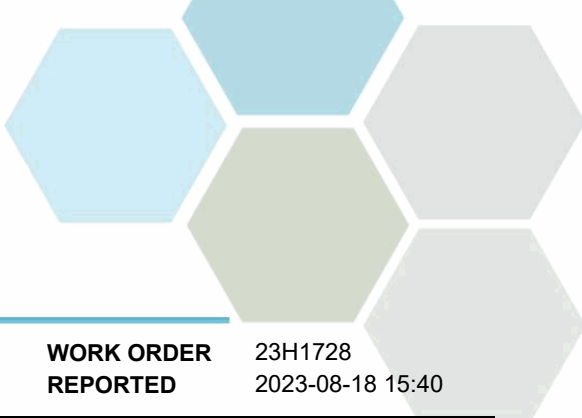
General Parameters, Batch B3H1651

| Blank (B3H1651-BLK1) | | Prepared: 2023-08-16, Analyzed: 2023-08-17 | | | | | | | |
|--------------------------|---------|--|-------|--|--|----|-----|----------|--|
| Nitrogen, Total Kjeldahl | < 0.010 | 0.010 | % wet | | | | | | |
| Duplicate (B3H1651-DUP1) | | Source: 23H1728-01 | | Prepared: 2023-08-16, Analyzed: 2023-08-17 | | | | | |
| Nitrogen, Total Kjeldahl | 6.64 | 0.0004 | % dry | 6.63 | | | < 1 | 25 | |
| Reference (B3H1651-SRM1) | | Prepared: 2023-08-16, Analyzed: 2023-08-17 | | | | | | | |
| Nitrogen, Total Kjeldahl | 0.171 | 0.010 | % wet | 0.197 | | 87 | | 58.8-150 | |

Strong Acid Leachable Metals, Batch B3H1929

| Blank (B3H1929-BLK1) | | Prepared: 2023-08-18, Analyzed: 2023-08-18 | | | | | | | |
|----------------------|--------|--|-----------|--|--|--|--|--|--|
| Aluminum | < 40 | 40 | mg/kg dry | | | | | | |
| Antimony | < 0.10 | 0.10 | mg/kg dry | | | | | | |
| Arsenic | < 0.30 | 0.30 | mg/kg dry | | | | | | |
| Barium | < 1.0 | 1.0 | mg/kg dry | | | | | | |
| Beryllium | < 0.10 | 0.10 | mg/kg dry | | | | | | |
| Bismuth | < 0.10 | 0.10 | mg/kg dry | | | | | | |
| Boron | 2.4 | 2.0 | mg/kg dry | | | | | | |

BLK



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater)
BioSolids- PE14651

WORK ORDER REPORTED 23H1728
2023-08-18 15:40

| Analyte | Result | RL Units | Spike Level | Source Result | % REC | REC Limit | % RPD | RPD Limit | Qualifier |
|---------|--------|----------|-------------|---------------|-------|-----------|-------|-----------|-----------|
|---------|--------|----------|-------------|---------------|-------|-----------|-------|-----------|-----------|

Strong Acid Leachable Metals, Batch B3H1929, Continued

Blank (B3H1929-BLK1), Continued

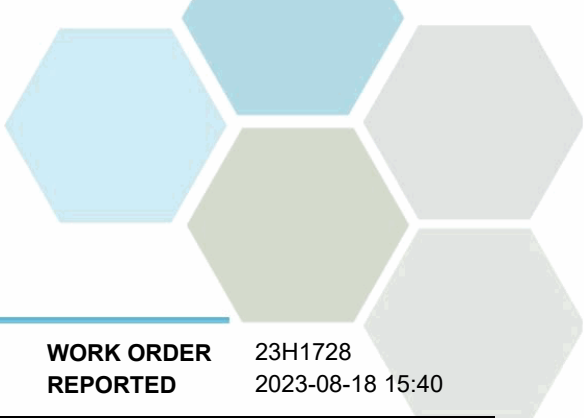
Prepared: 2023-08-18, Analyzed: 2023-08-18

| | | | | | | | | | |
|------------|---------|-----------------|--|--|--|--|--|--|-----|
| Cadmium | < 0.040 | 0.040 mg/kg dry | | | | | | | |
| Calcium | < 100 | 100 mg/kg dry | | | | | | | |
| Chromium | < 1.0 | 1.0 mg/kg dry | | | | | | | |
| Cobalt | < 0.10 | 0.10 mg/kg dry | | | | | | | |
| Copper | < 0.40 | 0.40 mg/kg dry | | | | | | | |
| Iron | < 20.0 | 20.0 mg/kg dry | | | | | | | |
| Lead | < 0.20 | 0.20 mg/kg dry | | | | | | | |
| Lithium | < 0.10 | 0.10 mg/kg dry | | | | | | | |
| Magnesium | < 10 | 10 mg/kg dry | | | | | | | |
| Manganese | < 0.40 | 0.40 mg/kg dry | | | | | | | |
| Mercury | < 0.040 | 0.040 mg/kg dry | | | | | | | |
| Molybdenum | < 0.10 | 0.10 mg/kg dry | | | | | | | |
| Nickel | < 0.60 | 0.60 mg/kg dry | | | | | | | |
| Phosphorus | < 10 | 10 mg/kg dry | | | | | | | |
| Potassium | < 40 | 40 mg/kg dry | | | | | | | |
| Selenium | < 0.20 | 0.20 mg/kg dry | | | | | | | |
| Silver | < 0.10 | 0.10 mg/kg dry | | | | | | | |
| Sodium | < 50 | 50 mg/kg dry | | | | | | | |
| Strontium | 0.23 | 0.20 mg/kg dry | | | | | | | BLK |
| Sulfur | < 1000 | 1000 mg/kg dry | | | | | | | |
| Tellurium | < 0.10 | 0.10 mg/kg dry | | | | | | | |
| Thallium | < 0.10 | 0.10 mg/kg dry | | | | | | | |
| Thorium | < 0.50 | 0.50 mg/kg dry | | | | | | | |
| Tin | < 0.20 | 0.20 mg/kg dry | | | | | | | |
| Titanium | < 1.0 | 1.0 mg/kg dry | | | | | | | |
| Tungsten | < 0.20 | 0.20 mg/kg dry | | | | | | | |
| Uranium | < 0.050 | 0.050 mg/kg dry | | | | | | | |
| Vanadium | < 1.0 | 1.0 mg/kg dry | | | | | | | |
| Zinc | < 2.0 | 2.0 mg/kg dry | | | | | | | |
| Zirconium | < 2.0 | 2.0 mg/kg dry | | | | | | | |

LCS (B3H1929-BS1)

Prepared: 2023-08-18, Analyzed: 2023-08-18

| | | | | | | | | | |
|------------|-------|-----------------|-------|--|-----|--------|--|--|--|
| Aluminum | 194 | 40 mg/kg dry | 200 | | 97 | 80-120 | | | |
| Antimony | 1.84 | 0.10 mg/kg dry | 2.00 | | 92 | 80-120 | | | |
| Arsenic | 19.6 | 0.30 mg/kg dry | 20.0 | | 98 | 80-120 | | | |
| Barium | 1.9 | 1.0 mg/kg dry | 2.00 | | 96 | 80-120 | | | |
| Beryllium | 1.90 | 0.10 mg/kg dry | 2.00 | | 95 | 80-120 | | | |
| Bismuth | 1.90 | 0.10 mg/kg dry | 2.00 | | 95 | 80-120 | | | |
| Boron | 19.6 | 2.0 mg/kg dry | 20.0 | | 98 | 80-120 | | | |
| Cadmium | 1.91 | 0.040 mg/kg dry | 2.00 | | 95 | 80-120 | | | |
| Calcium | 192 | 100 mg/kg dry | 200 | | 96 | 80-120 | | | |
| Chromium | 2.0 | 1.0 mg/kg dry | 2.00 | | 100 | 80-120 | | | |
| Cobalt | 1.98 | 0.10 mg/kg dry | 2.00 | | 99 | 80-120 | | | |
| Copper | 2.03 | 0.40 mg/kg dry | 2.00 | | 101 | 80-120 | | | |
| Iron | 198 | 20.0 mg/kg dry | 200 | | 99 | 80-120 | | | |
| Lead | 1.92 | 0.20 mg/kg dry | 2.00 | | 96 | 80-120 | | | |
| Lithium | 1.85 | 0.10 mg/kg dry | 2.00 | | 92 | 80-120 | | | |
| Magnesium | 202 | 10 mg/kg dry | 200 | | 101 | 80-120 | | | |
| Manganese | 1.99 | 0.40 mg/kg dry | 2.00 | | 100 | 80-120 | | | |
| Mercury | 0.196 | 0.040 mg/kg dry | 0.200 | | 98 | 80-120 | | | |
| Molybdenum | 1.91 | 0.10 mg/kg dry | 2.00 | | 96 | 80-120 | | | |
| Nickel | 2.02 | 0.60 mg/kg dry | 2.00 | | 101 | 80-120 | | | |
| Phosphorus | 192 | 10 mg/kg dry | 200 | | 96 | 80-120 | | | |
| Potassium | 191 | 40 mg/kg dry | 200 | | 96 | 80-120 | | | |
| Selenium | 19.4 | 0.20 mg/kg dry | 20.0 | | 97 | 80-120 | | | |
| Silver | 1.96 | 0.10 mg/kg dry | 2.00 | | 98 | 80-120 | | | |



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater)
BioSolids- PE14651

WORK ORDER REPORTED 23H1728
2023-08-18 15:40

| Analyte | Result | RL Units | Spike Level | Source Result | % REC | REC Limit | % RPD | RPD Limit | Qualifier |
|---------|--------|----------|-------------|---------------|-------|-----------|-------|-----------|-----------|
|---------|--------|----------|-------------|---------------|-------|-----------|-------|-----------|-----------|

Strong Acid Leachable Metals, Batch B3H1929, Continued

LCS (B3H1929-BS1), Continued

Prepared: 2023-08-18, Analyzed: 2023-08-18

| | | | | | | | | | |
|-----------|------|-----------------|------|--|-----|--------|--|--|--|
| Sodium | 208 | 50 mg/kg dry | 200 | | 104 | 80-120 | | | |
| Strontium | 1.94 | 0.20 mg/kg dry | 2.00 | | 97 | 80-120 | | | |
| Sulfur | 1940 | 1000 mg/kg dry | 2000 | | 97 | 80-120 | | | |
| Tellurium | 1.82 | 0.10 mg/kg dry | 2.00 | | 91 | 80-120 | | | |
| Thallium | 1.93 | 0.10 mg/kg dry | 2.00 | | 96 | 80-120 | | | |
| Thorium | 2.00 | 0.50 mg/kg dry | 2.00 | | 100 | 80-120 | | | |
| Tin | 1.91 | 0.20 mg/kg dry | 2.00 | | 95 | 80-120 | | | |
| Titanium | 2.0 | 1.0 mg/kg dry | 2.00 | | 98 | 80-120 | | | |
| Tungsten | 1.97 | 0.20 mg/kg dry | 2.00 | | 98 | 80-120 | | | |
| Uranium | 2.00 | 0.050 mg/kg dry | 2.00 | | 100 | 80-120 | | | |
| Vanadium | 2.0 | 1.0 mg/kg dry | 2.00 | | 100 | 80-120 | | | |
| Zinc | 19.5 | 2.0 mg/kg dry | 20.0 | | 98 | 80-120 | | | |
| Zirconium | 2.0 | 2.0 mg/kg dry | 2.00 | | 99 | 80-120 | | | |

Duplicate (B3H1929-DUP1)

Source: 23H1728-01

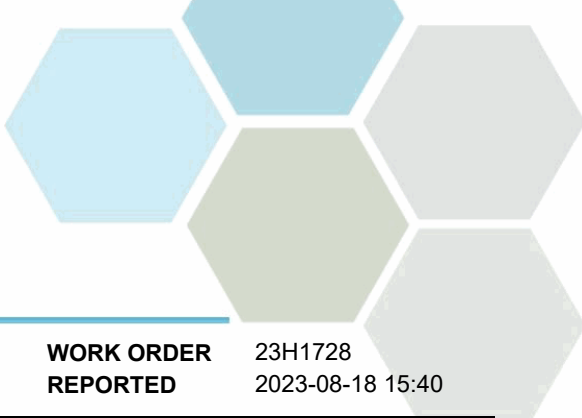
Prepared: 2023-08-18, Analyzed: 2023-08-18

| | | | | | | | | | |
|------------|--------|-----------------|--|--------|--|--|----|----|--|
| Aluminum | 4140 | 40 mg/kg dry | | 3820 | | | 8 | 40 | |
| Antimony | 1.67 | 0.10 mg/kg dry | | 1.59 | | | 5 | 30 | |
| Arsenic | 2.06 | 0.30 mg/kg dry | | 1.89 | | | 9 | 30 | |
| Barium | 116 | 1.0 mg/kg dry | | 107 | | | 9 | 40 | |
| Beryllium | < 0.10 | 0.10 mg/kg dry | | < 0.10 | | | | 30 | |
| Bismuth | 27.4 | 0.10 mg/kg dry | | 24.9 | | | 10 | 30 | |
| Boron | 21.6 | 2.0 mg/kg dry | | 20.6 | | | 5 | 30 | |
| Cadmium | 0.997 | 0.040 mg/kg dry | | 0.930 | | | 7 | 30 | |
| Calcium | 10200 | 100 mg/kg dry | | 9170 | | | 10 | 30 | |
| Chromium | 13.3 | 1.0 mg/kg dry | | 12.0 | | | 10 | 30 | |
| Cobalt | 1.63 | 0.10 mg/kg dry | | 1.46 | | | 11 | 30 | |
| Copper | 400 | 0.40 mg/kg dry | | 368 | | | 8 | 30 | |
| Iron | 3450 | 20.0 mg/kg dry | | 3190 | | | 8 | 30 | |
| Lead | 10.5 | 0.20 mg/kg dry | | 7.87 | | | 29 | 40 | |
| Lithium | 1.29 | 0.10 mg/kg dry | | 1.15 | | | 12 | 30 | |
| Magnesium | 5370 | 10 mg/kg dry | | 4870 | | | 10 | 30 | |
| Manganese | 88.9 | 0.40 mg/kg dry | | 82.1 | | | 8 | 30 | |
| Mercury | 0.611 | 0.040 mg/kg dry | | 0.503 | | | 19 | 40 | |
| Molybdenum | 16.5 | 0.10 mg/kg dry | | 15.2 | | | 9 | 40 | |
| Nickel | 11.4 | 0.60 mg/kg dry | | 10.3 | | | 10 | 30 | |
| Phosphorus | 20100 | 10 mg/kg dry | | 18400 | | | 9 | 30 | |
| Potassium | 4530 | 40 mg/kg dry | | 4330 | | | 5 | 40 | |
| Selenium | 4.83 | 0.20 mg/kg dry | | 4.49 | | | 7 | 30 | |
| Silver | 1.62 | 0.10 mg/kg dry | | 1.58 | | | 2 | 40 | |
| Sodium | 675 | 50 mg/kg dry | | 638 | | | 6 | 40 | |
| Strontium | 71.3 | 0.20 mg/kg dry | | 65.8 | | | 8 | 40 | |
| Sulfur | 7130 | 1000 mg/kg dry | | 6610 | | | 8 | 30 | |
| Tellurium | < 0.10 | 0.10 mg/kg dry | | < 0.10 | | | | 30 | |
| Thallium | < 0.10 | 0.10 mg/kg dry | | < 0.10 | | | | 30 | |
| Thorium | < 0.50 | 0.50 mg/kg dry | | < 0.50 | | | | 30 | |
| Tin | 16.8 | 0.20 mg/kg dry | | 15.5 | | | 8 | 40 | |
| Titanium | 79.4 | 1.0 mg/kg dry | | 66.7 | | | 17 | 40 | |
| Tungsten | 1.06 | 0.20 mg/kg dry | | 0.87 | | | 20 | 40 | |
| Uranium | 12.7 | 0.050 mg/kg dry | | 11.6 | | | 9 | 30 | |
| Vanadium | 6.5 | 1.0 mg/kg dry | | 5.9 | | | 9 | 30 | |
| Zinc | 785 | 2.0 mg/kg dry | | 724 | | | 8 | 30 | |
| Zirconium | 6.1 | 2.0 mg/kg dry | | 6.3 | | | | 40 | |

Reference (B3H1929-SRM1)

Prepared: 2023-08-18, Analyzed: 2023-08-18

| | | | | | | | | | |
|----------|-------|----------------|-------|--|-----|--------|--|--|--|
| Aluminum | 14100 | 40 mg/kg dry | 12100 | | 116 | 70-130 | | | |
| Antimony | 0.72 | 0.10 mg/kg dry | 0.634 | | 113 | 70-130 | | | |



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater)
BioSolids- PE14651

WORK ORDER REPORTED 23H1728
2023-08-18 15:40

| Analyte | Result | RL Units | Spike Level | Source Result | % REC | REC Limit | % RPD | RPD Limit | Qualifier |
|---|--------|-----------------|-------------|---------------|--|-----------|-------|-----------|-----------|
| Strong Acid Leachable Metals, Batch B3H1929, Continued | | | | | | | | | |
| Reference (B3H1929-SRM1), Continued | | | | | Prepared: 2023-08-18, Analyzed: 2023-08-18 | | | | |
| Arsenic | 97.3 | 0.30 mg/kg dry | 83.6 | | 116 | 70-130 | | | |
| Barium | 46.9 | 1.0 mg/kg dry | 41.4 | | 113 | 70-130 | | | |
| Beryllium | 0.43 | 0.10 mg/kg dry | 0.377 | | 115 | 70-130 | | | |
| Bismuth | 0.32 | 0.10 mg/kg dry | 0.291 | | 110 | 70-130 | | | |
| Calcium | 6080 | 100 mg/kg dry | 5380 | | 113 | 70-130 | | | |
| Chromium | 75.9 | 1.0 mg/kg dry | 66.0 | | 115 | 70-130 | | | |
| Cobalt | 12.3 | 0.10 mg/kg dry | 10.8 | | 114 | 70-130 | | | |
| Copper | 23.1 | 0.40 mg/kg dry | 20.3 | | 114 | 70-130 | | | |
| Iron | 23500 | 20.0 mg/kg dry | 20400 | | 115 | 70-130 | | | |
| Lead | 18.9 | 0.20 mg/kg dry | 16.7 | | 113 | 70-130 | | | |
| Lithium | 19.5 | 0.10 mg/kg dry | 16.8 | | 116 | 70-130 | | | |
| Magnesium | 7240 | 10 mg/kg dry | 6170 | | 117 | 70-130 | | | |
| Manganese | 367 | 0.40 mg/kg dry | 319 | | 115 | 70-130 | | | |
| Mercury | 0.120 | 0.040 mg/kg dry | 0.114 | | 106 | 70-130 | | | |
| Molybdenum | 0.68 | 0.10 mg/kg dry | 0.607 | | 112 | 70-130 | | | |
| Nickel | 36.9 | 0.60 mg/kg dry | 32.5 | | 114 | 70-130 | | | |
| Phosphorus | 488 | 10 mg/kg dry | 432 | | 113 | 70-130 | | | |
| Silver | 1.76 | 0.10 mg/kg dry | 1.55 | | 114 | 70-130 | | | |
| Strontium | 24.3 | 0.20 mg/kg dry | 22.5 | | 108 | 70-130 | | | |
| Thallium | < 0.10 | 0.10 mg/kg dry | 0.0765 | | 117 | 70-130 | | | |
| Thorium | 3.93 | 0.50 mg/kg dry | 2.96 | | 133 | 70-130 | | | SRM |
| Titanium | 816 | 1.0 mg/kg dry | 730 | | 112 | 70-130 | | | |
| Uranium | 1.28 | 0.050 mg/kg dry | 1.15 | | 111 | 70-130 | | | |
| Vanadium | 41.9 | 1.0 mg/kg dry | 36.3 | | 115 | 70-130 | | | |
| Zinc | 44.4 | 2.0 mg/kg dry | 39.7 | | 112 | 70-130 | | | |

QC Qualifiers:

BLK Analyte concentration in the Method Blank is above the Reporting Limit (RL).
 SRM Recovery of one or more analytes on Standard Reference Material (SRM) analysis are outside of control limits.



CERTIFICATE OF ANALYSIS

| | | | |
|---------------------|---|---------------------------------|---|
| REPORTED TO | Lake Country, District of (Wastewater) 4062 Beaver Lake Rd LAKE COUNTRY, BC V4V 1T5 | WORK ORDER | 2311371 |
| ATTENTION | Davin Larsen | RECEIVED / TEMP REPORTED | 2023-09-12 11:54 / 21.8°C 2023-09-18 11:56 |
| PO NUMBER | | COC NUMBER | 45181.38889 |
| PROJECT | Raw Influent- PE14651 | | |
| PROJECT INFO | Lake Country WWTP | | |

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>

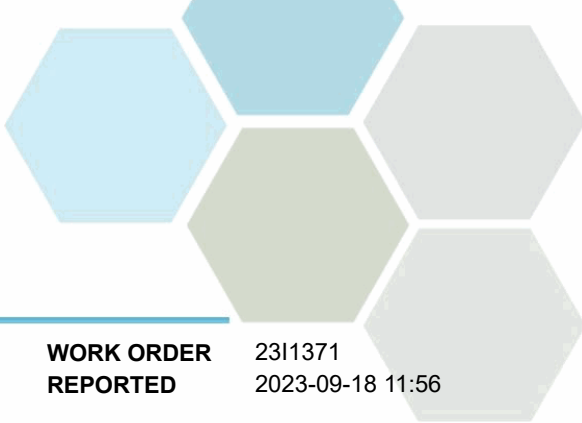
If you have any questions or concerns, please contact me at bwhitehead@caro.ca

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

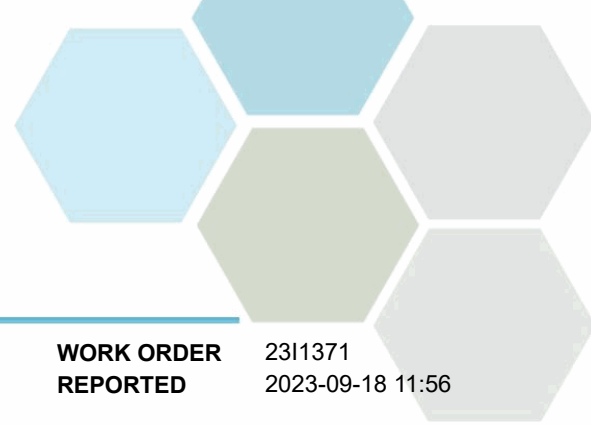
REPORTED TO PROJECT Lake Country, District of (Wastewater)
Raw Influent- PE14651

WORK ORDER REPORTED 2311371
2023-09-18 11:56

| Analyte | Result | RL | Units | Analyzed | Qualifier |
|---|-------------|--------|----------|------------|-----------|
| Raw Influent (E233627) (2311371-01) Matrix: Wastewater Sampled: 2023-09-12 10:56 | | | | | |
| Anions | | | | | |
| Nitrate (as N) | < 0.010 | 0.010 | mg/L | 2023-09-14 | |
| Nitrite (as N) | < 0.010 | 0.010 | mg/L | 2023-09-14 | |
| Phosphate (as P) | 13.3 | 0.0050 | mg/L | 2023-09-14 | |
| Calculated Parameters | | | | | |
| Nitrate+Nitrite (as N) | < 0.0100 | 0.0100 | mg/L | N/A | |
| Nitrogen, Total | 97.2 | 2.00 | mg/L | N/A | |
| General Parameters | | | | | |
| Alkalinity, Total (as CaCO3) | 398 | 1.0 | mg/L | 2023-09-13 | |
| Alkalinity, Phenolphthalein (as CaCO3) | < 1.0 | 1.0 | mg/L | 2023-09-13 | |
| Alkalinity, Bicarbonate (as CaCO3) | 398 | 1.0 | mg/L | 2023-09-13 | |
| Alkalinity, Carbonate (as CaCO3) | < 1.0 | 1.0 | mg/L | 2023-09-13 | |
| Alkalinity, Hydroxide (as CaCO3) | < 1.0 | 1.0 | mg/L | 2023-09-13 | |
| Ammonia, Total (as N) | 61.0 | 0.050 | mg/L | 2023-09-13 | |
| BOD, 5-day | 800 | 2.0 | mg/L | 2023-09-18 | |
| BOD, 5-day Carbonaceous | 800 | 2.0 | mg/L | 2023-09-18 | |
| Nitrogen, Total Kjeldahl | 97.2 | 0.050 | mg/L | 2023-09-15 | |
| pH | 7.71 | 0.10 | pH units | 2023-09-13 | HT2 |
| Phosphorus, Total (as P) | 19.8 | 0.0050 | mg/L | 2023-09-14 | |
| Solids, Total Suspended | 645 | 2.0 | mg/L | 2023-09-13 | |

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 Lake Country, District of (Wastewater)
Raw Influent- PE14651

WORK ORDER REPORTED 2311371
2023-09-18 11:56

| Analysis Description | Method Ref. | Technique | Accredited | Location |
|--|---|--|------------|----------|
| Alkalinity in Water | SM 2320 B* (2021) | Titration with H2SO4 | ✓ | Kelowna |
| Ammonia, Total in Water | SM 4500-NH3 G* (2021) | Automated Colorimetry (Phenate) | ✓ | Kelowna |
| Anions in Water | SM 4110 B (2020) | Ion Chromatography | ✓ | Kelowna |
| Biochemical Oxygen Demand in Water | SM 5210 B (2019) | Dissolved Oxygen Meter | ✓ | Kelowna |
| Biochemical Oxygen Demand, Carbonaceous in Water | SM 5210 B (2019) | Dissolved Oxygen Meter | ✓ | Kelowna |
| Nitrogen, Total Kjeldahl in Water | SM 4500-Norg D* (2021) | Block Digestion and Flow Injection Analysis | ✓ | Kelowna |
| pH in Water | SM 4500-H+ B (2021) | Electrometry | ✓ | Kelowna |
| Phosphorus, Total in Water | SM 4500-P B.5* (2011) / SM 4500-P F (2021) | Persulfate Digestion / Automated Colorimetry (Ascorbic Acid) | ✓ | Kelowna |
| Solids, Total Suspended in Water | Solids in Water, Filtered / SM 2540 D* (2020) | Solids in Water, Filtered / Gravimetry (Dried at 103-105C) | ✓ | Kelowna |

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

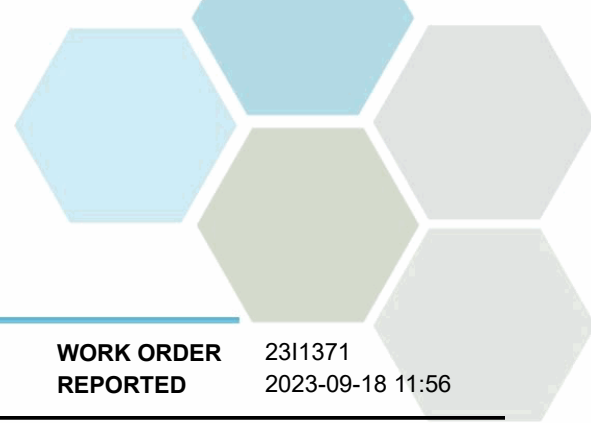
Glossary of Terms:

| | |
|----------|---|
| RL | Reporting Limit (default) |
| < | Less than the specified Reporting Limit (RL) - the actual RL may be higher than the default RL due to various factors |
| mg/L | Milligrams per litre |
| pH units | pH < 7 = acidic, pH > 7 = basic |
| SM | Standard Methods for the Examination of Water and Wastewater, American Public Health Association |

General Comments:

The results in this report apply to the received 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. Caro will dispose of all samples within 30 days of sample receipt, unless otherwise agreed.

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APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater)
Raw Influent- PE14651

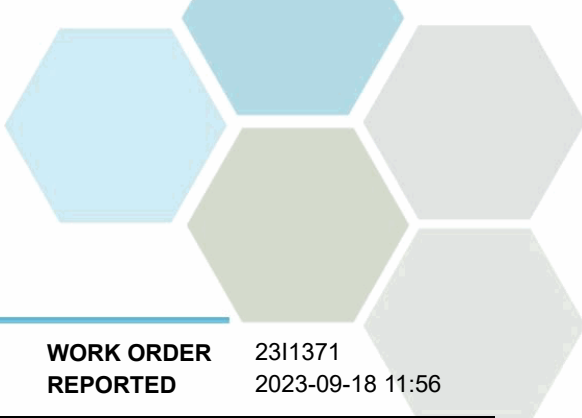
WORK ORDER REPORTED 2311371
2023-09-18 11:56

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 B3I0937 | | | | | | | | | |
| Blank (B3I0937-BLK1) | | | Prepared: 2023-09-13, Analyzed: 2023-09-13 | | | | | | |
| Nitrate (as N) | < 0.010 | 0.010 mg/L | | | | | | | |
| Nitrite (as N) | < 0.010 | 0.010 mg/L | | | | | | | |
| Phosphate (as P) | < 0.0050 | 0.0050 mg/L | | | | | | | |
| Blank (B3I0937-BLK2) | | | Prepared: 2023-09-14, Analyzed: 2023-09-14 | | | | | | |
| Nitrate (as N) | < 0.010 | 0.010 mg/L | | | | | | | |
| Nitrite (as N) | < 0.010 | 0.010 mg/L | | | | | | | |
| Phosphate (as P) | < 0.0050 | 0.0050 mg/L | | | | | | | |
| LCS (B3I0937-BS1) | | | Prepared: 2023-09-13, Analyzed: 2023-09-13 | | | | | | |
| Nitrate (as N) | 3.97 | 0.010 mg/L | 4.00 | | 99 | 90-110 | | | |
| Nitrite (as N) | 2.09 | 0.010 mg/L | 2.00 | | 105 | 85-115 | | | |
| Phosphate (as P) | 1.07 | 0.0050 mg/L | 1.00 | | 107 | 80-120 | | | |
| LCS (B3I0937-BS2) | | | Prepared: 2023-09-14, Analyzed: 2023-09-14 | | | | | | |
| Nitrate (as N) | 3.95 | 0.010 mg/L | 4.00 | | 99 | 90-110 | | | |
| Nitrite (as N) | 2.09 | 0.010 mg/L | 2.00 | | 104 | 85-115 | | | |
| Phosphate (as P) | 1.06 | 0.0050 mg/L | 1.00 | | 106 | 80-120 | | | |
| General Parameters, Batch B3I1128 | | | | | | | | | |
| Blank (B3I1128-BLK1) | | | Prepared: 2023-09-13, Analyzed: 2023-09-13 | | | | | | |
| Ammonia, Total (as N) | < 0.010 | 0.010 mg/L | | | | | | | |
| Blank (B3I1128-BLK2) | | | Prepared: 2023-09-13, Analyzed: 2023-09-13 | | | | | | |
| Ammonia, Total (as N) | 0.042 | 0.010 mg/L | | | | | | | |
| Blank (B3I1128-BLK3) | | | Prepared: 2023-09-13, Analyzed: 2023-09-13 | | | | | | |
| Ammonia, Total (as N) | 0.041 | 0.010 mg/L | | | | | | | |
| LCS (B3I1128-BS1) | | | Prepared: 2023-09-13, Analyzed: 2023-09-13 | | | | | | |
| Ammonia, Total (as N) | 0.964 | 0.010 mg/L | 1.00 | | 96 | 85-115 | | | |
| LCS (B3I1128-BS2) | | | Prepared: 2023-09-13, Analyzed: 2023-09-13 | | | | | | |
| Ammonia, Total (as N) | 0.894 | 0.010 mg/L | 1.00 | | 89 | 85-115 | | | |

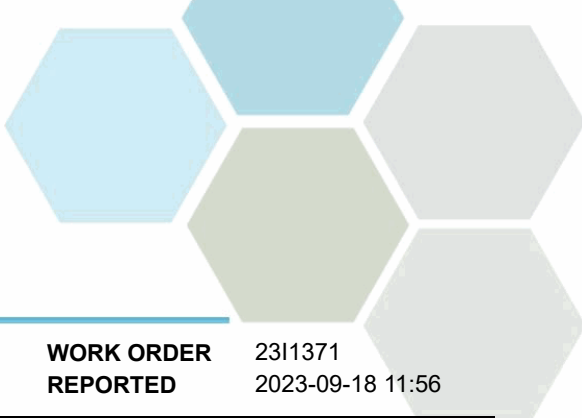


APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater)
Raw Influent- PE14651

WORK ORDER REPORTED 2311371
2023-09-18 11:56

| Analyte | Result | RL Units | Spike Level | Source Result | % REC | REC Limit | % RPD | RPD Limit | Qualifier |
|---|--------|---------------|--|---------------|-------|-----------|-------|-----------|-----------|
| General Parameters, Batch B311128, Continued | | | | | | | | | |
| LCS (B311128-BS3) | | | Prepared: 2023-09-13, Analyzed: 2023-09-13 | | | | | | |
| Ammonia, Total (as N) | 0.923 | 0.010 mg/L | 1.00 | | 92 | 85-115 | | | |
| General Parameters, Batch B311208 | | | | | | | | | |
| Blank (B311208-BLK1) | | | Prepared: 2023-09-13, Analyzed: 2023-09-18 | | | | | | |
| BOD, 5-day Carbonaceous | < 2.0 | 2.0 mg/L | | | | | | | |
| LCS (B311208-BS1) | | | Prepared: 2023-09-13, Analyzed: 2023-09-18 | | | | | | |
| BOD, 5-day Carbonaceous | 201 | 38.5 mg/L | 198 | | 102 | 85-115 | | | |
| General Parameters, Batch B311209 | | | | | | | | | |
| Blank (B311209-BLK1) | | | Prepared: 2023-09-13, Analyzed: 2023-09-18 | | | | | | |
| BOD, 5-day | < 2.0 | 2.0 mg/L | | | | | | | |
| LCS (B311209-BS1) | | | Prepared: 2023-09-13, Analyzed: 2023-09-18 | | | | | | |
| BOD, 5-day | 198 | 46.0 mg/L | 198 | | 100 | 85-115 | | | |
| General Parameters, Batch B311221 | | | | | | | | | |
| Blank (B311221-BLK1) | | | Prepared: 2023-09-13, Analyzed: 2023-09-13 | | | | | | |
| Alkalinity, Total (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Phenolphthalein (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Bicarbonate (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Carbonate (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Hydroxide (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Blank (B311221-BLK2) | | | Prepared: 2023-09-13, Analyzed: 2023-09-13 | | | | | | |
| Alkalinity, Total (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Phenolphthalein (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Bicarbonate (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Carbonate (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Hydroxide (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Blank (B311221-BLK3) | | | Prepared: 2023-09-13, Analyzed: 2023-09-13 | | | | | | |
| Alkalinity, Total (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Phenolphthalein (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Bicarbonate (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Carbonate (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Hydroxide (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| LCS (B311221-BS1) | | | Prepared: 2023-09-13, Analyzed: 2023-09-13 | | | | | | |
| Alkalinity, Total (as CaCO3) | 108 | 1.0 mg/L | 100 | | 108 | 80-120 | | | |
| Alkalinity, Phenolphthalein (as CaCO3) | 15.1 | 1.0 mg/L | 50.0 | | 30 | 0-200 | | | |
| LCS (B311221-BS2) | | | Prepared: 2023-09-13, Analyzed: 2023-09-13 | | | | | | |
| Alkalinity, Total (as CaCO3) | 110 | 1.0 mg/L | 100 | | 110 | 80-120 | | | |
| Alkalinity, Phenolphthalein (as CaCO3) | 13.9 | 1.0 mg/L | 50.0 | | 28 | 0-200 | | | |
| LCS (B311221-BS3) | | | Prepared: 2023-09-13, Analyzed: 2023-09-13 | | | | | | |
| Alkalinity, Total (as CaCO3) | 104 | 1.0 mg/L | 100 | | 104 | 80-120 | | | |
| Alkalinity, Phenolphthalein (as CaCO3) | 32.7 | 1.0 mg/L | 50.0 | | 65 | 0-200 | | | |
| Reference (B311221-SRM1) | | | Prepared: 2023-09-13, Analyzed: 2023-09-13 | | | | | | |
| pH | 7.04 | 0.10 pH units | 7.01 | | 100 | 98-102 | | | |



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater)
Raw Influent- PE14651

WORK ORDER REPORTED 2311371
2023-09-18 11:56

| Analyte | Result | RL Units | Spike Level | Source Result | % REC | REC Limit | % RPD | RPD Limit | Qualifier |
|---------|--------|----------|-------------|---------------|-------|-----------|-------|-----------|-----------|
|---------|--------|----------|-------------|---------------|-------|-----------|-------|-----------|-----------|

General Parameters, Batch B3I1221, Continued

| | | | | | | | | | |
|---------------------------------|------|---------------|--|--|-----|--------|--|--|--|
| Reference (B3I1221-SRM2) | | | Prepared: 2023-09-13, Analyzed: 2023-09-13 | | | | | | |
| pH | 7.04 | 0.10 pH units | 7.01 | | 100 | 98-102 | | | |
| Reference (B3I1221-SRM3) | | | Prepared: 2023-09-13, Analyzed: 2023-09-13 | | | | | | |
| pH | 7.04 | 0.10 pH units | 7.01 | | 100 | 98-102 | | | |

General Parameters, Batch B3I1232

| | | | | | | | | | |
|-----------------------------|----------|-------------|--|--|-----|--------|--|--|--|
| Blank (B3I1232-BLK1) | | | Prepared: 2023-09-13, Analyzed: 2023-09-14 | | | | | | |
| Phosphorus, Total (as P) | < 0.0050 | 0.0050 mg/L | | | | | | | |
| Blank (B3I1232-BLK2) | | | Prepared: 2023-09-13, Analyzed: 2023-09-14 | | | | | | |
| Phosphorus, Total (as P) | < 0.0050 | 0.0050 mg/L | | | | | | | |
| LCS (B3I1232-BS1) | | | Prepared: 2023-09-13, Analyzed: 2023-09-14 | | | | | | |
| Phosphorus, Total (as P) | 0.108 | 0.0050 mg/L | 0.100 | | 108 | 85-115 | | | |
| LCS (B3I1232-BS2) | | | Prepared: 2023-09-13, Analyzed: 2023-09-14 | | | | | | |
| Phosphorus, Total (as P) | 0.108 | 0.0050 mg/L | 0.100 | | 108 | 85-115 | | | |

General Parameters, Batch B3I1271

| | | | | | | | | | |
|-----------------------------|-------|-----------|--|--|-----|--------|--|--|--|
| Blank (B3I1271-BLK1) | | | Prepared: 2023-09-13, Analyzed: 2023-09-13 | | | | | | |
| Solids, Total Suspended | < 2.0 | 2.0 mg/L | | | | | | | |
| LCS (B3I1271-BS1) | | | Prepared: 2023-09-13, Analyzed: 2023-09-13 | | | | | | |
| Solids, Total Suspended | 100 | 10.0 mg/L | 100 | | 100 | 85-115 | | | |

General Parameters, Batch B3I1302

| | | | | | | | | | |
|-----------------------------|---------|------------|--|--|-----|--------|--|--|--|
| Blank (B3I1302-BLK1) | | | Prepared: 2023-09-14, Analyzed: 2023-09-15 | | | | | | |
| Nitrogen, Total Kjeldahl | < 0.050 | 0.050 mg/L | | | | | | | |
| LCS (B3I1302-BS1) | | | Prepared: 2023-09-14, Analyzed: 2023-09-15 | | | | | | |
| Nitrogen, Total Kjeldahl | 0.998 | 0.050 mg/L | 1.00 | | 100 | 85-115 | | | |



CERTIFICATE OF ANALYSIS

| | | | |
|---------------------|---|---------------------------------|---------------------------|
| REPORTED TO | Lake Country, District of (Wastewater) 4062 Beaver Lake Rd LAKE COUNTRY, BC V4V 1T5 | WORK ORDER | 2311379 |
| ATTENTION | Davin Larsen | RECEIVED / TEMP REPORTED | 2023-09-12 11:54 / 21.8°C |
| PO NUMBER | | REPORTED | 2023-09-18 11:48 |
| PROJECT | Amry- MR17842 | COC NUMBER | 45181.38889 |
| PROJECT INFO | Lake Country WWTP | | |

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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.

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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.

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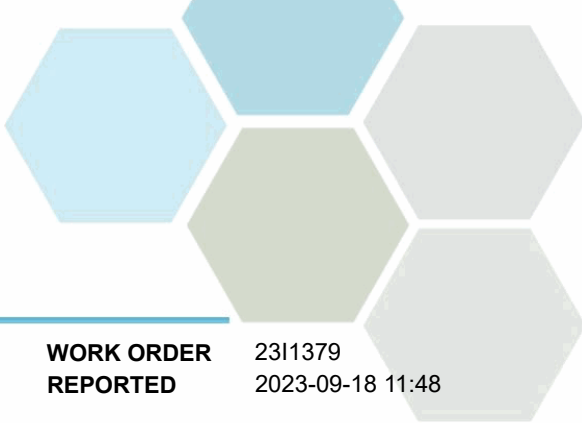
If you have any questions or concerns, please contact me at bwhitehead@caro.ca

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

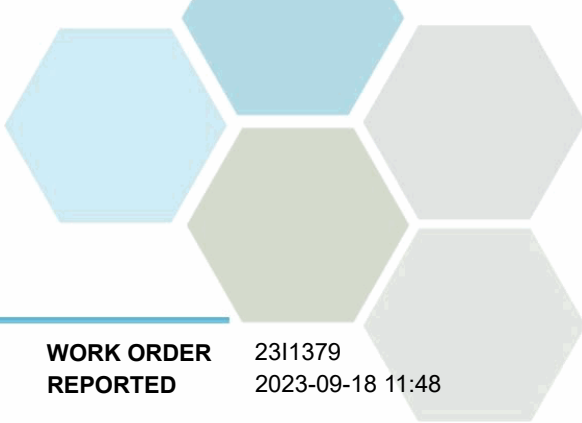


TEST RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater)
Amry- MR17842

WORK ORDER REPORTED 2311379
2023-09-18 11:48

| Analyte | Result | RL | Units | Analyzed | Qualifier |
|---|--------|-----|-------|------------|-----------|
| Amry (E262982) (2311379-01) Matrix: Wastewater Sampled: 2023-09-12 10:10 | | | | | |
| <i>General Parameters</i> | | | | | |
| BOD, 5-day Carbonaceous | < 6.9 | 2.0 | mg/L | 2023-09-18 | |
| Solids, Total Suspended | 6.0 | 2.0 | mg/L | 2023-09-13 | |



APPENDIX 1: SUPPORTING INFORMATION

REPORTED TO PROJECT Lake Country, District of (Wastewater)
Amry- MR17842

WORK ORDER REPORTED 2311379
2023-09-18 11:48

| Analysis Description | Method Ref. | Technique | Accredited | Location |
|--|---|--|------------|----------|
| Biochemical Oxygen Demand, Carbonaceous in Water | SM 5210 B (2019) | Dissolved Oxygen Meter | ✓ | Kelowna |
| Solids, Total Suspended in Water | Solids in Water, Filtered / SM 2540 D* (2020) | Solids in Water, Filtered / Gravimetry (Dried at 103-105C) | ✓ | Kelowna |

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

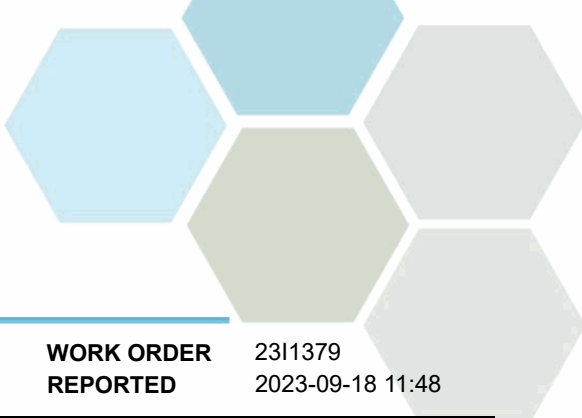
Glossary of Terms:

| | |
|------|---|
| RL | Reporting Limit (default) |
| < | Less than the specified Reporting Limit (RL) - the actual RL may be higher than the default RL due to various factors |
| mg/L | Milligrams per litre |
| SM | Standard Methods for the Examination of Water and Wastewater, American Public Health Association |

General Comments:

The results in this report apply to the received 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. Caro will dispose of all samples within 30 days of sample receipt, unless otherwise agreed.

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APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater)
Amry- MR17842

WORK ORDER REPORTED 2311379
2023-09-18 11:48

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 |
|---------|--------|----------|-------------|---------------|-------|-----------|-------|-----------|-----------|
|---------|--------|----------|-------------|---------------|-------|-----------|-------|-----------|-----------|

General Parameters, Batch B311208

| Blank (B311208-BLK1) Prepared: 2023-09-13, Analyzed: 2023-09-18 | | | | | | | | | |
|---|-------|-----------|-----|--|-----|--------|--|--|--|
| BOD, 5-day Carbonaceous | < 2.0 | 2.0 mg/L | | | | | | | |
| LCS (B311208-BS1) Prepared: 2023-09-13, Analyzed: 2023-09-18 | | | | | | | | | |
| BOD, 5-day Carbonaceous | 201 | 38.5 mg/L | 198 | | 102 | 85-115 | | | |

General Parameters, Batch B311271

| Blank (B311271-BLK1) Prepared: 2023-09-13, Analyzed: 2023-09-13 | | | | | | | | | |
|---|-------|-----------|-----|--|-----|--------|--|--|--|
| Solids, Total Suspended | < 2.0 | 2.0 mg/L | | | | | | | |
| LCS (B311271-BS1) Prepared: 2023-09-13, Analyzed: 2023-09-13 | | | | | | | | | |
| Solids, Total Suspended | 100 | 10.0 mg/L | 100 | | 100 | 85-115 | | | |



CERTIFICATE OF ANALYSIS

| | | | |
|---------------------|---|---------------------------------|---|
| REPORTED TO | Lake Country, District of (Wastewater) 4062 Beaver Lake Rd LAKE COUNTRY, BC V4V 1T5 | WORK ORDER | 2311382 |
| ATTENTION | Davin Larsen | RECEIVED / TEMP REPORTED | 2023-09-12 11:54 / 21.8°C 2023-09-19 13:03 |
| PO NUMBER | | COC NUMBER | 45181.38889 |
| PROJECT | BioSolids- PE14651 | | |
| PROJECT INFO | Lake Country WWTP | | |

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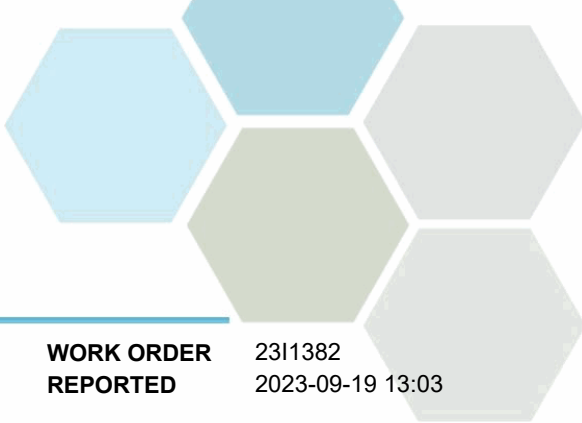
If you have any questions or concerns, please contact me at bwhitehead@caro.ca

Authorized By:

Brent Whitehead
Account Manager

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TEST RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater)
BioSolids- PE14651

WORK ORDER REPORTED 2311382
2023-09-19 13:03

| Analyte | Result | RL | Units | Analyzed | Qualifier |
|---------|--------|----|-------|----------|-----------|
|---------|--------|----|-------|----------|-----------|

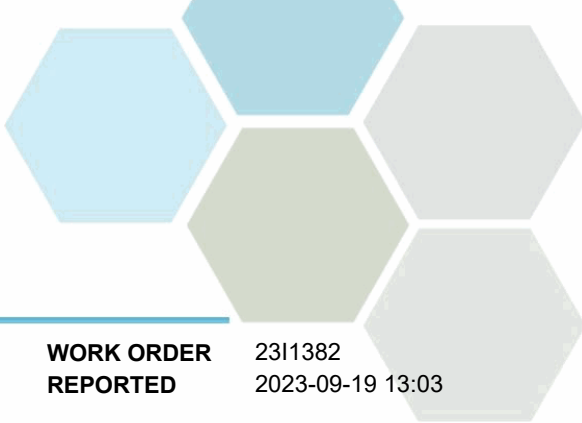
Biosolids (E233628) (2311382-01) | Matrix: Sludge | Sampled: 2023-09-12 10:17

General Parameters

| | | | | | |
|--------------------------|------|--------|-------|------------|--|
| Moisture | 63.8 | 1.0 | % wet | 2023-09-19 | |
| Nitrogen, Total Kjeldahl | 2.61 | 0.0004 | % dry | 2023-09-19 | |
| Solids, Total | 19.7 | 0.1 | % wet | 2023-09-19 | |
| Solids, Volatile | 82.6 | 0.1 | % dry | 2023-09-19 | |

Strong Acid Leachable Metals

| | | | | | |
|------------|--------|-------|-----------|------------|--|
| Aluminum | 2050 | 40 | mg/kg dry | 2023-09-17 | |
| Antimony | 1.35 | 0.10 | mg/kg dry | 2023-09-17 | |
| Arsenic | 1.57 | 0.30 | mg/kg dry | 2023-09-17 | |
| Barium | 93.7 | 1.0 | mg/kg dry | 2023-09-17 | |
| Beryllium | < 0.10 | 0.10 | mg/kg dry | 2023-09-17 | |
| Bismuth | 18.6 | 0.10 | mg/kg dry | 2023-09-17 | |
| Boron | 10.7 | 2.0 | mg/kg dry | 2023-09-17 | |
| Cadmium | 0.754 | 0.040 | mg/kg dry | 2023-09-17 | |
| Calcium | 9660 | 100 | mg/kg dry | 2023-09-17 | |
| Chromium | 10.1 | 1.0 | mg/kg dry | 2023-09-17 | |
| Cobalt | 1.18 | 0.10 | mg/kg dry | 2023-09-17 | |
| Copper | 347 | 0.40 | mg/kg dry | 2023-09-17 | |
| Iron | 3120 | 20.0 | mg/kg dry | 2023-09-17 | |
| Lead | 9.50 | 0.20 | mg/kg dry | 2023-09-17 | |
| Lithium | 0.90 | 0.10 | mg/kg dry | 2023-09-17 | |
| Magnesium | 3110 | 10 | mg/kg dry | 2023-09-17 | |
| Manganese | 96.5 | 0.40 | mg/kg dry | 2023-09-17 | |
| Mercury | 0.344 | 0.040 | mg/kg dry | 2023-09-17 | |
| Molybdenum | 9.93 | 0.10 | mg/kg dry | 2023-09-17 | |
| Nickel | 8.90 | 0.60 | mg/kg dry | 2023-09-17 | |
| Phosphorus | 11100 | 10 | mg/kg dry | 2023-09-17 | |
| Potassium | 2670 | 40 | mg/kg dry | 2023-09-17 | |
| Selenium | 3.01 | 0.20 | mg/kg dry | 2023-09-17 | |
| Silver | 1.28 | 0.10 | mg/kg dry | 2023-09-17 | |
| Sodium | 540 | 50 | mg/kg dry | 2023-09-17 | |
| Strontium | 59.6 | 0.20 | mg/kg dry | 2023-09-17 | |
| Sulfur | 6040 | 1000 | mg/kg dry | 2023-09-17 | |
| Tellurium | < 0.10 | 0.10 | mg/kg dry | 2023-09-17 | |
| Thallium | < 0.10 | 0.10 | mg/kg dry | 2023-09-17 | |
| Thorium | < 0.50 | 0.50 | mg/kg dry | 2023-09-17 | |
| Tin | 13.8 | 0.20 | mg/kg dry | 2023-09-17 | |
| Titanium | 112 | 1.0 | mg/kg dry | 2023-09-17 | |
| Tungsten | 0.63 | 0.20 | mg/kg dry | 2023-09-17 | |
| Uranium | 5.61 | 0.050 | mg/kg dry | 2023-09-17 | |
| Vanadium | 4.7 | 1.0 | mg/kg dry | 2023-09-17 | |
| Zinc | 610 | 2.0 | mg/kg dry | 2023-09-17 | |
| Zirconium | 2.8 | 2.0 | mg/kg dry | 2023-09-17 | |



APPENDIX 1: SUPPORTING INFORMATION

REPORTED TO PROJECT Lake Country, District of (Wastewater)
BioSolids- PE14651

WORK ORDER REPORTED 2311382
2023-09-19 13:03

| Analysis Description | Method Ref. | Technique | Accredited | Location |
|-----------------------------------|-------------------------------------|--|------------|----------|
| Moisture in Solid | ASTM D2974-87* | Gravimetry (Dried at 105C) | | N/A |
| Nitrogen, Total Kjeldahl in Solid | SM 4500-Norg D* (2021) | Block Digestion and Flow Injection Analysis | ✓ | Kelowna |
| SALM in Solid | BCMOE SALM V.2 / EPA 6020B | HNO3+HCl Hot Block Digestion / Inductively Coupled Plasma-Mass Spectroscopy (ICP-MS) | ✓ | Richmond |
| Solids, Total in Solid | Solids in Solids / SM 2540 G (2020) | Solids in Solids / Gravimetry | | Kelowna |
| Solids, Volatile in Solid | Solids in Solids / SM 2540 G (2020) | Solids in Solids / Gravimetry | | Kelowna |

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

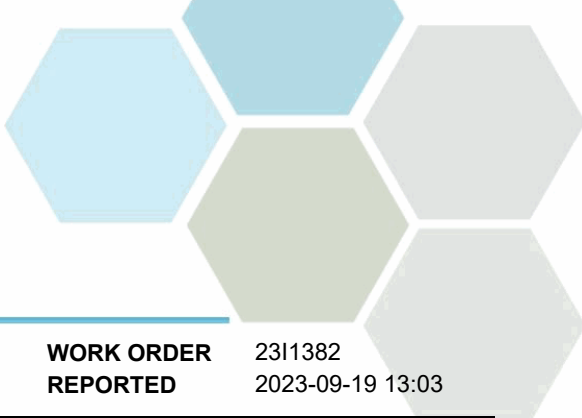
Glossary of Terms:

| | |
|-----------|---|
| RL | Reporting Limit (default) |
| % dry | Percent (dry weight basis) |
| % wet | Percent (as received basis) |
| < | Less than the specified Reporting Limit (RL) - the actual RL may be higher than the default RL due to various factors |
| mg/kg dry | Milligrams per kilogram (dry weight basis) |
| ASTM | ASTM International Test Methods |
| EPA | United States Environmental Protection Agency Test Methods |
| SM | Standard Methods for the Examination of Water and Wastewater, American Public Health Association |

General Comments:

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APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater)
BioSolids- PE14651

WORK ORDER REPORTED 2311382
2023-09-19 13:03

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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 |
|---------|--------|----------|-------------|---------------|-------|-----------|-------|-----------|-----------|
|---------|--------|----------|-------------|---------------|-------|-----------|-------|-----------|-----------|

General Parameters, Batch B3I1530

| Duplicate (B3I1530-DUP1) | Source: 2311382-01 | | Prepared: 2023-09-19, Analyzed: 2023-09-19 | | | | | | |
|--------------------------|--------------------|-----------|--|------|--|--|------|----|--|
| Moisture | 99.0 | 1.0 % wet | | 63.8 | | | 43.2 | 40 | |

General Parameters, Batch B3I1657

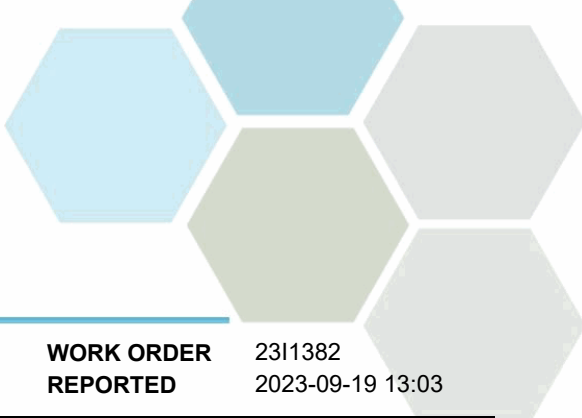
| Reference (B3I1657-SRM1) | Prepared: 2023-09-19, Analyzed: 2023-09-19 | | | | | | | | |
|--------------------------|--|-----------|------|--|-----|--------|--|--|--|
| Solids, Total | 93.0 | 0.1 % wet | 93.0 | | 100 | 80-120 | | | |
| Solids, Volatile | 7.4 | 0.1 % dry | 6.26 | | 119 | 80-200 | | | |

General Parameters, Batch B3I1666

| Blank (B3I1666-BLK1) | Prepared: 2023-09-18, Analyzed: 2023-09-19 | | | | | | | | |
|--------------------------|--|--------------|--|------|----|----------|---|----|--|
| Nitrogen, Total Kjeldahl | < 0.010 | 0.010 % wet | | | | | | | |
| Duplicate (B3I1666-DUP1) | Source: 2311382-01 | | Prepared: 2023-09-18, Analyzed: 2023-09-19 | | | | | | |
| Nitrogen, Total Kjeldahl | 2.84 | 0.0004 % dry | | 2.61 | | | 9 | 25 | |
| Reference (B3I1666-SRM1) | Prepared: 2023-09-18, Analyzed: 2023-09-19 | | | | | | | | |
| Nitrogen, Total Kjeldahl | 0.186 | 0.010 % wet | 0.197 | | 94 | 58.8-150 | | | |

Strong Acid Leachable Metals, Batch B3I1573

| Blank (B3I1573-BLK1) | Prepared: 2023-09-17, Analyzed: 2023-09-17 | | | | | | | | |
|----------------------|--|-----------------|--|--|--|--|--|--|--|
| Aluminum | < 40 | 40 mg/kg dry | | | | | | | |
| Antimony | < 0.10 | 0.10 mg/kg dry | | | | | | | |
| Arsenic | < 0.30 | 0.30 mg/kg dry | | | | | | | |
| Barium | < 1.0 | 1.0 mg/kg dry | | | | | | | |
| Beryllium | < 0.10 | 0.10 mg/kg dry | | | | | | | |
| Bismuth | < 0.10 | 0.10 mg/kg dry | | | | | | | |
| Boron | < 2.0 | 2.0 mg/kg dry | | | | | | | |
| Cadmium | < 0.040 | 0.040 mg/kg dry | | | | | | | |
| Calcium | < 100 | 100 mg/kg dry | | | | | | | |
| Chromium | < 1.0 | 1.0 mg/kg dry | | | | | | | |
| Cobalt | < 0.10 | 0.10 mg/kg dry | | | | | | | |
| Copper | < 0.40 | 0.40 mg/kg dry | | | | | | | |
| Iron | < 20.0 | 20.0 mg/kg dry | | | | | | | |



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater)
BioSolids- PE14651

WORK ORDER REPORTED 2311382
2023-09-19 13:03

| Analyte | Result | RL Units | Spike Level | Source Result | % REC | REC Limit | % RPD | RPD Limit | Qualifier |
|---------|--------|----------|-------------|---------------|-------|-----------|-------|-----------|-----------|
|---------|--------|----------|-------------|---------------|-------|-----------|-------|-----------|-----------|

Strong Acid Leachable Metals, Batch B311573, Continued

Blank (B311573-BLK1), Continued

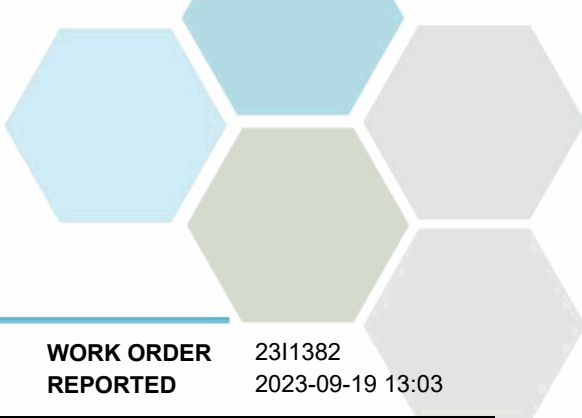
Prepared: 2023-09-17, Analyzed: 2023-09-17

| | | | | | | | | | |
|------------|---------|-----------------|--|--|--|--|--|--|--|
| Lead | < 0.20 | 0.20 mg/kg dry | | | | | | | |
| Lithium | < 0.10 | 0.10 mg/kg dry | | | | | | | |
| Magnesium | < 10 | 10 mg/kg dry | | | | | | | |
| Manganese | < 0.40 | 0.40 mg/kg dry | | | | | | | |
| Mercury | < 0.040 | 0.040 mg/kg dry | | | | | | | |
| Molybdenum | < 0.10 | 0.10 mg/kg dry | | | | | | | |
| Nickel | < 0.60 | 0.60 mg/kg dry | | | | | | | |
| Phosphorus | < 10 | 10 mg/kg dry | | | | | | | |
| Potassium | < 40 | 40 mg/kg dry | | | | | | | |
| Selenium | < 0.20 | 0.20 mg/kg dry | | | | | | | |
| Silver | < 0.10 | 0.10 mg/kg dry | | | | | | | |
| Sodium | < 50 | 50 mg/kg dry | | | | | | | |
| Strontium | < 0.20 | 0.20 mg/kg dry | | | | | | | |
| Sulfur | < 1000 | 1000 mg/kg dry | | | | | | | |
| Tellurium | < 0.10 | 0.10 mg/kg dry | | | | | | | |
| Thallium | < 0.10 | 0.10 mg/kg dry | | | | | | | |
| Thorium | < 0.50 | 0.50 mg/kg dry | | | | | | | |
| Tin | < 0.20 | 0.20 mg/kg dry | | | | | | | |
| Titanium | < 1.0 | 1.0 mg/kg dry | | | | | | | |
| Tungsten | < 0.20 | 0.20 mg/kg dry | | | | | | | |
| Uranium | < 0.050 | 0.050 mg/kg dry | | | | | | | |
| Vanadium | < 1.0 | 1.0 mg/kg dry | | | | | | | |
| Zinc | < 2.0 | 2.0 mg/kg dry | | | | | | | |
| Zirconium | < 2.0 | 2.0 mg/kg dry | | | | | | | |

LCS (B311573-BS1)

Prepared: 2023-09-17, Analyzed: 2023-09-18

| | | | | | | | | | |
|------------|-------|-----------------|-------|--|-----|--------|--|--|--|
| Aluminum | 200 | 40 mg/kg dry | 200 | | 100 | 80-120 | | | |
| Antimony | 1.97 | 0.10 mg/kg dry | 2.00 | | 98 | 80-120 | | | |
| Arsenic | 20.0 | 0.30 mg/kg dry | 20.0 | | 100 | 80-120 | | | |
| Barium | 2.0 | 1.0 mg/kg dry | 2.00 | | 102 | 80-120 | | | |
| Beryllium | 1.99 | 0.10 mg/kg dry | 2.00 | | 100 | 80-120 | | | |
| Bismuth | 2.01 | 0.10 mg/kg dry | 2.00 | | 101 | 80-120 | | | |
| Boron | 20.7 | 2.0 mg/kg dry | 20.0 | | 103 | 80-120 | | | |
| Cadmium | 1.97 | 0.040 mg/kg dry | 2.00 | | 99 | 80-120 | | | |
| Calcium | 205 | 100 mg/kg dry | 200 | | 103 | 80-120 | | | |
| Chromium | 2.0 | 1.0 mg/kg dry | 2.00 | | 102 | 80-120 | | | |
| Cobalt | 2.04 | 0.10 mg/kg dry | 2.00 | | 102 | 80-120 | | | |
| Copper | 2.04 | 0.40 mg/kg dry | 2.00 | | 102 | 80-120 | | | |
| Iron | 208 | 20.0 mg/kg dry | 200 | | 104 | 80-120 | | | |
| Lead | 2.02 | 0.20 mg/kg dry | 2.00 | | 101 | 80-120 | | | |
| Lithium | 1.89 | 0.10 mg/kg dry | 2.00 | | 95 | 80-120 | | | |
| Magnesium | 205 | 10 mg/kg dry | 200 | | 103 | 80-120 | | | |
| Manganese | 2.10 | 0.40 mg/kg dry | 2.00 | | 105 | 80-120 | | | |
| Mercury | 0.209 | 0.040 mg/kg dry | 0.200 | | 104 | 80-120 | | | |
| Molybdenum | 1.96 | 0.10 mg/kg dry | 2.00 | | 98 | 80-120 | | | |
| Nickel | 2.02 | 0.60 mg/kg dry | 2.00 | | 101 | 80-120 | | | |
| Phosphorus | 201 | 10 mg/kg dry | 200 | | 100 | 80-120 | | | |
| Potassium | 203 | 40 mg/kg dry | 200 | | 101 | 80-120 | | | |
| Selenium | 20.4 | 0.20 mg/kg dry | 20.0 | | 102 | 80-120 | | | |
| Silver | 2.16 | 0.10 mg/kg dry | 2.00 | | 108 | 80-120 | | | |
| Sodium | 208 | 50 mg/kg dry | 200 | | 104 | 80-120 | | | |
| Strontium | 2.06 | 0.20 mg/kg dry | 2.00 | | 103 | 80-120 | | | |
| Sulfur | 2070 | 1000 mg/kg dry | 2000 | | 103 | 80-120 | | | |
| Tellurium | 1.91 | 0.10 mg/kg dry | 2.00 | | 96 | 80-120 | | | |
| Thallium | 1.99 | 0.10 mg/kg dry | 2.00 | | 99 | 80-120 | | | |
| Thorium | 2.04 | 0.50 mg/kg dry | 2.00 | | 102 | 80-120 | | | |



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater)
BioSolids- PE14651

WORK ORDER REPORTED 2311382
2023-09-19 13:03

| Analyte | Result | RL Units | Spike Level | Source Result | % REC | REC Limit | % RPD | RPD Limit | Qualifier |
|---------|--------|----------|-------------|---------------|-------|-----------|-------|-----------|-----------|
|---------|--------|----------|-------------|---------------|-------|-----------|-------|-----------|-----------|

Strong Acid Leachable Metals, Batch B311573, Continued

LCS (B311573-BS1), Continued

Prepared: 2023-09-17, Analyzed: 2023-09-18

| | | | | | | | | | |
|-----------|------|-----------------|------|--|-----|--------|--|--|--|
| Tin | 2.05 | 0.20 mg/kg dry | 2.00 | | 103 | 80-120 | | | |
| Titanium | 2.2 | 1.0 mg/kg dry | 2.00 | | 109 | 80-120 | | | |
| Tungsten | 2.06 | 0.20 mg/kg dry | 2.00 | | 103 | 80-120 | | | |
| Uranium | 2.05 | 0.050 mg/kg dry | 2.00 | | 102 | 80-120 | | | |
| Vanadium | 2.0 | 1.0 mg/kg dry | 2.00 | | 102 | 80-120 | | | |
| Zinc | 20.0 | 2.0 mg/kg dry | 20.0 | | 100 | 80-120 | | | |
| Zirconium | 2.1 | 2.0 mg/kg dry | 2.00 | | 103 | 80-120 | | | |

Reference (B311573-SRM1)

Prepared: 2023-09-17, Analyzed: 2023-09-17

| | | | | | | | | | |
|------------|--------|-----------------|--------|--|-----|--------|--|--|--|
| Aluminum | 12700 | 40 mg/kg dry | 12100 | | 105 | 70-130 | | | |
| Antimony | 0.62 | 0.10 mg/kg dry | 0.634 | | 99 | 70-130 | | | |
| Arsenic | 83.4 | 0.30 mg/kg dry | 83.6 | | 100 | 70-130 | | | |
| Barium | 42.6 | 1.0 mg/kg dry | 41.4 | | 103 | 70-130 | | | |
| Beryllium | 0.38 | 0.10 mg/kg dry | 0.377 | | 100 | 70-130 | | | |
| Bismuth | 0.27 | 0.10 mg/kg dry | 0.291 | | 94 | 70-130 | | | |
| Calcium | 5460 | 100 mg/kg dry | 5380 | | 101 | 70-130 | | | |
| Chromium | 66.3 | 1.0 mg/kg dry | 66.0 | | 100 | 70-130 | | | |
| Cobalt | 10.8 | 0.10 mg/kg dry | 10.8 | | 100 | 70-130 | | | |
| Copper | 19.9 | 0.40 mg/kg dry | 20.3 | | 98 | 70-130 | | | |
| Iron | 20800 | 20.0 mg/kg dry | 20400 | | 102 | 70-130 | | | |
| Lead | 17.0 | 0.20 mg/kg dry | 16.7 | | 102 | 70-130 | | | |
| Lithium | 17.2 | 0.10 mg/kg dry | 16.8 | | 102 | 70-130 | | | |
| Magnesium | 6390 | 10 mg/kg dry | 6170 | | 104 | 70-130 | | | |
| Manganese | 325 | 0.40 mg/kg dry | 319 | | 102 | 70-130 | | | |
| Mercury | 0.110 | 0.040 mg/kg dry | 0.114 | | 97 | 70-130 | | | |
| Molybdenum | 0.61 | 0.10 mg/kg dry | 0.607 | | 100 | 70-130 | | | |
| Nickel | 32.7 | 0.60 mg/kg dry | 32.5 | | 101 | 70-130 | | | |
| Phosphorus | 443 | 10 mg/kg dry | 432 | | 102 | 70-130 | | | |
| Silver | 1.60 | 0.10 mg/kg dry | 1.55 | | 103 | 70-130 | | | |
| Strontium | 22.7 | 0.20 mg/kg dry | 22.5 | | 101 | 70-130 | | | |
| Thallium | < 0.10 | 0.10 mg/kg dry | 0.0765 | | 106 | 70-130 | | | |
| Thorium | 3.34 | 0.50 mg/kg dry | 2.96 | | 113 | 70-130 | | | |
| Titanium | 759 | 1.0 mg/kg dry | 730 | | 104 | 70-130 | | | |
| Uranium | 1.12 | 0.050 mg/kg dry | 1.15 | | 97 | 70-130 | | | |
| Vanadium | 36.6 | 1.0 mg/kg dry | 36.3 | | 101 | 70-130 | | | |
| Zinc | 39.5 | 2.0 mg/kg dry | 39.7 | | 99 | 70-130 | | | |



CERTIFICATE OF ANALYSIS

| | | | |
|---------------------|---|---------------------------------|---|
| REPORTED TO | Lake Country, District of (Wastewater) 4062 Beaver Lake Rd LAKE COUNTRY, BC V4V 1T5 | WORK ORDER | 2311375 |
| ATTENTION | Davin Larsen | RECEIVED / TEMP REPORTED | 2023-09-12 11:54 / 21.8°C 2023-09-18 16:54 |
| PO NUMBER | | COC NUMBER | 45181.38889 |
| PROJECT | Final Effluent- PE14651 | | |
| PROJECT INFO | Lake Country WWTP | | |

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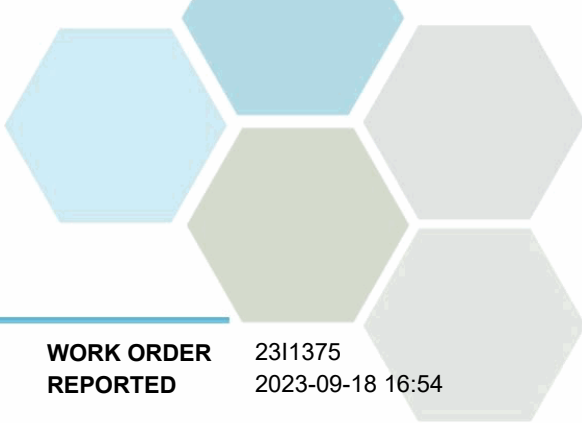
If you have any questions or concerns, please contact me at bwhitehead@caro.ca

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 Lake Country, District of (Wastewater)
Final Effluent- PE14651

WORK ORDER REPORTED 2311375
2023-09-18 16:54

| Analyte | Result | RL | Units | Analyzed | Qualifier |
|---------|--------|----|-------|----------|-----------|
|---------|--------|----|-------|----------|-----------|

Final Effluent (E233626) (2311375-01) | Matrix: Wastewater | Sampled: 2023-09-12 10:40

Anions

| | | | | | |
|------------------|--------|--------|------|------------|--|
| Chloride | 124 | 0.10 | mg/L | 2023-09-14 | |
| Nitrate (as N) | 1.54 | 0.010 | mg/L | 2023-09-14 | |
| Nitrite (as N) | 0.155 | 0.010 | mg/L | 2023-09-14 | |
| Phosphate (as P) | 0.0626 | 0.0050 | mg/L | 2023-09-14 | |

Calculated Parameters

| | | | | | |
|------------------------|------|--------|------|-----|--|
| Nitrate+Nitrite (as N) | 1.70 | 0.0100 | mg/L | N/A | |
| Nitrogen, Total | 3.77 | 0.0500 | mg/L | N/A | |
| Nitrogen, Organic | 1.44 | 0.0500 | mg/L | N/A | |

General Parameters

| | | | | | |
|--|-------|--------|----------|------------|-----|
| Alkalinity, Total (as CaCO3) | 188 | 1.0 | mg/L | 2023-09-13 | |
| Alkalinity, Phenolphthalein (as CaCO3) | < 1.0 | 1.0 | mg/L | 2023-09-13 | |
| Alkalinity, Bicarbonate (as CaCO3) | 188 | 1.0 | mg/L | 2023-09-13 | |
| Alkalinity, Carbonate (as CaCO3) | < 1.0 | 1.0 | mg/L | 2023-09-13 | |
| Alkalinity, Hydroxide (as CaCO3) | < 1.0 | 1.0 | mg/L | 2023-09-13 | |
| Ammonia, Total (as N) | 0.635 | 0.050 | mg/L | 2023-09-13 | |
| BOD, 5-day Carbonaceous | < 2.3 | 2.0 | mg/L | 2023-09-18 | |
| Nitrogen, Total Kjeldahl | 2.07 | 0.050 | mg/L | 2023-09-17 | |
| pH | 7.86 | 0.10 | pH units | 2023-09-13 | HT2 |
| Phosphorus, Total (as P) | 0.191 | 0.0050 | mg/L | 2023-09-14 | |
| Solids, Total Suspended | < 2.0 | 2.0 | mg/L | 2023-09-13 | |

Microbiological Parameters

| | | | | | |
|---------------------------|----------|---|------------|------------|--|
| Coliforms, Total (Q-Tray) | > 242000 | 1 | MPN/100 mL | 2023-09-13 | |
| Coliforms, Fecal (Q-Tray) | 37800 | 1 | MPN/100 mL | 2023-09-13 | |

Duplicate (2311375-02) | Matrix: Wastewater | Sampled: 2023-09-12 10:40

Anions

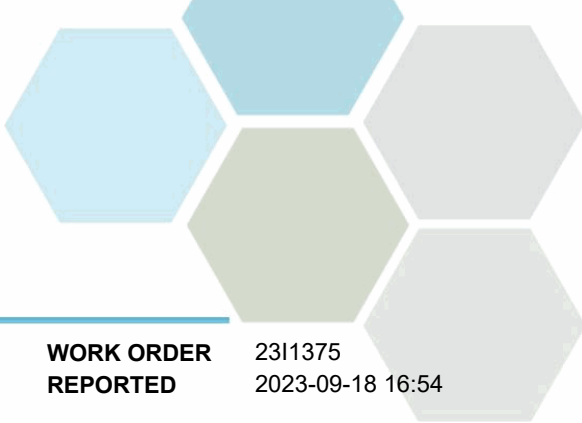
| | | | | | |
|------------------|--------|--------|------|------------|--|
| Chloride | 125 | 0.10 | mg/L | 2023-09-14 | |
| Nitrate (as N) | 1.63 | 0.010 | mg/L | 2023-09-14 | |
| Nitrite (as N) | 0.150 | 0.010 | mg/L | 2023-09-14 | |
| Phosphate (as P) | 0.0544 | 0.0050 | mg/L | 2023-09-14 | |

Calculated Parameters

| | | | | | |
|------------------------|------|--------|------|-----|--|
| Nitrate+Nitrite (as N) | 1.78 | 0.0100 | mg/L | N/A | |
| Nitrogen, Total | 3.83 | 0.0500 | mg/L | N/A | |
| Nitrogen, Organic | 1.42 | 0.0500 | mg/L | N/A | |

General Parameters

| | | | | | |
|--|-------|-----|------|------------|--|
| Alkalinity, Total (as CaCO3) | 191 | 1.0 | mg/L | 2023-09-13 | |
| Alkalinity, Phenolphthalein (as CaCO3) | < 1.0 | 1.0 | mg/L | 2023-09-13 | |
| Alkalinity, Bicarbonate (as CaCO3) | 191 | 1.0 | mg/L | 2023-09-13 | |



TEST RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater)
Final Effluent- PE14651

WORK ORDER REPORTED 2311375
2023-09-18 16:54

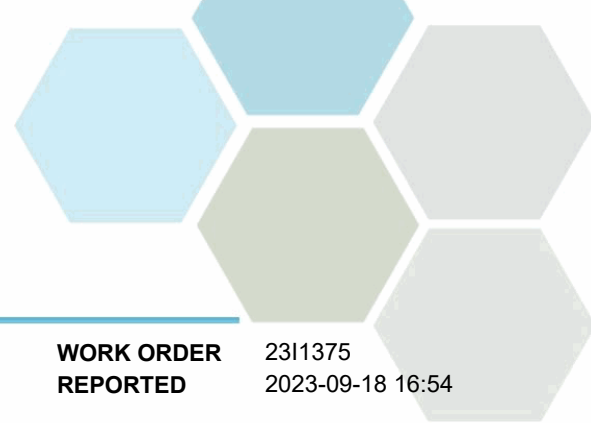
| Analyte | Result | RL | Units | Analyzed | Qualifier |
|---|--------------|--------|----------|------------|-----------|
| Duplicate (2311375-02) Matrix: Wastewater Sampled: 2023-09-12 10:40, Continued | | | | | |
| <i>General Parameters, Continued</i> | | | | | |
| Alkalinity, Carbonate (as CaCO3) | < 1.0 | 1.0 | mg/L | 2023-09-13 | |
| Alkalinity, Hydroxide (as CaCO3) | < 1.0 | 1.0 | mg/L | 2023-09-13 | |
| Ammonia, Total (as N) | 0.625 | 0.050 | mg/L | 2023-09-13 | |
| BOD, 5-day Carbonaceous | < 2.3 | 2.0 | mg/L | 2023-09-18 | |
| Nitrogen, Total Kjeldahl | 2.05 | 0.050 | mg/L | 2023-09-17 | |
| pH | 7.88 | 0.10 | pH units | 2023-09-13 | HT2 |
| Phosphorus, Total (as P) | 0.192 | 0.0050 | mg/L | 2023-09-14 | |
| Solids, Total Suspended | < 2.0 | 2.0 | mg/L | 2023-09-13 | |

Microbiological Parameters

| | | | | | |
|---------------------------|---------------|---|------------|------------|--|
| Coliforms, Total (Q-Tray) | 199000 | 1 | MPN/100 mL | 2023-09-13 | |
| Coliforms, Fecal (Q-Tray) | 43500 | 1 | MPN/100 mL | 2023-09-13 | |

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 Lake Country, District of (Wastewater)
Final Effluent- PE14651

WORK ORDER REPORTED 2311375
2023-09-18 16:54

| Analysis Description | Method Ref. | Technique | Accredited | Location |
|--|---|--|------------|----------|
| Alkalinity in Water | SM 2320 B* (2021) | Titration with H2SO4 | ✓ | Kelowna |
| Ammonia, Total in Water | SM 4500-NH3 G* (2021) | Automated Colorimetry (Phenate) | ✓ | Kelowna |
| Anions in Water | SM 4110 B (2020) | Ion Chromatography | ✓ | Kelowna |
| Biochemical Oxygen Demand, Carbonaceous in Water | SM 5210 B (2019) | Dissolved Oxygen Meter | ✓ | Kelowna |
| Coliforms, Fecal in Water | SM 9223 (2016) | Quanti-Tray / Enzyme Substrate Endo Agar | ✓ | Kelowna |
| Coliforms, Total in Water | SM 9223 (2016) | Quanti-Tray / Enzyme Substrate Endo Agar | ✓ | Kelowna |
| Nitrogen, Total Kjeldahl in Water | SM 4500-Norg D* (2021) | Block Digestion and Flow Injection Analysis | ✓ | Kelowna |
| pH in Water | SM 4500-H+ B (2021) | Electrometry | ✓ | Kelowna |
| Phosphorus, Total in Water | SM 4500-P B.5* (2011) / SM 4500-P F (2021) | Persulfate Digestion / Automated Colorimetry (Ascorbic Acid) | ✓ | Kelowna |
| Solids, Total Suspended in Water | Solids in Water, Filtered / SM 2540 D* (2020) | Solids in Water, Filtered / Gravimetry (Dried at 103-105C) | ✓ | Kelowna |

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

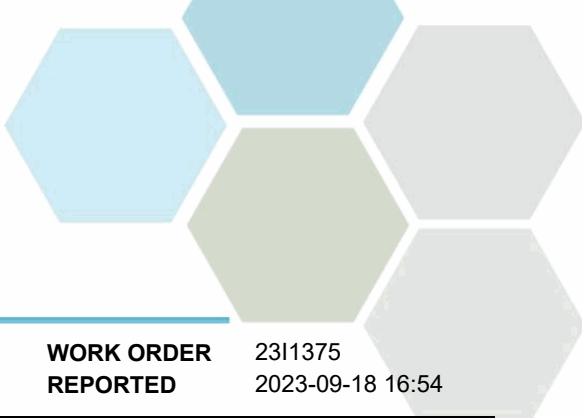
Glossary of Terms:

| | |
|------------|---|
| RL | Reporting Limit (default) |
| < | Less than the specified Reporting Limit (RL) - the actual RL may be higher than the default RL due to various factors |
| > | 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 |
| SM | Standard Methods for the Examination of Water and Wastewater, American Public Health Association |

General Comments:

The results in this report apply to the received 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. Caro will dispose of all samples within 30 days of sample receipt, unless otherwise agreed.

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APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater)
Final Effluent- PE14651

WORK ORDER REPORTED 2311375
2023-09-18 16:54

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:

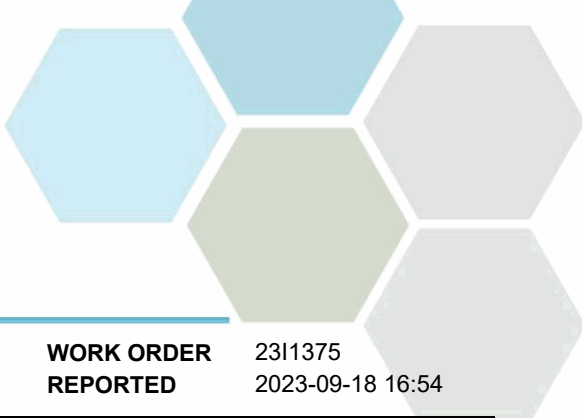
- **Method Blank (Blk):** A blank sample that undergoes sample processing identical to that carried out for the test samples. Method blank results are used to assess contamination from the laboratory environment and reagents.
- **Duplicate (Dup):** An additional or second portion of a randomly selected 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 B3I0937 | | | | | | | | | |
| Blank (B3I0937-BLK1) | | | Prepared: 2023-09-13, Analyzed: 2023-09-13 | | | | | | |
| 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 | | | | | | | |
| Phosphate (as P) | < 0.0050 | 0.0050 mg/L | | | | | | | |
| Blank (B3I0937-BLK2) | | | Prepared: 2023-09-14, Analyzed: 2023-09-14 | | | | | | |
| 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 | | | | | | | |
| Phosphate (as P) | < 0.0050 | 0.0050 mg/L | | | | | | | |
| LCS (B3I0937-BS1) | | | Prepared: 2023-09-13, Analyzed: 2023-09-13 | | | | | | |
| Chloride | 15.9 | 0.10 mg/L | 16.0 | | 100 | 90-110 | | | |
| Nitrate (as N) | 3.97 | 0.010 mg/L | 4.00 | | 99 | 90-110 | | | |
| Nitrite (as N) | 2.09 | 0.010 mg/L | 2.00 | | 105 | 85-115 | | | |
| Phosphate (as P) | 1.07 | 0.0050 mg/L | 1.00 | | 107 | 80-120 | | | |
| LCS (B3I0937-BS2) | | | Prepared: 2023-09-14, Analyzed: 2023-09-14 | | | | | | |
| Chloride | 16.0 | 0.10 mg/L | 16.0 | | 100 | 90-110 | | | |
| Nitrate (as N) | 3.95 | 0.010 mg/L | 4.00 | | 99 | 90-110 | | | |
| Nitrite (as N) | 2.09 | 0.010 mg/L | 2.00 | | 104 | 85-115 | | | |
| Phosphate (as P) | 1.06 | 0.0050 mg/L | 1.00 | | 106 | 80-120 | | | |

General Parameters, Batch B3I1128

| | | | | | | | | | |
|-----------------------------|---------|------------|--|--|----|--------|--|--|--|
| Blank (B3I1128-BLK1) | | | Prepared: 2023-09-13, Analyzed: 2023-09-13 | | | | | | |
| Ammonia, Total (as N) | < 0.010 | 0.010 mg/L | | | | | | | |
| Blank (B3I1128-BLK2) | | | Prepared: 2023-09-13, Analyzed: 2023-09-13 | | | | | | |
| Ammonia, Total (as N) | 0.042 | 0.010 mg/L | | | | | | | |
| Blank (B3I1128-BLK3) | | | Prepared: 2023-09-13, Analyzed: 2023-09-13 | | | | | | |
| Ammonia, Total (as N) | 0.041 | 0.010 mg/L | | | | | | | |
| LCS (B3I1128-BS1) | | | Prepared: 2023-09-13, Analyzed: 2023-09-13 | | | | | | |
| Ammonia, Total (as N) | 0.964 | 0.010 mg/L | 1.00 | | 96 | 85-115 | | | |

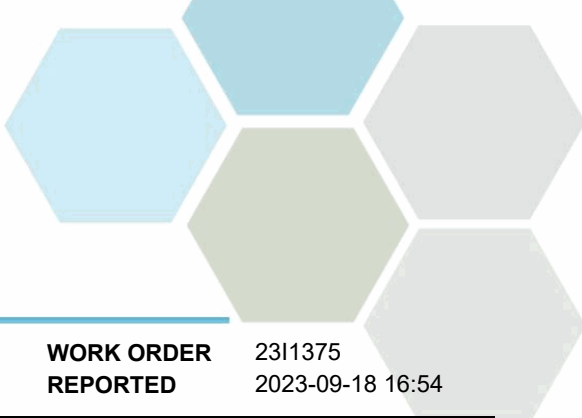


APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater)
Final Effluent- PE14651

WORK ORDER REPORTED 2311375
2023-09-18 16:54

| Analyte | Result | RL Units | Spike Level | Source Result | % REC | REC Limit | % RPD | RPD Limit | Qualifier |
|---|--------|---------------|--|---------------|-------|-----------|-------|-----------|-----------|
| General Parameters, Batch B311128, Continued | | | | | | | | | |
| LCS (B311128-BS2) | | | Prepared: 2023-09-13, Analyzed: 2023-09-13 | | | | | | |
| Ammonia, Total (as N) | 0.894 | 0.010 mg/L | 1.00 | | 89 | 85-115 | | | |
| LCS (B311128-BS3) | | | Prepared: 2023-09-13, Analyzed: 2023-09-13 | | | | | | |
| Ammonia, Total (as N) | 0.923 | 0.010 mg/L | 1.00 | | 92 | 85-115 | | | |
| General Parameters, Batch B311208 | | | | | | | | | |
| Blank (B311208-BLK1) | | | Prepared: 2023-09-13, Analyzed: 2023-09-18 | | | | | | |
| BOD, 5-day Carbonaceous | < 2.0 | 2.0 mg/L | | | | | | | |
| LCS (B311208-BS1) | | | Prepared: 2023-09-13, Analyzed: 2023-09-18 | | | | | | |
| BOD, 5-day Carbonaceous | 201 | 38.5 mg/L | 198 | | 102 | 85-115 | | | |
| General Parameters, Batch B311221 | | | | | | | | | |
| Blank (B311221-BLK1) | | | Prepared: 2023-09-13, Analyzed: 2023-09-13 | | | | | | |
| Alkalinity, Total (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Phenolphthalein (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Bicarbonate (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Carbonate (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Hydroxide (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Blank (B311221-BLK2) | | | Prepared: 2023-09-13, Analyzed: 2023-09-13 | | | | | | |
| Alkalinity, Total (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Phenolphthalein (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Bicarbonate (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Carbonate (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Hydroxide (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Blank (B311221-BLK3) | | | Prepared: 2023-09-13, Analyzed: 2023-09-13 | | | | | | |
| Alkalinity, Total (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Phenolphthalein (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Bicarbonate (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Carbonate (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Hydroxide (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| LCS (B311221-BS1) | | | Prepared: 2023-09-13, Analyzed: 2023-09-13 | | | | | | |
| Alkalinity, Total (as CaCO3) | 108 | 1.0 mg/L | 100 | | 108 | 80-120 | | | |
| Alkalinity, Phenolphthalein (as CaCO3) | 15.1 | 1.0 mg/L | 50.0 | | 30 | 0-200 | | | |
| LCS (B311221-BS2) | | | Prepared: 2023-09-13, Analyzed: 2023-09-13 | | | | | | |
| Alkalinity, Total (as CaCO3) | 110 | 1.0 mg/L | 100 | | 110 | 80-120 | | | |
| Alkalinity, Phenolphthalein (as CaCO3) | 13.9 | 1.0 mg/L | 50.0 | | 28 | 0-200 | | | |
| LCS (B311221-BS3) | | | Prepared: 2023-09-13, Analyzed: 2023-09-13 | | | | | | |
| Alkalinity, Total (as CaCO3) | 104 | 1.0 mg/L | 100 | | 104 | 80-120 | | | |
| Alkalinity, Phenolphthalein (as CaCO3) | 32.7 | 1.0 mg/L | 50.0 | | 65 | 0-200 | | | |
| Reference (B311221-SRM1) | | | Prepared: 2023-09-13, Analyzed: 2023-09-13 | | | | | | |
| pH | 7.04 | 0.10 pH units | 7.01 | | 100 | 98-102 | | | |
| Reference (B311221-SRM2) | | | Prepared: 2023-09-13, Analyzed: 2023-09-13 | | | | | | |
| pH | 7.04 | 0.10 pH units | 7.01 | | 100 | 98-102 | | | |
| Reference (B311221-SRM3) | | | Prepared: 2023-09-13, Analyzed: 2023-09-13 | | | | | | |
| pH | 7.04 | 0.10 pH units | 7.01 | | 100 | 98-102 | | | |



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater)
Final Effluent- PE14651

WORK ORDER REPORTED 2311375
2023-09-18 16:54

| Analyte | Result | RL Units | Spike Level | Source Result | % REC | REC Limit | % RPD | RPD Limit | Qualifier |
|--|----------|--------------|--|---------------|-------|-----------|-------|-----------|-----------|
| General Parameters, Batch B311232 | | | | | | | | | |
| Blank (B311232-BLK1) | | | Prepared: 2023-09-13, Analyzed: 2023-09-14 | | | | | | |
| Phosphorus, Total (as P) | < 0.0050 | 0.0050 mg/L | | | | | | | |
| Blank (B311232-BLK2) | | | Prepared: 2023-09-13, Analyzed: 2023-09-14 | | | | | | |
| Phosphorus, Total (as P) | < 0.0050 | 0.0050 mg/L | | | | | | | |
| LCS (B311232-BS1) | | | Prepared: 2023-09-13, Analyzed: 2023-09-14 | | | | | | |
| Phosphorus, Total (as P) | 0.108 | 0.0050 mg/L | 0.100 | | 108 | 85-115 | | | |
| LCS (B311232-BS2) | | | Prepared: 2023-09-13, Analyzed: 2023-09-14 | | | | | | |
| Phosphorus, Total (as P) | 0.108 | 0.0050 mg/L | 0.100 | | 108 | 85-115 | | | |
| General Parameters, Batch B311271 | | | | | | | | | |
| Blank (B311271-BLK1) | | | Prepared: 2023-09-13, Analyzed: 2023-09-13 | | | | | | |
| Solids, Total Suspended | < 2.0 | 2.0 mg/L | | | | | | | |
| LCS (B311271-BS1) | | | Prepared: 2023-09-13, Analyzed: 2023-09-13 | | | | | | |
| Solids, Total Suspended | 100 | 10.0 mg/L | 100 | | 100 | 85-115 | | | |
| General Parameters, Batch B311451 | | | | | | | | | |
| Blank (B311451-BLK1) | | | Prepared: 2023-09-15, Analyzed: 2023-09-17 | | | | | | |
| Nitrogen, Total Kjeldahl | < 0.050 | 0.050 mg/L | | | | | | | |
| Blank (B311451-BLK2) | | | Prepared: 2023-09-15, Analyzed: 2023-09-17 | | | | | | |
| Nitrogen, Total Kjeldahl | < 0.050 | 0.050 mg/L | | | | | | | |
| LCS (B311451-BS1) | | | Prepared: 2023-09-15, Analyzed: 2023-09-17 | | | | | | |
| Nitrogen, Total Kjeldahl | 1.01 | 0.050 mg/L | 1.00 | | 101 | 85-115 | | | |
| LCS (B311451-BS2) | | | Prepared: 2023-09-15, Analyzed: 2023-09-17 | | | | | | |
| Nitrogen, Total Kjeldahl | 0.986 | 0.050 mg/L | 1.00 | | 99 | 85-115 | | | |
| Microbiological Parameters, Batch B311198 | | | | | | | | | |
| Blank (B311198-BLK1) | | | Prepared: 2023-09-13, Analyzed: 2023-09-13 | | | | | | |
| Coliforms, Total (Q-Tray) | < 1 | 1 MPN/100 mL | | | | | | | |
| Blank (B311198-BLK2) | | | Prepared: 2023-09-13, Analyzed: 2023-09-13 | | | | | | |
| Coliforms, Total (Q-Tray) | < 1 | 1 MPN/100 mL | | | | | | | |
| Blank (B311198-BLK3) | | | Prepared: 2023-09-13, Analyzed: 2023-09-13 | | | | | | |
| Coliforms, Fecal (Q-Tray) | < 1 | 1 MPN/100 mL | | | | | | | |
| Blank (B311198-BLK4) | | | Prepared: 2023-09-13, Analyzed: 2023-09-13 | | | | | | |
| Coliforms, Total (Q-Tray) | < 1 | 1 MPN/100 mL | | | | | | | |



CERTIFICATE OF ANALYSIS

| | | | |
|---------------------|---|---------------------------------|---|
| REPORTED TO | Lake Country, District of (Wastewater) 4062 Beaver Lake Rd LAKE COUNTRY, BC V4V 1T5 | WORK ORDER | 23J0309 |
| ATTENTION | Davin Larsen | RECEIVED / TEMP REPORTED | 2023-10-04 11:32 / 18.0°C 2023-10-12 11:17 |
| PO NUMBER | | COC NUMBER | 45203.37681 |
| PROJECT | Final Effluent- PE14651 | | |
| PROJECT INFO | Lake Country WWTP | | |

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



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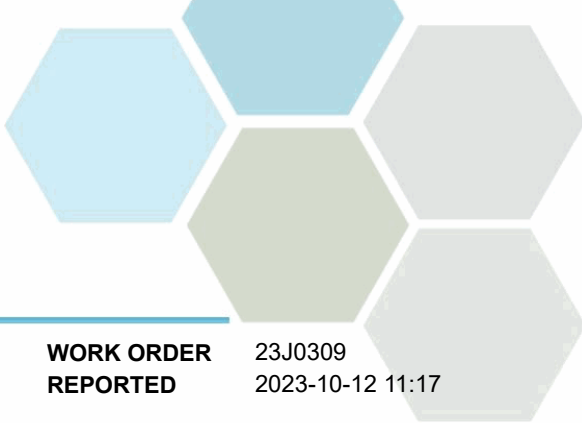
If you have any questions or concerns, please contact me at bwhitehead@caro.ca

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 Lake Country, District of (Wastewater)
Final Effluent- PE14651

WORK ORDER REPORTED 23J0309
2023-10-12 11:17

| Analyte | Result | RL | Units | Analyzed | Qualifier |
|---------|--------|----|-------|----------|-----------|
|---------|--------|----|-------|----------|-----------|

Final Effluent (E233626) (23J0309-01) | Matrix: Wastewater | Sampled: 2023-10-04 10:18

Anions

| | | | | | |
|------------------|-------|--------|------|------------|--|
| Chloride | 124 | 0.10 | mg/L | 2023-10-05 | |
| Nitrate (as N) | 1.30 | 0.010 | mg/L | 2023-10-05 | |
| Nitrite (as N) | 0.106 | 0.010 | mg/L | 2023-10-05 | |
| Phosphate (as P) | 0.252 | 0.0050 | mg/L | 2023-10-05 | |

Calculated Parameters

| | | | | | |
|------------------------|------|--------|------|-----|--|
| Nitrate+Nitrite (as N) | 1.40 | 0.0100 | mg/L | N/A | |
| Nitrogen, Total | 2.92 | 0.0500 | mg/L | N/A | |
| Nitrogen, Organic | 1.32 | 0.0500 | mg/L | N/A | |

General Parameters

| | | | | | |
|--|-------|--------|----------|------------|-----|
| Alkalinity, Total (as CaCO3) | 193 | 1.0 | mg/L | 2023-10-07 | |
| Alkalinity, Phenolphthalein (as CaCO3) | < 1.0 | 1.0 | mg/L | 2023-10-07 | |
| Alkalinity, Bicarbonate (as CaCO3) | 193 | 1.0 | mg/L | 2023-10-07 | |
| Alkalinity, Carbonate (as CaCO3) | < 1.0 | 1.0 | mg/L | 2023-10-07 | |
| Alkalinity, Hydroxide (as CaCO3) | < 1.0 | 1.0 | mg/L | 2023-10-07 | |
| Ammonia, Total (as N) | 0.197 | 0.050 | mg/L | 2023-10-04 | |
| BOD, 5-day Carbonaceous | 2.3 | 2.0 | mg/L | 2023-10-10 | |
| Nitrogen, Total Kjeldahl | 1.52 | 0.050 | mg/L | 2023-10-10 | |
| pH | 7.62 | 0.10 | pH units | 2023-10-07 | HT2 |
| Phosphorus, Total (as P) | 0.523 | 0.0050 | mg/L | 2023-10-05 | |
| Solids, Total Suspended | < 2.0 | 2.0 | mg/L | 2023-10-10 | |

Microbiological Parameters

| | | | | | |
|---------------------------|--------|---|------------|------------|--|
| Coliforms, Total (Q-Tray) | 130000 | 1 | MPN/100 mL | 2023-10-04 | |
| Coliforms, Fecal (Q-Tray) | 19400 | 1 | MPN/100 mL | 2023-10-04 | |

Field Blank (23J0309-02) | Matrix: Wastewater | Sampled: 2023-10-04 10:00

Anions

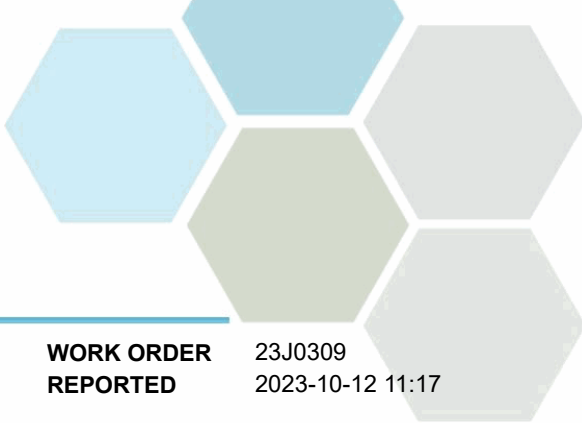
| | | | | | |
|------------------|----------|--------|------|------------|--|
| Chloride | < 0.10 | 0.10 | mg/L | 2023-10-05 | |
| Nitrate (as N) | < 0.010 | 0.010 | mg/L | 2023-10-05 | |
| Nitrite (as N) | < 0.010 | 0.010 | mg/L | 2023-10-05 | |
| Phosphate (as P) | < 0.0050 | 0.0050 | mg/L | 2023-10-05 | |

Calculated Parameters

| | | | | | |
|------------------------|----------|--------|------|-----|--|
| Nitrate+Nitrite (as N) | < 0.0100 | 0.0100 | mg/L | N/A | |
| Nitrogen, Total | 0.0900 | 0.0500 | mg/L | N/A | |
| Nitrogen, Organic | 0.0900 | 0.0500 | mg/L | N/A | |

General Parameters

| | | | | | |
|--|-------|-----|------|------------|-----|
| Alkalinity, Total (as CaCO3) | 3.8 | 1.0 | mg/L | 2023-10-07 | RE2 |
| Alkalinity, Phenolphthalein (as CaCO3) | < 1.0 | 1.0 | mg/L | 2023-10-07 | |
| Alkalinity, Bicarbonate (as CaCO3) | 3.8 | 1.0 | mg/L | 2023-10-07 | |



TEST RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater)
Final Effluent- PE14651

WORK ORDER REPORTED 23J0309
2023-10-12 11:17

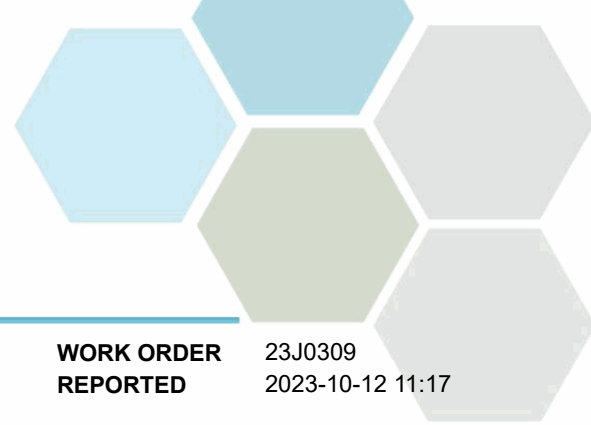
| Analyte | Result | RL | Units | Analyzed | Qualifier |
|---|--------------|--------|----------|------------|-----------|
| Field Blank (23J0309-02) Matrix: Wastewater Sampled: 2023-10-04 10:00, Continued | | | | | |
| <i>General Parameters, Continued</i> | | | | | |
| Alkalinity, Carbonate (as CaCO3) | < 1.0 | 1.0 | mg/L | 2023-10-07 | |
| Alkalinity, Hydroxide (as CaCO3) | < 1.0 | 1.0 | mg/L | 2023-10-07 | |
| Ammonia, Total (as N) | < 0.050 | 0.050 | mg/L | 2023-10-04 | |
| BOD, 5-day Carbonaceous | < 1.7 | 2.0 | mg/L | 2023-10-10 | |
| Nitrogen, Total Kjeldahl | 0.090 | 0.050 | mg/L | 2023-10-10 | RE2 |
| pH | 6.09 | 0.10 | pH units | 2023-10-07 | HT2 |
| Phosphorus, Total (as P) | < 0.0050 | 0.0050 | mg/L | 2023-10-05 | |
| Solids, Total Suspended | < 2.0 | 2.0 | mg/L | 2023-10-10 | |

Microbiological Parameters

| | | | | | |
|---------------------------|-----|---|------------|------------|--|
| Coliforms, Total (Q-Tray) | < 1 | 1 | MPN/100 mL | 2023-10-04 | |
| Coliforms, Fecal (Q-Tray) | < 1 | 1 | MPN/100 mL | 2023-10-04 | |

Sample Qualifiers:

- HT2 The 15 minute recommended holding time (from sampling to analysis) has been exceeded - field analysis is recommended.
- RE2 Result was confirmed by re-analysis prior to reporting.



APPENDIX 1: SUPPORTING INFORMATION

REPORTED TO PROJECT Lake Country, District of (Wastewater)
Final Effluent- PE14651

WORK ORDER REPORTED 23J0309
2023-10-12 11:17

| Analysis Description | Method Ref. | Technique | Accredited | Location |
|--|---|--|------------|----------|
| Alkalinity in Water | SM 2320 B* (2021) | Titration with H2SO4 | ✓ | Kelowna |
| Ammonia, Total in Water | SM 4500-NH3 G* (2021) | Automated Colorimetry (Phenate) | ✓ | Kelowna |
| Anions in Water | SM 4110 B (2020) | Ion Chromatography | ✓ | Kelowna |
| Biochemical Oxygen Demand, Carbonaceous in Water | SM 5210 B (2019) | Dissolved Oxygen Meter | ✓ | Kelowna |
| Coliforms, Fecal in Water | SM 9223 (2016) | Quanti-Tray / Enzyme Substrate Endo Agar | ✓ | Kelowna |
| Coliforms, Total in Water | SM 9223 (2016) | Quanti-Tray / Enzyme Substrate Endo Agar | ✓ | Kelowna |
| Nitrogen, Total Kjeldahl in Water | SM 4500-Norg D* (2021) | Block Digestion and Flow Injection Analysis | ✓ | Kelowna |
| pH in Water | SM 4500-H+ B (2021) | Electrometry | ✓ | Kelowna |
| Phosphorus, Total in Water | SM 4500-P B.5* (2011) / SM 4500-P F (2021) | Persulfate Digestion / Automated Colorimetry (Ascorbic Acid) | ✓ | Kelowna |
| Solids, Total Suspended in Water | Solids in Water, Filtered / SM 2540 D* (2020) | Solids in Water, Filtered / Gravimetry (Dried at 103-105C) | ✓ | Kelowna |

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

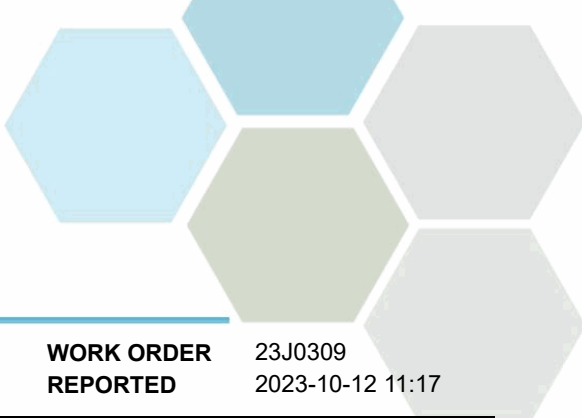
Glossary of Terms:

| | |
|------------|---|
| RL | Reporting Limit (default) |
| < | Less than the specified Reporting Limit (RL) - the actual RL may be higher than the default RL due to various factors |
| mg/L | Milligrams per litre |
| MPN/100 mL | Most Probable Number per 100 millilitres |
| pH units | pH < 7 = acidic, pH > 7 = basic |
| SM | Standard Methods for the Examination of Water and Wastewater, American Public Health Association |

General Comments:

The results in this report apply to the received 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. Caro will dispose of all samples within 30 days of sample receipt, unless otherwise agreed.

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APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater)
Final Effluent- PE14651

WORK ORDER REPORTED 23J0309
2023-10-12 11:17

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:

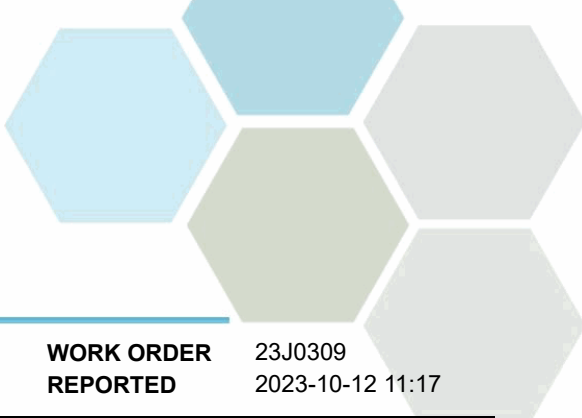
- **Method Blank (Blk):** A blank sample that undergoes sample processing identical to that carried out for the test samples. Method blank results are used to assess contamination from the laboratory environment and reagents.
- **Duplicate (Dup):** An additional or second portion of a randomly selected 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 B3J0299 | | | | | | | | | |
| Blank (B3J0299-BLK1) | | | Prepared: 2023-10-05, Analyzed: 2023-10-05 | | | | | | |
| 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 | | | | | | | |
| Phosphate (as P) | < 0.0050 | 0.0050 mg/L | | | | | | | |
| Blank (B3J0299-BLK2) | | | Prepared: 2023-10-06, Analyzed: 2023-10-06 | | | | | | |
| 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 | | | | | | | |
| Phosphate (as P) | < 0.0050 | 0.0050 mg/L | | | | | | | |
| LCS (B3J0299-BS1) | | | Prepared: 2023-10-05, Analyzed: 2023-10-05 | | | | | | |
| Chloride | 15.9 | 0.10 mg/L | 16.0 | | 99 | 90-110 | | | |
| Nitrate (as N) | 3.95 | 0.010 mg/L | 4.00 | | 99 | 90-110 | | | |
| Nitrite (as N) | 2.03 | 0.010 mg/L | 2.00 | | 101 | 85-115 | | | |
| Phosphate (as P) | 0.846 | 0.0050 mg/L | 1.00 | | 85 | 80-120 | | | |
| LCS (B3J0299-BS2) | | | Prepared: 2023-10-06, Analyzed: 2023-10-06 | | | | | | |
| Chloride | 15.9 | 0.10 mg/L | 16.0 | | 99 | 90-110 | | | |
| Nitrate (as N) | 3.82 | 0.010 mg/L | 4.00 | | 96 | 90-110 | | | |
| Nitrite (as N) | 2.01 | 0.010 mg/L | 2.00 | | 100 | 85-115 | | | |
| Phosphate (as P) | 1.05 | 0.0050 mg/L | 1.00 | | 105 | 80-120 | | | |

General Parameters, Batch B3J0211

| | | | | | | | | | |
|-----------------------------|---------|------------|--|--|----|--------|--|--|--|
| Blank (B3J0211-BLK1) | | | Prepared: 2023-10-04, Analyzed: 2023-10-04 | | | | | | |
| Ammonia, Total (as N) | < 0.050 | 0.050 mg/L | | | | | | | |
| Blank (B3J0211-BLK2) | | | Prepared: 2023-10-04, Analyzed: 2023-10-04 | | | | | | |
| Ammonia, Total (as N) | < 0.050 | 0.050 mg/L | | | | | | | |
| Blank (B3J0211-BLK3) | | | Prepared: 2023-10-04, Analyzed: 2023-10-04 | | | | | | |
| Ammonia, Total (as N) | < 0.050 | 0.050 mg/L | | | | | | | |
| LCS (B3J0211-BS1) | | | Prepared: 2023-10-04, Analyzed: 2023-10-04 | | | | | | |
| Ammonia, Total (as N) | 0.932 | 0.050 mg/L | 1.00 | | 93 | 85-115 | | | |

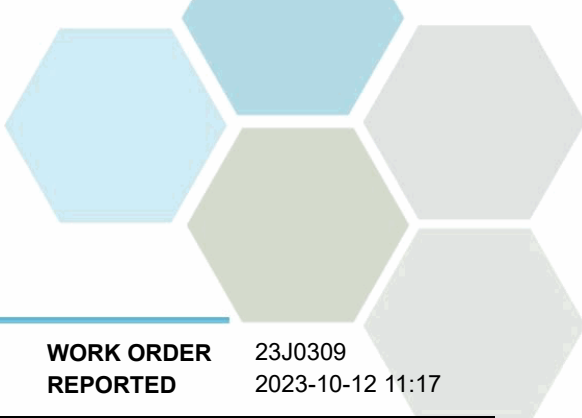


APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater)
Final Effluent- PE14651

WORK ORDER REPORTED 23J0309
2023-10-12 11:17

| Analyte | Result | RL Units | Spike Level | Source Result | % REC | REC Limit | % RPD | RPD Limit | Qualifier |
|---|----------|-------------|--|---------------|-------|-----------|-------|-----------|-----------|
| General Parameters, Batch B3J0211, Continued | | | | | | | | | |
| LCS (B3J0211-BS2) | | | Prepared: 2023-10-04, Analyzed: 2023-10-04 | | | | | | |
| Ammonia, Total (as N) | 0.942 | 0.050 mg/L | 1.00 | | 94 | 85-115 | | | |
| LCS (B3J0211-BS3) | | | Prepared: 2023-10-04, Analyzed: 2023-10-04 | | | | | | |
| Ammonia, Total (as N) | 0.912 | 0.050 mg/L | 1.00 | | 91 | 85-115 | | | |
| General Parameters, Batch B3J0305 | | | | | | | | | |
| Blank (B3J0305-BLK1) | | | Prepared: 2023-10-04, Analyzed: 2023-10-05 | | | | | | |
| Phosphorus, Total (as P) | < 0.0050 | 0.0050 mg/L | | | | | | | |
| Blank (B3J0305-BLK2) | | | Prepared: 2023-10-04, Analyzed: 2023-10-05 | | | | | | |
| Phosphorus, Total (as P) | < 0.0050 | 0.0050 mg/L | | | | | | | |
| Blank (B3J0305-BLK3) | | | Prepared: 2023-10-04, Analyzed: 2023-10-05 | | | | | | |
| Phosphorus, Total (as P) | < 0.0050 | 0.0050 mg/L | | | | | | | |
| Blank (B3J0305-BLK4) | | | Prepared: 2023-10-04, Analyzed: 2023-10-05 | | | | | | |
| Phosphorus, Total (as P) | < 0.0050 | 0.0050 mg/L | | | | | | | |
| LCS (B3J0305-BS1) | | | Prepared: 2023-10-04, Analyzed: 2023-10-05 | | | | | | |
| Phosphorus, Total (as P) | 0.105 | 0.0050 mg/L | 0.100 | | 105 | 85-115 | | | |
| LCS (B3J0305-BS2) | | | Prepared: 2023-10-04, Analyzed: 2023-10-05 | | | | | | |
| Phosphorus, Total (as P) | 0.106 | 0.0050 mg/L | 0.100 | | 106 | 85-115 | | | |
| LCS (B3J0305-BS3) | | | Prepared: 2023-10-04, Analyzed: 2023-10-05 | | | | | | |
| Phosphorus, Total (as P) | 0.105 | 0.0050 mg/L | 0.100 | | 105 | 85-115 | | | |
| LCS (B3J0305-BS4) | | | Prepared: 2023-10-04, Analyzed: 2023-10-05 | | | | | | |
| Phosphorus, Total (as P) | 0.106 | 0.0050 mg/L | 0.100 | | 106 | 85-115 | | | |
| General Parameters, Batch B3J0422 | | | | | | | | | |
| Blank (B3J0422-BLK1) | | | Prepared: 2023-10-05, Analyzed: 2023-10-10 | | | | | | |
| BOD, 5-day Carbonaceous | < 2.0 | 2.0 mg/L | | | | | | | |
| LCS (B3J0422-BS1) | | | Prepared: 2023-10-05, Analyzed: 2023-10-10 | | | | | | |
| BOD, 5-day Carbonaceous | 213 | 43.4 mg/L | 198 | | 107 | 85-115 | | | |
| General Parameters, Batch B3J0689 | | | | | | | | | |
| Blank (B3J0689-BLK1) | | | Prepared: 2023-10-07, Analyzed: 2023-10-07 | | | | | | |
| Alkalinity, Total (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Phenolphthalein (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Bicarbonate (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Carbonate (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Hydroxide (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Blank (B3J0689-BLK2) | | | Prepared: 2023-10-07, Analyzed: 2023-10-07 | | | | | | |
| Alkalinity, Total (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Phenolphthalein (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Bicarbonate (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Carbonate (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Hydroxide (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater)
Final Effluent- PE14651

WORK ORDER REPORTED 23J0309
2023-10-12 11:17

| Analyte | Result | RL Units | Spike Level | Source Result | % REC | REC Limit | % RPD | RPD Limit | Qualifier |
|---------|--------|----------|-------------|---------------|-------|-----------|-------|-----------|-----------|
|---------|--------|----------|-------------|---------------|-------|-----------|-------|-----------|-----------|

General Parameters, Batch B3J0689, Continued

| | | | | | | | | | |
|--|-------|---------------|--|--|-----|--------|--|--|--|
| Blank (B3J0689-BLK3) | | | Prepared: 2023-10-07, Analyzed: 2023-10-07 | | | | | | |
| Alkalinity, Total (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Phenolphthalein (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Bicarbonate (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Carbonate (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Hydroxide (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| LCS (B3J0689-BS1) | | | Prepared: 2023-10-07, Analyzed: 2023-10-07 | | | | | | |
| Alkalinity, Total (as CaCO3) | 110 | 1.0 mg/L | 100 | | 110 | 80-120 | | | |
| Alkalinity, Phenolphthalein (as CaCO3) | 55.1 | 1.0 mg/L | 50.0 | | 110 | 0-200 | | | |
| LCS (B3J0689-BS2) | | | Prepared: 2023-10-07, Analyzed: 2023-10-07 | | | | | | |
| Alkalinity, Total (as CaCO3) | 109 | 1.0 mg/L | 100 | | 109 | 80-120 | | | |
| Alkalinity, Phenolphthalein (as CaCO3) | 56.1 | 1.0 mg/L | 50.0 | | 112 | 0-200 | | | |
| LCS (B3J0689-BS3) | | | Prepared: 2023-10-07, Analyzed: 2023-10-07 | | | | | | |
| Alkalinity, Total (as CaCO3) | 110 | 1.0 mg/L | 100 | | 110 | 80-120 | | | |
| Alkalinity, Phenolphthalein (as CaCO3) | 51.4 | 1.0 mg/L | 50.0 | | 103 | 0-200 | | | |
| Reference (B3J0689-SRM1) | | | Prepared: 2023-10-07, Analyzed: 2023-10-07 | | | | | | |
| pH | 7.04 | 0.10 pH units | 7.01 | | 100 | 98-102 | | | |
| Reference (B3J0689-SRM2) | | | Prepared: 2023-10-07, Analyzed: 2023-10-07 | | | | | | |
| pH | 7.04 | 0.10 pH units | 7.01 | | 100 | 98-102 | | | |
| Reference (B3J0689-SRM3) | | | Prepared: 2023-10-07, Analyzed: 2023-10-07 | | | | | | |
| pH | 7.04 | 0.10 pH units | 7.01 | | 100 | 98-102 | | | |

General Parameters, Batch B3J0726

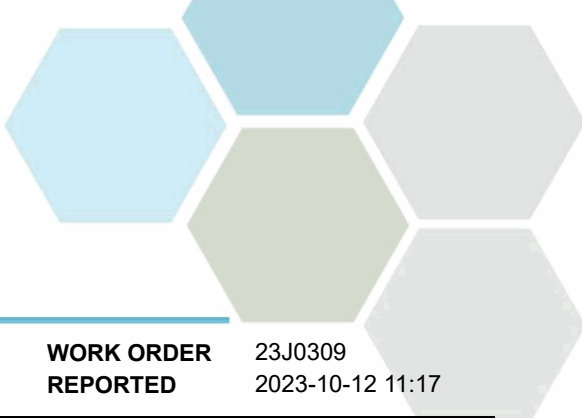
| | | | | | | | | | |
|-----------------------------|---------|------------|--|--|----|--------|--|--|--|
| Blank (B3J0726-BLK1) | | | Prepared: 2023-10-09, Analyzed: 2023-10-10 | | | | | | |
| Nitrogen, Total Kjeldahl | < 0.050 | 0.050 mg/L | | | | | | | |
| Blank (B3J0726-BLK2) | | | Prepared: 2023-10-09, Analyzed: 2023-10-10 | | | | | | |
| Nitrogen, Total Kjeldahl | < 0.050 | 0.050 mg/L | | | | | | | |
| LCS (B3J0726-BS1) | | | Prepared: 2023-10-09, Analyzed: 2023-10-10 | | | | | | |
| Nitrogen, Total Kjeldahl | 0.964 | 0.050 mg/L | 1.00 | | 96 | 85-115 | | | |
| LCS (B3J0726-BS2) | | | Prepared: 2023-10-09, Analyzed: 2023-10-10 | | | | | | |
| Nitrogen, Total Kjeldahl | 0.983 | 0.050 mg/L | 1.00 | | 98 | 85-115 | | | |

General Parameters, Batch B3J0754

| | | | | | | | | | |
|-----------------------------|-------|----------|--|--|--|--|--|--|--|
| Blank (B3J0754-BLK1) | | | Prepared: 2023-10-10, Analyzed: 2023-10-10 | | | | | | |
| Solids, Total Suspended | < 2.0 | 2.0 mg/L | | | | | | | |

Microbiological Parameters, Batch B3J0230

| | | | | | | | | | |
|-----------------------------|-----|--------------|--|--|--|--|--|--|--|
| Blank (B3J0230-BLK1) | | | Prepared: 2023-10-04, Analyzed: 2023-10-04 | | | | | | |
| Coliforms, Total (Q-Tray) | < 1 | 1 MPN/100 mL | | | | | | | |
| Blank (B3J0230-BLK2) | | | Prepared: 2023-10-04, Analyzed: 2023-10-04 | | | | | | |
| Coliforms, Fecal (Q-Tray) | < 1 | 1 MPN/100 mL | | | | | | | |
| Blank (B3J0230-BLK3) | | | Prepared: 2023-10-04, Analyzed: 2023-10-04 | | | | | | |
| Coliforms, Total (Q-Tray) | < 1 | 1 MPN/100 mL | | | | | | | |



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater)
Final Effluent- PE14651

WORK ORDER REPORTED 23J0309
2023-10-12 11:17

| Analyte | Result | RL Units | Spike Level | Source Result | % REC | REC Limit | % RPD | RPD Limit | Qualifier |
|---------|--------|----------|-------------|---------------|-------|-----------|-------|-----------|-----------|
|---------|--------|----------|-------------|---------------|-------|-----------|-------|-----------|-----------|



CERTIFICATE OF ANALYSIS

| | | | |
|---------------------|---|---------------------------------|---|
| REPORTED TO | Lake Country, District of (Wastewater) 4062 Beaver Lake Rd LAKE COUNTRY, BC V4V 1T5 | WORK ORDER | 23J0311 |
| ATTENTION | Davin Larsen | RECEIVED / TEMP REPORTED | 2023-10-04 11:32 / 18.0°C 2023-10-13 16:38 |
| PO NUMBER | | COC NUMBER | 45203.37681 |
| PROJECT | BioSolids- PE14651 | | |
| PROJECT INFO | Lake Country WWTP | | |

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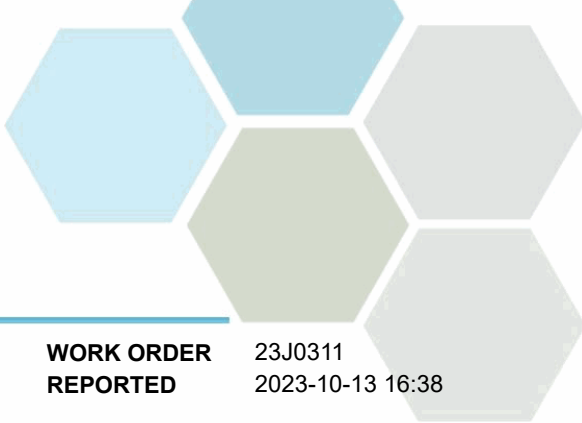
If you have any questions or concerns, please contact me at bwhitehead@caro.ca

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 Lake Country, District of (Wastewater)
BioSolids- PE14651

WORK ORDER REPORTED 23J0311
2023-10-13 16:38

| Analyte | Result | RL | Units | Analyzed | Qualifier |
|---------|--------|----|-------|----------|-----------|
|---------|--------|----|-------|----------|-----------|

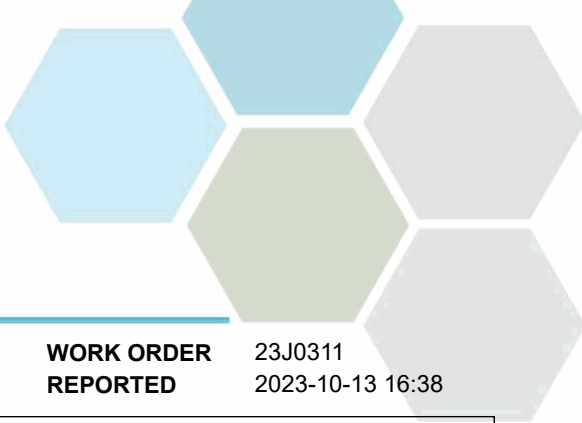
Biosolids (E233628) (23J0311-01) | Matrix: Sludge | Sampled: 2023-10-04 09:50

General Parameters

| | | | | | |
|--------------------------|------|--------|-------|------------|--|
| Moisture | 4.1 | 1.0 | % wet | 2023-10-10 | |
| Nitrogen, Total Kjeldahl | 1.11 | 0.0004 | % dry | 2023-10-09 | |
| Solids, Total | 20.8 | 0.1 | % wet | 2023-10-12 | |
| Solids, Volatile | 85.9 | 0.1 | % dry | 2023-10-13 | |

Strong Acid Leachable Metals

| | | | | | |
|------------|--------|-------|-----------|------------|-----|
| Aluminum | 2920 | 40 | mg/kg dry | 2023-10-10 | |
| Antimony | 1.67 | 0.10 | mg/kg dry | 2023-10-10 | |
| Arsenic | 2.03 | 0.30 | mg/kg dry | 2023-10-10 | |
| Barium | 132 | 1.0 | mg/kg dry | 2023-10-10 | |
| Beryllium | < 0.10 | 0.10 | mg/kg dry | 2023-10-10 | |
| Bismuth | 31.1 | 0.10 | mg/kg dry | 2023-10-10 | |
| Boron | 16.3 | 2.0 | mg/kg dry | 2023-10-10 | |
| Cadmium | 2.69 | 0.040 | mg/kg dry | 2023-10-10 | |
| Calcium | 12800 | 100 | mg/kg dry | 2023-10-10 | |
| Chromium | 15.2 | 1.0 | mg/kg dry | 2023-10-10 | |
| Cobalt | 1.78 | 0.10 | mg/kg dry | 2023-10-10 | |
| Copper | 486 | 0.40 | mg/kg dry | 2023-10-10 | |
| Iron | 3870 | 20.0 | mg/kg dry | 2023-10-10 | |
| Lead | 10.8 | 0.20 | mg/kg dry | 2023-10-10 | |
| Lithium | 1.50 | 0.10 | mg/kg dry | 2023-10-10 | |
| Magnesium | 4310 | 10 | mg/kg dry | 2023-10-10 | |
| Manganese | 187 | 0.40 | mg/kg dry | 2023-10-10 | |
| Mercury | 0.351 | 0.040 | mg/kg dry | 2023-10-10 | |
| Molybdenum | 13.8 | 0.10 | mg/kg dry | 2023-10-10 | |
| Nickel | 12.5 | 0.60 | mg/kg dry | 2023-10-10 | |
| Phosphorus | 16200 | 10 | mg/kg dry | 2023-10-10 | |
| Potassium | 4410 | 40 | mg/kg dry | 2023-10-10 | |
| Selenium | 4.58 | 0.20 | mg/kg dry | 2023-10-10 | |
| Silver | 1.86 | 0.10 | mg/kg dry | 2023-10-10 | |
| Sodium | 797 | 50 | mg/kg dry | 2023-10-10 | |
| Strontium | 68.1 | 0.20 | mg/kg dry | 2023-10-10 | |
| Sulfur | 7480 | 1000 | mg/kg dry | 2023-10-10 | |
| Tellurium | < 0.10 | 0.10 | mg/kg dry | 2023-10-10 | |
| Thallium | < 0.10 | 0.10 | mg/kg dry | 2023-10-10 | |
| Thorium | < 0.50 | 0.50 | mg/kg dry | 2023-10-10 | |
| Tin | 21.5 | 0.20 | mg/kg dry | 2023-10-10 | |
| Titanium | 82.1 | 1.0 | mg/kg dry | 2023-10-10 | |
| Tungsten | 1.56 | 0.20 | mg/kg dry | 2023-10-10 | |
| Uranium | 17.4 | 0.050 | mg/kg dry | 2023-10-10 | |
| Vanadium | 7.3 | 1.0 | mg/kg dry | 2023-10-10 | |
| Zinc | 991 | 2.0 | mg/kg dry | 2023-10-10 | |
| Zirconium | < 6.0 | 2.0 | mg/kg dry | 2023-10-10 | RA1 |



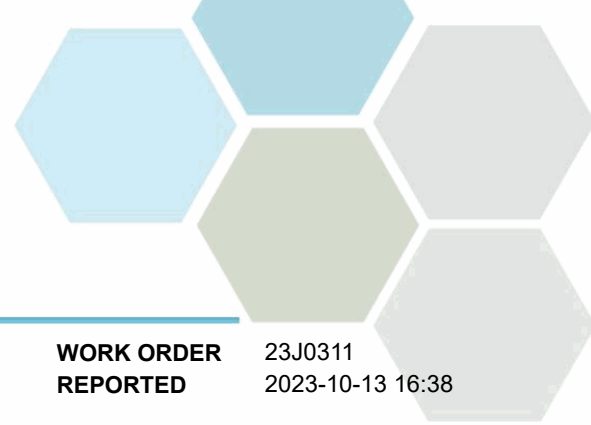
TEST RESULTS

REPORTED TO Lake Country, District of (Wastewater)
PROJECT BioSolids- PE14651

WORK ORDER 23J0311
REPORTED 2023-10-13 16:38

Sample Qualifiers:

RA1 The Reporting Limit for this sample has been raised due to matrix interference.



APPENDIX 1: SUPPORTING INFORMATION

REPORTED TO PROJECT Lake Country, District of (Wastewater)
BioSolids- PE14651

WORK ORDER REPORTED 23J0311
2023-10-13 16:38

| Analysis Description | Method Ref. | Technique | Accredited | Location |
|-----------------------------------|-------------------------------------|---|------------|----------|
| Moisture in Solid | ASTM D2974-87* | Gravimetry (Dried at 105C) | | N/A |
| Nitrogen, Total Kjeldahl in Solid | SM 4500-Norg D* (2021) | Block Digestion and Flow Injection Analysis | ✓ | Kelowna |
| SALM in Solid | BCMOE SALM V.2 / EPA 6020B | HNO ₃ +HCl Hot Block Digestion / Inductively Coupled Plasma-Mass Spectroscopy (ICP-MS) | ✓ | Richmond |
| Solids, Total in Solid | Solids in Solids / SM 2540 G (2020) | Solids in Solids / Gravimetry | | Kelowna |
| Solids, Volatile in Solid | Solids in Solids / SM 2540 G (2020) | Solids in Solids / Gravimetry | | Kelowna |

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

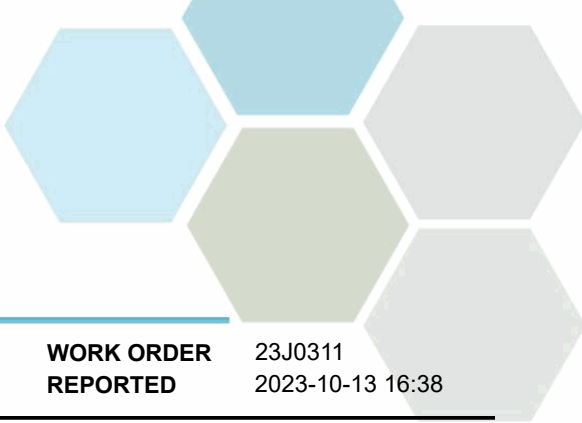
Glossary of Terms:

| | |
|-----------|---|
| RL | Reporting Limit (default) |
| % dry | Percent (dry weight basis) |
| % wet | Percent (as received basis) |
| < | Less than the specified Reporting Limit (RL) - the actual RL may be higher than the default RL due to various factors |
| mg/kg dry | Milligrams per kilogram (dry weight basis) |
| ASTM | ASTM International Test Methods |
| EPA | United States Environmental Protection Agency Test Methods |
| SM | Standard Methods for the Examination of Water and Wastewater, American Public Health Association |

General Comments:

The results in this report apply to the received 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. CarO will dispose of all samples within 30 days of sample receipt, unless otherwise agreed.

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APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater)
BioSolids- PE14651

WORK ORDER REPORTED 23J0311
2023-10-13 16:38

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.

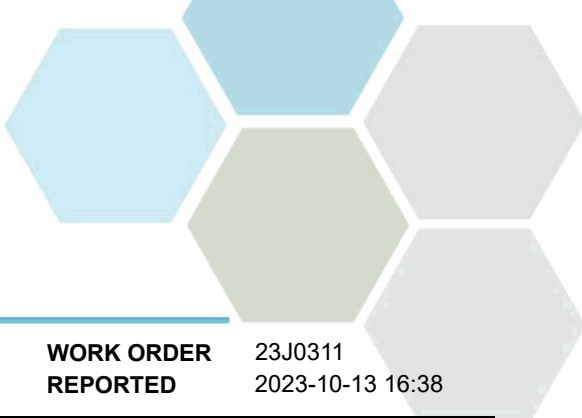
| Analyte | Result | RL Units | Spike Level | Source Result | % REC | REC Limit | % RPD | RPD Limit | Qualifier |
|---------|--------|----------|-------------|---------------|-------|-----------|-------|-----------|-----------|
|---------|--------|----------|-------------|---------------|-------|-----------|-------|-----------|-----------|

General Parameters, Batch B3J0548

| Blank (B3J0548-BLK1) | | Prepared: 2023-10-06, Analyzed: 2023-10-09 | | | | | | | |
|--------------------------|---------|--|-------|--|----|----------|--|--|--|
| Nitrogen, Total Kjeldahl | < 0.010 | 0.010 % wet | | | | | | | |
| Reference (B3J0548-SRM1) | | Prepared: 2023-10-06, Analyzed: 2023-10-09 | | | | | | | |
| Nitrogen, Total Kjeldahl | 0.178 | 0.010 % wet | 0.197 | | 91 | 58.8-150 | | | |

Strong Acid Leachable Metals, Batch B3J0737

| Blank (B3J0737-BLK1) | | Prepared: 2023-10-10, Analyzed: 2023-10-10 | | | | | | | |
|----------------------|---------|--|--|--|--|--|--|--|--|
| Aluminum | < 40 | 40 mg/kg dry | | | | | | | |
| Antimony | < 0.10 | 0.10 mg/kg dry | | | | | | | |
| Arsenic | < 0.30 | 0.30 mg/kg dry | | | | | | | |
| Barium | < 1.0 | 1.0 mg/kg dry | | | | | | | |
| Beryllium | < 0.10 | 0.10 mg/kg dry | | | | | | | |
| Bismuth | < 0.10 | 0.10 mg/kg dry | | | | | | | |
| Boron | < 2.0 | 2.0 mg/kg dry | | | | | | | |
| Cadmium | < 0.040 | 0.040 mg/kg dry | | | | | | | |
| Calcium | < 100 | 100 mg/kg dry | | | | | | | |
| Chromium | < 1.0 | 1.0 mg/kg dry | | | | | | | |
| Cobalt | < 0.10 | 0.10 mg/kg dry | | | | | | | |
| Copper | < 0.40 | 0.40 mg/kg dry | | | | | | | |
| Iron | < 20.0 | 20.0 mg/kg dry | | | | | | | |
| Lead | < 0.20 | 0.20 mg/kg dry | | | | | | | |
| Lithium | < 0.10 | 0.10 mg/kg dry | | | | | | | |
| Magnesium | < 10 | 10 mg/kg dry | | | | | | | |
| Manganese | < 0.40 | 0.40 mg/kg dry | | | | | | | |
| Mercury | < 0.040 | 0.040 mg/kg dry | | | | | | | |
| Molybdenum | < 0.10 | 0.10 mg/kg dry | | | | | | | |
| Nickel | < 0.60 | 0.60 mg/kg dry | | | | | | | |
| Phosphorus | < 10 | 10 mg/kg dry | | | | | | | |
| Potassium | < 40 | 40 mg/kg dry | | | | | | | |
| Selenium | < 0.20 | 0.20 mg/kg dry | | | | | | | |
| Silver | < 0.10 | 0.10 mg/kg dry | | | | | | | |
| Sodium | < 50 | 50 mg/kg dry | | | | | | | |
| Strontium | < 0.20 | 0.20 mg/kg dry | | | | | | | |
| Sulfur | < 1000 | 1000 mg/kg dry | | | | | | | |
| Tellurium | < 0.10 | 0.10 mg/kg dry | | | | | | | |



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater)
BioSolids- PE14651

WORK ORDER REPORTED 23J0311
2023-10-13 16:38

| Analyte | Result | RL Units | Spike Level | Source Result | % REC | REC Limit | % RPD | RPD Limit | Qualifier |
|---------|--------|----------|-------------|---------------|-------|-----------|-------|-----------|-----------|
|---------|--------|----------|-------------|---------------|-------|-----------|-------|-----------|-----------|

Strong Acid Leachable Metals, Batch B3J0737, Continued

Blank (B3J0737-BLK1), Continued

Prepared: 2023-10-10, Analyzed: 2023-10-10

| | | | | | | | | | |
|-----------|---------|-----------------|--|--|--|--|--|--|--|
| Thallium | < 0.10 | 0.10 mg/kg dry | | | | | | | |
| Thorium | < 0.50 | 0.50 mg/kg dry | | | | | | | |
| Tin | < 0.20 | 0.20 mg/kg dry | | | | | | | |
| Titanium | < 1.0 | 1.0 mg/kg dry | | | | | | | |
| Tungsten | < 0.20 | 0.20 mg/kg dry | | | | | | | |
| Uranium | < 0.050 | 0.050 mg/kg dry | | | | | | | |
| Vanadium | < 1.0 | 1.0 mg/kg dry | | | | | | | |
| Zinc | < 2.0 | 2.0 mg/kg dry | | | | | | | |
| Zirconium | < 2.0 | 2.0 mg/kg dry | | | | | | | |

LCS (B3J0737-BS1)

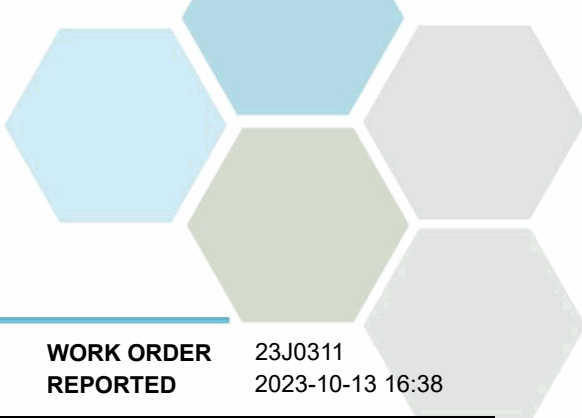
Prepared: 2023-10-10, Analyzed: 2023-10-10

| | | | | | | | | | |
|------------|-------|-----------------|-------|--|-----|--------|--|--|--|
| Aluminum | 197 | 40 mg/kg dry | 200 | | 99 | 80-120 | | | |
| Antimony | 2.00 | 0.10 mg/kg dry | 2.00 | | 100 | 80-120 | | | |
| Arsenic | 20.0 | 0.30 mg/kg dry | 20.0 | | 100 | 80-120 | | | |
| Barium | 2.1 | 1.0 mg/kg dry | 2.00 | | 103 | 80-120 | | | |
| Beryllium | 2.08 | 0.10 mg/kg dry | 2.00 | | 104 | 80-120 | | | |
| Bismuth | 1.97 | 0.005 mg/kg dry | 2.00 | | 99 | 80-120 | | | |
| Boron | 21.6 | 2.0 mg/kg dry | 20.0 | | 108 | 80-120 | | | |
| Cadmium | 1.98 | 0.040 mg/kg dry | 2.00 | | 99 | 80-120 | | | |
| Calcium | 201 | 100 mg/kg dry | 200 | | 101 | 80-120 | | | |
| Chromium | 2.0 | 1.0 mg/kg dry | 2.00 | | 102 | 80-120 | | | |
| Cobalt | 2.02 | 0.10 mg/kg dry | 2.00 | | 101 | 80-120 | | | |
| Copper | 2.02 | 0.40 mg/kg dry | 2.00 | | 101 | 80-120 | | | |
| Iron | 205 | 20.0 mg/kg dry | 200 | | 102 | 80-120 | | | |
| Lead | 2.00 | 0.20 mg/kg dry | 2.00 | | 100 | 80-120 | | | |
| Lithium | 2.05 | 0.10 mg/kg dry | 2.00 | | 102 | 80-120 | | | |
| Magnesium | 204 | 10 mg/kg dry | 200 | | 102 | 80-120 | | | |
| Manganese | 2.01 | 0.40 mg/kg dry | 2.00 | | 101 | 80-120 | | | |
| Mercury | 0.209 | 0.040 mg/kg dry | 0.200 | | 104 | 80-120 | | | |
| Molybdenum | 1.97 | 0.10 mg/kg dry | 2.00 | | 98 | 80-120 | | | |
| Nickel | 2.01 | 0.60 mg/kg dry | 2.00 | | 100 | 80-120 | | | |
| Phosphorus | 193 | 10 mg/kg dry | 200 | | 96 | 80-120 | | | |
| Potassium | 198 | 40 mg/kg dry | 200 | | 99 | 80-120 | | | |
| Selenium | 20.2 | 0.20 mg/kg dry | 20.0 | | 101 | 80-120 | | | |
| Silver | 2.02 | 0.10 mg/kg dry | 2.00 | | 101 | 80-120 | | | |
| Sodium | 203 | 50 mg/kg dry | 200 | | 102 | 80-120 | | | |
| Strontium | 2.05 | 0.20 mg/kg dry | 2.00 | | 102 | 80-120 | | | |
| Sulfur | 2000 | 50 mg/kg dry | 2000 | | 100 | 80-120 | | | |
| Tellurium | 1.91 | 0.005 mg/kg dry | 2.00 | | 96 | 80-120 | | | |
| Thallium | 1.96 | 0.10 mg/kg dry | 2.00 | | 98 | 80-120 | | | |
| Thorium | 2.12 | 0.02 mg/kg dry | 2.00 | | 106 | 80-120 | | | |
| Tin | 2.03 | 0.20 mg/kg dry | 2.00 | | 102 | 80-120 | | | |
| Titanium | 2.0 | 1.0 mg/kg dry | 2.00 | | 100 | 80-120 | | | |
| Tungsten | 2.01 | 0.20 mg/kg dry | 2.00 | | 101 | 80-120 | | | |
| Uranium | 2.10 | 0.050 mg/kg dry | 2.00 | | 105 | 80-120 | | | |
| Vanadium | 2.0 | 1.0 mg/kg dry | 2.00 | | 100 | 80-120 | | | |
| Zinc | 19.6 | 2.0 mg/kg dry | 20.0 | | 98 | 80-120 | | | |
| Zirconium | 2.0 | 2.0 mg/kg dry | 2.00 | | 102 | 80-120 | | | |

Reference (B3J0737-SRM1)

Prepared: 2023-10-10, Analyzed: 2023-10-10

| | | | | | | | | | |
|-----------|-------|----------------|-------|--|-----|--------|--|--|--|
| Aluminum | 12500 | 40 mg/kg dry | 12100 | | 103 | 70-130 | | | |
| Antimony | 0.65 | 0.10 mg/kg dry | 0.634 | | 103 | 70-130 | | | |
| Arsenic | 86.9 | 0.30 mg/kg dry | 83.6 | | 104 | 70-130 | | | |
| Barium | 43.7 | 1.0 mg/kg dry | 41.4 | | 105 | 70-130 | | | |
| Beryllium | 0.38 | 0.10 mg/kg dry | 0.377 | | 100 | 70-130 | | | |
| Bismuth | 0.33 | 0.10 mg/kg dry | 0.291 | | 112 | 70-130 | | | |



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater)
BioSolids- PE14651

WORK ORDER REPORTED 23J0311
2023-10-13 16:38

| Analyte | Result | RL Units | Spike Level | Source Result | % REC | REC Limit | % RPD | RPD Limit | Qualifier |
|---------|--------|----------|-------------|---------------|-------|-----------|-------|-----------|-----------|
|---------|--------|----------|-------------|---------------|-------|-----------|-------|-----------|-----------|

Strong Acid Leachable Metals, Batch B3J0737, Continued

| Reference (B3J0737-SRM1), Continued | Prepared: 2023-10-10, Analyzed: 2023-10-10 | | | | | | | | |
|-------------------------------------|--|-----------------|--------|--|-----|--------|--|--|--|
| Calcium | 5360 | 100 mg/kg dry | 5380 | | 100 | 70-130 | | | |
| Chromium | 69.2 | 1.0 mg/kg dry | 66.0 | | 105 | 70-130 | | | |
| Cobalt | 11.0 | 0.10 mg/kg dry | 10.8 | | 101 | 70-130 | | | |
| Copper | 20.3 | 0.40 mg/kg dry | 20.3 | | 100 | 70-130 | | | |
| Iron | 21700 | 20.0 mg/kg dry | 20400 | | 106 | 70-130 | | | |
| Lead | 18.4 | 0.20 mg/kg dry | 16.7 | | 110 | 70-130 | | | |
| Lithium | 17.2 | 0.10 mg/kg dry | 16.8 | | 103 | 70-130 | | | |
| Magnesium | 6580 | 10 mg/kg dry | 6170 | | 107 | 70-130 | | | |
| Manganese | 348 | 0.40 mg/kg dry | 319 | | 109 | 70-130 | | | |
| Mercury | 0.117 | 0.040 mg/kg dry | 0.114 | | 102 | 70-130 | | | |
| Molybdenum | 0.69 | 0.10 mg/kg dry | 0.607 | | 114 | 70-130 | | | |
| Nickel | 33.0 | 0.60 mg/kg dry | 32.5 | | 101 | 70-130 | | | |
| Phosphorus | 443 | 10 mg/kg dry | 432 | | 103 | 70-130 | | | |
| Silver | 1.81 | 0.10 mg/kg dry | 1.55 | | 117 | 70-130 | | | |
| Strontium | 22.2 | 0.20 mg/kg dry | 22.5 | | 99 | 70-130 | | | |
| Thallium | < 0.10 | 0.10 mg/kg dry | 0.0765 | | 110 | 70-130 | | | |
| Thorium | 3.63 | 0.50 mg/kg dry | 2.96 | | 123 | 70-130 | | | |
| Titanium | 706 | 1.0 mg/kg dry | 730 | | 97 | 70-130 | | | |
| Uranium | 1.27 | 0.050 mg/kg dry | 1.15 | | 110 | 70-130 | | | |
| Vanadium | 37.1 | 1.0 mg/kg dry | 36.3 | | 102 | 70-130 | | | |
| Zinc | 40.0 | 2.0 mg/kg dry | 39.7 | | 101 | 70-130 | | | |



CERTIFICATE OF ANALYSIS

| | | | |
|---------------------|---|---------------------------------|---|
| REPORTED TO | Lake Country, District of (Wastewater) 4062 Beaver Lake Rd LAKE COUNTRY, BC V4V 1T5 | WORK ORDER | 23J0311 |
| ATTENTION | Davin Larsen | RECEIVED / TEMP REPORTED | 2023-10-04 11:32 / 18.0°C 2023-10-23 15:43 |
| PO NUMBER | | COC NUMBER | 45203.37681 |
| PROJECT | BioSolids- PE14651 | | |
| PROJECT INFO | Lake Country WWTP | | |

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.

Work Order Comments:

This is a revised report; please refer to Appendix 3 for details.

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

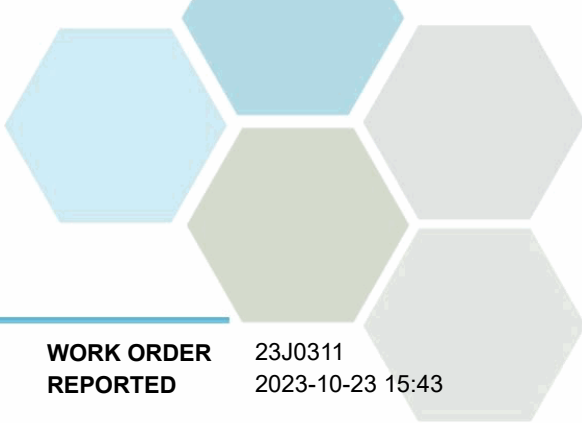
If you have any questions or concerns, please contact me at bwhitehead@caro.ca

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 Lake Country, District of (Wastewater)
BioSolids- PE14651

WORK ORDER REPORTED 23J0311
2023-10-23 15:43

| Analyte | Result | RL | Units | Analyzed | Qualifier |
|---------|--------|----|-------|----------|-----------|
|---------|--------|----|-------|----------|-----------|

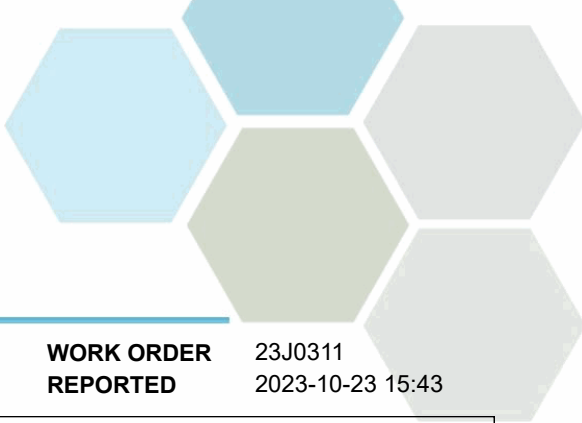
Biosolids (E233628) (23J0311-01) | Matrix: Sludge | Sampled: 2023-10-04 09:50

General Parameters

| | | | | | |
|--------------------------|------|--------|-------|------------|--|
| Moisture | 80.0 | 1.0 | % wet | 2023-10-10 | |
| Nitrogen, Total Kjeldahl | 5.33 | 0.0004 | % dry | 2023-10-09 | |
| Solids, Total | 20.8 | 0.1 | % wet | 2023-10-12 | |
| Solids, Volatile | 85.9 | 0.1 | % dry | 2023-10-13 | |

Strong Acid Leachable Metals

| | | | | | |
|------------|--------|-------|-----------|------------|-----|
| Aluminum | 2920 | 40 | mg/kg dry | 2023-10-10 | |
| Antimony | 1.67 | 0.10 | mg/kg dry | 2023-10-10 | |
| Arsenic | 2.03 | 0.30 | mg/kg dry | 2023-10-10 | |
| Barium | 132 | 1.0 | mg/kg dry | 2023-10-10 | |
| Beryllium | < 0.10 | 0.10 | mg/kg dry | 2023-10-10 | |
| Bismuth | 31.1 | 0.10 | mg/kg dry | 2023-10-10 | |
| Boron | 16.3 | 2.0 | mg/kg dry | 2023-10-10 | |
| Cadmium | 2.69 | 0.040 | mg/kg dry | 2023-10-10 | |
| Calcium | 12800 | 100 | mg/kg dry | 2023-10-10 | |
| Chromium | 15.2 | 1.0 | mg/kg dry | 2023-10-10 | |
| Cobalt | 1.78 | 0.10 | mg/kg dry | 2023-10-10 | |
| Copper | 486 | 0.40 | mg/kg dry | 2023-10-10 | |
| Iron | 3870 | 20.0 | mg/kg dry | 2023-10-10 | |
| Lead | 10.8 | 0.20 | mg/kg dry | 2023-10-10 | |
| Lithium | 1.50 | 0.10 | mg/kg dry | 2023-10-10 | |
| Magnesium | 4310 | 10 | mg/kg dry | 2023-10-10 | |
| Manganese | 187 | 0.40 | mg/kg dry | 2023-10-10 | |
| Mercury | 0.351 | 0.040 | mg/kg dry | 2023-10-10 | |
| Molybdenum | 13.8 | 0.10 | mg/kg dry | 2023-10-10 | |
| Nickel | 12.5 | 0.60 | mg/kg dry | 2023-10-10 | |
| Phosphorus | 16200 | 10 | mg/kg dry | 2023-10-10 | |
| Potassium | 4410 | 40 | mg/kg dry | 2023-10-10 | |
| Selenium | 4.58 | 0.20 | mg/kg dry | 2023-10-10 | |
| Silver | 1.86 | 0.10 | mg/kg dry | 2023-10-10 | |
| Sodium | 797 | 50 | mg/kg dry | 2023-10-10 | |
| Strontium | 68.1 | 0.20 | mg/kg dry | 2023-10-10 | |
| Sulfur | 7480 | 1000 | mg/kg dry | 2023-10-10 | |
| Tellurium | < 0.10 | 0.10 | mg/kg dry | 2023-10-10 | |
| Thallium | < 0.10 | 0.10 | mg/kg dry | 2023-10-10 | |
| Thorium | < 0.50 | 0.50 | mg/kg dry | 2023-10-10 | |
| Tin | 21.5 | 0.20 | mg/kg dry | 2023-10-10 | |
| Titanium | 82.1 | 1.0 | mg/kg dry | 2023-10-10 | |
| Tungsten | 1.56 | 0.20 | mg/kg dry | 2023-10-10 | |
| Uranium | 17.4 | 0.050 | mg/kg dry | 2023-10-10 | |
| Vanadium | 7.3 | 1.0 | mg/kg dry | 2023-10-10 | |
| Zinc | 991 | 2.0 | mg/kg dry | 2023-10-10 | |
| Zirconium | < 6.0 | 2.0 | mg/kg dry | 2023-10-10 | RA1 |



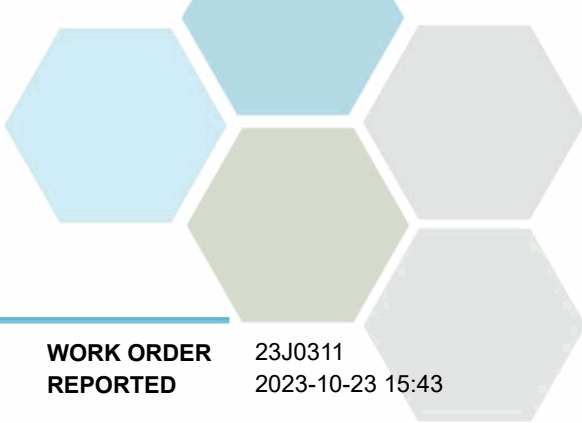
TEST RESULTS

REPORTED TO Lake Country, District of (Wastewater)
PROJECT BioSolids- PE14651

WORK ORDER 23J0311
REPORTED 2023-10-23 15:43

Sample Qualifiers:

RA1 The Reporting Limit for this sample has been raised due to matrix interference.



APPENDIX 1: SUPPORTING INFORMATION

REPORTED TO PROJECT Lake Country, District of (Wastewater)
BioSolids- PE14651

WORK ORDER REPORTED 23J0311
2023-10-23 15:43

| Analysis Description | Method Ref. | Technique | Accredited | Location |
|-----------------------------------|-------------------------------------|--|------------|----------|
| Moisture in Solid | ASTM D2974-87* | Gravimetry (Dried at 105C) | | N/A |
| Nitrogen, Total Kjeldahl in Solid | SM 4500-Norg D* (2021) | Block Digestion and Flow Injection Analysis | ✓ | Kelowna |
| SALM in Solid | BCMOE SALM V.2 / EPA 6020B | HNO3+HCl Hot Block Digestion / Inductively Coupled Plasma-Mass Spectroscopy (ICP-MS) | ✓ | Richmond |
| Solids, Total in Solid | Solids in Solids / SM 2540 G (2020) | Solids in Solids / Gravimetry | | Kelowna |
| Solids, Volatile in Solid | Solids in Solids / SM 2540 G (2020) | Solids in Solids / Gravimetry | | Kelowna |

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

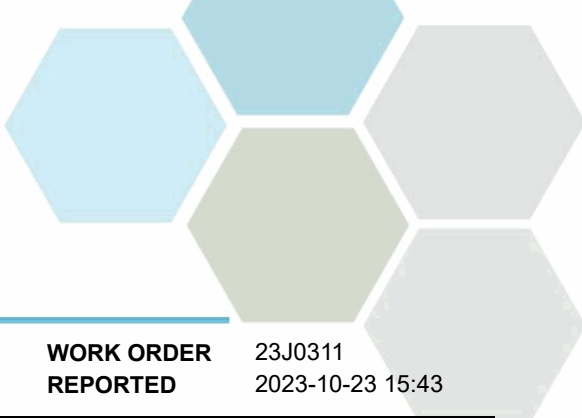
Glossary of Terms:

| | |
|-----------|---|
| RL | Reporting Limit (default) |
| % dry | Percent (dry weight basis) |
| % wet | Percent (as received basis) |
| < | Less than the specified Reporting Limit (RL) - the actual RL may be higher than the default RL due to various factors |
| mg/kg dry | Milligrams per kilogram (dry weight basis) |
| ASTM | ASTM International Test Methods |
| EPA | United States Environmental Protection Agency Test Methods |
| SM | Standard Methods for the Examination of Water and Wastewater, American Public Health Association |

General Comments:

The results in this report apply to the received 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. Caro will dispose of all samples within 30 days of sample receipt, unless otherwise agreed.

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APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater)
BioSolids- PE14651

WORK ORDER REPORTED 23J0311
2023-10-23 15:43

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.

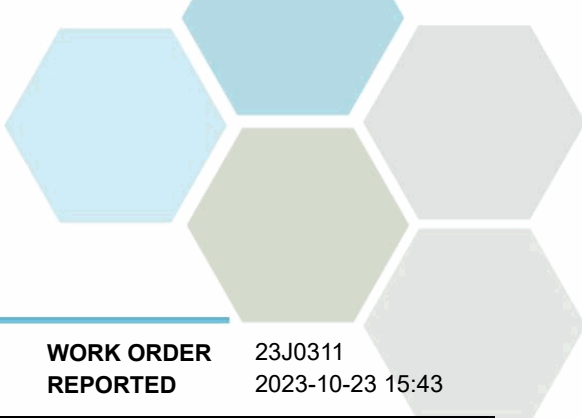
| Analyte | Result | RL Units | Spike Level | Source Result | % REC | REC Limit | % RPD | RPD Limit | Qualifier |
|---------|--------|----------|-------------|---------------|-------|-----------|-------|-----------|-----------|
|---------|--------|----------|-------------|---------------|-------|-----------|-------|-----------|-----------|

General Parameters, Batch B3J0548

| Blank (B3J0548-BLK1) | | Prepared: 2023-10-06, Analyzed: 2023-10-09 | | | | | | | |
|--------------------------|---------|--|-------|--|----|----------|--|--|--|
| Nitrogen, Total Kjeldahl | < 0.010 | 0.010 % wet | | | | | | | |
| Reference (B3J0548-SRM1) | | Prepared: 2023-10-06, Analyzed: 2023-10-09 | | | | | | | |
| Nitrogen, Total Kjeldahl | 0.178 | 0.010 % wet | 0.197 | | 91 | 58.8-150 | | | |

Strong Acid Leachable Metals, Batch B3J0737

| Blank (B3J0737-BLK1) | | Prepared: 2023-10-10, Analyzed: 2023-10-10 | | | | | | | |
|----------------------|---------|--|--|--|--|--|--|--|--|
| Aluminum | < 40 | 40 mg/kg dry | | | | | | | |
| Antimony | < 0.10 | 0.10 mg/kg dry | | | | | | | |
| Arsenic | < 0.30 | 0.30 mg/kg dry | | | | | | | |
| Barium | < 1.0 | 1.0 mg/kg dry | | | | | | | |
| Beryllium | < 0.10 | 0.10 mg/kg dry | | | | | | | |
| Bismuth | < 0.10 | 0.10 mg/kg dry | | | | | | | |
| Boron | < 2.0 | 2.0 mg/kg dry | | | | | | | |
| Cadmium | < 0.040 | 0.040 mg/kg dry | | | | | | | |
| Calcium | < 100 | 100 mg/kg dry | | | | | | | |
| Chromium | < 1.0 | 1.0 mg/kg dry | | | | | | | |
| Cobalt | < 0.10 | 0.10 mg/kg dry | | | | | | | |
| Copper | < 0.40 | 0.40 mg/kg dry | | | | | | | |
| Iron | < 20.0 | 20.0 mg/kg dry | | | | | | | |
| Lead | < 0.20 | 0.20 mg/kg dry | | | | | | | |
| Lithium | < 0.10 | 0.10 mg/kg dry | | | | | | | |
| Magnesium | < 10 | 10 mg/kg dry | | | | | | | |
| Manganese | < 0.40 | 0.40 mg/kg dry | | | | | | | |
| Mercury | < 0.040 | 0.040 mg/kg dry | | | | | | | |
| Molybdenum | < 0.10 | 0.10 mg/kg dry | | | | | | | |
| Nickel | < 0.60 | 0.60 mg/kg dry | | | | | | | |
| Phosphorus | < 10 | 10 mg/kg dry | | | | | | | |
| Potassium | < 40 | 40 mg/kg dry | | | | | | | |
| Selenium | < 0.20 | 0.20 mg/kg dry | | | | | | | |
| Silver | < 0.10 | 0.10 mg/kg dry | | | | | | | |
| Sodium | < 50 | 50 mg/kg dry | | | | | | | |
| Strontium | < 0.20 | 0.20 mg/kg dry | | | | | | | |
| Sulfur | < 1000 | 1000 mg/kg dry | | | | | | | |
| Tellurium | < 0.10 | 0.10 mg/kg dry | | | | | | | |



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater)
BioSolids- PE14651

WORK ORDER REPORTED 23J0311
2023-10-23 15:43

| Analyte | Result | RL Units | Spike Level | Source Result | % REC | REC Limit | % RPD | RPD Limit | Qualifier |
|---------|--------|----------|-------------|---------------|-------|-----------|-------|-----------|-----------|
|---------|--------|----------|-------------|---------------|-------|-----------|-------|-----------|-----------|

Strong Acid Leachable Metals, Batch B3J0737, Continued

Blank (B3J0737-BLK1), Continued

Prepared: 2023-10-10, Analyzed: 2023-10-10

| | | | | | | | | | |
|-----------|---------|-----------------|--|--|--|--|--|--|--|
| Thallium | < 0.10 | 0.10 mg/kg dry | | | | | | | |
| Thorium | < 0.50 | 0.50 mg/kg dry | | | | | | | |
| Tin | < 0.20 | 0.20 mg/kg dry | | | | | | | |
| Titanium | < 1.0 | 1.0 mg/kg dry | | | | | | | |
| Tungsten | < 0.20 | 0.20 mg/kg dry | | | | | | | |
| Uranium | < 0.050 | 0.050 mg/kg dry | | | | | | | |
| Vanadium | < 1.0 | 1.0 mg/kg dry | | | | | | | |
| Zinc | < 2.0 | 2.0 mg/kg dry | | | | | | | |
| Zirconium | < 2.0 | 2.0 mg/kg dry | | | | | | | |

LCS (B3J0737-BS1)

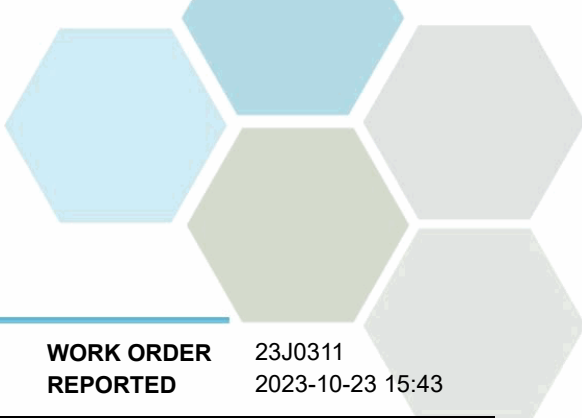
Prepared: 2023-10-10, Analyzed: 2023-10-10

| | | | | | | | | | |
|------------|-------|-----------------|-------|--|-----|--------|--|--|--|
| Aluminum | 197 | 40 mg/kg dry | 200 | | 99 | 80-120 | | | |
| Antimony | 2.00 | 0.10 mg/kg dry | 2.00 | | 100 | 80-120 | | | |
| Arsenic | 20.0 | 0.30 mg/kg dry | 20.0 | | 100 | 80-120 | | | |
| Barium | 2.1 | 1.0 mg/kg dry | 2.00 | | 103 | 80-120 | | | |
| Beryllium | 2.08 | 0.10 mg/kg dry | 2.00 | | 104 | 80-120 | | | |
| Bismuth | 1.97 | 0.005 mg/kg dry | 2.00 | | 99 | 80-120 | | | |
| Boron | 21.6 | 2.0 mg/kg dry | 20.0 | | 108 | 80-120 | | | |
| Cadmium | 1.98 | 0.040 mg/kg dry | 2.00 | | 99 | 80-120 | | | |
| Calcium | 201 | 100 mg/kg dry | 200 | | 101 | 80-120 | | | |
| Chromium | 2.0 | 1.0 mg/kg dry | 2.00 | | 102 | 80-120 | | | |
| Cobalt | 2.02 | 0.10 mg/kg dry | 2.00 | | 101 | 80-120 | | | |
| Copper | 2.02 | 0.40 mg/kg dry | 2.00 | | 101 | 80-120 | | | |
| Iron | 205 | 20.0 mg/kg dry | 200 | | 102 | 80-120 | | | |
| Lead | 2.00 | 0.20 mg/kg dry | 2.00 | | 100 | 80-120 | | | |
| Lithium | 2.05 | 0.10 mg/kg dry | 2.00 | | 102 | 80-120 | | | |
| Magnesium | 204 | 10 mg/kg dry | 200 | | 102 | 80-120 | | | |
| Manganese | 2.01 | 0.40 mg/kg dry | 2.00 | | 101 | 80-120 | | | |
| Mercury | 0.209 | 0.040 mg/kg dry | 0.200 | | 104 | 80-120 | | | |
| Molybdenum | 1.97 | 0.10 mg/kg dry | 2.00 | | 98 | 80-120 | | | |
| Nickel | 2.01 | 0.60 mg/kg dry | 2.00 | | 100 | 80-120 | | | |
| Phosphorus | 193 | 10 mg/kg dry | 200 | | 96 | 80-120 | | | |
| Potassium | 198 | 40 mg/kg dry | 200 | | 99 | 80-120 | | | |
| Selenium | 20.2 | 0.20 mg/kg dry | 20.0 | | 101 | 80-120 | | | |
| Silver | 2.02 | 0.10 mg/kg dry | 2.00 | | 101 | 80-120 | | | |
| Sodium | 203 | 50 mg/kg dry | 200 | | 102 | 80-120 | | | |
| Strontium | 2.05 | 0.20 mg/kg dry | 2.00 | | 102 | 80-120 | | | |
| Sulfur | 2000 | 50 mg/kg dry | 2000 | | 100 | 80-120 | | | |
| Tellurium | 1.91 | 0.005 mg/kg dry | 2.00 | | 96 | 80-120 | | | |
| Thallium | 1.96 | 0.10 mg/kg dry | 2.00 | | 98 | 80-120 | | | |
| Thorium | 2.12 | 0.02 mg/kg dry | 2.00 | | 106 | 80-120 | | | |
| Tin | 2.03 | 0.20 mg/kg dry | 2.00 | | 102 | 80-120 | | | |
| Titanium | 2.0 | 1.0 mg/kg dry | 2.00 | | 100 | 80-120 | | | |
| Tungsten | 2.01 | 0.20 mg/kg dry | 2.00 | | 101 | 80-120 | | | |
| Uranium | 2.10 | 0.050 mg/kg dry | 2.00 | | 105 | 80-120 | | | |
| Vanadium | 2.0 | 1.0 mg/kg dry | 2.00 | | 100 | 80-120 | | | |
| Zinc | 19.6 | 2.0 mg/kg dry | 20.0 | | 98 | 80-120 | | | |
| Zirconium | 2.0 | 2.0 mg/kg dry | 2.00 | | 102 | 80-120 | | | |

Reference (B3J0737-SRM1)

Prepared: 2023-10-10, Analyzed: 2023-10-10

| | | | | | | | | | |
|-----------|-------|----------------|-------|--|-----|--------|--|--|--|
| Aluminum | 12500 | 40 mg/kg dry | 12100 | | 103 | 70-130 | | | |
| Antimony | 0.65 | 0.10 mg/kg dry | 0.634 | | 103 | 70-130 | | | |
| Arsenic | 86.9 | 0.30 mg/kg dry | 83.6 | | 104 | 70-130 | | | |
| Barium | 43.7 | 1.0 mg/kg dry | 41.4 | | 105 | 70-130 | | | |
| Beryllium | 0.38 | 0.10 mg/kg dry | 0.377 | | 100 | 70-130 | | | |
| Bismuth | 0.33 | 0.10 mg/kg dry | 0.291 | | 112 | 70-130 | | | |



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater)
BioSolids- PE14651

WORK ORDER REPORTED 23J0311
2023-10-23 15:43

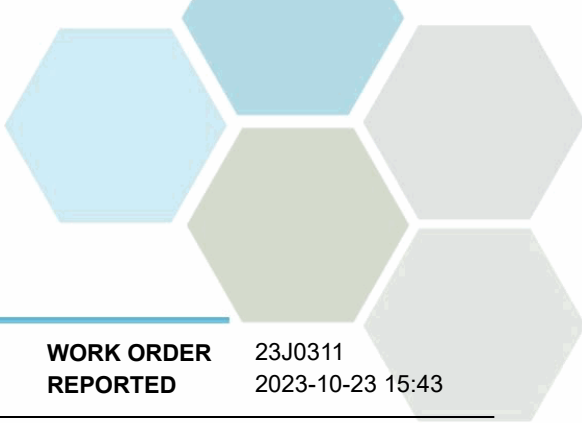
| Analyte | Result | RL Units | Spike Level | Source Result | % REC | REC Limit | % RPD | RPD Limit | Qualifier |
|---------|--------|----------|-------------|---------------|-------|-----------|-------|-----------|-----------|
|---------|--------|----------|-------------|---------------|-------|-----------|-------|-----------|-----------|

Strong Acid Leachable Metals, Batch B3J0737, Continued

Reference (B3J0737-SRM1), Continued

Prepared: 2023-10-10, Analyzed: 2023-10-10

| | | | | | | | | | |
|------------|--------|-----------------|--------|--|-----|--------|--|--|--|
| Calcium | 5360 | 100 mg/kg dry | 5380 | | 100 | 70-130 | | | |
| Chromium | 69.2 | 1.0 mg/kg dry | 66.0 | | 105 | 70-130 | | | |
| Cobalt | 11.0 | 0.10 mg/kg dry | 10.8 | | 101 | 70-130 | | | |
| Copper | 20.3 | 0.40 mg/kg dry | 20.3 | | 100 | 70-130 | | | |
| Iron | 21700 | 20.0 mg/kg dry | 20400 | | 106 | 70-130 | | | |
| Lead | 18.4 | 0.20 mg/kg dry | 16.7 | | 110 | 70-130 | | | |
| Lithium | 17.2 | 0.10 mg/kg dry | 16.8 | | 103 | 70-130 | | | |
| Magnesium | 6580 | 10 mg/kg dry | 6170 | | 107 | 70-130 | | | |
| Manganese | 348 | 0.40 mg/kg dry | 319 | | 109 | 70-130 | | | |
| Mercury | 0.117 | 0.040 mg/kg dry | 0.114 | | 102 | 70-130 | | | |
| Molybdenum | 0.69 | 0.10 mg/kg dry | 0.607 | | 114 | 70-130 | | | |
| Nickel | 33.0 | 0.60 mg/kg dry | 32.5 | | 101 | 70-130 | | | |
| Phosphorus | 443 | 10 mg/kg dry | 432 | | 103 | 70-130 | | | |
| Silver | 1.81 | 0.10 mg/kg dry | 1.55 | | 117 | 70-130 | | | |
| Strontium | 22.2 | 0.20 mg/kg dry | 22.5 | | 99 | 70-130 | | | |
| Thallium | < 0.10 | 0.10 mg/kg dry | 0.0765 | | 110 | 70-130 | | | |
| Thorium | 3.63 | 0.50 mg/kg dry | 2.96 | | 123 | 70-130 | | | |
| Titanium | 706 | 1.0 mg/kg dry | 730 | | 97 | 70-130 | | | |
| Uranium | 1.27 | 0.050 mg/kg dry | 1.15 | | 110 | 70-130 | | | |
| Vanadium | 37.1 | 1.0 mg/kg dry | 36.3 | | 102 | 70-130 | | | |
| Zinc | 40.0 | 2.0 mg/kg dry | 39.7 | | 101 | 70-130 | | | |



APPENDIX 3: REVISION HISTORY

REPORTED TO PROJECT Lake Country, District of (Wastewater)
BioSolids- PE14651

WORK ORDER REPORTED 23J0311
2023-10-23 15:43

| Sample ID | Changed | Change | Analysis | Analyte(s) |
|------------|------------|----------------|----------|------------|
| 23J0311-01 | 2023-10-20 | Result Revised | Moisture | Dry Weight |



CERTIFICATE OF ANALYSIS

| | | | |
|---------------------|---|---------------------------------|---|
| REPORTED TO | Lake Country, District of (Wastewater) 4062 Beaver Lake Rd LAKE COUNTRY, BC V4V 1T5 | WORK ORDER | 23J0314 |
| ATTENTION | Davin Larsen | RECEIVED / TEMP REPORTED | 2023-10-04 11:32 / 18.0°C 2023-10-11 15:06 |
| PO NUMBER | | COC NUMBER | 45203.37681 |
| PROJECT | Amry- MR17842 | | |
| PROJECT INFO | Lake Country WWTP | | |

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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.

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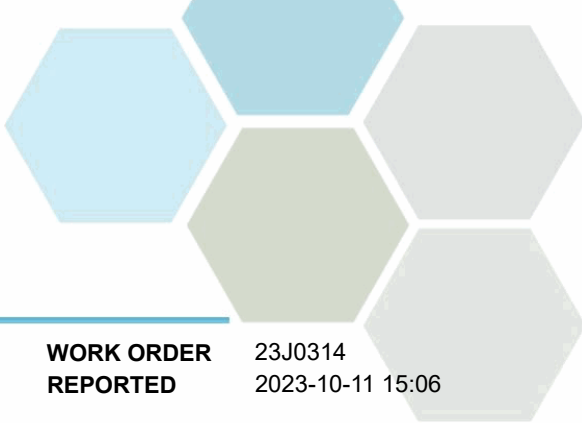
If you have any questions or concerns, please contact me at bwhitehead@caro.ca

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

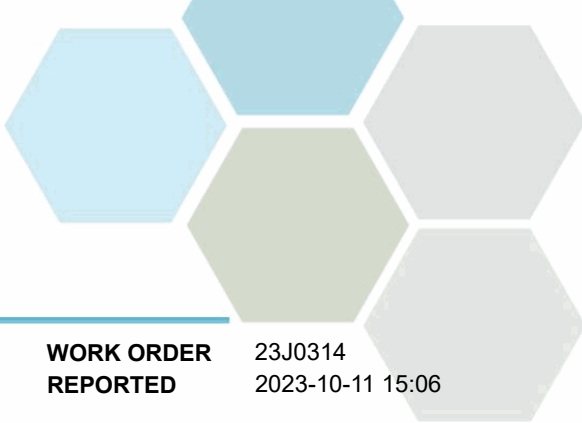


TEST RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater)
Amry- MR17842

WORK ORDER REPORTED 23J0314
2023-10-11 15:06

| Analyte | Result | RL | Units | Analyzed | Qualifier |
|---|--------|-----|-------|------------|-----------|
| Amry (E262982) (23J0314-01) Matrix: Wastewater Sampled: 2023-10-04 10:30 | | | | | |
| <i>General Parameters</i> | | | | | |
| BOD, 5-day Carbonaceous | < 5.2 | 2.0 | mg/L | 2023-10-10 | |
| Solids, Total Suspended | 7.8 | 2.0 | mg/L | 2023-10-10 | |



APPENDIX 1: SUPPORTING INFORMATION

REPORTED TO PROJECT Lake Country, District of (Wastewater)
Amry- MR17842

WORK ORDER REPORTED 23J0314
2023-10-11 15:06

| Analysis Description | Method Ref. | Technique | Accredited | Location |
|--|---|--|------------|----------|
| Biochemical Oxygen Demand, Carbonaceous in Water | SM 5210 B (2019) | Dissolved Oxygen Meter | ✓ | Kelowna |
| Solids, Total Suspended in Water | Solids in Water, Filtered / SM 2540 D* (2020) | Solids in Water, Filtered / Gravimetry (Dried at 103-105C) | ✓ | Kelowna |

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

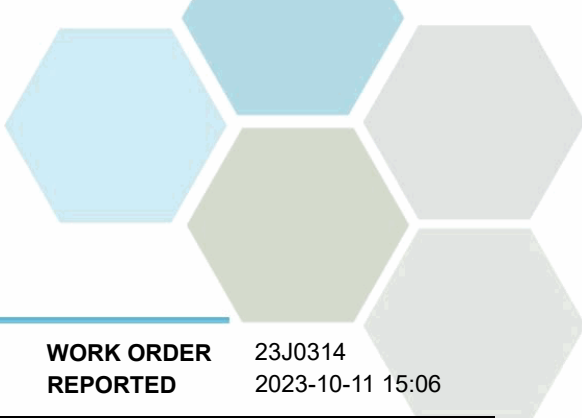
Glossary of Terms:

| | |
|------|---|
| RL | Reporting Limit (default) |
| < | Less than the specified Reporting Limit (RL) - the actual RL may be higher than the default RL due to various factors |
| mg/L | Milligrams per litre |
| SM | Standard Methods for the Examination of Water and Wastewater, American Public Health Association |

General Comments:

The results in this report apply to the received 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. Caro will dispose of all samples within 30 days of sample receipt, unless otherwise agreed.

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APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater)
Amry- MR17842

WORK ORDER REPORTED 23J0314
2023-10-11 15:06

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 |
|---------|--------|----------|-------------|---------------|-------|-----------|-------|-----------|-----------|
|---------|--------|----------|-------------|---------------|-------|-----------|-------|-----------|-----------|

General Parameters, Batch B3J0422

| Blank (B3J0422-BLK1) | | | Prepared: 2023-10-05, Analyzed: 2023-10-10 | | | | | | |
|-----------------------------|-------|-----------|--|--|-----|--|--------|--|--|
| BOD, 5-day Carbonaceous | < 2.0 | 2.0 mg/L | | | | | | | |
| LCS (B3J0422-BS1) | | | Prepared: 2023-10-05, Analyzed: 2023-10-10 | | | | | | |
| BOD, 5-day Carbonaceous | 213 | 43.4 mg/L | 198 | | 107 | | 85-115 | | |

General Parameters, Batch B3J0754

| Blank (B3J0754-BLK1) | | | Prepared: 2023-10-10, Analyzed: 2023-10-10 | | | | | | |
|-----------------------------|-------|----------|--|--|--|--|--|--|--|
| Solids, Total Suspended | < 2.0 | 2.0 mg/L | | | | | | | |



CERTIFICATE OF ANALYSIS

| | | | |
|---------------------|---|---------------------------------|---|
| REPORTED TO | Lake Country, District of (Wastewater) 4062 Beaver Lake Rd LAKE COUNTRY, BC V4V 1T5 | WORK ORDER | 23J0306 |
| ATTENTION | Davin Larsen | RECEIVED / TEMP REPORTED | 2023-10-04 11:32 / 18.0°C 2023-10-11 15:02 |
| PO NUMBER | | COC NUMBER | 45203.37681 |
| PROJECT | Raw Influent- PE14651 | | |
| PROJECT INFO | Lake Country WWTP | | |

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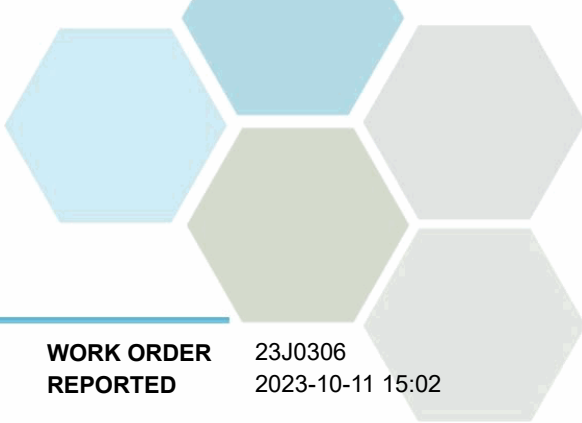
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Authorized By:

Brent Whitehead
Account Manager

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TEST RESULTS

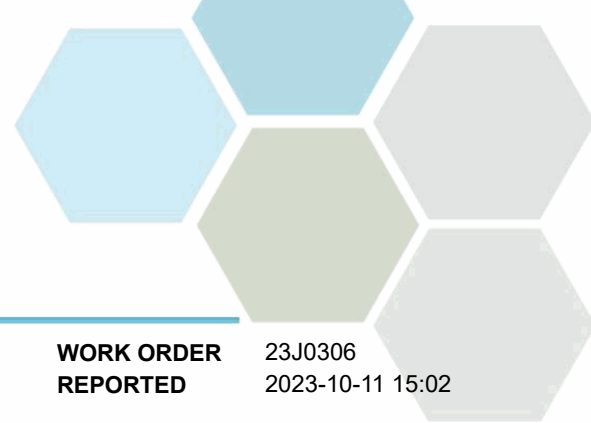
REPORTED TO PROJECT Lake Country, District of (Wastewater)
Raw Influent- PE14651

WORK ORDER REPORTED 23J0306
2023-10-11 15:02

| Analyte | Result | RL | Units | Analyzed | Qualifier |
|---|-------------|--------|----------|------------|-----------|
| Raw Influent (E233627) (23J0306-01) Matrix: Wastewater Sampled: 2023-10-04 10:38 | | | | | |
| Anions | | | | | |
| Nitrate (as N) | < 0.010 | 0.010 | mg/L | 2023-10-05 | |
| Nitrite (as N) | < 0.010 | 0.010 | mg/L | 2023-10-05 | |
| Phosphate (as P) | 4.07 | 0.0050 | mg/L | 2023-10-05 | RA5 |
| Calculated Parameters | | | | | |
| Nitrate+Nitrite (as N) | < 0.0100 | 0.0100 | mg/L | N/A | |
| Nitrogen, Total | 88.8 | 2.00 | mg/L | N/A | |
| General Parameters | | | | | |
| Alkalinity, Total (as CaCO3) | 457 | 1.0 | mg/L | 2023-10-07 | |
| Alkalinity, Phenolphthalein (as CaCO3) | < 1.0 | 1.0 | mg/L | 2023-10-07 | |
| Alkalinity, Bicarbonate (as CaCO3) | 457 | 1.0 | mg/L | 2023-10-07 | |
| Alkalinity, Carbonate (as CaCO3) | < 1.0 | 1.0 | mg/L | 2023-10-07 | |
| Alkalinity, Hydroxide (as CaCO3) | < 1.0 | 1.0 | mg/L | 2023-10-07 | |
| Ammonia, Total (as N) | 66.5 | 0.050 | mg/L | 2023-10-04 | |
| BOD, 5-day | 463 | 2.0 | mg/L | 2023-10-09 | |
| BOD, 5-day Carbonaceous | 348 | 2.0 | mg/L | 2023-10-09 | |
| Nitrogen, Total Kjeldahl | 88.8 | 0.050 | mg/L | 2023-10-10 | |
| pH | 7.97 | 0.10 | pH units | 2023-10-07 | HT2 |
| Phosphorus, Total (as P) | 11.1 | 0.0050 | mg/L | 2023-10-05 | |
| Solids, Total Suspended | 352 | 2.0 | mg/L | 2023-10-10 | |

Sample Qualifiers:

- HT2 The 15 minute recommended holding time (from sampling to analysis) has been exceeded - field analysis is recommended.
- RA5 The sample cannot be accurately quantified due to matrix interference. Result is Semi-Quantitative.



APPENDIX 1: SUPPORTING INFORMATION

REPORTED TO PROJECT Lake Country, District of (Wastewater)
Raw Influent- PE14651

WORK ORDER REPORTED 23J0306
2023-10-11 15:02

| Analysis Description | Method Ref. | Technique | Accredited | Location |
|--|---|--|------------|----------|
| Alkalinity in Water | SM 2320 B* (2021) | Titration with H2SO4 | ✓ | Kelowna |
| Ammonia, Total in Water | SM 4500-NH3 G* (2021) | Automated Colorimetry (Phenate) | ✓ | Kelowna |
| Anions in Water | SM 4110 B (2020) | Ion Chromatography | ✓ | Kelowna |
| Biochemical Oxygen Demand in Water | SM 5210 B (2019) | Dissolved Oxygen Meter | ✓ | Kelowna |
| Biochemical Oxygen Demand, Carbonaceous in Water | SM 5210 B (2019) | Dissolved Oxygen Meter | ✓ | Kelowna |
| Nitrogen, Total Kjeldahl in Water | SM 4500-Norg D* (2021) | Block Digestion and Flow Injection Analysis | ✓ | Kelowna |
| pH in Water | SM 4500-H+ B (2021) | Electrometry | ✓ | Kelowna |
| Phosphorus, Total in Water | SM 4500-P B.5* (2011) / SM 4500-P F (2021) | Persulfate Digestion / Automated Colorimetry (Ascorbic Acid) | ✓ | Kelowna |
| Solids, Total Suspended in Water | Solids in Water, Filtered / SM 2540 D* (2020) | Solids in Water, Filtered / Gravimetry (Dried at 103-105C) | ✓ | Kelowna |

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

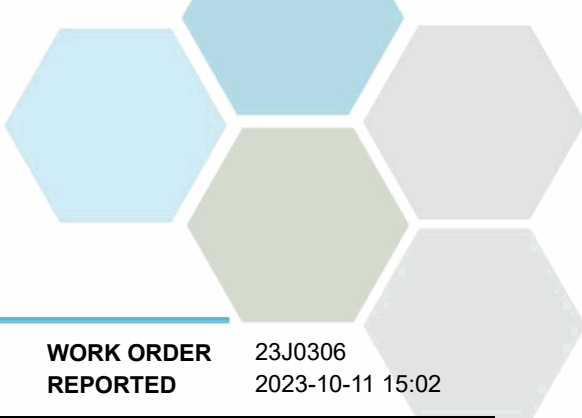
Glossary of Terms:

| | |
|----------|---|
| RL | Reporting Limit (default) |
| < | Less than the specified Reporting Limit (RL) - the actual RL may be higher than the default RL due to various factors |
| mg/L | Milligrams per litre |
| pH units | pH < 7 = acidic, pH > 7 = basic |
| SM | Standard Methods for the Examination of Water and Wastewater, American Public Health Association |

General Comments:

The results in this report apply to the received 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. Caro will dispose of all samples within 30 days of sample receipt, unless otherwise agreed.

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 Lake Country, District of (Wastewater)
Raw Influent- PE14651

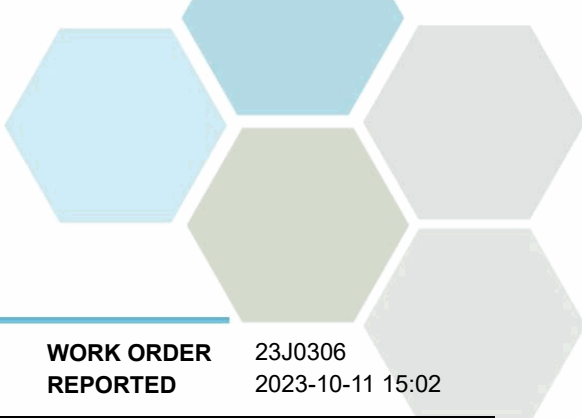
WORK ORDER REPORTED 23J0306
2023-10-11 15:02

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 B3J0299 | | | | | | | | | |
| Blank (B3J0299-BLK1) | | | Prepared: 2023-10-05, Analyzed: 2023-10-05 | | | | | | |
| Nitrate (as N) | < 0.010 | 0.010 mg/L | | | | | | | |
| Nitrite (as N) | < 0.010 | 0.010 mg/L | | | | | | | |
| Phosphate (as P) | < 0.0050 | 0.0050 mg/L | | | | | | | |
| Blank (B3J0299-BLK2) | | | Prepared: 2023-10-06, Analyzed: 2023-10-06 | | | | | | |
| Nitrate (as N) | < 0.010 | 0.010 mg/L | | | | | | | |
| Nitrite (as N) | < 0.010 | 0.010 mg/L | | | | | | | |
| Phosphate (as P) | < 0.0050 | 0.0050 mg/L | | | | | | | |
| LCS (B3J0299-BS1) | | | Prepared: 2023-10-05, Analyzed: 2023-10-05 | | | | | | |
| Nitrate (as N) | 3.95 | 0.010 mg/L | 4.00 | | 99 | 90-110 | | | |
| Nitrite (as N) | 2.03 | 0.010 mg/L | 2.00 | | 101 | 85-115 | | | |
| Phosphate (as P) | 0.846 | 0.0050 mg/L | 1.00 | | 85 | 80-120 | | | |
| LCS (B3J0299-BS2) | | | Prepared: 2023-10-06, Analyzed: 2023-10-06 | | | | | | |
| Nitrate (as N) | 3.82 | 0.010 mg/L | 4.00 | | 96 | 90-110 | | | |
| Nitrite (as N) | 2.01 | 0.010 mg/L | 2.00 | | 100 | 85-115 | | | |
| Phosphate (as P) | 1.05 | 0.0050 mg/L | 1.00 | | 105 | 80-120 | | | |
| General Parameters, Batch B3J0211 | | | | | | | | | |
| Blank (B3J0211-BLK1) | | | Prepared: 2023-10-04, Analyzed: 2023-10-04 | | | | | | |
| Ammonia, Total (as N) | < 0.050 | 0.050 mg/L | | | | | | | |
| Blank (B3J0211-BLK2) | | | Prepared: 2023-10-04, Analyzed: 2023-10-04 | | | | | | |
| Ammonia, Total (as N) | < 0.050 | 0.050 mg/L | | | | | | | |
| Blank (B3J0211-BLK3) | | | Prepared: 2023-10-04, Analyzed: 2023-10-04 | | | | | | |
| Ammonia, Total (as N) | < 0.050 | 0.050 mg/L | | | | | | | |
| LCS (B3J0211-BS1) | | | Prepared: 2023-10-04, Analyzed: 2023-10-04 | | | | | | |
| Ammonia, Total (as N) | 0.932 | 0.050 mg/L | 1.00 | | 93 | 85-115 | | | |
| LCS (B3J0211-BS2) | | | Prepared: 2023-10-04, Analyzed: 2023-10-04 | | | | | | |
| Ammonia, Total (as N) | 0.942 | 0.050 mg/L | 1.00 | | 94 | 85-115 | | | |

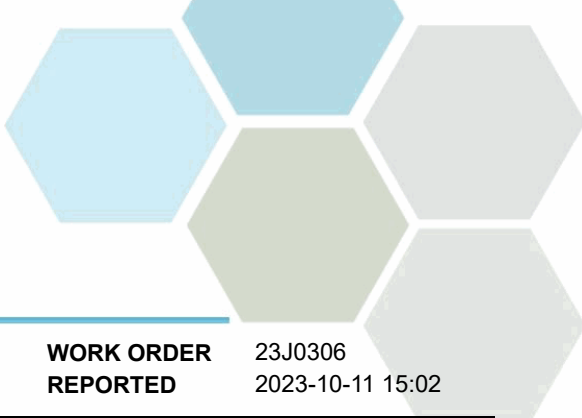


APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater)
Raw Influent- PE14651

WORK ORDER REPORTED 23J0306
2023-10-11 15:02

| Analyte | Result | RL Units | Spike Level | Source Result | % REC | REC Limit | % RPD | RPD Limit | Qualifier |
|---|----------|-------------|--|---------------|-------|-----------|-------|-----------|-----------|
| General Parameters, Batch B3J0211, Continued | | | | | | | | | |
| LCS (B3J0211-BS3) | | | Prepared: 2023-10-04, Analyzed: 2023-10-04 | | | | | | |
| Ammonia, Total (as N) | 0.912 | 0.050 mg/L | 1.00 | | 91 | 85-115 | | | |
| General Parameters, Batch B3J0303 | | | | | | | | | |
| Blank (B3J0303-BLK1) | | | Prepared: 2023-10-04, Analyzed: 2023-10-09 | | | | | | |
| BOD, 5-day Carbonaceous | < 2.0 | 2.0 mg/L | | | | | | | |
| LCS (B3J0303-BS1) | | | Prepared: 2023-10-04, Analyzed: 2023-10-09 | | | | | | |
| BOD, 5-day Carbonaceous | 171 | 29.7 mg/L | 198 | | 86 | 85-115 | | | |
| General Parameters, Batch B3J0304 | | | | | | | | | |
| Blank (B3J0304-BLK1) | | | Prepared: 2023-10-04, Analyzed: 2023-10-09 | | | | | | |
| BOD, 5-day | < 2.0 | 2.0 mg/L | | | | | | | |
| LCS (B3J0304-BS1) | | | Prepared: 2023-10-04, Analyzed: 2023-10-09 | | | | | | |
| BOD, 5-day | 203 | 40.9 mg/L | 198 | | 102 | 85-115 | | | |
| General Parameters, Batch B3J0305 | | | | | | | | | |
| Blank (B3J0305-BLK1) | | | Prepared: 2023-10-04, Analyzed: 2023-10-05 | | | | | | |
| Phosphorus, Total (as P) | < 0.0050 | 0.0050 mg/L | | | | | | | |
| Blank (B3J0305-BLK2) | | | Prepared: 2023-10-04, Analyzed: 2023-10-05 | | | | | | |
| Phosphorus, Total (as P) | < 0.0050 | 0.0050 mg/L | | | | | | | |
| Blank (B3J0305-BLK3) | | | Prepared: 2023-10-04, Analyzed: 2023-10-05 | | | | | | |
| Phosphorus, Total (as P) | < 0.0050 | 0.0050 mg/L | | | | | | | |
| Blank (B3J0305-BLK4) | | | Prepared: 2023-10-04, Analyzed: 2023-10-05 | | | | | | |
| Phosphorus, Total (as P) | < 0.0050 | 0.0050 mg/L | | | | | | | |
| LCS (B3J0305-BS1) | | | Prepared: 2023-10-04, Analyzed: 2023-10-05 | | | | | | |
| Phosphorus, Total (as P) | 0.105 | 0.0050 mg/L | 0.100 | | 105 | 85-115 | | | |
| LCS (B3J0305-BS2) | | | Prepared: 2023-10-04, Analyzed: 2023-10-05 | | | | | | |
| Phosphorus, Total (as P) | 0.106 | 0.0050 mg/L | 0.100 | | 106 | 85-115 | | | |
| LCS (B3J0305-BS3) | | | Prepared: 2023-10-04, Analyzed: 2023-10-05 | | | | | | |
| Phosphorus, Total (as P) | 0.105 | 0.0050 mg/L | 0.100 | | 105 | 85-115 | | | |
| LCS (B3J0305-BS4) | | | Prepared: 2023-10-04, Analyzed: 2023-10-05 | | | | | | |
| Phosphorus, Total (as P) | 0.106 | 0.0050 mg/L | 0.100 | | 106 | 85-115 | | | |
| General Parameters, Batch B3J0689 | | | | | | | | | |
| Blank (B3J0689-BLK1) | | | Prepared: 2023-10-07, Analyzed: 2023-10-07 | | | | | | |
| Alkalinity, Total (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Phenolphthalein (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Bicarbonate (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Carbonate (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Hydroxide (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Blank (B3J0689-BLK2) | | | Prepared: 2023-10-07, Analyzed: 2023-10-07 | | | | | | |
| Alkalinity, Total (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater)
Raw Influent- PE14651

WORK ORDER REPORTED 23J0306
2023-10-11 15:02

| Analyte | Result | RL Units | Spike Level | Source Result | % REC | REC Limit | % RPD | RPD Limit | Qualifier |
|---|---------|---------------|--|---------------|-------|--|-------|-----------|-----------|
| General Parameters, Batch B3J0689, Continued | | | | | | | | | |
| Blank (B3J0689-BLK2), Continued | | | Prepared: 2023-10-07, Analyzed: 2023-10-07 | | | | | | |
| Alkalinity, Phenolphthalein (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Bicarbonate (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Carbonate (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Hydroxide (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Blank (B3J0689-BLK3) | | | Prepared: 2023-10-07, Analyzed: 2023-10-07 | | | | | | |
| Alkalinity, Total (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Phenolphthalein (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Bicarbonate (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Carbonate (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Hydroxide (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| LCS (B3J0689-BS1) | | | Prepared: 2023-10-07, Analyzed: 2023-10-07 | | | | | | |
| Alkalinity, Total (as CaCO3) | 110 | 1.0 mg/L | 100 | | 110 | 80-120 | | | |
| Alkalinity, Phenolphthalein (as CaCO3) | 55.1 | 1.0 mg/L | 50.0 | | 110 | 0-200 | | | |
| LCS (B3J0689-BS2) | | | Prepared: 2023-10-07, Analyzed: 2023-10-07 | | | | | | |
| Alkalinity, Total (as CaCO3) | 109 | 1.0 mg/L | 100 | | 109 | 80-120 | | | |
| Alkalinity, Phenolphthalein (as CaCO3) | 56.1 | 1.0 mg/L | 50.0 | | 112 | 0-200 | | | |
| LCS (B3J0689-BS3) | | | Prepared: 2023-10-07, Analyzed: 2023-10-07 | | | | | | |
| Alkalinity, Total (as CaCO3) | 110 | 1.0 mg/L | 100 | | 110 | 80-120 | | | |
| Alkalinity, Phenolphthalein (as CaCO3) | 51.4 | 1.0 mg/L | 50.0 | | 103 | 0-200 | | | |
| Reference (B3J0689-SRM1) | | | Prepared: 2023-10-07, Analyzed: 2023-10-07 | | | | | | |
| pH | 7.04 | 0.10 pH units | 7.01 | | 100 | 98-102 | | | |
| Reference (B3J0689-SRM2) | | | Prepared: 2023-10-07, Analyzed: 2023-10-07 | | | | | | |
| pH | 7.04 | 0.10 pH units | 7.01 | | 100 | 98-102 | | | |
| Reference (B3J0689-SRM3) | | | Prepared: 2023-10-07, Analyzed: 2023-10-07 | | | | | | |
| pH | 7.04 | 0.10 pH units | 7.01 | | 100 | 98-102 | | | |
| General Parameters, Batch B3J0726 | | | | | | | | | |
| Blank (B3J0726-BLK1) | | | Prepared: 2023-10-09, Analyzed: 2023-10-10 | | | | | | |
| Nitrogen, Total Kjeldahl | < 0.050 | 0.050 mg/L | | | | | | | |
| Blank (B3J0726-BLK2) | | | Prepared: 2023-10-09, Analyzed: 2023-10-10 | | | | | | |
| Nitrogen, Total Kjeldahl | < 0.050 | 0.050 mg/L | | | | | | | |
| LCS (B3J0726-BS1) | | | Prepared: 2023-10-09, Analyzed: 2023-10-10 | | | | | | |
| Nitrogen, Total Kjeldahl | 0.964 | 0.050 mg/L | 1.00 | | 96 | 85-115 | | | |
| LCS (B3J0726-BS2) | | | Prepared: 2023-10-09, Analyzed: 2023-10-10 | | | | | | |
| Nitrogen, Total Kjeldahl | 0.983 | 0.050 mg/L | 1.00 | | 98 | 85-115 | | | |
| General Parameters, Batch B3J0754 | | | | | | | | | |
| Blank (B3J0754-BLK1) | | | Prepared: 2023-10-10, Analyzed: 2023-10-10 | | | | | | |
| Solids, Total Suspended | < 2.0 | 2.0 mg/L | | | | | | | |
| Duplicate (B3J0754-DUP1) | | | Source: 23J0306-01 | | | Prepared: 2023-10-10, Analyzed: 2023-10-10 | | | |
| Solids, Total Suspended | 384 | 2.0 mg/L | | 352 | | | 9 | 20 | |



CERTIFICATE OF ANALYSIS

| | | | |
|---------------------|---|---------------------------------|---|
| REPORTED TO | Lake Country, District of (Wastewater) 4062 Beaver Lake Rd LAKE COUNTRY, BC V4V 1T5 | WORK ORDER | 23K2725 |
| ATTENTION | Davin Larsen | RECEIVED / TEMP REPORTED | 2023-11-22 13:33 / 14.1°C 2023-11-29 15:27 |
| PO NUMBER | | COC NUMBER | 45252.44479 |
| PROJECT | BioSolids- PE14651 | | |
| PROJECT INFO | Lake Country WWTP | | |

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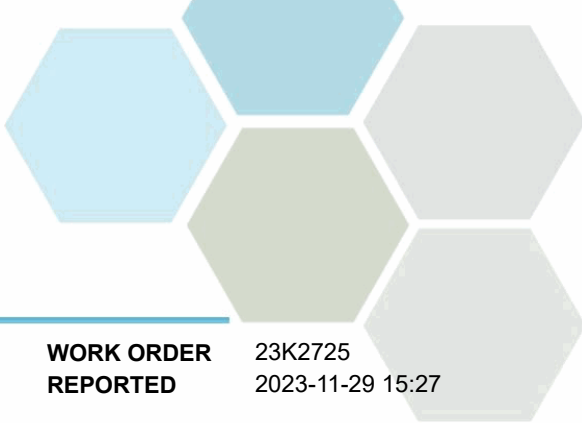
If you have any questions or concerns, please contact me at bwhitehead@caro.ca

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 Lake Country, District of (Wastewater)
BioSolids- PE14651

WORK ORDER REPORTED 23K2725
2023-11-29 15:27

| Analyte | Result | RL | Units | Analyzed | Qualifier |
|---------|--------|----|-------|----------|-----------|
|---------|--------|----|-------|----------|-----------|

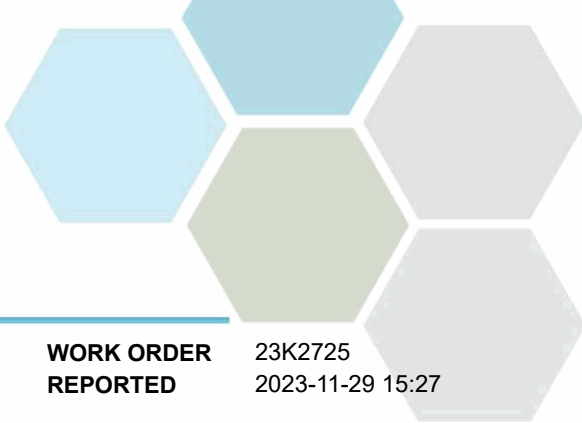
Biosolids (E233628) (23K2725-01) | Matrix: Sludge | Sampled: 2023-11-22 11:00

General Parameters

| | | | | | |
|--------------------------|------|--------|-------|------------|--|
| Moisture | 80.5 | 1.0 | % wet | 2023-11-27 | |
| Nitrogen, Total Kjeldahl | 5.12 | 0.0004 | % dry | 2023-11-28 | |
| Solids, Total | 19.4 | 0.1 | % wet | 2023-11-29 | |
| Solids, Volatile | 82.6 | 0.1 | % dry | 2023-11-29 | |

Strong Acid Leachable Metals

| | | | | | |
|------------|--------|-------|-----------|------------|--|
| Aluminum | 7280 | 40 | mg/kg dry | 2023-11-26 | |
| Antimony | 1.91 | 0.10 | mg/kg dry | 2023-11-26 | |
| Arsenic | 3.65 | 0.30 | mg/kg dry | 2023-11-26 | |
| Barium | 189 | 1.0 | mg/kg dry | 2023-11-26 | |
| Beryllium | 0.13 | 0.10 | mg/kg dry | 2023-11-26 | |
| Bismuth | 36.1 | 0.10 | mg/kg dry | 2023-11-26 | |
| Boron | 23.1 | 2.0 | mg/kg dry | 2023-11-26 | |
| Cadmium | 1.31 | 0.040 | mg/kg dry | 2023-11-26 | |
| Calcium | 22300 | 100 | mg/kg dry | 2023-11-26 | |
| Chromium | 18.2 | 1.0 | mg/kg dry | 2023-11-26 | |
| Cobalt | 1.95 | 0.10 | mg/kg dry | 2023-11-26 | |
| Copper | 677 | 0.40 | mg/kg dry | 2023-11-26 | |
| Iron | 6080 | 20.0 | mg/kg dry | 2023-11-26 | |
| Lead | 10.1 | 0.20 | mg/kg dry | 2023-11-26 | |
| Lithium | 1.77 | 0.10 | mg/kg dry | 2023-11-26 | |
| Magnesium | 5770 | 10 | mg/kg dry | 2023-11-26 | |
| Manganese | 179 | 0.40 | mg/kg dry | 2023-11-26 | |
| Mercury | 0.696 | 0.040 | mg/kg dry | 2023-11-26 | |
| Molybdenum | 14.7 | 0.10 | mg/kg dry | 2023-11-26 | |
| Nickel | 15.2 | 0.60 | mg/kg dry | 2023-11-26 | |
| Phosphorus | 22100 | 10 | mg/kg dry | 2023-11-26 | |
| Potassium | 5850 | 40 | mg/kg dry | 2023-11-26 | |
| Selenium | 5.39 | 0.20 | mg/kg dry | 2023-11-26 | |
| Silver | 2.05 | 0.10 | mg/kg dry | 2023-11-26 | |
| Sodium | 1770 | 50 | mg/kg dry | 2023-11-26 | |
| Strontium | 171 | 0.20 | mg/kg dry | 2023-11-26 | |
| Sulfur | 10400 | 1000 | mg/kg dry | 2023-11-26 | |
| Tellurium | < 0.10 | 0.10 | mg/kg dry | 2023-11-26 | |
| Thallium | < 0.10 | 0.10 | mg/kg dry | 2023-11-26 | |
| Thorium | < 0.50 | 0.50 | mg/kg dry | 2023-11-26 | |
| Tin | 22.0 | 0.20 | mg/kg dry | 2023-11-26 | |
| Titanium | 84.8 | 1.0 | mg/kg dry | 2023-11-26 | |
| Tungsten | 1.09 | 0.20 | mg/kg dry | 2023-11-26 | |
| Uranium | 14.4 | 0.050 | mg/kg dry | 2023-11-26 | |
| Vanadium | 8.5 | 1.0 | mg/kg dry | 2023-11-26 | |
| Zinc | 909 | 2.0 | mg/kg dry | 2023-11-26 | |
| Zirconium | 8.5 | 2.0 | mg/kg dry | 2023-11-26 | |



APPENDIX 1: SUPPORTING INFORMATION

REPORTED TO PROJECT Lake Country, District of (Wastewater)
BioSolids- PE14651

WORK ORDER REPORTED 23K2725
2023-11-29 15:27

| Analysis Description | Method Ref. | Technique | Accredited | Location |
|-----------------------------------|----------------------------|---|------------|----------|
| Moisture in Solid | ASTM D2974-87* | Gravimetry (Dried at 105C) | | N/A |
| Nitrogen, Total Kjeldahl in Solid | SM 4500-Norg D* (2021) | Block Digestion and Flow Injection Analysis | ✓ | Kelowna |
| SALM in Solid | BCMOE SALM V.2 / EPA 6020B | HNO ₃ +HCl Hot Block Digestion / Inductively Coupled Plasma-Mass Spectroscopy (ICP-MS) | ✓ | Richmond |
| Solids, Total in Solid | SM 2540 G (2020) | Gravimetry | | Richmond |
| Solids, Volatile in Solid | SM 2540 G (2020) | Gravimetry | | Richmond |

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

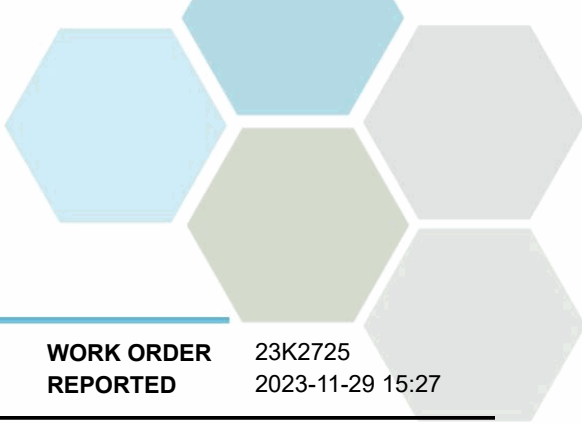
Glossary of Terms:

| | |
|-----------|---|
| RL | Reporting Limit (default) |
| % dry | Percent (dry weight basis) |
| % wet | Percent (as received basis) |
| < | Less than the specified Reporting Limit (RL) - the actual RL may be higher than the default RL due to various factors |
| mg/kg dry | Milligrams per kilogram (dry weight basis) |
| ASTM | ASTM International Test Methods |
| EPA | United States Environmental Protection Agency Test Methods |
| SM | Standard Methods for the Examination of Water and Wastewater, American Public Health Association |

General Comments:

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APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater)
BioSolids- PE14651

WORK ORDER REPORTED 23K2725
2023-11-29 15:27

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:

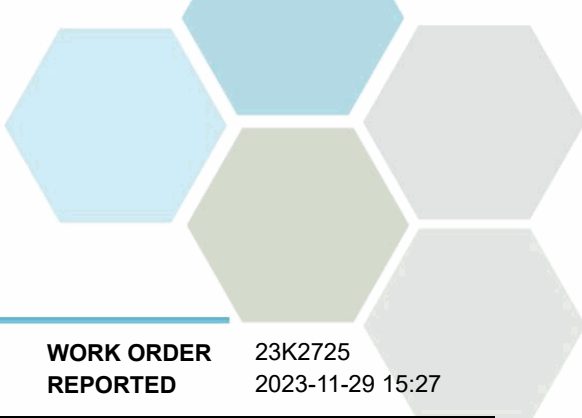
- **Method Blank (Blk):** A blank sample that undergoes sample processing identical to that carried out for the test samples. Method blank results are used to assess contamination from the laboratory environment and reagents.
- **Duplicate (Dup):** An additional or second portion of a randomly selected 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 |
|--|---------|--------------|---|---------------|-------|-----------|-------|-----------|-----------|
| General Parameters, Batch B3K2670 | | | | | | | | | |
| Blank (B3K2670-BLK1) | | | Prepared: 2023-11-27, Analyzed: 2023-11-28 | | | | | | |
| Nitrogen, Total Kjeldahl | < 0.010 | 0.010 % wet | | | | | | | |
| Duplicate (B3K2670-DUP1) | | | Source: 23K2725-01 Prepared: 2023-11-27, Analyzed: 2023-11-28 | | | | | | |
| Nitrogen, Total Kjeldahl | 5.34 | 0.0004 % dry | | 5.12 | | | 4 | 25 | |
| Reference (B3K2670-SRM1) | | | Prepared: 2023-11-27, Analyzed: 2023-11-28 | | | | | | |
| Nitrogen, Total Kjeldahl | 0.172 | 0.010 % wet | 0.197 | | 87 | 58.8-150 | | | |

Strong Acid Leachable Metals, Batch B3K2616

| | | | | | | | | | |
|-----------------------------|---------|-----------------|--|--|--|--|--|--|--|
| Blank (B3K2616-BLK1) | | | Prepared: 2023-11-26, Analyzed: 2023-11-26 | | | | | | |
| Aluminum | < 40 | 40 mg/kg dry | | | | | | | |
| Antimony | < 0.10 | 0.10 mg/kg dry | | | | | | | |
| Arsenic | < 0.30 | 0.30 mg/kg dry | | | | | | | |
| Barium | < 1.0 | 1.0 mg/kg dry | | | | | | | |
| Beryllium | < 0.10 | 0.10 mg/kg dry | | | | | | | |
| Bismuth | < 0.10 | 0.10 mg/kg dry | | | | | | | |
| Boron | < 2.0 | 2.0 mg/kg dry | | | | | | | |
| Cadmium | < 0.040 | 0.040 mg/kg dry | | | | | | | |
| Calcium | < 100 | 100 mg/kg dry | | | | | | | |
| Chromium | < 1.0 | 1.0 mg/kg dry | | | | | | | |
| Cobalt | < 0.10 | 0.10 mg/kg dry | | | | | | | |
| Copper | < 0.40 | 0.40 mg/kg dry | | | | | | | |
| Iron | < 20.0 | 20.0 mg/kg dry | | | | | | | |
| Lead | < 0.20 | 0.20 mg/kg dry | | | | | | | |
| Lithium | < 0.10 | 0.10 mg/kg dry | | | | | | | |
| Magnesium | < 10 | 10 mg/kg dry | | | | | | | |
| Manganese | < 0.40 | 0.40 mg/kg dry | | | | | | | |
| Mercury | < 0.040 | 0.040 mg/kg dry | | | | | | | |
| Molybdenum | < 0.10 | 0.10 mg/kg dry | | | | | | | |
| Nickel | < 0.60 | 0.60 mg/kg dry | | | | | | | |
| Phosphorus | < 10 | 10 mg/kg dry | | | | | | | |
| Potassium | < 40 | 40 mg/kg dry | | | | | | | |
| Selenium | < 0.20 | 0.20 mg/kg dry | | | | | | | |
| Silver | < 0.10 | 0.10 mg/kg dry | | | | | | | |
| Sodium | < 50 | 50 mg/kg dry | | | | | | | |



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater)
BioSolids- PE14651

WORK ORDER REPORTED 23K2725
2023-11-29 15:27

| Analyte | Result | RL Units | Spike Level | Source Result | % REC | REC Limit | % RPD | RPD Limit | Qualifier |
|---------|--------|----------|-------------|---------------|-------|-----------|-------|-----------|-----------|
|---------|--------|----------|-------------|---------------|-------|-----------|-------|-----------|-----------|

Strong Acid Leachable Metals, Batch B3K2616, Continued

Blank (B3K2616-BLK1), Continued

Prepared: 2023-11-26, Analyzed: 2023-11-26

| | | | | | | | | | |
|-----------|---------|-----------------|--|--|--|--|--|--|--|
| Strontium | < 0.20 | 0.20 mg/kg dry | | | | | | | |
| Sulfur | < 1000 | 1000 mg/kg dry | | | | | | | |
| Tellurium | < 0.10 | 0.10 mg/kg dry | | | | | | | |
| Thallium | < 0.10 | 0.10 mg/kg dry | | | | | | | |
| Thorium | < 0.50 | 0.50 mg/kg dry | | | | | | | |
| Tin | < 0.20 | 0.20 mg/kg dry | | | | | | | |
| Titanium | < 1.0 | 1.0 mg/kg dry | | | | | | | |
| Tungsten | < 0.20 | 0.20 mg/kg dry | | | | | | | |
| Uranium | < 0.050 | 0.050 mg/kg dry | | | | | | | |
| Vanadium | < 1.0 | 1.0 mg/kg dry | | | | | | | |
| Zinc | < 2.0 | 2.0 mg/kg dry | | | | | | | |
| Zirconium | < 2.0 | 2.0 mg/kg dry | | | | | | | |

LCS (B3K2616-BS1)

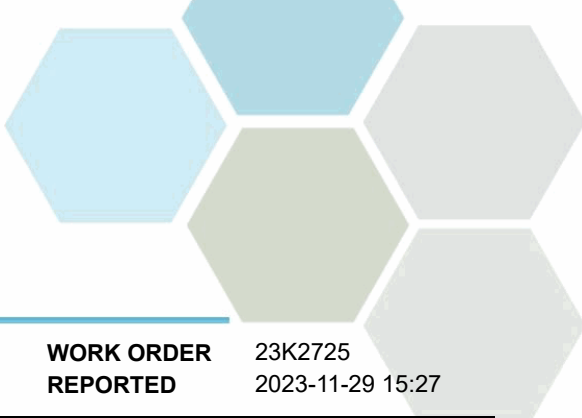
Prepared: 2023-11-26, Analyzed: 2023-11-26

| | | | | | | | | | |
|------------|-------|-----------------|-------|--|-----|--------|--|--|-----|
| Aluminum | 203 | 40 mg/kg dry | 200 | | 102 | 80-120 | | | |
| Antimony | 2.00 | 0.10 mg/kg dry | 2.00 | | 100 | 80-120 | | | |
| Arsenic | 20.2 | 0.30 mg/kg dry | 20.0 | | 101 | 80-120 | | | |
| Barium | 2.1 | 1.0 mg/kg dry | 2.00 | | 103 | 80-120 | | | |
| Beryllium | 2.04 | 0.10 mg/kg dry | 2.00 | | 102 | 80-120 | | | |
| Bismuth | 1.98 | 0.10 mg/kg dry | 2.00 | | 99 | 80-120 | | | |
| Boron | 21.1 | 2.0 mg/kg dry | 20.0 | | 106 | 80-120 | | | |
| Cadmium | 2.00 | 0.040 mg/kg dry | 2.00 | | 100 | 80-120 | | | |
| Calcium | 207 | 100 mg/kg dry | 200 | | 104 | 80-120 | | | |
| Chromium | 2.1 | 1.0 mg/kg dry | 2.00 | | 104 | 80-120 | | | |
| Cobalt | 2.06 | 0.10 mg/kg dry | 2.00 | | 103 | 80-120 | | | |
| Copper | 2.09 | 0.40 mg/kg dry | 2.00 | | 104 | 80-120 | | | |
| Iron | 218 | 20.0 mg/kg dry | 200 | | 109 | 80-120 | | | |
| Lead | 2.03 | 0.20 mg/kg dry | 2.00 | | 101 | 80-120 | | | |
| Lithium | 2.02 | 0.10 mg/kg dry | 2.00 | | 101 | 80-120 | | | |
| Magnesium | 208 | 10 mg/kg dry | 200 | | 104 | 80-120 | | | |
| Manganese | 2.11 | 0.40 mg/kg dry | 2.00 | | 105 | 80-120 | | | |
| Mercury | 0.203 | 0.040 mg/kg dry | 0.200 | | 102 | 80-120 | | | |
| Molybdenum | 2.02 | 0.10 mg/kg dry | 2.00 | | 101 | 80-120 | | | |
| Nickel | 2.05 | 0.60 mg/kg dry | 2.00 | | 103 | 80-120 | | | |
| Phosphorus | 199 | 10 mg/kg dry | 200 | | 99 | 80-120 | | | |
| Potassium | 209 | 40 mg/kg dry | 200 | | 105 | 80-120 | | | |
| Selenium | 20.4 | 0.20 mg/kg dry | 20.0 | | 102 | 80-120 | | | |
| Silver | 2.08 | 0.10 mg/kg dry | 2.00 | | 104 | 80-120 | | | |
| Sodium | 201 | 50 mg/kg dry | 200 | | 101 | 80-120 | | | |
| Strontium | 2.02 | 0.20 mg/kg dry | 2.00 | | 101 | 80-120 | | | |
| Sulfur | 2040 | 1000 mg/kg dry | 2000 | | 102 | 80-120 | | | |
| Tellurium | 1.97 | 0.10 mg/kg dry | 2.00 | | 98 | 80-120 | | | |
| Thallium | 1.93 | 0.10 mg/kg dry | 2.00 | | 97 | 80-120 | | | |
| Thorium | 2.15 | 0.50 mg/kg dry | 2.00 | | 108 | 80-120 | | | |
| Tin | 2.05 | 0.20 mg/kg dry | 2.00 | | 102 | 80-120 | | | |
| Titanium | 2.4 | 1.0 mg/kg dry | 2.00 | | 121 | 80-120 | | | MES |
| Tungsten | 2.09 | 0.20 mg/kg dry | 2.00 | | 105 | 80-120 | | | |
| Uranium | 2.08 | 0.050 mg/kg dry | 2.00 | | 104 | 80-120 | | | |
| Vanadium | 2.0 | 1.0 mg/kg dry | 2.00 | | 100 | 80-120 | | | |
| Zinc | 20.2 | 2.0 mg/kg dry | 20.0 | | 101 | 80-120 | | | |
| Zirconium | 2.1 | 2.0 mg/kg dry | 2.00 | | 103 | 80-120 | | | |

Reference (B3K2616-SRM1)

Prepared: 2023-11-26, Analyzed: 2023-11-26

| | | | | | | | | | |
|----------|-------|----------------|-------|--|-----|--------|--|--|--|
| Aluminum | 12100 | 40 mg/kg dry | 12100 | | 100 | 70-130 | | | |
| Antimony | 0.64 | 0.10 mg/kg dry | 0.634 | | 100 | 70-130 | | | |
| Arsenic | 81.6 | 0.30 mg/kg dry | 83.6 | | 98 | 70-130 | | | |



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater)
BioSolids- PE14651

WORK ORDER REPORTED 23K2725
2023-11-29 15:27

| Analyte | Result | RL Units | Spike Level | Source Result | % REC | REC Limit | % RPD | RPD Limit | Qualifier |
|---|--------|-----------------|-------------|---------------|--|-----------|-------|-----------|-----------|
| Strong Acid Leachable Metals, Batch B3K2616, Continued | | | | | | | | | |
| Reference (B3K2616-SRM1), Continued | | | | | Prepared: 2023-11-26, Analyzed: 2023-11-26 | | | | |
| Barium | 42.9 | 1.0 mg/kg dry | 41.4 | | 104 | 70-130 | | | |
| Beryllium | 0.37 | 0.10 mg/kg dry | 0.377 | | 99 | 70-130 | | | |
| Bismuth | 0.28 | 0.10 mg/kg dry | 0.291 | | 97 | 70-130 | | | |
| Calcium | 5420 | 100 mg/kg dry | 5380 | | 101 | 70-130 | | | |
| Chromium | 66.8 | 1.0 mg/kg dry | 66.0 | | 101 | 70-130 | | | |
| Cobalt | 10.4 | 0.10 mg/kg dry | 10.8 | | 96 | 70-130 | | | |
| Copper | 20.3 | 0.40 mg/kg dry | 20.3 | | 100 | 70-130 | | | |
| Iron | 20100 | 20.0 mg/kg dry | 20400 | | 99 | 70-130 | | | |
| Lead | 16.6 | 0.20 mg/kg dry | 16.7 | | 100 | 70-130 | | | |
| Lithium | 16.6 | 0.10 mg/kg dry | 16.8 | | 99 | 70-130 | | | |
| Magnesium | 5990 | 10 mg/kg dry | 6170 | | 97 | 70-130 | | | |
| Manganese | 312 | 0.40 mg/kg dry | 319 | | 98 | 70-130 | | | |
| Mercury | 0.107 | 0.040 mg/kg dry | 0.114 | | 94 | 70-130 | | | |
| Molybdenum | 0.62 | 0.10 mg/kg dry | 0.607 | | 102 | 70-130 | | | |
| Nickel | 31.3 | 0.60 mg/kg dry | 32.5 | | 96 | 70-130 | | | |
| Phosphorus | 422 | 10 mg/kg dry | 432 | | 98 | 70-130 | | | |
| Silver | 1.48 | 0.10 mg/kg dry | 1.55 | | 95 | 70-130 | | | |
| Strontium | 22.3 | 0.20 mg/kg dry | 22.5 | | 99 | 70-130 | | | |
| Thallium | < 0.10 | 0.10 mg/kg dry | 0.0765 | | 99 | 70-130 | | | |
| Thorium | 2.73 | 0.50 mg/kg dry | 2.96 | | 92 | 70-130 | | | |
| Titanium | 795 | 1.0 mg/kg dry | 730 | | 109 | 70-130 | | | |
| Uranium | 1.13 | 0.050 mg/kg dry | 1.15 | | 98 | 70-130 | | | |
| Vanadium | 35.5 | 1.0 mg/kg dry | 36.3 | | 98 | 70-130 | | | |
| Zinc | 38.6 | 2.0 mg/kg dry | 39.7 | | 97 | 70-130 | | | |

QC Qualifiers:

MES A number up to 10% (rounded down) of the analytes in a Multi-Element Scan may exceed control limits by up to 10% (absolute).



CERTIFICATE OF ANALYSIS

| | | | |
|---------------------|---|---------------------------------|---|
| REPORTED TO | Lake Country, District of (Wastewater) 4062 Beaver Lake Rd LAKE COUNTRY, BC V4V 1T5 | WORK ORDER | 23K2902 |
| ATTENTION | Davin Larsen | RECEIVED / TEMP REPORTED | 2023-11-23 14:12 / 12.1°C 2023-11-30 13:14 |
| PO NUMBER | | COC NUMBER | 45253.55601 |
| PROJECT | Amry- MR17842 | | |
| PROJECT INFO | Lake Country WWTP | | |

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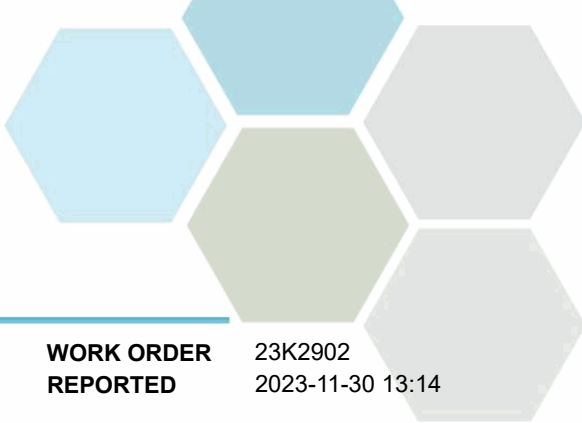
If you have any questions or concerns, please contact me at bwhitehead@caro.ca

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

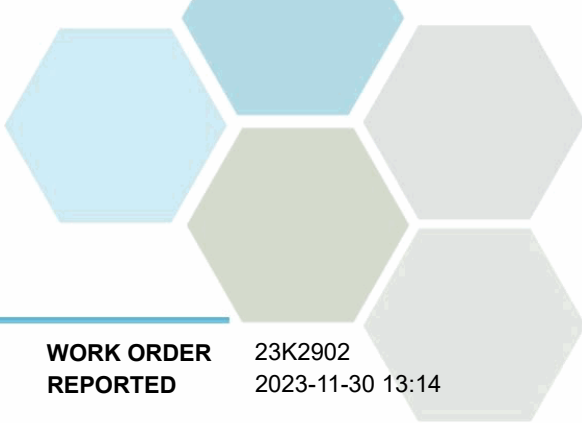


TEST RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater)
Amry- MR17842

WORK ORDER REPORTED 23K2902
2023-11-30 13:14

| Analyte | Result | RL | Units | Analyzed | Qualifier |
|---|--------|-----|-------|------------|-----------|
| Amry (E262982) (23K2902-01) Matrix: Wastewater Sampled: 2023-11-23 11:37 | | | | | |
| <i>General Parameters</i> | | | | | |
| BOD, 5-day Carbonaceous | < 5.5 | 2.0 | mg/L | 2023-11-30 | |
| Solids, Total Suspended | 7.8 | 2.0 | mg/L | 2023-11-28 | |



APPENDIX 1: SUPPORTING INFORMATION

REPORTED TO PROJECT Lake Country, District of (Wastewater)
Amry- MR17842

WORK ORDER REPORTED 23K2902
2023-11-30 13:14

| Analysis Description | Method Ref. | Technique | Accredited | Location |
|--|---|--|------------|----------|
| Biochemical Oxygen Demand, Carbonaceous in Water | SM 5210 B (2019) | Dissolved Oxygen Meter | ✓ | Kelowna |
| Solids, Total Suspended in Water | Solids in Water, Filtered / SM 2540 D* (2020) | Solids in Water, Filtered / Gravimetry (Dried at 103-105C) | ✓ | Kelowna |

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

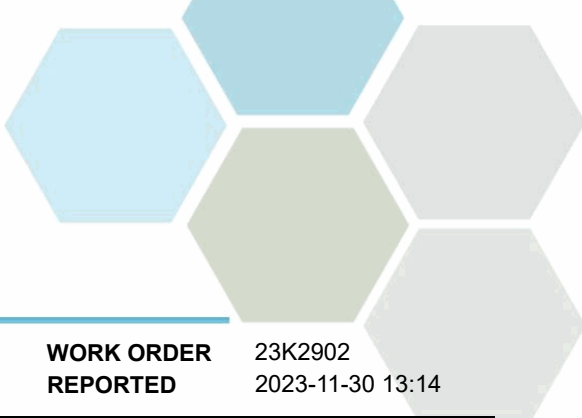
Glossary of Terms:

| | |
|------|---|
| RL | Reporting Limit (default) |
| < | Less than the specified Reporting Limit (RL) - the actual RL may be higher than the default RL due to various factors |
| mg/L | Milligrams per litre |
| SM | Standard Methods for the Examination of Water and Wastewater, American Public Health Association |

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WORK ORDER REPORTED 23K2902
2023-11-30 13:14

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|---------|--------|----------|-------------|---------------|-------|-----------|-------|-----------|-----------|
|---------|--------|----------|-------------|---------------|-------|-----------|-------|-----------|-----------|

General Parameters, Batch B3K2570

| | | | | | | | | | |
|-----------------------------|-------|-----------|--|--|----|--------|--|--|--|
| Blank (B3K2570-BLK1) | | | Prepared: 2023-11-25, Analyzed: 2023-11-30 | | | | | | |
| BOD, 5-day Carbonaceous | < 2.0 | 2.0 mg/L | | | | | | | |
| LCS (B3K2570-BS1) | | | Prepared: 2023-11-25, Analyzed: 2023-11-30 | | | | | | |
| BOD, 5-day Carbonaceous | 190 | 45.6 mg/L | 198 | | 96 | 85-115 | | | |

General Parameters, Batch B3K2737

| | | | | | | | | | |
|-----------------------------|-------|-----------|--|--|----|--------|--|--|--|
| Blank (B3K2737-BLK1) | | | Prepared: 2023-11-28, Analyzed: 2023-11-28 | | | | | | |
| Solids, Total Suspended | < 2.0 | 2.0 mg/L | | | | | | | |
| LCS (B3K2737-BS1) | | | Prepared: 2023-11-28, Analyzed: 2023-11-28 | | | | | | |
| Solids, Total Suspended | 87.0 | 10.0 mg/L | 100 | | 87 | 85-115 | | | |



CERTIFICATE OF ANALYSIS

| | | | |
|---------------------|---|---------------------------------|---|
| REPORTED TO | Lake Country, District of (Wastewater) 4062 Beaver Lake Rd LAKE COUNTRY, BC V4V 1T5 | WORK ORDER | 23K2722 |
| ATTENTION | Davin Larsen | RECEIVED / TEMP REPORTED | 2023-11-22 13:33 / 14.1°C 2023-11-29 13:16 |
| PO NUMBER | | COC NUMBER | 45252.44479 |
| PROJECT | Raw Influent- PE14651 | | |
| PROJECT INFO | Lake Country WWTP | | |

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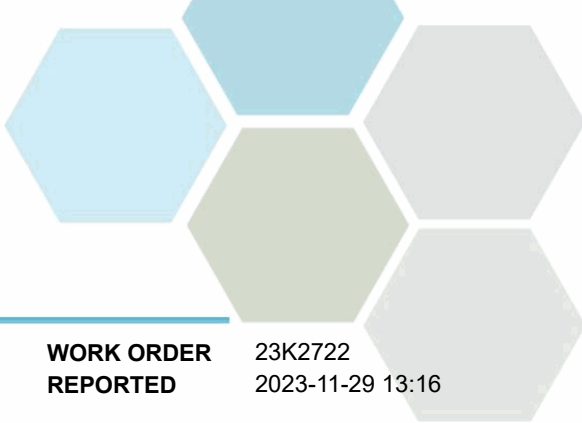
If you have any questions or concerns, please contact me at bwhitehead@caro.ca

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

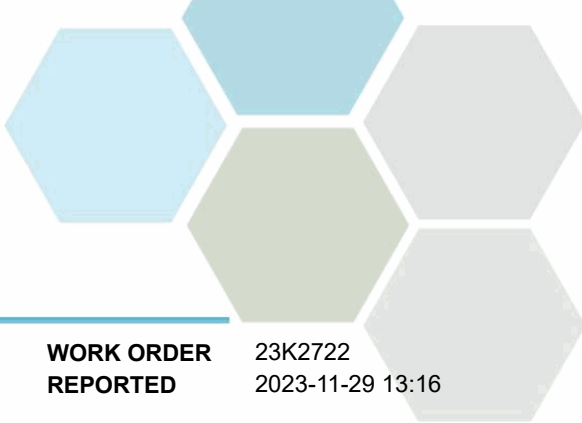
REPORTED TO PROJECT Lake Country, District of (Wastewater)
Raw Influent- PE14651

WORK ORDER REPORTED 23K2722
2023-11-29 13:16

| Analyte | Result | RL | Units | Analyzed | Qualifier |
|---|-------------|--------|----------|------------|-----------|
| Raw Influent (E233627) (23K2722-01) Matrix: Wastewater Sampled: 2023-11-22 10:55 | | | | | |
| Anions | | | | | |
| Nitrate (as N) | < 0.010 | 0.010 | mg/L | 2023-11-23 | |
| Nitrite (as N) | < 0.010 | 0.010 | mg/L | 2023-11-23 | |
| Phosphate (as P) | 4.92 | 0.0050 | mg/L | 2023-11-23 | RA5 |
| Calculated Parameters | | | | | |
| Nitrate+Nitrite (as N) | < 0.0100 | 0.0100 | mg/L | N/A | |
| Nitrogen, Total | 86.3 | 2.00 | mg/L | N/A | |
| General Parameters | | | | | |
| Alkalinity, Total (as CaCO3) | 369 | 1.0 | mg/L | 2023-11-24 | |
| Alkalinity, Phenolphthalein (as CaCO3) | < 1.0 | 1.0 | mg/L | 2023-11-24 | |
| Alkalinity, Bicarbonate (as CaCO3) | 369 | 1.0 | mg/L | 2023-11-24 | |
| Alkalinity, Carbonate (as CaCO3) | < 1.0 | 1.0 | mg/L | 2023-11-24 | |
| Alkalinity, Hydroxide (as CaCO3) | < 1.0 | 1.0 | mg/L | 2023-11-24 | |
| Ammonia, Total (as N) | 60.2 | 0.050 | mg/L | 2023-11-25 | |
| BOD, 5-day | 462 | 2.0 | mg/L | 2023-11-29 | |
| BOD, 5-day Carbonaceous | 425 | 2.0 | mg/L | 2023-11-29 | |
| Nitrogen, Total Kjeldahl | 86.3 | 0.050 | mg/L | 2023-11-26 | |
| pH | 7.59 | 0.10 | pH units | 2023-11-24 | HT2 |
| Phosphorus, Total (as P) | 11.0 | 0.0050 | mg/L | 2023-11-24 | |
| Solids, Total Suspended | 362 | 2.0 | mg/L | 2023-11-28 | |

Sample Qualifiers:

- HT2 The 15 minute recommended holding time (from sampling to analysis) has been exceeded - field analysis is recommended.
- RA5 The sample cannot be accurately quantified due to matrix interference. Result is Semi-Quantitative.



APPENDIX 1: SUPPORTING INFORMATION

REPORTED TO PROJECT Lake Country, District of (Wastewater)
Raw Influent- PE14651

WORK ORDER REPORTED 23K2722
2023-11-29 13:16

| Analysis Description | Method Ref. | Technique | Accredited | Location |
|--|---|--|------------|----------|
| Alkalinity in Water | SM 2320 B* (2021) | Titration with H2SO4 | ✓ | Kelowna |
| Ammonia, Total in Water | SM 4500-NH3 G* (2021) | Automated Colorimetry (Phenate) | ✓ | Kelowna |
| Anions in Water | SM 4110 B (2020) | Ion Chromatography | ✓ | Kelowna |
| Biochemical Oxygen Demand in Water | SM 5210 B (2019) | Dissolved Oxygen Meter | ✓ | Kelowna |
| Biochemical Oxygen Demand, Carbonaceous in Water | SM 5210 B (2019) | Dissolved Oxygen Meter | ✓ | Kelowna |
| Nitrogen, Total Kjeldahl in Water | SM 4500-Norg D* (2021) | Block Digestion and Flow Injection Analysis | ✓ | Kelowna |
| pH in Water | SM 4500-H+ B (2021) | Electrometry | ✓ | Kelowna |
| Phosphorus, Total in Water | SM 4500-P B.5* (2011) / SM 4500-P F (2021) | Persulfate Digestion / Automated Colorimetry (Ascorbic Acid) | ✓ | Kelowna |
| Solids, Total Suspended in Water | Solids in Water, Filtered / SM 2540 D* (2020) | Solids in Water, Filtered / Gravimetry (Dried at 103-105C) | ✓ | Kelowna |

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

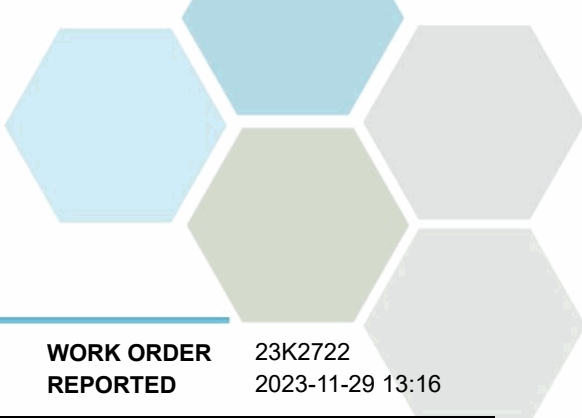
Glossary of Terms:

| | |
|----------|---|
| RL | Reporting Limit (default) |
| < | Less than the specified Reporting Limit (RL) - the actual RL may be higher than the default RL due to various factors |
| mg/L | Milligrams per litre |
| pH units | pH < 7 = acidic, pH > 7 = basic |
| SM | Standard Methods for the Examination of Water and Wastewater, American Public Health Association |

General Comments:

The results in this report apply to the received 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. Caro will dispose of all samples within 30 days of sample receipt, unless otherwise agreed.

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 Lake Country, District of (Wastewater)
Raw Influent- PE14651

WORK ORDER REPORTED 23K2722
2023-11-29 13:16

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:

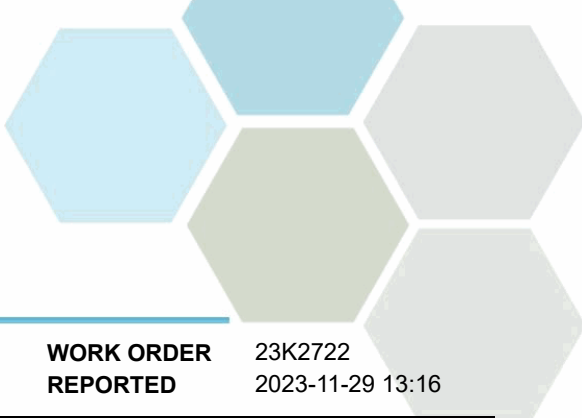
- **Method Blank (Blk):** A blank sample that undergoes sample processing identical to that carried out for the test samples. Method blank results are used to assess contamination from the laboratory environment and reagents.
- **Duplicate (Dup):** An additional or second portion of a randomly selected 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 B3K2322 | | | | | | | | | |
| Blank (B3K2322-BLK1) | | | Prepared: 2023-11-23, Analyzed: 2023-11-23 | | | | | | |
| Nitrate (as N) | < 0.010 | 0.010 mg/L | | | | | | | |
| Nitrite (as N) | < 0.010 | 0.010 mg/L | | | | | | | |
| Blank (B3K2322-BLK2) | | | Prepared: 2023-11-23, Analyzed: 2023-11-23 | | | | | | |
| Nitrate (as N) | < 0.010 | 0.010 mg/L | | | | | | | |
| Nitrite (as N) | < 0.010 | 0.010 mg/L | | | | | | | |
| LCS (B3K2322-BS1) | | | Prepared: 2023-11-23, Analyzed: 2023-11-23 | | | | | | |
| Nitrate (as N) | 3.93 | 0.010 mg/L | 4.00 | | 98 | 90-110 | | | |
| Nitrite (as N) | 2.14 | 0.010 mg/L | 2.00 | | 107 | 85-115 | | | |
| Phosphate (as P) | 0.984 | 0.0050 mg/L | 1.00 | | 98 | 80-120 | | | |
| LCS (B3K2322-BS2) | | | Prepared: 2023-11-23, Analyzed: 2023-11-23 | | | | | | |
| Nitrate (as N) | 4.04 | 0.010 mg/L | 4.00 | | 101 | 90-110 | | | |
| Nitrite (as N) | 2.08 | 0.010 mg/L | 2.00 | | 104 | 85-115 | | | |
| Phosphate (as P) | 0.979 | 0.0050 mg/L | 1.00 | | 98 | 80-120 | | | |

General Parameters, Batch B3K2371

| | | | | | | | | | |
|--|-------|----------|--|--|-----|--------|--|--|--|
| Blank (B3K2371-BLK1) | | | Prepared: 2023-11-24, Analyzed: 2023-11-24 | | | | | | |
| Alkalinity, Total (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Phenolphthalein (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Bicarbonate (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Carbonate (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Hydroxide (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Blank (B3K2371-BLK2) | | | Prepared: 2023-11-24, Analyzed: 2023-11-24 | | | | | | |
| Alkalinity, Total (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Phenolphthalein (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Bicarbonate (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Carbonate (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Hydroxide (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| LCS (B3K2371-BS1) | | | Prepared: 2023-11-24, Analyzed: 2023-11-24 | | | | | | |
| Alkalinity, Total (as CaCO3) | 103 | 1.0 mg/L | 100 | | 103 | 80-120 | | | |
| Alkalinity, Phenolphthalein (as CaCO3) | 60.4 | 1.0 mg/L | 50.0 | | 121 | 0-200 | | | |



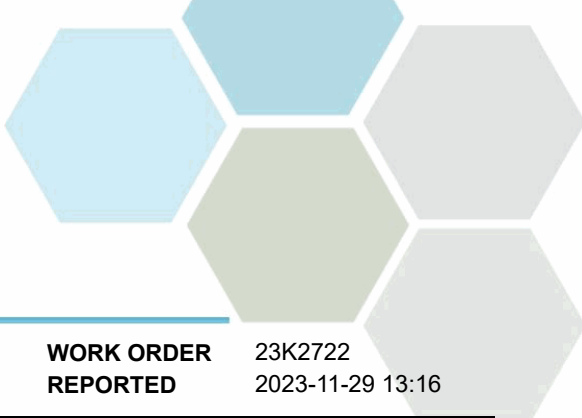
APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater)
Raw Influent- PE14651

WORK ORDER REPORTED 23K2722
2023-11-29 13:16

| Analyte | Result | RL Units | Spike Level | Source Result | % REC | REC Limit | % RPD | RPD Limit | Qualifier |
|---|----------|---------------|--|---------------|-------|-----------|-------|-----------|-----------|
| General Parameters, Batch B3K2371, Continued | | | | | | | | | |
| LCS (B3K2371-BS2) | | | Prepared: 2023-11-24, Analyzed: 2023-11-24 | | | | | | |
| Alkalinity, Total (as CaCO ₃) | 101 | 1.0 mg/L | 100 | | 101 | 80-120 | | | |
| Alkalinity, Phenolphthalein (as CaCO ₃) | 54.3 | 1.0 mg/L | 50.0 | | 109 | 0-200 | | | |
| Reference (B3K2371-SRM1) | | | Prepared: 2023-11-24, Analyzed: 2023-11-24 | | | | | | |
| pH | 7.03 | 0.10 pH units | 7.01 | | 100 | 98-102 | | | |
| Reference (B3K2371-SRM2) | | | Prepared: 2023-11-24, Analyzed: 2023-11-24 | | | | | | |
| pH | 7.02 | 0.10 pH units | 7.01 | | 100 | 98-102 | | | |
| General Parameters, Batch B3K2405 | | | | | | | | | |
| Blank (B3K2405-BLK1) | | | Prepared: 2023-11-23, Analyzed: 2023-11-24 | | | | | | |
| Phosphorus, Total (as P) | < 0.0050 | 0.0050 mg/L | | | | | | | |
| Blank (B3K2405-BLK2) | | | Prepared: 2023-11-23, Analyzed: 2023-11-24 | | | | | | |
| Phosphorus, Total (as P) | < 0.0050 | 0.0050 mg/L | | | | | | | |
| LCS (B3K2405-BS1) | | | Prepared: 2023-11-23, Analyzed: 2023-11-24 | | | | | | |
| Phosphorus, Total (as P) | 0.104 | 0.0050 mg/L | 0.100 | | 104 | 85-115 | | | |
| LCS (B3K2405-BS2) | | | Prepared: 2023-11-23, Analyzed: 2023-11-24 | | | | | | |
| Phosphorus, Total (as P) | 0.103 | 0.0050 mg/L | 0.100 | | 103 | 85-115 | | | |
| General Parameters, Batch B3K2458 | | | | | | | | | |
| Blank (B3K2458-BLK1) | | | Prepared: 2023-11-24, Analyzed: 2023-11-29 | | | | | | |
| BOD, 5-day Carbonaceous | < 2.0 | 2.0 mg/L | | | | | | | |
| LCS (B3K2458-BS1) | | | Prepared: 2023-11-24, Analyzed: 2023-11-29 | | | | | | |
| BOD, 5-day Carbonaceous | 195 | 46.7 mg/L | 198 | | 99 | 85-115 | | | |
| General Parameters, Batch B3K2459 | | | | | | | | | |
| Blank (B3K2459-BLK1) | | | Prepared: 2023-11-24, Analyzed: 2023-11-29 | | | | | | |
| BOD, 5-day | < 2.0 | 2.0 mg/L | | | | | | | |
| LCS (B3K2459-BS1) | | | Prepared: 2023-11-24, Analyzed: 2023-11-29 | | | | | | |
| BOD, 5-day | 204 | 58.5 mg/L | 198 | | 103 | 85-115 | | | |
| General Parameters, Batch B3K2486 | | | | | | | | | |
| Blank (B3K2486-BLK1) | | | Prepared: 2023-11-24, Analyzed: 2023-11-26 | | | | | | |
| Nitrogen, Total Kjeldahl | < 0.050 | 0.050 mg/L | | | | | | | |
| Blank (B3K2486-BLK2) | | | Prepared: 2023-11-24, Analyzed: 2023-11-26 | | | | | | |
| Nitrogen, Total Kjeldahl | < 0.050 | 0.050 mg/L | | | | | | | |
| LCS (B3K2486-BS1) | | | Prepared: 2023-11-24, Analyzed: 2023-11-26 | | | | | | |
| Nitrogen, Total Kjeldahl | 0.867 | 0.050 mg/L | 1.00 | | 87 | 85-115 | | | |
| LCS (B3K2486-BS2) | | | Prepared: 2023-11-24, Analyzed: 2023-11-26 | | | | | | |
| Nitrogen, Total Kjeldahl | 0.879 | 0.050 mg/L | 1.00 | | 88 | 85-115 | | | |

General Parameters, Batch B3K2567



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater)
Raw Influent- PE14651

WORK ORDER REPORTED 23K2722
2023-11-29 13:16

| Analyte | Result | RL Units | Spike Level | Source Result | % REC | REC Limit | % RPD | RPD Limit | Qualifier |
|---|---------|------------|--|---------------|-------|-----------|-------|-----------|-----------|
| General Parameters, Batch B3K2567, Continued | | | | | | | | | |
| Blank (B3K2567-BLK1) | | | Prepared: 2023-11-25, Analyzed: 2023-11-25 | | | | | | |
| Ammonia, Total (as N) | < 0.050 | 0.050 mg/L | | | | | | | |
| Blank (B3K2567-BLK2) | | | Prepared: 2023-11-25, Analyzed: 2023-11-25 | | | | | | |
| Ammonia, Total (as N) | < 0.050 | 0.050 mg/L | | | | | | | |
| Blank (B3K2567-BLK3) | | | Prepared: 2023-11-25, Analyzed: 2023-11-25 | | | | | | |
| Ammonia, Total (as N) | < 0.050 | 0.050 mg/L | | | | | | | |
| Blank (B3K2567-BLK4) | | | Prepared: 2023-11-25, Analyzed: 2023-11-25 | | | | | | |
| Ammonia, Total (as N) | < 0.050 | 0.050 mg/L | | | | | | | |
| LCS (B3K2567-BS1) | | | Prepared: 2023-11-25, Analyzed: 2023-11-25 | | | | | | |
| Ammonia, Total (as N) | 0.928 | 0.050 mg/L | 1.00 | | 93 | 85-115 | | | |
| LCS (B3K2567-BS2) | | | Prepared: 2023-11-25, Analyzed: 2023-11-25 | | | | | | |
| Ammonia, Total (as N) | 0.920 | 0.050 mg/L | 1.00 | | 92 | 85-115 | | | |
| LCS (B3K2567-BS3) | | | Prepared: 2023-11-25, Analyzed: 2023-11-25 | | | | | | |
| Ammonia, Total (as N) | 0.928 | 0.050 mg/L | 1.00 | | 93 | 85-115 | | | |
| LCS (B3K2567-BS4) | | | Prepared: 2023-11-25, Analyzed: 2023-11-25 | | | | | | |
| Ammonia, Total (as N) | 0.920 | 0.050 mg/L | 1.00 | | 92 | 85-115 | | | |
| General Parameters, Batch B3K2737 | | | | | | | | | |
| Blank (B3K2737-BLK1) | | | Prepared: 2023-11-28, Analyzed: 2023-11-28 | | | | | | |
| Solids, Total Suspended | < 2.0 | 2.0 mg/L | | | | | | | |
| LCS (B3K2737-BS1) | | | Prepared: 2023-11-28, Analyzed: 2023-11-28 | | | | | | |
| Solids, Total Suspended | 87.0 | 10.0 mg/L | 100 | | 87 | 85-115 | | | |
| Duplicate (B3K2737-DUP1) | | | Prepared: 2023-11-28, Analyzed: 2023-11-28 | | | | | | |
| Solids, Total Suspended | 334 | 2.0 mg/L | | 362 | | | 8 | 20 | |



CERTIFICATE OF ANALYSIS

| | | | |
|---------------------|---|---------------------------------|---|
| REPORTED TO | Lake Country, District of (Wastewater) 4062 Beaver Lake Rd LAKE COUNTRY, BC V4V 1T5 | WORK ORDER | 23K2723 |
| ATTENTION | Davin Larsen | RECEIVED / TEMP REPORTED | 2023-11-22 13:33 / 14.1°C 2023-11-29 14:49 |
| PO NUMBER | | COC NUMBER | 45252.44479 |
| PROJECT | Final Effluent- PE14651 | | |
| PROJECT INFO | Lake Country WWTP | | |

Introduction:

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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



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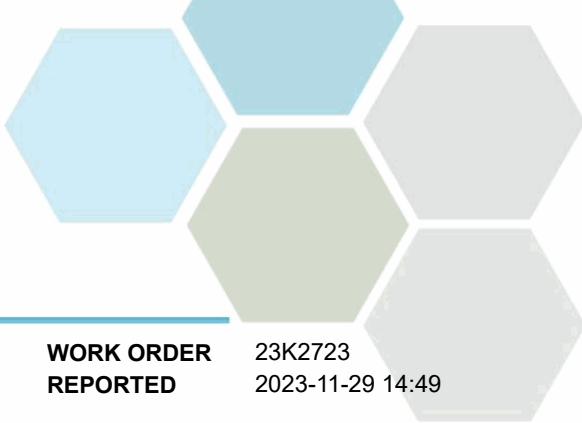
If you have any questions or concerns, please contact me at bwhitehead@caro.ca

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 Lake Country, District of (Wastewater)
Final Effluent- PE14651

WORK ORDER REPORTED 23K2723
2023-11-29 14:49

| Analyte | Result | RL | Units | Analyzed | Qualifier |
|---------|--------|----|-------|----------|-----------|
|---------|--------|----|-------|----------|-----------|

Final Effluent (E233626) (23K2723-01) | Matrix: Wastewater | Sampled: 2023-11-22 10:50

Anions

| | | | | | |
|------------------|-------|--------|------|------------|--|
| Chloride | 141 | 0.10 | mg/L | 2023-11-23 | |
| Nitrate (as N) | 3.52 | 0.010 | mg/L | 2023-11-23 | |
| Nitrite (as N) | 0.102 | 0.010 | mg/L | 2023-11-23 | |
| Phosphate (as P) | 0.571 | 0.0050 | mg/L | 2023-11-23 | |

Calculated Parameters

| | | | | | |
|------------------------|------|--------|------|-----|--|
| Nitrate+Nitrite (as N) | 3.62 | 0.0100 | mg/L | N/A | |
| Nitrogen, Total | 4.99 | 0.0500 | mg/L | N/A | |
| Nitrogen, Organic | 1.30 | 0.0500 | mg/L | N/A | |

General Parameters

| | | | | | |
|--|-------|--------|----------|------------|-----|
| Alkalinity, Total (as CaCO3) | 177 | 1.0 | mg/L | 2023-11-24 | |
| Alkalinity, Phenolphthalein (as CaCO3) | < 1.0 | 1.0 | mg/L | 2023-11-24 | |
| Alkalinity, Bicarbonate (as CaCO3) | 177 | 1.0 | mg/L | 2023-11-24 | |
| Alkalinity, Carbonate (as CaCO3) | < 1.0 | 1.0 | mg/L | 2023-11-24 | |
| Alkalinity, Hydroxide (as CaCO3) | < 1.0 | 1.0 | mg/L | 2023-11-24 | |
| Ammonia, Total (as N) | 0.073 | 0.050 | mg/L | 2023-11-25 | |
| BOD, 5-day Carbonaceous | < 2.8 | 2.0 | mg/L | 2023-11-29 | |
| Nitrogen, Total Kjeldahl | 1.37 | 0.050 | mg/L | 2023-11-26 | |
| pH | 7.49 | 0.10 | pH units | 2023-11-24 | HT2 |
| Phosphorus, Total (as P) | 0.930 | 0.0050 | mg/L | 2023-11-24 | |
| Solids, Total Suspended | < 2.0 | 2.0 | mg/L | 2023-11-28 | |

Microbiological Parameters

| | | | | | |
|---------------------------|-------|---|------------|------------|--|
| Coliforms, Total (Q-Tray) | 77000 | 1 | MPN/100 mL | 2023-11-23 | |
| Coliforms, Fecal (Q-Tray) | 6370 | 1 | MPN/100 mL | 2023-11-23 | |

Trip Blank (23K2723-02) | Matrix: Wastewater | Sampled: 2023-11-22 11:00

Anions

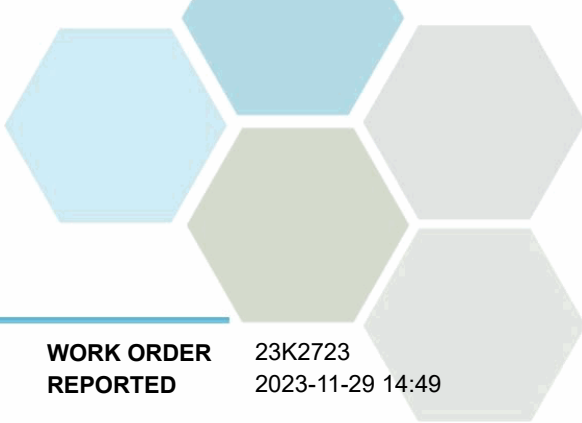
| | | | | | |
|------------------|----------|--------|------|------------|--|
| Chloride | < 0.10 | 0.10 | mg/L | 2023-11-23 | |
| Nitrate (as N) | < 0.010 | 0.010 | mg/L | 2023-11-23 | |
| Nitrite (as N) | < 0.010 | 0.010 | mg/L | 2023-11-23 | |
| Phosphate (as P) | < 0.0050 | 0.0050 | mg/L | 2023-11-23 | |

Calculated Parameters

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

General Parameters

| | | | | | |
|--|-------|-----|------|------------|--|
| Alkalinity, Total (as CaCO3) | 1.3 | 1.0 | mg/L | 2023-11-24 | |
| Alkalinity, Phenolphthalein (as CaCO3) | < 1.0 | 1.0 | mg/L | 2023-11-24 | |
| Alkalinity, Bicarbonate (as CaCO3) | 1.3 | 1.0 | mg/L | 2023-11-24 | |



TEST RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater)
Final Effluent- PE14651

WORK ORDER REPORTED 23K2723
2023-11-29 14:49

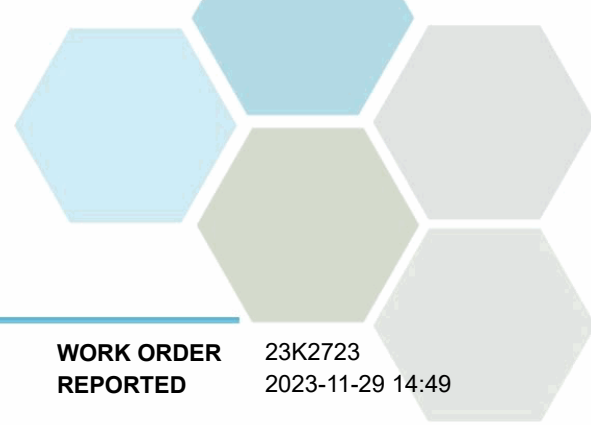
| Analyte | Result | RL | Units | Analyzed | Qualifier |
|--|-------------|--------|----------|------------|-----------|
| Trip Blank (23K2723-02) Matrix: Wastewater Sampled: 2023-11-22 11:00, Continued | | | | | |
| <i>General Parameters, Continued</i> | | | | | |
| Alkalinity, Carbonate (as CaCO3) | < 1.0 | 1.0 | mg/L | 2023-11-24 | |
| Alkalinity, Hydroxide (as CaCO3) | < 1.0 | 1.0 | mg/L | 2023-11-24 | |
| Ammonia, Total (as N) | < 0.050 | 0.050 | mg/L | 2023-11-25 | |
| BOD, 5-day Carbonaceous | < 2.8 | 2.0 | mg/L | 2023-11-29 | |
| Nitrogen, Total Kjeldahl | < 0.050 | 0.050 | mg/L | 2023-11-26 | |
| pH | 6.15 | 0.10 | pH units | 2023-11-24 | HT2 |
| Phosphorus, Total (as P) | < 0.0050 | 0.0050 | mg/L | 2023-11-24 | |
| Solids, Total Suspended | < 2.0 | 2.0 | mg/L | 2023-11-28 | |

Microbiological Parameters

| | | | | | |
|---------------------------|-----|---|------------|------------|--|
| Coliforms, Total (Q-Tray) | < 1 | 1 | MPN/100 mL | 2023-11-23 | |
| Coliforms, Fecal (Q-Tray) | < 1 | 1 | MPN/100 mL | 2023-11-23 | |

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 Lake Country, District of (Wastewater)
Final Effluent- PE14651

WORK ORDER REPORTED 23K2723
2023-11-29 14:49

| Analysis Description | Method Ref. | Technique | Accredited | Location |
|--|---|--|------------|----------|
| Alkalinity in Water | SM 2320 B* (2021) | Titration with H2SO4 | ✓ | Kelowna |
| Ammonia, Total in Water | SM 4500-NH3 G* (2021) | Automated Colorimetry (Phenate) | ✓ | Kelowna |
| Anions in Water | SM 4110 B (2020) | Ion Chromatography | ✓ | Kelowna |
| Biochemical Oxygen Demand, Carbonaceous in Water | SM 5210 B (2019) | Dissolved Oxygen Meter | ✓ | Kelowna |
| Coliforms, Fecal in Water | SM 9223 (2016) | Quanti-Tray / Enzyme Substrate Endo Agar | ✓ | Kelowna |
| Coliforms, Total in Water | SM 9223 (2016) | Quanti-Tray / Enzyme Substrate Endo Agar | ✓ | Kelowna |
| Nitrogen, Total Kjeldahl in Water | SM 4500-Norg D* (2021) | Block Digestion and Flow Injection Analysis | ✓ | Kelowna |
| pH in Water | SM 4500-H+ B (2021) | Electrometry | ✓ | Kelowna |
| Phosphorus, Total in Water | SM 4500-P B.5* (2011) / SM 4500-P F (2021) | Persulfate Digestion / Automated Colorimetry (Ascorbic Acid) | ✓ | Kelowna |
| Solids, Total Suspended in Water | Solids in Water, Filtered / SM 2540 D* (2020) | Solids in Water, Filtered / Gravimetry (Dried at 103-105C) | ✓ | Kelowna |

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

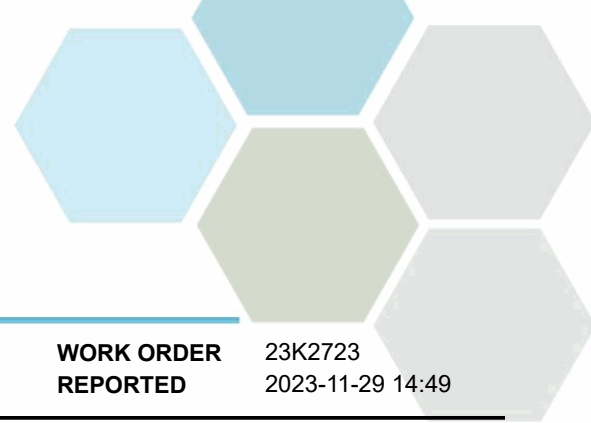
Glossary of Terms:

| | |
|------------|---|
| RL | Reporting Limit (default) |
| < | Less than the specified Reporting Limit (RL) - the actual RL may be higher than the default RL due to various factors |
| mg/L | Milligrams per litre |
| MPN/100 mL | Most Probable Number per 100 millilitres |
| pH units | pH < 7 = acidic, pH > 7 = basic |
| SM | Standard Methods for the Examination of Water and Wastewater, American Public Health Association |

General Comments:

The results in this report apply to the received 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. Caro will dispose of all samples within 30 days of sample receipt, unless otherwise agreed.

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 Lake Country, District of (Wastewater)
Final Effluent- PE14651

WORK ORDER REPORTED 23K2723
2023-11-29 14:49

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:

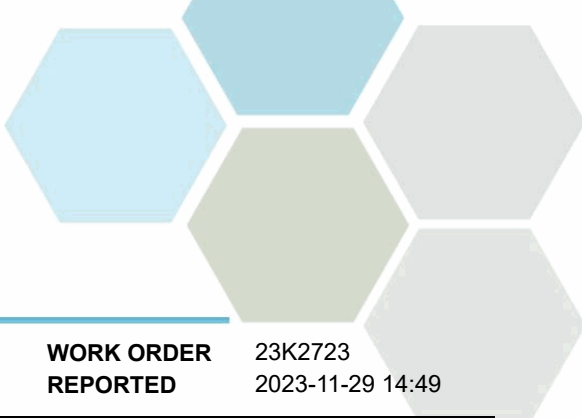
- **Method Blank (Blk):** A blank sample that undergoes sample processing identical to that carried out for the test samples. Method blank results are used to assess contamination from the laboratory environment and reagents.
- **Duplicate (Dup):** An additional or second portion of a randomly selected 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 B3K2322 | | | | | | | | | |
| Blank (B3K2322-BLK1) | | | Prepared: 2023-11-23, Analyzed: 2023-11-23 | | | | | | |
| 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 | | | | | | | |
| Phosphate (as P) | < 0.0050 | 0.0050 mg/L | | | | | | | |
| Blank (B3K2322-BLK2) | | | Prepared: 2023-11-23, Analyzed: 2023-11-23 | | | | | | |
| 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 | | | | | | | |
| Phosphate (as P) | < 0.0050 | 0.0050 mg/L | | | | | | | |
| LCS (B3K2322-BS1) | | | Prepared: 2023-11-23, Analyzed: 2023-11-23 | | | | | | |
| Chloride | 16.2 | 0.10 mg/L | 16.0 | | 102 | 90-110 | | | |
| Nitrate (as N) | 3.93 | 0.010 mg/L | 4.00 | | 98 | 90-110 | | | |
| Nitrite (as N) | 2.14 | 0.010 mg/L | 2.00 | | 107 | 85-115 | | | |
| Phosphate (as P) | 0.984 | 0.0050 mg/L | 1.00 | | 98 | 80-120 | | | |
| LCS (B3K2322-BS2) | | | Prepared: 2023-11-23, Analyzed: 2023-11-23 | | | | | | |
| Chloride | 16.1 | 0.10 mg/L | 16.0 | | 100 | 90-110 | | | |
| Nitrate (as N) | 4.04 | 0.010 mg/L | 4.00 | | 101 | 90-110 | | | |
| Nitrite (as N) | 2.08 | 0.010 mg/L | 2.00 | | 104 | 85-115 | | | |
| Phosphate (as P) | 0.979 | 0.0050 mg/L | 1.00 | | 98 | 80-120 | | | |

General Parameters, Batch B3K2371

| | | | | | | | | | |
|--|-------|----------|--|--|--|--|--|--|--|
| Blank (B3K2371-BLK1) | | | Prepared: 2023-11-24, Analyzed: 2023-11-24 | | | | | | |
| Alkalinity, Total (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Phenolphthalein (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Bicarbonate (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Carbonate (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Hydroxide (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Blank (B3K2371-BLK2) | | | Prepared: 2023-11-24, Analyzed: 2023-11-24 | | | | | | |
| Alkalinity, Total (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Phenolphthalein (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Bicarbonate (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |

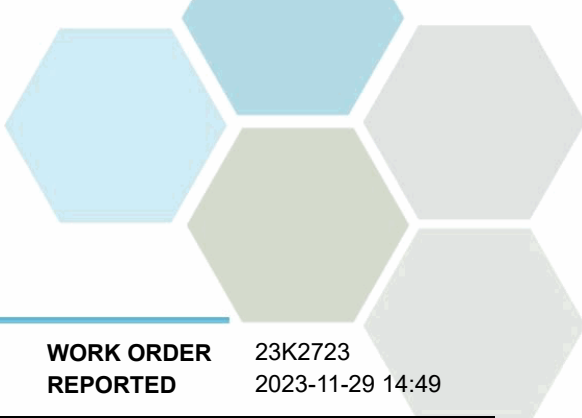


APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater)
Final Effluent- PE14651

WORK ORDER REPORTED 23K2723
2023-11-29 14:49

| Analyte | Result | RL Units | Spike Level | Source Result | % REC | REC Limit | % RPD | RPD Limit | Qualifier |
|---|----------|---------------|---------------------------|---------------|--|-----------|-------|-----------|-----------|
| General Parameters, Batch B3K2371, Continued | | | | | | | | | |
| Blank (B3K2371-BLK2), Continued | | | | | Prepared: 2023-11-24, Analyzed: 2023-11-24 | | | | |
| Alkalinity, Carbonate (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Hydroxide (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| LCS (B3K2371-BS1) | | | | | Prepared: 2023-11-24, Analyzed: 2023-11-24 | | | | |
| Alkalinity, Total (as CaCO3) | 103 | 1.0 mg/L | 100 | | 103 | 80-120 | | | |
| Alkalinity, Phenolphthalein (as CaCO3) | 60.4 | 1.0 mg/L | 50.0 | | 121 | 0-200 | | | |
| LCS (B3K2371-BS2) | | | | | Prepared: 2023-11-24, Analyzed: 2023-11-24 | | | | |
| Alkalinity, Total (as CaCO3) | 101 | 1.0 mg/L | 100 | | 101 | 80-120 | | | |
| Alkalinity, Phenolphthalein (as CaCO3) | 54.3 | 1.0 mg/L | 50.0 | | 109 | 0-200 | | | |
| Duplicate (B3K2371-DUP1) | | | Source: 23K2723-01 | | Prepared: 2023-11-24, Analyzed: 2023-11-24 | | | | |
| Alkalinity, Total (as CaCO3) | 172 | 1.0 mg/L | | 177 | | | 3 | 10 | |
| Alkalinity, Phenolphthalein (as CaCO3) | < 1.0 | 1.0 mg/L | | < 1.0 | | | | 10 | |
| Alkalinity, Bicarbonate (as CaCO3) | 172 | 1.0 mg/L | | 177 | | | 3 | 10 | |
| Alkalinity, Carbonate (as CaCO3) | < 1.0 | 1.0 mg/L | | < 1.0 | | | | 10 | |
| Alkalinity, Hydroxide (as CaCO3) | < 1.0 | 1.0 mg/L | | < 1.0 | | | | 10 | |
| pH | 7.58 | 0.10 pH units | | 7.49 | | | 1 | 4 | HT2 |
| Reference (B3K2371-SRM1) | | | | | Prepared: 2023-11-24, Analyzed: 2023-11-24 | | | | |
| pH | 7.03 | 0.10 pH units | 7.01 | | 100 | 98-102 | | | |
| Reference (B3K2371-SRM2) | | | | | Prepared: 2023-11-24, Analyzed: 2023-11-24 | | | | |
| pH | 7.02 | 0.10 pH units | 7.01 | | 100 | 98-102 | | | |
| General Parameters, Batch B3K2405 | | | | | | | | | |
| Blank (B3K2405-BLK1) | | | | | Prepared: 2023-11-23, Analyzed: 2023-11-24 | | | | |
| Phosphorus, Total (as P) | < 0.0050 | 0.0050 mg/L | | | | | | | |
| Blank (B3K2405-BLK2) | | | | | Prepared: 2023-11-23, Analyzed: 2023-11-24 | | | | |
| Phosphorus, Total (as P) | < 0.0050 | 0.0050 mg/L | | | | | | | |
| LCS (B3K2405-BS1) | | | | | Prepared: 2023-11-23, Analyzed: 2023-11-24 | | | | |
| Phosphorus, Total (as P) | 0.104 | 0.0050 mg/L | 0.100 | | 104 | 85-115 | | | |
| LCS (B3K2405-BS2) | | | | | Prepared: 2023-11-23, Analyzed: 2023-11-24 | | | | |
| Phosphorus, Total (as P) | 0.103 | 0.0050 mg/L | 0.100 | | 103 | 85-115 | | | |
| General Parameters, Batch B3K2458 | | | | | | | | | |
| Blank (B3K2458-BLK1) | | | | | Prepared: 2023-11-24, Analyzed: 2023-11-29 | | | | |
| BOD, 5-day Carbonaceous | < 2.0 | 2.0 mg/L | | | | | | | |
| LCS (B3K2458-BS1) | | | | | Prepared: 2023-11-24, Analyzed: 2023-11-29 | | | | |
| BOD, 5-day Carbonaceous | 195 | 46.7 mg/L | 198 | | 99 | 85-115 | | | |
| General Parameters, Batch B3K2486 | | | | | | | | | |
| Blank (B3K2486-BLK1) | | | | | Prepared: 2023-11-24, Analyzed: 2023-11-26 | | | | |
| Nitrogen, Total Kjeldahl | < 0.050 | 0.050 mg/L | | | | | | | |
| Blank (B3K2486-BLK2) | | | | | Prepared: 2023-11-24, Analyzed: 2023-11-26 | | | | |
| Nitrogen, Total Kjeldahl | < 0.050 | 0.050 mg/L | | | | | | | |



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater)
Final Effluent- PE14651

WORK ORDER REPORTED 23K2723
2023-11-29 14:49

| Analyte | Result | RL Units | Spike Level | Source Result | % REC | REC Limit | % RPD | RPD Limit | Qualifier |
|---|---------|--------------|--|---------------|-------|-----------|-------|-----------|-----------|
| General Parameters, Batch B3K2486, Continued | | | | | | | | | |
| LCS (B3K2486-BS1) | | | Prepared: 2023-11-24, Analyzed: 2023-11-26 | | | | | | |
| Nitrogen, Total Kjeldahl | 0.867 | 0.050 mg/L | 1.00 | | 87 | 85-115 | | | |
| LCS (B3K2486-BS2) | | | Prepared: 2023-11-24, Analyzed: 2023-11-26 | | | | | | |
| Nitrogen, Total Kjeldahl | 0.879 | 0.050 mg/L | 1.00 | | 88 | 85-115 | | | |
| General Parameters, Batch B3K2567 | | | | | | | | | |
| Blank (B3K2567-BLK1) | | | Prepared: 2023-11-25, Analyzed: 2023-11-25 | | | | | | |
| Ammonia, Total (as N) | < 0.050 | 0.050 mg/L | | | | | | | |
| Blank (B3K2567-BLK2) | | | Prepared: 2023-11-25, Analyzed: 2023-11-25 | | | | | | |
| Ammonia, Total (as N) | < 0.050 | 0.050 mg/L | | | | | | | |
| Blank (B3K2567-BLK3) | | | Prepared: 2023-11-25, Analyzed: 2023-11-25 | | | | | | |
| Ammonia, Total (as N) | < 0.050 | 0.050 mg/L | | | | | | | |
| Blank (B3K2567-BLK4) | | | Prepared: 2023-11-25, Analyzed: 2023-11-25 | | | | | | |
| Ammonia, Total (as N) | < 0.050 | 0.050 mg/L | | | | | | | |
| LCS (B3K2567-BS1) | | | Prepared: 2023-11-25, Analyzed: 2023-11-25 | | | | | | |
| Ammonia, Total (as N) | 0.928 | 0.050 mg/L | 1.00 | | 93 | 85-115 | | | |
| LCS (B3K2567-BS2) | | | Prepared: 2023-11-25, Analyzed: 2023-11-25 | | | | | | |
| Ammonia, Total (as N) | 0.920 | 0.050 mg/L | 1.00 | | 92 | 85-115 | | | |
| LCS (B3K2567-BS3) | | | Prepared: 2023-11-25, Analyzed: 2023-11-25 | | | | | | |
| Ammonia, Total (as N) | 0.928 | 0.050 mg/L | 1.00 | | 93 | 85-115 | | | |
| LCS (B3K2567-BS4) | | | Prepared: 2023-11-25, Analyzed: 2023-11-25 | | | | | | |
| Ammonia, Total (as N) | 0.920 | 0.050 mg/L | 1.00 | | 92 | 85-115 | | | |
| General Parameters, Batch B3K2737 | | | | | | | | | |
| Blank (B3K2737-BLK1) | | | Prepared: 2023-11-28, Analyzed: 2023-11-28 | | | | | | |
| Solids, Total Suspended | < 2.0 | 2.0 mg/L | | | | | | | |
| LCS (B3K2737-BS1) | | | Prepared: 2023-11-28, Analyzed: 2023-11-28 | | | | | | |
| Solids, Total Suspended | 87.0 | 10.0 mg/L | 100 | | 87 | 85-115 | | | |
| Microbiological Parameters, Batch B3K2352 | | | | | | | | | |
| Blank (B3K2352-BLK1) | | | Prepared: 2023-11-23, Analyzed: 2023-11-23 | | | | | | |
| Coliforms, Total (Q-Tray) | < 1 | 1 MPN/100 mL | | | | | | | |
| Blank (B3K2352-BLK2) | | | Prepared: 2023-11-23, Analyzed: 2023-11-23 | | | | | | |
| Coliforms, Fecal (Q-Tray) | < 1 | 1 MPN/100 mL | | | | | | | |
| Blank (B3K2352-BLK3) | | | Prepared: 2023-11-23, Analyzed: 2023-11-23 | | | | | | |
| Coliforms, Total (Q-Tray) | < 1 | 1 MPN/100 mL | | | | | | | |

QC Qualifiers:

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



CERTIFICATE OF ANALYSIS

REPORTED TO Lake Country, District of (Wastewater)
4062 Beaver Lake Rd
LAKE COUNTRY, BC V4V 1T5

ATTENTION Davin Larsen

PO NUMBER

PROJECT Final Effluent- PE14651

PROJECT INFO Lake Country WWTP

WORK ORDER 23L1913

RECEIVED / TEMP REPORTED 2023-12-14 13:36 / 9.7°C
2023-12-21 13:52

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>

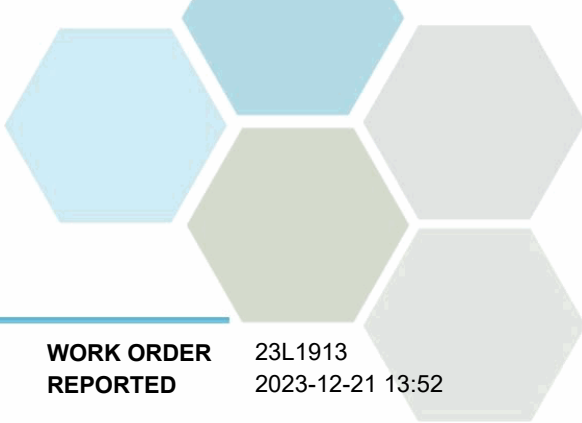
If you have any questions or concerns, please contact me at bwhitehead@caro.ca

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 Lake Country, District of (Wastewater)
Final Effluent- PE14651

WORK ORDER REPORTED 23L1913
2023-12-21 13:52

| Analyte | Result | RL | Units | Analyzed | Qualifier |
|---------|--------|----|-------|----------|-----------|
|---------|--------|----|-------|----------|-----------|

Final Effluent (E233626) (23L1913-01) | Matrix: Wastewater | Sampled: 2023-12-14 10:30

Anions

| | | | | | |
|------------------|-------|--------|------|------------|--|
| Chloride | 121 | 0.10 | mg/L | 2023-12-15 | |
| Nitrate (as N) | 3.43 | 0.010 | mg/L | 2023-12-15 | |
| Nitrite (as N) | 0.052 | 0.010 | mg/L | 2023-12-15 | |
| Phosphate (as P) | 0.180 | 0.0050 | mg/L | 2023-12-15 | |

Calculated Parameters

| | | | | | |
|------------------------|------|--------|------|-----|--|
| Nitrate+Nitrite (as N) | 3.48 | 0.0100 | mg/L | N/A | |
| Nitrogen, Total | 4.98 | 0.0500 | mg/L | N/A | |
| Nitrogen, Organic | 1.27 | 0.0500 | mg/L | N/A | |

General Parameters

| | | | | | |
|--|-------|--------|----------|------------|-----|
| Alkalinity, Total (as CaCO3) | 175 | 1.0 | mg/L | 2023-12-20 | |
| Alkalinity, Phenolphthalein (as CaCO3) | < 1.0 | 1.0 | mg/L | 2023-12-20 | |
| Alkalinity, Bicarbonate (as CaCO3) | 175 | 1.0 | mg/L | 2023-12-20 | |
| Alkalinity, Carbonate (as CaCO3) | < 1.0 | 1.0 | mg/L | 2023-12-20 | |
| Alkalinity, Hydroxide (as CaCO3) | < 1.0 | 1.0 | mg/L | 2023-12-20 | |
| Ammonia, Total (as N) | 0.235 | 0.050 | mg/L | 2023-12-18 | |
| BOD, 5-day Carbonaceous | 2.5 | 2.0 | mg/L | 2023-12-20 | |
| Nitrogen, Total Kjeldahl | 1.50 | 0.050 | mg/L | 2023-12-20 | |
| pH | 7.63 | 0.10 | pH units | 2023-12-20 | HT2 |
| Phosphorus, Total (as P) | 0.323 | 0.0050 | mg/L | 2023-12-20 | |
| Solids, Total Suspended | < 4.0 | 2.0 | mg/L | 2023-12-20 | |

Microbiological Parameters

| | | | | | |
|---------------------------|--------|---|------------|------------|--|
| Coliforms, Total (Q-Tray) | 112000 | 1 | MPN/100 mL | 2023-12-15 | |
| Coliforms, Fecal (Q-Tray) | 31300 | 1 | MPN/100 mL | 2023-12-15 | |

Duplicate (23L1913-02) | Matrix: Wastewater | Sampled: 2023-12-14 10:32

Anions

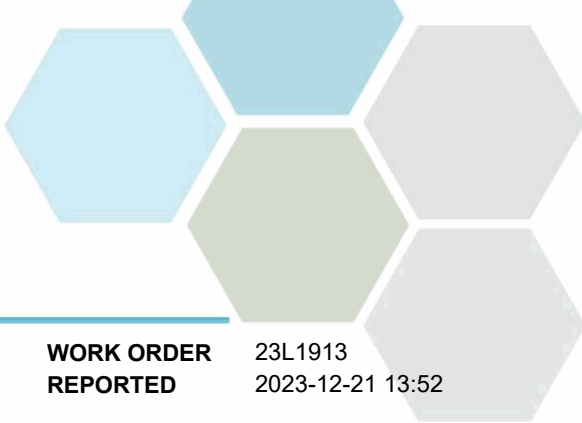
| | | | | | |
|------------------|-------|--------|------|------------|--|
| Chloride | 123 | 0.10 | mg/L | 2023-12-15 | |
| Nitrate (as N) | 3.51 | 0.010 | mg/L | 2023-12-15 | |
| Nitrite (as N) | 0.053 | 0.010 | mg/L | 2023-12-15 | |
| Phosphate (as P) | 0.170 | 0.0050 | mg/L | 2023-12-15 | |

Calculated Parameters

| | | | | | |
|------------------------|------|--------|------|-----|--|
| Nitrate+Nitrite (as N) | 3.57 | 0.0100 | mg/L | N/A | |
| Nitrogen, Total | 5.04 | 0.0500 | mg/L | N/A | |
| Nitrogen, Organic | 1.24 | 0.0500 | mg/L | N/A | |

General Parameters

| | | | | | |
|--|-------|-----|------|------------|--|
| Alkalinity, Total (as CaCO3) | 174 | 1.0 | mg/L | 2023-12-20 | |
| Alkalinity, Phenolphthalein (as CaCO3) | < 1.0 | 1.0 | mg/L | 2023-12-20 | |
| Alkalinity, Bicarbonate (as CaCO3) | 174 | 1.0 | mg/L | 2023-12-20 | |



TEST RESULTS

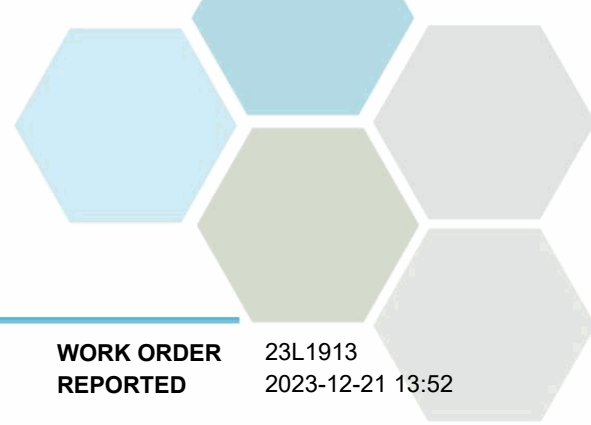
REPORTED TO PROJECT Lake Country, District of (Wastewater)
Final Effluent- PE14651

WORK ORDER REPORTED 23L1913
2023-12-21 13:52

| Analyte | Result | RL | Units | Analyzed | Qualifier |
|---|---------------|--------|------------|------------|-----------|
| Duplicate (23L1913-02) Matrix: Wastewater Sampled: 2023-12-14 10:32, Continued | | | | | |
| <i>General Parameters, Continued</i> | | | | | |
| Alkalinity, Carbonate (as CaCO3) | < 1.0 | 1.0 | mg/L | 2023-12-20 | |
| Alkalinity, Hydroxide (as CaCO3) | < 1.0 | 1.0 | mg/L | 2023-12-20 | |
| Ammonia, Total (as N) | 0.233 | 0.050 | mg/L | 2023-12-18 | |
| BOD, 5-day Carbonaceous | 2.7 | 2.0 | mg/L | 2023-12-20 | |
| Nitrogen, Total Kjeldahl | 1.47 | 0.050 | mg/L | 2023-12-20 | |
| pH | 7.65 | 0.10 | pH units | 2023-12-20 | HT2 |
| Phosphorus, Total (as P) | 0.321 | 0.0050 | mg/L | 2023-12-20 | |
| Solids, Total Suspended | < 4.0 | 2.0 | mg/L | 2023-12-20 | |
| <i>Microbiological Parameters</i> | | | | | |
| Coliforms, Total (Q-Tray) | 130000 | 1 | MPN/100 mL | 2023-12-15 | |
| Coliforms, Fecal (Q-Tray) | 14700 | 1 | MPN/100 mL | 2023-12-15 | |

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 Lake Country, District of (Wastewater)
Final Effluent- PE14651

WORK ORDER REPORTED 23L1913
2023-12-21 13:52

| Analysis Description | Method Ref. | Technique | Accredited | Location |
|--|---|--|------------|----------|
| Alkalinity in Water | SM 2320 B* (2021) | Titration with H2SO4 | ✓ | Kelowna |
| Ammonia, Total in Water | SM 4500-NH3 G* (2021) | Automated Colorimetry (Phenate) | ✓ | Kelowna |
| Anions in Water | SM 4110 B (2020) | Ion Chromatography | ✓ | Kelowna |
| Biochemical Oxygen Demand, Carbonaceous in Water | SM 5210 B (2019) | Dissolved Oxygen Meter | ✓ | Kelowna |
| Coliforms, Fecal in Water | SM 9223 (2016) | Quanti-Tray / Enzyme Substrate Endo Agar | ✓ | Kelowna |
| Coliforms, Total in Water | SM 9223 (2016) | Quanti-Tray / Enzyme Substrate Endo Agar | ✓ | Kelowna |
| Nitrogen, Total Kjeldahl in Water | SM 4500-Norg D* (2021) | Block Digestion and Flow Injection Analysis | ✓ | Kelowna |
| pH in Water | SM 4500-H+ B (2021) | Electrometry | ✓ | Kelowna |
| Phosphorus, Total in Water | SM 4500-P B.5* (2011) / SM 4500-P F (2021) | Persulfate Digestion / Automated Colorimetry (Ascorbic Acid) | ✓ | Kelowna |
| Solids, Total Suspended in Water | Solids in Water, Filtered / SM 2540 D* (2020) | Solids in Water, Filtered / Gravimetry (Dried at 103-105C) | ✓ | Kelowna |

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

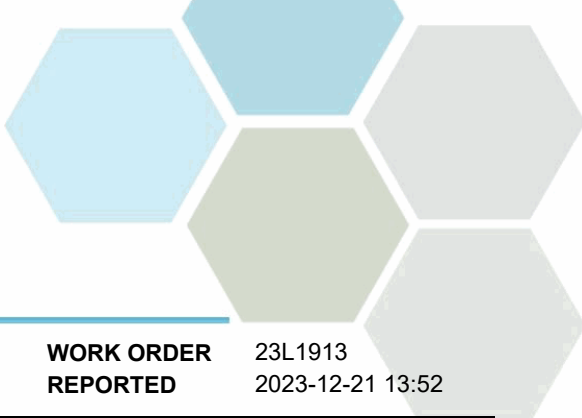
Glossary of Terms:

| | |
|------------|---|
| RL | Reporting Limit (default) |
| < | Less than the specified Reporting Limit (RL) - the actual RL may be higher than the default RL due to various factors |
| mg/L | Milligrams per litre |
| MPN/100 mL | Most Probable Number per 100 millilitres |
| pH units | pH < 7 = acidic, pH > 7 = basic |
| SM | Standard Methods for the Examination of Water and Wastewater, American Public Health Association |

General Comments:

The results in this report apply to the received 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. Caro will dispose of all samples within 30 days of sample receipt, unless otherwise agreed.

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 Lake Country, District of (Wastewater)
Final Effluent- PE14651

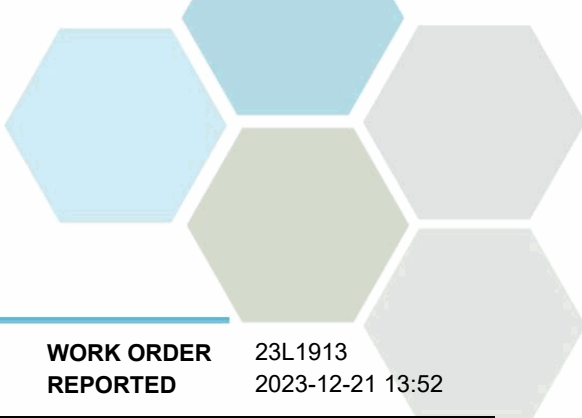
WORK ORDER REPORTED 23L1913
2023-12-21 13:52

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 B3L2484 | | | | | | | | | |
| Blank (B3L2484-BLK1) | | | Prepared: 2023-12-15, Analyzed: 2023-12-15 | | | | | | |
| Phosphate (as P) | < 0.0050 | 0.0050 mg/L | | | | | | | |
| LCS (B3L2484-BS1) | | | Prepared: 2023-12-15, Analyzed: 2023-12-15 | | | | | | |
| Phosphate (as P) | 0.910 | 0.0050 mg/L | 1.00 | | 91 | 80-120 | | | |
| Anions, Batch B3L2602 | | | | | | | | | |
| Blank (B3L2602-BLK1) | | | Prepared: 2023-12-15, Analyzed: 2023-12-15 | | | | | | |
| 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 (B3L2602-BS1) | | | Prepared: 2023-12-15, Analyzed: 2023-12-15 | | | | | | |
| Chloride | 16.2 | 0.10 mg/L | 16.0 | | 101 | 90-110 | | | |
| Nitrate (as N) | 4.04 | 0.010 mg/L | 4.00 | | 101 | 90-110 | | | |
| Nitrite (as N) | 1.98 | 0.010 mg/L | 2.00 | | 99 | 85-115 | | | |
| General Parameters, Batch B3L2552 | | | | | | | | | |
| Blank (B3L2552-BLK1) | | | Prepared: 2023-12-15, Analyzed: 2023-12-20 | | | | | | |
| BOD, 5-day Carbonaceous | < 2.0 | 2.0 mg/L | | | | | | | |
| LCS (B3L2552-BS1) | | | Prepared: 2023-12-15, Analyzed: 2023-12-20 | | | | | | |
| BOD, 5-day Carbonaceous | 200 | 42.2 mg/L | 198 | | 101 | 85-115 | | | |
| General Parameters, Batch B3L2697 | | | | | | | | | |
| Blank (B3L2697-BLK1) | | | Prepared: 2023-12-18, Analyzed: 2023-12-18 | | | | | | |
| Ammonia, Total (as N) | < 0.050 | 0.050 mg/L | | | | | | | |
| Blank (B3L2697-BLK2) | | | Prepared: 2023-12-18, Analyzed: 2023-12-18 | | | | | | |
| Ammonia, Total (as N) | < 0.050 | 0.050 mg/L | | | | | | | |
| Blank (B3L2697-BLK3) | | | Prepared: 2023-12-18, Analyzed: 2023-12-18 | | | | | | |
| Ammonia, Total (as N) | < 0.050 | 0.050 mg/L | | | | | | | |

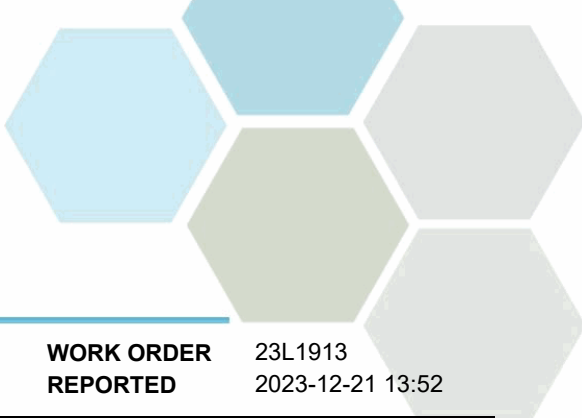


APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater)
Final Effluent- PE14651

WORK ORDER REPORTED 23L1913
2023-12-21 13:52

| Analyte | Result | RL Units | Spike Level | Source Result | % REC | REC Limit | % RPD | RPD Limit | Qualifier |
|---|----------|-------------|--|---------------|-------|-----------|-------|-----------|-----------|
| General Parameters, Batch B3L2697, Continued | | | | | | | | | |
| Blank (B3L2697-BLK4) | | | Prepared: 2023-12-18, Analyzed: 2023-12-18 | | | | | | |
| Ammonia, Total (as N) | < 0.050 | 0.050 mg/L | | | | | | | |
| LCS (B3L2697-BS1) | | | Prepared: 2023-12-18, Analyzed: 2023-12-18 | | | | | | |
| Ammonia, Total (as N) | 0.979 | 0.050 mg/L | 1.00 | | 98 | 85-115 | | | |
| LCS (B3L2697-BS2) | | | Prepared: 2023-12-18, Analyzed: 2023-12-18 | | | | | | |
| Ammonia, Total (as N) | 0.980 | 0.050 mg/L | 1.00 | | 98 | 85-115 | | | |
| LCS (B3L2697-BS3) | | | Prepared: 2023-12-18, Analyzed: 2023-12-18 | | | | | | |
| Ammonia, Total (as N) | 0.951 | 0.050 mg/L | 1.00 | | 95 | 85-115 | | | |
| LCS (B3L2697-BS4) | | | Prepared: 2023-12-18, Analyzed: 2023-12-18 | | | | | | |
| Ammonia, Total (as N) | 0.971 | 0.050 mg/L | 1.00 | | 97 | 85-115 | | | |
| General Parameters, Batch B3L2879 | | | | | | | | | |
| Blank (B3L2879-BLK1) | | | Prepared: 2023-12-19, Analyzed: 2023-12-20 | | | | | | |
| Nitrogen, Total Kjeldahl | < 0.050 | 0.050 mg/L | | | | | | | |
| Blank (B3L2879-BLK2) | | | Prepared: 2023-12-19, Analyzed: 2023-12-20 | | | | | | |
| Nitrogen, Total Kjeldahl | < 0.050 | 0.050 mg/L | | | | | | | |
| LCS (B3L2879-BS1) | | | Prepared: 2023-12-19, Analyzed: 2023-12-20 | | | | | | |
| Nitrogen, Total Kjeldahl | 1.03 | 0.050 mg/L | 1.00 | | 103 | 85-115 | | | |
| LCS (B3L2879-BS2) | | | Prepared: 2023-12-19, Analyzed: 2023-12-20 | | | | | | |
| Nitrogen, Total Kjeldahl | 1.02 | 0.050 mg/L | 1.00 | | 102 | 85-115 | | | |
| General Parameters, Batch B3L2931 | | | | | | | | | |
| Blank (B3L2931-BLK1) | | | Prepared: 2023-12-19, Analyzed: 2023-12-20 | | | | | | |
| Phosphorus, Total (as P) | < 0.0050 | 0.0050 mg/L | | | | | | | |
| Blank (B3L2931-BLK2) | | | Prepared: 2023-12-19, Analyzed: 2023-12-20 | | | | | | |
| Phosphorus, Total (as P) | < 0.0050 | 0.0050 mg/L | | | | | | | |
| LCS (B3L2931-BS1) | | | Prepared: 2023-12-19, Analyzed: 2023-12-20 | | | | | | |
| Phosphorus, Total (as P) | 0.111 | 0.0050 mg/L | 0.100 | | 111 | 85-115 | | | |
| LCS (B3L2931-BS2) | | | Prepared: 2023-12-19, Analyzed: 2023-12-20 | | | | | | |
| Phosphorus, Total (as P) | 0.111 | 0.0050 mg/L | 0.100 | | 111 | 85-115 | | | |
| General Parameters, Batch B3L2984 | | | | | | | | | |
| Blank (B3L2984-BLK1) | | | Prepared: 2023-12-20, Analyzed: 2023-12-20 | | | | | | |
| Alkalinity, Total (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Phenolphthalein (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Bicarbonate (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Carbonate (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Hydroxide (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Blank (B3L2984-BLK2) | | | Prepared: 2023-12-20, Analyzed: 2023-12-20 | | | | | | |
| Alkalinity, Total (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Phenolphthalein (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Bicarbonate (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Carbonate (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater)
Final Effluent- PE14651

WORK ORDER REPORTED 23L1913
2023-12-21 13:52

| Analyte | Result | RL Units | Spike Level | Source Result | % REC | REC Limit | % RPD | RPD Limit | Qualifier |
|---|--------|---------------|--|---------------|-------|-----------|-------|-----------|-----------|
| General Parameters, Batch B3L2984, Continued | | | | | | | | | |
| Blank (B3L2984-BLK2), Continued | | | Prepared: 2023-12-20, Analyzed: 2023-12-20 | | | | | | |
| Alkalinity, Hydroxide (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Blank (B3L2984-BLK3) | | | Prepared: 2023-12-20, Analyzed: 2023-12-20 | | | | | | |
| Alkalinity, Total (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Phenolphthalein (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Bicarbonate (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Carbonate (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Hydroxide (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| LCS (B3L2984-BS1) | | | Prepared: 2023-12-20, Analyzed: 2023-12-20 | | | | | | |
| Alkalinity, Total (as CaCO3) | 98.5 | 1.0 mg/L | 100 | | 98 | 80-120 | | | |
| Alkalinity, Phenolphthalein (as CaCO3) | 56.3 | 1.0 mg/L | 50.0 | | 113 | 0-200 | | | |
| LCS (B3L2984-BS2) | | | Prepared: 2023-12-20, Analyzed: 2023-12-20 | | | | | | |
| Alkalinity, Total (as CaCO3) | 99.0 | 1.0 mg/L | 100 | | 99 | 80-120 | | | |
| Alkalinity, Phenolphthalein (as CaCO3) | 53.5 | 1.0 mg/L | 50.0 | | 107 | 0-200 | | | |
| LCS (B3L2984-BS3) | | | Prepared: 2023-12-20, Analyzed: 2023-12-20 | | | | | | |
| Alkalinity, Total (as CaCO3) | 107 | 1.0 mg/L | 100 | | 107 | 80-120 | | | |
| Alkalinity, Phenolphthalein (as CaCO3) | 50.3 | 1.0 mg/L | 50.0 | | 101 | 0-200 | | | |
| Reference (B3L2984-SRM1) | | | Prepared: 2023-12-20, Analyzed: 2023-12-20 | | | | | | |
| pH | 7.04 | 0.10 pH units | 7.01 | | 100 | 98-102 | | | |
| Reference (B3L2984-SRM2) | | | Prepared: 2023-12-20, Analyzed: 2023-12-20 | | | | | | |
| pH | 7.04 | 0.10 pH units | 7.01 | | 100 | 98-102 | | | |
| Reference (B3L2984-SRM3) | | | Prepared: 2023-12-20, Analyzed: 2023-12-20 | | | | | | |
| pH | 7.05 | 0.10 pH units | 7.01 | | 101 | 98-102 | | | |
| General Parameters, Batch B3L3070 | | | | | | | | | |
| Blank (B3L3070-BLK1) | | | Prepared: 2023-12-20, Analyzed: 2023-12-20 | | | | | | |
| Solids, Total Suspended | < 2.0 | 2.0 mg/L | | | | | | | |
| Microbiological Parameters, Batch B3L2555 | | | | | | | | | |
| Blank (B3L2555-BLK1) | | | Prepared: 2023-12-15, Analyzed: 2023-12-15 | | | | | | |
| Coliforms, Total (Q-Tray) | < 1 | 1 MPN/100 mL | | | | | | | |
| Blank (B3L2555-BLK2) | | | Prepared: 2023-12-15, Analyzed: 2023-12-15 | | | | | | |
| Coliforms, Fecal (Q-Tray) | < 1 | 1 MPN/100 mL | | | | | | | |
| Blank (B3L2555-BLK3) | | | Prepared: 2023-12-15, Analyzed: 2023-12-15 | | | | | | |
| Coliforms, Total (Q-Tray) | < 1 | 1 MPN/100 mL | | | | | | | |



CERTIFICATE OF ANALYSIS

REPORTED TO Lake Country, District of (Wastewater)
4062 Beaver Lake Rd
LAKE COUNTRY, BC V4V 1T5

ATTENTION Davin Larsen

PO NUMBER

PROJECT BioSolids- PE14651
PROJECT INFO Lake Country WWTP

WORK ORDER 23L1914

RECEIVED / TEMP REPORTED 2023-12-14 13:36 / 9.7°C
2023-12-27 07:56

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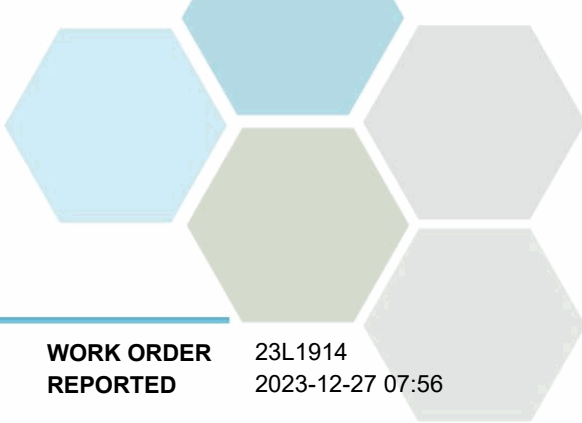
If you have any questions or concerns, please contact me at bwhitehead@caro.ca

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 Lake Country, District of (Wastewater)
BioSolids- PE14651

WORK ORDER REPORTED 23L1914
2023-12-27 07:56

| Analyte | Result | RL | Units | Analyzed | Qualifier |
|---------|--------|----|-------|----------|-----------|
|---------|--------|----|-------|----------|-----------|

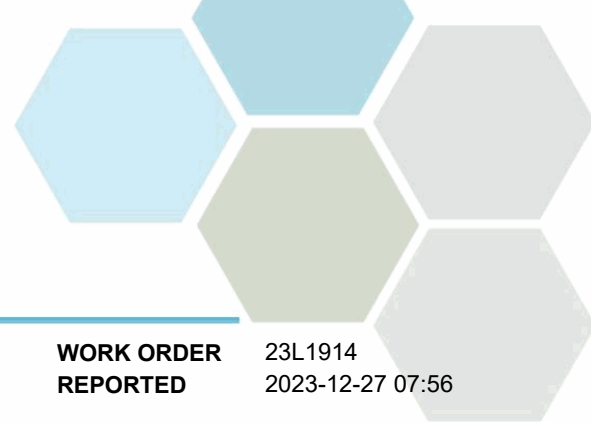
Biosolids (E233628) (23L1914-01) | Matrix: Sludge | Sampled: 2023-12-14 09:45

General Parameters

| | | | | | |
|--------------------------|------|--------|-------|------------|--|
| Moisture | 81.9 | 1.0 | % wet | 2023-12-20 | |
| Nitrogen, Total Kjeldahl | 6.32 | 0.0004 | % dry | 2023-12-20 | |
| Solids, Total | 18.1 | 0.1 | % wet | 2023-12-20 | |
| Solids, Volatile | 86.8 | 0.1 | % dry | 2023-12-20 | |

Strong Acid Leachable Metals

| | | | | | |
|------------|--------|-------|-----------|------------|--|
| Aluminum | 1670 | 40 | mg/kg dry | 2023-12-23 | |
| Antimony | 1.46 | 0.10 | mg/kg dry | 2023-12-23 | |
| Arsenic | 1.36 | 0.30 | mg/kg dry | 2023-12-23 | |
| Barium | 81.0 | 1.0 | mg/kg dry | 2023-12-23 | |
| Beryllium | < 0.10 | 0.10 | mg/kg dry | 2023-12-23 | |
| Bismuth | 53.1 | 0.10 | mg/kg dry | 2023-12-23 | |
| Boron | 14.6 | 2.0 | mg/kg dry | 2023-12-23 | |
| Cadmium | 1.30 | 0.040 | mg/kg dry | 2023-12-23 | |
| Calcium | 10300 | 100 | mg/kg dry | 2023-12-23 | |
| Chromium | 10.3 | 1.0 | mg/kg dry | 2023-12-23 | |
| Cobalt | 1.39 | 0.10 | mg/kg dry | 2023-12-23 | |
| Copper | 284 | 0.40 | mg/kg dry | 2023-12-23 | |
| Iron | 2890 | 20.0 | mg/kg dry | 2023-12-23 | |
| Lead | 5.83 | 0.20 | mg/kg dry | 2023-12-23 | |
| Lithium | 0.98 | 0.10 | mg/kg dry | 2023-12-23 | |
| Magnesium | 4100 | 10 | mg/kg dry | 2023-12-23 | |
| Manganese | 81.9 | 0.40 | mg/kg dry | 2023-12-23 | |
| Mercury | 0.237 | 0.040 | mg/kg dry | 2023-12-23 | |
| Molybdenum | 7.67 | 0.10 | mg/kg dry | 2023-12-23 | |
| Nickel | 9.93 | 0.60 | mg/kg dry | 2023-12-23 | |
| Phosphorus | 14900 | 10 | mg/kg dry | 2023-12-23 | |
| Potassium | 4640 | 40 | mg/kg dry | 2023-12-23 | |
| Selenium | 3.20 | 0.20 | mg/kg dry | 2023-12-23 | |
| Silver | 1.35 | 0.10 | mg/kg dry | 2023-12-23 | |
| Sodium | 660 | 50 | mg/kg dry | 2023-12-23 | |
| Strontium | 64.4 | 0.20 | mg/kg dry | 2023-12-23 | |
| Sulfur | 5280 | 1000 | mg/kg dry | 2023-12-23 | |
| Tellurium | < 0.10 | 0.10 | mg/kg dry | 2023-12-23 | |
| Thallium | < 0.10 | 0.10 | mg/kg dry | 2023-12-23 | |
| Thorium | < 0.50 | 0.50 | mg/kg dry | 2023-12-23 | |
| Tin | 12.2 | 0.20 | mg/kg dry | 2023-12-23 | |
| Titanium | 48.9 | 1.0 | mg/kg dry | 2023-12-23 | |
| Tungsten | 0.72 | 0.20 | mg/kg dry | 2023-12-23 | |
| Uranium | 9.24 | 0.050 | mg/kg dry | 2023-12-23 | |
| Vanadium | 5.4 | 1.0 | mg/kg dry | 2023-12-23 | |
| Zinc | 513 | 2.0 | mg/kg dry | 2023-12-23 | |
| Zirconium | 4.0 | 2.0 | mg/kg dry | 2023-12-23 | |



APPENDIX 1: SUPPORTING INFORMATION

REPORTED TO PROJECT Lake Country, District of (Wastewater)
BioSolids- PE14651

WORK ORDER REPORTED 23L1914
2023-12-27 07:56

| Analysis Description | Method Ref. | Technique | Accredited | Location |
|-----------------------------------|-------------------------------------|--|------------|----------|
| Moisture in Solid | ASTM D2974-87* | Gravimetry (Dried at 105C) | | N/A |
| Nitrogen, Total Kjeldahl in Solid | SM 4500-Norg D* (2021) | Block Digestion and Flow Injection Analysis | ✓ | Kelowna |
| SALM in Solid | BCMOE SALM V.2 / EPA 6020B | HNO3+HCl Hot Block Digestion / Inductively Coupled Plasma-Mass Spectroscopy (ICP-MS) | ✓ | Richmond |
| Solids, Total in Solid | Solids in Solids / SM 2540 G (2020) | Solids in Solids / Gravimetry | | Kelowna |
| Solids, Volatile in Solid | Solids in Solids / SM 2540 G (2020) | Solids in Solids / Gravimetry | | Kelowna |

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

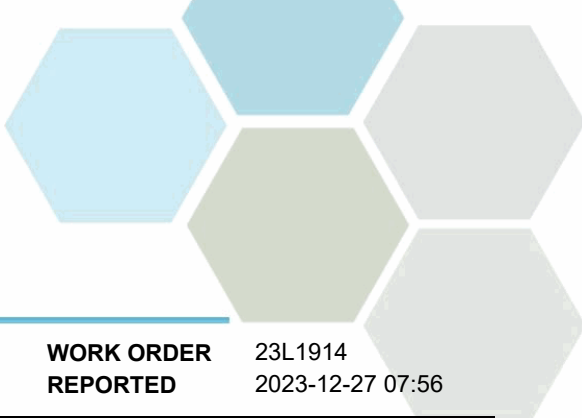
Glossary of Terms:

| | |
|-----------|---|
| RL | Reporting Limit (default) |
| % dry | Percent (dry weight basis) |
| % wet | Percent (as received basis) |
| < | Less than the specified Reporting Limit (RL) - the actual RL may be higher than the default RL due to various factors |
| mg/kg dry | Milligrams per kilogram (dry weight basis) |
| ASTM | ASTM International Test Methods |
| EPA | United States Environmental Protection Agency Test Methods |
| SM | Standard Methods for the Examination of Water and Wastewater, American Public Health Association |

General Comments:

The results in this report apply to the received 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. Caro will dispose of all samples within 30 days of sample receipt, unless otherwise agreed.

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 Lake Country, District of (Wastewater)
BioSolids- PE14651

WORK ORDER REPORTED 23L1914
2023-12-27 07:56

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 |
|---------|--------|----------|-------------|---------------|-------|-----------|-------|-----------|-----------|
|---------|--------|----------|-------------|---------------|-------|-----------|-------|-----------|-----------|

General Parameters, Batch B3L2880

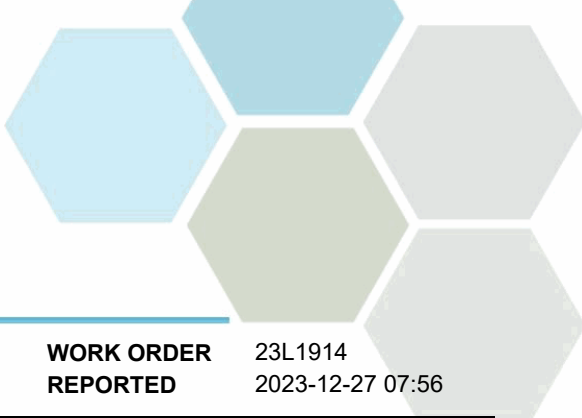
| Blank (B3L2880-BLK1) | | Prepared: 2023-12-19, Analyzed: 2023-12-20 | | | | | | | |
|--------------------------|---------|--|-------|--|----|----------|----|----|--|
| Nitrogen, Total Kjeldahl | < 0.010 | 0.010 % wet | | | | | | | |
| Duplicate (B3L2880-DUP1) | | Source: 23L1914-01 | | Prepared: 2023-12-19, Analyzed: 2023-12-20 | | | | | |
| Nitrogen, Total Kjeldahl | 5.44 | 0.0004 % dry | | 6.32 | | | 15 | 25 | |
| Reference (B3L2880-SRM1) | | Prepared: 2023-12-19, Analyzed: 2023-12-20 | | | | | | | |
| Nitrogen, Total Kjeldahl | 0.178 | 0.010 % wet | 0.197 | | 90 | 58.8-150 | | | |

General Parameters, Batch B3L2912

| Reference (B3L2912-SRM1) | | Prepared: 2023-12-20, Analyzed: 2023-12-20 | | | | | | | |
|--------------------------|------|--|------|--|-----|--------|--|--|--|
| Moisture | 99.0 | 1.0 % wet | 7.0 | | 99 | 80-120 | | | |
| Solids, Total | 92.2 | 0.1 % wet | 93.0 | | 99 | 80-120 | | | |
| Solids, Volatile | 6.8 | 0.1 % dry | 6.26 | | 109 | 80-200 | | | |

Strong Acid Leachable Metals, Batch B3L3409

| Blank (B3L3409-BLK1) | | Prepared: 2023-12-22, Analyzed: 2023-12-23 | | | | | | | |
|----------------------|---------|--|--|--|--|--|--|--|-----|
| Aluminum | < 40 | 40 mg/kg dry | | | | | | | |
| Antimony | < 0.10 | 0.10 mg/kg dry | | | | | | | |
| Arsenic | < 0.30 | 0.30 mg/kg dry | | | | | | | |
| Barium | < 1.0 | 1.0 mg/kg dry | | | | | | | |
| Beryllium | < 0.10 | 0.10 mg/kg dry | | | | | | | |
| Bismuth | < 0.10 | 0.10 mg/kg dry | | | | | | | |
| Boron | 2.0 | 2.0 mg/kg dry | | | | | | | BLK |
| Cadmium | < 0.040 | 0.040 mg/kg dry | | | | | | | |
| Calcium | < 100 | 100 mg/kg dry | | | | | | | |
| Chromium | < 1.0 | 1.0 mg/kg dry | | | | | | | |
| Cobalt | < 0.10 | 0.10 mg/kg dry | | | | | | | |
| Copper | < 0.40 | 0.40 mg/kg dry | | | | | | | |
| Iron | < 20.0 | 20.0 mg/kg dry | | | | | | | |
| Lead | < 0.20 | 0.20 mg/kg dry | | | | | | | |
| Lithium | < 0.10 | 0.10 mg/kg dry | | | | | | | |
| Magnesium | < 10 | 10 mg/kg dry | | | | | | | |
| Manganese | < 0.40 | 0.40 mg/kg dry | | | | | | | |



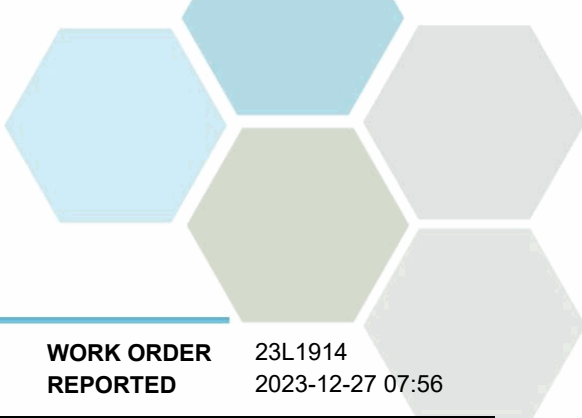
APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater)
BioSolids- PE14651

WORK ORDER REPORTED 23L1914
2023-12-27 07:56

| Analyte | Result | RL Units | Spike Level | Source Result | % REC | REC Limit | % RPD | RPD Limit | Qualifier |
|---|---------|-----------------|-------------|---------------|--|-----------|-------|-----------|-----------|
| Strong Acid Leachable Metals, Batch B3L3409, Continued | | | | | | | | | |
| Blank (B3L3409-BLK1), Continued | | | | | Prepared: 2023-12-22, Analyzed: 2023-12-23 | | | | |
| Mercury | < 0.040 | 0.040 mg/kg dry | | | | | | | |
| Molybdenum | < 0.10 | 0.10 mg/kg dry | | | | | | | |
| Nickel | < 0.60 | 0.60 mg/kg dry | | | | | | | |
| Phosphorus | < 10 | 10 mg/kg dry | | | | | | | |
| Potassium | < 40 | 40 mg/kg dry | | | | | | | |
| Selenium | < 0.20 | 0.20 mg/kg dry | | | | | | | |
| Silver | < 0.10 | 0.10 mg/kg dry | | | | | | | |
| Sodium | < 50 | 50 mg/kg dry | | | | | | | |
| Strontium | 0.75 | 0.20 mg/kg dry | | | | | | | BLK |
| Sulfur | < 1000 | 1000 mg/kg dry | | | | | | | |
| Tellurium | < 0.10 | 0.10 mg/kg dry | | | | | | | |
| Thallium | < 0.10 | 0.10 mg/kg dry | | | | | | | |
| Thorium | < 0.50 | 0.50 mg/kg dry | | | | | | | |
| Tin | < 0.20 | 0.20 mg/kg dry | | | | | | | |
| Titanium | < 1.0 | 1.0 mg/kg dry | | | | | | | |
| Tungsten | < 0.20 | 0.20 mg/kg dry | | | | | | | |
| Uranium | < 0.050 | 0.050 mg/kg dry | | | | | | | |
| Vanadium | < 1.0 | 1.0 mg/kg dry | | | | | | | |
| Zinc | < 2.0 | 2.0 mg/kg dry | | | | | | | |
| Zirconium | < 2.0 | 2.0 mg/kg dry | | | | | | | |

| | | | | | | | | | |
|--------------------------|-------|-----------------|-------|--|--|--------|--|--|--|
| LCS (B3L3409-BS1) | | | | | Prepared: 2023-12-22, Analyzed: 2023-12-23 | | | | |
| Aluminum | 211 | 40 mg/kg dry | 200 | | 106 | 80-120 | | | |
| Antimony | 2.04 | 0.10 mg/kg dry | 2.00 | | 102 | 80-120 | | | |
| Arsenic | 20.7 | 0.30 mg/kg dry | 20.0 | | 103 | 80-120 | | | |
| Barium | 2.0 | 1.0 mg/kg dry | 2.00 | | 100 | 80-120 | | | |
| Beryllium | 2.02 | 0.10 mg/kg dry | 2.00 | | 101 | 80-120 | | | |
| Bismuth | 2.03 | 0.10 mg/kg dry | 2.00 | | 101 | 80-120 | | | |
| Boron | 20.0 | 2.0 mg/kg dry | 20.0 | | 100 | 80-120 | | | |
| Cadmium | 2.00 | 0.040 mg/kg dry | 2.00 | | 100 | 80-120 | | | |
| Calcium | 207 | 100 mg/kg dry | 200 | | 103 | 80-120 | | | |
| Chromium | 2.1 | 1.0 mg/kg dry | 2.00 | | 103 | 80-120 | | | |
| Cobalt | 2.07 | 0.10 mg/kg dry | 2.00 | | 103 | 80-120 | | | |
| Copper | 2.06 | 0.40 mg/kg dry | 2.00 | | 103 | 80-120 | | | |
| Iron | 210 | 20.0 mg/kg dry | 200 | | 105 | 80-120 | | | |
| Lead | 2.04 | 0.20 mg/kg dry | 2.00 | | 102 | 80-120 | | | |
| Lithium | 2.05 | 0.10 mg/kg dry | 2.00 | | 103 | 80-120 | | | |
| Magnesium | 208 | 10 mg/kg dry | 200 | | 104 | 80-120 | | | |
| Manganese | 2.15 | 0.40 mg/kg dry | 2.00 | | 107 | 80-120 | | | |
| Mercury | 0.204 | 0.040 mg/kg dry | 0.200 | | 102 | 80-120 | | | |
| Molybdenum | 1.93 | 0.10 mg/kg dry | 2.00 | | 96 | 80-120 | | | |
| Nickel | 2.07 | 0.60 mg/kg dry | 2.00 | | 104 | 80-120 | | | |
| Phosphorus | 205 | 10 mg/kg dry | 200 | | 102 | 80-120 | | | |
| Potassium | 214 | 40 mg/kg dry | 200 | | 107 | 80-120 | | | |
| Selenium | 19.3 | 0.20 mg/kg dry | 20.0 | | 96 | 80-120 | | | |
| Silver | 2.00 | 0.10 mg/kg dry | 2.00 | | 100 | 80-120 | | | |
| Sodium | 208 | 50 mg/kg dry | 200 | | 104 | 80-120 | | | |
| Strontium | 2.19 | 0.20 mg/kg dry | 2.00 | | 109 | 80-120 | | | |
| Sulfur | 2090 | 1000 mg/kg dry | 2000 | | 105 | 80-120 | | | |
| Tellurium | 1.91 | 0.10 mg/kg dry | 2.00 | | 96 | 80-120 | | | |
| Thallium | 2.02 | 0.10 mg/kg dry | 2.00 | | 101 | 80-120 | | | |
| Thorium | 1.71 | 0.50 mg/kg dry | 2.00 | | 85 | 80-120 | | | |
| Tin | 1.87 | 0.20 mg/kg dry | 2.00 | | 93 | 80-120 | | | |
| Titanium | 2.1 | 1.0 mg/kg dry | 2.00 | | 106 | 80-120 | | | |
| Tungsten | 1.98 | 0.20 mg/kg dry | 2.00 | | 99 | 80-120 | | | |
| Uranium | 2.05 | 0.050 mg/kg dry | 2.00 | | 102 | 80-120 | | | |



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater)
BioSolids- PE14651

WORK ORDER REPORTED 23L1914
2023-12-27 07:56

| Analyte | Result | RL Units | Spike Level | Source Result | % REC | REC Limit | % RPD | RPD Limit | Qualifier |
|---------|--------|----------|-------------|---------------|-------|-----------|-------|-----------|-----------|
|---------|--------|----------|-------------|---------------|-------|-----------|-------|-----------|-----------|

Strong Acid Leachable Metals, Batch B3L3409, Continued

LCS (B3L3409-BS1), Continued

Prepared: 2023-12-22, Analyzed: 2023-12-23

| | | | | | | | | | |
|-----------|-------|---------------|------|--|-----|--------|--|--|--|
| Vanadium | 2.0 | 1.0 mg/kg dry | 2.00 | | 102 | 80-120 | | | |
| Zinc | 20.4 | 2.0 mg/kg dry | 20.0 | | 102 | 80-120 | | | |
| Zirconium | < 2.0 | 2.0 mg/kg dry | 2.00 | | 82 | 80-120 | | | |

Reference (B3L3409-SRM1)

Prepared: 2023-12-22, Analyzed: 2023-12-23

| | | | | | | | | | |
|------------|--------|-----------------|--------|--|-----|--------|--|--|--|
| Aluminum | 13100 | 40 mg/kg dry | 12100 | | 108 | 70-130 | | | |
| Antimony | 0.69 | 0.10 mg/kg dry | 0.634 | | 109 | 70-130 | | | |
| Arsenic | 85.0 | 0.30 mg/kg dry | 83.6 | | 102 | 70-130 | | | |
| Barium | 42.1 | 1.0 mg/kg dry | 41.4 | | 102 | 70-130 | | | |
| Beryllium | 0.42 | 0.10 mg/kg dry | 0.377 | | 110 | 70-130 | | | |
| Bismuth | 0.31 | 0.10 mg/kg dry | 0.291 | | 106 | 70-130 | | | |
| Calcium | 6150 | 100 mg/kg dry | 5380 | | 114 | 70-130 | | | |
| Chromium | 70.8 | 1.0 mg/kg dry | 66.0 | | 107 | 70-130 | | | |
| Cobalt | 11.5 | 0.10 mg/kg dry | 10.8 | | 106 | 70-130 | | | |
| Copper | 20.6 | 0.40 mg/kg dry | 20.3 | | 101 | 70-130 | | | |
| Iron | 22100 | 20.0 mg/kg dry | 20400 | | 108 | 70-130 | | | |
| Lead | 17.9 | 0.20 mg/kg dry | 16.7 | | 107 | 70-130 | | | |
| Lithium | 18.6 | 0.10 mg/kg dry | 16.8 | | 110 | 70-130 | | | |
| Magnesium | 6760 | 10 mg/kg dry | 6170 | | 110 | 70-130 | | | |
| Manganese | 352 | 0.40 mg/kg dry | 319 | | 110 | 70-130 | | | |
| Mercury | 0.114 | 0.040 mg/kg dry | 0.114 | | 100 | 70-130 | | | |
| Molybdenum | 0.63 | 0.10 mg/kg dry | 0.607 | | 103 | 70-130 | | | |
| Nickel | 34.3 | 0.60 mg/kg dry | 32.5 | | 106 | 70-130 | | | |
| Phosphorus | 444 | 10 mg/kg dry | 432 | | 103 | 70-130 | | | |
| Silver | 1.65 | 0.10 mg/kg dry | 1.55 | | 106 | 70-130 | | | |
| Strontium | 26.9 | 0.20 mg/kg dry | 22.5 | | 119 | 70-130 | | | |
| Thallium | < 0.10 | 0.10 mg/kg dry | 0.0765 | | 105 | 70-130 | | | |
| Thorium | 2.87 | 0.50 mg/kg dry | 2.96 | | 97 | 70-130 | | | |
| Titanium | 744 | 1.0 mg/kg dry | 730 | | 102 | 70-130 | | | |
| Uranium | 1.21 | 0.050 mg/kg dry | 1.15 | | 106 | 70-130 | | | |
| Vanadium | 39.8 | 1.0 mg/kg dry | 36.3 | | 110 | 70-130 | | | |
| Zinc | 42.3 | 2.0 mg/kg dry | 39.7 | | 107 | 70-130 | | | |

QC Qualifiers:

BLK Analyte concentration in the Method Blank is above the Reporting Limit (RL).



CERTIFICATE OF ANALYSIS

REPORTED TO Lake Country, District of (Wastewater)
4062 Beaver Lake Rd
LAKE COUNTRY, BC V4V 1T5

ATTENTION Davin Larsen

PO NUMBER
PROJECT Raw Influent- PE14651
PROJECT INFO Lake Country WWTP

WORK ORDER 23L1910

RECEIVED / TEMP REPORTED 2023-12-15 10:40 / 9.7°C
2023-12-21 13:43

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.

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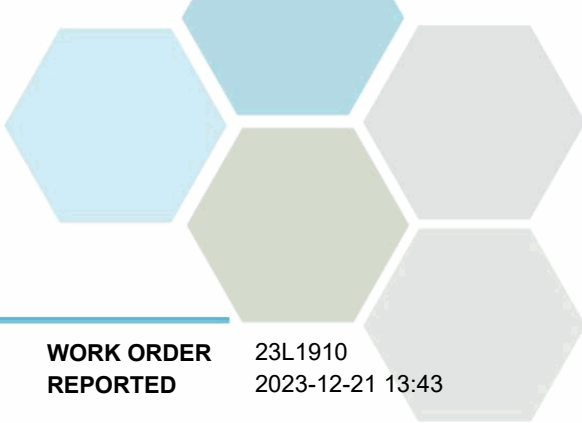
If you have any questions or concerns, please contact me at bwhitehead@caro.ca

Authorized By:

Brent Whitehead
Account Manager

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TEST RESULTS

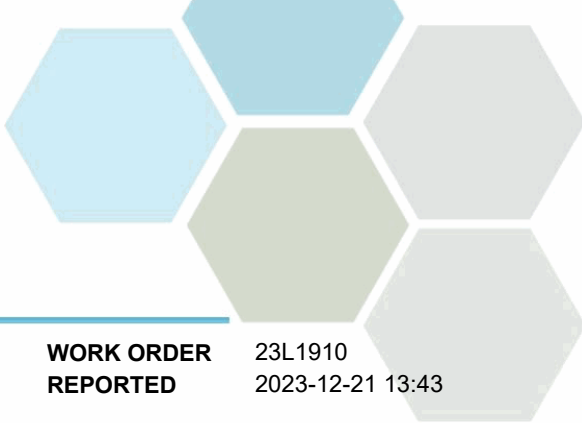
REPORTED TO PROJECT Lake Country, District of (Wastewater)
Raw Influent- PE14651

WORK ORDER REPORTED 23L1910
2023-12-21 13:43

| Analyte | Result | RL | Units | Analyzed | Qualifier |
|---|-------------|--------|----------|------------|-----------|
| Raw Influent (E233627) (23L1910-01) Matrix: Wastewater Sampled: 2023-12-14 10:45 | | | | | |
| Anions | | | | | |
| Nitrate (as N) | < 0.010 | 0.010 | mg/L | 2023-12-15 | |
| Nitrite (as N) | < 0.010 | 0.010 | mg/L | 2023-12-15 | |
| Phosphate (as P) | 5.30 | 0.0050 | mg/L | 2023-12-15 | |
| Calculated Parameters | | | | | |
| Nitrate+Nitrite (as N) | < 0.0100 | 0.0100 | mg/L | N/A | |
| Nitrogen, Total | 87.2 | 2.00 | mg/L | N/A | |
| General Parameters | | | | | |
| Alkalinity, Total (as CaCO3) | 386 | 1.0 | mg/L | 2023-12-20 | |
| Alkalinity, Phenolphthalein (as CaCO3) | < 1.0 | 1.0 | mg/L | 2023-12-20 | |
| Alkalinity, Bicarbonate (as CaCO3) | 386 | 1.0 | mg/L | 2023-12-20 | |
| Alkalinity, Carbonate (as CaCO3) | < 1.0 | 1.0 | mg/L | 2023-12-20 | |
| Alkalinity, Hydroxide (as CaCO3) | < 1.0 | 1.0 | mg/L | 2023-12-20 | |
| Ammonia, Total (as N) | 64.6 | 0.050 | mg/L | 2023-12-18 | |
| BOD, 5-day | 356 | 2.0 | mg/L | 2023-12-21 | |
| BOD, 5-day Carbonaceous | 373 | 2.0 | mg/L | 2023-12-20 | |
| Nitrogen, Total Kjeldahl | 87.2 | 0.050 | mg/L | 2023-12-21 | |
| pH | 7.69 | 0.10 | pH units | 2023-12-20 | HT2 |
| Phosphorus, Total (as P) | 12.3 | 0.0050 | mg/L | 2023-12-20 | |
| Solids, Total Suspended | 362 | 2.0 | mg/L | 2023-12-20 | |

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 Lake Country, District of (Wastewater)
Raw Influent- PE14651

WORK ORDER REPORTED 23L1910
2023-12-21 13:43

| Analysis Description | Method Ref. | Technique | Accredited | Location |
|--|---|--|------------|----------|
| Alkalinity in Water | SM 2320 B* (2021) | Titration with H2SO4 | ✓ | Kelowna |
| Ammonia, Total in Water | SM 4500-NH3 G* (2021) | Automated Colorimetry (Phenate) | ✓ | Kelowna |
| Anions in Water | SM 4110 B (2020) | Ion Chromatography | ✓ | Kelowna |
| Biochemical Oxygen Demand in Water | SM 5210 B (2019) | Dissolved Oxygen Meter | ✓ | Kelowna |
| Biochemical Oxygen Demand, Carbonaceous in Water | SM 5210 B (2019) | Dissolved Oxygen Meter | ✓ | Kelowna |
| Nitrogen, Total Kjeldahl in Water | SM 4500-Norg D* (2021) | Block Digestion and Flow Injection Analysis | ✓ | Kelowna |
| pH in Water | SM 4500-H+ B (2021) | Electrometry | ✓ | Kelowna |
| Phosphorus, Total in Water | SM 4500-P B.5* (2011) / SM 4500-P F (2021) | Persulfate Digestion / Automated Colorimetry (Ascorbic Acid) | ✓ | Kelowna |
| Solids, Total Suspended in Water | Solids in Water, Filtered / SM 2540 D* (2020) | Solids in Water, Filtered / Gravimetry (Dried at 103-105C) | ✓ | Kelowna |

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

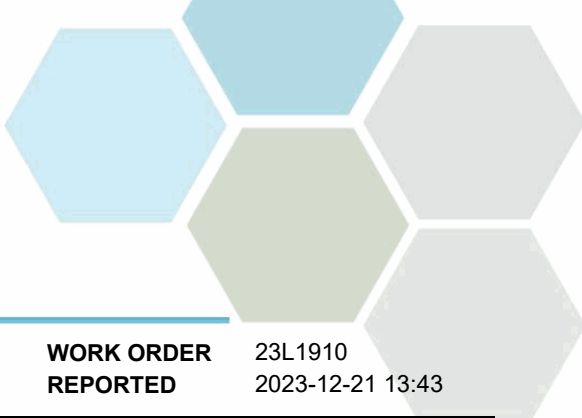
Glossary of Terms:

| | |
|----------|---|
| RL | Reporting Limit (default) |
| < | Less than the specified Reporting Limit (RL) - the actual RL may be higher than the default RL due to various factors |
| mg/L | Milligrams per litre |
| pH units | pH < 7 = acidic, pH > 7 = basic |
| SM | Standard Methods for the Examination of Water and Wastewater, American Public Health Association |

General Comments:

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APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater)
Raw Influent- PE14651

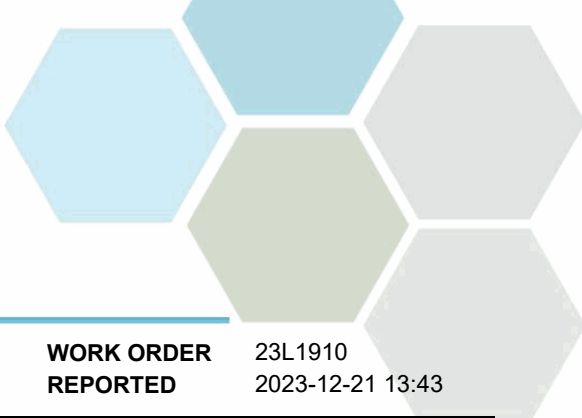
WORK ORDER REPORTED 23L1910
2023-12-21 13:43

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 B3L2484 | | | | | | | | | |
| Blank (B3L2484-BLK1) | | | Prepared: 2023-12-15, Analyzed: 2023-12-15 | | | | | | |
| Phosphate (as P) | < 0.0050 | 0.0050 mg/L | | | | | | | |
| LCS (B3L2484-BS1) | | | Prepared: 2023-12-15, Analyzed: 2023-12-15 | | | | | | |
| Phosphate (as P) | 0.910 | 0.0050 mg/L | 1.00 | | 91 | 80-120 | | | |
| Anions, Batch B3L2602 | | | | | | | | | |
| Blank (B3L2602-BLK1) | | | Prepared: 2023-12-15, Analyzed: 2023-12-15 | | | | | | |
| Nitrate (as N) | < 0.010 | 0.010 mg/L | | | | | | | |
| Nitrite (as N) | < 0.010 | 0.010 mg/L | | | | | | | |
| LCS (B3L2602-BS1) | | | Prepared: 2023-12-15, Analyzed: 2023-12-15 | | | | | | |
| Nitrate (as N) | 4.04 | 0.010 mg/L | 4.00 | | 101 | 90-110 | | | |
| Nitrite (as N) | 1.98 | 0.010 mg/L | 2.00 | | 99 | 85-115 | | | |
| General Parameters, Batch B3L2552 | | | | | | | | | |
| Blank (B3L2552-BLK1) | | | Prepared: 2023-12-15, Analyzed: 2023-12-20 | | | | | | |
| BOD, 5-day Carbonaceous | < 2.0 | 2.0 mg/L | | | | | | | |
| LCS (B3L2552-BS1) | | | Prepared: 2023-12-15, Analyzed: 2023-12-20 | | | | | | |
| BOD, 5-day Carbonaceous | 200 | 42.2 mg/L | 198 | | 101 | 85-115 | | | |
| General Parameters, Batch B3L2645 | | | | | | | | | |
| Blank (B3L2645-BLK1) | | | Prepared: 2023-12-16, Analyzed: 2023-12-21 | | | | | | |
| BOD, 5-day | < 2.0 | 2.0 mg/L | | | | | | | |
| LCS (B3L2645-BS1) | | | Prepared: 2023-12-16, Analyzed: 2023-12-21 | | | | | | |
| BOD, 5-day | 203 | 56.5 mg/L | 198 | | 102 | 85-115 | | | |
| General Parameters, Batch B3L2697 | | | | | | | | | |
| Blank (B3L2697-BLK1) | | | Prepared: 2023-12-18, Analyzed: 2023-12-18 | | | | | | |
| Ammonia, Total (as N) | < 0.050 | 0.050 mg/L | | | | | | | |

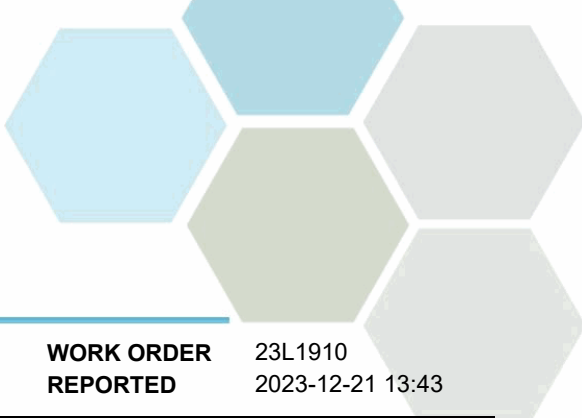


APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater)
Raw Influent- PE14651

WORK ORDER REPORTED 23L1910
2023-12-21 13:43

| Analyte | Result | RL Units | Spike Level | Source Result | % REC | REC Limit | % RPD | RPD Limit | Qualifier |
|---|----------|-------------|--|---------------|-------|-----------|-------|-----------|-----------|
| General Parameters, Batch B3L2697, Continued | | | | | | | | | |
| Blank (B3L2697-BLK1), Continued | | | Prepared: 2023-12-18, Analyzed: 2023-12-18 | | | | | | |
| Blank (B3L2697-BLK2) | | | Prepared: 2023-12-18, Analyzed: 2023-12-18 | | | | | | |
| Ammonia, Total (as N) | < 0.050 | 0.050 mg/L | | | | | | | |
| Blank (B3L2697-BLK3) | | | Prepared: 2023-12-18, Analyzed: 2023-12-18 | | | | | | |
| Ammonia, Total (as N) | < 0.050 | 0.050 mg/L | | | | | | | |
| Blank (B3L2697-BLK4) | | | Prepared: 2023-12-18, Analyzed: 2023-12-18 | | | | | | |
| Ammonia, Total (as N) | < 0.050 | 0.050 mg/L | | | | | | | |
| LCS (B3L2697-BS1) | | | Prepared: 2023-12-18, Analyzed: 2023-12-18 | | | | | | |
| Ammonia, Total (as N) | 0.979 | 0.050 mg/L | 1.00 | | 98 | 85-115 | | | |
| LCS (B3L2697-BS2) | | | Prepared: 2023-12-18, Analyzed: 2023-12-18 | | | | | | |
| Ammonia, Total (as N) | 0.980 | 0.050 mg/L | 1.00 | | 98 | 85-115 | | | |
| LCS (B3L2697-BS3) | | | Prepared: 2023-12-18, Analyzed: 2023-12-18 | | | | | | |
| Ammonia, Total (as N) | 0.951 | 0.050 mg/L | 1.00 | | 95 | 85-115 | | | |
| LCS (B3L2697-BS4) | | | Prepared: 2023-12-18, Analyzed: 2023-12-18 | | | | | | |
| Ammonia, Total (as N) | 0.971 | 0.050 mg/L | 1.00 | | 97 | 85-115 | | | |
| General Parameters, Batch B3L2931 | | | | | | | | | |
| Blank (B3L2931-BLK1) | | | Prepared: 2023-12-19, Analyzed: 2023-12-20 | | | | | | |
| Phosphorus, Total (as P) | < 0.0050 | 0.0050 mg/L | | | | | | | |
| Blank (B3L2931-BLK2) | | | Prepared: 2023-12-19, Analyzed: 2023-12-20 | | | | | | |
| Phosphorus, Total (as P) | < 0.0050 | 0.0050 mg/L | | | | | | | |
| LCS (B3L2931-BS1) | | | Prepared: 2023-12-19, Analyzed: 2023-12-20 | | | | | | |
| Phosphorus, Total (as P) | 0.111 | 0.0050 mg/L | 0.100 | | 111 | 85-115 | | | |
| LCS (B3L2931-BS2) | | | Prepared: 2023-12-19, Analyzed: 2023-12-20 | | | | | | |
| Phosphorus, Total (as P) | 0.111 | 0.0050 mg/L | 0.100 | | 111 | 85-115 | | | |
| General Parameters, Batch B3L2986 | | | | | | | | | |
| Blank (B3L2986-BLK1) | | | Prepared: 2023-12-20, Analyzed: 2023-12-20 | | | | | | |
| Alkalinity, Total (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Phenolphthalein (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Bicarbonate (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Carbonate (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Hydroxide (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Blank (B3L2986-BLK2) | | | Prepared: 2023-12-20, Analyzed: 2023-12-20 | | | | | | |
| Alkalinity, Total (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Phenolphthalein (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Bicarbonate (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Carbonate (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Hydroxide (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Blank (B3L2986-BLK3) | | | Prepared: 2023-12-20, Analyzed: 2023-12-20 | | | | | | |
| Alkalinity, Total (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Phenolphthalein (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Bicarbonate (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| Alkalinity, Carbonate (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater)
Raw Influent- PE14651

WORK ORDER REPORTED 23L1910
2023-12-21 13:43

| Analyte | Result | RL Units | Spike Level | Source Result | % REC | REC Limit | % RPD | RPD Limit | Qualifier |
|---|---------|---------------|--|---------------|--|-----------|-------|-----------|-----------|
| General Parameters, Batch B3L2986, Continued | | | | | | | | | |
| Blank (B3L2986-BLK3), Continued | | | Prepared: 2023-12-20, Analyzed: 2023-12-20 | | | | | | |
| Alkalinity, Hydroxide (as CaCO3) | < 1.0 | 1.0 mg/L | | | | | | | |
| LCS (B3L2986-BS1) | | | Prepared: 2023-12-20, Analyzed: 2023-12-20 | | | | | | |
| Alkalinity, Total (as CaCO3) | 102 | 1.0 mg/L | 100 | | 102 | 80-120 | | | |
| Alkalinity, Phenolphthalein (as CaCO3) | 69.7 | 1.0 mg/L | 50.0 | | 139 | 0-200 | | | |
| LCS (B3L2986-BS2) | | | Prepared: 2023-12-20, Analyzed: 2023-12-20 | | | | | | |
| Alkalinity, Total (as CaCO3) | 101 | 1.0 mg/L | 100 | | 101 | 80-120 | | | |
| Alkalinity, Phenolphthalein (as CaCO3) | 60.2 | 1.0 mg/L | 50.0 | | 120 | 0-200 | | | |
| LCS (B3L2986-BS3) | | | Prepared: 2023-12-20, Analyzed: 2023-12-20 | | | | | | |
| Alkalinity, Total (as CaCO3) | 101 | 1.0 mg/L | 100 | | 101 | 80-120 | | | |
| Alkalinity, Phenolphthalein (as CaCO3) | 59.6 | 1.0 mg/L | 50.0 | | 119 | 0-200 | | | |
| Reference (B3L2986-SRM1) | | | Prepared: 2023-12-20, Analyzed: 2023-12-20 | | | | | | |
| pH | 7.05 | 0.10 pH units | 7.01 | | 101 | 98-102 | | | |
| Reference (B3L2986-SRM2) | | | Prepared: 2023-12-20, Analyzed: 2023-12-20 | | | | | | |
| pH | 7.04 | 0.10 pH units | 7.01 | | 100 | 98-102 | | | |
| Reference (B3L2986-SRM3) | | | Prepared: 2023-12-20, Analyzed: 2023-12-20 | | | | | | |
| pH | 7.04 | 0.10 pH units | 7.01 | | 100 | 98-102 | | | |
| General Parameters, Batch B3L3029 | | | | | | | | | |
| Blank (B3L3029-BLK1) | | | Prepared: 2023-12-20, Analyzed: 2023-12-21 | | | | | | |
| Nitrogen, Total Kjeldahl | < 0.050 | 0.050 mg/L | | | | | | | |
| Blank (B3L3029-BLK2) | | | Prepared: 2023-12-20, Analyzed: 2023-12-21 | | | | | | |
| Nitrogen, Total Kjeldahl | < 0.050 | 0.050 mg/L | | | | | | | |
| LCS (B3L3029-BS1) | | | Prepared: 2023-12-20, Analyzed: 2023-12-21 | | | | | | |
| Nitrogen, Total Kjeldahl | 0.963 | 0.050 mg/L | 1.00 | | 96 | 85-115 | | | |
| LCS (B3L3029-BS2) | | | Prepared: 2023-12-20, Analyzed: 2023-12-21 | | | | | | |
| Nitrogen, Total Kjeldahl | 0.972 | 0.050 mg/L | 1.00 | | 97 | 85-115 | | | |
| General Parameters, Batch B3L3070 | | | | | | | | | |
| Blank (B3L3070-BLK1) | | | Prepared: 2023-12-20, Analyzed: 2023-12-20 | | | | | | |
| Solids, Total Suspended | < 2.0 | 2.0 mg/L | | | | | | | |
| Duplicate (B3L3070-DUP1) | | | Source: 23L1910-01 | | Prepared: 2023-12-20, Analyzed: 2023-12-20 | | | | |
| Solids, Total Suspended | 370 | 2.0 mg/L | | 362 | | | 2 | 20 | |

CERTIFICATE OF ANALYSIS

| | | | |
|---------------------|---|---------------------------------|---------------------------|
| REPORTED TO | Lake Country, District of (Wastewater) 4062 Beaver Lake Rd LAKE COUNTRY, BC V4V 1T5 | WORK ORDER | 23J2930 |
| ATTENTION | Davin Larsen | RECEIVED / TEMP REPORTED | 2023-10-24 16:45 / 12.2°C |
| PO NUMBER | | REPORTED | 2023-10-31 15:02 |
| PROJECT | Amry - West Well | COC NUMBER | 45223.35484 |
| PROJECT INFO | Lake Country WWTP | | |

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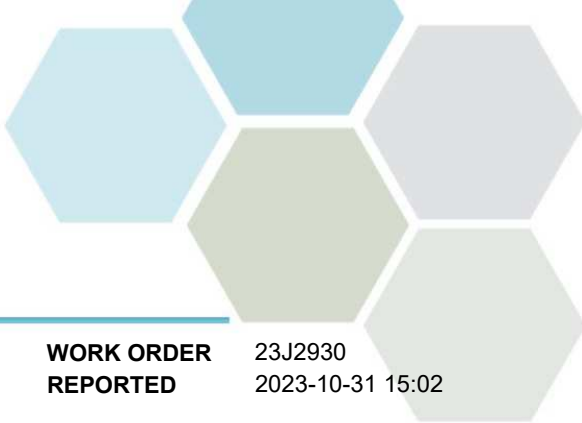
If you have any questions or concerns, please contact me at bwhitehead@caro.ca

Authorized By:

Brent Whitehead
Account Manager

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TEST RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater)
Amry - West Well

WORK ORDER REPORTED 23J2930
2023-10-31 15:02

| Analyte | Result | Guideline | RL | Units | Analyzed | Qualifier |
|---------|--------|-----------|----|-------|----------|-----------|
|---------|--------|-----------|----|-------|----------|-----------|

Amry West Well (23J2930-01) | Matrix: Water | Sampled: 2023-10-24 10:35

Anions

| | | | | | | |
|------------------|----------|----------|--------|------|------------|--|
| Chloride | 25.8 | AO ≤ 250 | 0.10 | mg/L | 2023-10-27 | |
| Nitrate (as N) | 0.061 | MAC = 10 | 0.010 | mg/L | 2023-10-27 | |
| Nitrite (as N) | < 0.010 | MAC = 1 | 0.010 | mg/L | 2023-10-27 | |
| Phosphate (as P) | < 0.0050 | N/A | 0.0050 | mg/L | 2023-10-27 | |

Calculated Parameters

| | | | | | | |
|------------------------|--------|-----|--------|------|-----|--|
| Nitrate+Nitrite (as N) | 0.0613 | N/A | 0.0100 | mg/L | N/A | |
| Nitrogen, Total | 0.176 | N/A | 0.0500 | mg/L | N/A | |

General Parameters

| | | | | | | |
|--------------------------|---------|---------------|--------|----------|------------|-----|
| Ammonia, Total (as N) | < 0.050 | None Required | 0.050 | mg/L | 2023-10-25 | |
| BOD, 5-day | < 7.7 | N/A | 2.0 | mg/L | 2023-10-31 | |
| Conductivity (EC) | 544 | N/A | 2.0 | µS/cm | 2023-10-29 | |
| Nitrogen, Total Kjeldahl | 0.115 | N/A | 0.050 | mg/L | 2023-10-31 | |
| pH | 7.92 | 7.0-10.5 | 0.10 | pH units | 2023-10-29 | HT2 |
| Phosphorus, Total (as P) | 0.0067 | N/A | 0.0050 | mg/L | 2023-10-26 | |
| Turbidity | 0.25 | OG < 1 | 0.10 | NTU | 2023-10-26 | |

Microbiological Parameters

| | | | | | | |
|---------------------------|-----|---------|---|------------|------------|--|
| Coliforms, Total (Q-Tray) | < 1 | MAC = 0 | 1 | MPN/100 mL | 2023-10-25 | |
| Coliforms, Fecal (Q-Tray) | < 1 | N/A | 1 | MPN/100 mL | 2023-10-25 | |
| E. coli (Q-Tray) | < 1 | MAC = 0 | 1 | MPN/100 mL | 2023-10-25 | |

Total Metals

| | | | | | | |
|---------------|------|----------|------|------|------------|--|
| Sodium, total | 30.8 | AO ≤ 200 | 0.10 | mg/L | 2023-10-27 | |
|---------------|------|----------|------|------|------------|--|

Duplicate (23J2930-02) | Matrix: Water | Sampled: 2023-10-24 10:35

Anions

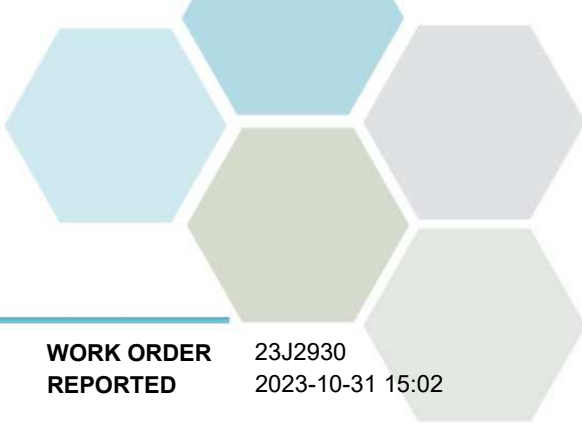
| | | | | | | |
|------------------|----------|----------|--------|------|------------|--|
| Chloride | 25.8 | AO ≤ 250 | 0.10 | mg/L | 2023-10-27 | |
| Nitrate (as N) | 0.063 | MAC = 10 | 0.010 | mg/L | 2023-10-27 | |
| Nitrite (as N) | < 0.010 | MAC = 1 | 0.010 | mg/L | 2023-10-27 | |
| Phosphate (as P) | < 0.0050 | N/A | 0.0050 | mg/L | 2023-10-27 | |

Calculated Parameters

| | | | | | | |
|------------------------|--------|-----|--------|------|-----|--|
| Nitrate+Nitrite (as N) | 0.0629 | N/A | 0.0100 | mg/L | N/A | |
| Nitrogen, Total | 0.178 | N/A | 0.0500 | mg/L | N/A | |

General Parameters

| | | | | | | |
|--------------------------|---------|---------------|--------|----------|------------|-----|
| Ammonia, Total (as N) | < 0.050 | None Required | 0.050 | mg/L | 2023-10-25 | |
| BOD, 5-day | < 7.7 | N/A | 2.0 | mg/L | 2023-10-31 | |
| Conductivity (EC) | 508 | N/A | 2.0 | µS/cm | 2023-10-29 | |
| Nitrogen, Total Kjeldahl | 0.115 | N/A | 0.050 | mg/L | 2023-10-31 | |
| pH | 7.96 | 7.0-10.5 | 0.10 | pH units | 2023-10-29 | HT2 |
| Phosphorus, Total (as P) | 0.0056 | N/A | 0.0050 | mg/L | 2023-10-26 | |



TEST RESULTS

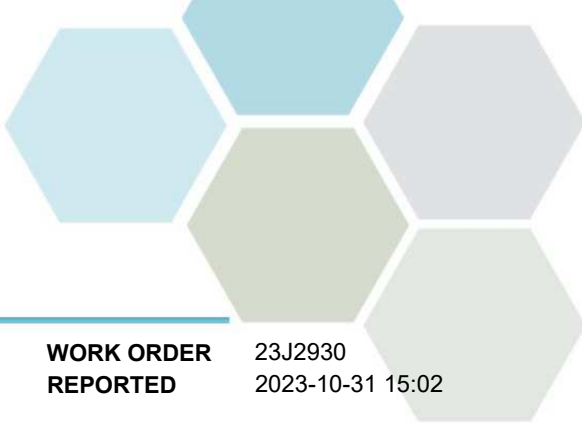
REPORTED TO PROJECT Lake Country, District of (Wastewater)
Amry - West Well

WORK ORDER REPORTED 23J2930
2023-10-31 15:02

| Analyte | Result | Guideline | RL | Units | Analyzed | Qualifier |
|--|--------|-----------|------|------------|------------|-----------|
| Duplicate (23J2930-02) Matrix: Water Sampled: 2023-10-24 10:35, Continued | | | | | | |
| <i>General Parameters, Continued</i> | | | | | | |
| Turbidity | 0.27 | OG < 1 | 0.10 | NTU | 2023-10-26 | |
| <i>Microbiological Parameters</i> | | | | | | |
| Coliforms, Total (Q-Tray) | < 1 | MAC = 0 | 1 | MPN/100 mL | 2023-10-25 | |
| Coliforms, Fecal (Q-Tray) | < 1 | N/A | 1 | MPN/100 mL | 2023-10-25 | |
| E. coli (Q-Tray) | < 1 | MAC = 0 | 1 | MPN/100 mL | 2023-10-25 | |
| <i>Total Metals</i> | | | | | | |
| Sodium, total | 29.9 | AO ≤ 200 | 0.10 | mg/L | 2023-10-26 | |

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 Lake Country, District of (Wastewater)
Amry - West Well

WORK ORDER REPORTED 23J2930
2023-10-31 15:02

| Analysis Description | Method Ref. | Technique | Accredited | Location |
|------------------------------------|--|--|------------|----------|
| Ammonia, Total in Water | SM 4500-NH3 G* (2021) | Automated Colorimetry (Phenate) | ✓ | Kelowna |
| Anions in Water | SM 4110 B (2020) | Ion Chromatography | ✓ | Kelowna |
| Biochemical Oxygen Demand in Water | SM 5210 B (2019) | Dissolved Oxygen Meter | ✓ | Kelowna |
| Coliforms, Fecal in Water | SM 9223 (2016) | Quanti-Tray / Enzyme Substrate Endo Agar | ✓ | Kelowna |
| Coliforms, Total in Water | SM 9223 (2016) | Quanti-Tray / Enzyme Substrate Endo Agar | ✓ | Kelowna |
| Conductivity in Water | SM 2510 B (2021) | Conductivity Meter | ✓ | Kelowna |
| E. coli in Water | SM 9223 (2016) | Quanti-Tray / Enzyme Substrate Endo Agar | ✓ | Kelowna |
| Nitrogen, Total Kjeldahl in Water | SM 4500-Norg D* (2021) | Block Digestion and Flow Injection Analysis | ✓ | Kelowna |
| pH in Water | SM 4500-H+ B (2021) | Electrometry | ✓ | Kelowna |
| Phosphorus, Total in Water | SM 4500-P B.5* (2011) / SM 4500-P F (2021) | Persulfate Digestion / Automated Colorimetry (Ascorbic Acid) | ✓ | Kelowna |
| Total Metals in Water | EPA 200.2 / EPA 6020B | HNO3+HCl Hot Block Digestion / Inductively Coupled Plasma-Mass Spectroscopy (ICP-MS) | ✓ | Richmond |
| Turbidity in Water | SM 2130 B (2020) | Nephelometry | ✓ | Kelowna |

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

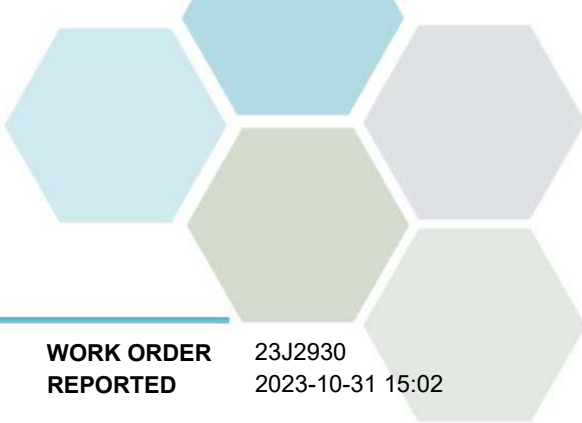
Glossary of Terms:

| | |
|------------|---|
| RL | Reporting Limit (default) |
| < | Less than the specified Reporting Limit (RL) - the actual RL may be higher than the default RL due to various factors |
| AO | Aesthetic Objective |
| MAC | Maximum Acceptable Concentration (health based) |
| mg/L | Milligrams per litre |
| MPN/100 mL | Most Probable Number per 100 millilitres |
| NTU | Nephelometric Turbidity Units |
| OG | Operational Guideline (treated water) |
| 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 |

Guidelines Referenced in this Report:

[Guidelines for Canadian Drinking Water Quality \(Health Canada, September 2022\)](#)

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



APPENDIX 1: SUPPORTING INFORMATION

REPORTED TO PROJECT Lake Country, District of (Wastewater)
Amry - West Well

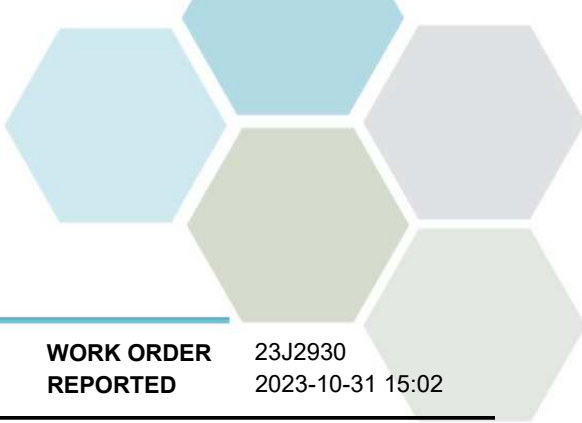
WORK ORDER REPORTED 23J2930
2023-10-31 15:02

General Comments:

The results in this report apply to the received 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. Caro will dispose of all samples within 30 days of sample receipt, unless otherwise agreed.

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

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 Lake Country, District of (Wastewater)
Amry - West Well

WORK ORDER REPORTED 23J2930
2023-10-31 15:02

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 B3J2511

| Blank (B3J2511-BLK1) | | Prepared: 2023-10-26, Analyzed: 2023-10-26 | | | | | | | |
|----------------------|----------|--|------|--|-----|--------|--|--|--|
| 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 | | | | | | | |
| Phosphate (as P) | < 0.0050 | 0.0050 mg/L | | | | | | | |
| LCS (B3J2511-BS1) | | Prepared: 2023-10-26, Analyzed: 2023-10-26 | | | | | | | |
| Chloride | 16.7 | 0.10 mg/L | 16.0 | | 105 | 90-110 | | | |
| Nitrate (as N) | 4.04 | 0.010 mg/L | 4.00 | | 101 | 90-110 | | | |
| Nitrite (as N) | 2.16 | 0.010 mg/L | 2.00 | | 108 | 85-115 | | | |
| Phosphate (as P) | 1.03 | 0.0050 mg/L | 1.00 | | 103 | 80-120 | | | |

General Parameters, Batch B3J2471

| Blank (B3J2471-BLK1) | | Prepared: 2023-10-25, Analyzed: 2023-10-25 | | | | | | | |
|-----------------------|---------|--|------|--|----|--------|--|--|--|
| Ammonia, Total (as N) | 0.036 | 0.020 mg/L | | | | | | | |
| Blank (B3J2471-BLK2) | | Prepared: 2023-10-25, Analyzed: 2023-10-25 | | | | | | | |
| Ammonia, Total (as N) | < 0.020 | 0.020 mg/L | | | | | | | |
| Blank (B3J2471-BLK3) | | Prepared: 2023-10-25, Analyzed: 2023-10-25 | | | | | | | |
| Ammonia, Total (as N) | 0.035 | 0.020 mg/L | | | | | | | |
| Blank (B3J2471-BLK4) | | Prepared: 2023-10-25, Analyzed: 2023-10-25 | | | | | | | |
| Ammonia, Total (as N) | 0.025 | 0.020 mg/L | | | | | | | |
| Blank (B3J2471-BLK5) | | Prepared: 2023-10-25, Analyzed: 2023-10-25 | | | | | | | |
| Ammonia, Total (as N) | 0.021 | 0.020 mg/L | | | | | | | |
| LCS (B3J2471-BS1) | | Prepared: 2023-10-25, Analyzed: 2023-10-25 | | | | | | | |
| Ammonia, Total (as N) | 0.877 | 0.020 mg/L | 1.00 | | 88 | 85-115 | | | |
| LCS (B3J2471-BS2) | | Prepared: 2023-10-25, Analyzed: 2023-10-25 | | | | | | | |
| Ammonia, Total (as N) | 0.908 | 0.020 mg/L | 1.00 | | 91 | 85-115 | | | |
| LCS (B3J2471-BS3) | | Prepared: 2023-10-25, Analyzed: 2023-10-25 | | | | | | | |
| Ammonia, Total (as N) | 0.907 | 0.020 mg/L | 1.00 | | 91 | 85-115 | | | |



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater)
Amry - West Well

WORK ORDER REPORTED 23J2930
2023-10-31 15:02

| Analyte | Result | RL Units | Spike Level | Source Result | % REC | REC Limit | % RPD | RPD Limit | Qualifier |
|---|----------|-------------|--|---------------|-------|-----------|-------|-----------|-----------|
| General Parameters, Batch B3J2471, Continued | | | | | | | | | |
| LCS (B3J2471-BS4) | | | Prepared: 2023-10-25, Analyzed: 2023-10-25 | | | | | | |
| Ammonia, Total (as N) | 0.907 | 0.020 mg/L | 1.00 | | 91 | 85-115 | | | |
| LCS (B3J2471-BS5) | | | Prepared: 2023-10-25, Analyzed: 2023-10-25 | | | | | | |
| Ammonia, Total (as N) | 0.913 | 0.020 mg/L | 1.00 | | 91 | 85-115 | | | |
| General Parameters, Batch B3J2593 | | | | | | | | | |
| Blank (B3J2593-BLK1) | | | Prepared: 2023-10-25, Analyzed: 2023-10-26 | | | | | | |
| Phosphorus, Total (as P) | < 0.0050 | 0.0050 mg/L | | | | | | | |
| Blank (B3J2593-BLK2) | | | Prepared: 2023-10-25, Analyzed: 2023-10-26 | | | | | | |
| Phosphorus, Total (as P) | < 0.0050 | 0.0050 mg/L | | | | | | | |
| LCS (B3J2593-BS1) | | | Prepared: 2023-10-25, Analyzed: 2023-10-26 | | | | | | |
| Phosphorus, Total (as P) | 0.0983 | 0.0050 mg/L | 0.100 | | 98 | 85-115 | | | |
| LCS (B3J2593-BS2) | | | Prepared: 2023-10-25, Analyzed: 2023-10-26 | | | | | | |
| Phosphorus, Total (as P) | 0.0983 | 0.0050 mg/L | 0.100 | | 98 | 85-115 | | | |
| General Parameters, Batch B3J2686 | | | | | | | | | |
| Blank (B3J2686-BLK1) | | | Prepared: 2023-10-26, Analyzed: 2023-10-26 | | | | | | |
| Turbidity | < 0.10 | 0.10 NTU | | | | | | | |
| Blank (B3J2686-BLK2) | | | Prepared: 2023-10-26, Analyzed: 2023-10-26 | | | | | | |
| Turbidity | < 0.10 | 0.10 NTU | | | | | | | |
| Blank (B3J2686-BLK3) | | | Prepared: 2023-10-26, Analyzed: 2023-10-26 | | | | | | |
| Turbidity | < 0.10 | 0.10 NTU | | | | | | | |
| LCS (B3J2686-BS1) | | | Prepared: 2023-10-26, Analyzed: 2023-10-26 | | | | | | |
| Turbidity | 1.74 | 0.10 NTU | 1.69 | | 103 | 90-110 | | | |
| LCS (B3J2686-BS2) | | | Prepared: 2023-10-26, Analyzed: 2023-10-26 | | | | | | |
| Turbidity | 1.74 | 0.10 NTU | 1.69 | | 103 | 90-110 | | | |
| LCS (B3J2686-BS3) | | | Prepared: 2023-10-26, Analyzed: 2023-10-26 | | | | | | |
| Turbidity | 1.74 | 0.10 NTU | 1.69 | | 103 | 90-110 | | | |
| General Parameters, Batch B3J2723 | | | | | | | | | |
| Blank (B3J2723-BLK1) | | | Prepared: 2023-10-26, Analyzed: 2023-10-31 | | | | | | |
| BOD, 5-day | < 2.0 | 2.0 mg/L | | | | | | | |
| LCS (B3J2723-BS1) | | | Prepared: 2023-10-26, Analyzed: 2023-10-31 | | | | | | |
| BOD, 5-day | 201 | 45.8 mg/L | 198 | | 102 | 85-115 | | | |
| General Parameters, Batch B3J2921 | | | | | | | | | |
| Blank (B3J2921-BLK1) | | | Prepared: 2023-10-29, Analyzed: 2023-10-29 | | | | | | |
| Conductivity (EC) | < 2.0 | 2.0 µS/cm | | | | | | | |
| Blank (B3J2921-BLK2) | | | Prepared: 2023-10-29, Analyzed: 2023-10-29 | | | | | | |
| Conductivity (EC) | < 2.0 | 2.0 µS/cm | | | | | | | |



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater)
Amry - West Well

WORK ORDER REPORTED 23J2930
2023-10-31 15:02

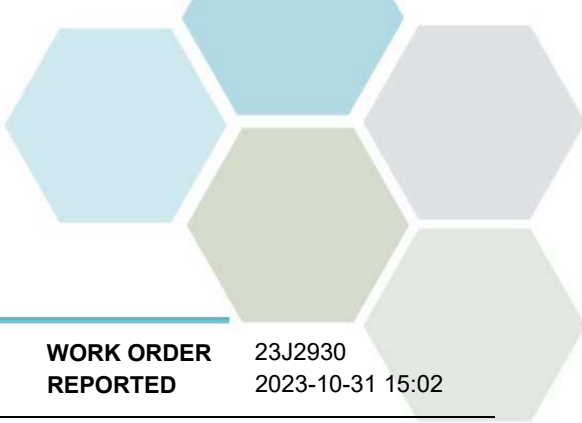
| Analyte | Result | RL Units | Spike Level | Source Result | % REC | REC Limit | % RPD | RPD Limit | Qualifier |
|---|--------|---------------|--|---------------|-------|-----------|-------|-----------|-----------|
| General Parameters, Batch B3J2921, Continued | | | | | | | | | |
| Blank (B3J2921-BLK3) | | | Prepared: 2023-10-29, Analyzed: 2023-10-29 | | | | | | |
| Conductivity (EC) | < 2.0 | 2.0 µS/cm | | | | | | | |
| LCS (B3J2921-BS4) | | | Prepared: 2023-10-29, Analyzed: 2023-10-29 | | | | | | |
| Conductivity (EC) | 1410 | 2.0 µS/cm | 1410 | | 100 | 95-105 | | | |
| LCS (B3J2921-BS5) | | | Prepared: 2023-10-29, Analyzed: 2023-10-29 | | | | | | |
| Conductivity (EC) | 1400 | 2.0 µS/cm | 1410 | | 99 | 95-105 | | | |
| LCS (B3J2921-BS6) | | | Prepared: 2023-10-29, Analyzed: 2023-10-29 | | | | | | |
| Conductivity (EC) | 1420 | 2.0 µS/cm | 1410 | | 100 | 95-105 | | | |
| Reference (B3J2921-SRM1) | | | Prepared: 2023-10-29, Analyzed: 2023-10-29 | | | | | | |
| pH | 7.04 | 0.10 pH units | 7.01 | | 100 | 98-102 | | | |
| Reference (B3J2921-SRM2) | | | Prepared: 2023-10-29, Analyzed: 2023-10-29 | | | | | | |
| pH | 7.04 | 0.10 pH units | 7.01 | | 100 | 98-102 | | | |
| Reference (B3J2921-SRM3) | | | Prepared: 2023-10-29, Analyzed: 2023-10-29 | | | | | | |
| pH | 7.04 | 0.10 pH units | 7.01 | | 100 | 98-102 | | | |

General Parameters, Batch B3J3003

| | | | | | | | | | |
|-----------------------------|---------|------------|--|--|-----|--------|--|--|--|
| Blank (B3J3003-BLK1) | | | Prepared: 2023-10-30, Analyzed: 2023-10-31 | | | | | | |
| Nitrogen, Total Kjeldahl | < 0.050 | 0.050 mg/L | | | | | | | |
| Blank (B3J3003-BLK2) | | | Prepared: 2023-10-30, Analyzed: 2023-10-31 | | | | | | |
| Nitrogen, Total Kjeldahl | < 0.050 | 0.050 mg/L | | | | | | | |
| LCS (B3J3003-BS1) | | | Prepared: 2023-10-30, Analyzed: 2023-10-31 | | | | | | |
| Nitrogen, Total Kjeldahl | 1.00 | 0.050 mg/L | 1.00 | | 100 | 85-115 | | | |
| LCS (B3J3003-BS2) | | | Prepared: 2023-10-30, Analyzed: 2023-10-31 | | | | | | |
| Nitrogen, Total Kjeldahl | 0.997 | 0.050 mg/L | 1.00 | | 100 | 85-115 | | | |

Microbiological Parameters, Batch B3J2506

| | | | | | | | | | |
|-----------------------------|-----|--------------|--|--|--|--|--|--|--|
| Blank (B3J2506-BLK1) | | | Prepared: 2023-10-25, Analyzed: 2023-10-25 | | | | | | |
| Coliforms, Total (Q-Tray) | < 1 | 1 MPN/100 mL | | | | | | | |
| E. coli (Q-Tray) | < 1 | 1 MPN/100 mL | | | | | | | |
| Blank (B3J2506-BLK2) | | | Prepared: 2023-10-25, Analyzed: 2023-10-25 | | | | | | |
| Coliforms, Fecal (Q-Tray) | < 1 | 1 MPN/100 mL | | | | | | | |
| Blank (B3J2506-BLK3) | | | Prepared: 2023-10-25, Analyzed: 2023-10-25 | | | | | | |
| Coliforms, Total (Q-Tray) | < 1 | 1 MPN/100 mL | | | | | | | |
| E. coli (Q-Tray) | < 1 | 1 MPN/100 mL | | | | | | | |
| Blank (B3J2506-BLK4) | | | Prepared: 2023-10-25, Analyzed: 2023-10-25 | | | | | | |
| Coliforms, Total (Q-Tray) | < 1 | 1 MPN/100 mL | | | | | | | |
| E. coli (Q-Tray) | < 1 | 1 MPN/100 mL | | | | | | | |
| Blank (B3J2506-BLK5) | | | Prepared: 2023-10-25, Analyzed: 2023-10-25 | | | | | | |
| Coliforms, Fecal (Q-Tray) | < 1 | 1 MPN/100 mL | | | | | | | |
| Blank (B3J2506-BLK6) | | | Prepared: 2023-10-25, Analyzed: 2023-10-25 | | | | | | |
| Coliforms, Total (Q-Tray) | < 1 | 1 MPN/100 mL | | | | | | | |
| E. coli (Q-Tray) | < 1 | 1 MPN/100 mL | | | | | | | |



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater)
Amry - West Well

WORK ORDER REPORTED 23J2930
2023-10-31 15:02

| Analyte | Result | RL Units | Spike Level | Source Result | % REC | REC Limit | % RPD | RPD Limit | Qualifier |
|------------------------------------|--------|-----------|--|---------------|-------|-----------|-------|-----------|-----------|
| Total Metals, Batch B3J2692 | | | | | | | | | |
| Blank (B3J2692-BLK1) | | | Prepared: 2023-10-26, Analyzed: 2023-10-26 | | | | | | |
| Sodium, total | < 0.10 | 0.10 mg/L | | | | | | | |
| LCS (B3J2692-BS1) | | | Prepared: 2023-10-26, Analyzed: 2023-10-26 | | | | | | |
| Sodium, total | 3.86 | 0.10 mg/L | 4.00 | | 97 | 80-120 | | | |
| Total Metals, Batch B3J2731 | | | | | | | | | |
| Blank (B3J2731-BLK1) | | | Prepared: 2023-10-26, Analyzed: 2023-10-27 | | | | | | |
| Sodium, total | < 0.10 | 0.10 mg/L | | | | | | | |
| LCS (B3J2731-BS1) | | | Prepared: 2023-10-26, Analyzed: 2023-10-27 | | | | | | |
| Sodium, total | 3.71 | 0.10 mg/L | 4.00 | | 93 | 80-120 | | | |



CERTIFICATE OF ANALYSIS

| | | | |
|---------------------|---|---------------------------------|---------------------------|
| REPORTED TO | Lake Country, District of (Wastewater) 4062 Beaver Lake Rd LAKE COUNTRY, BC V4V 1T5 | WORK ORDER | 23J1916 |
| ATTENTION | Davin Larsen | RECEIVED / TEMP REPORTED | 2023-10-17 12:00 / 16.1°C |
| PO NUMBER | | COC NUMBER | 45216.39861 |
| PROJECT | Lake Country WWTP | | |
| 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>

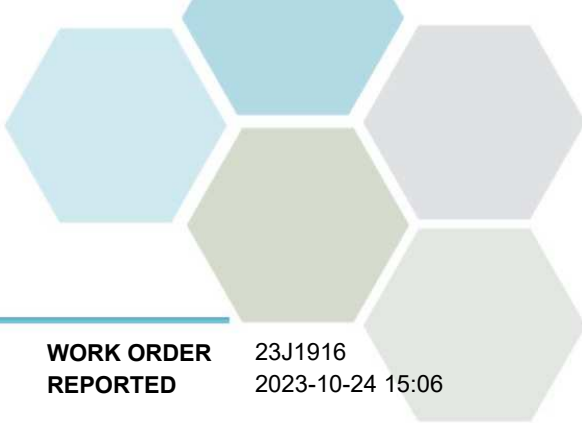
If you have any questions or concerns, please contact me at bwhitehead@caro.ca

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 Lake Country, District of (Wastewater)
Lake Country WWTP

WORK ORDER REPORTED 23J1916
2023-10-24 15:06

| Analyte | Result | Guideline | RL | Units | Analyzed | Qualifier |
|---------|--------|-----------|----|-------|----------|-----------|
|---------|--------|-----------|----|-------|----------|-----------|

10101A Kunschuh Rd (23J1916-01) | Matrix: Water | Sampled: 2023-10-17 10:37

Anions

| | | | | | | |
|------------------|---------|----------|--------|------|------------|--|
| Chloride | 87.7 | AO ≤ 250 | 0.10 | mg/L | 2023-10-19 | |
| Nitrate (as N) | 4.03 | MAC = 10 | 0.010 | mg/L | 2023-10-19 | |
| Nitrite (as N) | < 0.010 | MAC = 1 | 0.010 | mg/L | 2023-10-19 | |
| Phosphate (as P) | 0.0123 | N/A | 0.0050 | mg/L | 2023-10-19 | |

Calculated Parameters

| | | | | | | |
|------------------------|------|-----|--------|------|-----|--|
| Nitrate+Nitrite (as N) | 4.03 | N/A | 0.0100 | mg/L | N/A | |
| Nitrogen, Total | 4.36 | N/A | 0.0500 | mg/L | N/A | |

General Parameters

| | | | | | | |
|--------------------------|---------|---------------|--------|----------|------------|-----|
| Ammonia, Total (as N) | < 0.050 | None Required | 0.050 | mg/L | 2023-10-18 | |
| Conductivity (EC) | 754 | N/A | 2.0 | µS/cm | 2023-10-19 | |
| Nitrogen, Total Kjeldahl | 0.334 | N/A | 0.050 | mg/L | 2023-10-22 | |
| pH | 7.23 | 7.0-10.5 | 0.10 | pH units | 2023-10-19 | HT2 |
| Phosphorus, Total (as P) | 0.0107 | N/A | 0.0050 | mg/L | 2023-10-19 | |

Microbiological Parameters

| | | | | | | |
|------------------|-----|---------|---|------------|------------|--|
| E. coli (Q-Tray) | < 1 | MAC = 0 | 1 | MPN/100 mL | 2023-10-18 | |
|------------------|-----|---------|---|------------|------------|--|

Total Metals

| | | | | | | |
|---------------|------|----------|------|------|------------|--|
| Sodium, total | 57.1 | AO ≤ 200 | 0.10 | mg/L | 2023-10-19 | |
|---------------|------|----------|------|------|------------|--|

10050 McCarthy Rd (23J1916-02) | Matrix: Water | Sampled: 2023-10-17 10:22

Anions

| | | | | | | |
|------------------|---------|----------|--------|------|------------|--|
| Chloride | 0.43 | AO ≤ 250 | 0.10 | mg/L | 2023-10-19 | |
| Nitrate (as N) | 0.011 | MAC = 10 | 0.010 | mg/L | 2023-10-19 | |
| Nitrite (as N) | < 0.010 | MAC = 1 | 0.010 | mg/L | 2023-10-19 | |
| Phosphate (as P) | 0.0574 | N/A | 0.0050 | mg/L | 2023-10-19 | |

Calculated Parameters

| | | | | | | |
|------------------------|--------|-----|--------|------|-----|--|
| Nitrate+Nitrite (as N) | 0.0110 | N/A | 0.0100 | mg/L | N/A | |
| Nitrogen, Total | 0.379 | N/A | 0.0500 | mg/L | N/A | |

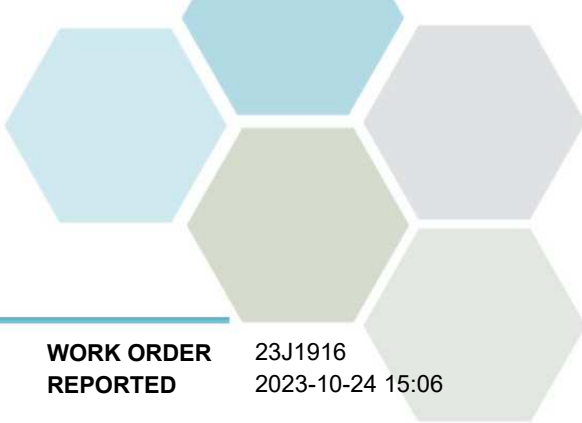
General Parameters

| | | | | | | |
|--------------------------|-------|---------------|--------|----------|------------|-----|
| Ammonia, Total (as N) | 0.227 | None Required | 0.050 | mg/L | 2023-10-18 | |
| Conductivity (EC) | 265 | N/A | 2.0 | µS/cm | 2023-10-19 | |
| Nitrogen, Total Kjeldahl | 0.368 | N/A | 0.050 | mg/L | 2023-10-22 | |
| pH | 8.08 | 7.0-10.5 | 0.10 | pH units | 2023-10-19 | HT2 |
| Phosphorus, Total (as P) | 0.231 | N/A | 0.0050 | mg/L | 2023-10-19 | |

Microbiological Parameters

| | | | | | | |
|------------------|-----|---------|---|------------|------------|--|
| E. coli (Q-Tray) | < 1 | MAC = 0 | 1 | MPN/100 mL | 2023-10-18 | |
|------------------|-----|---------|---|------------|------------|--|

Total Metals



TEST RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater)
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| Analyte | Result | Guideline | RL | Units | Analyzed | Qualifier |
|---------|--------|-----------|----|-------|----------|-----------|
|---------|--------|-----------|----|-------|----------|-----------|

10050 McCarthy Rd (23J1916-02) | Matrix: Water | Sampled: 2023-10-17 10:22, Continued

Total Metals, Continued

| | | | | | | |
|---------------|------|----------|------|------|------------|--|
| Sodium, total | 8.34 | AO ≤ 200 | 0.10 | mg/L | 2023-10-19 | |
|---------------|------|----------|------|------|------------|--|

9989 Bottom Wood Lake Rd (23J1916-03) | Matrix: Water | Sampled: 2023-10-17 11:07

Anions

| | | | | | | |
|------------------|---------|----------|--------|------|------------|--|
| Chloride | 40.3 | AO ≤ 250 | 0.10 | mg/L | 2023-10-19 | |
| Nitrate (as N) | 4.54 | MAC = 10 | 0.010 | mg/L | 2023-10-19 | |
| Nitrite (as N) | < 0.010 | MAC = 1 | 0.010 | mg/L | 2023-10-19 | |
| Phosphate (as P) | 0.0053 | N/A | 0.0050 | mg/L | 2023-10-19 | |

Calculated Parameters

| | | | | | | |
|------------------------|------|-----|--------|------|-----|--|
| Nitrate+Nitrite (as N) | 4.54 | N/A | 0.0100 | mg/L | N/A | |
| Nitrogen, Total | 4.88 | N/A | 0.0500 | mg/L | N/A | |

General Parameters

| | | | | | | |
|--------------------------|---------|---------------|--------|----------|------------|-----|
| Ammonia, Total (as N) | < 0.050 | None Required | 0.050 | mg/L | 2023-10-18 | |
| Conductivity (EC) | 393 | N/A | 2.0 | µS/cm | 2023-10-19 | |
| Nitrogen, Total Kjeldahl | 0.345 | N/A | 0.050 | mg/L | 2023-10-22 | |
| pH | 7.37 | 7.0-10.5 | 0.10 | pH units | 2023-10-19 | HT2 |
| Phosphorus, Total (as P) | 0.0066 | N/A | 0.0050 | mg/L | 2023-10-19 | |

Microbiological Parameters

| | | | | | | |
|------------------|-----|---------|---|------------|------------|--|
| E. coli (Q-Tray) | < 1 | MAC = 0 | 1 | MPN/100 mL | 2023-10-18 | |
|------------------|-----|---------|---|------------|------------|--|

Total Metals

| | | | | | | |
|---------------|------|----------|------|------|------------|--|
| Sodium, total | 20.0 | AO ≤ 200 | 0.10 | mg/L | 2023-10-21 | |
|---------------|------|----------|------|------|------------|--|

9991 McCarthy Rd (23J1916-04) | Matrix: Water | Sampled: 2023-10-17 10:05

Anions

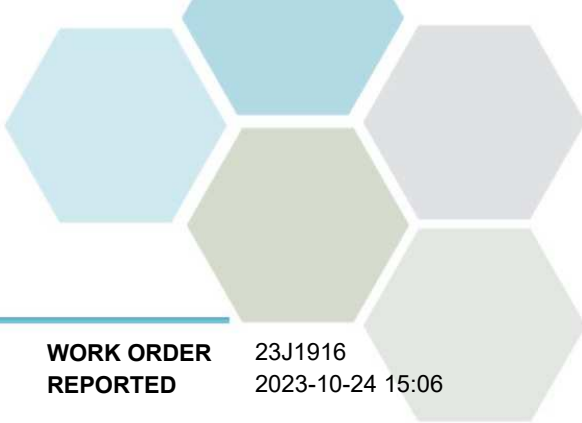
| | | | | | | |
|------------------|----------|----------|--------|------|------------|--|
| Chloride | 80.9 | AO ≤ 250 | 0.10 | mg/L | 2023-10-19 | |
| Nitrate (as N) | 4.36 | MAC = 10 | 0.010 | mg/L | 2023-10-19 | |
| Nitrite (as N) | < 0.010 | MAC = 1 | 0.010 | mg/L | 2023-10-19 | |
| Phosphate (as P) | < 0.0050 | N/A | 0.0050 | mg/L | 2023-10-19 | |

Calculated Parameters

| | | | | | | |
|------------------------|------|-----|--------|------|-----|--|
| Nitrate+Nitrite (as N) | 4.36 | N/A | 0.0100 | mg/L | N/A | |
| Nitrogen, Total | 4.64 | N/A | 0.0500 | mg/L | N/A | |

General Parameters

| | | | | | | |
|--------------------------|---------|---------------|-------|----------|------------|-----|
| Ammonia, Total (as N) | < 0.050 | None Required | 0.050 | mg/L | 2023-10-18 | |
| Conductivity (EC) | 768 | N/A | 2.0 | µS/cm | 2023-10-19 | |
| Nitrogen, Total Kjeldahl | 0.285 | N/A | 0.050 | mg/L | 2023-10-22 | |
| pH | 7.82 | 7.0-10.5 | 0.10 | pH units | 2023-10-19 | HT2 |



TEST RESULTS

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| Analyte | Result | Guideline | RL | Units | Analyzed | Qualifier |
|---------|--------|-----------|----|-------|----------|-----------|
|---------|--------|-----------|----|-------|----------|-----------|

9991 McCarthy Rd (23J1916-04) | Matrix: Water | Sampled: 2023-10-17 10:05, Continued

General Parameters, Continued

| | | | | | | |
|--------------------------|--------|-----|--------|------|------------|--|
| Phosphorus, Total (as P) | 0.0119 | N/A | 0.0050 | mg/L | 2023-10-19 | |
|--------------------------|--------|-----|--------|------|------------|--|

Microbiological Parameters

| | | | | | | |
|------------------|-----|---------|---|------------|------------|--|
| E. coli (Q-Tray) | < 1 | MAC = 0 | 1 | MPN/100 mL | 2023-10-18 | |
|------------------|-----|---------|---|------------|------------|--|

Total Metals

| | | | | | | |
|---------------|------|----------|------|------|------------|--|
| Sodium, total | 55.4 | AO ≤ 200 | 0.10 | mg/L | 2023-10-19 | |
|---------------|------|----------|------|------|------------|--|

9815 McCarthy Rd (23J1916-05) | Matrix: Water | Sampled: 2023-10-17 09:58

Anions

| | | | | | | |
|------------------|----------|----------|--------|------|------------|--|
| Chloride | 101 | AO ≤ 250 | 0.10 | mg/L | 2023-10-19 | |
| Nitrate (as N) | 4.51 | MAC = 10 | 0.010 | mg/L | 2023-10-19 | |
| Nitrite (as N) | < 0.010 | MAC = 1 | 0.010 | mg/L | 2023-10-19 | |
| Phosphate (as P) | < 0.0050 | N/A | 0.0050 | mg/L | 2023-10-19 | |

Calculated Parameters

| | | | | | | |
|------------------------|------|-----|--------|------|-----|--|
| Nitrate+Nitrite (as N) | 4.51 | N/A | 0.0100 | mg/L | N/A | |
| Nitrogen, Total | 4.80 | N/A | 0.0500 | mg/L | N/A | |

General Parameters

| | | | | | | |
|--------------------------|---------|---------------|--------|----------|------------|-----|
| Ammonia, Total (as N) | < 0.050 | None Required | 0.050 | mg/L | 2023-10-18 | |
| Conductivity (EC) | 830 | N/A | 2.0 | µS/cm | 2023-10-19 | |
| Nitrogen, Total Kjeldahl | 0.292 | N/A | 0.050 | mg/L | 2023-10-22 | |
| pH | 7.78 | 7.0-10.5 | 0.10 | pH units | 2023-10-19 | HT2 |
| Phosphorus, Total (as P) | 0.0097 | N/A | 0.0050 | mg/L | 2023-10-19 | |

Microbiological Parameters

| | | | | | | |
|------------------|-----|---------|---|------------|------------|--|
| E. coli (Q-Tray) | < 1 | MAC = 0 | 1 | MPN/100 mL | 2023-10-18 | |
|------------------|-----|---------|---|------------|------------|--|

Total Metals

| | | | | | | |
|---------------|------|----------|------|------|------------|--|
| Sodium, total | 70.8 | AO ≤ 200 | 0.10 | mg/L | 2023-10-21 | |
|---------------|------|----------|------|------|------------|--|

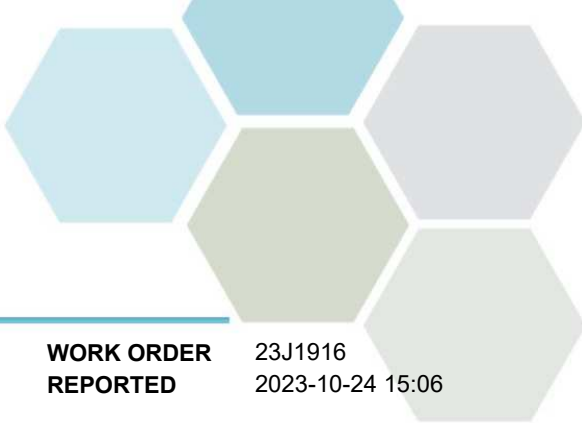
10101B Kunschuh Rd (23J1916-06) | Matrix: Water | Sampled: 2023-10-17 10:54

Anions

| | | | | | | |
|------------------|----------|----------|--------|------|------------|--|
| Chloride | 112 | AO ≤ 250 | 0.10 | mg/L | 2023-10-19 | |
| Nitrate (as N) | 1.88 | MAC = 10 | 0.010 | mg/L | 2023-10-19 | |
| Nitrite (as N) | < 0.010 | MAC = 1 | 0.010 | mg/L | 2023-10-19 | |
| Phosphate (as P) | < 0.0050 | N/A | 0.0050 | mg/L | 2023-10-19 | |

Calculated Parameters

| | | | | | | |
|------------------------|------|-----|--------|------|-----|--|
| Nitrate+Nitrite (as N) | 1.88 | N/A | 0.0100 | mg/L | N/A | |
| Nitrogen, Total | 2.27 | N/A | 0.0500 | mg/L | N/A | |



TEST RESULTS

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| Analyte | Result | Guideline | RL Units | Analyzed | Qualifier |
|---------|--------|-----------|----------|----------|-----------|
|---------|--------|-----------|----------|----------|-----------|

10101B Kunschuh Rd (23J1916-06) | Matrix: Water | Sampled: 2023-10-17 10:54, Continued

General Parameters

| | | | | | |
|--------------------------|--------------|---------------|---------------|------------|-----|
| Ammonia, Total (as N) | < 0.050 | None Required | 0.050 mg/L | 2023-10-18 | |
| Conductivity (EC) | 846 | N/A | 2.0 µS/cm | 2023-10-19 | |
| Nitrogen, Total Kjeldahl | 0.389 | N/A | 0.050 mg/L | 2023-10-22 | |
| pH | 7.77 | 7.0-10.5 | 0.10 pH units | 2023-10-19 | HT2 |
| Phosphorus, Total (as P) | < 0.0050 | N/A | 0.0050 mg/L | 2023-10-19 | |

Microbiological Parameters

| | | | | | |
|------------------|-----|---------|--------------|------------|--|
| E. coli (Q-Tray) | < 1 | MAC = 0 | 1 MPN/100 mL | 2023-10-18 | |
|------------------|-----|---------|--------------|------------|--|

Total Metals

| | | | | | |
|---------------|-------------|----------|-----------|------------|--|
| Sodium, total | 74.6 | AO ≤ 200 | 0.10 mg/L | 2023-10-19 | |
|---------------|-------------|----------|-----------|------------|--|

Duplicate (23J1916-07) | Matrix: Water | Sampled: 2023-10-17 10:22

Anions

| | | | | | |
|------------------|---------------|----------|-------------|------------|--|
| Chloride | 0.42 | AO ≤ 250 | 0.10 mg/L | 2023-10-19 | |
| Nitrate (as N) | < 0.010 | MAC = 10 | 0.010 mg/L | 2023-10-19 | |
| Nitrite (as N) | 0.010 | MAC = 1 | 0.010 mg/L | 2023-10-19 | |
| Phosphate (as P) | 0.0567 | N/A | 0.0050 mg/L | 2023-10-19 | |

Calculated Parameters

| | | | | | |
|------------------------|---------------|-----|-------------|-----|--|
| Nitrate+Nitrite (as N) | 0.0104 | N/A | 0.0100 mg/L | N/A | |
| Nitrogen, Total | 0.377 | N/A | 0.0500 mg/L | N/A | |

General Parameters

| | | | | | |
|--------------------------|--------------|---------------|---------------|------------|-----|
| Ammonia, Total (as N) | 0.224 | None Required | 0.050 mg/L | 2023-10-18 | |
| Conductivity (EC) | 264 | N/A | 2.0 µS/cm | 2023-10-19 | |
| Nitrogen, Total Kjeldahl | 0.367 | N/A | 0.050 mg/L | 2023-10-22 | |
| pH | 8.16 | 7.0-10.5 | 0.10 pH units | 2023-10-19 | HT2 |
| Phosphorus, Total (as P) | 0.231 | N/A | 0.0050 mg/L | 2023-10-19 | |

Microbiological Parameters

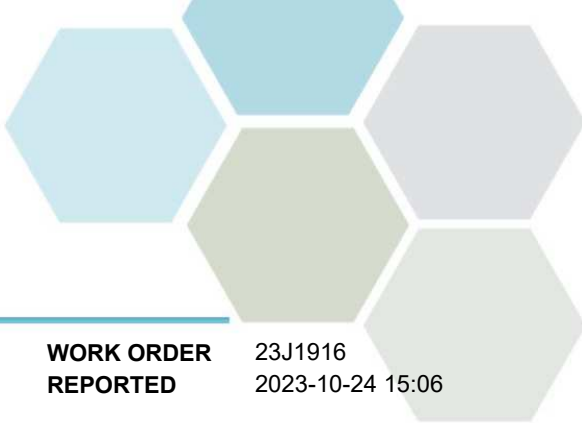
| | | | | | |
|------------------|-----|---------|--------------|------------|--|
| E. coli (Q-Tray) | < 1 | MAC = 0 | 1 MPN/100 mL | 2023-10-18 | |
|------------------|-----|---------|--------------|------------|--|

Total Metals

| | | | | | |
|---------------|-------------|----------|-----------|------------|--|
| Sodium, total | 8.26 | AO ≤ 200 | 0.10 mg/L | 2023-10-21 | |
|---------------|-------------|----------|-----------|------------|--|

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 Lake Country, District of (Wastewater)
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| Analysis Description | Method Ref. | Technique | Accredited | Location |
|-----------------------------------|--|--|------------|----------|
| Ammonia, Total in Water | SM 4500-NH3 G* (2021) | Automated Colorimetry (Phenate) | ✓ | Kelowna |
| Anions in Water | SM 4110 B (2020) | Ion Chromatography | ✓ | Kelowna |
| Conductivity in Water | SM 2510 B (2021) | Conductivity Meter | ✓ | Kelowna |
| E. coli in Water | SM 9223 (2016) | Quanti-Tray / Enzyme Substrate Endo Agar | ✓ | Kelowna |
| Nitrogen, Total Kjeldahl in Water | SM 4500-Norg D* (2021) | Block Digestion and Flow Injection Analysis | ✓ | Kelowna |
| pH in Water | SM 4500-H+ B (2021) | Electrometry | ✓ | Kelowna |
| Phosphorus, Total in Water | SM 4500-P B.5* (2011) / SM 4500-P F (2021) | Persulfate Digestion / Automated Colorimetry (Ascorbic Acid) | ✓ | 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

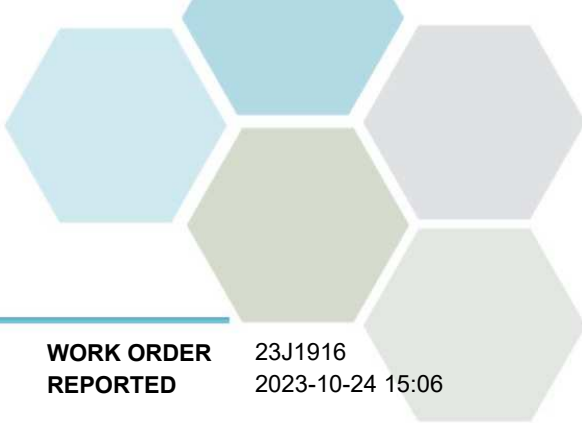
Glossary of Terms:

| | |
|------------|---|
| 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 |
| AO | Aesthetic Objective |
| MAC | Maximum Acceptable Concentration (health based) |
| mg/L | Milligrams per litre |
| MPN/100 mL | Most Probable Number per 100 millilitres |
| pH units | pH < 7 = acidic, pH > 7 = basic |
| µS/cm | Microsiemens per centimetre |
| EPA | United States Environmental Protection Agency Test Methods |
| SM | Standard Methods for the Examination of Water and Wastewater, American Public Health Association |

Guidelines Referenced in this Report:

[Guidelines for Canadian Drinking Water Quality \(Health Canada, September 2022\)](#)

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



APPENDIX 1: SUPPORTING INFORMATION

REPORTED TO PROJECT Lake Country, District of (Wastewater)
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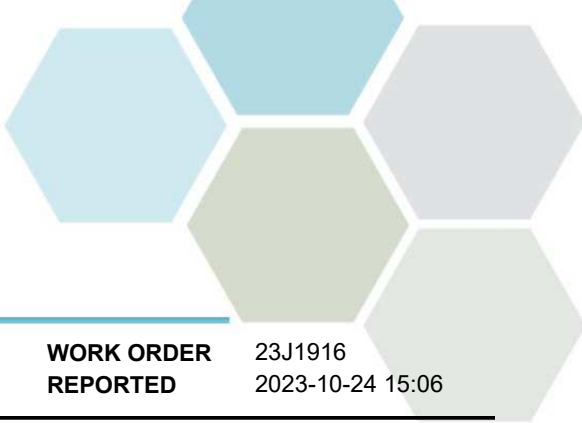
WORK ORDER REPORTED 23J1916
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General Comments:

The results in this report apply to the received 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. Caro will dispose of all samples within 30 days of sample receipt, unless otherwise agreed.

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

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 Lake Country, District of (Wastewater)
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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 B3J1644 | | | | | | | | | |
| Blank (B3J1644-BLK1) | | | Prepared: 2023-10-19, Analyzed: 2023-10-19 | | | | | | |
| 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 | | | | | | | |
| Phosphate (as P) | 0.0080 | 0.0050 mg/L | | | | | | | BLK |
| Blank (B3J1644-BLK2) | | | Prepared: 2023-10-20, Analyzed: 2023-10-20 | | | | | | |
| 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 | | | | | | | |
| Phosphate (as P) | < 0.0050 | 0.0050 mg/L | | | | | | | |
| LCS (B3J1644-BS1) | | | Prepared: 2023-10-19, Analyzed: 2023-10-19 | | | | | | |
| Chloride | 15.7 | 0.10 mg/L | 16.0 | | 98 | 90-110 | | | |
| Nitrate (as N) | 3.88 | 0.010 mg/L | 4.00 | | 97 | 90-110 | | | |
| Nitrite (as N) | 2.07 | 0.010 mg/L | 2.00 | | 104 | 85-115 | | | |
| Phosphate (as P) | 0.953 | 0.0050 mg/L | 1.00 | | 95 | 80-120 | | | |
| LCS (B3J1644-BS2) | | | Prepared: 2023-10-20, Analyzed: 2023-10-20 | | | | | | |
| Chloride | 15.7 | 0.10 mg/L | 16.0 | | 98 | 90-110 | | | |
| Nitrate (as N) | 3.63 | 0.010 mg/L | 4.00 | | 91 | 90-110 | | | |
| Nitrite (as N) | 2.20 | 0.010 mg/L | 2.00 | | 110 | 85-115 | | | |
| Phosphate (as P) | 0.965 | 0.0050 mg/L | 1.00 | | 97 | 80-120 | | | |

General Parameters, Batch B3J1689

| | | | | | | | | | |
|-----------------------------|---------|------------|--|--|--|--|--|--|--|
| Blank (B3J1689-BLK1) | | | Prepared: 2023-10-18, Analyzed: 2023-10-18 | | | | | | |
| Ammonia, Total (as N) | < 0.050 | 0.050 mg/L | | | | | | | |
| Blank (B3J1689-BLK2) | | | Prepared: 2023-10-18, Analyzed: 2023-10-18 | | | | | | |
| Ammonia, Total (as N) | < 0.050 | 0.050 mg/L | | | | | | | |
| Blank (B3J1689-BLK3) | | | Prepared: 2023-10-18, Analyzed: 2023-10-18 | | | | | | |
| Ammonia, Total (as N) | < 0.050 | 0.050 mg/L | | | | | | | |
| Blank (B3J1689-BLK4) | | | Prepared: 2023-10-18, Analyzed: 2023-10-18 | | | | | | |
| Ammonia, Total (as N) | < 0.050 | 0.050 mg/L | | | | | | | |



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater)
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| Analyte | Result | RL Units | Spike Level | Source Result | % REC | REC Limit | % RPD | RPD Limit | Qualifier |
|---|----------|-------------|--|---------------|--|-----------|-------|-----------|-----------|
| General Parameters, Batch B3J1689, Continued | | | | | | | | | |
| LCS (B3J1689-BS1) | | | Prepared: 2023-10-18, Analyzed: 2023-10-18 | | | | | | |
| Ammonia, Total (as N) | 0.945 | 0.050 mg/L | 1.00 | | 94 | 85-115 | | | |
| LCS (B3J1689-BS2) | | | Prepared: 2023-10-18, Analyzed: 2023-10-18 | | | | | | |
| Ammonia, Total (as N) | 0.951 | 0.050 mg/L | 1.00 | | 95 | 85-115 | | | |
| LCS (B3J1689-BS3) | | | Prepared: 2023-10-18, Analyzed: 2023-10-18 | | | | | | |
| Ammonia, Total (as N) | 0.948 | 0.050 mg/L | 1.00 | | 95 | 85-115 | | | |
| LCS (B3J1689-BS4) | | | Prepared: 2023-10-18, Analyzed: 2023-10-18 | | | | | | |
| Ammonia, Total (as N) | 0.969 | 0.050 mg/L | 1.00 | | 97 | 85-115 | | | |
| Duplicate (B3J1689-DUP4) | | | Source: 23J1916-03 | | Prepared: 2023-10-18, Analyzed: 2023-10-18 | | | | |
| Ammonia, Total (as N) | < 0.050 | 0.050 mg/L | | < 0.050 | | | | | 15 |
| Matrix Spike (B3J1689-MS4) | | | Source: 23J1916-03 | | Prepared: 2023-10-18, Analyzed: 2023-10-18 | | | | |
| Ammonia, Total (as N) | 0.228 | 0.050 mg/L | 0.204 | < 0.050 | 112 | 75-125 | | | |
| General Parameters, Batch B3J1776 | | | | | | | | | |
| Blank (B3J1776-BLK1) | | | Prepared: 2023-10-18, Analyzed: 2023-10-19 | | | | | | |
| Phosphorus, Total (as P) | < 0.0050 | 0.0050 mg/L | | | | | | | |
| Blank (B3J1776-BLK2) | | | Prepared: 2023-10-18, Analyzed: 2023-10-19 | | | | | | |
| Phosphorus, Total (as P) | < 0.0050 | 0.0050 mg/L | | | | | | | |
| Blank (B3J1776-BLK3) | | | Prepared: 2023-10-18, Analyzed: 2023-10-19 | | | | | | |
| Phosphorus, Total (as P) | < 0.0050 | 0.0050 mg/L | | | | | | | |
| Blank (B3J1776-BLK4) | | | Prepared: 2023-10-18, Analyzed: 2023-10-19 | | | | | | |
| Phosphorus, Total (as P) | < 0.0050 | 0.0050 mg/L | | | | | | | |
| Blank (B3J1776-BLK5) | | | Prepared: 2023-10-18, Analyzed: 2023-10-19 | | | | | | |
| Phosphorus, Total (as P) | < 0.0050 | 0.0050 mg/L | | | | | | | |
| Blank (B3J1776-BLK6) | | | Prepared: 2023-10-18, Analyzed: 2023-10-19 | | | | | | |
| Phosphorus, Total (as P) | < 0.0050 | 0.0050 mg/L | | | | | | | |
| LCS (B3J1776-BS1) | | | Prepared: 2023-10-18, Analyzed: 2023-10-19 | | | | | | |
| Phosphorus, Total (as P) | 0.105 | 0.0050 mg/L | 0.100 | | 105 | 85-115 | | | |
| LCS (B3J1776-BS2) | | | Prepared: 2023-10-18, Analyzed: 2023-10-19 | | | | | | |
| Phosphorus, Total (as P) | 0.102 | 0.0050 mg/L | 0.100 | | 102 | 85-115 | | | |
| LCS (B3J1776-BS3) | | | Prepared: 2023-10-18, Analyzed: 2023-10-19 | | | | | | |
| Phosphorus, Total (as P) | 0.105 | 0.0050 mg/L | 0.100 | | 105 | 85-115 | | | |
| LCS (B3J1776-BS4) | | | Prepared: 2023-10-18, Analyzed: 2023-10-19 | | | | | | |
| Phosphorus, Total (as P) | 0.105 | 0.0050 mg/L | 0.100 | | 105 | 85-115 | | | |
| LCS (B3J1776-BS5) | | | Prepared: 2023-10-18, Analyzed: 2023-10-19 | | | | | | |
| Phosphorus, Total (as P) | 0.105 | 0.0050 mg/L | 0.100 | | 105 | 85-115 | | | |
| LCS (B3J1776-BS6) | | | Prepared: 2023-10-18, Analyzed: 2023-10-19 | | | | | | |
| Phosphorus, Total (as P) | 0.105 | 0.0050 mg/L | 0.100 | | 105 | 85-115 | | | |
| Duplicate (B3J1776-DUP4) | | | Source: 23J1916-03 | | Prepared: 2023-10-18, Analyzed: 2023-10-19 | | | | |
| Phosphorus, Total (as P) | 0.0079 | 0.0050 mg/L | | 0.0066 | | | | | 15 |



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater)
Lake Country WWTP

WORK ORDER REPORTED 23J1916
2023-10-24 15:06

| Analyte | Result | RL Units | Spike Level | Source Result | % REC | REC Limit | % RPD | RPD Limit | Qualifier |
|---------|--------|----------|-------------|---------------|-------|-----------|-------|-----------|-----------|
|---------|--------|----------|-------------|---------------|-------|-----------|-------|-----------|-----------|

General Parameters, Batch B3J1776, Continued

| | | | | | | | | | |
|-----------------------------------|-------|---------------------------|-------|--|-----|--------|--|--|--|
| Matrix Spike (B3J1776-MS4) | | Source: 23J1916-03 | | Prepared: 2023-10-18, Analyzed: 2023-10-19 | | | | | |
| Phosphorus, Total (as P) | 0.112 | 0.0050 mg/L | 0.102 | 0.0066 | 103 | 70-125 | | | |

General Parameters, Batch B3J1826

| | | | | | | | | | |
|---------------------------------|-------|--|------|--|-----|--------|--|--|--|
| Blank (B3J1826-BLK1) | | Prepared: 2023-10-19, Analyzed: 2023-10-19 | | | | | | | |
| Conductivity (EC) | < 2.0 | 2.0 µS/cm | | | | | | | |
| Blank (B3J1826-BLK2) | | Prepared: 2023-10-19, Analyzed: 2023-10-19 | | | | | | | |
| Conductivity (EC) | < 2.0 | 2.0 µS/cm | | | | | | | |
| Blank (B3J1826-BLK3) | | Prepared: 2023-10-19, Analyzed: 2023-10-19 | | | | | | | |
| Conductivity (EC) | < 2.0 | 2.0 µS/cm | | | | | | | |
| LCS (B3J1826-BS4) | | Prepared: 2023-10-19, Analyzed: 2023-10-19 | | | | | | | |
| Conductivity (EC) | 1400 | 2.0 µS/cm | 1410 | | 99 | 95-105 | | | |
| LCS (B3J1826-BS5) | | Prepared: 2023-10-19, Analyzed: 2023-10-19 | | | | | | | |
| Conductivity (EC) | 1400 | 2.0 µS/cm | 1410 | | 99 | 95-105 | | | |
| LCS (B3J1826-BS6) | | Prepared: 2023-10-19, Analyzed: 2023-10-19 | | | | | | | |
| Conductivity (EC) | 1400 | 2.0 µS/cm | 1410 | | 99 | 95-105 | | | |
| Reference (B3J1826-SRM1) | | Prepared: 2023-10-19, Analyzed: 2023-10-19 | | | | | | | |
| pH | 7.03 | 0.10 pH units | 7.01 | | 100 | 98-102 | | | |
| Reference (B3J1826-SRM2) | | Prepared: 2023-10-19, Analyzed: 2023-10-19 | | | | | | | |
| pH | 7.03 | 0.10 pH units | 7.01 | | 100 | 98-102 | | | |
| Reference (B3J1826-SRM3) | | Prepared: 2023-10-19, Analyzed: 2023-10-19 | | | | | | | |
| pH | 7.03 | 0.10 pH units | 7.01 | | 100 | 98-102 | | | |

General Parameters, Batch B3J1997

| | | | | | | | | | |
|-----------------------------|---------|--|------|--|-----|--------|--|--|--|
| Blank (B3J1997-BLK1) | | Prepared: 2023-10-20, Analyzed: 2023-10-22 | | | | | | | |
| Nitrogen, Total Kjeldahl | < 0.050 | 0.050 mg/L | | | | | | | |
| Blank (B3J1997-BLK2) | | Prepared: 2023-10-20, Analyzed: 2023-10-22 | | | | | | | |
| Nitrogen, Total Kjeldahl | < 0.050 | 0.050 mg/L | | | | | | | |
| LCS (B3J1997-BS1) | | Prepared: 2023-10-20, Analyzed: 2023-10-22 | | | | | | | |
| Nitrogen, Total Kjeldahl | 1.08 | 0.050 mg/L | 1.00 | | 108 | 85-115 | | | |
| LCS (B3J1997-BS2) | | Prepared: 2023-10-20, Analyzed: 2023-10-22 | | | | | | | |
| Nitrogen, Total Kjeldahl | 1.10 | 0.050 mg/L | 1.00 | | 110 | 85-115 | | | |

Microbiological Parameters, Batch B3J1678

| | | | | | | | | | |
|-----------------------------|-----|--|--|--|--|--|--|--|--|
| Blank (B3J1678-BLK1) | | Prepared: 2023-10-18, Analyzed: 2023-10-18 | | | | | | | |
| E. coli (Q-Tray) | < 1 | 1 MPN/100 mL | | | | | | | |
| Blank (B3J1678-BLK3) | | Prepared: 2023-10-18, Analyzed: 2023-10-18 | | | | | | | |
| E. coli (Q-Tray) | < 1 | 1 MPN/100 mL | | | | | | | |
| Blank (B3J1678-BLK5) | | Prepared: 2023-10-18, Analyzed: 2023-10-18 | | | | | | | |
| E. coli (Q-Tray) | < 1 | 1 MPN/100 mL | | | | | | | |



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater)
Lake Country WWTP

WORK ORDER REPORTED 23J1916
2023-10-24 15:06

| Analyte | Result | RL Units | Spike Level | Source Result | % REC | REC Limit | % RPD | RPD Limit | Qualifier |
|---------|--------|----------|-------------|---------------|-------|-----------|-------|-----------|-----------|
|---------|--------|----------|-------------|---------------|-------|-----------|-------|-----------|-----------|

Microbiological Parameters, Batch B3J1678, Continued

Blank (B3J1678-BLK7) Prepared: 2023-10-18, Analyzed: 2023-10-18

| | | | | | | | | | |
|------------------|-----|--------------|--|--|--|--|--|--|--|
| E. coli (Q-Tray) | < 1 | 1 MPN/100 mL | | | | | | | |
|------------------|-----|--------------|--|--|--|--|--|--|--|

Total Metals, Batch B3J1865

Blank (B3J1865-BLK1) Prepared: 2023-10-19, Analyzed: 2023-10-19

| | | | | | | | | | |
|---------------|--------|-----------|--|--|--|--|--|--|--|
| Sodium, total | < 0.10 | 0.10 mg/L | | | | | | | |
|---------------|--------|-----------|--|--|--|--|--|--|--|

LCS (B3J1865-BS1) Prepared: 2023-10-19, Analyzed: 2023-10-19

| | | | | | | | | | |
|---------------|------|-----------|------|--|-----|--------|--|--|--|
| Sodium, total | 4.15 | 0.10 mg/L | 4.00 | | 104 | 80-120 | | | |
|---------------|------|-----------|------|--|-----|--------|--|--|--|

Matrix Spike (B3J1865-MS1) **Source: 23J1916-01** Prepared: 2023-10-19, Analyzed: 2023-10-19

| | | | | | | | | | |
|---------------|------|-----------|------|------|----|--------|--|--|-----|
| Sodium, total | 58.8 | 0.10 mg/L | 4.00 | 57.1 | 44 | 70-130 | | | MS2 |
|---------------|------|-----------|------|------|----|--------|--|--|-----|

Total Metals, Batch B3J2093

Blank (B3J2093-BLK1) Prepared: 2023-10-21, Analyzed: 2023-10-21

| | | | | | | | | | |
|---------------|--------|-----------|--|--|--|--|--|--|--|
| Sodium, total | < 0.10 | 0.10 mg/L | | | | | | | |
|---------------|--------|-----------|--|--|--|--|--|--|--|

LCS (B3J2093-BS1) Prepared: 2023-10-21, Analyzed: 2023-10-21

| | | | | | | | | | |
|---------------|------|-----------|------|--|-----|--------|--|--|--|
| Sodium, total | 4.05 | 0.10 mg/L | 4.00 | | 101 | 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 | Lake Country, District of (Wastewater) 4062 Beaver Lake Rd LAKE COUNTRY, BC V4V 1T5 | WORK ORDER | 23J2919 |
| ATTENTION | Davin Larsen | RECEIVED / TEMP REPORTED | 2023-10-24 16:45 / 12.2°C 2023-10-31 12:52 |
| PO NUMBER | | COC NUMBER | 45223.35484 |
| PROJECT | Monitoring Wells | | |
| PROJECT INFO | Lake Country WWTP | | |

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.

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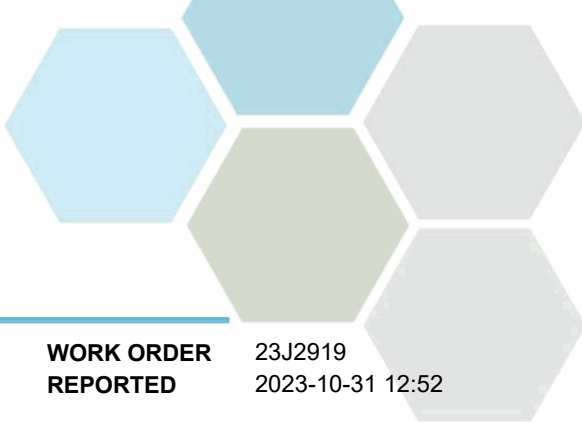
If you have any questions or concerns, please contact me at bwhitehead@caro.ca

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 Lake Country, District of (Wastewater) Monitoring Wells

WORK ORDER REPORTED 23J2919
2023-10-31 12:52

| Analyte | Result | RL | Units | Analyzed | Qualifier |
|---------|--------|----|-------|----------|-----------|
|---------|--------|----|-------|----------|-----------|

MW-2 (23J2919-01) | Matrix: Water | Sampled: 2023-10-24 09:30

Anions

| | | | | | |
|------------------|----------|--------|------|------------|--|
| Chloride | 9.42 | 0.10 | mg/L | 2023-10-27 | |
| Nitrate (as N) | 0.974 | 0.010 | mg/L | 2023-10-27 | |
| Nitrite (as N) | < 0.010 | 0.010 | mg/L | 2023-10-27 | |
| Phosphate (as P) | < 0.0050 | 0.0050 | mg/L | 2023-10-27 | |

Calculated Parameters

| | | | | | |
|------------------------|-------|--------|------|-----|--|
| Nitrate+Nitrite (as N) | 0.974 | 0.0100 | mg/L | N/A | |
| Nitrogen, Total | 1.05 | 0.0500 | mg/L | N/A | |

General Parameters

| | | | | | |
|--------------------------|----------|--------|----------|------------|-----|
| Ammonia, Total (as N) | < 0.050 | 0.050 | mg/L | 2023-10-25 | |
| Conductivity (EC) | 429 | 2.0 | µS/cm | 2023-10-29 | |
| Nitrogen, Total Kjeldahl | 0.081 | 0.050 | mg/L | 2023-10-30 | |
| pH | 7.59 | 0.10 | pH units | 2023-10-29 | HT2 |
| Phosphorus, Total (as P) | < 0.0050 | 0.0050 | mg/L | 2023-10-26 | |
| Turbidity | 0.81 | 0.10 | NTU | 2023-10-26 | |

Microbiological Parameters

| | | | | | |
|------------------|-----|---|------------|------------|--|
| E. coli (Q-Tray) | < 1 | 1 | MPN/100 mL | 2023-10-25 | |
|------------------|-----|---|------------|------------|--|

Total Metals

| | | | | | |
|---------------|------|------|------|------------|--|
| Sodium, total | 15.7 | 0.10 | mg/L | 2023-10-26 | |
|---------------|------|------|------|------------|--|

MW-10 (23J2919-02) | Matrix: Water | Sampled: 2023-10-24 12:05

Anions

| | | | | | |
|------------------|----------|--------|------|------------|--|
| Chloride | 113 | 0.10 | mg/L | 2023-10-27 | |
| Nitrate (as N) | 3.26 | 0.010 | mg/L | 2023-10-27 | |
| Nitrite (as N) | < 0.010 | 0.010 | mg/L | 2023-10-27 | |
| Phosphate (as P) | < 0.0050 | 0.0050 | mg/L | 2023-10-27 | |

Calculated Parameters

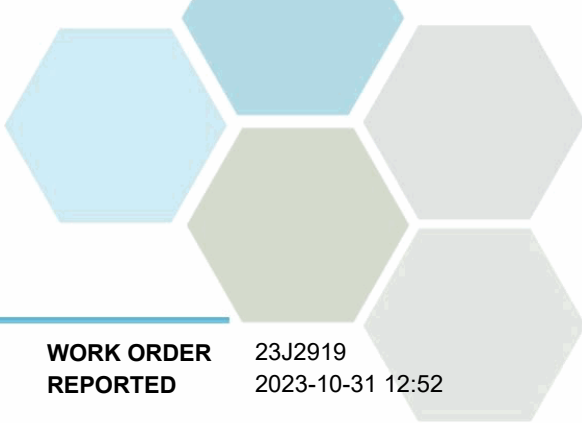
| | | | | | |
|------------------------|------|--------|------|-----|--|
| Nitrate+Nitrite (as N) | 3.26 | 0.0100 | mg/L | N/A | |
| Nitrogen, Total | 3.36 | 0.0500 | mg/L | N/A | |

General Parameters

| | | | | | |
|--------------------------|---------|--------|----------|------------|-----|
| Ammonia, Total (as N) | < 0.050 | 0.050 | mg/L | 2023-10-25 | |
| Conductivity (EC) | 872 | 2.0 | µS/cm | 2023-10-29 | |
| Nitrogen, Total Kjeldahl | 0.100 | 0.050 | mg/L | 2023-10-30 | |
| pH | 7.81 | 0.10 | pH units | 2023-10-29 | HT2 |
| Phosphorus, Total (as P) | 0.0229 | 0.0050 | mg/L | 2023-10-26 | |
| Turbidity | 2.48 | 0.10 | NTU | 2023-10-26 | |

Microbiological Parameters

| | | | | | |
|------------------|-----|---|------------|------------|--|
| E. coli (Q-Tray) | < 1 | 1 | MPN/100 mL | 2023-10-25 | |
|------------------|-----|---|------------|------------|--|



TEST RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater) Monitoring Wells

WORK ORDER REPORTED 23J2919
2023-10-31 12:52

| Analyte | Result | RL | Units | Analyzed | Qualifier |
|---------|--------|----|-------|----------|-----------|
|---------|--------|----|-------|----------|-----------|

MW-10 (23J2919-02) | Matrix: Water | Sampled: 2023-10-24 12:05, Continued

Total Metals

| | | | | | |
|---------------|------|------|------|------------|--|
| Sodium, total | 68.8 | 0.10 | mg/L | 2023-10-26 | |
|---------------|------|------|------|------------|--|

MW-12 (23J2919-03) | Matrix: Water | Sampled: 2023-10-24 11:50

Anions

| | | | | | |
|------------------|----------|--------|------|------------|--|
| Chloride | 120 | 0.10 | mg/L | 2023-10-27 | |
| Nitrate (as N) | 2.12 | 0.010 | mg/L | 2023-10-27 | |
| Nitrite (as N) | 0.011 | 0.010 | mg/L | 2023-10-27 | |
| Phosphate (as P) | < 0.0050 | 0.0050 | mg/L | 2023-10-27 | |

Calculated Parameters

| | | | | | |
|------------------------|------|--------|------|-----|--|
| Nitrate+Nitrite (as N) | 2.13 | 0.0100 | mg/L | N/A | |
| Nitrogen, Total | 2.37 | 0.0500 | mg/L | N/A | |

General Parameters

| | | | | | |
|--------------------------|---------|--------|----------|------------|-----|
| Ammonia, Total (as N) | < 0.050 | 0.050 | mg/L | 2023-10-25 | |
| Conductivity (EC) | 905 | 2.0 | µS/cm | 2023-10-29 | |
| Nitrogen, Total Kjeldahl | 0.236 | 0.050 | mg/L | 2023-10-30 | |
| pH | 7.85 | 0.10 | pH units | 2023-10-29 | HT2 |
| Phosphorus, Total (as P) | 0.0602 | 0.0050 | mg/L | 2023-10-26 | |
| Turbidity | 14.4 | 0.10 | NTU | 2023-10-26 | |

Microbiological Parameters

| | | | | | |
|------------------|-----|---|------------|------------|--|
| E. coli (Q-Tray) | < 1 | 1 | MPN/100 mL | 2023-10-25 | |
|------------------|-----|---|------------|------------|--|

Total Metals

| | | | | | |
|---------------|------|------|------|------------|--|
| Sodium, total | 79.9 | 0.10 | mg/L | 2023-10-26 | |
|---------------|------|------|------|------------|--|

MW-14 (23J2919-04) | Matrix: Water | Sampled: 2023-10-24 10:05

Anions

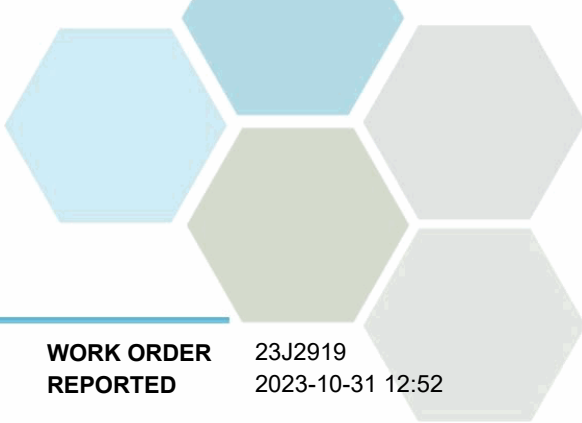
| | | | | | |
|------------------|----------|--------|------|------------|--|
| Chloride | 116 | 0.10 | mg/L | 2023-10-27 | |
| Nitrate (as N) | < 0.010 | 0.010 | mg/L | 2023-10-27 | |
| Nitrite (as N) | < 0.010 | 0.010 | mg/L | 2023-10-27 | |
| Phosphate (as P) | < 0.0050 | 0.0050 | mg/L | 2023-10-27 | |

Calculated Parameters

| | | | | | |
|------------------------|----------|--------|------|-----|--|
| Nitrate+Nitrite (as N) | < 0.0100 | 0.0100 | mg/L | N/A | |
| Nitrogen, Total | 0.352 | 0.0500 | mg/L | N/A | |

General Parameters

| | | | | | |
|--------------------------|-------|-------|-------|------------|--|
| Ammonia, Total (as N) | 0.115 | 0.050 | mg/L | 2023-10-25 | |
| Conductivity (EC) | 1080 | 2.0 | µS/cm | 2023-10-29 | |
| Nitrogen, Total Kjeldahl | 0.352 | 0.050 | mg/L | 2023-10-30 | |



TEST RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater) Monitoring Wells

WORK ORDER REPORTED 23J2919
2023-10-31 12:52

| Analyte | Result | RL | Units | Analyzed | Qualifier |
|---------|--------|----|-------|----------|-----------|
|---------|--------|----|-------|----------|-----------|

MW-14 (23J2919-04) | Matrix: Water | Sampled: 2023-10-24 10:05, Continued

General Parameters, Continued

| | | | | | |
|--------------------------|-------|--------|----------|------------|-----|
| pH | 7.83 | 0.10 | pH units | 2023-10-29 | HT2 |
| Phosphorus, Total (as P) | 0.387 | 0.0050 | mg/L | 2023-10-26 | |
| Turbidity | 3.44 | 0.10 | NTU | 2023-10-26 | |

Microbiological Parameters

| | | | | | |
|------------------|-----|---|------------|------------|--|
| E. coli (Q-Tray) | < 1 | 1 | MPN/100 mL | 2023-10-25 | |
|------------------|-----|---|------------|------------|--|

Total Metals

| | | | | | |
|---------------|------|------|------|------------|--|
| Sodium, total | 69.8 | 0.10 | mg/L | 2023-10-26 | |
|---------------|------|------|------|------------|--|

MW-18 (23J2919-05) | Matrix: Water | Sampled: 2023-10-24 13:45

Anions

| | | | | | |
|------------------|----------|--------|------|------------|--|
| Chloride | 128 | 0.10 | mg/L | 2023-10-27 | |
| Nitrate (as N) | 2.06 | 0.010 | mg/L | 2023-10-27 | |
| Nitrite (as N) | < 0.010 | 0.010 | mg/L | 2023-10-27 | |
| Phosphate (as P) | < 0.0050 | 0.0050 | mg/L | 2023-10-27 | |

Calculated Parameters

| | | | | | |
|------------------------|------|--------|------|-----|--|
| Nitrate+Nitrite (as N) | 2.06 | 0.0100 | mg/L | N/A | |
| Nitrogen, Total | 2.49 | 0.0500 | mg/L | N/A | |

General Parameters

| | | | | | |
|--------------------------|---------|--------|----------|------------|-----|
| Ammonia, Total (as N) | < 0.050 | 0.050 | mg/L | 2023-10-25 | |
| Conductivity (EC) | 889 | 2.0 | µS/cm | 2023-10-29 | |
| Nitrogen, Total Kjeldahl | 0.432 | 0.050 | mg/L | 2023-10-30 | |
| pH | 7.85 | 0.10 | pH units | 2023-10-29 | HT2 |
| Phosphorus, Total (as P) | 0.206 | 0.0050 | mg/L | 2023-10-26 | |
| Turbidity | 108 | 0.10 | NTU | 2023-10-26 | |

Microbiological Parameters

| | | | | | |
|------------------|-----|---|------------|------------|--|
| E. coli (Q-Tray) | < 1 | 1 | MPN/100 mL | 2023-10-25 | |
|------------------|-----|---|------------|------------|--|

Total Metals

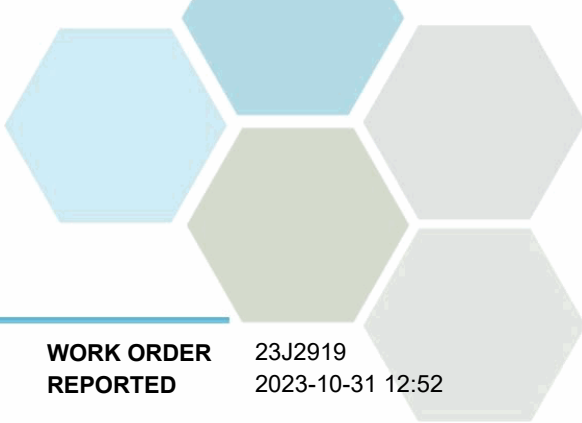
| | | | | | |
|---------------|------|------|------|------------|--|
| Sodium, total | 81.5 | 0.10 | mg/L | 2023-10-26 | |
|---------------|------|------|------|------------|--|

Equipment Blank (23J2919-06) | Matrix: Water | Sampled: 2023-10-24 13:50

Anions

| | | | | | |
|------------------|----------|--------|------|------------|--|
| Chloride | 0.43 | 0.10 | mg/L | 2023-10-27 | |
| Nitrate (as N) | 0.066 | 0.010 | mg/L | 2023-10-27 | |
| Nitrite (as N) | < 0.010 | 0.010 | mg/L | 2023-10-27 | |
| Phosphate (as P) | < 0.0050 | 0.0050 | mg/L | 2023-10-27 | |

Calculated Parameters



TEST RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater) Monitoring Wells

WORK ORDER REPORTED 23J2919
2023-10-31 12:52

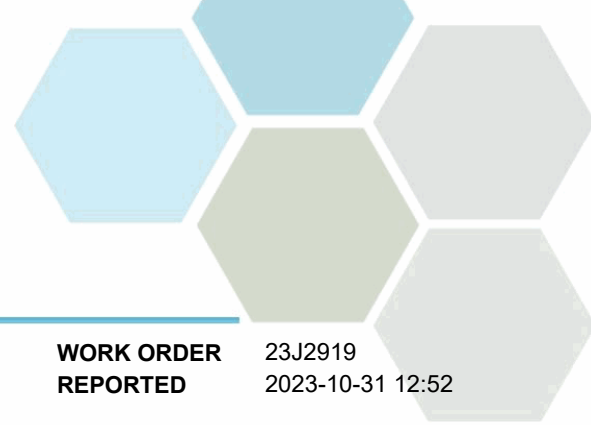
| Analyte | Result | RL | Units | Analyzed | Qualifier |
|--|---------|--------|------------|------------|-----------|
| Equipment Blank (23J2919-06) Matrix: Water Sampled: 2023-10-24 13:50, Continued | | | | | |
| <i>Calculated Parameters, Continued</i> | | | | | |
| Nitrate+Nitrite (as N) | 0.0662 | 0.0100 | mg/L | N/A | |
| Nitrogen, Total | 0.0662 | 0.0500 | mg/L | N/A | |
| <i>General Parameters</i> | | | | | |
| Ammonia, Total (as N) | < 0.050 | 0.050 | mg/L | 2023-10-25 | |
| Conductivity (EC) | 10.0 | 2.0 | µS/cm | 2023-10-29 | |
| Nitrogen, Total Kjeldahl | < 0.050 | 0.050 | mg/L | 2023-10-30 | |
| pH | 7.96 | 0.10 | pH units | 2023-10-29 | HT2 |
| Phosphorus, Total (as P) | 0.0209 | 0.0050 | mg/L | 2023-10-26 | RE2 |
| Turbidity | 0.66 | 0.10 | NTU | 2023-10-26 | |
| <i>Microbiological Parameters</i> | | | | | |
| E. coli (Q-Tray) | < 1 | 1 | MPN/100 mL | 2023-10-25 | |
| <i>Total Metals</i> | | | | | |
| Sodium, total | 1.13 | 0.10 | mg/L | 2023-10-27 | RE2 |

Okanagan Lake by Nuyens (23J2919-07) | Matrix: Water | Sampled: 2023-10-24 14:25

| | | | | | |
|---------------------------|---------|-------|------|------------|--|
| <i>Anions</i> | | | | | |
| Chloride | 6.08 | 0.10 | mg/L | 2023-10-27 | |
| <i>General Parameters</i> | | | | | |
| Ammonia, Total (as N) | < 0.050 | 0.050 | mg/L | 2023-10-25 | |

Sample Qualifiers:

- HT2 The 15 minute recommended holding time (from sampling to analysis) has been exceeded - field analysis is recommended.
- RE2 Result was confirmed by re-analysis prior to reporting.



APPENDIX 1: SUPPORTING INFORMATION

REPORTED TO PROJECT Lake Country, District of (Wastewater) Monitoring Wells

WORK ORDER REPORTED 23J2919
2023-10-31 12:52

| Analysis Description | Method Ref. | Technique | Accredited | Location |
|-----------------------------------|--|--|------------|----------|
| Ammonia, Total in Water | SM 4500-NH3 G* (2021) | Automated Colorimetry (Phenate) | ✓ | Kelowna |
| Anions in Water | SM 4110 B (2020) | Ion Chromatography | ✓ | Kelowna |
| Conductivity in Water | SM 2510 B (2021) | Conductivity Meter | ✓ | Kelowna |
| E. coli in Water | SM 9223 (2016) | Quanti-Tray / Enzyme Substrate Endo Agar | ✓ | Kelowna |
| Nitrogen, Total Kjeldahl in Water | SM 4500-Norg D* (2021) | Block Digestion and Flow Injection Analysis | ✓ | Kelowna |
| pH in Water | SM 4500-H+ B (2021) | Electrometry | ✓ | Kelowna |
| Phosphorus, Total in Water | SM 4500-P B.5* (2011) / SM 4500-P F (2021) | Persulfate Digestion / Automated Colorimetry (Ascorbic Acid) | ✓ | Kelowna |
| Total Metals in Water | EPA 200.2 / EPA 6020B | HNO3+HCl Hot Block Digestion / Inductively Coupled Plasma-Mass Spectroscopy (ICP-MS) | ✓ | Richmond |
| Turbidity in Water | SM 2130 B (2020) | Nephelometry | ✓ | Kelowna |

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

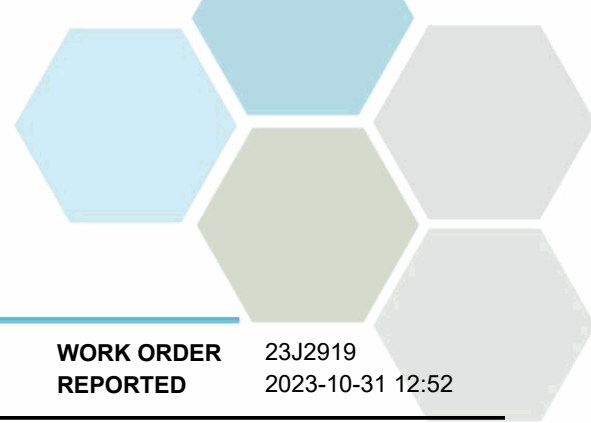
Glossary of Terms:

| | |
|------------|---|
| RL | Reporting Limit (default) |
| < | Less than the specified Reporting Limit (RL) - the actual RL may be higher than the default RL due to various factors |
| mg/L | Milligrams per litre |
| MPN/100 mL | Most Probable Number per 100 millilitres |
| NTU | Nephelometric Turbidity Units |
| pH units | pH < 7 = acidic, pH > 7 = basic |
| 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 |

General Comments:

The results in this report apply to the received 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. Caro will dispose of all samples within 30 days of sample receipt, unless otherwise agreed.

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 Lake Country, District of (Wastewater) Monitoring Wells

WORK ORDER REPORTED 23J2919
2023-10-31 12:52

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.

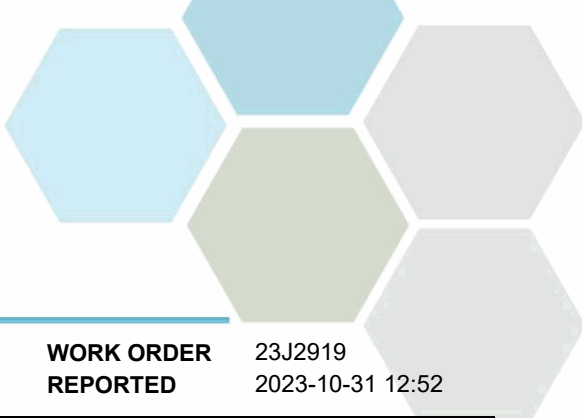
| Analyte | Result | RL Units | Spike Level | Source Result | % REC | REC Limit | % RPD | RPD Limit | Qualifier |
|---------|--------|----------|-------------|---------------|-------|-----------|-------|-----------|-----------|
|---------|--------|----------|-------------|---------------|-------|-----------|-------|-----------|-----------|

Anions, Batch B3J2511

| Blank (B3J2511-BLK1) | | Prepared: 2023-10-26, Analyzed: 2023-10-26 | | | | | | | |
|----------------------|----------|--|------|--|-----|--------|--|--|--|
| 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 | | | | | | | |
| Phosphate (as P) | < 0.0050 | 0.0050 mg/L | | | | | | | |
| LCS (B3J2511-BS1) | | Prepared: 2023-10-26, Analyzed: 2023-10-26 | | | | | | | |
| Chloride | 16.7 | 0.10 mg/L | 16.0 | | 105 | 90-110 | | | |
| Nitrate (as N) | 4.04 | 0.010 mg/L | 4.00 | | 101 | 90-110 | | | |
| Nitrite (as N) | 2.16 | 0.010 mg/L | 2.00 | | 108 | 85-115 | | | |
| Phosphate (as P) | 1.03 | 0.0050 mg/L | 1.00 | | 103 | 80-120 | | | |

General Parameters, Batch B3J2471

| Blank (B3J2471-BLK1) | | Prepared: 2023-10-25, Analyzed: 2023-10-25 | | | | | | | |
|-----------------------|---------|--|------|--|----|--------|--|--|--|
| Ammonia, Total (as N) | 0.036 | 0.020 mg/L | | | | | | | |
| Blank (B3J2471-BLK2) | | Prepared: 2023-10-25, Analyzed: 2023-10-25 | | | | | | | |
| Ammonia, Total (as N) | < 0.020 | 0.020 mg/L | | | | | | | |
| Blank (B3J2471-BLK3) | | Prepared: 2023-10-25, Analyzed: 2023-10-25 | | | | | | | |
| Ammonia, Total (as N) | 0.035 | 0.020 mg/L | | | | | | | |
| Blank (B3J2471-BLK4) | | Prepared: 2023-10-25, Analyzed: 2023-10-25 | | | | | | | |
| Ammonia, Total (as N) | 0.025 | 0.020 mg/L | | | | | | | |
| Blank (B3J2471-BLK5) | | Prepared: 2023-10-25, Analyzed: 2023-10-25 | | | | | | | |
| Ammonia, Total (as N) | 0.021 | 0.020 mg/L | | | | | | | |
| LCS (B3J2471-BS1) | | Prepared: 2023-10-25, Analyzed: 2023-10-25 | | | | | | | |
| Ammonia, Total (as N) | 0.877 | 0.020 mg/L | 1.00 | | 88 | 85-115 | | | |
| LCS (B3J2471-BS2) | | Prepared: 2023-10-25, Analyzed: 2023-10-25 | | | | | | | |
| Ammonia, Total (as N) | 0.908 | 0.020 mg/L | 1.00 | | 91 | 85-115 | | | |
| LCS (B3J2471-BS3) | | Prepared: 2023-10-25, Analyzed: 2023-10-25 | | | | | | | |
| Ammonia, Total (as N) | 0.907 | 0.020 mg/L | 1.00 | | 91 | 85-115 | | | |

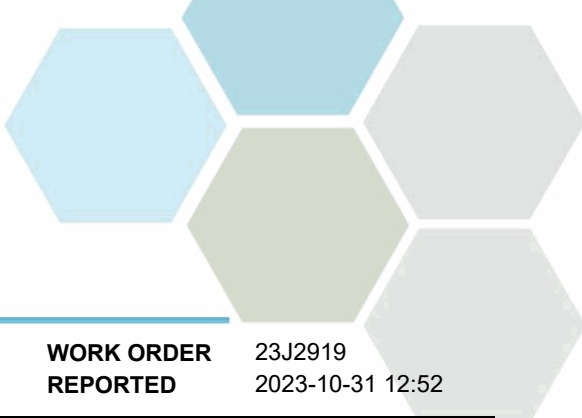


APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater) Monitoring Wells

WORK ORDER REPORTED 23J2919
2023-10-31 12:52

| Analyte | Result | RL Units | Spike Level | Source Result | % REC | REC Limit | % RPD | RPD Limit | Qualifier |
|---|----------|-------------|--|---------------|--|-----------|-------|-----------|-----------|
| General Parameters, Batch B3J2471, Continued | | | | | | | | | |
| LCS (B3J2471-BS4) | | | Prepared: 2023-10-25, Analyzed: 2023-10-25 | | | | | | |
| Ammonia, Total (as N) | 0.907 | 0.020 mg/L | 1.00 | | 91 | 85-115 | | | |
| LCS (B3J2471-BS5) | | | Prepared: 2023-10-25, Analyzed: 2023-10-25 | | | | | | |
| Ammonia, Total (as N) | 0.913 | 0.020 mg/L | 1.00 | | 91 | 85-115 | | | |
| Duplicate (B3J2471-DUP5) | | | Source: 23J2919-05 | | Prepared: 2023-10-25, Analyzed: 2023-10-25 | | | | |
| Ammonia, Total (as N) | < 0.020 | 0.050 mg/L | | < 0.050 | | | | 15 | |
| Matrix Spike (B3J2471-MS5) | | | Source: 23J2919-05 | | Prepared: 2023-10-25, Analyzed: 2023-10-25 | | | | |
| Ammonia, Total (as N) | 0.218 | 0.020 mg/L | 0.204 | < 0.050 | 101 | 75-125 | | | |
| General Parameters, Batch B3J2593 | | | | | | | | | |
| Blank (B3J2593-BLK1) | | | Prepared: 2023-10-25, Analyzed: 2023-10-26 | | | | | | |
| Phosphorus, Total (as P) | < 0.0050 | 0.0050 mg/L | | | | | | | |
| Blank (B3J2593-BLK2) | | | Prepared: 2023-10-25, Analyzed: 2023-10-26 | | | | | | |
| Phosphorus, Total (as P) | < 0.0050 | 0.0050 mg/L | | | | | | | |
| LCS (B3J2593-BS1) | | | Prepared: 2023-10-25, Analyzed: 2023-10-26 | | | | | | |
| Phosphorus, Total (as P) | 0.0983 | 0.0050 mg/L | 0.100 | | 98 | 85-115 | | | |
| LCS (B3J2593-BS2) | | | Prepared: 2023-10-25, Analyzed: 2023-10-26 | | | | | | |
| Phosphorus, Total (as P) | 0.0983 | 0.0050 mg/L | 0.100 | | 98 | 85-115 | | | |
| General Parameters, Batch B3J2686 | | | | | | | | | |
| Blank (B3J2686-BLK1) | | | Prepared: 2023-10-26, Analyzed: 2023-10-26 | | | | | | |
| Turbidity | < 0.10 | 0.10 NTU | | | | | | | |
| Blank (B3J2686-BLK2) | | | Prepared: 2023-10-26, Analyzed: 2023-10-26 | | | | | | |
| Turbidity | < 0.10 | 0.10 NTU | | | | | | | |
| Blank (B3J2686-BLK3) | | | Prepared: 2023-10-26, Analyzed: 2023-10-26 | | | | | | |
| Turbidity | < 0.10 | 0.10 NTU | | | | | | | |
| LCS (B3J2686-BS1) | | | Prepared: 2023-10-26, Analyzed: 2023-10-26 | | | | | | |
| Turbidity | 1.74 | 0.10 NTU | 1.69 | | 103 | 90-110 | | | |
| LCS (B3J2686-BS2) | | | Prepared: 2023-10-26, Analyzed: 2023-10-26 | | | | | | |
| Turbidity | 1.74 | 0.10 NTU | 1.69 | | 103 | 90-110 | | | |
| LCS (B3J2686-BS3) | | | Prepared: 2023-10-26, Analyzed: 2023-10-26 | | | | | | |
| Turbidity | 1.74 | 0.10 NTU | 1.69 | | 103 | 90-110 | | | |
| General Parameters, Batch B3J2809 | | | | | | | | | |
| Blank (B3J2809-BLK1) | | | Prepared: 2023-10-27, Analyzed: 2023-10-30 | | | | | | |
| Nitrogen, Total Kjeldahl | < 0.050 | 0.050 mg/L | | | | | | | |
| Blank (B3J2809-BLK2) | | | Prepared: 2023-10-27, Analyzed: 2023-10-30 | | | | | | |
| Nitrogen, Total Kjeldahl | < 0.050 | 0.050 mg/L | | | | | | | |
| LCS (B3J2809-BS1) | | | Prepared: 2023-10-27, Analyzed: 2023-10-30 | | | | | | |
| Nitrogen, Total Kjeldahl | 0.967 | 0.050 mg/L | 1.00 | | 97 | 85-115 | | | |

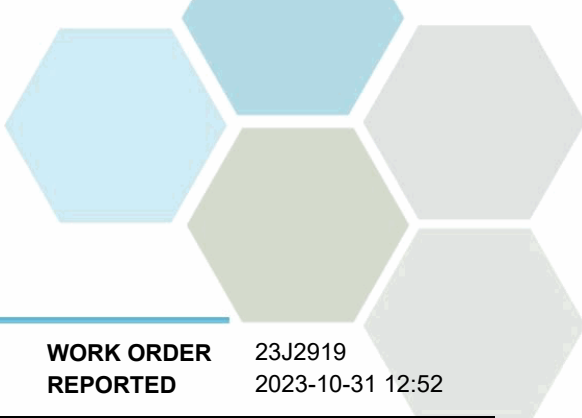


APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater) Monitoring Wells

WORK ORDER REPORTED 23J2919
2023-10-31 12:52

| Analyte | Result | RL Units | Spike Level | Source Result | % REC | REC Limit | % RPD | RPD Limit | Qualifier |
|---|--------|---------------|---|---------------|-------|-----------|-------|-----------|-----------|
| General Parameters, Batch B3J2809, Continued | | | | | | | | | |
| LCS (B3J2809-BS2) | | | Prepared: 2023-10-27, Analyzed: 2023-10-30 | | | | | | |
| Nitrogen, Total Kjeldahl | 0.978 | 0.050 mg/L | 1.00 | | 98 | 85-115 | | | |
| Duplicate (B3J2809-DUP2) | | | Source: 23J2919-02 Prepared: 2023-10-27, Analyzed: 2023-10-30 | | | | | | |
| Nitrogen, Total Kjeldahl | 0.113 | 0.050 mg/L | | 0.100 | | | | 15 | |
| Matrix Spike (B3J2809-MS2) | | | Source: 23J2919-02 Prepared: 2023-10-27, Analyzed: 2023-10-30 | | | | | | |
| Nitrogen, Total Kjeldahl | 1.01 | 0.050 mg/L | 1.00 | 0.100 | 91 | 65-135 | | | |
| General Parameters, Batch B3J2921 | | | | | | | | | |
| Blank (B3J2921-BLK1) | | | Prepared: 2023-10-29, Analyzed: 2023-10-29 | | | | | | |
| Conductivity (EC) | < 2.0 | 2.0 µS/cm | | | | | | | |
| Blank (B3J2921-BLK2) | | | Prepared: 2023-10-29, Analyzed: 2023-10-29 | | | | | | |
| Conductivity (EC) | < 2.0 | 2.0 µS/cm | | | | | | | |
| Blank (B3J2921-BLK3) | | | Prepared: 2023-10-29, Analyzed: 2023-10-29 | | | | | | |
| Conductivity (EC) | < 2.0 | 2.0 µS/cm | | | | | | | |
| LCS (B3J2921-BS4) | | | Prepared: 2023-10-29, Analyzed: 2023-10-29 | | | | | | |
| Conductivity (EC) | 1410 | 2.0 µS/cm | 1410 | | 100 | 95-105 | | | |
| LCS (B3J2921-BS5) | | | Prepared: 2023-10-29, Analyzed: 2023-10-29 | | | | | | |
| Conductivity (EC) | 1400 | 2.0 µS/cm | 1410 | | 99 | 95-105 | | | |
| LCS (B3J2921-BS6) | | | Prepared: 2023-10-29, Analyzed: 2023-10-29 | | | | | | |
| Conductivity (EC) | 1420 | 2.0 µS/cm | 1410 | | 100 | 95-105 | | | |
| Reference (B3J2921-SRM1) | | | Prepared: 2023-10-29, Analyzed: 2023-10-29 | | | | | | |
| pH | 7.04 | 0.10 pH units | 7.01 | | 100 | 98-102 | | | |
| Reference (B3J2921-SRM2) | | | Prepared: 2023-10-29, Analyzed: 2023-10-29 | | | | | | |
| pH | 7.04 | 0.10 pH units | 7.01 | | 100 | 98-102 | | | |
| Reference (B3J2921-SRM3) | | | Prepared: 2023-10-29, Analyzed: 2023-10-29 | | | | | | |
| pH | 7.04 | 0.10 pH units | 7.01 | | 100 | 98-102 | | | |
| Microbiological Parameters, Batch B3J2506 | | | | | | | | | |
| Blank (B3J2506-BLK1) | | | Prepared: 2023-10-25, Analyzed: 2023-10-25 | | | | | | |
| E. coli (Q-Tray) | < 1 | 1 MPN/100 mL | | | | | | | |
| Blank (B3J2506-BLK3) | | | Prepared: 2023-10-25, Analyzed: 2023-10-25 | | | | | | |
| E. coli (Q-Tray) | < 1 | 1 MPN/100 mL | | | | | | | |
| Blank (B3J2506-BLK4) | | | Prepared: 2023-10-25, Analyzed: 2023-10-25 | | | | | | |
| E. coli (Q-Tray) | < 1 | 1 MPN/100 mL | | | | | | | |
| Blank (B3J2506-BLK6) | | | Prepared: 2023-10-25, Analyzed: 2023-10-25 | | | | | | |
| E. coli (Q-Tray) | < 1 | 1 MPN/100 mL | | | | | | | |
| Total Metals, Batch B3J2692 | | | | | | | | | |
| Blank (B3J2692-BLK1) | | | Prepared: 2023-10-26, Analyzed: 2023-10-26 | | | | | | |
| Sodium, total | < 0.10 | 0.10 mg/L | | | | | | | |



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater)
Monitoring Wells

WORK ORDER REPORTED 23J2919
2023-10-31 12:52

| Analyte | Result | RL Units | Spike Level | Source Result | % REC | REC Limit | % RPD | RPD Limit | Qualifier |
|---|--------|-----------|-------------|---------------|---|-----------|-------|-----------|-----------|
| Total Metals, Batch B3J2692, Continued | | | | | | | | | |
| LCS (B3J2692-BS1) | | | | | Prepared: 2023-10-26, Analyzed: 2023-10-26 | | | | |
| Sodium, total | 3.86 | 0.10 mg/L | 4.00 | | 97 | 80-120 | | | |
| Matrix Spike (B3J2692-MS1) | | | | | Source: 23J2919-01 Prepared: 2023-10-26, Analyzed: 2023-10-26 | | | | |
| Sodium, total | 18.6 | 0.10 mg/L | 4.00 | 15.7 | 74 | 70-130 | | | |



CERTIFICATE OF ANALYSIS

| | | | |
|---------------------|---|---------------------------------|---|
| REPORTED TO | Lake Country, District of (Wastewater) 4062 Beaver Lake Rd LAKE COUNTRY, BC V4V 1T5 | WORK ORDER | 23J2927 |
| ATTENTION | Davin Larsen | RECEIVED / TEMP REPORTED | 2023-10-24 16:45 / 12.2°C 2023-10-31 14:59 |
| PO NUMBER | | COC NUMBER | 45223.35484 |
| PROJECT | Amry - East Well | | |
| PROJECT INFO | Lake Country WWTP | | |

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>

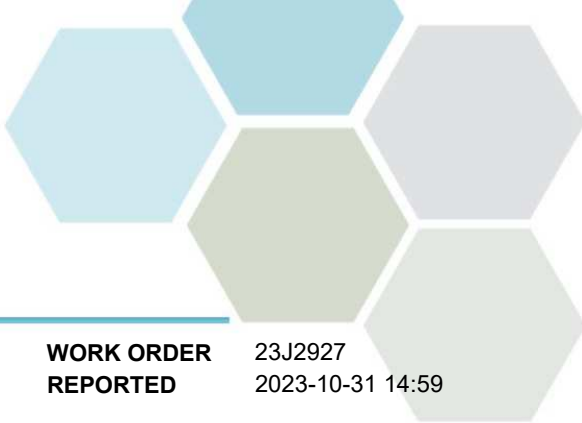
If you have any questions or concerns, please contact me at bwhitehead@caro.ca

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

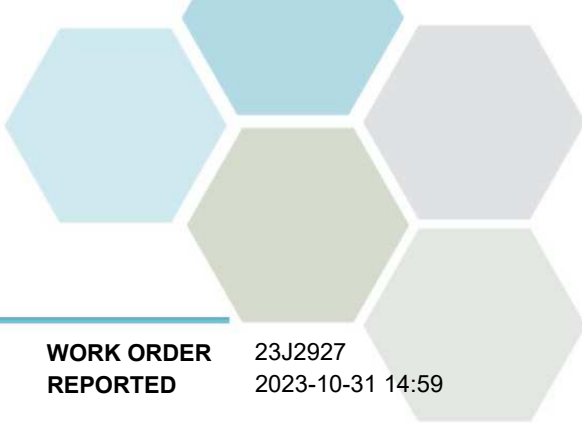
REPORTED TO PROJECT Lake Country, District of (Wastewater)
Amry - East Well

WORK ORDER REPORTED 23J2927
2023-10-31 14:59

| Analyte | Result | Guideline | RL Units | Analyzed | Qualifier |
|--|----------|---------------|---------------|------------|-----------|
| Amry East Well (23J2927-01) Matrix: Water Sampled: 2023-10-24 11:10 | | | | | |
| Anions | | | | | |
| Chloride | 25.7 | AO ≤ 250 | 0.10 mg/L | 2023-10-27 | |
| Nitrate (as N) | 1.01 | MAC = 10 | 0.010 mg/L | 2023-10-27 | |
| Nitrite (as N) | < 0.010 | MAC = 1 | 0.010 mg/L | 2023-10-27 | |
| Phosphate (as P) | < 0.0050 | N/A | 0.0050 mg/L | 2023-10-27 | |
| Calculated Parameters | | | | | |
| Nitrate+Nitrite (as N) | 1.01 | N/A | 0.0100 mg/L | N/A | |
| Nitrogen, Total | 1.13 | N/A | 0.0500 mg/L | N/A | |
| General Parameters | | | | | |
| Ammonia, Total (as N) | < 0.050 | None Required | 0.050 mg/L | 2023-10-25 | |
| BOD, 5-day | < 7.7 | N/A | 2.0 mg/L | 2023-10-31 | |
| Conductivity (EC) | 501 | N/A | 2.0 µS/cm | 2023-10-29 | |
| Nitrogen, Total Kjeldahl | 0.120 | N/A | 0.050 mg/L | 2023-10-31 | |
| pH | 7.82 | 7.0-10.5 | 0.10 pH units | 2023-10-29 | HT2 |
| Phosphorus, Total (as P) | 0.0304 | N/A | 0.0050 mg/L | 2023-10-26 | |
| Turbidity | 0.99 | OG < 1 | 0.10 NTU | 2023-10-26 | |
| Microbiological Parameters | | | | | |
| Coliforms, Total (Q-Tray) | 25 | MAC = 0 | 1 MPN/100 mL | 2023-10-25 | |
| Coliforms, Fecal (Q-Tray) | < 1 | N/A | 1 MPN/100 mL | 2023-10-25 | |
| E. coli (Q-Tray) | < 1 | MAC = 0 | 1 MPN/100 mL | 2023-10-25 | |
| Total Metals | | | | | |
| Sodium, total | 23.7 | AO ≤ 200 | 0.10 mg/L | 2023-10-26 | |

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 Lake Country, District of (Wastewater)
Amry - East Well

WORK ORDER REPORTED 23J2927
2023-10-31 14:59

| Analysis Description | Method Ref. | Technique | Accredited | Location |
|------------------------------------|--|--|------------|----------|
| Ammonia, Total in Water | SM 4500-NH3 G* (2021) | Automated Colorimetry (Phenate) | ✓ | Kelowna |
| Anions in Water | SM 4110 B (2020) | Ion Chromatography | ✓ | Kelowna |
| Biochemical Oxygen Demand in Water | SM 5210 B (2019) | Dissolved Oxygen Meter | ✓ | Kelowna |
| Coliforms, Fecal in Water | SM 9223 (2016) | Quanti-Tray / Enzyme Substrate Endo Agar | ✓ | Kelowna |
| Coliforms, Total in Water | SM 9223 (2016) | Quanti-Tray / Enzyme Substrate Endo Agar | ✓ | Kelowna |
| Conductivity in Water | SM 2510 B (2021) | Conductivity Meter | ✓ | Kelowna |
| E. coli in Water | SM 9223 (2016) | Quanti-Tray / Enzyme Substrate Endo Agar | ✓ | Kelowna |
| Nitrogen, Total Kjeldahl in Water | SM 4500-Norg D* (2021) | Block Digestion and Flow Injection Analysis | ✓ | Kelowna |
| pH in Water | SM 4500-H+ B (2021) | Electrometry | ✓ | Kelowna |
| Phosphorus, Total in Water | SM 4500-P B.5* (2011) / SM 4500-P F (2021) | Persulfate Digestion / Automated Colorimetry (Ascorbic Acid) | ✓ | Kelowna |
| Total Metals in Water | EPA 200.2 / EPA 6020B | HNO3+HCl Hot Block Digestion / Inductively Coupled Plasma-Mass Spectroscopy (ICP-MS) | ✓ | Richmond |
| Turbidity in Water | SM 2130 B (2020) | Nephelometry | ✓ | Kelowna |

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

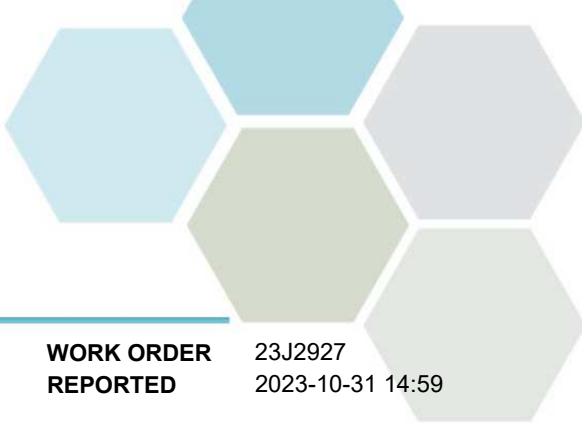
Glossary of Terms:

| | |
|------------|---|
| RL | Reporting Limit (default) |
| < | Less than the specified Reporting Limit (RL) - the actual RL may be higher than the default RL due to various factors |
| AO | Aesthetic Objective |
| MAC | Maximum Acceptable Concentration (health based) |
| mg/L | Milligrams per litre |
| MPN/100 mL | Most Probable Number per 100 millilitres |
| NTU | Nephelometric Turbidity Units |
| OG | Operational Guideline (treated water) |
| 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 |

Guidelines Referenced in this Report:

[Guidelines for Canadian Drinking Water Quality \(Health Canada, September 2022\)](#)

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



APPENDIX 1: SUPPORTING INFORMATION

REPORTED TO PROJECT Lake Country, District of (Wastewater)
Amry - East Well

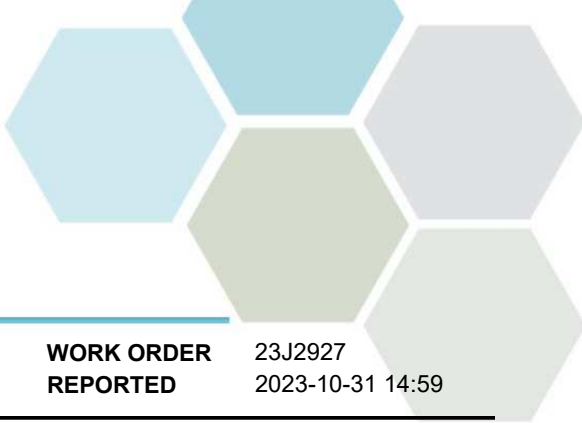
WORK ORDER REPORTED 23J2927
2023-10-31 14:59

General Comments:

The results in this report apply to the received 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. Caro will dispose of all samples within 30 days of sample receipt, unless otherwise agreed.

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

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 Lake Country, District of (Wastewater)
Amry - East Well

WORK ORDER REPORTED 23J2927
2023-10-31 14:59

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.

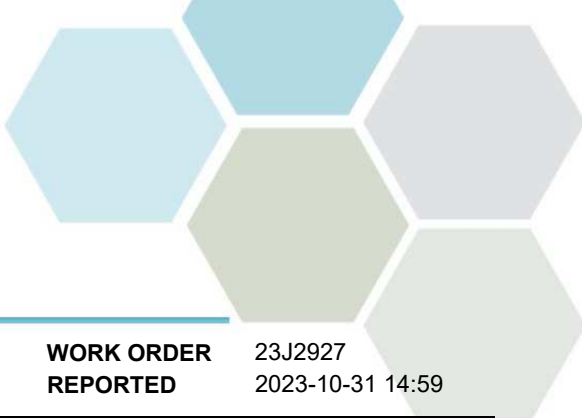
| Analyte | Result | RL Units | Spike Level | Source Result | % REC | REC Limit | % RPD | RPD Limit | Qualifier |
|---------|--------|----------|-------------|---------------|-------|-----------|-------|-----------|-----------|
|---------|--------|----------|-------------|---------------|-------|-----------|-------|-----------|-----------|

Anions, Batch B3J2511

| Blank (B3J2511-BLK1) | | Prepared: 2023-10-26, Analyzed: 2023-10-26 | | | | | | | |
|----------------------|----------|--|------|--|-----|--------|--|--|--|
| 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 | | | | | | | |
| Phosphate (as P) | < 0.0050 | 0.0050 mg/L | | | | | | | |
| LCS (B3J2511-BS1) | | Prepared: 2023-10-26, Analyzed: 2023-10-26 | | | | | | | |
| Chloride | 16.7 | 0.10 mg/L | 16.0 | | 105 | 90-110 | | | |
| Nitrate (as N) | 4.04 | 0.010 mg/L | 4.00 | | 101 | 90-110 | | | |
| Nitrite (as N) | 2.16 | 0.010 mg/L | 2.00 | | 108 | 85-115 | | | |
| Phosphate (as P) | 1.03 | 0.0050 mg/L | 1.00 | | 103 | 80-120 | | | |

General Parameters, Batch B3J2471

| Blank (B3J2471-BLK1) | | Prepared: 2023-10-25, Analyzed: 2023-10-25 | | | | | | | |
|-----------------------|---------|--|------|--|----|--------|--|--|--|
| Ammonia, Total (as N) | 0.036 | 0.020 mg/L | | | | | | | |
| Blank (B3J2471-BLK2) | | Prepared: 2023-10-25, Analyzed: 2023-10-25 | | | | | | | |
| Ammonia, Total (as N) | < 0.020 | 0.020 mg/L | | | | | | | |
| Blank (B3J2471-BLK3) | | Prepared: 2023-10-25, Analyzed: 2023-10-25 | | | | | | | |
| Ammonia, Total (as N) | 0.035 | 0.020 mg/L | | | | | | | |
| Blank (B3J2471-BLK4) | | Prepared: 2023-10-25, Analyzed: 2023-10-25 | | | | | | | |
| Ammonia, Total (as N) | 0.025 | 0.020 mg/L | | | | | | | |
| Blank (B3J2471-BLK5) | | Prepared: 2023-10-25, Analyzed: 2023-10-25 | | | | | | | |
| Ammonia, Total (as N) | 0.021 | 0.020 mg/L | | | | | | | |
| LCS (B3J2471-BS1) | | Prepared: 2023-10-25, Analyzed: 2023-10-25 | | | | | | | |
| Ammonia, Total (as N) | 0.877 | 0.020 mg/L | 1.00 | | 88 | 85-115 | | | |
| LCS (B3J2471-BS2) | | Prepared: 2023-10-25, Analyzed: 2023-10-25 | | | | | | | |
| Ammonia, Total (as N) | 0.908 | 0.020 mg/L | 1.00 | | 91 | 85-115 | | | |
| LCS (B3J2471-BS3) | | Prepared: 2023-10-25, Analyzed: 2023-10-25 | | | | | | | |
| Ammonia, Total (as N) | 0.907 | 0.020 mg/L | 1.00 | | 91 | 85-115 | | | |

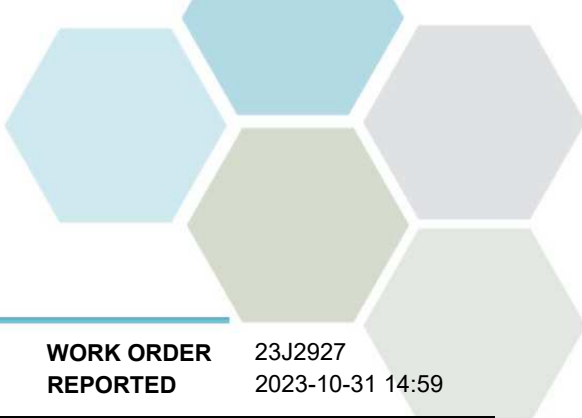


APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater)
Amry - East Well

WORK ORDER REPORTED 23J2927
2023-10-31 14:59

| Analyte | Result | RL Units | Spike Level | Source Result | % REC | REC Limit | % RPD | RPD Limit | Qualifier |
|---|----------|-------------|--|---------------|-------|-----------|-------|-----------|-----------|
| General Parameters, Batch B3J2471, Continued | | | | | | | | | |
| LCS (B3J2471-BS4) | | | Prepared: 2023-10-25, Analyzed: 2023-10-25 | | | | | | |
| Ammonia, Total (as N) | 0.907 | 0.020 mg/L | 1.00 | | 91 | 85-115 | | | |
| LCS (B3J2471-BS5) | | | Prepared: 2023-10-25, Analyzed: 2023-10-25 | | | | | | |
| Ammonia, Total (as N) | 0.913 | 0.020 mg/L | 1.00 | | 91 | 85-115 | | | |
| General Parameters, Batch B3J2593 | | | | | | | | | |
| Blank (B3J2593-BLK1) | | | Prepared: 2023-10-25, Analyzed: 2023-10-26 | | | | | | |
| Phosphorus, Total (as P) | < 0.0050 | 0.0050 mg/L | | | | | | | |
| Blank (B3J2593-BLK2) | | | Prepared: 2023-10-25, Analyzed: 2023-10-26 | | | | | | |
| Phosphorus, Total (as P) | < 0.0050 | 0.0050 mg/L | | | | | | | |
| LCS (B3J2593-BS1) | | | Prepared: 2023-10-25, Analyzed: 2023-10-26 | | | | | | |
| Phosphorus, Total (as P) | 0.0983 | 0.0050 mg/L | 0.100 | | 98 | 85-115 | | | |
| LCS (B3J2593-BS2) | | | Prepared: 2023-10-25, Analyzed: 2023-10-26 | | | | | | |
| Phosphorus, Total (as P) | 0.0983 | 0.0050 mg/L | 0.100 | | 98 | 85-115 | | | |
| General Parameters, Batch B3J2686 | | | | | | | | | |
| Blank (B3J2686-BLK1) | | | Prepared: 2023-10-26, Analyzed: 2023-10-26 | | | | | | |
| Turbidity | < 0.10 | 0.10 NTU | | | | | | | |
| Blank (B3J2686-BLK2) | | | Prepared: 2023-10-26, Analyzed: 2023-10-26 | | | | | | |
| Turbidity | < 0.10 | 0.10 NTU | | | | | | | |
| Blank (B3J2686-BLK3) | | | Prepared: 2023-10-26, Analyzed: 2023-10-26 | | | | | | |
| Turbidity | < 0.10 | 0.10 NTU | | | | | | | |
| LCS (B3J2686-BS1) | | | Prepared: 2023-10-26, Analyzed: 2023-10-26 | | | | | | |
| Turbidity | 1.74 | 0.10 NTU | 1.69 | | 103 | 90-110 | | | |
| LCS (B3J2686-BS2) | | | Prepared: 2023-10-26, Analyzed: 2023-10-26 | | | | | | |
| Turbidity | 1.74 | 0.10 NTU | 1.69 | | 103 | 90-110 | | | |
| LCS (B3J2686-BS3) | | | Prepared: 2023-10-26, Analyzed: 2023-10-26 | | | | | | |
| Turbidity | 1.74 | 0.10 NTU | 1.69 | | 103 | 90-110 | | | |
| General Parameters, Batch B3J2723 | | | | | | | | | |
| Blank (B3J2723-BLK1) | | | Prepared: 2023-10-26, Analyzed: 2023-10-31 | | | | | | |
| BOD, 5-day | < 2.0 | 2.0 mg/L | | | | | | | |
| LCS (B3J2723-BS1) | | | Prepared: 2023-10-26, Analyzed: 2023-10-31 | | | | | | |
| BOD, 5-day | 201 | 45.8 mg/L | 198 | | 102 | 85-115 | | | |
| General Parameters, Batch B3J2921 | | | | | | | | | |
| Blank (B3J2921-BLK1) | | | Prepared: 2023-10-29, Analyzed: 2023-10-29 | | | | | | |
| Conductivity (EC) | < 2.0 | 2.0 µS/cm | | | | | | | |
| Blank (B3J2921-BLK2) | | | Prepared: 2023-10-29, Analyzed: 2023-10-29 | | | | | | |
| Conductivity (EC) | < 2.0 | 2.0 µS/cm | | | | | | | |



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater)
Amry - East Well

WORK ORDER REPORTED 23J2927
2023-10-31 14:59

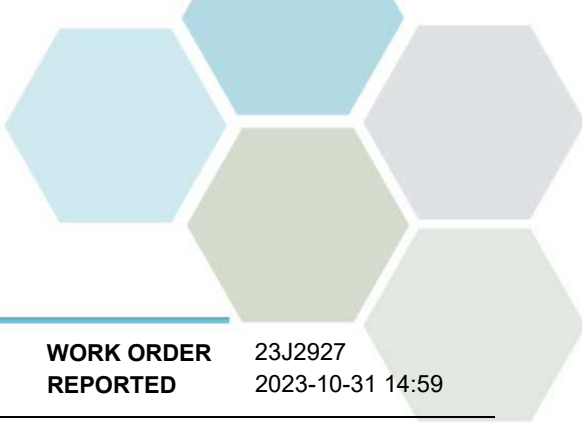
| Analyte | Result | RL Units | Spike Level | Source Result | % REC | REC Limit | % RPD | RPD Limit | Qualifier |
|---|--------|---------------|--|---------------|-------|-----------|-------|-----------|-----------|
| General Parameters, Batch B3J2921, Continued | | | | | | | | | |
| Blank (B3J2921-BLK3) | | | Prepared: 2023-10-29, Analyzed: 2023-10-29 | | | | | | |
| Conductivity (EC) | < 2.0 | 2.0 µS/cm | | | | | | | |
| LCS (B3J2921-BS4) | | | Prepared: 2023-10-29, Analyzed: 2023-10-29 | | | | | | |
| Conductivity (EC) | 1410 | 2.0 µS/cm | 1410 | | 100 | 95-105 | | | |
| LCS (B3J2921-BS5) | | | Prepared: 2023-10-29, Analyzed: 2023-10-29 | | | | | | |
| Conductivity (EC) | 1400 | 2.0 µS/cm | 1410 | | 99 | 95-105 | | | |
| LCS (B3J2921-BS6) | | | Prepared: 2023-10-29, Analyzed: 2023-10-29 | | | | | | |
| Conductivity (EC) | 1420 | 2.0 µS/cm | 1410 | | 100 | 95-105 | | | |
| Reference (B3J2921-SRM1) | | | Prepared: 2023-10-29, Analyzed: 2023-10-29 | | | | | | |
| pH | 7.04 | 0.10 pH units | 7.01 | | 100 | 98-102 | | | |
| Reference (B3J2921-SRM2) | | | Prepared: 2023-10-29, Analyzed: 2023-10-29 | | | | | | |
| pH | 7.04 | 0.10 pH units | 7.01 | | 100 | 98-102 | | | |
| Reference (B3J2921-SRM3) | | | Prepared: 2023-10-29, Analyzed: 2023-10-29 | | | | | | |
| pH | 7.04 | 0.10 pH units | 7.01 | | 100 | 98-102 | | | |

General Parameters, Batch B3J3003

| | | | | | | | | | |
|-----------------------------|---------|------------|--|--|-----|--------|--|--|--|
| Blank (B3J3003-BLK1) | | | Prepared: 2023-10-30, Analyzed: 2023-10-31 | | | | | | |
| Nitrogen, Total Kjeldahl | < 0.050 | 0.050 mg/L | | | | | | | |
| Blank (B3J3003-BLK2) | | | Prepared: 2023-10-30, Analyzed: 2023-10-31 | | | | | | |
| Nitrogen, Total Kjeldahl | < 0.050 | 0.050 mg/L | | | | | | | |
| LCS (B3J3003-BS1) | | | Prepared: 2023-10-30, Analyzed: 2023-10-31 | | | | | | |
| Nitrogen, Total Kjeldahl | 1.00 | 0.050 mg/L | 1.00 | | 100 | 85-115 | | | |
| LCS (B3J3003-BS2) | | | Prepared: 2023-10-30, Analyzed: 2023-10-31 | | | | | | |
| Nitrogen, Total Kjeldahl | 0.997 | 0.050 mg/L | 1.00 | | 100 | 85-115 | | | |

Microbiological Parameters, Batch B3J2506

| | | | | | | | | | |
|-----------------------------|-----|--------------|--|--|--|--|--|--|--|
| Blank (B3J2506-BLK1) | | | Prepared: 2023-10-25, Analyzed: 2023-10-25 | | | | | | |
| Coliforms, Total (Q-Tray) | < 1 | 1 MPN/100 mL | | | | | | | |
| E. coli (Q-Tray) | < 1 | 1 MPN/100 mL | | | | | | | |
| Blank (B3J2506-BLK2) | | | Prepared: 2023-10-25, Analyzed: 2023-10-25 | | | | | | |
| Coliforms, Fecal (Q-Tray) | < 1 | 1 MPN/100 mL | | | | | | | |
| Blank (B3J2506-BLK3) | | | Prepared: 2023-10-25, Analyzed: 2023-10-25 | | | | | | |
| Coliforms, Total (Q-Tray) | < 1 | 1 MPN/100 mL | | | | | | | |
| E. coli (Q-Tray) | < 1 | 1 MPN/100 mL | | | | | | | |
| Blank (B3J2506-BLK4) | | | Prepared: 2023-10-25, Analyzed: 2023-10-25 | | | | | | |
| Coliforms, Total (Q-Tray) | < 1 | 1 MPN/100 mL | | | | | | | |
| E. coli (Q-Tray) | < 1 | 1 MPN/100 mL | | | | | | | |
| Blank (B3J2506-BLK5) | | | Prepared: 2023-10-25, Analyzed: 2023-10-25 | | | | | | |
| Coliforms, Fecal (Q-Tray) | < 1 | 1 MPN/100 mL | | | | | | | |
| Blank (B3J2506-BLK6) | | | Prepared: 2023-10-25, Analyzed: 2023-10-25 | | | | | | |
| Coliforms, Total (Q-Tray) | < 1 | 1 MPN/100 mL | | | | | | | |
| E. coli (Q-Tray) | < 1 | 1 MPN/100 mL | | | | | | | |



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater)
Amry - East Well

WORK ORDER REPORTED 23J2927
2023-10-31 14:59

| Analyte | Result | RL Units | Spike Level | Source Result | % REC | REC Limit | % RPD | RPD Limit | Qualifier |
|------------------------------------|--------|-----------|-------------|--|-------|-----------|-------|-----------|-----------|
| Total Metals, Batch B3J2692 | | | | | | | | | |
| Blank (B3J2692-BLK1) | | | | Prepared: 2023-10-26, Analyzed: 2023-10-26 | | | | | |
| Sodium, total | < 0.10 | 0.10 mg/L | | | | | | | |
| LCS (B3J2692-BS1) | | | | Prepared: 2023-10-26, Analyzed: 2023-10-26 | | | | | |
| Sodium, total | 3.86 | 0.10 mg/L | 4.00 | | 97 | 80-120 | | | |



CERTIFICATE OF ANALYSIS

| | | | |
|---------------------|---|---------------------------------|--------------------------|
| REPORTED TO | Lake Country, District of (Wastewater) 4062 Beaver Lake Rd LAKE COUNTRY, BC V4V 1T5 | WORK ORDER | 23E2847 |
| ATTENTION | Davin Larsen | RECEIVED / TEMP REPORTED | 2023-05-23 14:19 / 9.0°C |
| PO NUMBER | | REPORTED | 2023-05-30 09:01 |
| PROJECT | Lake Country WWTP | COC NUMBER | 45069.35281 |
| 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 Lake Country, District of (Wastewater)
Lake Country WWTP

WORK ORDER REPORTED 23E2847
2023-05-30 09:01

| Analyte | Result | Guideline | RL | Units | Analyzed | Qualifier |
|---------|--------|-----------|----|-------|----------|-----------|
|---------|--------|-----------|----|-------|----------|-----------|

10101A Kunschuh Rd (23E2847-01) | Matrix: Water | Sampled: 2023-05-23 10:41

Anions

| | | | | | | |
|------------------|----------|----------|--------|------|------------|--|
| Chloride | 85.9 | AO ≤ 250 | 0.10 | mg/L | 2023-05-24 | |
| Nitrate (as N) | 3.71 | MAC = 10 | 0.010 | mg/L | 2023-05-24 | |
| Nitrite (as N) | < 0.010 | MAC = 1 | 0.010 | mg/L | 2023-05-24 | |
| Phosphate (as P) | < 0.0050 | N/A | 0.0050 | mg/L | 2023-05-24 | |

Calculated Parameters

| | | | | | | |
|------------------------|------|-----|--------|------|-----|--|
| Nitrate+Nitrite (as N) | 3.71 | N/A | 0.0100 | mg/L | N/A | |
| Nitrogen, Total | 3.84 | N/A | 0.0500 | mg/L | N/A | |

General Parameters

| | | | | | | |
|--------------------------|--------|---------------|--------|----------|------------|-----|
| Ammonia, Total (as N) | 0.054 | None Required | 0.050 | mg/L | 2023-05-24 | |
| Conductivity (EC) | 774 | N/A | 2.0 | µS/cm | 2023-05-27 | |
| Nitrogen, Total Kjeldahl | 0.135 | N/A | 0.050 | mg/L | 2023-05-28 | |
| pH | 7.26 | 7.0-10.5 | 0.10 | pH units | 2023-05-27 | HT2 |
| Phosphorus, Total (as P) | 0.0123 | N/A | 0.0050 | mg/L | 2023-05-25 | |

Microbiological Parameters

| | | | | | | |
|------------------|-----|---------|---|------------|------------|--|
| E. coli (Q-Tray) | < 1 | MAC = 0 | 1 | MPN/100 mL | 2023-05-23 | |
|------------------|-----|---------|---|------------|------------|--|

Total Metals

| | | | | | | |
|---------------|------|----------|------|------|------------|--|
| Sodium, total | 56.6 | AO ≤ 200 | 0.10 | mg/L | 2023-05-29 | |
|---------------|------|----------|------|------|------------|--|

10050 McCarthy Rd (23E2847-02) | Matrix: Water | Sampled: 2023-05-23 10:30

Anions

| | | | | | | |
|------------------|---------|----------|--------|------|------------|--|
| Chloride | 0.41 | AO ≤ 250 | 0.10 | mg/L | 2023-05-24 | |
| Nitrate (as N) | 0.020 | MAC = 10 | 0.010 | mg/L | 2023-05-24 | |
| Nitrite (as N) | < 0.010 | MAC = 1 | 0.010 | mg/L | 2023-05-24 | |
| Phosphate (as P) | 0.0750 | N/A | 0.0050 | mg/L | 2023-05-24 | |

Calculated Parameters

| | | | | | | |
|------------------------|--------|-----|--------|------|-----|--|
| Nitrate+Nitrite (as N) | 0.0203 | N/A | 0.0100 | mg/L | N/A | |
| Nitrogen, Total | 0.290 | N/A | 0.0500 | mg/L | N/A | |

General Parameters

| | | | | | | |
|--------------------------|-------|---------------|--------|----------|------------|-----|
| Ammonia, Total (as N) | 0.225 | None Required | 0.050 | mg/L | 2023-05-24 | |
| Conductivity (EC) | 273 | N/A | 2.0 | µS/cm | 2023-05-27 | |
| Nitrogen, Total Kjeldahl | 0.270 | N/A | 0.050 | mg/L | 2023-05-28 | |
| pH | 8.17 | 7.0-10.5 | 0.10 | pH units | 2023-05-27 | HT2 |
| Phosphorus, Total (as P) | 0.232 | N/A | 0.0050 | mg/L | 2023-05-25 | |

Microbiological Parameters

| | | | | | | |
|------------------|-----|---------|---|------------|------------|--|
| E. coli (Q-Tray) | < 1 | MAC = 0 | 1 | MPN/100 mL | 2023-05-23 | |
|------------------|-----|---------|---|------------|------------|--|

Total Metals



TEST RESULTS

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| Analyte | Result | Guideline | RL | Units | Analyzed | Qualifier |
|---------|--------|-----------|----|-------|----------|-----------|
|---------|--------|-----------|----|-------|----------|-----------|

10050 McCarthy Rd (23E2847-02) | Matrix: Water | Sampled: 2023-05-23 10:30, Continued

Total Metals, Continued

| | | | | | | |
|---------------|------|----------|------|------|------------|--|
| Sodium, total | 8.69 | AO ≤ 200 | 0.10 | mg/L | 2023-05-29 | |
|---------------|------|----------|------|------|------------|--|

9989 Bottom Wood Lake Rd (23E2847-03) | Matrix: Water | Sampled: 2023-05-23 11:06

Anions

| | | | | | | |
|------------------|----------|----------|--------|------|------------|--|
| Chloride | 38.7 | AO ≤ 250 | 0.10 | mg/L | 2023-05-24 | |
| Nitrate (as N) | 4.02 | MAC = 10 | 0.010 | mg/L | 2023-05-24 | |
| Nitrite (as N) | < 0.010 | MAC = 1 | 0.010 | mg/L | 2023-05-24 | |
| Phosphate (as P) | < 0.0050 | N/A | 0.0050 | mg/L | 2023-05-24 | |

Calculated Parameters

| | | | | | | |
|------------------------|------|-----|--------|------|-----|--|
| Nitrate+Nitrite (as N) | 4.02 | N/A | 0.0100 | mg/L | N/A | |
| Nitrogen, Total | 4.24 | N/A | 0.0500 | mg/L | N/A | |

General Parameters

| | | | | | | |
|--------------------------|--------|---------------|--------|----------|------------|-----|
| Ammonia, Total (as N) | 0.051 | None Required | 0.050 | mg/L | 2023-05-24 | |
| Conductivity (EC) | 405 | N/A | 2.0 | µS/cm | 2023-05-27 | |
| Nitrogen, Total Kjeldahl | 0.224 | N/A | 0.050 | mg/L | 2023-05-28 | |
| pH | 7.47 | 7.0-10.5 | 0.10 | pH units | 2023-05-27 | HT2 |
| Phosphorus, Total (as P) | 0.0113 | N/A | 0.0050 | mg/L | 2023-05-25 | |

Microbiological Parameters

| | | | | | | |
|------------------|-----|---------|---|------------|------------|--|
| E. coli (Q-Tray) | < 1 | MAC = 0 | 1 | MPN/100 mL | 2023-05-23 | |
|------------------|-----|---------|---|------------|------------|--|

Total Metals

| | | | | | | |
|---------------|------|----------|------|------|------------|--|
| Sodium, total | 20.3 | AO ≤ 200 | 0.10 | mg/L | 2023-05-29 | |
|---------------|------|----------|------|------|------------|--|

9991 McCarthy Rd (23E2847-04) | Matrix: Water | Sampled: 2023-05-23 10:20

Anions

| | | | | | | |
|------------------|----------|----------|--------|------|------------|--|
| Chloride | 85.0 | AO ≤ 250 | 0.10 | mg/L | 2023-05-24 | |
| Nitrate (as N) | 4.33 | MAC = 10 | 0.010 | mg/L | 2023-05-24 | |
| Nitrite (as N) | < 0.010 | MAC = 1 | 0.010 | mg/L | 2023-05-24 | |
| Phosphate (as P) | < 0.0050 | N/A | 0.0050 | mg/L | 2023-05-24 | |

Calculated Parameters

| | | | | | | |
|------------------------|------|-----|--------|------|-----|--|
| Nitrate+Nitrite (as N) | 4.33 | N/A | 0.0100 | mg/L | N/A | |
| Nitrogen, Total | 4.62 | N/A | 0.0500 | mg/L | N/A | |

General Parameters

| | | | | | | |
|--------------------------|-------|---------------|-------|----------|------------|-----|
| Ammonia, Total (as N) | 0.054 | None Required | 0.050 | mg/L | 2023-05-24 | |
| Conductivity (EC) | 789 | N/A | 2.0 | µS/cm | 2023-05-27 | |
| Nitrogen, Total Kjeldahl | 0.287 | N/A | 0.050 | mg/L | 2023-05-28 | |
| pH | 7.65 | 7.0-10.5 | 0.10 | pH units | 2023-05-27 | HT2 |



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| Analyte | Result | Guideline | RL | Units | Analyzed | Qualifier |
|---------|--------|-----------|----|-------|----------|-----------|
|---------|--------|-----------|----|-------|----------|-----------|

9991 McCarthy Rd (23E2847-04) | Matrix: Water | Sampled: 2023-05-23 10:20, Continued

General Parameters, Continued

| | | | | | | |
|--------------------------|--------|-----|--------|------|------------|--|
| Phosphorus, Total (as P) | 0.0150 | N/A | 0.0050 | mg/L | 2023-05-25 | |
|--------------------------|--------|-----|--------|------|------------|--|

Microbiological Parameters

| | | | | | | |
|------------------|-----|---------|---|------------|------------|--|
| E. coli (Q-Tray) | < 1 | MAC = 0 | 1 | MPN/100 mL | 2023-05-23 | |
|------------------|-----|---------|---|------------|------------|--|

Total Metals

| | | | | | | |
|---------------|------|----------|------|------|------------|--|
| Sodium, total | 56.2 | AO ≤ 200 | 0.10 | mg/L | 2023-05-29 | |
|---------------|------|----------|------|------|------------|--|

9815 McCarthy Rd (23E2847-05) | Matrix: Water | Sampled: 2023-05-23 10:06

Anions

| | | | | | | |
|------------------|----------|----------|--------|------|------------|--|
| Chloride | 97.7 | AO ≤ 250 | 0.10 | mg/L | 2023-05-24 | |
| Nitrate (as N) | 4.22 | MAC = 10 | 0.010 | mg/L | 2023-05-24 | |
| Nitrite (as N) | < 0.010 | MAC = 1 | 0.010 | mg/L | 2023-05-24 | |
| Phosphate (as P) | < 0.0050 | N/A | 0.0050 | mg/L | 2023-05-24 | |

Calculated Parameters

| | | | | | | |
|------------------------|------|-----|--------|------|-----|--|
| Nitrate+Nitrite (as N) | 4.22 | N/A | 0.0100 | mg/L | N/A | |
| Nitrogen, Total | 4.47 | N/A | 0.0500 | mg/L | N/A | |

General Parameters

| | | | | | | |
|--------------------------|---------|---------------|--------|----------|------------|-----|
| Ammonia, Total (as N) | < 0.050 | None Required | 0.050 | mg/L | 2023-05-24 | |
| Conductivity (EC) | 849 | N/A | 2.0 | µS/cm | 2023-05-27 | |
| Nitrogen, Total Kjeldahl | 0.253 | N/A | 0.050 | mg/L | 2023-05-28 | |
| pH | 7.70 | 7.0-10.5 | 0.10 | pH units | 2023-05-27 | HT2 |
| Phosphorus, Total (as P) | 0.0142 | N/A | 0.0050 | mg/L | 2023-05-25 | |

Microbiological Parameters

| | | | | | | |
|------------------|-----|---------|---|------------|------------|--|
| E. coli (Q-Tray) | < 1 | MAC = 0 | 1 | MPN/100 mL | 2023-05-23 | |
|------------------|-----|---------|---|------------|------------|--|

Total Metals

| | | | | | | |
|---------------|------|----------|------|------|------------|--|
| Sodium, total | 72.1 | AO ≤ 200 | 0.10 | mg/L | 2023-05-29 | |
|---------------|------|----------|------|------|------------|--|

10101B Kunschuh Rd (23E2847-06) | Matrix: Water | Sampled: 2023-05-23 10:52

Anions

| | | | | | | |
|------------------|----------|----------|--------|------|------------|-----|
| Chloride | 8.13 | AO ≤ 250 | 0.10 | mg/L | 2023-05-24 | RE2 |
| Nitrate (as N) | 0.042 | MAC = 10 | 0.010 | mg/L | 2023-05-24 | RE2 |
| Nitrite (as N) | < 0.010 | MAC = 1 | 0.010 | mg/L | 2023-05-24 | RE2 |
| Phosphate (as P) | < 0.0050 | N/A | 0.0050 | mg/L | 2023-05-24 | RE2 |

Calculated Parameters

| | | | | | | |
|------------------------|--------|-----|--------|------|-----|--|
| Nitrate+Nitrite (as N) | 0.0419 | N/A | 0.0100 | mg/L | N/A | |
| Nitrogen, Total | 0.358 | N/A | 0.0500 | mg/L | N/A | |



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| Analyte | Result | Guideline | RL Units | Analyzed | Qualifier |
|---------|--------|-----------|----------|----------|-----------|
|---------|--------|-----------|----------|----------|-----------|

10101B Kunschuh Rd (23E2847-06) | Matrix: Water | Sampled: 2023-05-23 10:52, Continued

General Parameters

| | | | | | |
|--------------------------|--------|---------------|---------------|------------|-----|
| Ammonia, Total (as N) | 0.050 | None Required | 0.050 mg/L | 2023-05-24 | |
| Conductivity (EC) | 295 | N/A | 2.0 µS/cm | 2023-05-27 | |
| Nitrogen, Total Kjeldahl | 0.316 | N/A | 0.050 mg/L | 2023-05-28 | |
| pH | 8.10 | 7.0-10.5 | 0.10 pH units | 2023-05-27 | HT2 |
| Phosphorus, Total (as P) | 0.0089 | N/A | 0.0050 mg/L | 2023-05-25 | |

Microbiological Parameters

| | | | | | |
|------------------|-----|---------|--------------|------------|--|
| E. coli (Q-Tray) | < 1 | MAC = 0 | 1 MPN/100 mL | 2023-05-23 | |
|------------------|-----|---------|--------------|------------|--|

Total Metals

| | | | | | |
|---------------|------|----------|-----------|------------|--|
| Sodium, total | 13.9 | AO ≤ 200 | 0.10 mg/L | 2023-05-29 | |
|---------------|------|----------|-----------|------------|--|

Trip Blank (23E2847-07) | Matrix: Water | Sampled: 2023-05-23 09:00

Anions

| | | | | | |
|------------------|----------|----------|-------------|------------|--|
| Chloride | < 0.10 | AO ≤ 250 | 0.10 mg/L | 2023-05-24 | |
| Nitrate (as N) | < 0.010 | MAC = 10 | 0.010 mg/L | 2023-05-24 | |
| Nitrite (as N) | < 0.010 | MAC = 1 | 0.010 mg/L | 2023-05-24 | |
| Phosphate (as P) | < 0.0050 | N/A | 0.0050 mg/L | 2023-05-24 | |

Calculated Parameters

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

General Parameters

| | | | | | |
|--------------------------|----------|---------------|---------------|------------|-----|
| Ammonia, Total (as N) | 0.052 | None Required | 0.050 mg/L | 2023-05-24 | |
| Conductivity (EC) | < 2.0 | N/A | 2.0 µS/cm | 2023-05-27 | |
| Nitrogen, Total Kjeldahl | < 0.050 | N/A | 0.050 mg/L | 2023-05-28 | |
| pH | 5.67 | 7.0-10.5 | 0.10 pH units | 2023-05-27 | HT2 |
| Phosphorus, Total (as P) | < 0.0050 | N/A | 0.0050 mg/L | 2023-05-25 | |

Microbiological Parameters

| | | | | | |
|------------------|-----|---------|--------------|------------|--|
| E. coli (Q-Tray) | < 1 | MAC = 0 | 1 MPN/100 mL | 2023-05-23 | |
|------------------|-----|---------|--------------|------------|--|

Total Metals

| | | | | | |
|---------------|--------|----------|-----------|------------|--|
| Sodium, total | < 0.10 | AO ≤ 200 | 0.10 mg/L | 2023-05-29 | |
|---------------|--------|----------|-----------|------------|--|

Sample Qualifiers:

HT2 The 15 minute recommended holding time (from sampling to analysis) has been exceeded - field analysis is recommended.
RE2 Result was confirmed by re-analysis prior to reporting.



APPENDIX 1: SUPPORTING INFORMATION

REPORTED TO PROJECT Lake Country, District of (Wastewater)
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| Analysis Description | Method Ref. | Technique | Accredited | Location |
|-----------------------------------|--|--|------------|----------|
| Ammonia, Total in Water | SM 4500-NH3 G* (2021) | Automated Colorimetry (Phenate) | ✓ | Kelowna |
| Anions in Water | SM 4110 B (2020) | Ion Chromatography | ✓ | Kelowna |
| Conductivity in Water | SM 2510 B (2021) | Conductivity Meter | ✓ | Kelowna |
| E. coli in Water | NA / SM 9223 (2016) | Quanti-Tray / Enzyme Substrate Endo Agar | ✓ | Kelowna |
| Nitrogen, Total Kjeldahl in Water | SM 4500-Norg D* (2021) | Block Digestion and Flow Injection Analysis | ✓ | Kelowna |
| pH in Water | SM 4500-H+ B (2021) | Electrometry | ✓ | Kelowna |
| Phosphorus, Total in Water | SM 4500-P B.5* (2011) / SM 4500-P F (2021) | Persulfate Digestion / Automated Colorimetry (Ascorbic Acid) | ✓ | 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 |
| AO | Aesthetic Objective |
| MAC | Maximum Acceptable Concentration (health based) |
| mg/L | Milligrams per litre |
| MPN/100 mL | Most Probable Number per 100 millilitres |
| pH units | pH < 7 = acidic, pH > 7 = basic |
| µS/cm | Microsiemens per centimetre |
| EPA | United States Environmental Protection Agency Test Methods |
| SM | Standard Methods for the Examination of Water and Wastewater, American Public Health Association |

Guidelines Referenced in this Report:

[Guidelines for Canadian Drinking Water Quality \(Health Canada, September 2022\)](#)

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



APPENDIX 1: SUPPORTING INFORMATION

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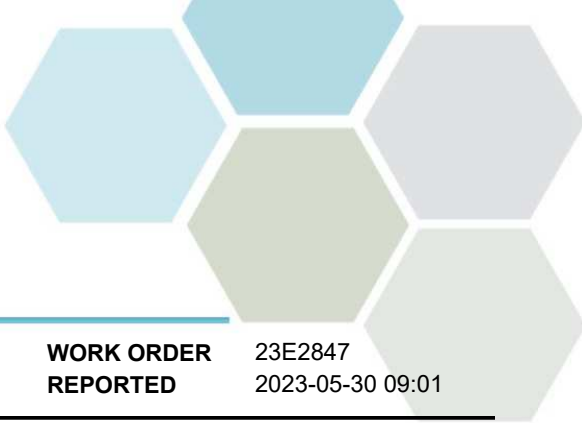
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General Comments:

The results in this report apply to the received 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. Caro will dispose of all samples within 30 days of sample receipt, unless otherwise agreed.

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

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 B3E2571

| Blank (B3E2571-BLK1) | | Prepared: 2023-05-24, Analyzed: 2023-05-24 | | | | | | | |
|----------------------|----------|--|------|--|-----|--------|--|--|--|
| 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 | | | | | | | |
| Phosphate (as P) | < 0.0050 | 0.0050 mg/L | | | | | | | |
| LCS (B3E2571-BS1) | | Prepared: 2023-05-24, Analyzed: 2023-05-24 | | | | | | | |
| Chloride | 16.3 | 0.10 mg/L | 16.0 | | 102 | 90-110 | | | |
| Nitrate (as N) | 4.08 | 0.010 mg/L | 4.00 | | 102 | 90-110 | | | |
| Nitrite (as N) | 2.09 | 0.010 mg/L | 2.00 | | 104 | 85-115 | | | |
| Phosphate (as P) | 1.07 | 0.0050 mg/L | 1.00 | | 107 | 80-120 | | | |

General Parameters, Batch B3E2577

| Blank (B3E2577-BLK1) | | Prepared: 2023-05-24, Analyzed: 2023-05-24 | | | | | | | |
|-----------------------|---------|--|------|--|-----|--------|--|--|--|
| Ammonia, Total (as N) | < 0.050 | 0.050 mg/L | | | | | | | |
| Blank (B3E2577-BLK2) | | Prepared: 2023-05-24, Analyzed: 2023-05-24 | | | | | | | |
| Ammonia, Total (as N) | < 0.050 | 0.050 mg/L | | | | | | | |
| Blank (B3E2577-BLK3) | | Prepared: 2023-05-24, Analyzed: 2023-05-24 | | | | | | | |
| Ammonia, Total (as N) | < 0.050 | 0.050 mg/L | | | | | | | |
| Blank (B3E2577-BLK4) | | Prepared: 2023-05-24, Analyzed: 2023-05-24 | | | | | | | |
| Ammonia, Total (as N) | < 0.050 | 0.050 mg/L | | | | | | | |
| LCS (B3E2577-BS1) | | Prepared: 2023-05-24, Analyzed: 2023-05-24 | | | | | | | |
| Ammonia, Total (as N) | 0.995 | 0.050 mg/L | 1.00 | | 100 | 85-115 | | | |
| LCS (B3E2577-BS2) | | Prepared: 2023-05-24, Analyzed: 2023-05-24 | | | | | | | |
| Ammonia, Total (as N) | 0.990 | 0.050 mg/L | 1.00 | | 99 | 85-115 | | | |
| LCS (B3E2577-BS3) | | Prepared: 2023-05-24, Analyzed: 2023-05-24 | | | | | | | |
| Ammonia, Total (as N) | 1.03 | 0.050 mg/L | 1.00 | | 103 | 85-115 | | | |
| LCS (B3E2577-BS4) | | Prepared: 2023-05-24, Analyzed: 2023-05-24 | | | | | | | |
| Ammonia, Total (as N) | 0.951 | 0.050 mg/L | 1.00 | | 95 | 85-115 | | | |



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 B3E2678 | | | | | | | | | |
| Blank (B3E2678-BLK1) | | | Prepared: 2023-05-24, Analyzed: 2023-05-25 | | | | | | |
| Phosphorus, Total (as P) | < 0.0050 | 0.0050 mg/L | | | | | | | |
| Blank (B3E2678-BLK2) | | | Prepared: 2023-05-24, Analyzed: 2023-05-25 | | | | | | |
| Phosphorus, Total (as P) | < 0.0050 | 0.0050 mg/L | | | | | | | |
| Blank (B3E2678-BLK3) | | | Prepared: 2023-05-24, Analyzed: 2023-05-25 | | | | | | |
| Phosphorus, Total (as P) | < 0.0050 | 0.0050 mg/L | | | | | | | |
| Blank (B3E2678-BLK4) | | | Prepared: 2023-05-24, Analyzed: 2023-05-25 | | | | | | |
| Phosphorus, Total (as P) | < 0.0050 | 0.0050 mg/L | | | | | | | |
| LCS (B3E2678-BS1) | | | Prepared: 2023-05-24, Analyzed: 2023-05-25 | | | | | | |
| Phosphorus, Total (as P) | 0.105 | 0.0050 mg/L | 0.100 | | 105 | 85-115 | | | |
| LCS (B3E2678-BS2) | | | Prepared: 2023-05-24, Analyzed: 2023-05-25 | | | | | | |
| Phosphorus, Total (as P) | 0.104 | 0.0050 mg/L | 0.100 | | 104 | 85-115 | | | |
| LCS (B3E2678-BS3) | | | Prepared: 2023-05-24, Analyzed: 2023-05-25 | | | | | | |
| Phosphorus, Total (as P) | 0.100 | 0.0050 mg/L | 0.100 | | 100 | 85-115 | | | |
| LCS (B3E2678-BS4) | | | Prepared: 2023-05-24, Analyzed: 2023-05-25 | | | | | | |
| Phosphorus, Total (as P) | 0.101 | 0.0050 mg/L | 0.100 | | 101 | 85-115 | | | |
| Duplicate (B3E2678-DUP3) | | | Source: 23E2847-02 | | Prepared: 2023-05-24, Analyzed: 2023-05-25 | | | | |
| Phosphorus, Total (as P) | 0.230 | 0.0050 mg/L | | 0.232 | | | < 1 | 15 | |
| Matrix Spike (B3E2678-MS3) | | | Source: 23E2847-02 | | Prepared: 2023-05-24, Analyzed: 2023-05-25 | | | | |
| Phosphorus, Total (as P) | 0.334 | 0.0050 mg/L | 0.102 | 0.232 | 100 | 70-125 | | | |
| General Parameters, Batch B3E2921 | | | | | | | | | |
| Blank (B3E2921-BLK1) | | | Prepared: 2023-05-26, Analyzed: 2023-05-28 | | | | | | |
| Nitrogen, Total Kjeldahl | < 0.050 | 0.050 mg/L | | | | | | | |
| Blank (B3E2921-BLK2) | | | Prepared: 2023-05-26, Analyzed: 2023-05-28 | | | | | | |
| Nitrogen, Total Kjeldahl | < 0.050 | 0.050 mg/L | | | | | | | |
| LCS (B3E2921-BS1) | | | Prepared: 2023-05-26, Analyzed: 2023-05-28 | | | | | | |
| Nitrogen, Total Kjeldahl | 0.883 | 0.050 mg/L | 1.00 | | 88 | 85-115 | | | |
| LCS (B3E2921-BS2) | | | Prepared: 2023-05-26, Analyzed: 2023-05-28 | | | | | | |
| Nitrogen, Total Kjeldahl | 0.887 | 0.050 mg/L | 1.00 | | 89 | 85-115 | | | |
| Duplicate (B3E2921-DUP1) | | | Source: 23E2847-02 | | Prepared: 2023-05-26, Analyzed: 2023-05-28 | | | | |
| Nitrogen, Total Kjeldahl | 0.168 | 0.050 mg/L | | 0.270 | | | 47 | 15 | |
| Matrix Spike (B3E2921-MS1) | | | Source: 23E2847-02 | | Prepared: 2023-05-26, Analyzed: 2023-05-28 | | | | |
| Nitrogen, Total Kjeldahl | 1.14 | 0.050 mg/L | 1.00 | 0.270 | 87 | 65-135 | | | |
| General Parameters, Batch B3E3026 | | | | | | | | | |
| Blank (B3E3026-BLK1) | | | Prepared: 2023-05-27, Analyzed: 2023-05-27 | | | | | | |
| Conductivity (EC) | < 2.0 | 2.0 µS/cm | | | | | | | |
| Blank (B3E3026-BLK2) | | | Prepared: 2023-05-27, Analyzed: 2023-05-27 | | | | | | |
| Conductivity (EC) | < 2.0 | 2.0 µS/cm | | | | | | | |



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Lake Country, District of (Wastewater)
Lake Country WWTP

WORK ORDER REPORTED 23E2847
2023-05-30 09:01

| Analyte | Result | RL Units | Spike Level | Source Result | % REC | REC Limit | % RPD | RPD Limit | Qualifier |
|---|--------|---------------|--|---------------|-------|-----------|-------|-----------|-----------|
| General Parameters, Batch B3E3026, Continued | | | | | | | | | |
| LCS (B3E3026-BS3) | | | Prepared: 2023-05-27, Analyzed: 2023-05-27 | | | | | | |
| Conductivity (EC) | 1410 | 2.0 µS/cm | 1410 | | 100 | 95-105 | | | |
| LCS (B3E3026-BS4) | | | Prepared: 2023-05-27, Analyzed: 2023-05-27 | | | | | | |
| Conductivity (EC) | 1410 | 2.0 µS/cm | 1410 | | 100 | 95-105 | | | |
| Reference (B3E3026-SRM1) | | | Prepared: 2023-05-27, Analyzed: 2023-05-27 | | | | | | |
| pH | 7.01 | 0.10 pH units | 7.01 | | 100 | 98-102 | | | |
| Reference (B3E3026-SRM2) | | | Prepared: 2023-05-27, Analyzed: 2023-05-27 | | | | | | |
| pH | 7.01 | 0.10 pH units | 7.01 | | 100 | 98-102 | | | |
| Microbiological Parameters, Batch B3E2437 | | | | | | | | | |
| Blank (B3E2437-BLK1) | | | Prepared: 2023-05-23, Analyzed: 2023-05-23 | | | | | | |
| E. coli (Q-Tray) | < 1 | 1 MPN/100 mL | | | | | | | |
| Blank (B3E2437-BLK2) | | | Prepared: 2023-05-23, Analyzed: 2023-05-23 | | | | | | |
| E. coli (Q-Tray) | < 1 | 1 MPN/100 mL | | | | | | | |
| Total Metals, Batch B3E3003 | | | | | | | | | |
| Blank (B3E3003-BLK1) | | | Prepared: 2023-05-26, Analyzed: 2023-05-29 | | | | | | |
| Sodium, total | < 0.10 | 0.10 mg/L | | | | | | | |
| LCS (B3E3003-BS1) | | | Prepared: 2023-05-26, Analyzed: 2023-05-29 | | | | | | |
| Sodium, total | 3.85 | 0.10 mg/L | 4.00 | | 96 | 80-120 | | | |

Appendix C – Non-Compliance Reporting



MINISTRY OF ENVIRONMENT
REGIONAL OPERATIONS BRANCH

NON-COMPLIANCE REPORTING MAILBOX
NOTIFICATION TEMPLATE

To: EnvironmentalCompliance@gov.bc.ca
Subject: 2023-01-10 Authorization #14651 Effluent Permit exceedance -
BOD

Attention:

Non-compliance Report for Authorization # 14651
Accredited BOD result higher than permit limit.

Date of Non-compliance: 2023-01-10 1300

Location of Non-compliance 4062 beaver lake rd 50.024865, -119.385069

Nature of Non-compliance: Monthly Accredited lab results came back 21.7 mg/l cBOD and permit limit states 20 mg/l cBOD.

Initial Response/Actions taken: Total suspended solids had been steadily increasing since cold weather snap in mid December. This has been a common event(annual) in cold weather situations, where plant performance is hindered.

Monitoring conducted: An additional sample was sent in to Caro January 16th, to confirm results and to see if new filter system has remedied the situation

Future action items:As part of the phase 4 upgrade to the Wastewater Treatment Plant, effluent filters have been installed and were commissioned on January 13th. We are expecting these filters to improve effluent quality, and reduce the occurrence of exceedances in cold weather situations.

Contact information: Davin Larsen 250-869-5703 or dlarsen@lakecountry.bc.ca

Attachments:

Caro Lab results - 14651 NCR20230110 Lab results.pdf



MINISTRY OF ENVIRONMENT
REGIONAL OPERATIONS BRANCH

NON-COMPLIANCE REPORTING MAILBOX
NOTIFICATION TEMPLATE

To: EnvironmentalCompliance@gov.bc.ca
Subject: 14651-NCR-20230315 Effluent flow
limit exceedance

Attention:

Non-compliance Report for Authorization # 14651

Date of Non-compliance: 2023-02-28

Location of Non-compliance [4062 beaver lake rd 50.024865, -119.385069]:

Nature of Non-compliance: Monthly permit limit for effluent flow has been exceeded. Limit is currently at 2000m³/day(daily flow averaged over the month) and the February monthly total was 2161 m³ for February 2023.

Initial Response/Actions taken: for the month of February, the facility was using a high volume of reclaimed water. Reclaimed water is taken AFTER the final flow meter and reintroduced back into the process which is giving an abnormally high effluent flow meter reading. This event was due to process requirement stemming from our current upgrade and should not be required in the future when the upgrade is complete(scheduled for mid April)

Monitoring conducted: The increase in flow is due to a temporary internal recycle, and only reporting this as the effluent meter reading is over the permit limit. Actual flow leaving the plant, is estimated to be below permit limit, but cant confirm.

Future action items: Once phase 4 is completed this recycle will not be required and was only really needed during the colder weather.

Contact information: Davin Larsen 250-869-5703 or dlarsen@lakecountry.bc.ca

Attachments: None.



MINISTRY OF ENVIRONMENT
REGIONAL OPERATIONS BRANCH

NON-COMPLIANCE REPORTING MAILBOX
NOTIFICATION TEMPLATE

To: EnvironmentalCompliance@gov.bc.ca
Subject: 2024-01-04 Authorization #14651-2023 annual average Ortho-P exceedance

Attention: Non-compliance Report for Authorization # 14651
2023 annual average for Ortho Phosphorus not met

Date of Non-compliance: 2024-01-04 1300

Location of Non-compliance : 4062 beaver lake rd, 50.049367 & -119.392982

Nature of Non-compliance: As per section 1.1.3 of the Operational Certificate #14651, the maximum annual average for Ortho Phosphorus(as P) is 0.15 mg/l. The accredited lab results for 2023 came back with an annual average of 0.18 mg/l Ortho-P(measured as P).

Causes: The higher than average Ortho-P results are assumed to be caused by the following factors:

- The Phase 4 upgrade of the Lake Country WWTP was substantially completed in September 2023. Leading up to substantial completion, operations of the WWTP were in constant change as vessels were being bypassed, commissioned, and tested, creating an abnormal operating situation that saw some decrease in effluent quality.

- There is a typical drop in effluent quality in colder weather conditions. Even though this winter has been very mild, we have seen slight increase this winter as expected. Therefore in combination with the higher than normal warm weather results due to commissioning, Ortho-P levels presented higher than normal this year.

Future action items: The Phase 4 upgrades have now been completed and therefore it is expected that the Ortho-P levels will be more likely to be within range moving forward.

Contact information: Davin Larsen 250-869-5703 or dlarsen@lakecountry.bc.ca

Attachments:

Note: This form is intended to facilitate communication regarding non-compliance events between authorisation holders and the ministry. Submission of this form by an authorization holder does not constitute an inspection or a finding of non-compliance in accordance with ministry compliance and enforcement policy and procedure.

All reportable spills must be reported to PEP at 1-800-663-3456.

More detailed information may be required by the ministry on follow-up.

Appendix D - Groundwater Monitoring Report

Memorandum

Date: March 4, 2024
 To: Davin Larsen, AScT., District of Lake Country
 Sarah Graham, District of Lake Country
 From: Dr. Joanne Quarmby, R.P.Bio
 File: OC 14651
 Subject: Review of 2023 Groundwater Data – Centralised Plant

1. Introduction

Groundwater monitoring is required as part of the 2021 operational certificate (#14651). The monitoring requirements are outlined in Section 3.2 of the operational certificate, and are summarised in Table 1.1, below. The groundwater monitoring program is implemented by District staff, with the analyses being completed at an accredited laboratory. Conductance and pH are to be field measurements. The location of the various wells can be found in the attached figure.

Table 1.1: Groundwater Monitoring Program

| Site | Description | Monitoring Scope | |
|-------|---|-------------------|--|
| | | Groundwater Depth | Water Quality |
| MW-2 | Background (up-gradient) well | Monthly | Once in the spring and fall for the following parameters: sodium, chloride, conductance, ammonia, nitrate/nitrite, TKN, total nitrogen, total phosphorus, orthophosphorus, pH and <i>E. coli</i> . |
| MW-18 | Down-gradient within treatment plant boundary | Continuous | |
| MW-10 | Down-gradient near treatment plant boundary | Continuous | |
| MW-12 | Down-gradient near treatment plant boundary | Continuous | |
| MW-14 | Down-gradient, by Lodge Road | Monthly | |
| H1 | 10050 McCarthy Road | Not required | |
| H2 | 10101A Korschuh Road | | |
| H3 | 9989 Bottom Wood Lake Road | | |
| H4 | 10101B Korschuh Road | | |
| H5 | 9815 McCarthy Road | | |
| H6 | 9719 McCarthy Road | | |
| H7 | 9991 McCarthy Road | | |

Reporting of the groundwater data is a requirement of the 2021 operational certificate. Section 4.4(b) of the operational certificate indicates that the annual report is to include a review and interpretation of the discharge and groundwater monitoring and flow data for the preceding year. This memorandum has been prepared in order to address Section 4.4(b) of the permit with respect to the groundwater data only.

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2. Groundwater Levels

The District provided data relating to groundwater levels in a summarised and tabulated form.

Figure 2.1 shows the monthly groundwater levels for the 5 monitoring wells. The highest groundwater levels were consistently observed at MW-10, located down-gradient near the plant boundary, with the lowest groundwater levels being observed at MW-18 (down-gradient within the plant boundary) and MW-12 (down-gradient outside of the plant boundary, just beyond MW10). There was no trend of decreasing groundwater levels with an increasing distance from the infiltration facilities. Slight variations in the groundwater levels were observed in all wells through the year, with the greatest variations being observed in MW-14, located furthest away from the wastewater treatment plant. This well showed a clear decrease during the summer months. All data points indicated that the distance to the groundwater level was over 0.5 m from the ground surface. This depth is not a requirement of the operational certificate but is taken from the Municipal Wastewater Regulation for a minimum unsaturated soil depth for a Class A or B effluent.

Figure 2.1: 2023 Groundwater Levels – Monthly Readings

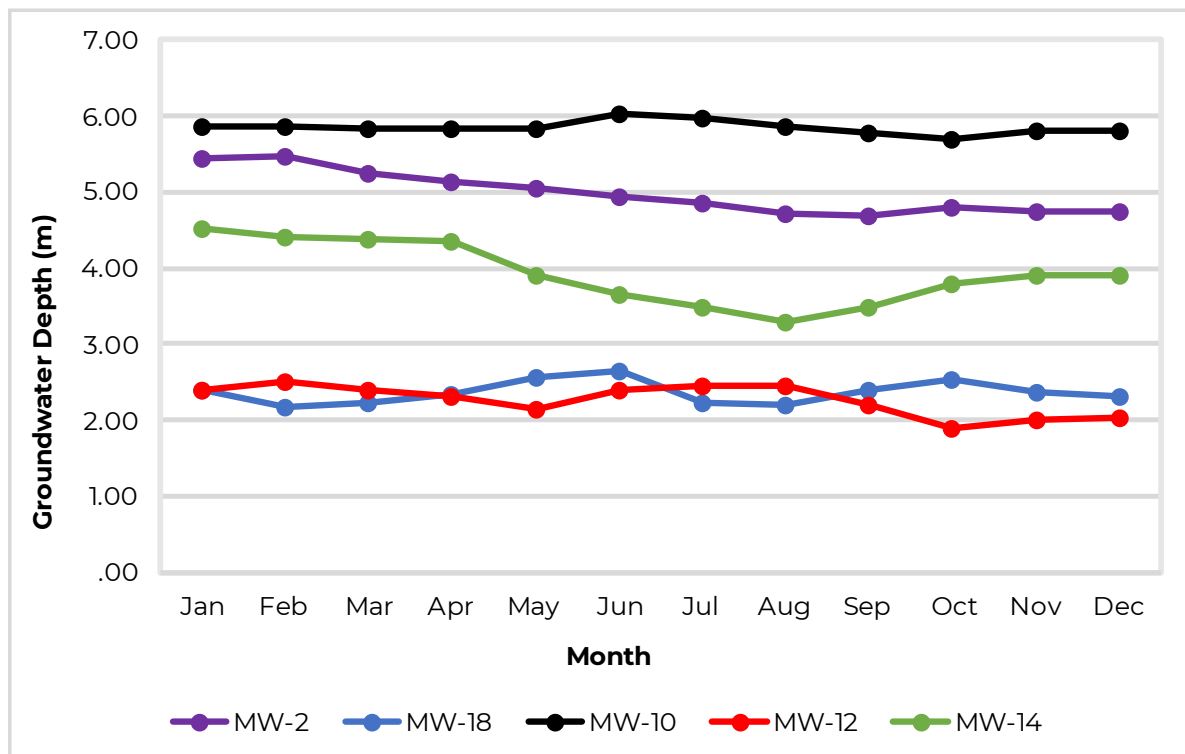


Figure 2.2. shows the water level data from the data loggers in MW-18, MW-10 and MW-12. As with the monthly data, the information from the data loggers indicate that the highest groundwater levels were observed consistently at MW-10, with similarity in the groundwater levels for MW-18 and MW-12. There is also a similarity in the trends throughout the year for all wells when compared with the monthly data. All

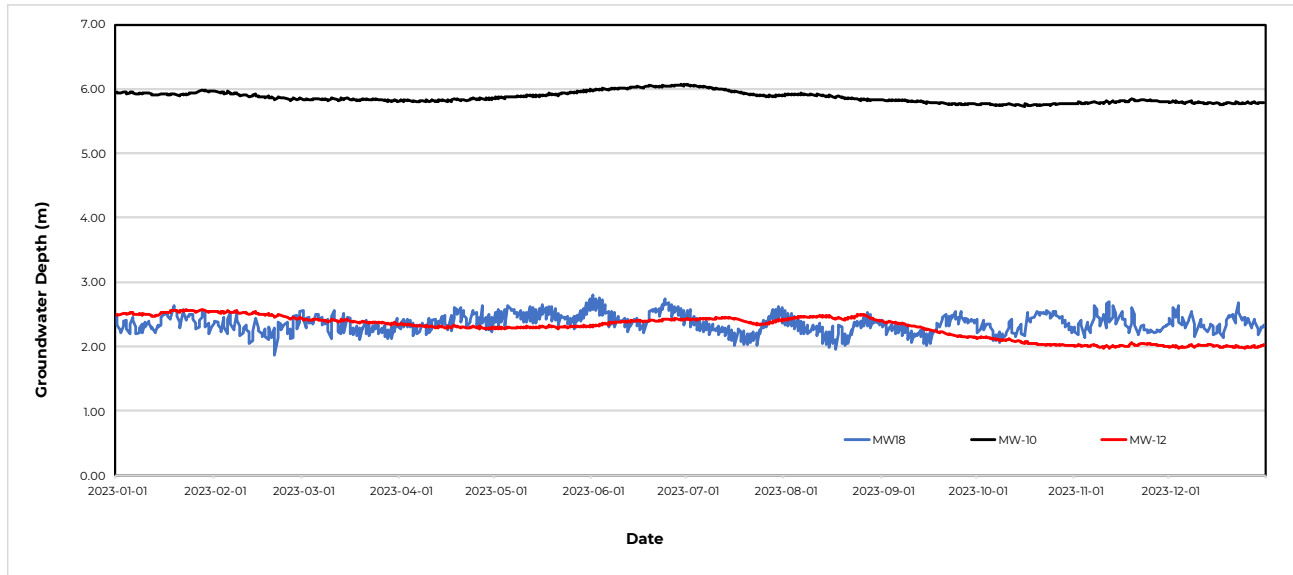
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data points indicated that the distance to the groundwater level was over 0.5 m from the ground surface. This depth is not a requirement of the operational certificate but is taken from the Municipal Wastewater Regulation for a minimum unsaturated soil depth for a Class A or B effluent.

Figure 2.2: 2023 Groundwater Levels – Data Logger Readings



3. Groundwater quality

3.1 District-owned Wells

The District provided the original laboratory reports for review and interpretation. The concentration of organic nitrogen was calculated using the Total Kjeldahl Nitrogen (TKN) and ammonia data, with half the detection limit being used where the data were reported to be below the analytical detection limit. The spring samples were taken on May 30th and the fall samples were taken on October 24th.

Table 3.1 summarises the spring data. Should an influence be observed from the effluent release, the expectation is that the lowest concentrations should be associated with the background well MW-2 and that the highest concentrations should be observed at MW-18 or MW-10, decreasing at MW-14 as a result of assimilation, rejuvenation and dilution as the effluent moves through the ground. Parameters which could be used to indicate the presence of effluent from the wastewater plant could include total nitrogen, nitrate, orthophosphorus, sodium, chloride, conductivity and *E. coli*. However, phosphorus can bind readily to soils, *E. coli* could be removed/die-off as the effluent passes through the soils, and sodium, chloride and conductivity could be present as a result of other inputs, such as road maintenance activities. Focusing on nitrate as the possible best tracer for the presence of effluent from the District's discharge (although nitrate could also be present as a result of agricultural activities which occur commonly in this area), the concentrations at MW-10 and MW-12 were higher than that in the background well MW-2, with the highest concentration being in MW-12. The concentration decreased at MW-14, with the reported concentration

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being below the analytical detection limit. Of interest, the nitrate concentration in MW-18, which is one of the closest wells to the point of effluent release, was lower than the background well. Unlike previous years, there was no consistency in the higher nitrate concentration being associated with the three closest down-gradient wells to the point of discharge (i.e. MW-18, MW-10 and MW-12).

Table 3.1: Summary of Spring Data

| Parameter | Units | Location | | | | |
|------------------|------------|----------|----------|----------|----------|----------|
| | | MW-2 | MW-18 | MW-10 | MW-12 | MW-14 |
| Total Nitrogen | mg/L | 1.11 | 0.959 | 2.48 | 2.53 | 0.168 |
| TKN | mg/L | 0.150 | 0.110 | 0.217 | 0.139 | 0.168 |
| Organic Nitrogen | mg/L | 0.125 | 0.085 | 0.192 | 0.114 | 0.143 |
| Ammonia | mg/L | < 0.050 | < 0.050 | < 0.050 | < 0.050 | < 0.050 |
| Nitrate | mg/L | 0.955 | 0.849 | 2.26 | 2.39 | < 0.010 |
| Nitrite | mg/L | < 0.010 | < 0.010 | < 0.010 | < 0.010 | < 0.010 |
| Total Phosphorus | mg/L | 0.0148 | 1.82 | 0.0817 | 0.0812 | 0.118 |
| Orthophosphorus | mg/L | < 0.0050 | < 0.0050 | < 0.0050 | < 0.0050 | < 0.0050 |
| Sodium | mg/L | 16.2 | 78.7 | 70.3 | 113 | 66.8 |
| Chloride | mg/L | 8.06 | 95.0 | 104 | 81.0 | 96.9 |
| Conductivity | µS/cm | 450 | 765 | 884 | 912 | 1,040 |
| pH | pH units | 8.01 | 8.07 | 7.99 | 8.02 | 8.00 |
| <i>E. coli</i> | MPN/100 mL | < 1 | < 1 | < 1 | < 1 | < 1 |

Total phosphorus was elevated at MW-18 compared with the other wells. This has been observed in the past. However, this is not expected to be related to the effluent release for the following reasons:

- Due to the treatment being biological nutrient removal, the effluent total phosphorus concentrations are expected to be low.
- Typically, orthophosphorus is the predominant form of phosphorus in a domestic wastewater effluent. However, this was not the case for MW-18, where phosphorus was mainly in the particulate form, with the orthophosphorus concentration being below the analytical detection limit.
- Phosphorus tends to bind readily to soils, so would be expected to be present in low concentrations in the groundwater.
- As with previous occasions when the total phosphorus concentration in MW-18 has been elevated, the turbidity was also elevated. For the 2023 data, the turbidity in the sample from MW-18 was in the order of 300 NTU compared with the other monitoring wells (3 to 10 NTU range). There is a

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strong relationship between increases in particulate phosphorus when turbidity is elevated as a result of the presence of natural phosphorus associated with sediments and soils. Therefore, it is reasonable to assume that the source of the particulate phosphorus was from the natural soils rather than being related to the effluent release.

Table 3.2 summarises the fall data. As with the spring data, it is reasonable to assume that an influence from the effluent release should translate to the lowest concentrations being associated with the background well MW-2, and the highest concentrations being associated with the closest down-gradient wells (MW-18 and/or MW-10), then decreasing at MW-14 as a result of assimilation, rejuvenation and dilution as the effluent moves through the ground. Given the same assumptions for the parameters of most interest, focusing on nitrate, the concentration was elevated above the background well at MW-18, MW-10 and MW-12, with the highest concentration being at MW-10. The higher concentrations at these three wells is consistent with observations from previous years. As with the spring data, the concentration decreased at MW-14 and was below the analytical detection limit.

Table 3.2: Summary of Fall Data

| Parameter | Units | Location | | | | |
|------------------|------------|----------|----------|----------|----------|----------|
| | | MW-2 | MW-18 | MW-10 | MW-12 | MW-14 |
| Total Nitrogen | mg/L | 1.05 | 2.49 | 3.36 | 2.37 | 0.352 |
| TKN | mg/L | 0.081 | 0.432 | 0.100 | 0.236 | 0.352 |
| Organic Nitrogen | mg/L | 0.056 | 0.407 | 0.075 | 0.211 | 0.237 |
| Ammonia | mg/L | < 0.050 | < 0.050 | < 0.050 | < 0.050 | 0.115 |
| Nitrate | mg/L | 0.974 | 2.06 | 3.26 | 2.12 | < 0.010 |
| Nitrite | mg/L | < 0.010 | < 0.010 | < 0.010 | < 0.010 | < 0.010 |
| Total Phosphorus | mg/L | < 0.0050 | 0.206 | 0.0229 | 0.0602 | 0.387 |
| Orthophosphorus | mg/L | < 0.0050 | < 0.0050 | < 0.0050 | < 0.0050 | < 0.0050 |
| Sodium | mg/L | 15.7 | 0.206 | 68.8 | 79.9 | 69.8 |
| Chloride | mg/L | 9.42 | 128 | 113 | 120 | 116 |
| Conductivity | µS/cm | 429 | 889 | 872 | 905 | 1,080 |
| pH | pH units | 7.59 | 7.85 | 7.81 | 7.85 | 7.83 |
| <i>E. coli</i> | MPN/100 mL | < 1 | < 1 | < 1 | < 1 | < 1 |

In the spring, the highest concentrations were generally associated with MW-10 and MW-12, with the lowest concentrations being typically associated with the background well MW-2. However, for the fall, the highest concentrations were generally associated with MW-18 and MW-14, which are the wells closest and furthest

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away from the wastewater treatment plant. As with the spring data, the lowest concentrations continued to be observed at MW-2.

The water quality was compared with the BC Water Quality Guidelines, focusing on groundwater uses for the most stringent of either potable or agricultural purposes, given the distance from surface water. The parameters where guidelines exist and are also of possible interest with respect to the District’s effluent and public health or environmental impacts are: nitrate, chloride, conductivity, pH and *E. coli*. The outcomes are summarised in Table 3.3, with green indicating concentrations below the guideline and red indicating that at least 1 data point was above the guideline. The guideline for conductivity for irrigation is crop dependent and varies depending on the crop tolerance. The guideline ranges from 700 µS/cm for the most sensitive crops to 5,000 µS/cm for least sensitive crops. For the purpose of this assessment, a moderately tolerant crop was selected, as this type of crop also includes grasses which are expected to be a general common vegetation for the general area. For *E. coli*, there were several guidelines which range from absence up to ≤ 1,000 CFU/100 mL (general irrigation). Selection of the most stringent guideline may not be the best representative of water quality, given that it does not allow for any *E. coli* to be present and assumes that there is no disinfection of what is expected to be untreated water.

As with data from previous years, there was only one parameter (chloride) where data were higher than the most stringent guideline. Chloride concentrations were generally around the 100 mg/L at all down-gradient wells in both the spring and the fall, with the concentration in MW-10 being above 100 mg/L in the spring and the concentration for all down-gradient wells being above 100 mg/L in the fall. The higher chloride concentrations at the down-gradient wells compared with MW-2 could be reflective of the influence from the effluent, given that the chloride concentration in the effluent is typically in the 100 to 130 mg/L range. However, based on other data, it is reasonable to expect that significant dilution would be achieved by the time the effluent reaches MW-14, with the resulting chloride concentration at MW-14 being much reduced compared with the effluent. As this is not observed with the chloride data, the potential influence from other anthropogenic sources of chloride (and possibly other parameters) on MW-14 should be considered.

Table 3.3: Guideline Comparison

| Parameter | Units | Guideline | Location | | | | |
|----------------|------------|--|----------|-------|-------|-------|-------|
| | | | MW-2 | MW-18 | MW-10 | MW-12 | MW-14 |
| Nitrate | mg/L | ≤ 10 (drinking water) | Green | Green | Green | Green | Green |
| Chloride | mg/L | 100 (irrigation) | Green | Red | Red | Red | Red |
| Conductivity | µS/cm | 2,200 (irrigation) | Green | Green | Green | Green | Green |
| pH | pH units | 5.0 to 9.5 (irrigation) | Green | Green | Green | Green | Green |
| <i>E. coli</i> | MPN/100 mL | 0 (livestock in closely confined conditions with no water treatment) | Green | Green | Green | Green | Green |

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Table 3.4: Summary of Spring Data (continued...)

| Parameter | Units | Location | | | | | | |
|------------------|------------|----------|--------|----------|----------|----------|----------|----------|
| | | MW-2 | H1 | H2 | H3 | H4 | H5 | H7 |
| Total Phosphorus | mg/L | 0.0148 | 0.232 | 0.0123 | 0.0113 | 0.0089 | 0.0142 | 0.0150 |
| Orthophosphorus | mg/L | < 0.0050 | 0.0750 | < 0.0050 | < 0.0050 | < 0.0050 | < 0.0050 | < 0.0050 |
| Sodium | mg/L | 16.2 | 8.69 | 56.6 | 20.3 | 13.9 | 72.1 | 56.2 |
| Chloride | mg/L | 8.06 | 0.41 | 85.9 | 38.7 | 8.13 | 97.7 | 85.0 |
| Conductivity | µS/cm | 450 | 273 | 774 | 405 | 295 | 849 | 789 |
| pH | pH units | 8.01 | 8.17 | 7.26 | 7.47 | 8.10 | 7.70 | 7.65 |
| <i>E. coli</i> | MPN/100 mL | < 1 | < 1 | < 1 | < 1 | < 1 | < 1 | < 1 |

Table 3.5: Summary of Fall Data

| Parameter | Units | Location | | | | | | |
|------------------|------------|----------|---------|---------|---------|----------|----------|----------|
| | | MW-2 | H1 | H2 | H3 | H4 | H5 | H7 |
| Total Nitrogen | mg/L | 1.05 | 0.379 | 4.36 | 4.88 | 2.27 | 4.80 | 4.64 |
| TKN | mg/L | 0.081 | 0.368 | 0.334 | 0.345 | 0.389 | 0.292 | 0.285 |
| Organic Nitrogen | mg/L | 0.056 | 0.141 | 0.309 | 0.340 | 0.384 | 0.267 | 0.260 |
| Ammonia | mg/L | < 0.050 | 0.227 | < 0.050 | < 0.050 | < 0.050 | < 0.050 | < 0.050 |
| Nitrate | mg/L | 0.974 | 0.011 | 4.03 | 4.54 | 1.88 | 4.51 | 4.36 |
| Nitrite | mg/L | < 0.010 | < 0.010 | < 0.010 | < 0.010 | < 0.010 | < 0.010 | < 0.010 |
| Total Phosphorus | mg/L | < 0.0050 | 0.231 | 0.0107 | 0.0066 | < 0.0050 | 0.0097 | 0.0119 |
| Orthophosphorus | mg/L | < 0.0050 | 0.0574 | 0.0123 | 0.0053 | < 0.0050 | < 0.0050 | < 0.0050 |
| Sodium | mg/L | 15.7 | 8.34 | 57.1 | 20.0 | 74.6 | 70.8 | 55.4 |
| Chloride | mg/L | 9.42 | 0.43 | 87.7 | 40.3 | 112.0 | 101.0 | 80.9 |
| Conductivity | µS/cm | 429 | 265 | 754 | 393 | 846 | 830 | 768 |
| pH | pH units | 7.59 | 8.08 | 7.23 | 7.37 | 7.77 | 7.78 | 7.82 |
| <i>E. coli</i> | MPN/100 mL | < 1 | < 1 | < 1 | < 1 | < 1 | < 1 | < 1 |

The water quality was compared with the BC Water Quality Guidelines, focusing on groundwater uses for the most stringent of either potable or agricultural purposes, given the assumption that any water from these wells would be used to support potable and/or agricultural activities on the property. As in Section 3.1, the outcomes are summarised (Table 3.6), with green indicating concentrations below the guideline and red indicating that at least 1 data point was above the guideline. The guideline comparison is for the following

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parameters: nitrate, chloride, conductivity and pH, with the guideline for conductivity being based on a moderately tolerant crop. Chloride was above the guideline at H4 and H5 but only for the fall monitoring event. Chloride concentrations above the guideline have been consistent for H4 since the beginning of the dataset in 2021. The elevated concentrations for H5 were observed in 2022 but not 2021. All other parameters were below the corresponding guidelines.

Table 3.6: Guideline Comparison

| Parameter | Units | Guideline | Location | | | | | |
|----------------|------------|--|----------|----|----|----|----|----|
| | | | H1 | H2 | H3 | H4 | H5 | H7 |
| Nitrate | mg/L | ≤ 10 (drinking water) | | | | | | |
| Chloride | mg/L | 100 (irrigation) | | | | | | |
| Conductivity | µS/cm | 2,200 (irrigation) | | | | | | |
| pH | pH units | 5.0 to 9.5 (irrigation) | | | | | | |
| <i>E. coli</i> | MPN/100 mL | 0 (livestock in closely confined conditions with no water treatment) | | | | | | |

With respect to the potential for impacts as a result of the release, it is reasonable to assume that the wells more likely to be impacted would be H5 and H6, as these are the closest wells to the disposal area. The highest concentrations were typically associated with wells located further away, although sodium, chloride and conductivity were observed to be elevated in H5 in the spring. Given the limited information on well depth, construction, maintenance and other activities in the near vicinity (such as septic fields, livestock raising, fertilizer addition, manure stockpiles, etc.) it will continue to be challenging to clearly define if any water quality characteristics are directly related to the release from the District’s wastewater treatment plant.

4. Conclusions and recommendations

From the information which was reviewed and evaluated, the following conclusions are drawn:

- All data points indicated that the distance to the groundwater level was over 0.5 m from the ground surface. This depth is not a requirement of the operational certificate but is taken from the Municipal Wastewater Regulation for a minimum unsaturated soil depth for a Class A or B effluent.
- For the District-owned monitoring wells, the highest concentrations tended to be associated with the three wells located within or close to the wastewater plant boundary. Focusing on nitrate as the best tracer for the District’s effluent, the classic trend of the higher concentrations being closer to the point of discharge was observed in both the spring and the fall. With respect to BC Water Quality Guidelines for either potable or agricultural uses, chloride was above the most stringent guideline on at least 1 occasion for each of the down-gradient wells. It is not known whether the increase above the guideline was related to the effluent release or other factors, given that the proximity to roads and agricultural areas and the lack of decrease in concentration at MW-14.

Memorandum

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- For the privately-owned monitoring wells, there was no clear relationship between concentration and distance from the wastewater treatment plant. With respect to BC Water Quality Guidelines for either potable or agricultural uses, chloride at H4 and H5 was above the most stringent guideline for the fall monitoring event only. This was the only parameter that was above the corresponding guidelines. Given the limited information on well depth, construction, maintenance and other activities in the near vicinity (such as septic field, livestock raising, fertilizer addition, manure stockpiles, etc.) it will continue to be challenging to clearly define if any water quality characteristics are directly related to the release from the District's wastewater treatment plant.
- Generally, there is consistency between the outcomes of the 2023 data and the data from 2021 and 2022, with the increased chloride concentration for H5 becoming more clear with time.

The following recommendations are made:

- Water quality samples from all locations should be taken on the same date, or within a day or two of each other, where possible.

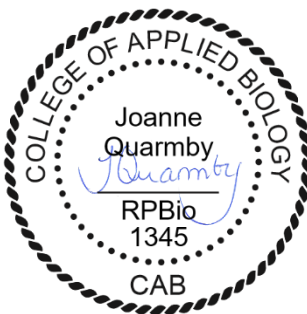
5. Closure

Groundwater monitoring is required as part of the 2021 operational certificate and the data are to be reported annually with interpretation, as indicated in Section 4.4 of the operational certificate. The information presented in this technical memorandum aims to fulfil the requirement of Section 4.4(b) of the operational certificate.

Please do not hesitate to contact us if there are any questions or if clarification is required.

Sincerely,

QUARMBY ENVIRONMENTAL LTD.





Dr. Joanne Quarmby, R.P.Bio.
Water and Wastewater Specialist

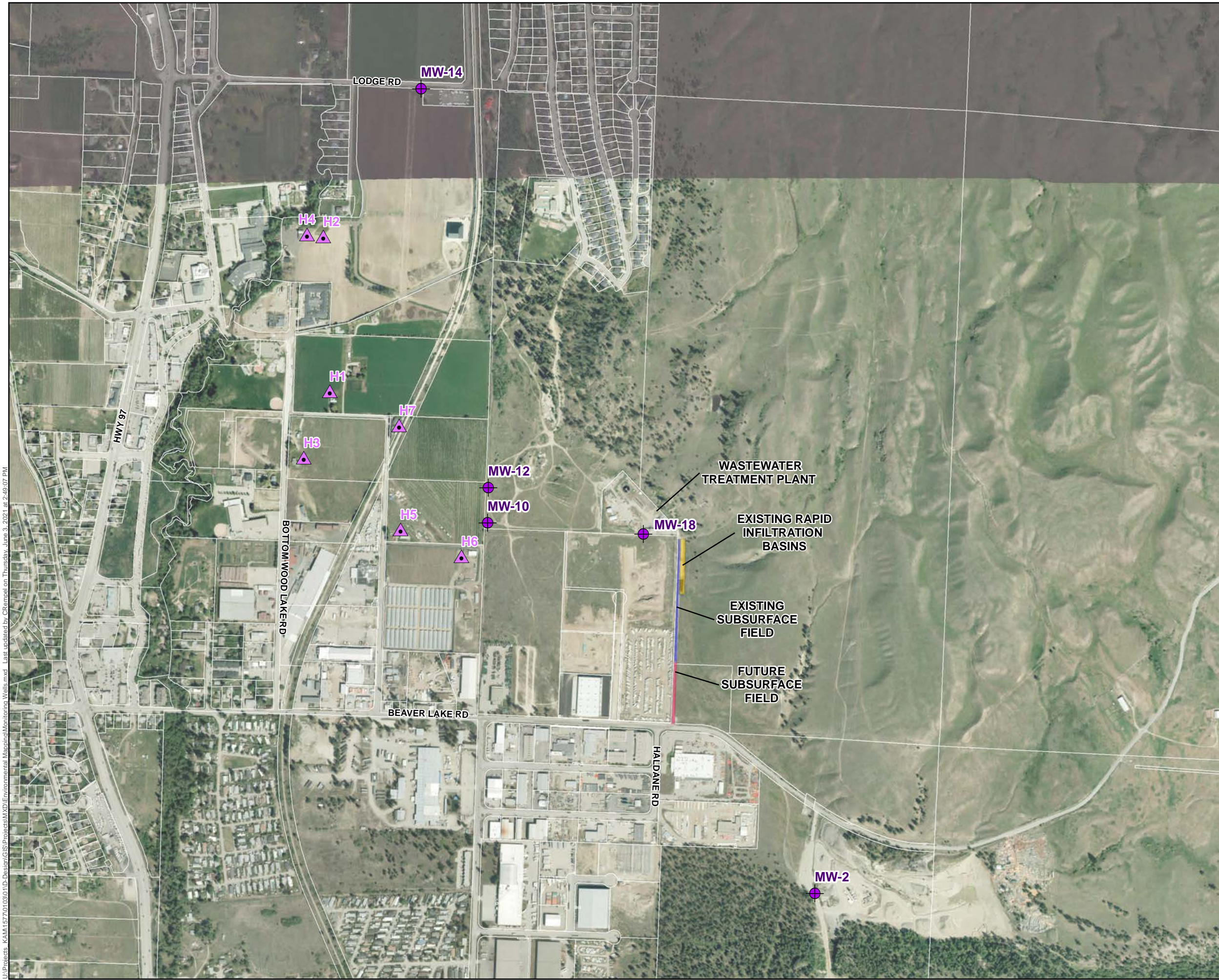


LAKE COUNTRY
Life. The Okanagan Way.

District of Lake Country
OC Amendment

Monitoring Wells

-  House Well
-  Monitoring Well



The accuracy & completeness of information shown on this drawing is not guaranteed. It will be the responsibility of the user of the information shown on this drawing to locate & establish the precise location of all existing information whether shown or not.



Coordinate System:
NAD 1983 UTM Zone 11N

Scale:
1:9,500

Data Sources:
- Imagery provided by ESRI.
- Parcels provided by DataBC.

Project #: 1577.0103.01
 Author: CR
 Checked:
 Status:
 Revision: A
 Date: 2021 / 6 / 3



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Appendix E – Monitoring Wells Locations

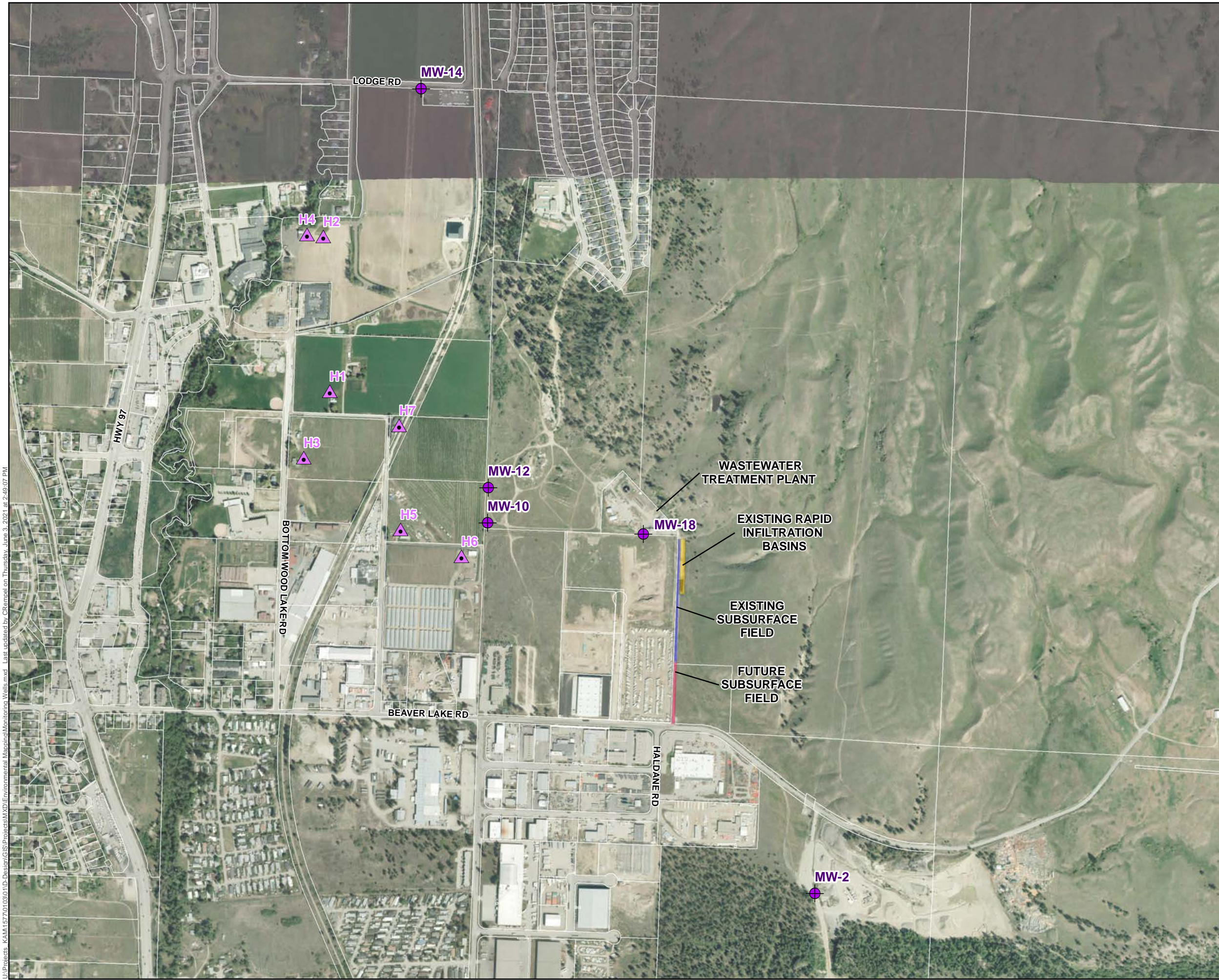


LAKE COUNTRY
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Monitoring Wells

-  House Well
-  Monitoring Well



WASTEWATER
TREATMENT PLANT

EXISTING RAPID
INFILTRATION
BASINS

EXISTING
SUBSURFACE
FIELD

FUTURE
SUBSURFACE
FIELD

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Coordinate System: NAD 1983 UTM Zone 11N
Scale: 1:9,500

Data Sources:
- Imagery provided by ESRI.
- Parcels provided by DataBC.

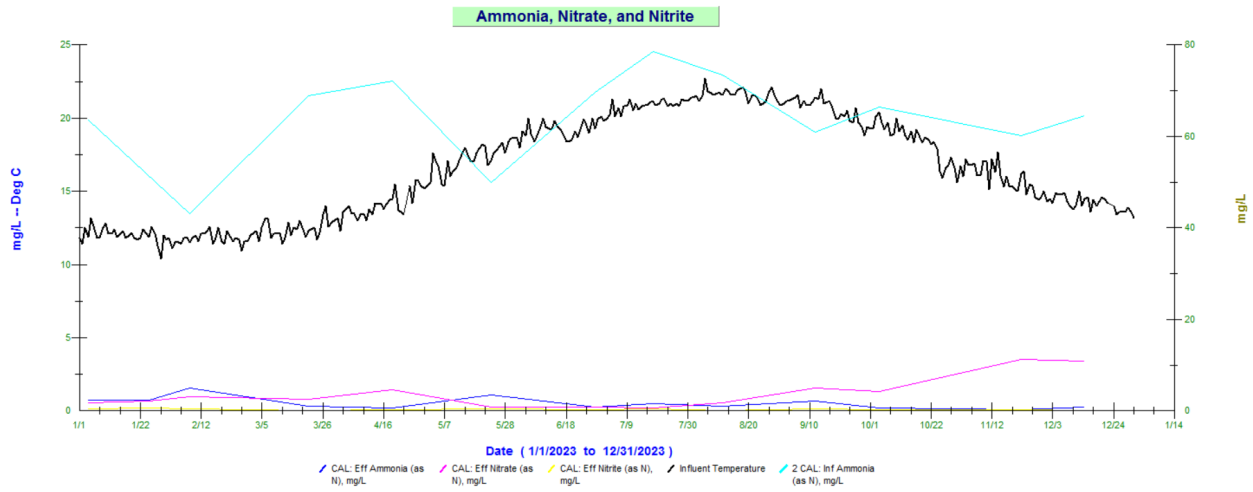
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Author: CR
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Status:
Revision: A
Date: 2021 / 6 / 3



Appendix F – Plant Performance Trends

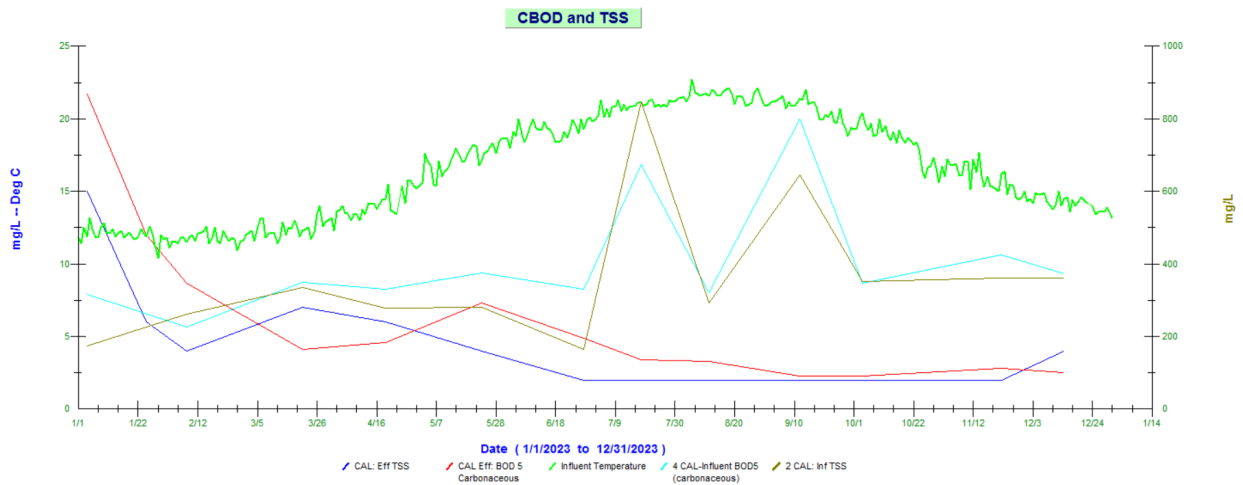
Plant Performance Trends

1.1 Ammonia, Nitrate, and Nitrite



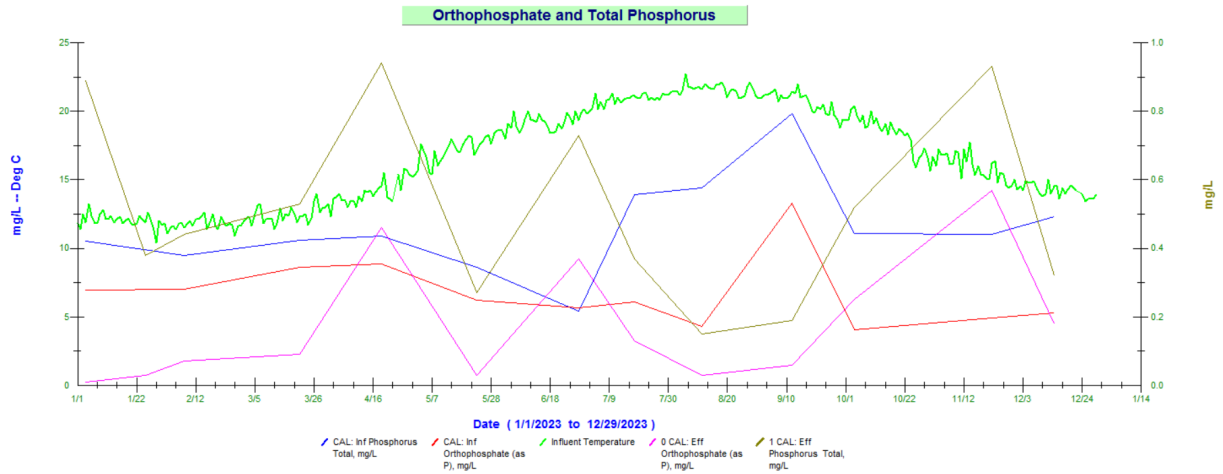
Influent ammonia levels remain relatively consistent throughout the year, peaking during the summer months. Effluent concentrations of ammonia, nitrate, and nitrite show stability throughout the year, with a slight increase in nitrate levels observed towards the end of the year. This rise in nitrate concentrations is likely attributable to the commissioning of new works following a recent upgrade. Notably, despite this increase, the total nitrogen concentration remains below the permitted level, indicating effective regulatory compliance.

1.2 CBOD and TSS



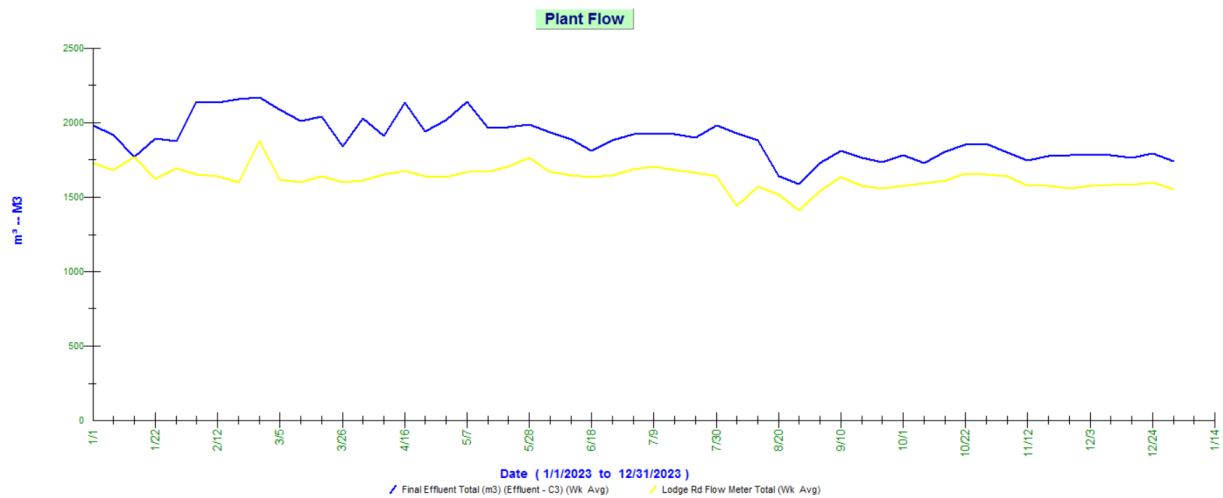
The impact of prolonged cold temperatures on the treatment process is evident in the elevated concentrations of CBOD and TSS observed in January. Effluent filters were installed on January 13, 2023, and as depicted in the graph above, there was a dramatic improvement in effluent TSS and CBOD thereafter.

1.3 Orthophosphate and Total Phosphorus



The impact of prolonged cold temperatures on effluent quality is evident in the elevated concentrations of total phosphorus observed in the first quarter of the year. Typically, this is not a cause for concern as it coincides with a period of reduced bacterial activity, resulting in less efficient nutrient removal. However, in the fall, operational upsets stemming from the commissioning of new works following a recent upgrade contributed to higher-than-normal averages. This led to elevated concentrations persisting through the fall and ultimately resulted in a higher annual average than usual.

1.4 Plant Flow



Plant flow remains relatively consistent throughout the year.