WASTEWATER TREATMENT PLANT
2025 ANNUAL REPORT

DISTRICT OF LAKE COUNTRY

LAKE COUNTRY
Life. The Okanagan Way.

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This annual report for the year 2025 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 October 2024. 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, Utilities Manager 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 in April 2025 after Phase IV Upgrade.

Prepared/Reviewed by:

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Shelby McFarlane AScT, Engineering Technician Date

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Davin Larsen AScT, Wastewater Crew Leader Date

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Mike Mitchell, Utilities Manager Date

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, chemical phosphorus removal facilities, flow monitoring, and a surface to ground disposal system. Effluent filters have been added and an OC amendment has been requested for effluent filters to be included in the authorized works.

Figure 1: Effluent RI Basin 1

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. The infiltration system consists of 3 open basins and two subsurface disposal field.

The discharge is authorized in accordance with the provisions outlined in Operational Certificate (OC) – #14651, initially issued on November 5, 1998, and last amended on October 8, 2024.

1.1.1 Authorized Rate of Discharge

The authorized rate of discharge is a monthly average of 2000 m^3/d, based on daily values averaged on a monthly basis. Effluent totals are calculated by subtracting the recirculated water meter total and the effluent discharged into the Kelowna collection system meter total from the plant's effluent flow meter total. The recirculated effluent, drawn from the effluent discharge line after the effluent flow meter, is used as process water throughout the plant. Due to capacity constraints within Lake Country's disposal systems, some flows are discharged into the Kelowna Collection System for further treatment and disposal at the Kelowna WWTP, as part of an ongoing agreement with City of Kelowna.

In 2025 the annual average discharge was 1,656 m^3/d (decrease from 1,715 m^3/d in 2024). The highest monthly average was in March at 1,829 m^3/d, remaining below the OC limit. The July daily average for total effluent flow — before subtracting City of Kelowna Collection system flow — was 2,004 m^3/d. A non-compliance report was initially submitted; however further determined that this was not an actual exceedance but rather an error in interpreting which flow meter data should be used. Section 4.3.1 and Appendix C provide additional details on this event. Detailed monthly flow data is provided in Table 1, with daily flows available in Appendix A.

Table 1: Daily, Monthly, and Average Influent and Effluent Flows

2025	Influent		Effluent Discharge				
	DLC Collection System	Regional Septage	Surface to Ground Disposal				Kelowna Collection System
	Flow (m^3/month)	Flow (m^3/month)	Flow (m^3/month)	Minimum (m^3/day)	Maximum (m^3/day)	Daily Avg (m^3/day)	Flow (m^3/month)
January	50,841	520	51,872	1,519	2,021	1,673	6,339
February	46,112	447	47,233	1,460	2,220	1,687	5,891
March	51,773	749	56,698	1,515	2,150	1,829	2,804
April	51,387	1,092	49,344	1,530	2,026	1,645	9,991
May	51,216	1,020	49,646	1,502	1,922	1,602	9,464
June	50,420	820	49,285	1,560	1,736	1,643	8,202
July	53,516	960	52,488	1,271	2,881	1,692	9,691
August	52,514	1,108	50,512	1,491	1,963	1,629	9,285
September	48,769	1,120	46,887	1,447	1,634	1,563	8,586
October	50,474	1,490	50,026	1,428	1,892	1,614	9,153
November	49,281	1,025	49,783	1,549	1,784	1,659	7,024
December	51,840	662	50,552	1,571	1,695	1,631	8,946
Annual	608,143	11,014	604,289	-	-	-	95,376

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 (2024 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 OC Maximums	**10**	**20**	**1.5**	**10**	
January	3	<2	0.05	3.73	7.71
February	4	4	0.61	7.91	7.84
March	5	5	0.05	5.39	7.79
April	5	3	0.23	2.52	7.69
May	<4	4	0.16	3.16	7.78
June	<8	2	0.38	2.52	8.00
July	<4	<2	0.29	3.80	7.85
August	<8	<2	0.09	2.01	7.85
September	<4	<2	0.13	1.73	7.76
October	<4	3	0.12	1.56	7.44
November	<4	<3	0.14	4.31	7.21
December	<4	<2	0.22	4.00	7.63
Annual Average	**3.1**[1]	**2.3**[1]	**0.21**[2]	3.55	7.71
Annual Average OC Maximums	-	-	**0.15**	**6**	-

[1]As per standard practice half the detection limit has been used to calculate the average concentration.

[2]Refer to section 4.3.1 of this report for explanation of this exceedance.

The 2025 effluent discharge sampling results for Carbonaceous Biochemical Oxygen Demand ($CBOD_5$), Total Suspended Solids (TSS), Ortho-Phosphorus as P, and Soluble Nitrogen as N are discussed in the following subsections.

CARBONACEOUS BOD ($CBOD_5$)

The monthly $CBOD_5$ samples are analyzed by an accredited lab (refer to Table 2 for results). Detailed results from the accredited laboratory can be found in Appendix B.

$CBOD_5$ average concentration was 3.1 mg/L in 2025 compared to an annual average concentration of 6.7 mg/L in 2022. The maximum of <8 mg/L was observed in June and August, which is below the OC requirement.

TOTAL SUSPENDED SOLIDS (TSS)

Suspended Solids are analyzed monthly by an accredited lab (refer to Table 2 for results). The yearly average was 2 mg/L. There were no occasions in 2025 when TSS was higher than the operational certificate requirement of 20 mg/L, with the maximum concentration for 2025 being 5 mg/L in March. 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 significantly.

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 0.21 mg/L. This was above the operational certificate requirement of 0.15 mg/L for an annual average. Section 4.3.1 and Appendix C speaks to this

exceedance. Operations is seeing an improvement in Ortho Phosphorus in 2025 compared to 0.32 mg/L in 2024, supporting the idea that it is related to septage, as hauls are lower during this time. A new aerator was installed to the TWAS storage tank in 2025, which may have further helped to reduce Ortho Phosphorus levels.

At no time in 2025 did the effluent Ortho Phosphorus exceed the daily limit of 1.5 mg/L, with the maximum concentration of 0.61 mg/L occurring in February. 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 2025, there was no instance where the Soluble Nitrogen limit of 10.0 mg/L was exceeded, with the maximum concentration being 7.91 mg/L measured in February. The yearly average for Soluble Nitrogen was 3.55 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 2025.

2.3 Bypasses

No Bypasses occurred in 2025.

2.4 Plant Modifications

In 2025, the TWAS aerator was replaced to retire aging infrastructure and improve overall process performance. The upgraded unit provides better mixing and higher oxygen transfer efficiency within the TWAS tank, helping maintain aerobic conditions in the thickened waste activated sludge. Anaerobic conditions can cause biomass to release phosphorus. The improved aeration system is intended to reduce the biological re-release of orthophosphate back into the liquid phase to keep effluent ortho-phosphorus concentrations low. The old TWAS aerator was significantly damaged by struvite as seen in Figure 3.

The septage receiving auger screen was replaced in 2025 by a third-party mechanical contractor. Due to prolonged exposure to high-strength wastewater, the metal components had significantly deteriorated, and the screw holes had worn to the point where new brushes could no longer be secured. The installation of the new auger screen restores reliable operation of the septage receiving system. Figure 4 shows the newly installed unit.

Figure 3: Old TWAS Aerator

Figure 4: New Septage Auger Screen

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 five 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
Jeremy Engelbrecht	IV	I[1]
Yiran(Bella) Chen	IV[2]	-
Shelby McFarlane	III	-

[1]Jeremy Engelbrecht obtained their level 1 EOCP certification in Wastewater Collection in November 2025.
[2]Yiran Chen obtained their level 4 EOCP certification in Wastewater Treatment in December 2025.

2.6 Qualified Professional

This report was prepared by an AScT-certified staff member 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 (2024 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. The plan was reviewed and updated in 2025. 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 in Appendix G.

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.

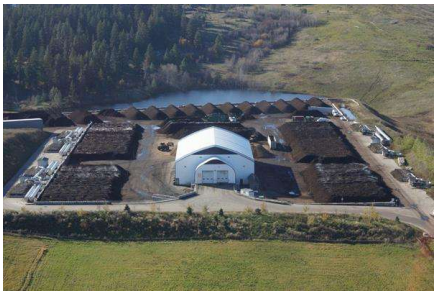

Figure 5: Ogogrow Production Facility

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.

Table 4: Dewatered Sludge Quantities

2025	Monthly Totals	
	Number of Loads	Dry Weight (Tonnes)*
January	19	123.34
February	16	109.46

March	18	150.01
April	22	167.14
May	22	169.13
June	20	142.50
July	22	183.65
August	21	183.03
September	19	167.28
October	23	199.23
November	18	142.68
December	17	125.35
Total	237	1,862.81

*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. Neither of the subsurface tile disposal fields are currently being utilized. 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. In 2025 the top layer of sand was removed from all three basins and fresh sand was added.

2.12 Sewage Collection System

The District of Lake Country's Wastewater Collection system comprises 12 lift stations and 85.6 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 4,185 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.

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.

Additionally, the District utilizes 5 "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.

The District is working with the Ministry of Environment and Parks and the Ministry of Water, Land, and Resource Stewardship to explore potential uses for the well, including supporting Lake Country's reclaimed water reuse strategy and augmenting flows in Middle Vernon Creek.

2.15 Irrigation

Treated effluent is only used for wastewater treatment plant process water and not used in the irrigation of any property. The District is working with the Ministry of Environment and Parks to advance the District's reclaimed water reuse strategy, acknowledging the challenges associated with irrigating food-to-mouth crops and the significant impacts on marketability.

3.0 Monitoring Requirements

3.1 Influent and Effluent Monitoring

The District's monitoring program adheres to the requirements 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: 2025 Influent accredited lab data

	CBOD5 (mg/L)	TSS (mg/L)	Total P (mg/L)	Total Nitrogen (mg/L)	pH
January	323	284	14.90	76.00	8.05
February	357	240	8.88	68.60	7.91
March	495	352	11.90	82.20	8.12
April	214	190	6.67	62.60	8.05
May	538	400	12.50	102.00	8.27

June	563	358	12.40	106.00	7.62
July	298	249	8.20	76.10	7.90
August	275	304	10.50	78.10	7.93
September	441	430	12.50	90.80	7.91
October	591	360	11.00	108.00	8.01
November	513	420	11.50	101.00	7.79
December	495	402	10.20	89.40	7.88
Annual Average	323	332	10.93	86.73	7.95

3.2 Groundwater Monitoring

The groundwater monitoring program has been developed by a third-party qualified professional (Urban Systems Ltd.).

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 current monitoring program was developed as part of the 2021 Operational Certificate amendment. There were no modifications to the Monitoring Program in 2025.

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. The District also includes trip and equipment blanks, plus duplicate samples to Caro Analytical to support quality assurance.

4.0 Reporting Requirements

All data from LCWWTP analysis and flow measurements required under the operational certificate 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 laboratory 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 2025. Although not an exceedance of the effluent requirements, one sanitary sewer overflow occurred in 2025. A Non-Compliance Report for all three incidences was sent to Ministry of Environment and Parks and can be found in Appendix C. A summary of this exceedances/non compliances are below:

Daily Flow Monthly Average (1) – In July 2025, the facility recorded a total monthly average effluent discharge of 2,004 m^3/day, slightly exceeding the 2,000 m^3/day limit specified in Section 1.1.1 of Operational Certificate #14651. Although reported as a non-compliance, further review of the data indicated that there was no exceedance but rather an error in interpretating the data. During routine operational activities while transitioning flow between secondary clarifiers, treated effluent was recirculated through the effluent flow meter to fill an empty clarifier, producing several artificially low discharge readings, followed by higher-than-normal values when the clarifier previously in service was pumped down. This process created a falsely elevated monthly average, including a maximum recorded day of 2,881 m^3/day. Based on the ability for this activity to result in the mis-interpretation of data, staff have identified potential improvements such as installing a secondary flow meter to exclude recirculated treated water from totalized flows and extending pumping durations during tank draining and filling to reduce peak readings. In addition, the effluent discharge flow should only include the flow going into the infiltration basins, and should not include any flow being diverted to the City of Kelowna. The July 2025 daily average was actually 1,692 m^3/day when City of Kelowna diversion flow was subtracted as noted in Table 1.

Ortho Phosphorus exceedance (1) – The 2025 annual average for Ortho-Phosphorus was 0.21 mg/L, which exceeded the Operational Certificate requirement of 0.15 mg/L. Despite the elevated annual average, all individual results remained well below the maximum daily limit of 1.5 mg/L, with the highest reading of 0.61 mg/L recorded in February. The increase in the annual average is attributed to additional nutrient loading from the septage receiving station, which is released to the plant's headworks during

the centrifuge process. The District of Lake Country achieved some improvement between 2024 and 2025 by upgrading the sludge storage aeration system as noted in Section 2.4.

Failure to Conduct Continuous Monitoring (1) – Section 3.2 of Operational Certificate #14651 requires continuous groundwater depth monitoring at monitoring well MW-10, MW-12 and MW-18. The level sensor at MW-18 was removed on October 16, 2025 to download data. It was reinstalled and returned to service on October 20, 2025. As a result, no continuous water level data are available for MW-18 between October 16 and 20 due to a reader error malfunction in the logger.

Sanitary Sewer Overflow (1) – On August 1, 2025, a contractor hired by the District to refurbish a storm corridor inadvertently damaged a sanitary manhole, resulting in a raw sewage overflow between Bonnie Drive and Lodge Road. Hydrovac trucks were deployed immediately to contain and remediate the spill, and upstream and downstream water samples were collected for analysis. The manhole was raised to prevent the incident from occurring again.

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 is currently in good overall condition, having undergone upgrades in 2015 and 2023, with another upgrade in the predesign phase and scheduled within the next 2 to 5 years. The District is proactively identifying components for both current and future upgrade and replacement needs, strategically addressing the challenges posed by community growth and increasing flows. One key measure involves exploring alternative methods of effluent disposal to manage these demands effectively.

The District is also in the final stages of its Liquid Waste Management Plan (LWMP), which outlines a long-term strategy for wastewater treatment, effluent disposal, and environmental protection. The plan aims to ensure regulatory compliance, support sustainable community growth, and protect public and environmental health.

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 Parks on January 12th, 2022. In 2025, it was reviewed for accuracy and emergency contact information has been updated to the plan since its submission. Please refer to Appendix G.

Appendix A - Total Daily Flows

Effluent Discharge (m3)

	January		February		March		April		May		June	
Date	To City of Kelowna Collection	To Basins (m3)	To City of Kelowna Collection	To Basins (m3)	To City of Kelowna Collection	To Basins (m3)	To City of Kelowna Collection	To Basins (m3)	To City of Kelowna Collection	To Basins (m3)	To City of Kelowna Collection	To Basins (m3)
1	0	1,831	50	1813	140	1714	213	1741	365	1541	387	1622
2	231	1,565	0	2220	0	2035	347	1601	375	1534	359	1622
3	298	1,519	0	1839	249	1547	342	1579	371	1502	307	1581
4	39	1,808	248	1611	351	1515	351	1578	416	1552	229	1632
5	0	1,962	385	1511	186	1782	380	1565	391	1544	212	1664
6	217	1,630	365	1509	0	1863	431	1585	373	1533	224	1697
7	266	1,594	334	1474	0	1901	521	1756	356	1526	215	1663
8	274	1,602	91	1789	0	1896	54	2026	285	1626	272	1685
9	305	1,581	0	2015	0	1900	250	1769	247	1698	233	1688
10	289	1,600	274	1564	0	1870	275	1712	235	1623	308	1613
11	66	1,865	280	1587	0	1874	265	1718	284	1691	295	1583
12	0	2,021	281	1587	0	1901	316	1633	255	1701	295	1608
13	164	1,765	288	1600	0	2150	360	1702	11	1913	315	1607
14	336	1,556	279	1583	0	1917	355	1670	0	1922	318	1560
15	262	1,641	66	1774	0	1934	248	1709	143	1722	334	1570
16	230	1,645	0	1843	0	1956	363	1606	316	1566	300	1650
17	248	1,608	0	1952	0	1895	344	1626	328	1561	247	1586
18	46	1,784	221	1594	0	1879	383	1598	317	1514	234	1601
19	0	1,990	326	1536	0	1891	330	1541	445	1583	263	1613
20	190	1,669	326	1539	0	1775	393	1576	345	1582	329	1649
21	249	1,601	327	1547	0	1833	395	1594	314	1559	325	1601
22	246	1,586	77	1882	0	1846	350	1634	326	1565	348	1592
23	273	1,602	0	2039	0	2039	324	1633	303	1542	269	1687
24	232	1,559	230	1663	0	1903	333	1634	325	1515	211	1702
25	284	1,592	357	1574	264	1633	315	1621	364	1552	213	1715
26	291	1,630	345	1556	250	1653	315	1597	340	1555	220	1721
27	308	1,639	373	1572	269	1664	405	1628	333	1542	190	1680
28	252	1,566	368	1460	281	1701	318	1611	356	1573	245	1684
29	257	1,636			232	1740	381	1571	326	1627	254	1673
30	231	1,592			273	1744	334	1530	282	1620	251	1736
31	255	1,633			309	1747			337	1565		
Min	0	1519	0	1460	0	1515	54	1530	0	1502	190	1560
Max	336	2,021	385	2,220	351	2,150	521	2,026	445	1,922	387	1,736
Average	204.484	1673.29	210.393	1686.89	90.4516	1828.97	333.033	1644.8	305.29	1601.58	273.4	1642.83
Total	6339	51872	5891	47233	2804	56698	9991	49344	9464	49649	8202	49285

	July		August		September		October		November		December	
Date	To City of Kelowna Collection System(m3)	To Basins (m3)	To City of Kelowna Collection System(m3)	To Basins (m3)	To City of Kelowna Collection System(m3)	To Basins (m3)	To City of Kelowna Collection System(m3)	To Basins (m3)	To City of Kelowna Collection System(m3)	To Basins (m3)	To City of Kelowna Collection System(m3)	To Basins (m3)
1	297	1700	296	1634	447	1602	294	1514	212	1705	259	1620
2	259	1717	310	1637	277	1594	305	1575	243	1784	237	1582
3	254	1710	306	1616	265	1583	302	1559	160	1717	266	1638
4	243	1705	363	1641	236	1582	299	1518	143	1751	262	1646
5	273	1662	337	1609	234	1533	397	1589	126	1699	247	1633
6	285	1711	350	1608	243	1514	303	1607	120	1667	279	1592
7	422	1569	153	1843	347	1617	257	1586	124	1709	339	1629
8	477	1461	0	1933	261	1608	279	1630	158	1671	255	1612
9	519	1363	0	1878	240	1612	272	1583	185	1700	296	1651
10	473	1476	0	1963	227	1611	257	1572	218	1589	269	1663
11	553	1355	296	1629	215	1571	293	1523	285	1588	294	1649
12	616	1271	329	1596	213	1559	316	1543	268	1615	276	1642
13	680	1330	313	1611	202	1535	362	1578	217	1549	325	1666
14	517	1452	315	1603	302	1581	304	1573	263	1621	380	1695
15	499	1469	328	1641	288	1634	237	1619	268	1586	302	1600
16	485	1447	245	1694	244	1611	267	1568	355	1628	285	1571
17	204	1810	394	1610	241	1628	207	1577	268	1661	312	1678
18	0	1986	386	1569	209	1582	323	1428	276	1767	328	1646
19	0	1901	370	1542	220	1604	401	1511	234	1671	294	1617
20	0	1982	390	1541	236	1568	233	1586	239	1650	333	1612
21	0	2280	403	1577	320	1595	213	1553	213	1625	337	1602
22	0	2881	352	1517	326	1486	225	1580	243	1584	276	1691
23	208	2192	357	1491	351	1489	494	1457	311	1661	236	1672
24	308	1659	405	1529	338	1511	633	1526	256	1663	263	1664
25	299	1643	347	1556	347	1514	246	1748	232	1659	216	1600
26	305	1596	335	1603	346	1500	246	1892	236	1645	245	1615
27	325	1612	322	1577	333	1447	247	1859	316	1715	258	1631
28	342	1657	328	1588	398	1502	264	1829	242	1644	257	1639
29	326	1630	319	1599	315	1530	252	1813	279	1613	327	1591
30	265	1614	307	1526	365	1584	274	1816	334	1646	334	1597
31	257	1607	329	1551			151	1714			359	1608
Min	0	1271	0	1491	202	1447	151	1428	120	1549	216	1571
Max	680	2,881	405	1,963	447	1,634	633	1,892	355	1,784	380	1,695
Average	312.613	1691.87	299.516	1629.42	286.2	1562.9	295.258	1613.74	234.133	1659.43	288.581	1630.71
Total	9691	52448	9285	50512	8586	46887	9153	50026	7024	49783	8946	50552

Appendix B – Accredited Laboratory Reports

CERTIFICATE OF ANALYSIS

REPORTED TO	Lake Country, District of (Wastewater) 4062 Beaver Lake Rd LAKE COUNTRY, BC V4V 1T5		
ATTENTION	Davin Larsen	**WORK ORDER**	25A0231
PO NUMBER	104395-10-9007	**RECEIVED / TEMP**	2025-01-06 11:14 / 11.4°C
PROJECT	Raw Influent- PE14651	**REPORTED**	2025-01-13 10:48
PROJECT INFO	Lake Country WWTP	**COC NUMBER**	45663.34655

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 hhannaoui@caro.ca

Authorized By:

Hanane El Hannaoui
Junior Account Manager

TEST RESULTS

REPORTED TO	Lake Country, District of (Wastewater)	**WORK ORDER**	25A0231
PROJECT	Raw Influent- PE14651	**REPORTED**	2025-01-13 10:48

Analyte	Result	RL	Units	Analyzed	Qualifier
Raw Influent (E233627) (25A0231-01) | Matrix: Wastewater | Sampled: 2025-01-06 10:00					
Anions					
Nitrate (as N)	**0.016**	0.010	mg/L	2025-01-07	
Nitrite (as N)	< 0.010	0.010	mg/L	2025-01-07	
Calculated Parameters					
Nitrate+Nitrite (as N)	**0.0165**	0.0100	mg/L	N/A	
Nitrogen, Total	**76.0**	2.00	mg/L	N/A	
General Parameters					
Alkalinity, Total (as CaCO3)	**399**	1.0	mg/L	2025-01-07	
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	1.0	mg/L	2025-01-07	
Alkalinity, Bicarbonate (as CaCO3)	**399**	1.0	mg/L	2025-01-07	
Alkalinity, Carbonate (as CaCO3)	< 1.0	1.0	mg/L	2025-01-07	
Alkalinity, Hydroxide (as CaCO3)	< 1.0	1.0	mg/L	2025-01-07	
Ammonia, Total (as N)	**77.1**	0.050	mg/L	2025-01-08	
BOD, 5-day	**381**	2.0	mg/L	2025-01-13	
BOD, 5-day Carbonaceous	**323**	2.0	mg/L	2025-01-13	
Nitrogen, Total Kjeldahl	**76.0**	0.050	mg/L	2025-01-10	
pH	**8.05**	0.10	pH units	2025-01-07	HT2
Phosphorus, Total (as P)	**14.9**	0.0050	mg/L	2025-01-09	
Phosphorus, Dissolved Reactive	**9.39**	0.0050	mg/L	2025-01-07	
Solids, Total Suspended	**284**	2.0	mg/L	2025-01-07	

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	Lake Country, District of (Wastewater)	**WORK ORDER**	25A0231
PROJECT	Raw Influent- PE14651	**REPORTED**	2025-01-13 10:48

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, Dissolved Reactive in Water	SM 4500-P F (2021)	Automated Colorimetry (Ascorbic Acid)	✓	Kelowna
Phosphorus, Total in Water	SM 4500-P B.5* (2011) / SM 4500-P F (2021)	Persulfate Digestion / Automated Colorimetry (Ascorbic Acid)	✓	Kelowna
Solids, Total 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	Lake Country, District of (Wastewater)	**WORK ORDER**	25A0231
PROJECT	Raw Influent- PE14651	**REPORTED**	2025-01-13 10:48

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
Anions, Batch B5A1522										
Blank (B5A1522-BLK1)				Prepared: 2025-01-07, Analyzed: 2025-01-07						
Nitrate (as N)	< 0.010	0.010	mg/L							
Nitrite (as N)	< 0.010	0.010	mg/L							
LCS (B5A1522-BS1)				Prepared: 2025-01-07, Analyzed: 2025-01-07						
Nitrate (as N)	3.96	0.010	mg/L	4.00		99	90-110			
Nitrite (as N)	1.99	0.010	mg/L	2.00		99	85-115			
General Parameters, Batch B5A1593										
Blank (B5A1593-BLK1)				Prepared: 2025-01-07, Analyzed: 2025-01-07						
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 (B5A1593-BLK2)				Prepared: 2025-01-07, Analyzed: 2025-01-07						
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							
Reference (B5A1593-SRM1)				Prepared: 2025-01-07, Analyzed: 2025-01-07						
pH	7.03	0.10	pH units	7.01		100	98-102			
Reference (B5A1593-SRM2)				Prepared: 2025-01-07, Analyzed: 2025-01-07						
pH	7.03	0.10	pH units	7.01		100	98-102			
General Parameters, Batch B5A1602										
Blank (B5A1602-BLK1)				Prepared: 2025-01-08, Analyzed: 2025-01-08						
Ammonia, Total (as N)	< 0.050	0.050	mg/L							
Blank (B5A1602-BLK2)				Prepared: 2025-01-08, Analyzed: 2025-01-08						
Ammonia, Total (as N)	< 0.050	0.050	mg/L							

APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO	Lake Country, District of (Wastewater)	**WORK ORDER**	25A0231
PROJECT	Raw Influent- PE14651	**REPORTED**	2025-01-13 10:48

Analyte	Result	RL	Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
General Parameters, Batch B5A1602, Continued										
LCS (B5A1602-BS1)				Prepared: 2025-01-08, Analyzed: 2025-01-08						
Ammonia, Total (as N)	0.977	0.050	mg/L	1.00		98	85-115			
LCS (B5A1602-BS2)				Prepared: 2025-01-08, Analyzed: 2025-01-08						
Ammonia, Total (as N)	1.10	0.050	mg/L	1.00		110	85-115			
General Parameters, Batch B5A1603										
Blank (B5A1603-BLK1)				Prepared: 2025-01-07, Analyzed: 2025-01-07						
Phosphorus, Dissolved Reactive	< 0.0050	0.0050	mg/L							
LCS (B5A1603-BS1)				Prepared: 2025-01-07, Analyzed: 2025-01-07						
Phosphorus, Dissolved Reactive	0.101	0.0050	mg/L	0.100		101	84-115			
General Parameters, Batch B5A1647										
Blank (B5A1647-BLK1)				Prepared: 2025-01-07, Analyzed: 2025-01-07						
Solids, Total Suspended	< 2.0	2.0	mg/L							
LCS (B5A1647-BS1)				Prepared: 2025-01-07, Analyzed: 2025-01-07						
Solids, Total Suspended	87.5	5.0	mg/L	100		88	85-115			
General Parameters, Batch B5A1742										
Blank (B5A1742-BLK1)				Prepared: 2025-01-08, Analyzed: 2025-01-13						
BOD, 5-day Carbonaceous	< 2.0	2.0	mg/L							
LCS (B5A1742-BS1)				Prepared: 2025-01-08, Analyzed: 2025-01-13						
BOD, 5-day Carbonaceous	187	58.3	mg/L	198		95	85-115			
General Parameters, Batch B5A1744										
Blank (B5A1744-BLK1)				Prepared: 2025-01-08, Analyzed: 2025-01-13						
BOD, 5-day	< 2.0	2.0	mg/L							
LCS (B5A1744-BS1)				Prepared: 2025-01-08, Analyzed: 2025-01-13						
BOD, 5-day	180	43.3	mg/L	198		91	85-115			
Duplicate (B5A1744-DUP1)		**Source: 25A0231-01**		Prepared: 2025-01-08, Analyzed: 2025-01-13						
BOD, 5-day	353	2.0	mg/L		381			8	22	
General Parameters, Batch B5A1747										
Blank (B5A1747-BLK1)				Prepared: 2025-01-08, Analyzed: 2025-01-10						
Nitrogen, Total Kjeldahl	< 0.050	0.050	mg/L							
Blank (B5A1747-BLK2)				Prepared: 2025-01-08, Analyzed: 2025-01-10						
Nitrogen, Total Kjeldahl	< 0.050	0.050	mg/L							
LCS (B5A1747-BS1)				Prepared: 2025-01-08, Analyzed: 2025-01-10						
Nitrogen, Total Kjeldahl	0.966	0.050	mg/L	1.00		97	85-115			
LCS (B5A1747-BS2)				Prepared: 2025-01-08, Analyzed: 2025-01-10						
Nitrogen, Total Kjeldahl	0.939	0.050	mg/L	1.00		94	85-115			

APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO	Lake Country, District of (Wastewater)	**WORK ORDER**	25A0231
PROJECT	Raw Influent- PE14651	**REPORTED**	2025-01-13 10:48

Analyte	Result	RL	Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
General Parameters, Batch B5A1803										
Blank (B5A1803-BLK1)				Prepared: 2025-01-08, Analyzed: 2025-01-09						
Phosphorus, Total (as P)	< 0.0050	0.0050	mg/L							
LCS (B5A1803-BS1)				Prepared: 2025-01-08, Analyzed: 2025-01-09						
Phosphorus, Total (as P)	0.108	0.0050	mg/L	0.100		108	85-115			

CERTIFICATE OF ANALYSIS

REPORTED TO	Lake Country, District of (Wastewater) 4062 Beaver Lake Rd LAKE COUNTRY, BC V4V 1T5		
ATTENTION	Davin Larsen	**WORK ORDER**	25A0232
PO NUMBER	104395-10-9007	**RECEIVED / TEMP**	2025-01-06 11:14 / 11.4°C
PROJECT	Final Effluent- PE14651	**REPORTED**	2025-01-13 11:16
PROJECT INFO	Lake Country WWTP	**COC NUMBER**	45663.34655

Introduction:

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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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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 hhannaoui@caro.ca

Authorized By:

Hanane El Hannaoui
Junior Account Manager

TEST RESULTS

REPORTED TO	Lake Country, District of (Wastewater)	**WORK ORDER**	25A0232
PROJECT	Final Effluent- PE14651	**REPORTED**	2025-01-13 11:16

Analyte	Result	RL	Units	Analyzed	Qualifier
Final Effluent (E233626) (25A0232-01) | Matrix: Wastewater | Sampled: 2025-01-06 10:15					
Anions					
Chloride	**138**	0.10	mg/L	2025-01-07	
Nitrate (as N)	**1.67**	0.010	mg/L	2025-01-07	
Nitrite (as N)	**0.174**	0.010	mg/L	2025-01-07	
Calculated Parameters					
Nitrate+Nitrite (as N)	**1.84**	0.0100	mg/L	N/A	
Nitrogen, Total	**4.79**	0.0500	mg/L	N/A	
Nitrogen, Organic	**1.06**	0.0500	mg/L	N/A	
General Parameters					
Alkalinity, Total (as CaCO3)	**168**	1.0	mg/L	2025-01-07	
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	1.0	mg/L	2025-01-07	
Alkalinity, Bicarbonate (as CaCO3)	**168**	1.0	mg/L	2025-01-07	
Alkalinity, Carbonate (as CaCO3)	< 1.0	1.0	mg/L	2025-01-07	
Alkalinity, Hydroxide (as CaCO3)	< 1.0	1.0	mg/L	2025-01-07	
Ammonia, Total (as N)	**1.89**	0.050	mg/L	2025-01-08	
BOD, 5-day Carbonaceous	**2.9**	2.0	mg/L	2025-01-13	
Nitrogen, Total Kjeldahl	**2.94**	0.050	mg/L	2025-01-10	
pH	**7.71**	0.10	pH units	2025-01-07	HT2
Phosphorus, Total (as P)	**0.252**	0.0050	mg/L	2025-01-09	
Phosphorus, Dissolved Reactive	**0.0523**	0.0050	mg/L	2025-01-07	
Solids, Total Suspended	< 2.0	2.0	mg/L	2025-01-07	
Microbiological Parameters					
Coliforms, Total (Q-Tray)	**> 242000**	1	MPN/100 mL	2025-01-07	
Coliforms, Fecal (Q-Tray)	**29100**	1	MPN/100 mL	2025-01-07	
Duplicate (25A0232-02) | Matrix: Wastewater | Sampled: 2025-01-06 10:20					
Anions					
Chloride	**133**	0.10	mg/L	2025-01-07	
Nitrate (as N)	**1.67**	0.010	mg/L	2025-01-07	
Nitrite (as N)	**0.169**	0.010	mg/L	2025-01-07	
Calculated Parameters					
Nitrate+Nitrite (as N)	**1.84**	0.0100	mg/L	N/A	
Nitrogen, Total	**4.88**	0.0500	mg/L	N/A	
Nitrogen, Organic	**1.18**	0.0500	mg/L	N/A	
General Parameters					
Alkalinity, Total (as CaCO3)	**169**	1.0	mg/L	2025-01-07	
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	1.0	mg/L	2025-01-07	
Alkalinity, Bicarbonate (as CaCO3)	**169**	1.0	mg/L	2025-01-07	
Alkalinity, Carbonate (as CaCO3)	< 1.0	1.0	mg/L	2025-01-07	

TEST RESULTS

REPORTED TO	Lake Country, District of (Wastewater)	**WORK ORDER**	25A0232
PROJECT	Final Effluent- PE14651	**REPORTED**	2025-01-13 11:16

Analyte	Result	RL	Units	Analyzed	Qualifier
Duplicate (25A0232-02) | Matrix: Wastewater | Sampled: 2025-01-06 10:20, Continued					
General Parameters, Continued					
Alkalinity, Hydroxide (as CaCO3)	< 1.0	1.0	mg/L	2025-01-07	
Ammonia, Total (as N)	**1.86**	0.050	mg/L	2025-01-08	
BOD, 5-day Carbonaceous	**3.0**	2.0	mg/L	2025-01-13	
Nitrogen, Total Kjeldahl	**3.04**	0.050	mg/L	2025-01-10	
pH	**7.71**	0.10	pH units	2025-01-07	HT2
Phosphorus, Total (as P)	**0.262**	0.0050	mg/L	2025-01-09	
Phosphorus, Dissolved Reactive	**0.0498**	0.0050	mg/L	2025-01-07	
Solids, Total Suspended	**2.4**	2.0	mg/L	2025-01-07	
Microbiological Parameters					
Coliforms, Total (Q-Tray)	**242000**	1	MPN/100 mL	2025-01-07	
Coliforms, Fecal (Q-Tray)	**27200**	1	MPN/100 mL	2025-01-07	

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	Lake Country, District of (Wastewater)	**WORK ORDER**	25A0232
PROJECT	Final Effluent- PE14651	**REPORTED**	2025-01-13 11:16

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, 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, Dissolved Reactive in Water	SM 4500-P F (2021)	Automated Colorimetry (Ascorbic Acid)	✓	Kelowna
Phosphorus, Total in Water	SM 4500-P B.5* (2011) / SM 4500-P F (2021)	Persulfate Digestion / Automated Colorimetry (Ascorbic Acid)	✓	Kelowna
Solids, Total 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

APPENDIX 1: SUPPORTING INFORMATION

REPORTED TO	Lake Country, District of (Wastewater)	**WORK ORDER**	25A0232
PROJECT	Final Effluent- PE14651	**REPORTED**	2025-01-13 11:16

General Comments:

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APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO	Lake Country, District of (Wastewater)	**WORK ORDER**	25A0232
PROJECT	Final Effluent- PE14651	**REPORTED**	2025-01-13 11:16

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 B5A1522										
Blank (B5A1522-BLK1)				Prepared: 2025-01-07, Analyzed: 2025-01-07						
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 (B5A1522-BS1)				Prepared: 2025-01-07, Analyzed: 2025-01-07						
Chloride	15.9	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)	1.99	0.010	mg/L	2.00		99	85-115			
General Parameters, Batch B5A1593										
Blank (B5A1593-BLK1)				Prepared: 2025-01-07, Analyzed: 2025-01-07						
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 (B5A1593-BLK2)				Prepared: 2025-01-07, Analyzed: 2025-01-07						
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							
Reference (B5A1593-SRM1)				Prepared: 2025-01-07, Analyzed: 2025-01-07						
pH	7.03	0.10	pH units	7.01		100	98-102			
Reference (B5A1593-SRM2)				Prepared: 2025-01-07, Analyzed: 2025-01-07						
pH	7.03	0.10	pH units	7.01		100	98-102			
General Parameters, Batch B5A1602										
Blank (B5A1602-BLK1)				Prepared: 2025-01-08, Analyzed: 2025-01-08						
Ammonia, Total (as N)	< 0.050	0.050	mg/L							

APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO	Lake Country, District of (Wastewater)	**WORK ORDER**	25A0232
PROJECT	Final Effluent- PE14651	**REPORTED**	2025-01-13 11:16

Analyte	Result	RL	Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
General Parameters, Batch B5A1602, Continued										
Blank (B5A1602-BLK2)				Prepared: 2025-01-08, Analyzed: 2025-01-08						
Ammonia, Total (as N)	< 0.050	0.050	mg/L							
LCS (B5A1602-BS1)				Prepared: 2025-01-08, Analyzed: 2025-01-08						
Ammonia, Total (as N)	0.977	0.050	mg/L	1.00		98	85-115			
LCS (B5A1602-BS2)				Prepared: 2025-01-08, Analyzed: 2025-01-08						
Ammonia, Total (as N)	1.10	0.050	mg/L	1.00		110	85-115			
Duplicate (B5A1602-DUP2)			**Source: 25A0232-02**	Prepared: 2025-01-08, Analyzed: 2025-01-08						
Ammonia, Total (as N)	1.88	0.050	mg/L		1.86			1	15	
Matrix Spike (B5A1602-MS2)			**Source: 25A0232-02**	Prepared: 2025-01-08, Analyzed: 2025-01-08						
Ammonia, Total (as N)	2.07	0.050	mg/L	0.204	1.86	101	75-125			
General Parameters, Batch B5A1603										
Blank (B5A1603-BLK1)				Prepared: 2025-01-07, Analyzed: 2025-01-07						
Phosphorus, Dissolved Reactive	< 0.0050	0.0050	mg/L							
LCS (B5A1603-BS1)				Prepared: 2025-01-07, Analyzed: 2025-01-07						
Phosphorus, Dissolved Reactive	0.101	0.0050	mg/L	0.100		101	84-115			
Duplicate (B5A1603-DUP1)			**Source: 25A0232-01**	Prepared: 2025-01-07, Analyzed: 2025-01-07						
Phosphorus, Dissolved Reactive	0.0516	0.0050	mg/L		0.0523			1	14	
Matrix Spike (B5A1603-MS1)			**Source: 25A0232-01**	Prepared: 2025-01-07, Analyzed: 2025-01-07						
Phosphorus, Dissolved Reactive	0.140	0.0050	mg/L	0.100	0.0523	88	70-130			
General Parameters, Batch B5A1647										
Blank (B5A1647-BLK1)				Prepared: 2025-01-07, Analyzed: 2025-01-07						
Solids, Total Suspended	< 2.0	2.0	mg/L							
LCS (B5A1647-BS1)				Prepared: 2025-01-07, Analyzed: 2025-01-07						
Solids, Total Suspended	87.5	5.0	mg/L	100		88	85-115			
General Parameters, Batch B5A1742										
Blank (B5A1742-BLK1)				Prepared: 2025-01-08, Analyzed: 2025-01-13						
BOD, 5-day Carbonaceous	< 2.0	2.0	mg/L							
LCS (B5A1742-BS1)				Prepared: 2025-01-08, Analyzed: 2025-01-13						
BOD, 5-day Carbonaceous	187	58.3	mg/L	198		95	85-115			
General Parameters, Batch B5A1747										
Blank (B5A1747-BLK1)				Prepared: 2025-01-08, Analyzed: 2025-01-10						
Nitrogen, Total Kjeldahl	< 0.050	0.050	mg/L							
Blank (B5A1747-BLK2)				Prepared: 2025-01-08, Analyzed: 2025-01-10						
Nitrogen, Total Kjeldahl	< 0.050	0.050	mg/L							
LCS (B5A1747-BS1)				Prepared: 2025-01-08, Analyzed: 2025-01-10						
Nitrogen, Total Kjeldahl	0.966	0.050	mg/L	1.00		97	85-115			

APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO	Lake Country, District of (Wastewater)	**WORK ORDER**	25A0232
PROJECT	Final Effluent- PE14651	**REPORTED**	2025-01-13 11:16

Analyte	Result	RL	Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
General Parameters, Batch B5A1747, Continued										
LCS (B5A1747-BS2)				Prepared: 2025-01-08, Analyzed: 2025-01-10						
Nitrogen, Total Kjeldahl	0.939	0.050	mg/L	1.00		94	85-115			
General Parameters, Batch B5A1803										
Blank (B5A1803-BLK1)				Prepared: 2025-01-08, Analyzed: 2025-01-09						
Phosphorus, Total (as P)	< 0.0050	0.0050	mg/L							
LCS (B5A1803-BS1)				Prepared: 2025-01-08, Analyzed: 2025-01-09						
Phosphorus, Total (as P)	0.108	0.0050	mg/L	0.100		108	85-115			
Microbiological Parameters, Batch B5A1556										
Blank (B5A1556-BLK1)				Prepared: 2025-01-07, Analyzed: 2025-01-07						
Coliforms, Total (Q-Tray)	< 1	1	MPN/100 mL							
Blank (B5A1556-BLK2)				Prepared: 2025-01-07, Analyzed: 2025-01-07						
Coliforms, Fecal (Q-Tray)	< 1	1	MPN/100 mL							
Blank (B5A1556-BLK3)				Prepared: 2025-01-07, Analyzed: 2025-01-07						
Coliforms, Total (Q-Tray)	< 1	1	MPN/100 mL							
Blank (B5A1556-BLK4)				Prepared: 2025-01-07, Analyzed: 2025-01-07						
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	**WORK ORDER**	25B0501
PO NUMBER	104395-10-9007	**RECEIVED / TEMP**	2025-02-05 14:01 / 8.8°C
PROJECT	Raw Influent- PE14651	**REPORTED**	2025-02-12 11:15
PROJECT INFO	Lake Country WWTP	**COC NUMBER**	45693.41637

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 hhannaoui@caro.ca

Authorized By:

Hanane El Hannaoui
Junior Account Manager

TEST RESULTS

REPORTED TO	Lake Country, District of (Wastewater)	**WORK ORDER**	25B0501
PROJECT	Raw Influent- PE14651	**REPORTED**	2025-02-12 11:15

Analyte	Result	RL	Units	Analyzed	Qualifier
Raw Influent (25B0501-01) | Matrix: Water | Sampled: 2025-02-05 11:10					
Anions					
Nitrate (as N)	< 0.010	0.010	mg/L	2025-02-06	
Nitrite (as N)	**0.014**	0.010	mg/L	2025-02-06	
Calculated Parameters					
Nitrate+Nitrite (as N)	**0.0138**	0.0100	mg/L	N/A	
Nitrogen, Total	**68.6**	1.00	mg/L	N/A	
General Parameters					
Alkalinity, Total (as CaCO3)	**307**	1.0	mg/L	2025-02-07	
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	1.0	mg/L	2025-02-07	
Alkalinity, Bicarbonate (as CaCO3)	**307**	1.0	mg/L	2025-02-07	
Alkalinity, Carbonate (as CaCO3)	< 1.0	1.0	mg/L	2025-02-07	
Alkalinity, Hydroxide (as CaCO3)	< 1.0	1.0	mg/L	2025-02-07	
Ammonia, Total (as N)	**45.8**	0.050	mg/L	2025-02-11	
BOD, 5-day	**423**	2.0	mg/L	2025-02-11	
BOD, 5-day Carbonaceous	**357**	2.0	mg/L	2025-02-11	
Nitrogen, Total Kjeldahl	**68.6**	0.050	mg/L	2025-02-10	
pH	**7.91**	0.10	pH units	2025-02-07	HT2
Phosphorus, Total (as P)	**8.88**	0.0050	mg/L	2025-02-07	
Phosphorus, Dissolved Reactive	**4.09**	0.0050	mg/L	2025-02-06	
Solids, Total Suspended	**240**	2.0	mg/L	2025-02-11	

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	Lake Country, District of (Wastewater)	**WORK ORDER**	25B0501
PROJECT	Raw Influent- PE14651	**REPORTED**	2025-02-12 11:15

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, Dissolved Reactive in Water	SM 4500-P F (2021)	Automated Colorimetry (Ascorbic Acid)	✓	Kelowna
Phosphorus, Total in Water	SM 4500-P B.5* (2011) / SM 4500-P F (2021)	Persulfate Digestion / Automated Colorimetry (Ascorbic Acid)	✓	Kelowna
Solids, Total 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	Lake Country, District of (Wastewater)	**WORK ORDER**	25B0501
PROJECT	Raw Influent- PE14651	**REPORTED**	2025-02-12 11:15

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- **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 B5B1730										
Blank (B5B1730-BLK1)				Prepared: 2025-02-06, Analyzed: 2025-02-06						
Nitrate (as N)	< 0.010	0.010	mg/L							
Nitrite (as N)	< 0.010	0.010	mg/L							
LCS (B5B1730-BS1)				Prepared: 2025-02-06, Analyzed: 2025-02-06						
Nitrate (as N)	4.06	0.010	mg/L	4.00		102	90-110			
Nitrite (as N)	1.93	0.010	mg/L	2.00		97	85-115			
General Parameters, Batch B5B1725										
Blank (B5B1725-BLK1)				Prepared: 2025-02-06, Analyzed: 2025-02-06						
Phosphorus, Dissolved Reactive	< 0.0050	0.0050	mg/L							
LCS (B5B1725-BS1)				Prepared: 2025-02-06, Analyzed: 2025-02-06						
Phosphorus, Dissolved Reactive	0.0992	0.0050	mg/L	0.100		99	84-115			
General Parameters, Batch B5B1747										
Blank (B5B1747-BLK1)				Prepared: 2025-02-06, Analyzed: 2025-02-11						
BOD, 5-day Carbonaceous	< 2.0	2.0	mg/L							
LCS (B5B1747-BS1)				Prepared: 2025-02-06, Analyzed: 2025-02-11						
BOD, 5-day Carbonaceous	204	55.5	mg/L	198		103	85-115			
General Parameters, Batch B5B1748										
Blank (B5B1748-BLK1)				Prepared: 2025-02-06, Analyzed: 2025-02-11						
BOD, 5-day	< 2.0	2.0	mg/L							
LCS (B5B1748-BS1)				Prepared: 2025-02-06, Analyzed: 2025-02-11						
BOD, 5-day	207	32.9	mg/L	198		104	85-115			
General Parameters, Batch B5B1791										
Blank (B5B1791-BLK1)				Prepared: 2025-02-07, Analyzed: 2025-02-07						
Phosphorus, Total (as P)	< 0.0050	0.0050	mg/L							

APPENDIX 2: QUALITY CONTROL RESULTS

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

WORK ORDER 25B0501
REPORTED 2025-02-12 11:15

Analyte	Result	RL	Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
General Parameters, Batch B5B1791, Continued										
Blank (B5B1791-BLK1), Continued				Prepared: 2025-02-07, Analyzed: 2025-02-07						
Blank (B5B1791-BLK2)				Prepared: 2025-02-07, Analyzed: 2025-02-07						
Phosphorus, Total (as P)	< 0.0050	0.0050	mg/L							
LCS (B5B1791-BS1)				Prepared: 2025-02-07, Analyzed: 2025-02-07						
Phosphorus, Total (as P)	0.106	0.0050	mg/L	0.100		106	85-115			
LCS (B5B1791-BS2)				Prepared: 2025-02-07, Analyzed: 2025-02-07						
Phosphorus, Total (as P)	0.105	0.0050	mg/L	0.100		105	85-115			
General Parameters, Batch B5B1850										
Blank (B5B1850-BLK1)				Prepared: 2025-02-07, Analyzed: 2025-02-10						
Nitrogen, Total Kjeldahl	< 0.050	0.050	mg/L							
Blank (B5B1850-BLK2)				Prepared: 2025-02-07, Analyzed: 2025-02-10						
Nitrogen, Total Kjeldahl	< 0.050	0.050	mg/L							
LCS (B5B1850-BS1)				Prepared: 2025-02-07, Analyzed: 2025-02-10						
Nitrogen, Total Kjeldahl	1.00	0.050	mg/L	1.00		100	85-115			
LCS (B5B1850-BS2)				Prepared: 2025-02-07, Analyzed: 2025-02-10						
Nitrogen, Total Kjeldahl	1.02	0.050	mg/L	1.00		102	85-115			
General Parameters, Batch B5B1865										
Blank (B5B1865-BLK1)				Prepared: 2025-02-07, Analyzed: 2025-02-07						
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 (B5B1865-BLK2)				Prepared: 2025-02-07, Analyzed: 2025-02-07						
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 (B5B1865-BLK3)				Prepared: 2025-02-07, Analyzed: 2025-02-07						
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 (B5B1865-BS1)				Prepared: 2025-02-07, Analyzed: 2025-02-07						
Alkalinity, Total (as CaCO3)	94.5	1.0	mg/L	100		95	80-120			
LCS (B5B1865-BS3)				Prepared: 2025-02-07, Analyzed: 2025-02-07						
Alkalinity, Total (as CaCO3)	93.8	1.0	mg/L	100		94	80-120			
LCS (B5B1865-BS5)				Prepared: 2025-02-07, Analyzed: 2025-02-07						
Alkalinity, Total (as CaCO3)	94.2	1.0	mg/L	100		94	80-120			

APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO	Lake Country, District of (Wastewater)	**WORK ORDER**	25B0501
PROJECT	Raw Influent- PE14651	**REPORTED**	2025-02-12 11:15

Analyte	Result	RL	Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
General Parameters, Batch B5B1865, Continued										
Reference (B5B1865-SRM1)				Prepared: 2025-02-07, Analyzed: 2025-02-07						
pH	7.02	0.10	pH units	7.01		100	98-102			
Reference (B5B1865-SRM2)				Prepared: 2025-02-07, Analyzed: 2025-02-07						
pH	7.02	0.10	pH units	7.01		100	98-102			
Reference (B5B1865-SRM3)				Prepared: 2025-02-07, Analyzed: 2025-02-07						
pH	7.03	0.10	pH units	7.01		100	98-102			
General Parameters, Batch B5B2068										
Blank (B5B2068-BLK1)				Prepared: 2025-02-11, Analyzed: 2025-02-11						
Solids, Total Suspended	< 2.0	2.0	mg/L							
Blank (B5B2068-BLK2)				Prepared: 2025-02-11, Analyzed: 2025-02-11						
Solids, Total Suspended	< 2.0	2.0	mg/L							
LCS (B5B2068-BS1)				Prepared: 2025-02-11, Analyzed: 2025-02-11						
Solids, Total Suspended	95.0	5.0	mg/L	100		95	85-115			
LCS (B5B2068-BS2)				Prepared: 2025-02-11, Analyzed: 2025-02-11						
Solids, Total Suspended	97.5	5.0	mg/L	100		98	85-115			
Duplicate (B5B2068-DUP1)		**Source: 25B0501-01**		Prepared: 2025-02-11, Analyzed: 2025-02-11						
Solids, Total Suspended	274	2.0	mg/L		240			13	20	
General Parameters, Batch B5B2072										
Blank (B5B2072-BLK1)				Prepared: 2025-02-11, Analyzed: 2025-02-11						
Ammonia, Total (as N)	< 0.050	0.050	mg/L							
Blank (B5B2072-BLK2)				Prepared: 2025-02-11, Analyzed: 2025-02-11						
Ammonia, Total (as N)	< 0.050	0.050	mg/L							
Blank (B5B2072-BLK3)				Prepared: 2025-02-11, Analyzed: 2025-02-11						
Ammonia, Total (as N)	< 0.050	0.050	mg/L							
Blank (B5B2072-BLK4)				Prepared: 2025-02-11, Analyzed: 2025-02-11						
Ammonia, Total (as N)	< 0.050	0.050	mg/L							
LCS (B5B2072-BS1)				Prepared: 2025-02-11, Analyzed: 2025-02-11						
Ammonia, Total (as N)	0.968	0.050	mg/L	1.00		97	85-115			
LCS (B5B2072-BS2)				Prepared: 2025-02-11, Analyzed: 2025-02-11						
Ammonia, Total (as N)	0.851	0.050	mg/L	1.00		85	85-115			
LCS (B5B2072-BS3)				Prepared: 2025-02-11, Analyzed: 2025-02-11						
Ammonia, Total (as N)	1.01	0.050	mg/L	1.00		101	85-115			
LCS (B5B2072-BS4)				Prepared: 2025-02-11, Analyzed: 2025-02-11						
Ammonia, Total (as N)	0.993	0.050	mg/L	1.00		99	85-115			

CERTIFICATE OF ANALYSIS

REPORTED TO	Lake Country, District of (Wastewater) 4062 Beaver Lake Rd LAKE COUNTRY, BC V4V 1T5		
ATTENTION	Davin Larsen	**WORK ORDER**	25B0502
PO NUMBER	104395-10-9007	**RECEIVED / TEMP**	2025-02-05 14:01 / 8.8°C
PROJECT	Final Effluent- PE14651	**REPORTED**	2025-02-12 14:04
PROJECT INFO	Lake Country WWTP	**COC NUMBER**	45693.41637

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 hhannaoui@caro.ca

Authorized By:

Hanane El Hannaoui
Junior Account Manager

TEST RESULTS

REPORTED TO	Lake Country, District of (Wastewater)	**WORK ORDER**	25B0502
PROJECT	Final Effluent- PE14651	**REPORTED**	2025-02-12 14:04

Analyte	Result	RL	Units	Analyzed	Qualifier
Final Effluent (25B0502-01) | Matrix: Wastewater | Sampled: 2025-02-05 09:50					
Anions					
Chloride	**120**	0.10	mg/L	2025-02-06	
Nitrate (as N)	**1.04**	0.010	mg/L	2025-02-06	
Nitrite (as N)	**0.049**	0.010	mg/L	2025-02-06	
Calculated Parameters					
Nitrate+Nitrite (as N)	**1.09**	0.0100	mg/L	N/A	
Nitrogen, Total	**9.08**	0.100	mg/L	N/A	
Nitrogen, Organic	**1.17**	0.100	mg/L	N/A	
General Parameters					
Alkalinity, Total (as CaCO3)	**182**	1.0	mg/L	2025-02-07	
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	1.0	mg/L	2025-02-07	
Alkalinity, Bicarbonate (as CaCO3)	**182**	1.0	mg/L	2025-02-07	
Alkalinity, Carbonate (as CaCO3)	< 1.0	1.0	mg/L	2025-02-07	
Alkalinity, Hydroxide (as CaCO3)	< 1.0	1.0	mg/L	2025-02-07	
Ammonia, Total (as N)	**6.82**	0.050	mg/L	2025-02-11	
BOD, 5-day Carbonaceous	**3.8**	2.0	mg/L	2025-02-11	
Nitrogen, Total Kjeldahl	**7.99**	0.050	mg/L	2025-02-10	
pH	**7.84**	0.10	pH units	2025-02-07	HT2
Phosphorus, Total (as P)	**0.858**	0.0050	mg/L	2025-02-10	
Phosphorus, Dissolved Reactive	**0.612**	0.0050	mg/L	2025-02-06	
Solids, Total Suspended	**4.0**	2.0	mg/L	2025-02-11	
Microbiological Parameters					
Coliforms, Total (Q-Tray)	**> 242000**	1	MPN/100 mL	2025-02-06	
Coliforms, Fecal (Q-Tray)	**28500**	1	MPN/100 mL	2025-02-06	
Trip Blank (25B0502-02) | Matrix: Wastewater | Sampled: 2025-02-05 09:50					
Anions					
Chloride	< 0.10	0.10	mg/L	2025-02-06	
Nitrate (as N)	< 0.010	0.010	mg/L	2025-02-06	
Nitrite (as N)	< 0.010	0.010	mg/L	2025-02-06	
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	2025-02-07	
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	1.0	mg/L	2025-02-07	
Alkalinity, Bicarbonate (as CaCO3)	< 1.0	1.0	mg/L	2025-02-07	
Alkalinity, Carbonate (as CaCO3)	< 1.0	1.0	mg/L	2025-02-07	

TEST RESULTS

REPORTED TO	Lake Country, District of (Wastewater)	**WORK ORDER**	25B0502
PROJECT	Final Effluent- PE14651	**REPORTED**	2025-02-12 14:04

Analyte	Result	RL	Units	Analyzed	Qualifier
Trip Blank (25B0502-02) | Matrix: Wastewater | Sampled: 2025-02-05 09:50, Continued					
General Parameters, Continued					
Alkalinity, Hydroxide (as CaCO3)	< 1.0	1.0	mg/L	2025-02-07	
Ammonia, Total (as N)	< 0.050	0.050	mg/L	2025-02-11	
BOD, 5-day Carbonaceous	< 3.3	2.0	mg/L	2025-02-11	
Nitrogen, Total Kjeldahl	< 0.050	0.050	mg/L	2025-02-10	
pH	**6.25**	0.10	pH units	2025-02-07	HT2
Phosphorus, Total (as P)	< 0.0050	0.0050	mg/L	2025-02-10	
Phosphorus, Dissolved Reactive	< 0.0050	0.0050	mg/L	2025-02-06	
Solids, Total Suspended	< 2.0	2.0	mg/L	2025-02-11	
Microbiological Parameters					
Coliforms, Total (Q-Tray)	< 1	1	MPN/100 mL	2025-02-06	
Coliforms, Fecal (Q-Tray)	< 1	1	MPN/100 mL	2025-02-06	

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	Lake Country, District of (Wastewater)	**WORK ORDER**	25B0502
PROJECT	Final Effluent- PE14651	**REPORTED**	2025-02-12 14:04

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, Dissolved Reactive in Water	SM 4500-P F (2021)	Automated Colorimetry (Ascorbic Acid)	✓	Kelowna
Phosphorus, Total in Water	SM 4500-P B.5* (2011) / SM 4500-P F (2021)	Persulfate Digestion / Automated Colorimetry (Ascorbic Acid)	✓	Kelowna
Solids, Total 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

APPENDIX 1: SUPPORTING INFORMATION

REPORTED TO	Lake Country, District of (Wastewater)	**WORK ORDER**	25B0502
PROJECT	Final Effluent- PE14651	**REPORTED**	2025-02-12 14:04

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	Lake Country, District of (Wastewater)	**WORK ORDER**	25B0502
PROJECT	Final Effluent- PE14651	**REPORTED**	2025-02-12 14:04

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 B5B1730										
Blank (B5B1730-BLK1)				Prepared: 2025-02-06, Analyzed: 2025-02-06						
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							
LCS (B5B1730-BS1)				Prepared: 2025-02-06, Analyzed: 2025-02-06						
Chloride	16.2	0.10	mg/L	16.0		102	90-110			
Nitrate (as N)	4.06	0.010	mg/L	4.00		102	90-110			
Nitrite (as N)	1.93	0.010	mg/L	2.00		97	85-115			
General Parameters, Batch B5B1725										
Blank (B5B1725-BLK1)				Prepared: 2025-02-06, Analyzed: 2025-02-06						
Phosphorus, Dissolved Reactive	< 0.0050	0.0050	mg/L							
LCS (B5B1725-BS1)				Prepared: 2025-02-06, Analyzed: 2025-02-06						
Phosphorus, Dissolved Reactive	0.0992	0.0050	mg/L	0.100		99	84-115			
General Parameters, Batch B5B1747										
Blank (B5B1747-BLK1)				Prepared: 2025-02-06, Analyzed: 2025-02-11						
BOD, 5-day Carbonaceous	< 2.0	2.0	mg/L							
LCS (B5B1747-BS1)				Prepared: 2025-02-06, Analyzed: 2025-02-11						
BOD, 5-day Carbonaceous	204	55.5	mg/L	198		103	85-115			
General Parameters, Batch B5B1850										
Blank (B5B1850-BLK1)				Prepared: 2025-02-07, Analyzed: 2025-02-10						
Nitrogen, Total Kjeldahl	< 0.050	0.050	mg/L							
Blank (B5B1850-BLK2)				Prepared: 2025-02-07, Analyzed: 2025-02-10						
Nitrogen, Total Kjeldahl	< 0.050	0.050	mg/L							
LCS (B5B1850-BS1)				Prepared: 2025-02-07, Analyzed: 2025-02-10						
Nitrogen, Total Kjeldahl	1.00	0.050	mg/L	1.00		100	85-115			

APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO	Lake Country, District of (Wastewater)	**WORK ORDER**	25B0502
PROJECT	Final Effluent- PE14651	**REPORTED**	2025-02-12 14:04

Analyte	Result	RL	Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
General Parameters, Batch B5B1850, Continued										
LCS (B5B1850-BS2)				Prepared: 2025-02-07, Analyzed: 2025-02-10						
Nitrogen, Total Kjeldahl	1.02	0.050	mg/L	1.00		102	85-115			
General Parameters, Batch B5B1865										
Blank (B5B1865-BLK1)				Prepared: 2025-02-07, Analyzed: 2025-02-07						
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 (B5B1865-BLK2)				Prepared: 2025-02-07, Analyzed: 2025-02-07						
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 (B5B1865-BLK3)				Prepared: 2025-02-07, Analyzed: 2025-02-07						
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 (B5B1865-BS1)				Prepared: 2025-02-07, Analyzed: 2025-02-07						
Alkalinity, Total (as CaCO3)	94.5	1.0	mg/L	100		95	80-120			
LCS (B5B1865-BS3)				Prepared: 2025-02-07, Analyzed: 2025-02-07						
Alkalinity, Total (as CaCO3)	93.8	1.0	mg/L	100		94	80-120			
LCS (B5B1865-BS5)				Prepared: 2025-02-07, Analyzed: 2025-02-07						
Alkalinity, Total (as CaCO3)	94.2	1.0	mg/L	100		94	80-120			
Reference (B5B1865-SRM1)				Prepared: 2025-02-07, Analyzed: 2025-02-07						
pH	7.02	0.10	pH units	7.01		100	98-102			
Reference (B5B1865-SRM2)				Prepared: 2025-02-07, Analyzed: 2025-02-07						
pH	7.02	0.10	pH units	7.01		100	98-102			
Reference (B5B1865-SRM3)				Prepared: 2025-02-07, Analyzed: 2025-02-07						
pH	7.03	0.10	pH units	7.01		100	98-102			
General Parameters, Batch B5B1974										
Blank (B5B1974-BLK1)				Prepared: 2025-02-10, Analyzed: 2025-02-10						
Phosphorus, Total (as P)	< 0.0050	0.0050	mg/L							
LCS (B5B1974-BS1)				Prepared: 2025-02-10, Analyzed: 2025-02-10						
Phosphorus, Total (as P)	0.104	0.0050	mg/L	0.100		104	85-115			
General Parameters, Batch B5B2068										
Blank (B5B2068-BLK1)				Prepared: 2025-02-11, Analyzed: 2025-02-11						
Solids, Total Suspended	< 2.0	2.0	mg/L							

APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO	Lake Country, District of (Wastewater)	**WORK ORDER**	25B0502
PROJECT	Final Effluent- PE14651	**REPORTED**	2025-02-12 14:04

Analyte	Result	RL	Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
General Parameters, Batch B5B2068, Continued										
Blank (B5B2068-BLK2)				Prepared: 2025-02-11, Analyzed: 2025-02-11						
Solids, Total Suspended	< 2.0	2.0	mg/L							
LCS (B5B2068-BS1)				Prepared: 2025-02-11, Analyzed: 2025-02-11						
Solids, Total Suspended	95.0	5.0	mg/L	100		95	85-115			
LCS (B5B2068-BS2)				Prepared: 2025-02-11, Analyzed: 2025-02-11						
Solids, Total Suspended	97.5	5.0	mg/L	100		98	85-115			
General Parameters, Batch B5B2072										
Blank (B5B2072-BLK1)				Prepared: 2025-02-11, Analyzed: 2025-02-11						
Ammonia, Total (as N)	< 0.050	0.050	mg/L							
Blank (B5B2072-BLK2)				Prepared: 2025-02-11, Analyzed: 2025-02-11						
Ammonia, Total (as N)	< 0.050	0.050	mg/L							
Blank (B5B2072-BLK3)				Prepared: 2025-02-11, Analyzed: 2025-02-11						
Ammonia, Total (as N)	< 0.050	0.050	mg/L							
Blank (B5B2072-BLK4)				Prepared: 2025-02-11, Analyzed: 2025-02-11						
Ammonia, Total (as N)	< 0.050	0.050	mg/L							
LCS (B5B2072-BS1)				Prepared: 2025-02-11, Analyzed: 2025-02-11						
Ammonia, Total (as N)	0.968	0.050	mg/L	1.00		97	85-115			
LCS (B5B2072-BS2)				Prepared: 2025-02-11, Analyzed: 2025-02-11						
Ammonia, Total (as N)	0.851	0.050	mg/L	1.00		85	85-115			
LCS (B5B2072-BS3)				Prepared: 2025-02-11, Analyzed: 2025-02-11						
Ammonia, Total (as N)	1.01	0.050	mg/L	1.00		101	85-115			
LCS (B5B2072-BS4)				Prepared: 2025-02-11, Analyzed: 2025-02-11						
Ammonia, Total (as N)	0.993	0.050	mg/L	1.00		99	85-115			
Microbiological Parameters, Batch B5B1750										
Blank (B5B1750-BLK1)				Prepared: 2025-02-06, Analyzed: 2025-02-06						
Coliforms, Fecal (Q-Tray)	< 1	1	MPN/100 mL							
Blank (B5B1750-BLK2)				Prepared: 2025-02-06, Analyzed: 2025-02-06						
Coliforms, Total (Q-Tray)	< 1	1	MPN/100 mL							
Blank (B5B1750-BLK3)				Prepared: 2025-02-06, Analyzed: 2025-02-06						
Coliforms, Total (Q-Tray)	< 1	1	MPN/100 mL							
Blank (B5B1750-BLK4)				Prepared: 2025-02-06, Analyzed: 2025-02-06						
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		
ATTENTION	Davin Larsen	**WORK ORDER**	25C0090
PO NUMBER	104395-10-9007	**RECEIVED / TEMP**	2025-03-03 12:23 / 12.0°C
PROJECT	Raw Influent- PE14651	**REPORTED**	2025-03-10 14:30
PROJECT INFO	Lake Country WWTP	**COC NUMBER**	45719.38517

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 hhannaoui@caro.ca

Authorized By:

Hanane El Hannaoui
Junior Account Manager

TEST RESULTS

REPORTED TO	Lake Country, District of (Wastewater)	**WORK ORDER**	25C0090
PROJECT	Raw Influent- PE14651	**REPORTED**	2025-03-10 14:30

Analyte	Result	RL	Units	Analyzed	Qualifier
Raw Influent (25C0090-01) | Matrix: Water | Sampled: 2025-03-03 10:00					
Anions					
Nitrate (as N)	**0.010**	0.010	mg/L	2025-03-04	
Nitrite (as N)	< 0.010	0.010	mg/L	2025-03-04	
Calculated Parameters					
Nitrate+Nitrite (as N)	**0.0102**	0.0100	mg/L	N/A	
Nitrogen, Total	**82.2**	1.00	mg/L	N/A	
General Parameters					
Alkalinity, Total (as CaCO3)	**382**	1.0	mg/L	2025-03-05	
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	1.0	mg/L	2025-03-05	
Alkalinity, Bicarbonate (as CaCO3)	**382**	1.0	mg/L	2025-03-05	
Alkalinity, Carbonate (as CaCO3)	< 1.0	1.0	mg/L	2025-03-05	
Alkalinity, Hydroxide (as CaCO3)	< 1.0	1.0	mg/L	2025-03-05	
Ammonia, Total (as N)	**58.0**	0.050	mg/L	2025-03-08	
BOD, 5-day	**502**	8.0	mg/L	2025-03-10	
BOD, 5-day Carbonaceous	**495**	8.0	mg/L	2025-03-10	
Nitrogen, Total Kjeldahl	**82.1**	0.050	mg/L	2025-03-08	
pH	**8.12**	0.10	pH units	2025-03-05	HT2
Phosphorus, Total (as P)	**11.9**	0.0050	mg/L	2025-03-06	
Phosphorus, Dissolved Reactive	**7.12**	0.0050	mg/L	2025-03-05	
Solids, Total Suspended	**352**	2.0	mg/L	2025-03-06	

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	Lake Country, District of (Wastewater)	**WORK ORDER**	25C0090
PROJECT	Raw Influent- PE14651	**REPORTED**	2025-03-10 14:30

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, Dissolved Reactive in Water	SM 4500-P F (2021)	Automated Colorimetry (Ascorbic Acid)	✓	Kelowna
Phosphorus, Total in Water	SM 4500-P B.5* (2011) / SM 4500-P F (2021)	Persulfate Digestion / Automated Colorimetry (Ascorbic Acid)	✓	Kelowna
Solids, Total 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	Lake Country, District of (Wastewater)	**WORK ORDER**	25C0090
PROJECT	Raw Influent- PE14651	**REPORTED**	2025-03-10 14:30

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

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

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

Analyte	Result	RL	Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Anions, Batch B5C1720										
Blank (B5C1720-BLK2)				Prepared: 2025-03-04, Analyzed: 2025-03-04						
Nitrate (as N)	< 0.010	0.010	mg/L							
Nitrite (as N)	< 0.010	0.010	mg/L							
LCS (B5C1720-BS1)				Prepared: 2025-03-04, Analyzed: 2025-03-04						
Nitrate (as N)	4.03	0.010	mg/L	4.00		101	90-110			
Nitrite (as N)	2.06	0.010	mg/L	2.00		103	85-115			
LCS (B5C1720-BS2)				Prepared: 2025-03-04, Analyzed: 2025-03-04						
Nitrate (as N)	4.12	0.010	mg/L	4.00		103	90-110			
Nitrite (as N)	2.01	0.010	mg/L	2.00		100	85-115			
General Parameters, Batch B5C1937										
Blank (B5C1937-BLK1)				Prepared: 2025-03-05, Analyzed: 2025-03-05						
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 (B5C1937-BLK2)				Prepared: 2025-03-05, Analyzed: 2025-03-05						
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 (B5C1937-BLK3)				Prepared: 2025-03-05, Analyzed: 2025-03-05						
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							
LCS (B5C1937-BS1)				Prepared: 2025-03-05, Analyzed: 2025-03-05						
Alkalinity, Total (as CaCO3)	96.6	1.0	mg/L	100		97	80-120			

APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO	Lake Country, District of (Wastewater)	**WORK ORDER**	25C0090
PROJECT	Raw Influent- PE14651	**REPORTED**	2025-03-10 14:30

Analyte	Result	RL	Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
General Parameters, Batch B5C1937, Continued										
LCS (B5C1937-BS3)				Prepared: 2025-03-05, Analyzed: 2025-03-05						
Alkalinity, Total (as CaCO3)	97.1	1.0	mg/L	100		97	80-120			
LCS (B5C1937-BS5)				Prepared: 2025-03-05, Analyzed: 2025-03-05						
Alkalinity, Total (as CaCO3)	96.1	1.0	mg/L	100		96	80-120			
Reference (B5C1937-SRM1)				Prepared: 2025-03-05, Analyzed: 2025-03-05						
pH	7.00	0.10	pH units	7.01		100	98-102			
Reference (B5C1937-SRM2)				Prepared: 2025-03-05, Analyzed: 2025-03-05						
pH	7.01	0.10	pH units	7.01		100	98-102			
Reference (B5C1937-SRM3)				Prepared: 2025-03-05, Analyzed: 2025-03-05						
pH	7.01	0.10	pH units	7.01		100	98-102			
General Parameters, Batch B5C2010										
Blank (B5C2010-BLK1)				Prepared: 2025-03-05, Analyzed: 2025-03-05						
Phosphorus, Dissolved Reactive	< 0.0050	0.0050	mg/L							
LCS (B5C2010-BS1)				Prepared: 2025-03-05, Analyzed: 2025-03-05						
Phosphorus, Dissolved Reactive	0.0931	0.0050	mg/L	0.100		93	84-115			
General Parameters, Batch B5C2024										
Blank (B5C2024-BLK1)				Prepared: 2025-03-05, Analyzed: 2025-03-10						
BOD, 5-day Carbonaceous	< 2.0	2.0	mg/L							
LCS (B5C2024-BS1)				Prepared: 2025-03-05, Analyzed: 2025-03-10						
BOD, 5-day Carbonaceous	185	66.6	mg/L	198		93	85-115			
General Parameters, Batch B5C2025										
Blank (B5C2025-BLK1)				Prepared: 2025-03-05, Analyzed: 2025-03-10						
BOD, 5-day	< 2.0	2.0	mg/L							
LCS (B5C2025-BS1)				Prepared: 2025-03-05, Analyzed: 2025-03-10						
BOD, 5-day	176	66.6	mg/L	198		89	85-115			
General Parameters, Batch B5C2104										
Blank (B5C2104-BLK1)				Prepared: 2025-03-06, Analyzed: 2025-03-06						
Phosphorus, Total (as P)	< 0.0050	0.0050	mg/L							
Blank (B5C2104-BLK2)				Prepared: 2025-03-06, Analyzed: 2025-03-06						
Phosphorus, Total (as P)	< 0.0050	0.0050	mg/L							
Blank (B5C2104-BLK3)				Prepared: 2025-03-06, Analyzed: 2025-03-06						
Phosphorus, Total (as P)	< 0.0050	0.0050	mg/L							
LCS (B5C2104-BS1)				Prepared: 2025-03-06, Analyzed: 2025-03-06						
Phosphorus, Total (as P)	0.110	0.0050	mg/L	0.100		110	85-115			
LCS (B5C2104-BS2)				Prepared: 2025-03-06, Analyzed: 2025-03-06						
Phosphorus, Total (as P)	0.110	0.0050	mg/L	0.100		110	85-115			

APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO	Lake Country, District of (Wastewater)	**WORK ORDER**	25C0090
PROJECT	Raw Influent- PE14651	**REPORTED**	2025-03-10 14:30

Analyte	Result	RL	Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
General Parameters, Batch B5C2104, Continued										
LCS (B5C2104-BS3)				Prepared: 2025-03-06, Analyzed: 2025-03-06						
Phosphorus, Total (as P)	0.111	0.0050	mg/L	0.100		111	85-115			
General Parameters, Batch B5C2218										
Blank (B5C2218-BLK1)				Prepared: 2025-03-06, Analyzed: 2025-03-06						
Solids, Total Suspended	< 2.0	2.0	mg/L							
LCS (B5C2218-BS1)				Prepared: 2025-03-06, Analyzed: 2025-03-06						
Solids, Total Suspended	99.0	5.0	mg/L	100		99	85-115			
Reference (B5C2218-SRM1)				Prepared: 2025-03-06, Analyzed: 2025-03-06						
Solids, Total Suspended	308	20.0	mg/L	294		105	80-120			
General Parameters, Batch B5C2348										
Blank (B5C2348-BLK1)				Prepared: 2025-03-07, Analyzed: 2025-03-08						
Nitrogen, Total Kjeldahl	< 0.050	0.050	mg/L							
Blank (B5C2348-BLK2)				Prepared: 2025-03-07, Analyzed: 2025-03-08						
Nitrogen, Total Kjeldahl	< 0.050	0.050	mg/L							
LCS (B5C2348-BS1)				Prepared: 2025-03-07, Analyzed: 2025-03-08						
Nitrogen, Total Kjeldahl	0.940	0.050	mg/L	1.00		94	85-115			
LCS (B5C2348-BS2)				Prepared: 2025-03-07, Analyzed: 2025-03-08						
Nitrogen, Total Kjeldahl	0.947	0.050	mg/L	1.00		95	85-115			
General Parameters, Batch B5C2405										
Blank (B5C2405-BLK1)				Prepared: 2025-03-08, Analyzed: 2025-03-08						
Ammonia, Total (as N)	< 0.050	0.050	mg/L							
Blank (B5C2405-BLK2)				Prepared: 2025-03-08, Analyzed: 2025-03-08						
Ammonia, Total (as N)	< 0.050	0.050	mg/L							
LCS (B5C2405-BS1)				Prepared: 2025-03-08, Analyzed: 2025-03-08						
Ammonia, Total (as N)	1.03	0.050	mg/L	1.00		103	85-115			
LCS (B5C2405-BS2)				Prepared: 2025-03-08, Analyzed: 2025-03-08						
Ammonia, Total (as N)	1.06	0.050	mg/L	1.00		106	85-115			

CERTIFICATE OF ANALYSIS

REPORTED TO	Lake Country, District of (Wastewater) 4062 Beaver Lake Rd LAKE COUNTRY, BC V4V 1T5		
ATTENTION	Davin Larsen	**WORK ORDER**	25C0091
PO NUMBER	104395-10-9007	**RECEIVED / TEMP**	2025-03-03 12:23 / 12.0°C
PROJECT	Final Effluent- PE14651	**REPORTED**	2025-03-10 14:32
PROJECT INFO	Lake Country WWTP	**COC NUMBER**	45719.38517

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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 hhannaoui@caro.ca

Authorized By:

Hanane El Hannaoui
Junior Account Manager

CARO ANALYTICAL SERVICES

TEST RESULTS

REPORTED TO	Lake Country, District of (Wastewater)	**WORK ORDER**	25C0091
PROJECT	Final Effluent- PE14651	**REPORTED**	2025-03-10 14:32

Analyte	Result	RL	Units	Analyzed	Qualifier
Final Effluent (25C0091-01) | Matrix: Wastewater | Sampled: 2025-03-03 10:10					
Anions					
Chloride	**132**	0.10	mg/L	2025-03-04	
Nitrate (as N)	**1.12**	0.010	mg/L	2025-03-04	
Nitrite (as N)	**0.062**	0.010	mg/L	2025-03-04	
Calculated Parameters					
Nitrate+Nitrite (as N)	**1.18**	0.0100	mg/L	N/A	
Nitrogen, Total	**7.18**	0.100	mg/L	N/A	
Nitrogen, Organic	**1.78**	0.100	mg/L	N/A	
General Parameters					
Alkalinity, Total (as CaCO3)	**178**	1.0	mg/L	2025-03-05	
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	1.0	mg/L	2025-03-05	
Alkalinity, Bicarbonate (as CaCO3)	**178**	1.0	mg/L	2025-03-05	
Alkalinity, Carbonate (as CaCO3)	< 1.0	1.0	mg/L	2025-03-05	
Alkalinity, Hydroxide (as CaCO3)	< 1.0	1.0	mg/L	2025-03-05	
Ammonia, Total (as N)	**4.21**	0.050	mg/L	2025-03-08	
BOD, 5-day Carbonaceous	**5.4**	8.0	mg/L	2025-03-10	
Nitrogen, Total Kjeldahl	**5.99**	0.050	mg/L	2025-03-08	
pH	**7.79**	0.10	pH units	2025-03-05	HT2
Phosphorus, Total (as P)	**0.289**	0.0050	mg/L	2025-03-06	
Phosphorus, Dissolved Reactive	**0.0515**	0.0050	mg/L	2025-03-05	
Solids, Total Suspended	**4.5**	2.0	mg/L	2025-03-06	
Microbiological Parameters					
Coliforms, Total (Q-Tray)	**> 242000**	1	MPN/100 mL	2025-03-03	
Coliforms, Fecal (Q-Tray)	**92100**	1	MPN/100 mL	2025-03-03	
Duplicate (25C0091-02) | Matrix: Wastewater | Sampled: 2025-03-03 10:10					
Anions					
Chloride	**134**	0.10	mg/L	2025-03-04	
Nitrate (as N)	**1.10**	0.010	mg/L	2025-03-04	
Nitrite (as N)	**0.065**	0.010	mg/L	2025-03-04	
Calculated Parameters					
Nitrate+Nitrite (as N)	**1.17**	0.0100	mg/L	N/A	
Nitrogen, Total	**7.42**	0.100	mg/L	N/A	
Nitrogen, Organic	**2.09**	0.100	mg/L	N/A	
General Parameters					
Alkalinity, Total (as CaCO3)	**179**	1.0	mg/L	2025-03-05	
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	1.0	mg/L	2025-03-05	
Alkalinity, Bicarbonate (as CaCO3)	**179**	1.0	mg/L	2025-03-05	
Alkalinity, Carbonate (as CaCO3)	< 1.0	1.0	mg/L	2025-03-05	

TEST RESULTS

REPORTED TO	Lake Country, District of (Wastewater)	**WORK ORDER**	25C0091
PROJECT	Final Effluent- PE14651	**REPORTED**	2025-03-10 14:32

Analyte	Result	RL	Units	Analyzed	Qualifier
Duplicate (25C0091-02) | Matrix: Wastewater | Sampled: 2025-03-03 10:10, Continued					
General Parameters, Continued					
Alkalinity, Hydroxide (as CaCO3)	< 1.0	1.0	mg/L	2025-03-05	
Ammonia, Total (as N)	**4.16**	0.050	mg/L	2025-03-08	
BOD, 5-day Carbonaceous	**4.5**	8.0	mg/L	2025-03-10	
Nitrogen, Total Kjeldahl	**6.25**	0.050	mg/L	2025-03-08	
pH	**7.78**	0.10	pH units	2025-03-05	HT2
Phosphorus, Total (as P)	**0.286**	0.0050	mg/L	2025-03-06	
Phosphorus, Dissolved Reactive	**0.0523**	0.0050	mg/L	2025-03-05	
Solids, Total Suspended	**4.0**	2.0	mg/L	2025-03-06	
Microbiological Parameters					
Coliforms, Total (Q-Tray)	**> 242000**	1	MPN/100 mL	2025-03-03	
Coliforms, Fecal (Q-Tray)	**120000**	1	MPN/100 mL	2025-03-03	

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	Lake Country, District of (Wastewater)	**WORK ORDER**	25C0091
PROJECT	Final Effluent- PE14651	**REPORTED**	2025-03-10 14:32

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, Dissolved Reactive in Water	SM 4500-P F (2021)	Automated Colorimetry (Ascorbic Acid)	✓	Kelowna
Phosphorus, Total in Water	SM 4500-P B.5* (2011) / SM 4500-P F (2021)	Persulfate Digestion / Automated Colorimetry (Ascorbic Acid)	✓	Kelowna
Solids, Total 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

APPENDIX 1: SUPPORTING INFORMATION

REPORTED TO	Lake Country, District of (Wastewater)	**WORK ORDER**	25C0091
PROJECT	Final Effluent- PE14651	**REPORTED**	2025-03-10 14:32

General Comments:

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APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO	Lake Country, District of (Wastewater)	**WORK ORDER**	25C0091
PROJECT	Final Effluent- PE14651	**REPORTED**	2025-03-10 14:32

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 B5C1720										
Blank (B5C1720-BLK2)				Prepared: 2025-03-04, Analyzed: 2025-03-04						
Chloride	< 0.10	0.10	mg/L							
Nitrate (as N)	< 0.010	0.010	mg/L							
Nitrite (as N)	< 0.010	0.010	mg/L							
LCS (B5C1720-BS1)				Prepared: 2025-03-04, Analyzed: 2025-03-04						
Chloride	15.9	0.10	mg/L	16.0		99	90-110			
Nitrate (as N)	4.03	0.010	mg/L	4.00		101	90-110			
Nitrite (as N)	2.06	0.010	mg/L	2.00		103	85-115			
LCS (B5C1720-BS2)				Prepared: 2025-03-04, Analyzed: 2025-03-04						
Chloride	16.4	0.10	mg/L	16.0		103	90-110			
Nitrate (as N)	4.12	0.010	mg/L	4.00		103	90-110			
Nitrite (as N)	2.01	0.010	mg/L	2.00		100	85-115			
General Parameters, Batch B5C1937										
Blank (B5C1937-BLK1)				Prepared: 2025-03-05, Analyzed: 2025-03-05						
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 (B5C1937-BLK2)				Prepared: 2025-03-05, Analyzed: 2025-03-05						
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 (B5C1937-BLK3)				Prepared: 2025-03-05, Analyzed: 2025-03-05						
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							

APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO	Lake Country, District of (Wastewater)	**WORK ORDER**	25C0091
PROJECT	Final Effluent- PE14651	**REPORTED**	2025-03-10 14:32

Analyte	Result	RL	Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
General Parameters, Batch B5C1937, Continued										
LCS (B5C1937-BS1)				Prepared: 2025-03-05, Analyzed: 2025-03-05						
Alkalinity, Total (as CaCO3)	96.6	1.0	mg/L	100		97	80-120			
LCS (B5C1937-BS3)				Prepared: 2025-03-05, Analyzed: 2025-03-05						
Alkalinity, Total (as CaCO3)	97.1	1.0	mg/L	100		97	80-120			
LCS (B5C1937-BS5)				Prepared: 2025-03-05, Analyzed: 2025-03-05						
Alkalinity, Total (as CaCO3)	96.1	1.0	mg/L	100		96	80-120			
Reference (B5C1937-SRM1)				Prepared: 2025-03-05, Analyzed: 2025-03-05						
pH	7.00	0.10	pH units	7.01		100	98-102			
Reference (B5C1937-SRM2)				Prepared: 2025-03-05, Analyzed: 2025-03-05						
pH	7.01	0.10	pH units	7.01		100	98-102			
Reference (B5C1937-SRM3)				Prepared: 2025-03-05, Analyzed: 2025-03-05						
pH	7.01	0.10	pH units	7.01		100	98-102			
General Parameters, Batch B5C2010										
Blank (B5C2010-BLK1)				Prepared: 2025-03-05, Analyzed: 2025-03-05						
Phosphorus, Dissolved Reactive	< 0.0050	0.0050	mg/L							
LCS (B5C2010-BS1)				Prepared: 2025-03-05, Analyzed: 2025-03-05						
Phosphorus, Dissolved Reactive	0.0931	0.0050	mg/L	0.100		93	84-115			
Duplicate (B5C2010-DUP1)			**Source: 25C0091-02**	Prepared: 2025-03-05, Analyzed: 2025-03-05						
Phosphorus, Dissolved Reactive	0.0541	0.0050	mg/L		0.0523			3	14	
Matrix Spike (B5C2010-MS1)			**Source: 25C0091-02**	Prepared: 2025-03-05, Analyzed: 2025-03-05						
Phosphorus, Dissolved Reactive	0.141	0.0050	mg/L	0.100	0.0523	89	70-130			
General Parameters, Batch B5C2024										
Blank (B5C2024-BLK1)				Prepared: 2025-03-05, Analyzed: 2025-03-10						
BOD, 5-day Carbonaceous	< 2.0	2.0	mg/L							
LCS (B5C2024-BS1)				Prepared: 2025-03-05, Analyzed: 2025-03-10						
BOD, 5-day Carbonaceous	185	66.6	mg/L	198		93	85-115			
General Parameters, Batch B5C2104										
Blank (B5C2104-BLK1)				Prepared: 2025-03-06, Analyzed: 2025-03-06						
Phosphorus, Total (as P)	< 0.0050	0.0050	mg/L							
Blank (B5C2104-BLK2)				Prepared: 2025-03-06, Analyzed: 2025-03-06						
Phosphorus, Total (as P)	< 0.0050	0.0050	mg/L							
Blank (B5C2104-BLK3)				Prepared: 2025-03-06, Analyzed: 2025-03-06						
Phosphorus, Total (as P)	< 0.0050	0.0050	mg/L							
LCS (B5C2104-BS1)				Prepared: 2025-03-06, Analyzed: 2025-03-06						
Phosphorus, Total (as P)	0.110	0.0050	mg/L	0.100		110	85-115			
LCS (B5C2104-BS2)				Prepared: 2025-03-06, Analyzed: 2025-03-06						
Phosphorus, Total (as P)	0.110	0.0050	mg/L	0.100		110	85-115			

APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO	Lake Country, District of (Wastewater)	**WORK ORDER**	25C0091
PROJECT	Final Effluent- PE14651	**REPORTED**	2025-03-10 14:32

Analyte	Result	RL	Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
General Parameters, Batch B5C2104, Continued										
LCS (B5C2104-BS3)				Prepared: 2025-03-06, Analyzed: 2025-03-06						
Phosphorus, Total (as P)	0.111	0.0050	mg/L	0.100		111	85-115			
General Parameters, Batch B5C2218										
Blank (B5C2218-BLK1)				Prepared: 2025-03-06, Analyzed: 2025-03-06						
Solids, Total Suspended	< 2.0	2.0	mg/L							
LCS (B5C2218-BS1)				Prepared: 2025-03-06, Analyzed: 2025-03-06						
Solids, Total Suspended	99.0	5.0	mg/L	100		99	85-115			
Reference (B5C2218-SRM1)				Prepared: 2025-03-06, Analyzed: 2025-03-06						
Solids, Total Suspended	308	20.0	mg/L	294		105	80-120			
General Parameters, Batch B5C2348										
Blank (B5C2348-BLK1)				Prepared: 2025-03-07, Analyzed: 2025-03-08						
Nitrogen, Total Kjeldahl	< 0.050	0.050	mg/L							
Blank (B5C2348-BLK2)				Prepared: 2025-03-07, Analyzed: 2025-03-08						
Nitrogen, Total Kjeldahl	< 0.050	0.050	mg/L							
LCS (B5C2348-BS1)				Prepared: 2025-03-07, Analyzed: 2025-03-08						
Nitrogen, Total Kjeldahl	0.940	0.050	mg/L	1.00		94	85-115			
LCS (B5C2348-BS2)				Prepared: 2025-03-07, Analyzed: 2025-03-08						
Nitrogen, Total Kjeldahl	0.947	0.050	mg/L	1.00		95	85-115			
General Parameters, Batch B5C2405										
Blank (B5C2405-BLK1)				Prepared: 2025-03-08, Analyzed: 2025-03-08						
Ammonia, Total (as N)	< 0.050	0.050	mg/L							
Blank (B5C2405-BLK2)				Prepared: 2025-03-08, Analyzed: 2025-03-08						
Ammonia, Total (as N)	< 0.050	0.050	mg/L							
LCS (B5C2405-BS1)				Prepared: 2025-03-08, Analyzed: 2025-03-08						
Ammonia, Total (as N)	1.03	0.050	mg/L	1.00		103	85-115			
LCS (B5C2405-BS2)				Prepared: 2025-03-08, Analyzed: 2025-03-08						
Ammonia, Total (as N)	1.06	0.050	mg/L	1.00		106	85-115			
Microbiological Parameters, Batch B5C1781										
Blank (B5C1781-BLK1)				Prepared: 2025-03-03, Analyzed: 2025-03-03						
Coliforms, Total (Q-Tray)	< 1	1	MPN/100 mL							
Blank (B5C1781-BLK2)				Prepared: 2025-03-03, Analyzed: 2025-03-03						
Coliforms, Fecal (Q-Tray)	< 1	1	MPN/100 mL							
Duplicate (B5C1781-DUP2)		**Source: 25C0091-01**		Prepared: 2025-03-03, Analyzed: 2025-03-03						
Coliforms, Fecal (Q-Tray)	120000	1	MPN/100 mL		92100			27	80	

CERTIFICATE OF ANALYSIS

REPORTED TO	Lake Country, District of (Wastewater) 4062 Beaver Lake Rd LAKE COUNTRY, BC V4V 1T5		
ATTENTION	Davin Larsen	**WORK ORDER**	25D0900
PO NUMBER	104395-10-9007	**RECEIVED / TEMP**	2025-04-07 11:32 / 11.7°C
PROJECT	Raw Influent- PE14651	**REPORTED**	2025-04-14 15:02
PROJECT INFO	Lake Country WWTP	**COC NUMBER**	45754.39467

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 hhannaoui@caro.ca

Authorized By:

Hanane El Hannaoui
Junior Account Manager

CARO ANALYTICAL SERVICES

TEST RESULTS

REPORTED TO	Lake Country, District of (Wastewater)	**WORK ORDER**	25D0900
PROJECT	Raw Influent- PE14651	**REPORTED**	2025-04-14 15:02

Analyte	Result	RL	Units	Analyzed	Qualifier
Raw Influent (25D0900-01) | Matrix: Water | Sampled: 2025-04-07 09:20					
Anions					
Nitrate (as N)	< 0.010	0.010	mg/L	2025-04-08	
Nitrite (as N)	< 0.010	0.010	mg/L	2025-04-08	
Calculated Parameters					
Nitrate+Nitrite (as N)	< 0.0100	0.0100	mg/L	N/A	
Nitrogen, Total	**62.6**	1.00	mg/L	N/A	
General Parameters					
Alkalinity, Total (as CaCO3)	**287**	1.0	mg/L	2025-04-10	
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	1.0	mg/L	2025-04-10	
Alkalinity, Bicarbonate (as CaCO3)	**287**	1.0	mg/L	2025-04-10	
Alkalinity, Carbonate (as CaCO3)	< 1.0	1.0	mg/L	2025-04-10	
Alkalinity, Hydroxide (as CaCO3)	< 1.0	1.0	mg/L	2025-04-10	
Ammonia, Total (as N)	**38.0**	0.050	mg/L	2025-04-09	
BOD, 5-day	**202**	8.0	mg/L	2025-04-14	
BOD, 5-day Carbonaceous	**214**	8.0	mg/L	2025-04-14	
Nitrogen, Total Kjeldahl	**62.6**	0.050	mg/L	2025-04-10	
pH	**8.05**	0.10	pH units	2025-04-10	HT2
Phosphorus, Total (as P)	**6.67**	0.0050	mg/L	2025-04-08	
Phosphorus, Dissolved Reactive	**3.69**	0.0050	mg/L	2025-04-08	
Solids, Total Suspended	**190**	2.0	mg/L	2025-04-11	

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	Lake Country, District of (Wastewater)	**WORK ORDER**	25D0900
PROJECT	Raw Influent- PE14651	**REPORTED**	2025-04-14 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, Dissolved Reactive in Water	SM 4500-P F (2021)	Automated Colorimetry (Ascorbic Acid)	✓	Kelowna
Phosphorus, Total in Water	SM 4500-P B.5* (2011) / SM 4500-P F (2021)	Persulfate Digestion / Automated Colorimetry (Ascorbic Acid)	✓	Kelowna
Solids, Total Suspended in Water	Solids in Water, Filtered / SM 2540 D* (2020)	Solids in Water, Filtered / Gravimetry (Dried at 103-105C)	✓	Kelowna

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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	Lake Country, District of (Wastewater)	**WORK ORDER**	25D0900
PROJECT	Raw Influent- PE14651	**REPORTED**	2025-04-14 15:02

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- **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 B5D2158										
Blank (B5D2158-BLK1)				Prepared: 2025-04-08, Analyzed: 2025-04-08						
Nitrate (as N)	< 0.010	0.010	mg/L							
Nitrite (as N)	< 0.010	0.010	mg/L							
Blank (B5D2158-BLK2)				Prepared: 2025-04-08, Analyzed: 2025-04-08						
Nitrate (as N)	< 0.010	0.010	mg/L							
Nitrite (as N)	< 0.010	0.010	mg/L							
Blank (B5D2158-BLK3)				Prepared: 2025-04-08, Analyzed: 2025-04-08						
Nitrate (as N)	< 0.010	0.010	mg/L							
Nitrite (as N)	< 0.010	0.010	mg/L							
LCS (B5D2158-BS1)				Prepared: 2025-04-08, Analyzed: 2025-04-08						
Nitrate (as N)	4.02	0.010	mg/L	4.00		100	90-110			
Nitrite (as N)	1.97	0.010	mg/L	2.00		98	85-115			
LCS (B5D2158-BS2)				Prepared: 2025-04-08, Analyzed: 2025-04-08						
Nitrate (as N)	4.02	0.010	mg/L	4.00		101	90-110			
Nitrite (as N)	1.99	0.010	mg/L	2.00		100	85-115			
LCS (B5D2158-BS3)				Prepared: 2025-04-08, Analyzed: 2025-04-08						
Nitrate (as N)	4.02	0.010	mg/L	4.00		100	90-110			
Nitrite (as N)	1.98	0.010	mg/L	2.00		99	85-115			
General Parameters, Batch B5D2269										
Blank (B5D2269-BLK1)				Prepared: 2025-04-08, Analyzed: 2025-04-08						
Phosphorus, Total (as P)	< 0.0050	0.0050	mg/L							
LCS (B5D2269-BS1)				Prepared: 2025-04-08, Analyzed: 2025-04-08						
Phosphorus, Total (as P)	0.108	0.0050	mg/L	0.100		108	85-115			
General Parameters, Batch B5D2362										
Blank (B5D2362-BLK1)				Prepared: 2025-04-08, Analyzed: 2025-04-08						
Phosphorus, Dissolved Reactive	< 0.0050	0.0050	mg/L							

APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO	Lake Country, District of (Wastewater)	**WORK ORDER**	25D0900
PROJECT	Raw Influent- PE14651	**REPORTED**	2025-04-14 15:02

Analyte	Result	RL	Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
General Parameters, Batch B5D2362, Continued										
LCS (B5D2362-BS1)				Prepared: 2025-04-08, Analyzed: 2025-04-08						
Phosphorus, Dissolved Reactive	0.0957	0.0050	mg/L	0.100		96	84-115			
General Parameters, Batch B5D2426										
Blank (B5D2426-BLK1)				Prepared: 2025-04-09, Analyzed: 2025-04-09						
Ammonia, Total (as N)	< 0.050	0.050	mg/L							
Blank (B5D2426-BLK2)				Prepared: 2025-04-09, Analyzed: 2025-04-09						
Ammonia, Total (as N)	< 0.050	0.050	mg/L							
Blank (B5D2426-BLK3)				Prepared: 2025-04-09, Analyzed: 2025-04-09						
Ammonia, Total (as N)	< 0.050	0.050	mg/L							
Blank (B5D2426-BLK4)				Prepared: 2025-04-09, Analyzed: 2025-04-09						
Ammonia, Total (as N)	< 0.050	0.050	mg/L							
LCS (B5D2426-BS1)				Prepared: 2025-04-09, Analyzed: 2025-04-09						
Ammonia, Total (as N)	0.931	0.050	mg/L	1.00		93	85-115			
LCS (B5D2426-BS2)				Prepared: 2025-04-09, Analyzed: 2025-04-09						
Ammonia, Total (as N)	0.867	0.050	mg/L	1.00		87	85-115			
LCS (B5D2426-BS3)				Prepared: 2025-04-09, Analyzed: 2025-04-09						
Ammonia, Total (as N)	0.870	0.050	mg/L	1.00		87	85-115			
LCS (B5D2426-BS4)				Prepared: 2025-04-09, Analyzed: 2025-04-09						
Ammonia, Total (as N)	0.877	0.050	mg/L	1.00		88	85-115			
General Parameters, Batch B5D2467										
Blank (B5D2467-BLK1)				Prepared: 2025-04-09, Analyzed: 2025-04-10						
Nitrogen, Total Kjeldahl	< 0.050	0.050	mg/L							
Blank (B5D2467-BLK2)				Prepared: 2025-04-09, Analyzed: 2025-04-10						
Nitrogen, Total Kjeldahl	< 0.050	0.050	mg/L							
LCS (B5D2467-BS1)				Prepared: 2025-04-09, Analyzed: 2025-04-10						
Nitrogen, Total Kjeldahl	0.953	0.050	mg/L	1.00		95	85-115			
LCS (B5D2467-BS2)				Prepared: 2025-04-09, Analyzed: 2025-04-10						
Nitrogen, Total Kjeldahl	0.945	0.050	mg/L	1.00		94	85-115			
General Parameters, Batch B5D2470										
Blank (B5D2470-BLK1)				Prepared: 2025-04-09, Analyzed: 2025-04-14						
BOD, 5-day Carbonaceous	< 2.0	2.0	mg/L							
LCS (B5D2470-BS1)				Prepared: 2025-04-09, Analyzed: 2025-04-14						
BOD, 5-day Carbonaceous	193	2.0	mg/L	198		98	85-115			
Duplicate (B5D2470-DUP1)		**Source: 25D0900-01**		Prepared: 2025-04-09, Analyzed: 2025-04-14						
BOD, 5-day Carbonaceous	242	8.0	mg/L		214				20	
General Parameters, Batch B5D2471										

APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO	Lake Country, District of (Wastewater)	**WORK ORDER**	25D0900
PROJECT	Raw Influent- PE14651	**REPORTED**	2025-04-14 15:02

Analyte	Result	RL	Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
General Parameters, Batch B5D2471, Continued										
Blank (B5D2471-BLK1)				Prepared: 2025-04-09, Analyzed: 2025-04-14						
BOD, 5-day	< 2.0	2.0	mg/L							
LCS (B5D2471-BS1)				Prepared: 2025-04-09, Analyzed: 2025-04-14						
BOD, 5-day	212	2.0	mg/L	198		107	85-115			
General Parameters, Batch B5D2565										
Blank (B5D2565-BLK1)				Prepared: 2025-04-10, Analyzed: 2025-04-10						
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 (B5D2565-BLK2)				Prepared: 2025-04-10, Analyzed: 2025-04-10						
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 (B5D2565-BS1)				Prepared: 2025-04-10, Analyzed: 2025-04-10						
Alkalinity, Total (as CaCO3)	89.9	1.0	mg/L	100		90	80-120			
LCS (B5D2565-BS3)				Prepared: 2025-04-10, Analyzed: 2025-04-10						
Alkalinity, Total (as CaCO3)	89.8	1.0	mg/L	100		90	80-120			
Reference (B5D2565-SRM1)				Prepared: 2025-04-10, Analyzed: 2025-04-10						
pH	7.00	0.10	pH units	7.01		100	98-102			
Reference (B5D2565-SRM2)				Prepared: 2025-04-10, Analyzed: 2025-04-10						
pH	7.01	0.10	pH units	7.01		100	98-102			
General Parameters, Batch B5D2708										
Blank (B5D2708-BLK1)				Prepared: 2025-04-11, Analyzed: 2025-04-11						
Solids, Total Suspended	< 2.0	2.0	mg/L							
LCS (B5D2708-BS1)				Prepared: 2025-04-11, Analyzed: 2025-04-11						
Solids, Total Suspended	75.5	5.0	mg/L	100		76	85-115			
Reference (B5D2708-SRM1)				Prepared: 2025-04-11, Analyzed: 2025-04-11						
Solids, Total Suspended	274	20.0	mg/L	294		93	80-120			

CERTIFICATE OF ANALYSIS

REPORTED TO	Lake Country, District of (Wastewater) 4062 Beaver Lake Rd LAKE COUNTRY, BC V4V 1T5		
ATTENTION	Davin Larsen	**WORK ORDER**	25D0908
PO NUMBER		**RECEIVED / TEMP**	2025-04-07 11:32 / 11.7°C
PROJECT	Final Effluent- PE14651	**REPORTED**	2025-04-14 14:12
PROJECT INFO	Lake Country WWTP	**COC NUMBER**	45754.39467

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 hhannaoui@caro.ca

Authorized By:

Hanane El Hannaoui
Junior Account Manager

CARO ANALYTICAL SERVICES

TEST RESULTS

REPORTED TO	Lake Country, District of (Wastewater)	**WORK ORDER**	25D0908
PROJECT	Final Effluent- PE14651	**REPORTED**	2025-04-14 14:12

Analyte	Result	RL	Units	Analyzed	Qualifier
Final Effluent (25D0908-01) | Matrix: Wastewater | Sampled: 2025-04-07 09:30					FILT, PRES
Anions					
Chloride	**130**	0.10	mg/L	2025-04-08	
Nitrate (as N)	**1.52**	0.010	mg/L	2025-04-08	
Nitrite (as N)	**0.108**	0.010	mg/L	2025-04-08	
Calculated Parameters					
Hardness, Dissolved (as CaCO3)	**189**	0.500	mg/L	N/A	
Nitrate+Nitrite (as N)	**1.63**	0.0100	mg/L	N/A	
Nitrogen, Total	**4.35**	0.100	mg/L	N/A	
Nitrogen, Organic	**1.84**	0.100	mg/L	N/A	
Dissolved Metals					
Aluminum, dissolved	**0.0087**	0.0050	mg/L	2025-04-13	
Antimony, dissolved	**0.00033**	0.00020	mg/L	2025-04-13	
Arsenic, dissolved	< 0.00050	0.00050	mg/L	2025-04-13	
Barium, dissolved	**0.0245**	0.0050	mg/L	2025-04-13	
Beryllium, dissolved	< 0.00010	0.00010	mg/L	2025-04-13	
Bismuth, dissolved	< 0.00010	0.00010	mg/L	2025-04-13	
Boron, dissolved	**0.145**	0.0500	mg/L	2025-04-13	
Cadmium, dissolved	< 0.000010	0.000010	mg/L	2025-04-13	
Calcium, dissolved	**48.5**	0.20	mg/L	2025-04-13	
Chromium, dissolved	< 0.00050	0.00050	mg/L	2025-04-13	
Cobalt, dissolved	**0.00033**	0.00010	mg/L	2025-04-13	
Copper, dissolved	**0.00689**	0.00040	mg/L	2025-04-13	
Iron, dissolved	**0.069**	0.010	mg/L	2025-04-13	
Lead, dissolved	**0.00028**	0.00020	mg/L	2025-04-13	
Lithium, dissolved	**0.00706**	0.00010	mg/L	2025-04-13	
Magnesium, dissolved	**16.3**	0.010	mg/L	2025-04-13	
Manganese, dissolved	**0.0861**	0.00020	mg/L	2025-04-13	
Molybdenum, dissolved	**0.00266**	0.00010	mg/L	2025-04-13	
Nickel, dissolved	**0.00197**	0.00040	mg/L	2025-04-13	
Phosphorus, dissolved	**0.397**	0.050	mg/L	2025-04-13	
Potassium, dissolved	**15.8**	0.10	mg/L	2025-04-13	
Selenium, dissolved	< 0.00050	0.00050	mg/L	2025-04-13	
Silicon, dissolved	**5.7**	1.0	mg/L	2025-04-13	
Silver, dissolved	< 0.000050	0.000050	mg/L	2025-04-13	
Sodium, dissolved	**98.9**	0.10	mg/L	2025-04-13	
Strontium, dissolved	**0.403**	0.0010	mg/L	2025-04-13	
Sulfur, dissolved	**20.1**	3.0	mg/L	2025-04-13	
Tellurium, dissolved	< 0.00050	0.00050	mg/L	2025-04-13	
Thallium, dissolved	< 0.000020	0.000020	mg/L	2025-04-13	
Thorium, dissolved	< 0.00010	0.00010	mg/L	2025-04-13	
Tin, dissolved	**0.00047**	0.00020	mg/L	2025-04-13	
Titanium, dissolved	< 0.0050	0.0050	mg/L	2025-04-13	

CARO ANALYTICAL SERVICES

TEST RESULTS

REPORTED TO	Lake Country, District of (Wastewater)	**WORK ORDER**	25D0908
PROJECT	Final Effluent- PE14651	**REPORTED**	2025-04-14 14:12

Analyte	Result	RL	Units	Analyzed	Qualifier
Final Effluent (25D0908-01) | Matrix: Wastewater | Sampled: 2025-04-07 09:30, Continued					FILT, PRES
Dissolved Metals, Continued					
Tungsten, dissolved	< 0.0010	0.0010	mg/L	2025-04-13	
Uranium, dissolved	**0.00192**	0.000020	mg/L	2025-04-13	
Vanadium, dissolved	< 0.0050	0.0050	mg/L	2025-04-13	
Zinc, dissolved	**0.0379**	0.0040	mg/L	2025-04-13	
Zirconium, dissolved	**0.00014**	0.00010	mg/L	2025-04-13	
General Parameters					
Alkalinity, Total (as CaCO3)	**168**	1.0	mg/L	2025-04-08	
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	1.0	mg/L	2025-04-08	
Alkalinity, Bicarbonate (as CaCO3)	**168**	1.0	mg/L	2025-04-08	
Alkalinity, Carbonate (as CaCO3)	< 1.0	1.0	mg/L	2025-04-08	
Alkalinity, Hydroxide (as CaCO3)	< 1.0	1.0	mg/L	2025-04-08	
Ammonia, Total (as N)	**0.885**	0.050	mg/L	2025-04-09	
BOD, 5-day Carbonaceous	**4.8**	8.0	mg/L	2025-04-14	
Carbon, Dissolved Organic	**12.1**	0.50	mg/L	2025-04-08	
Nitrogen, Total Kjeldahl	**2.72**	0.050	mg/L	2025-04-10	
pH	**7.69**	0.10	pH units	2025-04-08	HT2
Phosphorus, Total (as P)	**0.475**	0.0050	mg/L	2025-04-08	
Phosphorus, Dissolved Reactive	**0.225**	0.0050	mg/L	2025-04-08	
Solids, Total Suspended	**3.4**	2.0	mg/L	2025-04-10	
Microbiological Parameters					
Coliforms, Total (Q-Tray)	**46100**	1	MPN/100 mL	2025-04-07	
Coliforms, Fecal (Q-Tray)	**8200**	1	MPN/100 mL	2025-04-07	
Total Metals					
Aluminum, total	**0.0117**	0.0050	mg/L	2025-04-09	
Antimony, total	**0.00035**	0.00020	mg/L	2025-04-09	
Arsenic, total	< 0.00050	0.00050	mg/L	2025-04-09	
Barium, total	**0.0262**	0.0050	mg/L	2025-04-09	
Beryllium, total	< 0.00010	0.00010	mg/L	2025-04-09	
Bismuth, total	< 0.00010	0.00010	mg/L	2025-04-09	
Boron, total	**0.148**	0.0500	mg/L	2025-04-09	
Cadmium, total	< 0.000010	0.000010	mg/L	2025-04-09	
Calcium, total	**50.8**	0.20	mg/L	2025-04-09	
Chromium, total	< 0.00050	0.00050	mg/L	2025-04-09	
Cobalt, total	**0.00036**	0.00010	mg/L	2025-04-09	
Copper, total	**0.00829**	0.00040	mg/L	2025-04-09	
Iron, total	**0.081**	0.010	mg/L	2025-04-09	
Lead, total	**0.00027**	0.00020	mg/L	2025-04-09	
Lithium, total	**0.00743**	0.00010	mg/L	2025-04-09	
Magnesium, total	**17.0**	0.010	mg/L	2025-04-09	
Manganese, total	**0.0931**	0.00020	mg/L	2025-04-09	

TEST RESULTS

REPORTED TO	Lake Country, District of (Wastewater)	**WORK ORDER**	25D0908
PROJECT	Final Effluent- PE14651	**REPORTED**	2025-04-14 14:12

Analyte	Result	RL	Units	Analyzed	Qualifier
Final Effluent (25D0908-01) | Matrix: Wastewater | Sampled: 2025-04-07 09:30, Continued					FILT, PRES
Total Metals, Continued					
Molybdenum, total	**0.00353**	0.00010	mg/L	2025-04-09	
Nickel, total	**0.00222**	0.00040	mg/L	2025-04-09	
Phosphorus, total	**0.510**	0.050	mg/L	2025-04-09	
Potassium, total	**16.4**	0.10	mg/L	2025-04-09	
Selenium, total	< 0.00050	0.00050	mg/L	2025-04-09	
Silicon, total	**5.5**	1.0	mg/L	2025-04-09	
Silver, total	< 0.000050	0.000050	mg/L	2025-04-09	
Sodium, total	**107**	0.10	mg/L	2025-04-09	
Strontium, total	**0.410**	0.0010	mg/L	2025-04-09	
Sulfur, total	**22.4**	3.0	mg/L	2025-04-09	
Tellurium, total	< 0.00050	0.00050	mg/L	2025-04-09	
Thallium, total	< 0.000020	0.000020	mg/L	2025-04-09	
Thorium, total	< 0.00010	0.00010	mg/L	2025-04-09	
Tin, total	**0.00053**	0.00020	mg/L	2025-04-09	
Titanium, total	< 0.0050	0.0050	mg/L	2025-04-09	
Tungsten, total	< 0.0010	0.0010	mg/L	2025-04-09	
Uranium, total	**0.00237**	0.000020	mg/L	2025-04-09	
Vanadium, total	< 0.0050	0.0050	mg/L	2025-04-09	
Zinc, total	**0.0412**	0.0040	mg/L	2025-04-09	
Zirconium, total	**0.00018**	0.00010	mg/L	2025-04-09	
Trip Blank (25D0908-02) | Matrix: Wastewater | Sampled: 2025-04-07 09:00					FILT, PRES
Anions					
Chloride	< 0.10	0.10	mg/L	2025-04-08	
Nitrate (as N)	< 0.010	0.010	mg/L	2025-04-08	
Nitrite (as N)	< 0.010	0.010	mg/L	2025-04-08	
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)	**1.5**	1.0	mg/L	2025-04-08	
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	1.0	mg/L	2025-04-08	
Alkalinity, Bicarbonate (as CaCO3)	**1.5**	1.0	mg/L	2025-04-08	
Alkalinity, Carbonate (as CaCO3)	< 1.0	1.0	mg/L	2025-04-08	
Alkalinity, Hydroxide (as CaCO3)	< 1.0	1.0	mg/L	2025-04-08	
Ammonia, Total (as N)	< 0.050	0.050	mg/L	2025-04-09	
BOD, 5-day Carbonaceous	< 4.0	8.0	mg/L	2025-04-14	
Carbon, Dissolved Organic	< 0.50	0.50	mg/L	2025-04-08	

TEST RESULTS

REPORTED TO	Lake Country, District of (Wastewater)	**WORK ORDER**	25D0908
PROJECT	Final Effluent- PE14651	**REPORTED**	2025-04-14 14:12

Analyte	Result	RL	Units	Analyzed	Qualifier
Trip Blank (25D0908-02) | Matrix: Wastewater | Sampled: 2025-04-07 09:00, Continued					FILT, PRES
General Parameters, Continued					
Nitrogen, Total Kjeldahl	< 0.050	0.050	mg/L	2025-04-10	
pH	**6.53**	0.10	pH units	2025-04-08	HT2
Phosphorus, Total (as P)	< 0.0050	0.0050	mg/L	2025-04-08	
Phosphorus, Dissolved Reactive	< 0.0050	0.0050	mg/L	2025-04-08	
Solids, Total Suspended	< 2.0	2.0	mg/L	2025-04-10	
Microbiological Parameters					
Coliforms, Total (Q-Tray)	< 1	1	MPN/100 mL	2025-04-07	
Coliforms, Fecal (Q-Tray)	< 1	1	MPN/100 mL	2025-04-07	

Sample Qualifiers:

FILT	The sample has been filtered for DOC in the laboratory. Results may not reflect conditions at the time of sampling.
HT2	The 15 minute recommended holding time (from sampling to analysis) has been exceeded - field analysis is recommended.
PRES	Sample has been preserved for DOC in the laboratory and the holding time has been extended.

APPENDIX 1: SUPPORTING INFORMATION

REPORTED TO	Lake Country, District of (Wastewater)	**WORK ORDER**	25D0908
PROJECT	Final Effluent- PE14651	**REPORTED**	2025-04-14 14:12

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
Carbon, Dissolved Organic in Water	SM 5310 B (2022)	Combustion, Infrared CO2 Detection	✓	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
Dissolved Metals in Water	EPA 200.8 / EPA 6020B	0.45 µm Filtration / Inductively Coupled Plasma-Mass Spectroscopy (ICP-MS)	✓	Richmond
Hardness in Water	SM 2340 B (2021)	Calculation: 2.497 [diss Ca] + 4.118 [diss Mg]	✓	N/A
Hardness in Water	SM 2340 B* (2021)	Calculation: 2.497 [total Ca] + 4.118 [total Mg] (Est)	✓	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, Dissolved Reactive in Water	SM 4500-P F (2021)	Automated Colorimetry (Ascorbic Acid)	✓	Kelowna
Phosphorus, Total in Water	SM 4500-P B.5* (2011) / SM 4500-P F (2021)	Persulfate Digestion / Automated Colorimetry (Ascorbic Acid)	✓	Kelowna
Solids, Total Suspended in Water	Solids in Water, Filtered / SM 2540 D* (2020)	Solids in Water, Filtered / Gravimetry (Dried at 103-105C)	✓	Kelowna
Total Metals in Water	EPA 200.2 / EPA 6020B	HNO3+HCl Hot Block Digestion / Inductively Coupled Plasma-Mass Spectroscopy (ICP-MS)	✓	Richmond

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

Glossary of Terms:

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

APPENDIX 1: SUPPORTING INFORMATION

REPORTED TO	Lake Country, District of (Wastewater)	**WORK ORDER**	25D0908
PROJECT	Final Effluent- PE14651	**REPORTED**	2025-04-14 14:12

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	Lake Country, District of (Wastewater)	**WORK ORDER**	25D0908
PROJECT	Final Effluent- PE14651	**REPORTED**	2025-04-14 14:12

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 B5D2158										
Blank (B5D2158-BLK1)				Prepared: 2025-04-08, Analyzed: 2025-04-08						
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 (B5D2158-BLK2)				Prepared: 2025-04-08, Analyzed: 2025-04-08						
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 (B5D2158-BLK3)				Prepared: 2025-04-08, Analyzed: 2025-04-08						
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 (B5D2158-BS1)				Prepared: 2025-04-08, Analyzed: 2025-04-08						
Chloride	15.9	0.10	mg/L	16.0		99	90-110			
Nitrate (as N)	4.02	0.010	mg/L	4.00		100	90-110			
Nitrite (as N)	1.97	0.010	mg/L	2.00		98	85-115			
LCS (B5D2158-BS2)				Prepared: 2025-04-08, Analyzed: 2025-04-08						
Chloride	15.9	0.10	mg/L	16.0		99	90-110			
Nitrate (as N)	4.02	0.010	mg/L	4.00		101	90-110			
Nitrite (as N)	1.99	0.010	mg/L	2.00		100	85-115			
LCS (B5D2158-BS3)				Prepared: 2025-04-08, Analyzed: 2025-04-08						
Chloride	15.8	0.10	mg/L	16.0		99	90-110			
Nitrate (as N)	4.02	0.010	mg/L	4.00		100	90-110			
Nitrite (as N)	1.98	0.010	mg/L	2.00		99	85-115			
Dissolved Metals, Batch B5D2880										
Blank (B5D2880-BLK1)				Prepared: 2025-04-13, Analyzed: 2025-04-13						
Aluminum, dissolved	< 0.0050	0.0050	mg/L							
Antimony, dissolved	< 0.00020	0.00020	mg/L							
Arsenic, dissolved	< 0.00050	0.00050	mg/L							
Barium, dissolved	< 0.0050	0.0050	mg/L							

APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO	Lake Country, District of (Wastewater)	**WORK ORDER**	25D0908
PROJECT	Final Effluent- PE14651	**REPORTED**	2025-04-14 14:12

Analyte	Result	RL	Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Dissolved Metals, Batch B5D2880, Continued										
Blank (B5D2880-BLK1), Continued				Prepared: 2025-04-13, Analyzed: 2025-04-13						
Beryllium, dissolved	< 0.00010	0.00010	mg/L							
Bismuth, dissolved	< 0.00010	0.00010	mg/L							
Boron, dissolved	< 0.0500	0.0500	mg/L							
Cadmium, dissolved	< 0.000010	0.000010	mg/L							
Calcium, dissolved	< 0.20	0.20	mg/L							
Chromium, dissolved	< 0.00050	0.00050	mg/L							
Cobalt, dissolved	< 0.00010	0.00010	mg/L							
Copper, dissolved	< 0.00040	0.00040	mg/L							
Iron, dissolved	< 0.010	0.010	mg/L							
Lead, dissolved	< 0.00020	0.00020	mg/L							
Lithium, dissolved	< 0.00010	0.00010	mg/L							
Magnesium, dissolved	< 0.010	0.010	mg/L							
Manganese, dissolved	< 0.00020	0.00020	mg/L							
Molybdenum, dissolved	< 0.00010	0.00010	mg/L							
Nickel, dissolved	< 0.00040	0.00040	mg/L							
Phosphorus, dissolved	< 0.050	0.050	mg/L							
Potassium, dissolved	< 0.10	0.10	mg/L							
Selenium, dissolved	< 0.00050	0.00050	mg/L							
Silicon, dissolved	< 1.0	1.0	mg/L							
Silver, dissolved	< 0.000050	0.000050	mg/L							
Sodium, dissolved	< 0.10	0.10	mg/L							
Strontium, dissolved	< 0.0010	0.0010	mg/L							
Sulfur, dissolved	< 3.0	3.0	mg/L							
Tellurium, dissolved	< 0.00050	0.00050	mg/L							
Thallium, dissolved	< 0.000020	0.000020	mg/L							
Thorium, dissolved	< 0.00010	0.00010	mg/L							
Tin, dissolved	< 0.00020	0.00020	mg/L							
Titanium, dissolved	< 0.0050	0.0050	mg/L							
Tungsten, dissolved	< 0.0010	0.0010	mg/L							
Uranium, dissolved	< 0.000020	0.000020	mg/L							
Vanadium, dissolved	< 0.0050	0.0050	mg/L							
Zinc, dissolved	< 0.0040	0.0040	mg/L							
Zirconium, dissolved	< 0.00010	0.00010	mg/L							
LCS (B5D2880-BS1)				Prepared: 2025-04-13, Analyzed: 2025-04-13						
Aluminum, dissolved	3.64	0.0050	mg/L	4.00		91	80-120			
Antimony, dissolved	0.0374	0.00020	mg/L	0.0400		94	80-120			
Arsenic, dissolved	0.366	0.00050	mg/L	0.400		92	80-120			
Barium, dissolved	0.0375	0.0050	mg/L	0.0400		94	80-120			
Beryllium, dissolved	0.0381	0.00010	mg/L	0.0400		95	80-120			
Bismuth, dissolved	0.0357	0.00010	mg/L	0.0400		89	80-120			
Boron, dissolved	0.376	0.0500	mg/L	0.400		94	80-120			
Cadmium, dissolved	0.0377	0.000010	mg/L	0.0400		94	80-120			
Calcium, dissolved	3.71	0.20	mg/L	4.00		93	80-120			
Chromium, dissolved	0.0368	0.00050	mg/L	0.0400		92	80-120			
Cobalt, dissolved	0.0370	0.00010	mg/L	0.0400		93	80-120			
Copper, dissolved	0.0364	0.00040	mg/L	0.0400		91	80-120			
Iron, dissolved	3.73	0.010	mg/L	4.00		93	80-120			
Lead, dissolved	0.0371	0.00020	mg/L	0.0400		93	80-120			
Lithium, dissolved	0.0389	0.00010	mg/L	0.0400		97	80-120			
Magnesium, dissolved	3.72	0.010	mg/L	4.00		93	80-120			
Manganese, dissolved	0.0370	0.00020	mg/L	0.0400		92	80-120			
Molybdenum, dissolved	0.0371	0.00010	mg/L	0.0400		93	80-120			
Nickel, dissolved	0.0365	0.00040	mg/L	0.0400		91	80-120			
Phosphorus, dissolved	3.69	0.050	mg/L	4.00		92	80-120			
Potassium, dissolved	3.73	0.10	mg/L	4.00		93	80-120			

APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO	Lake Country, District of (Wastewater)	**WORK ORDER**	25D0908
PROJECT	Final Effluent- PE14651	**REPORTED**	2025-04-14 14:12

Analyte	Result	RL	Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Dissolved Metals, Batch B5D2880, Continued										
LCS (B5D2880-BS1), Continued				Prepared: 2025-04-13, Analyzed: 2025-04-13						
Selenium, dissolved	0.368	0.00050	mg/L	0.400		92	80-120			
Silicon, dissolved	3.8	1.0	mg/L	4.00		94	80-120			
Silver, dissolved	0.0371	0.000050	mg/L	0.0400		93	80-120			
Sodium, dissolved	3.70	0.10	mg/L	4.00		93	80-120			
Strontium, dissolved	0.0370	0.0010	mg/L	0.0400		93	80-120			
Sulfur, dissolved	37.1	3.0	mg/L	40.0		93	80-120			
Tellurium, dissolved	0.0370	0.00050	mg/L	0.0400		92	80-120			
Thallium, dissolved	0.0361	0.000020	mg/L	0.0400		90	80-120			
Thorium, dissolved	0.0366	0.00010	mg/L	0.0400		91	80-120			
Tin, dissolved	0.0373	0.00020	mg/L	0.0400		93	80-120			
Titanium, dissolved	0.0375	0.0050	mg/L	0.0400		94	80-120			
Tungsten, dissolved	0.0367	0.0010	mg/L	0.0400		92	80-120			
Uranium, dissolved	0.0363	0.000020	mg/L	0.0400		91	80-120			
Vanadium, dissolved	0.0363	0.0050	mg/L	0.0400		91	80-120			
Zinc, dissolved	0.364	0.0040	mg/L	0.400		91	80-120			
Zirconium, dissolved	0.0369	0.00010	mg/L	0.0400		92	80-120			
General Parameters, Batch B5D2061										
Blank (B5D2061-BLK1)				Prepared: 2025-04-06, Analyzed: 2025-04-08						
Carbon, Dissolved Organic	< 0.50	0.50	mg/L							
Blank (B5D2061-BLK2)				Prepared: 2025-04-06, Analyzed: 2025-04-08						
Carbon, Dissolved Organic	< 0.50	0.50	mg/L							
Blank (B5D2061-BLK3)				Prepared: 2025-04-07, Analyzed: 2025-04-08						
Carbon, Dissolved Organic	< 0.50	0.50	mg/L							
Blank (B5D2061-BLK4)				Prepared: 2025-04-08, Analyzed: 2025-04-08						
Carbon, Dissolved Organic	< 0.50	0.50	mg/L							
Blank (B5D2061-BLK5)				Prepared: 2025-04-08, Analyzed: 2025-04-08						
Carbon, Dissolved Organic	< 0.50	0.50	mg/L							
LCS (B5D2061-BS1)				Prepared: 2025-04-06, Analyzed: 2025-04-08						
Carbon, Dissolved Organic	9.46	0.50	mg/L	10.0		95	78-116			
LCS (B5D2061-BS2)				Prepared: 2025-04-06, Analyzed: 2025-04-08						
Carbon, Dissolved Organic	9.83	0.50	mg/L	10.0		98	78-116			
LCS (B5D2061-BS3)				Prepared: 2025-04-07, Analyzed: 2025-04-10						
Carbon, Dissolved Organic	9.42	0.50	mg/L	10.0		94	78-116			
LCS (B5D2061-BS4)				Prepared: 2025-04-08, Analyzed: 2025-04-10						
Carbon, Dissolved Organic	9.48	0.50	mg/L	10.0		95	78-116			
LCS (B5D2061-BS5)				Prepared: 2025-04-08, Analyzed: 2025-04-10						
Carbon, Dissolved Organic	9.44	0.50	mg/L	10.0		94	78-116			
Duplicate (B5D2061-DUP4)		**Source: 25D0908-01**		Prepared: 2025-04-08, Analyzed: 2025-04-10						
Carbon, Dissolved Organic	12.2	0.50	mg/L		12.1			1	15	
Matrix Spike (B5D2061-MS4)		**Source: 25D0908-01**		Prepared: 2025-04-08, Analyzed: 2025-04-10						
Carbon, Dissolved Organic	20.7	5.00	mg/L	10.0	12.1	86	70-130			
General Parameters, Batch B5D2269										

APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO	Lake Country, District of (Wastewater)	**WORK ORDER**	25D0908
PROJECT	Final Effluent- PE14651	**REPORTED**	2025-04-14 14:12

Analyte	Result	RL	Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
General Parameters, Batch B5D2269, Continued										
Blank (B5D2269-BLK1)				Prepared: 2025-04-08, Analyzed: 2025-04-08						
Phosphorus, Total (as P)	< 0.0050	0.0050	mg/L							
LCS (B5D2269-BS1)				Prepared: 2025-04-08, Analyzed: 2025-04-08						
Phosphorus, Total (as P)	0.108	0.0050	mg/L	0.100		108	85-115			
General Parameters, Batch B5D2273										
Blank (B5D2273-BLK1)				Prepared: 2025-04-08, Analyzed: 2025-04-08						
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 (B5D2273-BLK2)				Prepared: 2025-04-08, Analyzed: 2025-04-08						
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 (B5D2273-BS1)				Prepared: 2025-04-08, Analyzed: 2025-04-08						
Alkalinity, Total (as CaCO3)	89.1	1.0	mg/L	100		89	80-120			
LCS (B5D2273-BS3)				Prepared: 2025-04-08, Analyzed: 2025-04-08						
Alkalinity, Total (as CaCO3)	90.4	1.0	mg/L	100		90	80-120			
Duplicate (B5D2273-DUP2)			**Source: 25D0908-01**	Prepared: 2025-04-08, Analyzed: 2025-04-08						
Alkalinity, Total (as CaCO3)	168	1.0	mg/L		168			< 1	10	
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	1.0	mg/L		< 1.0				10	
Alkalinity, Bicarbonate (as CaCO3)	168	1.0	mg/L		168			< 1	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	7.73	0.10	pH units		7.69			< 1	4	HT2
Reference (B5D2273-SRM1)				Prepared: 2025-04-08, Analyzed: 2025-04-08						
pH	7.02	0.10	pH units	7.01		100	98-102			
Reference (B5D2273-SRM2)				Prepared: 2025-04-08, Analyzed: 2025-04-08						
pH	7.02	0.10	pH units	7.01		100	98-102			
General Parameters, Batch B5D2362										
Blank (B5D2362-BLK1)				Prepared: 2025-04-08, Analyzed: 2025-04-08						
Phosphorus, Dissolved Reactive	< 0.0050	0.0050	mg/L							
LCS (B5D2362-BS1)				Prepared: 2025-04-08, Analyzed: 2025-04-08						
Phosphorus, Dissolved Reactive	0.0957	0.0050	mg/L	0.100		96	84-115			
Duplicate (B5D2362-DUP1)			**Source: 25D0908-01**	Prepared: 2025-04-08, Analyzed: 2025-04-08						
Phosphorus, Dissolved Reactive	0.225	0.0050	mg/L		0.225			< 1	14	
Matrix Spike (B5D2362-MS1)			**Source: 25D0908-01**	Prepared: 2025-04-08, Analyzed: 2025-04-08						
Phosphorus, Dissolved Reactive	0.303	0.0050	mg/L	0.100	0.225	78	70-130			
General Parameters, Batch B5D2426										

APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO	Lake Country, District of (Wastewater)	**WORK ORDER**	25D0908
PROJECT	Final Effluent- PE14651	**REPORTED**	2025-04-14 14:12

Analyte	Result	RL	Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
General Parameters, Batch B5D2426, Continued										
Blank (B5D2426-BLK1)				Prepared: 2025-04-09, Analyzed: 2025-04-09						
Ammonia, Total (as N)	< 0.050	0.050	mg/L							
Blank (B5D2426-BLK2)				Prepared: 2025-04-09, Analyzed: 2025-04-09						
Ammonia, Total (as N)	< 0.050	0.050	mg/L							
Blank (B5D2426-BLK3)				Prepared: 2025-04-09, Analyzed: 2025-04-09						
Ammonia, Total (as N)	< 0.050	0.050	mg/L							
Blank (B5D2426-BLK4)				Prepared: 2025-04-09, Analyzed: 2025-04-09						
Ammonia, Total (as N)	< 0.050	0.050	mg/L							
LCS (B5D2426-BS1)				Prepared: 2025-04-09, Analyzed: 2025-04-09						
Ammonia, Total (as N)	0.931	0.050	mg/L	1.00		93	85-115			
LCS (B5D2426-BS2)				Prepared: 2025-04-09, Analyzed: 2025-04-09						
Ammonia, Total (as N)	0.867	0.050	mg/L	1.00		87	85-115			
LCS (B5D2426-BS3)				Prepared: 2025-04-09, Analyzed: 2025-04-09						
Ammonia, Total (as N)	0.870	0.050	mg/L	1.00		87	85-115			
LCS (B5D2426-BS4)				Prepared: 2025-04-09, Analyzed: 2025-04-09						
Ammonia, Total (as N)	0.877	0.050	mg/L	1.00		88	85-115			
General Parameters, Batch B5D2467										
Blank (B5D2467-BLK1)				Prepared: 2025-04-09, Analyzed: 2025-04-10						
Nitrogen, Total Kjeldahl	< 0.050	0.050	mg/L							
Blank (B5D2467-BLK2)				Prepared: 2025-04-09, Analyzed: 2025-04-10						
Nitrogen, Total Kjeldahl	< 0.050	0.050	mg/L							
LCS (B5D2467-BS1)				Prepared: 2025-04-09, Analyzed: 2025-04-10						
Nitrogen, Total Kjeldahl	0.953	0.050	mg/L	1.00		95	85-115			
LCS (B5D2467-BS2)				Prepared: 2025-04-09, Analyzed: 2025-04-10						
Nitrogen, Total Kjeldahl	0.945	0.050	mg/L	1.00		94	85-115			
General Parameters, Batch B5D2470										
Blank (B5D2470-BLK1)				Prepared: 2025-04-09, Analyzed: 2025-04-14						
BOD, 5-day Carbonaceous	< 2.0	2.0	mg/L							
LCS (B5D2470-BS1)				Prepared: 2025-04-09, Analyzed: 2025-04-14						
BOD, 5-day Carbonaceous	193	2.0	mg/L	198		98	85-115			
General Parameters, Batch B5D2544										
Blank (B5D2544-BLK1)				Prepared: 2025-04-10, Analyzed: 2025-04-10						
Solids, Total Suspended	< 2.0	2.0	mg/L							RS2
Blank (B5D2544-BLK2)				Prepared: 2025-04-10, Analyzed: 2025-04-10						
Solids, Total Suspended	< 2.0	2.0	mg/L							RS2
LCS (B5D2544-BS2)				Prepared: 2025-04-10, Analyzed: 2025-04-10						
Solids, Total Suspended	104	5.0	mg/L	100		104	85-115			

APPENDIX 2: QUALITY CONTROL RESULTS

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

WORK ORDER 25D0908
REPORTED 2025-04-14 14:12

Analyte	Result	RL	Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Microbiological Parameters, Batch B5D2242										
Blank (B5D2242-BLK1)				Prepared: 2025-04-07, Analyzed: 2025-04-07						
Coliforms, Fecal (Q-Tray)	< 1	1	MPN/100 mL							
Blank (B5D2242-BLK2)				Prepared: 2025-04-07, Analyzed: 2025-04-07						
Coliforms, Total (Q-Tray)	< 1	1	MPN/100 mL							
Duplicate (B5D2242-DUP1)			**Source: 25D0908-01**	Prepared: 2025-04-07, Analyzed: 2025-04-07						
Coliforms, Fecal (Q-Tray)	8390	1	MPN/100 mL		8200			2	80	
Total Metals, Batch B5D2461										
Blank (B5D2461-BLK1)				Prepared: 2025-04-09, Analyzed: 2025-04-09						
Aluminum, total	< 0.0050	0.0050	mg/L							
Antimony, total	< 0.00020	0.00020	mg/L							
Arsenic, total	< 0.00050	0.00050	mg/L							
Barium, total	< 0.0050	0.0050	mg/L							
Beryllium, total	< 0.00010	0.00010	mg/L							
Bismuth, total	< 0.00010	0.00010	mg/L							
Boron, total	< 0.0500	0.0500	mg/L							
Cadmium, total	< 0.000010	0.000010	mg/L							
Calcium, total	< 0.20	0.20	mg/L							
Chromium, total	< 0.00050	0.00050	mg/L							
Cobalt, total	< 0.00010	0.00010	mg/L							
Copper, total	< 0.00040	0.00040	mg/L							
Iron, total	< 0.010	0.010	mg/L							
Lead, total	< 0.00020	0.00020	mg/L							
Lithium, total	< 0.00010	0.00010	mg/L							
Magnesium, total	< 0.010	0.010	mg/L							
Manganese, total	< 0.00020	0.00020	mg/L							
Molybdenum, total	< 0.00010	0.00010	mg/L							
Nickel, total	< 0.00040	0.00040	mg/L							
Phosphorus, total	< 0.050	0.050	mg/L							
Potassium, total	< 0.10	0.10	mg/L							
Selenium, total	< 0.00050	0.00050	mg/L							
Silicon, total	< 1.0	1.0	mg/L							
Silver, total	< 0.000050	0.000050	mg/L							
Sodium, total	< 0.10	0.10	mg/L							
Strontium, total	< 0.0010	0.0010	mg/L							
Sulfur, total	< 3.0	3.0	mg/L							
Tellurium, total	< 0.00050	0.00050	mg/L							
Thallium, total	< 0.000020	0.000020	mg/L							
Thorium, total	< 0.00010	0.00010	mg/L							
Tin, total	< 0.00020	0.00020	mg/L							
Titanium, total	< 0.0050	0.0050	mg/L							
Tungsten, total	< 0.0010	0.0010	mg/L							
Uranium, total	< 0.000020	0.000020	mg/L							
Vanadium, total	< 0.0050	0.0050	mg/L							
Zinc, total	< 0.0040	0.0040	mg/L							
Zirconium, total	< 0.00010	0.00010	mg/L							
LCS (B5D2461-BS1)				Prepared: 2025-04-09, Analyzed: 2025-04-09						
Aluminum, total	4.21	0.0050	mg/L	4.00		105	80-120			
Antimony, total	0.0403	0.00020	mg/L	0.0400		101	80-120			
Arsenic, total	0.413	0.00050	mg/L	0.400		103	80-120			
Barium, total	0.0415	0.0050	mg/L	0.0400		104	80-120			
Beryllium, total	0.0399	0.00010	mg/L	0.0400		100	80-120			
Bismuth, total	0.0413	0.00010	mg/L	0.0400		103	80-120			

APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO	Lake Country, District of (Wastewater)	**WORK ORDER**	25D0908
PROJECT	Final Effluent- PE14651	**REPORTED**	2025-04-14 14:12

Analyte	Result	RL	Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Total Metals, Batch B5D2461, Continued										
LCS (B5D2461-BS1), Continued				Prepared: 2025-04-09, Analyzed: 2025-04-09						
Boron, total	0.400	0.0500	mg/L	0.400		100	80-120			
Cadmium, total	0.0416	0.000010	mg/L	0.0400		104	80-120			
Calcium, total	4.14	0.20	mg/L	4.00		104	80-120			
Chromium, total	0.0422	0.00050	mg/L	0.0400		105	80-120			
Cobalt, total	0.0414	0.00010	mg/L	0.0400		103	80-120			
Copper, total	0.0411	0.00040	mg/L	0.0400		103	80-120			
Iron, total	4.12	0.010	mg/L	4.00		103	80-120			
Lead, total	0.0419	0.00020	mg/L	0.0400		105	80-120			
Lithium, total	0.0394	0.00010	mg/L	0.0400		99	80-120			
Magnesium, total	4.22	0.010	mg/L	4.00		106	80-120			
Manganese, total	0.0418	0.00020	mg/L	0.0400		105	80-120			
Molybdenum, total	0.0418	0.00010	mg/L	0.0400		104	80-120			
Nickel, total	0.0418	0.00040	mg/L	0.0400		105	80-120			
Phosphorus, total	4.21	0.050	mg/L	4.00		105	80-120			
Potassium, total	4.22	0.10	mg/L	4.00		105	80-120			
Selenium, total	0.406	0.00050	mg/L	0.400		102	80-120			
Silicon, total	4.0	1.0	mg/L	4.00		100	80-120			
Silver, total	0.0418	0.000050	mg/L	0.0400		105	80-120			
Sodium, total	4.35	0.10	mg/L	4.00		109	80-120			
Strontium, total	0.0418	0.0010	mg/L	0.0400		105	80-120			
Sulfur, total	42.2	3.0	mg/L	40.0		105	80-120			
Tellurium, total	0.0396	0.00050	mg/L	0.0400		99	80-120			
Thallium, total	0.0411	0.000020	mg/L	0.0400		103	80-120			
Thorium, total	0.0415	0.00010	mg/L	0.0400		104	80-120			
Tin, total	0.0407	0.00020	mg/L	0.0400		102	80-120			
Titanium, total	0.0406	0.0050	mg/L	0.0400		102	80-120			
Tungsten, total	0.0403	0.0010	mg/L	0.0400		101	80-120			
Uranium, total	0.0416	0.000020	mg/L	0.0400		104	80-120			
Vanadium, total	0.0411	0.0050	mg/L	0.0400		103	80-120			
Zinc, total	0.412	0.0040	mg/L	0.400		103	80-120			
Zirconium, total	0.0414	0.00010	mg/L	0.0400		104	80-120			

QC Qualifiers:

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

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	**WORK ORDER**	25E0622
PO NUMBER		**RECEIVED / TEMP**	2025-05-06 11:54 / 16.5°C
PROJECT	Raw Influent- PE14651	**REPORTED**	2025-05-13 14:27
PROJECT INFO	Lake Country WWTP	**COC NUMBER**	No Number

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 hhannaoui@caro.ca

Authorized By:

Hanane El Hannaoui
Junior Account Manager

TEST RESULTS

REPORTED TO	Lake Country, District of (Wastewater)	**WORK ORDER**	25E0622
PROJECT	Raw Influent- PE14651	**REPORTED**	2025-05-13 14:27

Analyte	Result	RL	Units	Analyzed	Qualifier
Raw Influent (25E0622-01) | Matrix: Water | Sampled: 2025-05-06 11:00					
Anions					
Nitrate (as N)	< 0.010	0.010	mg/L	2025-05-07	
Nitrite (as N)	< 0.010	0.010	mg/L	2025-05-07	
Calculated Parameters					
Nitrate+Nitrite (as N)	< 0.0100	0.0100	mg/L	N/A	
Nitrogen, Total	**102**	2.00	mg/L	N/A	
General Parameters					
Alkalinity, Total (as CaCO3)	**404**	1.0	mg/L	2025-05-07	
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	1.0	mg/L	2025-05-07	
Alkalinity, Bicarbonate (as CaCO3)	**404**	1.0	mg/L	2025-05-07	
Alkalinity, Carbonate (as CaCO3)	< 1.0	1.0	mg/L	2025-05-07	
Alkalinity, Hydroxide (as CaCO3)	< 1.0	1.0	mg/L	2025-05-07	
Ammonia, Total (as N)	**79.9**	0.050	mg/L	2025-05-07	
BOD, 5-day	**778**	8.0	mg/L	2025-05-12	BOD4
BOD, 5-day Carbonaceous	**538**	8.0	mg/L	2025-05-12	
Nitrogen, Total Kjeldahl	**102**	0.050	mg/L	2025-05-09	
pH	**8.27**	0.10	pH units	2025-05-07	HT2
Phosphorus, Total (as P)	**12.5**	0.0050	mg/L	2025-05-08	
Phosphorus, Dissolved Reactive	**6.73**	0.0050	mg/L	2025-05-07	
Solids, Total Suspended	**400**	2.0	mg/L	2025-05-08	

Sample Qualifiers:

BOD4	The BOD result shows evidence of Toxicity.
HT2	The 15 minute recommended holding time (from sampling to analysis) has been exceeded - field analysis is recommended.

APPENDIX 1: SUPPORTING INFORMATION

REPORTED TO	Lake Country, District of (Wastewater)	**WORK ORDER**	25E0622
PROJECT	Raw Influent- PE14651	**REPORTED**	2025-05-13 14:27

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, Dissolved Reactive in Water	SM 4500-P F (2021)	Automated Colorimetry (Ascorbic Acid)	✓	Kelowna
Phosphorus, Total in Water	SM 4500-P B.5* (2011) / SM 4500-P F (2021)	Persulfate Digestion / Automated Colorimetry (Ascorbic Acid)	✓	Kelowna
Solids, Total 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	Lake Country, District of (Wastewater)	**WORK ORDER**	25E0622
PROJECT	Raw Influent- PE14651	**REPORTED**	2025-05-13 14:27

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
Anions, Batch B5E2257										
Blank (B5E2257-BLK1)				Prepared: 2025-05-07, Analyzed: 2025-05-07						
Nitrate (as N)	< 0.010	0.010	mg/L							
Nitrite (as N)	< 0.010	0.010	mg/L							
LCS (B5E2257-BS1)				Prepared: 2025-05-07, Analyzed: 2025-05-07						
Nitrate (as N)	4.15	0.010	mg/L	4.00		104	90-110			
Nitrite (as N)	2.01	0.010	mg/L	2.00		100	85-115			
LCS (B5E2257-BS2)				Prepared: 2025-05-07, Analyzed: 2025-05-07						
Nitrate (as N)	4.14	0.010	mg/L	4.00		103	90-110			
Nitrite (as N)	2.04	0.010	mg/L	2.00		102	85-115			
General Parameters, Batch B5E2247										
Blank (B5E2247-BLK1)				Prepared: 2025-05-07, Analyzed: 2025-05-07						
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 (B5E2247-BLK2)				Prepared: 2025-05-07, Analyzed: 2025-05-07						
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 (B5E2247-BS1)				Prepared: 2025-05-07, Analyzed: 2025-05-07						
Alkalinity, Total (as CaCO3)	94.7	1.0	mg/L	100		95	80-120			
LCS (B5E2247-BS3)				Prepared: 2025-05-07, Analyzed: 2025-05-07						
Alkalinity, Total (as CaCO3)	94.1	1.0	mg/L	100		94	80-120			
Reference (B5E2247-SRM1)				Prepared: 2025-05-07, Analyzed: 2025-05-07						
pH	7.02	0.10	pH units	7.01		100	98-102			

APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO	Lake Country, District of (Wastewater)	**WORK ORDER**	25E0622
PROJECT	Raw Influent- PE14651	**REPORTED**	2025-05-13 14:27

Analyte	Result	RL	Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
General Parameters, Batch B5E2247, Continued										
Reference (B5E2247-SRM2)				Prepared: 2025-05-07, Analyzed: 2025-05-07						
pH	7.01	0.10	pH units	7.01		100	98-102			
General Parameters, Batch B5E2273										
Blank (B5E2273-BLK1)				Prepared: 2025-05-07, Analyzed: 2025-05-07						
Phosphorus, Dissolved Reactive	< 0.0050	0.0050	mg/L							
LCS (B5E2273-BS1)				Prepared: 2025-05-07, Analyzed: 2025-05-07						
Phosphorus, Dissolved Reactive	0.0921	0.0050	mg/L	0.100		92	84-115			
General Parameters, Batch B5E2291										
Blank (B5E2291-BLK1)				Prepared: 2025-05-07, Analyzed: 2025-05-07						
Ammonia, Total (as N)	< 0.050	0.050	mg/L							
Blank (B5E2291-BLK2)				Prepared: 2025-05-07, Analyzed: 2025-05-07						
Ammonia, Total (as N)	< 0.050	0.050	mg/L							
Blank (B5E2291-BLK3)				Prepared: 2025-05-07, Analyzed: 2025-05-07						
Ammonia, Total (as N)	< 0.050	0.050	mg/L							
LCS (B5E2291-BS1)				Prepared: 2025-05-07, Analyzed: 2025-05-07						
Ammonia, Total (as N)	0.985	0.050	mg/L	1.00		98	85-115			
LCS (B5E2291-BS2)				Prepared: 2025-05-07, Analyzed: 2025-05-07						
Ammonia, Total (as N)	1.02	0.050	mg/L	1.00		102	85-115			
LCS (B5E2291-BS3)				Prepared: 2025-05-07, Analyzed: 2025-05-07						
Ammonia, Total (as N)	1.01	0.050	mg/L	1.00		101	85-115			
General Parameters, Batch B5E2375										
Blank (B5E2375-BLK1)				Prepared: 2025-05-07, Analyzed: 2025-05-12						
BOD, 5-day Carbonaceous	< 2.0	2.0	mg/L							
LCS (B5E2375-BS1)				Prepared: 2025-05-07, Analyzed: 2025-05-12						
BOD, 5-day Carbonaceous	192	66.6	mg/L	198		97	85-115			
General Parameters, Batch B5E2376										
Blank (B5E2376-BLK1)				Prepared: 2025-05-07, Analyzed: 2025-05-12						
BOD, 5-day	< 2.0	2.0	mg/L							
LCS (B5E2376-BS1)				Prepared: 2025-05-07, Analyzed: 2025-05-12						
BOD, 5-day	218	66.6	mg/L	198		110	85-115			
General Parameters, Batch B5E2448										
Blank (B5E2448-BLK2)				Prepared: 2025-05-08, Analyzed: 2025-05-08						
Phosphorus, Total (as P)	< 0.0050	0.0050	mg/L							
LCS (B5E2448-BS2)				Prepared: 2025-05-08, Analyzed: 2025-05-08						
Phosphorus, Total (as P)	0.112	0.0050	mg/L	0.100		112	85-115			

APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO	Lake Country, District of (Wastewater)	**WORK ORDER**	25E0622
PROJECT	Raw Influent- PE14651	**REPORTED**	2025-05-13 14:27

Analyte	Result	RL	Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
General Parameters, Batch B5E2467										
Blank (B5E2467-BLK1)				Prepared: 2025-05-08, Analyzed: 2025-05-08						
Solids, Total Suspended	< 2.0	2.0	mg/L							
Duplicate (B5E2467-DUP1)				**Source: 25E0622-01**	Prepared: 2025-05-08, Analyzed: 2025-05-08					
Solids, Total Suspended	380	2.0	mg/L		400				20	
General Parameters, Batch B5E2521										
Blank (B5E2521-BLK1)				Prepared: 2025-05-08, Analyzed: 2025-05-09						
Nitrogen, Total Kjeldahl	< 0.050	0.050	mg/L							
Blank (B5E2521-BLK2)				Prepared: 2025-05-08, Analyzed: 2025-05-09						
Nitrogen, Total Kjeldahl	< 0.050	0.050	mg/L							
LCS (B5E2521-BS1)				Prepared: 2025-05-08, Analyzed: 2025-05-09						
Nitrogen, Total Kjeldahl	1.03	0.050	mg/L	1.00		103	85-115			
LCS (B5E2521-BS2)				Prepared: 2025-05-08, Analyzed: 2025-05-09						
Nitrogen, Total Kjeldahl	1.02	0.050	mg/L	1.00		102	85-115			

CERTIFICATE OF ANALYSIS

REPORTED TO	Lake Country, District of (Wastewater) 4062 Beaver Lake Rd LAKE COUNTRY, BC V4V 1T5		
ATTENTION	Davin Larsen	**WORK ORDER**	25E0660
PO NUMBER		**RECEIVED / TEMP**	2025-05-06 11:54 / 16.5°C
PROJECT	Final Effluent- PE14651	**REPORTED**	2025-05-13 14:22
PROJECT INFO	Lake Country WWTP	**COC NUMBER**	No Number

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 hhannaoui@caro.ca

Authorized By:

Hanane El Hannaoui
Junior Account Manager

TEST RESULTS

REPORTED TO	Lake Country, District of (Wastewater)	**WORK ORDER**	25E0660
PROJECT	Final Effluent- PE14651	**REPORTED**	2025-05-13 14:22

Analyte	Result	RL	Units	Analyzed	Qualifier
Final Effluent (25E0660-01) | Matrix: Wastewater | Sampled: 2025-05-06 11:15					
Anions					
Chloride	**122**	0.10	mg/L	2025-05-07	
Nitrate (as N)	**2.42**	0.010	mg/L	2025-05-07	
Nitrite (as N)	**0.284**	0.010	mg/L	2025-05-07	
Calculated Parameters					
Hardness, Dissolved (as CaCO3)	**198**	0.500	mg/L	N/A	
Nitrate+Nitrite (as N)	**2.70**	0.0100	mg/L	N/A	
Nitrogen, Total	**4.87**	0.100	mg/L	N/A	
Nitrogen, Organic	**1.71**	0.100	mg/L	N/A	
Dissolved Metals					
Aluminum, dissolved	**0.0081**	0.0050	mg/L	2025-05-09	
Antimony, dissolved	**0.00033**	0.00020	mg/L	2025-05-09	
Arsenic, dissolved	< 0.00050	0.00050	mg/L	2025-05-09	
Barium, dissolved	**0.0261**	0.0050	mg/L	2025-05-09	
Beryllium, dissolved	< 0.00010	0.00010	mg/L	2025-05-09	
Bismuth, dissolved	< 0.00010	0.00010	mg/L	2025-05-09	
Boron, dissolved	**0.175**	0.0500	mg/L	2025-05-09	
Cadmium, dissolved	< 0.000010	0.000010	mg/L	2025-05-09	
Calcium, dissolved	**51.8**	0.20	mg/L	2025-05-09	
Chromium, dissolved	< 0.00050	0.00050	mg/L	2025-05-09	
Cobalt, dissolved	**0.00034**	0.00010	mg/L	2025-05-09	
Copper, dissolved	**0.00491**	0.00040	mg/L	2025-05-09	
Iron, dissolved	**0.057**	0.010	mg/L	2025-05-09	
Lead, dissolved	< 0.00020	0.00020	mg/L	2025-05-09	
Lithium, dissolved	**0.00743**	0.00010	mg/L	2025-05-09	
Magnesium, dissolved	**16.5**	0.010	mg/L	2025-05-09	
Manganese, dissolved	**0.0680**	0.00020	mg/L	2025-05-09	
Molybdenum, dissolved	**0.00305**	0.00010	mg/L	2025-05-09	
Nickel, dissolved	**0.00205**	0.00040	mg/L	2025-05-09	
Phosphorus, dissolved	**0.301**	0.050	mg/L	2025-05-09	
Potassium, dissolved	**18.5**	0.10	mg/L	2025-05-09	
Selenium, dissolved	< 0.00050	0.00050	mg/L	2025-05-09	
Silicon, dissolved	**5.7**	1.0	mg/L	2025-05-09	
Silver, dissolved	< 0.000050	0.000050	mg/L	2025-05-09	
Sodium, dissolved	**100**	0.10	mg/L	2025-05-09	
Strontium, dissolved	**0.400**	0.0010	mg/L	2025-05-09	
Sulfur, dissolved	**20.6**	3.0	mg/L	2025-05-09	
Tellurium, dissolved	< 0.00050	0.00050	mg/L	2025-05-09	
Thallium, dissolved	< 0.000020	0.000020	mg/L	2025-05-09	
Thorium, dissolved	< 0.00010	0.00010	mg/L	2025-05-09	
Tin, dissolved	**0.00047**	0.00020	mg/L	2025-05-09	
Titanium, dissolved	< 0.0050	0.0050	mg/L	2025-05-09	
Tungsten, dissolved	< 0.0010	0.0010	mg/L	2025-05-09	

TEST RESULTS

REPORTED TO	Lake Country, District of (Wastewater)	**WORK ORDER**	25E0660
PROJECT	Final Effluent- PE14651	**REPORTED**	2025-05-13 14:22

Analyte	Result	RL	Units	Analyzed	Qualifier
Final Effluent (25E0660-01) | Matrix: Wastewater | Sampled: 2025-05-06 11:15, Continued					
Dissolved Metals, Continued					
Uranium, dissolved	**0.00189**	0.000020	mg/L	2025-05-09	
Vanadium, dissolved	< 0.0050	0.0050	mg/L	2025-05-09	
Zinc, dissolved	**0.0340**	0.0040	mg/L	2025-05-09	
Zirconium, dissolved	**0.00017**	0.00010	mg/L	2025-05-09	
General Parameters					
Alkalinity, Total (as CaCO3)	**163**	1.0	mg/L	2025-05-08	
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	1.0	mg/L	2025-05-08	
Alkalinity, Bicarbonate (as CaCO3)	**163**	1.0	mg/L	2025-05-08	
Alkalinity, Carbonate (as CaCO3)	< 1.0	1.0	mg/L	2025-05-08	
Alkalinity, Hydroxide (as CaCO3)	< 1.0	1.0	mg/L	2025-05-08	
Ammonia, Total (as N)	**0.458**	0.050	mg/L	2025-05-07	
BOD, 5-day Carbonaceous	< 4.0	8.0	mg/L	2025-05-12	
Carbon, Dissolved Organic	**13.2**	0.50	mg/L	2025-05-07	
Nitrogen, Total Kjeldahl	**2.17**	0.050	mg/L	2025-05-09	
pH	**7.78**	0.10	pH units	2025-05-08	HT2
Phosphorus, Total (as P)	**0.445**	0.0050	mg/L	2025-05-08	
Phosphorus, Dissolved Reactive	**0.162**	0.0050	mg/L	2025-05-07	
Solids, Total Suspended	**3.6**	2.0	mg/L	2025-05-09	
Microbiological Parameters					
Coliforms, Total (Q-Tray)	**> 242000**	1	MPN/100 mL	2025-05-06	
Coliforms, Fecal (Q-Tray)	**48800**	1	MPN/100 mL	2025-05-06	
Total Metals					
Aluminum, total	**0.0096**	0.0050	mg/L	2025-05-09	
Antimony, total	**0.00035**	0.00020	mg/L	2025-05-09	
Arsenic, total	< 0.00050	0.00050	mg/L	2025-05-09	
Barium, total	**0.0264**	0.0050	mg/L	2025-05-09	
Beryllium, total	< 0.00010	0.00010	mg/L	2025-05-09	
Bismuth, total	< 0.00010	0.00010	mg/L	2025-05-09	
Boron, total	**0.175**	0.0500	mg/L	2025-05-09	
Cadmium, total	< 0.000010	0.000010	mg/L	2025-05-09	
Calcium, total	**52.5**	0.20	mg/L	2025-05-09	
Chromium, total	< 0.00050	0.00050	mg/L	2025-05-09	
Cobalt, total	**0.00037**	0.00010	mg/L	2025-05-09	
Copper, total	**0.00496**	0.00040	mg/L	2025-05-09	
Iron, total	**0.060**	0.010	mg/L	2025-05-09	
Lead, total	< 0.00020	0.00020	mg/L	2025-05-09	
Lithium, total	**0.00723**	0.00010	mg/L	2025-05-09	
Magnesium, total	**17.1**	0.010	mg/L	2025-05-09	
Manganese, total	**0.0707**	0.00020	mg/L	2025-05-09	
Molybdenum, total	**0.00303**	0.00010	mg/L	2025-05-09	
Nickel, total	**0.00212**	0.00040	mg/L	2025-05-09	

TEST RESULTS

REPORTED TO	Lake Country, District of (Wastewater)	**WORK ORDER**	25E0660
PROJECT	Final Effluent- PE14651	**REPORTED**	2025-05-13 14:22

Analyte	Result	RL	Units	Analyzed	Qualifier
Final Effluent (25E0660-01) | Matrix: Wastewater | Sampled: 2025-05-06 11:15, Continued					
Total Metals, Continued					
Phosphorus, total	**0.430**	0.050	mg/L	2025-05-09	
Potassium, total	**17.9**	0.10	mg/L	2025-05-09	
Selenium, total	< 0.00050	0.00050	mg/L	2025-05-09	
Silicon, total	**6.0**	1.0	mg/L	2025-05-09	
Silver, total	< 0.000050	0.000050	mg/L	2025-05-09	
Sodium, total	**102**	0.10	mg/L	2025-05-09	
Strontium, total	**0.401**	0.0010	mg/L	2025-05-09	
Sulfur, total	**21.7**	3.0	mg/L	2025-05-09	
Tellurium, total	< 0.00050	0.00050	mg/L	2025-05-09	
Thallium, total	< 0.000020	0.000020	mg/L	2025-05-09	
Thorium, total	< 0.00010	0.00010	mg/L	2025-05-09	
Tin, total	**0.00052**	0.00020	mg/L	2025-05-09	
Titanium, total	< 0.0050	0.0050	mg/L	2025-05-09	
Tungsten, total	< 0.0010	0.0010	mg/L	2025-05-09	
Uranium, total	**0.00183**	0.000020	mg/L	2025-05-09	
Vanadium, total	< 0.0050	0.0050	mg/L	2025-05-09	
Zinc, total	**0.0350**	0.0040	mg/L	2025-05-09	
Zirconium, total	**0.00019**	0.00010	mg/L	2025-05-09	
Duplicate (25E0660-02) | Matrix: Wastewater | Sampled: 2025-05-06 11:20					
Anions					
Chloride	**122**	0.10	mg/L	2025-05-07	
Nitrate (as N)	**2.41**	0.010	mg/L	2025-05-07	
Nitrite (as N)	**0.272**	0.010	mg/L	2025-05-07	
Calculated Parameters					
Nitrate+Nitrite (as N)	**2.68**	0.0100	mg/L	N/A	
Nitrogen, Total	**4.89**	0.100	mg/L	N/A	
Nitrogen, Organic	**1.75**	0.100	mg/L	N/A	
General Parameters					
Alkalinity, Total (as CaCO3)	**165**	1.0	mg/L	2025-05-08	
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	1.0	mg/L	2025-05-08	
Alkalinity, Bicarbonate (as CaCO3)	**165**	1.0	mg/L	2025-05-08	
Alkalinity, Carbonate (as CaCO3)	< 1.0	1.0	mg/L	2025-05-08	
Alkalinity, Hydroxide (as CaCO3)	< 1.0	1.0	mg/L	2025-05-08	
Ammonia, Total (as N)	**0.455**	0.050	mg/L	2025-05-07	
BOD, 5-day Carbonaceous	< 4.0	8.0	mg/L	2025-05-12	
Nitrogen, Total Kjeldahl	**2.21**	0.050	mg/L	2025-05-09	
pH	**7.77**	0.10	pH units	2025-05-08	HT2
Phosphorus, Total (as P)	**0.450**	0.0050	mg/L	2025-05-08	
Phosphorus, Dissolved Reactive	**0.164**	0.0050	mg/L	2025-05-07	

TEST RESULTS

REPORTED TO	Lake Country, District of (Wastewater)	**WORK ORDER**	25E0660
PROJECT	Final Effluent- PE14651	**REPORTED**	2025-05-13 14:22

Analyte	Result	RL	Units	Analyzed	Qualifier
Duplicate (25E0660-02) | Matrix: Wastewater | Sampled: 2025-05-06 11:20, Continued					
General Parameters, Continued					
Solids, Total Suspended	**2.8**	2.0	mg/L	2025-05-09	
Microbiological Parameters					
Coliforms, Total (Q-Tray)	**> 242000**	1	MPN/100 mL	2025-05-06	
Coliforms, Fecal (Q-Tray)	**54800**	1	MPN/100 mL	2025-05-06	

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	Lake Country, District of (Wastewater)	**WORK ORDER**	25E0660
PROJECT	Final Effluent- PE14651	**REPORTED**	2025-05-13 14:22

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
Carbon, Dissolved Organic in Water	SM 5310 B (2022)	Combustion, Infrared CO2 Detection	✓	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
Dissolved Metals in Water	EPA 200.8 / EPA 6020B	0.45 µm Filtration / Inductively Coupled Plasma-Mass Spectroscopy (ICP-MS)	✓	Richmond
Hardness in Water	SM 2340 B (2021)	Calculation: 2.497 [diss Ca] + 4.118 [diss Mg]	✓	N/A
Hardness in Water	SM 2340 B* (2021)	Calculation: 2.497 [total Ca] + 4.118 [total Mg] (Est)	✓	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, Dissolved Reactive in Water	SM 4500-P F (2021)	Automated Colorimetry (Ascorbic Acid)	✓	Kelowna
Phosphorus, Total in Water	SM 4500-P B.5* (2011) / SM 4500-P F (2021)	Persulfate Digestion / Automated Colorimetry (Ascorbic Acid)	✓	Kelowna
Solids, Total Suspended in Water	Solids in Water, Filtered / SM 2540 D* (2020)	Solids in Water, Filtered / Gravimetry (Dried at 103-105C)	✓	Kelowna
Total Metals in Water	EPA 200.2 / EPA 6020B	HNO3+HCl Hot Block Digestion / Inductively Coupled Plasma-Mass Spectroscopy (ICP-MS)	✓	Richmond

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

Glossary of Terms:

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

APPENDIX 1: SUPPORTING INFORMATION

REPORTED TO	Lake Country, District of (Wastewater)	**WORK ORDER**	25E0660
PROJECT	Final Effluent- PE14651	**REPORTED**	2025-05-13 14:22

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	Lake Country, District of (Wastewater)	**WORK ORDER**	25E0660
PROJECT	Final Effluent- PE14651	**REPORTED**	2025-05-13 14:22

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 B5E2257										
Blank (B5E2257-BLK1)				Prepared: 2025-05-07, Analyzed: 2025-05-07						
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 (B5E2257-BS1)				Prepared: 2025-05-07, Analyzed: 2025-05-07						
Chloride	16.4	0.10	mg/L	16.0		102	90-110			
Nitrate (as N)	4.15	0.010	mg/L	4.00		104	90-110			
Nitrite (as N)	2.01	0.010	mg/L	2.00		100	85-115			
LCS (B5E2257-BS2)				Prepared: 2025-05-07, Analyzed: 2025-05-07						
Chloride	16.1	0.10	mg/L	16.0		101	90-110			
Nitrate (as N)	4.14	0.010	mg/L	4.00		103	90-110			
Nitrite (as N)	2.04	0.010	mg/L	2.00		102	85-115			
Dissolved Metals, Batch B5E2583										
Blank (B5E2583-BLK1)				Prepared: 2025-05-08, Analyzed: 2025-05-08						
Aluminum, dissolved	< 0.0050	0.0050	mg/L							
Antimony, dissolved	< 0.00020	0.00020	mg/L							
Arsenic, dissolved	< 0.00050	0.00050	mg/L							
Barium, dissolved	< 0.0050	0.0050	mg/L							
Beryllium, dissolved	< 0.00010	0.00010	mg/L							
Bismuth, dissolved	< 0.00010	0.00010	mg/L							
Boron, dissolved	< 0.0500	0.0500	mg/L							
Cadmium, dissolved	< 0.000010	0.000010	mg/L							
Calcium, dissolved	< 0.20	0.20	mg/L							
Chromium, dissolved	< 0.00050	0.00050	mg/L							
Cobalt, dissolved	< 0.00010	0.00010	mg/L							
Copper, dissolved	< 0.00040	0.00040	mg/L							
Iron, dissolved	< 0.010	0.010	mg/L							
Lead, dissolved	< 0.00020	0.00020	mg/L							
Lithium, dissolved	< 0.00010	0.00010	mg/L							
Magnesium, dissolved	< 0.010	0.010	mg/L							
Manganese, dissolved	< 0.00020	0.00020	mg/L							
Molybdenum, dissolved	< 0.00010	0.00010	mg/L							
Nickel, dissolved	< 0.00040	0.00040	mg/L							

APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO	Lake Country, District of (Wastewater)	**WORK ORDER**	25E0660
PROJECT	Final Effluent- PE14651	**REPORTED**	2025-05-13 14:22

Analyte	Result	RL	Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Dissolved Metals, Batch B5E2583, Continued										
Blank (B5E2583-BLK1), Continued				Prepared: 2025-05-08, Analyzed: 2025-05-08						
Phosphorus, dissolved	< 0.050	0.050	mg/L							
Potassium, dissolved	< 0.10	0.10	mg/L							
Selenium, dissolved	< 0.00050	0.00050	mg/L							
Silicon, dissolved	< 1.0	1.0	mg/L							
Silver, dissolved	< 0.000050	0.000050	mg/L							
Sodium, dissolved	< 0.10	0.10	mg/L							
Strontium, dissolved	< 0.0010	0.0010	mg/L							
Sulfur, dissolved	< 3.0	3.0	mg/L							
Tellurium, dissolved	< 0.00050	0.00050	mg/L							
Thallium, dissolved	< 0.000020	0.000020	mg/L							
Thorium, dissolved	< 0.00010	0.00010	mg/L							
Tin, dissolved	< 0.00020	0.00020	mg/L							
Titanium, dissolved	< 0.0050	0.0050	mg/L							
Tungsten, dissolved	< 0.0010	0.0010	mg/L							
Uranium, dissolved	< 0.000020	0.000020	mg/L							
Vanadium, dissolved	< 0.0050	0.0050	mg/L							
Zinc, dissolved	< 0.0040	0.0040	mg/L							
Zirconium, dissolved	< 0.00010	0.00010	mg/L							
Blank (B5E2583-BLK2)				Prepared: 2025-05-08, Analyzed: 2025-05-08						
Aluminum, dissolved	< 0.0050	0.0050	mg/L							
Antimony, dissolved	< 0.00020	0.00020	mg/L							
Arsenic, dissolved	< 0.00050	0.00050	mg/L							
Barium, dissolved	< 0.0050	0.0050	mg/L							
Beryllium, dissolved	< 0.00010	0.00010	mg/L							
Bismuth, dissolved	< 0.00010	0.00010	mg/L							
Boron, dissolved	< 0.0500	0.0500	mg/L							
Cadmium, dissolved	< 0.000010	0.000010	mg/L							
Calcium, dissolved	< 0.20	0.20	mg/L							
Chromium, dissolved	< 0.00050	0.00050	mg/L							
Cobalt, dissolved	< 0.00010	0.00010	mg/L							
Copper, dissolved	< 0.00040	0.00040	mg/L							
Iron, dissolved	< 0.010	0.010	mg/L							
Lead, dissolved	< 0.00020	0.00020	mg/L							
Lithium, dissolved	< 0.00010	0.00010	mg/L							
Magnesium, dissolved	< 0.010	0.010	mg/L							
Manganese, dissolved	< 0.00020	0.00020	mg/L							
Molybdenum, dissolved	< 0.00010	0.00010	mg/L							
Nickel, dissolved	< 0.00040	0.00040	mg/L							
Phosphorus, dissolved	< 0.050	0.050	mg/L							
Potassium, dissolved	< 0.10	0.10	mg/L							
Selenium, dissolved	< 0.00050	0.00050	mg/L							
Silicon, dissolved	< 1.0	1.0	mg/L							
Silver, dissolved	< 0.000050	0.000050	mg/L							
Sodium, dissolved	< 0.10	0.10	mg/L							
Strontium, dissolved	< 0.0010	0.0010	mg/L							
Sulfur, dissolved	< 3.0	3.0	mg/L							
Tellurium, dissolved	< 0.00050	0.00050	mg/L							
Thallium, dissolved	< 0.000020	0.000020	mg/L							
Thorium, dissolved	< 0.00010	0.00010	mg/L							
Tin, dissolved	< 0.00020	0.00020	mg/L							
Titanium, dissolved	< 0.0050	0.0050	mg/L							
Tungsten, dissolved	< 0.0010	0.0010	mg/L							
Uranium, dissolved	< 0.000020	0.000020	mg/L							
Vanadium, dissolved	< 0.0050	0.0050	mg/L							
Zinc, dissolved	< 0.0040	0.0040	mg/L							

APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO	Lake Country, District of (Wastewater)	**WORK ORDER**	25E0660
PROJECT	Final Effluent- PE14651	**REPORTED**	2025-05-13 14:22

Analyte	Result	RL	Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Dissolved Metals, Batch B5E2583, Continued										
Blank (B5E2583-BLK2), Continued				Prepared: 2025-05-08, Analyzed: 2025-05-08						
Zirconium, dissolved	< 0.00010	0.00010	mg/L							
LCS (B5E2583-BS1)				Prepared: 2025-05-08, Analyzed: 2025-05-08						
Aluminum, dissolved	3.85	0.0050	mg/L	4.00		96	80-120			
Antimony, dissolved	0.0392	0.00020	mg/L	0.0400		98	80-120			
Arsenic, dissolved	0.394	0.00050	mg/L	0.400		98	80-120			
Barium, dissolved	0.0397	0.0050	mg/L	0.0400		99	80-120			
Beryllium, dissolved	0.0373	0.00010	mg/L	0.0400		93	80-120			
Bismuth, dissolved	0.0393	0.00010	mg/L	0.0400		98	80-120			
Boron, dissolved	0.386	0.0500	mg/L	0.400		96	80-120			
Cadmium, dissolved	0.0397	0.000010	mg/L	0.0400		99	80-120			
Calcium, dissolved	4.01	0.20	mg/L	4.00		100	80-120			
Chromium, dissolved	0.0400	0.00050	mg/L	0.0400		100	80-120			
Cobalt, dissolved	0.0399	0.00010	mg/L	0.0400		100	80-120			
Copper, dissolved	0.0404	0.00040	mg/L	0.0400		101	80-120			
Iron, dissolved	3.99	0.010	mg/L	4.00		100	80-120			
Lead, dissolved	0.0395	0.00020	mg/L	0.0400		99	80-120			
Lithium, dissolved	0.0371	0.00010	mg/L	0.0400		93	80-120			
Magnesium, dissolved	3.83	0.010	mg/L	4.00		96	80-120			
Manganese, dissolved	0.0397	0.00020	mg/L	0.0400		99	80-120			
Molybdenum, dissolved	0.0399	0.00010	mg/L	0.0400		100	80-120			
Nickel, dissolved	0.0402	0.00040	mg/L	0.0400		101	80-120			
Phosphorus, dissolved	3.97	0.050	mg/L	4.00		99	80-120			
Potassium, dissolved	4.04	0.10	mg/L	4.00		101	80-120			
Selenium, dissolved	0.393	0.00050	mg/L	0.400		98	80-120			
Silicon, dissolved	3.9	1.0	mg/L	4.00		97	80-120			
Silver, dissolved	0.0404	0.000050	mg/L	0.0400		101	80-120			
Sodium, dissolved	3.96	0.10	mg/L	4.00		99	80-120			
Strontium, dissolved	0.0401	0.0010	mg/L	0.0400		100	80-120			
Sulfur, dissolved	39.1	3.0	mg/L	40.0		98	80-120			
Tellurium, dissolved	0.0387	0.00050	mg/L	0.0400		97	80-120			
Thallium, dissolved	0.0392	0.000020	mg/L	0.0400		98	80-120			
Thorium, dissolved	0.0397	0.00010	mg/L	0.0400		99	80-120			
Tin, dissolved	0.0393	0.00020	mg/L	0.0400		98	80-120			
Titanium, dissolved	0.0379	0.0050	mg/L	0.0400		95	80-120			
Tungsten, dissolved	0.0397	0.0010	mg/L	0.0400		99	80-120			
Uranium, dissolved	0.0398	0.000020	mg/L	0.0400		99	80-120			
Vanadium, dissolved	0.0394	0.0050	mg/L	0.0400		98	80-120			
Zinc, dissolved	0.390	0.0040	mg/L	0.400		98	80-120			
Zirconium, dissolved	0.0401	0.00010	mg/L	0.0400		100	80-120			
LCS (B5E2583-BS2)				Prepared: 2025-05-08, Analyzed: 2025-05-08						
Aluminum, dissolved	3.85	0.0050	mg/L	4.00		96	80-120			
Antimony, dissolved	0.0385	0.00020	mg/L	0.0400		96	80-120			
Arsenic, dissolved	0.394	0.00050	mg/L	0.400		99	80-120			
Barium, dissolved	0.0388	0.0050	mg/L	0.0400		97	80-120			
Beryllium, dissolved	0.0368	0.00010	mg/L	0.0400		92	80-120			
Bismuth, dissolved	0.0391	0.00010	mg/L	0.0400		98	80-120			
Boron, dissolved	0.381	0.0500	mg/L	0.400		95	80-120			
Cadmium, dissolved	0.0391	0.000010	mg/L	0.0400		98	80-120			
Calcium, dissolved	3.94	0.20	mg/L	4.00		98	80-120			
Chromium, dissolved	0.0400	0.00050	mg/L	0.0400		100	80-120			
Cobalt, dissolved	0.0402	0.00010	mg/L	0.0400		100	80-120			
Copper, dissolved	0.0401	0.00040	mg/L	0.0400		100	80-120			
Iron, dissolved	3.96	0.010	mg/L	4.00		99	80-120			
Lead, dissolved	0.0392	0.00020	mg/L	0.0400		98	80-120			

APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO	Lake Country, District of (Wastewater)	**WORK ORDER**	25E0660
PROJECT	Final Effluent- PE14651	**REPORTED**	2025-05-13 14:22

Analyte	Result	RL	Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Dissolved Metals, Batch B5E2583, Continued										
LCS (B5E2583-BS2), Continued				Prepared: 2025-05-08, Analyzed: 2025-05-08						
Lithium, dissolved	0.0363	0.00010	mg/L	0.0400		91	80-120			
Magnesium, dissolved	3.84	0.010	mg/L	4.00		96	80-120			
Manganese, dissolved	0.0393	0.00020	mg/L	0.0400		98	80-120			
Molybdenum, dissolved	0.0393	0.00010	mg/L	0.0400		98	80-120			
Nickel, dissolved	0.0399	0.00040	mg/L	0.0400		100	80-120			
Phosphorus, dissolved	3.90	0.050	mg/L	4.00		98	80-120			
Potassium, dissolved	3.96	0.10	mg/L	4.00		99	80-120			
Selenium, dissolved	0.389	0.00050	mg/L	0.400		97	80-120			
Silicon, dissolved	3.9	1.0	mg/L	4.00		96	80-120			
Silver, dissolved	0.0401	0.000050	mg/L	0.0400		100	80-120			
Sodium, dissolved	3.92	0.10	mg/L	4.00		98	80-120			
Strontium, dissolved	0.0401	0.0010	mg/L	0.0400		100	80-120			
Sulfur, dissolved	38.8	3.0	mg/L	40.0		97	80-120			
Tellurium, dissolved	0.0377	0.00050	mg/L	0.0400		94	80-120			
Thallium, dissolved	0.0394	0.000020	mg/L	0.0400		99	80-120			
Thorium, dissolved	0.0397	0.00010	mg/L	0.0400		99	80-120			
Tin, dissolved	0.0385	0.00020	mg/L	0.0400		96	80-120			
Titanium, dissolved	0.0379	0.0050	mg/L	0.0400		95	80-120			
Tungsten, dissolved	0.0395	0.0010	mg/L	0.0400		99	80-120			
Uranium, dissolved	0.0398	0.000020	mg/L	0.0400		100	80-120			
Vanadium, dissolved	0.0391	0.0050	mg/L	0.0400		98	80-120			
Zinc, dissolved	0.387	0.0040	mg/L	0.400		97	80-120			
Zirconium, dissolved	0.0393	0.00010	mg/L	0.0400		98	80-120			
Duplicate (B5E2583-DUP1)		**Source: 25E0660-01**		Prepared: 2025-05-09, Analyzed: 2025-05-09						
Aluminum, dissolved	0.0075	0.0050	mg/L		0.0081				20	
Antimony, dissolved	0.00034	0.00020	mg/L		0.00033				20	
Arsenic, dissolved	< 0.00050	0.00050	mg/L		< 0.00050				20	
Barium, dissolved	0.0261	0.0050	mg/L		0.0261			< 1	20	
Beryllium, dissolved	< 0.00010	0.00010	mg/L		< 0.00010				20	
Bismuth, dissolved	< 0.00010	0.00010	mg/L		< 0.00010				20	
Boron, dissolved	0.175	0.0500	mg/L		0.175				20	
Cadmium, dissolved	< 0.000010	0.000010	mg/L		< 0.000010				20	
Calcium, dissolved	52.1	0.20	mg/L		51.8			< 1	20	
Chromium, dissolved	< 0.00050	0.00050	mg/L		< 0.00050				20	
Cobalt, dissolved	0.00034	0.00010	mg/L		0.00034				20	
Copper, dissolved	0.00481	0.00040	mg/L		0.00491			2	20	
Iron, dissolved	0.056	0.010	mg/L		0.057			1	20	
Lead, dissolved	< 0.00020	0.00020	mg/L		< 0.00020				20	
Lithium, dissolved	0.00756	0.00010	mg/L		0.00743			2	20	
Magnesium, dissolved	16.3	0.010	mg/L		16.5			2	20	
Manganese, dissolved	0.0675	0.00020	mg/L		0.0680			< 1	20	
Molybdenum, dissolved	0.00304	0.00010	mg/L		0.00305			< 1	20	
Nickel, dissolved	0.00209	0.00040	mg/L		0.00205			2	20	
Phosphorus, dissolved	0.310	0.050	mg/L		0.301			3	20	
Potassium, dissolved	18.0	0.10	mg/L		18.5			3	20	
Selenium, dissolved	< 0.00050	0.00050	mg/L		< 0.00050				20	
Silicon, dissolved	5.8	1.0	mg/L		5.7			1	20	
Silver, dissolved	< 0.000050	0.000050	mg/L		< 0.000050				20	
Sodium, dissolved	98.8	0.10	mg/L		100			1	20	
Strontium, dissolved	0.397	0.0010	mg/L		0.400			< 1	20	
Sulfur, dissolved	21.1	3.0	mg/L		20.6			3	20	
Tellurium, dissolved	< 0.00050	0.00050	mg/L		< 0.00050				20	
Thallium, dissolved	< 0.000020	0.000020	mg/L		< 0.000020				20	
Thorium, dissolved	< 0.00010	0.00010	mg/L		< 0.00010				20	
Tin, dissolved	0.00049	0.00020	mg/L		0.00047				20	

APPENDIX 2: QUALITY CONTROL RESULTS

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

WORK ORDER 25E0660
REPORTED 2025-05-13 14:22

Analyte	Result	RL	Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Dissolved Metals, Batch B5E2583, Continued										
Duplicate (B5E2583-DUP1), Continued		**Source: 25E0660-01**		Prepared: 2025-05-09, Analyzed: 2025-05-09						
Titanium, dissolved	< 0.0050	0.0050	mg/L		< 0.0050				20	
Tungsten, dissolved	< 0.0010	0.0010	mg/L		< 0.0010				20	
Uranium, dissolved	0.00186	0.000020	mg/L		0.00189			2	20	
Vanadium, dissolved	< 0.0050	0.0050	mg/L		< 0.0050				20	
Zinc, dissolved	0.0331	0.0040	mg/L		0.0340			3	20	
Zirconium, dissolved	0.00020	0.00010	mg/L		0.00017				20	
General Parameters, Batch B5E2251										
Blank (B5E2251-BLK1)				Prepared: 2025-05-06, Analyzed: 2025-05-06						
Carbon, Dissolved Organic	< 0.50	0.50	mg/L							
Blank (B5E2251-BLK2)				Prepared: 2025-05-06, Analyzed: 2025-05-07						
Carbon, Dissolved Organic	< 0.50	0.50	mg/L							
Blank (B5E2251-BLK3)				Prepared: 2025-05-06, Analyzed: 2025-05-07						
Carbon, Dissolved Organic	< 0.50	0.50	mg/L							
Blank (B5E2251-BLK4)				Prepared: 2025-05-06, Analyzed: 2025-05-07						
Carbon, Dissolved Organic	< 0.50	0.50	mg/L							
LCS (B5E2251-BS1)				Prepared: 2025-05-06, Analyzed: 2025-05-06						
Carbon, Dissolved Organic	9.72	0.50	mg/L	10.0		97	78-116			
LCS (B5E2251-BS2)				Prepared: 2025-05-06, Analyzed: 2025-05-07						
Carbon, Dissolved Organic	9.69	0.50	mg/L	10.0		97	78-116			
LCS (B5E2251-BS3)				Prepared: 2025-05-06, Analyzed: 2025-05-07						
Carbon, Dissolved Organic	9.70	0.50	mg/L	10.0		97	78-116			
LCS (B5E2251-BS4)				Prepared: 2025-05-06, Analyzed: 2025-05-07						
Carbon, Dissolved Organic	9.80	0.50	mg/L	10.0		98	78-116			
General Parameters, Batch B5E2273										
Blank (B5E2273-BLK1)				Prepared: 2025-05-07, Analyzed: 2025-05-07						
Phosphorus, Dissolved Reactive	< 0.0050	0.0050	mg/L							
LCS (B5E2273-BS1)				Prepared: 2025-05-07, Analyzed: 2025-05-07						
Phosphorus, Dissolved Reactive	0.0921	0.0050	mg/L	0.100		92	84-115			
Duplicate (B5E2273-DUP1)		**Source: 25E0660-02**		Prepared: 2025-05-07, Analyzed: 2025-05-07						
Phosphorus, Dissolved Reactive	0.164	0.0050	mg/L		0.164			< 1	14	
Matrix Spike (B5E2273-MS1)		**Source: 25E0660-02**		Prepared: 2025-05-07, Analyzed: 2025-05-07						
Phosphorus, Dissolved Reactive	0.244	0.0050	mg/L	0.100	0.164	80	70-130			
General Parameters, Batch B5E2291										
Blank (B5E2291-BLK1)				Prepared: 2025-05-07, Analyzed: 2025-05-07						
Ammonia, Total (as N)	< 0.050	0.050	mg/L							
Blank (B5E2291-BLK2)				Prepared: 2025-05-07, Analyzed: 2025-05-07						
Ammonia, Total (as N)	< 0.050	0.050	mg/L							

APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO	Lake Country, District of (Wastewater)	**WORK ORDER**	25E0660
PROJECT	Final Effluent- PE14651	**REPORTED**	2025-05-13 14:22

Analyte	Result	RL	Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
General Parameters, Batch B5E2291, Continued										
Blank (B5E2291-BLK3)				Prepared: 2025-05-07, Analyzed: 2025-05-07						
Ammonia, Total (as N)	< 0.050	0.050	mg/L							
LCS (B5E2291-BS1)				Prepared: 2025-05-07, Analyzed: 2025-05-07						
Ammonia, Total (as N)	0.985	0.050	mg/L	1.00		98	85-115			
LCS (B5E2291-BS2)				Prepared: 2025-05-07, Analyzed: 2025-05-07						
Ammonia, Total (as N)	1.02	0.050	mg/L	1.00		102	85-115			
LCS (B5E2291-BS3)				Prepared: 2025-05-07, Analyzed: 2025-05-07						
Ammonia, Total (as N)	1.01	0.050	mg/L	1.00		101	85-115			
General Parameters, Batch B5E2375										
Blank (B5E2375-BLK1)				Prepared: 2025-05-07, Analyzed: 2025-05-12						
BOD, 5-day Carbonaceous	< 2.0	2.0	mg/L							
LCS (B5E2375-BS1)				Prepared: 2025-05-07, Analyzed: 2025-05-12						
BOD, 5-day Carbonaceous	192	66.6	mg/L	198		97	85-115			
General Parameters, Batch B5E2448										
Blank (B5E2448-BLK2)				Prepared: 2025-05-08, Analyzed: 2025-05-08						
Phosphorus, Total (as P)	< 0.0050	0.0050	mg/L							
LCS (B5E2448-BS2)				Prepared: 2025-05-08, Analyzed: 2025-05-08						
Phosphorus, Total (as P)	0.112	0.0050	mg/L	0.100		112	85-115			
General Parameters, Batch B5E2449										
Blank (B5E2449-BLK1)				Prepared: 2025-05-08, Analyzed: 2025-05-08						
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 (B5E2449-BLK2)				Prepared: 2025-05-08, Analyzed: 2025-05-08						
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 (B5E2449-BS1)				Prepared: 2025-05-08, Analyzed: 2025-05-08						
Alkalinity, Total (as CaCO3)	93.4	1.0	mg/L	100		93	80-120			
LCS (B5E2449-BS3)				Prepared: 2025-05-08, Analyzed: 2025-05-08						
Alkalinity, Total (as CaCO3)	93.8	1.0	mg/L	100		94	80-120			
Reference (B5E2449-SRM1)				Prepared: 2025-05-08, Analyzed: 2025-05-08						
pH	7.01	0.10	pH units	7.01		100	98-102			
Reference (B5E2449-SRM2)				Prepared: 2025-05-08, Analyzed: 2025-05-08						
pH	7.01	0.10	pH units	7.01		100	98-102			

APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO	Lake Country, District of (Wastewater)	**WORK ORDER**	25E0660
PROJECT	Final Effluent- PE14651	**REPORTED**	2025-05-13 14:22

Analyte	Result	RL	Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
General Parameters, Batch B5E2521										
Blank (B5E2521-BLK1)				Prepared: 2025-05-08, Analyzed: 2025-05-09						
Nitrogen, Total Kjeldahl	< 0.050	0.050	mg/L							
Blank (B5E2521-BLK2)				Prepared: 2025-05-08, Analyzed: 2025-05-09						
Nitrogen, Total Kjeldahl	< 0.050	0.050	mg/L							
LCS (B5E2521-BS1)				Prepared: 2025-05-08, Analyzed: 2025-05-09						
Nitrogen, Total Kjeldahl	1.03	0.050	mg/L	1.00		103	85-115			
LCS (B5E2521-BS2)				Prepared: 2025-05-08, Analyzed: 2025-05-09						
Nitrogen, Total Kjeldahl	1.02	0.050	mg/L	1.00		102	85-115			
General Parameters, Batch B5E2626										
Blank (B5E2626-BLK1)				Prepared: 2025-05-09, Analyzed: 2025-05-09						
Solids, Total Suspended	< 2.0	2.0	mg/L							
LCS (B5E2626-BS1)				Prepared: 2025-05-09, Analyzed: 2025-05-09						
Solids, Total Suspended	85.0	5.0	mg/L	100		85	85-115			
Microbiological Parameters, Batch B5E2166										
Blank (B5E2166-BLK1)				Prepared: 2025-05-06, Analyzed: 2025-05-06						
Coliforms, Total (Q-Tray)	< 1	1	MPN/100 mL							
Blank (B5E2166-BLK2)				Prepared: 2025-05-06, Analyzed: 2025-05-06						
Coliforms, Fecal (Q-Tray)	< 1	1	MPN/100 mL							
Blank (B5E2166-BLK3)				Prepared: 2025-05-06, Analyzed: 2025-05-06						
Coliforms, Total (Q-Tray)	< 1	1	MPN/100 mL							
Duplicate (B5E2166-DUP2)		**Source: 25E0660-01**		Prepared: 2025-05-06, Analyzed: 2025-05-06						
Coliforms, Fecal (Q-Tray)	54800	1	MPN/100 mL		48800			11	80	
Total Metals, Batch B5E2670										
Blank (B5E2670-BLK1)				Prepared: 2025-05-09, Analyzed: 2025-05-09						
Aluminum, total	< 0.0050	0.0050	mg/L							
Antimony, total	< 0.00020	0.00020	mg/L							
Arsenic, total	< 0.00050	0.00050	mg/L							
Barium, total	< 0.0050	0.0050	mg/L							
Beryllium, total	< 0.00010	0.00010	mg/L							
Bismuth, total	< 0.00010	0.00010	mg/L							
Boron, total	< 0.0500	0.0500	mg/L							
Cadmium, total	< 0.000010	0.000010	mg/L							
Calcium, total	< 0.20	0.20	mg/L							
Chromium, total	< 0.00050	0.00050	mg/L							
Cobalt, total	< 0.00010	0.00010	mg/L							
Copper, total	< 0.00040	0.00040	mg/L							
Iron, total	< 0.010	0.010	mg/L							
Lead, total	< 0.00020	0.00020	mg/L							
Lithium, total	< 0.00010	0.00010	mg/L							
Magnesium, total	< 0.010	0.010	mg/L							
Manganese, total	< 0.00020	0.00020	mg/L							
Molybdenum, total	< 0.00010	0.00010	mg/L							
Nickel, total	< 0.00040	0.00040	mg/L							
Phosphorus, total	< 0.050	0.050	mg/L							

APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO	Lake Country, District of (Wastewater)	**WORK ORDER**	25E0660
PROJECT	Final Effluent- PE14651	**REPORTED**	2025-05-13 14:22

Analyte	Result	RL	Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Total Metals, Batch B5E2670, Continued										
Blank (B5E2670-BLK1), Continued				Prepared: 2025-05-09, Analyzed: 2025-05-09						
Potassium, total	< 0.10	0.10	mg/L							
Selenium, total	< 0.00050	0.00050	mg/L							
Silicon, total	< 1.0	1.0	mg/L							
Silver, total	< 0.000050	0.000050	mg/L							
Sodium, total	< 0.10	0.10	mg/L							
Strontium, total	< 0.0010	0.0010	mg/L							
Sulfur, total	< 3.0	3.0	mg/L							
Tellurium, total	< 0.00050	0.00050	mg/L							
Thallium, total	< 0.000020	0.000020	mg/L							
Thorium, total	< 0.00010	0.00010	mg/L							
Tin, total	< 0.00020	0.00020	mg/L							
Titanium, total	< 0.0050	0.0050	mg/L							
Tungsten, total	< 0.0010	0.0010	mg/L							
Uranium, total	< 0.000020	0.000020	mg/L							
Vanadium, total	< 0.0050	0.0050	mg/L							
Zinc, total	< 0.0040	0.0040	mg/L							
Zirconium, total	< 0.00010	0.00010	mg/L							
Blank (B5E2670-BLK2)				Prepared: 2025-05-09, Analyzed: 2025-05-09						
Aluminum, total	< 0.0050	0.0050	mg/L							
Antimony, total	< 0.00020	0.00020	mg/L							
Arsenic, total	< 0.00050	0.00050	mg/L							
Barium, total	< 0.0050	0.0050	mg/L							
Beryllium, total	< 0.00010	0.00010	mg/L							
Bismuth, total	< 0.00010	0.00010	mg/L							
Boron, total	< 0.0500	0.0500	mg/L							
Cadmium, total	< 0.000010	0.000010	mg/L							
Calcium, total	< 0.20	0.20	mg/L							
Chromium, total	< 0.00050	0.00050	mg/L							
Cobalt, total	< 0.00010	0.00010	mg/L							
Copper, total	< 0.00040	0.00040	mg/L							
Iron, total	< 0.010	0.010	mg/L							
Lead, total	< 0.00020	0.00020	mg/L							
Lithium, total	< 0.00010	0.00010	mg/L							
Magnesium, total	< 0.010	0.010	mg/L							
Manganese, total	< 0.00020	0.00020	mg/L							
Molybdenum, total	< 0.00010	0.00010	mg/L							
Nickel, total	< 0.00040	0.00040	mg/L							
Phosphorus, total	< 0.050	0.050	mg/L							
Potassium, total	< 0.10	0.10	mg/L							
Selenium, total	< 0.00050	0.00050	mg/L							
Silicon, total	< 1.0	1.0	mg/L							
Silver, total	< 0.000050	0.000050	mg/L							
Sodium, total	< 0.10	0.10	mg/L							
Strontium, total	< 0.0010	0.0010	mg/L							
Sulfur, total	< 3.0	3.0	mg/L							
Tellurium, total	< 0.00050	0.00050	mg/L							
Thallium, total	< 0.000020	0.000020	mg/L							
Thorium, total	< 0.00010	0.00010	mg/L							
Tin, total	< 0.00020	0.00020	mg/L							
Titanium, total	< 0.0050	0.0050	mg/L							
Tungsten, total	< 0.0010	0.0010	mg/L							
Uranium, total	< 0.000020	0.000020	mg/L							
Vanadium, total	< 0.0050	0.0050	mg/L							
Zinc, total	< 0.0040	0.0040	mg/L							
Zirconium, total	< 0.00010	0.00010	mg/L							

APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO	Lake Country, District of (Wastewater)	**WORK ORDER**	25E0660
PROJECT	Final Effluent- PE14651	**REPORTED**	2025-05-13 14:22

Analyte	Result	RL	Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Total Metals, Batch B5E2670, Continued										
LCS (B5E2670-BS1)				Prepared: 2025-05-09, Analyzed: 2025-05-09						
Aluminum, total	3.85	0.0050	mg/L	4.00		96	80-120			
Antimony, total	0.0378	0.00020	mg/L	0.0400		95	80-120			
Arsenic, total	0.383	0.00050	mg/L	0.400		96	80-120			
Barium, total	0.0387	0.0050	mg/L	0.0400		97	80-120			
Beryllium, total	0.0382	0.00010	mg/L	0.0400		95	80-120			
Bismuth, total	0.0388	0.00010	mg/L	0.0400		97	80-120			
Boron, total	0.407	0.0500	mg/L	0.400		102	80-120			
Cadmium, total	0.0380	0.000010	mg/L	0.0400		95	80-120			
Calcium, total	4.14	0.20	mg/L	4.00		104	80-120			
Chromium, total	0.0392	0.00050	mg/L	0.0400		98	80-120			
Cobalt, total	0.0388	0.00010	mg/L	0.0400		97	80-120			
Copper, total	0.0385	0.00040	mg/L	0.0400		96	80-120			
Iron, total	3.93	0.010	mg/L	4.00		98	80-120			
Lead, total	0.0388	0.00020	mg/L	0.0400		97	80-120			
Lithium, total	0.0368	0.00010	mg/L	0.0400		92	80-120			
Magnesium, total	3.85	0.010	mg/L	4.00		96	80-120			
Manganese, total	0.0393	0.00020	mg/L	0.0400		98	80-120			
Molybdenum, total	0.0384	0.00010	mg/L	0.0400		96	80-120			
Nickel, total	0.0387	0.00040	mg/L	0.0400		97	80-120			
Phosphorus, total	3.73	0.050	mg/L	4.00		93	80-120			
Potassium, total	3.82	0.10	mg/L	4.00		95	80-120			
Selenium, total	0.397	0.00050	mg/L	0.400		99	80-120			
Silicon, total	4.1	1.0	mg/L	4.00		101	80-120			
Silver, total	0.0383	0.000050	mg/L	0.0400		96	80-120			
Sodium, total	3.74	0.10	mg/L	4.00		94	80-120			
Strontium, total	0.0393	0.0010	mg/L	0.0400		98	80-120			
Sulfur, total	39.9	3.0	mg/L	40.0		100	80-120			
Tellurium, total	0.0356	0.00050	mg/L	0.0400		89	80-120			
Thallium, total	0.0387	0.000020	mg/L	0.0400		97	80-120			
Thorium, total	0.0391	0.00010	mg/L	0.0400		98	80-120			
Tin, total	0.0377	0.00020	mg/L	0.0400		94	80-120			
Titanium, total	0.0416	0.0050	mg/L	0.0400		104	80-120			
Tungsten, total	0.0397	0.0010	mg/L	0.0400		99	80-120			
Uranium, total	0.0394	0.000020	mg/L	0.0400		98	80-120			
Vanadium, total	0.0389	0.0050	mg/L	0.0400		97	80-120			
Zinc, total	0.375	0.0040	mg/L	0.400		94	80-120			
Zirconium, total	0.0380	0.00010	mg/L	0.0400		95	80-120			
LCS (B5E2670-BS2)				Prepared: 2025-05-09, Analyzed: 2025-05-09						
Aluminum, total	3.81	0.0050	mg/L	4.00		95	80-120			
Antimony, total	0.0379	0.00020	mg/L	0.0400		95	80-120			
Arsenic, total	0.386	0.00050	mg/L	0.400		96	80-120			
Barium, total	0.0386	0.0050	mg/L	0.0400		97	80-120			
Beryllium, total	0.0375	0.00010	mg/L	0.0400		94	80-120			
Bismuth, total	0.0390	0.00010	mg/L	0.0400		97	80-120			
Boron, total	0.404	0.0500	mg/L	0.400		101	80-120			
Cadmium, total	0.0379	0.000010	mg/L	0.0400		95	80-120			
Calcium, total	4.12	0.20	mg/L	4.00		103	80-120			
Chromium, total	0.0398	0.00050	mg/L	0.0400		100	80-120			
Cobalt, total	0.0392	0.00010	mg/L	0.0400		98	80-120			
Copper, total	0.0393	0.00040	mg/L	0.0400		98	80-120			
Iron, total	3.94	0.010	mg/L	4.00		98	80-120			
Lead, total	0.0392	0.00020	mg/L	0.0400		98	80-120			
Lithium, total	0.0360	0.00010	mg/L	0.0400		90	80-120			
Magnesium, total	3.78	0.010	mg/L	4.00		94	80-120			
Manganese, total	0.0396	0.00020	mg/L	0.0400		99	80-120			

APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO	Lake Country, District of (Wastewater)	**WORK ORDER**	25E0660
PROJECT	Final Effluent- PE14651	**REPORTED**	2025-05-13 14:22

Analyte	Result	RL	Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Total Metals, Batch B5E2670, Continued										
LCS (B5E2670-BS2), Continued				Prepared: 2025-05-09, Analyzed: 2025-05-09						
Molybdenum, total	0.0387	0.00010	mg/L	0.0400		97	80-120			
Nickel, total	0.0396	0.00040	mg/L	0.0400		99	80-120			
Phosphorus, total	3.75	0.050	mg/L	4.00		94	80-120			
Potassium, total	3.85	0.10	mg/L	4.00		96	80-120			
Selenium, total	0.404	0.00050	mg/L	0.400		101	80-120			
Silicon, total	3.9	1.0	mg/L	4.00		99	80-120			
Silver, total	0.0383	0.000050	mg/L	0.0400		96	80-120			
Sodium, total	3.78	0.10	mg/L	4.00		95	80-120			
Strontium, total	0.0388	0.0010	mg/L	0.0400		97	80-120			
Sulfur, total	40.8	3.0	mg/L	40.0		102	80-120			
Tellurium, total	0.0362	0.00050	mg/L	0.0400		91	80-120			
Thallium, total	0.0388	0.000020	mg/L	0.0400		97	80-120			
Thorium, total	0.0393	0.00010	mg/L	0.0400		98	80-120			
Tin, total	0.0380	0.00020	mg/L	0.0400		95	80-120			
Titanium, total	0.0401	0.0050	mg/L	0.0400		100	80-120			
Tungsten, total	0.0397	0.0010	mg/L	0.0400		99	80-120			
Uranium, total	0.0396	0.000020	mg/L	0.0400		99	80-120			
Vanadium, total	0.0394	0.0050	mg/L	0.0400		98	80-120			
Zinc, total	0.382	0.0040	mg/L	0.400		95	80-120			
Zirconium, total	0.0385	0.00010	mg/L	0.0400		96	80-120			

CERTIFICATE OF ANALYSIS

REPORTED TO	Lake Country, District of (Wastewater) 4062 Beaver Lake Rd LAKE COUNTRY, BC V4V 1T5		
ATTENTION	Davin Larsen	**WORK ORDER**	25F2035
PO NUMBER		**RECEIVED / TEMP**	2025-06-12 11:54 / 20.3°C
PROJECT	Lake Country WWTP	**REPORTED**	2025-06-20 16:32
PROJECT INFO		**COC NUMBER**	45820.32987

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

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

Authorized By:

Hanane El Hannaoui
Junior Account Manager

CARO ANALYTICAL SERVICES

TEST RESULTS

REPORTED TO	Lake Country, District of (Wastewater)	**WORK ORDER**	25F2035
PROJECT	Lake Country WWTP	**REPORTED**	2025-06-20 16:32

Analyte	Result	Guideline	RL	Units	Analyzed	Qualifier
Raw Influent (25F2035-01) | Matrix: Wastewater | Sampled: 2025-06-12 09:40						
Anions						
Nitrate (as N)	< 0.010	MAC = 10	0.010	mg/L	2025-06-14	
Nitrite (as N)	< 0.010	MAC = 1	0.010	mg/L	2025-06-14	
Calculated Parameters						
Nitrate+Nitrite (as N)	< 0.0100	N/A	0.0100	mg/L	N/A	
Nitrogen, Total	**106**	N/A	2.00	mg/L	N/A	
General Parameters						
Alkalinity, Total (as CaCO3)	**387**	N/A	1.0	mg/L	2025-06-17	
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	N/A	1.0	mg/L	2025-06-17	
Alkalinity, Bicarbonate (as CaCO3)	**387**	N/A	1.0	mg/L	2025-06-17	
Alkalinity, Carbonate (as CaCO3)	< 1.0	N/A	1.0	mg/L	2025-06-17	
Alkalinity, Hydroxide (as CaCO3)	< 1.0	N/A	1.0	mg/L	2025-06-17	
Ammonia, Total (as N)	**80.1**	None Required	0.050	mg/L	2025-06-14	
BOD, 5-day	**602**	N/A	8.0	mg/L	2025-06-19	
BOD, 5-day Carbonaceous	**563**	N/A	8.0	mg/L	2025-06-19	
Carbon, Dissolved Organic	**61.3**	N/A	0.50	mg/L	2025-06-16	
Nitrogen, Total Kjeldahl	**106**	N/A	0.050	mg/L	2025-06-17	
pH	**7.62**	7.0-10.5	0.10	pH units	2025-06-17	HT2
Phosphorus, Total (as P)	**12.4**	N/A	0.0050	mg/L	2025-06-20	
Phosphorus, Dissolved Reactive	**6.70**	N/A	0.0050	mg/L	2025-06-18	HT1
Solids, Total Suspended	**358**	N/A	2.0	mg/L	2025-06-18	
Final Effluent (25F2035-02) | Matrix: Wastewater | Sampled: 2025-06-12 09:05						FILT, PRES
Anions						
Chloride	**138**	AO ≤ 250	0.10	mg/L	2025-06-14	
Nitrate (as N)	**2.07**	MAC = 10	0.010	mg/L	2025-06-14	
Nitrite (as N)	**0.016**	MAC = 1	0.010	mg/L	2025-06-14	
Calculated Parameters						
Hardness, Dissolved (as CaCO3)	**209**	N/A	0.500	mg/L	N/A	
Nitrate+Nitrite (as N)	**2.09**	N/A	0.0100	mg/L	N/A	
Nitrogen, Total	**4.14**	N/A	0.0500	mg/L	N/A	
Nitrogen, Organic	**1.62**	N/A	0.0500	mg/L	N/A	
Dissolved Metals						
Aluminum, dissolved	**0.0103**	N/A	0.0050	mg/L	2025-06-17	
Antimony, dissolved	**0.00030**	N/A	0.00020	mg/L	2025-06-17	
Arsenic, dissolved	< 0.00050	N/A	0.00050	mg/L	2025-06-17	
Barium, dissolved	**0.0246**	N/A	0.0050	mg/L	2025-06-17	
Beryllium, dissolved	< 0.00010	N/A	0.00010	mg/L	2025-06-17	
Bismuth, dissolved	< 0.00010	N/A	0.00010	mg/L	2025-06-17	
Boron, dissolved	**0.172**	N/A	0.0500	mg/L	2025-06-17	

TEST RESULTS

REPORTED TO	Lake Country, District of (Wastewater)	**WORK ORDER**	25F2035
PROJECT	Lake Country WWTP	**REPORTED**	2025-06-20 16:32

Analyte	Result	Guideline	RL	Units	Analyzed	Qualifier
Final Effluent (25F2035-02) | Matrix: Wastewater | Sampled: 2025-06-12 09:05, Continued						FILT, PRES
Dissolved Metals, Continued						
Cadmium, dissolved	< 0.000010	N/A	0.000010	mg/L	2025-06-17	
Calcium, dissolved	**52.6**	N/A	0.20	mg/L	2025-06-17	
Chromium, dissolved	**0.00055**	N/A	0.00050	mg/L	2025-06-17	
Cobalt, dissolved	**0.00036**	N/A	0.00010	mg/L	2025-06-17	
Copper, dissolved	**0.00385**	N/A	0.00040	mg/L	2025-06-17	
Iron, dissolved	**0.080**	N/A	0.010	mg/L	2025-06-17	
Lead, dissolved	< 0.00020	N/A	0.00020	mg/L	2025-06-17	
Lithium, dissolved	**0.00898**	N/A	0.00010	mg/L	2025-06-17	
Magnesium, dissolved	**18.8**	N/A	0.010	mg/L	2025-06-17	
Manganese, dissolved	**0.0666**	N/A	0.00020	mg/L	2025-06-17	
Molybdenum, dissolved	**0.00229**	N/A	0.00010	mg/L	2025-06-17	
Nickel, dissolved	**0.00234**	N/A	0.00040	mg/L	2025-06-17	
Phosphorus, dissolved	**0.515**	N/A	0.050	mg/L	2025-06-17	
Potassium, dissolved	**20.5**	N/A	0.10	mg/L	2025-06-17	
Selenium, dissolved	< 0.00050	N/A	0.00050	mg/L	2025-06-17	
Silicon, dissolved	**6.6**	N/A	1.0	mg/L	2025-06-17	
Silver, dissolved	< 0.000050	N/A	0.000050	mg/L	2025-06-17	
Sodium, dissolved	**109**	N/A	0.10	mg/L	2025-06-17	
Strontium, dissolved	**0.387**	N/A	0.0010	mg/L	2025-06-17	
Sulfur, dissolved	**20.3**	N/A	3.0	mg/L	2025-06-17	
Tellurium, dissolved	< 0.00050	N/A	0.00050	mg/L	2025-06-17	
Thallium, dissolved	< 0.000020	N/A	0.000020	mg/L	2025-06-17	
Thorium, dissolved	< 0.00010	N/A	0.00010	mg/L	2025-06-17	
Tin, dissolved	**0.00048**	N/A	0.00020	mg/L	2025-06-17	
Titanium, dissolved	< 0.0050	N/A	0.0050	mg/L	2025-06-17	
Tungsten, dissolved	< 0.0010	N/A	0.0010	mg/L	2025-06-17	
Uranium, dissolved	**0.00143**	N/A	0.000020	mg/L	2025-06-17	
Vanadium, dissolved	< 0.0050	N/A	0.0050	mg/L	2025-06-17	
Zinc, dissolved	**0.0331**	N/A	0.0040	mg/L	2025-06-17	
Zirconium, dissolved	**0.00016**	N/A	0.00010	mg/L	2025-06-17	
General Parameters						
Alkalinity, Total (as CaCO3)	**160**	N/A	1.0	mg/L	2025-06-17	
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	N/A	1.0	mg/L	2025-06-17	
Alkalinity, Bicarbonate (as CaCO3)	**160**	N/A	1.0	mg/L	2025-06-17	
Alkalinity, Carbonate (as CaCO3)	< 1.0	N/A	1.0	mg/L	2025-06-17	
Alkalinity, Hydroxide (as CaCO3)	< 1.0	N/A	1.0	mg/L	2025-06-17	
Ammonia, Total (as N)	**0.432**	None Required	0.050	mg/L	2025-06-14	
BOD, 5-day Carbonaceous	< 8.0	N/A	8.0	mg/L	2025-06-19	
Carbon, Dissolved Organic	**12.4**	N/A	0.50	mg/L	2025-06-16	
Nitrogen, Total Kjeldahl	**2.05**	N/A	0.050	mg/L	2025-06-17	
pH	**8.00**	7.0-10.5	0.10	pH units	2025-06-17	HT2
Phosphorus, Total (as P)	**0.540**	N/A	0.0050	mg/L	2025-06-20	

TEST RESULTS

REPORTED TO	Lake Country, District of (Wastewater)	**WORK ORDER**	25F2035
PROJECT	Lake Country WWTP	**REPORTED**	2025-06-20 16:32

Analyte	Result	Guideline	RL	Units	Analyzed	Qualifier
Final Effluent (25F2035-02) | Matrix: Wastewater | Sampled: 2025-06-12 09:05, Continued						FILT, PRES
General Parameters, Continued						
Phosphorus, Dissolved Reactive	**0.384**	N/A	0.0050	mg/L	2025-06-18	HT1
Solids, Total Suspended	**2.0**	N/A	2.0	mg/L	2025-06-14	
Microbiological Parameters						
Coliforms, Total (Q-Tray)	**242000**	MAC = 0	1	MPN/100 mL	2025-06-13	
Coliforms, Fecal (Q-Tray)	**10400**	N/A	1	MPN/100 mL	2025-06-13	
Total Metals						
Aluminum, total	**0.0116**	OG < 0.1	0.0050	mg/L	2025-06-18	
Antimony, total	**0.00030**	MAC = 0.006	0.00020	mg/L	2025-06-18	
Arsenic, total	< 0.00050	MAC = 0.01	0.00050	mg/L	2025-06-18	
Barium, total	**0.0250**	MAC = 2	0.0050	mg/L	2025-06-18	
Beryllium, total	< 0.00010	N/A	0.00010	mg/L	2025-06-18	
Bismuth, total	< 0.00010	N/A	0.00010	mg/L	2025-06-18	
Boron, total	**0.159**	MAC = 5	0.0500	mg/L	2025-06-18	
Cadmium, total	< 0.000010	MAC = 0.007	0.000010	mg/L	2025-06-18	
Chromium, total	**0.00057**	MAC = 0.05	0.00050	mg/L	2025-06-18	
Cobalt, total	**0.00036**	N/A	0.00010	mg/L	2025-06-18	
Copper, total	**0.00403**	MAC = 2	0.00040	mg/L	2025-06-18	
Iron, total	**0.081**	AO ≤ 0.1	0.010	mg/L	2025-06-18	
Lead, total	< 0.00020	MAC = 0.005	0.00020	mg/L	2025-06-18	
Lithium, total	**0.00730**	N/A	0.00010	mg/L	2025-06-18	
Manganese, total	**0.0643**	MAC = 0.12	0.00020	mg/L	2025-06-18	
Molybdenum, total	**0.00262**	N/A	0.00010	mg/L	2025-06-18	
Nickel, total	**0.00229**	N/A	0.00040	mg/L	2025-06-18	
Phosphorus, total	**0.552**	N/A	0.050	mg/L	2025-06-18	
Potassium, total	**17.9**	N/A	0.10	mg/L	2025-06-18	
Selenium, total	< 0.00050	MAC = 0.05	0.00050	mg/L	2025-06-18	
Silicon, total	**5.9**	N/A	1.0	mg/L	2025-06-18	
Silver, total	< 0.000050	None Required	0.000050	mg/L	2025-06-18	
Sodium, total	**103**	AO ≤ 200	0.10	mg/L	2025-06-18	
Strontium, total	**0.386**	MAC = 7	0.0010	mg/L	2025-06-18	
Sulfur, total	**19.1**	N/A	3.0	mg/L	2025-06-18	
Tellurium, total	< 0.00050	N/A	0.00050	mg/L	2025-06-18	
Thallium, total	< 0.000020	N/A	0.000020	mg/L	2025-06-18	
Thorium, total	< 0.00010	N/A	0.00010	mg/L	2025-06-18	
Tin, total	**0.00056**	N/A	0.00020	mg/L	2025-06-18	
Titanium, total	< 0.0050	N/A	0.0050	mg/L	2025-06-18	
Tungsten, total	< 0.0010	N/A	0.0010	mg/L	2025-06-18	
Uranium, total	**0.00157**	MAC = 0.02	0.000020	mg/L	2025-06-18	
Vanadium, total	< 0.0050	N/A	0.0050	mg/L	2025-06-18	
Zinc, total	**0.0321**	AO ≤ 5	0.0040	mg/L	2025-06-18	
Zirconium, total	**0.00018**	N/A	0.00010	mg/L	2025-06-18	

TEST RESULTS

REPORTED TO	Lake Country, District of (Wastewater)	**WORK ORDER**	25F2035
PROJECT	Lake Country WWTP	**REPORTED**	2025-06-20 16:32

Analyte	Result	Guideline	RL	Units	Analyzed	Qualifier
Biosolids (25F2035-03) | Matrix: Solid | Sampled: 2025-06-12 07:30						
General Parameters						
Moisture	**78.5**	N/A	1.0	% wet	2025-06-17	
Nitrogen, Total Kjeldahl	**4.66**	N/A	0.0004	% dry	2025-06-20	
Solids, Total	**20.8**	N/A	0.1	% wet	2025-06-18	
Solids, Volatile	**83.3**	N/A	0.1	% dry	2025-06-18	
Strong Acid Leachable Metals						
Aluminum	**7680**	N/A	40	mg/kg dry	2025-06-18	
Antimony	**1.32**	N/A	0.10	mg/kg dry	2025-06-18	
Arsenic	**1.60**	N/A	0.30	mg/kg dry	2025-06-18	
Barium	**102**	N/A	1.0	mg/kg dry	2025-06-18	
Beryllium	< 0.10	N/A	0.10	mg/kg dry	2025-06-18	
Bismuth	**23.1**	N/A	0.10	mg/kg dry	2025-06-18	
Boron	**8.6**	N/A	2.0	mg/kg dry	2025-06-18	
Cadmium	**0.866**	N/A	0.040	mg/kg dry	2025-06-18	
Calcium	**12500**	N/A	100	mg/kg dry	2025-06-18	
Chromium	**10.8**	N/A	1.0	mg/kg dry	2025-06-18	
Cobalt	**1.61**	N/A	0.10	mg/kg dry	2025-06-18	
Copper	**319**	N/A	0.40	mg/kg dry	2025-06-18	
Iron	**3030**	N/A	20.0	mg/kg dry	2025-06-18	
Lead	**9.53**	N/A	0.20	mg/kg dry	2025-06-18	
Lithium	**0.97**	N/A	0.10	mg/kg dry	2025-06-18	
Magnesium	**2760**	N/A	10	mg/kg dry	2025-06-18	
Manganese	**77.1**	N/A	0.40	mg/kg dry	2025-06-18	
Mercury	**0.329**	N/A	0.040	mg/kg dry	2025-06-18	
Molybdenum	**11.5**	N/A	0.10	mg/kg dry	2025-06-18	
Nickel	**9.10**	N/A	0.60	mg/kg dry	2025-06-18	
Phosphorus	**13100**	N/A	10	mg/kg dry	2025-06-18	
Potassium	**2760**	N/A	40	mg/kg dry	2025-06-18	
Selenium	**4.18**	N/A	0.20	mg/kg dry	2025-06-18	
Silver	**1.36**	N/A	0.10	mg/kg dry	2025-06-18	
Sodium	**659**	N/A	50	mg/kg dry	2025-06-18	
Strontium	**54.6**	N/A	0.20	mg/kg dry	2025-06-18	
Sulfur	**5700**	N/A	1000	mg/kg dry	2025-06-18	
Tellurium	< 0.10	N/A	0.10	mg/kg dry	2025-06-18	
Thallium	< 0.10	N/A	0.10	mg/kg dry	2025-06-18	
Thorium	< 0.50	N/A	0.50	mg/kg dry	2025-06-18	
Tin	**17.7**	N/A	0.20	mg/kg dry	2025-06-18	
Titanium	**61.0**	N/A	1.0	mg/kg dry	2025-06-18	
Tungsten	**0.66**	N/A	0.20	mg/kg dry	2025-06-18	
Uranium	**8.13**	N/A	0.050	mg/kg dry	2025-06-18	
Vanadium	**5.7**	N/A	1.0	mg/kg dry	2025-06-18	
Zinc	**717**	N/A	2.0	mg/kg dry	2025-06-18	
Zirconium	**7.8**	N/A	2.0	mg/kg dry	2025-06-18	

TEST RESULTS

REPORTED TO	Lake Country, District of (Wastewater)	**WORK ORDER**	25F2035
PROJECT	Lake Country WWTP	**REPORTED**	2025-06-20 16:32

Analyte	Result	Guideline	RL	Units	Analyzed	Qualifier
Trip Blank (25F2035-04) | Matrix: Water | Sampled: 2025-06-12 07:13						F2, F3, FILT, PRES
Anions						
Chloride	< 0.10	AO ≤ 250	0.10	mg/L	2025-06-14	
Nitrate (as N)	< 0.010	MAC = 10	0.010	mg/L	2025-06-14	
Nitrite (as N)	< 0.010	MAC = 1	0.010	mg/L	2025-06-14	
Calculated Parameters						
Hardness, Total (as CaCO3)	< 0.500	None Required	0.500	mg/L	N/A	
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	
Nitrogen, Organic	< 0.0500	N/A	0.0500	mg/L	N/A	
General Parameters						
Alkalinity, Total (as CaCO3)	< 1.0	N/A	1.0	mg/L	2025-06-17	
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	N/A	1.0	mg/L	2025-06-17	
Alkalinity, Bicarbonate (as CaCO3)	< 1.0	N/A	1.0	mg/L	2025-06-17	
Alkalinity, Carbonate (as CaCO3)	< 1.0	N/A	1.0	mg/L	2025-06-17	
Alkalinity, Hydroxide (as CaCO3)	< 1.0	N/A	1.0	mg/L	2025-06-17	
Ammonia, Total (as N)	< 0.050	None Required	0.050	mg/L	2025-06-14	
BOD, 5-day Carbonaceous	< 8.0	N/A	8.0	mg/L	2025-06-19	
Carbon, Dissolved Organic	< 0.50	N/A	0.50	mg/L	2025-06-16	
Nitrogen, Total Kjeldahl	< 0.050	N/A	0.050	mg/L	2025-06-17	
Phosphorus, Total (as P)	< 0.0050	N/A	0.0050	mg/L	2025-06-20	
Phosphorus, Dissolved Reactive	< 0.0050	N/A	0.0050	mg/L	2025-06-14	
Solids, Total Suspended	< 2.0	N/A	2.0	mg/L	2025-06-18	
Microbiological Parameters						
Coliforms, Total (Q-Tray)	< 1	MAC = 0	1	MPN/100 mL	2025-06-13	HT1
Coliforms, Fecal (Q-Tray)	< 1	N/A	1	MPN/100 mL	2025-06-13	HT1
Total Metals						
Calcium, total	< 0.20	None Required	0.20	mg/L	2025-06-18	
Magnesium, total	< 0.010	None Required	0.010	mg/L	2025-06-18	
Amry (25F2035-05) | Matrix: Water | Sampled: 2025-06-12 11:02						
General Parameters						
BOD, 5-day Carbonaceous	< 8.0	N/A	8.0	mg/L	2025-06-19	
Solids, Total Suspended	**22.0**	N/A	2.0	mg/L	2025-06-14	

TEST RESULTS

REPORTED TO	Lake Country, District of (Wastewater)	**WORK ORDER**	25F2035
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Sample Qualifiers:

F2	The sample was not field-preserved with HNO3 and was therefore preserved in the laboratory and held for at least 16 hours prior to analysis for total metals.
F3	Results may be biased low due to sub-sampling from general container.
FILT	The sample has been filtered for DOC in the laboratory. Results may not reflect conditions at the time of sampling.
HT1	The sample was prepared and/or analyzed past the recommended holding time.
HT2	The 15 minute recommended holding time (from sampling to analysis) has been exceeded - field analysis is recommended.
PRES	Sample has been preserved for DOC in the laboratory and the holding time has been extended.

APPENDIX 1: SUPPORTING INFORMATION

REPORTED TO	Lake Country, District of (Wastewater)	**WORK ORDER**	25F2035
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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
Carbon, Dissolved Organic in Water	SM 5310 B (2022)	Combustion, Infrared CO2 Detection	✓	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
Dissolved Metals in Water	EPA 200.8 / EPA 6020B	0.45 µm Filtration / Inductively Coupled Plasma-Mass Spectroscopy (ICP-MS)	✓	Richmond
Hardness in Water	SM 2340 B* (2021)	Calculation: 2.497 [total Ca] + 4.118 [total Mg] (Est)	✓	N/A
Hardness in Water	SM 2340 B (2021)	Calculation: 2.497 [diss Ca] + 4.118 [diss Mg]	✓	N/A
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
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, Dissolved Reactive in Water	SM 4500-P F (2021)	Automated Colorimetry (Ascorbic Acid)	✓	Kelowna
Phosphorus, Total in Water	SM 4500-P B.5* (2011) / SM 4500-P F (2021)	Persulfate Digestion / Automated Colorimetry (Ascorbic Acid)	✓	Kelowna
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, Total Suspended in Water	Solids in Water, Filtered / SM 2540 D* (2020)	Solids in Water, Filtered / Gravimetry (Dried at 103-105C)	✓	Kelowna
Solids, Volatile in Solid	Solids in Solids / SM 2540 G (2020)	Solids in Solids / Gravimetry		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

APPENDIX 1: SUPPORTING INFORMATION

REPORTED TO	Lake Country, District of (Wastewater)	**WORK ORDER**	25F2035
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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
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
OG	Operational Guideline (treated water)
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

General Comments:

The results in this report apply to samples received by CARO and analyzed in accordance with the Chain of Custody document. This analytical report must be reproduced in its entirety and must not be modified. CARO is not responsible for losses or damages resulting directly or indirectly from errors or omissions in the conduct of the testing. Any 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. Results in **red** indicate values above the regulatory limits where these have been included. Any Bold and/or highlighted results do not take into account method uncertainty. If you would like method uncertainty or regulatory limits to be included on your report, please contact your Account Manager: hhannaoui@caro.ca

Regulatory limits are added to test reports on request and are as a convenience only. While CARO makes every effort to ensure accuracy of regulatory limits, CARO assumes no liability for the use of this information. It remains the client's responsibility to ensure that regulatory limits are correct for their circumstances.

APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO	Lake Country, District of (Wastewater)	**WORK ORDER**	25F2035
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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 B5F3402										
Blank (B5F3402-BLK1)				Prepared: 2025-06-14, Analyzed: 2025-06-14						
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							
Blank (B5F3402-BLK2)				Prepared: 2025-06-14, Analyzed: 2025-06-14						
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							
LCS (B5F3402-BS1)				Prepared: 2025-06-14, Analyzed: 2025-06-14						
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)	4.03	0.010	mg/L	4.00		101	85-115			
LCS (B5F3402-BS2)				Prepared: 2025-06-14, Analyzed: 2025-06-14						
Chloride	16.1	0.10	mg/L	16.0		101	90-110			
Nitrate (as N)	4.08	0.010	mg/L	4.00		102	90-110			
Nitrite (as N)	4.03	0.010	mg/L	4.00		101	85-115			
Dissolved Metals, Batch B5F3701										
Blank (B5F3701-BLK1)				Prepared: 2025-06-17, Analyzed: 2025-06-17						
Aluminum, dissolved	< 0.0050	0.0050	mg/L							
Antimony, dissolved	< 0.00020	0.00020	mg/L							
Arsenic, dissolved	< 0.00050	0.00050	mg/L							
Barium, dissolved	< 0.0050	0.0050	mg/L							
Beryllium, dissolved	< 0.00010	0.00010	mg/L							
Bismuth, dissolved	< 0.00010	0.00010	mg/L							
Boron, dissolved	< 0.0500	0.0500	mg/L							
Cadmium, dissolved	< 0.000010	0.000010	mg/L							
Calcium, dissolved	< 0.20	0.20	mg/L							
Chromium, dissolved	< 0.00050	0.00050	mg/L							
Cobalt, dissolved	< 0.00010	0.00010	mg/L							
Copper, dissolved	< 0.00040	0.00040	mg/L							
Iron, dissolved	< 0.010	0.010	mg/L							
Lead, dissolved	< 0.00020	0.00020	mg/L							

APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO	Lake Country, District of (Wastewater)	**WORK ORDER**	25F2035
PROJECT	Lake Country WWTP	**REPORTED**	2025-06-20 16:32

Analyte	Result	RL	Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Dissolved Metals, Batch B5F3701, Continued										
Blank (B5F3701-BLK1), Continued				Prepared: 2025-06-17, Analyzed: 2025-06-17						
Lithium, dissolved	< 0.00010	0.00010	mg/L							
Magnesium, dissolved	< 0.010	0.010	mg/L							
Manganese, dissolved	< 0.00020	0.00020	mg/L							
Molybdenum, dissolved	< 0.00010	0.00010	mg/L							
Nickel, dissolved	< 0.00040	0.00040	mg/L							
Phosphorus, dissolved	< 0.050	0.050	mg/L							
Potassium, dissolved	< 0.10	0.10	mg/L							
Selenium, dissolved	< 0.00050	0.00050	mg/L							
Silicon, dissolved	< 1.0	1.0	mg/L							
Silver, dissolved	< 0.000050	0.000050	mg/L							
Sodium, dissolved	< 0.10	0.10	mg/L							
Strontium, dissolved	< 0.0010	0.0010	mg/L							
Sulfur, dissolved	< 3.0	3.0	mg/L							
Tellurium, dissolved	< 0.00050	0.00050	mg/L							
Thallium, dissolved	< 0.000020	0.000020	mg/L							
Thorium, dissolved	< 0.00010	0.00010	mg/L							
Tin, dissolved	< 0.00020	0.00020	mg/L							
Titanium, dissolved	< 0.0050	0.0050	mg/L							
Tungsten, dissolved	< 0.0010	0.0010	mg/L							
Uranium, dissolved	< 0.000020	0.000020	mg/L							
Vanadium, dissolved	< 0.0050	0.0050	mg/L							
Zinc, dissolved	< 0.0040	0.0040	mg/L							
Zirconium, dissolved	< 0.00010	0.00010	mg/L							
LCS (B5F3701-BS1)				Prepared: 2025-06-17, Analyzed: 2025-06-17						
Aluminum, dissolved	4.00	0.0050	mg/L	4.00		100	80-120			
Antimony, dissolved	0.0393	0.00020	mg/L	0.0400		98	80-120			
Arsenic, dissolved	0.405	0.00050	mg/L	0.400		101	80-120			
Barium, dissolved	0.0394	0.0050	mg/L	0.0400		98	80-120			
Beryllium, dissolved	0.0393	0.00010	mg/L	0.0400		98	80-120			
Bismuth, dissolved	0.0399	0.00010	mg/L	0.0400		100	80-120			
Boron, dissolved	0.397	0.0500	mg/L	0.400		99	80-120			
Cadmium, dissolved	0.0391	0.000010	mg/L	0.0400		98	80-120			
Calcium, dissolved	3.95	0.20	mg/L	4.00		99	80-120			
Chromium, dissolved	0.0407	0.00050	mg/L	0.0400		102	80-120			
Cobalt, dissolved	0.0409	0.00010	mg/L	0.0400		102	80-120			
Copper, dissolved	0.0413	0.00040	mg/L	0.0400		103	80-120			
Iron, dissolved	4.02	0.010	mg/L	4.00		101	80-120			
Lead, dissolved	0.0400	0.00020	mg/L	0.0400		100	80-120			
Lithium, dissolved	0.0409	0.00010	mg/L	0.0400		102	80-120			
Magnesium, dissolved	4.02	0.010	mg/L	4.00		101	80-120			
Manganese, dissolved	0.0406	0.00020	mg/L	0.0400		101	80-120			
Molybdenum, dissolved	0.0394	0.00010	mg/L	0.0400		99	80-120			
Nickel, dissolved	0.0405	0.00040	mg/L	0.0400		101	80-120			
Phosphorus, dissolved	4.04	0.050	mg/L	4.00		101	80-120			
Potassium, dissolved	4.12	0.10	mg/L	4.00		103	80-120			
Selenium, dissolved	0.381	0.00050	mg/L	0.400		95	80-120			
Silicon, dissolved	4.0	1.0	mg/L	4.00		100	80-120			
Silver, dissolved	0.0332	0.000050	mg/L	0.0400		83	80-120			
Sodium, dissolved	4.04	0.10	mg/L	4.00		101	80-120			
Strontium, dissolved	0.0403	0.0010	mg/L	0.0400		101	80-120			
Sulfur, dissolved	39.9	3.0	mg/L	40.0		100	80-120			
Tellurium, dissolved	0.0320	0.00050	mg/L	0.0400		80	80-120			
Thallium, dissolved	0.0400	0.000020	mg/L	0.0400		100	80-120			
Thorium, dissolved	0.0398	0.00010	mg/L	0.0400		100	80-120			
Tin, dissolved	0.0401	0.00020	mg/L	0.0400		100	80-120			

APPENDIX 2: QUALITY CONTROL RESULTS

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

WORK ORDER 25F2035
REPORTED 2025-06-20 16:32

Analyte	Result	RL	Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Dissolved Metals, Batch B5F3701, Continued										
LCS (B5F3701-BS1), Continued				Prepared: 2025-06-17, Analyzed: 2025-06-17						
Titanium, dissolved	0.0403	0.0050	mg/L	0.0400		101	80-120			
Tungsten, dissolved	0.0395	0.0010	mg/L	0.0400		99	80-120			
Uranium, dissolved	0.0396	0.000020	mg/L	0.0400		99	80-120			
Vanadium, dissolved	0.0405	0.0050	mg/L	0.0400		101	80-120			
Zinc, dissolved	0.409	0.0040	mg/L	0.400		102	80-120			
Zirconium, dissolved	0.0392	0.00010	mg/L	0.0400		98	80-120			
General Parameters, Batch B5F3373										
Blank (B5F3373-BLK1)				Prepared: 2025-06-16, Analyzed: 2025-06-16						
Carbon, Dissolved Organic	< 0.50	0.50	mg/L							
Blank (B5F3373-BLK2)				Prepared: 2025-06-16, Analyzed: 2025-06-16						
Carbon, Dissolved Organic	< 0.50	0.50	mg/L							
Blank (B5F3373-BLK3)				Prepared: 2025-06-16, Analyzed: 2025-06-16						
Carbon, Dissolved Organic	< 0.50	0.50	mg/L							
LCS (B5F3373-BS1)				Prepared: 2025-06-16, Analyzed: 2025-06-16						
Carbon, Dissolved Organic	9.43	0.50	mg/L	10.0		94	78-116			
LCS (B5F3373-BS2)				Prepared: 2025-06-16, Analyzed: 2025-06-16						
Carbon, Dissolved Organic	9.56	0.50	mg/L	10.0		96	78-116			
LCS (B5F3373-BS3)				Prepared: 2025-06-16, Analyzed: 2025-06-16						
Carbon, Dissolved Organic	9.65	0.50	mg/L	10.0		97	78-116			
General Parameters, Batch B5F3404										
Blank (B5F3404-BLK1)				Prepared: 2025-06-13, Analyzed: 2025-06-14						
Phosphorus, Dissolved Reactive	< 0.0050	0.0050	mg/L							
LCS (B5F3404-BS1)				Prepared: 2025-06-13, Analyzed: 2025-06-14						
Phosphorus, Dissolved Reactive	0.101	0.0050	mg/L	0.100		101	84-115			
General Parameters, Batch B5F3425										
Blank (B5F3425-BLK1)				Prepared: 2025-06-14, Analyzed: 2025-06-14						
Ammonia, Total (as N)	< 0.050	0.050	mg/L							
Blank (B5F3425-BLK2)				Prepared: 2025-06-14, Analyzed: 2025-06-14						
Ammonia, Total (as N)	< 0.050	0.050	mg/L							
LCS (B5F3425-BS1)				Prepared: 2025-06-14, Analyzed: 2025-06-14						
Ammonia, Total (as N)	0.993	0.050	mg/L	1.00		99	85-115			
LCS (B5F3425-BS2)				Prepared: 2025-06-14, Analyzed: 2025-06-14						
Ammonia, Total (as N)	0.990	0.050	mg/L	1.00		99	85-115			
General Parameters, Batch B5F3442										
Blank (B5F3442-BLK1)				Prepared: 2025-06-14, Analyzed: 2025-06-19						
BOD, 5-day Carbonaceous	< 2.0	2.0	mg/L							
LCS (B5F3442-BS1)				Prepared: 2025-06-14, Analyzed: 2025-06-19						
BOD, 5-day Carbonaceous	175	66.6	mg/L	198		89	85-115			

APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO	Lake Country, District of (Wastewater)	**WORK ORDER**	25F2035
PROJECT	Lake Country WWTP	**REPORTED**	2025-06-20 16:32

Analyte	Result	RL	Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
General Parameters, Batch B5F3442, Continued										
General Parameters, Batch B5F3443										
Blank (B5F3443-BLK1)				Prepared: 2025-06-14, Analyzed: 2025-06-19						
BOD, 5-day	< 2.0	2.0	mg/L							
LCS (B5F3443-BS1)				Prepared: 2025-06-14, Analyzed: 2025-06-19						
BOD, 5-day	180	66.6	mg/L	198		91	85-115			
General Parameters, Batch B5F3455										
Blank (B5F3455-BLK1)				Prepared: 2025-06-14, Analyzed: 2025-06-14						
Solids, Total Suspended	< 2.0	2.0	mg/L							
LCS (B5F3455-BS1)				Prepared: 2025-06-14, Analyzed: 2025-06-14						
Solids, Total Suspended	94.5	5.0	mg/L	100		94	85-115			
General Parameters, Batch B5F3611										
Blank (B5F3611-BLK1)				Prepared: 2025-06-16, Analyzed: 2025-06-17						
Nitrogen, Total Kjeldahl	< 0.050	0.050	mg/L							
Blank (B5F3611-BLK2)				Prepared: 2025-06-16, Analyzed: 2025-06-17						
Nitrogen, Total Kjeldahl	< 0.050	0.050	mg/L							
LCS (B5F3611-BS1)				Prepared: 2025-06-16, Analyzed: 2025-06-17						
Nitrogen, Total Kjeldahl	1.08	0.050	mg/L	1.00		108	85-115			
LCS (B5F3611-BS2)				Prepared: 2025-06-16, Analyzed: 2025-06-17						
Nitrogen, Total Kjeldahl	1.12	0.050	mg/L	1.00		112	85-115			
Duplicate (B5F3611-DUP2)		**Source: 25F2035-02**		Prepared: 2025-06-16, Analyzed: 2025-06-17						
Nitrogen, Total Kjeldahl	1.96	0.050	mg/L		2.05			4	15	
Matrix Spike (B5F3611-MS2)		**Source: 25F2035-02**		Prepared: 2025-06-16, Analyzed: 2025-06-17						
Nitrogen, Total Kjeldahl	2.89	0.050	mg/L	1.00	2.05	84	65-135			
General Parameters, Batch B5F3687										
Blank (B5F3687-BLK1)				Prepared: 2025-06-17, Analyzed: 2025-06-17						
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 (B5F3687-BLK2)				Prepared: 2025-06-17, Analyzed: 2025-06-17						
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 (B5F3687-BS1)				Prepared: 2025-06-17, Analyzed: 2025-06-17						
Alkalinity, Total (as CaCO3)	88.3	1.0	mg/L	100		88	80-120			

APPENDIX 2: QUALITY CONTROL RESULTS

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

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REPORTED 2025-06-20 16:32

Analyte	Result	RL	Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
General Parameters, Batch B5F3687, Continued										
LCS (B5F3687-BS3)				Prepared: 2025-06-17, Analyzed: 2025-06-17						
Alkalinity, Total (as CaCO3)	87.5	1.0	mg/L	100		87	80-120			
General Parameters, Batch B5F3796										
Blank (B5F3796-BLK1)				Prepared: 2025-06-18, Analyzed: 2025-06-18						
Phosphorus, Dissolved Reactive	< 0.0050	0.0050	mg/L							
LCS (B5F3796-BS1)				Prepared: 2025-06-18, Analyzed: 2025-06-18						
Phosphorus, Dissolved Reactive	0.0981	0.0050	mg/L	0.100		98	84-115			
General Parameters, Batch B5F3804										
Blank (B5F3804-BLK1)				Prepared: 2025-06-18, Analyzed: 2025-06-18						
Solids, Total Suspended	< 2.0	2.0	mg/L							
LCS (B5F3804-BS1)				Prepared: 2025-06-18, Analyzed: 2025-06-18						
Solids, Total Suspended	109	5.0	mg/L	100		109	85-115			
General Parameters, Batch B5F3805										
Duplicate (B5F3805-DUP1)			**Source: 25F2035-03**	Prepared: 2025-06-18, Analyzed: 2025-06-18						
Moisture	99.0	1.0	% wet		78.5			23.1	40	
Solids, Total	20.2	0.1	% wet		20.8			3	7.5	
Solids, Volatile	83.2	0.1	% dry		83.3			< 1	15	
Reference (B5F3805-SRM1)				Prepared: 2025-06-18, Analyzed: 2025-06-18						
Solids, Total	94.7	0.1	% wet	94.9		100	90-110			
Solids, Volatile	1.6	0.1	% dry	1.73		95	90-110			
General Parameters, Batch B5F3968										
Blank (B5F3968-BLK1)				Prepared: 2025-06-19, Analyzed: 2025-06-20						
Nitrogen, Total Kjeldahl	< 0.010	0.010	% wet							
Reference (B5F3968-SRM1)				Prepared: 2025-06-19, Analyzed: 2025-06-20						
Nitrogen, Total Kjeldahl	0.178	0.010	% wet	0.153		116	48.6-126			
General Parameters, Batch B5F4190										
Blank (B5F4190-BLK1)				Prepared: 2025-06-20, Analyzed: 2025-06-20						
Phosphorus, Total (as P)	< 0.0050	0.0050	mg/L							
LCS (B5F4190-BS1)				Prepared: 2025-06-20, Analyzed: 2025-06-20						
Phosphorus, Total (as P)	0.110	0.0050	mg/L	0.100		110	85-115			
Microbiological Parameters, Batch B5F3350										
Blank (B5F3350-BLK1)				Prepared: 2025-06-13, Analyzed: 2025-06-13						
Coliforms, Total (Q-Tray)	< 1	1	MPN/100 mL							
Blank (B5F3350-BLK2)				Prepared: 2025-06-13, Analyzed: 2025-06-13						
Coliforms, Fecal (Q-Tray)	< 1	1	MPN/100 mL							

APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO	Lake Country, District of (Wastewater)	**WORK ORDER**	25F2035
PROJECT	Lake Country WWTP	**REPORTED**	2025-06-20 16:32

Analyte	Result	RL	Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Strong Acid Leachable Metals, Batch B5F3822										
Blank (B5F3822-BLK1)				Prepared: 2025-06-18, Analyzed: 2025-06-18						
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	< 2.0	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 (B5F3822-BS1)				Prepared: 2025-06-18, Analyzed: 2025-06-18						
Aluminum	183	40	mg/kg dry	200		92	80-120			
Antimony	1.93	0.10	mg/kg dry	2.00		97	80-120			
Arsenic	19.1	0.30	mg/kg dry	20.0		95	80-120			
Barium	1.9	1.0	mg/kg dry	2.00		96	80-120			
Beryllium	1.80	0.10	mg/kg dry	2.00		90	80-120			
Bismuth	1.90	0.10	mg/kg dry	2.00		95	80-120			
Boron	18.5	2.0	mg/kg dry	20.0		92	80-120			
Cadmium	1.94	0.040	mg/kg dry	2.00		97	80-120			
Calcium	194	100	mg/kg dry	200		97	80-120			
Chromium	1.9	1.0	mg/kg dry	2.00		95	80-120			
Cobalt	1.93	0.10	mg/kg dry	2.00		96	80-120			
Copper	1.95	0.40	mg/kg dry	2.00		97	80-120			
Iron	191	20.0	mg/kg dry	200		96	80-120			
Lead	1.97	0.20	mg/kg dry	2.00		99	80-120			
Lithium	1.67	0.10	mg/kg dry	2.00		84	80-120			
Magnesium	183	10	mg/kg dry	200		92	80-120			
Manganese	1.90	0.40	mg/kg dry	2.00		95	80-120			

APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO	Lake Country, District of (Wastewater)	**WORK ORDER**	25F2035
PROJECT	Lake Country WWTP	**REPORTED**	2025-06-20 16:32

Analyte	Result	RL	Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Strong Acid Leachable Metals, Batch B5F3822, Continued										
LCS (B5F3822-BS1), Continued				Prepared: 2025-06-18, Analyzed: 2025-06-18						
Mercury	0.192	0.040	mg/kg dry	0.200		96	80-120			
Molybdenum	1.99	0.10	mg/kg dry	2.00		99	80-120			
Nickel	1.97	0.60	mg/kg dry	2.00		98	80-120			
Phosphorus	185	10	mg/kg dry	200		92	80-120			
Potassium	185	40	mg/kg dry	200		93	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			
Sodium	188	50	mg/kg dry	200		94	80-120			
Strontium	1.89	0.20	mg/kg dry	2.00		95	80-120			
Sulfur	1900	1000	mg/kg dry	2000		95	80-120			
Tellurium	1.91	0.10	mg/kg dry	2.00		95	80-120			
Thallium	1.94	0.10	mg/kg dry	2.00		97	80-120			
Thorium	1.97	0.50	mg/kg dry	2.00		98	80-120			
Tin	2.02	0.20	mg/kg dry	2.00		101	80-120			
Titanium	1.9	1.0	mg/kg dry	2.00		94	80-120			
Tungsten	2.02	0.20	mg/kg dry	2.00		101	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	19.2	2.0	mg/kg dry	20.0		96	80-120			
Zirconium	2.0	2.0	mg/kg dry	2.00		99	80-120			
Reference (B5F3822-SRM1)				Prepared: 2025-06-18, Analyzed: 2025-06-18						
Aluminum	13500	40	mg/kg dry	15600		87	70-130			
Antimony	0.33	0.10	mg/kg dry	0.367		90	70-130			
Arsenic	4.33	0.30	mg/kg dry	4.88		89	70-130			
Barium	115	1.0	mg/kg dry	126		91	70-130			
Beryllium	0.31	0.10	mg/kg dry	0.331		94	70-130			
Bismuth	< 0.10	0.10	mg/kg dry	0.0848		94	70-130			
Cadmium	0.266	0.040	mg/kg dry	0.286		93	70-130			
Calcium	21000	100	mg/kg dry	23000		91	70-130			
Chromium	33.2	1.0	mg/kg dry	37.6		88	70-130			
Cobalt	9.31	0.10	mg/kg dry	10.3		90	70-130			
Copper	41.7	0.40	mg/kg dry	47.6		88	70-130			
Iron	25500	20.0	mg/kg dry	28500		89	70-130			
Lead	5.92	0.20	mg/kg dry	6.26		95	70-130			
Lithium	12.6	0.10	mg/kg dry	14.1		90	70-130			
Magnesium	9800	10	mg/kg dry	10200		96	70-130			
Manganese	445	0.40	mg/kg dry	503		88	70-130			
Mercury	< 0.040	0.040	mg/kg dry	0.0316		101	70-130			
Nickel	19.2	0.60	mg/kg dry	20.9		92	70-130			
Phosphorus	622	10	mg/kg dry	701		89	70-130			
Potassium	1460	40	mg/kg dry	1600		91	70-130			
Selenium	0.27	0.20	mg/kg dry	0.326		82	70-130			
Silver	< 0.10	0.10	mg/kg dry	0.0843		94	70-130			
Sodium	512	50	mg/kg dry	550		93	70-130			
Strontium	49.4	0.20	mg/kg dry	57.0		87	70-130			
Thallium	0.13	0.10	mg/kg dry	0.133		95	70-130			
Titanium	901	1.0	mg/kg dry	1060		85	70-130			
Vanadium	57.3	1.0	mg/kg dry	62.7		91	70-130			
Zinc	61.8	2.0	mg/kg dry	65.2		95	70-130			
Total Metals, Batch B5F3696										
Blank (B5F3696-BLK1)				Prepared: 2025-06-17, Analyzed: 2025-06-17						
Aluminum, total	< 0.0050	0.0050	mg/L							
Antimony, total	< 0.00020	0.00020	mg/L							

APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO	Lake Country, District of (Wastewater)	**WORK ORDER**	25F2035
PROJECT	Lake Country WWTP	**REPORTED**	2025-06-20 16:32

Analyte	Result	RL	Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Total Metals, Batch B5F3696, Continued										
Blank (B5F3696-BLK1), Continued				Prepared: 2025-06-17, Analyzed: 2025-06-17						
Arsenic, total	< 0.00050	0.00050	mg/L							
Barium, total	< 0.0050	0.0050	mg/L							
Beryllium, total	< 0.00010	0.00010	mg/L							
Bismuth, total	< 0.00010	0.00010	mg/L							
Boron, total	< 0.0500	0.0500	mg/L							
Cadmium, total	< 0.000010	0.000010	mg/L							
Calcium, total	< 0.20	0.20	mg/L							
Chromium, total	< 0.00050	0.00050	mg/L							
Cobalt, total	< 0.00010	0.00010	mg/L							
Copper, total	< 0.00040	0.00040	mg/L							
Iron, total	< 0.010	0.010	mg/L							
Lead, total	< 0.00020	0.00020	mg/L							
Lithium, total	< 0.00010	0.00010	mg/L							
Magnesium, total	< 0.010	0.010	mg/L							
Manganese, total	< 0.00020	0.00020	mg/L							
Molybdenum, total	< 0.00010	0.00010	mg/L							
Nickel, total	< 0.00040	0.00040	mg/L							
Phosphorus, total	< 0.050	0.050	mg/L							
Potassium, total	< 0.10	0.10	mg/L							
Selenium, total	< 0.00050	0.00050	mg/L							
Silicon, total	< 1.0	1.0	mg/L							
Silver, total	< 0.000050	0.000050	mg/L							
Sodium, total	< 0.10	0.10	mg/L							
Strontium, total	< 0.0010	0.0010	mg/L							
Sulfur, total	< 3.0	3.0	mg/L							
Tellurium, total	< 0.00050	0.00050	mg/L							
Thallium, total	< 0.000020	0.000020	mg/L							
Thorium, total	< 0.00010	0.00010	mg/L							
Tin, total	< 0.00020	0.00020	mg/L							
Titanium, total	< 0.0050	0.0050	mg/L							
Tungsten, total	< 0.0010	0.0010	mg/L							
Uranium, total	< 0.000020	0.000020	mg/L							
Vanadium, total	< 0.0050	0.0050	mg/L							
Zinc, total	< 0.0040	0.0040	mg/L							
Zirconium, total	< 0.00010	0.00010	mg/L							
LCS (B5F3696-BS1)				Prepared: 2025-06-17, Analyzed: 2025-06-17						
Aluminum, total	4.18	0.0050	mg/L	4.00		104	80-120			
Antimony, total	0.0388	0.00020	mg/L	0.0400		97	80-120			
Arsenic, total	0.389	0.00050	mg/L	0.400		97	80-120			
Barium, total	0.0407	0.0050	mg/L	0.0400		102	80-120			
Beryllium, total	0.0410	0.00010	mg/L	0.0400		102	80-120			
Bismuth, total	0.0402	0.00010	mg/L	0.0400		101	80-120			
Boron, total	0.420	0.0500	mg/L	0.400		105	80-120			
Cadmium, total	0.0392	0.000010	mg/L	0.0400		98	80-120			
Calcium, total	3.87	0.20	mg/L	4.00		97	80-120			
Chromium, total	0.0393	0.00050	mg/L	0.0400		98	80-120			
Cobalt, total	0.0398	0.00010	mg/L	0.0400		99	80-120			
Copper, total	0.0396	0.00040	mg/L	0.0400		99	80-120			
Iron, total	3.99	0.010	mg/L	4.00		100	80-120			
Lead, total	0.0404	0.00020	mg/L	0.0400		101	80-120			
Lithium, total	0.0430	0.00010	mg/L	0.0400		107	80-120			
Magnesium, total	4.04	0.010	mg/L	4.00		101	80-120			
Manganese, total	0.0401	0.00020	mg/L	0.0400		100	80-120			
Molybdenum, total	0.0398	0.00010	mg/L	0.0400		100	80-120			
Nickel, total	0.0407	0.00040	mg/L	0.0400		102	80-120			

APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO	Lake Country, District of (Wastewater)	**WORK ORDER**	25F2035
PROJECT	Lake Country WWTP	**REPORTED**	2025-06-20 16:32

Analyte	Result	RL	Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Total Metals, Batch B5F3696, Continued										
LCS (B5F3696-BS1), Continued				Prepared: 2025-06-17, Analyzed: 2025-06-17						
Phosphorus, total	3.93	0.050	mg/L	4.00		98	80-120			
Potassium, total	4.03	0.10	mg/L	4.00		101	80-120			
Selenium, total	0.381	0.00050	mg/L	0.400		95	80-120			
Silicon, total	4.2	1.0	mg/L	4.00		104	80-120			
Silver, total	0.0396	0.000050	mg/L	0.0400		99	80-120			
Sodium, total	4.16	0.10	mg/L	4.00		104	80-120			
Strontium, total	0.0394	0.0010	mg/L	0.0400		99	80-120			
Sulfur, total	42.0	3.0	mg/L	40.0		105	80-120			
Tellurium, total	0.0373	0.00050	mg/L	0.0400		93	80-120			
Thallium, total	0.0400	0.000020	mg/L	0.0400		100	80-120			
Thorium, total	0.0402	0.00010	mg/L	0.0400		101	80-120			
Tin, total	0.0392	0.00020	mg/L	0.0400		98	80-120			
Titanium, total	0.0393	0.0050	mg/L	0.0400		98	80-120			
Tungsten, total	0.0401	0.0010	mg/L	0.0400		100	80-120			
Uranium, total	0.0405	0.000020	mg/L	0.0400		101	80-120			
Vanadium, total	0.0390	0.0050	mg/L	0.0400		97	80-120			
Zinc, total	0.387	0.0040	mg/L	0.400		97	80-120			
Zirconium, total	0.0400	0.00010	mg/L	0.0400		100	80-120			

CERTIFICATE OF ANALYSIS

REPORTED TO	Lake Country, District of (Wastewater) 4062 Beaver Lake Rd LAKE COUNTRY, BC V4V 1T5		
ATTENTION	Davin Larsen	**WORK ORDER**	25G2935
PO NUMBER		**RECEIVED / TEMP**	2025-07-21 12:09 / 18.6°C
PROJECT	Raw Influent- PE14651	**REPORTED**	2025-07-28 16:09
PROJECT INFO	Lake Country WWTP	**COC NUMBER**	45859.28390

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 hhannaoui@caro.ca

Authorized By:

Hanane El Hannaoui
Junior Account Manager

CARO ANALYTICAL SERVICES

TEST RESULTS

REPORTED TO	Lake Country, District of (Wastewater)	**WORK ORDER**	25G2935
PROJECT	Raw Influent- PE14651	**REPORTED**	2025-07-28 16:09

Analyte	Result	RL	Units	Analyzed	Qualifier
Raw Influent (25G2935-01) | Matrix: Water | Sampled: 2025-07-21 09:07					
Anions					
Nitrate (as N)	< 0.010	0.010	mg/L	2025-07-22	
Nitrite (as N)	< 0.010	0.010	mg/L	2025-07-22	
Calculated Parameters					
Nitrate+Nitrite (as N)	< 0.0100	0.0100	mg/L	N/A	
Nitrogen, Total	**76.1**	2.00	mg/L	N/A	
General Parameters					
Alkalinity, Total (as CaCO3)	**347**	1.0	mg/L	2025-07-22	
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	1.0	mg/L	2025-07-22	
Alkalinity, Bicarbonate (as CaCO3)	**347**	1.0	mg/L	2025-07-22	
Alkalinity, Carbonate (as CaCO3)	< 1.0	1.0	mg/L	2025-07-22	
Alkalinity, Hydroxide (as CaCO3)	< 1.0	1.0	mg/L	2025-07-22	
Ammonia, Total (as N)	**58.8**	0.050	mg/L	2025-07-25	
BOD, 5-day	**377**	8.0	mg/L	2025-07-28	
BOD, 5-day Carbonaceous	**298**	8.0	mg/L	2025-07-28	
Nitrogen, Total Kjeldahl	**76.1**	0.050	mg/L	2025-07-28	
pH	**7.90**	0.10	pH units	2025-07-22	HT2
Phosphorus, Total (as P)	**8.20**	0.0050	mg/L	2025-07-25	
Phosphorus, Dissolved Reactive	**5.11**	0.0050	mg/L	2025-07-23	
Solids, Total Suspended	**249**	2.0	mg/L	2025-07-22	

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	Lake Country, District of (Wastewater)	**WORK ORDER**	25G2935
PROJECT	Raw Influent- PE14651	**REPORTED**	2025-07-28 16:09

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, Dissolved Reactive in Water	SM 4500-P F (2021)	Automated Colorimetry (Ascorbic Acid)	✓	Kelowna
Phosphorus, Total in Water	SM 4500-P B.5* (2011) / SM 4500-P F (2021)	Persulfate Digestion / Automated Colorimetry (Ascorbic Acid)	✓	Kelowna
Solids, Total 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 samples received by CARO and analyzed in accordance with the Chain of Custody document. This analytical report must be reproduced in its entirety and must not be modified. CARO is not responsible for losses or damages resulting directly or indirectly from errors or omissions in the conduct of the testing. Any 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. Results in **red** indicate values above the regulatory limits where these have been included. Any Bold and/or highlighted results do not take into account method uncertainty. If you would like method uncertainty or regulatory limits to be included on your report, please contact your Account Manager: {@Email}

APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO	Lake Country, District of (Wastewater)	**WORK ORDER**	25G2935
PROJECT	Raw Influent- PE14651	**REPORTED**	2025-07-28 16:09

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 B5G4006										
Blank (B5G4006-BLK2)				Prepared: 2025-07-22, Analyzed: 2025-07-22						
Nitrate (as N)	< 0.010	0.010	mg/L							
Nitrite (as N)	< 0.010	0.010	mg/L							
LCS (B5G4006-BS1)				Prepared: 2025-07-22, Analyzed: 2025-07-22						
Nitrate (as N)	4.01	0.010	mg/L	4.00		100	90-110			
Nitrite (as N)	1.94	0.010	mg/L	2.00		97	85-115			
LCS (B5G4006-BS2)				Prepared: 2025-07-22, Analyzed: 2025-07-22						
Nitrate (as N)	3.98	0.010	mg/L	4.00		100	90-110			
Nitrite (as N)	1.92	0.010	mg/L	2.00		96	85-115			
General Parameters, Batch B5G4070										
Blank (B5G4070-BLK1)				Prepared: 2025-07-22, Analyzed: 2025-07-22						
Solids, Total Suspended	< 2.0	2.0	mg/L							
Blank (B5G4070-BLK2)				Prepared: 2025-07-22, Analyzed: 2025-07-22						
Solids, Total Suspended	< 2.0	2.0	mg/L							
LCS (B5G4070-BS1)				Prepared: 2025-07-22, Analyzed: 2025-07-22						
Solids, Total Suspended	87.0	5.0	mg/L	100		87	85-115			
LCS (B5G4070-BS2)				Prepared: 2025-07-22, Analyzed: 2025-07-22						
Solids, Total Suspended	96.0	5.0	mg/L	100		96	85-115			
Duplicate (B5G4070-DUP2)			**Source: 25G2935-01**	Prepared: 2025-07-22, Analyzed: 2025-07-22						
Solids, Total Suspended	251	2.0	mg/L		249			1	20	
General Parameters, Batch B5G4197										
Blank (B5G4197-BLK1)				Prepared: 2025-07-22, Analyzed: 2025-07-23						
Phosphorus, Dissolved Reactive	< 0.0050	0.0050	mg/L							
LCS (B5G4197-BS1)				Prepared: 2025-07-22, Analyzed: 2025-07-23						
Phosphorus, Dissolved Reactive	0.103	0.0050	mg/L	0.100		103	84-115			

APPENDIX 2: QUALITY CONTROL RESULTS

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

WORK ORDER 25G2935
REPORTED 2025-07-28 16:09

Analyte	Result	RL	Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
General Parameters, Batch B5G4223										
Blank (B5G4223-BLK1)				Prepared: 2025-07-22, Analyzed: 2025-07-22						
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 (B5G4223-BLK2)				Prepared: 2025-07-22, Analyzed: 2025-07-22						
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 (B5G4223-BLK3)				Prepared: 2025-07-22, Analyzed: 2025-07-22						
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							
General Parameters, Batch B5G4361										
Blank (B5G4361-BLK1)				Prepared: 2025-07-23, Analyzed: 2025-07-28						
BOD, 5-day Carbonaceous	< 2.0	2.0	mg/L							
LCS (B5G4361-BS1)				Prepared: 2025-07-23, Analyzed: 2025-07-28						
BOD, 5-day Carbonaceous	209	66.6	mg/L	198		105	85-115			
General Parameters, Batch B5G4362										
Blank (B5G4362-BLK1)				Prepared: 2025-07-23, Analyzed: 2025-07-28						
BOD, 5-day	< 2.0	2.0	mg/L							
LCS (B5G4362-BS1)				Prepared: 2025-07-23, Analyzed: 2025-07-28						
BOD, 5-day	221	66.6	mg/L	198		112	85-115			
General Parameters, Batch B5G4612										
Blank (B5G4612-BLK1)				Prepared: 2025-07-25, Analyzed: 2025-07-25						
Ammonia, Total (as N)	< 0.050	0.050	mg/L							
Blank (B5G4612-BLK2)				Prepared: 2025-07-25, Analyzed: 2025-07-25						
Ammonia, Total (as N)	< 0.050	0.050	mg/L							
General Parameters, Batch B5G4651										
Blank (B5G4651-BLK1)				Prepared: 2025-07-25, Analyzed: 2025-07-25						
Phosphorus, Total (as P)	< 0.0050	0.0050	mg/L							
Blank (B5G4651-BLK2)				Prepared: 2025-07-25, Analyzed: 2025-07-25						
Phosphorus, Total (as P)	< 0.0050	0.0050	mg/L							
LCS (B5G4651-BS1)				Prepared: 2025-07-25, Analyzed: 2025-07-25						
Phosphorus, Total (as P)	0.108	0.0050	mg/L	0.100		108	85-115			

APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO	Lake Country, District of (Wastewater)	**WORK ORDER**	25G2935
PROJECT	Raw Influent- PE14651	**REPORTED**	2025-07-28 16:09

Analyte	Result	RL	Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
General Parameters, Batch B5G4651, Continued										
LCS (B5G4651-BS2)				Prepared: 2025-07-25, Analyzed: 2025-07-25						
Phosphorus, Total (as P)	0.107	0.0050	mg/L	0.100		107	85-115			
General Parameters, Batch B5G4759										
Blank (B5G4759-BLK1)				Prepared: 2025-07-26, Analyzed: 2025-07-28						
Nitrogen, Total Kjeldahl	< 0.050	0.050	mg/L							
Blank (B5G4759-BLK2)				Prepared: 2025-07-26, Analyzed: 2025-07-28						
Nitrogen, Total Kjeldahl	< 0.050	0.050	mg/L							
LCS (B5G4759-BS1)				Prepared: 2025-07-26, Analyzed: 2025-07-28						
Nitrogen, Total Kjeldahl	1.03	0.050	mg/L	1.00		103	85-115			
LCS (B5G4759-BS2)				Prepared: 2025-07-26, Analyzed: 2025-07-28						
Nitrogen, Total Kjeldahl	1.02	0.050	mg/L	1.00		102	85-115			

CERTIFICATE OF ANALYSIS

REPORTED TO	Lake Country, District of (Wastewater) 4062 Beaver Lake Rd LAKE COUNTRY, BC V4V 1T5		
ATTENTION	Davin Larsen	**WORK ORDER**	25G2936
PO NUMBER		**RECEIVED / TEMP**	2025-07-21 12:09 / 18.6°C
PROJECT	Final Effluent- PE14651	**REPORTED**	2025-07-28 16:11
PROJECT INFO	Lake Country WWTP	**COC NUMBER**	45859.28390

Introduction:

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

Authorized By:

Hanane El Hannaoui
Junior Account Manager

CARO ANALYTICAL SERVICES

TEST RESULTS

REPORTED TO	Lake Country, District of (Wastewater)	**WORK ORDER**	25G2936
PROJECT	Final Effluent- PE14651	**REPORTED**	2025-07-28 16:11

Analyte	Result	RL	Units	Analyzed	Qualifier
Final Effluent (25G2936-01) | Matrix: Wastewater | Sampled: 2025-07-21 09:25					FILT, PRES
Anions					
Chloride	**126**	0.10	mg/L	2025-07-22	
Nitrate (as N)	**1.94**	0.010	mg/L	2025-07-22	
Nitrite (as N)	**0.218**	0.010	mg/L	2025-07-22	
Calculated Parameters					
Hardness, Dissolved (as CaCO3)	**176**	0.500	mg/L	N/A	
Nitrate+Nitrite (as N)	**2.16**	0.0100	mg/L	N/A	
Nitrogen, Total	**5.38**	0.0500	mg/L	N/A	
Nitrogen, Organic	**1.58**	0.0500	mg/L	N/A	
Dissolved Metals					
Aluminum, dissolved	**0.0086**	0.0050	mg/L	2025-07-23	
Antimony, dissolved	**0.00038**	0.00020	mg/L	2025-07-23	
Arsenic, dissolved	< 0.00050	0.00050	mg/L	2025-07-23	
Barium, dissolved	**0.0236**	0.0050	mg/L	2025-07-23	
Beryllium, dissolved	< 0.00010	0.00010	mg/L	2025-07-23	
Bismuth, dissolved	< 0.00010	0.00010	mg/L	2025-07-23	
Boron, dissolved	**0.174**	0.0500	mg/L	2025-07-23	
Cadmium, dissolved	< 0.000010	0.000010	mg/L	2025-07-23	
Calcium, dissolved	**47.5**	0.20	mg/L	2025-07-23	
Chromium, dissolved	< 0.00050	0.00050	mg/L	2025-07-23	
Cobalt, dissolved	**0.00034**	0.00010	mg/L	2025-07-23	
Copper, dissolved	**0.00381**	0.00040	mg/L	2025-07-23	
Iron, dissolved	**0.060**	0.010	mg/L	2025-07-23	
Lead, dissolved	< 0.00020	0.00020	mg/L	2025-07-23	
Lithium, dissolved	**0.00761**	0.00010	mg/L	2025-07-23	
Magnesium, dissolved	**14.0**	0.010	mg/L	2025-07-23	
Manganese, dissolved	**0.0776**	0.00020	mg/L	2025-07-23	
Molybdenum, dissolved	**0.00213**	0.00010	mg/L	2025-07-23	
Nickel, dissolved	**0.00232**	0.00040	mg/L	2025-07-23	
Phosphorus, dissolved	**0.397**	0.050	mg/L	2025-07-23	
Potassium, dissolved	**19.1**	0.10	mg/L	2025-07-23	
Selenium, dissolved	< 0.00050	0.00050	mg/L	2025-07-23	
Silicon, dissolved	**5.8**	1.0	mg/L	2025-07-23	
Silver, dissolved	< 0.000050	0.000050	mg/L	2025-07-23	
Sodium, dissolved	**93.3**	0.10	mg/L	2025-07-23	
Strontium, dissolved	**0.364**	0.0010	mg/L	2025-07-23	
Sulfur, dissolved	**20.2**	3.0	mg/L	2025-07-23	
Tellurium, dissolved	< 0.00050	0.00050	mg/L	2025-07-23	
Thallium, dissolved	< 0.000020	0.000020	mg/L	2025-07-23	
Thorium, dissolved	< 0.00010	0.00010	mg/L	2025-07-23	
Tin, dissolved	**0.00049**	0.00020	mg/L	2025-07-23	
Titanium, dissolved	< 0.0050	0.0050	mg/L	2025-07-23	

CARO ANALYTICAL SERVICES

TEST RESULTS

REPORTED TO	Lake Country, District of (Wastewater)	**WORK ORDER**	25G2936
PROJECT	Final Effluent- PE14651	**REPORTED**	2025-07-28 16:11

Analyte	Result	RL	Units	Analyzed	Qualifier
Final Effluent (25G2936-01) | Matrix: Wastewater | Sampled: 2025-07-21 09:25, Continued					FILT, PRES
Dissolved Metals, Continued					
Tungsten, dissolved	< 0.0010	0.0010	mg/L	2025-07-23	
Uranium, dissolved	**0.00110**	0.000020	mg/L	2025-07-23	
Vanadium, dissolved	< 0.0050	0.0050	mg/L	2025-07-23	
Zinc, dissolved	**0.0360**	0.0040	mg/L	2025-07-23	
Zirconium, dissolved	**0.00015**	0.00010	mg/L	2025-07-23	
General Parameters					
Alkalinity, Total (as CaCO3)	**165**	1.0	mg/L	2025-07-22	
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	1.0	mg/L	2025-07-22	
Alkalinity, Bicarbonate (as CaCO3)	**165**	1.0	mg/L	2025-07-22	
Alkalinity, Carbonate (as CaCO3)	< 1.0	1.0	mg/L	2025-07-22	
Alkalinity, Hydroxide (as CaCO3)	< 1.0	1.0	mg/L	2025-07-22	
Ammonia, Total (as N)	**1.64**	0.050	mg/L	2025-07-25	
BOD, 5-day Carbonaceous	< 4.0	8.0	mg/L	2025-07-28	
Carbon, Dissolved Organic	**10.9**	0.50	mg/L	2025-07-22	
Nitrogen, Total Kjeldahl	**3.22**	0.050	mg/L	2025-07-28	
pH	**7.85**	0.10	pH units	2025-07-22	HT2
Phosphorus, Total (as P)	**0.434**	0.0050	mg/L	2025-07-25	
Phosphorus, Dissolved Reactive	**0.287**	0.0050	mg/L	2025-07-23	
Solids, Total Suspended	< 2.0	2.0	mg/L	2025-07-24	
Microbiological Parameters					
Coliforms, Total (Q-Tray)	**105000**	1	MPN/100 mL	2025-07-21	
Coliforms, Fecal (Q-Tray)	**23100**	1	MPN/100 mL	2025-07-21	
Total Metals					
Aluminum, total	**0.0119**	0.0050	mg/L	2025-07-23	
Antimony, total	**0.00043**	0.00020	mg/L	2025-07-23	
Arsenic, total	< 0.00050	0.00050	mg/L	2025-07-23	
Barium, total	**0.0275**	0.0050	mg/L	2025-07-23	
Beryllium, total	< 0.00010	0.00010	mg/L	2025-07-23	
Bismuth, total	< 0.00010	0.00010	mg/L	2025-07-23	
Boron, total	**0.204**	0.0500	mg/L	2025-07-23	
Cadmium, total	< 0.000010	0.000010	mg/L	2025-07-23	
Calcium, total	**54.4**	0.20	mg/L	2025-07-23	
Chromium, total	**0.00055**	0.00050	mg/L	2025-07-23	
Cobalt, total	**0.00037**	0.00010	mg/L	2025-07-23	
Copper, total	**0.00496**	0.00040	mg/L	2025-07-23	
Iron, total	**0.073**	0.010	mg/L	2025-07-23	
Lead, total	< 0.00020	0.00020	mg/L	2025-07-23	
Lithium, total	**0.00829**	0.00010	mg/L	2025-07-23	
Magnesium, total	**17.7**	0.010	mg/L	2025-07-23	
Manganese, total	**0.0848**	0.00020	mg/L	2025-07-23	

CARO ANALYTICAL SERVICES

TEST RESULTS

REPORTED TO	Lake Country, District of (Wastewater)	**WORK ORDER**	25G2936
PROJECT	Final Effluent- PE14651	**REPORTED**	2025-07-28 16:11

Analyte	Result	RL	Units	Analyzed	Qualifier
Final Effluent (25G2936-01) | Matrix: Wastewater | Sampled: 2025-07-21 09:25, Continued					FILT, PRES
Total Metals, Continued					
Molybdenum, total	**0.00252**	0.00010	mg/L	2025-07-24	
Nickel, total	**0.00232**	0.00040	mg/L	2025-07-23	
Phosphorus, total	**0.484**	0.050	mg/L	2025-07-23	
Potassium, total	**21.7**	0.10	mg/L	2025-07-23	
Selenium, total	< 0.00050	0.00050	mg/L	2025-07-23	
Silicon, total	**6.7**	1.0	mg/L	2025-07-23	
Silver, total	< 0.000050	0.000050	mg/L	2025-07-23	
Sodium, total	**109**	0.10	mg/L	2025-07-23	
Strontium, total	**0.387**	0.0010	mg/L	2025-07-23	
Sulfur, total	**21.1**	3.0	mg/L	2025-07-23	
Tellurium, total	< 0.00050	0.00050	mg/L	2025-07-23	
Thallium, total	< 0.000020	0.000020	mg/L	2025-07-23	
Thorium, total	< 0.00010	0.00010	mg/L	2025-07-23	
Tin, total	**0.00070**	0.00020	mg/L	2025-07-23	
Titanium, total	< 0.0050	0.0050	mg/L	2025-07-23	
Tungsten, total	< 0.0010	0.0010	mg/L	2025-07-23	
Uranium, total	**0.00134**	0.000020	mg/L	2025-07-23	
Vanadium, total	< 0.0050	0.0050	mg/L	2025-07-23	
Zinc, total	**0.0388**	0.0040	mg/L	2025-07-23	
Zirconium, total	**0.00020**	0.00010	mg/L	2025-07-23	
Duplicate (25G2936-02) | Matrix: Wastewater | Sampled: 2025-07-21 09:25					FILT, PRES
Anions					
Chloride	**123**	0.10	mg/L	2025-07-22	
Nitrate (as N)	**1.82**	0.010	mg/L	2025-07-22	
Nitrite (as N)	**0.225**	0.010	mg/L	2025-07-22	
Calculated Parameters					
Nitrate+Nitrite (as N)	**2.04**	0.0100	mg/L	N/A	
Nitrogen, Total	**5.28**	0.0500	mg/L	N/A	
Nitrogen, Organic	**1.65**	0.0500	mg/L	N/A	
General Parameters					
Alkalinity, Total (as CaCO3)	**164**	1.0	mg/L	2025-07-22	
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	1.0	mg/L	2025-07-22	
Alkalinity, Bicarbonate (as CaCO3)	**164**	1.0	mg/L	2025-07-22	
Alkalinity, Carbonate (as CaCO3)	< 1.0	1.0	mg/L	2025-07-22	
Alkalinity, Hydroxide (as CaCO3)	< 1.0	1.0	mg/L	2025-07-22	
Ammonia, Total (as N)	**1.58**	0.050	mg/L	2025-07-25	
BOD, 5-day Carbonaceous	< 4.0	8.0	mg/L	2025-07-28	
Nitrogen, Total Kjeldahl	**3.23**	0.050	mg/L	2025-07-28	

TEST RESULTS

REPORTED TO	Lake Country, District of (Wastewater)	**WORK ORDER**	25G2936
PROJECT	Final Effluent- PE14651	**REPORTED**	2025-07-28 16:11

Analyte	Result	RL	Units	Analyzed	Qualifier
Duplicate (25G2936-02) | Matrix: Wastewater | Sampled: 2025-07-21 09:25, Continued					FILT, PRES
General Parameters, Continued					
pH	**7.85**	0.10	pH units	2025-07-22	HT2
Phosphorus, Total (as P)	**0.432**	0.0050	mg/L	2025-07-25	
Phosphorus, Dissolved Reactive	**0.290**	0.0050	mg/L	2025-07-23	
Solids, Total Suspended	< 2.0	2.0	mg/L	2025-07-24	
Microbiological Parameters					
Coliforms, Total (Q-Tray)	**141000**	1	MPN/100 mL	2025-07-21	
Coliforms, Fecal (Q-Tray)	**8920**	1	MPN/100 mL	2025-07-21	

Sample Qualifiers:

FILT	The sample has been filtered for DOC in the laboratory. Results may not reflect conditions at the time of sampling.
HT2	The 15 minute recommended holding time (from sampling to analysis) has been exceeded - field analysis is recommended.
PRES	Sample has been preserved for DOC in the laboratory and the holding time has been extended.

APPENDIX 1: SUPPORTING INFORMATION

REPORTED TO	Lake Country, District of (Wastewater)	**WORK ORDER**	25G2936
PROJECT	Final Effluent- PE14651	**REPORTED**	2025-07-28 16:11

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
Carbon, Dissolved Organic in Water	SM 5310 B (2022)	Combustion, Infrared CO2 Detection	✓	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
Dissolved Metals in Water	EPA 200.8 / EPA 6020B	0.45 µm Filtration / Inductively Coupled Plasma-Mass Spectroscopy (ICP-MS)	✓	Richmond
Hardness in Water	SM 2340 B (2021)	Calculation: 2.497 [diss Ca] + 4.118 [diss Mg]	✓	N/A
Hardness in Water	SM 2340 B* (2021)	Calculation: 2.497 [total Ca] + 4.118 [total Mg] (Est)	✓	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, Dissolved Reactive in Water	SM 4500-P F (2021)	Automated Colorimetry (Ascorbic Acid)	✓	Kelowna
Phosphorus, Total in Water	SM 4500-P B.5* (2011) / SM 4500-P F (2021)	Persulfate Digestion / Automated Colorimetry (Ascorbic Acid)	✓	Kelowna
Solids, Total Suspended in Water	Solids in Water, Filtered / SM 2540 D* (2020)	Solids in Water, Filtered / Gravimetry (Dried at 103-105C)	✓	Kelowna
Total Metals in Water	EPA 200.2 / EPA 6020B	HNO3+HCl Hot Block Digestion / Inductively Coupled Plasma-Mass Spectroscopy (ICP-MS)	✓	Richmond

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

Glossary of Terms:

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

APPENDIX 1: SUPPORTING INFORMATION

REPORTED TO	Lake Country, District of (Wastewater)	**WORK ORDER**	25G2936
PROJECT	Final Effluent- PE14651	**REPORTED**	2025-07-28 16:11

General Comments:

The results in this report apply to samples received by CARO and analyzed in accordance with the Chain of Custody document. This analytical report must be reproduced in its entirety and must not be modified. CARO is not responsible for losses or damages resulting directly or indirectly from errors or omissions in the conduct of the testing. Any 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. Results in **red** indicate values above the regulatory limits where these have been included. Any Bold and/or highlighted results do not take into account method uncertainty. If you would like method uncertainty or regulatory limits to be included on your report, please contact your Account Manager: {@Email}

APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO	Lake Country, District of (Wastewater)	**WORK ORDER**	25G2936
PROJECT	Final Effluent- PE14651	**REPORTED**	2025-07-28 16:11

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).
- **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 B5G4006										
Blank (B5G4006-BLK2)				Prepared: 2025-07-22, Analyzed: 2025-07-22						
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 (B5G4006-BS1)				Prepared: 2025-07-22, Analyzed: 2025-07-22						
Chloride	15.7	0.10	mg/L	16.0		98	90-110			
Nitrate (as N)	4.01	0.010	mg/L	4.00		100	90-110			
Nitrite (as N)	1.94	0.010	mg/L	2.00		97	85-115			
LCS (B5G4006-BS2)				Prepared: 2025-07-22, Analyzed: 2025-07-22						
Chloride	15.5	0.10	mg/L	16.0		97	90-110			
Nitrate (as N)	3.98	0.010	mg/L	4.00		100	90-110			
Nitrite (as N)	1.92	0.010	mg/L	2.00		96	85-115			
Dissolved Metals, Batch B5G4165										
Blank (B5G4165-BLK1)				Prepared: 2025-07-23, Analyzed: 2025-07-23						
Aluminum, dissolved	< 0.0050	0.0050	mg/L							
Antimony, dissolved	< 0.00020	0.00020	mg/L							
Arsenic, dissolved	< 0.00050	0.00050	mg/L							
Barium, dissolved	< 0.0050	0.0050	mg/L							
Beryllium, dissolved	< 0.00010	0.00010	mg/L							
Bismuth, dissolved	< 0.00010	0.00010	mg/L							
Boron, dissolved	< 0.0500	0.0500	mg/L							
Cadmium, dissolved	< 0.000010	0.000010	mg/L							
Calcium, dissolved	< 0.20	0.20	mg/L							
Chromium, dissolved	< 0.00050	0.00050	mg/L							
Cobalt, dissolved	< 0.00010	0.00010	mg/L							
Copper, dissolved	< 0.00040	0.00040	mg/L							
Iron, dissolved	< 0.010	0.010	mg/L							
Lead, dissolved	< 0.00020	0.00020	mg/L							
Lithium, dissolved	< 0.00010	0.00010	mg/L							
Magnesium, dissolved	< 0.010	0.010	mg/L							
Manganese, dissolved	< 0.00020	0.00020	mg/L							
Molybdenum, dissolved	< 0.00010	0.00010	mg/L							
Nickel, dissolved	< 0.00040	0.00040	mg/L							

APPENDIX 2: QUALITY CONTROL RESULTS

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

WORK ORDER 25G2936
REPORTED 2025-07-28 16:11

Analyte	Result	RL	Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Dissolved Metals, Batch B5G4165, Continued										
Blank (B5G4165-BLK1), Continued				Prepared: 2025-07-23, Analyzed: 2025-07-23						
Phosphorus, dissolved	< 0.050	0.050	mg/L							
Potassium, dissolved	< 0.10	0.10	mg/L							
Selenium, dissolved	< 0.00050	0.00050	mg/L							
Silicon, dissolved	< 1.0	1.0	mg/L							
Silver, dissolved	< 0.000050	0.000050	mg/L							
Sodium, dissolved	< 0.10	0.10	mg/L							
Strontium, dissolved	< 0.0010	0.0010	mg/L							
Sulfur, dissolved	< 3.0	3.0	mg/L							
Tellurium, dissolved	< 0.00050	0.00050	mg/L							
Thallium, dissolved	< 0.000020	0.000020	mg/L							
Thorium, dissolved	< 0.00010	0.00010	mg/L							
Tin, dissolved	< 0.00020	0.00020	mg/L							
Titanium, dissolved	< 0.0050	0.0050	mg/L							
Tungsten, dissolved	< 0.0010	0.0010	mg/L							
Uranium, dissolved	< 0.000020	0.000020	mg/L							
Vanadium, dissolved	< 0.0050	0.0050	mg/L							
Zinc, dissolved	< 0.0040	0.0040	mg/L							
Zirconium, dissolved	< 0.00010	0.00010	mg/L							
LCS (B5G4165-BS1)				Prepared: 2025-07-23, Analyzed: 2025-07-23						
Aluminum, dissolved	3.90	0.0050	mg/L	4.00		98	80-120			
Antimony, dissolved	0.0385	0.00020	mg/L	0.0400		96	80-120			
Arsenic, dissolved	0.392	0.00050	mg/L	0.400		98	80-120			
Barium, dissolved	0.0386	0.0050	mg/L	0.0400		97	80-120			
Beryllium, dissolved	0.0401	0.00010	mg/L	0.0400		100	80-120			
Bismuth, dissolved	0.0387	0.00010	mg/L	0.0400		97	80-120			
Boron, dissolved	0.407	0.0500	mg/L	0.400		102	80-120			
Cadmium, dissolved	0.0386	0.000010	mg/L	0.0400		96	80-120			
Calcium, dissolved	4.04	0.20	mg/L	4.00		101	80-120			
Chromium, dissolved	0.0390	0.00050	mg/L	0.0400		98	80-120			
Cobalt, dissolved	0.0392	0.00010	mg/L	0.0400		98	80-120			
Copper, dissolved	0.0388	0.00040	mg/L	0.0400		97	80-120			
Iron, dissolved	3.84	0.010	mg/L	4.00		96	80-120			
Lead, dissolved	0.0394	0.00020	mg/L	0.0400		99	80-120			
Lithium, dissolved	0.0394	0.00010	mg/L	0.0400		99	80-120			
Magnesium, dissolved	3.92	0.010	mg/L	4.00		98	80-120			
Manganese, dissolved	0.0396	0.00020	mg/L	0.0400		99	80-120			
Molybdenum, dissolved	0.0380	0.00010	mg/L	0.0400		95	80-120			
Nickel, dissolved	0.0396	0.00040	mg/L	0.0400		99	80-120			
Phosphorus, dissolved	3.94	0.050	mg/L	4.00		98	80-120			
Potassium, dissolved	4.01	0.10	mg/L	4.00		100	80-120			
Selenium, dissolved	0.397	0.00050	mg/L	0.400		99	80-120			
Silicon, dissolved	3.9	1.0	mg/L	4.00		97	80-120			
Silver, dissolved	0.0382	0.000050	mg/L	0.0400		96	80-120			
Sodium, dissolved	3.93	0.10	mg/L	4.00		98	80-120			
Strontium, dissolved	0.0393	0.0010	mg/L	0.0400		98	80-120			
Sulfur, dissolved	39.5	3.0	mg/L	40.0		99	80-120			
Tellurium, dissolved	0.0392	0.00050	mg/L	0.0400		98	80-120			
Thallium, dissolved	0.0390	0.000020	mg/L	0.0400		98	80-120			
Thorium, dissolved	0.0395	0.00010	mg/L	0.0400		99	80-120			
Tin, dissolved	0.0386	0.00020	mg/L	0.0400		97	80-120			
Titanium, dissolved	0.0386	0.0050	mg/L	0.0400		97	80-120			
Tungsten, dissolved	0.0397	0.0010	mg/L	0.0400		99	80-120			
Uranium, dissolved	0.0399	0.000020	mg/L	0.0400		100	80-120			
Vanadium, dissolved	0.0385	0.0050	mg/L	0.0400		96	80-120			
Zinc, dissolved	0.401	0.0040	mg/L	0.400		100	80-120			

APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO	Lake Country, District of (Wastewater)	**WORK ORDER**	25G2936
PROJECT	Final Effluent- PE14651	**REPORTED**	2025-07-28 16:11

Analyte	Result	RL	Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Dissolved Metals, Batch B5G4165, Continued										
LCS (B5G4165-BS1), Continued				Prepared: 2025-07-23, Analyzed: 2025-07-23						
Zirconium, dissolved	0.0392	0.00010	mg/L	0.0400		98	80-120			
General Parameters, Batch B5G4029										
Blank (B5G4029-BLK1)				Prepared: 2025-07-21, Analyzed: 2025-07-22						
Carbon, Dissolved Organic	< 0.50	0.50	mg/L							
Blank (B5G4029-BLK2)				Prepared: 2025-07-21, Analyzed: 2025-07-22						
Carbon, Dissolved Organic	< 0.50	0.50	mg/L							
Blank (B5G4029-BLK3)				Prepared: 2025-07-22, Analyzed: 2025-07-22						
Carbon, Dissolved Organic	< 0.50	0.50	mg/L							
Blank (B5G4029-BLK4)				Prepared: 2025-07-22, Analyzed: 2025-07-22						
Carbon, Dissolved Organic	< 0.50	0.50	mg/L							
LCS (B5G4029-BS1)				Prepared: 2025-07-21, Analyzed: 2025-07-22						
Carbon, Dissolved Organic	9.59	0.50	mg/L	10.0		96	78-116			
LCS (B5G4029-BS2)				Prepared: 2025-07-21, Analyzed: 2025-07-22						
Carbon, Dissolved Organic	9.65	0.50	mg/L	10.0		97	78-116			
LCS (B5G4029-BS3)				Prepared: 2025-07-22, Analyzed: 2025-07-22						
Carbon, Dissolved Organic	9.56	0.50	mg/L	10.0		96	78-116			
LCS (B5G4029-BS4)				Prepared: 2025-07-22, Analyzed: 2025-07-22						
Carbon, Dissolved Organic	9.42	0.50	mg/L	10.0		94	78-116			
General Parameters, Batch B5G4197										
Blank (B5G4197-BLK1)				Prepared: 2025-07-22, Analyzed: 2025-07-23						
Phosphorus, Dissolved Reactive	< 0.0050	0.0050	mg/L							
LCS (B5G4197-BS1)				Prepared: 2025-07-22, Analyzed: 2025-07-23						
Phosphorus, Dissolved Reactive	0.103	0.0050	mg/L	0.100		103	84-115			
Duplicate (B5G4197-DUP1)			**Source: 25G2936-02**	Prepared: 2025-07-22, Analyzed: 2025-07-23						
Phosphorus, Dissolved Reactive	0.288	0.0050	mg/L		0.290			< 1	14	
Matrix Spike (B5G4197-MS1)			**Source: 25G2936-02**	Prepared: 2025-07-22, Analyzed: 2025-07-23						
Phosphorus, Dissolved Reactive	0.362	0.0050	mg/L	0.100	0.290	72	70-130			
General Parameters, Batch B5G4223										
Blank (B5G4223-BLK1)				Prepared: 2025-07-22, Analyzed: 2025-07-22						
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 (B5G4223-BLK2)				Prepared: 2025-07-22, Analyzed: 2025-07-22						
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							

APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO	Lake Country, District of (Wastewater)	**WORK ORDER**	25G2936
PROJECT	Final Effluent- PE14651	**REPORTED**	2025-07-28 16:11

Analyte	Result	RL	Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
General Parameters, Batch B5G4223, Continued										
Blank (B5G4223-BLK2), Continued				Prepared: 2025-07-22, Analyzed: 2025-07-22						
Alkalinity, Hydroxide (as CaCO3)	< 1.0	1.0	mg/L							
Blank (B5G4223-BLK3)				Prepared: 2025-07-22, Analyzed: 2025-07-22						
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							
General Parameters, Batch B5G4361										
Blank (B5G4361-BLK1)				Prepared: 2025-07-23, Analyzed: 2025-07-28						
BOD, 5-day Carbonaceous	< 2.0	2.0	mg/L							
LCS (B5G4361-BS1)				Prepared: 2025-07-23, Analyzed: 2025-07-28						
BOD, 5-day Carbonaceous	209	66.6	mg/L	198		105	85-115			
General Parameters, Batch B5G4542										
Blank (B5G4542-BLK1)				Prepared: 2025-07-24, Analyzed: 2025-07-24						
Solids, Total Suspended	< 2.0	2.0	mg/L							
LCS (B5G4542-BS1)				Prepared: 2025-07-24, Analyzed: 2025-07-24						
Solids, Total Suspended	96.5	5.0	mg/L	100		96	85-115			
General Parameters, Batch B5G4612										
Blank (B5G4612-BLK1)				Prepared: 2025-07-25, Analyzed: 2025-07-25						
Ammonia, Total (as N)	< 0.050	0.050	mg/L							
Blank (B5G4612-BLK2)				Prepared: 2025-07-25, Analyzed: 2025-07-25						
Ammonia, Total (as N)	< 0.050	0.050	mg/L							
General Parameters, Batch B5G4651										
Blank (B5G4651-BLK1)				Prepared: 2025-07-25, Analyzed: 2025-07-25						
Phosphorus, Total (as P)	< 0.0050	0.0050	mg/L							
Blank (B5G4651-BLK2)				Prepared: 2025-07-25, Analyzed: 2025-07-25						
Phosphorus, Total (as P)	< 0.0050	0.0050	mg/L							
LCS (B5G4651-BS1)				Prepared: 2025-07-25, Analyzed: 2025-07-25						
Phosphorus, Total (as P)	0.108	0.0050	mg/L	0.100		108	85-115			
LCS (B5G4651-BS2)				Prepared: 2025-07-25, Analyzed: 2025-07-25						
Phosphorus, Total (as P)	0.107	0.0050	mg/L	0.100		107	85-115			
General Parameters, Batch B5G4759										
Blank (B5G4759-BLK1)				Prepared: 2025-07-26, Analyzed: 2025-07-28						
Nitrogen, Total Kjeldahl	< 0.050	0.050	mg/L							
Blank (B5G4759-BLK2)				Prepared: 2025-07-26, Analyzed: 2025-07-28						
Nitrogen, Total Kjeldahl	< 0.050	0.050	mg/L							

APPENDIX 2: QUALITY CONTROL RESULTS

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

WORK ORDER 25G2936
REPORTED 2025-07-28 16:11

Analyte	Result	RL	Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
General Parameters, Batch B5G4759, Continued										
LCS (B5G4759-BS1)				Prepared: 2025-07-26, Analyzed: 2025-07-28						
Nitrogen, Total Kjeldahl	1.03	0.050	mg/L	1.00		103	85-115			
LCS (B5G4759-BS2)				Prepared: 2025-07-26, Analyzed: 2025-07-28						
Nitrogen, Total Kjeldahl	1.02	0.050	mg/L	1.00		102	85-115			
Microbiological Parameters, Batch B5G4010										
Blank (B5G4010-BLK1)				Prepared: 2025-07-21, Analyzed: 2025-07-21						
Coliforms, Total (Q-Tray)	< 1	1	MPN/100 mL							
Blank (B5G4010-BLK2)				Prepared: 2025-07-21, Analyzed: 2025-07-21						
Coliforms, Fecal (Q-Tray)	< 1	1	MPN/100 mL							
Duplicate (B5G4010-DUP2)		**Source: 25G2936-01**		Prepared: 2025-07-21, Analyzed: 2025-07-21						
Coliforms, Fecal (Q-Tray)	10400	1	MPN/100 mL		23100			76	80	
Total Metals, Batch B5G4201										
Blank (B5G4201-BLK1)				Prepared: 2025-07-22, Analyzed: 2025-07-23						
Aluminum, total	< 0.0050	0.0050	mg/L							
Antimony, total	< 0.00020	0.00020	mg/L							
Arsenic, total	< 0.00050	0.00050	mg/L							
Barium, total	< 0.0050	0.0050	mg/L							
Beryllium, total	< 0.00010	0.00010	mg/L							
Bismuth, total	< 0.00010	0.00010	mg/L							
Boron, total	< 0.0500	0.0500	mg/L							
Cadmium, total	< 0.000010	0.000010	mg/L							
Calcium, total	< 0.20	0.20	mg/L							
Chromium, total	< 0.00050	0.00050	mg/L							
Cobalt, total	< 0.00010	0.00010	mg/L							
Copper, total	< 0.00040	0.00040	mg/L							
Iron, total	< 0.010	0.010	mg/L							
Lead, total	< 0.00020	0.00020	mg/L							
Lithium, total	< 0.00010	0.00010	mg/L							
Magnesium, total	< 0.010	0.010	mg/L							
Manganese, total	< 0.00020	0.00020	mg/L							
Molybdenum, total	< 0.00010	0.00010	mg/L							
Nickel, total	< 0.00040	0.00040	mg/L							
Phosphorus, total	< 0.050	0.050	mg/L							
Potassium, total	< 0.10	0.10	mg/L							
Selenium, total	< 0.00050	0.00050	mg/L							
Silicon, total	< 1.0	1.0	mg/L							
Silver, total	< 0.000050	0.000050	mg/L							
Sodium, total	< 0.10	0.10	mg/L							
Strontium, total	< 0.0010	0.0010	mg/L							
Sulfur, total	< 3.0	3.0	mg/L							
Tellurium, total	< 0.00050	0.00050	mg/L							
Thallium, total	< 0.000020	0.000020	mg/L							
Thorium, total	< 0.00010	0.00010	mg/L							
Tin, total	< 0.00020	0.00020	mg/L							
Titanium, total	< 0.0050	0.0050	mg/L							
Tungsten, total	< 0.0010	0.0010	mg/L							
Uranium, total	< 0.000020	0.000020	mg/L							
Vanadium, total	< 0.0050	0.0050	mg/L							
Zinc, total	< 0.0040	0.0040	mg/L							
Zirconium, total	< 0.00010	0.00010	mg/L							

APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO	Lake Country, District of (Wastewater)	**WORK ORDER**	25G2936
PROJECT	Final Effluent- PE14651	**REPORTED**	2025-07-28 16:11

Analyte	Result	RL	Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Total Metals, Batch B5G4201, Continued										
LCS (B5G4201-BS1)				Prepared: 2025-07-22, Analyzed: 2025-07-23						
Aluminum, total	3.98	0.0050	mg/L	4.00		100	80-120			
Antimony, total	0.0409	0.00020	mg/L	0.0400		102	80-120			
Arsenic, total	0.400	0.00050	mg/L	0.400		100	80-120			
Barium, total	0.0414	0.0050	mg/L	0.0400		103	80-120			
Beryllium, total	0.0398	0.00010	mg/L	0.0400		100	80-120			
Bismuth, total	0.0403	0.00010	mg/L	0.0400		101	80-120			
Boron, total	0.401	0.0500	mg/L	0.400		100	80-120			
Cadmium, total	0.0417	0.000010	mg/L	0.0400		104	80-120			
Calcium, total	4.15	0.20	mg/L	4.00		104	80-120			
Chromium, total	0.0407	0.00050	mg/L	0.0400		102	80-120			
Cobalt, total	0.0404	0.00010	mg/L	0.0400		101	80-120			
Copper, total	0.0400	0.00040	mg/L	0.0400		100	80-120			
Iron, total	4.03	0.010	mg/L	4.00		101	80-120			
Lead, total	0.0406	0.00020	mg/L	0.0400		102	80-120			
Lithium, total	0.0391	0.00010	mg/L	0.0400		98	80-120			
Magnesium, total	3.95	0.010	mg/L	4.00		99	80-120			
Manganese, total	0.0403	0.00020	mg/L	0.0400		101	80-120			
Molybdenum, total	0.0423	0.00010	mg/L	0.0400		106	80-120			
Nickel, total	0.0404	0.00040	mg/L	0.0400		101	80-120			
Phosphorus, total	4.03	0.050	mg/L	4.00		101	80-120			
Potassium, total	3.96	0.10	mg/L	4.00		99	80-120			
Selenium, total	0.410	0.00050	mg/L	0.400		103	80-120			
Silicon, total	4.0	1.0	mg/L	4.00		101	80-120			
Silver, total	0.0417	0.000050	mg/L	0.0400		104	80-120			
Sodium, total	3.99	0.10	mg/L	4.00		100	80-120			
Strontium, total	0.0394	0.0010	mg/L	0.0400		98	80-120			
Sulfur, total	40.5	3.0	mg/L	40.0		101	80-120			
Tellurium, total	0.0396	0.00050	mg/L	0.0400		99	80-120			
Thallium, total	0.0403	0.000020	mg/L	0.0400		101	80-120			
Thorium, total	0.0407	0.00010	mg/L	0.0400		102	80-120			
Tin, total	0.0421	0.00020	mg/L	0.0400		105	80-120			
Titanium, total	0.0389	0.0050	mg/L	0.0400		97	80-120			
Tungsten, total	0.0410	0.0010	mg/L	0.0400		102	80-120			
Uranium, total	0.0411	0.000020	mg/L	0.0400		103	80-120			
Vanadium, total	0.0398	0.0050	mg/L	0.0400		100	80-120			
Zinc, total	0.395	0.0040	mg/L	0.400		99	80-120			
Zirconium, total	0.0417	0.00010	mg/L	0.0400		104	80-120			

CERTIFICATE OF ANALYSIS

REPORTED TO	Lake Country, District of (Wastewater) 4062 Beaver Lake Rd LAKE COUNTRY, BC V4V 1T5		
ATTENTION	Davin Larsen	**WORK ORDER**	25H1506
PO NUMBER		**RECEIVED / TEMP**	2025-08-12 11:19 / 22.3°C
PROJECT	Raw Influent- PE14651	**REPORTED**	2025-08-19 15:28
PROJECT INFO	Lake Country WWTP	**COC NUMBER**	45881.33796

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

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 hhannaoui@caro.ca

Authorized By:

Hanane El Hannaoui
Junior Account Manager

TEST RESULTS

REPORTED TO	Lake Country, District of (Wastewater)	**WORK ORDER**	25H1506
PROJECT	Raw Influent- PE14651	**REPORTED**	2025-08-19 15:28

Analyte	Result	RL	Units	Analyzed	Qualifier
Raw Influent (E233627) (25H1506-01) | Matrix: Wastewater | Sampled: 2025-08-12 09:55					
Anions					
Nitrate (as N)	< 0.010	0.010	mg/L	2025-08-14	
Nitrite (as N)	< 0.010	0.010	mg/L	2025-08-14	
Calculated Parameters					
Nitrate+Nitrite (as N)	< 0.0100	0.0100	mg/L	N/A	
Nitrogen, Total	**78.1**	2.00	mg/L	N/A	
General Parameters					
Alkalinity, Total (as CaCO3)	**345**	1.0	mg/L	2025-08-13	
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	1.0	mg/L	2025-08-13	
Alkalinity, Bicarbonate (as CaCO3)	**345**	1.0	mg/L	2025-08-13	
Alkalinity, Carbonate (as CaCO3)	< 1.0	1.0	mg/L	2025-08-13	
Alkalinity, Hydroxide (as CaCO3)	< 1.0	1.0	mg/L	2025-08-13	
Ammonia, Total (as N)	**60.9**	0.050	mg/L	2025-08-13	
BOD, 5-day	**414**	8.0	mg/L	2025-08-19	
BOD, 5-day Carbonaceous	**275**	8.0	mg/L	2025-08-19	
Nitrogen, Total Kjeldahl	**78.1**	0.050	mg/L	2025-08-18	
pH	**7.93**	0.10	pH units	2025-08-13	HT2
Phosphorus, Total (as P)	**10.5**	0.0050	mg/L	2025-08-18	
Phosphorus, Dissolved Reactive	**2.36**	0.0050	mg/L	2025-08-15	
Solids, Total Suspended	**304**	2.0	mg/L	2025-08-17	

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	Lake Country, District of (Wastewater)	**WORK ORDER**	25H1506
PROJECT	Raw Influent- PE14651	**REPORTED**	2025-08-19 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, Dissolved Reactive in Water	SM 4500-P F (2021)	Automated Colorimetry (Ascorbic Acid)	✓	Kelowna
Phosphorus, Total in Water	SM 4500-P B.5* (2011) / SM 4500-P F (2021)	Persulfate Digestion / Automated Colorimetry (Ascorbic Acid)	✓	Kelowna
Solids, Total 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 samples received by CARO and analyzed in accordance with the Chain of Custody document. This analytical report must be reproduced in its entirety and must not be modified. CARO is not responsible for losses or damages resulting directly or indirectly from errors or omissions in the conduct of the testing. Any 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. Results in **red** indicate values above the regulatory limits where these have been included. Any Bold and/or highlighted results do not take into account method uncertainty. If you would like method uncertainty or regulatory limits to be included on your report, please contact your Account Manager: {@Email}

APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO	Lake Country, District of (Wastewater)	**WORK ORDER**	25H1506
PROJECT	Raw Influent- PE14651	**REPORTED**	2025-08-19 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

Analyte	Result	RL	Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Anions, Batch B5H3104										
LCS (B5H3104-BS1)				Prepared: 2025-08-14, Analyzed: 2025-08-14						
Nitrate (as N)	4.11	0.010	mg/L	4.00		103	90-110			
Nitrite (as N)	1.92	0.010	mg/L	2.00		96	85-115			
General Parameters, Batch B5H2998										
Blank (B5H2998-BLK1)				Prepared: 2025-08-12, Analyzed: 2025-08-15						
Phosphorus, Dissolved Reactive	< 0.0050	0.0050	mg/L							
Blank (B5H2998-BLK2)				Prepared: 2025-08-12, Analyzed: 2025-08-15						
Phosphorus, Dissolved Reactive	< 0.0050	0.0050	mg/L							
LCS (B5H2998-BS1)				Prepared: 2025-08-12, Analyzed: 2025-08-15						
Phosphorus, Dissolved Reactive	0.0960	0.0050	mg/L	0.100		96	84-115			
LCS (B5H2998-BS2)				Prepared: 2025-08-12, Analyzed: 2025-08-15						
Phosphorus, Dissolved Reactive	0.0936	0.0050	mg/L	0.100		94	84-115			
General Parameters, Batch B5H3132										
Blank (B5H3132-BLK1)				Prepared: 2025-08-13, Analyzed: 2025-08-13						
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 (B5H3132-BLK2)				Prepared: 2025-08-13, Analyzed: 2025-08-13						
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							

APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO	Lake Country, District of (Wastewater)	**WORK ORDER**	25H1506
PROJECT	Raw Influent- PE14651	**REPORTED**	2025-08-19 15:28

Analyte	Result	RL	Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
General Parameters, Batch B5H3135										
Blank (B5H3135-BLK1)				Prepared: 2025-08-13, Analyzed: 2025-08-13						
Ammonia, Total (as N)	< 0.050	0.050	mg/L							
LCS (B5H3135-BS1)				Prepared: 2025-08-13, Analyzed: 2025-08-13						
Ammonia, Total (as N)	0.935	0.050	mg/L	1.00		94	85-115			
General Parameters, Batch B5H3246										
Blank (B5H3246-BLK1)				Prepared: 2025-08-14, Analyzed: 2025-08-19						
BOD, 5-day	< 2.0	2.0	mg/L							
LCS (B5H3246-BS1)				Prepared: 2025-08-14, Analyzed: 2025-08-19						
BOD, 5-day	194	66.6	mg/L	198		98	85-115			
General Parameters, Batch B5H3247										
Blank (B5H3247-BLK1)				Prepared: 2025-08-14, Analyzed: 2025-08-19						
BOD, 5-day Carbonaceous	< 2.0	2.0	mg/L							
LCS (B5H3247-BS1)				Prepared: 2025-08-14, Analyzed: 2025-08-19						
BOD, 5-day Carbonaceous	197	66.6	mg/L	198		100	85-115			
General Parameters, Batch B5H3396										
LCS (B5H3396-BS1)				Prepared: 2025-08-15, Analyzed: 2025-08-18						
Nitrogen, Total Kjeldahl	0.996	0.050	mg/L	1.00		100	85-115			
LCS (B5H3396-BS2)				Prepared: 2025-08-15, Analyzed: 2025-08-18						
Nitrogen, Total Kjeldahl	1.02	0.050	mg/L	1.00		102	85-115			
General Parameters, Batch B5H3532										
Blank (B5H3532-BLK1)				Prepared: 2025-08-17, Analyzed: 2025-08-17						
Solids, Total Suspended	< 2.0	2.0	mg/L							
LCS (B5H3532-BS1)				Prepared: 2025-08-17, Analyzed: 2025-08-17						
Solids, Total Suspended	106	5.0	mg/L	100		106	85-115			
Duplicate (B5H3532-DUP1)		**Source: 25H1506-01**		Prepared: 2025-08-17, Analyzed: 2025-08-17						
Solids, Total Suspended	310	2.0	mg/L		304			2	20	
General Parameters, Batch B5H3575										
Blank (B5H3575-BLK1)				Prepared: 2025-08-18, Analyzed: 2025-08-18						
Phosphorus, Total (as P)	< 0.0050	0.0050	mg/L							
Blank (B5H3575-BLK2)				Prepared: 2025-08-18, Analyzed: 2025-08-18						
Phosphorus, Total (as P)	< 0.0050	0.0050	mg/L							
LCS (B5H3575-BS1)				Prepared: 2025-08-18, Analyzed: 2025-08-18						
Phosphorus, Total (as P)	0.106	0.0050	mg/L	0.100		106	85-115			
LCS (B5H3575-BS2)				Prepared: 2025-08-18, Analyzed: 2025-08-18						
Phosphorus, Total (as P)	0.101	0.0050	mg/L	0.100		101	85-115			

APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO	Lake Country, District of (Wastewater)	**WORK ORDER**	25H1506
PROJECT	Raw Influent- PE14651	**REPORTED**	2025-08-19 15:28

CERTIFICATE OF ANALYSIS

REPORTED TO	Lake Country, District of (Wastewater) 4062 Beaver Lake Rd LAKE COUNTRY, BC V4V 1T5		
ATTENTION	Davin Larsen	**WORK ORDER**	25H1509
PO NUMBER		**RECEIVED / TEMP**	2025-08-12 11:19 / 22.3°C
PROJECT	Final Effluent- PE14651	**REPORTED**	2025-08-19 13:28
PROJECT INFO	Lake Country WWTP	**COC NUMBER**	45881.33796

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

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 hhannaoui@caro.ca

Authorized By:

Hanane El Hannaoui
Junior Account Manager

TEST RESULTS

REPORTED TO	Lake Country, District of (Wastewater)	**WORK ORDER**	25H1509
PROJECT	Final Effluent- PE14651	**REPORTED**	2025-08-19 13:28

Analyte	Result	RL	Units	Analyzed	Qualifier
Final Effluent (E233626) (25H1509-01) | Matrix: Wastewater | Sampled: 2025-08-12 09:30					F1, F2, F3, FILT, PRES
Anions					
Chloride	**122**	0.10	mg/L	2025-08-14	
Nitrate (as N)	**1.14**	0.010	mg/L	2025-08-14	
Nitrite (as N)	**0.131**	0.010	mg/L	2025-08-14	
Calculated Parameters					
Hardness, Dissolved (as CaCO3)	**183**	0.500	mg/L	N/A	
Nitrate+Nitrite (as N)	**1.27**	0.0100	mg/L	N/A	
Nitrogen, Total	**3.44**	0.0500	mg/L	N/A	
Nitrogen, Organic	**1.43**	0.0500	mg/L	N/A	
Dissolved Metals					
Aluminum, dissolved	**0.0127**	0.0050	mg/L	2025-08-16	
Antimony, dissolved	**0.00031**	0.00020	mg/L	2025-08-16	
Arsenic, dissolved	< 0.00050	0.00050	mg/L	2025-08-16	
Barium, dissolved	**0.0245**	0.0050	mg/L	2025-08-16	
Beryllium, dissolved	< 0.00010	0.00010	mg/L	2025-08-16	
Bismuth, dissolved	< 0.00010	0.00010	mg/L	2025-08-16	
Boron, dissolved	**0.217**	0.0500	mg/L	2025-08-16	
Cadmium, dissolved	< 0.000010	0.000010	mg/L	2025-08-16	
Calcium, dissolved	**49.0**	0.20	mg/L	2025-08-16	
Chromium, dissolved	< 0.00050	0.00050	mg/L	2025-08-16	
Cobalt, dissolved	**0.00030**	0.00010	mg/L	2025-08-16	
Copper, dissolved	**0.00336**	0.00040	mg/L	2025-08-16	
Iron, dissolved	**0.063**	0.010	mg/L	2025-08-16	
Lead, dissolved	< 0.00020	0.00020	mg/L	2025-08-16	
Lithium, dissolved	**0.00665**	0.00010	mg/L	2025-08-16	
Magnesium, dissolved	**14.7**	0.010	mg/L	2025-08-16	
Manganese, dissolved	**0.0739**	0.00020	mg/L	2025-08-16	
Molybdenum, dissolved	**0.00235**	0.00010	mg/L	2025-08-16	
Nickel, dissolved	**0.00199**	0.00040	mg/L	2025-08-16	
Phosphorus, dissolved	**0.212**	0.050	mg/L	2025-08-16	
Potassium, dissolved	**19.9**	0.10	mg/L	2025-08-16	
Selenium, dissolved	< 0.00050	0.00050	mg/L	2025-08-16	
Silicon, dissolved	**5.6**	1.0	mg/L	2025-08-16	
Silver, dissolved	< 0.000050	0.000050	mg/L	2025-08-16	
Sodium, dissolved	**92.9**	0.10	mg/L	2025-08-16	
Strontium, dissolved	**0.353**	0.0010	mg/L	2025-08-16	
Sulfur, dissolved	**16.7**	3.0	mg/L	2025-08-16	
Tellurium, dissolved	< 0.00050	0.00050	mg/L	2025-08-16	
Thallium, dissolved	< 0.000020	0.000020	mg/L	2025-08-16	
Thorium, dissolved	< 0.00010	0.00010	mg/L	2025-08-16	
Tin, dissolved	**0.00049**	0.00020	mg/L	2025-08-16	

TEST RESULTS

REPORTED TO	Lake Country, District of (Wastewater)	**WORK ORDER**	25H1509
PROJECT	Final Effluent- PE14651	**REPORTED**	2025-08-19 13:28

Analyte	Result	RL	Units	Analyzed	Qualifier
Final Effluent (E233626) (25H1509-01) | Matrix: Wastewater | Sampled: 2025-08-12 09:30, Continued					F1, F2, F3, FILT, PRES
Dissolved Metals, Continued					
Titanium, dissolved	< 0.0050	0.0050	mg/L	2025-08-16	
Tungsten, dissolved	< 0.0010	0.0010	mg/L	2025-08-16	
Uranium, dissolved	**0.000937**	0.000020	mg/L	2025-08-16	
Vanadium, dissolved	< 0.0050	0.0050	mg/L	2025-08-16	
Zinc, dissolved	**0.0285**	0.0040	mg/L	2025-08-16	
Zirconium, dissolved	**0.00016**	0.00010	mg/L	2025-08-16	
General Parameters					
Alkalinity, Total (as CaCO3)	**169**	1.0	mg/L	2025-08-13	
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	1.0	mg/L	2025-08-13	
Alkalinity, Bicarbonate (as CaCO3)	**169**	1.0	mg/L	2025-08-13	
Alkalinity, Carbonate (as CaCO3)	< 1.0	1.0	mg/L	2025-08-13	
Alkalinity, Hydroxide (as CaCO3)	< 1.0	1.0	mg/L	2025-08-13	
Ammonia, Total (as N)	**0.736**	0.050	mg/L	2025-08-13	
BOD, 5-day Carbonaceous	< 8.0	8.0	mg/L	2025-08-19	
Carbon, Dissolved Organic	**11.2**	0.50	mg/L	2025-08-13	
Nitrogen, Total Kjeldahl	**2.17**	0.050	mg/L	2025-08-19	
pH	**7.85**	0.10	pH units	2025-08-13	HT2
Phosphorus, Total (as P)	**0.218**	0.0050	mg/L	2025-08-18	
Phosphorus, Dissolved Reactive	**0.0927**	0.0050	mg/L	2025-08-15	
Solids, Total Suspended	< 2.0	2.0	mg/L	2025-08-15	
Microbiological Parameters					
Coliforms, Total (Q-Tray)	**199000**	1	MPN/100 mL	2025-08-13	
Coliforms, Fecal (Q-Tray)	**61300**	1	MPN/100 mL	2025-08-13	
Total Metals					
Aluminum, total	**0.0125**	0.0050	mg/L	2025-08-16	
Antimony, total	**0.00033**	0.00020	mg/L	2025-08-16	
Arsenic, total	< 0.00050	0.00050	mg/L	2025-08-16	
Barium, total	**0.0243**	0.0050	mg/L	2025-08-16	
Beryllium, total	< 0.00010	0.00010	mg/L	2025-08-16	
Bismuth, total	< 0.00010	0.00010	mg/L	2025-08-16	
Boron, total	**0.225**	0.0500	mg/L	2025-08-16	
Cadmium, total	< 0.000010	0.000010	mg/L	2025-08-16	
Calcium, total	**49.6**	0.20	mg/L	2025-08-16	
Chromium, total	< 0.00050	0.00050	mg/L	2025-08-16	
Cobalt, total	**0.00031**	0.00010	mg/L	2025-08-16	
Copper, total	**0.00415**	0.00040	mg/L	2025-08-16	
Iron, total	**0.065**	0.010	mg/L	2025-08-16	
Lead, total	< 0.00020	0.00020	mg/L	2025-08-16	
Lithium, total	**0.00631**	0.00010	mg/L	2025-08-16	

TEST RESULTS

REPORTED TO	Lake Country, District of (Wastewater)	**WORK ORDER**	25H1509
PROJECT	Final Effluent- PE14651	**REPORTED**	2025-08-19 13:28

Analyte	Result	RL	Units	Analyzed	Qualifier
Final Effluent (E233626) (25H1509-01) | Matrix: Wastewater | Sampled: 2025-08-12 09:30, Continued					F1, F2, F3, FILT, PRES
Total Metals, Continued					
Magnesium, total	**14.7**	0.010	mg/L	2025-08-16	
Manganese, total	**0.0748**	0.00020	mg/L	2025-08-16	
Molybdenum, total	**0.00216**	0.00010	mg/L	2025-08-16	
Nickel, total	**0.00211**	0.00040	mg/L	2025-08-16	
Phosphorus, total	**0.233**	0.050	mg/L	2025-08-16	
Potassium, total	**19.0**	0.10	mg/L	2025-08-16	
Selenium, total	< 0.00050	0.00050	mg/L	2025-08-16	
Silicon, total	**6.3**	1.0	mg/L	2025-08-16	
Silver, total	< 0.000050	0.000050	mg/L	2025-08-16	
Sodium, total	**96.7**	0.10	mg/L	2025-08-16	
Strontium, total	**0.386**	0.0010	mg/L	2025-08-16	
Sulfur, total	**18.1**	3.0	mg/L	2025-08-16	
Tellurium, total	< 0.00050	0.00050	mg/L	2025-08-16	
Thallium, total	< 0.000020	0.000020	mg/L	2025-08-16	
Thorium, total	< 0.00010	0.00010	mg/L	2025-08-16	
Tin, total	**0.00050**	0.00020	mg/L	2025-08-16	
Titanium, total	< 0.0050	0.0050	mg/L	2025-08-16	
Tungsten, total	< 0.0010	0.0010	mg/L	2025-08-16	
Uranium, total	**0.000952**	0.000020	mg/L	2025-08-16	
Vanadium, total	< 0.0050	0.0050	mg/L	2025-08-16	
Zinc, total	**0.0288**	0.0040	mg/L	2025-08-16	
Zirconium, total	**0.00013**	0.00010	mg/L	2025-08-16	
Field Blank (25H1509-02) | Matrix: Water | Sampled: 2025-08-12 10:00					
Anions					
Chloride	< 0.10	0.10	mg/L	2025-08-14	
Nitrate (as N)	< 0.010	0.010	mg/L	2025-08-14	
Nitrite (as N)	< 0.010	0.010	mg/L	2025-08-14	
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	2025-08-13	
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	1.0	mg/L	2025-08-13	
Alkalinity, Bicarbonate (as CaCO3)	< 1.0	1.0	mg/L	2025-08-13	
Alkalinity, Carbonate (as CaCO3)	< 1.0	1.0	mg/L	2025-08-13	
Alkalinity, Hydroxide (as CaCO3)	< 1.0	1.0	mg/L	2025-08-13	
Ammonia, Total (as N)	< 0.050	0.050	mg/L	2025-08-13	

TEST RESULTS

REPORTED TO	Lake Country, District of (Wastewater)	**WORK ORDER**	25H1509
PROJECT	Final Effluent- PE14651	**REPORTED**	2025-08-19 13:28

Analyte	Result	RL	Units	Analyzed	Qualifier
Field Blank (25H1509-02) | Matrix: Water | Sampled: 2025-08-12 10:00, Continued					
General Parameters, Continued					
BOD, 5-day Carbonaceous	< 8.0	8.0	mg/L	2025-08-19	
Nitrogen, Total Kjeldahl	< 0.050	0.050	mg/L	2025-08-19	
pH	**6.35**	0.10	pH units	2025-08-13	HT2
Phosphorus, Total (as P)	< 0.0050	0.0050	mg/L	2025-08-18	
Phosphorus, Dissolved Reactive	< 0.0050	0.0050	mg/L	2025-08-15	
Solids, Total Suspended	< 2.0	2.0	mg/L	2025-08-15	
Microbiological Parameters					
Coliforms, Total (Q-Tray)	< 1	1	MPN/100 mL	2025-08-13	
Coliforms, Fecal (Q-Tray)	< 1	1	MPN/100 mL	2025-08-13	

Sample Qualifiers:

F1	The sample was not field-filtered and was therefore filtered through a 0.45 µm membrane in the laboratory prior to analysis.
F2	The sample was not field-preserved with HNO3 and was therefore preserved in the laboratory and held for at least 16 hours prior to analysis for total metals.
F3	Results may be biased low due to sub-sampling from general container.
FILT	The sample has been filtered for DOC in the laboratory. Results may not reflect conditions at the time of sampling.
HT2	The 15 minute recommended holding time (from sampling to analysis) has been exceeded - field analysis is recommended.
PRES	Sample has been preserved for DOC in the laboratory and the holding time has been extended.

APPENDIX 1: SUPPORTING INFORMATION

REPORTED TO	Lake Country, District of (Wastewater)	**WORK ORDER**	25H1509
PROJECT	Final Effluent- PE14651	**REPORTED**	2025-08-19 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, Carbonaceous in Water	SM 5210 B (2019)	Dissolved Oxygen Meter	✓	Kelowna
Carbon, Dissolved Organic in Water	SM 5310 B (2022)	Combustion, Infrared CO2 Detection	✓	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
Dissolved Metals in Water	EPA 200.8 / EPA 6020B	0.45 µm Filtration / Inductively Coupled Plasma-Mass Spectroscopy (ICP-MS)	✓	Richmond
Hardness in Water	SM 2340 B (2021)	Calculation: 2.497 [diss Ca] + 4.118 [diss Mg]	✓	N/A
Hardness in Water	SM 2340 B* (2021)	Calculation: 2.497 [total Ca] + 4.118 [total Mg] (Est)	✓	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, Dissolved Reactive in Water	SM 4500-P F (2021)	Automated Colorimetry (Ascorbic Acid)	✓	Kelowna
Phosphorus, Total in Water	SM 4500-P B.5* (2011) / SM 4500-P F (2021)	Persulfate Digestion / Automated Colorimetry (Ascorbic Acid)	✓	Kelowna
Solids, Total Suspended in Water	Solids in Water, Filtered / SM 2540 D* (2020)	Solids in Water, Filtered / Gravimetry (Dried at 103-105C)	✓	Kelowna
Total Metals in Water	EPA 200.2 / EPA 6020B	HNO3+HCl Hot Block Digestion / Inductively Coupled Plasma-Mass Spectroscopy (ICP-MS)	✓	Richmond

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

Glossary of Terms:

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

APPENDIX 1: SUPPORTING INFORMATION

REPORTED TO	Lake Country, District of (Wastewater)	**WORK ORDER**	25H1509
PROJECT	Final Effluent- PE14651	**REPORTED**	2025-08-19 13:28

General Comments:

The results in this report apply to samples received by CARO and analyzed in accordance with the Chain of Custody document. This analytical report must be reproduced in its entirety and must not be modified. CARO is not responsible for losses or damages resulting directly or indirectly from errors or omissions in the conduct of the testing. Any 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. Results in **red** indicate values above the regulatory limits where these have been included. Any Bold and/or highlighted results do not take into account method uncertainty. If you would like method uncertainty or regulatory limits to be included on your report, please contact your Account Manager: {@Email}

APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO	Lake Country, District of (Wastewater)	**WORK ORDER**	25H1509
PROJECT	Final Effluent- PE14651	**REPORTED**	2025-08-19 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

Analyte	Result	RL	Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Anions, Batch B5H3104										
LCS (B5H3104-BS1)				Prepared: 2025-08-14, Analyzed: 2025-08-14						
Chloride	16.1	0.10	mg/L	16.0		101	90-110			
Nitrate (as N)	4.11	0.010	mg/L	4.00		103	90-110			
Nitrite (as N)	1.92	0.010	mg/L	2.00		96	85-115			
Dissolved Metals, Batch B5H3431										
Blank (B5H3431-BLK1)				Prepared: 2025-08-16, Analyzed: 2025-08-16						
Aluminum, dissolved	< 0.0050	0.0050	mg/L							
Antimony, dissolved	< 0.00020	0.00020	mg/L							
Arsenic, dissolved	< 0.00050	0.00050	mg/L							
Barium, dissolved	< 0.0050	0.0050	mg/L							
Beryllium, dissolved	< 0.00010	0.00010	mg/L							
Bismuth, dissolved	< 0.00010	0.00010	mg/L							
Boron, dissolved	< 0.0500	0.0500	mg/L							
Cadmium, dissolved	< 0.000010	0.000010	mg/L							
Calcium, dissolved	< 0.20	0.20	mg/L							
Chromium, dissolved	< 0.00050	0.00050	mg/L							
Cobalt, dissolved	< 0.00010	0.00010	mg/L							
Copper, dissolved	< 0.00040	0.00040	mg/L							
Iron, dissolved	< 0.010	0.010	mg/L							
Lead, dissolved	< 0.00020	0.00020	mg/L							
Lithium, dissolved	< 0.00010	0.00010	mg/L							
Magnesium, dissolved	< 0.010	0.010	mg/L							
Manganese, dissolved	< 0.00020	0.00020	mg/L							
Molybdenum, dissolved	< 0.00010	0.00010	mg/L							
Nickel, dissolved	< 0.00040	0.00040	mg/L							
Phosphorus, dissolved	< 0.050	0.050	mg/L							
Potassium, dissolved	< 0.10	0.10	mg/L							
Selenium, dissolved	< 0.00050	0.00050	mg/L							
Silicon, dissolved	< 1.0	1.0	mg/L							
Silver, dissolved	< 0.000050	0.000050	mg/L							
Sodium, dissolved	< 0.10	0.10	mg/L							
Strontium, dissolved	< 0.0010	0.0010	mg/L							

APPENDIX 2: QUALITY CONTROL RESULTS

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

WORK ORDER 25H1509
REPORTED 2025-08-19 13:28

Analyte	Result	RL	Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Dissolved Metals, Batch B5H3431, Continued										
Blank (B5H3431-BLK1), Continued				Prepared: 2025-08-16, Analyzed: 2025-08-16						
Sulfur, dissolved	< 3.0	3.0	mg/L							
Tellurium, dissolved	< 0.00050	0.00050	mg/L							
Thallium, dissolved	< 0.000020	0.000020	mg/L							
Thorium, dissolved	< 0.00010	0.00010	mg/L							
Tin, dissolved	< 0.00020	0.00020	mg/L							
Titanium, dissolved	< 0.0050	0.0050	mg/L							
Tungsten, dissolved	< 0.0010	0.0010	mg/L							
Uranium, dissolved	< 0.000020	0.000020	mg/L							
Vanadium, dissolved	< 0.0050	0.0050	mg/L							
Zinc, dissolved	< 0.0040	0.0040	mg/L							
Zirconium, dissolved	< 0.00010	0.00010	mg/L							
Blank (B5H3431-BLK2)				Prepared: 2025-08-16, Analyzed: 2025-08-16						
Aluminum, dissolved	< 0.0050	0.0050	mg/L							
Antimony, dissolved	< 0.00020	0.00020	mg/L							
Arsenic, dissolved	< 0.00050	0.00050	mg/L							
Barium, dissolved	< 0.0050	0.0050	mg/L							
Beryllium, dissolved	< 0.00010	0.00010	mg/L							
Bismuth, dissolved	< 0.00010	0.00010	mg/L							
Boron, dissolved	< 0.0500	0.0500	mg/L							
Cadmium, dissolved	< 0.000010	0.000010	mg/L							
Calcium, dissolved	< 0.20	0.20	mg/L							
Chromium, dissolved	< 0.00050	0.00050	mg/L							
Cobalt, dissolved	< 0.00010	0.00010	mg/L							
Copper, dissolved	< 0.00040	0.00040	mg/L							
Iron, dissolved	< 0.010	0.010	mg/L							
Lead, dissolved	< 0.00020	0.00020	mg/L							
Lithium, dissolved	< 0.00010	0.00010	mg/L							
Magnesium, dissolved	< 0.010	0.010	mg/L							
Manganese, dissolved	< 0.00020	0.00020	mg/L							
Molybdenum, dissolved	< 0.00010	0.00010	mg/L							
Nickel, dissolved	< 0.00040	0.00040	mg/L							
Phosphorus, dissolved	< 0.050	0.050	mg/L							
Potassium, dissolved	< 0.10	0.10	mg/L							
Selenium, dissolved	< 0.00050	0.00050	mg/L							
Silicon, dissolved	< 1.0	1.0	mg/L							
Silver, dissolved	< 0.000050	0.000050	mg/L							
Sodium, dissolved	< 0.10	0.10	mg/L							
Strontium, dissolved	< 0.0010	0.0010	mg/L							
Sulfur, dissolved	< 3.0	3.0	mg/L							
Tellurium, dissolved	< 0.00050	0.00050	mg/L							
Thallium, dissolved	< 0.000020	0.000020	mg/L							
Thorium, dissolved	< 0.00010	0.00010	mg/L							
Tin, dissolved	< 0.00020	0.00020	mg/L							
Titanium, dissolved	< 0.0050	0.0050	mg/L							
Tungsten, dissolved	< 0.0010	0.0010	mg/L							
Uranium, dissolved	< 0.000020	0.000020	mg/L							
Vanadium, dissolved	< 0.0050	0.0050	mg/L							
Zinc, dissolved	< 0.0040	0.0040	mg/L							
Zirconium, dissolved	< 0.00010	0.00010	mg/L							

APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO	Lake Country, District of (Wastewater)	**WORK ORDER**	25H1509
PROJECT	Final Effluent- PE14651	**REPORTED**	2025-08-19 13:28

Analyte	Result	RL	Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Dissolved Metals, Batch B5H3431, Continued										
LCS (B5H3431-BS1)				Prepared: 2025-08-16, Analyzed: 2025-08-16						
Aluminum, dissolved	3.61	0.0050	mg/L	4.00		90	80-120			
Antimony, dissolved	0.0372	0.00020	mg/L	0.0400		93	80-120			
Arsenic, dissolved	0.361	0.00050	mg/L	0.400		90	80-120			
Barium, dissolved	0.0384	0.0050	mg/L	0.0400		96	80-120			
Beryllium, dissolved	0.0355	0.00010	mg/L	0.0400		89	80-120			
Bismuth, dissolved	0.0366	0.00010	mg/L	0.0400		91	80-120			
Boron, dissolved	0.352	0.0500	mg/L	0.400		88	80-120			
Cadmium, dissolved	0.0378	0.000010	mg/L	0.0400		94	80-120			
Calcium, dissolved	3.75	0.20	mg/L	4.00		94	80-120			
Chromium, dissolved	0.0376	0.00050	mg/L	0.0400		94	80-120			
Cobalt, dissolved	0.0371	0.00010	mg/L	0.0400		93	80-120			
Copper, dissolved	0.0374	0.00040	mg/L	0.0400		94	80-120			
Iron, dissolved	3.78	0.010	mg/L	4.00		94	80-120			
Lead, dissolved	0.0375	0.00020	mg/L	0.0400		94	80-120			
Lithium, dissolved	0.0365	0.00010	mg/L	0.0400		91	80-120			
Magnesium, dissolved	3.71	0.010	mg/L	4.00		93	80-120			
Manganese, dissolved	0.0372	0.00020	mg/L	0.0400		93	80-120			
Molybdenum, dissolved	0.0385	0.00010	mg/L	0.0400		96	80-120			
Nickel, dissolved	0.0370	0.00040	mg/L	0.0400		93	80-120			
Phosphorus, dissolved	3.60	0.050	mg/L	4.00		90	80-120			
Potassium, dissolved	3.52	0.10	mg/L	4.00		88	80-120			
Selenium, dissolved	0.375	0.00050	mg/L	0.400		94	80-120			
Silicon, dissolved	3.6	1.0	mg/L	4.00		90	80-120			
Silver, dissolved	0.0386	0.000050	mg/L	0.0400		97	80-120			
Sodium, dissolved	3.72	0.10	mg/L	4.00		93	80-120			
Strontium, dissolved	0.0372	0.0010	mg/L	0.0400		93	80-120			
Sulfur, dissolved	36.1	3.0	mg/L	40.0		90	80-120			
Tellurium, dissolved	0.0361	0.00050	mg/L	0.0400		90	80-120			
Thallium, dissolved	0.0369	0.000020	mg/L	0.0400		92	80-120			
Thorium, dissolved	0.0375	0.00010	mg/L	0.0400		94	80-120			
Tin, dissolved	0.0377	0.00020	mg/L	0.0400		94	80-120			
Titanium, dissolved	0.0366	0.0050	mg/L	0.0400		91	80-120			
Tungsten, dissolved	0.0372	0.0010	mg/L	0.0400		93	80-120			
Uranium, dissolved	0.0382	0.000020	mg/L	0.0400		96	80-120			
Vanadium, dissolved	0.0372	0.0050	mg/L	0.0400		93	80-120			
Zinc, dissolved	0.365	0.0040	mg/L	0.400		91	80-120			
Zirconium, dissolved	0.0381	0.00010	mg/L	0.0400		95	80-120			
LCS (B5H3431-BS2)				Prepared: 2025-08-16, Analyzed: 2025-08-16						
Aluminum, dissolved	3.63	0.0050	mg/L	4.00		91	80-120			
Antimony, dissolved	0.0367	0.00020	mg/L	0.0400		92	80-120			
Arsenic, dissolved	0.363	0.00050	mg/L	0.400		91	80-120			
Barium, dissolved	0.0379	0.0050	mg/L	0.0400		95	80-120			
Beryllium, dissolved	0.0362	0.00010	mg/L	0.0400		91	80-120			
Bismuth, dissolved	0.0365	0.00010	mg/L	0.0400		91	80-120			
Boron, dissolved	0.362	0.0500	mg/L	0.400		90	80-120			
Cadmium, dissolved	0.0378	0.000010	mg/L	0.0400		94	80-120			
Calcium, dissolved	3.73	0.20	mg/L	4.00		93	80-120			
Chromium, dissolved	0.0368	0.00050	mg/L	0.0400		92	80-120			
Cobalt, dissolved	0.0377	0.00010	mg/L	0.0400		94	80-120			
Copper, dissolved	0.0378	0.00040	mg/L	0.0400		95	80-120			
Iron, dissolved	3.76	0.010	mg/L	4.00		94	80-120			

APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO	Lake Country, District of (Wastewater)	**WORK ORDER**	25H1509
PROJECT	Final Effluent- PE14651	**REPORTED**	2025-08-19 13:28

Analyte	Result	RL	Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Dissolved Metals, Batch B5H3431, Continued										
LCS (B5H3431-BS2), Continued				Prepared: 2025-08-16, Analyzed: 2025-08-16						
Lead, dissolved	0.0372	0.00020	mg/L	0.0400		93	80-120			
Lithium, dissolved	0.0374	0.00010	mg/L	0.0400		94	80-120			
Magnesium, dissolved	3.76	0.010	mg/L	4.00		94	80-120			
Manganese, dissolved	0.0376	0.00020	mg/L	0.0400		94	80-120			
Molybdenum, dissolved	0.0386	0.00010	mg/L	0.0400		96	80-120			
Nickel, dissolved	0.0371	0.00040	mg/L	0.0400		93	80-120			
Phosphorus, dissolved	3.58	0.050	mg/L	4.00		89	80-120			
Potassium, dissolved	3.57	0.10	mg/L	4.00		89	80-120			
Selenium, dissolved	0.374	0.00050	mg/L	0.400		93	80-120			
Silicon, dissolved	3.7	1.0	mg/L	4.00		92	80-120			
Silver, dissolved	0.0383	0.000050	mg/L	0.0400		96	80-120			
Sodium, dissolved	3.80	0.10	mg/L	4.00		95	80-120			
Strontium, dissolved	0.0373	0.0010	mg/L	0.0400		93	80-120			
Sulfur, dissolved	36.4	3.0	mg/L	40.0		91	80-120			
Tellurium, dissolved	0.0361	0.00050	mg/L	0.0400		90	80-120			
Thallium, dissolved	0.0365	0.000020	mg/L	0.0400		91	80-120			
Thorium, dissolved	0.0374	0.00010	mg/L	0.0400		93	80-120			
Tin, dissolved	0.0379	0.00020	mg/L	0.0400		95	80-120			
Titanium, dissolved	0.0366	0.0050	mg/L	0.0400		91	80-120			
Tungsten, dissolved	0.0371	0.0010	mg/L	0.0400		93	80-120			
Uranium, dissolved	0.0377	0.000020	mg/L	0.0400		94	80-120			
Vanadium, dissolved	0.0372	0.0050	mg/L	0.0400		93	80-120			
Zinc, dissolved	0.369	0.0040	mg/L	0.400		92	80-120			
Zirconium, dissolved	0.0377	0.00010	mg/L	0.0400		94	80-120			
General Parameters, Batch B5H2990										
Blank (B5H2990-BLK1)				Prepared: 2025-08-13, Analyzed: 2025-08-13						
Carbon, Dissolved Organic	< 0.50	0.50	mg/L							
Blank (B5H2990-BLK2)				Prepared: 2025-08-12, Analyzed: 2025-08-12						
Carbon, Dissolved Organic	< 0.50	0.50	mg/L							
Blank (B5H2990-BLK3)				Prepared: 2025-08-13, Analyzed: 2025-08-13						
Carbon, Dissolved Organic	< 0.50	0.50	mg/L							
LCS (B5H2990-BS1)				Prepared: 2025-08-13, Analyzed: 2025-08-13						
Carbon, Dissolved Organic	9.26	0.50	mg/L	10.0		93	78-116			
LCS (B5H2990-BS2)				Prepared: 2025-08-12, Analyzed: 2025-08-12						
Carbon, Dissolved Organic	9.27	0.50	mg/L	10.0		93	78-116			
LCS (B5H2990-BS3)				Prepared: 2025-08-12, Analyzed: 2025-08-13						
Carbon, Dissolved Organic	9.42	0.50	mg/L	10.0		94	78-116			
General Parameters, Batch B5H2998										
Blank (B5H2998-BLK1)				Prepared: 2025-08-12, Analyzed: 2025-08-15						
Phosphorus, Dissolved Reactive	< 0.0050	0.0050	mg/L							
Blank (B5H2998-BLK2)				Prepared: 2025-08-12, Analyzed: 2025-08-15						
Phosphorus, Dissolved Reactive	< 0.0050	0.0050	mg/L							

APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO	Lake Country, District of (Wastewater)	**WORK ORDER**	25H1509
PROJECT	Final Effluent- PE14651	**REPORTED**	2025-08-19 13:28

Analyte	Result	RL	Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
General Parameters, Batch B5H2998, Continued										
LCS (B5H2998-BS1)				Prepared: 2025-08-12, Analyzed: 2025-08-15						
Phosphorus, Dissolved Reactive	0.0960	0.0050	mg/L	0.100		96	84-115			
LCS (B5H2998-BS2)				Prepared: 2025-08-12, Analyzed: 2025-08-15						
Phosphorus, Dissolved Reactive	0.0936	0.0050	mg/L	0.100		94	84-115			
General Parameters, Batch B5H3132										
Blank (B5H3132-BLK1)				Prepared: 2025-08-13, Analyzed: 2025-08-13						
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 (B5H3132-BLK2)				Prepared: 2025-08-13, Analyzed: 2025-08-13						
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							
General Parameters, Batch B5H3135										
Blank (B5H3135-BLK1)				Prepared: 2025-08-13, Analyzed: 2025-08-13						
Ammonia, Total (as N)	< 0.050	0.050	mg/L							
LCS (B5H3135-BS1)				Prepared: 2025-08-13, Analyzed: 2025-08-13						
Ammonia, Total (as N)	0.935	0.050	mg/L	1.00		94	85-115			
General Parameters, Batch B5H3247										
Blank (B5H3247-BLK1)				Prepared: 2025-08-14, Analyzed: 2025-08-19						
BOD, 5-day Carbonaceous	< 2.0	2.0	mg/L							
LCS (B5H3247-BS1)				Prepared: 2025-08-14, Analyzed: 2025-08-19						
BOD, 5-day Carbonaceous	197	66.6	mg/L	198		100	85-115			
General Parameters, Batch B5H3350										
Blank (B5H3350-BLK1)				Prepared: 2025-08-15, Analyzed: 2025-08-15						
Solids, Total Suspended	< 2.0	2.0	mg/L							
Blank (B5H3350-BLK2)				Prepared: 2025-08-15, Analyzed: 2025-08-15						
Solids, Total Suspended	< 2.0	2.0	mg/L							
LCS (B5H3350-BS1)				Prepared: 2025-08-15, Analyzed: 2025-08-15						
Solids, Total Suspended	92.6	5.0	mg/L	100		93	85-115			
LCS (B5H3350-BS2)				Prepared: 2025-08-15, Analyzed: 2025-08-15						
Solids, Total Suspended	99.5	5.0	mg/L	100		100	85-115			
General Parameters, Batch B5H3575										

APPENDIX 2: QUALITY CONTROL RESULTS

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

WORK ORDER 25H1509
REPORTED 2025-08-19 13:28

Analyte	Result	RL	Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
General Parameters, Batch B5H3575, Continued										
Blank (B5H3575-BLK1)				Prepared: 2025-08-18, Analyzed: 2025-08-18						
Phosphorus, Total (as P)	< 0.0050	0.0050	mg/L							
Blank (B5H3575-BLK2)				Prepared: 2025-08-18, Analyzed: 2025-08-18						
Phosphorus, Total (as P)	< 0.0050	0.0050	mg/L							
LCS (B5H3575-BS1)				Prepared: 2025-08-18, Analyzed: 2025-08-18						
Phosphorus, Total (as P)	0.106	0.0050	mg/L	0.100		106	85-115			
LCS (B5H3575-BS2)				Prepared: 2025-08-18, Analyzed: 2025-08-18						
Phosphorus, Total (as P)	0.101	0.0050	mg/L	0.100		101	85-115			
General Parameters, Batch B5H3671										
Blank (B5H3671-BLK1)				Prepared: 2025-08-18, Analyzed: 2025-08-19						
Nitrogen, Total Kjeldahl	< 0.050	0.050	mg/L							
Blank (B5H3671-BLK2)				Prepared: 2025-08-18, Analyzed: 2025-08-19						
Nitrogen, Total Kjeldahl	< 0.050	0.050	mg/L							
LCS (B5H3671-BS1)				Prepared: 2025-08-18, Analyzed: 2025-08-19						
Nitrogen, Total Kjeldahl	0.943	0.050	mg/L	1.00		94	85-115			
LCS (B5H3671-BS2)				Prepared: 2025-08-18, Analyzed: 2025-08-19						
Nitrogen, Total Kjeldahl	0.952	0.050	mg/L	1.00		95	85-115			
Microbiological Parameters, Batch B5H3040										
Blank (B5H3040-BLK1)				Prepared: 2025-08-13, Analyzed: 2025-08-13						
Coliforms, Total (Q-Tray)	< 1	1	MPN/100 mL							
Blank (B5H3040-BLK2)				Prepared: 2025-08-13, Analyzed: 2025-08-13						
Coliforms, Fecal (Q-Tray)	< 1	1	MPN/100 mL							
Blank (B5H3040-BLK3)				Prepared: 2025-08-13, Analyzed: 2025-08-13						
Coliforms, Total (Q-Tray)	< 1	1	MPN/100 mL							
Blank (B5H3040-BLK4)				Prepared: 2025-08-13, Analyzed: 2025-08-13						
Coliforms, Fecal (Q-Tray)	< 1	1	MPN/100 mL							
Duplicate (B5H3040-DUP2)	**Source: 25H1509-02**			Prepared: 2025-08-13, Analyzed: 2025-08-13						
Coliforms, Fecal (Q-Tray)	< 1	1	MPN/100 mL		< 1				80	RS2
Total Metals, Batch B5H3434										
Blank (B5H3434-BLK1)				Prepared: 2025-08-15, Analyzed: 2025-08-16						
Aluminum, total	< 0.0050	0.0050	mg/L							
Antimony, total	< 0.00020	0.00020	mg/L							
Arsenic, total	< 0.00050	0.00050	mg/L							
Barium, total	< 0.0050	0.0050	mg/L							
Beryllium, total	< 0.00010	0.00010	mg/L							
Bismuth, total	< 0.00010	0.00010	mg/L							
Boron, total	< 0.0500	0.0500	mg/L							
Cadmium, total	< 0.000010	0.000010	mg/L							
Calcium, total	< 0.20	0.20	mg/L							

APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO	Lake Country, District of (Wastewater)	**WORK ORDER**	25H1509
PROJECT	Final Effluent- PE14651	**REPORTED**	2025-08-19 13:28

Analyte	Result	RL	Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Total Metals, Batch B5H3434, Continued										
Blank (B5H3434-BLK1), Continued				Prepared: 2025-08-15, Analyzed: 2025-08-16						
Chromium, total	< 0.00050	0.00050	mg/L							
Cobalt, total	< 0.00010	0.00010	mg/L							
Copper, total	< 0.00040	0.00040	mg/L							
Iron, total	< 0.010	0.010	mg/L							
Lead, total	< 0.00020	0.00020	mg/L							
Lithium, total	< 0.00010	0.00010	mg/L							
Magnesium, total	< 0.010	0.010	mg/L							
Manganese, total	< 0.00020	0.00020	mg/L							
Molybdenum, total	< 0.00010	0.00010	mg/L							
Nickel, total	< 0.00040	0.00040	mg/L							
Phosphorus, total	< 0.050	0.050	mg/L							
Potassium, total	< 0.10	0.10	mg/L							
Selenium, total	< 0.00050	0.00050	mg/L							
Silicon, total	< 1.0	1.0	mg/L							
Silver, total	< 0.000050	0.000050	mg/L							
Sodium, total	< 0.10	0.10	mg/L							
Strontium, total	< 0.0010	0.0010	mg/L							
Sulfur, total	< 3.0	3.0	mg/L							
Tellurium, total	< 0.00050	0.00050	mg/L							
Thallium, total	< 0.000020	0.000020	mg/L							
Thorium, total	< 0.00010	0.00010	mg/L							
Tin, total	< 0.00020	0.00020	mg/L							
Titanium, total	< 0.0050	0.0050	mg/L							
Tungsten, total	< 0.0010	0.0010	mg/L							
Uranium, total	< 0.000020	0.000020	mg/L							
Vanadium, total	< 0.0050	0.0050	mg/L							
Zinc, total	< 0.0040	0.0040	mg/L							
Zirconium, total	< 0.00010	0.00010	mg/L							
LCS (B5H3434-BS1)				Prepared: 2025-08-15, Analyzed: 2025-08-16						
Aluminum, total	3.99	0.0050	mg/L	4.00		100	80-120			
Antimony, total	0.0395	0.00020	mg/L	0.0400		99	80-120			
Arsenic, total	0.395	0.00050	mg/L	0.400		99	80-120			
Barium, total	0.0400	0.0050	mg/L	0.0400		100	80-120			
Beryllium, total	0.0402	0.00010	mg/L	0.0400		100	80-120			
Bismuth, total	0.0407	0.00010	mg/L	0.0400		102	80-120			
Boron, total	0.410	0.0500	mg/L	0.400		102	80-120			
Cadmium, total	0.0392	0.000010	mg/L	0.0400		98	80-120			
Calcium, total	4.02	0.20	mg/L	4.00		101	80-120			
Chromium, total	0.0403	0.00050	mg/L	0.0400		101	80-120			
Cobalt, total	0.0399	0.00010	mg/L	0.0400		100	80-120			
Copper, total	0.0398	0.00040	mg/L	0.0400		100	80-120			
Iron, total	4.00	0.010	mg/L	4.00		100	80-120			
Lead, total	0.0394	0.00020	mg/L	0.0400		99	80-120			
Lithium, total	0.0401	0.00010	mg/L	0.0400		100	80-120			
Magnesium, total	4.07	0.010	mg/L	4.00		102	80-120			
Manganese, total	0.0401	0.00020	mg/L	0.0400		100	80-120			
Molybdenum, total	0.0399	0.00010	mg/L	0.0400		100	80-120			
Nickel, total	0.0400	0.00040	mg/L	0.0400		100	80-120			
Phosphorus, total	3.93	0.050	mg/L	4.00		98	80-120			
Potassium, total	3.98	0.10	mg/L	4.00		99	80-120			
Selenium, total	0.396	0.00050	mg/L	0.400		99	80-120			

APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO	Lake Country, District of (Wastewater)	**WORK ORDER**	25H1509
PROJECT	Final Effluent- PE14651	**REPORTED**	2025-08-19 13:28

Analyte	Result	RL	Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Total Metals, Batch B5H3434, Continued										
LCS (B5H3434-BS1), Continued				Prepared: 2025-08-15, Analyzed: 2025-08-16						
Silicon, total	4.0	1.0	mg/L	4.00		100	80-120			
Silver, total	0.0397	0.000050	mg/L	0.0400		99	80-120			
Sodium, total	4.08	0.10	mg/L	4.00		102	80-120			
Strontium, total	0.0397	0.0010	mg/L	0.0400		99	80-120			
Sulfur, total	40.0	3.0	mg/L	40.0		100	80-120			
Tellurium, total	0.0375	0.00050	mg/L	0.0400		94	80-120			
Thallium, total	0.0395	0.000020	mg/L	0.0400		99	80-120			
Thorium, total	0.0406	0.00010	mg/L	0.0400		101	80-120			
Tin, total	0.0391	0.00020	mg/L	0.0400		98	80-120			
Titanium, total	0.0389	0.0050	mg/L	0.0400		97	80-120			
Tungsten, total	0.0395	0.0010	mg/L	0.0400		99	80-120			
Uranium, total	0.0402	0.000020	mg/L	0.0400		101	80-120			
Vanadium, total	0.0389	0.0050	mg/L	0.0400		97	80-120			
Zinc, total	0.393	0.0040	mg/L	0.400		98	80-120			
Zirconium, total	0.0390	0.00010	mg/L	0.0400		97	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	**WORK ORDER**	25I1129
PO NUMBER	104395-10-9007	**RECEIVED / TEMP**	2025-09-09 10:58 / 20.1°C
PROJECT	Raw Influent- PE14651	**REPORTED**	2025-09-16 13:56
PROJECT INFO	Lake Country WWTP	**COC NUMBER**	45909.33461

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 hhannaoui@caro.ca

Authorized By:

Hanane El Hannaoui
Junior Account Manager

CARO ANALYTICAL SERVICES

TEST RESULTS

REPORTED TO	Lake Country, District of (Wastewater)	**WORK ORDER**	25I1129
PROJECT	Raw Influent- PE14651	**REPORTED**	2025-09-16 13:56

Analyte	Result	RL	Units	Analyzed	Qualifier
Raw Influent (25I1129-01) | Matrix: Wastewater | Sampled: 2025-09-09 10:10					
Anions					
Nitrate (as N)	< 0.010	0.010	mg/L	2025-09-10	
Nitrite (as N)	< 0.010	0.010	mg/L	2025-09-10	
Calculated Parameters					
Nitrate+Nitrite (as N)	< 0.0100	0.0100	mg/L	N/A	
Nitrogen, Total	**90.8**	2.00	mg/L	N/A	
General Parameters					
Alkalinity, Total (as CaCO3)	**386**	1.0	mg/L	2025-09-10	
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	1.0	mg/L	2025-09-10	
Alkalinity, Bicarbonate (as CaCO3)	**386**	1.0	mg/L	2025-09-10	
Alkalinity, Carbonate (as CaCO3)	< 1.0	1.0	mg/L	2025-09-10	
Alkalinity, Hydroxide (as CaCO3)	< 1.0	1.0	mg/L	2025-09-10	
Ammonia, Total (as N)	**68.9**	0.050	mg/L	2025-09-10	
BOD, 5-day	**443**	8.0	mg/L	2025-09-16	
BOD, 5-day Carbonaceous	**441**	8.0	mg/L	2025-09-16	
Nitrogen, Total Kjeldahl	**90.8**	0.050	mg/L	2025-09-13	
pH	**7.91**	0.10	pH units	2025-09-10	HT2
Phosphorus, Total (as P)	**12.5**	0.0050	mg/L	2025-09-12	
Phosphorus, Dissolved Reactive	**6.06**	0.0050	mg/L	2025-09-10	
Solids, Total Suspended	**430**	2.0	mg/L	2025-09-10	

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	Lake Country, District of (Wastewater)	**WORK ORDER**	25I1129
PROJECT	Raw Influent- PE14651	**REPORTED**	2025-09-16 13:56

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, Dissolved Reactive in Water	SM 4500-P F (2021)	Automated Colorimetry (Ascorbic Acid)	✓	Kelowna
Phosphorus, Total in Water	SM 4500-P B.5* (2011) / SM 4500-P F (2021)	Persulfate Digestion / Automated Colorimetry (Ascorbic Acid)	✓	Kelowna
Solids, Total 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 samples received by CARO and analyzed in accordance with the Chain of Custody document. This analytical report must be reproduced in its entirety and must not be modified. CARO is not responsible for losses or damages resulting directly or indirectly from errors or omissions in the conduct of the testing. Any 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. Results in **red** indicate values above the regulatory limits where these have been included. Any Bold and/or highlighted results do not take into account method uncertainty. If you would like method uncertainty or regulatory limits to be included on your report, please contact your Account Manager: {@Email}

APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO	Lake Country, District of (Wastewater)	**WORK ORDER**	25I1129
PROJECT	Raw Influent- PE14651	**REPORTED**	2025-09-16 13:56

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 B5I2613										
Blank (B5I2613-BLK1)				Prepared: 2025-09-09, Analyzed: 2025-09-09						
Nitrate (as N)	< 0.010	0.010	mg/L							
Nitrite (as N)	< 0.010	0.010	mg/L							
Blank (B5I2613-BLK2)				Prepared: 2025-09-10, Analyzed: 2025-09-10						
Nitrate (as N)	< 0.010	0.010	mg/L							
Nitrite (as N)	< 0.010	0.010	mg/L							
LCS (B5I2613-BS1)				Prepared: 2025-09-09, Analyzed: 2025-09-09						
Nitrate (as N)	3.96	0.010	mg/L	4.00		99	90-110			
Nitrite (as N)	1.90	0.010	mg/L	2.00		95	85-115			
LCS (B5I2613-BS2)				Prepared: 2025-09-10, Analyzed: 2025-09-10						
Nitrate (as N)	3.98	0.010	mg/L	4.00		99	90-110			
Nitrite (as N)	1.92	0.010	mg/L	2.00		96	85-115			
General Parameters, Batch B5I2867										
Blank (B5I2867-BLK1)				Prepared: 2025-09-10, Analyzed: 2025-09-10						
Solids, Total Suspended	< 2.0	2.0	mg/L							
Blank (B5I2867-BLK2)				Prepared: 2025-09-10, Analyzed: 2025-09-10						
Solids, Total Suspended	< 2.0	2.0	mg/L							
LCS (B5I2867-BS1)				Prepared: 2025-09-10, Analyzed: 2025-09-10						
Solids, Total Suspended	95.0	5.0	mg/L	100		95	85-115			
LCS (B5I2867-BS2)				Prepared: 2025-09-10, Analyzed: 2025-09-10						
Solids, Total Suspended	86.0	5.0	mg/L	100		86	85-115			
General Parameters, Batch B5I2871										
Blank (B5I2871-BLK1)				Prepared: 2025-09-10, Analyzed: 2025-09-10						
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	Lake Country, District of (Wastewater)	**WORK ORDER**	25I1129
PROJECT	Raw Influent- PE14651	**REPORTED**	2025-09-16 13:56

Analyte	Result	RL	Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
General Parameters, Batch B5I2871, Continued										
Blank (B5I2871-BLK1), Continued				Prepared: 2025-09-10, Analyzed: 2025-09-10						
Alkalinity, Hydroxide (as CaCO3)	< 1.0	1.0	mg/L							
Blank (B5I2871-BLK2)				Prepared: 2025-09-10, Analyzed: 2025-09-10						
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							
General Parameters, Batch B5I2875										
Blank (B5I2875-BLK1)				Prepared: 2025-09-10, Analyzed: 2025-09-10						
Phosphorus, Dissolved Reactive	< 0.0050	0.0050	mg/L							
LCS (B5I2875-BS1)				Prepared: 2025-09-10, Analyzed: 2025-09-10						
Phosphorus, Dissolved Reactive	0.0996	0.0050	mg/L	0.100		100	84-115			
General Parameters, Batch B5I2932										
Blank (B5I2932-BLK1)				Prepared: 2025-09-10, Analyzed: 2025-09-10						
Ammonia, Total (as N)	< 0.050	0.050	mg/L							
Blank (B5I2932-BLK2)				Prepared: 2025-09-10, Analyzed: 2025-09-10						
Ammonia, Total (as N)	< 0.050	0.050	mg/L							
LCS (B5I2932-BS1)				Prepared: 2025-09-10, Analyzed: 2025-09-10						
Ammonia, Total (as N)	1.02	0.050	mg/L	1.00		102	85-115			
LCS (B5I2932-BS2)				Prepared: 2025-09-10, Analyzed: 2025-09-10						
Ammonia, Total (as N)	1.00	0.050	mg/L	1.00		100	85-115			
General Parameters, Batch B5I3062										
Blank (B5I3062-BLK1)				Prepared: 2025-09-11, Analyzed: 2025-09-16						
BOD, 5-day Carbonaceous	< 2.0	2.0	mg/L							
LCS (B5I3062-BS1)				Prepared: 2025-09-11, Analyzed: 2025-09-16						
BOD, 5-day Carbonaceous	183	66.6	mg/L	198		92	85-115			
General Parameters, Batch B5I3063										
Blank (B5I3063-BLK1)				Prepared: 2025-09-11, Analyzed: 2025-09-16						
BOD, 5-day	< 2.0	2.0	mg/L							
LCS (B5I3063-BS1)				Prepared: 2025-09-11, Analyzed: 2025-09-16						
BOD, 5-day	180	66.6	mg/L	198		91	85-115			
General Parameters, Batch B5I3152										
Blank (B5I3152-BLK2)				Prepared: 2025-09-12, Analyzed: 2025-09-12						
Phosphorus, Total (as P)	< 0.0050	0.0050	mg/L							
LCS (B5I3152-BS2)				Prepared: 2025-09-12, Analyzed: 2025-09-12						
Phosphorus, Total (as P)	0.114	0.0050	mg/L	0.100		114	85-115			

APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO	Lake Country, District of (Wastewater)	**WORK ORDER**	25I1129
PROJECT	Raw Influent- PE14651	**REPORTED**	2025-09-16 13:56

Analyte	Result	RL	Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
General Parameters, Batch B5I3222										
Blank (B5I3222-BLK1)				Prepared: 2025-09-12, Analyzed: 2025-09-13						
Nitrogen, Total Kjeldahl	< 0.050	0.050	mg/L							
Blank (B5I3222-BLK2)				Prepared: 2025-09-12, Analyzed: 2025-09-13						
Nitrogen, Total Kjeldahl	< 0.050	0.050	mg/L							
LCS (B5I3222-BS1)				Prepared: 2025-09-12, Analyzed: 2025-09-13						
Nitrogen, Total Kjeldahl	0.969	0.050	mg/L	1.00		97	85-115			
LCS (B5I3222-BS2)				Prepared: 2025-09-12, Analyzed: 2025-09-13						
Nitrogen, Total Kjeldahl	0.970	0.050	mg/L	1.00		97	85-115			

CERTIFICATE OF ANALYSIS

REPORTED TO	Lake Country, District of (Wastewater) 4062 Beaver Lake Rd LAKE COUNTRY, BC V4V 1T5		
ATTENTION	Davin Larsen	**WORK ORDER**	25I1130
PO NUMBER	104395-10-9007	**RECEIVED / TEMP**	2025-09-09 10:58 / 20.1°C
PROJECT	Final Effluent- PE14651	**REPORTED**	2025-09-16 14:06
PROJECT INFO	Lake Country WWTP	**COC NUMBER**	45909.33461

Introduction:

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

Authorized By:

Hanane El Hannaoui
Junior Account Manager

CARO ANALYTICAL SERVICES

TEST RESULTS

REPORTED TO	Lake Country, District of (Wastewater)	**WORK ORDER**	25I1130
PROJECT	Final Effluent- PE14651	**REPORTED**	2025-09-16 14:06

Analyte	Result	RL	Units	Analyzed	Qualifier
Final Effluent (E233626) (25I1130-01) | Matrix: Wastewater | Sampled: 2025-09-09 10:20					FILT, PRES
Anions					
Chloride	**121**	0.10	mg/L	2025-09-10	
Nitrate (as N)	**0.360**	0.010	mg/L	2025-09-10	
Nitrite (as N)	**0.347**	0.010	mg/L	2025-09-10	
Calculated Parameters					
Hardness, Dissolved (as CaCO3)	**196**	0.500	mg/L	N/A	
Nitrate+Nitrite (as N)	**0.707**	0.0100	mg/L	N/A	
Nitrogen, Total	**3.16**	0.0500	mg/L	N/A	
Nitrogen, Organic	**1.43**	0.0500	mg/L	N/A	
Dissolved Metals					
Aluminum, dissolved	**0.0126**	0.0050	mg/L	2025-09-12	
Antimony, dissolved	**0.00034**	0.00020	mg/L	2025-09-12	
Arsenic, dissolved	< 0.00050	0.00050	mg/L	2025-09-12	
Barium, dissolved	**0.0265**	0.0050	mg/L	2025-09-12	
Beryllium, dissolved	< 0.00010	0.00010	mg/L	2025-09-12	
Bismuth, dissolved	< 0.00010	0.00010	mg/L	2025-09-12	
Boron, dissolved	**0.215**	0.0500	mg/L	2025-09-12	
Cadmium, dissolved	< 0.000010	0.000010	mg/L	2025-09-12	
Calcium, dissolved	**51.5**	0.20	mg/L	2025-09-12	
Chromium, dissolved	< 0.00050	0.00050	mg/L	2025-09-12	
Cobalt, dissolved	**0.00035**	0.00010	mg/L	2025-09-12	
Copper, dissolved	**0.00378**	0.00040	mg/L	2025-09-12	
Iron, dissolved	**0.064**	0.010	mg/L	2025-09-12	
Lead, dissolved	< 0.00020	0.00020	mg/L	2025-09-12	
Lithium, dissolved	**0.00820**	0.00010	mg/L	2025-09-12	
Magnesium, dissolved	**16.3**	0.010	mg/L	2025-09-12	
Manganese, dissolved	**0.0672**	0.00020	mg/L	2025-09-12	
Molybdenum, dissolved	**0.00188**	0.00010	mg/L	2025-09-12	
Nickel, dissolved	**0.00234**	0.00040	mg/L	2025-09-12	
Phosphorus, dissolved	**0.236**	0.050	mg/L	2025-09-12	
Potassium, dissolved	**20.3**	0.10	mg/L	2025-09-12	
Selenium, dissolved	< 0.00050	0.00050	mg/L	2025-09-12	
Silicon, dissolved	**6.1**	1.0	mg/L	2025-09-12	
Silver, dissolved	< 0.000050	0.000050	mg/L	2025-09-12	
Sodium, dissolved	**106**	0.10	mg/L	2025-09-12	
Strontium, dissolved	**0.379**	0.0010	mg/L	2025-09-12	
Sulfur, dissolved	**18.6**	3.0	mg/L	2025-09-12	
Tellurium, dissolved	< 0.00050	0.00050	mg/L	2025-09-12	
Thallium, dissolved	< 0.000020	0.000020	mg/L	2025-09-12	
Thorium, dissolved	< 0.00010	0.00010	mg/L	2025-09-12	
Tin, dissolved	**0.00042**	0.00020	mg/L	2025-09-12	
Titanium, dissolved	< 0.0050	0.0050	mg/L	2025-09-12	

CARO ANALYTICAL SERVICES

TEST RESULTS

REPORTED TO	Lake Country, District of (Wastewater)	**WORK ORDER**	25I1130
PROJECT	Final Effluent- PE14651	**REPORTED**	2025-09-16 14:06

Analyte	Result	RL	Units	Analyzed	Qualifier
Final Effluent (E233626) (25I1130-01) | Matrix: Wastewater | Sampled: 2025-09-09 10:20, Continued					FILT, PRES
Dissolved Metals, Continued					
Tungsten, dissolved	< 0.0010	0.0010	mg/L	2025-09-12	
Uranium, dissolved	**0.000878**	0.000020	mg/L	2025-09-12	
Vanadium, dissolved	< 0.0050	0.0050	mg/L	2025-09-12	
Zinc, dissolved	**0.0326**	0.0040	mg/L	2025-09-12	
Zirconium, dissolved	**0.00016**	0.00010	mg/L	2025-09-12	
General Parameters					
Alkalinity, Total (as CaCO3)	**179**	1.0	mg/L	2025-09-11	
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	1.0	mg/L	2025-09-11	
Alkalinity, Bicarbonate (as CaCO3)	**179**	1.0	mg/L	2025-09-11	
Alkalinity, Carbonate (as CaCO3)	< 1.0	1.0	mg/L	2025-09-11	
Alkalinity, Hydroxide (as CaCO3)	< 1.0	1.0	mg/L	2025-09-11	
Ammonia, Total (as N)	**1.02**	0.050	mg/L	2025-09-10	
BOD, 5-day Carbonaceous	< 4.0	8.0	mg/L	2025-09-16	
Carbon, Dissolved Organic	**11.8**	0.50	mg/L	2025-09-10	
Nitrogen, Total Kjeldahl	**2.45**	0.050	mg/L	2025-09-13	
pH	**7.76**	0.10	pH units	2025-09-11	HT2
Phosphorus, Total (as P)	**0.291**	0.0050	mg/L	2025-09-12	
Phosphorus, Dissolved Reactive	**0.128**	0.0050	mg/L	2025-09-10	
Solids, Total Suspended	< 2.0	2.0	mg/L	2025-09-10	
Microbiological Parameters					
Coliforms, Total (Q-Tray)	**242000**	1	MPN/100 mL	2025-09-09	
Coliforms, Fecal (Q-Tray)	**30800**	1	MPN/100 mL	2025-09-09	
Total Metals					
Aluminum, total	**0.0139**	0.0050	mg/L	2025-09-12	
Antimony, total	**0.00032**	0.00020	mg/L	2025-09-12	
Arsenic, total	< 0.00050	0.00050	mg/L	2025-09-12	
Barium, total	**0.0245**	0.0050	mg/L	2025-09-12	
Beryllium, total	< 0.00010	0.00010	mg/L	2025-09-12	
Bismuth, total	< 0.00010	0.00010	mg/L	2025-09-12	
Boron, total	**0.186**	0.0500	mg/L	2025-09-12	
Cadmium, total	< 0.000010	0.000010	mg/L	2025-09-12	
Calcium, total	**48.5**	0.20	mg/L	2025-09-12	
Chromium, total	**0.00056**	0.00050	mg/L	2025-09-12	
Cobalt, total	**0.00033**	0.00010	mg/L	2025-09-12	
Copper, total	**0.00396**	0.00040	mg/L	2025-09-12	
Iron, total	**0.065**	0.010	mg/L	2025-09-12	
Lead, total	< 0.00020	0.00020	mg/L	2025-09-12	
Lithium, total	**0.00700**	0.00010	mg/L	2025-09-12	
Magnesium, total	**15.1**	0.010	mg/L	2025-09-12	
Manganese, total	**0.0637**	0.00020	mg/L	2025-09-12	

TEST RESULTS

REPORTED TO	Lake Country, District of (Wastewater)	**WORK ORDER**	25I1130
PROJECT	Final Effluent- PE14651	**REPORTED**	2025-09-16 14:06

Analyte	Result	RL	Units	Analyzed	Qualifier
Final Effluent (E233626) (25I1130-01) | Matrix: Wastewater | Sampled: 2025-09-09 10:20, Continued					FILT, PRES
Total Metals, Continued					
Molybdenum, total	**0.00215**	0.00010	mg/L	2025-09-12	
Nickel, total	**0.00213**	0.00040	mg/L	2025-09-12	
Phosphorus, total	**0.264**	0.050	mg/L	2025-09-12	
Potassium, total	**18.8**	0.10	mg/L	2025-09-12	
Selenium, total	< 0.00050	0.00050	mg/L	2025-09-12	
Silicon, total	**5.8**	1.0	mg/L	2025-09-12	
Silver, total	< 0.000050	0.000050	mg/L	2025-09-12	
Sodium, total	**97.5**	0.10	mg/L	2025-09-12	
Strontium, total	**0.354**	0.0010	mg/L	2025-09-12	
Sulfur, total	**18.6**	3.0	mg/L	2025-09-12	
Tellurium, total	< 0.00050	0.00050	mg/L	2025-09-12	
Thallium, total	< 0.000020	0.000020	mg/L	2025-09-12	
Thorium, total	< 0.00010	0.00010	mg/L	2025-09-12	
Tin, total	**0.00047**	0.00020	mg/L	2025-09-12	
Titanium, total	< 0.0050	0.0050	mg/L	2025-09-12	
Tungsten, total	< 0.0010	0.0010	mg/L	2025-09-12	
Uranium, total	**0.000913**	0.000020	mg/L	2025-09-12	
Vanadium, total	< 0.0050	0.0050	mg/L	2025-09-12	
Zinc, total	**0.0299**	0.0040	mg/L	2025-09-12	
Zirconium, total	**0.00016**	0.00010	mg/L	2025-09-12	
Duplicate (25I1130-02) | Matrix: Wastewater | Sampled: 2025-09-09 10:25					
Anions					
Chloride	**118**	0.10	mg/L	2025-09-10	
Nitrate (as N)	**0.358**	0.010	mg/L	2025-09-10	
Nitrite (as N)	**0.388**	0.010	mg/L	2025-09-10	
Calculated Parameters					
Nitrate+Nitrite (as N)	**0.747**	0.0100	mg/L	N/A	
Nitrogen, Total	**2.90**	0.0500	mg/L	N/A	
Nitrogen, Organic	**1.07**	0.0500	mg/L	N/A	
General Parameters					
Alkalinity, Total (as CaCO3)	**180**	1.0	mg/L	2025-09-10	
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	1.0	mg/L	2025-09-10	
Alkalinity, Bicarbonate (as CaCO3)	**180**	1.0	mg/L	2025-09-10	
Alkalinity, Carbonate (as CaCO3)	< 1.0	1.0	mg/L	2025-09-10	
Alkalinity, Hydroxide (as CaCO3)	< 1.0	1.0	mg/L	2025-09-10	
Ammonia, Total (as N)	**1.08**	0.050	mg/L	2025-09-11	
BOD, 5-day Carbonaceous	< 4.0	8.0	mg/L	2025-09-16	
Nitrogen, Total Kjeldahl	**2.15**	0.050	mg/L	2025-09-13	
pH	**7.68**	0.10	pH units	2025-09-10	HT2

TEST RESULTS

REPORTED TO	Lake Country, District of (Wastewater)	**WORK ORDER**	25I1130
PROJECT	Final Effluent- PE14651	**REPORTED**	2025-09-16 14:06

Analyte	Result	RL	Units	Analyzed	Qualifier
Duplicate (25I1130-02) | Matrix: Wastewater | Sampled: 2025-09-09 10:25, Continued					
General Parameters, Continued					
Phosphorus, Total (as P)	**0.280**	0.0050	mg/L	2025-09-12	
Phosphorus, Dissolved Reactive	**0.130**	0.0050	mg/L	2025-09-10	
Solids, Total Suspended	< 2.0	2.0	mg/L	2025-09-10	
Microbiological Parameters					
Coliforms, Total (Q-Tray)	**> 242000**	1	MPN/100 mL	2025-09-09	
Coliforms, Fecal (Q-Tray)	**27600**	1	MPN/100 mL	2025-09-09	

Sample Qualifiers:

FILT	The sample has been filtered for DOC in the laboratory. Results may not reflect conditions at the time of sampling.
HT2	The 15 minute recommended holding time (from sampling to analysis) has been exceeded - field analysis is recommended.
PRES	Sample has been preserved for DOC in the laboratory and the holding time has been extended.

APPENDIX 1: SUPPORTING INFORMATION

REPORTED TO	Lake Country, District of (Wastewater)	**WORK ORDER**	25I1130
PROJECT	Final Effluent- PE14651	**REPORTED**	2025-09-16 14:06

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
Carbon, Dissolved Organic in Water	SM 5310 B (2022)	Combustion, Infrared CO2 Detection	✓	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
Dissolved Metals in Water	EPA 200.8 / EPA 6020B	0.45 µm Filtration / Inductively Coupled Plasma-Mass Spectroscopy (ICP-MS)	✓	Richmond
Hardness in Water	SM 2340 B (2021)	Calculation: 2.497 [diss Ca] + 4.118 [diss Mg]	✓	N/A
Hardness in Water	SM 2340 B* (2021)	Calculation: 2.497 [total Ca] + 4.118 [total Mg] (Est)	✓	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, Dissolved Reactive in Water	SM 4500-P F (2021)	Automated Colorimetry (Ascorbic Acid)	✓	Kelowna
Phosphorus, Total in Water	SM 4500-P B.5* (2011) / SM 4500-P F (2021)	Persulfate Digestion / Automated Colorimetry (Ascorbic Acid)	✓	Kelowna
Solids, Total Suspended in Water	Solids in Water, Filtered / SM 2540 D* (2020)	Solids in Water, Filtered / Gravimetry (Dried at 103-105C)	✓	Kelowna
Total Metals in Water	EPA 200.2 / EPA 6020B	HNO3+HCl Hot Block Digestion / Inductively Coupled Plasma-Mass Spectroscopy (ICP-MS)	✓	Richmond

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

Glossary of Terms:

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

APPENDIX 1: SUPPORTING INFORMATION

REPORTED TO	Lake Country, District of (Wastewater)	**WORK ORDER**	25I1130
PROJECT	Final Effluent- PE14651	**REPORTED**	2025-09-16 14:06

General Comments:

The results in this report apply to samples received by CARO and analyzed in accordance with the Chain of Custody document. This analytical report must be reproduced in its entirety and must not be modified. CARO is not responsible for losses or damages resulting directly or indirectly from errors or omissions in the conduct of the testing. Any 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. Results in **red** indicate values above the regulatory limits where these have been included. Any Bold and/or highlighted results do not take into account method uncertainty. If you would like method uncertainty or regulatory limits to be included on your report, please contact your Account Manager: {@Email}

APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO	Lake Country, District of (Wastewater)	**WORK ORDER**	25I1130
PROJECT	Final Effluent- PE14651	**REPORTED**	2025-09-16 14:06

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
Anions, Batch B5I2613										
Blank (B5I2613-BLK1)				Prepared: 2025-09-09, Analyzed: 2025-09-09						
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							
Blank (B5I2613-BLK2)				Prepared: 2025-09-10, Analyzed: 2025-09-10						
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							
LCS (B5I2613-BS1)				Prepared: 2025-09-09, Analyzed: 2025-09-09						
Chloride	15.5	0.10	mg/L	16.0		97	90-110			
Nitrate (as N)	3.96	0.010	mg/L	4.00		99	90-110			
Nitrite (as N)	1.90	0.010	mg/L	2.00		95	85-115			
LCS (B5I2613-BS2)				Prepared: 2025-09-10, Analyzed: 2025-09-10						
Chloride	15.9	0.10	mg/L	16.0		99	90-110			
Nitrate (as N)	3.98	0.010	mg/L	4.00		99	90-110			
Nitrite (as N)	1.92	0.010	mg/L	2.00		96	85-115			
Dissolved Metals, Batch B5I3233										
Blank (B5I3233-BLK1)				Prepared: 2025-09-12, Analyzed: 2025-09-12						
Aluminum, dissolved	< 0.0050	0.0050	mg/L							
Antimony, dissolved	< 0.00020	0.00020	mg/L							
Arsenic, dissolved	< 0.00050	0.00050	mg/L							
Barium, dissolved	< 0.0050	0.0050	mg/L							
Beryllium, dissolved	< 0.00010	0.00010	mg/L							
Bismuth, dissolved	< 0.00010	0.00010	mg/L							
Boron, dissolved	< 0.0500	0.0500	mg/L							
Cadmium, dissolved	< 0.000010	0.000010	mg/L							
Calcium, dissolved	< 0.20	0.20	mg/L							
Chromium, dissolved	< 0.00050	0.00050	mg/L							
Cobalt, dissolved	< 0.00010	0.00010	mg/L							
Copper, dissolved	< 0.00040	0.00040	mg/L							
Iron, dissolved	< 0.010	0.010	mg/L							
Lead, dissolved	< 0.00020	0.00020	mg/L							

APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO	Lake Country, District of (Wastewater)	**WORK ORDER**	25I1130
PROJECT	Final Effluent- PE14651	**REPORTED**	2025-09-16 14:06

Analyte	Result	RL	Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Dissolved Metals, Batch B5I3233, Continued										
Blank (B5I3233-BLK1), Continued				Prepared: 2025-09-12, Analyzed: 2025-09-12						
Lithium, dissolved	< 0.00010	0.00010	mg/L							
Magnesium, dissolved	< 0.010	0.010	mg/L							
Manganese, dissolved	< 0.00020	0.00020	mg/L							
Molybdenum, dissolved	< 0.00010	0.00010	mg/L							
Nickel, dissolved	< 0.00040	0.00040	mg/L							
Phosphorus, dissolved	< 0.050	0.050	mg/L							
Potassium, dissolved	< 0.10	0.10	mg/L							
Selenium, dissolved	< 0.00050	0.00050	mg/L							
Silicon, dissolved	< 1.0	1.0	mg/L							
Silver, dissolved	< 0.000050	0.000050	mg/L							
Sodium, dissolved	< 0.10	0.10	mg/L							
Strontium, dissolved	< 0.0010	0.0010	mg/L							
Sulfur, dissolved	< 3.0	3.0	mg/L							
Tellurium, dissolved	< 0.00050	0.00050	mg/L							
Thallium, dissolved	< 0.000020	0.000020	mg/L							
Thorium, dissolved	< 0.00010	0.00010	mg/L							
Tin, dissolved	< 0.00020	0.00020	mg/L							
Titanium, dissolved	< 0.0050	0.0050	mg/L							
Tungsten, dissolved	< 0.0010	0.0010	mg/L							
Uranium, dissolved	< 0.000020	0.000020	mg/L							
Vanadium, dissolved	< 0.0050	0.0050	mg/L							
Zinc, dissolved	< 0.0040	0.0040	mg/L							
Zirconium, dissolved	< 0.00010	0.00010	mg/L							
LCS (B5I3233-BS1)				Prepared: 2025-09-13, Analyzed: 2025-09-14						
Aluminum, dissolved	3.99	0.0050	mg/L	4.00		100	80-120			
Antimony, dissolved	0.0398	0.00020	mg/L	0.0400		100	80-120			
Arsenic, dissolved	0.401	0.00050	mg/L	0.400		100	80-120			
Barium, dissolved	0.0388	0.0050	mg/L	0.0400		97	80-120			
Beryllium, dissolved	0.0397	0.00010	mg/L	0.0400		99	80-120			
Bismuth, dissolved	0.0413	0.00010	mg/L	0.0400		103	80-120			
Boron, dissolved	0.398	0.0500	mg/L	0.400		99	80-120			
Cadmium, dissolved	0.0401	0.000010	mg/L	0.0400		100	80-120			
Calcium, dissolved	3.93	0.20	mg/L	4.00		98	80-120			
Chromium, dissolved	0.0396	0.00050	mg/L	0.0400		99	80-120			
Cobalt, dissolved	0.0398	0.00010	mg/L	0.0400		99	80-120			
Copper, dissolved	0.0397	0.00040	mg/L	0.0400		99	80-120			
Iron, dissolved	3.93	0.010	mg/L	4.00		98	80-120			
Lead, dissolved	0.0405	0.00020	mg/L	0.0400		101	80-120			
Lithium, dissolved	0.0402	0.00010	mg/L	0.0400		100	80-120			
Magnesium, dissolved	3.99	0.010	mg/L	4.00		100	80-120			
Manganese, dissolved	0.0396	0.00020	mg/L	0.0400		99	80-120			
Molybdenum, dissolved	0.0403	0.00010	mg/L	0.0400		101	80-120			
Nickel, dissolved	0.0393	0.00040	mg/L	0.0400		98	80-120			
Phosphorus, dissolved	4.06	0.050	mg/L	4.00		102	80-120			
Potassium, dissolved	3.98	0.10	mg/L	4.00		99	80-120			
Selenium, dissolved	0.391	0.00050	mg/L	0.400		98	80-120			
Silicon, dissolved	4.0	1.0	mg/L	4.00		100	80-120			
Silver, dissolved	0.0400	0.000050	mg/L	0.0400		100	80-120			
Sodium, dissolved	3.99	0.10	mg/L	4.00		100	80-120			
Strontium, dissolved	0.0401	0.0010	mg/L	0.0400		100	80-120			
Sulfur, dissolved	39.1	3.0	mg/L	40.0		98	80-120			
Tellurium, dissolved	0.0405	0.00050	mg/L	0.0400		101	80-120			
Thallium, dissolved	0.0409	0.000020	mg/L	0.0400		102	80-120			
Thorium, dissolved	0.0407	0.00010	mg/L	0.0400		102	80-120			
Tin, dissolved	0.0402	0.00020	mg/L	0.0400		100	80-120			

APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO	Lake Country, District of (Wastewater)	**WORK ORDER**	25I1130
PROJECT	Final Effluent- PE14651	**REPORTED**	2025-09-16 14:06

Analyte	Result	RL	Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Dissolved Metals, Batch B5I3233, Continued										
LCS (B5I3233-BS1), Continued				Prepared: 2025-09-13, Analyzed: 2025-09-14						
Titanium, dissolved	0.0390	0.0050	mg/L	0.0400		98	80-120			
Tungsten, dissolved	0.0404	0.0010	mg/L	0.0400		101	80-120			
Uranium, dissolved	0.0404	0.000020	mg/L	0.0400		101	80-120			
Vanadium, dissolved	0.0400	0.0050	mg/L	0.0400		100	80-120			
Zinc, dissolved	0.403	0.0040	mg/L	0.400		101	80-120			
Zirconium, dissolved	0.0383	0.00010	mg/L	0.0400		96	80-120			
General Parameters, Batch B5I2743										
Blank (B5I2743-BLK1)				Prepared: 2025-09-09, Analyzed: 2025-09-10						
Carbon, Dissolved Organic	< 0.50	0.50	mg/L							
Blank (B5I2743-BLK2)				Prepared: 2025-09-10, Analyzed: 2025-09-10						
Carbon, Dissolved Organic	< 0.50	0.50	mg/L							
Blank (B5I2743-BLK3)				Prepared: 2025-09-10, Analyzed: 2025-09-10						
Carbon, Dissolved Organic	< 0.50	0.50	mg/L							
Blank (B5I2743-BLK4)				Prepared: 2025-09-10, Analyzed: 2025-09-10						
Carbon, Dissolved Organic	< 0.50	0.50	mg/L							
LCS (B5I2743-BS1)				Prepared: 2025-09-09, Analyzed: 2025-09-10						
Carbon, Dissolved Organic	10.5	0.50	mg/L	10.0		105	78-116			
LCS (B5I2743-BS2)				Prepared: 2025-09-10, Analyzed: 2025-09-10						
Carbon, Dissolved Organic	10.2	0.50	mg/L	10.0		102	78-116			
LCS (B5I2743-BS3)				Prepared: 2025-09-10, Analyzed: 2025-09-10						
Carbon, Dissolved Organic	10.4	0.50	mg/L	10.0		104	78-116			
LCS (B5I2743-BS4)				Prepared: 2025-09-10, Analyzed: 2025-09-10						
Carbon, Dissolved Organic	10.3	0.50	mg/L	10.0		103	78-116			
General Parameters, Batch B5I2867										
Blank (B5I2867-BLK1)				Prepared: 2025-09-10, Analyzed: 2025-09-10						
Solids, Total Suspended	< 2.0	2.0	mg/L							
Blank (B5I2867-BLK2)				Prepared: 2025-09-10, Analyzed: 2025-09-10						
Solids, Total Suspended	< 2.0	2.0	mg/L							
LCS (B5I2867-BS1)				Prepared: 2025-09-10, Analyzed: 2025-09-10						
Solids, Total Suspended	95.0	5.0	mg/L	100		95	85-115			
LCS (B5I2867-BS2)				Prepared: 2025-09-10, Analyzed: 2025-09-10						
Solids, Total Suspended	86.0	5.0	mg/L	100		86	85-115			
General Parameters, Batch B5I2871										
Blank (B5I2871-BLK1)				Prepared: 2025-09-10, Analyzed: 2025-09-10						
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	Lake Country, District of (Wastewater)	**WORK ORDER**	25I1130
PROJECT	Final Effluent- PE14651	**REPORTED**	2025-09-16 14:06

Analyte	Result	RL	Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
General Parameters, Batch B5I2871, Continued										
Blank (B5I2871-BLK2)				Prepared: 2025-09-10, Analyzed: 2025-09-10						
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							
General Parameters, Batch B5I2875										
Blank (B5I2875-BLK1)				Prepared: 2025-09-10, Analyzed: 2025-09-10						
Phosphorus, Dissolved Reactive	< 0.0050	0.0050	mg/L							
LCS (B5I2875-BS1)				Prepared: 2025-09-10, Analyzed: 2025-09-10						
Phosphorus, Dissolved Reactive	0.0996	0.0050	mg/L	0.100		100	84-115			
General Parameters, Batch B5I2932										
Blank (B5I2932-BLK1)				Prepared: 2025-09-10, Analyzed: 2025-09-10						
Ammonia, Total (as N)	< 0.050	0.050	mg/L							
Blank (B5I2932-BLK2)				Prepared: 2025-09-10, Analyzed: 2025-09-10						
Ammonia, Total (as N)	< 0.050	0.050	mg/L							
LCS (B5I2932-BS1)				Prepared: 2025-09-10, Analyzed: 2025-09-10						
Ammonia, Total (as N)	1.02	0.050	mg/L	1.00		102	85-115			
LCS (B5I2932-BS2)				Prepared: 2025-09-10, Analyzed: 2025-09-10						
Ammonia, Total (as N)	1.00	0.050	mg/L	1.00		100	85-115			
Duplicate (B5I2932-DUP2)		**Source: 25I1130-01**		Prepared: 2025-09-10, Analyzed: 2025-09-10						
Ammonia, Total (as N)	1.03	0.050	mg/L		1.02			< 1	15	
Matrix Spike (B5I2932-MS2)		**Source: 25I1130-01**		Prepared: 2025-09-10, Analyzed: 2025-09-10						
Ammonia, Total (as N)	1.23	0.050	mg/L	0.204	1.02	103	75-125			
General Parameters, Batch B5I3017										
Blank (B5I3017-BLK1)				Prepared: 2025-09-11, Analyzed: 2025-09-11						
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 (B5I3017-BLK2)				Prepared: 2025-09-11, Analyzed: 2025-09-11						
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							
General Parameters, Batch B5I3062										
Blank (B5I3062-BLK1)				Prepared: 2025-09-11, Analyzed: 2025-09-16						
BOD, 5-day Carbonaceous	< 2.0	2.0	mg/L							

APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO	Lake Country, District of (Wastewater)	**WORK ORDER**	25I1130
PROJECT	Final Effluent- PE14651	**REPORTED**	2025-09-16 14:06

Analyte	Result	RL	Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
General Parameters, Batch B5I3062, Continued										
LCS (B5I3062-BS1)				Prepared: 2025-09-11, Analyzed: 2025-09-16						
BOD, 5-day Carbonaceous	183	66.6	mg/L	198		92	85-115			
General Parameters, Batch B5I3080										
Blank (B5I3080-BLK1)				Prepared: 2025-09-11, Analyzed: 2025-09-11						
Ammonia, Total (as N)	< 0.050	0.050	mg/L							
Blank (B5I3080-BLK2)				Prepared: 2025-09-11, Analyzed: 2025-09-11						
Ammonia, Total (as N)	< 0.050	0.050	mg/L							
LCS (B5I3080-BS1)				Prepared: 2025-09-11, Analyzed: 2025-09-11						
Ammonia, Total (as N)	1.01	0.050	mg/L	1.00		101	85-115			
LCS (B5I3080-BS2)				Prepared: 2025-09-11, Analyzed: 2025-09-11						
Ammonia, Total (as N)	1.04	0.050	mg/L	1.00		104	85-115			
Duplicate (B5I3080-DUP1)		**Source: 25I1130-02**		Prepared: 2025-09-11, Analyzed: 2025-09-11						
Ammonia, Total (as N)	1.08	0.050	mg/L		1.08			< 1	15	
Matrix Spike (B5I3080-MS1)		**Source: 25I1130-02**		Prepared: 2025-09-11, Analyzed: 2025-09-11						
Ammonia, Total (as N)	1.33	0.050	mg/L	0.204	1.08	122	75-125			
General Parameters, Batch B5I3152										
Blank (B5I3152-BLK2)				Prepared: 2025-09-12, Analyzed: 2025-09-12						
Phosphorus, Total (as P)	< 0.0050	0.0050	mg/L							
LCS (B5I3152-BS2)				Prepared: 2025-09-12, Analyzed: 2025-09-12						
Phosphorus, Total (as P)	0.114	0.0050	mg/L	0.100		114	85-115			
General Parameters, Batch B5I3222										
Blank (B5I3222-BLK1)				Prepared: 2025-09-12, Analyzed: 2025-09-13						
Nitrogen, Total Kjeldahl	< 0.050	0.050	mg/L							
Blank (B5I3222-BLK2)				Prepared: 2025-09-12, Analyzed: 2025-09-13						
Nitrogen, Total Kjeldahl	< 0.050	0.050	mg/L							
LCS (B5I3222-BS1)				Prepared: 2025-09-12, Analyzed: 2025-09-13						
Nitrogen, Total Kjeldahl	0.969	0.050	mg/L	1.00		97	85-115			
LCS (B5I3222-BS2)				Prepared: 2025-09-12, Analyzed: 2025-09-13						
Nitrogen, Total Kjeldahl	0.970	0.050	mg/L	1.00		97	85-115			
Microbiological Parameters, Batch B5I2718										
Blank (B5I2718-BLK1)				Prepared: 2025-09-09, Analyzed: 2025-09-09						
Coliforms, Total (Q-Tray)	< 1	1	MPN/100 mL							
Blank (B5I2718-BLK2)				Prepared: 2025-09-09, Analyzed: 2025-09-09						
Coliforms, Fecal (Q-Tray)	< 1	1	MPN/100 mL							
Blank (B5I2718-BLK3)				Prepared: 2025-09-09, Analyzed: 2025-09-09						
Coliforms, Total (Q-Tray)	< 1	1	MPN/100 mL							

APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO	Lake Country, District of (Wastewater)	**WORK ORDER**	25I1130
PROJECT	Final Effluent- PE14651	**REPORTED**	2025-09-16 14:06

Analyte	Result	RL	Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Total Metals, Batch B5I3099										
Blank (B5I3099-BLK1)				Prepared: 2025-09-11, Analyzed: 2025-09-11						
Aluminum, total	< 0.0050	0.0050	mg/L							
Antimony, total	< 0.00020	0.00020	mg/L							
Arsenic, total	< 0.00050	0.00050	mg/L							
Barium, total	< 0.0050	0.0050	mg/L							
Beryllium, total	< 0.00010	0.00010	mg/L							
Bismuth, total	< 0.00010	0.00010	mg/L							
Boron, total	< 0.0500	0.0500	mg/L							
Cadmium, total	< 0.000010	0.000010	mg/L							
Calcium, total	< 0.20	0.20	mg/L							
Chromium, total	< 0.00050	0.00050	mg/L							
Cobalt, total	< 0.00010	0.00010	mg/L							
Copper, total	< 0.00040	0.00040	mg/L							
Iron, total	< 0.010	0.010	mg/L							
Lead, total	< 0.00020	0.00020	mg/L							
Lithium, total	< 0.00010	0.00010	mg/L							
Magnesium, total	< 0.010	0.010	mg/L							
Manganese, total	< 0.00020	0.00020	mg/L							
Molybdenum, total	< 0.00010	0.00010	mg/L							
Nickel, total	< 0.00040	0.00040	mg/L							
Phosphorus, total	< 0.050	0.050	mg/L							
Potassium, total	< 0.10	0.10	mg/L							
Selenium, total	< 0.00050	0.00050	mg/L							
Silicon, total	< 1.0	1.0	mg/L							
Silver, total	< 0.000050	0.000050	mg/L							
Sodium, total	< 0.10	0.10	mg/L							
Strontium, total	< 0.0010	0.0010	mg/L							
Sulfur, total	< 3.0	3.0	mg/L							
Tellurium, total	< 0.00050	0.00050	mg/L							
Thallium, total	< 0.000020	0.000020	mg/L							
Thorium, total	< 0.00010	0.00010	mg/L							
Tin, total	< 0.00020	0.00020	mg/L							
Titanium, total	< 0.0050	0.0050	mg/L							
Tungsten, total	< 0.0010	0.0010	mg/L							
Uranium, total	< 0.000020	0.000020	mg/L							
Vanadium, total	< 0.0050	0.0050	mg/L							
Zinc, total	< 0.0040	0.0040	mg/L							
Zirconium, total	< 0.00010	0.00010	mg/L							
LCS (B5I3099-BS1)				Prepared: 2025-09-11, Analyzed: 2025-09-12						
Aluminum, total	3.92	0.0050	mg/L	4.00		98	80-120			
Antimony, total	0.0394	0.00020	mg/L	0.0400		99	80-120			
Arsenic, total	0.386	0.00050	mg/L	0.400		96	80-120			
Barium, total	0.0401	0.0050	mg/L	0.0400		100	80-120			
Beryllium, total	0.0389	0.00010	mg/L	0.0400		97	80-120			
Bismuth, total	0.0391	0.00010	mg/L	0.0400		98	80-120			
Boron, total	0.389	0.0500	mg/L	0.400		97	80-120			
Cadmium, total	0.0393	0.000010	mg/L	0.0400		98	80-120			
Calcium, total	3.90	0.20	mg/L	4.00		98	80-120			
Chromium, total	0.0388	0.00050	mg/L	0.0400		97	80-120			
Cobalt, total	0.0392	0.00010	mg/L	0.0400		98	80-120			
Copper, total	0.0386	0.00040	mg/L	0.0400		96	80-120			
Iron, total	3.93	0.010	mg/L	4.00		98	80-120			
Lead, total	0.0392	0.00020	mg/L	0.0400		98	80-120			
Lithium, total	0.0394	0.00010	mg/L	0.0400		98	80-120			
Magnesium, total	3.97	0.010	mg/L	4.00		99	80-120			
Manganese, total	0.0397	0.00020	mg/L	0.0400		99	80-120			

APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO	Lake Country, District of (Wastewater)	**WORK ORDER**	25I1130
PROJECT	Final Effluent- PE14651	**REPORTED**	2025-09-16 14:06

Analyte	Result	RL	Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Total Metals, Batch B5I3099, Continued										
LCS (B5I3099-BS1), Continued				Prepared: 2025-09-11, Analyzed: 2025-09-12						
Molybdenum, total	0.0397	0.00010	mg/L	0.0400		99	80-120			
Nickel, total	0.0392	0.00040	mg/L	0.0400		98	80-120			
Phosphorus, total	3.86	0.050	mg/L	4.00		97	80-120			
Potassium, total	3.93	0.10	mg/L	4.00		98	80-120			
Selenium, total	0.383	0.00050	mg/L	0.400		96	80-120			
Silicon, total	3.9	1.0	mg/L	4.00		97	80-120			
Silver, total	0.0392	0.000050	mg/L	0.0400		98	80-120			
Sodium, total	3.95	0.10	mg/L	4.00		99	80-120			
Strontium, total	0.0396	0.0010	mg/L	0.0400		99	80-120			
Sulfur, total	39.0	3.0	mg/L	40.0		97	80-120			
Tellurium, total	0.0378	0.00050	mg/L	0.0400		94	80-120			
Thallium, total	0.0399	0.000020	mg/L	0.0400		100	80-120			
Thorium, total	0.0395	0.00010	mg/L	0.0400		99	80-120			
Tin, total	0.0400	0.00020	mg/L	0.0400		100	80-120			
Titanium, total	0.0402	0.0050	mg/L	0.0400		100	80-120			
Tungsten, total	0.0385	0.0010	mg/L	0.0400		96	80-120			
Uranium, total	0.0396	0.000020	mg/L	0.0400		99	80-120			
Vanadium, total	0.0389	0.0050	mg/L	0.0400		97	80-120			
Zinc, total	0.383	0.0040	mg/L	0.400		96	80-120			
Zirconium, total	0.0391	0.00010	mg/L	0.0400		98	80-120			

CERTIFICATE OF ANALYSIS

REPORTED TO	Lake Country, District of (Wastewater) 4062 Beaver Lake Rd LAKE COUNTRY, BC V4V 1T5		
ATTENTION	Davin Larsen	**WORK ORDER**	25J0539
PO NUMBER		**RECEIVED / TEMP**	2025-10-03 11:15 / 18.2°C
PROJECT	Raw Influent- PE14651	**REPORTED**	2025-10-10 08:11
PROJECT INFO	Lake Country WWTP	**COC NUMBER**	45933.40892

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 hhannaoui@caro.ca

Authorized By:

Hanane El Hannaoui
Junior Account Manager

TEST RESULTS

REPORTED TO	Lake Country, District of (Wastewater)	**WORK ORDER**	25J0539
PROJECT	Raw Influent- PE14651	**REPORTED**	2025-10-10 08:11

Analyte	Result	RL	Units	Analyzed	Qualifier
Raw Influent (E233627) (25J0539-01) | Matrix: Wastewater | Sampled: 2025-10-03 10:00					
Anions					
Nitrate (as N)	< 0.010	0.010	mg/L	2025-10-04	
Nitrite (as N)	< 0.010	0.010	mg/L	2025-10-04	
Calculated Parameters					
Nitrate+Nitrite (as N)	< 0.0100	0.0100	mg/L	N/A	
Nitrogen, Total	**108**	2.00	mg/L	N/A	
General Parameters					
Alkalinity, Total (as CaCO3)	**410**	1.0	mg/L	2025-10-06	
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	1.0	mg/L	2025-10-06	
Alkalinity, Bicarbonate (as CaCO3)	**410**	1.0	mg/L	2025-10-06	
Alkalinity, Carbonate (as CaCO3)	< 1.0	1.0	mg/L	2025-10-06	
Alkalinity, Hydroxide (as CaCO3)	< 1.0	1.0	mg/L	2025-10-06	
Ammonia, Total (as N)	**69.3**	0.050	mg/L	2025-10-09	
BOD, 5-day	**599**	8.0	mg/L	2025-10-09	
BOD, 5-day Carbonaceous	**591**	8.0	mg/L	2025-10-09	
Nitrogen, Total Kjeldahl	**108**	0.050	mg/L	2025-10-08	
pH	**8.01**	0.10	pH units	2025-10-06	HT2
Phosphorus, Total (as P)	**11.0**	0.0050	mg/L	2025-10-07	
Phosphorus, Dissolved Reactive	**5.63**	0.0050	mg/L	2025-10-04	
Solids, Total Suspended	**360**	1.8	mg/L	2025-10-09	

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	Lake Country, District of (Wastewater)	**WORK ORDER**	25J0539
PROJECT	Raw Influent- PE14651	**REPORTED**	2025-10-10 08:11

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, Dissolved Reactive in Water	SM 4500-P F (2021)	Automated Colorimetry (Ascorbic Acid)	✓	Kelowna
Phosphorus, Total in Water	SM 4500-P B.5* (2011) / SM 4500-P F (2021)	Persulfate Digestion / Automated Colorimetry (Ascorbic Acid)	✓	Kelowna
Solids, Total 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 samples received by CARO and analyzed in accordance with the Chain of Custody document. This analytical report must be reproduced in its entirety and must not be modified. CARO is not responsible for losses or damages resulting directly or indirectly from errors or omissions in the conduct of the testing. Any 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. Results in **red** indicate values above the regulatory limits where these have been included. Any Bold and/or highlighted results do not take into account method uncertainty. If you would like method uncertainty or regulatory limits to be included on your report, please contact your Account Manager: {@Email}

APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO	Lake Country, District of (Wastewater)	**WORK ORDER**	25J0539
PROJECT	Raw Influent- PE14651	**REPORTED**	2025-10-10 08:11

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).
- **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 B5J2275										
Blank (B5J2275-BLK1)				Prepared: 2025-10-04, Analyzed: 2025-10-04						
Nitrate (as N)	< 0.010	0.010	mg/L							
Nitrite (as N)	< 0.010	0.010	mg/L							
Blank (B5J2275-BLK2)				Prepared: 2025-10-04, Analyzed: 2025-10-04						
Nitrate (as N)	< 0.010	0.010	mg/L							
Nitrite (as N)	< 0.010	0.010	mg/L							
LCS (B5J2275-BS1)				Prepared: 2025-10-04, Analyzed: 2025-10-04						
Nitrate (as N)	4.05	0.010	mg/L	4.00		101	90-110			
Nitrite (as N)	2.18	0.010	mg/L	2.00		109	85-115			
LCS (B5J2275-BS2)				Prepared: 2025-10-04, Analyzed: 2025-10-04						
Nitrate (as N)	4.08	0.010	mg/L	4.00		102	90-110			
Nitrite (as N)	2.16	0.010	mg/L	2.00		108	85-115			
General Parameters, Batch B5J2331										
Blank (B5J2331-BLK1)				Prepared: 2025-10-04, Analyzed: 2025-10-09						
BOD, 5-day Carbonaceous	< 2.0	2.0	mg/L							
LCS (B5J2331-BS1)				Prepared: 2025-10-04, Analyzed: 2025-10-09						
BOD, 5-day Carbonaceous	177	66.6	mg/L	198		90	85-115			
General Parameters, Batch B5J2332										
Blank (B5J2332-BLK1)				Prepared: 2025-10-04, Analyzed: 2025-10-09						
BOD, 5-day	< 2.0	2.0	mg/L							
LCS (B5J2332-BS1)				Prepared: 2025-10-04, Analyzed: 2025-10-09						
BOD, 5-day	198	66.6	mg/L	198		100	85-115			
General Parameters, Batch B5J2371										
Blank (B5J2371-BLK1)				Prepared: 2025-10-04, Analyzed: 2025-10-04						
Phosphorus, Dissolved Reactive	< 0.0050	0.0050	mg/L							

APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO	Lake Country, District of (Wastewater)	**WORK ORDER**	25J0539
PROJECT	Raw Influent- PE14651	**REPORTED**	2025-10-10 08:11

Analyte	Result	RL	Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
General Parameters, Batch B5J2371, Continued										
Blank (B5J2371-BLK2)				Prepared: 2025-10-04, Analyzed: 2025-10-04						
Phosphorus, Dissolved Reactive	< 0.0050	0.0050	mg/L							
LCS (B5J2371-BS1)				Prepared: 2025-10-04, Analyzed: 2025-10-04						
Phosphorus, Dissolved Reactive	0.0945	0.0050	mg/L	0.100		94	84-115			
LCS (B5J2371-BS2)				Prepared: 2025-10-04, Analyzed: 2025-10-04						
Phosphorus, Dissolved Reactive	0.0927	0.0050	mg/L	0.100		93	84-115			
General Parameters, Batch B5J2460										
Blank (B5J2460-BLK1)				Prepared: 2025-10-06, Analyzed: 2025-10-06						
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 (B5J2460-BS1)				Prepared: 2025-10-06, Analyzed: 2025-10-06						
Alkalinity, Total (as CaCO3)	90.6	1.0	mg/L	100		91	80-120			
Reference (B5J2460-SRM1)				Prepared: 2025-10-06, Analyzed: 2025-10-06						
pH	7.00	0.10	pH units	7.01		100	98-102			
General Parameters, Batch B5J2523										
Blank (B5J2523-BLK1)				Prepared: 2025-10-07, Analyzed: 2025-10-07						
Phosphorus, Total (as P)	< 0.0050	0.0050	mg/L							
Blank (B5J2523-BLK2)				Prepared: 2025-10-07, Analyzed: 2025-10-07						
Phosphorus, Total (as P)	< 0.0050	0.0050	mg/L							
LCS (B5J2523-BS1)				Prepared: 2025-10-07, Analyzed: 2025-10-07						
Phosphorus, Total (as P)	0.113	0.0050	mg/L	0.100		113	85-115			
LCS (B5J2523-BS2)				Prepared: 2025-10-07, Analyzed: 2025-10-07						
Phosphorus, Total (as P)	0.113	0.0050	mg/L	0.100		113	85-115			
General Parameters, Batch B5J2637										
Blank (B5J2637-BLK1)				Prepared: 2025-10-07, Analyzed: 2025-10-08						
Nitrogen, Total Kjeldahl	< 0.050	0.050	mg/L							
Blank (B5J2637-BLK2)				Prepared: 2025-10-07, Analyzed: 2025-10-08						
Nitrogen, Total Kjeldahl	< 0.050	0.050	mg/L							
LCS (B5J2637-BS1)				Prepared: 2025-10-07, Analyzed: 2025-10-08						
Nitrogen, Total Kjeldahl	0.981	0.050	mg/L	1.00		98	85-115			
LCS (B5J2637-BS2)				Prepared: 2025-10-07, Analyzed: 2025-10-08						
Nitrogen, Total Kjeldahl	0.962	0.050	mg/L	1.00		96	85-115			
General Parameters, Batch B5J2845										
Blank (B5J2845-BLK1)				Prepared: 2025-10-09, Analyzed: 2025-10-09						
Ammonia, Total (as N)	< 0.050	0.050	mg/L							

APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO	Lake Country, District of (Wastewater)	**WORK ORDER**	25J0539
PROJECT	Raw Influent- PE14651	**REPORTED**	2025-10-10 08:11

Analyte	Result	RL	Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
General Parameters, Batch B5J2845, Continued										
Blank (B5J2845-BLK2)				Prepared: 2025-10-09, Analyzed: 2025-10-09						
Ammonia, Total (as N)	< 0.050	0.050	mg/L							
LCS (B5J2845-BS1)				Prepared: 2025-10-09, Analyzed: 2025-10-09						
Ammonia, Total (as N)	0.952	0.050	mg/L	1.00		95	85-115			
LCS (B5J2845-BS2)				Prepared: 2025-10-09, Analyzed: 2025-10-09						
Ammonia, Total (as N)	0.943	0.050	mg/L	1.00		94	85-115			
General Parameters, Batch B5J2902										
Blank (B5J2902-BLK1)				Prepared: 2025-10-09, Analyzed: 2025-10-09						
Solids, Total Suspended	< 1.8	1.8	mg/L							
Blank (B5J2902-BLK2)				Prepared: 2025-10-09, Analyzed: 2025-10-09						
Solids, Total Suspended	< 1.8	1.8	mg/L							
LCS (B5J2902-BS1)				Prepared: 2025-10-09, Analyzed: 2025-10-09						
Solids, Total Suspended	106	4.5	mg/L	100		106	85-115			
LCS (B5J2902-BS2)				Prepared: 2025-10-09, Analyzed: 2025-10-09						
Solids, Total Suspended	99.0	4.5	mg/L	100		99	85-115			

CERTIFICATE OF ANALYSIS

REPORTED TO	Lake Country, District of (Wastewater) 4062 Beaver Lake Rd LAKE COUNTRY, BC V4V 1T5		
ATTENTION	Davin Larsen	**WORK ORDER**	25J0541
PO NUMBER		**RECEIVED / TEMP**	2025-10-03 11:15 / 18.2°C
PROJECT	Final Effluent- PE14651	**REPORTED**	2025-10-10 15:09
PROJECT INFO	Lake Country WWTP	**COC NUMBER**	45933.40892

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 hhannaoui@caro.ca

Authorized By:

Hanane El Hannaoui
Junior Account Manager

CARO ANALYTICAL SERVICES

TEST RESULTS

REPORTED TO	Lake Country, District of (Wastewater)	**WORK ORDER**	25J0541
PROJECT	Final Effluent- PE14651	**REPORTED**	2025-10-10 15:09

Analyte	Result	RL	Units	Analyzed	Qualifier
Final Effluent (E233626) (25J0541-01) | Matrix: Wastewater | Sampled: 2025-10-03 09:55					FILT, PRES
Anions					
Chloride	**123**	0.10	mg/L	2025-10-04	
Nitrate (as N)	**0.459**	0.010	mg/L	2025-10-04	
Nitrite (as N)	**0.208**	0.010	mg/L	2025-10-04	
Calculated Parameters					
Hardness, Dissolved (as CaCO3)	**182**	0.500	mg/L	N/A	
Nitrate+Nitrite (as N)	**0.667**	0.100	mg/L	N/A	
Nitrogen, Total	**3.36**	0.100	mg/L	N/A	
Nitrogen, Organic	**1.81**	0.0500	mg/L	N/A	
Dissolved Metals					
Aluminum, dissolved	**0.0091**	0.0050	mg/L	2025-10-07	
Antimony, dissolved	**0.00030**	0.00020	mg/L	2025-10-07	
Arsenic, dissolved	< 0.00050	0.00050	mg/L	2025-10-07	
Barium, dissolved	**0.0249**	0.0050	mg/L	2025-10-08	RE2
Beryllium, dissolved	< 0.00010	0.00010	mg/L	2025-10-07	
Bismuth, dissolved	< 0.00010	0.00010	mg/L	2025-10-07	
Boron, dissolved	**0.163**	0.0500	mg/L	2025-10-07	
Cadmium, dissolved	< 0.000010	0.000010	mg/L	2025-10-07	
Calcium, dissolved	**48.4**	0.20	mg/L	2025-10-08	RE2
Chromium, dissolved	< 0.00050	0.00050	mg/L	2025-10-07	
Cobalt, dissolved	**0.00035**	0.00010	mg/L	2025-10-08	RE2
Copper, dissolved	**0.00418**	0.00040	mg/L	2025-10-07	
Iron, dissolved	**0.052**	0.010	mg/L	2025-10-07	
Lead, dissolved	**0.00022**	0.00020	mg/L	2025-10-07	
Lithium, dissolved	**0.00620**	0.00010	mg/L	2025-10-07	
Magnesium, dissolved	**14.8**	0.010	mg/L	2025-10-08	RE2
Manganese, dissolved	**0.0756**	0.00020	mg/L	2025-10-07	
Molybdenum, dissolved	**0.00186**	0.00010	mg/L	2025-10-07	
Nickel, dissolved	**0.00223**	0.00040	mg/L	2025-10-08	RE2
Phosphorus, dissolved	**0.221**	0.050	mg/L	2025-10-08	RE2
Potassium, dissolved	**19.1**	0.10	mg/L	2025-10-08	RE2
Selenium, dissolved	< 0.00050	0.00050	mg/L	2025-10-07	
Silicon, dissolved	**6.3**	1.0	mg/L	2025-10-07	
Silver, dissolved	< 0.000050	0.000050	mg/L	2025-10-07	
Sodium, dissolved	**98.5**	0.10	mg/L	2025-10-08	RE2
Strontium, dissolved	**0.386**	0.0010	mg/L	2025-10-07	
Sulfur, dissolved	**17.6**	3.0	mg/L	2025-10-08	RE2
Tellurium, dissolved	< 0.00050	0.00050	mg/L	2025-10-07	
Thallium, dissolved	< 0.000020	0.000020	mg/L	2025-10-07	
Thorium, dissolved	< 0.00010	0.00010	mg/L	2025-10-07	
Tin, dissolved	**0.00038**	0.00020	mg/L	2025-10-07	
Titanium, dissolved	< 0.0050	0.0050	mg/L	2025-10-07	

CARO ANALYTICAL SERVICES

TEST RESULTS

REPORTED TO	Lake Country, District of (Wastewater)	**WORK ORDER**	25J0541
PROJECT	Final Effluent- PE14651	**REPORTED**	2025-10-10 15:09

Analyte	Result	RL	Units	Analyzed	Qualifier
Final Effluent (E233626) (25J0541-01) | Matrix: Wastewater | Sampled: 2025-10-03 09:55, Continued					FILT, PRES
Dissolved Metals, Continued					
Tungsten, dissolved	< 0.0010	0.0010	mg/L	2025-10-07	
Uranium, dissolved	**0.000763**	0.000020	mg/L	2025-10-07	
Vanadium, dissolved	< 0.0050	0.0050	mg/L	2025-10-07	
Zinc, dissolved	**0.0314**	0.0040	mg/L	2025-10-08	RE2
Zirconium, dissolved	**0.00016**	0.00010	mg/L	2025-10-07	
General Parameters					
Alkalinity, Total (as CaCO3)	**178**	1.0	mg/L	2025-10-06	
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	1.0	mg/L	2025-10-06	
Alkalinity, Bicarbonate (as CaCO3)	**178**	1.0	mg/L	2025-10-06	
Alkalinity, Carbonate (as CaCO3)	< 1.0	1.0	mg/L	2025-10-06	
Alkalinity, Hydroxide (as CaCO3)	< 1.0	1.0	mg/L	2025-10-06	
Ammonia, Total (as N)	**0.890**	0.050	mg/L	2025-10-09	
BOD, 5-day Carbonaceous	< 4.0	8.0	mg/L	2025-10-09	
Carbon, Dissolved Organic	**9.50**	0.50	mg/L	2025-10-05	
Nitrogen, Total Kjeldahl	**2.70**	0.050	mg/L	2025-10-08	
pH	**7.44**	0.10	pH units	2025-10-06	HT2
Phosphorus, Total (as P)	**0.311**	0.0050	mg/L	2025-10-07	
Phosphorus, Dissolved Reactive	**0.122**	0.0050	mg/L	2025-10-04	
Solids, Total Suspended	**2.6**	1.8	mg/L	2025-10-09	
Microbiological Parameters					
Coliforms, Total (Q-Tray)	**> 242000**	1	MPN/100 mL	2025-10-03	
Coliforms, Fecal (Q-Tray)	**> 242000**	1	MPN/100 mL	2025-10-03	
Total Metals					
Aluminum, total	**0.0099**	0.0050	mg/L	2025-10-07	
Antimony, total	< 0.00020	0.00020	mg/L	2025-10-07	
Arsenic, total	< 0.00050	0.00050	mg/L	2025-10-07	
Barium, total	< 0.0050	0.0050	mg/L	2025-10-07	
Beryllium, total	< 0.00010	0.00010	mg/L	2025-10-07	
Bismuth, total	< 0.00010	0.00010	mg/L	2025-10-07	
Boron, total	< 0.0500	0.0500	mg/L	2025-10-07	
Cadmium, total	< 0.000010	0.000010	mg/L	2025-10-07	
Calcium, total	**24.8**	0.20	mg/L	2025-10-07	
Chromium, total	< 0.00050	0.00050	mg/L	2025-10-07	
Cobalt, total	< 0.00010	0.00010	mg/L	2025-10-07	
Copper, total	**0.00871**	0.00040	mg/L	2025-10-07	
Iron, total	**0.339**	0.010	mg/L	2025-10-07	
Lead, total	< 0.00020	0.00020	mg/L	2025-10-07	
Lithium, total	**0.0211**	0.00010	mg/L	2025-10-07	
Magnesium, total	**7.36**	0.010	mg/L	2025-10-07	
Manganese, total	**0.0589**	0.00020	mg/L	2025-10-07	

TEST RESULTS

REPORTED TO	Lake Country, District of (Wastewater)	**WORK ORDER**	25J0541
PROJECT	Final Effluent- PE14651	**REPORTED**	2025-10-10 15:09

Analyte	Result	RL	Units	Analyzed	Qualifier
Final Effluent (E233626) (25J0541-01) | Matrix: Wastewater | Sampled: 2025-10-03 09:55, Continued					FILT, PRES
Total Metals, Continued					
Molybdenum, total	**0.00262**	0.00010	mg/L	2025-10-07	
Nickel, total	**0.00063**	0.00040	mg/L	2025-10-07	
Phosphorus, total	< 0.050	0.050	mg/L	2025-10-07	
Potassium, total	**0.45**	0.10	mg/L	2025-10-07	
Selenium, total	< 0.00050	0.00050	mg/L	2025-10-07	
Silicon, total	**6.8**	1.0	mg/L	2025-10-07	
Silver, total	< 0.000050	0.000050	mg/L	2025-10-07	
Sodium, total	**33.2**	0.10	mg/L	2025-10-07	
Strontium, total	**0.434**	0.0010	mg/L	2025-10-07	
Sulfur, total	< 3.0	3.0	mg/L	2025-10-07	
Tellurium, total	< 0.00050	0.00050	mg/L	2025-10-07	
Thallium, total	< 0.000020	0.000020	mg/L	2025-10-07	
Thorium, total	< 0.00010	0.00010	mg/L	2025-10-07	
Tin, total	< 0.00020	0.00020	mg/L	2025-10-07	
Titanium, total	< 0.0050	0.0050	mg/L	2025-10-07	
Tungsten, total	< 0.0010	0.0010	mg/L	2025-10-07	
Uranium, total	**0.00191**	0.000020	mg/L	2025-10-07	
Vanadium, total	< 0.0050	0.0050	mg/L	2025-10-07	
Zinc, total	**0.0216**	0.0040	mg/L	2025-10-07	
Zirconium, total	< 0.00010	0.00010	mg/L	2025-10-07	
Duplicate (25J0541-02) | Matrix: Wastewater | Sampled: 2025-10-03 10:00					
Anions					
Chloride	**123**	0.10	mg/L	2025-10-04	
Nitrate (as N)	**0.452**	0.010	mg/L	2025-10-04	
Nitrite (as N)	**0.212**	0.010	mg/L	2025-10-04	
Calculated Parameters					
Nitrate+Nitrite (as N)	**0.664**	0.100	mg/L	N/A	
Nitrogen, Total	**3.43**	0.100	mg/L	N/A	
Nitrogen, Organic	**1.88**	0.0500	mg/L	N/A	
General Parameters					
Alkalinity, Total (as CaCO3)	**178**	1.0	mg/L	2025-10-06	
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	1.0	mg/L	2025-10-06	
Alkalinity, Bicarbonate (as CaCO3)	**178**	1.0	mg/L	2025-10-06	
Alkalinity, Carbonate (as CaCO3)	< 1.0	1.0	mg/L	2025-10-06	
Alkalinity, Hydroxide (as CaCO3)	< 1.0	1.0	mg/L	2025-10-06	
Ammonia, Total (as N)	**0.889**	0.050	mg/L	2025-10-09	
BOD, 5-day Carbonaceous	< 4.0	8.0	mg/L	2025-10-09	
Nitrogen, Total Kjeldahl	**2.77**	0.050	mg/L	2025-10-08	
pH	**7.44**	0.10	pH units	2025-10-06	HT2

TEST RESULTS

REPORTED TO	Lake Country, District of (Wastewater)	**WORK ORDER**	25J0541
PROJECT	Final Effluent- PE14651	**REPORTED**	2025-10-10 15:09

Analyte	Result	RL	Units	Analyzed	Qualifier
Duplicate (25J0541-02) | Matrix: Wastewater | Sampled: 2025-10-03 10:00, Continued					
General Parameters, Continued					
Phosphorus, Total (as P)	**0.303**	0.0050	mg/L	2025-10-07	
Phosphorus, Dissolved Reactive	**0.121**	0.0050	mg/L	2025-10-04	
Solids, Total Suspended	**3.0**	1.8	mg/L	2025-10-09	
Microbiological Parameters					
Coliforms, Total (Q-Tray)	**> 242000**	1	MPN/100 mL	2025-10-03	
Coliforms, Fecal (Q-Tray)	**> 242000**	1	MPN/100 mL	2025-10-03	

Sample Qualifiers:

FILT	The sample has been filtered for DOC in the laboratory. Results may not reflect conditions at the time of sampling.
HT2	The 15 minute recommended holding time (from sampling to analysis) has been exceeded - field analysis is recommended.
PRES	Sample has been preserved for DOC in the laboratory and the holding time has been extended.
RE2	Result was confirmed by re-analysis prior to reporting.

APPENDIX 1: SUPPORTING INFORMATION

REPORTED TO	Lake Country, District of (Wastewater)	**WORK ORDER**	25J0541
PROJECT	Final Effluent- PE14651	**REPORTED**	2025-10-10 15:09

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
Carbon, Dissolved Organic in Water	SM 5310 B (2022)	Combustion, Infrared CO2 Detection	✓	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
Dissolved Metals in Water	EPA 200.8 / EPA 6020B	0.45 µm Filtration / Inductively Coupled Plasma-Mass Spectroscopy (ICP-MS)	✓	Richmond
Hardness in Water	SM 2340 B (2021)	Calculation: 2.497 [diss Ca] + 4.118 [diss Mg]	✓	N/A
Hardness in Water	SM 2340 B* (2021)	Calculation: 2.497 [total Ca] + 4.118 [total Mg] (Est)	✓	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, Dissolved Reactive in Water	SM 4500-P F (2021)	Automated Colorimetry (Ascorbic Acid)	✓	Kelowna
Phosphorus, Total in Water	SM 4500-P B.5* (2011) / SM 4500-P F (2021)	Persulfate Digestion / Automated Colorimetry (Ascorbic Acid)	✓	Kelowna
Solids, Total Suspended in Water	Solids in Water, Filtered / SM 2540 D* (2020)	Solids in Water, Filtered / Gravimetry (Dried at 103-105C)	✓	Kelowna
Total Metals in Water	EPA 200.2 / EPA 6020B	HNO3+HCl Hot Block Digestion / Inductively Coupled Plasma-Mass Spectroscopy (ICP-MS)	✓	Richmond

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

Glossary of Terms:

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

APPENDIX 1: SUPPORTING INFORMATION

REPORTED TO	Lake Country, District of (Wastewater)	**WORK ORDER**	25J0541
PROJECT	Final Effluent- PE14651	**REPORTED**	2025-10-10 15:09

General Comments:

The results in this report apply to samples received by CARO and analyzed in accordance with the Chain of Custody document. This analytical report must be reproduced in its entirety and must not be modified. CARO is not responsible for losses or damages resulting directly or indirectly from errors or omissions in the conduct of the testing. Any 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. Results in **red** indicate values above the regulatory limits where these have been included. Any Bold and/or highlighted results do not take into account method uncertainty. If you would like method uncertainty or regulatory limits to be included on your report, please contact your Account Manager: {@Email}

APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO	Lake Country, District of (Wastewater)	**WORK ORDER**	25J0541
PROJECT	Final Effluent- PE14651	**REPORTED**	2025-10-10 15:09

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 B5J2275										
Blank (B5J2275-BLK1)				Prepared: 2025-10-04, Analyzed: 2025-10-04						
Chloride	< 0.10	0.10	mg/L							
Nitrate (as N)	< 0.010	0.010	mg/L							
Nitrite (as N)	< 0.010	0.010	mg/L							
Blank (B5J2275-BLK2)				Prepared: 2025-10-04, Analyzed: 2025-10-04						
Chloride	< 0.10	0.10	mg/L							
Nitrate (as N)	< 0.010	0.010	mg/L							
Nitrite (as N)	< 0.010	0.010	mg/L							
LCS (B5J2275-BS1)				Prepared: 2025-10-04, Analyzed: 2025-10-04						
Chloride	16.2	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)	2.18	0.010	mg/L	2.00		109	85-115			
LCS (B5J2275-BS2)				Prepared: 2025-10-04, Analyzed: 2025-10-04						
Chloride	16.1	0.10	mg/L	16.0		101	90-110			
Nitrate (as N)	4.08	0.010	mg/L	4.00		102	90-110			
Nitrite (as N)	2.16	0.010	mg/L	2.00		108	85-115			
Dissolved Metals, Batch B5J2529										
Blank (B5J2529-BLK1)				Prepared: 2025-10-07, Analyzed: 2025-10-07						
Aluminum, dissolved	< 0.0050	0.0050	mg/L							
Antimony, dissolved	< 0.00020	0.00020	mg/L							
Arsenic, dissolved	< 0.00050	0.00050	mg/L							
Barium, dissolved	< 0.0050	0.0050	mg/L							
Beryllium, dissolved	< 0.00010	0.00010	mg/L							
Bismuth, dissolved	< 0.00010	0.00010	mg/L							
Boron, dissolved	< 0.0500	0.0500	mg/L							
Cadmium, dissolved	< 0.000010	0.000010	mg/L							
Calcium, dissolved	< 0.20	0.20	mg/L							
Chromium, dissolved	< 0.00050	0.00050	mg/L							
Cobalt, dissolved	< 0.00010	0.00010	mg/L							
Copper, dissolved	< 0.00040	0.00040	mg/L							
Iron, dissolved	< 0.010	0.010	mg/L							
Lead, dissolved	< 0.00020	0.00020	mg/L							

APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO	Lake Country, District of (Wastewater)	**WORK ORDER**	25J0541
PROJECT	Final Effluent- PE14651	**REPORTED**	2025-10-10 15:09

Analyte	Result	RL	Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Dissolved Metals, Batch B5J2529, Continued										
Blank (B5J2529-BLK1), Continued				Prepared: 2025-10-07, Analyzed: 2025-10-07						
Lithium, dissolved	< 0.00010	0.00010	mg/L							
Magnesium, dissolved	< 0.010	0.010	mg/L							
Manganese, dissolved	< 0.00020	0.00020	mg/L							
Molybdenum, dissolved	< 0.00010	0.00010	mg/L							
Nickel, dissolved	< 0.00040	0.00040	mg/L							
Phosphorus, dissolved	< 0.050	0.050	mg/L							
Potassium, dissolved	< 0.10	0.10	mg/L							
Selenium, dissolved	< 0.00050	0.00050	mg/L							
Silicon, dissolved	< 1.0	1.0	mg/L							
Silver, dissolved	< 0.000050	0.000050	mg/L							
Sodium, dissolved	< 0.10	0.10	mg/L							
Strontium, dissolved	< 0.0010	0.0010	mg/L							
Sulfur, dissolved	< 3.0	3.0	mg/L							
Tellurium, dissolved	< 0.00050	0.00050	mg/L							
Thallium, dissolved	< 0.000020	0.000020	mg/L							
Thorium, dissolved	< 0.00010	0.00010	mg/L							
Tin, dissolved	< 0.00020	0.00020	mg/L							
Titanium, dissolved	< 0.0050	0.0050	mg/L							
Tungsten, dissolved	< 0.0010	0.0010	mg/L							
Uranium, dissolved	< 0.000020	0.000020	mg/L							
Vanadium, dissolved	< 0.0050	0.0050	mg/L							
Zinc, dissolved	< 0.0040	0.0040	mg/L							
Zirconium, dissolved	< 0.00010	0.00010	mg/L							
LCS (B5J2529-BS1)				Prepared: 2025-10-07, Analyzed: 2025-10-07						
Aluminum, dissolved	4.05	0.0050	mg/L	4.00		101	80-120			
Antimony, dissolved	0.0405	0.00020	mg/L	0.0400		101	80-120			
Arsenic, dissolved	0.401	0.00050	mg/L	0.400		100	80-120			
Barium, dissolved	0.0412	0.0050	mg/L	0.0400		103	80-120			
Beryllium, dissolved	0.0413	0.00010	mg/L	0.0400		103	80-120			
Bismuth, dissolved	0.0407	0.00010	mg/L	0.0400		102	80-120			
Boron, dissolved	0.447	0.0500	mg/L	0.400		112	80-120			
Cadmium, dissolved	0.0404	0.000010	mg/L	0.0400		101	80-120			
Calcium, dissolved	4.04	0.20	mg/L	4.00		101	80-120			
Chromium, dissolved	0.0405	0.00050	mg/L	0.0400		101	80-120			
Cobalt, dissolved	0.0396	0.00010	mg/L	0.0400		99	80-120			
Copper, dissolved	0.0402	0.00040	mg/L	0.0400		101	80-120			
Iron, dissolved	4.10	0.010	mg/L	4.00		103	80-120			
Lead, dissolved	0.0409	0.00020	mg/L	0.0400		102	80-120			
Lithium, dissolved	0.0422	0.00010	mg/L	0.0400		106	80-120			
Magnesium, dissolved	4.11	0.010	mg/L	4.00		103	80-120			
Manganese, dissolved	0.0403	0.00020	mg/L	0.0400		101	80-120			
Molybdenum, dissolved	0.0401	0.00010	mg/L	0.0400		100	80-120			
Nickel, dissolved	0.0403	0.00040	mg/L	0.0400		101	80-120			
Phosphorus, dissolved	4.02	0.050	mg/L	4.00		100	80-120			
Potassium, dissolved	4.12	0.10	mg/L	4.00		103	80-120			
Selenium, dissolved	0.404	0.00050	mg/L	0.400		101	80-120			
Silicon, dissolved	4.0	1.0	mg/L	4.00		101	80-120			
Silver, dissolved	0.0397	0.000050	mg/L	0.0400		99	80-120			
Sodium, dissolved	4.05	0.10	mg/L	4.00		101	80-120			
Strontium, dissolved	0.0404	0.0010	mg/L	0.0400		101	80-120			
Sulfur, dissolved	40.9	3.0	mg/L	40.0		102	80-120			
Tellurium, dissolved	0.0392	0.00050	mg/L	0.0400		98	80-120			
Thallium, dissolved	0.0405	0.000020	mg/L	0.0400		101	80-120			
Thorium, dissolved	0.0420	0.00010	mg/L	0.0400		105	80-120			
Tin, dissolved	0.0409	0.00020	mg/L	0.0400		102	80-120			

APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO	Lake Country, District of (Wastewater)	**WORK ORDER**	25J0541
PROJECT	Final Effluent- PE14651	**REPORTED**	2025-10-10 15:09

Analyte	Result	RL	Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Dissolved Metals, Batch B5J2529, Continued										
LCS (B5J2529-BS1), Continued				Prepared: 2025-10-07, Analyzed: 2025-10-07						
Titanium, dissolved	0.0403	0.0050	mg/L	0.0400		101	80-120			
Tungsten, dissolved	0.0410	0.0010	mg/L	0.0400		103	80-120			
Uranium, dissolved	0.0416	0.000020	mg/L	0.0400		104	80-120			
Vanadium, dissolved	0.0400	0.0050	mg/L	0.0400		100	80-120			
Zinc, dissolved	0.403	0.0040	mg/L	0.400		101	80-120			
Zirconium, dissolved	0.0408	0.00010	mg/L	0.0400		102	80-120			
General Parameters, Batch B5J2019										
Blank (B5J2019-BLK1)				Prepared: 2025-10-03, Analyzed: 2025-10-03						
Carbon, Dissolved Organic	< 0.50	0.50	mg/L							
Blank (B5J2019-BLK2)				Prepared: 2025-10-03, Analyzed: 2025-10-03						
Carbon, Dissolved Organic	< 0.50	0.50	mg/L							
Blank (B5J2019-BLK3)				Prepared: 2025-10-03, Analyzed: 2025-10-03						
Carbon, Dissolved Organic	< 0.50	0.50	mg/L							
LCS (B5J2019-BS1)				Prepared: 2025-10-03, Analyzed: 2025-10-03						
Carbon, Dissolved Organic	9.49	0.50	mg/L	10.0		95	78-116			
LCS (B5J2019-BS2)				Prepared: 2025-10-03, Analyzed: 2025-10-03						
Carbon, Dissolved Organic	9.53	0.50	mg/L	10.0		95	78-116			
LCS (B5J2019-BS3)				Prepared: 2025-10-03, Analyzed: 2025-10-03						
Carbon, Dissolved Organic	9.54	0.50	mg/L	10.0		95	78-116			
General Parameters, Batch B5J2331										
Blank (B5J2331-BLK1)				Prepared: 2025-10-04, Analyzed: 2025-10-09						
BOD, 5-day Carbonaceous	< 2.0	2.0	mg/L							
LCS (B5J2331-BS1)				Prepared: 2025-10-04, Analyzed: 2025-10-09						
BOD, 5-day Carbonaceous	177	66.6	mg/L	198		90	85-115			
General Parameters, Batch B5J2371										
Blank (B5J2371-BLK1)				Prepared: 2025-10-04, Analyzed: 2025-10-04						
Phosphorus, Dissolved Reactive	< 0.0050	0.0050	mg/L							
Blank (B5J2371-BLK2)				Prepared: 2025-10-04, Analyzed: 2025-10-04						
Phosphorus, Dissolved Reactive	< 0.0050	0.0050	mg/L							
LCS (B5J2371-BS1)				Prepared: 2025-10-04, Analyzed: 2025-10-04						
Phosphorus, Dissolved Reactive	0.0945	0.0050	mg/L	0.100		94	84-115			
LCS (B5J2371-BS2)				Prepared: 2025-10-04, Analyzed: 2025-10-04						
Phosphorus, Dissolved Reactive	0.0927	0.0050	mg/L	0.100		93	84-115			
General Parameters, Batch B5J2460										
Blank (B5J2460-BLK1)				Prepared: 2025-10-06, Analyzed: 2025-10-06						
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	Lake Country, District of (Wastewater)	**WORK ORDER**	25J0541
PROJECT	Final Effluent- PE14651	**REPORTED**	2025-10-10 15:09

Analyte	Result	RL	Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
General Parameters, Batch B5J2460, Continued										
Blank (B5J2460-BLK1), Continued				Prepared: 2025-10-06, Analyzed: 2025-10-06						
Alkalinity, Carbonate (as CaCO3)	< 1.0	1.0	mg/L							
Alkalinity, Hydroxide (as CaCO3)	< 1.0	1.0	mg/L							
LCS (B5J2460-BS1)				Prepared: 2025-10-06, Analyzed: 2025-10-06						
Alkalinity, Total (as CaCO3)	90.6	1.0	mg/L	100		91	80-120			
Reference (B5J2460-SRM1)				Prepared: 2025-10-06, Analyzed: 2025-10-06						
pH	7.00	0.10	pH units	7.01		100	98-102			
General Parameters, Batch B5J2523										
Blank (B5J2523-BLK1)				Prepared: 2025-10-07, Analyzed: 2025-10-07						
Phosphorus, Total (as P)	< 0.0050	0.0050	mg/L							
Blank (B5J2523-BLK2)				Prepared: 2025-10-07, Analyzed: 2025-10-07						
Phosphorus, Total (as P)	< 0.0050	0.0050	mg/L							
LCS (B5J2523-BS1)				Prepared: 2025-10-07, Analyzed: 2025-10-07						
Phosphorus, Total (as P)	0.113	0.0050	mg/L	0.100		113	85-115			
LCS (B5J2523-BS2)				Prepared: 2025-10-07, Analyzed: 2025-10-07						
Phosphorus, Total (as P)	0.113	0.0050	mg/L	0.100		113	85-115			
General Parameters, Batch B5J2637										
Blank (B5J2637-BLK1)				Prepared: 2025-10-07, Analyzed: 2025-10-08						
Nitrogen, Total Kjeldahl	< 0.050	0.050	mg/L							
Blank (B5J2637-BLK2)				Prepared: 2025-10-07, Analyzed: 2025-10-08						
Nitrogen, Total Kjeldahl	< 0.050	0.050	mg/L							
LCS (B5J2637-BS1)				Prepared: 2025-10-07, Analyzed: 2025-10-08						
Nitrogen, Total Kjeldahl	0.981	0.050	mg/L	1.00		98	85-115			
LCS (B5J2637-BS2)				Prepared: 2025-10-07, Analyzed: 2025-10-08						
Nitrogen, Total Kjeldahl	0.962	0.050	mg/L	1.00		96	85-115			
General Parameters, Batch B5J2845										
Blank (B5J2845-BLK1)				Prepared: 2025-10-09, Analyzed: 2025-10-09						
Ammonia, Total (as N)	< 0.050	0.050	mg/L							
Blank (B5J2845-BLK2)				Prepared: 2025-10-09, Analyzed: 2025-10-09						
Ammonia, Total (as N)	< 0.050	0.050	mg/L							
LCS (B5J2845-BS1)				Prepared: 2025-10-09, Analyzed: 2025-10-09						
Ammonia, Total (as N)	0.952	0.050	mg/L	1.00		95	85-115			
LCS (B5J2845-BS2)				Prepared: 2025-10-09, Analyzed: 2025-10-09						
Ammonia, Total (as N)	0.943	0.050	mg/L	1.00		94	85-115			
General Parameters, Batch B5J2902										
Blank (B5J2902-BLK1)				Prepared: 2025-10-09, Analyzed: 2025-10-09						
Solids, Total Suspended	< 1.8	1.8	mg/L							

APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO	Lake Country, District of (Wastewater)	**WORK ORDER**	25J0541
PROJECT	Final Effluent- PE14651	**REPORTED**	2025-10-10 15:09

Analyte	Result	RL	Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
General Parameters, Batch B5J2902, Continued										
Blank (B5J2902-BLK2)				Prepared: 2025-10-09, Analyzed: 2025-10-09						
Solids, Total Suspended	< 1.8	1.8	mg/L							
LCS (B5J2902-BS1)				Prepared: 2025-10-09, Analyzed: 2025-10-09						
Solids, Total Suspended	106	4.5	mg/L	100		106	85-115			
LCS (B5J2902-BS2)				Prepared: 2025-10-09, Analyzed: 2025-10-09						
Solids, Total Suspended	99.0	4.5	mg/L	100		99	85-115			
Microbiological Parameters, Batch B5J2265										
Blank (B5J2265-BLK1)				Prepared: 2025-10-03, Analyzed: 2025-10-03						
Coliforms, Total (Q-Tray)	< 1	1	MPN/100 mL							
Blank (B5J2265-BLK2)				Prepared: 2025-10-03, Analyzed: 2025-10-03						
Coliforms, Fecal (Q-Tray)	< 1	1	MPN/100 mL							
Total Metals, Batch B5J2560										
Blank (B5J2560-BLK1)				Prepared: 2025-10-07, Analyzed: 2025-10-07						
Aluminum, total	< 0.0050	0.0050	mg/L							
Antimony, total	< 0.00020	0.00020	mg/L							
Arsenic, total	< 0.00050	0.00050	mg/L							
Barium, total	< 0.0050	0.0050	mg/L							
Beryllium, total	< 0.00010	0.00010	mg/L							
Bismuth, total	< 0.00010	0.00010	mg/L							
Boron, total	< 0.0500	0.0500	mg/L							
Cadmium, total	< 0.000010	0.000010	mg/L							
Calcium, total	< 0.20	0.20	mg/L							
Chromium, total	< 0.00050	0.00050	mg/L							
Cobalt, total	< 0.00010	0.00010	mg/L							
Copper, total	< 0.00040	0.00040	mg/L							
Iron, total	< 0.010	0.010	mg/L							
Lead, total	< 0.00020	0.00020	mg/L							
Lithium, total	< 0.00010	0.00010	mg/L							
Magnesium, total	< 0.010	0.010	mg/L							
Manganese, total	< 0.00020	0.00020	mg/L							
Molybdenum, total	< 0.00010	0.00010	mg/L							
Nickel, total	< 0.00040	0.00040	mg/L							
Phosphorus, total	< 0.050	0.050	mg/L							
Potassium, total	< 0.10	0.10	mg/L							
Selenium, total	< 0.00050	0.00050	mg/L							
Silicon, total	< 1.0	1.0	mg/L							
Silver, total	< 0.000050	0.000050	mg/L							
Sodium, total	< 0.10	0.10	mg/L							
Strontium, total	< 0.0010	0.0010	mg/L							
Sulfur, total	< 3.0	3.0	mg/L							
Tellurium, total	< 0.00050	0.00050	mg/L							
Thallium, total	< 0.000020	0.000020	mg/L							
Thorium, total	< 0.00010	0.00010	mg/L							
Tin, total	< 0.00020	0.00020	mg/L							
Titanium, total	< 0.0050	0.0050	mg/L							
Tungsten, total	< 0.0010	0.0010	mg/L							
Uranium, total	< 0.000020	0.000020	mg/L							
Vanadium, total	< 0.0050	0.0050	mg/L							
Zinc, total	< 0.0040	0.0040	mg/L							
Zirconium, total	< 0.00010	0.00010	mg/L							

APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO	Lake Country, District of (Wastewater)	**WORK ORDER**	25J0541
PROJECT	Final Effluent- PE14651	**REPORTED**	2025-10-10 15:09

Analyte	Result	RL	Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Total Metals, Batch B5J2560, Continued										
LCS (B5J2560-BS1)				Prepared: 2025-10-07, Analyzed: 2025-10-07						
Aluminum, total	3.93	0.0050	mg/L	4.00		98	80-120			
Antimony, total	0.0393	0.00020	mg/L	0.0400		98	80-120			
Arsenic, total	0.398	0.00050	mg/L	0.400		100	80-120			
Barium, total	0.0392	0.0050	mg/L	0.0400		98	80-120			
Beryllium, total	0.0387	0.00010	mg/L	0.0400		97	80-120			
Bismuth, total	0.0392	0.00010	mg/L	0.0400		98	80-120			
Boron, total	0.404	0.0500	mg/L	0.400		101	80-120			
Cadmium, total	0.0393	0.000010	mg/L	0.0400		98	80-120			
Calcium, total	4.08	0.20	mg/L	4.00		102	80-120			
Chromium, total	0.0402	0.00050	mg/L	0.0400		100	80-120			
Cobalt, total	0.0400	0.00010	mg/L	0.0400		100	80-120			
Copper, total	0.0402	0.00040	mg/L	0.0400		101	80-120			
Iron, total	4.04	0.010	mg/L	4.00		101	80-120			
Lead, total	0.0397	0.00020	mg/L	0.0400		99	80-120			
Lithium, total	0.0378	0.00010	mg/L	0.0400		94	80-120			
Magnesium, total	4.05	0.010	mg/L	4.00		101	80-120			
Manganese, total	0.0402	0.00020	mg/L	0.0400		100	80-120			
Molybdenum, total	0.0393	0.00010	mg/L	0.0400		98	80-120			
Nickel, total	0.0400	0.00040	mg/L	0.0400		100	80-120			
Phosphorus, total	3.94	0.050	mg/L	4.00		99	80-120			
Potassium, total	3.92	0.10	mg/L	4.00		98	80-120			
Selenium, total	0.400	0.00050	mg/L	0.400		100	80-120			
Silicon, total	3.9	1.0	mg/L	4.00		98	80-120			
Silver, total	0.0390	0.000050	mg/L	0.0400		97	80-120			
Sodium, total	4.03	0.10	mg/L	4.00		101	80-120			
Strontium, total	0.0405	0.0010	mg/L	0.0400		101	80-120			
Sulfur, total	40.3	3.0	mg/L	40.0		101	80-120			
Tellurium, total	0.0378	0.00050	mg/L	0.0400		95	80-120			
Thallium, total	0.0407	0.000020	mg/L	0.0400		102	80-120			
Thorium, total	0.0399	0.00010	mg/L	0.0400		100	80-120			
Tin, total	0.0393	0.00020	mg/L	0.0400		98	80-120			
Titanium, total	0.0393	0.0050	mg/L	0.0400		98	80-120			
Tungsten, total	0.0399	0.0010	mg/L	0.0400		100	80-120			
Uranium, total	0.0400	0.000020	mg/L	0.0400		100	80-120			
Vanadium, total	0.0395	0.0050	mg/L	0.0400		99	80-120			
Zinc, total	0.394	0.0040	mg/L	0.400		98	80-120			
Zirconium, total	0.0388	0.00010	mg/L	0.0400		97	80-120			

CERTIFICATE OF ANALYSIS

REPORTED TO	Lake Country, District of (Wastewater) 4062 Beaver Lake Rd LAKE COUNTRY, BC V4V 1T5		
ATTENTION	Davin Larsen	**WORK ORDER**	25K0792
PO NUMBER		**RECEIVED / TEMP**	2025-11-06 13:32 / 13.6°C
PROJECT	Raw Influent- PE14651	**REPORTED**	2025-11-18 12:28
PROJECT INFO	Lake Country WWTP	**COC NUMBER**	45967.27795

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 hhannaoui@caro.ca

Authorized By:

Hanane El Hannaoui
Junior Account Manager

TEST RESULTS

REPORTED TO	Lake Country, District of (Wastewater)	**WORK ORDER**	25K0792
PROJECT	Raw Influent- PE14651	**REPORTED**	2025-11-18 12:28

Analyte	Result	RL	Units	Analyzed	Qualifier
Raw Influent (25K0792-01) | Matrix: Wastewater | Sampled: 2025-11-06 10:05					
Anions					
Nitrate (as N)	< 0.010	0.010	mg/L	2025-11-07	
Nitrite (as N)	< 0.010	0.010	mg/L	2025-11-07	
Calculated Parameters					
Nitrate+Nitrite (as N)	< 0.0100	0.0100	mg/L	N/A	
Nitrogen, Total	**101**	2.00	mg/L	N/A	
General Parameters					
Alkalinity, Total (as CaCO3)	**419**	1.0	mg/L	2025-11-10	
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	1.0	mg/L	2025-11-10	
Alkalinity, Bicarbonate (as CaCO3)	**419**	1.0	mg/L	2025-11-10	
Alkalinity, Carbonate (as CaCO3)	< 1.0	1.0	mg/L	2025-11-10	
Alkalinity, Hydroxide (as CaCO3)	< 1.0	1.0	mg/L	2025-11-10	
Ammonia, Total (as N)	**61.4**	0.050	mg/L	2025-11-13	
BOD, 5-day	**551**	8.0	mg/L	2025-11-13	
BOD, 5-day Carbonaceous	**513**	8.0	mg/L	2025-11-13	
Nitrogen, Total Kjeldahl	**101**	0.050	mg/L	2025-11-14	
pH	**7.79**	0.10	pH units	2025-11-10	HT2
Phosphorus, Total (as P)	**11.5**	0.0050	mg/L	2025-11-10	
Phosphorus, Dissolved Reactive	**5.54**	0.0050	mg/L	2025-11-09	
Solids, Total Suspended	**420**	1.8	mg/L	2025-11-13	

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	Lake Country, District of (Wastewater)	**WORK ORDER**	25K0792
PROJECT	Raw Influent- PE14651	**REPORTED**	2025-11-18 12:28

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, Dissolved Reactive in Water	SM 4500-P F (2021)	Automated Colorimetry (Ascorbic Acid)	✓	Kelowna
Phosphorus, Total in Water	SM 4500-P B.5* (2011) / SM 4500-P F (2021)	Persulfate Digestion / Automated Colorimetry (Ascorbic Acid)	✓	Kelowna
Solids, Total 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 samples received by CARO and analyzed in accordance with the Chain of Custody document. This analytical report must be reproduced in its entirety and must not be modified. CARO is not responsible for losses or damages resulting directly or indirectly from errors or omissions in the conduct of the testing. Any 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. Results in **red** indicate values above the regulatory limits where these have been included. Any Bold and/or highlighted results do not take into account method uncertainty. If you would like method uncertainty or regulatory limits to be included on your report, please contact your Account Manager: {@Email}

APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO	Lake Country, District of (Wastewater)	**WORK ORDER**	25K0792
PROJECT	Raw Influent- PE14651	**REPORTED**	2025-11-18 12:28

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 B5K2443										
Blank (B5K2443-BLK1)				Prepared: 2025-11-07, Analyzed: 2025-11-07						
Nitrate (as N)	< 0.010	0.010	mg/L							
Nitrite (as N)	< 0.010	0.010	mg/L							
Blank (B5K2443-BLK2)				Prepared: 2025-11-07, Analyzed: 2025-11-07						
Nitrate (as N)	< 0.010	0.010	mg/L							
Nitrite (as N)	< 0.010	0.010	mg/L							
LCS (B5K2443-BS1)				Prepared: 2025-11-07, Analyzed: 2025-11-07						
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			
LCS (B5K2443-BS2)				Prepared: 2025-11-07, Analyzed: 2025-11-07						
Nitrate (as N)	4.09	0.010	mg/L	4.00		102	90-110			
Nitrite (as N)	2.01	0.010	mg/L	2.00		100	85-115			
General Parameters, Batch B5K2600										
Blank (B5K2600-BLK1)				Prepared: 2025-11-08, Analyzed: 2025-11-13						
BOD, 5-day Carbonaceous	< 2.0	2.0	mg/L							
LCS (B5K2600-BS1)				Prepared: 2025-11-08, Analyzed: 2025-11-13						
BOD, 5-day Carbonaceous	181	66.6	mg/L	198		91	85-115			
General Parameters, Batch B5K2601										
Blank (B5K2601-BLK1)				Prepared: 2025-11-08, Analyzed: 2025-11-13						
BOD, 5-day	< 2.0	2.0	mg/L							
LCS (B5K2601-BS1)				Prepared: 2025-11-08, Analyzed: 2025-11-13						
BOD, 5-day	177	66.6	mg/L	198		89	85-115			
General Parameters, Batch B5K2647										
Blank (B5K2647-BLK1)				Prepared: 2025-11-08, Analyzed: 2025-11-09						
Phosphorus, Dissolved Reactive	< 0.0050	0.0050	mg/L							

APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO	Lake Country, District of (Wastewater)	**WORK ORDER**	25K0792
PROJECT	Raw Influent- PE14651	**REPORTED**	2025-11-18 12:28

Analyte	Result	RL	Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
General Parameters, Batch B5K2647, Continued										
Blank (B5K2647-BLK2)				Prepared: 2025-11-08, Analyzed: 2025-11-09						
Phosphorus, Dissolved Reactive	< 0.0050	0.0050	mg/L							
LCS (B5K2647-BS1)				Prepared: 2025-11-08, Analyzed: 2025-11-09						
Phosphorus, Dissolved Reactive	0.106	0.0050	mg/L	0.100		106	84-115			
LCS (B5K2647-BS2)				Prepared: 2025-11-08, Analyzed: 2025-11-09						
Phosphorus, Dissolved Reactive	0.106	0.0050	mg/L	0.100		106	84-115			
General Parameters, Batch B5K2720										
Blank (B5K2720-BLK1)				Prepared: 2025-11-10, Analyzed: 2025-11-10						
Phosphorus, Total (as P)	< 0.0050	0.0050	mg/L							
LCS (B5K2720-BS1)				Prepared: 2025-11-10, Analyzed: 2025-11-10						
Phosphorus, Total (as P)	0.113	0.0050	mg/L	0.100		113	85-115			
General Parameters, Batch B5K2765										
Blank (B5K2765-BLK1)				Prepared: 2025-11-10, Analyzed: 2025-11-10						
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 (B5K2765-BS1)				Prepared: 2025-11-10, Analyzed: 2025-11-10						
Alkalinity, Total (as CaCO3)	105	1.0	mg/L	100		105	80-120			
Reference (B5K2765-SRM1)				Prepared: 2025-11-10, Analyzed: 2025-11-10						
pH	7.01	0.10	pH units	7.01		100	98-102			
General Parameters, Batch B5K3001										
Blank (B5K3001-BLK1)				Prepared: 2025-11-13, Analyzed: 2025-11-13						
Solids, Total Suspended	< 1.8	1.8	mg/L							
Blank (B5K3001-BLK2)				Prepared: 2025-11-13, Analyzed: 2025-11-13						
Solids, Total Suspended	< 1.8	1.8	mg/L							
Blank (B5K3001-BLK3)				Prepared: 2025-11-13, Analyzed: 2025-11-13						
Solids, Total Suspended	< 1.8	1.8	mg/L							
LCS (B5K3001-BS1)				Prepared: 2025-11-13, Analyzed: 2025-11-13						
Solids, Total Suspended	90.5	4.5	mg/L	100		90	85-115			
LCS (B5K3001-BS2)				Prepared: 2025-11-13, Analyzed: 2025-11-13						
Solids, Total Suspended	87.0	4.5	mg/L	100		87	85-115			
LCS (B5K3001-BS3)				Prepared: 2025-11-13, Analyzed: 2025-11-13						
Solids, Total Suspended	97.5	4.5	mg/L	100		98	85-115			
General Parameters, Batch B5K3094										
Blank (B5K3094-BLK1)				Prepared: 2025-11-13, Analyzed: 2025-11-14						
Nitrogen, Total Kjeldahl	< 0.050	0.050	mg/L							

APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO	Lake Country, District of (Wastewater)	**WORK ORDER**	25K0792
PROJECT	Raw Influent- PE14651	**REPORTED**	2025-11-18 12:28

Analyte	Result	RL	Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
General Parameters, Batch B5K3094, Continued										
Blank (B5K3094-BLK2)				Prepared: 2025-11-13, Analyzed: 2025-11-14						
Nitrogen, Total Kjeldahl	< 0.050	0.050	mg/L							
LCS (B5K3094-BS1)				Prepared: 2025-11-13, Analyzed: 2025-11-14						
Nitrogen, Total Kjeldahl	0.969	0.050	mg/L	1.00		97	85-115			
LCS (B5K3094-BS2)				Prepared: 2025-11-13, Analyzed: 2025-11-14						
Nitrogen, Total Kjeldahl	0.998	0.050	mg/L	1.00		100	85-115			
General Parameters, Batch B5K3125										
Blank (B5K3125-BLK1)				Prepared: 2025-11-13, Analyzed: 2025-11-13						
Ammonia, Total (as N)	< 0.050	0.050	mg/L							
Blank (B5K3125-BLK2)				Prepared: 2025-11-13, Analyzed: 2025-11-13						
Ammonia, Total (as N)	< 0.050	0.050	mg/L							
LCS (B5K3125-BS1)				Prepared: 2025-11-13, Analyzed: 2025-11-13						
Ammonia, Total (as N)	0.857	0.050	mg/L	1.00		86	85-115			
LCS (B5K3125-BS2)				Prepared: 2025-11-13, Analyzed: 2025-11-13						
Ammonia, Total (as N)	0.856	0.050	mg/L	1.00		86	85-115			

CERTIFICATE OF ANALYSIS

REPORTED TO	Lake Country, District of (Wastewater) 4062 Beaver Lake Rd LAKE COUNTRY, BC V4V 1T5		
ATTENTION	Davin Larsen	**WORK ORDER**	25K0794
PO NUMBER		**RECEIVED / TEMP**	2025-11-06 13:32 / 13.6°C
PROJECT	Final Effluent- PE14651	**REPORTED**	2025-11-14 12:22
PROJECT INFO	Lake Country WWTP	**COC NUMBER**	45967.27795

Introduction:

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

Authorized By:

Hanane El Hannaoui
Junior Account Manager

CARO ANALYTICAL SERVICES

TEST RESULTS

REPORTED TO	Lake Country, District of (Wastewater)	**WORK ORDER**	25K0794
PROJECT	Final Effluent- PE14651	**REPORTED**	2025-11-14 12:22

Analyte	Result	RL	Units	Analyzed	Qualifier
Final Effluent (E233626) (25K0794-01) | Matrix: Wastewater | Sampled: 2025-11-06 09:36					FILT, PRES
Anions					
Chloride	**130**	0.10	mg/L	2025-11-07	
Nitrate (as N)	**3.66**	0.010	mg/L	2025-11-07	
Nitrite (as N)	< 0.010	0.010	mg/L	2025-11-07	
Calculated Parameters					
Hardness, Dissolved (as CaCO3)	**188**	0.500	mg/L	N/A	
Nitrate+Nitrite (as N)	**3.66**	0.0100	mg/L	N/A	
Nitrogen, Total	**6.14**	0.0500	mg/L	N/A	
Nitrogen, Organic	**1.77**	0.0500	mg/L	N/A	
Dissolved Metals					
Aluminum, dissolved	**0.0084**	0.0050	mg/L	2025-11-13	
Antimony, dissolved	**0.00031**	0.00020	mg/L	2025-11-13	
Arsenic, dissolved	< 0.00050	0.00050	mg/L	2025-11-13	
Barium, dissolved	**0.0233**	0.0050	mg/L	2025-11-13	
Beryllium, dissolved	< 0.00010	0.00010	mg/L	2025-11-13	
Bismuth, dissolved	< 0.00010	0.00010	mg/L	2025-11-13	
Boron, dissolved	**0.149**	0.0500	mg/L	2025-11-13	
Cadmium, dissolved	< 0.000010	0.000010	mg/L	2025-11-13	
Calcium, dissolved	**48.0**	0.20	mg/L	2025-11-13	
Chromium, dissolved	< 0.00050	0.00050	mg/L	2025-11-13	
Cobalt, dissolved	**0.00036**	0.00010	mg/L	2025-11-13	
Copper, dissolved	**0.00296**	0.00040	mg/L	2025-11-13	
Iron, dissolved	**0.047**	0.010	mg/L	2025-11-13	
Lead, dissolved	**0.00022**	0.00020	mg/L	2025-11-13	
Lithium, dissolved	**0.00706**	0.00010	mg/L	2025-11-13	
Magnesium, dissolved	**16.5**	0.010	mg/L	2025-11-13	
Manganese, dissolved	**0.0513**	0.00020	mg/L	2025-11-13	
Molybdenum, dissolved	**0.00527**	0.00010	mg/L	2025-11-13	
Nickel, dissolved	**0.00233**	0.00040	mg/L	2025-11-13	
Phosphorus, dissolved	**0.226**	0.050	mg/L	2025-11-13	
Potassium, dissolved	**19.6**	0.10	mg/L	2025-11-13	
Selenium, dissolved	< 0.00050	0.00050	mg/L	2025-11-13	
Silicon, dissolved	**5.7**	1.0	mg/L	2025-11-13	
Silver, dissolved	< 0.000050	0.000050	mg/L	2025-11-13	
Sodium, dissolved	**103**	0.10	mg/L	2025-11-13	
Strontium, dissolved	**0.403**	0.0010	mg/L	2025-11-13	
Sulfur, dissolved	**18.4**	3.0	mg/L	2025-11-13	
Tellurium, dissolved	< 0.00050	0.00050	mg/L	2025-11-13	
Thallium, dissolved	< 0.000020	0.000020	mg/L	2025-11-13	
Thorium, dissolved	< 0.00010	0.00010	mg/L	2025-11-13	
Tin, dissolved	**0.00041**	0.00020	mg/L	2025-11-13	
Titanium, dissolved	< 0.0050	0.0050	mg/L	2025-11-13	

CARO ANALYTICAL SERVICES

TEST RESULTS

REPORTED TO	Lake Country, District of (Wastewater)	**WORK ORDER**	25K0794
PROJECT	Final Effluent- PE14651	**REPORTED**	2025-11-14 12:22

Analyte	Result	RL	Units	Analyzed	Qualifier
Final Effluent (E233626) (25K0794-01) | Matrix: Wastewater | Sampled: 2025-11-06 09:36, Continued					FILT, PRES
Dissolved Metals, Continued					
Tungsten, dissolved	< 0.0010	0.0010	mg/L	2025-11-13	
Uranium, dissolved	**0.000642**	0.000020	mg/L	2025-11-13	
Vanadium, dissolved	< 0.0050	0.0050	mg/L	2025-11-13	
Zinc, dissolved	**0.0317**	0.0040	mg/L	2025-11-13	
Zirconium, dissolved	**0.00011**	0.00010	mg/L	2025-11-13	
General Parameters					
Alkalinity, Total (as CaCO3)	**182**	1.0	mg/L	2025-11-10	
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	1.0	mg/L	2025-11-10	
Alkalinity, Bicarbonate (as CaCO3)	**182**	1.0	mg/L	2025-11-10	
Alkalinity, Carbonate (as CaCO3)	< 1.0	1.0	mg/L	2025-11-10	
Alkalinity, Hydroxide (as CaCO3)	< 1.0	1.0	mg/L	2025-11-10	
Ammonia, Total (as N)	**0.704**	0.050	mg/L	2025-11-13	
BOD, 5-day Carbonaceous	< 4.0	8.0	mg/L	2025-11-13	
Carbon, Dissolved Organic	**11.4**	0.50	mg/L	2025-11-10	
Nitrogen, Total Kjeldahl	**2.48**	0.050	mg/L	2025-11-14	
pH	**7.21**	0.10	pH units	2025-11-10	HT2
Phosphorus, Total (as P)	**0.135**	0.0050	mg/L	2025-11-10	
Phosphorus, Dissolved Reactive	**0.140**	0.0050	mg/L	2025-11-09	
Solids, Total Suspended	< 3.0	1.8	mg/L	2025-11-13	
Microbiological Parameters					
Coliforms, Total (Q-Tray)	**57900**	1	MPN/100 mL	2025-11-07	
Coliforms, Fecal (Q-Tray)	**6050**	1	MPN/100 mL	2025-11-07	
Total Metals					
Aluminum, total	**0.0109**	0.0050	mg/L	2025-11-14	
Antimony, total	**0.00032**	0.00020	mg/L	2025-11-14	
Arsenic, total	< 0.00050	0.00050	mg/L	2025-11-14	
Barium, total	**0.0220**	0.0050	mg/L	2025-11-14	
Beryllium, total	< 0.00010	0.00010	mg/L	2025-11-14	
Bismuth, total	< 0.00010	0.00010	mg/L	2025-11-14	
Boron, total	**0.139**	0.0500	mg/L	2025-11-14	
Cadmium, total	< 0.000010	0.000010	mg/L	2025-11-14	
Calcium, total	**48.8**	0.20	mg/L	2025-11-14	
Chromium, total	< 0.00050	0.00050	mg/L	2025-11-14	
Cobalt, total	**0.00035**	0.00010	mg/L	2025-11-14	
Copper, total	**0.00376**	0.00040	mg/L	2025-11-14	
Iron, total	**0.053**	0.010	mg/L	2025-11-14	
Lead, total	**0.00021**	0.00020	mg/L	2025-11-14	
Lithium, total	**0.00607**	0.00010	mg/L	2025-11-14	
Magnesium, total	**15.7**	0.010	mg/L	2025-11-14	
Manganese, total	**0.0512**	0.00020	mg/L	2025-11-14	

CARO ANALYTICAL SERVICES

TEST RESULTS

REPORTED TO	Lake Country, District of (Wastewater)	**WORK ORDER**	25K0794
PROJECT	Final Effluent- PE14651	**REPORTED**	2025-11-14 12:22

Analyte	Result	RL	Units	Analyzed	Qualifier
Final Effluent (E233626) (25K0794-01) | Matrix: Wastewater | Sampled: 2025-11-06 09:36, Continued					FILT, PRES
Total Metals, Continued					
Molybdenum, total	**0.00464**	0.00010	mg/L	2025-11-14	
Nickel, total	**0.00216**	0.00040	mg/L	2025-11-14	
Phosphorus, total	**0.264**	0.050	mg/L	2025-11-14	
Potassium, total	**18.5**	0.10	mg/L	2025-11-14	
Selenium, total	< 0.00050	0.00050	mg/L	2025-11-14	
Silicon, total	**5.6**	1.0	mg/L	2025-11-14	
Silver, total	< 0.000050	0.000050	mg/L	2025-11-14	
Sodium, total	**97.8**	0.10	mg/L	2025-11-14	
Strontium, total	**0.345**	0.0010	mg/L	2025-11-14	
Sulfur, total	**19.5**	3.0	mg/L	2025-11-14	
Tellurium, total	< 0.00050	0.00050	mg/L	2025-11-14	
Thallium, total	< 0.000020	0.000020	mg/L	2025-11-14	
Thorium, total	< 0.00010	0.00010	mg/L	2025-11-14	
Tin, total	**0.00050**	0.00020	mg/L	2025-11-14	
Titanium, total	< 0.0050	0.0050	mg/L	2025-11-14	
Tungsten, total	< 0.0010	0.0010	mg/L	2025-11-14	
Uranium, total	**0.000830**	0.000020	mg/L	2025-11-14	
Vanadium, total	< 0.0050	0.0050	mg/L	2025-11-14	
Zinc, total	**0.0312**	0.0040	mg/L	2025-11-14	
Zirconium, total	**0.00013**	0.00010	mg/L	2025-11-14	
Trip Blank (25K0794-02) | Matrix: Water | Sampled: 2025-11-06 06:45					
Anions					
Chloride	< 0.10	0.10	mg/L	2025-11-07	
Nitrate (as N)	< 0.010	0.010	mg/L	2025-11-07	
Nitrite (as N)	< 0.010	0.010	mg/L	2025-11-07	
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	2025-11-10	
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	1.0	mg/L	2025-11-10	
Alkalinity, Bicarbonate (as CaCO3)	< 1.0	1.0	mg/L	2025-11-10	
Alkalinity, Carbonate (as CaCO3)	< 1.0	1.0	mg/L	2025-11-10	
Alkalinity, Hydroxide (as CaCO3)	< 1.0	1.0	mg/L	2025-11-10	
Ammonia, Total (as N)	< 0.050	0.050	mg/L	2025-11-13	
BOD, 5-day Carbonaceous	< 4.0	8.0	mg/L	2025-11-13	
Nitrogen, Total Kjeldahl	< 0.050	0.050	mg/L	2025-11-14	
pH	**5.73**	0.10	pH units	2025-11-10	HT2

TEST RESULTS

REPORTED TO	Lake Country, District of (Wastewater)	**WORK ORDER**	25K0794
PROJECT	Final Effluent- PE14651	**REPORTED**	2025-11-14 12:22

Analyte	Result	RL	Units	Analyzed	Qualifier
Trip Blank (25K0794-02) | Matrix: Water | Sampled: 2025-11-06 06:45, Continued					
General Parameters, Continued					
Phosphorus, Total (as P)	< 0.0050	0.0050	mg/L	2025-11-10	
Phosphorus, Dissolved Reactive	**0.0060**	0.0050	mg/L	2025-11-09	
Solids, Total Suspended	< 1.8	1.8	mg/L	2025-11-13	
Microbiological Parameters					
Coliforms, Total (Q-Tray)	< 1	1	MPN/100 mL	2025-11-07	HT1
Coliforms, Fecal (Q-Tray)	< 1	1	MPN/100 mL	2025-11-07	HT1

Sample Qualifiers:

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

APPENDIX 1: SUPPORTING INFORMATION

REPORTED TO	Lake Country, District of (Wastewater)	**WORK ORDER**	25K0794
PROJECT	Final Effluent- PE14651	**REPORTED**	2025-11-14 12:22

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
Carbon, Dissolved Organic in Water	SM 5310 B (2022)	Combustion, Infrared CO2 Detection	✓	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
Dissolved Metals in Water	EPA 200.8 / EPA 6020B	0.45 µm Filtration / Inductively Coupled Plasma-Mass Spectroscopy (ICP-MS)	✓	Richmond
Hardness in Water	SM 2340 B (2021)	Calculation: 2.497 [diss Ca] + 4.118 [diss Mg]	✓	N/A
Hardness in Water	SM 2340 B* (2021)	Calculation: 2.497 [total Ca] + 4.118 [total Mg] (Est)	✓	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, Dissolved Reactive in Water	SM 4500-P F (2021)	Automated Colorimetry (Ascorbic Acid)	✓	Kelowna
Phosphorus, Total in Water	SM 4500-P B.5* (2011) / SM 4500-P F (2021)	Persulfate Digestion / Automated Colorimetry (Ascorbic Acid)	✓	Kelowna
Solids, Total Suspended in Water	Solids in Water, Filtered / SM 2540 D* (2020)	Solids in Water, Filtered / Gravimetry (Dried at 103-105C)	✓	Kelowna
Total Metals in Water	EPA 200.2 / EPA 6020B	HNO3+HCl Hot Block Digestion / Inductively Coupled Plasma-Mass Spectroscopy (ICP-MS)	✓	Richmond

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

Glossary of Terms:

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

APPENDIX 1: SUPPORTING INFORMATION

REPORTED TO	Lake Country, District of (Wastewater)	**WORK ORDER**	25K0794
PROJECT	Final Effluent- PE14651	**REPORTED**	2025-11-14 12:22

General Comments:

The results in this report apply to samples received by CARO and analyzed in accordance with the Chain of Custody document. This analytical report must be reproduced in its entirety and must not be modified. CARO is not responsible for losses or damages resulting directly or indirectly from errors or omissions in the conduct of the testing. Any 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. Results in **red** indicate values above the regulatory limits where these have been included. Any Bold and/or highlighted results do not take into account method uncertainty. If you would like method uncertainty or regulatory limits to be included on your report, please contact your Account Manager: {@Email}

APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO	Lake Country, District of (Wastewater)	**WORK ORDER**	25K0794
PROJECT	Final Effluent- PE14651	**REPORTED**	2025-11-14 12:22

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 B5K2443										
Blank (B5K2443-BLK1)				Prepared: 2025-11-07, Analyzed: 2025-11-07						
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 (B5K2443-BLK2)				Prepared: 2025-11-07, Analyzed: 2025-11-07						
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 (B5K2443-BS1)				Prepared: 2025-11-07, Analyzed: 2025-11-07						
Chloride	16.1	0.10	mg/L	16.0		100	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			
LCS (B5K2443-BS2)				Prepared: 2025-11-07, Analyzed: 2025-11-07						
Chloride	16.0	0.10	mg/L	16.0		100	90-110			
Nitrate (as N)	4.09	0.010	mg/L	4.00		102	90-110			
Nitrite (as N)	2.01	0.010	mg/L	2.00		100	85-115			
Dissolved Metals, Batch B5K2966										
Blank (B5K2966-BLK1)				Prepared: 2025-11-12, Analyzed: 2025-11-12						
Aluminum, dissolved	< 0.0050	0.0050	mg/L							
Antimony, dissolved	< 0.00020	0.00020	mg/L							
Arsenic, dissolved	< 0.00050	0.00050	mg/L							
Barium, dissolved	< 0.0050	0.0050	mg/L							
Beryllium, dissolved	< 0.00010	0.00010	mg/L							
Bismuth, dissolved	< 0.00010	0.00010	mg/L							
Boron, dissolved	< 0.0500	0.0500	mg/L							
Cadmium, dissolved	< 0.000010	0.000010	mg/L							
Calcium, dissolved	< 0.20	0.20	mg/L							
Chromium, dissolved	< 0.00050	0.00050	mg/L							
Cobalt, dissolved	< 0.00010	0.00010	mg/L							
Copper, dissolved	< 0.00040	0.00040	mg/L							
Iron, dissolved	< 0.010	0.010	mg/L							
Lead, dissolved	< 0.00020	0.00020	mg/L							

APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO	Lake Country, District of (Wastewater)	**WORK ORDER**	25K0794
PROJECT	Final Effluent- PE14651	**REPORTED**	2025-11-14 12:22

Analyte	Result	RL	Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Dissolved Metals, Batch B5K2966, Continued										
Blank (B5K2966-BLK1), Continued				Prepared: 2025-11-12, Analyzed: 2025-11-12						
Lithium, dissolved	< 0.00010	0.00010	mg/L							
Magnesium, dissolved	< 0.010	0.010	mg/L							
Manganese, dissolved	< 0.00020	0.00020	mg/L							
Molybdenum, dissolved	< 0.00010	0.00010	mg/L							
Nickel, dissolved	< 0.00040	0.00040	mg/L							
Phosphorus, dissolved	< 0.050	0.050	mg/L							
Potassium, dissolved	< 0.10	0.10	mg/L							
Selenium, dissolved	< 0.00050	0.00050	mg/L							
Silicon, dissolved	< 1.0	1.0	mg/L							
Silver, dissolved	< 0.000050	0.000050	mg/L							
Sodium, dissolved	< 0.10	0.10	mg/L							
Strontium, dissolved	< 0.0010	0.0010	mg/L							
Sulfur, dissolved	< 3.0	3.0	mg/L							
Tellurium, dissolved	< 0.00050	0.00050	mg/L							
Thallium, dissolved	< 0.000020	0.000020	mg/L							
Thorium, dissolved	< 0.00010	0.00010	mg/L							
Tin, dissolved	< 0.00020	0.00020	mg/L							
Titanium, dissolved	< 0.0050	0.0050	mg/L							
Tungsten, dissolved	< 0.0010	0.0010	mg/L							
Uranium, dissolved	< 0.000020	0.000020	mg/L							
Vanadium, dissolved	< 0.0050	0.0050	mg/L							
Zinc, dissolved	< 0.0040	0.0040	mg/L							
Zirconium, dissolved	< 0.00010	0.00010	mg/L							
Blank (B5K2966-BLK2)				Prepared: 2025-11-12, Analyzed: 2025-11-12						
Aluminum, dissolved	< 0.0050	0.0050	mg/L							
Antimony, dissolved	< 0.00020	0.00020	mg/L							
Arsenic, dissolved	< 0.00050	0.00050	mg/L							
Barium, dissolved	< 0.0050	0.0050	mg/L							
Beryllium, dissolved	< 0.00010	0.00010	mg/L							
Bismuth, dissolved	< 0.00010	0.00010	mg/L							
Boron, dissolved	< 0.0500	0.0500	mg/L							
Cadmium, dissolved	< 0.000010	0.000010	mg/L							
Calcium, dissolved	< 0.20	0.20	mg/L							
Chromium, dissolved	< 0.00050	0.00050	mg/L							
Cobalt, dissolved	< 0.00010	0.00010	mg/L							
Copper, dissolved	< 0.00040	0.00040	mg/L							
Iron, dissolved	< 0.010	0.010	mg/L							
Lead, dissolved	< 0.00020	0.00020	mg/L							
Lithium, dissolved	< 0.00010	0.00010	mg/L							
Magnesium, dissolved	< 0.010	0.010	mg/L							
Manganese, dissolved	< 0.00020	0.00020	mg/L							
Molybdenum, dissolved	< 0.00010	0.00010	mg/L							
Nickel, dissolved	< 0.00040	0.00040	mg/L							
Phosphorus, dissolved	< 0.050	0.050	mg/L							
Potassium, dissolved	< 0.10	0.10	mg/L							
Selenium, dissolved	< 0.00050	0.00050	mg/L							
Silicon, dissolved	< 1.0	1.0	mg/L							
Silver, dissolved	< 0.000050	0.000050	mg/L							
Sodium, dissolved	< 0.10	0.10	mg/L							
Strontium, dissolved	< 0.0010	0.0010	mg/L							
Sulfur, dissolved	< 3.0	3.0	mg/L							
Tellurium, dissolved	< 0.00050	0.00050	mg/L							
Thallium, dissolved	< 0.000020	0.000020	mg/L							
Thorium, dissolved	< 0.00010	0.00010	mg/L							
Tin, dissolved	< 0.00020	0.00020	mg/L							

APPENDIX 2: QUALITY CONTROL RESULTS

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

WORK ORDER 25K0794
REPORTED 2025-11-14 12:22

Analyte	Result	RL	Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Dissolved Metals, Batch B5K2966, Continued										
Blank (B5K2966-BLK2), Continued				Prepared: 2025-11-12, Analyzed: 2025-11-12						
Titanium, dissolved	< 0.0050	0.0050	mg/L							
Tungsten, dissolved	< 0.0010	0.0010	mg/L							
Uranium, dissolved	< 0.000020	0.000020	mg/L							
Vanadium, dissolved	< 0.0050	0.0050	mg/L							
Zinc, dissolved	< 0.0040	0.0040	mg/L							
Zirconium, dissolved	< 0.00010	0.00010	mg/L							
LCS (B5K2966-BS1)				Prepared: 2025-11-13, Analyzed: 2025-11-13						
Aluminum, dissolved	4.02	0.0050	mg/L	4.00		101	80-120			
Antimony, dissolved	0.0406	0.00020	mg/L	0.0400		101	80-120			
Arsenic, dissolved	0.403	0.00050	mg/L	0.400		101	80-120			
Barium, dissolved	0.0406	0.0050	mg/L	0.0400		101	80-120			
Beryllium, dissolved	0.0393	0.00010	mg/L	0.0400		98	80-120			
Bismuth, dissolved	0.0400	0.00010	mg/L	0.0400		100	80-120			
Boron, dissolved	0.404	0.0500	mg/L	0.400		101	80-120			
Cadmium, dissolved	0.0406	0.000010	mg/L	0.0400		102	80-120			
Calcium, dissolved	4.05	0.20	mg/L	4.00		101	80-120			
Chromium, dissolved	0.0406	0.00050	mg/L	0.0400		102	80-120			
Cobalt, dissolved	0.0408	0.00010	mg/L	0.0400		102	80-120			
Copper, dissolved	0.0408	0.00040	mg/L	0.0400		102	80-120			
Iron, dissolved	4.07	0.010	mg/L	4.00		102	80-120			
Lead, dissolved	0.0398	0.00020	mg/L	0.0400		100	80-120			
Lithium, dissolved	0.0396	0.00010	mg/L	0.0400		99	80-120			
Magnesium, dissolved	4.23	0.010	mg/L	4.00		106	80-120			
Manganese, dissolved	0.0407	0.00020	mg/L	0.0400		102	80-120			
Molybdenum, dissolved	0.0411	0.00010	mg/L	0.0400		103	80-120			
Nickel, dissolved	0.0409	0.00040	mg/L	0.0400		102	80-120			
Phosphorus, dissolved	4.05	0.050	mg/L	4.00		101	80-120			
Potassium, dissolved	4.15	0.10	mg/L	4.00		104	80-120			
Selenium, dissolved	0.388	0.00050	mg/L	0.400		97	80-120			
Silicon, dissolved	4.0	1.0	mg/L	4.00		99	80-120			
Silver, dissolved	0.0400	0.000050	mg/L	0.0400		100	80-120			
Sodium, dissolved	4.12	0.10	mg/L	4.00		103	80-120			
Strontium, dissolved	0.0405	0.0010	mg/L	0.0400		101	80-120			
Sulfur, dissolved	39.2	3.0	mg/L	40.0		98	80-120			
Tellurium, dissolved	0.0400	0.00050	mg/L	0.0400		100	80-120			
Thallium, dissolved	0.0398	0.000020	mg/L	0.0400		99	80-120			
Thorium, dissolved	0.0398	0.00010	mg/L	0.0400		99	80-120			
Tin, dissolved	0.0422	0.00020	mg/L	0.0400		106	80-120			
Titanium, dissolved	0.0408	0.0050	mg/L	0.0400		102	80-120			
Tungsten, dissolved	0.0402	0.0010	mg/L	0.0400		100	80-120			
Uranium, dissolved	0.0398	0.000020	mg/L	0.0400		100	80-120			
Vanadium, dissolved	0.0405	0.0050	mg/L	0.0400		101	80-120			
Zinc, dissolved	0.405	0.0040	mg/L	0.400		101	80-120			
Zirconium, dissolved	0.0406	0.00010	mg/L	0.0400		101	80-120			
LCS (B5K2966-BS2)				Prepared: 2025-11-13, Analyzed: 2025-11-13						
Aluminum, dissolved	4.00	0.0050	mg/L	4.00		100	80-120			
Antimony, dissolved	0.0401	0.00020	mg/L	0.0400		100	80-120			
Arsenic, dissolved	0.400	0.00050	mg/L	0.400		100	80-120			
Barium, dissolved	0.0403	0.0050	mg/L	0.0400		101	80-120			
Beryllium, dissolved	0.0394	0.00010	mg/L	0.0400		98	80-120			
Bismuth, dissolved	0.0393	0.00010	mg/L	0.0400		98	80-120			
Boron, dissolved	0.407	0.0500	mg/L	0.400		102	80-120			
Cadmium, dissolved	0.0403	0.000010	mg/L	0.0400		101	80-120			
Calcium, dissolved	4.10	0.20	mg/L	4.00		102	80-120			

APPENDIX 2: QUALITY CONTROL RESULTS

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

WORK ORDER 25K0794
REPORTED 2025-11-14 12:22

Analyte	Result	RL	Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Dissolved Metals, Batch B5K2966, Continued										
LCS (B5K2966-BS2), Continued				Prepared: 2025-11-13, Analyzed: 2025-11-13						
Chromium, dissolved	0.0407	0.00050	mg/L	0.0400		102	80-120			
Cobalt, dissolved	0.0406	0.00010	mg/L	0.0400		102	80-120			
Copper, dissolved	0.0411	0.00040	mg/L	0.0400		103	80-120			
Iron, dissolved	4.05	0.010	mg/L	4.00		101	80-120			
Lead, dissolved	0.0395	0.00020	mg/L	0.0400		99	80-120			
Lithium, dissolved	0.0395	0.00010	mg/L	0.0400		99	80-120			
Magnesium, dissolved	4.22	0.010	mg/L	4.00		105	80-120			
Manganese, dissolved	0.0402	0.00020	mg/L	0.0400		101	80-120			
Molybdenum, dissolved	0.0407	0.00010	mg/L	0.0400		102	80-120			
Nickel, dissolved	0.0412	0.00040	mg/L	0.0400		103	80-120			
Phosphorus, dissolved	4.00	0.050	mg/L	4.00		100	80-120			
Potassium, dissolved	4.09	0.10	mg/L	4.00		102	80-120			
Selenium, dissolved	0.396	0.00050	mg/L	0.400		99	80-120			
Silicon, dissolved	3.9	1.0	mg/L	4.00		97	80-120			
Silver, dissolved	0.0397	0.000050	mg/L	0.0400		99	80-120			
Sodium, dissolved	4.14	0.10	mg/L	4.00		104	80-120			
Strontium, dissolved	0.0403	0.0010	mg/L	0.0400		101	80-120			
Sulfur, dissolved	39.3	3.0	mg/L	40.0		98	80-120			
Tellurium, dissolved	0.0399	0.00050	mg/L	0.0400		100	80-120			
Thallium, dissolved	0.0398	0.000020	mg/L	0.0400		99	80-120			
Thorium, dissolved	0.0393	0.00010	mg/L	0.0400		98	80-120			
Tin, dissolved	0.0414	0.00020	mg/L	0.0400		104	80-120			
Titanium, dissolved	0.0402	0.0050	mg/L	0.0400		101	80-120			
Tungsten, dissolved	0.0396	0.0010	mg/L	0.0400		99	80-120			
Uranium, dissolved	0.0393	0.000020	mg/L	0.0400		98	80-120			
Vanadium, dissolved	0.0402	0.0050	mg/L	0.0400		101	80-120			
Zinc, dissolved	0.401	0.0040	mg/L	0.400		100	80-120			
Zirconium, dissolved	0.0399	0.00010	mg/L	0.0400		100	80-120			
General Parameters, Batch B5K2460										
Blank (B5K2460-BLK1)				Prepared: 2025-11-10, Analyzed: 2025-11-10						
Carbon, Dissolved Organic	< 0.50	0.50	mg/L							
Blank (B5K2460-BLK2)				Prepared: 2025-11-10, Analyzed: 2025-11-10						
Carbon, Dissolved Organic	< 0.50	0.50	mg/L							
LCS (B5K2460-BS1)				Prepared: 2025-11-10, Analyzed: 2025-11-10						
Carbon, Dissolved Organic	9.58	0.50	mg/L	10.0		96	78-116			
LCS (B5K2460-BS2)				Prepared: 2025-11-10, Analyzed: 2025-11-10						
Carbon, Dissolved Organic	10.5	0.50	mg/L	10.0		105	78-116			
General Parameters, Batch B5K2600										
Blank (B5K2600-BLK1)				Prepared: 2025-11-08, Analyzed: 2025-11-13						
BOD, 5-day Carbonaceous	< 2.0	2.0	mg/L							
LCS (B5K2600-BS1)				Prepared: 2025-11-08, Analyzed: 2025-11-13						
BOD, 5-day Carbonaceous	181	66.6	mg/L	198		91	85-115			
General Parameters, Batch B5K2647										
Blank (B5K2647-BLK1)				Prepared: 2025-11-08, Analyzed: 2025-11-09						
Phosphorus, Dissolved Reactive	< 0.0050	0.0050	mg/L							

APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO	Lake Country, District of (Wastewater)	**WORK ORDER**	25K0794
PROJECT	Final Effluent- PE14651	**REPORTED**	2025-11-14 12:22

Analyte	Result	RL	Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
General Parameters, Batch B5K2647, Continued										
Blank (B5K2647-BLK2)				Prepared: 2025-11-08, Analyzed: 2025-11-09						
Phosphorus, Dissolved Reactive	< 0.0050	0.0050	mg/L							
LCS (B5K2647-BS1)				Prepared: 2025-11-08, Analyzed: 2025-11-09						
Phosphorus, Dissolved Reactive	0.106	0.0050	mg/L	0.100		106	84-115			
LCS (B5K2647-BS2)				Prepared: 2025-11-08, Analyzed: 2025-11-09						
Phosphorus, Dissolved Reactive	0.106	0.0050	mg/L	0.100		106	84-115			
General Parameters, Batch B5K2720										
Blank (B5K2720-BLK1)				Prepared: 2025-11-10, Analyzed: 2025-11-10						
Phosphorus, Total (as P)	< 0.0050	0.0050	mg/L							
LCS (B5K2720-BS1)				Prepared: 2025-11-10, Analyzed: 2025-11-10						
Phosphorus, Total (as P)	0.113	0.0050	mg/L	0.100		113	85-115			
General Parameters, Batch B5K2765										
Blank (B5K2765-BLK1)				Prepared: 2025-11-10, Analyzed: 2025-11-10						
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 (B5K2765-BS1)				Prepared: 2025-11-10, Analyzed: 2025-11-10						
Alkalinity, Total (as CaCO3)	105	1.0	mg/L	100		105	80-120			
Reference (B5K2765-SRM1)				Prepared: 2025-11-10, Analyzed: 2025-11-10						
pH	7.01	0.10	pH units	7.01		100	98-102			
General Parameters, Batch B5K3001										
Blank (B5K3001-BLK1)				Prepared: 2025-11-13, Analyzed: 2025-11-13						
Solids, Total Suspended	< 1.8	1.8	mg/L							
Blank (B5K3001-BLK2)				Prepared: 2025-11-13, Analyzed: 2025-11-13						
Solids, Total Suspended	< 1.8	1.8	mg/L							
Blank (B5K3001-BLK3)				Prepared: 2025-11-13, Analyzed: 2025-11-13						
Solids, Total Suspended	< 1.8	1.8	mg/L							
LCS (B5K3001-BS1)				Prepared: 2025-11-13, Analyzed: 2025-11-13						
Solids, Total Suspended	90.5	4.5	mg/L	100		90	85-115			
LCS (B5K3001-BS2)				Prepared: 2025-11-13, Analyzed: 2025-11-13						
Solids, Total Suspended	87.0	4.5	mg/L	100		87	85-115			
LCS (B5K3001-BS3)				Prepared: 2025-11-13, Analyzed: 2025-11-13						
Solids, Total Suspended	97.5	4.5	mg/L	100		98	85-115			
General Parameters, Batch B5K3094										
Blank (B5K3094-BLK1)				Prepared: 2025-11-13, Analyzed: 2025-11-14						
Nitrogen, Total Kjeldahl	< 0.050	0.050	mg/L							

APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO	Lake Country, District of (Wastewater)	**WORK ORDER**	25K0794
PROJECT	Final Effluent- PE14651	**REPORTED**	2025-11-14 12:22

Analyte	Result	RL	Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
General Parameters, Batch B5K3094, Continued										
Blank (B5K3094-BLK2)				Prepared: 2025-11-13, Analyzed: 2025-11-14						
Nitrogen, Total Kjeldahl	< 0.050	0.050	mg/L							
LCS (B5K3094-BS1)				Prepared: 2025-11-13, Analyzed: 2025-11-14						
Nitrogen, Total Kjeldahl	0.969	0.050	mg/L	1.00		97	85-115			
LCS (B5K3094-BS2)				Prepared: 2025-11-13, Analyzed: 2025-11-14						
Nitrogen, Total Kjeldahl	0.998	0.050	mg/L	1.00		100	85-115			
General Parameters, Batch B5K3125										
Blank (B5K3125-BLK1)				Prepared: 2025-11-13, Analyzed: 2025-11-13						
Ammonia, Total (as N)	< 0.050	0.050	mg/L							
Blank (B5K3125-BLK2)				Prepared: 2025-11-13, Analyzed: 2025-11-13						
Ammonia, Total (as N)	< 0.050	0.050	mg/L							
LCS (B5K3125-BS1)				Prepared: 2025-11-13, Analyzed: 2025-11-13						
Ammonia, Total (as N)	0.857	0.050	mg/L	1.00		86	85-115			
LCS (B5K3125-BS2)				Prepared: 2025-11-13, Analyzed: 2025-11-13						
Ammonia, Total (as N)	0.856	0.050	mg/L	1.00		86	85-115			
Microbiological Parameters, Batch B5K2491										
Blank (B5K2491-BLK1)				Prepared: 2025-11-07, Analyzed: 2025-11-07						
Coliforms, Total (Q-Tray)	< 1	1	MPN/100 mL							
Blank (B5K2491-BLK2)				Prepared: 2025-11-07, Analyzed: 2025-11-07						
Coliforms, Fecal (Q-Tray)	< 1	1	MPN/100 mL							
Blank (B5K2491-BLK3)				Prepared: 2025-11-07, Analyzed: 2025-11-07						
Coliforms, Total (Q-Tray)	< 1	1	MPN/100 mL							
Blank (B5K2491-BLK4)				Prepared: 2025-11-07, Analyzed: 2025-11-07						
Coliforms, Fecal (Q-Tray)	< 1	1	MPN/100 mL							
Duplicate (B5K2491-DUP2)		**Source: 25K0794-02**		Prepared: 2025-11-07, Analyzed: 2025-11-07						
Coliforms, Fecal (Q-Tray)	< 1	1	MPN/100 mL		< 1				80	RS2
Total Metals, Batch B5K2918										
Blank (B5K2918-BLK1)				Prepared: 2025-11-12, Analyzed: 2025-11-14						
Aluminum, total	< 0.0050	0.0050	mg/L							
Antimony, total	< 0.00020	0.00020	mg/L							
Arsenic, total	< 0.00050	0.00050	mg/L							
Barium, total	< 0.0050	0.0050	mg/L							
Beryllium, total	< 0.00010	0.00010	mg/L							
Bismuth, total	< 0.00010	0.00010	mg/L							
Boron, total	< 0.0500	0.0500	mg/L							
Cadmium, total	< 0.000010	0.000010	mg/L							
Calcium, total	< 0.20	0.20	mg/L							
Chromium, total	< 0.00050	0.00050	mg/L							
Cobalt, total	< 0.00010	0.00010	mg/L							
Copper, total	< 0.00040	0.00040	mg/L							
Iron, total	< 0.010	0.010	mg/L							
Lead, total	< 0.00020	0.00020	mg/L							

APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO	Lake Country, District of (Wastewater)	**WORK ORDER**	25K0794
PROJECT	Final Effluent- PE14651	**REPORTED**	2025-11-14 12:22

Analyte	Result	RL	Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Total Metals, Batch B5K2918, Continued										
Blank (B5K2918-BLK1), Continued				Prepared: 2025-11-12, Analyzed: 2025-11-14						
Lithium, total	< 0.00010	0.00010	mg/L							
Magnesium, total	< 0.010	0.010	mg/L							
Manganese, total	< 0.00020	0.00020	mg/L							
Molybdenum, total	< 0.00010	0.00010	mg/L							
Nickel, total	< 0.00040	0.00040	mg/L							
Phosphorus, total	< 0.050	0.050	mg/L							
Potassium, total	< 0.10	0.10	mg/L							
Selenium, total	< 0.00050	0.00050	mg/L							
Silicon, total	< 1.0	1.0	mg/L							
Silver, total	< 0.000050	0.000050	mg/L							
Sodium, total	< 0.10	0.10	mg/L							
Strontium, total	< 0.0010	0.0010	mg/L							
Sulfur, total	< 3.0	3.0	mg/L							
Tellurium, total	< 0.00050	0.00050	mg/L							
Thallium, total	< 0.000020	0.000020	mg/L							
Thorium, total	< 0.00010	0.00010	mg/L							
Tin, total	< 0.00020	0.00020	mg/L							
Titanium, total	< 0.0050	0.0050	mg/L							
Tungsten, total	< 0.0010	0.0010	mg/L							
Uranium, total	< 0.000020	0.000020	mg/L							
Vanadium, total	< 0.0050	0.0050	mg/L							
Zinc, total	< 0.0040	0.0040	mg/L							
Zirconium, total	< 0.00010	0.00010	mg/L							
LCS (B5K2918-BS1)				Prepared: 2025-11-12, Analyzed: 2025-11-14						
Aluminum, total	3.91	0.0050	mg/L	4.00		98	80-120			
Antimony, total	0.0393	0.00020	mg/L	0.0400		98	80-120			
Arsenic, total	0.388	0.00050	mg/L	0.400		97	80-120			
Barium, total	0.0388	0.0050	mg/L	0.0400		97	80-120			
Beryllium, total	0.0388	0.00010	mg/L	0.0400		97	80-120			
Bismuth, total	0.0398	0.00010	mg/L	0.0400		99	80-120			
Boron, total	0.399	0.0500	mg/L	0.400		100	80-120			
Cadmium, total	0.0390	0.000010	mg/L	0.0400		97	80-120			
Calcium, total	3.98	0.20	mg/L	4.00		99	80-120			
Chromium, total	0.0401	0.00050	mg/L	0.0400		100	80-120			
Cobalt, total	0.0397	0.00010	mg/L	0.0400		99	80-120			
Copper, total	0.0394	0.00040	mg/L	0.0400		98	80-120			
Iron, total	4.02	0.010	mg/L	4.00		100	80-120			
Lead, total	0.0401	0.00020	mg/L	0.0400		100	80-120			
Lithium, total	0.0385	0.00010	mg/L	0.0400		96	80-120			
Magnesium, total	4.01	0.010	mg/L	4.00		100	80-120			
Manganese, total	0.0395	0.00020	mg/L	0.0400		99	80-120			
Molybdenum, total	0.0400	0.00010	mg/L	0.0400		100	80-120			
Nickel, total	0.0395	0.00040	mg/L	0.0400		99	80-120			
Phosphorus, total	3.92	0.050	mg/L	4.00		98	80-120			
Potassium, total	3.91	0.10	mg/L	4.00		98	80-120			
Selenium, total	0.389	0.00050	mg/L	0.400		97	80-120			
Silicon, total	3.9	1.0	mg/L	4.00		98	80-120			
Silver, total	0.0393	0.000050	mg/L	0.0400		98	80-120			
Sodium, total	3.99	0.10	mg/L	4.00		100	80-120			
Strontium, total	0.0388	0.0010	mg/L	0.0400		97	80-120			
Sulfur, total	38.6	3.0	mg/L	40.0		97	80-120			
Tellurium, total	0.0367	0.00050	mg/L	0.0400		92	80-120			
Thallium, total	0.0408	0.000020	mg/L	0.0400		102	80-120			
Thorium, total	0.0405	0.00010	mg/L	0.0400		101	80-120			
Tin, total	0.0406	0.00020	mg/L	0.0400		101	80-120			

APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO	Lake Country, District of (Wastewater)	**WORK ORDER**	25K0794
PROJECT	Final Effluent- PE14651	**REPORTED**	2025-11-14 12:22

Analyte	Result	RL	Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Total Metals, Batch B5K2918, Continued										
LCS (B5K2918-BS1), Continued				Prepared: 2025-11-12, Analyzed: 2025-11-14						
Titanium, total	0.0398	0.0050	mg/L	0.0400		99	80-120			
Tungsten, total	0.0413	0.0010	mg/L	0.0400		103	80-120			
Uranium, total	0.0408	0.000020	mg/L	0.0400		102	80-120			
Vanadium, total	0.0395	0.0050	mg/L	0.0400		99	80-120			
Zinc, total	0.385	0.0040	mg/L	0.400		96	80-120			
Zirconium, total	0.0394	0.00010	mg/L	0.0400		98	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	**WORK ORDER**	25L1197
PO NUMBER		**RECEIVED / TEMP**	2025-12-09 12:04 / 14.1°C
PROJECT	Raw Influent- PE14651	**REPORTED**	2025-12-16 14:51
PROJECT INFO	Lake Country WWTP	**COC NUMBER**	46000.37342

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 hhannaoui@caro.ca

Authorized By:

Hanane El Hannaoui
Junior Account Manager

TEST RESULTS

REPORTED TO	Lake Country, District of (Wastewater)	**WORK ORDER**	25L1197
PROJECT	Raw Influent- PE14651	**REPORTED**	2025-12-16 14:51

Analyte	Result	RL	Units	Analyzed	Qualifier
Raw Influent (25L1197-01) | Matrix: Wastewater | Sampled: 2025-12-09 10:15					
Anions					
Nitrate (as N)	< 0.010	0.010	mg/L	2025-12-10	
Nitrite (as N)	< 0.010	0.010	mg/L	2025-12-10	
Calculated Parameters					
Nitrate+Nitrite (as N)	< 0.0100	0.0100	mg/L	N/A	
Nitrogen, Total	**89.4**	2.00	mg/L	N/A	
General Parameters					
Alkalinity, Total (as CaCO3)	**404**	1.0	mg/L	2025-12-11	
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	1.0	mg/L	2025-12-11	
Alkalinity, Bicarbonate (as CaCO3)	**404**	1.0	mg/L	2025-12-11	
Alkalinity, Carbonate (as CaCO3)	< 1.0	1.0	mg/L	2025-12-11	
Alkalinity, Hydroxide (as CaCO3)	< 1.0	1.0	mg/L	2025-12-11	
Ammonia, Total (as N)	**67.9**	0.050	mg/L	2025-12-12	
BOD, 5-day	**654**	8.0	mg/L	2025-12-15	
BOD, 5-day Carbonaceous	**495**	8.0	mg/L	2025-12-16	
Nitrogen, Total Kjeldahl	**89.4**	0.050	mg/L	2025-12-13	
pH	**7.88**	0.10	pH units	2025-12-11	HT2
Phosphorus, Total (as P)	**10.2**	0.0050	mg/L	2025-12-12	
Phosphorus, Dissolved Reactive	**7.72**	0.0050	mg/L	2025-12-10	
Solids, Total Suspended	**402**	1.8	mg/L	2025-12-11	

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	Lake Country, District of (Wastewater)	**WORK ORDER**	25L1197
PROJECT	Raw Influent- PE14651	**REPORTED**	2025-12-16 14:51

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, Dissolved Reactive in Water	SM 4500-P F (2021)	Automated Colorimetry (Ascorbic Acid)	✓	Kelowna
Phosphorus, Total in Water	SM 4500-P B.5* (2011) / SM 4500-P F (2021)	Persulfate Digestion / Automated Colorimetry (Ascorbic Acid)	✓	Kelowna
Solids, Total 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 samples received by CARO and analyzed in accordance with the Chain of Custody document. This analytical report must be reproduced in its entirety and must not be modified. CARO is not responsible for losses or damages resulting directly or indirectly from errors or omissions in the conduct of the testing. Any 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. Results in **red** indicate values above the regulatory limits where these have been included. Any Bold and/or highlighted results do not take into account method uncertainty. If you would like method uncertainty or regulatory limits to be included on your report, please contact your Account Manager: {@Email}

APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO	Lake Country, District of (Wastewater)	**WORK ORDER**	25L1197
PROJECT	Raw Influent- PE14651	**REPORTED**	2025-12-16 14:51

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 B5L2673										
Blank (B5L2673-BLK1)				Prepared: 2025-12-10, Analyzed: 2025-12-10						
Nitrate (as N)	< 0.010	0.010	mg/L							
Nitrite (as N)	< 0.010	0.010	mg/L							
LCS (B5L2673-BS1)				Prepared: 2025-12-10, Analyzed: 2025-12-10						
Nitrate (as N)	4.19	0.010	mg/L	4.00		105	90-110			
Nitrite (as N)	2.17	0.010	mg/L	2.00		109	85-115			
General Parameters, Batch B5L2632										
Blank (B5L2632-BLK1)				Prepared: 2025-12-11, Analyzed: 2025-12-11						
Solids, Total Suspended	< 1.8	1.8	mg/L							
Blank (B5L2632-BLK2)				Prepared: 2025-12-11, Analyzed: 2025-12-11						
Solids, Total Suspended	< 1.8	1.8	mg/L							
LCS (B5L2632-BS1)				Prepared: 2025-12-11, Analyzed: 2025-12-11						
Solids, Total Suspended	91.0	4.5	mg/L	100		91	85-115			
LCS (B5L2632-BS2)				Prepared: 2025-12-11, Analyzed: 2025-12-11						
Solids, Total Suspended	95.5	4.5	mg/L	100		96	85-115			
General Parameters, Batch B5L2635										
Blank (B5L2635-BLK1)				Prepared: 2025-12-10, Analyzed: 2025-12-10						
Phosphorus, Dissolved Reactive	< 0.0050	0.0050	mg/L							
LCS (B5L2635-BS1)				Prepared: 2025-12-10, Analyzed: 2025-12-10						
Phosphorus, Dissolved Reactive	0.104	0.0050	mg/L	0.100		104	84-115			
General Parameters, Batch B5L2709										
Blank (B5L2709-BLK1)				Prepared: 2025-12-10, Analyzed: 2025-12-15						
BOD, 5-day	< 2.0	2.0	mg/L							

APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO	Lake Country, District of (Wastewater)	**WORK ORDER**	25L1197
PROJECT	Raw Influent- PE14651	**REPORTED**	2025-12-16 14:51

Analyte	Result	RL	Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
General Parameters, Batch B5L2709, Continued										
LCS (B5L2709-BS1)				Prepared: 2025-12-10, Analyzed: 2025-12-15						
BOD, 5-day	186	66.6	mg/L	198		94	85-115			
General Parameters, Batch B5L2816										
Blank (B5L2816-BLK1)				Prepared: 2025-12-12, Analyzed: 2025-12-12						
Ammonia, Total (as N)	< 0.050	0.050	mg/L							
Blank (B5L2816-BLK2)				Prepared: 2025-12-12, Analyzed: 2025-12-12						
Ammonia, Total (as N)	< 0.050	0.050	mg/L							
LCS (B5L2816-BS1)				Prepared: 2025-12-12, Analyzed: 2025-12-12						
Ammonia, Total (as N)	0.991	0.050	mg/L	1.00		99	85-115			
LCS (B5L2816-BS2)				Prepared: 2025-12-12, Analyzed: 2025-12-12						
Ammonia, Total (as N)	1.00	0.050	mg/L	1.00		100	85-115			
General Parameters, Batch B5L2863										
Blank (B5L2863-BLK1)				Prepared: 2025-12-11, Analyzed: 2025-12-16						
BOD, 5-day Carbonaceous	< 2.0	2.0	mg/L							
LCS (B5L2863-BS1)				Prepared: 2025-12-11, Analyzed: 2025-12-16						
BOD, 5-day Carbonaceous	184	66.6	mg/L	198		93	85-115			
General Parameters, Batch B5L2878										
Blank (B5L2878-BLK1)				Prepared: 2025-12-11, Analyzed: 2025-12-11						
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 (B5L2878-BLK2)				Prepared: 2025-12-11, Analyzed: 2025-12-11						
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 (B5L2878-BS1)				Prepared: 2025-12-11, Analyzed: 2025-12-11						
Alkalinity, Total (as CaCO3)	94.2	1.0	mg/L	100		94	80-120			
LCS (B5L2878-BS3)				Prepared: 2025-12-11, Analyzed: 2025-12-11						
Alkalinity, Total (as CaCO3)	94.4	1.0	mg/L	100		94	80-120			
Reference (B5L2878-SRM1)				Prepared: 2025-12-11, Analyzed: 2025-12-11						
pH	6.99	0.10	pH units	7.01		100	98-102			
Reference (B5L2878-SRM2)				Prepared: 2025-12-11, Analyzed: 2025-12-11						
pH	7.00	0.10	pH units	7.01		100	98-102			
General Parameters, Batch B5L2927										

APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO	Lake Country, District of (Wastewater)	**WORK ORDER**	25L1197
PROJECT	Raw Influent- PE14651	**REPORTED**	2025-12-16 14:51

Analyte	Result	RL	Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
General Parameters, Batch B5L2927, Continued										
Blank (B5L2927-BLK1)				Prepared: 2025-12-12, Analyzed: 2025-12-12						
Phosphorus, Total (as P)	< 0.0050	0.0050	mg/L							
LCS (B5L2927-BS1)				Prepared: 2025-12-12, Analyzed: 2025-12-12						
Phosphorus, Total (as P)	0.0938	0.0050	mg/L	0.100		94	85-115			
General Parameters, Batch B5L2998										
Blank (B5L2998-BLK1)				Prepared: 2025-12-12, Analyzed: 2025-12-13						
Nitrogen, Total Kjeldahl	< 0.050	0.050	mg/L							
Blank (B5L2998-BLK2)				Prepared: 2025-12-12, Analyzed: 2025-12-13						
Nitrogen, Total Kjeldahl	< 0.050	0.050	mg/L							
LCS (B5L2998-BS1)				Prepared: 2025-12-12, Analyzed: 2025-12-13						
Nitrogen, Total Kjeldahl	1.02	0.050	mg/L	1.00		102	85-115			
LCS (B5L2998-BS2)				Prepared: 2025-12-12, Analyzed: 2025-12-13						
Nitrogen, Total Kjeldahl	1.04	0.050	mg/L	1.00		104	85-115			

CERTIFICATE OF ANALYSIS

REPORTED TO	Lake Country, District of (Wastewater) 4062 Beaver Lake Rd LAKE COUNTRY, BC V4V 1T5		
ATTENTION	Davin Larsen	**WORK ORDER**	25L1199
PO NUMBER		**RECEIVED / TEMP**	2025-12-09 12:04 / 14.1°C
PROJECT	Final Effluent- PE14651	**REPORTED**	2025-12-16 14:58
PROJECT INFO	Lake Country WWTP	**COC NUMBER**	46000.37342

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 hhannaoui@caro.ca

Authorized By:

Hanane El Hannaoui
Junior Account Manager

TEST RESULTS

REPORTED TO	Lake Country, District of (Wastewater)	**WORK ORDER**	25L1199
PROJECT	Final Effluent- PE14651	**REPORTED**	2025-12-16 14:58

Analyte	Result	RL	Units	Analyzed	Qualifier
Final Effluent (E233626) (25L1199-01) | Matrix: Wastewater | Sampled: 2025-12-09 10:30					
Anions					
Chloride	**121**	0.10	mg/L	2025-12-10	
Nitrate (as N)	**2.55**	0.010	mg/L	2025-12-10	
Nitrite (as N)	**0.167**	0.010	mg/L	2025-12-10	
Calculated Parameters					
Nitrate+Nitrite (as N)	**2.72**	0.0100	mg/L	N/A	
Nitrogen, Total	**5.44**	0.0500	mg/L	N/A	
Nitrogen, Organic	**1.43**	0.0500	mg/L	N/A	
General Parameters					
Alkalinity, Total (as CaCO3)	**188**	1.0	mg/L	2025-12-11	
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	1.0	mg/L	2025-12-11	
Alkalinity, Bicarbonate (as CaCO3)	**188**	1.0	mg/L	2025-12-11	
Alkalinity, Carbonate (as CaCO3)	< 1.0	1.0	mg/L	2025-12-11	
Alkalinity, Hydroxide (as CaCO3)	< 1.0	1.0	mg/L	2025-12-11	
Ammonia, Total (as N)	**1.28**	0.050	mg/L	2025-12-12	
BOD, 5-day Carbonaceous	< 4.0	8.0	mg/L	2025-12-16	
Nitrogen, Total Kjeldahl	**2.72**	0.050	mg/L	2025-12-13	
pH	**7.63**	0.10	pH units	2025-12-11	HT2
Phosphorus, Total (as P)	**0.377**	0.0050	mg/L	2025-12-12	
Phosphorus, Dissolved Reactive	**0.224**	0.0050	mg/L	2025-12-11	
Solids, Total Suspended	< 1.8	1.8	mg/L	2025-12-11	
Microbiological Parameters					
Coliforms, Total (Q-Tray)	**> 242000**	1	MPN/100 mL	2025-12-09	
Coliforms, Fecal (Q-Tray)	**18700**	1	MPN/100 mL	2025-12-09	
Duplicate (25L1199-02) | Matrix: Wastewater | Sampled: 2025-12-09 10:30					
Anions					
Chloride	**121**	0.10	mg/L	2025-12-10	
Nitrate (as N)	**2.41**	0.010	mg/L	2025-12-10	
Nitrite (as N)	**0.157**	0.010	mg/L	2025-12-10	
Calculated Parameters					
Nitrate+Nitrite (as N)	**2.57**	0.0100	mg/L	N/A	
Nitrogen, Total	**5.34**	0.100	mg/L	N/A	
Nitrogen, Organic	**1.50**	0.100	mg/L	N/A	
General Parameters					
Alkalinity, Total (as CaCO3)	**185**	1.0	mg/L	2025-12-11	
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	1.0	mg/L	2025-12-11	
Alkalinity, Bicarbonate (as CaCO3)	**185**	1.0	mg/L	2025-12-11	
Alkalinity, Carbonate (as CaCO3)	< 1.0	1.0	mg/L	2025-12-11	

TEST RESULTS

REPORTED TO	Lake Country, District of (Wastewater)	**WORK ORDER**	25L1199
PROJECT	Final Effluent- PE14651	**REPORTED**	2025-12-16 14:58

Analyte	Result	RL	Units	Analyzed	Qualifier
Duplicate (25L1199-02) | Matrix: Wastewater | Sampled: 2025-12-09 10:30, Continued					
General Parameters, Continued					
Alkalinity, Hydroxide (as CaCO3)	< 1.0	1.0	mg/L	2025-12-11	
Ammonia, Total (as N)	**1.28**	0.050	mg/L	2025-12-12	
BOD, 5-day Carbonaceous	< 4.0	8.0	mg/L	2025-12-16	
Nitrogen, Total Kjeldahl	**2.78**	0.050	mg/L	2025-12-13	
pH	**7.49**	0.10	pH units	2025-12-11	HT2
Phosphorus, Total (as P)	**0.403**	0.0050	mg/L	2025-12-13	
Phosphorus, Dissolved Reactive	**0.228**	0.0050	mg/L	2025-12-10	
Solids, Total Suspended	< 1.8	1.8	mg/L	2025-12-11	
Microbiological Parameters					
Coliforms, Total (Q-Tray)	**242000**	1	MPN/100 mL	2025-12-09	
Coliforms, Fecal (Q-Tray)	**29900**	1	MPN/100 mL	2025-12-09	

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	Lake Country, District of (Wastewater)	**WORK ORDER**	25L1199
PROJECT	Final Effluent- PE14651	**REPORTED**	2025-12-16 14:58

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	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, Dissolved Reactive in Water	SM 4500-P F (2021)	Automated Colorimetry (Ascorbic Acid)	✓	Kelowna
Phosphorus, Total in Water	SM 4500-P B.5* (2011) / SM 4500-P F (2021)	Persulfate Digestion / Automated Colorimetry (Ascorbic Acid)	✓	Kelowna
Solids, Total 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

APPENDIX 1: SUPPORTING INFORMATION

REPORTED TO	Lake Country, District of (Wastewater)	**WORK ORDER**	25L1199
PROJECT	Final Effluent- PE14651	**REPORTED**	2025-12-16 14:58

General Comments:

The results in this report apply to samples received by CARO and analyzed in accordance with the Chain of Custody document. This analytical report must be reproduced in its entirety and must not be modified. CARO is not responsible for losses or damages resulting directly or indirectly from errors or omissions in the conduct of the testing. Any 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. Results in **red** indicate values above the regulatory limits where these have been included. Any Bold and/or highlighted results do not take into account method uncertainty. If you would like method uncertainty or regulatory limits to be included on your report, please contact your Account Manager: {@Email}

APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO	Lake Country, District of (Wastewater)	**WORK ORDER**	25L1199
PROJECT	Final Effluent- PE14651	**REPORTED**	2025-12-16 14:58

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 B5L2673										
Blank (B5L2673-BLK1)				Prepared: 2025-12-10, Analyzed: 2025-12-10						
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							
LCS (B5L2673-BS1)				Prepared: 2025-12-10, Analyzed: 2025-12-10						
Chloride	16.0	0.10	mg/L	16.0		100	90-110			
Nitrate (as N)	4.19	0.010	mg/L	4.00		105	90-110			
Nitrite (as N)	2.17	0.010	mg/L	2.00		109	85-115			
General Parameters, Batch B5L2632										
Blank (B5L2632-BLK1)				Prepared: 2025-12-11, Analyzed: 2025-12-11						
Solids, Total Suspended	< 1.8	1.8	mg/L							
Blank (B5L2632-BLK2)				Prepared: 2025-12-11, Analyzed: 2025-12-11						
Solids, Total Suspended	< 1.8	1.8	mg/L							
LCS (B5L2632-BS1)				Prepared: 2025-12-11, Analyzed: 2025-12-11						
Solids, Total Suspended	91.0	4.5	mg/L	100		91	85-115			
LCS (B5L2632-BS2)				Prepared: 2025-12-11, Analyzed: 2025-12-11						
Solids, Total Suspended	95.5	4.5	mg/L	100		96	85-115			
General Parameters, Batch B5L2635										
Blank (B5L2635-BLK1)				Prepared: 2025-12-10, Analyzed: 2025-12-10						
Phosphorus, Dissolved Reactive	< 0.0050	0.0050	mg/L							
LCS (B5L2635-BS1)				Prepared: 2025-12-10, Analyzed: 2025-12-10						
Phosphorus, Dissolved Reactive	0.104	0.0050	mg/L	0.100		104	84-115			
Duplicate (B5L2635-DUP1)			**Source: 25L1199-02**	Prepared: 2025-12-10, Analyzed: 2025-12-10						
Phosphorus, Dissolved Reactive	0.230	0.0050	mg/L		0.228			< 1	14	
Matrix Spike (B5L2635-MS1)			**Source: 25L1199-02**	Prepared: 2025-12-10, Analyzed: 2025-12-10						
Phosphorus, Dissolved Reactive	0.306	0.0050	mg/L	0.100	0.228	78	70-130			

APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO	Lake Country, District of (Wastewater)	**WORK ORDER**	25L1199
PROJECT	Final Effluent- PE14651	**REPORTED**	2025-12-16 14:58

Analyte	Result	RL	Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
General Parameters, Batch B5L2816										
Blank (B5L2816-BLK1)				Prepared: 2025-12-12, Analyzed: 2025-12-12						
Ammonia, Total (as N)	< 0.050	0.050	mg/L							
Blank (B5L2816-BLK2)				Prepared: 2025-12-12, Analyzed: 2025-12-12						
Ammonia, Total (as N)	< 0.050	0.050	mg/L							
LCS (B5L2816-BS1)				Prepared: 2025-12-12, Analyzed: 2025-12-12						
Ammonia, Total (as N)	0.991	0.050	mg/L	1.00		99	85-115			
LCS (B5L2816-BS2)				Prepared: 2025-12-12, Analyzed: 2025-12-12						
Ammonia, Total (as N)	1.00	0.050	mg/L	1.00		100	85-115			
General Parameters, Batch B5L2849										
Blank (B5L2849-BLK1)				Prepared: 2025-12-11, Analyzed: 2025-12-11						
Phosphorus, Dissolved Reactive	< 0.0050	0.0050	mg/L							
LCS (B5L2849-BS1)				Prepared: 2025-12-11, Analyzed: 2025-12-11						
Phosphorus, Dissolved Reactive	0.108	0.0050	mg/L	0.100		108	84-115			
General Parameters, Batch B5L2863										
Blank (B5L2863-BLK1)				Prepared: 2025-12-11, Analyzed: 2025-12-16						
BOD, 5-day Carbonaceous	< 2.0	2.0	mg/L							
LCS (B5L2863-BS1)				Prepared: 2025-12-11, Analyzed: 2025-12-16						
BOD, 5-day Carbonaceous	184	66.6	mg/L	198		93	85-115			
General Parameters, Batch B5L2878										
Blank (B5L2878-BLK1)				Prepared: 2025-12-11, Analyzed: 2025-12-11						
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 (B5L2878-BLK2)				Prepared: 2025-12-11, Analyzed: 2025-12-11						
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 (B5L2878-BS1)				Prepared: 2025-12-11, Analyzed: 2025-12-11						
Alkalinity, Total (as CaCO3)	94.2	1.0	mg/L	100		94	80-120			
LCS (B5L2878-BS3)				Prepared: 2025-12-11, Analyzed: 2025-12-11						
Alkalinity, Total (as CaCO3)	94.4	1.0	mg/L	100		94	80-120			
Reference (B5L2878-SRM1)				Prepared: 2025-12-11, Analyzed: 2025-12-11						
pH	6.99	0.10	pH units	7.01		100	98-102			
Reference (B5L2878-SRM2)				Prepared: 2025-12-11, Analyzed: 2025-12-11						
pH	7.00	0.10	pH units	7.01		100	98-102			

APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO	Lake Country, District of (Wastewater)	**WORK ORDER**	25L1199
PROJECT	Final Effluent- PE14651	**REPORTED**	2025-12-16 14:58

Analyte	Result	RL	Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
General Parameters, Batch B5L2927										
Blank (B5L2927-BLK1)				Prepared: 2025-12-12, Analyzed: 2025-12-12						
Phosphorus, Total (as P)	< 0.0050	0.0050	mg/L							
LCS (B5L2927-BS1)				Prepared: 2025-12-12, Analyzed: 2025-12-12						
Phosphorus, Total (as P)	0.0938	0.0050	mg/L	0.100		94	85-115			
General Parameters, Batch B5L2998										
Blank (B5L2998-BLK1)				Prepared: 2025-12-12, Analyzed: 2025-12-13						
Nitrogen, Total Kjeldahl	< 0.050	0.050	mg/L							
Blank (B5L2998-BLK2)				Prepared: 2025-12-12, Analyzed: 2025-12-13						
Nitrogen, Total Kjeldahl	< 0.050	0.050	mg/L							
LCS (B5L2998-BS1)				Prepared: 2025-12-12, Analyzed: 2025-12-13						
Nitrogen, Total Kjeldahl	1.02	0.050	mg/L	1.00		102	85-115			
LCS (B5L2998-BS2)				Prepared: 2025-12-12, Analyzed: 2025-12-13						
Nitrogen, Total Kjeldahl	1.04	0.050	mg/L	1.00		104	85-115			
General Parameters, Batch B5L3063										
Blank (B5L3063-BLK1)				Prepared: 2025-12-13, Analyzed: 2025-12-13						
Phosphorus, Total (as P)	< 0.0050	0.0050	mg/L							
LCS (B5L3063-BS1)				Prepared: 2025-12-13, Analyzed: 2025-12-13						
Phosphorus, Total (as P)	0.0954	0.0050	mg/L	0.100		95	85-115			
Microbiological Parameters, Batch B5L2521										
Blank (B5L2521-BLK1)				Prepared: 2025-12-09, Analyzed: 2025-12-09						
Coliforms, Total (Q-Tray)	< 1	1	MPN/100 mL							
Blank (B5L2521-BLK2)				Prepared: 2025-12-09, Analyzed: 2025-12-09						
Coliforms, Fecal (Q-Tray)	< 1	1	MPN/100 mL							
Blank (B5L2521-BLK3)				Prepared: 2025-12-09, Analyzed: 2025-12-09						
Coliforms, Total (Q-Tray)	< 1	1	MPN/100 mL							
Duplicate (B5L2521-DUP3)			**Source: 25L1199-01**	Prepared: 2025-12-09, Analyzed: 2025-12-09						
Coliforms, Total (Q-Tray)	> 242000	1	MPN/100 mL		> 242000				80	

Appendix C – Non-Compliance Reporting

MINISTRY OF ENVIRONMENT
REGIONAL OPERATIONS BRANCH

NON-COMPLIANCE REPORTING MAILBOX NOTIFICATION TEMPLATE

To: EnvironmentalCompliance@gov.bc.ca

Subject: 2026-01-28 Authorization #14651 *Daily Flow Average Exceedance*

Attention: *Non-compliance Report for Authorization # 14651*
Daily Flow Average Exceedance

Date of Non-compliance: July 2025

Location of Non-compliance [4062 Beaver Lake Rd 50.024865, -119.385069]: Lake Country Wastewater Treatment Plant

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Nature of Non-compliance: Section 1.1.1 of Operational Certificate #14651 specifies a maximum monthly average effluent discharge of 2,000 m^3/day. In July 2025, the facility recorded a monthly average flow of 2,004 m^3/day, exceeding the allowable limit.

Causes: The elevated monthly average was not the result of additional incoming wastewater entering the facility, but rather an operational process-related anomaly. The additional volume was recirculated treated water and not incoming wastewater.

During July 2025, operators were transitioning flow from one secondary clarifier to another to place the second clarifier into service. Treated effluent was recirculated through the effluent flow meter and redirected back into the plant to fill the empty tank. This temporarily produced artificially low daily effluent flow values. Once the previously active secondary clarifier was taken out of service, it was pumped down over several days, which resulted in several higher-than-normal recorded effluent flow values.

This operational activity created a falsely high in the recorded effluent discharge, including a maximum daily value of 2,881 m^3/day, which subsequently increased the calculated monthly average above the Operational Certificate limit.

Future Action Items: This exceedance was the result of routine scheduled maintenance activities. The issue has since been resolved and is not expected to pose an ongoing concern. No future action items are required. Operations staff have reviewed the event and identified mitigation measures to prevent recurrence. Possible solutions include installing a secondary flow meter that would allow operators to deduct recirculated, previously treated water from totalized effluent flows during activities such as tank draining and filling. Another operational improvement under consideration is extending the duration of pumping to distribute the draining of process tanks over a longer period, thereby reducing peak recorded flows.

Contact information: Wastewater Crew Lead: Davin Larsen 250-869-5703 or dlarsen@lakecountry.bc.ca; Utilities Manager: Mike Mitchell mmitchell@lakecountry.bc.ca; Engineering Technician: Shelby McFarlane smcfarlane@lakecountry.bc.ca

Attachments: Table of LCWWTP flow rates for 2025

2025	Influent	Effluent				Septage
	Flow	Flow	Minimum	Maximum	Daily Avg.	Flow
	m³/month	m³/month	m³/day	m³/day	m³/day	m³/month
January	50,841	58,211	1,791	2,021	1,878	520
February	46,112	53,124	1,808	2,220	1,897	447
March	51,773	59,502	1,775	2,150	1,919	749
April	51,387	59,335	1,864	2,277	1,978	1,092
May	51,216	59,113	1,831	2,028	1,907	1,020
June	50,420	57,487	1,833	2,009	1,916	820
July	53,516	62,139	1,864	2,881	2,004	960
August	52,514	59,797	1,833	2,004	1,929	1,108
September	48,769	55,473	1,737	2,049	1,849	1,120
October	50,474	59,179	1,751	2,159	1,909	1,490
November	49,281	56,807	1,766	2,043	1,894	1,025
December	51,840	59,498	1,816	2,075	1,919	662
Total	608,143	699,665			1,917	11,014

MINISTRY OF ENVIRONMENT
REGIONAL OPERATIONS BRANCH

NON-COMPLIANCE REPORTING MAILBOX NOTIFICATION TEMPLATE

To: EnvironmentalCompliance@gov.bc.ca
Subject: 2026-01-28 Authorization #14651 Ortho Phosphorus Annual Average Exceedance
Attention:
Non-compliance Report for Authorization # 14651
Ortho P annual average for 2025 exceedance

Date of Non-compliance: 2025

Location of Non-compliance [4062 Beaver Lake Rd 50.024865, -119.385069]: Lake Country Wastewater Treatment Plant

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Nature of Non-compliance: 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 2025 came back with an annual average of 0.21 mg/l Ortho-P(measured as P). The 2025 annual average for ortho-phosphorus was 0.21 mg/L, exceeding the Operational Certificate limit of 0.15 mg/L; however, it represents an improvement from the 2024 annual average of 0.32 mg/L. A new aerator was installed to the TWAS storage tank in 2025, which may have further helped to reduce Ortho Phosphorus levels.

Causes: Since the facility upgrade in Fall 2023, overall treatment performance and effluent consistency have improved; however, effluent ortho-phosphorus concentrations have remained higher than expected. The District of Lake Country has engaged AECOM to investigate the cause, and preliminary findings indicate that increased nutrient loading from septage is contributing to elevated ortho-phosphorus levels, exceeding the plant's current treatment capacity.

Future action items: The District of Lake Country does not use chemicals in its wastewater treatment process to treat for ortho-phosphorus. The common practice to use coagulants has not been adopted due to the fact the facility utilizes effluent disposal to ground and there have been concerns that these chemicals might negatively impact the subsurface disposal system. This has not been proved and could be the solution to this issue.

Septage received at the facility has been determined to add nutrient loading up to 10x higher than typical influent at times. While mitigation strategies do exist, implementing them is constrained by both cost considerations and existing contractual obligations.

Planning is underway for the next major upgrade (scheduled for 2027), which will include an equalization tank to provide a more consistent influent flow to the plant and an additional centrate storage. Both improvements should help with providing a more consistent and prevent nutrient overloading at the plant. Possible use of chemicals in the future, and additional storage of high strength septage waste could be other ways to improve effluent ortho p results.

Contact information: Wastewater Crew Lead: Davin Larsen 250-869-5703 or dlarsen@lakecountry.bc.ca; Utilities Manager: Mike Mitchell mmitchell@lakecountry.bc.ca; Engineering Technician: Shelby McFarlane smcfarlane@lakecountry.bc.ca

Attachments: Table of accredited results for 2025

LCWWTP	Ortho-P (mg/L as P) Monthly Average	Total Soluble N (mg/L as N) Monthly Average
	Accredited lab	Accredited lab
Permit Value (maximum)	1.5	6.0
January	0.05	3.73
February	0.61	7.91
March	0.05	5.39
April	0.23	2.52
May	0.16	3.16
June	0.38	2.52
July	0.29	3.80
August	0.09	2.01
September	0.13	1.73
October	0.12	1.56
November	0.14	4.31
December	0.22	4.00
Annual Average	0.21	3.55
Effluent Ortho-Phosphate Percentile		

MINISTRY OF ENVIRONMENT
REGIONAL OPERATIONS BRANCH

NON-COMPLIANCE REPORTING MAILBOX NOTIFICATION TEMPLATE

To: EnvironmentalCompliance@gov.bc.ca
Subject: 2025-10-20 Authorization #14651 Failure to Conduct Continuous Groundwater Depth Monitoring
Attention:

Non-compliance Report for Authorization # 14651
Failure to Conduct Continuous Groundwater Depth Monitoring

Date of Non-compliance: October 16 2025 – October 20 2025

Location of Non-compliance [4062 Beaver Lake Rd 50.024865, -119.385069]: Lake Country Wastewater Treatment Plant

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Nature of Non-compliance: Section 3.2 of Operational Certificate #14651 requires continuous groundwater depth monitoring. Monitoring Well MW-18 did not record continuous data from October 16 to October 20, 2025. The level sensor was removed on October 16, 2025 to download data and was reinstalled and returned to service on October 20, 2025.

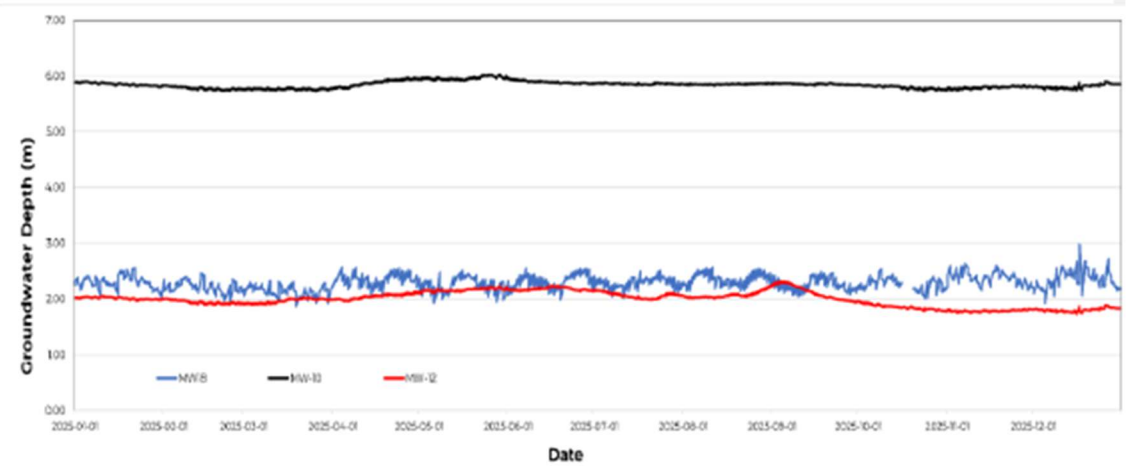
Causes: The instrument used to measure groundwater depth remains in service year-round. Every six months, an operator retrieves the data in the field by transferring the readings to a USB drive and then downloading the files at the office. During the October 2025 download, the data-grabber component of the remote reader malfunctioned and was unable to collect data onsite. As a result, the only way to retrieve the readings was to remove the entire level-sensor assembly from Monitoring Well MW-18 and bring it to the office for downloading. The data-grabber issue was corrected before the sensor was reinstalled. This process resulted in a four-day period without groundwater-level data for MW-18.

Future action items: The District of Lake Country plans to develop standard operating procedures to prevent similar occurrences in the future. Potential measures to avoid future non-compliance events include collecting daily manual groundwater-level readings when the continuous monitoring device is out of service or purchasing an additional level sensor to keep in critical spare inventory for immediate deployment. After the device was reinstalled, continuous groundwater-level monitoring resumed as expected. A graph of the restored monitoring data is provided in the attachments.

Contact information:
Wastewater Crew Lead: Davin Larsen 250-869-5703 dlarsen@lakecountry.bc.ca;
Utilities Manager: Mike Mitchell mmitchell@lakecountry.bc.ca;
Engineering Technician: Shelby McFarlane smcfarlane@lakecountry.bc.ca

Attachments:

The figure below presents the 2025 continuous groundwater-level monitoring data for Monitoring Wells 10, 12, and 18. MW-18, shown in blue, displays a gap in recorded data from October 16 to October 20, corresponding to the period when the level sensor was removed for data retrieval and repairs.



MINISTRY OF ENVIRONMENT
REGIONAL OPERATIONS BRANCH

NON-COMPLIANCE REPORTING MAILBOX NOTIFICATION TEMPLATE

To: EnvironmentalCompliance@gov.bc.ca
Subject: 2025-08-12 Authorization #14651 Sanitary sewer overflow
Attention:

Non-compliance Report for Authorization # 14651

Date of Non-compliance: August 1, 2025, 0900hrs- 1400hrs

Location of Non-compliance 50.034714, -119.392455

Nature of Non-compliance: Sanitary Sewer overflow due to damage during construction of adjacent storm catchment upgrade.
Initial Response/Action: The contractors working for the District notified the Utility Department at around 9am and a pump truck was immediately called to mitigate flow. It was determined a hydrovac was required for this job, and about an hour later the Hydrovac started to remove debris from the manhole to allow flow through.
Follow up: The District of Lake Country took samples of the drainage ditch water upstream and downstream of the manhole immediately after repairs were made. There is natural water running through the storm channel year-round. The natural water that was contaminated with wastewater does not discharge into any surface water body. A sewer rodding truck was brought in to clean the lines downstream of the incident.
Subsequent ditch samples were taken 4 days later to see if contamination was still present.
Monitoring Results:
Reporting: The District of Lake Country sent an initial notification the afternoon of being notified of the occurrence, and this report is a follow up to notify of any remediation and follow up as a result.

Contact information: Shelby McFarlane 250-448-1797 or smcfarlane@lakecountry.bc.ca
Davin Larsen 250-869-5703 or dlarsen@lakecountry.bc.ca



Appendix D - Groundwater Monitoring Report

Memorandum

Date:	February 27, 2026
To:	Shelby McFarlane, AScT, District of Lake Country
cc:	Davin Larsen, AScT., District of Lake Country
From:	Dr. Joanne Quarmby, R.P.Bio
File:	OC 14651
Subject:	Review of 2025 Groundwater Data – Centralised Plant

1. Introduction

Groundwater monitoring is required as part of the operational certificate (#14651). The monitoring requirements are outlined in Section 3.2 of the operational certificate, and are summarised in Table 1.1, below. Note that the locations of H2 and H4 are rotated on the figure attached to the operational certificate, with the correct locations for these two wells as per Table 1.1. 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.

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 *E. coli*.
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 Konschuh Road		
H3	9989 Bottom Wood Lake Road		
H4	10101B Konschuh Road		
H5	9815 McCarthy Road		
H7	9991 McCarthy Road		

Reporting of the groundwater data is a requirement of the 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.

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. As with data from previous years, the highest groundwater levels continue to be observed at MW-10, located down-gradient near the plant boundary, with the lowest groundwater levels continuing to be observed at MW-18 (down-gradient within the plant boundary) and MW-12 (down-gradient outside of the plant boundary, just beyond MW10). 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. As with data from previous years, there was a decrease in the water level for MW-14 during the summer months, with the lowest level being measured in September. 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: Groundwater Levels – Monthly Readings

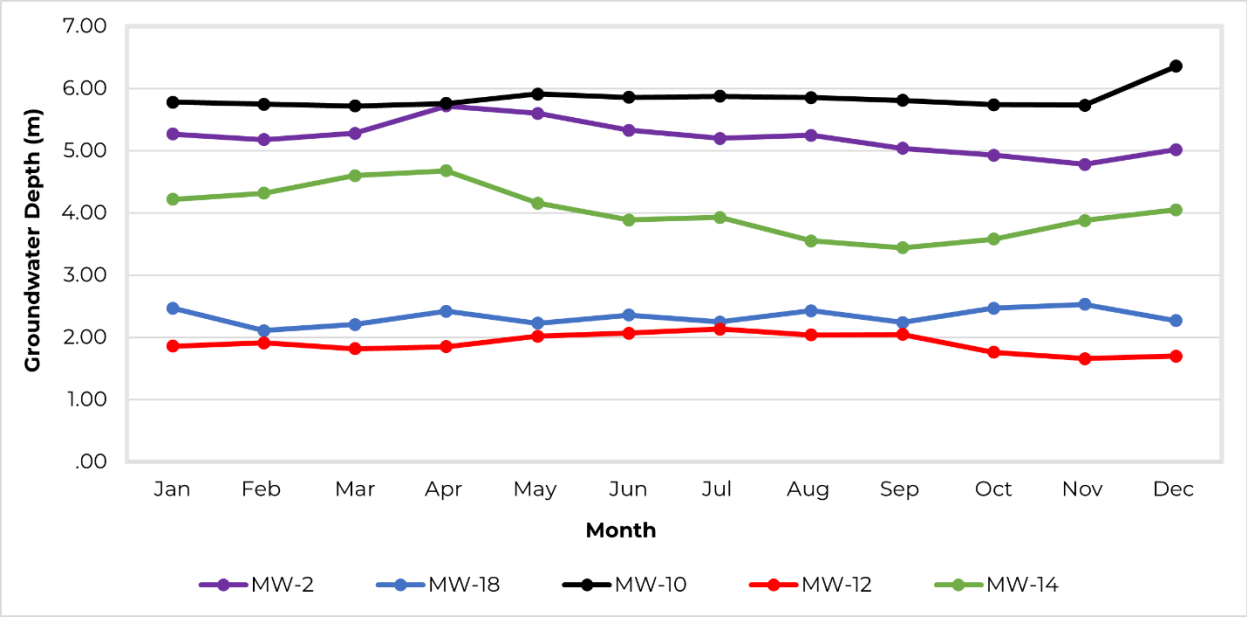
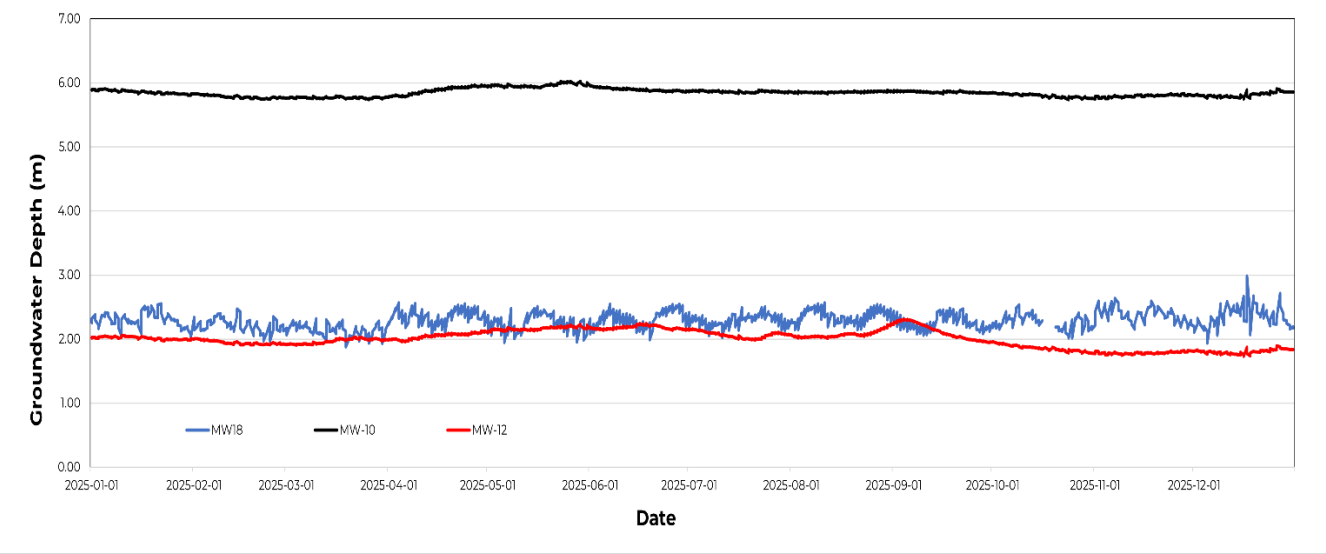


Figure 2.2. shows the water level data from the data loggers in MW-18, MW-10 and MW-12. There are no continuous data for MW-18 from October 16th to 20th due to maintenance as the logger had a reader error malfunction. As with the monthly data, the information from the data loggers indicate that the highest groundwater levels were observed at MW-10, with similarity in the groundwater levels for MW-18 and MW-12. 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 2.2: 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 7th and the fall samples were taken on September 16th.

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. Due to the effluent quality and treatment processes, parameters which are expected to be an indication of the presence of effluent from the wastewater plant could include total nitrogen, nitrate, orthophosphorus, sodium, chloride, conductivity and *E. coli*. However, nitrate could be influenced from agricultural inputs, 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. The data indicate that the highest concentrations tended to be associated with MW-18, although this is not always the case, with total nitrogen and nitrate being higher in MW-12, and ammonia and conductivity being higher at MW-14, the furthest down-gradient well. The lowest concentrations tended to be associated with MW-2, with the exception of total nitrogen and nitrate, which were lower in MW-14. The concentrations of nitrite were below the analytical detection limit at all wells, regardless of the location. Ammonia was below the analytical detection limit in all wells except MW-14. *E. coli* was below the analytical detection limit in all wells except MW-10, although the concentration in MW-10 was just above the analytical detection limit. These observations are consistent with data from 2024, with the exception of the highest concentrations of

total nitrogen and nitrate being associated with MW-10, and the detectable concentration of *E. coli* in MW-10. It is not uncommon for *E. coli* to be identified as being present in one of the wells, regardless of location, with the concentration being just above the analytical detection limit.

Focusing on nitrate as the possible best tracer for the presence of effluent from the District's discharge, the concentrations at MW-18, 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 to below the analytical detection limit at MW-14, and was lower than the concentration measured in MW-2. This general trend is relatively consistent with data from previous years.

Table 3.1: Summary of Spring Data

Parameter	Units	Location				
		MW-2	MW-18	MW-10	MW-12	MW-14
Total Nitrogen	mg/L	0.791	2.91	2.59	3.08	0.185
TKN	mg/L	< 0.050	0.334	0.141	0.156	0.185
Organic Nitrogen	mg/L	0.00	0.309	0.116	0.131	0.106
Ammonia	mg/L	< 0.050	< 0.050	< 0.050	< 0.050	0.079
Nitrate	mg/L	0.791	2.58	2.45	2.92	< 0.010
Nitrite	mg/L	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Total Phosphorus	mg/L	0.0089	0.200	0.0232	0.0243	0.0527
Orthophosphorus	mg/L	< 0.0050	0.0556	0.0171	0.0174	0.0106
Sodium	mg/L	17.3	93.0	76.4	88.1	73.2
Chloride	mg/L	9.21	128	114	121	120
Conductivity	µS/cm	461	953	983	939	1,180
pH	pH units	8.02	8.00	7.97	8.01	7.99
E. coli	MPN/100 mL	< 1	< 1	1	< 1	< 1

There are quality control data available for the spring monitoring event, with a duplicate sample being taken for MW-18. The data from the duplicate sample indicate that the highest concentration of total nitrogen and highest pH would be associated with MW-18, rather than MW-12 (total nitrogen) and MW-2 (pH). However, the duplicate data for these two parameters are reflective of the expectations when considering the whole data set (3.09 mg/L for total nitrogen, compared with 3.08 mg/L for MW-12 and pH 8.03 compared with 8.02 for MW-2). There is a difference in the total phosphorus concentration between the two MW-18 samples, with the duplicate concentration being 0.080 mg/L. This lower concentration is more aligned with the 2024 spring data (0.0869 mg/L). It is possible that the MW-18 concentration of 0.200 mg/L is erroneous, either due to a sample contamination, laboratory error or influence of sediments (turbidity for the higher

total phosphorus concentration was 4.90 NTU compared with 0.76 NTU for the duplicate), especially given the corresponding orthophosphorus concentration.

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. The location of the highest concentrations varied depending on the parameter. The highest concentrations of total nitrogen, TKN and organic nitrogen (which are all related) were associated with MW-10. The highest concentrations of phosphorus and sodium were associated with MW-18. The highest concentration of nitrate was associated with MW-12. The highest concentrations of ammonia, chloride and conductivity were associated with MW-14. The lowest concentrations continued to be mainly associated with MW-2, with the exception of total nitrogen and nitrate, which were lower in MW-14. Nitrite and *E. coli* were below the analytical detection limit for all monitoring wells.

Table 3.2: Summary of Fall Data

Parameter	Units	Location				
		MW-2	MW-18	MW-10	MW-12	MW-14
Total Nitrogen	mg/L	1.36	3.61	4.10	3.85	0.238
TKN	mg/L	0.173	0.477	1.35	0.308	0.238
Organic Nitrogen	mg/L	0.15	0.452	1.325	0.283	0.156
Ammonia	mg/L	< 0.050	< 0.050	< 0.050	< 0.050	0.082
Nitrate	mg/L	1.18	3.14	2.74	3.54	< 0.010
Nitrite	mg/L	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Total Phosphorus	mg/L	0.0177	0.660	0.137	0.0392	0.136
Orthophosphorus	mg/L	0.0056	0.110	0.0229	0.0172	0.0151
Sodium	mg/L	16.8	93.8	75.5	90.3	76.7
Chloride	mg/L	9.53	131	119	130	139
Conductivity	µS/cm	456	901	925	923	1,120
pH	pH units	7.56	7.23	7.42	7.40	7.32
E. coli	MPN/100 mL	< 1	< 1	< 1	< 1	< 1

Given the same assumptions for the parameters of most interest, focusing on nitrate, the concentration continued to be elevated above the background well at MW-18, MW-10 and MW-12, with the highest concentration being at MW-12. 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 and lower than that measured at the background well MW-2. This general trend is relatively consistent with data from previous years.

There are quality control data available for the fall monitoring event for a trip blank and an equipment blank. For the trip blank, all parameters were below the analytical detection limit apart from pH (5.36) and total phosphorus (0.0063 mg/L). Although the total phosphorus concentration in the trip blank was above the analytical detection limit, it is unlikely to have resulted in a significant difference in the outcomes of the data for the well samples, although the concentrations for MW-10, MW-14 and MW-18 were higher in 2025 than 2024.

The following parameters were above the analytical detection limit for the equipment blank: chloride (0.55 mg/L), conductivity (15.2 µS/cm), pH (6.28), total phosphorus (0.0128 mg/L) and sodium (0.99 mg/L). For most parameters, the measured concentration in the equipment blank would not have had a significant effect on the outcome of the well data, given the concentrations reported. Caution is needed with respect to total phosphorus, given the low concentrations which were reported for the monitoring wells and the general increase in the concentration compared with the 2024 data and the difference in concentration for this parameter for the MW-18 spring duplicate samples. Deviations with phosphorus are not uncommon, given the ubiquitous nature of phosphorus with a wide range of factors able to affect the outcome of the data, especially when concentrations are low. Factors which could affect phosphorus data include presence of natural sediments, cleaning products used at the laboratory for equipment maintenance, and cross contamination of samples during processing for analysis.

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 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 previous years, there are data for chloride that were higher than the most stringent guideline. For 2025, the concentrations were above the guideline for all 4 wells identified in Table 3.3 in both the spring and 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 ranged from 120 mg/L to 138 mg/L in 2025. However, 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 consistently with the chloride data, the potential influence from other anthropogenic sources of chloride (and possibly other parameters) on MW-14 should be considered.

There was one other parameter where the concentration was above the guideline. This was *E. coli* for MW-10, with the concentration in the spring being 1 MPN/100 mL. This concentration is low and it is not uncommon for a low positive count to be identified in one of the wells, regardless of location. The guideline used for this determination is the most stringent and likely not representative of conditions which are relevant to this monitoring well.

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)					
Chloride	mg/L	100 (irrigation)					
Conductivity	µS/cm	2,200 (irrigation)					
pH	pH units	5.0 to 9.5 (irrigation)					
E. coli	MPN/100 mL	0 (livestock in closely confined conditions with no water treatment)					

3.2 Privately-owned Wells

The District provided the original laboratory reports for review and interpretation. The concentration of organic nitrogen was calculated using the 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 April 30th and the fall samples were taken on October 7th, with the exception of the samples for H7 which were taken on May 1st and October 9th. The samples for H7 continue to be taken by the homeowner, as there is no outside tap. The difference in the sample dates for this well was due to the homeowner not being available to collect samples on the planned sampling dates. As with previous years, there is no guarantee that the approach used for sampling H7 meets the standards that are used by trained District staff.

Tables 3.4 and 3.5 summarise the spring and fall data, respectively, and include the data from MW-2 as a potential indication of background water quality. To summarise:

- For both the spring and the fall data, focusing on the privately-owned wells only, the lowest concentration was most commonly observed to occur at H1. This was also observed for the data from 2021 through to 2024. However, the highest data for ammonia, pH and both phosphorus parameters

were associated with H1 in both the spring and the fall. This is also consistent with data from previous years.

- For both the spring and the fall data, the concentrations at all other house wells were generally higher than MW-2. Focusing on key parameters which can be used to track the movement of the District's effluent, the concentration of nitrate was generally elevated above the background well in H2, H3, H4, H5 and H7 in both the spring and the fall, although the concentrations in H4 were more representative of the background well compared with the other house wells. Sodium, chloride and conductivity were the elevated in H2, H4, H5 and H7 in the spring and the fall. For these parameters, the highest concentrations were observed in H4 with the exception of chloride in the spring, where the highest concentration was associated with H5, although the difference in the data for H4 and H5 was not significant. H4 is the furthest well from the wastewater treatment plant, with H5 being one of the most closely located to the wastewater treatment plant.
- There were no occasions when *E. coli* was found to be present in any of the samples, regardless of location of distance from the wastewater treatment plant.

Table 3.4: Summary of Spring Data

Parameter	Units	Location						
		MW-2	H1	H2	H3	H4	H5	H7
Total Nitrogen	mg/L	0.791	0.310	5.13	4.05	1.84	3.61	5.57
TKN	mg/L	< 0.050	0.310	0.174	0.154	0.160	0.129	0.196
Organic Nitrogen	mg/L	0.00	0.024	0.149	0.129	0.135	0.104	0.171
Ammonia	mg/L	< 0.050	0.286	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
Nitrate	mg/L	0.791	< 0.01	4.96	3.90	1.68	3.48	5.37
Nitrite	mg/L	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Total Phosphorus	mg/L	0.0089	0.244	0.0126	0.0088	0.0065	0.0118	0.0147
Orthophosphorus	mg/L	< 0.0050	0.218	0.0171	0.0080	< 0.0050	0.0080	0.0114
Sodium	mg/L	17.3	8.04	55.7	19.9	76.0	72.3	55.8
Chloride	mg/L	9.21	0.45	81.5	39.5	103	104	73.8
Conductivity	µS/cm	461	272	740	402	880	857	796
pH	pH units	8.02	8.16	7.33	7.30	7.70	7.66	7.67
E. coli	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	1.36	0.273	5.57	3.95	1.93	4.01	5.77
TKN	mg/L	0.173	0.273	0.184	0.143	0.201	0.129	0.172
Organic Nitrogen	mg/L	0.15	0.051	0.159	0.118	0.176	0.104	0.147
Ammonia	mg/L	< 0.050	0.222	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
Nitrate	mg/L	1.18	< 0.01	5.39	3.80	1.72	3.88	5.60
Nitrite	mg/L	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Total Phosphorus	mg/L	0.0173	0.241	0.0130	0.0167	0.0116	0.0140	0.0130
Orthophosphorus	mg/L	0.0056	0.212	0.0085	0.0080	<0.0050	0.0075	0.0204
Sodium	mg/L	16.8	8.30	59.8	22.2	77.6	72.8	57.3
Chloride	mg/L	9.53	0.64	94.1	48.8	130	117	87.9
Conductivity	µS/cm	456	285	815	438	917	881	802
pH	pH units	7.56	8.16	7.38	7.44	7.62	7.39	7.26
E. coli	MPN/100 mL	< 1	< 1	< 1	< 1	< 1	< 1	<1

There are quality control data available for both the spring and fall monitoring events for a trip blank. All parameters were below the analytical detection limit apart from pH (7.51 in the spring and 5.61 in the fall).

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 parameters: nitrate, chloride, conductivity, pH and *E. coli*, with the guideline for conductivity being based on a moderately tolerant crop. Chloride was above the guideline at H4 and H5 for both the spring and the fall monitoring events. Chloride concentrations above the guideline have been consistent for H4 since the beginning of the dataset in 2021. The chloride concentrations for H5 were observed to be above the guideline from 2022 to 2024 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)						
E. coli	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 well most likely to be impacted would be H5, as this is the closest well to the disposal area. However, the highest concentrations were typically associated with wells located further away. 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. Summary

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 for both the spring and fall samples 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. *E. coli* was above the most stringent guideline at MW-10 in the spring. This is considered to be an anomaly, given the lack of presence of *E. coli* with previous data and the very low concentration recorded.
- 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 concentrations at H4 and H5 continue to be above the guideline. 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.

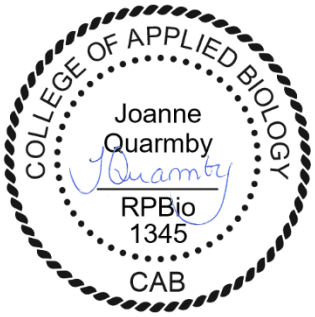
- Generally, there is consistency between the outcomes of the 2025 data and the data from 2021 through to 2024.

5. Closure

Groundwater monitoring is required as part of the 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.

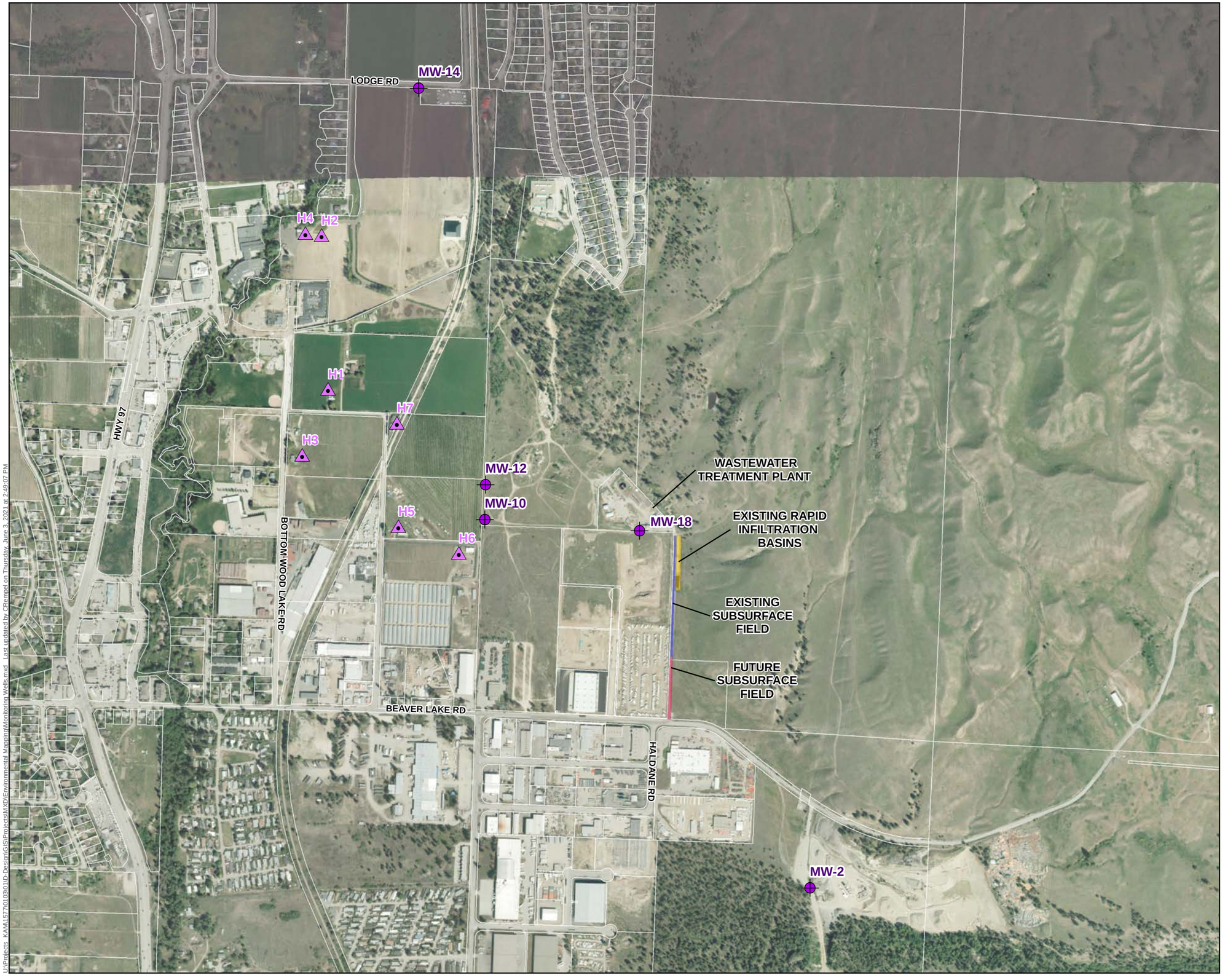
Please do not hesitate to contact the undersigned if there are any questions or if clarification is required.

Sincerely,
QUARMBY ENVIRONMENTAL LTD.



Dr. Joanne Quarmby, R.P.Bio.
Water and Wastewater Specialist

Appendix E – Monitoring Wells Locations



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.

0 50 100 200 300
Meters

N

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

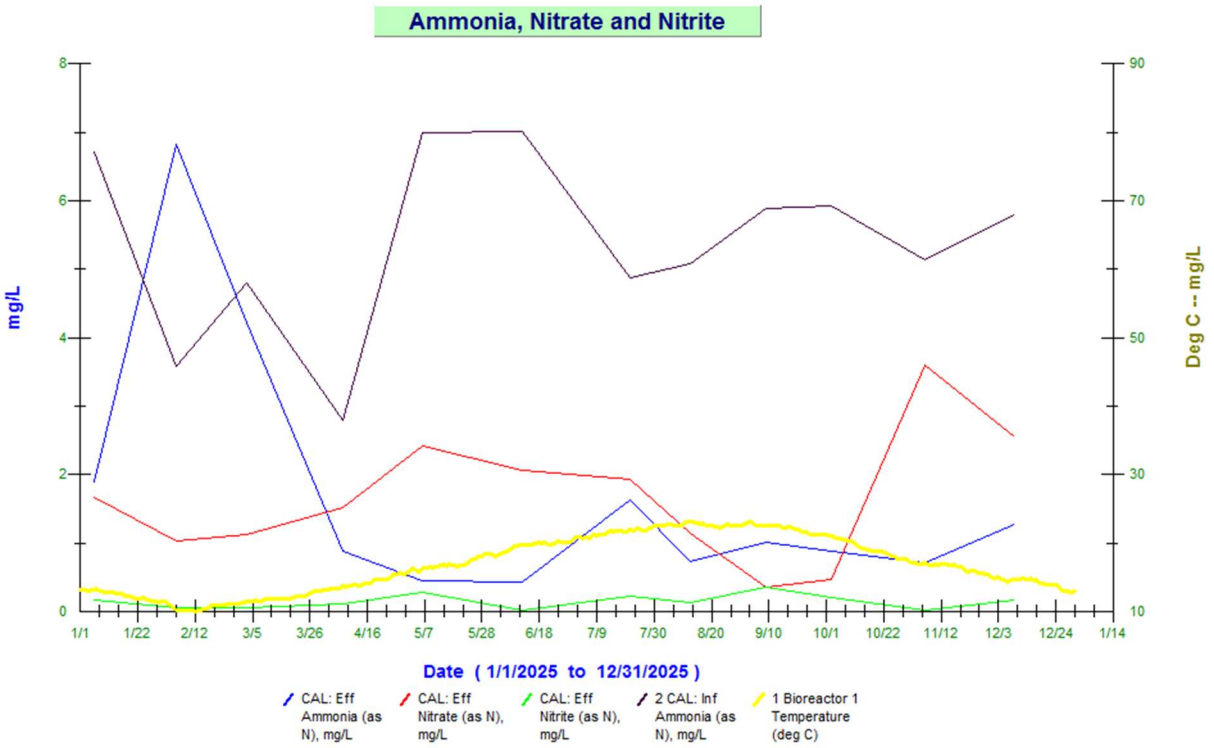
URBAN systems

U:\Projects\KAM\1577\0103\01\Design\GIS\Projects\MXD\Environmental Mapping\Monitoring Wells.mxd Last updated by GRempel on Thursday, June 3, 2021 at 2:49:07 PM

Appendix F – Plant Performance Trends

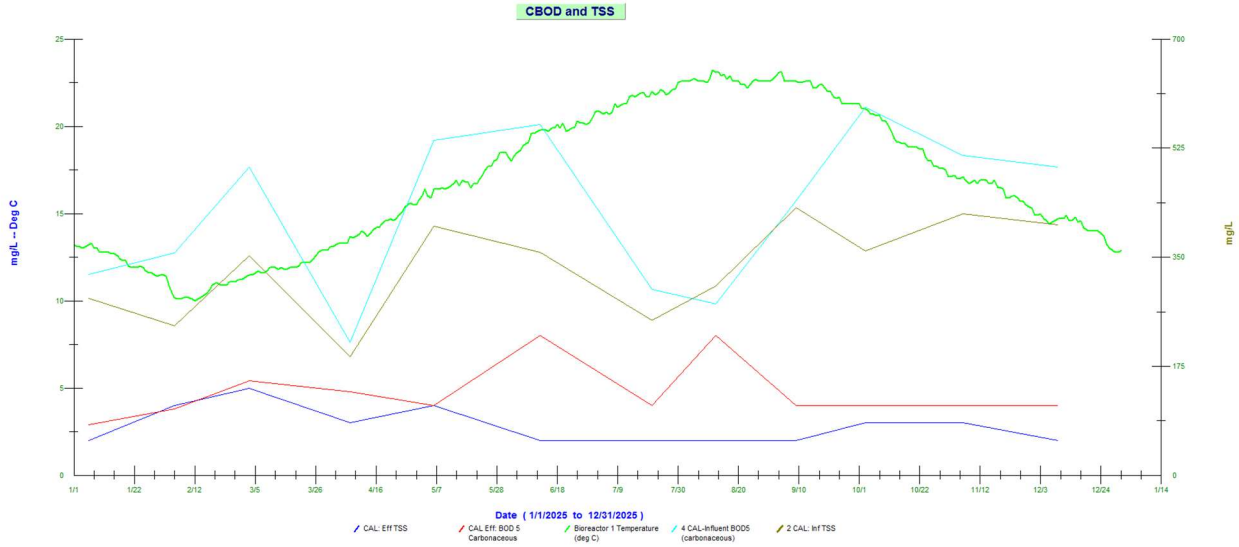
Plant Performance Trends

1.1 Ammonia, Nitrate, and Nitrite



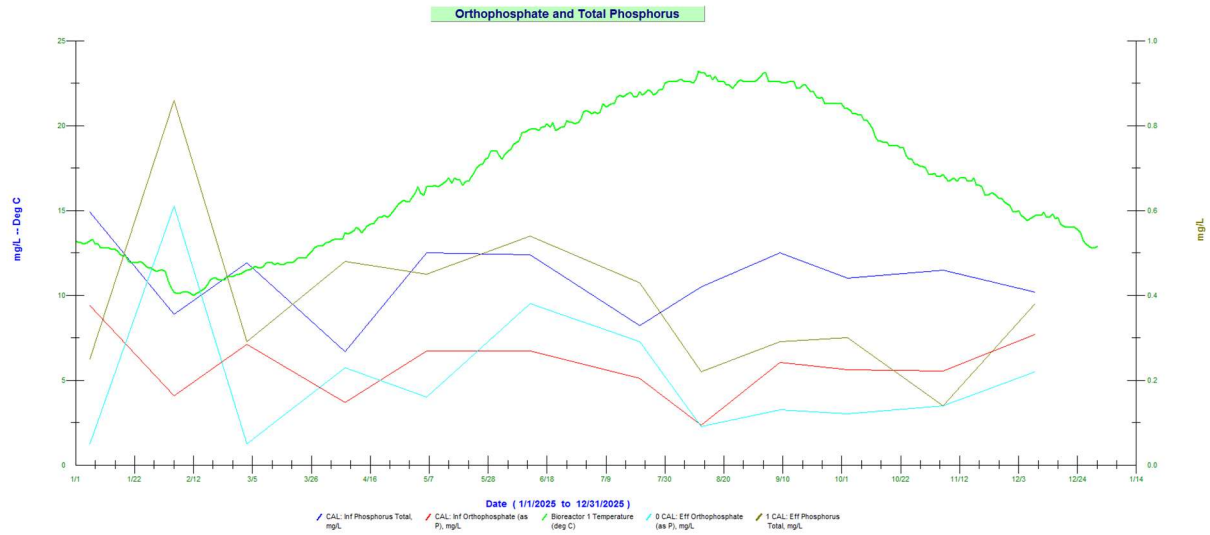
Influent ammonia levels remain relatively consistent throughout the year, peaking during the early summer months. Effluent concentrations of nitrate and nitrite show stability throughout the year, with a slight increase in nitrate levels observed towards the end of the year. Effluent ammonia concentrations remained below 2 mg/L for most of the year, with the highest values recorded in February, coinciding with the lowest bioreactor temperatures. Total nitrogen levels also remained below the permitted limit throughout the year, demonstrating continued regulatory compliance.

1.2 CBOD and TSS



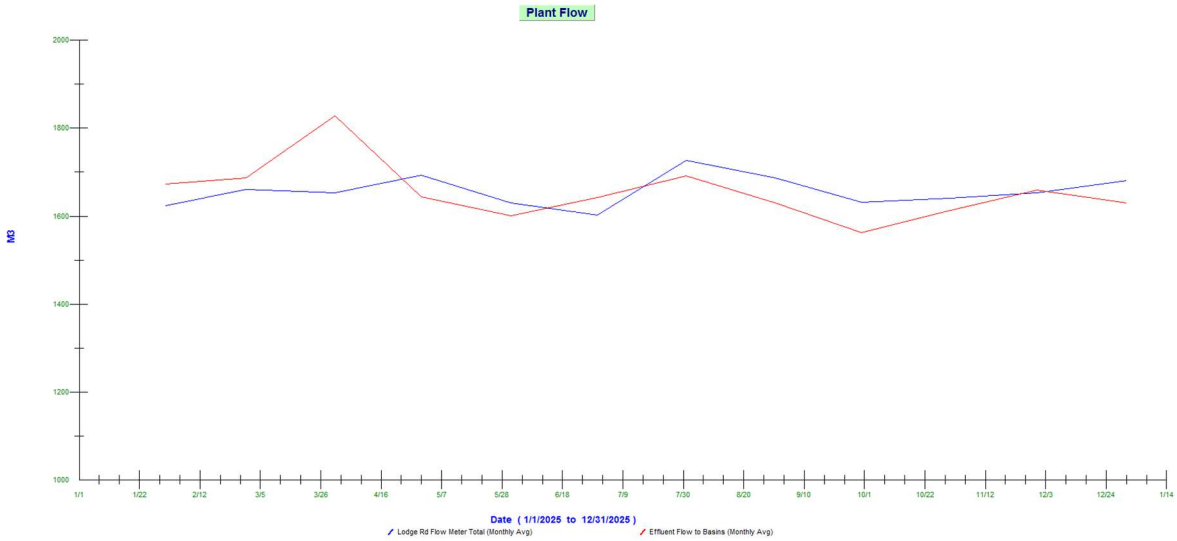
Influent and effluent CBOD and TSS concentrations remained consistent throughout the year. Minor fluctuations in influent values are expected, as samples are collected as grab samples rather than composites. Despite this variability, the results continue to show the typical pattern where higher TSS correlates with higher CBOD, and lower TSS correlates with lower CBOD. The consistently low effluent CBOD and TSS concentrations are likely influenced by the disc filters installed in 2023, which have improved solids removal and overall effluent quality.

1.3 Orthophosphate and Total Phosphorus



Effluent orthophosphate and total phosphorus concentrations increased early in the year, likely due to higher-strength septage loads or lower bioreactor temperatures. A secondary rise in effluent phosphorus was observed in the spring and early summer, coinciding with periods of elevated septage truck volumes. As noted in the main report, septage is suspected to be a significant contributor to nutrient loading at the facility.

1.4 Plant Flow



Plant flow remains relatively consistent throughout the year.

Appendix G – Contingency Plan

District of Lake Country

10150 Bottom Wood Lake Road
Lake Country, British Columbia V4V 2M1
T: 250-766-6677 F:250-766-0200
lakecountry.bc.ca

Wastewater Operations

Contingency Plan

District of Lake Country

Emergency Contacts

District of Lake Country
Utilities Department T: 250-766-6677 Fax: 250-766-0200 engineering@lakecountry.bc.ca

Wastewater After Hours Emergency On-Call # 250-869-5904

Title	Name	Phone #	E-mail
Wastewater Crew Leader	Davin Larsen	250-869-5703	dlarsen@lakecountry.bc.ca
WWTP Operator	Mike Davis	250-309-3845	mdavis@lakecountry.bc.ca
WWTP Operator	Jeremy Engelbrecht	250-859-6398	jengelbrecht@lakecountry.bc.ca
WWTP Operator	Bella Chen	250-681-0577	smcfarlane@lakecountry.bc.ca
WWTP Office		250-766-1478	Fax: 250-766-1479
Director of Engineering	Matthew Salmon	250-300-1871	msalmon@lakecountry.bc.ca
Utilities Manager	Mike Mitchell	250-863-7794	mmitchell@lakecountry.bc.ca
Engineering Technician	Shelby McFarlane	250-448-1797	smcfarlane@lakecountry.bc.ca
Engineering Technician	Nick Van Dalen	705-801-5127	nvandalen@lakecountry.bc.ca
Engineering Technician	Sarah Graham	705-706-0719	sgraham@lakecountry.bc.ca
Water After Hours Emergency On-Call		**250-317-3250**	

District of Lake Country

Director of Engineering	Matthew Salmon	250-300-1871	msalmon@lakecountry.bc.ca
Public Works Manager	Scott Unser	250-864-1709	sunser@lakecountry.bc.ca
Parks & Facilities Manager	Shaun Lesowski	250-575-0851	slesowski@lakecountry.bc.ca
Protective Services		250-766-2327	
Fire Chief	Darren Lee	250-862-2166	dlee@lakecountry.bc.ca
Deputy Fire Chief	Brent Penner	250-864-7242	bpenner@lakecountry.bc.ca
Ambulance		250-766-4922	

Communications Officer	Karen Miller	250-575-6089	kmiller@lakecountry.bc.ca

Miscellaneous

BC Hydro	1-800-224-9376	**RDCO WWTP**	
		Brian Mazda	250-859-3901
Fortis Electricity	1-866-436-7847		
		RDCO Utilities Supervisor	
Fortis Natural Gas	1-800-663-9911	Mike Wyman	250-212-0263
			250-768-6231

Strata Contacts

Location	**Address**	**Contact**	**Phone**
Emerald Beach Villas	3570 Woodsdale	Rob Blatchford Rachel Parker 24hr Emergency	250-861-0525 250-860-5445 ext.416 1-877-591-6060
	11392 Lodge Road	Adam Saunders (Unit 18)	Asaunders00@hotmail.com
Powley Court Town Homes	10634 Powley Road	Strata management	250-763-5446
		Cisca	778-436-9064 (cell)
Lodge Pine Estates	10708 Quail Road	Individual Condo owners	
The Spot	3650 Woodsdale Road	Michele Biesick (Unit 13)	250-861-4909 250-862-6778 (cell)
Carrington Lakestone Villas	10100 Tyndall Road	Carrington Homes	250-258-5423

Interior Health Contacts

Title	**Name**	**Phone**	**E-mail**
Environmental Health Officer Specialist	Judi Ekkert	250-808-3444 (cell) 250-469-7070 (work) Ext. 12274	Judi.ekkert@interiorhealth.ca
MHO After Hours on Call		866-457-5648	
Interior Health Reception (Vernon)		250-549-5725	

Table of Contents

1.0 Introduction

Untreated wastewater that escapes into the environment carries harmful pathogens, which poses a threat to the surrounding public through exposure that may illicit various illnesses including cholera, Hepatitis A, and parasitic worms. Additionally, wastewater is capable of seeping in to drinking water systems and other bodies of water. The receiving environments are potentially susceptible to excessive nutrients, chlorine compounds, metals, hormones, or pharmaceuticals, which carry a wide array of negative environmental impacts.

The District of Lake Country (DLC) owns and operates a Wastewater Treatment Plant (WWTP) located at 4062 Beaver Lake Road, Lake Country, which currently services approximately 3,100 units and growing. The WWTP is subject to the guidelines outlined within BC Reg 87/2012 *Municipal Wastewater Regulation*. The centralized WWTP consists of a biological nutrient removal facility (BNR), with discharge to ground through an infiltration system consisting of rapid infiltration (RI) basins and sub-surface drainage fields. WWTP operators also follow monitoring and maintenance protocols outlined within the Operation and Maintenance Manual, which ensures preventative measures are taken to mitigate and reduce the likelihood of emergency situations occurring.

By properly understanding the major risks associated with operating the WWTP, providing regular training to operators, and ensuring as many resources as possible are available, the District of Lake Country aims to maintain a state of readiness should an emergency arise. This plan includes various emergency scenarios and highlights the case-specific people to be contacted, equipment/services required, and appropriate actions to be taken during and after an event occurs.

1.1 Purpose

This Contingency Plan was created to outline protocols to be taken during any preconceived emergency situation as per section 2.10 of the Ministry of Environment and Climate Change Strategy (MoE) Operational Certificate 14651. This plan is intended as supplemental material for teaching new operators and supporting current operators with the proper steps to be taken if a critical failure should occur in any stage of the wastewater handling processes. The primary focus of this plan is ensuring public health and safety is maintained along with the protection of the surrounding natural environment. This plan is part of a continual improvement process and as such will be reviewed frequently to ensure all procedures pertain to the current state of the wastewater systems owned by the District of Lake Country. For specific information pertaining to how the wastewater facility functions, review the Operations and Maintenance Manual located within the Engineering folder on the appropriate corporate network drive.

2.0 Operational Procedures for Emergencies

The succeeding protocols outlined for various emergency situations have been identified by operators and qualified persons within the District of Lake Country. The possible scenarios discussed were determined by the apparent risk to public health and the environment, as well as the relative frequency of these events occurring.

2.1 Operational Safety

When working at the WWTP or within the collection system, operators are to wear CSA approved steel-toed boots, high visibility coveralls. Other pieces of PPE, such as safety goggles and gloves, are to be dawned as required by the task being performed. Refer to the appropriate safe work procedure (SWP) to determine the required PPE and to familiarize yourself with the overall process. Traffic control measures must be implemented when performing repairs along roadways, which includes traffic cones, signage, flaggers, etc. as needed. Field level hazard assessments (FLHA) are to be conducted prior to commencing any new work, or anytime that work conditions have changed. BC 1 calls are to be placed before any digging is done, as well as onsite locates for underground utilities in the area.

2.2 Bioreactor Failure

There are three bioreactors employed at the WWTP, which provide multiple layers of redundancy. Mixers and Mixed Liquor Recycle pumps within the BNR process promote biological degradation processes of effluent, while WAS pumps maintain the proper equilibrium of biomass. Although all of these components are essential to the BNR process, other redundancies throughout the WWTP will mitigate instantaneous adverse effects.

- Call Wastewater Crew Leader to notify him of the situation
- Determine if the required parts and equipment are in stock (refer to Appendix A); order anything required that is not in inventory
- Make arrangements to repair/replace the required portion of the bioreactor
- Record the incident in the logbook so that it may be referred to for reporting purposes

2.2.1 Aeration Blower Failure

Two (2) 50hp blowers and one (1) 19.3hp blower, all with VFD's, are included within the aeration system. Only one aeration blower is required to provide the required oxygen to the bioreactors at any given time due to the use of dedicated air lines with manual controls.

- On the SCADA "BLOWERS" page, change the failed blower to the "LOCAL" position and one of the working blowers to "REMOTE"

- Make one of the two working blowers lead on SCADA
- Ensure the new lead blower comes online and onload.
- Record the incident in the logbook so that it may be referred to for reporting purposes
- Inform the other operators of the incident and make plans to repair or replace the faulty blower
- If all three blowers were to fail, a rental blower can be arranged (refer to Appendix C)

2.3 Centrifuge Failure

The District operates two (2) centrifuges at the WWTP, one is owned by the District and the other is owned by the Regional District of Central Okanagan (RDCO). In the event of a centrifuge failure the working centrifuge will be used until adequate reparations can be made. A list of centrifuge parts stocked in inventory can be found in Appendix A. Alternatively, if operators are unable to perform the necessary repairs themselves, a pump repair contractor can be retained to bring the broken centrifuge back in service (refer to Appendix C).

2.4 Clarifier Failure

Both primary and secondary clarifiers at the WWTP transport flow passively through gravity; therefore, effluent would continue through the treatment process were any mechanical components to fail. Efforts should be made to repair clarifiers in a timely manner; however, the main purpose of settling solids will remain intact. Effluent quality should be watched closely to ensure Operational Certificate standards are being met (refer to Appendix B).

2.5 Pump Failure

Pumps critical to the wastewater treatment and collection systems will be stocked in inventory (refer to Appendix A) to properly prepare operators for emergency situations. Specifications of other pumps that were not identified as critical equipment components can be found within the Operation and Maintenance Manual location within the Engineering folder of the appropriate corporate network.

2.5.1 Preventative Maintenance

- Pump amperage, runtime hours, and flow meters if installed are checked and recorded once a week
- Operators visually inspect wet wells for grease buildup and listen for any unusual noises or vibrations

- Pumps are serviced annually by qualified professionals (EMPS) to ensure they are running as intended
- SCADA reports are checked for pump trending and runtimes to ensure they are operating as designed

2.5.2 Effluent Pump Failure

Effluent pumps have been identified as critical equipment required for operations of the WWTP; as such, two (2) effluent pumps run in a duty and lag sequence, while a third pump is set aside as a backup, thereby adding a layer of redundancy to the treatment process.

- SCADA should alarm, informing operators that a pump has failed to start
- Lag pump will take over normal operations
- Set the switch of the failed pump to the "OFF" position on the HOA
- Set the SCADA effluent pump selection of "Lead, Lag, Standby" to reflect the new required sequence.
- Note the event in the logbook and inform the other Operators and Crew Leader
- Make arrangements to repair or replace the damaged pump

2.5.3 RAS Pump Failure

The submersible RAS pumps have been identified as critical equipment required for operations of the WWTP; as such, a spare pump is stocked in inventory at all times (refer to Appendix A for specifications). There is only a single operating RAS pump. Should the RAS pump fail it should be swapped out with the spare as soon as possible, to prevent plant upset (within 24 hours).

- SCADA should alarm, informing operators that a pump has failed to start
- Note the event in the logbook and inform the other Operators and Crew Leader
- Make arrangements to immediately repair or replace the damaged pump
    - *Note: if the pump fails after hours, it should be replaced at the start of the next shift*

2.5.4 Raw Wastewater Pump Failure

Raw wastewater pumps have been identified as critical equipment required for operations of the WWTP; as such, spare pumps are stocked in inventory at all times (refer to Appendix A for specifications). Two (2) wastewater pumps run in an alternating sequence at any given lift station to provide operators with a failsafe in the event that a single pump goes down.

- SCADA should alarm, informing operators that a pump has failed to start
- Lag pump will take over normal operations

- Set the switch of the failed pump to the “OFF” position on the PLC panel
- Note the event in the logbook and inform the other Operators and Crew Leader
- Make arrangements to repair the damaged pump if possible, or replace it completely with one of the pumps in inventory

2.6 Drainage Field Failure

Regular inspections and maintenance of drainage fields are planned and implemented through annual operations of the wastewater system. Operators note any foul odours arising from drainage fields, uncharacteristically lush vegetation, unstable soils, and customer complaints that may indicate signs of drainage field failures. Additionally, the drainage fields of the small collection systems that are not connected to the WWTP have been upgraded since 2019. The regular inspection and maintenance of drainage fields makes complete failure of the system extremely unlikely. If a failure were to occur, it would most likely be confined to a small portion of the overall field; therefore, the incident may be treated as a gravity main failure.

- Refer to Section 2.7.1 Gravity Main

2.7 Main Break/Failure

Following repairs of any nature, the root cause of the failure should be determined in an effort to mitigate potential adverse scenarios arising in the future.

2.7.1 Gravity Main

- Visit the location of the break to assess the situation
- Immediately attempt to stop or reduce the flow of sewage through the insertion of an inflatable sewer plug at the nearest upstream manhole
- Contact a Septage Hauler (refer to Appendix C) to request a truck to pump wastewater around the pipeline break if the flow or distance is too great for submersible/trash pump
- Contain any possible spills using booms or sorbent pads and divert flow to the nearest downstream sanitary chamber if possible
    - *Note: If a hauler was called, they will also cleanup any spills that may have occurred*
- Determine the cause of the failure (break/backup) and follow the safe work procedure “*Main Breaks and Backups”* to return the system to functioning as designed.
- A list of essential inventory kept on hand can be found in Appendix A
- Report actions and outcomes to the Wastewater Crew Leader to arrange how and when to repair the pipe

- The operator is to remain onsite until the situation has been rectified or until instructed by the Wastewater Crew Leader to leave
- Proceed to Section 3.0 Spill Reporting

2.7.2 Force Main

- Visit the location of the break to assess the situation
- Immediately attempt to stop or reduce the flow of wastewater by turning off the appropriate lift station pump
    - *Note: If the Lodge Road lift station force main breaks and is expected to be down for more than 4 hours, a temporary sump should be built around the leak to contain the resulting spill (refer to 2.7.3 Lodge Road Lift Station).*
    - *If the lift station is not operated by the District, the Strata maintenance person must be contacted to shut off the pumps (Refer to Emergency Contacts).*

- Contact a Septage Hauler (*Refer to Appendix C*) to request a truck to pump wastewater around the pipeline break if the flow or distance is too great for submersible/trash pump
- Contain any possible spills using booms or sorbent pads and divert flow to the nearest downstream sanitary chamber if possible

    - *Note: If a hauler was called, they will also cleanup any spills that may have occurred*

- Determine the cause of the failure (break/backup) and follow the safe work procedure "*Main Breaks and Backups"* to return the system to functioning as designed.
- A list of essential inventory kept on hand can be found in Appendix A
- Report actions and outcomes to the Crew Leader to arrange how and when to repair the pipe
- The operator is to remain onsite until the situation has been rectified or until instructed by the Crew Leader to leave
- Proceed to Section 3.0 Spill Reporting

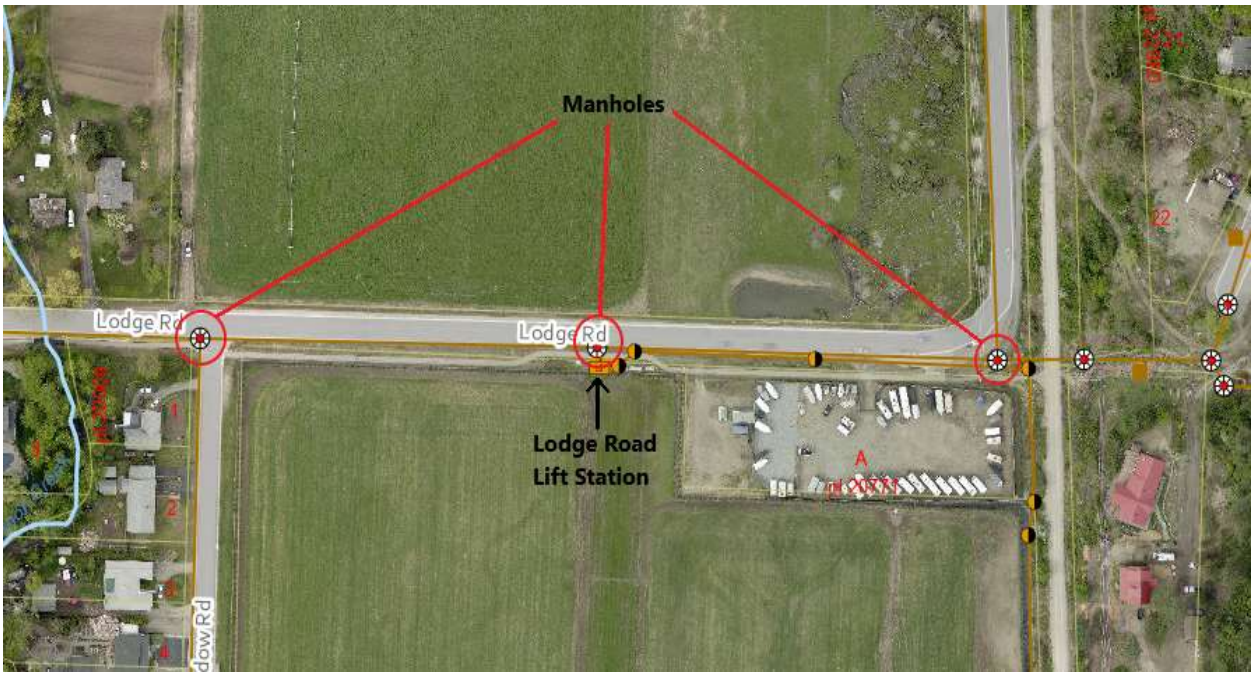
2.7.3 Lodge Road Lift Station

Extra considerations are given to any failures that occur within the force main between the Lodge Road Lift Station and the WWTP, as all collected effluent passes through this main prior to being treated.

- Call Davin Larsen (250-869-5703) to notify him of the situation, so that he may:
    - Contact D&L Septic and Cyclone for all available hydro vac trucks and drivers
        - Two hydro vacuum trucks should be at each manhole surrounding the lift station (refer to Figure 1), as well as another two at the Lakes siphon dosing chamber (refer to Figure 2)
    - Contact all Sewer Operators to report for an emergency repair
    - Report to Lodge Road lift station and shut down the pumps when required

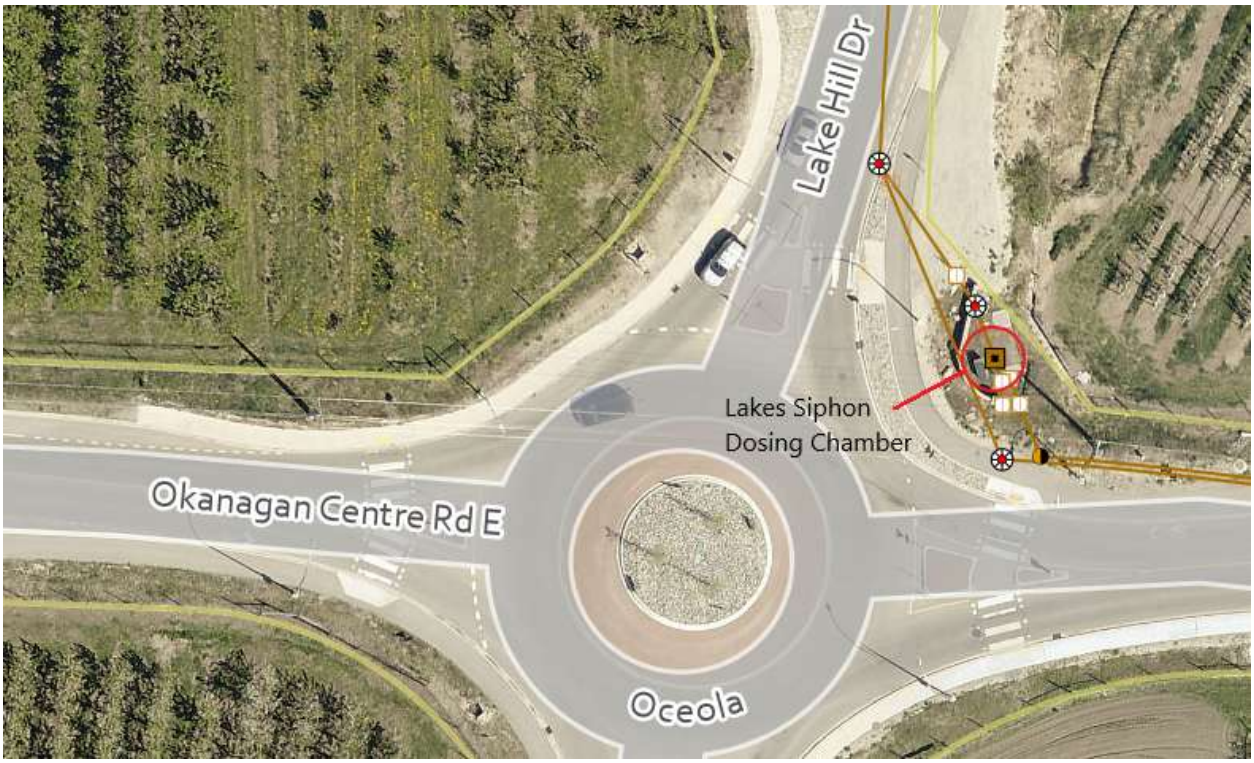
- Call Kiel Wilkie (250-575-6916) so that he can:
    - Contact Greg Buchholz, Mathew Salmon, Mike Mitchell, Scott Unser, and Shaun Lesowski; who are to inform their respective operators and have them on stand-by
    - Diggi'N 4 U (250-766-3519) is to be called if excavation is required
    - *Note: Mike Mitchell to inform George Holt that he is required to excavate the site if Diggi'N 4U is not available*
    - Report to Lodge Road lift station to coordinate vac trucks
- Call Ryan Niddery (250-681-2344) so that he can either:
    - Force main breaks - retrieve the *Emergency Repair Kit (refer to Appendix D)*, load it into the Sewer Service Truck (1014), and report the Lodge Road lift station
    - Generator fails – contact United Rentals for a 125kW generator, retrieve DLC fleet with tow capability, retrieve generator and report to Lodge Road lift station

Figure 1: Lodge Road LS Cleanouts



Lodge road lift station and surrounding manholes to be pumped out in the event of a catastrophic failure of the force main to the WWTP. Two hydro vacuum trucks should be positioned at each manhole so continuous pumping can be performed as trucks fill up.

Figure 2: Lakes Siphon Dosing Chamber



2.8 SCADA/Telemetry Systems Down

- Determine the cause of the failure
    - Check the HMI
    - Confirm communication (ethernet light, cellular network)
    - Visually check antennas for lightning strikes and that the RTU has power and appears to be running as expected
- Call Wastewater Crew Leader to notify him of the situation
- Contact Centrix Control Solutions (refer to Appendix C) to have a professional assess the situation and make adjustments as needed
- Contact Omega Communications (refer to Appendix C) to ensure Blue Grouse relay station is functioning properly
- If SCADA is down for an extended period of time (>1hour), operators will need to begin making rounds of critical processes to ensure the system is operating as designed
    - Verify that main stations are functioning as intended every 2 hours
    - Smart Cover monitoring systems are installed at strategic locations throughout the collection system that alarm out to operators as effluent levels rise

2.9 Spill Response

- Stop or reduce the discharge if it is safe to do so
    - Inflatable sewer plugs upstream for gravity mains
    - Shutting down raw water pumps for force mains
- Use booms and sorbent pads to contain the spill as much as possible
- Take extra caution to divert spills away from bodies of water or sensitive areas where the public is likely to come in direct contact with wastewater
- Call Wastewater Crew Leader to notify him of the situation and how to proceed
- If the spill enters a body of water or is greater than 200L it must be reported (refer to section 3.0 Spill Reporting)

2.10 Power Failure

The WWTP and essential lift stations throughout the collection system are equipped with backup generators in the event of a power outage to ensure critical processes can continue unimpeded.

2.10.1 Preventative Maintenance

- Generators are visually inspected by operators once a week
- Operators run generators under full load on a monthly basis
- Annual inspection and servicing of all generators are completed by certified professionals

2.10.2 Standby Generator and Utility Power Failure

- Proceed to the location of the failed generator to determine if it can be manually brought online
    - Manually switch the transfer switch to the “ON” position
    - Ensure the generator has fuel
    - Check to see that the battery is working
    - See if the block heater is warm
- Contact a septic hauler to ensure continuation of service
- Call the Wastewater Crew Leader to notify him of the situation
- Contact a generator service contractor to get the generator running (refer to Appendix C)
- If required, rent a towable generator (refer to Appendix C)

2.11 Natural Disaster

Natural disasters can take many forms and bring with them many difficult obstacles to overcome including communication losses, blocked access, and equipment failure. For this reason, critical

components of the WWTP are stockpiled to prepare for continuous care during difficult situations. The primary responsibility of wastewater operators is to ensure their personal safety so that they are able to preserve public health and the safety of the environment.

2.11.1 Preventative Measures

- Upon notification of an expected severe weather event:
    - Maintain and assure power to all essential process equipment
    - Check that stand-by power generators are operational and filled with diesel fuel
    - Make sure building heating units are operating properly
    - At regular intervals, check that all critical plant equipment and stand-by generators are in proper working order and free from ice, fallen tree limbs, or other obstructions
- WWTP facilities have been designed in a manner that reduce the likelihood of fires disrupting treatment processes, and using flame retardant materials that further reduce vulnerability
- If a severe flooding occurrence is expected:
    - Sandbag low lying lift stations (Clement, Seymour, and Marshall Lakes lift station) that are in potential flood zones
    - Seal manholes with pans to prevent infiltration in low lying areas
    - Increase monitoring of lift stations for signs of infiltration that may overwhelm normal operation
        - Smart Cover monitoring systems are installed at strategic locations throughout the collection system that alarm out to operators as effluent levels rise

Negative impacts to wastewater collection and treatment infrastructure (i.e. pump failure, main breaks, etc.) that may occur as a result of natural disasters are covered throughout this document.

2.11.2 Fire (Building)

If properly trained in the use of fire extinguishers (how and when to use) and the fire is small in nature, manageable with an appropriate extinguisher, and it is safe to do so, employee may attempt to extinguish fire. Employees have been instructed not to attempt to extinguish any fire that they do not feel comfortable handling, is not immediately manageable with an extinguisher, or for any fires they have not been trained to manage.

- Activate internal fire alarm/alert system and immediately call 911.
- Collect information needed to evaluate the situation, including size and location of the fire, amount of smoke, material burning, chemicals involved, etc.
- Determine if the situation is a threat to other employees, the plant, or community.
- Assist with the evacuation of all affected personnel.
- Call the Crew Leader only after internal personnel have been evacuated and 911 has been called.

- Wastewater treatment plant staff will rally at the muster point located at the front gate.
- The District of Lake Country Crew Leader will determine existence, nature, and extent of any injuries and summon medical assistance if required and:
- Determine if the fire meets the following criteria:
    - The fire could cause the release of toxic fumes posing a potential threat to the environment and nearby populations.
    - If the fire spreads, it could ignite materials at other locations at the site or cause heat-induced explosions.
    - Use of water and chemical fire suppressant could result in contaminated run-off. If so, necessary analysis must be run to determine degree of impact.
- Upon the fire department arrival, delegate primary emergency coordinator responsibility to them and advise of:
    - Materials involved.
    - Possible release of toxic fumes.
    - Presence of corrosive, reactive, ignitable, or explosive material,
    - Potential of contaminated runoff,
    - Potential need for specialized protective clothing and breathing apparatus depending upon chemicals/toxic materials involved

2.11.3 Fire (Forest)

- Report wildfire immediately to BC Wildfire at 1-800-663-5555 or *5555 from a cell phone
- All calls are answered at the Provincial Forest Fire Reporting Centre where they will ask:
    - Location – where is the fire? How far up the hillside?
    - Size – Meters? Hectares? Size of a house? Size of a football field?
    - Rate of spread – How quickly is the fire moving?
    - Fuel – What is burning? Grass, bushes, trees?
    - Smoke/flames – What colour is the smoke? Are flames visible?
    - Threat – Are there any people of buildings at risk?
    - Action – Is anyone fighting the fire?
- Call and notify the Wastewater Crew Leader so that they are aware of the situation
- Wait until firefighters have urban interface fires cleared and under control prior to entering and assessing damages to wastewater infrastructure
- When it is safe to do so, follow the appropriate procedures to make the necessary reparations to the WWTP and/or collection system so that they are operating as designed.

2.11.4 Flood

Floods can carry an array of adverse effects to a wastewater treatment plant, as important infrastructure may be covered in water, power outages are likely, and access routes may become blocked. The occurrence of floods is easier to predict than other types of natural disasters; therefore, preventative actions can be taken in advance (refer to 2.11.1 Preventative Measures). Flood areas are regularly monitored for potential infiltration sources (i.e. manholes and inspections chambers).

- If the WWTP becomes inundated with water and is no longer able to effectively treat incoming sewage, residents connected to the sewer system will need to be evacuated
- Work with Emergency Response teams to evacuate affected customers

3.0 Spill Reporting

Spills are reportable under B.C. Reg. 187/2017 Spill Reporting Regulation if they are likely to enter a body of water or exceed 200kg or 200L – approximately the size of an oil drum.

- Once the spill has been contained, and if it was determined to be reportable, contact the Provincial Emergency Program (PEP) at 1-800-663-3456
- Advise PEP of the situation that occurred and what was done to protect the public health and safety of the surrounding environment
- Proceed to follow the instructions outlined by the province

4.0 Effluent Quality Fails to Meet Required Standards

Refer to Appendix B for effluent standards outlined within the Operational Certificate. Monthly samples are sent to the accredited lab and uploaded to MOE website.

- Inform Wastewater Crew Leader of the parameter that exceeds the discharge requirements
- Response will be dependent on magnitude and duration of the overage as determined by the Wastewater Crew Leader; generally:
    - Identify the cause of the non-compliance and attempt to return to normal operating levels as soon as possible
    - Make note of the event in both the logbook and on Hach WIMS
    - If the effluent quality was significantly over the standard, or over for an extended period of time, as determined by the Wastewater Crew Leader, the MoE will be contacted immediately to be made aware of the situation
    - Further actions to be taken will be followed as requested by the MoE

Under Part 4, Division 1, Section 50 of BC Reg. 87/2012 Municipal Wastewater Regulation a health officer must be immediately notified of any malfunction or other condition relevant to the wastewater facility that may result in a risk to public health.

- If the effluent quality may pose a risk to public health in any capacity, Interior Health must be contacted and informed of the situation

5.0 Contingency Plan Review

This document has been reviewed by the Wastewater Crew Leader and shared with wastewater operators and relevant District of Lake Country personnel. Content within this document is reviewed and updated annually or as required, operating on the cyclical process of basis of continual improvement. Anytime changes have been made to this document they will be reviewed with the appropriate staff and management.

Prepared by:

Nick Van Dalen, Engineering Technician	Date

Reviewed by:

Davin Larsen CWWP, Wastewater Crew Leader	Date

Appendix A – Inventory

Critical parts and equipment required for wastewater collection and treatment processes are kept on hand for operators as a best management practice. Critical items that are not kept in inventory can either be picked up same day or have a limited life expectancy and are replaced as needed. Items that are taken from inventory are written down on the WWTP white board so that they may be replaced as soon as possible.

Table 1: Essential Inventory for Wastewater Processes

Qty.	Description	Tag	Location	Comments
1	Lodge LS Pump	MQ-001 MQ-003	Admin shop	60 hp
1	RAS Pump	P-4106	Sea can	
3	Meyers 60HP (Old Lodge)		Sea can	Spares for Lakestone 2B
1	C3 Pump	P-6100A	Sea can	Used (capable of 3 l/s max)
1	Seymour LS Pump (Flygt)	P-9401 P-9402	Sea can	Same as Clement but adapted for Meyers rails 35 hp
1	Clement LS Pump	P-9201 P-9202	Sea can	35 hp
1	FPS pump	P-2020	Sea can	
1	TWAS Aerator Pump	AER-7705A	Sea can	Motor and impeller assembly, no volute
1	PE Diversion Pump	P-2998A P-2999A	Sea can	
1	Mixed liquor recycle	P- 3011A P-3111A	Sea can	
1	Macerator for Septage	MAC-7721	Admin shop	
1	DAF Recycle wet end	P-7010A	Admin shop	
10 pcs	Amry screen brushes		Admin shop	
1	Compressor motor	COMP-7000	Admin shop	
9	Stainless springs for primary arm		Admin shop	
2	Compactor bags for Amry and WWTP		Admin shop	
1 box	Gooseneck air filter media		Admin shop	
1 box	Bar screen chain	SCR-1001A	Admin shop	
1	Air valve		Admin shop	Box of spare parts
1	Double check valve (back flow preventer)		Admin shop	
1	UPS		Admin shop	
1	Air valve body		Admin shop	

1	Stator for septage	P-7721 P-7725	Admin shop	
1	Wet end of septage or RS grit	P-1066 P-1704	Admin shop	
1	Seymour impeller 6.5 in	P-9401 P-9402	Admin shop	
1	Impeller 5.25 in lakes	P-9801 P-9802	Admin shop	
2	Impeller duct 4V WHV 8” old clement		Admin shop	
1	Flygt 6 hp Admin lift station		Admin shop	
1	Woodsdale check valve body no flapper	P-9301 P-9302	Admin shop	
1	Mixer poly gear box and motor	Teknofanghi	Admin shop	
1	Zoeller pump Marshall lakes LS	MQ001 MQ002	Admin shop	
1	Centrifuge scroll motor	CENT-7860 CENT-7760	Admin shop	
1 box	Brushes for secondary clarifier rake arm	SCM-4100	Admin shop	
1	Primary drive .5 hp	PCM-2011	Admin shop	
1	Drive 1 hp centrifuge conveyor	CENT-7860 CENT-7760	Admin shop	
2	Amry blower air filters	P-9905 P-9906	Admin shop	
1	4” PVC ball valve		Admin shop	
1	Plant genset air filter		Admin shop	
1	Stator for TWAS	P-7711	Admin shop	
1	Gear box old for FPS	P-2020	Admin shop	
1	Wet end for twas	P-7711	Carport	
1	Centrifuge bearings	CENT-7860 CENT-7760	Admin shop	
1 set	Septage screen wear bars	Scr-1551	Admin shop	
1	Ultrasonic sensor		Admin shop	
2	Multi ranger 100		Admin shop	
1	Septage pump spare parts		Admin shop	
1	Septage air actuated solenoid	FI1500	Admin shop	
8	Inflatable plugs 2 6 8 12” variety		Carport	
4	Floats		Carport	
1	1 hardwired blue Gould’s submersible		Carport	
1	Membrane diffusers for bioreactor spare parts		Carport	
1	Ultrasonic sensor used but works		Carport	
1	Flygt rail tops		Carport	
3	Flygt pump repair kits 4630 4640		Carport	

1	Repair kit for 3067.180 or 3068.180		Carport	
1	4” robar repair coupling		Carport	
1	Blind flange 6”		Carport	
1	Blind flange 4”		Carport	
1	DAF recycle pump motor	P-7010A	Sea can	
1	DAF chain	P-7010A	Sea can	
3	Mixers for septage vault and bioreactors		Sea can	
1	Plug valve 4”		Sea can	
1	Butterfly valve		Sea can	
1	Lakes/Davidson Spare	P-9001 P-9002	Sea can	15HP 3450 rpm
1	Old Carr’s landing marshall		Sea can	3HP 1750 rpm
1	Old Carr’s landing marshall		Sea can	2HP 1750 rpm
1	Grit vortex bearing	GCM-1060	Sea can	
1	Supply fan motor	SF 2	Sea can	
1	Woodsdale/Seymour pump 25hp	P-9301 P-9302 P-9401 P-9402	service truck #1014	High rpm

Appendix B – Effluent Requirements

Table 2: Effluent Discharge Requirement as per OC# 14651

Parameter		**Not to Exceed**
Monthly Average Discharge		2,000 m^3/day
5-Day Biochemical Oxygen Demand (BOD_5)		10 mg/L
Total Suspended Solids (TSS)		20 mg/L
Ortho Phosphorus as P		1.5 mg/L
Soluble Nitrogen as N	Maximum daily value	10.0 mg/L
	Annual average	6.0 mg/L

Appendix C – Equipment Rentals and Services

Septic Haulers

Name	Contact	Phone
AA Septic	Lee	778-214-6174 (cell) 250-768-0808 (office)
Action Septic	Cody	250-808-7867 (cell)
Cyclone Hydrovac	Tyler	778-470-5777
D & L Septic	Rick	250-766-3260 (office)
Graf Vac Septic	Brian	250-868-7059 (cell)
Lake Country Septic	Jim	250-862-6415 (cell) 250-766-4698 (office)
Interior Septic Services	Liam	250-861-1100 (cell)

Maintenance Contractors

Name	Contact	Phone	Service
EMPS	Rob	250-765-4998	Pump rentals
Nor Val		250-766-0233	Compressor rental (700-800ft^3 per minute)
Digg'N 4U	Lorenzo	250-766-3519	Excavation services
Omega Communications		250-860-8016	SCADA and telemetry
Centrix Controls	Office Matt	250-717-8813 250-469-0583	Electrical services
United Rentals		250-491-0062	125kW towable diesel generator
Total Power	Office	2503746518	Generator services
Mearls Machine Works	Ben	250-763-0109	Pump repair

Appendix D – Emergency Repair Kit

The emergency repair kit is labelled and stored within the carport at the WWTP administrative building. Contents of the emergency repair kit include:

- 2 – 150mm Victaulic Style 905 Coupler
- 2 – 200mm Victaulic Style 905 Coupler
- 1 – 50’ (15.24m) length of 150mm DR17 HDPE[1]
- 1 – 50’ (15.24m) length of 200mm DR17 HDPE[1]
- 2 – Robar 5606 Repair Clamp (8”x12”)
- 2 – 200mm HYMAX EX-MAX Couper
- 2 – 150mm HYMAX EX-MAX Coupler
- 1 – 20’ (6.1m) length of 150mm PVC[1]
- 1 – 20’ (6.1m) length of 200mm PVC[1]
- 2 – 9626 Adjustable Stainless-Steel Inserts (6”x12”)
- 2 – 9626 Adjustable Stainless-Steel Insert (8”x12”)

Note: the following DLC fleet and equipment will be required to perform this repair:

- Unit 2108 – Caterpillar 305E Excavator
- Unit 7065 – Dodge 5500 Water Service Truck
- Unit 6580 – Tilt Trailer

[1]Located beside the sea cans at the WWTP